

# 8365

Diag. Chart No. 1240-3.

Form 504

U. S. DEPARTMENT OF COMMERCE  
COAST AND GEODETIC SURVEY

## DESCRIPTIVE REPORT

Type of Survey HYDROGRAPHIC

Field No. ECFP-1256 Office No. H-8365

### LOCALITY

State SOUTH CAROLINA

General locality ~~ST. HELENA SOUND~~

Locality ST. HELENA SOUND

1956-57

CHIEF OF PARTY

MARVIN T. PAULSON

LIBRARY & ARCHIVES

DATE AUG 19 1959

COMM-DC 61300

8365

Junction with H-8365 & H-8364

The <sup>Shoran</sup> shoran corrections appear to be based primarily <sup>be based primarily</sup> on <sup>values</sup> the values obtained from calibration <sup>calibration</sup> on special <sup>buoys</sup> buoys, set for that purpose. A <sup>cursor</sup> cursory inspection of the <sup>volumes</sup> volumes indicate that quite a few 3rd - <sup>simultaneous</sup> simultaneous Shoran readings were taken during hydro and these do not agree in many <sup>instances</sup> instances with the <sup>recorded</sup> recorded values. The <sup>verifier</sup> verifier should plot and <sup>compare</sup> compare these together with <sup>with</sup> the <sup>buoy</sup> buoy values for line, dist and area <sup>prior</sup> prior to <sup>inking</sup> inking <sup>sounding</sup> sounding at the present <sup>smooth</sup> smooth sheet position. The <sup>period of time elapsed</sup> period of ~~time~~ elapsed between these two sheets is not enough to <sup>account</sup> compensate for the large <sup>junctional</sup> junctional differences in depths.

E. Thomas  
6/23/61

DEPARTMENT OF COMMERCE  
U. S. COAST AND GEODETIC SURVEY

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.

REGISTER NO. H-8365

Field No. ECFP-1256

State SOUTH CAROLINA

General locality ~~ST. HELENA SOUND~~

Locality ST. HELENA SOUND

Scale 1:12,500 Date of survey 18 January 1956  
28 March 1957

Instructions dated 13 October 1955 & 16 August 1956

Vessel EAST COAST FIELD PARTY

Chief of party MARVIN T. PAULSON

Surveyed by D.L. CAMPBELL, R.A. LEWIS, R.H. GARNETT & L.L. SEAL

Soundings taken by ~~XXXXXX~~, graphic recorder, hand lead, ~~XXX~~

Fathograms scaled by Personnel of EAST COAST FIELD PARTY

Fathograms checked by " " " " " " & NORFOLK OFFICE

Protracted by A.G. ATWILL

Soundings penciled by A.G. ATWILL

Soundings in ~~XXXXX~~ feet at MLW ~~XXXXX~~

REMARKS:

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DESCRIPTIVE REPORT

To Accompany

HYDROGRAPHIC SHEET (Field Number ECFP 1256)

East Coast Field Party  
Project 13850

Marvin T. Paulson, OinC  
Scale: 1 : 10,000

(smooth plot 1:12,500)

1/18/56 - 3/21/56  
12/5/56 - 3/28/57

A. PROJECT

A basic survey of St. Helena Sound, South Carolina outer coast and a portion of Harbor River was accomplished under instructions 22/ MEK FP-East Coast dated 13 October 1955; and Supplemental instructions project 13850 22/ MEK FP-East Coast dated 16 August 1956.

B. SURVEY LIMITS AND DATES  
1955-1956 Season

Field work on sheet ECFP 1256 began 18 January 1956 and ended 31 March 1956. Work was performed in St. Helena Sound and extended east to Long.  $80^{\circ} 18'$ , south to Lat.  $32^{\circ} 24.3'$ , north to Lat.  $32^{\circ} 28.3'$ , and west to Long.  $80^{\circ} 26.5'$ . The western limits of this sheet made junction with sheet ECFP 1156 (Morgan River). Survey sheet ECFP 2156 was constructed but no hydrography was accomplished on this sheet during this season. Adverse weather and sea conditions greatly hampered progress of the work on this sheet.

# 8364

1956-1957 Season

Hydrography began 5 December 1956 and was completed 28 March 1957. The development began the prior season was completed. The eastern limit extended to Long.  $80^{\circ} 18'$ , the western limit made junction with ECFP 1156, and the northern and southern limits were the same as for the preceding year. As in the preceding season, adverse weather, especially heavy fog, hindered progress.

C. VESSELS AND EQUIPMENT  
1955-1956 Season

During this season, Launch CS-175 was used entirely on sheet ECFP 1256. It was operated from Village Creek for the entire season's work on project 13850.

The launch was operated at a standard sounding speed of 5.8 knots. Echo soundings were obtained with an EDO 255 type fathometer with the transducer unit mounted over the port side amidship.

1956-1957 Season

Launch CS-82 was used on sheet ECFP 1256 entirely during this season. It was operated from WARD'S Creek for the entire season.

The launch was operated at a standard operating speed of 1500-1600 RPM or about 6 knots. Echo soundings were obtained with an EDO 255 type fathometer with the transducer unit mounted over the starboard side. A Kato Converter was used along with the fathometer. As a bar check was taken, the frequency of the converter was changed to give true sounding depths. This was done so that no velocity corrections were needed. See attached report for Shoran equipment.

D. TIDES AND CURRENT STATIONS  
1955-1956 Season

A portable automatic tide gage was maintained at Edisto Island on the Edisto Beach Fishing Pier. This gage was not in operation during the first month of field work on sheet ECFP 1256. Field data supplied by the Washington Office referred the tides at Harbor River Entrance gage to Edisto Beach for the period this gage was not in operation.

1956-1957 Season

A portable automatic gage was maintained at Edisto Island as long as the launch was based there. Midway in the season, the launch was moved to a dock in Ward's Creek and a tide gage installed at Harbor River Bridge. This gage was used for the remainder of the season to control the hydrography. The tides on the eastern portion of the sheet were controlled by Harbor River. When only one gage was in operation and it became necessary to have data at the other, one gage was referred to the other using data obtained from the Washington Office.

The dividing line for the tide control began at Lat.  $32^{\circ} 24.75'$  and Long.  $80^{\circ} 26.0'$  and ran N  $32^{\circ}$  E until it made junction with Otter Island.

Reference is made to the letter to the Director dated 13 March 1956 with the subject "Tide Reducers".

No current stations were occupied during either season.

#### E. SMOOTH SHEET

The smooth sheet will be plotted by the Norfolk processing office. Attachments, statistics, and field records will be sent to this office.

#### F. CONTROL STATIONS

Control consisted of five triangulation stations, two topographic stations, and twenty one photo-hydro signals. A complete list of control may be found in the attached Report of Photogrammetric Support as well as in the front of volume 1, sheet ECFP 1256.

Small buoys were placed at intervals on the sheet in order to aid in the calibration of the Shoran equipment. These were located by sextant fixes. For more information, see the attached Shoran Report.

#### G. SHORELINE AND TOPOGRAPHY

Shoreline and topographic details were obtained from photogrammetric manuscripts T-10309, ~~10303~~, and 10304 T 10310

Photo sub party number 1 was used in support of the East Coast Field Party and had charge of the shoreline and topography.

There were no changes in shoreline or topographic details determined during this survey.

#### H. SOUNDINGS

Soundings were obtained with an EDC 255 type recorder, hand lead and sounding pole. Bottom samples were obtained with an armed hand lead.

## I. CONTROL OF HYDROGRAPHY

Shoran, supplemented by visual fixes, was used to control the hydrographic survey on this sheet. Shoran station sites were located by triangulation. The distance arcs were drawn on the boat sheet by the Washington Office with the exception of signal "STO" which was drawn by the East Coast Field Party.

A new type of unattended ground station equipment was used on this survey. A full length Shoran Report is appended to this report explaining in detail the procedure used to calibrate the equipment, the method used to determine the corrections to be applied to the shoran readings and other pertinent information on the operation of the equipment.

## J. ADEQUACY OF SURVEY

The survey is complete and adequate to supercede prior surveys for charting. Junctions with adjoining surveys are satisfactory and depth curves can be adequately drawn at the junctions.

## K. CROSSLINES

The percentage of crosslines is about 5% for the sheet as a whole. In general, the number of crosslines is adequate but the percentage is as low as it is because the southern portion of the sheet east of Long.  $80^{\circ} 21'$  and the eastern portion of the sheet east of  $80^{\circ} 19'$  do not have the required amount. The eastern section in particular does not have the prescribed amount because of the close of the field season before the required number could be run. The crossings on the sheet as a whole were very good.

## L. COMPARISON WITH PRIOR SURVEYS

Comparisons with prior surveys show several changes in shoal areas due to shifting sand. Generally in the deeper areas there is little change. Comparisons made with:

PRIOR SURVEY	DATE	SCALE
5565	June-July, 1934	1:10,000
4152	Nov.-Dec., 1920	1:20,000
5526	June-July, 1934	1:10,000

## COMPARISON WITH PRIOR SURVEY NO. 5565

AREA ON PRIOR SURVEY	CHANGE OR CHANGES	RECOMMENDATIONS
Combahee Bank Lat 32°27.95' Long 80°25.90'	12 foot shoal has shifted NW 200 M.	Chart new depths
Shoal Lat 32°27.6' Long 80°24.2'	6 foot shoal has shifted E 750 M.	Chart new depths
Shoal 32°27.3' Long 80°26.5'	18 foot shoal has shifted N 200 M.	Chart new depths
Shoal Lat 32°27.2' Long 80° 26.0'	12 foot shoal has shifted from 500 M. S at Lat 32° 27.2', Long 80° 26.0' to 200 M. South at Lat 32°26.5', Lon 80°24.3'	Chart new depths
Shoal Lat 32°26.8' Long 80°26.2'	6 foot shoal has shifted 100 M. North	Chart new depths
Shoal Lat 32°26.7' Long 80°24.6'	12 foot shoal has shifted 100 M. southwest	Chart new depths
Shoal Lat 32°25.8' Long 80°24.8'	Area off Egg Bank has become deeper and shoal has moved South 250 M.	Chart new depths
Shoal Lat 32°25.0' Long 80°23.9'	Area has become deeper and shoal has shifted 200 M. West	Chart new depths
Lat 32°24.7' Long 80°25.2'	Area has become deeper 6-10 feet. Shoal which did bare has shifted 200 M. North and is covered 8'	Chart new depths

AREA ON PRIOR SURVEY	CHANGE OR CHANGES	RECOMMENDATIONS
Lat 32° 25.6' Long 80° 26.4'	Channel between Egg Bank and the sand island SW has widened 125M. The depths are deeper to the N and shoaler to the S.	Chart new depths
Lat 32° 27.7' Long 80° 23.5'	Shoal has built up 200 M to the south.	Chart new depths
Lat 32° 27.5' Long 80° 21.0'	Shoal has shifted 1000 M. west.	Chart new depths
Lat 32° 26.8' Long 80° 22.2'	Shoal that did bare at MLW has shifted 300 M. east	Chart new position and depths

## COMPARISON WITH SURVEY NO. 5526

Lat 32° 28.2' Long 80° 19.2'	This area has become shoaler with a least depth now of <del>2</del> 2 feet.	Chart new depths
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## COMPARISON WITH SURVEY NO. 4152

Lat 32° 26.6' Long 80° 21.6'	Shoal has shifted NE 300 M. The least depth is now <del>3</del> 2 feet.	Chart new depths
Lat 32° 26.2' Long 80° 21.2'	Area has deepened. Greatest depth now <del>22</del> 23 feet.	Chart new depths
Lat 32° 27.1' Long 80° 20.6'	Area has deepened. Greatest depth now 16 feet.	Chart new depths
Lat 32° 25.2' Long 80° 20.3'	Area has become shoaler. Least depth now <del>7</del> 5 feet.	Chart new depths
Lat 32° 25.0' Long 80° 18.6'	Area now shoaler. Least depth now <del>9</del> 10 feet.	Chart new depths
Lat 32° 24.8' Long 80° 21.2'	Area now deeper. Greatest depth now 24 feet.	Chart new depths

M. COMPARISON WITH CHART

There was only one preliminary review item on chart 1240 which occurred on sheet ECFP-1256. This was a circled 15 foot sounding on a shoal Lat  $32^{\circ} 27.6'$  and Long.  $80^{\circ} 24.95'$ . The shoalest sounding obtained on the shoal was a 17.6 foot fathometer sounding. As no special development was made outside the regular hydrography, it is recommended that the 15 foot sounding be left on the chart.

It is felt that the comparison with prior surveys is also a comparison with charts 1240 and 793 as there is very little difference between the prior surveys and the charts.

O. COAST PILOT INFORMATION

The description of Hunting Island Daybeacon is considered to be misleading and inadequate as compared to the descriptions on charts 1240 and 793.

SECTION D, Page 219, Line 31 read:

on the northeast and Hunting Island on the southwest. Hunting Island Daybeacon, charted as "Tower (abandoned light)", is 1.2 miles

P. AIDS TO NAVIGATION

Reference is made to the letter to the Director of 12 July 1957 pertaining to buoys C7, C9, C11, and N6 in St. Helena Sound. For more information, see the attached list of Aids to Navigation. (Appendix 9)

Q. LANDMARKS FOR CHARTS

There are no new landmarks for charts to report.

R. GEOGRAPHIC NAMES

There are no new geographic names to report.

S. AND T.

Do not apply in this report

N. DANGERS AND SHOALS

LOCATION	POS. NO.	LEAST DEPTH	DESCRIPTION	RECOMMENDATION
Lat 32°25.35' Long 80°22.15'	98-l 991 27-28aa	8 <sup>5</sup> feet	A shoal with a least depth of 8' has shifted into the S. edge of the channel	Chart new depths Refer to 12 July 1957 letter to The Director
Lat 32°26.8' Long 80°25.95'	98-k 3-4a	4 feet	A shoal with a least depth of 4' has shifted so as to extend 500 M. east from day beacon A2	Chart new depths Refer to 18 July 1957 letter to The Director
Lat 32° 27 <sup>27</sup> 12' Long 80°18.85' 92	42-g 607	3 <sup>2</sup> feet	S. tip of an uncharted shoal with breakers extending 600 M NW and being 400 M wide	Chart position Refer to 18 July 1957 letter to The Director
Lat 32° 26.15' Long 80° 20.55' which is SE tip Lat 32° 27.25' Long 80° 22.40' which is NW tip		bare at MIW	an extensive shoal area with extremities as given-ranges from 300 M wide at the S to 1200 M wide at the N. Though the position has not shifted greatly it is considered a danger to navigation.	Chart those depths which have changed

U.\*Y. MISCELLANEOUS

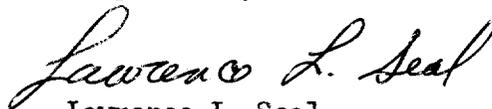
1. Field Procedures that Deviate from Standard Practice

It will noted throughout the record volumes that when a line ends or begins a latitude and longitude are given. However, if the description is line breaks and the distance is less than 1000 meters to where the line resumes, the distance and direction are given from where the line breaks to where it resumes.

Z. TABULATION OF APPLICABLE DATA

The Bar Check Tabulations for the entire project 13850 are attached as Appendix 8. All Shoran calibration tabulations are attached in Appendix 1, Shoran Report.

Respectfully submitted



Lawrence L. Seal  
Ens., C&GS

List of Attachments:

1. Shoran Report *abstract*
2. Report of Photogrammetric Support
3. Statistics
4. Tidal Note
5. Approval Sheet
6. Coast Pilot Report
7. Recommended Changes to Charted Buoys
8. Fathometer Report
9. *Geographic Positions*

Attachment No. 1

ABSTRACT OF SHORAN CORRECTIONS

APPENDIX A

APPENDIX B

APPENDIX C

APPENDIX D



APPENDIX A  
 ABSTRACT OF  
 SHORAN CALIBRATIONS SHEET 1256  
 LAUNCH 175  
 PROJECT 13850

Date	Signal HEE		Signal PEL		Signal CON		Signal BEA	
	TEER	LITE	TEER	LITE	TEER	LITE	TEER	LITE
	(3.020)(6.352)		(2.218)(4.981)		(1.742)(3.549)		(1.844)	
20 Jan '56	0.087	0.068	0.092	0.080				
25	0.073	0.075	0.088	0.081				
26			0.086	0.076				
27			0.086	0.076				
30			0.086	0.078				
3 Feb	0.076	0.074	0.088	0.082				
7			0.090	0.088				
8			0.093	0.082				
9			0.087	0.079	0.087	0.080		
13			0.092	0.086				
14	0.083	0.083	0.096	0.086				
15			0.089	0.080				
20			0.090	0.076				
22			0.088	0.081				
29	0.090	0.067	0.097	0.078				
1 March			0.087	0.077				
6			0.094	0.068				
7								0.081
13								
14					0.082	0.087		
15								
22			0.086	0.082				
23	0.085	0.068						



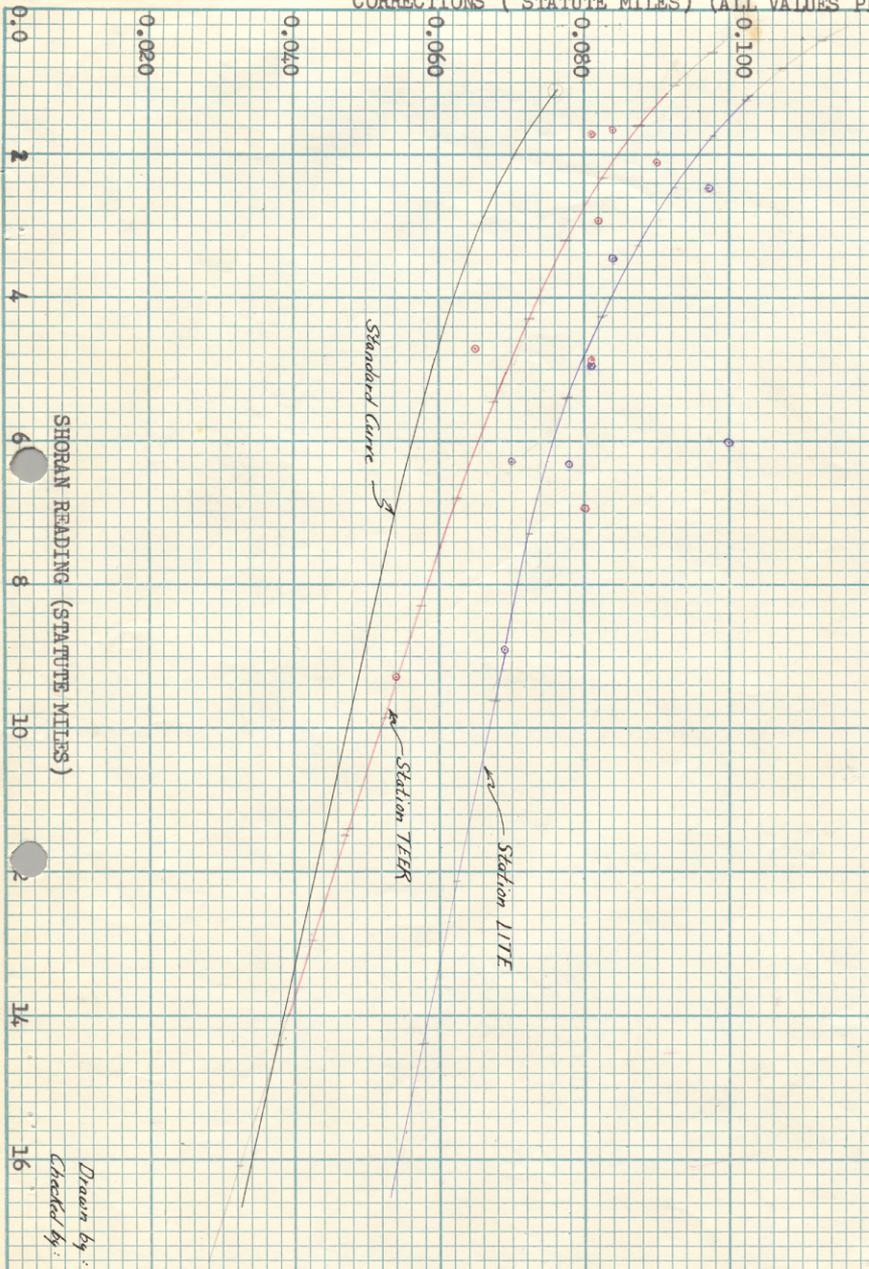
APPENDIX A  
 ABSTRACT OF  
 SHORAN CALIBRATION SHEET 1256  
 LAUNCH 82  
 PROJECT 19850

Date	Signal PEL (Day Beacon A-2)		Signal DAY (Day Bea. A-11)	
	LITE (4.980)	STO (6.242)	LITE (2.196)	STO (7.590)
25 Feb 1957	0.073	0.062	0.061	0.050
26 (A.M.)			0.074	0.037
26 (P.M.)			0.053	0.037
27 (AM.)			0.065	0.045
27 (P.M.)			0.065	0.049
28 (A.M.)			0.076	0.051
28 (P.M.)			0.076	0.049
3 March				
7			0.061	0.045
11				
14			0.076	0.051
25				
26			0.073	0.043

ART. 101-101-101-101

SHORAN CORRECTION CURVE  
 PROJECT 1385  
 SHEET (EGFP-1256)  
 LAUNCH GS-175

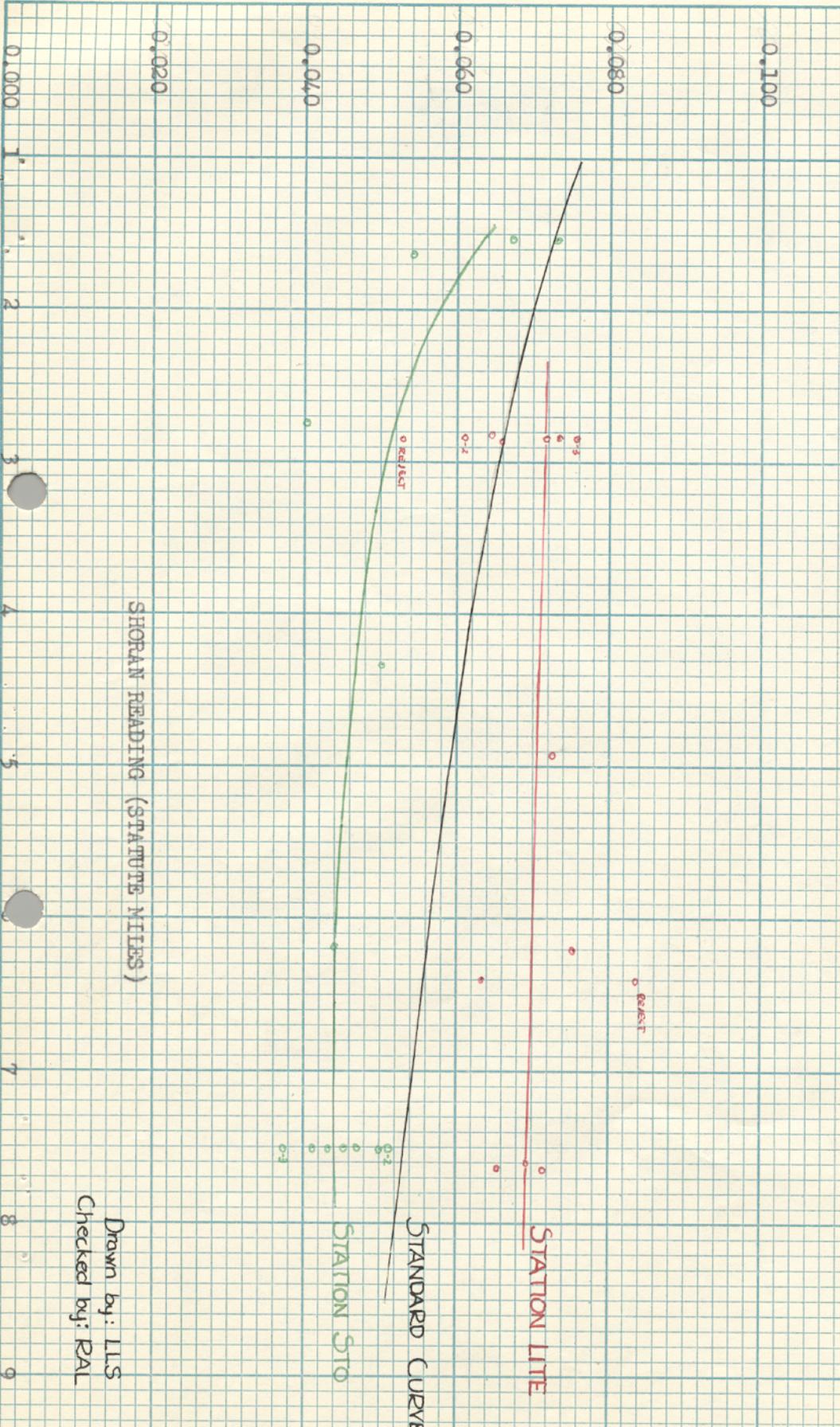
CORRECTIONS ( STATUTE MILES ) ( ALL VALUES PLUS )



SHORAN READING ( STATUTE MILES )

Drawn by: C.W.T.  
Checked by: R.H.L.

SHORAN CORRECTION CURVE  
 PROJECT 13850  
 SHEET (ECFP-1256)  
 LAUNCH 82



SHORAN READING (STATUTE MILES)

Drawn by: LLS  
 Checked by: PAL

APPENDIX C  
 SICLAN CORRECTION ABSTRACT  
 SHEET 1256  
 PROJECT 13850  
 LAUNCH 175

Station LYR Shoran Readings			Station TMR Shoran Readings		
From	To	Corrections	From	To	Corrections
0.400	0.800	0.110	0.600	1.050	0.095
0.801	1.200	0.105	1.051	1.600	0.090 <i>0.085</i>
1.201	1.750	0.100	1.601	2.340	0.085
1.751	2.450	0.095	2.341	3.200	0.080 <i>0.100</i>
2.451	3.250	0.090	3.201	4.300	0.075
3.251	4.250	0.085	4.301	5.450	0.070
4.251	5.400	0.080 <i>g-0120 k-009</i>	5.451	6.800	0.065
5.401	7.300	0.075	6.801	8.300	0.060
7.301	9.620	0.070	8.301	9.850	0.055 <i>0.82 c day 1/26</i>
9.621	12.150	0.065 <i>✓</i>	9.851	11.500	0.050
12.151	14.400	0.060	11.501	12.950	0.045
14.401	16.800	0.055	12.951	14.400	0.040
			14.401	16.100	0.035

*on 1 day Antenna was repaired at sea  
 can should varied from those prior  
 to 2/29/56*

## APPENDIX C (CONT'D)

## SHORAN CORRECTION ABSTRACT

SHEET 1256

LAUNCH 82

Station LITE			Station STO		
Shoran Readings			Shoran Readings		
From	To	Corrections	From	To	Corrections
2.500	9.000	0.070	1.600	1.900	0.060
			1.901	2.200	0.055
			2.201	2.700	0.050
			2.701	8.000	0.045

## APPENDIX D

## LIST OF SHORAN ADJUSTMENTS

SHEET 1256

LAUNCH 175

20 January 1956	Station TEER off the air
25	Generator failure
26	Generator failure
27	Generator speed varying
30	Increased gain on TEER to 7.0
7 February 1956	Station TEER weak
7	Change receiver at TEER to No. 580 Gain set on 7.0
14	Station TEER off the air
28	Signal LITE antenna raised 8 feet, and repointed at station TEER
1 March	Readjusted drift of Station LITE to 99.710, Shoran not operating
7	Station LITE off the air
13	Station TEER off the air

APPENDIX D (CONT'D)

LIST OF SHIRAN ADJUSTMENTS

SHEET 1256

LAUNCH 82

7 March 1957	Station LITE off the air
11	Station STO off the air
11	Generator fuel pump vibrated loose
11	Voltage fluctuating
13	Station STO blinking on and off
18	Oil seal in Oman generator plant leaking
26	Station STO flashing on and off at 2 second intervals

STATISTICS

Hydrographic Survey H-8365 (1956-57)  
Launch CS-175

Date	Day Letter	Volume No.	Fath. Pos.	H.L.	Statute Miles
1/20/56	a	1	10	0	1.7
1/25/56	b	1	55	0	8.6
1/26/56	c <i>1-2 ft deeper</i>	1	119	3	28.4
1/27/56	d	2	124	0	22.3
1/30/56	e	2 & 3	122	0	21.6
2/ 3/56	f	3	7	0	1.2
2/7/56	g	3	140	3	24.7
2/8/56	h	4	145	10	25.0
2/9 /56	j	4 & 5	157	2	23.2
2/13/56	k	5 & 6	98	0	18.2
2/14/56	l	6	107	0	18.4
2/15/56	m	6 & 7	124	0	22.9
2/20/56	n	7	26	0	
2/22/56	p	7 & 8	122	0	21.4
2/29/56	q	8	144	0	25.1
3/ 1/56	r	9	62	0	10.2
3/ 6/56	s	9 & 10	150	0	27.5
3/ 7/56	t	10	75	0	10.8
3/13/56	u	10	8	0	2.2
3/14/56	v	10	84	0	13.2
3/15/56	w	11	66	0	11.5
3/22/56	x	11 & 12	180	0	26.0
3/23/56	y	12	165	0	28.1
			2292	18	390

STATISTICS

Hydrographic Survey H-8365 (1956-57)  
Launch CS-82

Date	Day Letter	Volume No.	Fath. Pos.	H.L.	Statute Miles
12/15/56	a	13 <del>1</del>	86	0	12.5
12/ 6/56	b	<del>13 &amp; 14</del> 1 & 2	119	0	19.8
1/22/57	c	14 <del>2</del>	33	0	5.0
1/29/57	d	14 <del>2</del>	120	0	28.7
1/30/57	e	14 <del>2</del>	24	0	19.3
1/31/57	f	15 <del>3</del>	36	0	19.3
2/ 1/57	g	15 <del>3</del>	20	0	2.6
2/ 4/57	h	15 <del>3</del>	97	0	14.0
2/ 5/57	j	<del>15 &amp; 16</del> 3 & 4	63	0	9.2
2/13/57	k	16 <del>4</del>	123	0	17.6
2/14/57	l	<del>16 &amp; 17</del> 4 & 5	128	0	17.3
2/18/57	m	17 <del>5</del>	67	0	9.1
2/26/57	n	17 <del>5</del>	37	0	4.9
2/27/57	p	18 <del>6</del>	128	0	20.4
2/28/57	q	<del>18 &amp; 19</del> 6 & 7	118	0	18.4
3/11/57	r	19 <del>7</del>	85	0	12.2
3/12/57	s	19 <del>7</del>	67	0	10.1
3/13/57	t	20 <del>8</del>	35	0	4.3
3/14/57	u	20 <del>8</del>	111	0	13.7
3/15/57	v	<del>20 &amp; 21</del> 8 & 9	153	0	17.6
3/18/57	w	21 <del>9</del>	19	0	1.8
3/25/57	x	21 <del>9</del>	42	0	4.9
3/26/57	y	21 <del>9</del>	56	2	7.8
3/27/57	z	22 <del>10</del>	71	0	9.5
3/28/57	aa	22 <del>10</del>	66	0	8.3
			1904	2	596 235

*Attachment No. 4*

TIDAL NOTE TO ACCOMPANY  
HYDROGRAPHIC SURVEY ECFP 1256

Tidal data for reduction of soundings were obtained from portable automatic tide gages maintained at Edisto Beach on Wheeler Pier and on Harbor River Bridge.

TIDE GAGE	RANGE OF TIDE	LAT. & LONG.	MLW ON STAFF
Edisto Beach	( 9.0'	32° 30.1' 80° 17.8'	2.1 feet
Harbor River	9.2'	32° 24.2' 80° 27.1'	3.5 feet

To refer tides at Harbor River to Edisto Beach, add 40 minutes in time and 0.2 foot in height.

Refer to the Director's letters 36-107-15d dated 14 March 1957 and 36-130-15d dated 21 March 1956.

APPENDIX 5

APPROVAL SHEET

BOAT SHEET ECFP 1256 (H 8365)

PROJECT L13850

This is a basic survey and is approved as adequate for revision of charts, but is not complete as pertain to standard hydrographic instructions. The spacing of lines meets specifications for the most part; however, additional development should be made on various areas of the sheet to make it a complete basic survey.

The general bottom characteristic is shifting sand that changes with each storm. Hurricane storms are known to change the channels and shoals several hundred meters. This being the case, it is recommended that the survey be considered completed except for the portion east of Longitude  $80^{\circ}-19'$ , and this area can be included on the 1:20,000 scale sheet of the area ECFP 2156. Periodic resurveys should be made to delineate the channels for safe navigation.

The shoran operated spasmodically, and often erratic as pertains to corrections. Numerous buoys were planted over the sheet to calibrate the shoran in various areas of the sheet. The various problems involved are discussed in a separate report.

Special attention is called to Appendix 7 (Recommended changes to Charted Buoys), and letter 83les, OL-527(1957) and Notice to Mariners No.s 32 and 33 1957.



Marvin T. Paulson  
LCdr., C&GS, OinC

*Attachment No. 6*

FOR COAST PILOT SECTION

It is felt that the description of Hunting Island Daybeacon is misleading and inadequate as compared to the descriptions on charts 1240 and 793.

SECTION D, Page 219, Line 31 read:

... on the northeast and Hunting Island on the southwest. Hunting Island Daybeacon, charted as "Tower ( abandoned light )", is 1.2 miles...

APPENDIX 7

RECOMMENDED CHANGES IN THE CHARTED LOCATIONS OF BUOYS

The charted locations of these buoys as shown on chart number 793 do not agree with the locations as determined in the 1956-57 survey of St. Helena Sound.

*See N.Po List of Floating Aids*

BUOY	CHARTED POSITION	SURVEY POSITION	DATE OF LOCATION
"N6"	Lat. 32° 24.39' Lon. 80° 21.40'	Lat. 32° 24.06' Lon. 80° 21.24'	26 March 1957
"C7"	Lat. 32° 24.99' Lon. 80° 21.89'	Lat. 32° 24.27' Lon. 80° 21.52'	26 March 1957
"C9"	Lat. 32° 25.75' Lon. 80° 22.74'	Lat. 32° 25.16' Lon. 80° 21.85'	9 Feb. 1956 28 March 1957
"C11"	Lat. 32° 26.85' Lon. 80° 24.90'	Lat. 32° 26.68' Lon. 80° 24.41'	25 Jan. 1956

Because of the 8 foot shoal at Lat. 32° 25.25' and Long. 80° 22.20', the present actual positions of the buoys do not make a safe entrance into the sound.

It is recommended that the U.S. Coast Guard be advised that buoys "N6", "C7", "C9", and "C11" are out of position as charted. It is further recommended that these buoys be moved to the locations listed below to give safe clearance around the shoal our survey indicates has shifted northeast.

BUOY "C7"

Lat. 32° 25.21'  
Long. 80° 21.68'

Bearings to Landmarks: TOWER (Abandoned Lighthouse) 235°10' True  
COMBAHEE LIGHT 307°10'  
TANK (Edisto Beach) 029°52'

This location will give safe clearance to the southeast of the shoal. However, the survey did not extend south of Latitude 32°24.4' and we can make no recommendation as to the addition of another buoy at the entrance to the sound and south of this line.

1

BUOY "C9"

Latitude  $32^{\circ} 25.75'$   
Longitude  $80^{\circ} 22.70'$

Bearings to Landmarks: TOWER (Abandoned Lighthouse)  $223^{\circ}12'$   
COMBAHEE LIGHT  $308^{\circ}50'$   
TANK (Edisto Beach)  $039^{\circ}14'$

If "C9" is planted at this location, this would give safe clearance north of the shoal and also mark the entrance to Morgan River.

Buoys "C11" and "N6" should be left at their present survey positions, but the positions should be corrected on the chart.

BUOY "C11"

Latitude  $32^{\circ} 24.06'$   
Longitude  $80^{\circ} 24.41'$

Bearings to Landmarks: TOWER (Abandoned Lighthouse)  $200^{\circ}45'$   
DAY BEACON A-1  $280^{\circ}25'$   
DAY BEACON A-2  $276^{\circ}50'$   
COMBAHEE LIGHT  $313^{\circ}58'$

BUOY "N6"

, Latitude  $32^{\circ} 24.06'$   
Longitude  $80^{\circ} 21.24'$

Bearings to Landmarks: TOWER (Abandoned Lighthouse)  $250^{\circ}05'$   
TANK (Edisto Beach)  $022^{\circ}40'$   
COMBAHEE LIGHT  $314^{\circ}10'$

Note: A copy of this was received by The Director, Norfolk District Officer, and Tampa District Officer.

U. S. DEPARTMENT OF COMMERCE  
COAST AND GEODETIC SURVEY

POST-OFFICE ADDRESS: **East Coast Field Party  
P.O. Box 479  
Newport, Rhode Island**

TELEGRAPH ADDRESS:

EXPRESS ADDRESS:

16 July 1957

To: **The Director  
Coast and Geodetic Survey  
Washington 25, D.C.**

Subject: **Notice to Mariners**

A resurvey of a portion of the entrance to St. Helena Sound has revealed the following changes in positions of shifting shoals. These are considered menaces to navigation.

LOCATION AT PRESENT	DESCRIPTION
Lat $32^{\circ} 26.8'$ Long $80^{\circ} 25.95'$	This is a shoal with a least depth of 4 feet which has shifted so as to extend eastward 500 meters from Egg Bank day beacon A2.
Lat $32^{\circ} 27.12'$ Long $80^{\circ} 18.85'$	The location of the southern tip of an uncharted shoal with breakers. The shoal extends 600 meters NW from this position and is 400 meters wide.

It is recommended that the above locations and descriptions be published in "Notice to Mariners".

**Marvin T. Paulson  
LCDR, CGCS  
Chief of Party**

IS/lc

DEPARTMENT OF COMMERCE  
COAST AND GEODETIC SURVEY

POST-OFFICE ADDRESS:

TELEGRAPH ADDRESS:

EXPRESS ADDRESS:

Distances to Hunting Island Light House

		Meters	Feet	Statute Miles
Pelican Bank Daybeacon	A 1		No Distances	
Pelican Bank Daybeacon	A 2	8,016.1	26,299	4.981
Egg Bank Passage Daybeacon	A 4	6,420.1	21,063	3.989
Egg Bank Passage Daybeacon	A 7	5,288.7	17,351	3.286
Egg Bank Passage Daybeacon	A 9	5,033.9	16,515	3.128
Egg Bank Passage Daybeacon	A 11	4,688.8	15,383	2.913

Note: The buoy tender has service the Aids to Navigation in this area since the date of location (September - October 1955). The distances are subject to verification by the hydrographic party during the course of their surveys.

NORFOLK PROCESSING OFFICE  
LIST OF  
FLOATING AIDS TO NAVIGATION  
H-8365

<u>BUOY</u>				<u>LATITUDE</u>	<u>LONGITUDE</u>	<u>DEPTH</u>	<u>POS. NO.</u>	<u>DATE</u>
St. Helena Sd. Buoy 11				32-26.68	80-24.41	29.6	15b	1-25-56
"	"	"	"	9 32-25.16	80-21.86	18.5	24j	2- 9-56
"	"	"	"	7 32-24.26	80-21.51	22.8	1y	3-26-57
"	"	"	"	6 32-24.04	80-21.22	21.0	2y	3-26-57

NORFOLK PROCESSING OFFICE  
 LIST OF SIGNALS  
 To Accompany  
 H-8365

TRIANGULATION STATIONS

AGE	EGG BANK PASSAGE, DAYBEACON A9, 1955
ANK	PELICAN BANK, DAYBEACON A1, 1955
BEA	EGG BANK PASSAGE, DAYBEACON A4, 1955
CON	EGG BANK PASSAGE, DAYBEACON A5, 1955
DAY	EGG BANK PASSAGE, DAYBEACON A11, 1955
GAN	EGG BANK PASSAGE, DAYBEACON A7, 1955
HEE	COMBAHEE BANK LIGHT, 1955
HUN	HUNTING ISLAND, HARBOR RIVER BRIDGE, CENTER LIGHT, 1955
PEL	PELICAN BANK, DAYBEACON A2, 1955

MARKED TOPOGRAPHIC STATIONS

ISLE, 1954	T-10303
ZEAL, 1955	T-10309
STO, 1956	Field Traverse Position <i>See photogrammetric Report.</i>

TOPOGRAPHIC STATIONS

SOURCE T-10303

Ban Tra

SOURCE T-10304

Ant	Bum	Cat	Chi	Dig	Eat	Fox	Gum	Hag
Him	Jug	Old	Rod	Sue	Tel			

SOURCE T-10309

Guy Pie

SOURCE T-10310

Sal

U. S. DEPARTMENT OF COMMERCE  
COAST AND GEODETIC SURVEY  
WASHINGTON 25, D. C.

IN REPLY ADDRESS THE DIRECTOR  
COAST AND GEODETIC SURVEY  
AND NOT THE SIGNER OF THIS LETTER

AND REFER TO NO. 22/MJK  
D-1-NK

4 March 1959

To: Norfolk District Officer  
Coast and Geodetic Survey  
102 West Olney Road  
Norfolk 10, Virginia

Subject: Change of scale on survey H-8365  
(ECFP-1256)

Reference: Your letter of 25 February 1959

You are authorized to smooth plot sheet H-8365  
(ECFP-1256) at a scale of 1:12,500, using 36-inch paper.

Blue-line copies of T-10303, T-10304, T-10309 and  
T-10310 will be furnished at 1:12,500 scale.

Shoran-curve computations are being forwarded under  
separate cover.

Assistant Director

cc. Chief, Nautical Chart Br.,  
Chart Division  
Chief, Operations Branch  
Photogrammetry Division

# FATHOMETER REPORT FOR PROJECT

1950

East Coast Field Party  
Project 13650

Marvin T. Paulson  
Chief of Party

## SHEET SCFP 1256

A Kato Converter was used with the Edo 255 fathometer on this sheet during the 1956-57 field season. It was discovered that the frequency could be varied as a bar check was taken so as to give true sounding values. This was done during the 1956-57 field season on SCFP 1256 but not the preceding year. Hence, the only velocity corrections needed were for a few days during the 1955-56 season when the bar checks showed the echo sounder to be in error. No curves were drawn for sheet SCFP 1256.

## SHEET 2156

The corrections determined by bar checks were averaged for the days hydrography was accomplished. The bar checks were very good with the exception of one day which was disregarded because of heavy seas and was felt to be unreliable. The average corrections for all depths were zero, hence no curves were drawn. Velocity corrections were zero for all days on this sheet.

## SHEET 1156

For seven of the twenty three working days on this sheet, the bar checks were erratic. On the remaining sixteen days the correction values were very nearly the same and all close or at zero. A zero correction was used for these sixteen days at all depths. For the days when the bar checks were erratic, separate velocity correction curves were drawn and the corrections entered in the sounding volumes. These curves are attached to the original only. All checks on the SCFJ show zero correction.

## SHEET 1157

As on sheet SCFP 1256, a Kato Converter was used with Edo 255 fathometer number 201. The frequency of the converter was changed to give soundings with no correction for all the hydrography accomplished on this sheet.

## SHEET 1956

The corrections determined by bar checks were averaged for the days hydrography was accomplished on this sheet. The average correction for all depths was zero and no velocity correction curves were drawn.

PROJECT 13050

BAR CHECKS  
SHEET 1196

DATE	CORRECTIONS							PATH.	REMARKS
	6'	12'	18'	24'	30'	36'	42'		
1/18/56	-0.6	-0.3	0.0					Eto 255	*
20/56	0.0	0.2	0.2	0.2	0.0			#201	
25/56	-0.2	0.2	1.0					"	*
31/56	0.0	0.0	-0.2	0.0				"	
12/2/56	0.0	0.0	0.0	0.0	0.0			"	
2/6/56	0.0	0.0	0.0					806J #77	
15/56	0.0	0.0	0.0	0.0	0.0	0.0		Eto 255 #201	
21/56	0.0	0.0	0.0					"	
22/56	0.0	0.0	-0.25					"	
3/1/56	0.0	0.0	0.15	0.4	0.6			"	*
2/56	-0.1	0.0	0.0					"	
5/56	0.0	0.0	0.0	0.45	0.6			"	*
6/56	-0.2	0.05	0.1	0.05				"	
12/56	0.0	0.0	0.15	0.4	0.4			"	*
13/56	0.0	0.0	0.0	0.1				"	
14/56	0.0	-0.1						"	
15/56	0.0	0.0	0.0	0.1	0.0			"	
19/56	0.0	0.0	0.1	0.4	0.4			"	*
20/56	0.0	0.0	0.0	0.0				"	
21/56	0.0	0.0	0.0					"	
22/56	0.0	0.0	0.0	0.0	0.0			"	
28/56	0.0	-0.1	-0.1	0.0				"	
29/56	0.1	-0.1	0.0	0.1	-0.1	-0.4		"	*

SHEET 2156

11/22/56	0.0	0.0	-0.1					Eto 255 #201	
29/56	0.0	0.0	0.0	0.0				"	
12/2/56	0.0	0.0	0.0	0.0	0.0			"	
4/56	0.0	0.0	0.0	0.0	-0.3			"	
1/11/57	0.0	0.0	0.0	0.0				"	
22/57	0.0	-0.1	-0.8	-1.0	-1.0			"	Unreliable, see rough

SHEET 1956

12/6/56	0.0	0.0	0.0	0.0	0.0	0.0		Eto 255 #201	
2/12/57	0.0	0.0	0.0	0.0	0.0	0.0	0.0		

Averages for sheets 1156, 1956, & 2156 for Eto 255 (Omitting bar checks whose correction curves are drawn separately.)

TOTALS	-0.3	0.1	-0.3	0.45	-0.3	0.0			
NO. OF BAR CHECKS	21								
MEAN	0.0	0.0	0.0	0.0	0.0	0.0			

\* Curves drawn separately

VELOCITY CORRECTIONS

For days when bar check was not zero and corrections were computed separately

2

18 January 1956	
Depth	Correction
0'-9'	-0.6
9.1'-12'	-0.4
12.1'-16'	-0.2
16.1'-20'	0.0

3

25 January 1956	
Depth	Correction
0'-8'	-0.2
8.1'-11'	0.0
11.1'-13'	0.2
13.1'-15'	0.4
15.1'-16'	0.6
16.1'-18'	0.8
18.1'-	1.0

4

3 March 1956	
Depth	Correction
0'-18'	0.0
18.1'-22'	0.2
22.1'-26'	0.4
26.1'-	0.6

5

5 March 1956	
Depth	Correction
0'-19'	0.0
19.1'-22'	0.2
22.1'-25'	0.4
25.1'-	0.6

6

12 March 1956	
Depth	Correction
0'-16'	0.0
16.1'-21'	0.2
21.1'-	0.4

7

19 March 1956	
Depth	Correction
0'-19'	0.0
19.1'-22'	0.2
22.1'-	0.4

8

29 March 1956	
Depth	Correction
0'-30'	0.0
30.1'-35'	-0.2
35.1'-	-0.4

The corrections for the remaining days were averaged for both the Edo fathometer and the SOJ. These corrections were zero for all depths and this was considered the standard for the fathometers.

NORFOLK PROCESSING OFFICE  
ADDENDUM  
To Accompany

HYDROGRAPHIC SURVEY H-8365(ECFP-1256)

GENERAL

The field work on this survey was accomplished under very unfavorable weather conditions, with resultant erratic launch courses and uneven fathometer profiles in a bottom containing numerous scattered areas of sandwaves. These factors, combined with the reported erratic shoran returns, the use of weak angles on visual fixes near the N.E. edge of the sheet, and jumps averaging about one foot when changing tide zones, have resulted in crossing discrepancies of from one to two feet. Also, additional sounding lines are needed in several areas to accurately position depth curves and for the further development of shoal indications.

*a day 1/20/59 1-2 ft deeper*  
SCALE OF SURVEY

The smooth plot was made at a scale of 1:12,500 to allow the use of 36" paper. (See copy of Director's letter dated 4 Mar. 1959)

SHORAN STATIONS

A traverse position furnished by the field party was used to position shoran station STO on the smooth sheet.

Norfolk, Va.  
11 Aug. 1959

Respectfully submitted,  
*Hugh L. Proffitt*  
Hugh L. Proffitt  
Cartographer

GEOGRAPHIC NAMES

Survey No. H-8365

Name on Survey	On Chart No.		On previous survey No.		On U. S. quadrangle Maps		From local information		On local Maps		P. O. Guide or Map		Rand McNally Atlas		U. S. Light List	
	A	B	C	D	E	F	G	H	K							
<u>South Carolina</u>				(title)										BGN	1	
<u>St. Helena Sound</u>				"											2	
<u>Harbor Island</u>															3	
<u>Harbor River</u>				(tide station)											4	
<u>Egg Bank</u>															5	
<u>Pelican Bank</u>				(apply from chart 792 after inking)											6	
<u>Otter Islands</u>															7	
<u>Bay Point</u>															8	
<u>Edisto Beach</u>															9	
				Names approved 9-25-59											10	
															11	
															12	
<u>Tide Station off sheet:</u>															13	
<u>Edisto Beach Fishing Pier</u>															14	
															15	
															16	
															17	
															18	
															19	
															20	
															21	
															22	
															23	
															24	
															25	
															26	
															27	

L. Heck  
L.H.

Hydrographic Surveys (Chart Division)

HYDROGRAPHIC SURVEY NO. 8365...

Records accompanying survey:

Boat sheets .1....; sounding vols. .22....; wire drag vols. ....; bomb vols. ....; graphic recorder rolls ??-Envelopes special reports, etc. .1-Smooth sheet and 1-Descriptive report. 1. Special report-Fathometer report for project.....

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

Number of positions on sheet	.....	
Number of positions checked	.....	
Number of positions revised	.....	
Number of soundings revised (refers to depth only)	.....	
Number of soundings erroneously spaced	.....	
Number of signals erroneously plotted or transferred	.....	
Topographic details	Time	.....
Junctions	Time	.....
Verification of soundings from graphic record	Time	.....
Verification by.....	Total time	..... Date .....
Reviewed by.....	Time	..... Date .....

VERIFIER'S REPORT OF HYDROGRAPHIC SURVEY NO. H- 8365

The verifier should deal with the present hydrographic survey only, as the reviewer considers its relation to previous surveys and published charts. He should be thoroughly familiar with Chapters 3, 7 and 9 of the Hydrographic Manual.

1. The descriptive report was consulted and appropriate notes were made in soft pencil regarding action taken.
2. Soundings originating with the survey and mentioned in the descriptive report have been verified, including latitude and longitude.
3. All reference to survey sheets mentioned in the descriptive report include the registry number and year.
4. Geographic names of hydrographic features if on sheet are in slanting lettering and of topographic features in vertical lettering.
5. All items affecting the plotting of the survey which are entered in the remarks columns of the sounding records were noted and check marked. In all cases appropriate action was taken.
6. All positions verified instrumentally were check marked in the sounding records.
7. All critical soundings are clear and legible and are a little larger than the adjacent soundings.
8. The metal protractor has been checked within the last three months.
9. The protracting and plotting of all bad crossings were verified.
10. All detached positions locating critical soundings, rocks or buoys were verified.
11. The boat sheet was compared with the smooth sheet.

12. The spacing of soundings as recorded in the records was closely followed.
13. The bottom characteristics were shown on outstanding shoals.
14. The reduction and plotting of doubtful soundings were checked.
15. The transfer of contemporary topographic information was carefully examined.
16. All junctions were transferred and overlapping curves made identical.
17. The notation "JOINS H- (19--)" was added in ink for all contemporary adjoining or overlapping sheets now registered. Those not verified are shown in pencil.
18. The depth curves have been inspected before inking.
19. All triangulation stations and transfer of topographic and hydrographic signals were checked.
20. Heights of rocks were checked against range of tide.
21. Rocks transferred from topographic surveys have a dotted curve where shown thereon. Rocks located accurately by hydrographer are encircled by dotted red curve.
22. Unnecessary pencil notes have been removed.
23. Objects on which signals are located and which fall outside of the low water line have been described on the sheet.
24. The low water line and delineation of shoal areas have been properly shown.
25. Degree and minutes values and symbols have been checked.
26. Questionable soundings have been checked on the fathograms.

27. Source of shoreline and signals (when not given in report).
28. All notes on sheet are in accordance with figure 171 in the Hydrographic Manual.
29. All aids located, with those on contemporary topographic sheets, have been shown on survey.
30. Depth curves were satisfactory except as follows:
31. Sounding line crossings were satisfactory except as follows:
32. Junctions with contemporary surveys were satisfactory except as follows:
33. Condition of sounding records was satisfactory except as follows:
34. The protracting was satisfactory except as follows:
35. The field plotting of soundings was satisfactory except as follows:
36. Notes to reviewer:

Verified by

Date

L. S. S

### TIDE NOTE FOR HYDROGRAPHIC SHEET

Division of Coastal Surveys:

17 November 1959

Division of Charts: R. H. Carstens

Plane of reference approved in  
22 volumes of sounding records for

HYDROGRAPHIC SHEET 8365

Locality St. Helena Sound, South Carolina

Chief of Party: M.T. Paulson in 1956-1957  
Plane of reference is mean low water, reading  
2.5 ft. on tide staff at Harbor River (N. Entrance) in 1956  
3.5 ft. ~~below B.M.~~ on " " " " in 1957  
15.4 ft. below B.M. 2 (1956)

3.4 ft. on tide staff at Edisto Beach in 1956  
2.1 ft. " " " " " " 1957  
12.2 ft. below B.M. 1 (1956)

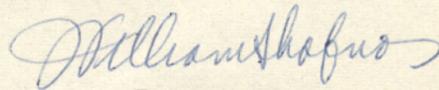
Height of mean high water above plane of reference is:  
Harbor River 6.1 feet  
Edisto Beach 5.9 feet

Condition of records satisfactory except as noted below:

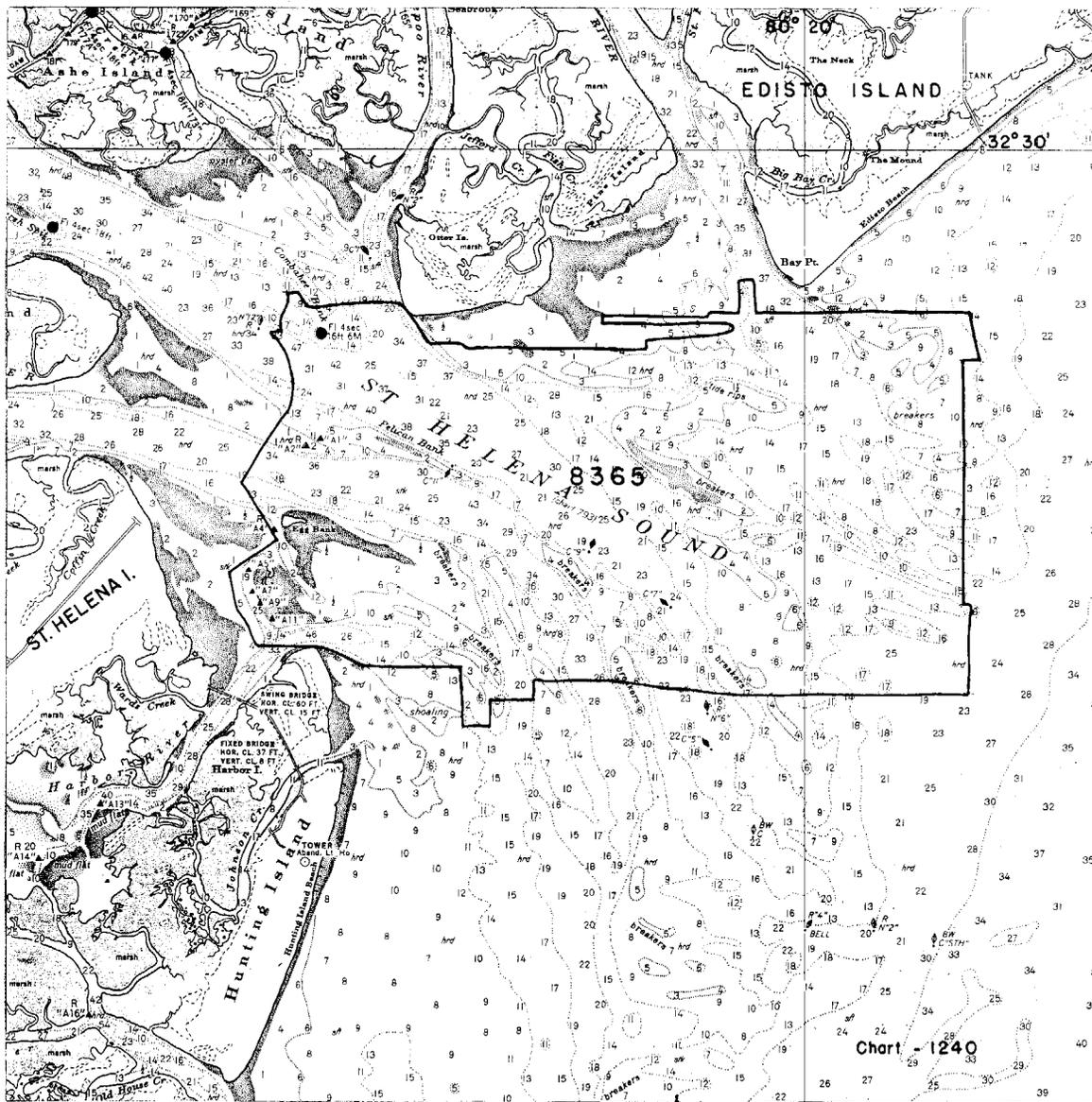
NOTE: Tide reducers for the positions listed below have been revised in red and verified:

*see also Vol 2 1 1/2' diff.*

<u>Vol.</u>	<u>Positions</u>
7	8n - 26n
9	35r - 62r
	9s - 24s
10	5u - 8u
	4v - 26v
	42v - 61v
11	40x - 63x
	51x - 123x
14	1d - 15d
	103d - 120d
16	1k - 8k



Tides Branch  
Chief, ~~Division of Tides and Currents.~~



# NAUTICAL CHARTS BRANCH

SURVEY NO. H8365

## Record of Application to Charts

DATE	CHART	CARTOGRAPHER	REMARKS
9/2/59	793	RKD	Before <del>After</del> Verification and Review <i>Partially applied</i>
	1240	<i>see back cover</i>	Before <del>After</del> Verification and Review
	1239	<i>back see cover</i>	Before <del>After</del> Verification and Review
<del>6/6</del>			Before After Verification and Review
6/11/76	793	F.B. Powers	<i>Adequately applied</i> Before <del>After</del> Verification and Review <i>Category I</i>
11/14/76	1240	JAY SHERMAN	Before <del>After</del> Verification and Review <i>Adequate thru 793 CATEGORY 1</i>
9/14/79	<sup>(1239)</sup> 11521	Stephen J. Kerry	<i>Adequately Applied</i> Before <del>After</del> Verification and Review <i>(THROUGH 11513) CATEGORY I</i>
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review

M-2168-1

A basic hydrographic or topographic survey supersedes all information of like nature on the uncorrected chart. Give reasons for deviations, if any, from recommendations made under "Comparison with Charts" in the Review.

Part appld to chit 793 8-2-59 before VER R.K.D.

Part appld to chit 1240 11-4-59 before VER G.A.K. - R.K.D.

Part appld to chit 1239 5-25-60 before VER EET

(Use form for additional entries) !