4027

Form 504

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

State: Maine

11—5613

DESCRIPTIVE REPORT.

Hyd. Sheet No. 4027

LOCALITY:

Passmaquoddy Bay, Me.

1918

CHIEF OF PARTY:

J. H. Hawley

4027

DESCRIPTIVE REPORT 4027

To accompany hydrographic sheet (No. 2 (field Number))

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This sheet shows the wire drag survey made by Wire Drag Party No. 2, in Passamaquoddy Bay and approaches, during June, July and August, 1918.

The sheet covers all of Passamaquoddy Bay; the part of Western Passage north of Kendall Head; and the mouth of the St. Croix river.

No important shoals were found in these areas. The only obstruction dangerous to navigation is located about 2 miles S.S.E. from Sand Reef L.H. with a least depth of 45 feet. As noted in the sounding record, this obstruction is probably wreckage of some sort.

Sand Reef, or Tongue Shoal L.H. is not in operation at the present time; a red nun buoy, not shown on the chart, is located as shown on the sheet at the entrance of Chamcook Harbor; the correct positions of the two can buoys off the east end of Navy Island are shown on the sheet; the buoy shown on the chart as red & white is black and white instead. The positions of other buoys are as shown on the chart.

It will be noted that there is an abnormal lift to the drag on some days. This is due to the difference in surface and sub-surface currents. The following data was noted in regard to currents during the progress of the work.

1. Currents in Western Passage run parallel to the channel.
2. Currents between Western Passage and the St. Croix river run parallel to the western shoreline. There is usually a southerly sub-surface current even at flood tide.
3. Currents between Deer and Navy Islands run about N.E. x E.
4. Currents east of Sand Reef L.H. run about N.N.W. and S.S.E., to and away from Letite Passage.
5. There is little current in the northern part of the bay except at the entrance to the rivers.

There are numerous fish weirs along the shores of Passamaquoddy Bay but they do not extent far enough out to obstruct navigation at any point.

Respectfully, submitted,

Chief of Party.

TABLE OF STSTISTICS. 4027

To accompany hydrographic sheet No. 2

Day	Date	Vol.	Drag Length	Positions	Soundings	Miles
A	June 19, 1918.	1	1200	16	0	2.4
B	" 20 "	1	2400	30	0	3.0
C	" 21 "	1	2400	39	0	3.2
D	" 24 "	1	1500	28	0	2.2
E	July 3. "	1	3000	36	1	5.0
F	" 9 "	1	3000	56	0	4.5
G	" 10 "	1	3000	39	0	5.0
H	" 12 "	1	3000	32	1	3.5
J	" 13 "	2	4000	16	2	1.7
K	" 15 "	2	3000	56	0	5.5
L	" 17 "	2	3000	75	2	8.7
M	" 18 "	2	4000	38	1	5.0
N	" 19 "	2	3000	7	2	0.5
O	" 20 "	2	1500	24	0	1.7
P	" 22 "	2	4000	38	0	4.5
Q	" 23 "	3	3000	24	1	2.8
R	" 24 "	3	4000	69	0	8.0
S	" 25 "	3	5000	63	3	7.0
T	" 26 "	3	4000	54	4	5.7
U	" 29 "	3	4000	50	0	5.0
V	" 30 "	3 and 4	3000	48	0	4.7
W	" 31 "	4	5000	51	0	6.0
X	Aug. 1, "	4	3000	59	1	5.8
Y	" 3 "	4	5000	28	0	2.7
Z	" 6 "	4	3000	61	0	6.7
A'	" 7 "	4 and 5	3000	99	0	10.0
B'	" 8 "	5	4000	64	0	7.5
C'	" 12 "	5	4000	44	0	4.0
D'	" 13 "	5	3000	54	1	4.6
E'	" 16 "	5	1800	40	2	3.2
F'	" 17 "	6	3000	32	1	3.0
G'	" 19 "	6	3600	67	0	7.3
H'	" 20 "	6	2700	61	2	5.8
J'	" 21 "	6	4000	59	0	6.0
K'	" 22 "	6	2700	37	0	5.5
L'	" 24 "	6 and 7	2700	45	0	4.2
M'	" 28 "	7	2400	52	0	5.3
N'	" 29 "	7	2100	44	0	5.0

TIDAL DATA 4027

Hydrographic Sheet (No. 2 (field number))

For the reduction of records for this sheet, tidal observations were obtained at three different points as follows:

Area	Tide Gauge
Western Passage	Eastport, Maine.
Northeast part of Passamaquoddy Bay	Midjik Bluff, N.B.
All other area	St. Andrews, N.B.

The location of the tide gauge is entered at the beginning of each day in the records.

At the time the records were reduced, the gauge reading corresponding to mean low water was obtained at St. Andrews and Midjik Bluff by taking the mean of all low waters obtained up to the time when the reductions were made. Over 20 low waters were used to obtain the mean in each case.

The staffs at these places were connected with the tide gauge at Eastport by simultaneous readings. With the idea that the final staff reading corresponding to mean low water as computed might differ slightly from the value obtained by taking the mean of the low waters, the gauge readings were reduced only during the periods when the tidal readings were needed to reduce drag work.

LIST OF SIGNALS. 4027

Sheet No. 2 (field number)
Passamaquoddy Bay, N.B.

Hydro. name.	How located, etc.
Bell	Cherry I. Bell tower, 1910.
Red	J.H.H, 1918, checked by sextant cut, pp 7, angle book.
Ken	Kendall 2, 1893.
Low	Carlow I. Chy, 1893.
Ant	Pleasant Point ch. sp., 1860.
Mill	Pleasant Point windmill, 1913.
Per	Perry white church spire, 1913.
Rep	Perry Ho. with red door, chy., 1863.
Bar	Navy Bar L.H., J.H.H., 1918.
San	Sand Reef, L.H., 1887.
Al	Algonquin hotel tower, 1913.
Min	Chy. white house, Minister I., J.H.H, 1918.
Tow	Minister I. tower, J.H.H., 1918.
Bec	Hydro. signal, sextant cuts, pp 7 & 11, angle book.
Boc	" " " " " 7 & 11, " "
Hos	Hospital I. Ho., J.H.H. 1918.
Wood	Hardwood I. H., J.H.H. 1918.
Holt	J.H.H., 1918.
Hog	J.H.H., 1918.
Mid	Grey Ho. near Mt. Blair, J.H.H., 1918.
Dim	Midjik Bluff, L.H., theod. cut from HOG and sextant angles pp 7, angle book.
Ark	Hydro. signal, theod. cut from HOG and sextant cuts, pp 7 angle book.
Ho.	White house with white roof, chy., 1863.
Mat	Mathews, 1863.
Pen	Pendleton, 2, J.H.H. 1918.
Vid	David, J.H.H. 1918
Cum	Cummings, 1893.
Deer	Deer Id. south end house chy., 1913.
Cham	Chamcook, 2, 1866.

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
Form 583

PROGRESS CHART

SHOWING CONDITION OF RECORDS OF

Hydrographic Sheet No. ~~2~~ 4027 Field No. 2

Wire drag survey of Passamaquaddy Bay

Scale 1:20,000 *Date of Survey* June–August, 1918

Surveyed by J. H. Hawley

Day	DATE	Signaled angles compared	Distances entered	Distances checked	Length of upright entered	Length of upright checked	Correction entered	Correction checked	Drag depth entered	Drag depth checked	Reducers entered	Reducers checked	Effective depth entered	Effective depth checked	Effective depth diagram entered	Effective depth diagram checked	Positions plotted	Dragged strip traced	Tracing checked	Area subdivided	Subdivision checked	Transferred and inked	Compared with chart
A	June 19	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓			✓		✓	
B	20	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓			✓		✓	
C	21	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓			✓		✓	
D	24	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓			✓		✓	
E	July 3	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓			✓		✓	
F	July 9	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓			✓		✓	
G	July 10	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓			✓		✓	
H	July 12	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓			✓		✓	
J	July 13	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓			✓		✓	
K	July 15	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓			✓		✓	
L	July 17	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓			✓		✓	
M	July 18	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓			✓		✓	
N	July 19	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓			✓		✓	
O	July 20	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓			✓		✓	
P	July 22	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓			✓		✓	
Q	July 23	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓			✓		✓	
R	July 24	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓			✓		✓	
S	July 25	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓			✓		✓	
T	July 26	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓			✓		✓	
U	July 29	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓			✓		✓	
V	July 30	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓			✓		✓	
W	July 31	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓			✓		✓	
X	Aug. 1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓			✓		✓	
Y	Aug. 3	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓			✓		✓	
Z	Aug. 6	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓			✓		✓	
A'	Aug. 7	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓		✓			✓		✓	

This Progress Chart, checked to show the condition of the office work, should be forwarded to the office with the records.

11—6061

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
Form 583

PROGRESS CHART

SHOWING CONDITION OF RECORDS OF

Hydrographic Sheet No. 4027 Field No. 2

Wire drag survey of Passamaquoddy Bay

Scale 1:20,000 *Date of Survey* June-August 1918

Surveyed by J. H. Hawley

Day	DATE	Signaled angles compared	Distances entered	Distances checked	Length of upright entered	Length of upright checked	Correction entered	Correction checked	Drag depth entered	Drag depth checked	Reducers entered	Reducers checked	Effective depth entered	Effective depth checked	Effective depth diagram entered	Effective depth diagram checked	Positions plotted	Dragged strip traced	Tracing checked	Area subdivided	Subdivision checked	Transferred and inked	Compared with chart
B'	Aug. 8	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓			✓		✓	
C'	" 12	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓		✓			✓		✓	
D'	" 13	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓			✓		✓	
E'	" 16	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓			✓		✓	
F'	" 17	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓			✓		✓	
G'	" 19	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓			✓		✓	
H'	" 20	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓			✓		✓	
J'	" 21	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓			✓		✓	
K'	" 22	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓			✓		✓	
L'	" 23	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓			✓		✓	
M'	" 28	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓			✓		✓	
N'	" 29	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓			✓		✓	

This Progress Chart, checked to show the condition of the office work, should be forwarded to the office with the records.

11—6061

ADDRESS THE SUPERINTENDENT
U. S. COAST AND GEODETIC SURVEY

AND REFER TO No. 41-ACC

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

WASHINGTON May 13, 1919.

HYDROGRAPHY ETC., (HT)

CHARTS (H)

FIELD RECORDS (C)

RECORDS (C)

Division of Hydrography amd Topography: HCG

Division of Charts:

Tidal reductions have been approved in
8 volumes of Wire Drag and Sounding records for

HYDROGRAPHIC SHEET 4027

Passamaquoddy Bay, Maine.
J. H. Hawley in 1918.

Plane of reference is
Mean low water, reading

5.5 ft. on staff at Eastport, Maine.
5.4 ft. on staff at St. Andrews, New Brunswick.
4.3 ft. on staff at Midjik Bluff, New Brunswick.

R. A. Lucas

Chief, Section of Tides
and Currents.

E.R.

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

October 28, 1924.

SECTION OF FIELD RECORDS

Report on Wire Drag Sheet No. 4027

Approaches to St. Croix River, Maine

Surveyed in 1918

Instructions dated May 23, 1918.

Chief of Party, J. H. Hawley.

Surveyed by J. H. Hawley.

Protracted and inked by S. M. Ferguson.

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

Tracing by H. R. Edmonston.

1. As this work was of a confidential nature, no written instructions as to depth and extent of dragging were issued, but verbal information was furnished by the Chief of the Division of Hydrography and Topography to the Chief of Party. It is therefore assumed that the work was prosecuted in full accord with these instructions. The results of this work give a through unobstructed passage for surface navigation through Western Passage into Passamaquoddy Bay. The greater portion of the deeper areas of Passamaquoddy Bay has been dragged to depths sufficient to insure safety to submarine navigation. It is to be noted, however, that Western Passage where the depths range from 100 to nearly 400 feet has been dragged to effective depths varying between 45 and 48 feet. A deep drag through here as well as through Head Harbor Passage would have given a safe submarine passage from the ocean into Passamaquoddy Bay, as mentioned in review of H. 4031.

   Practically all the important shoal areas have been dragged sufficiently close to the bottom. The shoal area surrounding the 25 foot spot south of Navy Island should have been dragged a little closer to the bottom. A small area in the vicinity of latitude 45° 06 1/2', longitude 66° 56' has been dragged to an effective depth of but 18 feet. The depths here are considerably greater.

Also portions of the passage between Hardwick I. and Dick I. should have been dragged to a greater depth than 26 feet as the depths here seem to warrant a much deeper drag.

2. A clearance depth was obtained over all shoals discovered sufficient for surface navigation in the particular locality except as follows:

   a. The 62 foot sounding in latitude 44° 59 1/2', longitude 67° 00 3/4' has not been cleared. The general depths here seem to correspond to this sounding and hence no dragging over this is necessary.

   b. The 59 foot sounding in latitude 44° 59 3/4', longitude 67° 00 1/4' has not been cleared. A split in the work occurs here. This spot should be covered whenever the split is dragged over.

   c. The 26 foot sounding (grounding depth) in latitude 45° 07 1/2', longitude 67° 00 1/2' was not cleared. No dragging is necessary here as it is very close to the reef from Hospital Island and the grounding appears to have taken place in depths corresponding to the depth of dragging.

3. There are several places of insufficient overlap within the sheet. These are shown on the Area and Depth Sheet. The junction with H. 4031 is sufficient.

4. There are two splits on this sheet. The first is a small split southeast of Navy Island occasioned by a black and white buoy which was located there at that time. A 23 foot drag caught on the buoy. It appears that the buoy has since been removed so if work is done here in the future this split should be covered. The other split is along the limits of the drag in the vicinity of latitude 45° 00', longitude 67° 00', occasioned by the drag not being carried close enough inshore at this point. As the drag grounded here it should be dragged over if work is done here again.

5. Further dragging will not be required within the limits of this sheet unless to cover some of the areas mentioned above or to drag certain areas closer to shore. But in so far as the important areas of the bay are concerned this sheet stands complete.

   In Bocabec Bay at the extreme northwestern corner of Passamaquoddy Bay there is a break in the drag work caused by the drag grounding on a charted shoal.

6. Attention is called to the fact that the 34 foot sounding shown on chart 801 about 2/5 of a mile southeast of Tongue Shoal buoy should be expunged. The 34 is probably an error made when chart was first

converted from fathoms to feet and should be 84 instead of 34 as the only hydrographic survey in this vicinity (H. 1794) shows 14 fathoms at this point. No record could be found for this 34. It is further disproved by the fact that a 45 and a 47 foot drag cleared this spot without grounding.

7. There is no verification report for this sheet, the substance having been incorporated in this review.

8. Reviewed by A. L. Shalowitz, October, 1924.