

5170

5170

Form 504
Ed. June, 1928

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

R. S. Patton, Director

U. S. COAST & GEODETIC SURVEY
LIBRARY AND ARCHIVES

APR 11 1932

State: Massachusetts

Acc. No. _____

DESCRIPTIVE REPORT

Topographic
Hydrographic

} Sheet No. 4. 5170

LOCALITY

~~Off Cape Cod.~~

Georges Bank.

Central Part

1931

CHIEF OF PARTY

W. E. Parker

UP

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

REG. NO. 5170

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. 4

REGISTER NO. 5170

State Massachusetts

General locality ~~New England Coast~~ Georges Bank

Locality ~~Georges Bank~~ Central Part

Scale: 100,000 Date of survey June, August, 19 31.

Vessel HYDROGRAPHER & OCEANOGRAPHER

Chief of Party W. E. Parker

Surveyed by W. E. Parker & L. O. Colbert

Protracted by E. B. Brown, Jr., R. L. Jones, and J. E. Waugh.

Soundings penciled by E. B. Brown, Jr.

Soundings in fathoms feet

Plane of reference Mean Low Water

Subdivision of wire dragged areas by

Inked by

Verified by

Instructions dated April 27, 1931 and August 21, 19 31

Remarks:

U. S. GOVERNMENT PRINTING OFFICE: 1929

*7. Vols.
3 Bomb records
3 Calipers
See Sp. Rept. #243, 1931 re Fathometer
2 B.S.
1 Res. 111*

9

①

DESCRIPTIVE REPORT

TO ACCOMPANY

FIELD SHEET No. 4 (4.5170)

DATE OF INSTRUCTIONS:

The work on this sheet was done under instructions dated April 27, 1931, supplemental instructions dated April 30 and June 25, 1931 and changes of instructions dated July 29, 1931.

SURVEY METHODS:

The usual R.A.R. methods, using two station ships and two sounding ships were used on this sheet.

DISCREPANCIES:

The following discrepancies are noted;

- Lat. 41-09.5) 2 fms difference where line 57-58 C (Oceanographer)
Long. 67-44.5) crosses line 102-103 F (Oceanographer). *Not corrected*
objectionable and s.dgs. have been plotted. C (Ocean)
F (Ocean)
- Lat. 41-17) 5 fms difference where 111-112 H (Oceanographer)
Long. 67-46) parallels 52-53C, but this is not improbable when
the variations along each line are considered. *Soundings plotted. Bottom lumpy in this area.* H (Ocean)
- Lat. 41-15.5) About three fathom difference where 109-110 C
Long. 67-49.5) (Oceanographer) crosses H line (Oceanographer)
near position 135. *Accepted. Appears quite probable.* C (Ocean)
H (Ocean)
- Lat. 41-13.5) 2 fms. difference where 118-119 J (Oceanographer)
Long. 67-57.0) crosses 90-91 J (Oceanographer). *Condition seems probable as the bottom is very lumpy in this area.* J (Ocean)
- Lat. 41-13.5) 3 fms. difference where 88-89 J (Oceanographer)
Long. 67-55.6) crosses 42-43 G (Oceanographer). *Quite probable. Lumpy bottom.* J (Ocean)
G (Ocean)

Lat. 41-20) 93-94 G (Oceanographer) does not check very well with *G (Ocean)*
) 155-156 J, however the depths along each line vary so *J (")*
Long. 67-57) that positive conclusions can not be drawn.

The bottom is very irregular here and conditions appear quite variable. (S)

Lat. 41-16) 2 fms difference where 142-143 J (Oceanographer) crosses *J (")*
Long. 68.00) 105-106 G (Oceanographer). *Not objectionable in this area* *G "*

Lat. 40-55.5) 2 fms difference where 15-16 D (Oceanographer) crosses *D (")*
Long. 67-54.5) 186-188 G (Oceanographer). *Shoalest edgs. plotted which appear to be most probable edgs. (S)* *G (")*

Lat. 40-50) See note on sheet. The soundings on A day (Oceanographer) *A (")*
Long. 68-10) are apt to be erratic as the fathometers were working
) poorly according to notes in the sounding records.

Soundings questioned not plotted. Fathometer trouble experienced parts of A day

JUNCTIONS:

(H, 5170) Sheet 4 joins well with sheet 1 except as noted in
5153

descriptive report of sheet 1 as follows:

"F" day (Hydrographer) appears to be about 1 fathom *F (Hyd)*
shoal as it crosses the Oceanographer's work at the junction with
(H, 5170) sheet 4 from position 1 to 20 "F" Hydrographer.

Other junctions with sheet 4 are good except certain
poor crossings with "A" day (Oceanographer) sheet 4 which it is *A (Ocean)*
believed may have been caused by faulty operation of the Oceanographer's fathometers as per notes in the record book.

5167 *(H, 5195)*
The junctions with sheet 2 and 3A were good.

Respectfully submitted,

Roland D. Horne
Roland D. Horne
H. & G. Engineer
Coast & Geodetic Survey

S T A T I S T I C S

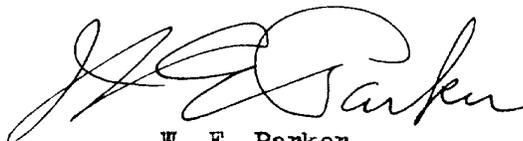
F O R

SHEET FIELD No. 4.

Vessel	Day	Stat. Miles.	No. Soundings.	No. Positions.
HYDROGRAPHER	A	129.0	856	88
"	B	<u>183.5</u>	<u>1231</u>	<u>132</u>
	Sub Total	<u>312.5</u>	<u>2087</u>	<u>220</u>
OCEANOGRAPHER	A	158.0	696	90
"	B	73.6	387	71
"	C	216.4	1198	188
"	D	130.0	591	121
"	E	69.1	343	57
"	F	151.0	706	134
"	G	242.3	1504	204
"	H	124.8	842	148
"	J	<u>137.7</u>	<u>1002</u>	<u>158</u>
	Sub Total	<u>1302.9</u>	<u>7269</u>	<u>1171</u>
	Grand Total	<u>1815.4</u>	<u>9356</u>	<u>1391</u>

INSPECTION REPORT TO
ACCOMPANY FIELD SHEET No. 4.
GEORGES BANK PROJECT
1 9 3 1

A thorough inspection was made of this sheet and
the records applying to it. All discrepancies found are noted
in the descriptive report.



W. E. Parker
H & G Engineer
Coast & Geodetic Survey

June 30, 1932.

Division of Hydrography and Topography:

✓Division of Charts:

Tide Reducers are approved in
10 volumes of sounding records for

HYDROGRAPHIC SHEET 5170

Locality Georges Bank, Coast of Massachusetts

Chief of Party: L. O. Colbert and W. E. Parker in 1931

Plane of reference is mean low water, reading

3.3 ft. on tide staff at Commonwealth Pier No. 5, Boston, Mass.
18.2 ft. below B. M. 7

Allowance made for time and range of tide on the working grounds.

Time $-1^h 15^m$; range 0.5 as large

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.



Chief, Division of Tides and Currents.

Section of Field Records.
Report on Hydrographic Sheet No. 5170.
Georges Bank, Central Part, Mass.
Surveyed in 1931.

Instructions dated April 27 and 30, June 25 and
July 29, 1931 (Lydonia, Oceanographer. Hydrographer).
Chief of Party - W. E. Parker - Surveyed by W. E.
Parker and L. O. Colbert.
Protracted by E. B. Brown, Jr., E. L. Jones, J. E. Waugh.
Soundings plotted by E. B. Brown, Jr.
Verified and inked by G. Risegari.

1. The records conform to the requirements of the General Instructions.
2. The plan and character of the development fulfill the requirements of the General Instructions.
3. The plan and extent of development satisfy the Specific Instructions. Exceptions: Failure to comply with paragraph 45, May 17, 1930 Specific Instructions, which requires tabulation in the descriptive report of comparisons with vertical casts; failure to get more bottom characteristics as per paragraph 48, same instructions.
4. The sheet shows an insufficient number of sounding line crossings, although numerous closely parallel lines afford comparisons which show good agreement in general.
5. There are numerous places on the sheet where the development is insufficient to satisfactorily determine the 20 fathom curve, but the shortcomings have no navigational importance.

It is interesting to note that a portion of the area covered by this sheet is characterized by a series of narrow ridges and valleys similar to those on H. 5168, showing that the sea bottom in the areas covered by both sheets was moulded by the same forces and that the influence of waves and currents was felt to about the same depths. Beyond 20 fathoms this influence gradually appears to die out, as shown by the more uniform depths.

Attention is called to the absence of tide rips or swirls in the areas where the bottom is very irregular and shoal spots exist, as on H. 5168.

There is no mention of tiderips or swirls in the records, although they occur frequently on the other Georges Banks sheets in depths of ten to twenty fathoms.

6. The field party failed to plot two of the four bottom characteristics shown on the sheet, which data is considered inadequate for the whole sheet which covers 900 square nautical miles.
7. Junction with H. 5167 (East) is satisfactory.
Junction with H. 5153 (East, South) is satisfactory.
Junction with H. 5195 (north) will be considered by the reviewer of that sheet when it is completed.

There are no other junctions with this sheet.

8. Attention is called to two major gaps in the work, one between the western limit of the 1931 work, about long. $68^{\circ}12'$, and soundings vicinity of long. $68^{\circ}22'$, and one at the northwestern corner of the sheet, vicinity of lat. $41^{\circ}15'$, long. $68^{\circ}00'$.

Covered
in 1932
H-5270
H-5271

The shoal spots in the vicinity of lat. $41^{\circ}22'$ long. $67^{\circ}57'$ and lat. $41^{\circ}17'$ long. $67^{\circ}58'$ are insufficiently developed. The bottom is very lumpy and there is reason to suspect shoaler depths ^{exist} in these areas.

On page 1 of the descriptive report, discrepancies are listed. Actions taken upon them are noted in pencil.

No comparison with the new and old surveys was considered necessary as the methods used for the control and running of the lines of the old work cannot be compared with the present improved methods, apparatus, etc. It is recommended that the soundings of the old surveys be superseded by those of H. 5170, but to use the bottom characteristics of the old surveys, where deficient in the new.

9. All important areas covered by this sheet, with the exception of the shoal spots and deficient areas mentioned in paragraph 8, appear to be sufficiently covered by this survey.

Reviewed by G. Risegari. November 2, 1932.

Inspected: E. P. Ellis.

Sp. A. M. Sobieralski

Addenda to Review of H. 5170.

A. Comparison with Chart 1107 (prior to preliminary application of Georges Bank Survey).

The charted 5 fathom shoal in approximate lat. 41°14' long. 68°00' falls in depths of 16 to 20 fathoms broken bottom on the present survey. About seven miles W x S of the charted position of this shoal, a shoal was located by the present survey with seven fathoms on it. There are three 10 fathom spots about three miles to the northward. A 3 $\frac{3}{4}$ fathom sounding was obtained 12 miles NW of it.

The authority for the 5 fathoms is unknown but is believed to come from H. O. Chart 941 of 1882 (see tracing of H. 2917). It first appeared on our charts on the 1907 edition of Chart No. 7. According to the Hydrographic Office Records it has appeared on their charts since 1868. They could not furnish the authority for it but believe it to have originated with some foreign chart.

Inasmuch as the sounding does not come from one of our surveys and the fact that it may be a reported sounding of questionable depth and location, it is not being carried forward to the present survey.

The other charted shoals agree generally well with the present survey.

B. Comparison with H. 5271.

All the hydrography on this sheet that fell within the limits of H. 5271 has been transferred and adjusted to that sheet. For discussion of adjustment and reasons therefor, reference should be made to the review of H. 5271. The area transferred has been outlined in red on H. 5170 and for charting in that area the compiler should use H. 5271.

C. Adequacy of the survey.

Attention is called to the unusually broken character of the area within the 20 fathom curve. This area warranted a scale of 1-40,000 with a general system of lines not over $\frac{1}{2}$ mile apart supplemented by split lines where necessary. The necessity for closer spacing of lines is indicated by the 13 fathom shoal found on H. 5271 between two lines of soundings on H. 5170 in depths of 22 to 24 fathoms. (lat. 40°57' long. 68°25').

Reviewed by A. L. Shalowitz, Oct. 1933.


L. O. Colbert,
Chief, Field Records Section.


F. S. Jordan
Chief, Field Work Section.

Examined and approved:


L. O. Colbert,
Chief, Division of Charts.


G. H. Hilde
Chief, Division of H. & T.