

8462

Diag. Cht. No. 1243-2.

FORM C&GS-504

U.S. DEPARTMENT OF COMMERCE
ENVIRONMENTAL SCIENCE SERVICES ADMINISTRATION
COAST AND GEODETIC SURVEY

DESCRIPTIVE REPORT

Type of Survey Hydrographic

Field No. ECFP-2358 Office No. H-8462

LOCALITY

State Florida

General locality St. Johns River Entrance

Locality Atlantic Beach

1958-59

CHIEF OF PARTY

W. A. Hughes & H. S. Cole

LIBRARY & ARCHIVES

DATE August 3, 1960

USCOMM-DC 37022-P66

8462

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-8462

Field No. EGFP-2358

State FLORIDA

General locality ST. JOHNS RIVER ENTRANCE

Locality ATLANTIC BEACH, FLORIDA

Scale 1:20,000 Date of survey 4 November 1958-6 April 1959

Instructions dated 7 August 1958

Vessel East Coast Field Party

Chief of party LT(jg) W. A. Hughes ^{LCDR} ~~LTCDR~~ H. S. Cole

Surveyed by ENS J. D. Wingfield, Jr. ENS J. J. McCoy

Soundings taken by ~~XXXXXXXX~~, graphic recorder, ~~XXXXXXXX~~, ~~XXXXX~~ EDO 255-1 (No. 204)

Fathograms scaled by Party Personnel

Fathograms checked by Party Personnel

Protracted by A.G. Atwill (Norfolk Processing Office)

Soundings penciled by A.G. Atwill (" " "

Soundings in ~~XXXXXX~~ feet at MLW ~~MINAW~~ are true depths.

REMARKS:



Handwritten initials or mark.

DESCRIPTIVE REPORT
TO ACCOMPANY

HYDROGRAPHIC SURVEY H-8462, FIELD NO. ECFP-2358
ATLANTIC BEACH, FLORIDA

PROJECT CS-407

SCALE: 1:20,000

EAST COAST FIELD PARTY

W. A. HUGHES, LT(jg)
O-IN-C (9/15/58)

1958-1959

H. S. COLE, LTCDR
O-IN-C (1/15/59)

SURVEYED BY: J. D. WINGFIELD, JR., ENS, C&GS
J. J. McCOY, ENS, C&GS

A. PROJECT

Work on Project CS-407 was executed in accordance with instructions 222/MEK; FP-EAST COAST, dated 7 August 1958.

B. SURVEY LIMITS AND DATES

The area covered by this survey is the offshore region of C. & G. S. Chart 577 between the St. Johns River entrance south jetty and the northern extremity of Jacksonville Beach, Florida. Limits of the survey are approximately from Latitude $30^{\circ} 18.1'$ to Latitude $30^{\circ} 24.3'$; Longitude $81^{\circ} 17.9'$ to the Florida coast (approximate Longitude $81^{\circ} 23.7'$).

The limits of the survey in the easterly and southerly directions are the limits of C. & G. S. Chart 577; to the westerly the shoreline; and the northerly limit is a line approximately east-west in direction passing about three tenths of a mile (0.3 mi) north of the north jetty at the St. Johns River entrance.

B. SURVEY LIMITS AND DATES (cont'd)

Field work commenced on 4 November 1958 and ended on 6 April 1959.

This survey encompasses the area covered by the following hydrographic sheets:

Register No. 4373	1924	1:20,000
Register No. 3770	1915	1:80,000
Register No. 3964	1917	1:60,000
Register No. 1541	1883	1:10,000
Register No. 586	1857	1:10,000
Register No. 1224	1874	1:20,000

Field work was delayed in late December because of annual Christmas leave. Hydrographic operations were completed on 10 March though one day of field observations was required to complete the necessary data on 6 April 1959.

C. VESSELS AND EQUIPMENT

Launch CS-183 was used on the entire survey. The launch was based at Mayport Naval Auxiliary Air Station. Launch CS-183 is a 33 foot, wooden-hulled, cabin-type craft with a turning radius of 25 meters at half rudder and standard speed. The standard sounding speed is about 8.5 knots at 1800 rpm. Reduced speed lines were run at 5 knots at 1000 rpm. Edo Type 255-1 fathometer, Serial Number 204 with a Kato converter and later a vibrator-type converter for a power source were used. The Kato converter was used from 4 November 1958 to 5 February 1959 and the vibrator was installed on 6 February 1959 and used for the duration of the hydrography. Launch CS-183 is equipped with two transducer hull fittings, one on each side of the keel, in accordance with C. & G. S. Specification FU-2053.

D. TIDE AND CURRENT STATIONS

The tide station used for control of the entire survey was located on the end of the fishing pier at the Atlantic Beach Hotel; Atlantic Beach, Florida (Latitude $30^{\circ} 20.06'$; Longitude $81^{\circ} 23.67'$)

Data for reduction of sounding volumes may be taken directly from the station records without time or range correction.

For the period 4 November 1958 through 14 November 1958 the Atlantic Beach tide gage was inoperative and inferred tides from the standard gage at Mayport, Florida were requested from the Washington office.

E. SMOOTH SHEET

Not applicable.

F. CONTROL STATIONS

The following triangulation was used to control this survey: ✓

<u>STATION</u>	<u>SIGNAL NAME</u>	<u>G.P.PGE.</u>	<u>VOL.</u>	<u>CH.ofPTY.</u>
ATLANTIC BEACH HOTEL WATER TANK, 1932	TEL	42	1	CMD
FORT GEORGE ISLAND RIBAUT CLUB WATER TANK, 1929	RIB	39	1	EAD
JACKSONVILLE BEACH BLACK MUNICIPAL WATER TANK, 1932	PAL	43	1	HCW
ST. JOHNS LIGHTHOUSE, 1954	LIG	933		

The following topographic signals were employed as control for this survey: ✓

<u>STATION</u>	<u>SIGNAL NAME</u>	<u>MANUSCRIPT</u>
RADIO BEACON, 1954	BEA	T-10827
TANK, 1958	TAN	T-10832
TANK, 1950	DWD	T- 9306

Methods of locating the control for this survey are outlined in detail in paragraph B. CONTROL of REPORT OF PHOTOGRAM-METRIC SUPPORT TO EAST COAST FIELD PARTY which was submitted by LT(jg) O. J. Weber and approved by R. S. Tibbetts, Acting Chief of Party. ✓

G. SHORELINE AND TOPOGRAPHY

Shoreline and topographic details were obtained from photographic manuscripts T-10827, T-10832, and T-10836. ✓

The only change in shoreline and topographic detail not shown on the above mentioned manuscripts is the deletion of the sheets showing the end of the St. Johns River entrance jetties. The manuscripts showing these details were not furnished. Location of the terminal point of the jetties was determined by sextant cuts; see volume 10 of the field records - pages 3 and 4 dated 11 March 1959. (See addendum) ✓

H. SOUNDINGS

The majority of the soundings were made with an EDO echo sounder. (Model Number 255-1; USC&GS #204) A Kato converter was used for the echo sounder power supply from 4 November 1958 to. ✓

H. SOUNDINGS (cont'd)

5 February 1959. A vibrator-type power supply replaced the Kato on 6 February and was used until completion of the hydrography. ✓

Since frequency stability and power drain were great enough to cause severe velocity corrections the vibrator-type power supply was preferred to the Kato unit. See Section U. of this report. ✓

The lead line was used to obtain bottom samples and the least depth on shoals and wrecks while the sounding pole was used to obtain soundings in water too shoal for fathometer use. ✓

I. CONTROL OF HYDROGRAPHY

All hydrographic control was by standard visual methods with sextant angles taken on shore objects. Positions were taken from 1 to $2\frac{1}{2}$ minutes apart. ✓

J. ADEQUACY OF SURVEY

This survey is complete and is adequate to supersede prior surveys for charting. ✓

It is believed that the reliability of some of the hydrography might be impaired by the erratic action of the fathometer power supply. This condition does not prevail subsequent to 5 February 1959. See Sections H. and U. of this report. ✓

Hydrography complied with the project instructions and with methods outlined in the Hydrographic Manual. ✓

Junctions with adjoining surveys appear to be satisfactory. Depth curves may be adequately drawn at the junctions. ✓

K. CROSSLINES

Crosslines were run at approximately $7\frac{1}{2}\%$ of the line spacing. Discrepancies at crossings appearing on the boat sheet are diminished almost entirely by applying smooth tides and the velocity corrections. Where differences do exist they may be explained in part, if not entirely, to erratic fathometer operation as explained previously. Note Section U. ✓

L. COMPARISON WITH PRIOR SURVEYS

There is general agreement between this survey and the prior surveys tabulated in Section B. of this report. ✓

There is also general agreement between this survey and the Corps of Engineers survey of the St. Johns River entrance channel (Advance copy furnished entitled JACKSONVILLE HARBOR, FLORIDA; no date; scale of 1"=200'). ✓

M. COMPARISON WITH CHART

A comparison with C. & G. S. Chart 577, 29th Edition; February 25, 1957; Revised 10/27/58 shows no important differences except those noted in Section N. of this report. ✓

N. DANGERS AND SHOALS

89 A shoal which does not show on C. & G. S. Chart 577 was found in the area Latitude $30^{\circ} 23.02'$ and Longitude $81^{\circ} 21.95'$. Extensive development was made in the area, as outlined in Volumes 9 and 10 (ea day and ea day). Though a depth of 21.3 feet was recorded on ea day, further investigation could not verify this sounding and the least depth should be 22.4 feet as appears on position 30 (ea day). ✓

Least depth is
20.8 ft. (50-51+)
See overlay 4

Preliminary review item Number 1 is discussed in Volume 9, ea day, position 1. Location of a second wreck is revealed under position 2 of that day. Since these two items were reached by truck, no depths are available. Latitude of the first item is $30^{\circ} 22.84'$; Longitude is $81^{\circ} 23.81'$. Position of the second item is Latitude $30^{\circ} 21.12'$; Longitude $81^{\circ} 21.11'$. ✓

Location of uncharted pilings in the vicinity of the Atlantic Beach Hotel pier are recorded in Volume 10, ga day, Cuts were taken from the beach as outlined in the volume as it was deemed inadvisable to attempt detached positions from the launch. Estimated depth of water at the base of the pilings is 1 foot. Position of these objects is in the vicinity of Latitude $30^{\circ} 20.48'$; Longitude $81^{\circ} 23.75'$. ✓

The general character of the beach for the entire project area is a gradual slope from the 2 fathom line to the high water line. ✓

O. COAST PILOT INFORMATION

When the smooth sheet is plotted it is deemed advisable to check Page 275 - Lines 7-9 for the location and/or existence of the shoal mentioned. ✓

O. COAST PILOT INFORMATION (cont'd)

There are no additional changes to the Coast Pilot to report within the limits of this sheet.

The launch (CS-183) used in this survey was moored at the U. S. N. A. A. S., Mayport, Florida (Ribault Bay) docks maintained by Naval personnel. As stated in the current Coast Pilot, there are no facilities for private craft in these restricted waters.

P. AIDS TO NAVIGATION *See N.P.O. List*

Following is a list of all floating aids to navigation:

<u>BUOY NAME</u>	<u>LATITUDE & LONGITUDE</u>	<u>DEPTH</u>	<u>DAY</u>	<u>DATE</u>
ST. JOHNS LIGHTED WHISTLE BUOY 2 ST J	30° 23.65' ✓ 81° 19.13' ✓	49.8	fa	10 March 1959
ENTRANCE LIGHTED GONG BUOY 3	30° 23.68' ✓ 81° 21.41' ✓	40.8	fa	10 March 1959
ENTRANCE LIGHTED BELL BUOY 4	30° 23.85' ✓ 81° 21.39' ✓	41.2	fa	10 March 1959
ENTRANCE BUOY 4A	30° 23.92' ✓ 81° 21.97' ✓	35.0	fa	10 March 1959
ENTRANCE BUOY 5	30° 23.74' ✓ 81° 21.97' ✓	43.0	fa	10 March 1959
LIGHTED BELL BUOY 6	30° 23.93' ✓ 81° 22.36' ✓	69.4	fa	10 March 1959
LIGHTED BELL BUOY 7	30° 23.77' ✓ 81° 22.49' ✓	41.4	fa	10 March 1959

A report to the Commanding Officer of the Seventh Coast guard District at Miami, Florida was submitted on 18 May 1959 concerning the location of the floating aids to navigation appearing on this sheet.

A copy of the aforementioned report together with a special report of explanation was forwarded to the Director on the same date.

Positions of fixed aids to navigation were submitted to the Director throughout the course of the project by the Photogrammetry Group (Party #723) under the direction of Mr. Joseph Wilson and LT(jg) O. J. Weber.

Q. LANDMARKS FOR CHARTS

Landmarks for charts were submitted with aids to navigation as noted in paragraph 4, section P., of this report. ✓

There are no additional additions or deletions to be submitted at this time. ✓

R. GEOGRAPHIC NAMES

Geographic names were submitted with aids to navigation as noted in paragraph 4, section P., of this report. ✓

There are no additional additions or deletions to be submitted at this time. ✓

S. SILTED AREAS

Silted areas were not encountered in the survey area. ✓

T. BY-PRODUCT INFORMATION

Not applicable. ✓

U. FATHOMETER REPORT

The season began with a KATO converter installed on CS-183. Since shore power was not available at all times at the anchorage, the condition of the boat's batteries often was below the safe level and frequency stability could not be maintained. ✓

The daily frequency variation can be seen on the fathograms and in the volumes. In compiling the velocity corrections (curves sent under separate cover) the idea was to group days with approximately the same frequency, hence the same corrections. This method seemed satisfactory inasmuch as crosslines approached more realistic agreement. ✓

In at least one instance it was considered advisable to develop the theoretical curve, since a satisfactory bar check was not available at the working frequency. The curve (f day) was drawn by the following method: ✓

Referring to the Hydrographic Manual, Section 561 and the formula

$$\pm \text{ FACTOR} = \frac{\text{ACTUAL MEAN VELOCITY-CALIBRATION VELOCITY}}{\text{CALIBRATION VELOCITY}}$$

and if we assume the optimum operation frequency of the motor is 62 cps, the formula provides the ratio of +0.0403. The frequency of 62cps is based on bar checks during the season.

U. FATHOMETER REPORT (cont'd)

This factor (0.04) multiplied by the depth yields the velocity correction. ✓

Later in the season (see section C. of this report) a vibrapack was installed, replacing the KATO. Frequency stability was attained to a much greater degree. ✓

Throughout the season a great deal of trouble was encountered with needle breakage, sometimes requiring three and four replacements a day. ✓

RESPECTFULLY SUBMITTED,

J. Dunston Wingfield, Jr.

J. Dunston Wingfield, Jr.
ENS, C&GS

APPENDIX ATTACHMENTS

- A. LIST OF CONTROL STATIONS
- B. STATISTICS
- C. TIDAL NOTE
- D. APPROVAL SHEET

APPENDIX A
LIST OF CONTROL STATIONS
Hydrographic Sheet H-8462(EGFP-2358)

	<u>STATION</u>	<u>ORIGIN</u>	<u>MANUSCRIPT</u>
I. TRIANGULATION:			
	LIG	ST. JOHNS LIGHTHOUSE, 1954	T-10827
	PAL	JACKSONVILLE BEACH BLACK MUNICIPAL WATER TANK, 1952	T-10836
	RIB	FORT GEORGE ISLAND, RIBAULT CLUB, WATER TANK, 1929	T-10827
	TEL	ATLANTIC BEACH HOTEL WATER TANK, 1932	T-10832
II. TOPOGRAPHIC:			
	BEA	RADIO BEACON, 1954	T-10827
	TAN	TANK, 1958	T-10832
	DUD	TANK, 1950	T-9306
III. PHOTO-HYDRO:			
	ACT	T-10827	ODD T-10832
	AMY	32	PET 32
	BED → BEA	27	QUO 32
	BOA	32	RIM 32
	CON	32	SOL 36
	CUT	27	SUB 32
	DIX → DUD	27	TCM → TAN 32
	DUN	32	TRY 36
	EVA	32	USE 32
	FOE	32	VAN 36
	GAG	32	VEX 27
	HUT	32	WAS 36
	ICE	32	WIG 27
	JAP	32	YAK 32
	KIM	32	YEA 27
	LEG	32	ZIG 32
	MAG	32	ZOO T-10827
	NEW	T-10832	

NORFOLK PROCESSING OFFICE
 FLOATING AIDS TO NAVIGATION
 H-8462

<u>BUOY</u>	<u>LATITUDE</u>	<u>LONGITUDE</u>	<u>DEPTH</u>	<u>POS. NO.</u>	<u>DATE</u>
<u>RIBBULT BAY</u>					
Chan. Light 5	30-23.66	81-24.36 ✓	15'	1a	11/ 4/58
Chan. Buoy 3	30-23.70	84-24.21 ²⁵	33'	2a	"
Chan. L'td. Buoy 4	30-23.79	81-24.26 ✓	36'	3a	"
Chan. Buoy 2	30-23.86 ✓	81-23.96 ✓	27'	4a	"
Chan. Buoy 1A	30-23.77 ✓	81-23.90 ✓	33'	5a	"
Junction L'td. Bell Buoy ✓	30-23.92 ✓	81-23.65 ✓	40'	6a	"
Chan. L'td. Buoy 1	30-23.84 ✓	81-23.60 ✓	45'	7a	"
<u>ST. JOHNS</u>					
L'td. Bell Buoy 9	30-23.87 ✓	81-23.18 ✓	36'	8a	"
L'td. Whis. Buoy 8	30-24.03 ✓	81-23.08 ✓	39'	9a	"
*L'td. Bell Buoy 7	30-23.79 ✓	81-22.51 ✓	-	1fa	3/10/59
Entr. Buoy 5	30-23.75 ⁰	81-21.99 ✓	-	2fa	"
Entr. L'td. Gong Buoy 3	30-23.70 ✓	81-21.42 ✓	-	3fa	"
L'td. Whis. Buoy 2St. J	30-23.66 ✓	81-19.14 ✓	-	4fa	"
Entr. L'td. Bell Buoy 4	30-23.87 ✓	81-21.39 ✓	-	5fa	"
Entr. Buoy 4A	30-23.92 ✓	81-21.98 ✓	-	6fa	"
L'td. Bell Buoy 6	30-23.96	81-22.38 ✓	-	7fa	"

*See Addendum

APPENDIX B
 STATISTICS TO ACCOMPANY
 Hydrographic Survey H-8462 (ECFP-2358)

DATE	VOLUME NUMBER	LAUNCH CS-183		POSITS. FATH.	NAUTICAL MILES SOUNDING
		DAY LTR.	NO. D.P.		
11-4-58	1	a	16	12	3.0
11-7-58	1	b		154	40.6
11-10-58	1&2	c		154	39.3
11-11-58	2	d		9	2.3
11-13-58	2	e		1	0.2
11-14-58	2	f		73	16.5
11-17-58	2	g		60	10.5
11-18-58	2&3	h		151	36.9
11-19-58	3	j		34	8.0
11-20-58	3	k		104	24.3
11-21-58	4	l		41	10.2
12-4-58	4	m		76	20.2
12-5-58	4	n		59	17.0
12-9-58	4&5	p		96	25.9
1-20-59	5	q		166	31.5
1-28-59	6	r		101	22.9
2-5-59	6	s		102	22.5
2-6-59	6&7	t		123	26.3
2-10-59	7	u		61	10.9
2-11-59	7	v		147	30.6
2-16-59	8	w		106	18.6
2-17-59	8	x		130	31.0
2-18-59	9	y		85	22.4
2-24-59	9	z		110	21.8
3-2-59	9	aa	2		0.0
3-3-59	9	ba	55		6.3
3-4-59	10	ca	7		0.0
3-6-59	10	da	15		0.0
3-9-59	10	ea	21	60	7.8
3-10-59	10	fa	7		---
4-6-59	10	ga	3		---
		TOTALS	126	2215	507.5
					SQUARE NAUTICAL MILES OF SOUNDING 29.0

APPENDIX C

TIDAL NOTE FOR HYDROGRAPHIC SURVEY
H-8462 (ECFP-2358)

All tidal data for reduction of soundings were obtained from a portable tide gage on the Atlantic Beach Hotel pier, Atlantic Beach, Florida.

Gage location: Lat. 30° 20.06'
 Long. 81° 23.67'

Staff: Mean low water corresponds
 to 3.6 feet on the staff.

Correction: No time or height correction
 was applied to the results
 obtained from the gage in
 reducing soundings.

Inferred Tides: Inferred tides for this lo-
 cation were obtained from
 the Washington Office for
 the period 4 November 1958
 through 14 November 1958.

APPENDIX D

APPROVAL SHEET

TO ACCOMPANY

HYDROGRAPHIC SURVEY H-8462 (ECFP-2358)
PROJECT CS-407

The record corrections, fathograms, scanning and all field work were supervised by William A. Hughes and H. S. Cole.

The fathograms were scanned prior to plotting the soundings on the boat sheet and no further scanning is necessary.

The descriptive report was written under the supervision of H. S. Cole.

The report and the records for this survey are complete and adequate to the best of my knowledge.

APPROVED AND FORWARDED



Howard S. Cole
LCDR., C&GS
Chief of Party

NONFLOATING AIDS OR LANDMARKS FOR CHARTS

~~TO BE CHANGED~~
TO BE DELETED

~~STRIKE OUT ONE~~

I recommend that the following objects which have ~~(insert)~~ been inspected from seaward to determine their value as landmarks be ~~deleted~~ *(deleted from)* the charts indicated.
The positions given have been checked after listing by Jenome E. Tolodziecki Jr.

Jacksonville Florida

5 Pages + 1958

John S. P. Randell Chief of Party

STATE	CHARTING NAME	DESCRIPTION	SIGNAL NAME	POSITION				METHOD OF LOCATION AND SURVEY NO.	DATE OF LOCATION	HARBOR CHART	INSHORE CHART	OFFSHORE CHART	CHARTS AFFECTED	
				LATITUDE *		LONGITUDE *								DATUM
				'	"	'	"							
Florida	ST. JAMES RIVER ENTRANCE LIGHT 7			30	23.8	81	22.5		1958			569 577 1243		

This form shall be prepared in accordance with Hydrographic Manual, pages 800 to 804. Positions of charted landmarks and nonfloating aids to navigation, if redetermined, shall be reported on this form. The data should be considered for the charts of the area and not by field survey sheets. Information under this title should be given.

NORFOLK PROCESSING OFFICE
ADDENDUM
To Accompany

HYDROGRAPHIC SURVEY H-8462(ECFP-2358)

CONDITION OF SURVEY

Except for "c" day, soundings are in generally good agreement at crossings considering the many minor irregularities in the bottom, the fathometer troubles experienced, and the choppy sea conditions in this exposed area.

The soundings on "c" day average 1 to 2 feet shoaler than surrounding hydrography and the condition is believed to be due to fathometer frequency variations. For the convenience of the verifiers, applicable corrections have been attached to the volume for this day in the event this method is used to resolve the discrepancy. However, this solution would not be in keeping with the grouping method used by the field party.

OVERLAYS

To avoid undue congestion on the smooth sheet, positions and soundings were plotted on overlays as follows:

Overlay # 1, Pos. 1 thru 12ba	Overlay # 4, Pos. 21 thru 38ba
" # 2, " 13 " 20ba	" # 5, " 49 " 72ea
" # 3, " 1 " 29ea	

DISCREPANCIES

Cuts about 30 mn. inshore of topo. end of jetties. No change made to topographic position

The sextant cuts on pages 3 and 4, vol. 10, locating the outer ends of the jetties, were not smooth plotted as the exact position of the observer could not be determined at the intersection of north jetty and the shoreline.

The strong fathometer indication, extending to 37 feet in surrounding depths of 50 feet and appearing between positions 48 and 49n, was ~~not~~ smooth plotted ^{at 37 feet} ~~as~~ additional development on overlay #5 gave no further confirmation. This indication falls in the same place as the 38 foot sounding charted at Lat. 30-19.6' Long. 81-18.2'.

CHART COMPARISONS

*But sheet sounding
Sounding should be retained pending investigation
by Wire Drag. D.R.E. 12-22-60
with discrepancy reported by
R.A. Costens 5-22-68 T.H.C.*

A rough copy of form 567 (Landmarks For Charts), which is being made a part of this report, recommends the deletion of Light "7" at the East end of South jetty. It is still listed in the 1960 Light List and appears on our present supply of charts.

A comparison with chart 577 shows a general shoaling of the offshore area. (See attached chart section showing comparative smooth sheet depths in red pencil- also, note displacement of 18 and 30 foot curves).

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

Norfolk, Va.
25 July 1960

RHC

TIDE NOTE FOR HYDROGRAPHIC SHEET

~~Division of Coast and Surveys~~

19 August 1960

Division of Charts: R. H. Carstens

Plane of reference approved in
10 volumes of sounding records for

HYDROGRAPHIC SHEET 8462

Locality Atlantic Beach, Florida

Chief of Party: H. S. Cole in 1958 - 1959
Plane of reference is mean low water, reading
3.6 ft. on tide staff at Atlantic Beach
16.6 ft. below B. M. No. 1 (1958)

Height of mean high water above plane of reference is 5.2 feet.

Condition of records satisfactory except as noted below:

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

<u>VOL.</u>	<u>POSITIONS</u>
6	1 t - 44 t 1 s - 77 s
7	45t - 123t
10	1ea - 50ea

William Hofner

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

GEOGRAPHIC NAMES
Survey No. H-8462

Name on Survey	<div style="display: flex; justify-content: space-around; font-size: small;"> On Chart No. 577 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 </div>										
	A	B	C	D	E	F	G	H	K		
Atlantic Beach	x										1
Manhattan Beach	x										2
Neptune Beach	x										3
St. Johns Point	x										4
St. Johns River	x									x	5
											6
											7
											8
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											27

George M. Bee
GEOGRAPHIC NAMES SECTION
10 AUGUST 1960

Hydrographic Surveys (Chart Division)

HYDROGRAPHIC SURVEY NO. 8462

Records accompanying survey: Smooth sheets 1;
 boat sheets 1; sounding vols. 10; wire drag vols.;
 Descriptive Reports 1; graphic recorder envelopes;
 special reports, etc. 5-Overlays 8-Cahier-Velocity Corrections.....

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

Number of positions on sheet	2341.
Number of positions checked	234.
Number of positions revised	0
Number of soundings revised (refers to depth only)	380
Number of soundings erroneously spaced	5
Number of signals erroneously plotted or transferred	0
Topographic details	Time 28.
Junctions	Time 18.
Verification of soundings from graphic record	Time 4.
Special adjustments	Time 40.

Verification by James H. Logrove Total time 398 Date 7/12/68
 Reviewed by Henry Myers Time 113 hrs Date 8-9-68

OFFICE OF HYDROGRAPHY AND OCEANOGRAPHY

MARINE CHART DIVISION

HYDROGRAPHIC SURVEY REVIEW

REGISTRY NO. H-8462

FIELD NO. ECFP 2358

Florida, St. Johns River Entrance, Atlantic Beach

SURVEYED: November 4, 1958 - April 6, 1959

SCALE : 1:20,000

PROJECT NO.: CS-407

SOUNDINGS: EDO-255 Depth
Recorder, Lead
Line

CONTROL: Sextant Angles
on Shore Signals

Chief of Party..... H. S. Cole
..... W. A. Hughes
Surveyed by..... J. J. McCoy
..... J. D. Wingfield, Jr.
Protracted by..... A. G. Atwill (Norfolk)
Soundings Plotted by..... A. G. Atwill
Verified and Inked by..... J. H. Cosgrove
Reviewed by..... G. K. Myers
..... Date: 08/09/68
Inspected by..... R. H. Carstens

1. Description of the Area

This is an inshore survey which covers the continental shelf along the Florida coast from St. Johns River Entrance on the north to Jacksonville Beach on the south. The eastern limit of the survey extends to 80°18'. The bottom in the area is uniformly sloping except at St. Johns River Entrance which is a dredged channel maintained by the Corps of Engineers. In the vicinity of St. Johns River Entrance there are a few sand ridges in depths of 18 - 40 ft. Off Jacksonville Beach the slope reaches depths of 40 feet within 1½ miles from shore. Here, at these depths, the bottom is relatively flat. The character of the bottom along the shelf in the area covered by the present survey is predominantly sand and mud.

2.

2. Control and Shoreline

The origin of control is adequately covered in Part F of the Descriptive Report.

The shoreline originates with reviewed photogrammetric manuscripts T-10827(1958-59), T-10832(1958-59), and T-10836(1958-59).

3. Hydrography

A. Depths at crossings are in good agreement. In some instances, for example pos. 22-96C launch, correctors were applied by the verifier for variation in frequency of the Kato converter which resolved disagreements in crossings. Crossing discrepancies appearing on the boat sheet were due to erratic changes of fathometer speed and inadequate extension of the bar check.

B. The usual depth curves were adequately delineated. The development of bottom configuration and the investigation of least depths is considered adequate.

4. Condition of the Survey

The field plotting, sounding records, and Descriptive Report are adequate and conform to the requirements of the Hydrographic Manual.

5. Junctions

An adequate junction was made with H-8107(1954) on the north. No contemporary survey junctions with the present survey on the east and south. However, present survey depths are in general harmony with charted depths in these areas.

6. Comparison With Prior Surveys

A.	H-351	(1853)	1:10,000
	<u>H-586</u>	<u>(1857)</u>	<u>1:10,000</u>

The prior surveys taken together cover a common area of the present survey. Since the St. Johns River Entrance Channel was dredged subsequent to the prior surveys, a comparison of depths with the present survey reveals differences of 20-30 feet.

3.

In the area east of St. Johns Point prior depths are 8 feet shoaler than present depths of 15-17 feet. This difference is considered to have been caused by the construction of jetties along St. Johns River Entrance.

B.	H-1110	(1871)	1:20,000
	H-1224	(1874)	1:20,000
	<u>H-1541</u>	<u>(1883)</u>	<u>1:10,000</u>

The present survey falls within the area of these earlier surveys. In the northwestern portion of the survey extensive shoaling has occurred, as for example in lat. $30^{\circ}23.0'$, long. $81^{\circ}22.0'$ where a shoal, least depth of 21-ft. is found, prior depths on H-1224 were 43 feet. In lat. $30^{\circ}23.0'$, long. $81^{\circ}22.0'$ the area has shoaled as much as 10 feet. However, the prior shoal of less than 6 feet in lat. $30^{\circ}23.1'$, long. $81^{\circ}23.0'$ has now eroded to 19 feet. In other areas the shoaling is much less, being about 2-4 feet.

C.	H-3770	(1915)	1:80,000
	H-3964	(1917)	1:60,000
	<u>H-4373</u>	<u>(1924)</u>	<u>1:20,000</u>

The relatively small scale of the prior surveys and their lack of extensive development, prevent a detailed comparison with the present survey. However, shoaling of about 2-3 feet is found, except in the area 1-3 miles east of St. Johns Point where the 30-foot depth curve has migrated $\frac{1}{2}$ mile eastward. Here, shoaling of 6-9 feet has occurred.

A comparison, in a few instances, reveals a shoaling of as much as 5-7 feet within depths of 40-50 feet on the present survey. For example, the prior 61-foot depths located at lat. $30^{\circ}18.4'$, long. $81^{\circ}20.9'$ from H-3964 now fall in 54-foot depths on the present survey.

The shoal, least depths of 26-ft, located at lat. $30^{\circ}23.4'$, long. $81^{\circ}21.4'$ on the prior survey presently falls in depths of 37-38 feet.

The present survey is adequate to supersede all the prior surveys in the common area.

4.

7. Comparison With Chart 569 (latest print date 09/19/66)

A. Hydrography

Most of the charted hydrography originates with the previously discussed surveys which require no further consideration supplemented by partial application of depths from the unverified smooth sheet of the present survey and from prior Corps of Engineers surveys.

Soundings charted between the jetties of the St. Johns River Entrance originate with prior Corps of Engineers surveys. These soundings fall in unsounded areas of the present survey and should be retained as charted.

Attention is directed to the following:

1. The wreck charted in lat. $30^{\circ}22.53'$, long. $81^{\circ}23.79'$ from a stranded wreck on H-4373 was neither verified nor disproved by the present survey and has been retained as a submerged wreck.
2. The pier ruins charted at lat. $30^{\circ}17.51'$, long. $81^{\circ}23.37'$ and lat. $30^{\circ}20.04'$, long. $81^{\circ}23.75'$ originate with 1964 air photos (Bp-66609) subsequent to the date of the survey and should be retained on the chart.
3. The dolphins charted in lat. $30^{\circ}23.78'$, long. $81^{\circ}22.51'$ were reported in Notice to Mariners No. 33 of 1963 subsequent to the date of the survey and should be retained on the chart.
4. The pier ruins charted at lat. $30^{\circ}22.90'$, long. $81^{\circ}23.80'$ fall on delineated limits of the Naval Station boundary as described on T-10827. It is considered this boundary limit was compiled as ruins and should be deleted from the chart.

Except as noted above, the present hydrography is adequate to supersede the charted hydrography within the common area.

B. Controlling Depths

The charted controlling depth note of St. Johns Bar Cut is based on Corps of Engineers data subsequent to the present survey and supersedes the present survey information.

5.

C. Aids to Navigation

The aids shown on the present survey are in substantial agreement with their charted positions and adequately mark the features intended.

Lighted buoy "7" located at lat. $30^{\circ}23.78'$, long. $81^{\circ}22.50'$ on the present survey appears as a fixed aid on the chart. The buoy on the survey was apparently temporary, serving till Light "7" was rebuilt after its destruction prior to the date of the survey.

8. Compliance With Instructions


This survey adequately complies with the Project Instructions.

9. Additional Field Work Recommended


This survey is considered to be a good basic survey and no additional hydrography is required.

The 37 charted in lat. $30^{\circ}19.55'$, long. $81^{\circ}18.29'$ from the present survey originates with somewhat questionable traces on the fathogram. Although additional investigation failed to confirm the traces, the 37 has been retained until a wire-drag investigation of the area can be made.

Examined and Approved:



Chief
Marine Chart Division



Associate Director
Office of Hydrography
and Oceanography

INFORMATION FOR FUTURE PRE-SURVEY REVIEWS

1. The wreck charted in lat. $30^{\circ}22.55'$, long. $81^{\circ}23.79'$ originating with H-4373(1924) and designated as item 1 in the pre-survey review of June 19, 1958, was not investigated by the hydrographer during survey operations and should be retained for future information.
2. The 37-foot sounding charted at lat. $30^{\circ}19.50'$, long. $81^{\circ}18.28'$ originating with the present survey should be retained pending investigation by wire-drag.

NAUTICAL CHARTS BRANCH

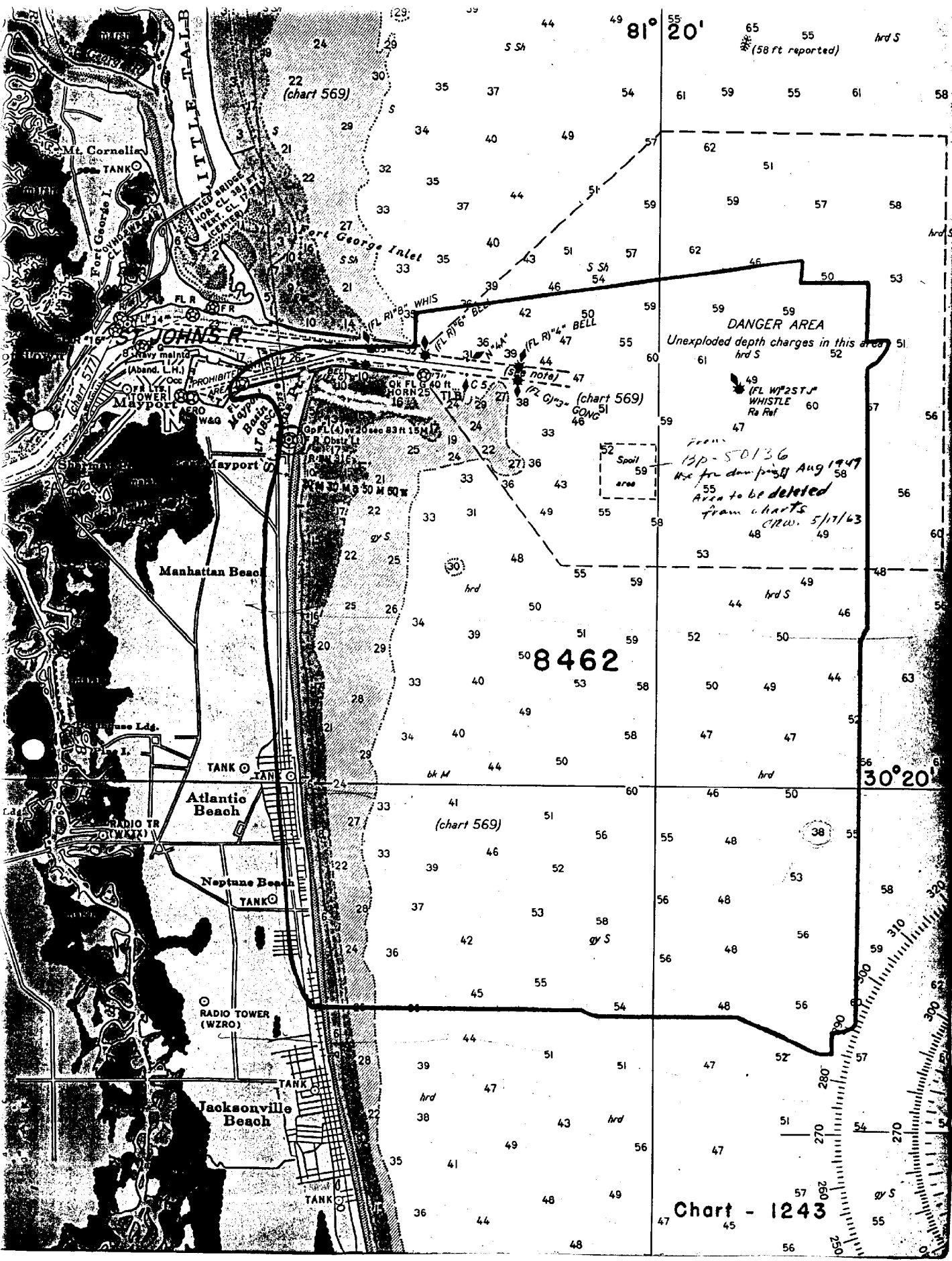
SURVEY NO. H-8462

Record of Application to Charts

DATE	CHART	CARTOGRAPHER	REMARKS
10/27/60	577	J.F. Walker	Before After Verification and Review <i>Examined - no correction now</i>
12/2/60	577	O. Svendsen	Before After Verification and Review - <i>Partially Applied</i>
12/5/60	569	O. Svendsen	Before After Verification and Review <i>Partially Applied</i>
12/13/60 12/13/60	1243	E. E. Homs	Before After Verification and Review <i>Revisions to 569 577 brought forward, no other</i> Before After Verification and Review <i>critical low.</i>
1/16/61	1111	O. Svendsen	Before After Verification and Review <i>Partially applied</i>
3/18/63	636 SC 636 SC	J. H. Eaton	<i>fully app'd.</i> Before After Verification and Review
5/18/63	841 SC	C. R. Wetteman	<i>complete use</i> Before After Verification and Review <i>(Partially applied)</i>
4/13/64	569	M. H. Mac	Before After Verification and Review <i>partially app.</i> <i>Made 569 agree with 636 S.C. vme</i>
12/4/69	636-SC	R. A. Lillis	Before After Verification and Review <i>(adequately applied)</i>
2/19/70	569	R. A. Lillis	<i>adequately applied after Verification & Review</i>
4/1/70	841-SC	Volanda F. MOSS	<i>Adequately applied after Verification and Review.</i>
2-11-71	1243	L. Moore	<i>Adequately APPLIED AFTER VER, REV, & INSP. THRU CHIT 569</i>
7/19/71	1111	R. A. Lillis	<i>Adequately applied after Ver., Review & Insp.</i> <i>thru chart 1243</i> <i>Dwg. # 23</i>
11-6-73	569	L. Moore	<i>Adequately Applied 1970. No changes after INSP.</i>

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.



81° 20'

65 55 (58 ft reported) hrd S

22 (chart 569)

DANGER AREA
Unexploded depth charges in this area
hrd S

(FL W) 2 ST W
WHISTLE
Ra Ref

13P-50136
Use for dumping Aug 1949
Area to be deleted
from charts
CRW. 5/17/63

8462

30° 20'

Chart - 1243