

4310

Diag. Ch. No. 8202-2

4310

Form 504

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

State: S.E. Alaska

11-5613

DESCRIPTIVE REPORT.

Hydrog. Sheet No. 4310

LOCALITY:

Icy Strait

Eagle Pt. to Lemesurier Island

 23
 191

CHIEF OF PARTY:

J.H.Hawley

DESCRIPTIVE REPORT
TO ACCOMPANY WIRE DRAG SHEET #3.

Icy Strait
and
Icy Passage.

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USS EXPLORER.

S. E. Alaska

Season 1923.

Date of this report
December 21, 1923.

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DESCRIPTIVE REPORT

to accompany Wire Drag Sheet #3.

This report is made in accordance with instructions issued to Captain J. H. Hawley, dated February 16, 1923.

Location:

The dragging and sweeping on this sheet extends in Icy Strait, Alaska, from eastward from about longitude $135^{\circ} 22'$ W. on the north and longitude $135^{\circ} 34'$ W. on the south, to the westward at about longitude $136^{\circ} 05'$ W., and between latitude $58^{\circ} 12'$ N. to latitude $58^{\circ} 24'$ N. Roughly, the water area of Icy Strait and Icy Passage from a line joining the east tangent of Porpoise Islands to Eagle Point, and the east meridian of Lemesurier Island.

This sheet joins and overlaps sheet #2 on the east, and sheet #4 on the west.

Shoals:

Many shoals not on the present charts were found, but in the usual travelled steamship areas none would be dangerous to surface vessels. In general the shoals were found around Porpoise Islands, Pleasant Island, the area south of Glacier Bay and north of Lemesurier Island latitude, just west of Point Adolphus, and in Mud Bay.

The 10 fathom curve west of Porpoise Islands should be extended one-half mile to include a 45 foot shoal found in 18 fathoms charted.

A pinnacle of 65 foot depth in 36 fathoms on the chart was found one mile off Noon Point, Pleasant Island.

A 11 foot shoal was found one-half mile off Pleasant Island in Icy Passage where probably 18 feet is charted.

A 11 foot shoal was found one-half mile west of Pleasant Island Reef in a charted depth of 21 feet.

There are several salmon traps extending from Pleasant Island in the vicinity of this reef. At present a lone pile is driven in the center of the main reef, and the cannery tenders, using this waterway considerably, change course possibly about over this 11 foot spot when crossing Icy Strait to the traps.

A 11 foot shoal was also found about one-half mile to eastward of Pleasant Island Reef.

A ridge of several shoal spots extends southerly about 4 miles from Point Gustavus, Glacier Bay. The southern most has 94 feet on it and the spots shoal up gradually to one 23 foot spot about one mile south of the Point.

A ridge of shoal spots extends SE~~WS~~ about 5 miles from Point Carolus, Glacier Bay, ranging from 84 feet to 47 feet.

In most instances^{all} these shoals off Glacier Bay have much less water on them than shown on the chart and are apparently of a pinnacle nature.

Five fathoms was found (in a nine fathom shoal off Mud Bay.

A 96 foot pinnacle about one mile off Point Adolphus was found where 150 feet is charted. Just outside the 10 fathom curve at this point a 20 foot shoal was found with kelp on it.

Ledges:

About one mile south of Δ DAM a rocky conspicuous ledge, bare at low water, makes out from the east shore of Lemesurier Island about one-half mile. This is not indicated on present charts. Two other ledges not bare at low water make out from Chichagof Island just west of Point Adolphus as shown on the smooth sheet.

Soundings Icy Passage.

As the guiding launch proceeded dragging Icy Passage narrows, soundings were also taken from the launch to show the present depths at the edge of the mud flats. These soundings are penciled in fathoms on the wire drag sheet. All other soundings penciled in on the wire drag sheet are in feet.

Splits:

A minute split of pencil point size may exist N.69 E. true, $1\frac{1}{4}$ statute miles from Δ POST as noted in pencil on the smooth sheet. This is back of Pleasant Island reef $1/8$ of a mile from the edge of the undragged area and therefore it is very probable of no consequence.

At position 7, P-day, $\frac{1}{2}$ mile off Harry Island after reversing from a ground and starting ahead again to cover the split the drag is shown as a letter "W" as it was in fact. It may be that this should be shown a simple curve to be more than on the safe side in claiming area. If so at the point where this simple curve and the curve at 6-P meets is a small split on sheet #3. There was some dragging here on sheet #2 now in the Washington Office, and possibly data on sheet #2 covers this questionable spot. As both these possible splits are close to the undragged area they are believed of very small importance.

No other splits were detected on sheet #3 and it is believed none exist.

Currents and Icebergs:

Due to the very strong currents in all the area west of Pleasant Island and especially south of Glacier Bay where it is shoal, dragging was very difficult. Almost daily for perhaps a couple of months this large body of water between Pleasant Island Reef and Lemesurier Island was literally teeming with fast moving icebergs up to sizes larger than the EXPLORER and in the eddies especially. considerable dexterity and seamanship was required to keep the boats from danger, and also to protect the wire drag buoys. Reports were that earthquake disturbances were causing these bergs to break off the glaciers at the head of Glacier Bay. The range of tide also was unusually high.

Tides:

The highest tide during dragging hours on sheet #3 was 17.7 feet above M.L.L.W. which occurred on Sept 26th. The lowest tide during dragging hours on sheet #3 was 3.0 feet below MLLW which occurred on May 3d. Other tidal data not available on ship at present as marigram is at Washington Office.

Guiding and End launches.

Except around Icy Passage and north of Pleasnat Island Reef all work was done by the ship and launch SCANDINAVIA. In these two places mentioned the launches SCANDINAVIA and HELLIANTHUS were used. In all cases both guiding launch and end launch worked with individual boat-sheet control.

Coloring:

On the smooth sheet the system of coloring is as follows:

19 feet and under	--	Brown
20 to 29 feet	---	Yellow
30 to 39 "	----	Blue
40 to 59 "	-----	Red
60 to 79 "	-----	Purple
80 feet and over	----	Orange.

Charles Shaw

Charles Shaw, Commanding Str. EXPLORER.

Note: This report should be referred to Captain J. H. Hawley for additional remarks if desirable.

Statistics Sheet No. 5

Date, 1923	Letter	Vol.	Positions	Sdgs.	Stat. mi.	Vessels
April 20	A	1	43	--	13.5	Scandinavia and Explorer
23	B	1	27	1	7.0	" " "
24	C	1	31	3	7.7	" " "
25	D	1	35	2	7.1	" " "
26	E	1	43	--	13.0	" " "
27	F	1	30	--	12.2	" " "
May 2	G	1	11	--	5.0	" " "
3	H	1-2	48	--	15.0	" " "
4	J	2	35	--	16.5	" " "
5	K	2	44	--	11.4	" " "
7	L	2	31	2	8.2	" " "
8	M	2	40	4	12.0	" " "
9	N	2	30	7	6.9	" " "
10	P	2	42	2	12.3	" " "
11	Q	2	13	--	7.4	" " "
16	R	2-3	21	--	9.4	" " "
17	S	3	6	1	2.5	" " "
18	T	3	29	1	10.9	" " "
19	U	3	6	--	2.1	" " "
21	V	3	17	--	6.2	" " "
22	W	3	5	1	1.2	" " "
23	X	3	35	1	10.4	" " "
24	Y	3	40	--	16.7	" " "
25	Z	3	27	2	9.1	" " "
26	A'	3	15	2	2.6	" " "
June 5	B'	3	32	--	9.6	" " "
6	C'	4	46	--	17.4	" " "
7	D'	4	20	10	5.9	" " "
8	E'	4	27	1	9.4	" " "
9	F'	4	23	--	5.2	" " "
12	G'	4	34	3	10.6	" " "
20	H'	4	24	--	9.1	" " "
21	J'	4	38	1	10.9	" " "
23	K'	4	12	2	4.7	" " "
Aug. 21	L'	5	25	2	7.2	" " "
22	M'	5	24	--	4.5	" " "
Sept. 26	N'	5	12	--	1.8	" " Helianthus
27	P'	5	21	1	3.7	" " "
28	Q'	5	76	--	14.5	" " "
Oct. 1	R'	5	90	--	12.4	" " "
		Totals	1208	49	353.2	

Automatic tide gauge and staff at Hooniah Cannery. Tide staffs at Excursion Inlet and Mud Bay. Tides used for the staff nearest the location of the work.

8.078.

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

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

July 2, 1924.

SECTION OF FIELD RECORDS

Report on Wire Drag Sheet No. 4310

Icy Strait, Alaska

Surveyed in 1923

Instructions dated February 16, 1923

Chief of Party, J. H. Hawley.

Surveyed by J. H. Hawley and Charles Shaw

Protracted and inked by H. E. MacEwen.

Verified and Area and Depth Sheet by A. L. Shalowitz.

1. The records conform to the requirements of the General Instructions.
2. The method and character of operations fulfill the requirements of the General Instructions.
3. The depth and extent of dragging satisfy the specific instructions, except that in some of the deep water areas the drag was not carried to a minimum of 85 feet as called for in Paragraph 11 of the specific instructions. Also in the shoaler areas the drag should have been carried to within 3 feet of the bottom. This is particularly true of the area in Icy Passage, off Pt. Gustavus and in Mud Bay.
4. A clearance depth sufficient for surface navigation in the particular locality was found on all shoals discovered by the drag except as follows:
 - (a) The 32' spot near the head of Mud Bay was not subsequently cleared.
 - (b) The 30' sounding at entrance to Mud Bay and about 1 mile off shore, was cleared by a 21' drag. A deeper drag should have been carried over this spot to insure the least water.
 - (c) The 20' spot west of Pt. Adolphus. This is on the end of a ledge that makes out from shore.
 - (d) The 43' sounding off Flynn Cove was not dragged over. As there is deeper water inside, this spot should be dragged over with a clearance depth.

(e) The 45' sounding off the western end of Porpoise Is. was not dragged over. From an inspection of the original hydrographic sheet for this locality it appears that this is a detached spot and well outside the 10 fathom curve. Hence shoaler water may exist here.

(f) The 39' sounding southwest of Noon Point was not dragged. An inspection of the hydrographic sheet shows that there is probably shoaler water inside so that no additional dragging is necessary here.

(g) The 20' sounding northeast of ⊙ Post was not cleared. There is deeper water inside, hence shoaler water may exist on this spot.

(h) The 17, 11 and 24' soundings around ⊙ Post were not dragged over. There are so close to the reef that it is hardly necessary to go over them again.

(i) The 58' sounding east of Pleasant Island Reef was cleared by a 36' drag. A deeper drag should have been carried over this to conform more to the surrounding effective depths of 55 and 60.

(j) The 49' sounding near the west end of Pleasant Island is shown on the smooth sheet as not cleared. However, this is probably the least water here since the rise of the tide cleared this spot before the tender could clear the drag. The drag was not taken up. The line ended on the grounding, hence the reason for the split as shown. It is very probable that the greater portion of the area shown not dragged was in reality covered.

(k) The 35' sounding south of Pt. Gustavus was cleared by a 26' drag. This should have been cleared by a deeper drag to determine whether 35' is the shoalest depth here, as an inspection of the hydrographic sheet for this locality shows this 35' sounding to be part of a detached shoal with the possibility that depths much less than 35' exist here.

(l) The 24' sounding south of Pt. Gustavus was cleared by a 26' drag. The drag grounded here and slipped off. The bottom is boulders. This would seem to indicate the necessity of applying a factor of safety to all effective depths to take care of all such conditions.

(m) The shoal soundings off the northeast point of Lemesurier I. were not dragged over as this is part of a reef making out from the point.

5. The overlaps are sufficient except as shown on the A. & D. sheet.
6. The two splits shown on the A. & D. sheet were both covered by the

adjoining sheets. If work is done here in the future, the places mentioned in paragraphs 3 and 4 should be investigated.

7. The field plotting was completed to the extent prescribed in the General Instructions.
8. Except for a few changes, the office draftsman did not have to do over any part of the drafting done by the field party.
9. Rating of the work (a. Character and scope of drag operations - excellent.
(b. Field drafting - excellent.
10. No verification report for this sheet was made. The substance was incorporated in this review.
11. Reviewed by A. L. Shalowitz, June, 1924.

February 21, 1924.

Division of Hydrography and Topography:

Division of Charts:

Tide reducers are approved in
1 volumes of sounding records for
5 " " " Wiredrag

HYDROGRAPHIC SHEET 4310

Locality: Icy Strait, Excursion Inlet to Lemesurier Island, S.E. Alaska.

Chief of Party: J. H. Hawley in 1923.

Plane of reference is mean lower low water reading

4.2 ft. on tide staff at Excursion Inlet
4.6 " " " " " Mad Bay
5.9 " " " Auto Gauge " Hooniah

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.

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. 4310

State . S.E. Alaska

General locality . Icy Strait

Locality . ~~Extension Inlet~~ Eagle Pt to Lemesurier I.

Chief of party . J.H. Hawley

Surveyed by J.H. Hawley and Charles Shaw

Date of survey . April to October 1923

Scale 1 to 40000

Soundings in . Feet

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

Protracted by H.E.M. McEwen Soundings in pencil by H.E.M.

Inked by . H.E.M. Verified by

Records accompanying sheet (check those forwarded):

1 Des. report, 4 Tide books, 5 Marigrams, 2 Boat sheets,

1 Sounding books, 5 Wire-drag books, Photographs.

Data from other sources affecting sheet

Remarks: