

9675

Diag. Cht. No. 1242-2

NOAA FORM 76-35A

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY

DESCRIPTIVE REPORT
(HYDROGRAPHIC)

Type of Survey **HYDROGRAPHIC**
Field No. **WH-20-1-77**
Office No. **H-9675**

LOCALITY

State **Georgia**
General Locality **Southeast Coast**
Locality **Vicinity of Cumberland Island**

1977

CHIEF OF PARTY
John W. Carpenter

LIBRARY & ARCHIVES

DATE **January 2, 1979**

9675
9675

HYDROGRAPHIC TITLE SHEET

H-9675

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.

WH 20-1-77

State GEORGIA

General locality SOUTHEAST COAST

Locality Vicinity of CUMBERLAND ISLAND

Scale 1: 20,000 Date of survey JD 052 115 FEBRUARY 21 to APRIL 25 1977

Instructions dated NOVEMBER 22, 1976 Project No. OPR-436

Vessel NOAA SHIP WHITING's launches 1203 (2931) and 1202 (2932)

Chief of party JOHN W. CARPENTER, CDR. NOAA

Surveyed by M.F. KOLESAR, D.R. TAYLOR, J.G. GOFUS, G.M. BARONE, D.M. GOODRICH
J.P. RUBINO, R.M. MANDZI

Soundings taken by echo sounder, hand lead, pole Raytheon model 723 D

Graphic record scaled by WHITING PERSONNEL

Graphic record checked by WHITING PERSONNEL

Protracted by N/A Automated plot by CALCOMP 618 (AMC) HYDROPLOT SYSTEM

Soundings penciled by _____

Soundings in fathoms feet at MLW MLLW

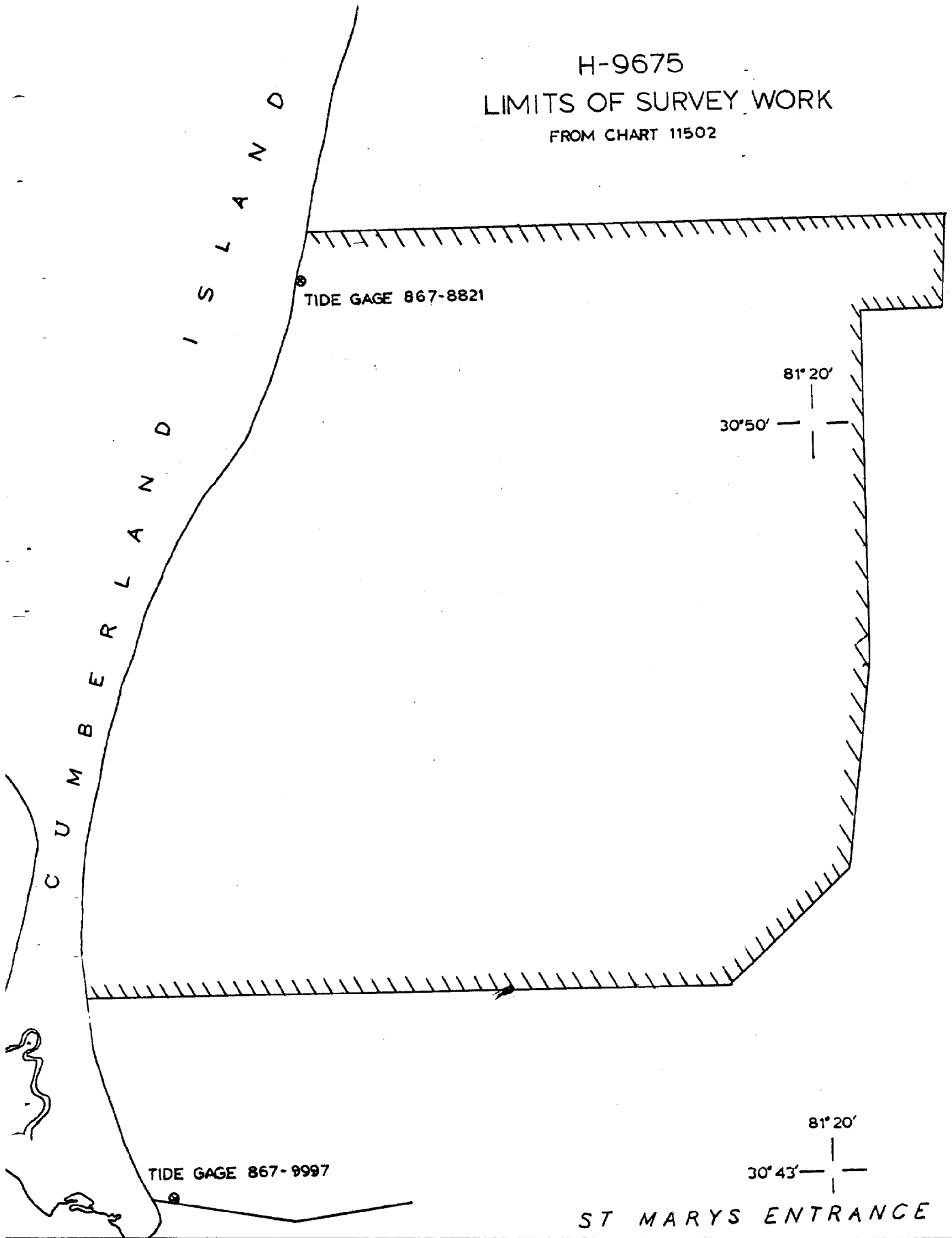
REMARKS: ALL TIMES ARE GREENWICH MEAN TIME

"Misc. data filed with field records"

App'd. to Standards

65T 4-6-79

H-9675
LIMITS OF SURVEY WORK
FROM CHART 11502



DESCRIPTIVE REPORT

WH-20-1-77

H-9675

A. PROJECT

This project was surveyed in accordance with Project Instructions OPR-436-WH-77 dated 22 November 1976 as supplemented by Change No.1, dated 31 January 1977 Change No. 2, dated 2 February 1977; and Change No. 3, dated 11 March 1977. ✓

B. AREA SURVEYED

The area surveyed is due east of Cumberland Island, Georgia, extending from the shoreline to approximately 6 miles off shore. The overall sheet has the following limits:

Latitude (North): $30^{\circ} 43' 15'' - 30^{\circ} 53' 06''$

Longitude (West): $81^{\circ} 14' 00'' - 81^{\circ} 31' 12''$

Scale of the survey is 1:20,000. Line spacing is 200 meters throughout, with 100 meter spacing in development areas. The area in general has a regularly sloping sand bottom, with the exception of the areas in and adjacent to Stafford Shoal. Considerable change in this region from the prior survey indicates a large amount of shifting and sand transport. ✓

The survey was conducted from 21 February 1977 (Julian Day 052) to 25 April 1977 (Julian Day 115).

C. SOUNDING VESSELS

WHITING launches 1202 and 1203, both equipped with the Hydroplot system performed all survey operations on the sheet. Since the full sheet was divided into two plotter sheets, Launch 1202 surveyed the north sheet and Launch 1203 the south; however, small areas of developments were done by 1202 on the south sheet and vice versa.

Electronic data processing numbers of launches 1202 and 1203 were 2932 and 2931 respectively.

See Q.C. Report, para. 3.

D. SOUNDING EQUIPMENT AND CORRECTIONS TO ECHO SOUNDINGS

Echo sounders used on Launches 1202 and 1203 were Raytheon model 723D's, serial numbers 37018 and 37010 respectively. Bar checks were taken daily, normally at the beginning of each day. A-F scale checks were taken during the course of the day, with the initial and fine arc monitored continuously. The fathometers performed well during the survey. In shoal areas, it should be noted that fathometer 37018 lost the trace at approximately 4 feet (fathometer depth) and 37010 at approximately 3 feet. Transducer draft on both launches was measured at 1.3 feet. A draft of 1.5 feet was erroneously entered on all corrector tapes. For this reason, a correction of 0.2 feet is entered on the TC/TI tape. True draft of the launch was 2.5 feet. Settlement and squat corrections are taken from May 1977 trials run by the NOAA Ship WHITING on these launches. Periods during which the launches were running at reduced speed are noted on the print outs. Range/azimuth work, all of which was close inshore, was always run at reduced speed (1500 RPM).

Velocity corrections were based solely on bar check averages. An average of bar checks for each vessel taken on calm days was prepared. From these averages two velocity correction tapes were obtained and used in smooth plotting. A TDC cast was done during the survey, but results were not used due to poor calibration of the instrument.

E. HYDROGRAPHIC SHEETS

The field sheets were prepared by WHITING personnel using a Houston Instruments DP-3 plotter, serial number 4858-13. The survey is divided into two plotter sheets at $30^{\circ} 48.1'N$. Due to the density of soundings, a development overlay for each sheet was prepared, which contain all range/azimuth work, developments, and bottom samples. There is no redundancy between development and main scheme sheets. Survey records are filed according to vessels, with Launch 1203 work using position numbers 1-1121 and Launch 1202 using numbers 3000-4058. Velocity, tide, and static draft corrections have been applied to soundings on the field sheets.

Predicted tide tapes used the reference station at Savannah River Entrance and corrections to time and height furnished in the project instructions. Electronic position correctors have also been applied to soundings. Correctors were based on daily field calibrations and averages on days calibrations were not obtained. Correctors of 10 meters or less were not applied on the sheets but are included on the corrector tapes. The sheets will be sent to Atlantic Marine Center, Norfolk, Virginia, for verification and smooth plotting.

F. CONTROL STATIONS

All control stations were located by Photo Party 62 (R. S. Tibbits, Chief of Party). This control work was run during November - February 1977 (job CM-7205) using 3rd order traverse. The following stations were used during this survey; and are considered field positions pending adjustment. See Q.C. Report.

<u>Station Name</u>	<u>Electronic Control Number</u>	<u>Use</u>
SF 15	131	R/Az control
SF 16	133	Elec.control, R/Az initial
SF 19	139	R/Az initial \triangle BERL 1974
SF 20	141	R/Az control
SF 22	145	Calibration, R/Az initial
SF 23	147	Calibration, R/Az control
SF 23A	149	Elec. control, calibration
SF 24	151	Calibration
SF 24A	153	Calibration, R/Az initial
SF 25A	157	R/Az control
SF 28	167	Elec. control

Stations are recoverable and monumented with steel fence posts tagged with station names. Station SF 19 is the same as station BERL, 1974, which is monumented with a brass disk.

G. HYDROGRAPHIC POSITION CONTROL

The primary method of control in this survey was range-range, using the Del Norte Trisponder system with automatic gain control modification. Working areas and station pairs were chosen so that intersection of ranges was at no time less than 30° . Range-range control for the survey was for the most part stable and consistent. However, differences in pattern correctors between morning and afternoon calibrations of 15 meters or more were observed on occasion. The best explanation for the differences is that the readings changed when batteries were changed during the course of a day. For this reason, battery changes were normally noted on the printouts and a second calibration was obtained at the end of the day. Field calibrations were obtained using three point sextant fixes with check angles. Angles were input into the computer, which computed an inverse distance between the fix and check fix and compared the average fix to the observed Del Norte readings; using program RK 561.

In addition, every 200 hours of use, the entire positioning system was calibrated along a baseline of known length in accordance with procedures described in the Del Norte manual. Close inshore work where intersection of ranges would have been unfavorable was done using range/azimuth control. In the launch, the HYDROPLOT system was left on-line to record time, depth, and range from the azimuth station. Marks were given over the radio to the shore party. On shore, the remote station was set up next to the theodolite, which initialized on a control station down the beach. Initial was checked roughly every third line.

H. SHORELINE

Shoreline was taken from shoreline manuscripts TP-00497 and TP-00657. No discrepancies were observed during survey operations. SEE Below

I. CROSSLINES

The percentage of crosslines run was 7.6%. Agreement was 0-1 feet throughout the sheet.

J. JUNCTIONS

This survey junctions with contemporary surveys H-8106 (1954-55), H-9428 (1974), and H-9449 (1974). Agreement is excellent (0-1 ft.) on all three surveys. Agreement is also excellent with WH-20-2-77 to the north. H-9678 (1977)

K. COMPARISON WITH PRIOR SURVEYS

The following items were investigated:

PRESURVEY REVIEW ITEM

Reported				
<u>Depth</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Remarks</u>	
[Wreck]	30° 47.0' N	81° 24.0' W	No evidence found in reported development to 50 meter spacing both N-S and E-W. Least depth found is 21'. Wreck of the Caroline	✓
	<i>No wire drag was performed. Should be retained on chart until proven or disproven - Source is Notice to Mariners No 7 of 1956</i>			

TP-00497 - DATE OF Photography = SEPT 1973 APRIL 1974
Field Inspection = None
Field EDIT = AUG 1974
Final Compilation = FEB 1975
Final Review = Oct 1975

TP-00657 = DATE OF Photography = Oct 1973 APRIL 1974
Field Inspection = None
Field EDIT = JAN 1975
Final Compilation = FEB-1975
Final Review = SEPT 1975

(6)
DASHED CIRCLE ITEM

Origin H-4436
 Reported (1924)

<u>Depth</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Remarks</u>
12 ✓	30° 51.7' N	81° 23.6' W	This area was not developed on this sheet, but was developed on WH-20-2-77. Rough plotting indicates several 12' soundings 170 meters NE of charted location. ✓
	<i>CONCUR NOT Developed on this sheet There is a 12 ft in this area</i>		
	<i>Chart present depths.</i>		
26 ✓	30° 50.0' N	81° 24.0' W	100 meter development: irregular sand bottom in this area; 7' 8" sounding found 140 meters NW of charted location. <i>6 ft shoals 300 m to south</i>
	"	"	
310 ✓	30° 50.2' N	81° 22.5' W	100 meter development no evidence of 10' depth; least depth found 17' 1.6" <i>12 ft shoal 230° 50.04', 81° 22.7'</i>
	"	"	
410 ↓	30° 50.0' N	81° 22.6' W	Irregular bottom, least depth found in the area 13' in 12 development. ↑
	"	"	
617 ↓	30° 47.9' N	81° 22.4' W	100 meter development; least depth found in the immediate area 19'. <i>CONCUR</i> ✓
	"	"	
13 ↓	30° 47.5' N	81° 22.9' W	100 meter development found no evidence of 13' sounding in the area. <i>CONCUR</i> <i>Depths of 18 to 20 ft were found in this area.</i>
	"	"	
712 ↓	30° 49.0' N	81° 26.2' W	12' sounding found in this location on main scheme line spacing. <i>CONCUR</i> ✓
	"	"	
14 ✓	30° 47.1' N	81° 22.0' W	100 meter development; no evidence of 14' sounding in immediate area. <i>CONCUR</i> <i>Depths of 15 ft found in vicinity.</i>
	"	"	
16 ✓	30° 47.5' N	81° 21.5' W	100 meter development; 18' sounding found 200 meters East of charted location. <i>CONCUR</i> ✓
	"	"	
12 ✓	30° 51.0' N	81° 23.6' W	A least depth of 15' was found in the immediate area in 100 meter development; however, a 10' sounding is found 350 meters SW. <i>CONCUR</i>
	"	"	

400

(7)

<u>Reported Depth</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Remarks</u>
18'	30° 47.7' N	81° 21.2' W	100 meter development, 17' sounding found 130 meters East of charted location. <i>Concur South Chart present depths</i>
18'	30° 47.8' N 30° 47.76 N	81° 21.0' W 81° 21.05 W	Found in charted location. <i>There is a 17' 100 meters ^{located in same position.}</i>

The survey was compared with prior survey H-4436 (1924). Agreement was fair at best. Longitude grids did not line up, and there was considerable discrepancy between the shorelines as compared. For this reason only a rough comparison can be made. The general tendency is for soundings in the southern area of the sheet to be shoaler than in the prior survey, and for soundings to be deeper in the northern areas. ** Prior projection is visibly poor.*

L. COMPARISON WITH THE CHART *See Verifier's Report*

The survey was compared with chart 11502 (C&GS 1242), Dobby Sound to Fernandina. Agreement is only fair through the survey area, and it is apparent that considerable change in the bottom has occurred. In the southern area of the sheet, depths were consistently shoaler than charted, as much as 5 feet. However, in the northern areas, depths normally ran several feet deeper than charted. It is also evident that the topography of Stafford Shoal has changed to a large degree. It is probable that considerable sand transport takes place in this area. *Concur*

M. ADEQUACY OF SURVEY

The survey is complete and adequate, and should supersede all prior surveys.

N. AIDS TO NAVIGATION

No aids to navigation are located in the survey area. ✓

D. STATISTICS

Miles hydro, Launch 1202 (2932)	261.3
Miles hydro, Launch 1203 (2931)	260.3
Total miles hydro	521.6
Square miles, Launch 1202	20.90
Square miles, Launch 1203	20.85
Total square miles	41.75
Percentage of crosslines	7.6
Number of positions, Launch 1202	1058
Number of positions, Launch 1203	1108
Total positions	2166
Bottom samples	22
TDC casts	0
Tide gages	2

P. MISCELLANEOUS

None.

Q. RECOMMENDATIONS

Due to the lack of landmarks which can be seen in the areas east of Cumberland Island, it is recommended that the tanks located in and around St. Mary's, Georgia, found on chart 11503 be transferred to chart 11502. These tanks are prominently visible from sea.

Chart at compiler's discretion

R. AUTOMATED DATA PROCESSING

The following computer programs were used during the course of the survey:

<u>Numbers</u>	<u>Name</u>	<u>Version Date</u>
RK 111	Range-Range Real Time Hydroplot	1/30/76
RK 201	Grid, Signal, and Lattice Plot	4/18/75
RK 211	Range-Range Non-Real Time Plot	1/15/76
RK 212	Visual Station Table Load	4/1/74
RK 216	Range Azimuth Non-Real Time Plot	2/5/76
RK 300	Utility Computations	2/10/76
RK 330	Reformat and Data Check	5/4/76
PH 360	Electronic Corrector Abstract	2/2/76
AH 401	Transverse Mercator State Plane Coordinates	4/1/73
AH 500	Predicted Tide Generator	11/10/72
RK 561	Hyperbolic and Range-Range Geodetic Calibration	2/19/75
AH 602	Extended Line Oriented Editor (ELINORE)	5/21/75

S. REFERENCES TO REPORTS

None.

Approval Sheet

Submitted by:

David M. Goodrich

David M. Goodrich
Ensign, NOAA

Supervision of field and office work on this hydro-
graphic survey was continuous on a day to day basis to
ensure completeness of the survey and that all work was
done in accordance with the Project Instructions.

Approved/Forwarded:

John W. Carpenter
John W. Carpenter
Cdr., NOAA
Commanding, NOAA Ship WHITING

SIGNAL TAPE LISTING

WH-23-1-77

167	3	30	45	11037	081	27	39499	250	0000	000000	SF-20	*
157	3	30	47	23503	081	27	19721	250	0000	000000	SF-25A	*
153	3	30	48	11400	081	27	01232	139	0000	000000	SF-24A	*
151	3	30	48	34303	081	26	50050	139	0000	000000	SF-24	*
149	3	30	49	00195	081	26	34912	250	0000	000000	SF-23A	*
147	3	30	49	22009	081	26	21440	139	0000	000000	SF-23	*
145	3	30	49	43745	081	26	01724	139	0000	000000	SF-22	*
141	3	30	50	30907	081	25	30770	250	0000	000000	SF-20	*
139	3	30	50	55400	081	25	29077	139	0000	000000	SF-19	*BERL, 1974
133	3	30	52	10006	081	25	07431	250	0000	000000	SF-16	*
131	3	30	52	30018	081	24	59001	139	0000	000000	SF-15	* —

* Field positions pending adjustment

LANDMARKS FOR CHARTS

No prominent landmarks were visible from sea in the shoreline adjacent to the survey area. Several objects visible from sea are found in St. Mary's, Georgia; see section ~~R~~, Q "Recommendations".

H-9675

REVISED VELOCITY CORRECTION TABLE
WH-20-1-77
VESSEL 2931

000015	0	0000	0001	000	293100	020177
000045	0	0002				
000095	0	0004				
000165	0	0006				
000263	0	0008				
999999	0	0010				

CORRECTIONS IN FEET, FATHOMS

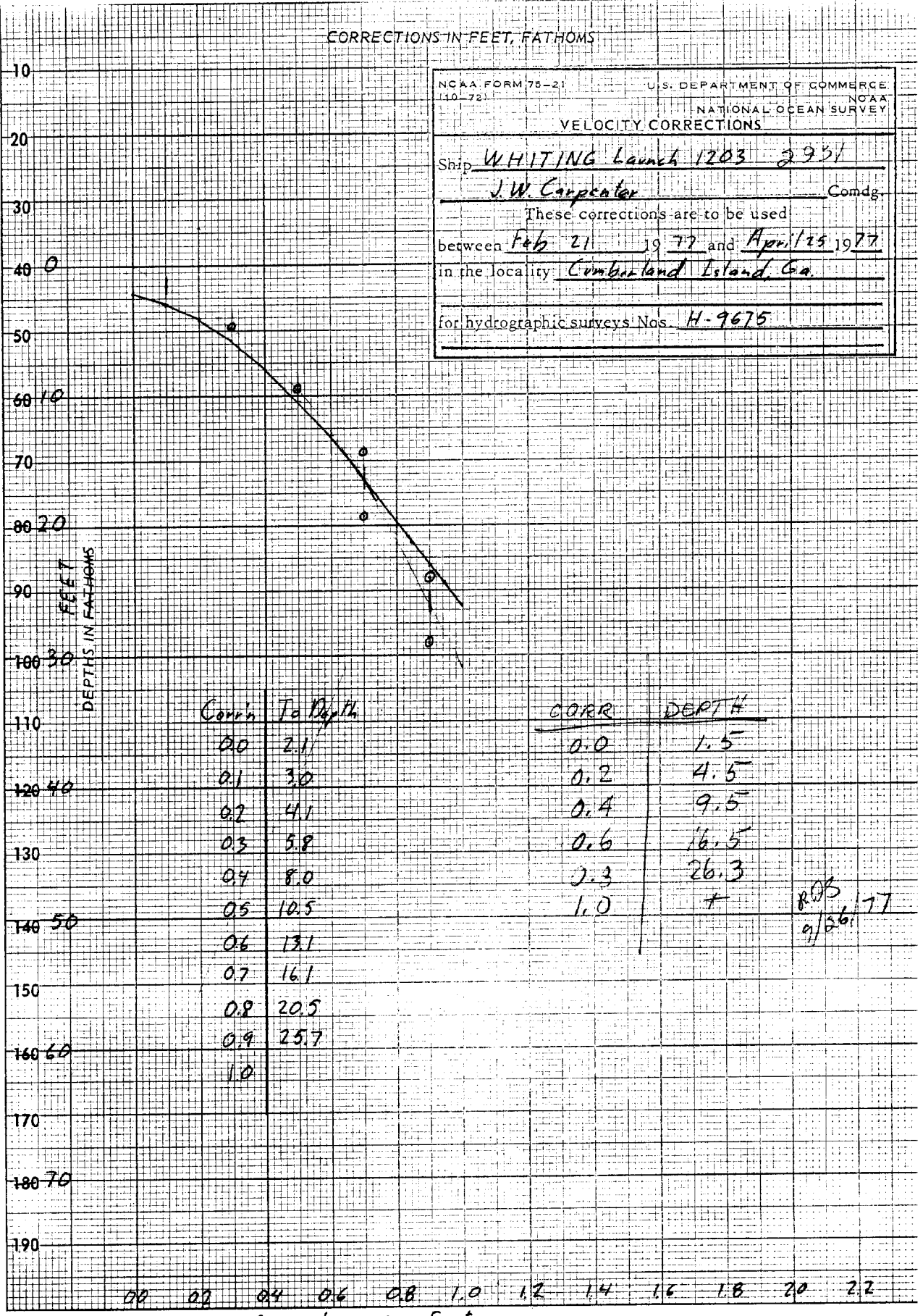
NCAA FORM 75-21 U.S. DEPARTMENT OF COMMERCE
 (10-72) NATIONAL OCEAN SURVEY
 VELOCITY CORRECTIONS

Ship WHITING Launch 1203 2931
J. W. Carpenter Comdg.

These corrections are to be used
 between Feb 21 19 77 and April 25 19 77
 in the locality Cumberland Island, Ga.

for hydrographic surveys Nos. H-9675

(For deep water add a 0 to these figures)



Corr'n To Depth	CORR DEPTH
0.0	1.5
0.1	4.5
0.2	9.5
0.3	16.5
0.4	26.3
0.5	30
0.6	35
0.7	40
0.8	45
0.9	50
1.0	55

RDS
 9/26/77

Corrections in Feet

46 1240

20 X 20 TO THE INCH • 7 X 10 INCHES
 KEUFFEL & ESSER CO. MADE IN U.S.A.

H-9675

REVISED VELOCITY CORRECTION TABLE
WH-20-1-77
VESSEL 2932

000070	0	0000	0002	000	293299	020177
000140	0	0002				
000204	0	0004				
000267	0	0006				
000325	0	0008				
999999	0	0010				

CORRECTIONS IN FEET, FATHOMS

NOAA FORM 75-21 (10-72) U.S. DEPARTMENT OF COMMERCE
 NATIONAL OCEAN SURVEY
 VELOCITY CORRECTIONS

Ship WHITING Launch 1202 2932
J. W. Carpenter Comdg.

These corrections are to be used
 between Feb 23 19 77 and April 20 19 77
 in the locality Cumberland Island, Ga.

for hydrographic surveys Nos. H-9675

10
20
30
40
50
60
70
80
90
100
110
120
130
140
150
160
170
180
190

FEET
 DEPTHS IN FATHOMS

o Bar Check Averages

Corrin	To Depth	CORR	DEPTH
0.0	3.6	0.0	7.0
0.1	7.8	0.2	14.0
0.2	12.7	0.4	20.4
0.3	16.3	0.6	26.7
0.4	19.2	0.8	32.5
0.5	21.9	1.0	+
0.6	24.9		
0.7	28.2		
0.8			

REV
 9/23/77

0.0 0.2 0.4 0.6 0.8 1.0 1.2 1.4 1.6 1.8 2.0 2.2

Corrections in Feet

46 1240

20 X 20 TO THE INCH • 7 X 10 INCHES
 KEUFFEL & ESSER CO. MADE IN U.S.A.

K&E

(For deep water add a 0 to these figures)

Bar Check Averages
Average of bar Check Correctors
WH-20-1-77

	<u>Correction</u>	<i>average observed depth</i> <u>To Depth ...</u>
Launch 1202 <i>VESSEL NO 2932</i>	0.2	9.76
	0.3	14.70
	0.5	19.52
	0.7	24.32
	0.7	29.30
 Launch 1203 <i>VESSEL NO 2931</i>	 0.3	 4.70
	0.5	9.50
	0.7	14.30
	0.7	19.30
	1.0	24.00
	1.0	29.00

Settlement and Squat Trials

7 May 1977

Trials were run at State Dock, Brunswick, Georgia using Level No. C&GS-90. The level rod was held over the transducer location. Results are the average of one run toward the observer and one run away at the designated speeds.

	<u>Speed (RPM)</u>		
	<u>1000</u>	<u>1500</u>	<u>1800 (Full)</u>
Launch 1202	-0.13'	-0.25'	-0.25'
Launch 1203	-0.14'	-0.26'	-0.27'

Corrections for settlement and squat are made on the TC/TI tape. Periods of reduced speed during actual hydrography are noted on the printouts. The annotation "reduced speed" means 1500 RPM, except when otherwise noted. All range/azimuth work was run at reduced speed, except as noted.

FIELD TIDE NOTE

The soundings on this sheet have been reduced for predicted tides based on preliminary zoning furnished in the Project Instructions. Tide gages for this sheet were installed at the following locations:

<u>Name</u>	<u>Location</u>	<u>Dates of Operation</u>
St. Mary's Entrance (867-9997)	30°43.2' N. 81°26.7' W.	Feb. 28-March 8 March 13-17 April 4-11 April 15-May 6
Cumberland (867-8821)	30°51.0' N. 81°25.3' W.	Feb. 18-21 March 1-3 March 7-10 March 14-25 April 1-6 April 8-9 April 14-21 April 23-24 May 6-7 May 10-12

Both gages were in highly exposed locations, the former on a jetty and the latter on open beach. Extreme hose lengths (approximately 1500 feet at St. Mary's) led to considerable difficulties with hose leaks and breakage in the surf.

Marigrams and level records have been forwarded to Oceanographic Division C331.

February 21, 1978

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY

TIDE NOTE FOR HYDROGRAPHIC SHEET

Processing Division: Atlantic Marine Center:

Hourly heights are approved for

Tide Station Used (NOAA Form 77-12): 872-0030 Fernandina Beach, Fl.

Period: February 21 - April 25, 1977

HYDROGRAPHIC SHEET: H-9675

OPR: 436

Locality: Off Cumberland Island, Georgia

Plane of reference (mean ~~lower~~ low water): 1.54 ft.

Height of Mean High Water above Plane of Reference is
6.0 ft.

Remarks: Recommended zoning:

Apply -35 minute time correction to high waters only.

Don Spellman
65 Chief, Tides Branch

GEOGRAPHIC NAMES

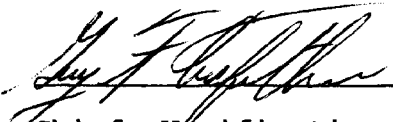
H-9675

Name on Survey	A ON CHART NO. 11504 B ON PREVIOUS SURVEY NO. H-4436 C ON U.S. QUADRANGLE MAPS D FROM LOCAL INFORMATION E ON LOCAL MAPS F P.O. GUIDE OR MAP G RAND McNALLY ATLAS H U.S. LIGHT LIST K										
	A	B	C	D	E	F	G	H	K		
Atlantic Ocean	X										1
Cumberland Island	X	X									2
Stafford Shoal	X										3
											4
											5
											6
											7
											8
											9
											10
											11
											12
											13
											14
											15
										APPROVED	16
										<i>Chas. E. Harrington</i>	17
										CHIEF GEOGRAPHER - C3x5 1 FEB. 1979	18
											19
											20
											21
											22
											23
											24
											25

APPROVAL SHEET
FOR 9675
SURVEY H-~~9785~~

- A. All revisions and additions made on the smooth sheet during verification have been entered in the magnetic tape records for this survey. A new final position printout has/has not been made. A new final sounding printout has/has not been made.
- B. The verified smooth sheet has been inspected, is complete, and meets the requirements of the Hydrographic Manual. Exceptions are listed in the Verifier's Report.

Date: 12/20/78

Signed: 
Title: Chief, Verification Branch

HYDROGRAPHIC SURVEY STATISTICS

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

RECORD DESCRIPTION		AMOUNT	RECORD DESCRIPTION		AMOUNT	
SMOOTH SHEET		1	BOAT SHEETS & PRELIMINARY OVERLAYS		4 & 2	
DESCRIPTIVE REPORT		1	SMOOTH OVERLAYS: POS. ARC, EXCESS		2	
DESCRIP-TION	DEPTH RECORDS	HORIZ. CONT. RECORDS	PRINTOUTS	TAPE ROLLS	PUNCHED CARDS	ABSTRACTS/SOURCE DOCUMENTS
ENVELOPES	1					1 - tides & misc. data
CAHIERS	2 - with printouts		1			
VOLUMES	3					
BOXES			1 - Smooth			

T-SHEET PRINTS (List)

SPECIAL REPORTS (List) g - Chart blow-ups

OFFICE PROCESSING ACTIVITIES

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

PROCESSING ACTIVITY	AMOUNTS		
	PRE-VERIFICATION	VERIFICATION	TOTALS
POSITIONS ON SHEET			2200
POSITIONS CHECKED	210	500	
POSITIONS REVISED		5	
SOUNDINGS REVISED		75	
SOUNDINGS ERRONEOUSLY SPACED		0	
SIGNALS (CONTROL) ERRONEOUSLY PLOTTED		0	
	TIME - HOURS		
CRITIQUE OF FIELD DATA PACKAGE (PRE-VERIFICATION)	3	7	
VERIFICATION OF CONTROL	3		
VERIFICATION OF POSITIONS		50	
VERIFICATION OF SOUNDINGS	1	28	
COMPILATION OF SMOOTH SHEET		30	
APPLICATION OF TOPOGRAPHY		5	
APPLICATION OF PHOTOBATHYMETRY		0	
JUNCTIONS		5	
COMPARISON WITH PRIOR SURVEYS & CHARTS		10	
VERIFIER'S REPORT		10	
OTHER		5	
TOTALS	7	150	157
Pre-Verification by Maurice B. Hickson	Beginning Date 09/30/77	Ending Date 09/30/77	
Verification by Guy F. Trefethen, Franklin L. Saunderson	Beginning Date 10/17/77	Ending Date 12/04/78	
Verification Check by Harry R. Smith	Time (Hours) 4	Date 12/04/78	
Marine Center Inspection by Hydrographic Inspection Team (AMC)	Time (Hours) 15	Date 12/13/78	
Quality Control Inspection by R.W. DeLazarain	Time (Hours) 40	Date Feb 2, 1979	
Requirements Evaluation by J. DeLazarain	Time (Hours) 4	Date 3-6-79	

Reg. No. 9675

The Computer and Excess Sounding cards for this survey have not been corrected to reflect the changes made to the Computer Card and Excess Card Printouts at this time of the review.

When the cards have been updated to reflect the final results of the survey the following shall be completed:

CARDS CORRECTED

DATE _____ TIME REQ'D _____ INITIALS _____

REMARKS:

Reg. No. _____

The magnetic tape containing the data for this survey has not been corrected to reflect the changes made during evaluation and review.

When the magnetic tape has been updated to reflect the final results of the survey, the following shall be completed:

MAGNETIC TAPE CORRECTED

DATE 9-23-82 TIME REQ'D. _____ INITIALS JHE

REMARKS:

ATLANTIC MARINE CENTER
VERIFIER'S REPORT

REGISTRY NO. H-9675

FIELD NO. WH-20-1-77

Georgia, Cumberland Island

SURVEYED: Feburary 21 through April 25, 1977

SCALE: 1:20,000

PROJECT NO.: OPR-436

SOUNDINGS: Raytheon DE 723D

CONTROL: Del-Norte
(Range-Range
& Range-Azimuth)

Chief of Party	J. W. Carpenter
Surveyed by	M. F. Kolesar
.....	D. R. Taylor
.....	J. G. Gofus
.....	G. M. Barone
.....	D. M. Goodrich
.....	J. P. Rubino
.....	R. M. Mandzi
Automated Plot by	CALCOMP-618 Plotter (AMC)
Verified and Inked by	F. L. Saunders
	December 7, 1978

1. Introduction

No unusual problems were encountered during verification except echo sounding strays which are further explained in Section 3 and 4 of this report. The red changes in the Descriptive Report were made by the verifier. The projection parameters have been revised and inserted in the Descriptive Report.

2. Control and Shoreline

a. The control is adequately described in Section F and G of the Descriptive Report. See Q.C. Report.

b. The Shoreline originates with reviewed shoreline manuscripts TP-00497 and TP-00657 of 1973, 1974 and 1975.

3. Hydrography

a. Depths at crossings are in good agreement.

b. The standard depth curves are adequately delineated with the inclusion of several brown curves to delineate certain features.

c. The development of the bottom configuration is adequate. However, because of the irregularities on the inshore portion of the survey in the vicinity of Stafford Shoal, development in this area with 50 meter line spacing would have been more effective. Also, numerous strays were encountered on the fathograms. No mention of their existence was made by the hydrographer in the Descriptive Report nor were there any apparent attempts to investigate the indications on the fathograms to verify or disprove their existence. Many of the strays were scanned by the hydrographer and entered into the field data as valid features there by distorting the bottom configuration. The sounding records had to be rescanned in order to properly portray the bottom configuration.

4. Condition of Survey

The sounding records, field sheets and accompanying overlays, hydrographic records and the Descriptive Report are adequate and conform to the Hydrographic Manual. The following is noted; numerous indications of strays were found on the fathograms. They take an appearance of a solid trace without any evidence of a second echo or indications on adjacent sounding lines. A typical example would be the trace with a least depth of a 23 feet in depth 30 feet which is unsupported by adjacent lines. This example occurs at position No. 3262, 5th out on day 61 at latitude 30°50.65' longitude 81°20.85'.

5. Junctions See Q.C. Report.

Adequate junctions were effected with the following surveys:

H-9678	(1977)	1:20,000	to the north
H-9428	(1974)	1:40,000	to the east
H-9449	(1974)	1:40,000	to the northeast
H-8106	(1954-55)	1:10,000	to the south

~~No contemporary survey junctions with the present survey to the south. However, present depths are in general harmony with charted depths.~~

6. Comparison with Prior Surveys

H-4436	(1924)	1:20,000
H-3770	(1915)	1:80,000

These prior surveys cover the area of the present survey. A comparison between the present and the prior surveys reveals a variable pattern of depth differences of 1 to 5 feet with the prior survey being generally deeper. The greatest depth

differences occurs in the area of Stafford Shoal. As much as 9 feet has been noted and is attributed to the natural changes in the bottom, and less detailed and less accurate methods employed on prior surveys.

The present survey is adequate to supersede the prior survey within the common area.

7. Comparison with Chart 11504 (9th Edition, May 22, 1976)
11503 (29th Edition, July 9, 1977)

a. The charted hydrography originated with the previously discussed prior survey and reported charted features (PSI #20). PSI #20, Sunken wreck charted in latitude 30°47.0 longitude 81°24.0 has been reported to be the wreck of the Caroline, the source is local notice to Mariners No. 7, 1956. An investigation with 50 meter line spacing N-S and E-W was performed finding no evidence of the wreck. However, without wire drag in the area it is recommended to retain this wreck as charted. *Described as "Existence Doubtful"*

The present survey is adequate to supersede the charted information within the common area.

b. Aids to Navigation

There are no aids to navigation within the survey area.

8. Compliance With Instruction

This survey adequately complies with project instructions, *except as noted in para. 2 of the Q.C. Report.*


9. Additional Field Work


This is a good basic survey, additional field work is not recommended.


Inspection Report
H-9675

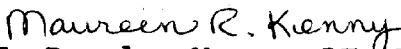
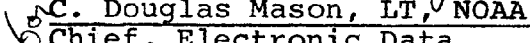
Any verification errors regarding procedures and presentation of survey data detected during inspection by the Hydrographic Inspection Team have been corrected before submission for administrative approval. HIT comments regarding quality of field work, compliance with instructions, and adequacy of the survey have been incorporated within the Verifier's Report.

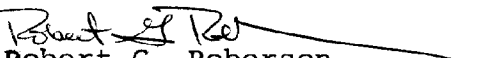
Examined and Approved:
Hydrographic Inspection Team
Date: Dec. 13, 1978.


Robert A. Trauschke, CDR, NOAA
Chief, Processing Division

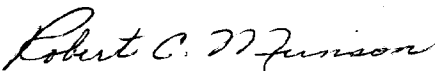

Charles H. Nixon, CAPT, NOAA
Chief, Operations Division


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Processing Division



C. Douglas Mason, LT, NOAA
Chief, Electronic Data
Processing Branch


Robert G. Roberson
Team Leader
Verification Branch

Approved/Forwarded


Robert C. Munson
RADM, NOAA
Director, Atlantic Marine Center



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SURVEY
Rockville, Md. 20852

OA/C352:RWD

February 2, 1979

A. J. Patrick
TO: A. J. Patrick
Chief, Hydrographic Surveys Division

THRU: Chief, Quality Control Branch

FROM: R. W. DerKazarian *R.W. DerKazarian*
Quality Evaluator

SUBJECT: Quality Control Report for H-9675 (1977), Vicinity of Cumberland Island, Southeast Coast, Georgia

A quality control inspection of H-9675 was accomplished to monitor the survey for obvious deficiencies with respect to data acquisition, delineation of the bottom, determination of least depths, navigational hazards, junctions, sounding line crossings, shoreline transfer, smooth plotting, decisions and actions taken by the verifier, and the cartographic presentation of data. In general, the survey was found to conform to the National Ocean Survey's standards and requirements except as stated in the Verifier's Report, the HIT Report, and as follows:

1. Section 2-a of the Verifier's Report is supplemented by the following:

The status of the control stations (triangulation stations) could not be substantiated by the National Geodetic Survey (NGS). It is assumed, however, that the necessary records and computations will eventually be submitted to the NGS. Ultimately, therefore, it is expected that the triangulation station status of the control stations will be validated. Accordingly, the control stations are symbolized as triangulation stations pending formal processing and acceptance as such by the NGS and described as "(Field pos.)" on the smooth sheet.

2. A junction with H-8106 (1954-55) was not effected during verification as outlined in the project instructions.

Section 5 of the Verifier's Report is supplemented by the following:

The mean high and low water lines on H-8106 from incomplete topographic surveys of 1951-52 have accreted approximately 100 meters and affect inshore depths of less than 12 feet. These topographic sheets were later



canceled and designated revision surveys RS 697 and RS 698. Consequently, agreement cannot be effected in these areas covered by the present survey. Also, differences of 1 to 3 feet exist with earlier soundings in present depths of 26 to 36 feet. Due to these conflicts a partial butt junction was made with H-8106 during quality control.

3. Section 4 of the Verifier's Report is supplemented by the following:

Problems with the 723D Raytheon fathometers (serial numbers 37010 and 37018) are apparent on this survey as mentioned in the Verifier's Report and Quality Control Report of H-9679 (1977). The possibility of a chronic malfunction might be considered. It is recommended that if additional surveys have the same problem appropriate steps should be taken to determine the cause and correct it.

4. During verification several soundings were changed in value on the smooth sheet and not indicated in the sounding printout. The Marine Center Approval Sheet does not indicate whether or not the position or sounding printouts are the final printouts. The sounding printout has been corrected when a discrepancy was discovered during quality evaluation.

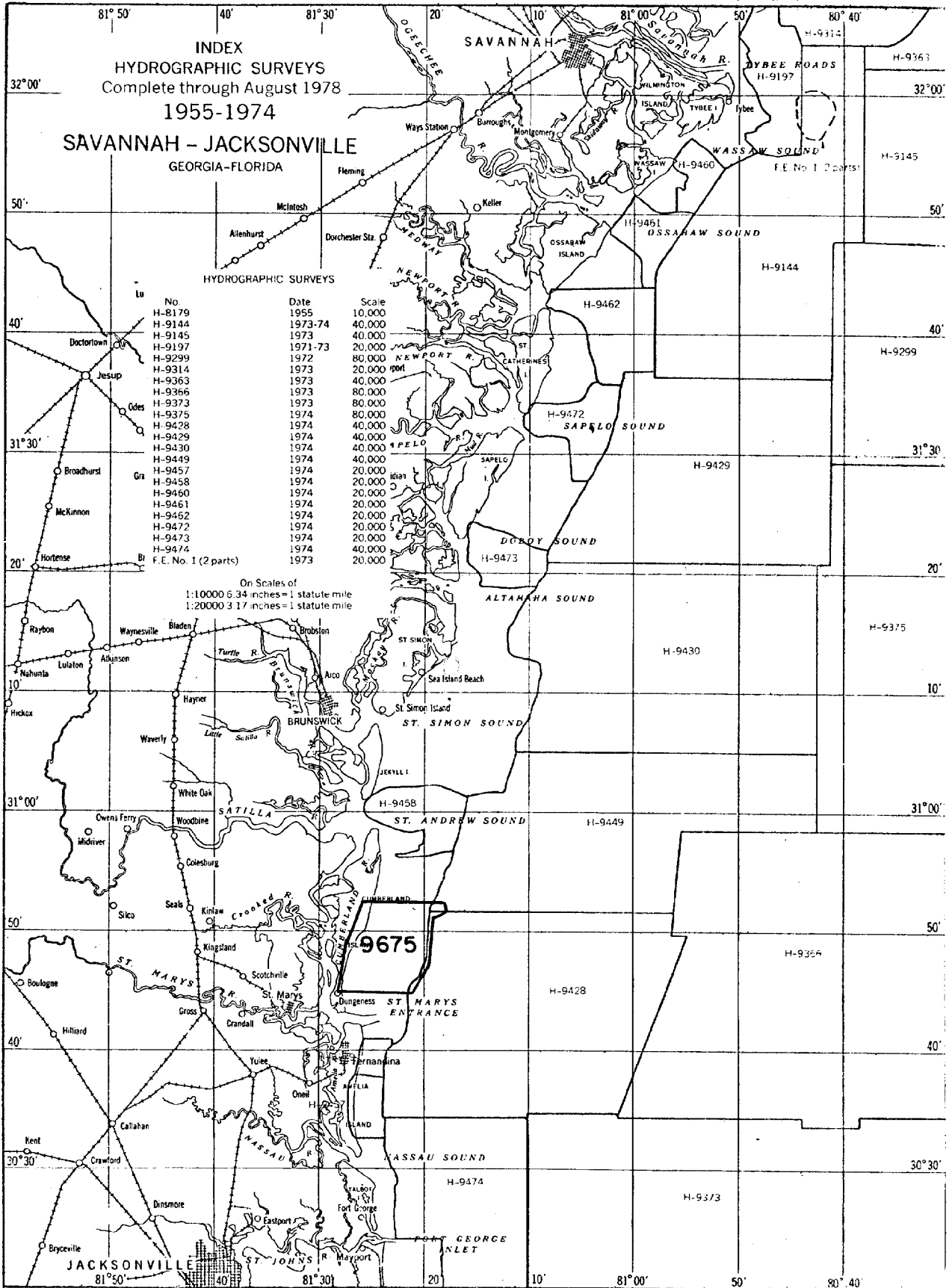
cc:
C35
C351

DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration

National Ocean Survey

Rockville, Maryland

Hydrographic Index No. 75



RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. 9675

INSTRUCTIONS

A basic hydrographic or topographic survey supersedes all information of like nature on the uncorrected chart.

- 1. Letter all information.
- 2. In "Remarks" column cross out words that do not apply.
- 3. Give reasons for deviations, if any, from recommendations made under "Comparison with Charts" in the Review.

CHART	DATE	CARTOGRAPHER	REMARKS
11503	4/12/79	JAY SHERMAN	Full Part Before After Verification Review Inspection Signed Via Drawing No. # 25
11509	10/30/79	Michael W. J. Jhonels	Full Part Before After Verification Review Inspection Signed Via Drawing No. #13
11489	2/27/80	Stephen J. Jerry	Full Part Before After Verification Review Inspection Signed Via Drawing No. 18A Through 11504 a.c.
11502	12/1/79	Stephen J. Jerry	Full Part Before After Verification Review Inspection Signed Via Drawing No. 31 (THROUGH 11503 & 11504) a.c.
11480	2-18-81	Allen J. H.	Full Part Before After Verification Review Inspection Signed Via Drawing No. 32 thru 11502
			Full Part Before After Verification Review Inspection Signed Via Drawing No.
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