

5388

Diag. Cht. No. 8102-2.

Form 504

U. S. COAST AND GEODETIC SURVEY

DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey Hydrographic

Field No. 2. Office No. H-5388

LOCALITY

State S. E. Alaska

General locality Dixon Entrance

Locality Island Point to Tree Point

194 33

CHIEF OF PARTY

Jack Senior

LIBRARY & ARCHIVES

DATE February 14, 1934

5388

DEPARTMENT OF COMMERCE  
U. S. COAST AND GEODETIC SURVEY

REG. NO.

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. 2

REGISTER NO.

State S. E. Alaska

General locality Dixon Entrance Channel

Locality Island Point to Tree Point

Scale 1:20,000 Date of survey July, 1923

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

Chief of Party Jack Senior

Surveyed by W. Weidlich

Protracted by W. Weidlich

Soundings penciled by Jack Senior & G. C. Mast

Soundings in fathoms ~~feet~~ and fractions thereof.

Plane of reference M.L.L.W.

Subdivision of wire dragged areas by

Inked by M. S. G. [Signature]

Verified by [Signature]

Instructions dated March 16, 1923

Remarks:

DESCRIPTIVE REPORT

TO ACCOMPANY HYDROGRAPHIC SHEET NO. 2

TREE POINT TO CAPE FOX AND CAPE FOX TO ISLAND POINT

DIXON ENTRANCE - S. E. ALASKA

- 0 -

JACK SENIOR, CHIEF OF PARTY

SEASON OF 1933

DESCRIPTIVE REPORT

TO ACCOMPANY HYDROGRAPHIC SHEET NO. 2

TREE POINT TO CAPE FOX AND CAPE FOX TO ISLAND POINT

DIXON ENTRANCE - S. E. ALASKA

AUTHORITY:

The hydrography on this sheet was executed under instructions of the Director of the U. S. Coast and Geodetic Survey, dated March 16, 1933.

SCALE:

1:20,000 and soundings are in fathoms and fractions thereof.

LIMITS:

The inshore hydrography covers the area between Tree Point and Cape Fox, and connects at the northern end with Sheet No. 1 and the surveys executed by the Str. SURVEYOR in 1932. (H 5387)

From Cape Fox to one and one half miles west of Garnet Point this survey connects and overlaps with hydrographic sheet No. 3<sup>(# 5385)</sup> and from the latter point to Island Point on Sitklan Island, connects and overlaps with hydrographic sheet No. 4. (H 5360)

METHODS:

The approved methods of the service were used throughout.

All launch work performed with good fixes, generally on ranges which explains the lack of compass headings in the sounding volumes.

The "Delta" was used for practically all the work with the exception of one day when the boiler of the "Delta" was out of commission, and then the Tender No. 1 was used. The letter days of the "Delta" are shown in red and those of the Tender No. 1, in blue.

At the north end of the sheet the lines are spaced about 200 meters apart, with splits between, depending upon the nature of the bottom. The lines run east and west, radiate about midway between Tree Point and Cape Fox and then continue north and south.

At the south end of the sheet, the lines are spaced about 400 meters apart in the deeper water, but near the limits of the connecting sheets, the work is much closer and all lines run east and west.

A ten pound hand lead was used in depths of less than 15 fathoms and in greater depths a steam sounding machine with an eighteen pound lead and stranded wire was used. In depths of over 15 fathoms, when using the tender No. 1, soundings were obtained by a power driven machine, using stranded wire and an eighteen pound lead.

\* Sounding records state that 14 lb lead was used on machine soundings.  
B.H.

CONTROL:

Triangulation and topography furnish the necessary control.

TIDES:

An automatic tide gauge was in operation in Nakat Harbor and all tide reducers were taken from its records covering the period during which the soundings were taken.

CHARACTERISTICS OF SHORE LINES AND BOTTOM:

The shore line from Tree Point to Cape Fox is very irregular and heavily wooded, with numerous indentations, off-lying rocks and reefs.

The bottom is generally muddy in deeper water, rocky near the reefs and shores and sandy in the numerous bights. Bottom is practically all sandy between Fox Island and the mainland and in the bight immediately north of the island.

Bottom is very irregular near the shores especially in the vicinity of the shoals and differences of several fathoms within the length of the launch were noted and recorded.

A difference of 6 fathoms is recorded in volume No. 3, page 26, position 40 "k", red. Soundings of 17-1/2 fathoms forward and 11-1/2 fathoms aft, were obtained. On page 27, position 75 "k", see note in remark column; "Apparently a pinnacle rock, drops off into much deeper water suddenly. The swells in this locality are apparently greater than in the surrounding water."

KELP:

The shores between Tree Point and Cape Fox <sup>are</sup> fringed with kelp, which is especially profuse in areas protected from heavy seas and swells. Kelp is very thick between Fox Island and the mainland, making it almost impossible to penetrate during low tides.

RESULTS AND COMPARISON:

In view of that fact that the old survey between Tree Point and Cape Fox was incomplete, this latest survey may be considered as the original and therefore a comparison can not be made.

This area was examined on a day, when it would have been unwise, to do so from a sounding launch. Information pertaining to rocks and other obstructions ~~was~~ obtained from cannery people on the spot, and on a very rough day, at low tides, the writer of this report had the opportunity to examine this area from a cannery tender and has the satisfaction of knowing that all reefs, rocks and obstructions were located by this survey.

DANGERS AND OBSTRUCTIONS:

The most important are enumerated below beginning at the north end of the sheet.

1. A group of rocks which break at any stage of tide with a moderate swell running, lies about 1560 meters, 157° from triangulation station TREE POINT LT. HOUSE. Position 81 "e", red. Line ends at edge of breakers. Bottom visible. ✓

2. A rock with a least depth found of 1½ fathoms at M.L.L.W. lies about 680 meters, 266° from triangulation station ROCK. Position 63 "e", red. No indication of any kelp. Additional soundings were taken the following day on this spot. Positions 27 and 28 "f". Note in remark column "Detached soundings at edge of breakers". ✓

3. A rock which bares 3 feet at M.L.L.W., lies mid-channel at the north entrance to Boat Harbor, about 315 meters, 352° from triangulation station ROCK. Position 87 "e", red. ✓

4. A sounding of 1 fathoms at M.L.L.W., obtained about 2060 meters, 136° from triangulation station ROCK. Position 76 "d", red. Note in remark column, position 25 "d", red, as follows: "Breakers in line with edge of reef". In view of the fact that on the boat sheet a rock symbol and 6 feet is noted in this locality, it may be taken for granted that the rock bared about 3 feet, taking a reducer of 2½ feet in consideration. At position 76 "d" the tide reducer was 13½, sufficient to pass the rock without serious consequences.

5/6 faths. on pos. 76 "d" in records. has been shown on smooth sheet as "5/6 RK" f.s.R.

The boat sheet shows a sunken rock symbol with "6ft" and an arrow leading to the symbol, which is in harmony with the sounding at 76 "d". Pos 25 "d" gives no information as to any depth at the point of breakers. f.s.R.

*Chart Fox Island as a local name!*  
H.B.

5. A group of breakers north-west of a group of rocky islets, lies about 1220 meters,  $300^{\circ}$  from the south-westernmost end of a large wooded island locally known as Fox Island. On account of the heavy breakers even at dead calm and smooth sea, it was impossible to obtain depths near the rocks. Note in remark column, page 41, positions 9 and 10 "d", reads as follows:- "Line ends and begins at edge of breakers". On page 42, position 18 "d", the launch missed the heavy breakers by a few feet, nearly swamping. The area between the rocky islets and the mainland is foul.

6. A shoal with a least depth found of  $9\frac{1}{2}$  fathoms at M.L.L.W., lies about 245 meters,  $156^{\circ}$  from signal BEER. Position 25 "b", red. Rocky bottom.

7. A shoal with a least depth found by this party lies about 700 meters,  $134^{\circ}$  from triangulation station LORD ROCK LT. HOUSE. Positions 57 and 58 "k", red. Rocky bottom. No indication of any kelp. This shoal was developed by Tender No. 1, Sheet No. 3, (H.5385) 1:10,000, and depth reduced to 4- $\frac{4}{6}$  fathoms. Position 116 "m", blue, 640 meters,  $136^{\circ}$  from triangulation station LORD ROCK LT. HOUSE.

ANCHORAGES:

The bight south-east of Tree Point Light House offers no shelter except during favorable weather. It is open to southerly winds. The average depth is 6 fathoms, rocky bottom. A small white mooring buoy, for the convenience of the light house tenders, landing supplies, is located south of the hoist in about 4 fathoms of water.

According to the report of the master of the light house tender "BERN", small vessels may find some shelter behind a group of rocky islets directly south of the bight.

Boat Harbor, about one mile south-east of Tree Point Light, offers little or no shelter. The north entrance is blocked in the center by a rock which bares about 3 feet at M.L.L.W. The entrance south of the small wooded islet is recommended. Boat Harbor is used occasionally by small fishing vessels and cannery tenders, tending the traps located in the immediate vicinity..

The bights south of Boat Harbor are of no commercial value. They are either exposed to southerly winds and swells or the entrances are blocked by rocks which bare at low tides.

Between Fox Island and the mainland, several piles are driven for the convenience of cannery tenders and anchorages are stored near the shores for the winter. The average depth near the piles is about 2 fathoms, sandy bottom, shoaling towards the shores and in a westerly direction.

There is a passage north of the island but it is tortuous and winding on account of the numerous obstructions and the very thick kelp.

CURRENTS:

No current station was occupied in this vicinity.

Heavy tide rips were encountered at the entrances to the small bights and immediately south of Fox Island, making it very disagreeable at times for the sounding party.

WEATHER:

The weather was very unfavorable at the beginning of the work in this locality and work had to be discontinued on several days on account of either heavy continuous rain, or strong southerly winds. After that, the party made rapid progress and was favored by calm and smooth seas while working between the numerous rocks and reefs.

Respectfully submitted,



W. Weidlich,  
Mate, C. & G. S.,  
U.S.C. & G.S.S. EXPLORER.

Approved and forwarded,



Jack Senior,  
Commanding Officer,  
U.S.C. & G.S.S. EXPLORER.



STATISTICS

TO ACCOMPANY HYDROGRAPHIC SHEET NO. 2

DATE	VOL.	DAY	BOAT	STAT.	SOUNDINGS	AREA	MILES TO & FROM		REMARKS	
				MILES			POS.	HAND-		MACH.
7- 8-33	1	a	Delta	20.1	111	166	145		11.6	
7- 9-33	1	b	"	2.5	34	36	32		1.7	
7-10-33	1	c	"	7.5	54	129	60		2.6	
7-11-33	1	d	"	13.6	102	229	105		4.9	
7-12-33	1&2	e	"	25.2	180	355	222		0.8	
7-13-33	2	f	"	11.6	84	82	125		2.3	
7-20-33	2	g	"	23.0	94	48	196		1.3	
7-21-33	2&3	h	"	21.9	64	--	173		9.6	
7-22-33	3	j	"	8.6	53	6	90		13.4	
7-24-33	3	k	"	11.9	72	--	150		10.3	
7-25-33	3	l	"	9.0	37	--	97		2.6	
Total-July-Delta:				154.9	885	1051	1395		61.1	
7-23-33	1	a	T.#1	20.1	69	--	162		12.7	
Total-July-Tender #1:				20.1	69	--	162		12.7	
Grand Total:				175.0	954	1051	1557	20.2	73.8	

LAC

Division of Hydrography and Topography:

February 26, 1934

Division of Charts:

Tide Reducers are approved in  
4 volumes of sounding records for

HYDROGRAPHIC SHEET 5388

Locality Dixon Entrance, Revillagigedo Channel and Nakat Bay Entrance,  
Southeast Alaska

Chief of Party: Jack Senior in 1933

Plane of reference is mean lower low water, reading  
4.7 ft. on tide staff at Nakat Harbor  
16.6 ft. below B. M. 2

Height of mean higher high water above plane of reference is 14.7 ft.

Condition of records satisfactory except as noted below:

  
Chief, Division of Tides and Currents

Verification  
Temporary Report on H 5388,

Chief of Party - Jack Senior  
Surveyed by - W. Wendlich  
Protracted by " " "  
Soundings penciled by - Jack Senior and G.C. Hart.  
Protracting verified by - John S. Raddy  
Shoal soundings inked by " " "

1. The names of the signals should be rearranged to make the determination of signal referred to, clearer. (The very irregular nature of the shoreline makes this a difficult problem but it can greatly be improved)
2. All shoals and danger spots have been verified and inked.
3. The sheet has been compared with the topo. (4802) and all rocks etc missing from the hydro. have been added to make it conform to topo.

April 25, 1934

John S. Raddy  
Asst. Comdr. Eng.

VERIFICATION REPORT H-5388

M. S. Gurnee

I Conformity to Hydrographic Manual

The Sounding records are neat and legible and conform to the general instructions as specified in the Manual.

II Depth Curves

All curves from the zero reference curve to the 200 fathom curve appear on this sheet. All curves below the five fathom curve are quite broken due to foul areas, and are dashed where their definite location is uncertain. In one or two instances an intermediate curve was omitted on shoal soundings for the sake of clarity, i.e., the shoal at Lat.  $54-47\frac{1}{4}$ ; Long. 130-55, where the five and three fathom curves are omitted. The zero or plane of reference curve appears in three places, to wit: 1. Lat.  $54-46\frac{3}{4}$ ; Long. 130-53, 2. Lat.  $54-46\frac{1}{2}$ ; Long. 130-52, and 3. Lat.  $54-46\frac{1}{2}$ ; Long. 130-53 $\frac{1}{2}$ .

III Field Plotting

The field plotting was completed to the extent required as far as the soundings are concerned. ✓

The transfer of topography from the Topographic Sheets was very sketchy, requiring two days' work by the verifier to complete same. ✓

The names of signals were so located as to be very confusing, necessitating the rearrangement of approximately thirty of these. ✓

All fractional fathom soundings of three feet were plotted as  $\frac{3}{6}$  instead of  $\frac{1}{2}$ . Correction was made

Position numbers 19j to 32j were incorrectly numbered. Correction was made. ✓

Positions 46k and 62k were badly misplotted (Lat.  $54-43\frac{1}{2}$ ; Long.  $130-48\frac{3}{4}$ ) materially altering the shape of the curves in this region. These positions were replotted. ✓

IV Office Plotting

Office plotting done by the verifier was the correctional work as itemized under III (Field Plotting). ✓

## V Junctions

The overlap of H-5388 and H5263 were placed on this sheet and the agreement is good. Sheet H-5360, which adjoins H-5388 has not as yet been verified. The overlap with H-5385 will be placed on that sheet as soon as a bromide of H5388 has been made. *Made 7-31-34. Junction good. See D.R. H5385 244.*

## VI Remarks

The attention of the reviewer is invited to the following:

1. Tide rips are noted in the records <sup>at</sup> between positions 49c and <sup>51c</sup> 54e, and at 42d, and are plotted by the field draftsman as whirlpools. Tide rips were inked by the verifier using the conventional signal from 49c to 51c. The remainder were not inked pending a decision thereon by the reviewer.

2. Three rocks near position 78a (Lat. 54-46; Long. 130-51) appear on the boat sheet, but only one of these is verified by the records <sup>(See part 2 of the review)</sup> and the ~~Topo sheet~~, and this one only was located and inked. <sup>(on page 72 Vol. 1.1)</sup>

3. The spacing between positions 172e and 173e (Lat. 54-47½; Long. 130-56) is not in agreement with that of the preceding or following position intervals. The protracting and timing has been checked and no discrepancy is apparent.

4. The boat sheet shows a rock symbol at position 76d (Lat. 54-46½; Long. 130-53) but this is not verified by the records. A shoal depth of 5/6 fathoms is recorded at this position. A rock symbol was not entered on the smooth sheet.

(5/6 RK.) ok  
J.R.

Respectfully submitted,

*Mark S. Gurnee*

Mark S. Gurnee,  
Verifier

July 24, 1934.

Field Records Section (Charts)

HYDROGRAPHIC SHEET No. ~~5368~~ 5368

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

Number of positions on sheet	.954.
Number of positions checked	.....
Number of positions revised	....2.
Number of soundings recorded	2212
Number of soundings revised	...30. (Approx.)
Number of signals erroneously plotted or transferred	.....

Date:..... July 24, 1934.....

Cartographer:.....

Verification of protracting Verification & inking of rocks & shoals	by John G. Ladd	Time: 23½ Hrs.
Verification of inking by	M. S. Gurnee	Time: 56 Hrs.
Review By		Time:

Section of Field Records

REVIEW OF HYDROGRAPHIC SURVEY NO. 5388 (1933)

Island Point to Tree Point, Dixon Entrance, S. E. Alaska.  
Instructions dated March 24, 1932 and March 16, 1933  
(EXPLORER).

Surveyed - July 1933.

Machine and Hand Lead Soundings and 3-Point Fixes on Shore Signals.

Chief of Party - Jack Senior.  
Surveyed by - W. Weidlich.  
Protracted by - W. Weidlich.  
Soundings penciled by - Jack Senior; J. C. Mast.  
Verified and inked by - J. Levine.

1. Condition of Records.

The records conform to the requirements of the Hydrographic Manual with the following exceptions:

- a. A list of the topographic and hydrographic signals used was not included in the records (par. 139).
- b. Evidence that the plotting of the triangulation stations and the topographic signals had been checked by the field party was lacking, since the initials of the checker were omitted. The necessary check has been made in the office.
- c. The topographic features outside the highwater line had not been completely transferred from the topographic survey and had to be completed in the office.
- d. Approximately thirty names of topographic signals had to be moved in order to make it clear to which signals the names belonged.
- e. The three rocks awash shown on the boat sheet at Lat.  $54^{\circ}46'$  and Long.  $130^{\circ}50'.7$  do not appear with the topographic surveys. The sounding records confirm only one of these three rocks (page 72, vol. 1), which is therefore the only one carried forward to the smooth sheet.

2. Compliance with Instructions for the Project.

The survey satisfies the instructions under which the work was done. The field work was well done and is an excellent survey for an area of this type.

3. Sounding Line Crossings.

No cross lines were run but adjacent sounding lines agree satisfactorily.

4. Depth Curves.

Within the limits of the survey the usual depth curves may be satisfactorily drawn, including portions of the shoaler curves under ten fathoms.

5. Junctions with Contemporary Surveys.

On the northwest a satisfactory junction is made with H. 5263 (1932) and H. 5387 (1933).

On the northern edge of the central portion of the survey a satisfactory junction is made with H. 5385 (1933).

The junction with H. 5360 (1933) on the northern edge of the eastern portion of the survey will be considered with the review of that survey.

6. Comparison with Prior Surveys.

There are six prior surveys that come within the limits of the new survey. They are H. 1614 (1883), H. 1617 (1883), H. 1618a (1883), H. 1891 (1888), H. 1899 (1888) and H. 2142 (1892). All of these are of a reconnaissance nature only and contain but a few soundings in the area covered by the present survey and are in good agreement.

Of the above mentioned surveys, H. 1891 (1888) is not an original survey, but is, apparently, a compilation of H. 1899 (1888) and H. 1900 (1888) showing selected soundings only. H. 1614 (1883) and H. 1618a (1883) are also topographic surveys for the area. The projections on these sheets are approximate, the scales small and the shorelines in appreciable disagreement with the new topo. T. 4802 (1933), making a comparison of inshore details almost impossible. Because of their reconnaissance nature they should not be considered in future charting.

7. Comparison with Charts Nos. 8075 and 8102.

The charted  $4\frac{1}{2}$  fathom sounding in Lat.  $54^{\circ}43'.3$ , Long.  $130^{\circ}48'.7$  is a preliminary depth originating with Chart Letter No. 539 (1933). The final reduced sounding is  $4\frac{4}{6}$  fathom which originates with H. 5385 (1933) and shown as overlap on this sheet (H. 5388). With this exception and matters discussed above there are no other rocks, shoals or matters of importance that need consideration in this review.

8. Field Plotting.

The field plotting was satisfactory with the following exceptions:

- a. A number of positions were erroneously protracted.
- b. A number of positions were incorrectly numbered.



9. Additional Field Work Recommended.

No additional field work is recommended.

10. Superseding Old Surveys.

Within the area covered the present survey will supersede the following surveys for charting purposes:

H. 1614	(1883)	in part.	
H. 1617	(1883)	"	"
H. 1618a	(1883)	"	"
H. 1891	(1888)	"	"
H. 1899	(1888)	"	"
H. 2142	(1892)	"	"

11. Reviewed by - John G. Ladd - Aug. 1934.

Inspected by - A. L. Shalowitz.

Examined and approved:

*K.T. Adams*  
K. T. Adams,  
Chief, Section of Field Records.

*L.O. Platt*  
Chief, Division of Charts.

*F.S. Borden*  
Chief, Section of Field Work.

*G. Hulse*  
Chief, Division of H. & T.

Applied to drawing (Compilation) of Reconstructed  
Chart N<sup>o</sup> 8075. Aug. 1934, S.B.M.

Applied to drawing of Chart 8102 Sept. 1934, S.B.M.

Applied to drawing (compilation) of new chart N<sup>o</sup> 8053

" " " " " " Chart 8144 (1936).  
S.B.M. Oct 1935  
James W. McGuire.