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Department of Commerce and Labor

COAST AND GEODETIC SURVEY

O. H. Tittmann
*Superintendent.*

*State:* Maine

# DESCRIPTIVE REPORT.

Hyd. *Sheet No.* ~~15~~ 3528.

LOCALITY:

South Approaches Penobscot Bay, vicinity of Matinicus I.

*1913*

CHIEF OF PARTY:

N. H. Heck, Assistant

11—4645

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# 3528

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MAINE

South Approach-Penobscot Bay

Wooden Ball to Southern Triangle Ledge

Wire Drag Survey

Chief of Party-N. H. Heck, Assistant

June 10-August 21

1913

Scale 1/20,000

| Tides | Vinalhaven | Matinicus |
|---|---|---|
| Highest Tide observed , staff | 11.5 | 11.5 |
| Lowest " " " | 1.3 | - 0.3 |
| Mean Low Water on Staff | 2.8 | 1.5 |

Descriptive Report Hyd. Sheet no. 15

The area dragged on this sheet includes the south approaches to Penobscot Bay, Me. east and west of Matinicus and Ragged Islands. East of the islands the north boundary is a line between the South end of Wooden Ball Island and Ten Pound Island, on the west side a line from the north end of Matinicus to Green Island Seal Ledges and thence to Southern Triangles Ledge. The south boundary is the 25 fathom curve.

This area is covered to a depth of 40 feet at Mean Low Water wherever a greater depth existed or within one or two feet of bottom according to conditions. In general the area was found to be clear except in the vicinity of charted ledges or broken ground. These were found to be more extensive than charted and with generally less depth.

A general description of the principal changes discovered follows:

A pinnacle of small extent with 39 feet least depth was found about ¾ mile south of Eastern Black Ledge. (All soundings are in feet at Mean Low Water, bearings are true, distances in meters unless otherwise stated) Between Inner and Outer Breakers slightly less depth than charted was found but nothing less than 40 feet, the maximum depth required to be verified, except as charted.

A ledge with depths of 34-37 feet lies between the Inner Breaker and Southwest Ledge off Ragged Island. A depth of 8 1/2 feet was found on a reported pinnacle west of Ragged Island.

A 35 ft. pinnacle of small extent was found between Bantam and Fosters Ledges.

The broken ground about 1 mile long by ¾ wide of which Fosters Ledge forms the southern and shoalest part was developed. An almost continuous ridge with depths of 13, 27 and 32 ft as indicated on sheet extends 1100 m 25° from Fosters Ledge. A small shoal with 35 feet and one with 33 ft lie respectively 1100 m, 342° and 1800m, 355° from same ledge. There is

an extension of the latter shoal to the westward with 38 feet 300 meters from the 33 ft. spot. An extension of Fosters Ledge to the westward with 25 ft. 200 m from the 6 ft. spot was located.

The Pigeon Ground was developed and found to generally shoaler than charted though no less than the least depth was found . There ia a central ridge of N-S direction with 24 ft at south end and 34 at north , with intervening depths greater than 40 ft, except for a 24 ft pinnacle about one half way between them. A 38 ft pinnacle lies 300 m. ENE from the 34 ft spot , and 33 ft. 450 M WSW from the south 24 ft. spot.

The 3¾ shoal west of the Pigeon Ground was found to have 15 ft. least depth and should be avoided by all vessels except when smooth. It is stated by local fishermen that this is the first shoal to break during heavy weather. a 33 ft shoal of small extent was found 550 M. NNE from this shoal.

This sheet also shows the following shoals in the approaches to Matinicus either noted when running to and from the working grounds or reported. These were all developed with the leadline, and in many cases the shoals could be seen.

White Rock, 7 feet ENE from Two Bush I.

Depths less than charted eastern part of Two Bush Ledge.

4 1/2 and 9 foot shoals east of southend, Wheaton's Island.

| Date 1913 | Letter | Vol. | Angles H | Angles K | Miles | Drag Length | Soundings No. | Soundings Angles | Remarks |
|---|---|---|---|---|---|---|---|---|---|
| 6-10 | A | 1 | 21 | 21 | 0.8 | 5500 | 0 | 0 | |
| 3 | B | 1 | 57 | 51 | 1.7 | 5000 | 0 | 0 | |
| 14 | C | 1 | 63 | 63 | 4.8 | 4700 | 1 | 2 | |
| 17 | D | 1 | 96 | 75 | 5.5 | 4600 | 1 | 2 | |
| 18 | E | 1 | 117 | 65 | 3.8 | 3100 | 0 | 0 | |
| 19 | F | 1 | 54 | 150 | 3.0 | 4200-3000 | 0 | 0 | |
| 21 | G | 1 | 81 | 48 | 3.0 | 4700 | 0 | 0 | |
| 23 | H | 1 | 117 | 66 | 4.2 | 4700 | 4 | 8 | |
| 24 | J | 2 | 75 | 69 | 3.0 | 4000 | 5 | 10 | |
| 26 | K | " | 94 | 82 | 3.5 | 8000 | 0 | 0 | |
| 28 | L | 2 | 51 | 48 | 3.2 | 7000 | 1 | 2 | |
| 30 | M | 2 | 90 | 51 | 2.2 | 8000 | 1 | 2 | |
| 7-1 | N | 2 | 81 | 63 | 3.0 | 8000-5000 | 1 | 2 | |
| 2 | O | 2 | 60 | 36 | 2.2 | 5000 | 0 | 2 | |
| 7 | P | 2 | 30 | 18 | 1.5 | 8000 | 5 | 12 | |
| 8 | P' | | | | | | 9 | 18 | |
| 26 | Q | 2 | 111 | 71 | 5.2 | 8000 | 8 | 16 | |
| 30 | R | 3 | 102 | 72 | 3.5 | 4000 | 8 | 18 | |
| 31 | S | 3 | 120 | 102 | 5.0 | 8000 | 1 | 2 | |
| 8-12 | T | 3 | 111 | 75 | 4.0 | 4500 | 8 | 18 | |
| 13 | U | 3 | 99 | 78 | 4.5 | 5350-7350 | 1 | 2 | |
| 14 | V | 3 | 63 | 36 | 2.5 | 4000 | 2 | 4 | |
| 18 | W | 3 | 156 | | 2.2 | 4000 | 1 | 2 | |
| 19 | X | 3 | 234 | 166 | 5.6+4.0 | 3000 | 5 | 10 | |
| 20 | Y | 4 | 114 | 114 | 4.5 | 7500 | 3 | 6 | |
| 21 | Z | 4 | 87 | | 4.0 | 7000 | 0 | 0 | |
| 21 | Z' | 3 | | 70 | 1.5 | 3000 | 0 | 0 | |
| | | | 2292 | 1690 | 90.5 | | 65 | 136 | |

| | | |
|---|---|---|
| Total | Angles | 4128 |
| | Miles | 90.5 |
| | Soundings | 65 |
| | Sq. Miles | 70 |

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HYDROGRAPHIC SHEET 3528

South Approaches to Penobscot Bay, Maine, by

Assistant N. H. Heck in 1913.

TIDES.

| | Matinicus Harbor |
|---|---|
| | ft. |
| Mean low water, or plane of reference on staff | 1.5 |
| Highest tide observed " " | 0.0 |
| Lowest " " " " | 11.5 |
| Mean range of tide | 9.1 |

Coast and Geodetic Survey
OCT 20 1913
TIDAL DIVISION

# Hyd. Sheet #3528#

## South Approach to Penobscot Bay.

The area dragged covers the South approaches to Penobscot Bay, east & west of Matinicus and Ragged Islands. The shoals, ledges and rocks located during this survey are described in a general way in the Descriptive Report. Plotting was done in the field and verified in the office. The work was then arranged and a tracing made, which shows clearly the max. effective depths to which the different partial areas have been dragged. A glance at the tracing will also bring out the fact, that a number of areas were missed by the drag.

Attention might be called to a few inaccuracies in plotting, which stand out prominently all through the work:

In a number of cases, where gradual changes in the depth of the drag were made, the plotting does not agree with the record. In some of these cases, as $^{12}/_{B}$, $^{16}/_{B}$, $^{12}/_{L}$, $^{2}/_{U}$, $^{5}/_{Y}$, $^{15}/_{Y}$ etc, the time element was not taken into consideration, and the changes plotted, as if they took place instantaneously, and not through a recorded period of time. In others, such as $^{12}/_{G}$, $^{16}/_{J}$ & $^{20}/_{T}$ a change was recorded as taking place in the direction of "F" to "N", while the plotting was done in the

direction of "N" to "F", and, finally, in a few other cases changes made were overlooked in plotting (See $\overset{26}{V}$M & $\overset{32}{V}$R) On a few instances positions were not plotted and no explanation offered (See pos. 1, 2, 3, & 4 K and 25, 26, 27 N.) Position 13 Q (Blue) was plotted wrong. When in the right place, a small area remains uncovered, as shown on the tracing.

At $\overset{22}{V}$T, sections 3 to 6 were changed to 22 feet, in order to cross a 22' chartered shoal. When plotted, these sections fall on the wrong side of the shoal. An allowance for the catenary formed by the drag was made and the drag line plotted on the right side of the shoal.

At $\overset{17}{V}$U, while "K" was aground, "R" was moving from 16 to 17 U. Allowing for the area swept over by the drag guided by "R", there still remains an uncovered area, part of which was dragged during day "V" and the rest is shown on the tracing as missed by the drag. In this connection it might be said, that the 19 foot area was covered by the drag during day "V" accidentally, at a time when the drag happened to be set out to an effective depth of 19 ft., and not because a shoal spot was struck or anticipated.

During day "V", positions 1 to 11 inclusive were plotted wrong. In plotting the wrong signals were evidently used.

At $\overset{2}{V}$Y (Sdg. book) a 15 ft. sounding was obtained and described as a "small patch". On the sheet this small patch occupies an area of 250 meters in length and 175 m. in width. As there is no other information in the record to give a better outline of the shoal, it was left on the tracing the way it was plotted in the field.

In a number of cases the lengths of the drag were inaccurately computed by means of the circular slide rule. (See $\overset{19}{V}$, $\overset{23}{V}$ & $\overset{24}{V}$X)

At $\overset{26}{V}$Y the drag struck a shoal. A 33 ft. sounding was obtained. In such cases it seems it would be advisable to set a section of the drag to a depth of say 30 – 31 ft. (effective depth) and recross the shoal. There might be a still lesser depth and besides the shoal would have been more definitely determined. As it is, there is an area, which appears to be uncovered.

The records throughout the work were kept in good shape.

J.B. Shklanin

December 1913