4271

Diag. Cht. Nos. 8102-2 & 8201-3

Form 504

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

State: Alaska

11—5613

DESCRIPTIVE REPORT.

Hyd. Sheet No. 4271

LOCALITY:

Ernest Sound

Muffin Rocks to Niblack Is.

1922

CHIEF OF PARTY:

A.M.Sobieralski

4271

DEPARTMENT OF COMMERCE
U.S.COAST AND GEODETIC SURVEY

E. Lester Jones, Director.

D E S C R I P T I V E R E P O R T

to accompany

HYDROGRAPHIC SHEET "C"

Brownson Island to Niblack Islands and Canoe Pass

Scale 1:20,000

----------ooOoo----------

Season of 1922 Steamer WENONAH

A. M. Sobieralski, H. & G. E., Chief of Party.

Form 537
11—5812

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. C 4271

State . . S. E. Alaska . . . . . .

General locality . . . Ernest Sound. . . . . .

Locality . . Muffin Rocks to Niblack Is. ~~West Shore of Ernest Sound, Peterson I. to Niblack I.~~

Chief of party . . A. M. Sobieralski, U. & G. E. . . . . .

Surveyed by . . . W. T. Combs, Jr. U. & G. E. . . . . .

Date of survey . 1922 . . . . . .

Scale . . . . . 1 : 20,000 . . . . . .

Soundings in . . Fathoms. . . . . .

Plane of reference . . M. L. L. W. . . . . .

Protracted by A.J.H. . Soundings in pencil by Not plotted

Inked by . . . . . Verified by . . . . . .

Records accompanying sheet (check those forwarded):

Des. report, ... Tide books, ... Marigrams, ...2.. Boat sheets,

10 Sounding books, ... Wire-drag books, ... Photographs.

Data from other sources affecting sheet . . . . . .

Remarks: Tide reducers from Union Bay tide gauge for work south of Brownson I. Plane of reference 5. 28 feet on gauge.
Lowest tide observed April 14, 2.0 " " "
Highest tide observed, June 26,23.2 " " "
For remainder of work, tide reducers from Menefee Inlet tide gauge.
Plane of reference 5.1 feet on gauge
Lowest tide observed, Aug. 24, 1.5 " " "
Highest tide observed, Sept. 23 26.6 " " "

4-DRM

November 24, 1923.

Verification of H. 4271

The verification of this sheet was delayed considerably by two principal causes. First was the overabundance of signals, which was the chief cause for the erroneous plotting of many of the positions. The second cause was the practice by the field party of using signals very close to the position as one object in the fix.

As to the first cause, it would be well to note that there are over 300 signals on this sheet and the total general shoreline including the islands but not including the eastern shore of Ernest Sound is 74,800 meters, or 1 signal in every 250 meters; which on a scale of 1:20,000 means about 1 signal to every 1/2 inch of shoreline. This is excessive and is the possible source of two kinds of errors. First from the standpoint of the field work, it would be very easy to mistake one signal for the other especially where the boat was a little distance away from shore, so that while the observer was shooting on one signal he might be under the impression he was shooting on another and hence an erroneous signal would be recorded and so plotted. This occurred rather frequently. From the standpoint of the office work it can be easily seen that where signals are so close together, it would not require a great amount of carelessness to use a signal close by in place of the correct one. This was a very frequent cause of error and on h day [launch] out of 69 positions 15 were erroneously plotted and almost every one due to the use of some other signal close by in place of @ Row. Out of 322 known positions that were re-protracted, at least 58 were found in error. No exact record was kept but of this much there is certainty.

The second cause of delay was the time it took to verify positions where an object close by was used. It was much too close for either the steel protractor or the celluloid protractor so that the angles had to be laid off on a paper protractor and then plotted. This almost takes twice the time and from this an idea can be gotten how much time the plotter lost in the protracting. The writer feels that most of this could have been eliminated. For instance the boat may have been but a few meters from a signal, yet angles were observed with the close signal as one of the objects when a direction and distance would have been sufficient. Or when in full view of objects on the opposite shore signals close by were used. This very often threw the positions on circles making them indeterminate.

The records are defective in the following respects: With the exception of the volume that contains the ship work, the boats head by compass was not given once in the nine volumes. Further, the records usually did not note where a line began and where it ended.

The recording was good and the plotting of the soundings was good.

ADDRESS THE DIRECTOR
U. S. COAST AND GEODETIC SURVEY
REFER TO No. 4-DRM

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

January 12, 1924.

SECTION OF FIELD RECORDS

Report on Hydrographic Sheet No. 4271

Ernest Sound, Alaska

Surveyed in 1922

Instructions dated February 18, 1922

Chief of Party, A. M. Sobieralski

Surveyed by A. M. Sobieralski and W.T. Combs.

Protracted by A. J. Hoskinson.

Soundings plotted by J. D. Torrey.

Verified and inked by A. L. Shalowitz.

1. The records conform to the requirements of the General Instructions except in the following respects:

   The courses were omitted throughout the 9 volumes of launch work. Descriptions of beginnings and endings of lines were generally omitted.

2. The plan and character of development fulfill the requirements of the General Instructions.

3. The plan and extent of development satisfy the specific instructions.

4. The sounding line crossings are adequate, considering the uneven character of the bottom.

5. The information is sufficient for drawing the usual depth curves.

6. The work was protracted by the field party, but the soundings were plotted in the office.

7. The junctions with adjacent sheets are satisfactory.

8. No further leadline surveying is required within the area covered by this sheet. There are several spots containing indications of shoal water that should be dragged. Capt. Sobieralski has stated that the passage close inshore on the southeast coast of Brownson Island is used by ships and should be dragged.

9. As described in the report of the cartographer who verified the sheet, the excessive number of signals resulted in numerous errors by the observers and the plotter. Also the use of signals close to the boat increased the difficulty of protracting.

10. The character of the surveying is good and the field protracting fair.

11. Reviewed by E. P. Ellis, January, 1924.

ADDRESS THE DIRECTOR
U. S. COAST AND GEODETIC SURVEY

AND REFER TO No. 4-DRM

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

November 24, 1923.

Verification of H. 4271

The verification of this sheet was delayed considerably by two principal causes. First was the overabundance of signals, which was the chief cause for the erroneous plotting of many of the positions. The second cause was the practice by the field party of using signals very close to the position as one object in the fix.

As to the first cause, it would be well to note that there are over 300 signals on this sheet and the total general shoreline including the islands but not including the eastern shore of Ernest Sound is 74,800 meters, or 1 signal in every 250 meters; which on a scale of 1:20,000 means about 1 signal to every 1/2 inch of shoreline. This is excessive and is the possible source of two kinds of errors. First from the standpoint of the field work, it would be very easy to mistake one signal for the other especially where the boat was a little distance away from shore, so that while the observer was shooting on one signal he might be under the impression he was shooting on another and hence an erroneous signal would be recorded and so plotted. This occurred rather frequently. From the standpoint of the office work it can be easily seen that where signals are so close together, it would not require a great amount of carelessness to use a signal close by in place of the correct one. This was a very frequent cause of error and on h day (launch) out of 69 positions 15 were erroneously plotted and almost every one due to the use of some other signal close by in place of the Row. Out of 322 known positions that were re-protracted, at least 56 (18%) were found in error. No exact record was kept but of this much there is certainty.

The second cause of delay was the time it took to verify positions where an object close by was used. It was much too close for either the steel protractor or the celluloid protractor so that the angles had to be laid off on a paper protractor and then plotted. This almost takes twice the time and from this an idea can be gotten how much time the plotter lost in the protracting. The writer feels that most of this could have been eliminated. For instance the boat may have been but a few meters from a signal, yet angles were observed with the close signal as one of the objects when a direction and distance would have been sufficient. Or when in full view of objects on the opposite shore signals close by were used. This very often threw the positions on circles making them indeterminate.

The records are defective in the following respects: With the exception of the volume that contains the ship work, the boats head by compass was not given once in the nine volumes. Further, the records usually did not note where a line began and where it ended.

The recording was good and the plotting of the soundings was good.

A. L. Shalowitz

DEPARTMENT OF COMMERCE
U.S.COAST AND GEODETIC SURVEY

E. Lester Jones, Director.

D E S C R I P T I V E R E P O R T

to accompany

HYDROGRAPHIC SHEET "C"

Brownson Island to Niblack Islands and Canoe Pass

Scale 1:20,000

----------ooOoo---------

Season of 1922 Steamer WENONAH

A. M. Sobieralski, H. & G. E., Chief of Party.

DESCRIPTIVE REPORT

to accompany

HYDROGRAPHIC SHEET "C"
Brownson Island to Niblack Islands & Canoe Pass
Scale 1:20,000

-----------00000-----------

This is a 1:20,000 projection joining sheet "D" on the west, sheet"A" on the south, sheet "E" on the east and sheet "B" on the north. It shows the development from south of Brownson island to the Niblack Islands, and includes Canoe Passage. The control was furnished by triangulation and plane table signals established by Mr. Fielder. The hydrography which was done with the Steam Launch "Delta" with steam sounding machine, was begun in May and completed in June, 1922. There are 8 volumes of soundings by "Delta", 1 volume by Wire Drag Tender #2 and 1 volume by Steamer WENONAH.

ANCHORAGE: The ohly feasible ship anchorage on this sheet is in the bay 1 mile N.E. of the passage between Stones and Etolin Islands, 2 miles west of the entrance to Canoe Passage. Anchor in 22 fathoms, gravel, 2/3 mile N.E. (true) from the point forming eastern tangent of bay. The shore of this bay is fringed with slight indentations, some of which have clean sand beaches. Two rocks were found, the inner one baring 14 feet at M.L.L.W., is 275 meters off the north shore, 680 meters east of the 2nd prominent point on west shore about halfway in the bay, being 400 meters N.E. (true) from the 1st prominent point on the west shore. Reefs make out for 150 meters along the outer shore on the eastern side of bay. A group of islets and reefs extending south 500 meters separate this bay from the entrance to Canoe Passage. South of what?

(N.W.?) ?

Bearings and distances in this paragraph are incorrect. E.P.

GENERAL DESCRIPTION:

Two oblong islands lie ½ mile off the south shore of Brownson Island. There is a pass between them leading to small boat shelter in the larger bight in south shore of Brownson Island. A rock baring at half tide lies slightly favoring the east side in the north end of this passage. Keep to the west side. A reef makes 50 meters S.E. from the S.E.point of the smaller of these two islands, and a small islet lies 350 meters west of its west end. A reef makes out from this west end for 160 meters toward the islet.

A small round island lies 500 meters south of the center of the larger of these 2 islands. A rock bare at all stages is 350 meters, east of this little island, and another rock bares 100 meters to the west of it.

A long reef makes south and terminates in a rock baring 7 feet at M.L.L.W., lying 510 meters south of the east end of the larger island.

Mid-channel passage for small boats between these islands and south end of Brownson Island is clear. A rock baring at low water lies 100 meters off shore in the larger bight in southwest shore of Brownson Island. This bight is used by fishermen. A small stream runs in at its head.

A small island lies 200 meters off shore ½ mile N.W. of this bight. There is a fine sand beach to east of this island. The passage north of it is foul.

Two islands, having the appearance of a split island, with a 5-fathom channel between them, lie 3 miles S.W. of the southern end of Brownson Island. A house was being built and the islands were posted as fox farm in October, 1922.

Petersen Is.

A group of three dangerous rocks lie about midway and on line between this "Split Island" and the southern end of Brownson Island. These rocks, the two most northern of which bare about 5 feet at M.L.L.W., lie almost south (true) from the little islet west of the two islands just south of Brownson Island. The most southern ~~of~~ of these rocks bares only at low water and is ~~1~~-mile due south (true) from this islet. A shoal spot with 3 fathoms lies ¼ mile S.E. of this rock. By using care in observing ranges on chart these rocks can be safely avoided.

A rock bare 14 feet at M.L.L.W. lies 1 mile north (true) from Split Island.

A small island lies 1½ miles south of the S.E. end of Brownson Island. A large rock with triangulation signal lies 100 meters S.E. of the south end of this island.

An island lies 1-1/3 miles a little north of east from the southern end of Brownson Island. Two groups of rocks extend 2/5 mile east of the north end of this island. The outer group bare ~~only 5 feet~~ at low water. There are passages between these groups and the island.

A narrow island ½ mile long lies 200 meters off shore 1-3/4 miles N.E. from the southern end of Brownson Island. Reefs make out for 100 meters from both north and south of this island. The north end is foul for 150 meters and a rock baring 6 feet lies nearly in center of passage opposite north end of island. Passage west of island should be run with care. A rock, awash at low water and marked by kelp, lies 360 meters south of the south end of this island. Irregular soundings were obtained 600 meters west of the island. ? East

Canoe Passage, the narrow steep passage between Brownson Island and Etolin Island, is 3/4 mile wide at its south end with a

(Corrections in pencil by Field Records Section)

depth of 130 fathoms. It runs northerly with a depth too great for anchoring until the narrows are reached 2 miles south of the north end of Brownson Island. Here the passage goes dry on extreme low tide. A least depth of 2 feet was found at M.L.L.W. in narrows where it is 100 meters wide, 1½ miles south of the north point of Brownson Island. The narrows extend for one third mile to where passage again widens and deepens. Pass to east of islet above narrows. Just south of the north end of Brownson Island is another constriction and a shoal makes out 75 meters from east side. Keep to Etolin Id. side here: At the head of Brownson Island the pass broadens and swings east with an elbow turn into Ernest Sound, just south of Menefee Inlet (See Sheet "B"). Current runs south on ebb tide.

The east side of Canoe passage is generally low and wooded while the west side is rugged and steep-to. The charm of this beautiful pass is much enhanced by the numerous splendid waterfalls which pur in from the snow capped peaks of Mount Shakes and Mount Etolin, and in many places a launch can be watered alongshore side.

Small boat shelter can be had in the center bight running 400 meters S.W. from the deep indentation of the east shore in center of Brownson Island. There are several bights here and the island is very nearly cut in half by a series of lagoons, which may be entered with a skiff at high tide. However, these bights have outlying reefs and should be entered with care.

The small bight 2/3 mile south of north end of Canoe Passage has 10 fathoms in its center. A reef makes 150 meters southward from the N.E. tangent of bight.

A submerged rock, having a least depth found of 2 feet at M.L.L.W., lies 500 meters off shore, E.N.E. of the south tangent point of the entrance to Canoe Passage, and 3/4 mile due south (true) from Menefee Point. The water appears deep around this rock, but irregular soundings were found ¼ mile to the southward.

A dangerous rock, awash at M.L.L.W., lies 1-1/8 miles east (true) from the north end of Canoe Passage. This rock lies 120 meters west of a range line from the west tangent of Bold Island to the west tangent of the close group of small islands 1/3 mile south of Bold Island. The true bearing of this range line is N. 10° W. and the rock lies 1110 meters south of where the line touches the west tangent of the small group of ½ mile due south (true) from south point of the group. This rock is also found to lie midway on a line between Menefee Point and the north end of the small island forming western tangent of Niblack Group. A reef makes N.W. for 60 meters from the main rock.

NIBLACK ISLANDS

The Niblack Islands form the group of larger islands lying 2 miles S.E. of Menefee Inlet. The islands lie in a general north and south direction, being narrow and long. They are wooded

deep and steep-to, with numerous channels between them. Only the main channel is navigable for small craft. This channel splits the group and a rock is reported as lying in the center of the narrows in north end of channel. The Niblack Islands are used as a fox farm, and about midway of the main channel on the west side is an indentation, this being in the east side of the larger island. A group of the farm buildings are located here, and there is a boat float with 30 feet of water. Wire drag was done close in on east side of Niblack Islands.

A small island lies west south west, 2/3 mile from the south end of the Niblack group. A reef baring at low water, lies 200 meters N.E. of this island; and two rocks bare 10 feet at low water 150 meters south of the west point of the island.

An island lies 1 mile south of the south end of the Niblack Group. Islets and reefs extend 270 meters south of this island, and the water is foul for 150 meters on the west side.

The ship did a strip of the deep hydrography south of this island.

The close group of small islands 1/3 mile south of Bold Island are foul for 200 meters off the east side. (See Sheet "B")

Another group of small islands lie 1/2 mile west of the head of the Niblack Group. A shoal sounding of 6 fathoms was obtained 300 meters east of the most eastern of these islands. Channels between islands are otherwise clear. (See Sheet "B") 4½

The ship did some additional work on this sheet and over wire drag area to furnish information for charts. Current runs south on ebb tide, and signs of "tide-Meets" were noticed east of the southern end of Brownson Island.

Respectfully submitted,

W. T. Combs

W. T. COMBS, Jr. H. & G. E.,
Hydrographer.

C

STATISTICS SHEET No. _____

Date, 1922		Letter	Volume	Positions	Soundings	Miles Statute	Vessels
May	16	a	1	16	21	2.0	Leh. Delta
	17	b	1	82	110	19.0	" "
	23	c	2	93	196	20.0	" "
	24	d	2	33	67	10.0	" "
	25	e	2	106	308	30.4	" "
	26	f	2	10	26	2.0	" "
	27	g	2	26	57	7.0	" "
	29	h	3	69	143	19.0	" "
	31	j	3	93	188	20.5	" "
June	1	k	3	85	192	22.5	" "
	2	m	3 & 4	61	146	11.5	" "
	3	n	4	47	95	9.5	" "
	5	p	4	80	161	16.5	" "
	6	q	4	86	204	25.2	" "
	7	r	4 & 5	91	190	20.2	" "
	8	s	5	121	245	24.0	" "
	9	t	5	29	43	7.5	" "
	10	u	5	38	75	6.5	" "
	13	w	5	69	141	15.0	" "
	14	x	6	54	89	16.0	" "
	15	y	6	68	116	20.0	" "
	16	z	6	41	71	7.0	" "
	20	a'	6	71	110	18.0	" "
	21	b'	6	103	163	23.2	" "
	22	C'	7	71	208	12.0	" "
	23	d'	7	62	124	18.9	" "
	27	e'	7	39	69	9.1	" "
	28	f'	7	28	67	8.4	" "
	29	g'	7 & 8	115	274	23.3	" "
	30	h'	8	73	135	11.2	" "
July	7	i'	8	36	70	7.0	" "
	15	k'	8	8	15	1.0	" "
Oct.	12	a	1	10	15	1.0	Gas Lch. WDZ #2
May	22	A	1	18	18	7.1	Str. Wenonah
June	14	B	1	50	50	29.8	" "
	15	C	1	66	66	19.0	" "
	16	D	1	23	23	10.1	" "
August	2	E	1	22	22	9.0	" "
October	12	F	1	18	18	10.5	" "
Totals				2211	4331	547.9	

COPY TO FIELD RECORDS

May 22, 1923.

Division of Hydrography and Topography:

Division of Charts:

Tide reducers are approved in
10 volumes of sounding records for

HYDROGRAPHIC SHEET 4271

Locality: Ernest Sound - S.E. Alaska

Chief of Party: A. M. Sobieralski in 1922
Plane of reference is mean lower low water, reading
5.3 ft. on tide staff at Union Bay
5.1 " " auto. gauge " Manzfee Inlet

For reduction of soundings, 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 each 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.