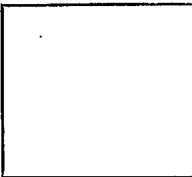


5225

U. S. COAST & GEODETIC SURVEY
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Ed. June, 1928

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
R. S. Patton, Director



State: Massachusetts

DESCRIPTIVE REPORT

~~Topographic~~ } Sheet No. 10 5225
Hydrographic }

LOCALITY

Cultivator Shoal,

Georges Bank

19 32

CHIEF OF PARTY

Herman Odessey, H. & G. E.

5225

Descriptive Report to Accompany
Hydrographic Sheet No. 10
Cultivator Shoal
Georges Bank, Mass.
U.S.C. & G.S.S. GILBERT,
Herman Odessey, H. & G.E.
Chief of Party,
1932.

Date of Instructions:- May 16, 1932, Project HT-107.

Hydrographers:- Herman Odessey, H. & G.E., W. H. Bainbridge,
Jr. H. & G.E., Jeremiah S. Morton, Jr. H. & G.E.

Control:- Control consisted of three survey buoys, one of which, "C.S.", was tied to the main scheme of buoy R-A-R triangulation, the other two being related to this one by bearings and azimuths, and range finder and double log run distances. The buoys were planted and the control work done by the Ship HYDROGRAPHER. In adjusting the positions of the buoys "N" and "P" on the smooth sheet, the double log run distances were held fixed, and directions between the buoys given equal weight in closing the triangle C.S.-N.-P.

Limits:- The survey lies between meridians $68^{\circ} - 11'$ and $68^{\circ} - 13'$, and parallels $41^{\circ} - 37'$ and $41^{\circ} - 40\frac{1}{2}'$, and covers an area about one mile wide and three and a half miles long running NNW and SSE, and is just south of the Cultivator Shoal whistle buoy. It includes what is shown as a 3-fathom sounding on chart No. 1107, 1.7 miles south of the charted position of the Cultivator Shoal buoy.

Survey Methods:- All positions were determined by three point fixes taken to the three survey buoys. Since the projection for the work was on a 1:10 000 scale and the current decidedly rotary in character, it was considered desirable to take account of the path of each buoy about its anchor when plotting the fixes. The known scopes of the buoys and the predicted direction of the current as shown on chart No. 1107 were used for this purpose.

All soundings were by hand lead. A 16-pound lead was used in order to minimize the effect of the current on the lead line. However, it is believed that in the case of soundings over ten fathoms, this effect may have been appreciable, and that where available, preference should be given to shoaler fathometer soundings from the work of the HYDROGRAPHER in this area. In depths under ten fathoms, the soundings are all reliable.

Discrepancies:- There are no discrepancies requiring adjustment or explanation.

Dangers:- Most of the area covered by this survey has a general depth of only five or six fathoms. The shoalest sounding obtained in the entire area was four fathoms, and this was found 1.4 miles south of the ^{true position of} Cultivator Shoal buoy, where the chart shows three fathoms, ^{1.4 miles S. of the charted position of the buoy.} A ~~4²~~ fathom sounding was found 1.8 miles south of the same buoy. These were the only two soundings under five fathoms obtained in the area covered by this survey.

Blowing the off a drift of buoy must be noted

also a 4⁶ at 1 mile from buoy

Crossings:- Crossings of sounding lines are in general very good. With few exceptions, the differences are $\frac{1}{4}$ fathom or less.

Comparison with previous surveys:- This survey covers but a very small area on chart No. 1107. Aside from the fact that the chart shows a 3-fathom sounding, where the least depth obtained in this survey is 4 fathoms, a comparison between the two shows no other discrepancies.

See Section 2

Respectfully submitted,

Herman Odyssey

Herman Odyssey, H. & G. E.,
U. S. Coast and Geodetic Survey,
Commanding Ship GILBERT.

Statistics for Sheet No. 10.

Vol.No.	Date 1932	Day	Statute Miles	Soundings No.	Positions No.
1	July 6	A	26.3	507	176
1	July 7	B	<u>13.7</u>	<u>326</u>	<u>92</u>
Total			40.0	833	268

Area surveyed, in square statute miles:- 4.0

This is to certify that hydrographic smooth sheet No. 10,
and accompanying records, covering the survey of Cultivator Shoal,
Georges Bank, Massachusetts, have been inspected and are hereby
approved.

*Bottom character observations
not standard practice
H.O.*

Herman Odyssey
Herman Odyssey, H.&.G.E.,
U.S.Coast and Geodetic Survey,
Commanding Ship GILBERT.

January 9, 1933.

Division of Hydrography and Topography:

✓ Division of Charts:

Tide Reducers are approved in
1 volumes of sounding records for

HYDROGRAPHIC SHEET 5225

Locality Cultivator Shoal, Georges Bank, Coast of Massachusetts

Chief of Party: Herman Odessey in 1932

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 for time and range of tide on the working grounds

Time -1^h : 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 H-5225

Chief of Party, H. Odensey

Protracted by J. S. Morton.

Verified & Inked by J. Walker

Surveyed in July 1932

Surveyed by H. Odensey

Soundings plotted by H. O.

The sounding records were neat and complete. The bottom characteristics were not all abbreviated correctly.

Protracting. In order to find the position of the buoys at a particular time, the scope of the buoys were shown by a circle about the position of the anchors and the directions of the current at intervals of one hour after the time of maximum flood at Pollick Rip Channel were transferred from the current diagrams on chart 1107. Then, the time of maximum flood at Pollick Rip Channel for the particular day was found in the Current Tables. This time was subtracted from the time of the boat position and then one hour was subtracted from this result because the current tables are for the 75° meridian of time and the sounding records are for 60° W.

From position 25 to 64A inclusive, two hours were ^{apparently} erroneously subtracted by the field party instead of one hour. These 40 positions

therefore had to be revised. otherwise the
protecting was excellent.

The soundings were plotted according
to time. all soundings on the sheet, which ranged
from 4 to 24 fathoms, were plotted to quarter
fathoms. The crossings were good.

The area surrounding this sheet is at present
being plotted by Mr. Tribble and will probably
not be finished for a month or more.

The whistling buoy "I.C.S." and the 3 and $3\frac{1}{2}$
fathom soundings shown on chart 1107 were
transferred to the sheet and appear over a
mile out of position.

Respectfully submitted
J. Walker
1/30/33

SECTION OF FIELD RECORDS

Review of Hydrographic Sheet No. 5225.
Cultivator Shoal, Georges Bank, Massachusetts.

Surveyed - July 1932

Instructions dated May 16, 1932 (Hydrographer, Proj. HT-107)

Chief of Party - Herman Odessey (Gilbert).
Surveyed by - Herman Odessey.
Protracted by - J. S. Morton.
Soundings plotted by - Herman Odessey.
Verified and inked by - T. T. Walker.

1. The records conform to the requirements of the Hydrographic Manual except for the failure to use the standard abbreviations for bottom characteristics, (see par. 71, Hyd. M.). *fne gy S* is abbreviated as follows: FGSand, FngyS, FGRS, GrSan, FGrSa, FGS, Fne Gry Sand, FgyS, FGrSd.
(*crs bnS* is abbreviated Co Br Sa
(*crsSG* " " Co Sa & Gr.

2. The plan and extent of development satisfy the specific instructions.

3. Soundings are consistent; depths at crossings of lines are good, being generally less than $\frac{1}{2}$ fathom.

The fixed positions depend upon predicted tidal current positions of three surveying buoys. The field plotting was excellent except that for positions 25A to 64A the predicted current time was apparently in error about 1 hour. Depths in pencil were plotted to quarter fathoms instead as prescribed in the Manual. No bottom characteristics were plotted by the field party on the smooth sheet.

4. Depth curves can be drawn satisfactorily.

5. Junction. This is a special development of Cultivator Shoal, surrounded on all sides by contemporary surveys (Hydrographer) not yet available for comparison.

6. Comparison with previous surveys. The relative position of the shoal area to the buoy on chart 1107 were in fair agreement with the present survey but appear to be misplaced geographically.

The present survey shows a least depth of 4 fathoms on Cultivator Shoal. The former survey (H. 1207a of 1872) shows a least depth of $3\frac{1}{2}$ fathoms marked "shoalest spot" but no further development.

In addition to the $3\frac{1}{2}$ fathom spot from H. 1207a, chart 1107 also shows a 3 fathom spot about $\frac{3}{4}$ mile east by south of the $3\frac{1}{2}$. The 3 fathom spot has appeared on our charts as far back as 1864 (see Chart No. 1, edition No. 1, permanent file), but no record could be found as to its source. The earliest authority for the 3 fathoms that could be found in our files is that given on Miscellaneous Map 844 Acc. No. 1051, which is a sketch prepared by the Hydrographic Office on a scale of 1-50,000 and shows the "Track and Soundings obtained by the U. S. S. Don in June 1867." The position as given on this sketch agrees very closely with the position given on our chart in 1864, from which it would appear that two independent examinations found 3 fathoms on the shoal.

H. 5225-2.


7. Recommendation. This survey (H. 5225) should be used for charting purposes of the area within the 10 fathom curve. In deeper water preference should be given to the fathometer depths by steamer Hydrographer, see Descriptive Report. In view of the lack of development on some of the shoal spots on the present survey, it is recommended that the 3 fathom spot be carried on the chart in the position indicated in red on H. 5225. This position has been accepted as the most probable position of the shoal spot. The charted $3\frac{1}{2}$ should be omitted from future charting.

No further surveys are deemed necessary at this time.

Sheet Inspected by - A. L. Shalowitz.

Examined and approved:


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


Chief, Field Work Section.


Chief, Chart Division.


Chief, H. & T. Division.

Field Records Section (Charts)

HYDROGRAPHIC SHEET No. *5225*

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

Number of positions on sheet	<i>.268</i>
Number of positions checked	<i>...85</i>
Number of positions revised	<i>...41*</i>
Number of soundings recorded	<i>.833</i>
Number of soundings revised	<i>....*</i>
Number of signals erroneously plotted or transferred	<i>....0</i>

Date: *Jan 30, 1933*

Cartographer: *J. Walker*

** see writers report in descriptive report.*

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

HYDROGRAPHIC TITLE SHEET

REG. NO. 5225
U. S. COAST & GEODETIC SURV.
LIBRARY AND ARCHIVES
JAN 8 1933
Acc. No.

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. 10

REGISTER NO. 5225

State Massachusetts

General locality Georges Bank

Locality Cultivator Shoal

Scale 1:10 000 Date of survey July 6-7, 1932

Vessel U.S.C.&G.S.S. GILBERT

Chief of Party Herman Odessey, H. & G. E.

Surveyed by Herman Odessey, H. & G. E.

Protracted by Jeremiah S. Morton, Jr. H. & G. E.

Soundings penciled by Herman Odessey, H. & G. E.

Soundings in fathoms ~~XXXX~~

Plane of reference Mean Low Water

Subdivision of wire dragged areas by

Inked by J. T. Walker

Verified by J. T. W.

Instructions dated May 16, 1932

Remarks: