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Diag Ch. No. 1219-2

Form 504	
DEPARTMENT OF COMMERCE	
U. S. COAST AND GEODETIC SURVEY	
....., Director	
State: New Jersey	
DESCRIPTIVE REPORT	
Topographic Hydrographic	Sheet No. ³ 4858
LOCALITY	
Cape May	
Five Fathom Bank	
1928	
CHIEF OF PARTY	
R.L. Schoppe	

4858

DEPARTMENT OF COMMERCE
U.S. COAST AND GEODETIC SURVEY
E. LESTER JONES, DIRECTOR

DESCRIPTIVE REPORT

to accompany

HYDROGRAPHIC SHEET #3

4858

CAPE MAY NEW JERSEY

S.S. RANGER

RAY L. SCHOPPE
CHIEF OF PARTY

1928

DEPARTMENT OF COMMERCE
U.S.COAST AND GEODETIC SURVEY
E. LESTER JONES, DIRECTOR.

DESCRIPTIVE REPORT
to accompany
HYDROGRAPHIC SHEET #3
CAPE MAY NEW JERSEY

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DESCRIPTIVE REPORT
to accompany
HYDROGRAPHIC SHEET #3

This sheet is surveyed by authority of Instructions dated, May 23, 1928. It covers that portion of Five Fathom Bank lying south of Lat. $38^{\circ} 58.5'$, extending eastward to the approximate location of the ten fathom curve. South of Lat. $38 56'$, the western limit is Long. $74^{\circ} 48'$ where it joins sheet #1 submitted by this party and north of this location, the western limit is Long. $74^{\circ} 40'$, and joins sheet #2 submitted by this party. The northern end of Five Fathom Bank was surveyed this year by the party in charge of Lieut. Jack Senior.

On account of the close development desired on the shoal areas of Five Fathom Bank, and the distance that they lay offshore it was not possible to depend on shore objects for control. During the months of April to July it was found that five fish traps were in place on the western edge of the shoal. In the early part of the season, weather conditions were not favorable for offshore work and it was considered a lucky stroke when a day was found clear enough to cut in signals on these traps. Eight signals were located but later in the season and improvement in seeing conditions gave evidence that soundings in the northern part of this area could be controlled from shore signals. As a result, these signals were used only a little.

Of these eight signals, the two southern ones EASY and FOX were the first to be lost by the removal of the traps and in order to control the soundings on the south end of Five Fathom Bank it was necessary to cut in two nun buoys (TES and BANK) and to establish three floating signals (MAG, MIN and PUSS).

A very satisfactory location of these floating signals was obtained when plotted on the boat sheet, and in changing from one set of signals to another no jumps of any importance were noted. It was later found that the boat sheet had shrunk more than ordinarily expected, and some difficulty was experienced in plotting cuts to signal MAG on the smooth sheet. After several trials on the smooth sheet a location was determined which was in fair agreement with cuts and which practically eliminated jumps in changing from one set to another. It is believed that the position now given to these five floating signals should not be materially changed. As located at present the courses and distances obtained on sounding lines are satisfactory and no change should be made that would disturb them.

In the vicinity of Lat. $38^{\circ} 56'$ part of the work was done early in the season. This work was finished in October and the shrinkage of the boat sheet caused trouble in running split lines. However, after re-computation of the triangulation none of the shore signals could be found with faulty location. When plotted on the smooth sheet, no such difficulty appeared and it is probable that the trouble during development of this area in October was entirely due to distortion of

of the boat sheet.

The cuts on Five Fathom Bank Lightvessel are not reliable. Some of them were taken on the regular light vessel and some were taken on the relief vessel. Also, it appears that this vessel may have dragged anchor and in that way shifted position during the gale of September 19th. During that gale, two floating signals near the location of MAG and MIN were dragged off position and it is possible that buoys 2 TS (TES) and FFB (BANK) moved slightly at the same time. The earlier cuts to those two buoys are less reliable than later ones.

On June 25th (H day) there was exceptionally good visibility and a line was run to the vicinity of Northeast End Lightvessel. The station buoy was located but there was no time for further work in that locality and the location was never checked. The sextant angles are believed good and may be used if desired.

Buoys 2 TS and FFB were found out of position as charted, and have allready been reported to the Chart Section.

In Lat. $38^{\circ} 52.5'$ and between Long. $74^{\circ} 40.5'$ and $74^{\circ} 45'$, there are two splits that were not covered by sounding lines. These lines are in water that is generally deeper than adjacent areas and the lack of soundings at this place does not make this an unfinished sheet. In conferring with the Chief of Section of Field Work when these Instructions were issued, I was advised that the shoal areas were of supreme importance and if any areas were omitted, it was best to omit the

deeper places. After development of shoals was finished, an effort was made to get these splits, but weather conditions prevented seeing signals, and due to the lateness of the season and approaching bad weather it was deemed advisable to leave them as shown on this sheet.

All soundings were made with hand lead and all positions were determined by sextant locations. The three floating signals placed by this party were the usual single barrel type with bamboo tops. Two of these signals rode out a gale of wind on September 19th which the weather bureau office at Delaware Breakwater reported as reaching a velocity of eighty four miles per hour. The signal cloth was all blown off and both signals dragged about a half mile off position but otherwise no damage resulted.

There were no discrepancies in depths or position locations that require special mention. In a few scattered instances on the steep slopes on the east side of Five Fathom Bank, there was noted a slight disagreement, but in each case a weak sextant fix was involved and a slight displacement would cause the depth curves to agree. The shoalest sounding was plotted where such differences occur.

No new dangers were discovered. In general the critical depths were very close to those previously plotted. The following table show depths on the crests of shoals.

21
57.9' on
Chart 1219
-5- R

	Lat.	Long.	Charted on Chart 1219	Least depth found in 1928.
1	38 52.6'	74 47.2'	36 ft.	32. ft. f
2	38 57.7'	74 38.6'	21 ft	21 ft. f
3	38 56.5'	74 38.2'	20 ft	20 ft. (shoal bank) R
4	38 57.3'	74 34.3'	30 ft	28 ft. * f (27')
5	38 56.5'	74 35.8'	25 ft	28 ft. * f
6	38 55.4'	74 37.8'	21 ft	Not found. 22' (nearby) R
7	38 53.5'	74 38.1'	(Several 23 ft spots nearby) 15 ft	15 ft. f
8	38 50.4'	74 38.2'	21 ft.	23 ft. f
9	38 50.0'	74 39.2'	36 ft.	58 ft. * f

* Position of shoal has moved.

In general it appears that the body of the shoal has moved westward. Numerous soundings on the western edge of the shoal show less depth and corresponding ones along the eastern edge are deeper.

A careful watch was kept during soundings and no evidence of any obstructions on the shoals or of any shoaler areas was noted. It is reported that in heavy Northeast storms there are breakers in many spots along the bank. Nothing but shallow draft boats cross Five Fathom Bank and no channels across it are recommended or described. Tugs with light draft barges and light draft steamers lay a course well inside the shoals but all deep draft craft steam well to the eastward of these shoals. There are no anchorages on this sheet. A comparison with previous surveys is given above where dangers are described.

During the progress of this work the entire ships complement was engaged on hydrography and sounding was generally in progress from the time signals showed in the morning, until dark. Officers engaged as follows:

B H. Rigg, Jr. H&GE. Right angle and In charge
R.C. Overton, Mate " " " " "
W.M Gibson, Jr. H&GE-Right angle and Left angle
G.E. Morris, D.O. & Aid, Angles and recording.
H.F. Garberg D. O. Left angle and Recording.

A table of statistics follows:

Respectfully submitted



Ray L. Schoppe,
Chief of Party

NOTE REGARDING FISH TRAPS ON FIVE FATHOM BANK.

Each trap is approximately four hundred meters long.

Beginning at the South trap:-

Signals FOX and EASY are respectively on the east and west ends of the first trap.

Signal GOAT is on the east end of the second trap.

On the third trap signal HERB and CAT are respectively on the east and west ends.

The ends of the fourth trap are marked by signals ITEM and BOY.

Signal ABLE is on the west end of the fifth or northern most trap.

The two northern traps do not plot within the fish trap area as shown on chart #1219.

R.S.

STATISTICS SHEET #3

CAPE MAY NEW JERSEY.

Date	Letter	Vol.	Miles	Soundings	Pos.	Boat.
7-24-28	A	1	50.3	859	220	RANGER
7-25-28	B	1	11.6	215	56	"
7-30-28	C	1	32.0	553	146	"
7-30-28	C	2	20.6	374	94	"
7-31-28	D	2	47.7	796	191	"
8-14-28	E	2	31.5	527	129	"
8-14-28	E	3	21.4	335	77	"
8-15-28	F	3	13.8	203	57	"
8-20-28	G	3	18.7	229	58	"
8-21-28	H	3	24.1	421	92	"
8-22-28	J	3	29.1	436	107	"
8-22-28	J	4	23.3	326	87	"
8-30-28	K	4	15.9	341	92	"
9-5-28	L	4	40.5	707	193	"
9-14-28	M	4	12.3	218	47	"
9-14-28	M	5	3.5	56	11	"
9-21-28	N	5	20.6	315	76	"
9-24-28	P	5	52.0	818	198	"
9-25-28	Q	5	23.2	414	99	"
9-25-28	Q	6	33.4	516	123	"
9-27-28	H	6	7.2	126	33	"
10-2-28	S	6	33.9	627	133	#
10-3-28	T	6	15.3	355	80	"
10-5-28	T	7	20.0	381	85	"

(continued on following page)

(Continued from preceding
page)

STATISTICS SHEET #3

Date	Letter	Vol.	Miles	Sigs.	Pos.	Boat
10-4-28	U	7	31.3	475	105	RANGER
10-5-28	V	7	16.0	329	62	"
10-8-28	W	7	31.8	461	126	"
10-10-28	X	8	22.5	488	105	"
10-11-28	Y	8	32.7	615	135	"
10-12-28	Z	8	35.2	574	147	"
10-15-28	A'	9	33.3	696	163	"
10-16-28	B'	9	3.5	50	17	"
10-22-28	C'	9	42.9	721	197	"
10-23-28	D'	10	2.8	70	15	"
10-26-28	E'	10	36.5	688	184	"
10-29-28	F'	10	16.0	251	74	"
10-30-28	G'	10	19.3	329	96	"
Total			925.7	15845	3910	

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

REG. NO.

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. 5

REGISTER NO.

State New Jersey

General locality Cape May

Locality Five Fathom Bank - Sourthern Part

Scale 1-40,000 Date of survey June - Oct, 1928

Vessel RANGER

Chief of Party R.L.Schoppe

Surveyed by R.L.Schoppe

Protracted by W.M.Gibson

Soundings penciled by J.S. Massey

Soundings in ~~fathoms~~ feet

Plane of reference M.L.W.

Subdivision of wire dragged areas by

Inked by

Verified by

Instructions dated May 23, 1928

Remarks: Joins sheets 1 and 2 by this party

Report on Hyd. Sheet No. 4858.

Five Fathom Bank, Cape May, N.J.

Surveyed in 1928.

23

Instructions dated May 28, 1928 (Ranger).

Chief of Party R. L. Schopp
Surveyed by R. L. Schopp
Abstracted by W. M. Gibson
Soundings plotted by J. S. Massey
Verified and Inked by C. Prigari

1. The records conform to, and the plan and character of development fulfill the requirements of the General Instructions.
2. The plan and ^{extent} character of development cannot be considered as having fully covered the requirements of the Specific Instructions.

(a) There are a number of lines less in depth than six fathoms which are spaced more than the prescribed limit.

(b) In a number of spots in depths under five fathoms more development would have been desirable in order to eliminate any doubt of the existence of possible shallower soundings.

Ex. Lat. $38^{\circ} 50.3$ Long. $74^{\circ} 38.2$. In this case a 21 foot sounding is shown in this vicinity on H. 3255, while on H. 4858 a 23 foot sounding is shown.

~~Another~~ Lat. $38^{\circ} 54'$ Long. $74^{\circ} 38'$ shows undeveloped spots under 5 fathoms.

" $38^{\circ} 54.6$ " $74^{\circ} 37.6$ " " " "

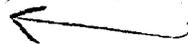
" $38^{\circ} 52.5$ " $74^{\circ} 38.4$ " " " "

and several other spots not listed.

A comparison of ~~critical~~ depths found on Chart #1219 with this sheet shows that ~~the~~ Five Fathom Bank has changed its depths in numerous places. In ~~most~~ nearly every case the critical soundings shown on Chart #1219 are displaced by deeper soundings, some giving the appearance as having moved westward and some northward.

A study of the earlier work, on which Chart #1219 is based, ^(where work might be questionable) appears to be correctly plotted from original records, and agrees, with ^{satisfaction}

cuts one Signal in *Sig. Vols.* (48.58) + (4875)



the location of soundings on said chart. In general the appearance of the shoal shows a building up process in several parts of its western edge and a deepening of its eastern edge.

Mention is made in the description report (H. 4858) regarding to the two splits in the southern section of this sheet. The Chief of Party states that their existence was due to lack of time and bad weather conditions. There doesn't seem to be

any indication for need of further development of this area. The depths are generally deep and uniform.

← A portion of the work on this sheet is controlled by signals located on fish traps ^{+ floating signals}. * These signals check satisfactorily with the cuts, except signal May, which was off a little. Page 2 of the description report (H. 4858) devotes at length to the difficulties in this connection for the determination of the final ^{plotted} position ^{of sig. May} by the Chief of Party and ^{was} accepted by Chief of Field Records.

(* See p. 7 Des. Rept. 4858 for information regard. fish traps.) of 4. The closeness of the sounding shows the agreement between adjacent soundings is generally good.

5. The information is sufficient to draw the usual depth curves.

6. The field plotting was complete in accordance to regulation and practice.

7. The junction at the S north with H. 4821 and H. 4807 ⁴⁸⁷⁰ is satisfactory. The junction with other ^{contemporary} work is not finished at this time and will be reported when finished.

8. A 15 foot spot appears near Sig. Bank and is the shallowest on the sheet, though a shallower sounding may exist (see 2(b) of this report).

9. Character + scope of surveying - good. Field drafting - good.

10. Received by E. Pisegani. Aug. 1, 1929.

The preceding report concurred in. This survey
should supersede all previous work. ^{O.K.} asmo

Inspected by R. L. Johnston

Aug 6, 1929.

April 16, 1929

Division of Hydrography and Topography:

Division of Charts:

Tide Reducers are approved in
volumes of sounding records for

10

HYDROGRAPHIC SHEET

4858.

Locality:

Cape May, New Jersey

Chief of Party:

Plane of reference R. L. Schoppe, in 1928

ft. on tide staff at Mean low water, reading

2.3 ft. below B. M.

Cold Spring Inlet (C. G. Sta.), N.J.

XXXXXXXXXXXXXXXX

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.

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

REG. NO. 4858

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. 3

REGISTER NO. 4858

State New Jersey

General locality Cape May

Locality Five Fathom Bank - Southern Part

Scale 1-40,000 Date of survey June - Oct, 192 8

Vessel RANGEM

Chief of Party R.L. Schoppe

Surveyed by R.L. Schoppe

Protracted by W.M. Gibson

Soundings penciled by J.S. Massey

Soundings in ~~fathoms~~ feet

Plane of reference M.L.W.

Subdivision of wire dragged areas by

Inked by

Verified by

Instructions dated May 23, 192 8

Remarks: Joins sheets 1 and 2 by this party