

5032

Diag. Cht. Nos. 1246 & 1247

Form 504 Ed. June, 1928	
DEPARTMENT OF COMMERCE U. S. COAST AND GEODETIC SURVEY R. S. Patton, Director	
State: Florida	
G. & G. SURVEY L. & A. OCT 27 1930 Acc. No.	
DESCRIPTIVE REPORT	
Topographic Hydrographic	Sheet No. 3 5032
LOCALITY	
Fort Pierce Inlet	
to	
Sebastian Inlet	
to Fort Pierce Inlet	
19 30	
CHIEF OF PARTY	
Charles Shaw	

U. S. GOVERNMENT PRINTING OFFICE: 1923

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DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

REG. NO. 5032

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. **5032**

State Florida

General locality East Coast Florida

Locality Fort Pierce to Sebastian Inlet to Fort Pierce Inlet

Scale 1:40,000 Date of survey March/- July 11, 1930

Vessel RANGER

Chief of Party Charles Shaw

Surveyed by Charles Shaw

Protracted by W. M. Gibson

Soundings penciled by W. M. Gibson

Soundings in ~~fathoms~~ feet

Plane of reference M. L. W.

Subdivision of wire dragged areas by

Inked by

Verified by

Instructions dated December 31, 1929., 19

Remarks: 13 vols. / No. Report

13

Ranger

DESCRIPTIVE REPORT

to accompany

HYDROGRAPHIC SHEET NO. 3

Florida 1930

Ship RANGER, Charles Shaw, Com'dg.

AUTHORITY:

Director's orders dated December 31, 1929.

LIMITS:

This sheet comprises: fixed position work by shore signals from the limits of safe approach by the ship to shore to an average distance of about 13 nautical miles off, excepting Indian River Shoal which was developed on Sheet No. 2, 1:20,000; fixed position by buoys from about 13 nautical miles to 19 nautical miles off shore. If lines were drawn about 19 nautical miles North 70 East of Sebastian Inlet and Fort Pierce Inlet and connected at their off shore ends, it would include the area covered by this sheet with the following exceptions: Indian River Shoal which was surveyed on Sheet No. 2, 1930, 1:20,000 and inshore launch work along the coast.

JUNCTIONS:

Junctions are as follows: On the south NATOMA'S work 1930, on the north, LYDONIA 1930, on the east RANGER 1930 Precise Dead Reckoning Sheet No. 5, on the west with Fort Pierce Harbor Sheet No. 1 1:5,000 RANGER 1930, Indian River Shoal Sheet No. 2

RANGER 1930, and RANGER launch sheet No. 4 1930.

CONTROL:

Triangulation stations with 90 foot hydrographic towers at intervals of 5 miles along coast supplemented by smaller topographic signals and the Fort Pierce and Vero Beach water tanks, both of which were located by 1930 triangulation.

The location of triangulation stations Beaujean 1930 and Florida Gold 1930 were obtained from LYDONIA and that of Drain on the south from the NATOMA.

Ten floating signals and the Bethel Shoal buoy were located by sextant cuts, plotted on an aluminum plate and transferred to hydrographic sheets.

SURVEY METHODS:

Handlead was used on practically all the shore fixed position work. The remainder of the sheet was fathometer work. Cross lines were run about every two miles over the entire area.

Shore signals were used to about 13 nautical miles off shore. Floating signals anchored along the 20 fathom curve with $2\frac{1}{2}$ to 1 anchor chain allowed fixed position work to extend about 19 nautical miles off shore.

FATHOMETER:

The velocity corrections were made in accordance with

the instructions in the Hydrographic Manual. Serial Temperature observations were made at a sufficient number of points throughout the area to assure an acceptable scale of corrections. Only minor fluctuations in water temperature were noted.

The index corrections for the fathometer were determined by vertical cast comparisons taken frequently. It is thought that the index correction was unstable, and errors from this source may account for poor crossings in places. A change in the index error may have occurred between the comparisons at Pos. 41 M' and 57 M'. To be on the safe side this was assumed to have occurred just before Pos. 57 M'. The correction, where doubt existed, was taken on the safe side generally, i.e., to give the shoaler sounding.

Complete data on serial temperatures salinities, index corrections, is forwarded with the records for Sheet No. 5. (5029)

Tide reducers were applied in such a way that the reducer units changed at observed depths rather than reduced depths. This introduced an error slightly exceeding 1/2 in a few instances.

DISCREPANCIES:

In general good crossings were obtained. However soundings between Pos. 4Q' and 27 Q' look erroneous. It is recommended that these soundings be rejected. No explanation can be offered as to the cause.



These soundings were saved by applying a graph correction. See report by review of sheet. R

4

3
4.4 fathoms on Chart
163. Records show
29 feet
R

DANGERS:

	Least depth 1930	Previous least depth
Bethel Shoal	29 feet	27 feet
Thomas Shoal	26 feet	30 feet
Shoal 27 -46 N		
80 -14	28 feet	31 feet

Depths in general agree as well as could be expected with Charts Nos. 162 and 163.

Miami, Florida,
October 20, 1930.

Respectfully submitted,

W. M. Gibson

W. M. Gibson,
Jr. H. & G. Engineer.

Sheet No. 3 with records has been examined and are approved.

A handwritten signature in cursive script that reads "Charles Shaw".

Miami, Fla.,
October 20, 1930.

Charles Shaw,
H. & G. Engineer,
U. S. C. & G. Survey,
Chief of Party.

STATISTICS

HYDROGRAPHIC SHEET #3

Florida 1930

Date	Vol. #	Day	Statute miles	Soundings	Positions	Boat Used & Remarks.
March 19	1	A	43.6	798	131	RANGER
20	1	B	13.1	399	69	
21	1	C	47.4	778	128	
21	2	C	7.8	122	22	
24	2	D	24.1	412	66	
26	2	E	12.0	225	34	
27	2	F	18.5	307	50	
28	2	G	8.0	146	22	
April 1	2	H	37.1	599	97	
2	3	J	52.7	787	113	
3	3	K	46.0	716	112	
4	3	L	29.1	434	64	
7	4	M	10.7	192	24	
8	4	N	57.2	797	180	
9	4	P	34.8	497	104	
12	4	Q	16.0	197	51	
May 3	5	R	11.7	H 171	55	H - Handlead, F - Fath.
				F 180		
				H 693		
5	5	S	51.2	F 42	137	
6	5	T	61.3	854	135	
7	6	U	59.4	1155	165	
8	6	V	59.1	780	147	
9	7	W	40.7	524	96	

(Continued on next sheet)

SHEET No. 3 (Contn'd)

Date	Vol.#	Day	Stat.	Miles	Soundings	Positions	Boat used & remarks.
May 12	7	X		51.6	820	134	
13	7	Y		48.1	751	123	
13	8	Y		14.0	170	25	
14	8	Z		57.7	923	128	
15	8	A'		63.8	926	177	
16	9	B'		68.7	852	140	
20	9	C'		9.5	163	28	
21	9 & 10	D'		65.0	1246	215	
22	10	E'		31.4	435	88	
23	10	F'		31.0	379	87	
27	10	G'		23.0	277	68	
28	10	H'		21.0	293	70	
29	11	J'		33.1	447	111	
June 6	11	K'		9.5	121	30	
					157 H		
9	11	L'		14.3	202 F	82	
					20 H		
10	11	M'		35.4	244 F	57	
					60 H		
11	12	N'		34.5	235 F	66	
					256 H		
12	12	P'		29.4	150 F	82	
					7 H		
17	12	Q'		59.6	346 F	109	
					190 H		
20	12	R'		53.0	223 F	105	
					12 H		
23	12	S'		3.0	25 F	7	
					2 H		
July 2	13	T'		12.0	79 F	24	
					6 H		
3	13	U'		24.0	161 F	52	
					27 H		
9	13	V'		58.5	365 F	90	
11	13	W'		11.8	146 H	33	
TOTALS				1,604.4	19,449 H-2,252 F	4,133	

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21701

Section of Field Records

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2ae

October 29, 1930

Division of Hydrography and Topography:

Division of Charts:

Tide Reducers are approved in
13 volumes of sounding records for

HYDROGRAPHIC SHEET 5032

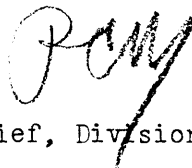
Locality Florida East Coast (Fort Pierce to Sebastian)

Chief of Party: Charles Shaw, in 1930

Plane of reference is mean low water, reading
2.7 ft. on tide staff at Fort Pierce Breakwater
10.6 ft. below B. M. 1

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.

Field Records Section (Charts)

HYDROGRAPHIC SHEET No. *5032*

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

Number of positions on sheet	<i>4133</i>
Number of positions checked	<i>420</i>
Number of positions revised	<i>51</i>
Number of soundings recorded	<i>19,449</i>
Number of soundings revised	<i>200</i>
Number of signals erroneously plotted or transferred

Date: *Dec. 12, 1930*

Cartographer: *G. Prigari*

Report on Hyd. Sheet No. 5032.

(7)

Sebastian Inlet to Fort Pierce Inlet, Florida.

(Ranger)

Surveyed in 1930

Instructions dated Dated 31, 1929_n

Chief of Party C. Shaw.

Surveyed by C. Shaw.

Contracted by W. M. Gibson.

Soundings by plotted by W. M. Gibson.

Verified and Inked by S. Pisegani.

1. The records conform to, and the plan and character of development fulfill the requirements of the General Instructions.
2. The plan and extent of development satisfy the Specific Instructions.
3. Sounding line crossings inside_n the 10 fathom curve are adequate. Although the crossings of fathometer lines are generally adequate, there are occasional differences of about 5%. This appears to be due to instability of the index correction as indicated by the chief of party in the descriptive report. Fathometer No. 412 was used and Capt. Egner, who also used a_n 412 type encountered the same trouble. A number of poor fathometer line crossings were eliminated by revising the index correction for pos. 21 V' to 36 V' on recommendation

Report on Hyd. Sheet No. 5832 (cont.).

(2)

3 (cont.)

~~By~~ Chief of Field work. Five feet has been added to the index factor between positions 21 and 36 V'. The correction is based on crossings with four days' work (mostly vertical casts).

over)

4. The usual depth curves can be completely drawn within the scope of the survey.

5. The junction with H. 5029 (E) is satisfactory.
 " " " H. 5025 (SW) " " completed.
 " " " H. 5027 (W) will be reported when
 " " " H. 5028 (NW) is satisfactory.

No sheets for the north or south junctions have yet been received at this date.

6. There are soundings on Q' day which when plotted make bad crossings with other soundings lines which were considered satisfactory, — location, vicinity of signal "Her" and signal "Ink", lat. $27^{\circ}52'$, long. $80^{\circ}10'$.

A graph drawn by Chief, Section of Field Work, on coordinate paper, attached herewith, with crossing differences as ordinates and ^{their} times as abscissas, beginning with position 4 Q' and ending with 75 Q' day.

Corrections were taken from the resulting graph and applied to the respective soundings, accordingly.

Rather than reject these questionable soundings covering such a large area, it was decided to save them as there are no other soundings in the area affected. The field party can offer no explanation for these discrepancies.

6(Cont.).

The soundings between 27 Q' and 28 Q', lat. 27°52', long. 80°08' were rejected by Chief of Field Records Section on account of the poor crossing with soundings of V'day, which are considered to be good. Such change materially improved the 120 fathom curve.

On page 4 Descriptive Report, is shown a comparison of critical depths taken at different ~~depths~~ periods under the heading, "Dangers". Examination of the 27 foot "Previous least depth" sounding mentioned in the report located on Bethel Shoal, shows this to be $4\frac{3}{4}$ fathoms on Chart #163 and H. 1523 a. Inspection of the sounding records for H. 1523 a gives the actual depth, 29 feet, ^{for} ~~and~~ this spot and not 27 feet. The latter value is evidently an error.

The minimum depth found on Bethel Shoal, ^{by latest survey} was 29 feet. This spot is 500 meters southeast of the charted $4\frac{3}{4}$ fathoms (29 feet on H. 1523 a). All the shoal soundings on the chart were well covered by this survey, and the same or slightly lesser depths were found.

As the entire area of the new survey is well developed and no shoaler depths exist on the old surveys, the latter may be ignored in charting.

7. No additional surveying is required within the area covered by the sheet.

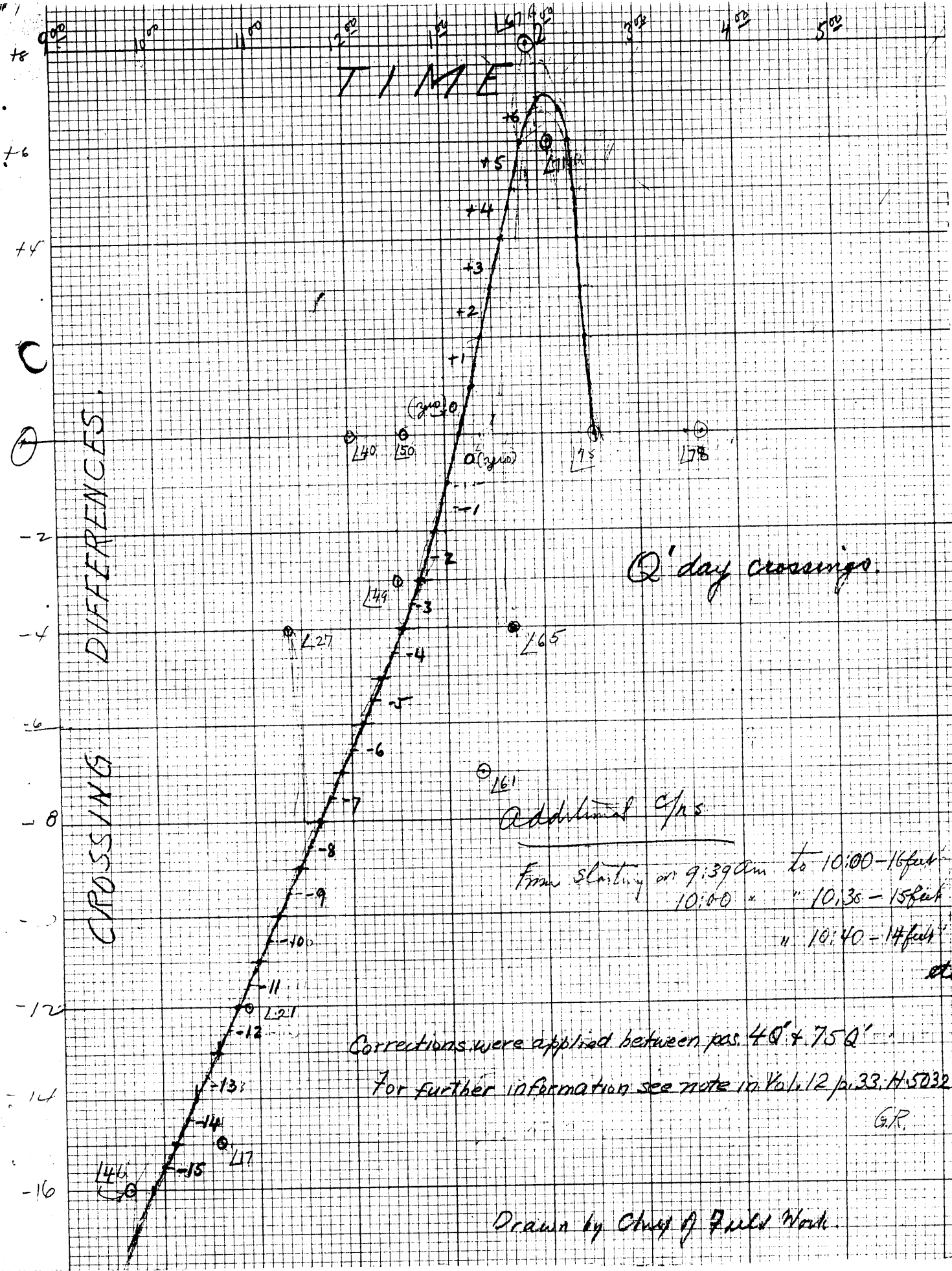
Report on Hyd. Sheet No. 5032 (cont.)

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8. Character and scope of the surveying - excellent
Field drafting - good.

9. Reviewed by G. Piszari Dec. 12, 1930.

App.
A. M. Sobieralski



Q' day crossings.

Additional c/s

From starting on 9:39 am to 10:00 - 16 feet
 10:00 " " 10:35 - 15 feet
 " 10:40 - 14 feet
 etc

Corrections were applied between pos. 40' + 75 Q'
 For further information see note in Vol. 12 p. 33 H. 5032

G.R.

Drawn by Chief of Field Work

Applied to Chart 582 Oct 2 1937 - Chas R Bush, Jr