

8410

Diag. Cht. No. 1239-2.

Form 504

U. S. COAST AND GEODETIC SURVEY

DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey Hydrographic

Field No. ECFP-1657 Office No. H-8410

LOCALITY

State South Carolina

General locality Charleston

Locality Ashley River

194 57

CHIEF OF PARTY

Marvin T. Paulson

LIBRARY & ARCHIVES

DATE March 28, 1958

B-1870-1 (1)

2187 (14)
5449 (34)

8410

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-8410

Field No. ECCP-1657

State South Carolina

General locality Charleston

Locality Ashley River

Scale 1:10,000 Date of survey 13 Nov. to 5 Dec. 1957

Instructions dated 16 August 1957

Vessel Launch CS-168 (East Coast Field Party)

Chief of party Marvin T. Paulson and R.C. Darling

Surveyed by R.A. Lewis, and A.M. Cook

Soundings taken by ~~fathometer~~ ^{EDO} graphic recorder, hand lead, ~~with~~ ^{and are true depths.} sounding pole

Fathograms scaled by party personnel

Fathograms checked by R.A.L. & A.M.C.

Protracted by R.A. Hewis

Soundings penciled by R.A. Lewis

Soundings in ~~fathoms~~ feet at MLW ~~MLW~~

REMARKS:

DESCRIPTIVE REPORT
TO ACCOMPANY

Hydrographic Sheet H-8410 (Field No. ECFP-1657)

Hydrographic Investigation
Ashley River, South Carolina

East Coast Field Party

Marvin T. Paulson, Ch. of Pty.

Project CS-403

Scale 1:10,000

Surveyed by:

R.A. Lewis & A.M. Cook

1957

* * * * *

A. PROJECT

Work on Sheet H-8410, Project CS-403 was executed in accordance with instructions 222/MEK FP-East Coast, dated 16 August 1957.

B. SURVEY LIMITS AND DATES

The area covered by this survey is in the vicinity of Ashley River, South Carolina. The limits are from lat. $32^{\circ}-49.74'$ long. $79^{\circ}-58'$ on the east, lat. $32^{\circ}-50.8'$, long. $80^{\circ}-03.05'$ on the west. *57.8*

Hydrographic operations began on this sheet 13 November 1957 and ended 5 December 1957.

C. VESSELS AND EQUIPMENT

Launch CS-168, based at the extreme western limit of the sheet, was used for the survey. The turning radius for Launch CS-168 is 20 meters at standard speed and half rudder. A 16' aluminum skiff was used one day to obtain detached positions on oyster rocks that were inaccessible with the launch.

An EDO-255 type fathometer (serial No. 201) was used to obtain soundings. A sounding pole was used to obtain soundings in depths less than 5'. The fathometer was used on A-range only.

D. TIDE AND CURRENT STATIONS

Two tide stations were established utilizing portable automatic gages. One was located on the railroad bridge lat. $32^{\circ}-50.85'$, long. $80^{\circ}-03.03'$. Another gage was located on an abandoned pier at the V/C Chemical Plant lat. $32^{\circ}-49.81'$ long. $80^{\circ}-00.07'$. The tide gage at the V/C Chemical Plant was used to correct all soundings east of a line from lat. $32^{\circ}-49.85'$ long. $80^{\circ}-00.07'$ to lat. $32^{\circ}-49.45'$ long. $80^{\circ}-00.92'$. The tide gage at the Atlantic Coast Line Railroad Bridge was used to correct all soundings west of this line.

See TIDE NOTE attached to this report
No current observations were made.

E. SMOOTH SHEET

The smooth sheet was plotted by the East Coast Field Party. The projection was made by the ruling machine in the Washington Office. Triangulation were transferred by plotting Dms. and Dps. All photo-hydro signals were transferred directly from Manuscripts T-10683 & T-10684. The shoreline was transferred by Ozalid Prints in accordance with Section 7332 of the Hydrographic Manual. ✓
see
PI
Review

The transfer of shoreline and topographic details were verified in accordance with Section 757 of the Hydrographic Manual. ✓

F. CONTROL STATIONS

Control consisted of triangulation, photo-hydro, recoverable topographic and hydro stations. ✓

The following is a list of triangulation stations and the source of control for each:

<u>STATION</u>	<u>G.P.</u>	<u>PAGE</u>	<u>VOL.NO.</u>	<u>CH.OF P.</u>
V.C. Tank, 1933	94		1	R.L.S.
DAVE, 1933	94		1	R.L.S.
KEN, 1933	94		1	---
PIER, 1933	95		1	R.L.S.
Charleston Black Water Tank, 1932	(unable to locate in G.P. list, posit. taken directly from Manuscript T-10683)			

All topographic control was transferred directly from topographic sheets T-10683 and T-10684. ✓

Signal ROT - day beacon 19 and signal JOB day beacon 31 were found to be incorrectly located on Manuscripts T-10683 and T-10684. Both signals were relocated by three point sextant fixes by the hydro party as hydro signals bearing the same name. See volume 3, page 5 position 2f and volume 1 page 55 position 21c. *319. DIM (Bn 22) also relocated by Hydro. Party.*

G. SHORELINE AND TOPOGRAPHIC DETAIL

E. For source of shoreline and topographic details see section ✓

F. For revision of inaccurate topographic details see section ✓

Shoreline discrepancies are as follows:

Lat. 32°-49.80' Long. 79°-58.92' - Center-line of streamlet plots 10 meters west of center-line per Ozalid Print. *In adequate agreement with advance M/S T-10683.*

Lat. 32°-49.37' Long. 80°-00.65' - Center-line of streamlet plots 25 meters west of centerline per Ozalid Print. *Revised to agree with revised M/S T-10684.*

G. SHORELINE AND TOPOGRAPHIC DETAIL (CONT'D)

Lat. $32^{\circ}-49.69'$ Long. $80^{\circ}-01.58'$ Position 34 d plots 10 meters west of shoreline per Ozalid Print. *NP - adequate development of Hydro. in area.*

Lat. $32^{\circ}-50.2'$ Long. $80^{\circ}-00.3'$ The majority of the positions in this creek show a discrepancy with the shoreline. *shoreline redrawn to agree with revised M/S T-10 684.*

Lat. $32^{\circ}-50.75'$, Long. $80^{\circ}-02.5'$ The shoreline in this vicinity shows numerous discrepancies. *revised survey & ed. manual.*

These discrepancies are listed for verification by the Washington Office.

H. SOUNDINGS

Soundings were obtained with a fathometer as listed in Section C of the Hydrographic Manual and by sounding pole in shoal water.

Bottom samples were obtained with an armed lead.

No difficulties requiring unusual methods, equipment or corrections were experienced during this survey.

See APPENDIX B, BAR CHECK TABULATION.

I. CONTROL OF HYDROGRAPHY

All hydrography was controlled by visual fix. Positions were usually taken at 1 minute and $1\frac{1}{2}$ minute intervals. Soundings were recorded every 15 seconds.

J. ADEQUACY OF SURVEY

This survey is complete within the defined limits and is adequate to supersede prior surveys for charting purposes.

K. CROSSLINES

Crosslines were run in excess of 10%. Discrepancies at crossings are not excessive.

L. COMPARISON WITH PRIOR SURVEYS

Comparisons were made with prior surveys H-5449, 1934, scale 1:10,000 and survey H-5456, 1934 scale 1:10,000. *See P 5 of Review*

Following is a list of changes and recommendations:

COMP.

NO.

AREA

SUMMARY OF CHANGES

RECOMMEND.

- | | | | |
|----|---|---|---|
| 1. | dredged channel and turning basin, vicinity Lat. $32^{\circ}-50'$, Long. $79^{\circ}-58'$, $79^{\circ}-58.5'$ | Channel has been dredged to depths approx. 10' deeper. General posit. of channel is unchanged | Chart ⁷⁵ new ^{Review} survey depths |
|----|---|---|---|

L. COMPARISON WITH PRIOR SURVEYS (CONT'D)

<u>COMP. NO.</u>	<u>AREA</u>	<u>SUMMARY OF CHANGES</u>	<u>RECOMMEND.</u>
2.	Wreck $50^{\circ}25'$ Lat. $32^{\circ}-48.25'$ Long. $79^{\circ}-58.52'$ ✓ <i>item 1b, Vol 1, p 40</i>	The wreck shown on the old survey was found in its charted position however the charting symbol should be changed from a sunken wreck to a stranded wreck. The wreck bares uncovered ^{7.5} 6' MLW. (<i>Bare 2 ft MHW</i>)	Chart stranded wreck ✓ Visible
3.	Wreck $50'$ Lat. $32^{\circ}-48.24'$ Long. $79^{\circ}-58.48'$ ✓	This wreck was not shown on the old survey. This wreck bares 6' ^{7.4} MLW (<i>2 ft MHW</i>)	Chart stranded wreck ✓
4.	New bridge Lat. $32^{\circ}-50'$ - $32^{\circ}-50.5'$ Long. $79^{\circ}-59.1'$	This bridge has been constructed since the old survey. The channel in the vicinity of the bridge has deepened considerably (30' deeper west of bridge 5' to 10' east of bridge)	Chart survey depths ✓ <i>P5 REVIEW</i>
5.	6' shoal ✓ Lat. $32^{\circ}-49.8'$ Long. $80^{\circ}-00.3'$	This 6' shoal has extended approximately 100 meters SE. ✓	Chart new posit. ✓
6.	Shoal bare MLW Lat. $32^{\circ}-50.7'$ ✓ Long. $80^{\circ}-02.3'$	This shoal was shown by the old survey as being covered $\frac{1}{2}'$ MLW. The new survey shows this shoal bare at MLW	Chart new depth ✓
7.	Shoal bare MLW Lat. $32^{\circ}-50.85'$ ✓ Long. $80^{\circ}-02.65'$	This shoal bares at MLW, shown on prior survey covered 2 feet. ✓	Chart new depth ✓
8.	Lat. $32^{\circ}-50.77'$ ✓ Long. $80^{\circ}-02.7'$	This section of the river shows a deepening effect, 10 - 15 feet deeper	Chart new depths ✓

M. COMPARISON WITH CHART

print date 1957

A comparison with Chart 470, and Chart 1239, print date 1942 indicates various changes as listed in section L of this report. Necessary recommendations for charting purposes are also listed in Section L. (*See PG REVIEW*)

Following is a list of Preliminary Review Items by Chart Division:

See next page

M. COMPARISON WITH CHART (CONT'D)

<u>ITEM NO.</u>	<u>POSITION</u>	<u>REMARKS</u>
1.	Lat. $32^{\circ}-50.25'$ ✓ Long. $79^{\circ}-58.52'$ ✓	See Section L. comparison No.2 ✓
2.	Rock awash Lat. $32^{\circ}-50.28'$ ✓ Long. $79^{\circ}-58.99'$ ✓ } Sec advance M/S } T-10684 for rock } delineation	The rock charted in this position was found to be an oyster rock. The position has shifted 25 meters west. ✓ This rock should be charted in its new position.
3.	Shoal Lat. $32^{\circ}-49.78'$ ✓ Long. $80^{\circ}-00.28'$ ✓	This shoal was found in its charted position with a least depth of 1 foot MLW. (rky)
4.	Sisters Rocks Lat. $32^{\circ}-50.20'$ ✓ Long. $79^{\circ}-59.75'$ ✓	These rocks were verified in their charted positions. They are a group of oyster rocks that bare 5' MLW. (awash MHW)

N. DANGERS AND SHOALS

Newly found dangers and shoals are included in Section L. ✓
Charted shoals with least depths less than those shown on the old survey are included in Section L. ✓
All charted dangers, shoals, and rocks were found as charted, except as listed in Section L. ✓
It is recommended that all new survey depths be used for charting purposes. ✓

O. COAST PILOT INFORMATION

There are no additions or corrections to be reported. ✓

P. AIDS TO NAVIGATION

There were no floating aids to navigation on this sheet. ✓
Fixed aids have been reported on Form 567.

Q. LANDMARKS FOR CHARTS

The following objects are recommended as landmarks: An elevated tank and three radio masts. These objects have been reported on Form 567. ✓

R. GEOGRAPHICAL NAMES

There are no new geographical names to report. ✓

S. SILTED AREAS

Not applicable. ✓

T. BY PRODUCT INFORMATION ✓

U-Y MISCELLANEOUS
Not applicable ✓

Z. TABULATION OF APPLICABLE DATA ✓
See APPENDIX

Respectfully submitted,

Robert A. Lewis

Robert A. Lewis
Cart. Survey Aid

Approved and forwarded,

Robert C. Darling
LCDR., USC&GS
Chief of Party

ATTACHMENTS

- A. LIST OF CONTROL STATIONS
- B. BAR CHECK TABULATIONS
- C. STATISTICS
- D. TIDAL NOTE
- E. APPROVAL SHEET

APPENDIX A

LIST OF CONTROL STATIONS
PROJECT GS-403

Hydrographic Sheet H-8410(ECFP-1657)

I. TRIANGULATION

STATION	ORIGIN
CHAR	CHARLESTON BLACK WATER TANK, 1932
DAVE	DAVE, 1933
KEN	KEN, 1933
PIER	PIER, 1933
TANK	V.C. TANK, 1933

II. PHOTO-HYDRO AND RECOVERABLE TOPOGRAPHIC

STATION	MANUSCRIPT NO.
ART	T-10683
BOB	T-10684
BOP	"
CON	T-10683
COT	"
CUR	"
DIM	T-10684 <i>hydro loc. see Var. Rep.</i>
DIP	T-10683
DOG	"
EAT	"
END	"
FUN	T-10684
HAT	"
HIT	"
HQP	T-10683
ICE	"
IDA	T-10684
JOB	Hydro. loc. vol. 1, p. 55
LEG	T-10684
NOD	"
PAN	T-10683
RAD	T-10684
RAMP	T-10683
RIM	T-10684
ROT	Hydro. loc. vol. 3, p. 5
RUN	T-10683
SIG	"
SUE	T-10684
TAP	"
TOW	"

APPENDIX B.
BAR CHECK TABULATION

Fathometer EDO-255 No. 201 was used for the entire survey. Daily bar check comparisons proved that there were no velocity / corrections necessary.

APPENDIX C
STATISTICS FOR HYDROGRAPHIC SURVEY
H-8410(ECFP-1657), Launch CS-168
Project CS-403

DATE 1957	VOL. NO.	DAY LTR.	POSIT. D.P.	POSIT. FATH.	STAT. MI. SDG. LINE
13 Nov.	1	a	1	124	9.9
14 "	1	b	28	---	0.0
21 "	1&2	c	11	80*	4.6
22 "	2	d	9-	89*	13.6
25 "	2	e	--	70	9.0
26 "	3	f	3	97	9.5
27 "	3&4	g	--	228	23.5
2 Dec.	4	h	--	108	11.6
3 "	4&5	j	--	185	16.5
4 "	5	k	3	141	14.7
5 "	6	l	8	138	11.4
TOTALS			<u>54</u>	<u>1260</u>	124.3 ✓

*Soundings taken with sounding pole

STATISTICS FOR SKIFF NO. I

5 Dec.	7	a	27	---	---
--------	---	---	----	-----	-----

Total area surveyed 3 square statute miles.

APPENDIX D
TIDAL NOTE
Hydrographic Survey H-8410(ECF-1657)

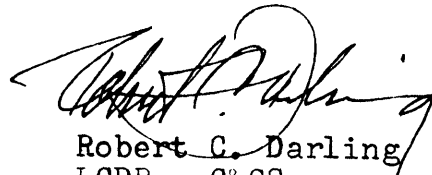
Tidal data for the reduction of soundings was obtained from portable automatic gages maintained at the Virginia Carolina Chemical Corporation Pier and the Atlantic Coastline Railroad Bridge.

Smooth tide curves have been drawn, tabulated and entered in the sounding volumes.

<u>TIDE GAGE</u>	<u>LAT. & LONG.</u>		<u>MLW ON STAFF</u>
V/C Plant	lat. 32	-49.8' long. 79 -58.09'	2.5 ✓
A.C.L.R.R.	lat. 32	-50.85' long. 80 -03.03'	2.7 ✓

APPENDIX E.
APPROVAL SHEET

Sheet H-8410 (Field number ECFP - 1657) and the accompanying Descriptive Report have been inspected by me and are approved and forwarded.



Robert C. Darling
LCDR., C&GS
Officer in Charge

Ch 1 230 (1958)

NONFLOATING AIDS OR LANDMARKS FOR CHARTS

TO BE CHARTED
TO BE DELETED

STRIKE OUT ONE

February 1958

I recommend that the following objects which have (have not) been inspected from seaward to determine their value as landmarks be charted on (deleted from) the charts indicated.

The positions given have been checked after listing by Robert A. Lewis

Marvin T. Paulson

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 *							
				D. P. METERS	D. P. METERS	DATUM						
	* TANK	TANK, REVERSED 110 ft. above ground, 135 ft. above MHW (H-8140)	RAMP	32 50	69 00	1200.2 648.1	243.3 137.0	MA1927	9-10683	11/1927	X	470 +123
* RADIO MAST	RADIO MAST (H-8140)	Steel, center of three 367 262 ft. above ground, 429 ft above MHW	RUN	32 49	69 00	820.2 1028.1	263.8 1296.9	*	9-10683	"	X	"
* RADIO MAST	RADIO MAST <i>easily</i> Steel, <i>more westerly</i> of two 420 ft. above ground, 425 ft. above MHW (H-8140)	HAD	32 49	69 58	631.1 1217.2	1243.4 317.3	*	9-10684	"	X	"	
* RADIO MAST	RADIO MAST Steel, 300 ft. above ground, 316 ft. above MHW (H-8140)	ROW	32 49	69 57	1277.2 571.1	1241.5 219.1	*	9-10684	"	X	"	

*Unless here are checked
was by 4/17/58 by
revisions of photo procedure*

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

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

NONFLOATING AIDS OR LANDMARKS FOR CHARTS

TO BE CHARTED
TO BE DELETED

STRIKE OUT ONE

REMARKS

19 58

I recommend that the following objects which have (have not) been inspected from seaward to determine their value as landmarks be charted on (deleted from) the charts indicated.

The positions given have been checked after listing by Robert A. Lewis

Marvin T. Poolson

Chief of Party.

STATE	SOUTH CAROLINA	CHARTING NAME	DESCRIPTION	SIGNAL NAME	POSITION		DATUM	METHOD OF LOCATION AND SURVEY NO.	DATE OF LOCATION	HARBOR CHART	INSHORE CHART	OFFSHORE CHART	CHARTS AFFECTED
					LATITUDE *	LONGITUDE *							
					D. M. METERS	D. P. METERS							
			ASHELY RIVER										
		Bn "16"	day beacon No. 16	TDA	33 49	79 57	1340.7	1436.6	NA1927	T-10684	11/1957	X	470 & 123
		Bn "17"	day beacon No. 17	RUN	33 49	79 58	1865.8	191.4	"	T-10684	"	X	"
		Bn "18"	day beacon No. 18	MOD	33 50	79 58	288.5	246.5	"	T-10684	"	X	"
		Bn "19"	day beacon No. 19	ROT	33 50	79 58	27.1	1304.0	"	T-10684	"	X	"
		Bn "20"	day beacon No. 20	SUB	33 50	79 58	1821.2	33.9	"	T-10684	"	X	"
		Bn "21"	day beacon No. 21	RAE	33 50	79 58	1632.7	1036.6	"	T-10684	"	X	"
		Bn "22"	day beacon No. 22	DDM	33 50	79 58	411.6	852.6	"	T-10684	"	X	"
		Bn "24"	day beacon No. 24	PAP	33 50	79 59	1690.7	693.1	"	T-10684	"	X	"
		Bn "26"	day beacon No. 26	PAH	33 49	80 00	157.6	877.3	"	T-10684	"	X	"
		Bn "28"	day beacon No. 28	END	33 49	80 00	1688.5	561.1	"	T-10684	"	X	"
		Bn 31	31 relocated H-8410				289.8	958.5	"	T-10684	"	X	"
							1321.1	1079.3	"	T-10684	"	X	"
							827.2	481.3	"	T-10684	"	X	"

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

Handwritten notes:
 12/14/6
 Hydrographic R-8410
 5295
 4/11/58
 See

GEOGRAPHIC NAMES

Survey No. H-8410

Name on Survey	Source									
	A	B	C	D	E	F	G	H	K	
	On Chart No.	On previous survey No.	On U. S. quadrangle Maps	From local information	On local Maps	P. O. Guide or Map	Rand McNally Atlas	U. S. Light List		
<u>South Carolina</u>			(for title)						BGN	1
<u>Charleston</u>				"					"	2
<u>Ashley River</u>										3
<u>Sisters Rocks</u>										4
<u>Accabee Flats</u>										5
<u>Brickyard Creek</u>										6
<u>West Marsh Island</u>										7
<u>Bulls Creek</u>										8
<u>Church Creek</u>										9
<u>Drayton</u>										10
<u>East Marsh Island</u>										11
<u>Cowhead Reach</u> <i>W. Heck</i>										12
										13
										14
										15
										16
										17
										18
										19
										20
										21
										22
										23
										24
										25
										26
										27
										M 234

Names approved 4-4-58

L Heck

Hydrographic Surveys (Chart Division)

HYDROGRAPHIC SURVEY NO. 8410....

Records accompanying survey:

Boat sheets ..1...; sounding vols. ...7...; wire drag vols.; bomb vols.; graphic recorder rolls ~~4~~ Envelopes special reports, etc. ..1-Smooth sheet and 1-Descriptive report.
.....

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

Number of positions on sheet		1260
Number of positions checked		83
Number of positions revised		50
Number of soundings revised (refers to depth only) <i>and additions</i>		172 <i>improper reduction</i> 30
Number of soundings erroneously spaced		approx 125
Number of signals erroneously plotted or transferred		6*
Topographic details	Time	10 hrs.
Junctions	Time	—
Verification of soundings from graphic record	Time	5 hrs.
Verification by <i>Ewert E. Thomas</i>	Total time	82 hrs
	Date	5/2/58
Reviewed by <i>Jim Zeschke</i>	Time	32
	Date	5/8/58

* Signals relocated by photogrammetry. See Verifiers Rep.

RHC

TIDE NOTE FOR HYDROGRAPHIC SHEET

Chart Division: R. H. Carstens

4 April 1958

Plane of reference approved in
7 volumes of sounding records for

HYDROGRAPHIC SHEET 8410


Locality Ashley River, South Carolina

Chief of Party: M. T. Paulson in 1957

Plane of reference is mean low water, reading
2.5 ft. on tide staff at Va.-Car. Chemical Company
13.8 ft. below B.M. 2 (1933)
2.7 ft. on tide staff at A.C.L. R.R. Bridge
8.7 ft. below B.M. 1 (1933)

Height of mean high water above plane of reference is 5.5 feet.

Condition of records satisfactory except as noted below:



Signature

Chief, Tides Branch

DIVISION OF CHARTS
REVIEW SECTION - NAUTICAL CHART BRANCH
REVIEW OF HYDROGRAPHIC SURVEY

REGISTRY NO. H-8410

FIELD NO. ECFP-1657

South Carolina, Charleston, Ashley River

Surveyed: Nov.-Dec. 1957

Scale 1:10,000

Project No. CS-403

Soundings:

Control:

Sounding Pole
Edo Depth Recorder

Sextant fixes on shore
signals

Chief of Party - M. T. Paulson and R. C. Darling
Surveyed by - R. A. Lewis and A. M. Cook
Protracted by - R. A. Lewis
Soundings plotted by - R. A. Lewis
Verified and inked by - E. E. Thomas
Reviewed by - I. M. Zeskind
Inspected by - R. H. Carstens

Date 5-8-58

1. Shoreline and Control

The shoreline originates with advance manuscripts of air-photographic surveys T-10683 and T-10684 of 1957.

The source of the control is given in the Descriptive Report. Signals Rot (Bn. 19), Dim (Bn. 22) and Job (Bn. 31) were located on the above mentioned air-photographic surveys in positions differing with the hydrographic survey positions. The hydrographic survey positions are accepted as correct.

2. Sounding Line Crossings

Depth at crossings are in good agreement.

3. Depth Curves and Bottom Configuration

The usual depth curves were adequately delineated.

The bottom is fairly irregular. Submarine features such as mud flats, river deeps and shoals contribute to the bottom irregularity.

4. Junctions with Contemporary Surveys

The survey extends to the Project limits on the southeast and northwest. Charted depths at the limits of the present survey are in adequate agreement with present depths.

5. Comparison with Prior Surveys

- A. H-2187 (1894), 1-10,000
H-2188 (1894), 1-10,000

The present survey falls within the area covered by the prior surveys. A comparison between the prior and present surveys reveals changes in bottom configuration and shoreline. These changes are attributed to natural and man-made causes, such as the action of the current on the bottom, the reclaiming of land and the construction of a causeway and bridge from East Marsh Island to the opposite shore. These changes have occurred principally in the vicinity of the west side of this bridge and to the southeastward of it. Here the area between the northeast side of East Marsh Island and the shore has been reclaimed and the Island now is part of the adjacent shore. Considerable shoaling has occurred in the area which lies between the above mentioned bridge and the island to the southeastward. A natural channel with depths of 4-7 ft. which was formerly located on the southwest side of this island now uncovers as much as 3 ft. at M. L. W. Changes in depths of as much as 28 ft. between the prior and present surveys have resulted probably from dredging in the area just west of the above-mentioned bridge. Except in this area, only minor differences of 2-4 ft. in depths were noted between the prior and present surveys in that portion of the river extending west of the bridge.

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

- B. H-4189 (1921), 1-20,000
H-5449 (1933-34), 1-10,000
H-5446 (1934), 1-10,000

The present survey falls within the area covered by these prior surveys. As indicated in the preceding paragraph, the construction of the causeway and bridge which connects East Marsh Island and the opposite shore has caused considerable changes in shoreline and bottom configuration in that portion of the river which lies southeast of the bridge. Considerable changes in bottom configuration are also noted in the vicinity of the northwest side of the bridge. The island to the southeastward of the bridge

has accreted as much as 150 meters northwestward and 80 meters southeastward. The natural channel which lies south-east of the bridge and the limits of the dredged channel has a controlling depth of 13 ft. The controlling depth of the natural channel between the bridge and the western limits of the present survey is 6 ft. Except as noted above, only minor differences of 2-4 ft. in depths are found between the prior and present surveys in that portion of Ashley River which lies between the above mentioned bridge and the western limit of the present survey.

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

6. Comparison with Chart 470 (Latest print date 9-30-57)
Chart 1239 (Latest print date 5-27-57)

A. Hydrography

The charted hydrography originates with the previously discussed prior surveys which need no further consideration. The charted bridge and causeway which crosses the Ashley River between East Marsh Island and the opposite shore originates with chart letter 454 (1954). The charted location of this bridge is skewed about 4 degrees to the westward of the location shown on air photographic survey T-10684 (1957).

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

B. Aids to Navigation

The charted positions of the beacons generally differ with the present survey positions,--in one instance as much as 100 meters. Revisions in the charted positions should be made to agree with the present survey positions. Beacon No. 19 charted at the edge of a $29\frac{1}{2}$ ft. channel now falls 70 meters from the channel in 10 ft. of water. The charted position of the stack in lat. $32^{\circ}50'.0$, long. $79^{\circ}57.97'$, differs with the present survey position by about 35 meters.

C. Dredged Channels

Present survey depths in the dredged channel are in harmony with the charted controlling depths of $29\frac{1}{2}$ ft. and $19\frac{1}{2}$ ft., except on the southwest side of the channel where the following shoaler present depths were found:

<u>Present Depth</u>	<u>Latitude</u>	<u>Longitude</u>
<u>ft.</u>		
25	32°49.78'	79°58.06'
28	32°49.81'	79°58.07'
26	32°49.88'	79°58.13'
25	32°49.98'	79°58.22'

7. Condition of Survey

- a. The sounding records and Descriptive Report are complete and comprehensive.
- b. The smooth plotting was accurately done, except as follows:
 1. Improper index corrections applied to soundings for F day (blue) necessitated the revisions of 172 depths on the smooth sheet.
 2. On a number of sounding lines which ran from shore to shore, it was necessary to revise the spacing of soundings on the smooth sheet, because of the improper spacing of soundings at the beginning and end of the sounding lines.
 3. The revisions of signal locations on the revised manuscript of air-photo survey T-10684, necessitated the revision of the locations of a number of sounding lines on the smooth sheet of the present survey.
 4. The soundings on 4 sounding lines were plotted in error because the fixes were incorrectly numbered on these sounding lines.

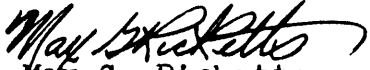
8. Compliance with Project Instructions


The survey adequately complies with the Project Instructions.

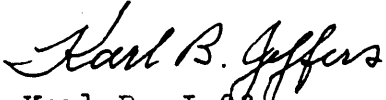
9. Additional Field Work Recommended

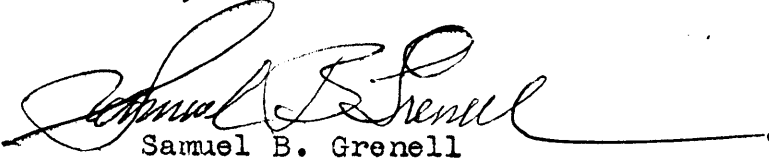
The survey is considered basic and no additional field work is recommended.

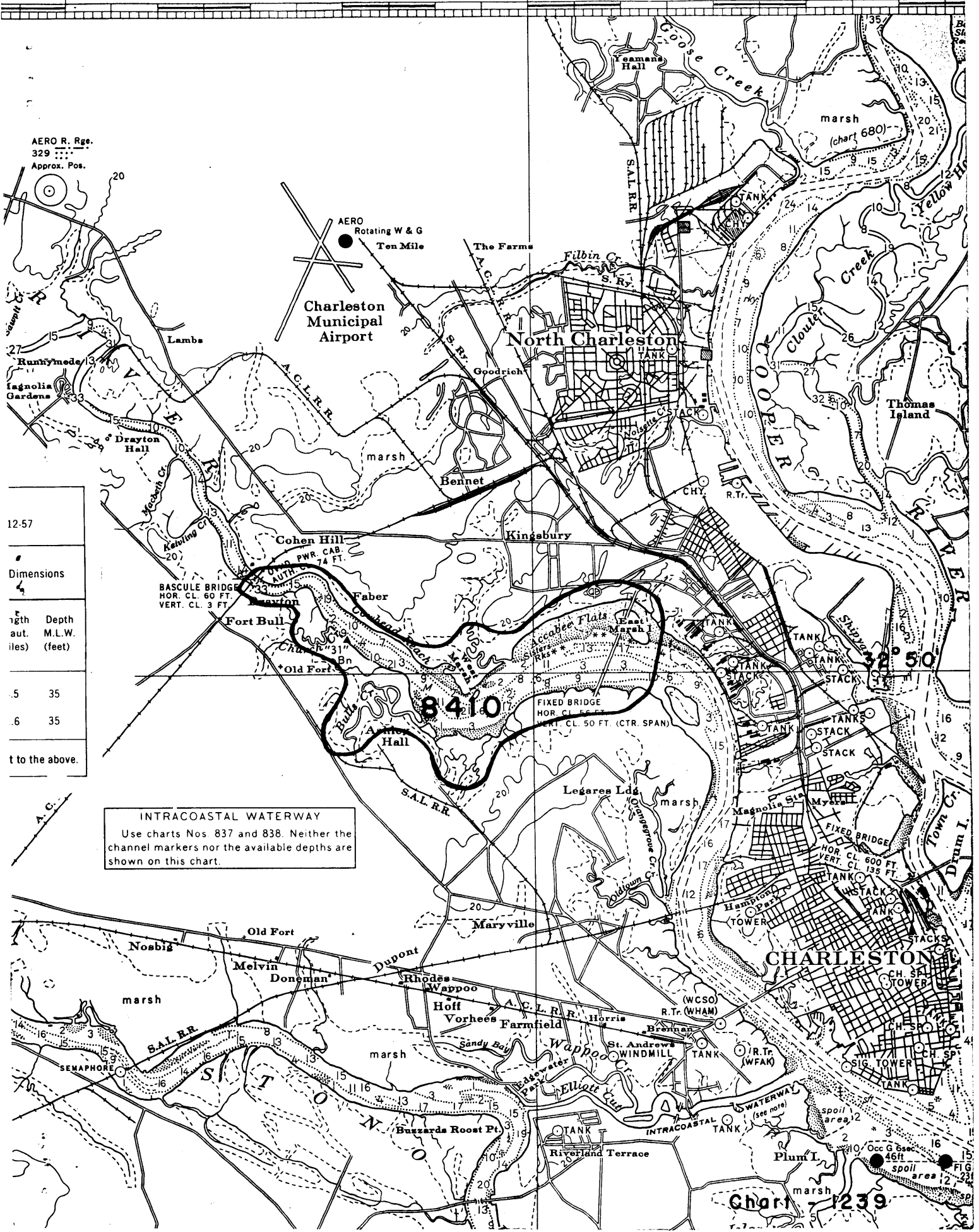
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AERO R. Rge.
329
Approx. Pos.

AERO
Rotating W & G
Ten Mile

Charleston
Municipal
Airport

North Charleston

CHARLESTON

INTRACOASTAL WATERWAY
Use charts Nos 837 and 838. Neither the
channel markers nor the available depths are
shown on this chart.

12-57	
Dimensions	
Length aut. iles)	Depth M.L.W. (feet)
.5	35
.6	35
t to the above.	

Chart 1239

