

8778

Diag. Cht. Nos. 1238-2 & 1239-2.

Form 504

U. S. DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY

DESCRIPTIVE REPORT

Type of Survey Hydrographic

Field No. HFP 20-1-63 Office No. H-8778

LOCALITY

State South Carolina

General locality South Carolina Coast

Locality Bull Bay

19.63

CHIEF OF PARTY

Harold E. McCall

LIBRARY & ARCHIVES

JUL 7 - 1965

DATE

COMM-DC 61300

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8778

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H-8778

Day	Vessel	Positions	236	0	OK
177	0	OK	241	0	OK 370
179	0	OK	248	0	OK
180	0	OK	252	0	OK
183	0	OK	253	0	OK
189	0	OK	254	0	OK
190	0	OK	255	0	OK
192	0	⁵⁰³ OK	256	0	OK
193	0	OK	Start checking at pos 1781		
196	0	OK	day 261 Vol 8		
203	0	OK			
204	0	⁵⁰¹ OK			
207	0	OK			
210	0	OK			
213	0	OK			
217	0	OK			
218	0	OK			
219	0 ⁸²¹	OK			
220	0	OK			
221	0	OK			
224	0	OK			
225	0	OK			6
226	0	OK			58 6?--
231	0 ¹¹⁵²	OK			8
232	0	OK			464
233	0	OK			
234	0	OK			
235	0	OK			

59 46

4900

ANN 055
BAT 008 Δ
BEC 021
BOB 060
BUL 084
CAP 106 Δ
COO 166 Δ
CUT 188
DAW 109 Δ
DEB 120
DEE 122
DOT 168
EGG 233 Δ
EGO 236
EVE 282
FOG 263
GAY 309
GET 328
GUS 387
HAR 307 Δ
ICE 312
JIL 434
KAY 409
KED 421
KEN 425
KER 426
KEY 429 Δ
KIM 435
LAN 405 Δ
LAX 410
LES 427
LIZ 439
LYN 495
MAG 503
MAR 507
MEG 523
MID 530 Δ
MUG 583
NAT 508
NIC 531
OLE 642
PAM 605
PAS 607
PAT 608
PEG 623
PIC 631 Δ
PLY 649
RAN 705 Δ
SAL 704
SEX 729
SHA 730
SHE 732 Δ
SON 765
SUE 782
WIL 934 Δ
ZIG 933

Ens

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-8778

Field No. HFP 20-1-63

State SOUTH CAROLINA

General locality SOUTH CAROLINA COAST

Locality BULL BAY

Scale 1:20,000 Date of survey 21 June to 14 November 1963

Instructions dated 15 May 1963

Vessel Hydrographic Field Party No. 220

Chief of party Harold E. McCall, LT, C&GS

Surveyed by Personnel, Hydrographic Field Party No. 220

Soundings taken by fathometer, graphic recorder, hand lead, wire Fathometer and Pole

Fathograms scaled by Personnel, Hydrographic Field Party No. 220

Fathograms checked by Personnel, Hydrographic Field Party No. 220

Protracted by Fred Bean (Norfolk Processing Branch)

Soundings penciled by Fred Bean " " "

Soundings in ~~FATHOMS~~ feet at MLW ~~MLLW~~ Feet at MLW

REMARKS:
.....
.....
.....
.....
.....
.....

DESCRIPTIVE REPORT TO ACCOMPANY

HYDROGRAPHIC SHEET

(Field No. HFP 20-1-63)

A. PROJECT

Project Number: OPR-436

Date of original instructions: 15 May, 1963

B. Area Surveyed

The area surveyed Bull Bay, is located on the South Carolina Coast, approximately 9 miles southwest of Cape Remain. Project area includes all of Bull Bay and hydrography is extended into inlets to a point where bottom conditions are stable and satisfactory junction can be made at a later date. Limits of this sheet offshore from Bull Bay is the two-fathom curve. Survey operations were started on 21 June, 1963 and concluded on 14 Nov. 1963.

A regular overlay of (HFP 20-1-63) was used on board the aluminum skiff. Junctions between the two sheets differ in some areas by about a foot, which is primarily due to no velocity corrections having been applied to the echo soundings on the boat sheet and also to a difference in predicted tides. Satisfactory junction was made with H-7085 and with two sheets being surveyed, in conjunction with this sheet, by the USC&GSS PEIRCE, which junctioned at the two-fathom curve.

C. SOUNDING VESSEL

Two skiffs were used for all soundings. A 26' wooden skiff - (Skiff 770 - blue day letter) was used for all fathometer soundings and some pole soundings. One 16' aluminum skiff - (Skiff - outboard I - brown day letter) was used for pole soundings.

D. SOUNDING EQUIPMENT

Two Raytheon Echo Sounders 723 (Serial Nos. 531 and 536) were used in depths of primarily five feet or more. Two sixteen foot sounding poles were used in most shoal areas. Echo sounder No. 531 was used from "a" day through "f" day and No. 536 was used for the remainder of the project. The sounding units were located in the bottom of the boat during the entire project except for "d" day when they were placed in a wooden "fish" over the starboard side. They were over the side at two different depths and a separate velocity correction curve was plotted for Pos. 1-19d due to a difference in bar check results.

All echo sounder corrections were determined by bar checks. Each sounding pole was calibrated and the calibration listed in the front of volume I.

E. SMOOTH SHEET

To be written by the smooth plotter.

F. CONTROL

Visual control was used throughout the sheet. Advance manuscripts used were T-12276, T-12277, T-12279, and T-12280. All signals were photo-hydro signals except for ~~one~~ hydro signals cut in by sextant. — Plotted on T-sheets.

G. SHORELINE

Shoreline details were obtained from T-sheets noted in "F". No shoreline detail was changed by the hydrographer, except in the area of Bird Island Shoal.

H. CROSSLINES

Crosslines were run at prescribed six to eight per cent of the regular system of lines. Any discrepancies noted in crossings are due to changes in predicted tides or to a difference between echo soundings and pole soundings.

I. JUNCTIONS

Satisfactory junction was made with H-7085 and with two sheets, being surveyed in conjunction with ~~the~~ ^{this} sheet by the USC&GSS PEIRCE which junctioned at the two-fathom curve.

J. COMPARISON WITH PRIOR SURVEYS

Pre-survey item # 1: A development was run over the area where the wreck was reported, at Lat. $33^{\circ} 01.7'$, Long. $79^{\circ} 31.9'$. No trace was found of any wreck. Development was plotted on an overlay and not on the boat sheet. The overlay is clipped in the record volume. Also, at low tide the area was surveyed for any possible sign of the wreck but none was found. Therefore the wreck should be deleted from the chart.

wreck deleted
from chart 837-5C
Side A 4-25-66
C.F.K.

The area of the second wreck (Lat. $32^{\circ} 59.7'$, Long. $79^{\circ} 32.27'$) was also surveyed and searched at low tide. No sign of any wreck was found at the reported location. However approximately 350 meters NE, at Lat. $32^{\circ} 59.81'$, Long. $79^{\circ} 32.03'$ a shoal was found where a wreck could possibly have been buried by shifting sand and mud. No trace of any wreck was found at this location either.

wreck deleted
from chart 837-5C
Side A.
4-25-66
C.F.K.

It is felt that this wreck should also be deleted from the chart.

The survey of Bull Bay shows that some shoals have shifted and that some new shoals have formed. However, generally the bay has not changed considerably. Depth curves have changed somewhat.

J. COMPRISON WITH PRIOR SURVEYS(cont)

Channels leading from inlets into Bull Bay, continue through shall areas out into open water as prior surveys show these have changed slightly.

Generally, depth curves on this sheet tend to follow the same lines as prior survey curves, displaced somewhat.

K. COMPARISON WITH THE CHART

A comparison of the survey with the largest scale chart of the area, C&GS No. 1238, latest revision date 10/29/62, shows that the area has shoaled up in some areas and some channels have been shifted somewhat. However, generally the area's depth curves tend to follow somewhat the same lines.

L. ADEQUACY OF SURVEY

The survey is considered complete and adequate to supersede prior surveys for charting.

M. AIDS TO NAVIGATION

Two red Nun Buoys, Approach Buoys 2 & 4, are found on this sheet. They were located at ; #2 --- Lat. 32-58-18, Long. 79-30-22; #4 --- Lat. 32-59-31, Long. 79-30-10. They mark the entrance channel to Five Fathom Creek. *See NFO. List.*

There are also several posts and piling, put up and maintained privately, to mark small channels and inlets leading from Bull Bay. *Not located by Field Party -*

N. STATISTICS

	<u>No. of Pos.</u>	<u>Naut. Miles Sdg. Line</u>
Skiff 770	2516	428.1
Skiff - outboard I	1003	174.7

Total Area of Sheet ---- 36.4(Naut.Mi.)²

Tide Stations operated --- 1
Bottom Samples ---- 67

O. MISCELLANEOUS

To be filled in by the smooth pletter.

P. RECOMMENDATIONS

It is recommended that any future survey operations to be done in the Bull Bay area, be done from a survey vessel rather than a shore party. Due to weather conditions and the long distance of travel to and from the working grounds it would be a more efficient operation, done from a survey ship.

TIDE NOTE

One portable tide gage was installed for this hydrographic survey. Time corrections were not applied to the gage. All times are on the 75th meridian. The location and height of mean low water is as follows:

<u>GAGE</u>	<u>POSITION</u>	<u>MLW on STAFF</u>
Bull Island, S.C.	32-54-48 78-36-54	2.5 ft.

A preliminary figure of 2.5 ft. was^s given as MLW on the staff while the survey was still in progress. This figure was used in drawing smooth tide curves through 9 October. On 21 October, after completion of most of the smooth curves, a figure of MLW equals 2.7 feet was received. From 1 November through the end of the sheet a MLW of 2.7 feet was used in drawing smooth tide curves.

ABSTRACT OF VELOCITY CORRECTIONS

Sheet HFP 20-1-63 (Skiff 770)
Fathometer 531

Table # 1

Depth Applicable (feet)	Correction (+)
2.0 - 4.4	0.0
4.4 - 8.8	0.2
8.8 - 13.2	0.4
13.2 - 17.6	0.6
17.6 - 22.0	0.8
22.0 - 26.4	1.0
26.4 - 30.6 -	1.2
30.6 - 35.0 -	1.4
35.0 - limit	1.6

Used for
"a" day thru "f" day
except for pos. 1-19d

Table # 2

2.0 - 4.5	1.0
4.6 - 8.7	1.2
8.8 - 12.8	1.4
12.9- 17.0	1.6
17.1 - 21.2	1.8
21.3 - 25.4	2.0
25.5-29.6	2.2
29.7 - limit	2.4

Used for Pos 1-19d

Fathometer 536

Table # 3

Depth Applicable (feet)	Correction (+)
0.0 - 2.8	0.0
2.8 - 3.8	0.2
3.8 - 6.8	0.4
6.8 - 10.6	0.6
10.6 - 14.4	0.8
14.4 - 18.0	1.0
18.0 - 21.8	1.2
21.8 - 25.4	1.4
25.4 - 29.2	1.6
29.2 - 32.8	1.8
32.8 - 36.6	2.0
36.6 - 40.3	2.2
40.3 - 44.1	2.4
44.1 - 48.0	2.6
48.0 - 51.8	2.8

Used for
"g" day thru "wa" day

Fathometer 536

Table #4

Depth Applicable (feet)	Correction (+)	
0.0 - 4.95	0.0	
5.0 - 10.7	0.2	Used for
10.8 - 16.45	0.4	" ca " day thru "cb" day
16.5 - 22.2	0.6	ca
22.3 - 27.8	0.8	

SHEET HFP-20-1-63

LIST OF SIGNALS

Bull Bay, S.C.

OPR-436

PH-6216

TRIANGULATION:

<u>Name</u>	<u>Origin</u>	<u>Manuscript</u>
BAT	BIRD, 1934	T-12276
CAP	CAPE ROMAIN LIGHTHOUSE, 1924	T-12277
COO	COON 2, 1963	T-12277
DAW	OWENDAW, 1857	T-12276
EGG	FIVE FM, 1934	T-12277
HAR	HARBOR, 1934	T-12276
KEY	KEY, 1934	T-12277
LAN	BULL ISLAND C.G. TOWER, 1937 ht.= 131 (141)	T-12280
MID	MIDDLE, 1857	T-12280
PIC	BULL BAY PHOTO PICTURE PT, 1963	T-12280
WIL	WILD, 1963	T-12280

TRAVERSE FROM TRIANGULATION:

<u>Name</u>	<u>Origin</u>	<u>Manuscript</u>
EUL	240 feet (73.152 meters) from BULL 2, 1963 on range with WILD, 1963.	T-12280

TOPOGRAPHIC STATIONS:

<u>Name</u>	<u>Origin</u>	<u>Manuscript</u>
EVE	TOWER, 1962 (Fire lookout, steel) ht.= 56 (60) Intracoastal Waterway	T-12280

SHEET HFP-20-1-63

LIST OF SIGNALS

PHOTO-HYDRO SIGNALS:

<u>Name</u>	<u>Manuscript</u>	<u>Name</u>	<u>Manuscript</u>
ANN	T-12280	MAR	T-12280
BEC	80	MEG	80
BOB	80	MUG	80
CUT	80	NAT	80
DEB	80	NIC	80
DEE	76	OLE	80
DOT	80	PAM	80
EGO	80	PAS	76
GAY	80	PAT	80
GUS	80	PEG	80
JIL	80	SEK	80
MAY	76	SHA	80
KEE	80	SON	76
KER	76	SUR	80
KIM	80		
LES	80		
LIZ	80		
LYN	80		

HYDROGRAPHIC SIGNALS:

FOG	T-12280	} Plotted on T sheets by Field Party -
PLY	T-12280	

APPROVAL SHEET

The boat sheet and all accompanying records were examined and found to be complete and adequate. Records were examined periodically as the project progressed and the boat sheet was examined daily.

This survey is considered to be complete and adequate for charting.

Donald E. McCall
LT, CPGS, OIC

TIDE NOTE FOR HYDROGRAPHIC SHEET

July 16, 1970

Nautical Chart Division: R. H. Carstens

Plane of reference approved in
40 volumes of sounding records for

HYDROGRAPHIC SHEET 8778

Locality: South Carolina Coast

~~Chart Date:~~ Year: 1963-64

Plane of reference is mean low water

Tide Station Used (Form C&GS-681):

Summerhouse Creek, Bull Island, S.C.

Height of Mean High Water above Plane of Reference is as follows:

4.8 feet

Remarks The following tide reducers have been revised in red and verified:

<u>Vol.</u>	<u>Position</u>	<u>Vol.</u>	<u>Position</u>
20	j22-j74; l1-l62 ✓	XIII	j32-j55 ✓
24	 b12-b135 ✓	XV	r7-r16 ✓
IV	r1-r111; s83-s103 ✓	XVI	w1-w2 ✓
V	y9-y53; aall-aa35 ✓		1v-19v ✓
VI	aa36-aa37 ✓		
XII	f58-f94 ✓		

J. M. Symons
Chief, Tides and Currents Branch

GEOGRAPHIC NAMES
Survey No. H-8778

Name on Survey	Source											
	A	B	C	D	E	F	G	H	K			
Atlantic Ocean												1
Bull Bay												2
Bull Creek												3
Bull Harbor												4
Cape Romain												5
Key Inlet												6
North Carolina												7
Northeast Point												8
Raccoon Key												9
Sandy Point												10
South Carolina												11
												12
												13
												14
												15
												16
												17
												18
												19
												20
												21
												22
												23
												24
												25
												26
												27

Names Approved
10-8-65
R. J. Wright

HYDROGRAPHIC SURVEY STATISTICS
HYDROGRAPHIC SURVEY NO. 8778

RECORDS ACCOMPANYING SURVEY: To be completed when survey is registered.

RECORD DESCRIPTION		AMOUNT	RECORD DESCRIPTION		AMOUNT	
SMOOTH SHEET		1	BOAT SHEETS		2	
DESCRIPTIVE REPORT			OVERLAYS		3	
DESCRIPTION	DEPTH RECORDS	HORIZ. CONT. RECORDS	PRINTOUTS	TAPE ROLLS	PUNCHED CARDS	ABSTRACTS/SOURCE DOCUMENTS
ENVELOPES						
CAHIERS	2					
VOLUMES	26					
BOXES						
T-SHEET PRINTS (List)						
SPECIAL REPORTS (List)						

OFFICE PROCESSING ACTIVITIES

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

PROCESSING ACTIVITY	AMOUNTS			
	PRE-VERIFICATION	VERIFICATION	REVIEW	TOTALS
POSITIONS ON SHEET				
POSITIONS CHECKED				
POSITIONS REVISED				
DEPTH SOUNDINGS REVISED				
DEPTH SOUNDINGS ERRONEOUSLY SPACED				
SIGNALS ERRONEOUSLY PLOTTED OR TRANSFERRED				
	TIME (MANHOURS)			
TOPOGRAPHIC DETAILS				
JUNCTIONS				
VERIFICATION OF SOUNDINGS FROM GRAPHIC RECORDS				
SPECIAL ADJUSTMENTS				
ALL OTHER WORK				
TOTALS				
PRE-VERIFICATION BY	BEGINNING DATE		ENDING DATE	
VERIFICATION BY	BEGINNING DATE		ENDING DATE	
REVIEW BY	BEGINNING DATE		ENDING DATE	

VERIFIER'S REPORT
HYDROGRAPHIC SURVEY, H - 8778

INSTRUCTIONS - This form serves to identify items of a checklist in verification together with items which are separately reported to the Reviewer. The form is not to be forwarded to the Reviewer. A report, which is prepared for the Reviewer, should identify items by number and letter and will be filed in the Descriptive Report until the survey is reviewed.

CL - Check List Items: should be checked as having been completed during the verification processes.

R - Report Item: This column refers to those items reported to the reviewer and is used to indicate the items discussed.

Part I - DESCRIPTIVE REPORT	CL	R	Part III - JUNCTIONS (Continued)	CL	R
Note: The verifier should first read the Descriptive Report for general information and problems.			10. Junctions with contemporary surveys were satisfactory except as follows:		
1. The Descriptive Report was consulted, paragraphs checked if found satisfactory, and notations were made in soft black pencil regarding action taken. Remarks Required: -- None			Remarks Required: -- Consider conditions after adjustments have been made; note adjustments made. Make special notes of Butt junctions and areas which are SUPERSEDED .		
2. Soundings originating with the survey and mentioned in the Descriptive Report have been verified and checked in soft black pencil, including latitude and longitude, together with position identification. Remarks Required: -- None			Part IV - VOLUMES 11. 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 and exceptions noted in the volumes. Remarks Required: -- None		
3. All reference to survey sheets mentioned in the Descriptive Report should include registry number and year. Remarks Required: -- None			12. Condition of sounding records was satisfactory except as follows:		
Part II - SHORELINE AND SIGNALS 4. Source of shoreline signals Remarks Required: -- List all surveys a. Give earliest and latest dates of photographs b. Field inspection date c. Field Edit date d. Reviewed-Unreviewed			Remarks Required: -- Mention deficiencies in completeness of notes or actions for the following: (a) rocks (b) line turns (c) position values of beginning and ending of lines (d) bar check or velocity correctors (e) time recording (f) notes or markings on fathograms (g) was reduction of soundings accurately done? (h) was scanning accurate? (i) were peaks at uneven intervals missed? (j) were stamps completed? (k) references to adjacent features		
5. The transfer of contemporary topographic information was carefully examined and reconciled with the hydrography. Remarks Required: -- Discuss remaining differences.					
6. The plotting of all triangulation stations, topographic stations and hydrographic signals has been checked and noted in processing stamp No. 42 on the smooth sheet. Remarks Required: -- None					
7. Objects on which signals are located and which fall outside of the high-water line have been described on the sheet. Remarks Required: -- List those signals still unidentified.			Part V - PROTRACTING 13. All positions verified instrumentally were check marked in color in the sounding records, and verifier initialed the processing stamp. Remarks Required: -- None		
Part III - JUNCTIONS Note: Make a cursory comparison preliminary to inking soundings in area of overlap.					
8. All junctions of contemporary or overlapping sheets were transferred in colored ink and overlapping curves were made identical. Remarks Required: -- None			14. The protracting and plotting of all unsatisfactory crossings were verified. Remarks Required: -- None		
9. The notation in slanted lettering "JOINS H---- (19)" was added in colored ink for all verified contemporary adjoining or overlapping sheets. Those not verified are shown in pencil. Remarks Required: -- None			15. All detached positions locating critical soundings, rocks, buoys, breakers, obstructions, kelp, etc., were verified and the position numbers are legible. Remarks Required: -- None		

Part V - PROTRACTING (Continued)	CL	R	Part VIII - AIDS TO NAVIGATION	CL	R
<p>16. The protracting was satisfactory except as follows:</p> <p>Remarks Required: -- Refers to protracting in general except for specific faults repeated often, or faults in control information, which required considerable replotting or adjustments.</p>			<p>26. All fixed aids located together with those on the contemporary topographic sheets, have been shown on the survey.</p> <p>Remarks Required: -- Conflicts of any nature listed.</p>		
<p>17. The protractor has been checked within the last three months.</p> <p>Remarks Required: -- Date of check, type of protractor and number.</p>			<p>27. All floating aids listed in the Descriptive Report should be verified and checked in soft black pencil, including latitude and longitude and position identification.</p> <p>Remarks Required: -- None</p>		
<p>Part VI - SOUNDINGS</p> <p>18. All soundings are clear and legible, and critical soundings are a little larger than adjacent soundings.</p> <p>Remarks Required: -- None</p>			<p>Part IX - BOATSHEET</p> <p>28. The boat sheet was constantly compared with the smooth sheet with reference to notes, position of sounding lines and supplemental information.</p> <p>Remarks Required: -- None</p>		
<p>19. Sounding line crossings were satisfactory except as follows:</p> <p>Remarks Required: -- Discuss adjustments.</p>			<p>29. Heights of rocks awash were correctly reduced and compared with topographic information.</p> <p>Remarks Required: -- Note excessive conflicts with topographic information.</p>		
<p>20. The spacing of soundings as recorded in the records was closely followed;</p> <p>Remarks Required: -- None</p>			<p>Part X - GENERAL</p> <p>30. All information on the sheet is shown in accordance with figures 82 and 83 in the Hydrographic Manual (Pub. 20-2).</p> <p>Remarks Required: -- None</p>		
<p>21. The scanning, reduction, spacing, plotting of questionable soundings have been verified.</p> <p>Remarks Required: -- None</p>			<p>31. Unnecessary pencil notes have been removed from the sheet.</p> <p>Remarks Required: -- None</p>		
<p>Part VII - CURVES</p> <p>23. The depth curves have been inspected before inking.</p> <p>Remarks Required: -- By whom was the penciled curves inspected.</p>			<p>32. Degree, minute values and symbols have been checked; also electronic distance arcs have been properly identified and checked on the smooth sheet.</p> <p>Remarks Required: -- None</p>		
<p>24. The low-water line and delineation of shoal areas have been properly shown in accordance with the following:</p> <ul style="list-style-type: none"> a. From T-Sheet in dotted black lines b. From soundings in orange c. Approximate position of sketched curve is dashed orange d. Approximate position of shoal area not sounded in black dashed <p>Remarks Required: -- None</p>			<p>33. The bottom characteristics are adequately shown.</p> <p>Remarks Required: -- None</p>		
<p>25. Depth curves were satisfactory except as follows:</p> <p>(This statement should not refer to the manner in which the curves were drawn).</p> <p>Remarks Required: -- Indicate areas where curves could not be drawn completely because of lack of soundings. For some inshore areas a general statement is sufficient.</p>			<p>Part XI - NOTES TO THE REVIEWER</p> <p>34. Unresolved discrepancies and questionable soundings.</p>		
<p>35. Notation of discrepancies with photogrammetric survey inserted in report of unreviewed photogrammetric survey or on copy.</p>			<p>36. Supplemental information.</p>		
Verified by			Date		

LETTER TRANSMITTING DATA

TO: U.S. Department of Commerce
Coast & Geodetic Survey
Washington Science Center
Rockville, Maryland 20852

DATA LISTED BELOW WERE FORWARDED TO YOU BY (Check)

- ORDINARY MAIL
- REGISTERED MAIL
- AIR MAIL
- EXPRESS
- S&L (Give number)

DATE FORWARDED
1 & 2 July 1965

NUMBER OF PACKAGES
5

NOTE: A separate transmittal letter is to be used for each type of data, as tidal data, seismology, geomagnetism, etc. State the number of packages and include an executed copy of the transmittal letter in each package. In addition the original and one copy of the letter should be sent under separate cover. The copy will be returned as a receipt. This form should not be used for correspondence or transmitting accounting documents.

HYDROGRAPHIC SURVEY H-8778 (~~NEW~~ HFP 20-1-63 & Pe 20-2-63, OPR-436, S. CAR

Pkg. # 1B
 1-Tube containing
 1-Smooth sheet
 1-Descri. Report HFP 20-1-63
 1-Descri. Report PE 20-2-63
 2-Smooth overlays, Hydrography

Pkg. # 3H
 1-Tube containing
 1-Boat sheet HFP 20-1-63
 1-Mylar overlay " " " "
 1-Boat sheet Pe 20-2-63

Pkg. # 2H
 1-Bundle containing
 40-Fathograms, Skiff 770
 a-q, sa, ua-sa, bb & cb days
 2-Fathograms, Launch #1
 a & b days
 16-Fathograms, Launch #2
 a-r days

Pkg. # 4H
 1-Bundle containing
 12-Sounding volumes
 1- " " Hi-Fix Calib.

Pkg. # 5H
 1-Bundle containing
 13-Sounding volumes

FROM: (Signature)
J. Bull, Captain, C&GS

RECEIVED THE ABOVE
(Name, Division, Date)

Return receipted copy to:
Norfolk Regional Officer
Coast & Geodetic Survey
439 West York Street
Norfolk, Virginia 23510

8778

Diag. Cht. Nos. 1238-2 & 1239-2.

Form 504 U. S. DEPARTMENT OF COMMERCE COAST AND GEODETIC SURVEY	
DESCRIPTIVE REPORT	
Type of Survey	HYDROGRAPHIC
Field No. PE 20-2-63	Office No. H-8778
LOCALITY	
State	SOUTH CAROLINA
General locality	CAPE ROMAIN - CHARLESTON
Locality	VICINITY OF CAPE ROMAIN
<u>1963-64</u>	
CHIEF OF PARTY LCDR ROGER F. LANIER	
LIBRARY & ARCHIVES	
DATE	JUL 7 - 1965

USCOM-DC 5087

HYDROGRAPHIC TITLE SHEET

H-8778

INSTRUCTIONS - 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.

PE- 20-2-63

State SOUTH CAROLINA

General locality CAPE ROMAIN - CHARLESTON

Locality VICINITY OF CAPE ROMAIN

Scale 1 : 20,000 Date of survey August 1963 to May 1964

Instructions dated May 15, 1963 Project No. OPR - 436

Vessel USC&GSS PEIRCE

Chief of party LCDR ROGER F. LANIER

Surveyed by Lt. R.E. ALDERMAN, LTJG L.E. PICKENS

Soundings taken by echo sounder, hand lead, ~~pot~~ ECHO SOUNDER AND HAND-LEAD

Graphic record scaled by SHIP PERSONNEL

Graphic record checked by SHIP PERSONNEL

Protracted by Fred Bean (Norfolk Processing Branch)

Soundings penciled by Fred Bean " " "

Soundings in ~~XNUMX~~ feet at MLW ~~MLW~~

REMARKS:

DESCRIPTIVE REPORT TO ACCOMPANY
HYDROGRAPHIC SURVEY H-8778 (PE 20-2-63)
SCALE 1:20,000 1963-1964
USC&GSS PEIRCE LCDR ROGER F. LANIER, COMDG.

A. PROJECT:

Project instructions for this survey were contained in instructions dated May 15, 1963, entitled, OPR-436, Cape Romain to Charleston, Coast of South Carolina, and supplemental instructions dated December 27, 1963.

B. AREA SURVEYED:

The area surveyed is from south of Cape Romain and Raccoon Key to about 2.5 nautical miles offshore. The limits of the survey sheet are latitude $32^{\circ} - 53''$ N to latitude $33^{\circ} - 02'$ N and longitude $79^{\circ} - 19'$ W to longitude $79^{\circ} - 37'$ W.

The survey junctions with prior surveys H-4179, 1:20,000, 1921; H-5786, 1:10,000, 1935; H-7085, 1:40,000, 1945-46 and 1963 survey H-8778, 1:20,000, 1963 (Hydrographic Field Party No. 220 survey of Bull Bay, S. C.); and H-8779 1:20,000, 1963-64.

*Now a part of
H-8778*

The survey was conducted between August 24, 1963 and May 1, 1964.

C. SOUNDING VESSEL:

All hydrography was done by launch. Launch 1, PE-1 (violet) used visual control and launch 2, PE-2 (red) used Hi-Fix two range control. The low-water line skiff work is denoted by green.

D. SOUNDING EQUIPMENT:

Two fathometers were used for this survey, both were Raytheons, Model DE-723. Launch 2 used serial No. 260 for the entire survey and Launch 1 used serial No. 259 for its work on this survey.

Fathometer No. 260 was used for the majority of work in this survey in water depths ranging from 5 to 30 feet offshore and up to 45 feet in Key Inlet. Fathometer No. 259 was used for the work between Lighthouse Island and Cape Island and in obtaining bottom samples.

Bar checks were taken once or twice a day as weather conditions permitted. The results of the bar checks were meaned separately for each launch and field season.

D. SOUNDING EQUIPMENT (CONTINUED):

The settlement and squat corrections were determined for each field season and different values were obtained each time. For the 1963 field season the settlement and squat correction was applied separately, and for the 1964 field season the correction was applied with the bar check correction.

For the 1963 field season the initial on the fathogram was held at 2.5 feet, and in 1964 it was held at 3.0 feet.

E. SMOOTH SHEET:

All the field records for the survey will be forwarded to the Norfolk District Office. The smooth sheet will be projected and smooth plotted by that office.

F. CONTROL:

Launch 2 used Hi-Fix two range control for its work on this survey. Launch 1 used visual control for its work between Lighthouse Island and Cape Island and in obtaining bottom samples. *frequency used 1710.59Kc*

Hi-Fix shore stations used in 1963 were; COLLEGE, established by the Ship PEIRCE by means of a short traverse from Δ JOHNSON (USE) 1934, and LIVE OAK, located on reference mark 2 of LIVE OAK 2 1902 a C&GS mark. The Hi-Fix shore stations for 1964 were; COLLEGE and SALVO, located on reference mark 1 of SALVO 1964, which was established in 1964 by the Ship PEIRCE.

The visual signal locations were transferred from the following photogrammetric compilations:

T-12276	Advanced manuscript May 1963
T-12277	
T-12280	Advanced manuscript May 1963

G. SHORELINE:

The photogrammetric compilations listed under section F were used for the transfer of shoreline.

The area between Lighthouse Island and Cape Island and the shoals south of Key Inlet were shown to have changed and were revised by walking the shoreline and shoals when the tide was at mean-low water.

The low-water line could not be determined for the remainder of the sheet due to the surf conditions.

H. CROSSLINES:

Crosslines were run at 9.1% of the total mileage of sounding lines. The crossings were in good agreement.

I. JUNCTIONS:

This survey junctions with H-7085, 1:40,000, 1945-46 and H-8778, 1:20,000, 1963 (Hydrographic Field Party No. 220 survey of Bull Bay, S. C.).

The junction with Hydrographic Field Party No. 220 survey in the Bull Bay area, boat sheet sounding disagreed by 1 to 4 feet. However, an overlay of the junction area showing smooth soundings was made and forwarded to the Norfolk District Office where the discrepancies were resolved.

The junction with H-7085 is spotty in some places, the soundings disagreeing by 1 to 2 feet. However, the overall junction is good.

J. COMPARISON WITH PRIOR SURVEYS:

There were no preliminary review items within the limits of the survey.

The major portion of the survey agreed closely with the prior surveys. The one exception is in the Key Inlet and Cape Island area. The westerly end of Cape Island appears to be gradually moving westerly each year. Also the shoals at the mouth of Key inlet, due to the strong currents, are constantly changing. In these two areas mentioned there is little agreement with prior surveys.

K. COMPARISON WITH CHART:

This survey was in fairly good agreement with Chart No. 1238, revised 10/29/62, with the exception of the area mentioned in section J.

L. ADEQUACY OF SURVEY:

This survey is considered complete and adequate and should supercede prior surveys for charting.

M. AIDS TO NAVIGATION:

There is only one floating aid to navigation within the limits of the survey and it is:

Bull Bay approach Bell Buoy BB

Light list position ϕ 32° - 55'.7 N
 λ 79° - 29'.9 W

Survey position ϕ 32° - 55'.7 N
 λ 79° - 29'.8 W

*See N.P.O.
List -*

Buoy BB was located by Hi-Fix, position 57q. No visual fix was taken.

N. STATISTICS:

	<u>No of positions</u>	<u>N.M of sdg. line</u>	<u>No of bottom samples</u>
Lch. 2, 1963	1408	317.6	11
Lch. 2, 1964	157	21.5 3.3	20
Lch. 1, 1963	43		
Skiff, 1963	162		
Total	<u>1770</u>	<u>342.4</u>	<u>31</u>

Area surveyed:

Launch 2	24.5	sq. naut. mi.
Launch 1	.7	sq. naut. mi.
Total	<u>25.2</u>	sq. naut. mi.

O. MISCELLANEOUS:

As mentioned in sections "G" and "J", the Cape Island area is very changeable. Comparing prior surveys of this area, H-4513, 1:20,000, 1925 and H-5784, 1:10,000, 1935, with the present survey, Cape Island can be seen to have gradually extended westward over the years. Furthermore, change in the Island was noted between the 1963 and 1964 field seasons.

O. MISCELLANEOUS (CONTINUED):

The 1963 low-water line work, Vol. 8 of 10, shows a large area to bare on the westerly tip of Cape Island. A hydro line from the 1963 work, Launch 2, Vol. 2 of 10, page 57 (positions 91-93e), shows between 1 - 4 feet of water approximately 150 meters to the west of the area that bares. The 1964 work, however, indicated that the high-water line of Cape Islands most westerly tip has moved westerly from the 1963 work.

A hydro line was run approximately 50 meters off the westerly tip of the Island, see Vol. 7 of 10, page 30, position 29r, at high water. The distance between the 1964 approximate position of the west end of the Island, and the position transferred for T-12277, is approximately 800 meters.

Since no shoreline was walked in this area in 1964, the work was not confirmed; however, the Hi-Fix for r day was good, as shown by the calibration volume and 1963 Launch 1 hydro, see Vol. 9 of 10, page 15, position 23b, which checked with 1964 r day work.

Respectfully submitted,

Leonard E. Pickens

Leonard E. Pickens
LTJG USC&GS
June, 1964

Q. REFERENCED TO REPORTS:

1. Calibration record book 1963 and 1964, submitted with field records for PE-20-2-63, forwarded to Norfolk District Office.
 2. "REPORT ON USE OF HI-FIX ELECTRONIC PHASE COMPARISON EQUIPMENT FOR CONTROLLING HYDROGRAPHIC SURVEYS", 1963 by LCDR Roger F. Lanier, submitted to Washington Office in January, 1964.
 3. HI-FIX REPORT, OPR-436, 1963-64, USC&GSS PEIRCE, to be written.
-

SEPARATES FOLLOWING TEXT

APPENDIX

- A - Tidal Note
 - B - Geographic Name List
 - C - Abstract of Corrections to Echo Soundings
 - D - Abstract of Corrections to Distance Measurements
 - E - List of Signals
 - F - Approval Sheet
-

APPENDIX ATIDAL NOTE

The tide gage for this survey was located at Summerhouse Creek, Bull Island, S. C. The time meridian used was 75°W. During the 1963 field season Field Party No. 220 installed and maintained the tide gage; during the 1964 field season the Ship PEIRCE reinstalled the gage and maintained it.

The following lists the changes in location of the tide gage and other pertinent data:

Gage reinstalled by Ship PEIRCE	March 22, 1964
Gage moved to deeper water	April 3, 1964
Gage removed	May 15, 1964

Position:

Latitude	32° 54' 50" N
Longitude	79° 36' 52" W

The mean low water reading on the staff for 1963 was 2.7 feet, and hourly heights were furnished from the Washington Office. The mean low water reading on the staff between March 22, 1964 and April 3, 1964 was 3.3 feet, and between April 4, 1964 and May 15, 1964 was 1.9 feet. The staff heights for the 1964 field season were determined by the Ship PEIRCE.

APPENDIX B

GEOGRAPHIC NAME LIST

CAPE ROMAIN

CAPE ISLAND

LIGHTHOUSE ISLAND

KEY INLET

RACCOON KEY

SANDY POINT

BULL ISLAND

APPENDIX CVELOCITY CORRECTIONS APPLIED
LAUNCHES 1 AND 2

Table #5

<u>LAUNCH 2</u> <u>1963</u>			<u>LAUNCH 1</u> <u>1963</u>				
<u>Depth Range Correction</u>			<u>Depth Range Correction</u>				
3.5'	to	7.8'	- 1.2'	2.5'	to	6.8'	- 1.4'
8.0'	to	12.0'	- 1.0'	7.0'	to	11.0'	- 1.2'
12.2'	to	16.6'	- 0.8'	11.2'	to	15.0'	- 1.0'
16.8'	to	21.0'	- 0.6'	15.2'	to	19.2'	- 0.8'
21.2'	to	25.2'	- 0.4'	19.4'	to	23.4'	- 0.6'
25.4'	to	29.8'	- 0.2'	23.6'	to	27.8'	- 0.4'
30.0'	to	34.2'	0.0'	28.0'	to	31.8'	- 0.2'
34.4'	to	38.4'	+ 0.2'	32.0'	to	36.0'	0.0'
38.6'	to	42.8'	+ 0.4'	36.2'	to	40.0'	+ 0.2'
43.0'	to	- - -	+ 0.6'	40.2'	to	44.0'	+ 0.4'
				44.2'	to	- - -	+ 0.6'

#7
LAUNCH 2
1964Depth Range Correction

0.0'	to	5.6'	- 1.8'
5.8'	to	12.2'	- 1.6'
12.4'	to	19.6'	- 1.4'
19.8'	to	26.4'	- 1.2'
26.6'	to	33.2'	- 1.0'
33.4'	to	38.0'	- 0.8'

Note: Launch 1 velocity corrections are those obtained from bar checks taken on survey PE-20-3-63.

Launch 2 1964 velocity corrections are those obtained from bar checks taken on survey PE-20-3-63.

For the 1963 field work, a settlement and squat correction of +0.4 was applied for all launch speeds from 1000 to 2100 RPM.

For the 1964 field work, a settlement and squat correction of +0.2 was applied for all launch speeds from 1200 to 2100 RPM. In 1964 the settlement and squat correction was applied as part of the initial setting on the fathometer.

APPENDIX D

ABSTRACT OF CORRECTIONS
TO DISTANCE MEASUREMENTS

Electronic control used on this survey was Hi-Fix,
two range control.

The Hi-Fix system was adjusted to zero correction
for each day of hydrography so no corrections have
to be applied to the position data.

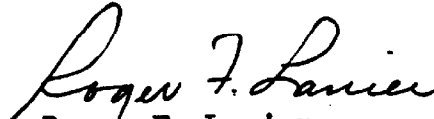
APPENDIX ELIST OF STATIONS ON H-8778 (PE-20-2-63)

BEC	T-12280
BUL	T-12280, 240 feet from BULL 2 1963 on range with WILD 1963
CAP	T-12277, <u>CAPE ROMAIN LIGHT- HOUSE</u> , 1924
COO	T-12277, <u>COON 2</u> , 1963
EGG	T-12277, <u>FIVE FM</u> , 1934
GET	T-12277
ICE	T-12277
KEY *	T-12277, <u>KEY</u> 1934
LAN	T-12280, <u>BULL ISLAND COAST GUARD TOWER</u> , 1937
LAX	T-12277
MAG	T-12277
PIC	T-12280, <u>BULL BAY PHOTO PICTURE POINT</u> , 1963
RAN	T-12277, <u>RAIN</u> , 1934
WIL	T-12280, <u>WILD</u> , 1963
ZIG	T-12277
SHELL *	<u>SHELLMORE OYSTER FACTORY, EAST GABLE</u> , 1934, T-12277

* Note: KEY and SHELL were used for calibration only.

Hydrographic survey PE-20-2-63 (H-8778) is approved. Supervision of field work by the chief of party was general for the most part, with detailed examination of the boat sheet and field records a few times during the survey and after completion.

This survey is considered complete and adequate and no additional field work is recommended. The changes at and near mouths of the various inlets is thought to be due to continuous tidal current action, though possibly, the rate of change is accelerated during the winter months.


Roger F. Lanier
LCDR, USC&GS

APPENDIX C: ABSTRACT OF CORRECTIONS TO ECHO SOUNDINGS

SETTLEMENT AND SQUAT DETERMINATION:

1963 determination, July 3, 1963; using cross-range system in Key-West Harbor over flat bottom.

Launch Speed	Depth af. tide red.	mean	0000 RPM - RPM run
0000	31.6		
0000	31.5	31.6	-----
1000	31.1		
1000	31.2	31.2	+0.4
1100	31.0		
1100	31.2	31.1	+0.5
1200	31.0		
1200	31.2	31.1	+0.5
1300	31.1		
1300	31.3	31.2	+0.4
1400	31.4		
1400	31.2	31.3	+0.3
1500	31.2		
1500	31.2	31.2	+0.4
1600	31.2		
1600	31.2	31.2	+0.4

Correction of +0.4 applied to soundings run between 1000 RPM - 1600 RPM.

NOTE: Since both launches on the PEIRCE are identical, a settlement and squat determination was performed on one and applied for both.

SQUAT & SETTLEMENT TEST - STBD LAUNCH

SAVANNAH RIVER - APRIL 1, 1964

LAUNCH	RPM	FIRST RUN			SECOND RUN			AVERAGE S & S (FT)
		ROD	AVERAGE DEAD ROD	S & S (FT)	ROD	AVERAGE DEAD ROD	S & S (FT)	
DEAD BEFORE		4.32			4.11			
RUNNING	1000	4.41	4.31	+ 0.10	4.21	4.09	+ 0.12	+ 0.11
DEAD AFTER		4.31			4.06			
D		.31			.06			
K	1200	.41	.27	0.14	.24	.06	0.18	+ 0.16
D		.24			.05			
D		.24			.05			
R	1400	.42	.23	0.19	.28	.05	0.23	+ 0.21
D		.23			.05			
D		.23			.05			
R	1600	.45	.22	0.23	.30	.05	0.25	+ 0.24
D		.20			.05			
D		.20			.05			
K	1800	.46	.18	0.28	.34	.04	0.29	+ 0.28
D		.16			.04			
D		.16			.04			
R	2000	.47	.16	0.31	.35	.04	0.31	+ 0.31
D		.15			.05			
D		.15			.05			
R	FULL	.42	.13	0.29	.38	.05	0.33	+ 0.31
D		.11			.06			

NOTE:

- a) USE CORRECTION OF +0.2 FT. FOR 1200 RPM OR GREATER.
- b) USE CORRECTION OF 0.0 FT. FOR RPM OF LESS THAN 1200.

APPENDIX C. (CONT.)

ABSTRACT OF BAR CHECKS, OPR-436, S. 1.

H-8778 1963-64

DAY	DATE	5-FOOT	10-FOOT	15-FOOT	20-FOOT	25-FOOT	30-FOOT
	1963		(INITIAL AT 2.5 FEET)				
a	1 Aug.		-1.1				
b	2 Aug.		(-1.6)R	-1.0			
b	2 Aug.	-1.6	-1.2	(-1.4)R			
c	4 Aug.		-1.1	-0.8	-0.4		
d	5 Aug.		-1.2	-0.6	-0.5		
e	6 Aug.		-0.9	(-0.4)R	(-0.2)R	-0.2	
f	20 Aug.	-1.1	(-0.4)R	(-0.2)R	(-0.0)R		
f	20 Aug.		-1.0	-0.8	-0.7	-0.3	
g	21 Aug.		-1.4	-0.6	-0.3	-0.3	-0.1
g	21 Aug.		-1.1	-1.1	-0.9		
h	22 Aug.		-1.1	-1.0	-0.6	-0.4	
h	22 Aug.		(-1.5)R	(-1.2)R	-0.7	-0.6	
j	25 Aug.	-1.6	(-1.6)R	-1.0	-0.7		
k	29 Aug.	-1.2	-1.3	-1.0	-0.8		
k	29 Aug.	-1.4	-1.3	-0.9	-0.6	-0.5	-0.2
m	11 Sep.		-1.4	-0.9	-0.8	-0.6	
n	12 Sep.	-1.1	(-0.6)R	(-0.3)R			
r	7 Oct.	-1.3	-0.8	-0.6	-0.4		
s	8 Oct.	-1.1	-1.0	-0.7	-0.5		
u	27 Oct.	-1.6	-1.0	-0.8	-0.5	-0.4	
u	27 Oct.	-1.6	(-1.6)R	-1.1	(-1.1)R	(-0.9)R	
means		-1.4	-1.1	-0.9	-0.6	-0.4	-0.2
(SETTLEMENT AND SQUAT CORRECTIONS APPLIED SEPARATELY)							
	1964		(INITIAL AT 3.0 FEET)				
x	23 Mar.	-1.8	-1.4	(-1.1)R	-1.3	-1.0	
x	23 Mar.	-1.9	-1.9	-1.4	-1.3		
y	24 Mar.		-2.0*	-1.6*	-1.5*	-1.2*	
z	25 Mar.	-2.2*	-1.9*	-1.7*	-1.5*	-1.3*	
aa	4 Apr.		-1.9*	-1.6*	-1.4*	-1.2*	
ca	16 Apr.	-2.0	-2.1	(-1.9)R	(-2.0)R	(-1.8)R	
means		-1.98	-1.87	-1.56	-1.40	-1.18	
s&s corr-n		+0.20	+0.20	+0.20	+0.20	+0.20	
final corr-n		-1.78	-1.67	-1.36	-1.20	-0.98	

(*+0.5 added, to correct for initial setting of 2.5 feet.)

APPENDIX C (CONT.)

ABSTRACT OF BAR CHECKS, OPR-436, S. C. PORT LAUNCH

H-8778 1963-64

date	5-foot	10-foot	15-foot	20-foot	25-foot	30-foot	35-foot
1963	(INITIAL AT 2.5 FEET)						
24 Aug.	-1.0	-0.8	(-0.4)R	(-0.0)R	(-0.1)R		
24 Aug.	-1.3	-0.9	-0.7	-0.5	-0.4		
29 Aug.	(-1.6)R	-1.1	-1.0	-0.9	-0.4		
10 Sep.	-1.2	-0.7	-0.5	-0.4	-0.2		
12 Sep.	-1.0	-0.8	-0.6	-0.4			
18 Sep.	-1.3	-1.0	-0.9	-0.5			
2 Oct.	-1.1	-1.0	-0.9	(-1.0)R			
2 Oct.	-1.5	-1.2	-1.0	(-1.0)R			
3 Oct.	-1.3	-0.9	-0.6	-0.6			
4 Oct.	-1.2	-1.0	-0.8	-0.6	-0.2	-0.3	
8 Oct.	-1.4	-1.1	-0.8	-0.8			
8 Oct.	-1.0	-1.0	-0.8	-0.6	-0.4	-0.0	
27 Oct.	-1.0	-0.8	-0.5	-0.6	-0.2	-0.2	-0.0
28 Oct.	-1.0	-0.9	-0.8	-0.6	-0.5	-0.1	-0.0
28 Oct.	-1.1	-0.9	-0.9	-0.6	-0.4	-0.1	-0.0
means	-1.2	-0.9	-0.8	-0.6	-0.3	-0.1	-0.0
(SETTLEMENT AND SQUAT CORRECTIONS APPLIED SEPARATELY IN 1963)							
1964	(INITIAL AT 3.0 FEET)						
14 Apr.	-1.9	-1.8	-1.7	-1.6	-1.4	-1.6	
15 Apr.	-2.0	-1.8	-1.5	-1.4	-1.4		
15 Apr.	-2.0	-1.6	-1.6	-1.4	-1.3	-1.4	-1.2
24 Apr.	-1.9	-1.6	-1.5	-1.6	-1.4		
28 Apr.	-2.0	-1.8	-1.5	-1.4	-1.3	-1.0	
29 Apr.	-2.1	-1.8	-1.7	-1.4	-1.2		
30 Apr.	-2.0	-1.9	-1.6	-1.5	-1.3	-1.0	
30 Apr.	-2.0	-1.6	-1.5	-1.4	-1.2		
means	-1.99	-1.74	-1.58	-1.46	-1.31	-1.25	-1.20
s&s corr-n	+0.20	+0.20	+0.20	+0.20	+0.20	+0.20	+0.20
final	-1.79	-1.54	-1.38	-1.26	-1.11	-1.05	-1.00

NORFOLK HYDROGRAPHIC PROCESSING BRANCH
FLOATING AIDS TO NAVIGATION

H-8778

<u>BUOY</u>	<u>LATITUDE</u>	<u>LONGITUDE</u>	<u>DEPTH</u>	<u>POS. NO.</u>	<u>DATE</u>
<u>BULL BAY APPR.</u>					
Bell Buoy "BB"	32-55.70'	79-29.75'	22'	57q(red)	4-14-64
Buoy 2	58.25	30.38	11	2w (blue)	8-13-63
Buoy 4	59.50	30.15	11	1w "	"

NORFOLK HYDROGRAPHIC PROCESSING BRANCH
ADDENDUM
To Accompany

HYDROGRAPHIC SURVEY H-8778 (HFP 20-1-63) & (Pe 20-2-63)

GENERAL

In compliance with the letter of Chief, Operations Division, dated Dec. 5, 1963, field surveys HFP 20-1-63 and Pe 20-2-63 were combined and plotted on one smooth sheet.

The bottom in the area covered by this survey is irregular, particularly in shoaler waters where there are oyster bars, sloughs and, about two miles southeast of Northeast Point, sandwaves. Soundings are in good agreement at crossings and at the junction of the two surveys.

OVERLAYS

Positions 12xa through 40xa, Skiff 770, are being submitted on a smooth overlay. This work was done in an effort to locate the wreck charted at Lat. 33-01.6' and Long. 79-31.9'. The results were negative.

Development positions 1 through 18za, Skiff 770, were plotted on a smooth overlay to avoid congestion on the sheet.

DISCREPANCIES

Detached positions 9,10,11,12, 19,57,58 and 59b (green) were not plotted because of weak fixes.

CHART COMPARISON

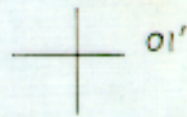
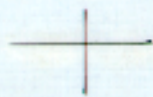
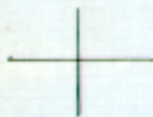
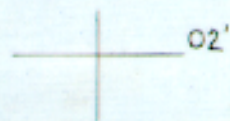
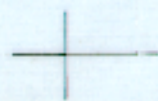
Other than some slight shifting in shoal water and a westward movement of the 12 foot curve, few changes were noted that were of any great significance.

The rocks charted in the general vicinity of Lat. 32-59.4' and Long. 79-32.8' are assumed to be oyster bars. They were not mentioned in the sounding volumes.

Respectfully submitted,


Hugh L. Proffitt
Cartographer

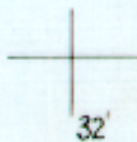
Norfolk, Va.
30 June 1965



HFP 20-1-63

Vol. #10

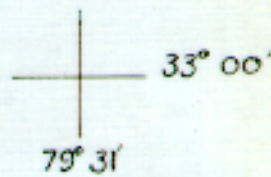
from Pos'n 12xx



Overlay to Accompany

NOV. 1, 1963
wreck investigation

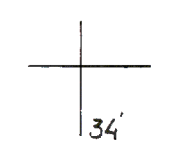
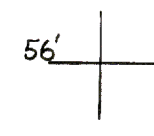
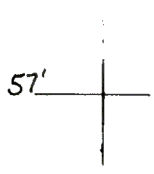
thru'



H8778

SKIFF 770

Pos'n 40xx

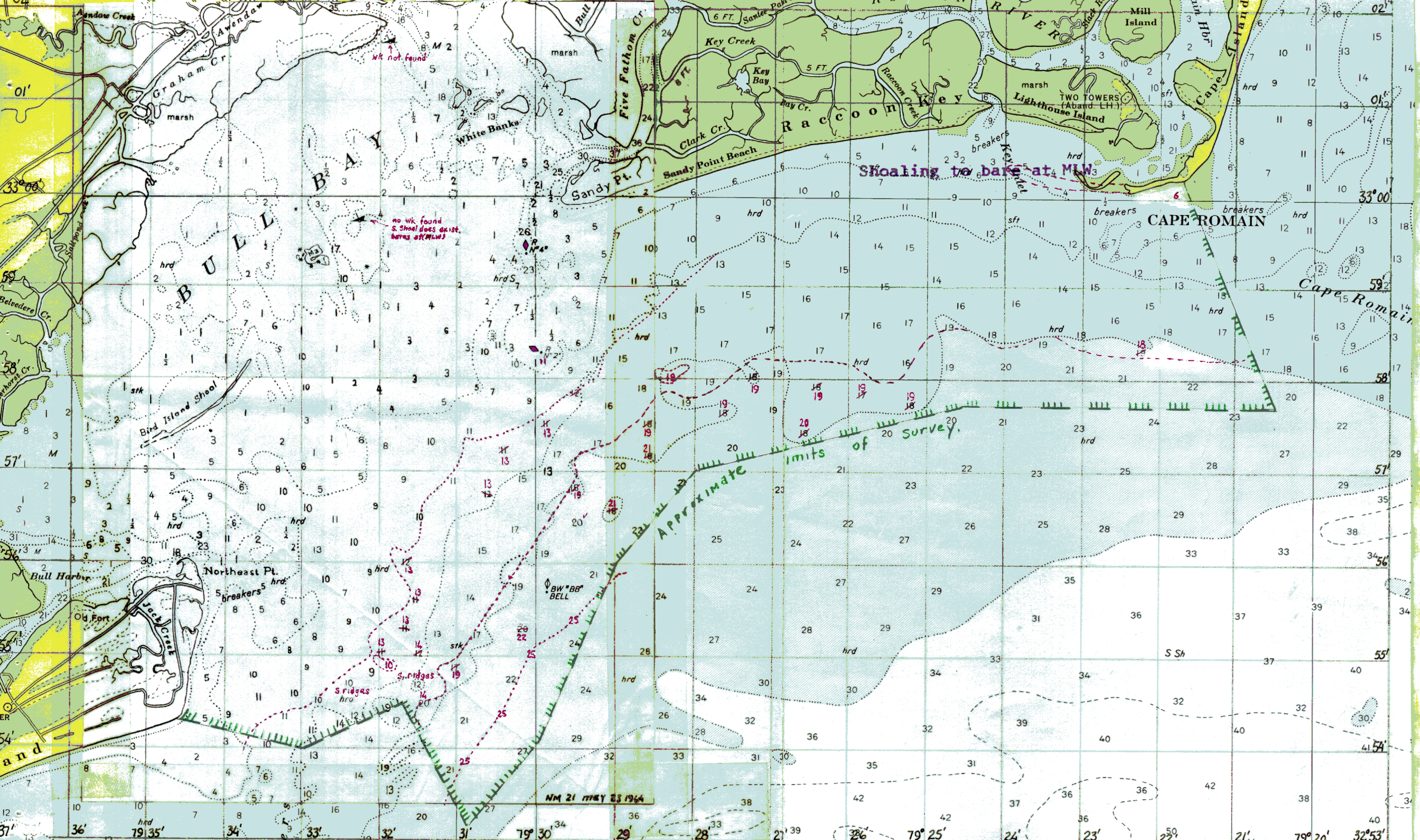


79.2

Overlay to Accompany
Nov. 5, 1963
Development area.
thru'

HFP 20-1-63
Vol. # 10
Pos'n 12a

H- 8778
SKiff 770
Pos'n 12a



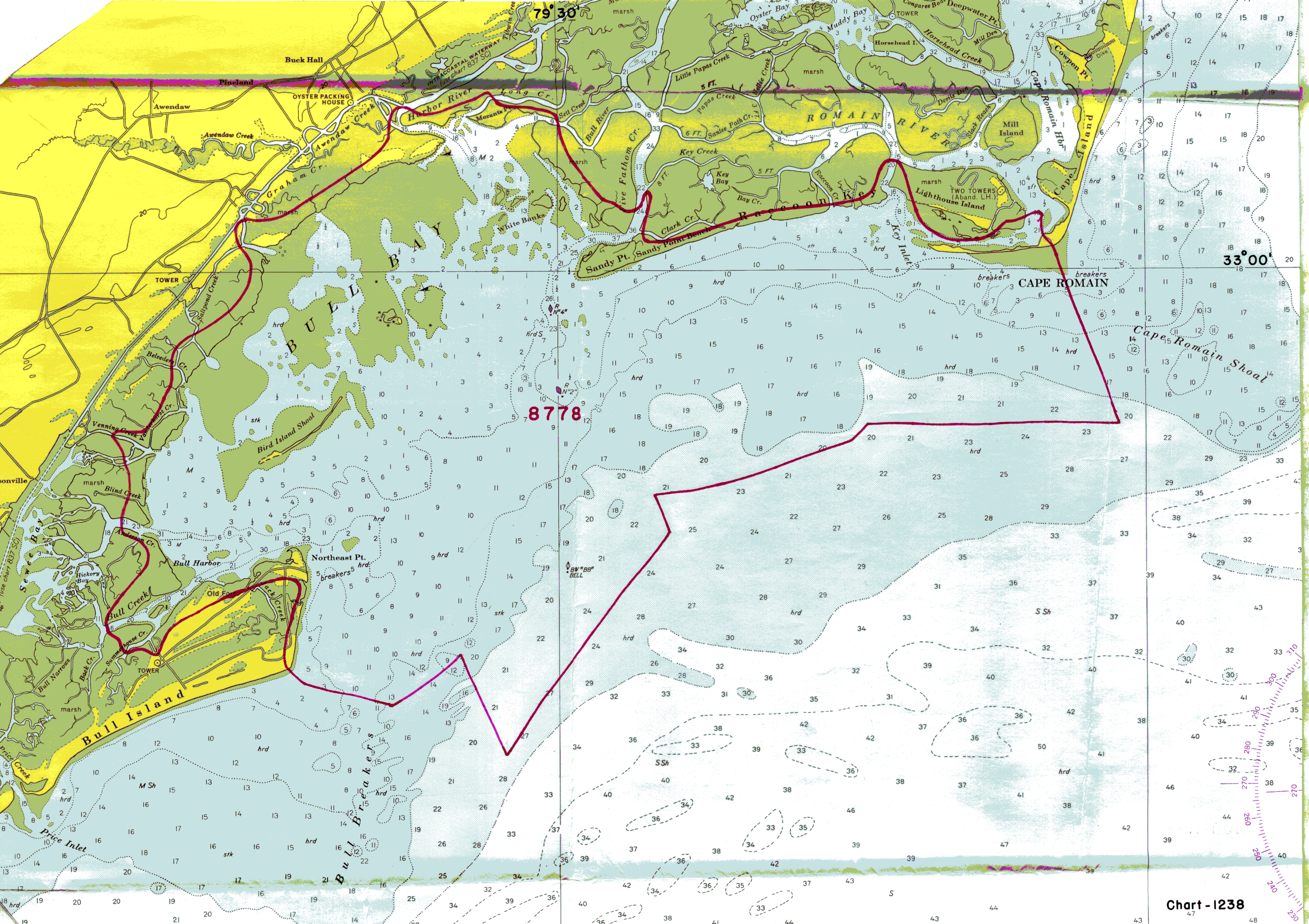
no wk found
S. Shoal does exist
beyond of (MLW)

Shoaling to bank at MLW

Approximate limits of survey.

NM 21 MAY 23 1964

Chart 1238 3rd ED. revised 10/29/62.



79° 30'

33° 00'

8778

Chart - 1238