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Diag. Cht. No. 1205-2

Form 504
Ed. June, 1928

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
E. Lester Jones, Director

| |
|----------------|
| C. & G. SURVEY |
| L. & A |
| JAN 21 1929 |
| Acc. No. |

State: Maine

DESCRIPTIVE REPORT

| | | |
|--------------|-----------|------|
| Topographic | Sheet No. | 4820 |
| Hydrographic | | |

LOCALITY

East Coast of New England
Biddeford Pool to
Boon Island to East of Wood Island

Maine

1928

CHIEF OF PARTY

G. C. Mattison

4820

DESCRIPTIVE REPORT

to accompany

HYDROGRAPHIC SHEET #

(FIELD #5)

AUTHORITY:

Instructions from the Director dated June 13 1928.

METHODS:

Positions were fixed by sextant angles on shore objects which were located by triangulation or sextant cuts.

Soundings were taken with the fathometer and checked by occasional vertical casts. Serial temperatures and salinity determinations to furnish data for the correction of soundings were obtained and are submitted in a separate report.

The sounding record was kept in the radio room where the fathometer is installed. The plotting was done on the bridge. A bell was rung by the recorder for the exact time of position. Angles were telephoned to the recorder and a copy also kept by the officer taking left angle who as an additional precaution checked up with the sounding record at the end of the day.

DISCREPANCIES:

Lat. $43^{\circ} 11.0'$ Long. $70^{\circ} 20.0'$ (Position 55 to 56C):
Sounding of 286' in depth over 330'. Adjacent lines show no indication of it. The record is marked O.K. and in such an irregular bottom it probably is correct.

Lat. $43^{\circ} 12.1'$ Long. $70^{\circ} 21.0'$:
Depth of 272' on A Day (Pos. 160 - 1) where 223' reobtained on D Day (Pos. 88 - 9) O.K. as ^{bottom is} irregular and slight displacement of position would show crossing good.

Lat. $43^{\circ} 13.2'$ Long. $70^{\circ} 19.0'$:
A depth of 298' on B day (Pos. 111) at position where 237' was obtained on D Day, (Pos. 128). On B Day the depth was changing very rapidly as it shoaled 98' in 30 seconds and a slight lag in observing or a slight shift in position would make the crossing good. It is recommended that depths on D day be assumed as correct and those on B day be shifted slightly to make the crossing good.

Lat. $43^{\circ} 22.6'$ Long. $70^{\circ} 13.8'$:
Sounding of 285' on E day (Pos. 74) at point where 240' was obtained on M day (Pos. 24 - 5) and 324' on E day at point where 282' was obtained on M day (Pos. 31 - 2). Fathometer was working well at both times. The only explanation seems that one sounding was recorded 10 fathoms in error. Recommend that lower sounding be retained.

COMPARISON WITH PREVIOUS SURVEYS:

No photostats of surveys of this area were furnished. Soundings were plotted from the chart of this vicinity on the boat sheet. They checked as a rule with a fathom. ✓

DANGERS, ANCHORAGES:

There are no dangers to navigation or anchorages with the area surveyed. ✓

MISCELLANEOUS:

Soundings were taken and reducers applied in fathoms and tenths until J day Sept. 4. After that date soundings were taken and reducers applied to half fathoms. This was due to the circumstance that previous to that date work was done in conformance with instructions for the fathometer issued April, 1927 and these were complied with until supplemented by the new Hydrographic Manual.

The following equivalents were used in converting tenths of fathoms to feet:

| | |
|--------------|--------------------------------------|
| 0.1 fm. = 0' | 0.7 fm. = 4' |
| 0.2 fm. = 1' | 0.8 fm. = 4' <i>should be 5' 2/3</i> |
| 0.3 fm. = 1' | 0.9 fm. = 5' |
| 0.4 fm. = 2' | |
| 0.5 fm. = 3' | |
| 0.6 fm. = 3' | |

Respectfully submitted,

E. R. McCarthy

E. R. McCarthy,
Jr. H. & G. Engineer,
U. S. C. & G. Survey.

First Endorsement,
Forwarded,

G. C. Mattison
G. C. Mattison,
H. & G. Engineer,
U. S. C. & G. Survey.

STATISTICS

Field Sheet No. 5

1928

| Day | Date | Vol. | Mileage | Soundings | Positions | Boat | Remarks |
|---------|-------|------|---------|-----------|-----------|------|--|
| A | 7/30 | 1 | 97.4 | 1229 | 167 | Ship | |
| B | 7/31 | 1-2 | 99.0 | 1215 | 167 | Ship | |
| C | 8/20 | 2 | 56.0 | 653 | 107 | Ship | Serial temperatures observed August 1 |
| D | 8/21 | 2-3 | 70.3 | 1311 | 211 | Ship | |
| E | 8/22 | 3 | 96.0 | 1140 | 210 | Ship | |
| F | 8/23 | 4 | 62.0 | 770 | 137 | Ship | |
| G | 8/27 | 4 | 25.1 | 282 | 48 | Ship | |
| H | 8/29 | 4 | 11.6 | 151 | 28 | Ship | Serial temperature observation Aug. 28 |
| J | 9/4 | 4 | 52.6 | 497 | 96 | Ship | Serial temperature observation. |
| K | 9/5 | 5 | 116.9 | 1097 | 210 | Ship | |
| L | 9/6 | 5-6 | 77.3 | 1039 | 212 | Ship | |
| M | 9/7 | 6 | 20.7 | 226 | 49 | Ship | Serial temperature observation. |
| N | 9/24 | 6 | 46.3 | 367 | 85 | Ship | |
| P | 9/27 | 6 | 1.5 | 14 | 6 | Ship | |
| Q | 10/12 | 6 | 23.3 | 232 | 38 | Ship | |
| TOTALS: | | | 856.0 | 10,223 | 1,781 | | |

Area surveyed was 210 square statute miles.

TIDAL NOTE TO ACCOMPANY HYDROGRAPHIC SHEET NO.

(FIELD NO. 5)

The portable tide gauge established at Star Island on May 29, 1928 was used for reduction of soundings from July 30, A day, to and including August 23, F day. It was discontinued on August 24.

Location: Lat. $42^{\circ} 58.7'$ Long. $70^{\circ} 36.8'$

Highest tide observed: 15.2' - (June 18 - 23.3 hr.
(" 20 - 0.0 hr.

Lowest tide observed: 2.6' - June 18 - 48 hr.

Plane of reference on tide staff - 4.65'

The primary tide station at Portland Maine was used for reducers from August 27, G day, to October 12, Q day, inclusive.

Location: Lat. $43^{\circ} 39.5'$ Long. $70^{\circ} 14.8'$

SUPPLEMENTAL REPORT BY CHIEF OF PARTY

Records and sheets have been examined and approved. During the progress of the field work, the Chief of Party kept in close touch with the work, examining the records as occasion permitted. The boat sheet was under constant supervision, and was carefully examined each day.

The instructions called for work outside the wire drag limits. Some sounding lines were run inside the wire drag limits on those days when the visibility would not permit running lines farther off shore. An attempt was made to keep these lines as far offshore as possible to join with the other work, but this was not possible on some days.


S. C. Mattison,
H. & G. Engineer,
Chief of Party.

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

Sheet No. 5

LANDMARKS FOR CHARTS

Jacksonville, Fla.

January 14, 1929., 19

SUPERINTENDENT, U. S. COAST AND GEODETIC SURVEY:

The following determined objects are prominent, can be readily distinguished from seaward from the description given below, and should be charted:

H. 4820



Chief of Party.

| DESCRIPTION. | POSITION. | | | | | Method of determination. | Charts affected. |
|--|-----------|---------------|------------|---------------|--------|--------------------------|--------------------|
| | Latitude. | | Longitude. | | Datum. | | |
| | " | D. M. meters. | " | D. P. meters. | | | |
| Isles of Shoals Coast Guard Cupola (Best object in vicinity) | 42 59 | 440.1 | 70 36 | 1138.1 | N.A. | Triang. | 330, 1106, 1206 |
| Portsmouth Navy Yard Prison (square brown tower) (Best object in vicinity) | 43 04 | 1074.4 | 70 43 | 1214.2 | " | " | 0329, 1106, 1205-6 |
| Portsmouth Lift | 43 04 | 1481.5 | 70 45 | 240.5 | " | " | 0329, 1106, 1205-6 |
| Bridge towers | 43 04 | 1388.4 | 70 45 | 267.4 | " | " | 0329, 1106, 1205-6 |
| York village white church Spire | 43 08 | 1269.5 | 70 39 | 219.4 | " | " | 228, 1106, 1205 |
| Passaconaway Inn, highest cupola, (white) | 43 11 | 810.1 | 70 35 | 1286.2 | " | " | 228, 1106, 1205 |
| Bald Cliff House, Cupola, (white) | 43 13 | 450.6 | 70 34 | 914.1 | " | " | 1106, 1205 |
| Wells, town hall white Cupola (best object vicinity) | 43 19 | 617.2 | 70 34 | 1181.9 | " | " | 1106, 1205 |
| Agamenticus Peak (observation tower) | 43 13 | 763.5 | 70 41 | 718.4 | " | " | 1106, 1205 |
| Wells white church Spire | 43 19 | 1080.0 | 70 34 | 901.1 | " | " | 1106, 1205 |
| Winebunk Black Standpipe | 43 22 | 1700.4 | 70 32 | 1249.6 | " | " | 1106, 1205 |
| Cape Porpoise white church spire | 43 22 | 564.7 | 70 26 | 421.0 | " | " | 1106, 1205 |
| Liviston's house (binnacle gable) | 43 24 | 1406.9 | 70 22 | 1266.5 | " | " | 1106, 1205 |
| Biddeford Pool Water tank (very prominent) | 43 26 | 624.6 | 70 22 | 1150.9 | " | " | 231, 1106, 1205 |
| Old Orchard Black Standpipe | 43 30 | 1515.5 | 70 23 | 525.6 | " | " | 231, 1106, 1205 |

A list of objects which are of sufficient prominence for use on the charts, together with a description of the same, must be furnished in a special report on this form, and a copy of such report must be attached by the Chief of Party to his descriptive report. The selection, determination, and description of these points are of primary importance.

The description of each object should be short, but such as will identify it; for example, standpipe, water tower, church spire, tank, tall stack, red chimney, radio mast, etc. Generally, flagstaves and like objects are not sufficiently permanent to chart.

11-5943

(see also descriptive report for sheet field #3)

REPORT
ON
SALINITY AND TEMPERATURE CORRECTIONS
SHEET NO.
(FIELD NO. 5)

U.S.C. & G. SURVEY
STEAMER LYDONIA

SEASON
of
1928
Coast of Maine.
G. C. MATTISON
H & G Engineer,
Chief of Party.

CPM

REPORT ON SALINITY AND TEMPERATURE CORRECTIONS

SHEET NO. (FIELD NO. 5)

The velocity factors as determined by serial temperatures Nos. 16 to 25 for Sheet, Field No. 3 were used until August 20, A and B days, as an observation on August 1 indicated that there had been no change.

For convenience there are copied from the report on temperature and salinity corrections for Sheet, Field No. 3. (H. 4805)

| Depth | Av. temp. | Vel. factor | Correct'n | Remarks Corrections used. |
|-------|-----------|-------------|-----------|------------------------------|
| 17 | 9.7 | 0.007 | -0.12 | |
| 22 | 9.0 | 0.008 | -0.18 | 15 -0.1 |
| 27 | 8.6 | 0.009 | -0.24 | 20 -0.2 |
| 32 | 8.2 | 0.011 | -0.35 | 30 -0.3 |
| 37 | 7.8 | 0.012 | -0.44 | 35 -0.4 |
| 42 | 7.8 | 0.012 | -0.50 | 42 -0.5 |
| 47 | 7.5 | 0.012 | -0.56 | 50 -0.6 |
| 52 | 7.5 | 0.012 | -0.62 | 55 -0.7 |
| 57 | 7.3 | 0.013 | -0.74 | 60 -0.8 |
| 62 | 7.2 | 0.013 | -0.81 | 67 -0.9 |
| 67 | 7.0 | 0.014 | -0.94 | 72 -1.0 |
| 72 | 6.8 | 0.014 | -1.01 | 78 -1.1 |
| 77 | 6.7 | 0.014 | -1.08 | |
| 82 | 6.5 | 0.015 | -1.23 | |

For the remaining days (C to Q) the following values were used. Serial temperatures No. 2a to 4g inclusive were used in obtaining them.

(see following page)

REPORT ON SALINITY AND TEMPERATURE CORRECTIONS

(continued)

| Depth | Av. temp. | Vel. factor | Correction | Remarks |
|-------|-----------|-------------|------------|----------------------------------|
| 12 | | | | |
| 17 | 12.4 | 0.001 | -0.02 | All values less than 1% of depth |
| 22 | 11.8 | 0.002 | -0.04 | |
| 27 | 11.3 | 0.003 | -0.08 | |
| 32 | 10.8 | 0.004 | -0.13 | |
| 37 | 10.5 | 0.005 | -0.18 | |
| 42 | 10.3 | 0.005 | -0.21 | |
| 47 | 10.1 | 0.006 | -0.28 | |
| 52 | 10.2 | 0.006 | -0.31 | |
| 57 | | | | |

As these values are less than 1% of the depth they were disregarded and no correction made.

Salinity used for this sheet - 32.5

Abstract of temperatures and temperature curves ^{/s} are attached.

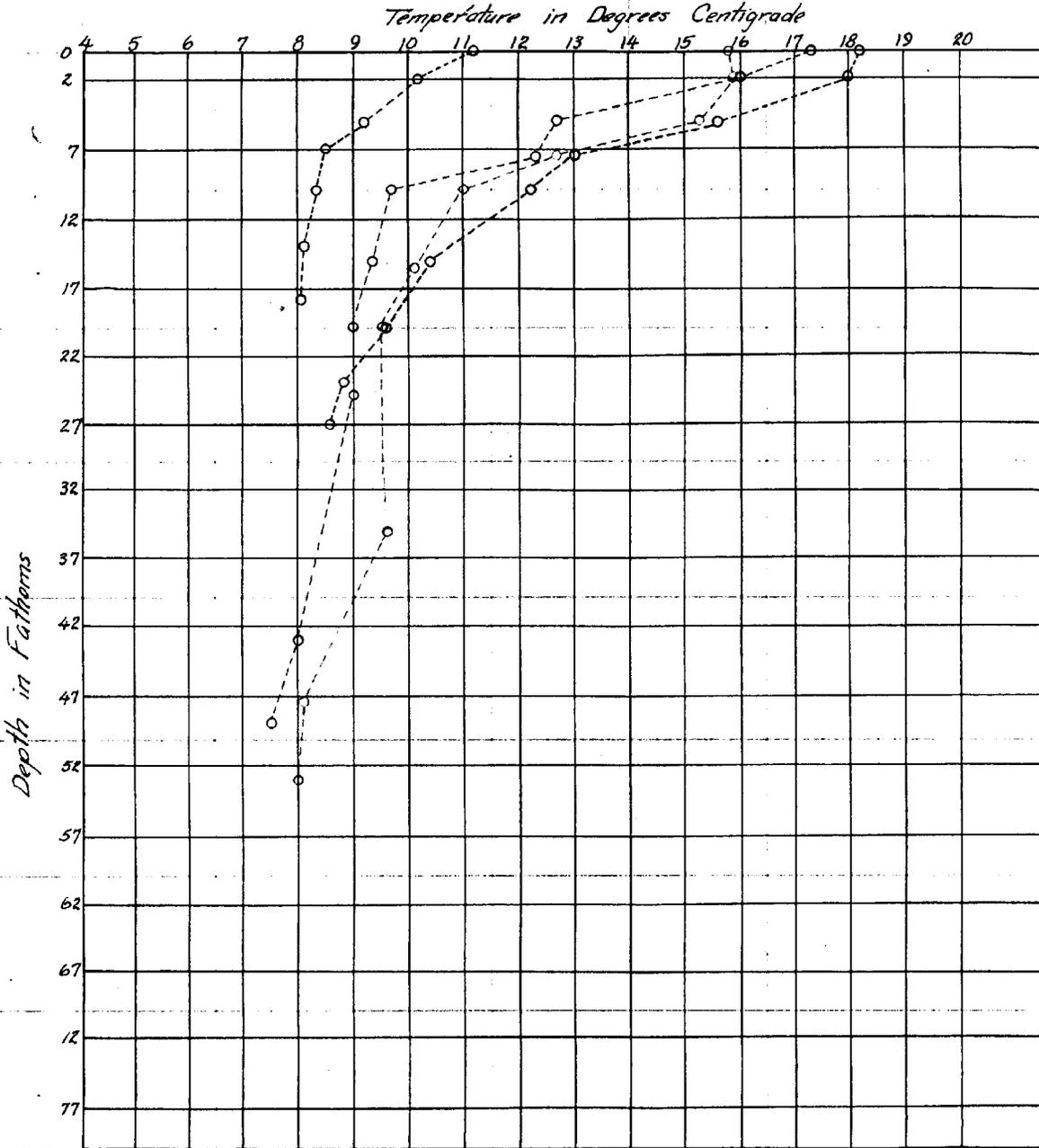
SERIAL TEMPERATURES - SHEET 5

No. 1a
Vol. 2, pg 15
Aug 1, 1928
Ther. 41785
"Black"

No. 2a
Vol 4, pg 40
Aug. 28, 1928
Ther. 41785
"Red"

No. 3a
Vol. 4, pg 47
Aug. 29, 1928
Ther. 41785
"Blue"

No. 4a
Vol. 5, pg 48
Sept. 6, 1928
Ther. 41785
"Green"



SHEET NO. 5

| Depth | No. 1a | | No. 2a. | | No. 3a. | | No. 4a. | |
|----------|---------------|------|---------------|------|---------------|------|---------------|------|
| | Lat. 43-21.1 | | Lat. 43-20.5 | | Lat. 42-16.8 | | Lat. 43-18.0 | |
| | Long. 70-24.5 | | Long. 70-22.5 | | Long. 70-15.8 | | Long. 70-13.0 | |
| | Date 8/1/28 | | Date 8/28/28 | | Date 8/29/28 | | Date 9/6/28 | |
| | Actual | Mean | Actual | Mean | Actual | Mean | Actual | Mean |
| 2 | 10.2 | | 18.0 | | 16.0 | | 15.8 | |
| 7 | 8.5 | | 13.7 | | 12.3 | | 13.2 | |
| 12 | 8.2 | | 11.4 | | 9.5 | | 10.6 | |
| 17 | 8.1 | 8.8 | 10.1 | 13.3 | 9.2 | 11.8 | 9.8 | 12.3 |
| 22 | | | 9.2 | 12.5 | 9.0 | 11.2 | 9.5 | 11.8 |
| 27 | | | 8.6 | 11.8 | 8.8 | 10.8 | 9.5 | 11.4 |
| 32 | | | | | 8.6 | 10.5 | 9.5 | 11.1 |
| 37 | | | | | 8.3 | 10.2 | 9.3 | 10.9 |
| 42 | | | | | 8.1 | 10.0 | 8.8 | 10.7 |
| 47 | | | | | 7.7 | 9.8 | 8.2 | 10.4 |
| 52 | | | | | | | 8.0 | 10.2 |
| 57 | | | | | | | | |
| Salinity | Surface | | 31.2 | | 31.3 | | 32.0 | |
| | Bottom | | 32.6 | | 33.2 | | 33.3 | |
| | Mean | | 31.9 | | 32.3 | | 32.7 | |

E.A.L.

(For Section Field Records Files)

Division of Hydrography and Topography:

Feb. 23, 1929.

Division of Charts:

Tide Reducers are approved in
6 volumes of sounding records for

HYDROGRAPHIC SHEET 4520

Locality: Biddeford Pool to Boon I., East Coast of New England.

Chief of Party: G. C. Mattison in 1928

Plane of reference is Mean low water, reading
4.6 ft. on tide staff at Star Island, Isles of Shoals.

~~4.6 ft. below B.M.~~
8.7 ft. " " " " Portland, Me.

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 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.

Paul C. Whitney

Chief, Division of Tides and Currents.

SECTION OF FIELD RECORDS

REPORT ON SHEET No. H. 4820

Dec. 14, 1929

CHIEF OF PARTY - G.C. MATTISON
SURVEYED BY - G.C.M & E.W. EICKELBERG
PROTRACTED BY - E.R. MCCARTHY
SURVEYED IN - JULY - OCT. 1928
VOR & INKED BY - W.H. BAMFORD
SOUNDINGS PLOTTED BY - J.F. FAY

- 1/ The records were found to conform to the requirements of the General Instructions for Field Work. ✓
- 2/ The protracting was very good. About 7.6% of the positions checked were found to be in error. ✓
- 3/ The spacing of the soundings was excellent - ✓
- 4/ The sounding line crossings were found to be adequate, although in several cases there was a slight difference in depth. In these cases by slightly shifting the soundings the crossings were made fairly good. ✓

5/ The development on shoals was sufficient.

6/ It was possible to draw the usual depth curves.

7/ The sheet was dirty and in the crowded areas - positions were hard to distinguish. The penciled soundings were hard to read in some places - but were well spaced and fairly legible.

8/ The field plotting was completed to the extent prescribed in the General Instructions.

9/ The office draftsman did not have to do over any part of the field party's work.

10/ There was a great deal of shrinkage in this sheet - about one in one hundred and fifty - The shrinkage was not uniform

Respectfully submitted

Warren H Bamford.

DEPARTMENT OF COMMERCE

AND REFER TO NO. 11-VEC

U. S. COAST AND GEODETIC SURVEY

WASHINGTON

August 27, 1930.

SECTION OF FIELD RECORDS

Report on Hydrographic Sheet No. 4820

Offshore, Cape Porpoise, Maine

Instructions dated June 13, 1928 (LYDONIA)

Chief of Party - G. C. Mattison.

Surveyed by - G. C. Mattison, E. W. Eickelberg.

Protracted by - E. R. McCarthy.

Soundings blotted by - J. F. Fay.

Verified and inked by - W. H. Bamford.

1. The records conform to the requirements of the specific instructions with the exception that more bottom characteristics should have been taken.
2. The work as far as has been carried satisfies the specific instructions. There, of course, still remains to extend the work to the limits of the 100 fathom curve as prescribed in paragraph 8 of the specific instructions. The numerous indications of shoaling have for the most part been adequately developed or have been covered by drag work to a sufficient depth to insure safety to surface navigation. The bottom out to the 50 fathom curve is very irregular and while less water may exist over some of the banks, it is not believed they are sufficiently dangerous to navigation to require additional development.
3. The sounding line crossings are adequate considering the irregularity of the bottom.
4. The usual depth curves could be drawn.
5. The usual field plotting was completed by the field party.
6. The junction with H-4853 on the north will be taken up when that sheet is reviewed. There are no other contemporary surveys.

No comparisons have been made with the soundings on Chart 1205 because no critical depths are involved. The chart represents a compilation of the soundings on H-667, H-699 and the supplemental soundings on H-4087a as well as the wire drag soundings of the 1919 work. With the latter nothing remains to be done, but the soundings taken from H-4087a should be omitted from the future compilation and replaced wherever necessary with soundings from the present survey (H-4820). The soundings that were used on the chart have been encircled in blue on H-4087a and can readily be distinguished from those that were not used. In connection with the soundings from H-667 and H-699 they should be used only where necessary to supplement the present survey with important soundings. In other words, the new survey should be considered the basic survey for this area and only such information added from the old surveys as is necessary to properly represent conditions.

7. No additional work is necessary within the limits of this survey.

8. Attention is called to the fact that there are a few fathometer soundings in the southwest corner of the work that are less than the allowable limit of 15 fathoms. Where there was sufficient evidence that the soundings were not strays, they were accepted and are shown on the smooth sheet in red. The method of handling such soundings is of value in that important indications are not lost sight of and in addition a verification is had of shoals found on previous surveys. It should be remembered, however, that they are subject to a possible error and this fact should be considered whenever an absolute comparison will save other method of surveying, such as wire drag, becomes necessary.

The 78 and 84 foot fathometer soundings in lat. 43° 13' 50m, long. 70° 25' 1180m. are shown as barely covered by a 91 foot drag on H-4087. The soundings have not been rejected because the 91 foot drag may not actually have covered the soundings.

9. Reviewed by A. L. Shalowitz, August, 1930.

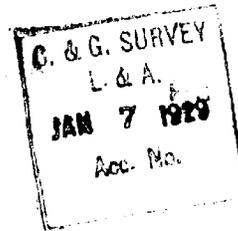
Approved:

A. M. S. Sieralski
Chief, Section of Field Records (CHARTS).

F. B. Borden
Chief, Section of Field Work (H. & T.)

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

HYDROGRAPHIC TITLE SHEET



REG. NO.
4820

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.5.....

REGISTER NO. 4820

State Maine

General locality East Coast Cape Porpoise

Locality North of Boon Island Biddeford Pool to Boon Island

Scale 1:40000 Date of survey July 30-Oct 12, 1928

Vessel Lydonia

Chief of Party G. C. Mattison

Surveyed by G. C. Mattison, E. W. Eickelberg

Protracted by E. R. McCarthy

Soundings penciled by J. F. Fay

Soundings in fathoms feet

Plane of reference Mean Low Water

Subdivision of wire dragged areas by _____

Inked by Warren H. Bamford

Verified by Warren H. Bamford

Instructions dated May 18 1928, 19____

Remarks: _____

IN REPLY ADDRESS THE DIRECTOR
U. S. COAST AND GEODETIC SURVEY
AND NOT THE SIGNER OF THIS LETTER

AND REFER TO No.

11-VEC

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

August 27, 1930.

SECTION OF FIELD RECORDS

Report on Hydrographic Sheet No. 4820

Offshore, Cape Porpoise, Maine

Instructions dated June 13, 1928 (LYDONIA)

Chief of Party - G. C. Mattison.

Surveyed by - G. C. Mattison, E. W. Eickelberg.

Protracted by - E. R. McCarthy.

Soundings blotted by - J. F. Fay.

Verified and inked by - W. H. Bamford.

1. The records conform to the requirements of the specific instructions with the exception that more bottom characteristics should have been taken.
2. The work as far as has been carried satisfies the specific instructions. There, of course, still remains to extend the work to the limits of the 100 fathom curve as prescribed in paragraph 8 of the specific instructions. The numerous indications of shoaling have for the most part been adequately developed or have been covered by drag work to a sufficient depth to insure safety to surface navigation. The bottom out to the 50 fathom curve is very irregular and while less water may exist over some of the banks, it is not believed they are sufficiently dangerous to navigation to require additional development.
3. The sounding line crossings are adequate considering the irregularity of the bottom.
4. The usual depth curves could be drawn.
5. The usual field plotting was completed by the field party.
6. The junction with H-4853 on the north will be taken up when that sheet is reviewed. There are no other contemporary surveys.

No comparisons have been made with the soundings on Chart 1205 because no critical depths are involved. The chart represents a compilation of the soundings on H-667, H-699 and the supplemental soundings on H-4087a as well as the wire drag soundings of the 1919 work. With the latter nothing remains to be done, but the soundings taken from H-4087a should be omitted from the future compilation and replaced wherever necessary with soundings from the present survey (H-4820). The soundings that were used on the chart have been encircled in blue on H-4087a and can readily be distinguished from those that were not used. In connection with the soundings from H-667 and H-699 they should be used only where necessary to supplement the present survey with important soundings. In other words, the new survey should be considered the basic survey for this area and only such information added from the old surveys as is necessary to properly represent conditions.

7. No additional work is necessary within the limits of this survey.
8. Attention is called to the fact that there are a few fathometer soundings in the southwest corner of the work that are less than the allowable limit of 15 fathoms. Where there was sufficient evidence that the soundings were not strays, they were accepted and are shown on the smooth sheet in red. The method of handling such soundings is of value in that important indications are not lost sight of and in addition a verification is had of shoals found on previous surveys. It should be remembered, however, that they are subject to a possible error and this fact should be considered whenever an absolute comparison will save other method of surveying, such as wire drag, becomes necessary.
The 78 and 84 foot fathometer soundings in lat. 43° 13' 500m, long. 70° 25' 1180m. are shown as barely covered by a 91 foot drag on H-4087. The soundings have not been rejected because the 91 foot drag may not actually have covered the soundings.
9. Reviewed by A. L. Shalowitz, August, 1930.

Approved:

Chief, Section of Field Records (CHARTS).

Chief, Section of Field Work (H. & T.)

Field Records Section (Charts)

HYDROGRAPHIC SHEET No. 4820

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

Number of positions on sheet .1789.
Number of positions checked .354.
Number of positions revised .27.
Number of soundings recorded 10,323
Number of soundings revised 504.
Number of signals erroneously
plotted or transferred . . . 0

Date: December 14 - 1929

Cartographer: Warren H. Bamford