

4995

Diag. Ckt. No. 8201-3

<p>Form 504 Ed. June, 1928</p> <p>DEPARTMENT OF COMMERCE U. S. COAST AND GEODETIC SURVEY R S Patton, Director</p>	
<p>C. & G. SURVEY L & 1 MAR 31 1930 Acc. No.</p>	
<p>State: S. E. Alaska</p>	
<h2>DESCRIPTIVE REPORT</h2>	
<p>Topographic Hydrographic</p>	<p>} Sheet No. 11 4995</p>
<p>LOCALITY</p> <p>Summer Strait ✓</p>	
<p>Southern Entrance Wrangell</p>	
<p>Narrows, S. E. Alaska</p>	
<p>Pt. Alexander to December Pt</p>	
<p>19.29.</p>	
<p>CHIEF OF PARTY</p> <p>E. W. Eickelberg.</p>	

4995

DESCRIPTIVE REPORT

to accompany

HYDROGRAPHIC SHEET NO. 11,

ENTRANCE TO WRANGELL NARROWS, S. E. ALASKA.

AUTHORITY:

The hydrography on this sheet was executed under the Director's instructions dated February 19, 1929.

SCALE:

1:10,000 and soundings in fathoms.

LIMITS:

This sheet includes the hydrography west of the entrance to Wrangell Narrows from Latitude $56^{\circ}29'$ to Latitude $56^{\circ}31'$ and from Longitude $132^{\circ}59'$ to Longitude $133^{\circ}01.5'$. This sheet joins on the west with Sheet No. 13. On the east side of the entrance to Wrangell Narrows this sheet includes the hydrography from Latitude $56^{\circ}30'$ to Latitude $56^{\circ}30.5'$ and from Longitude $132^{\circ}55'$ to Longitude $132^{\circ}57'$. A small amount of hydrography was also done in Wrangell Narrows to supplement former work.

SURVEY METHODS:

The work was done with two gasoline launches viz., Tender No. 1 and Launch No. 69. Tender No. 1 is a 32 foot launch and No. 69 is 25 feet long. Each of these boats was equipped with a sounding chair on the starboard side forward and a power sounding machine aft.

The work was done in accordance with the hydrographic manual. An eight pound lead was used for hand-lead work and a fourteen pound lead was used for machine soundings in deeper water. No difficulty was experienced in obtaining up and down soundings. Most of the lines were run normal to the shore.

KELP:

Very little kelp was encountered during the work but all dangers are marked by kelp.

CURRENTS:

The flood current sets westerly in the vicinity of station "BARES" at a rate of 1 to 2 knots. The flood current sets northwesterly in the vicinity of Point Alexander Light.

TIDES:

A plain tide staff was located at Level Island on Sheet No. 13 and the greater part of the sounding are reduced to this staff. Some of the soundings in Wrangell Narrows are reduced to the plain staff at Point Lockwood.

DANGERS:

A rock with a least depth of ^(1 1/2 fathoms) one fathom was found in Latitude 56°30', 1128 meters, Longitude 133°00', 544 meters, see position No. 3, "h" day, Page 24, Volume 3. This rock was visible at a minus one foot tide. The launch was anchored on the rock and the least depth found. The rock is about 12 feet long and 6 feet wide, forming a pinnacle. It is marked by thin strips of kelp.

A number of rocks were located on the reef which runs from triangulation station "BARES" to Latitude 56°30', Longitude 133°00'. The positions of these rocks are shown on Page 25, "h" day, Volume No. 3.

DISCREPANCIES:

The twenty foot spot, Latitude 56°30', 1340 meters, Longitude 132°57', 320 meters, shown on photostat No. 3316 was investigated by running sounding lines in this vicinity. No indication of this shoal was found. *The twenty foot spot referred to is a sounding of 120 feet on H. 3316. It is probable that the photostat of H. 3316 was imperfect, making the sounding look like 20 ft. R.L.G.*

J. C. Partington
J. H. F. G. E.

TIDAL NOTE

TO ACCOMPANY HYDROGRAPHIC SHEET NO. 11.

Location of Level Island Staff (Lat. $56^{\circ}27.8'$
(Long. $133^{\circ}05.9'$)

Simultaneous comparison with gauge at Duncan Canal on July,
16, 17, 18, 1929.

Plane of reference is Mean Lower Low Water = 5.13 feet on
staff.

Highest tide observed = 16.3 Sept. 5, 1929.
Lowest tide observed = -3.3 Aug. 6, 1929.

Location of Point Lockwood Staff (Lat. $56^{\circ}33.8'$
(Long. $132^{\circ}58.0'$)

Plane of reference is Mean Lower Low Water = 9.51 on staff.

Highest tide observed = 13.8 May 23, 1929.
Lowest tide observed = -3.4 June 7, 1929.

"a" day to "h" day inclusive reduced to staff at Level Island.

"j" day to "k" day inclusive reduced to staff at Point Lockwood.

STATISTICS

TO ACCOMPANY SHEET # 11

DATE	DAY	BOAT	VOL.	POS.	SOUNDINGS		STATUTE	TO AND FROM
					HAND	MACHINE	MILES	WORK.
Aug. 20	a	Tender # 1	1	65	5	127	8.0	12.0
Aug. 22	b	" "	1	82		160	7.0	12.0
Aug. 26	c	" "	1	137	121	223	10.7	6.0
Aug. 27	d	" "	1	22	18	46	2.1	6.0
. 27	d	" "	2	109	56	328	10.3	4.0
Aug. 30	e	" "	2	124	180	187	12.1	15.0
Sept. 4	f	Launch #69	2	56	92	90	6.0	9.0
Sept. 4	f	" "	3	14	31	12	1.4	9.0
Sept. 5	g	" "	3	76	95	114	6.3	8.5
Sept. 6	h	" "	3	81	243	33	8.3	9.0
Sept. 9	j	" "	3	121	193	123	9.3	8.8
Sept. 10	k	" "	3	52	186	17	4.3	10.7
TOTALS:--				939	1220	1460	85.8	110.0
					2680			

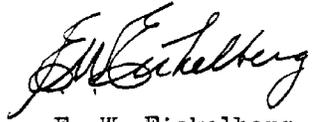
J. N. Jones
 J. N. Jones,
 Aid.

APPROVAL FOR SHEET NO. 11 - SOUTH END OF WRANGELL NARROWS.

The work on this sheet is located principally in Summer Strait and since it connects with two other sheets done in fathoms it was thought best to also plot this sheet in fathoms. The work in the Narrows was done principally to supplement that of 1911, Sheet 3316. Where spaces were filled in the soundings agree very well with the old work. The junction with Sheet 10, agrees as well as can be expected in such steep slopes and irregular bottom.

The passage between the south end of Wrangell Narrows and Duncan Canal which is sometimes used by the Lighthouse Tender and vessels going in to Harvey's Mine will have to be considered closed unless a buoy is placed on the one fathom shoal found this season.

Sheet and records have been examined and are approved.



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

SECTION OF FIELD RECORDS

REPORT ON SHEET No. H-4995

JUNE - 11 - 1930.

SURVEYED IN - AUGUST & SEPTEMBER 1929.

CHIEF OF PARTY - E. W. EICKELBERG.

SURVEYED BY - J. C. PARTINGTON

PROTRACTED BY -

SOUNDINGS PLOTTED BY -

VERIFIED & INKED BY - W. H. BAMFORD.

- 1./ The records were found to conform to the requirements of the General Instructions for Field Work.
- 2./ The protracting was found to be very good - only three percent of the positions checked being erroneously plotted.
- 3./ The soundings were correctly spaced in most instances, the time interval being adhered to very consistently.
- 4./ The sounding line crossings were found to be adequate.

5/ The note in the Descriptive Report for H. 4995. saying that there was no indication of a shoal at approximately Lat. $56^{\circ}-30'$ 1340 M, Long. $132^{\circ}-57'$ 320 M - is not entirely justified because of the incomplete development at that point.

6/ It was possible to draw the usual depth curves except at some places inshore, where the abrupt falling off of the bottom would cause the depth curves to fall on top of each other and obliterate the soundings. In such instances the three, five and ten fathom curves were completely drawn - omitting the shaller and less important curves.

7/ The sheet was clean and the work found to be legible.

8./ The rocky ledges along the shore were transferred from T-4509 by the office cartographer as the field party had neglected to do so.

9./ Throughout the entire smooth sheet, half fathoms were plotted as $\frac{3}{2}$ three sixths of a fathom and fractions of fathoms were plotted in sixths — above six fathoms. It was quite evident that the person who plotted the soundings on the smooth sheet was not familiar with rules for plotting fractional parts of fathoms as stated in the Hydrographic Manual.

10./ The adjacent smooth sheets have not been verified up to the present time.

11.) (a.) The portion of the shoreline westward of O JAN was not inked in as the topographic sheet covering this area has not been received in this office as yet, although requested by wire. (Has now been inked Aug 5, 1930)

(b.) In (approximate) Lat. $56^{\circ} 30'$ - 817 m. and longitude $132^{\circ} 55'$ - 940 m. a rock awash is shown in red ink. The authority for it is topographic sheet T-3632. It is not shown on the topographic survey of this area T-4509 or T-3142 or on H-3316.

It is possible that the hydrographic party of 1929 failed to see this rock as they were working in this vicinity when there was from seven to nine feet of tide.

- (c.) The shoal area east of Δ WORK 1910 was developed by this survey but the shallowest depth found was 29 ft. The survey of this area in 1910¹ revealed several depths less than 29 ft. Taking into consideration that the plane of reference for the 1910¹ survey (H. 3316) was three feet below M.L.L.W. and that for the 1929 survey was M.L.L.W. - the greatest difference is seen to be four feet. The most recent survey showing the most water.
- (d.) The shoals between lat $56^{\circ}29'$ and lat. $56^{\circ}31'$ and longitude $132^{\circ}59'$ and long. $133^{\circ}02'$ were found to be more extensive than hitherto supposed and than shown on Chart # 8170 and # 8160.
- (e.) The 16 and 19 fathom depths found in (approx) latitude $56^{\circ}29' - 1522m$. and longitude $132^{\circ}59' - 218m$ are of little importance - as the wire

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drag survey in this area (H-3910)
shows a clear depth of 48 ft.

Respectfully Submitted
Warren H. Bamford.

ECM
RCC

(FOR FILES OF FIELD RECORDS SECTION)

Division of Hydrography and Topography:

May 15, 1930.

Division of Charts:

Tide Reducers are approved in
3 volumes of sounding records for

HYDROGRAPHIC SHEET 4935

Locality: Alaska (South Entrance to Wrangell Narrows)

Chief of Party: E. W. Eichelberg, in 1929
Plane of reference is mean lower low water reading

- 5.1 ft. on tide staff No. 2 at Level Island
- 14.8 ft. below B. M. 1
- 9.5 ft. on tide staff at Point Lockwood
- 16.2 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.

Chief, Division of Tides and Currents.

AND REFER TO No. 11-DEM

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

WASHINGTON

SECTION OF FIELD RECORDS

Report on Hydrographic Sheet No. 4995

Entrance to Wrangell Narrows, Alaska

Surveyed in 1929

Machine and hand lead soundings

Instructions dated February 19, 1929 (EXPLORER)

Chief of Party, E. W. Eickelberg

Surveyed by J. C. Partington

Protracted and plotted by Z. N. Z.

Verified and inked by W. H. Bamford

1. The records conform to the requirements except that on some pages of the record no bottom characteristics were entered.
2. The plan, character and extent of the survey satisfy the general and specific instructions.
3. The sounding line crossings are satisfactory.
4. The information is sufficient for drawing the usual depth curves except in the areas where the hydrography is only intended to supplement the old survey.
5. The junction on the north with H. 4994 is satisfactory.

The junction on the west with H. 5017 appears satisfactory, but this sheet has not been verified and this junction will be reported in the review of H. 5017.

The work in the Narrows, which is intended to supplement the survey of 1911, H. 3316, agrees very well with the old sheet.

On the shoal just east of Work, and south of Lat. $56^{\circ} 31'$, shoaler depths were obtained on H. 3316. These should be retained on the chart. H. 3910, the wire drag survey of 1916, shows a sounding of 29 ft. on this shoal. This sounding was found to be out of position, due to the fact that the position of signal Mid, as shown on H. 3910, is erroneous. This sounding should be retained on the chart, but in its correct position which is now indicated on H. 3910.

In the descriptive report of this sheet, H. 4995, under "Discrepancies", a 20 foot spot, in Lat. $56^{\circ} 30'.7$, Long. $132^{\circ} 57'.3$ is spoken of. This sounding is 120 feet and not 20 feet on H. 3316. It is probable that an imperfect photostat of H. 3316, on which the 120 ft. sounding looked like 20 ft., was sent to the field party.

The 16 fathom and 19 fathom soundings, shown in about Lat. $56^{\circ} 29'.8$, Long. $132^{\circ} 59'.2$, and also the 21 fathom sounding just northwest of these have been passed by the drag in 1916, with depths greater than 8 fathoms.

The 18 fathom spot and the 19 fathom spot, in approximately Lat. $56^{\circ} 30'.2$, between Long. $132^{\circ} 56'$ and Long. $132^{\circ} 57'$, fall within the limits of the 1916 wire drag work, and were cleared by a depth greater than 8 fathoms.

The middle ground shoaling in the entrance to the Narrows, on which no soundings were taken was also cleared by the drag in 1916.

The most important shoal developed by this work has a least depth of 7 feet, in about Lat. $56^{\circ} 30'.7$, Long. $133^{\circ} 00'.53$. This shoal is much more extensive than shown on H. 3316.

A rock awash fairly close inshore, which was not shown on H. 4995 or T. 4509 was added to the sheet from T. 3632, in about Lat. $56^{\circ} 30'.45$, Long. $132^{\circ} 55'.9$.

6. The usual amount of field plotting was done by the field party. The pratracting and spacing of soundings was well done but fractions of a fathom were not correctly expressed. (See verifier's report.)
7. Character and scope of surveying - very good. The amount of work to be done was left largely to the field party. Good judgment has been used in placing the hydrography to the best advantage.
8. The survey agrees as well as can be expected with the old survey, H. 3316, in an area of such irregular bottom and steep slopes.

Additional work is not considered necessary. The chief of party recommends the placing of a buoy on the 7 foot shoal in about Lat. $56^{\circ} 30'.6$, Long. $133^{\circ} 00'.5$.

9. Reviewed by R. L. Johnston, July 16, 1930.

Approved:

A. M. Sobieski
Chief, Section of Field Records (Charts)

F. Borden
Chief, Section of Field Work (H. & T.)

Note: The area in Wrangell Narrows
omitted from this sheet has been cov-
ered by wire drag. A.M.S.

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

REG. NO. 4995

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. 11

REGISTER NO. 4995

State Alaska

General locality Summer Strait, Entr. Wrangell Narrows

Locality Pt. Alexander to December Pt.
~~Entrance to Wrangell Narrows~~

Scale 1 : 10,000 Date of survey August and Sept. 1929

Vessel U.S.C. & G.S. Ship Explorer

Chief of Party E.W. Eickelberg

Surveyed by J.C. Partington

Protracted by

Soundings penciled by

Soundings in fathoms ~~1000-~~

Plane of reference Mean lower low water

Subdivision of wire dragged areas by

Inked by Warren H. Bausford

Verified by W.H.B.

Instructions dated February 19 1929

Remarks:

Field Records Section (Charts)

HYDROGRAPHIC SHEET No. 4995

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

Number of positions on sheet	.939.
Number of positions checked	.203.
Number of positions revised	.6.
Number of soundings recorded	.2680.
Number of soundings revised	.223.
Number of signals erroneously plotted or transferred	.ZERO.

Date: June 7 - 1930

Cartographer: Warren H. Bamford