4875

Diag. Cht. No. 1218-2

Form 504

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

State: New Jersey

11—5613

# DESCRIPTIVE REPORT.

Hydrographic Sheet No. 4875

LOCALITY:

Cape May

Cape May Harbor to Mc Cries

Shoal

1928

CHIEF OF PARTY:

R. L. Schoppe

4875

DEPARTMENT OF COMMERCE

U.S.COAST AND GEODETIC SURVEY

# DESCRIPTIVE REPORT

to accompany

HYDROGRAPHIC SHEET NUMBER 1

CAPE MAY NEW JERSEY

S.S. RANGER

RAY L. SCHOPPE,
Chief of Party.

1928

DEPARTMENT OF COMMERCE

U.S.COAST AND GEODETIC SURVEY

# DESCRIPTIVE REPORT

to accompany

HYDROGRAPHIC SHEET NUMBER 1

CAPE MAY NEW JERSEY

S.S. RANGER

RAY L. SCHOPPE,
Chief of Party

1928

DESCRIPTIVE REPORT

to accompany

HYDROGRAPHIC SHEET NUMBER 1

CAPE MAY NEW JERSEY

This work is covered by instructions dated May 23,1928. The limits of the sheet are as follows: On the north, extending due east from the Cape May entrance jetties, Lat. 38° 56.2, where it joins sheet 2. On the east, Long. 74° 48', where it joins sheet 3. On the south, Lat. 38° 50', as far west as Long. 74° 51' and thence in a northwesterly direction to Lat. 38° 52' and Long. 74° 54.5' and thence northeasterly along the boundary described in Paragraph 19 of the Instructions. The boundary mentioned above is the limit of inshore work supposed to have been done by the U.S.Engineers in 1927.

All work on this sheet was done by hand lead using sextant angles on shore objects for control. The work on the south east end of the sheet was difficult to plot on account of small angles and the distance from the right object. Work in this area can best be controlled by using a larger scale and taking Henlopen Lighthouse for a left object. The weather in the early part of the season would prevent this, but late in the season, plenty of weather is found where such work can be done. There are no discrepencies in location or use of signals on this sheet. There are several small differences in depth which can easily be remedied when the sheet is verified, by moving one or two soundings forward or back along a sounding line, to agree with slope. This involves only an assumption of a small error

in time interval. In all cases the least depth is to be retained.

There are three crossings that do not permit of adjustment as noted above:

(a) Lat. 38° 53.5' - Long. 74° 50.4'

Position 18 F', a 37 foot sounding appears among some 42 - 45 and 46 foot soundings. This sounding occurs at the beginning of a line and appears to agree with the last sounding on the previous line, only 250 yards distant. For this reason it was not picked up in the field when the sounding was made. It is believed that the lead line was read one fathom wrong. The area is closely covered by soundings and the six fathom curve is definitely located approximately 200 meters to the northward of this sounding. It is recommended that it be rejected since it occurs in a position where the ground is well covered and shoaler water occurs close to the north of it.

(b) Lat. 38° 51.4' - Long. 74° 50.3'

Position 158 C' appears to have been read one fathom too deep. If such were the case it should be a 24 foot sounding and numerous 24 foot lumps are noted close by. Shoaler water is found close to the southwest and it is believed that this discrepency is unimportant.

(d) Lat. 38° 50.3' - Long. 74° 48.2'

Position 209 K is recorded as 44 feet and a 47 foot sounding was obtained at the next cast of the lead, The general depth in this

vicinity is over 50 feet and this shoal sounding was noted at the time it was made and was verified. It should be shown as plotted. As noted above it is very difficult to plot positions on this sheet in the vicinity of this sounding and a development of this spot was left to be done with the work adjoining it to the east. Unfortunately this party was unable to carry work on the 40-000 sheet as far south as this, and the development of this spot must be left until that area is surveyed.

There are several shoals within the limits of this sheet; the most important of which is McCries Shoal. The general size and shape of this shoal are found as charted but this party found 18 feet where 17 feet was previously charted. It is possible that a 17 foot spot exists and it is recommended that that depth be retained on the chart. This shoal is marked by a gas and whistle buoy on the south east edge of the shoal and it is an important mark for the large number of tugs and barges that run north from Deleware Bay. In fine weather large numbers of these tugs pass inside of McCries Shoal, using the buoy as a guide. There are no ranges to clear this shoal.

Between McCries Shoal and the entrance to Cape May Harbor, there are several shoals, none of which are important to navigation. The least depths on any of these shoals is 22 feet and vessels unable to pass over that depth should pass outside of McCries Shoal gas and whistle buoy. A discription of these shoals follow:

(a) (Lat. 38° 52.8' - Long. 74° 50.8')

Position 66 - 67 F', 22 feet, sand bottom. The least depth charted here is 25 feet.

(b) Lat. 38° 54.3' - Long. 74° 50.1'

Position 88 U, 23 feet, sand bottom. Least depth charted here is 25 feet.

(c) Lat. 38° 53.7' - Long. 74° 53.3'

Several 24 foot soundings are found where 27 feet was charted.

The shoalest spots are listed above, but several other ridges, which extend in a general northeast - southwest direction are noted on this sheet. It appears that, with the exception of McCries Shoal, every one of them has less water than previously shown. The reason for this is not known.

In the jettied entrance to Cape May Harbor, an extensive sand shoal is blocking the north half of the channel about 100 yards inside of the entrance. The buoy in place, in 1928 was well placed but it should not be approached too closely. A few soundings in this channel were taken in passing through it and 10 feet (Pos. 1 J) and 13 feet (Pos. 93 S) soundings show the north limit of deep water. Farther inside the depths are shown to be less than 12 feet. This is less than previously shown. This party had no instructions to survey this area.

Deepest draft vessels using Deleware Bay do not pass over the area covered by this sheet. Moderate draft tugs and barges round close to McCries Shoal buoy and pass inside of Five Fathom Bank.

Light draft craft pass inside of McCries Shoal and use that buoy as as guide. A comparison with the previous chart is given above.

Strong currents sweeping in and out of Deleware Bay caused great difficulty in running lines as closely spaced as the instructions called for. These currents appear to set fair with the shore line, and also fair with the long axis of all the shoals.

This sheet was plotted before the circular letter was received in regard to tracing cloth over sheets. It would have been well to separate some of these soundings for the convenience of the verifier.

Most of the work on this sheet could have been done by a launch similar to the MARINDIN, as was done in 1927. Somewhat similar working conditions existed on the 1927 sheet and it should be noted that the MARINDIN ~~done~~ is 60 per cent of the sounding of the entire 1927 season. Had a boat like that been available for this work the area covered by the party would have been materially increased.

The entire ships force was engaged on soundings on this sheet when good weather prevailed. A table of statistics follows.

Respectfully submitted

Ray L. Schoppe

Ray L.Schoppe,
Chief of Party.

STATISTICS TO ACCOMPANY

HYDROGRAPHIC SHEET NUMBER ONE

CAPE MAY NEW JERSEY

| Date | Letter | Vol. | Miles | Soundings | Pos. | Boat. |
|---|---|---|---|---|---|---|
| 6-11-28 | A | 1 | 9.3 | 265 | 67 | RANGER |
| 6-12-28 | B | 1 | 29.3 | 790 | 199 | " |
| 6-13-28 | C | 1 | 27.0 | 645 | 163 | " |
| 6-14-28 | D | 2 | 26.4 | 677 | 170 | " |
| 6-15-28 | E | 2 | 33.9 | 779 | 193 | " |
| 6-20-28 | F | 2 | 22.0 | 532 | 134 | " |
| 6-20-28 | F | 3 | 4.6 | 109 | 27 | " |
| 6-21-28 | G | 3 | 39.8 | 897 | 217 | " |
| 6-25-28 | H | 3 | 18.5 | 385 | 106 | " |
| 6-27-28 | J | 3 | 26.1 | 517 | 140 | " |
| 6-27-28 | J | 4 | 17.0 | 289 | 93 | " |
| 6-28-28 | K | 4 | 42.8 | 805 | 239 | " |
| 7-5-28 | L | 4 | 12.9 | 284 | 81 | " |
| 7-9-28 | M | 4 | 22.0 | 414 | 118 | " |
| 7-9-28 | M | 5 | 9.2 | 209 | 58 | " |
| 7-10-28 | N | 5 | 9.7 | 249 | 82 | " |
| 7-11-28 | P | 5 | 45.1 | 932 | 259 | " |
| 7-12-28 | Q | 5 | 9.3 | 197 | 53 | " |
| 7-12-28 | Q | 6 | 32.9 | 655 | 179 | " |
| 7-17-28 | R | 6 | 10.6 | 230 | 71 | " |
| 7-18-28 | S | 6 | 15.0 | 338 | 103 | " |
| 7-19-28 | T | 6 | 12.0 | 262 | 74 | " |
| 7-19-28 | T | 7 | 9.8 | 208 | 59 | " |
| 7-23-28 | U | 7 | 30.1 | 699 | 209 | " |
| 7-25-28 | V | 7 | 24.6 | 558 | 186 | " |
| 7-25-28 | V | 8 | 7.5 | 142 | 39 | " |

STATISTICS TO ACCOMPANY (PAGE TWO)

HYDROGRAPHIC SHEET NUMBER ONE

CAPE MAY NEW JERSEY

| Date | Letter | Vol. | Miles | Soundings | Pos. | Boat |
|---|---|---|---|---|---|---|
| 8-3-28 | W | 8 | 29.2 | 640 | 191 | RANGER |
| 8-6-28 | X | 8 | 5.1 | 146 | 50 | " |
| 8-9-28 | Y | 8 | 20.3 | 466 | 140 | " |
| 8-9-28 | Y | 9 | 27.5 | 509 | 155 | " |
| 8-16-28 | Z | 9 | 7.3 | 146 | 56 | " |
| 8-20-28 | A' | 9 | 33.8 | 683 | 198 | " |
| 8-22-28 | B' | 10 | 8.6 | 162 | 49 | " |
| 8-24-28 | C' | 10 | 52.8 | 1058 | 296 | " |
| 8-27-28 | D' | 10 | 10.4 | 241 | 86 | " |
| 8-27-28 | D' | 11 | 28.3 | 632 | 177 | " |
| 8-28-28 | E' | 11 | 38.3 | 851 | 251 | " |
| 8-29-28 | F' | 12 | 34.8 | 799 | 254 | " |
| 8-30-28 | G' | 12 | 16.4 | 394 | 113 | " |
| | Totals | | 860.2 | 18794 | 5334 | |

AREA SURVEYED:

41.0 Square Statute Miles

E.a.L.

FOR FILES OF FIELD RECORDS SECTION ✓

Division of Hydrography and Topography: June 7, 1929.

Division of Charts:

Tide Reducers are approved in
12 volumes of sounding records for

HYDROGRAPHIC SHEET 4875

Locality: Cape May, New Jersey

Chief of Party: R. L. Schoppe in 1928
Plane of reference is mean low water, reading
2.3 ft. on tide staff at Cold Spring Inlet (C. G. Station) N. J.
~~ft. below Rxxx~~

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.

Field Records Section

Report on sheet No 4875
Surveyed in - 1928
Chief of Party - R. L. Scholfield
Surveyed by - Field Party
Protracted by - W. M. Gibson
Soundings plotted by - N. F. Carter
Verified and inked by - N. E. MacEwen

1. The requirements of the General Instructions were met, with respect to the records and development of the work on this sheet.
2. The plan and the extent of the development satisfy the specific instructions.
3. No cross lines were run except in the case of the shoal development approximately two miles south of Jetty Light and also along the north-westerly limits of the sheet.
4. The usual depth curves can be completely drawn.
5. The field plotting was very well handled
6. None of the work done by the Field Party had to be done over in the office. (see Remarks)
7. The junctions with adjacent sheets are satisfactory.
8. No further surveying is required to fully develop important areas within the limits of this sheet.
9. Remarks: a. On checking the protracting

(Remarks cont.)

it was found that at distances greater than three miles from shore signals the lines show a considerable shift to the eastward of the correct position. The error increases in proportion to the distance from the control and is due either to distortion in the paper or a slight error in the adjustment of the protractor used in the field. Since this error is not great (average, 20 metres - maximum, 60 metres) and since correcting it would mean shifting practically all the position and soundings on the lower half of the sheet without any change in the actual hydrographic features, it was deemed advisable to allow the work to stand as executed in the field.

The shoal edge between 847 & 856 have been regulated EIE

4. On lines 846 to 856 (Lat. 38°53' 43" Long. 74°52'00") there are soundings ten feet (10') shoaler than soundings on adjacent lines. An investigation did reveal nothing irregular in the plotting or spacing of these soundings. It will be observed that this apparent discrepancy occurs on and near the edge of an extensive shoal and for this reason together with the one stated above the plotting was accepted as laid down in the field. There were seven (7) other instances of differences in depths of adjoining lines; but in no case did the disagreement exceed a depth of four feet (4'). No error could be discovered in the plotting of

(Remarks cont.)

their soundings and since the differences have no cartographic significance the plotting was accepted as correct.

10 Rating of work

a. Character and scope of the surveying - Excellent.

b. Field drafting - Excellent.

Respectfully submitted

H. E. MacEwen

Oct. 11, 1929.

Approved:

A. M. Sobieralski

Chief Section of Field Work.

Form 537

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

C. & G. SURVEY
APR 30 19??

REG. NO. 4875

# HYDROGRAPHIC TITLE SHEET

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. 1

REGISTER NO. 4875

State NEW JERSEY

General locality Cape May

Locality Cape May Harbor to McCries Shoal

Scale 1-20,000 Date of survey June-August, 1928

Vessel RANGER

Chief of Party R.L.SCHOPPE

Surveyed by Ships officers

Protracted by W.M.Gibson

Soundings penciled by H.F.Garber

Soundings in ~~fathoms~~ feet

Plane of reference M.L.W.

Subdivision of wire dragged areas by

Inked by H.E.MacEwen

Verified by H.E.M.

Instructions dated May 23, 1928

Remarks:

U. S. GOVERNMENT PRINTING OFFICE

Applied To 826-SC 6-3-63 Frazier