

8524

Diag. Cht. No. 1266-3.

FORM C&GS-50#

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

DESCRIPTIVE REPORT

Type of Survey Hydrographic

Field No. ECP-10-1-60 Office No. H-8524

LOCALITY

State Alabama

General locality Mobile Bay

Locality Vicinity of Dauphin I.

19.60

CHIEF OF PARTY

H. S. Cole

LIBRARY & ARCHIVES

DATE 11-25-60

8524

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-8524

Field No. ECFP 10-1-60

State ALABAMA

General locality MOBILE BAY

Locality VICINITY OF DAUPHIN I
~~NORTHEAST OF FORT GAINES ENTRANCE~~

Scale 1:10,000 Date of survey 26 Jan to 26 July 1960

Instructions dated 22/MEK, ECFP 18 September 1960

Vessel Launches CS-183 & CS-1177 & skiff

Chief of party Howard S. Cole, CDR.

Surveyed by ENS. Melvin E. Jones and ENS. Melvin J. Umbach

Soundings taken by ~~fathometer~~, graphic recorder, ~~hand lead, wire~~ soundingpole

Fathograms scaled by ECFP

Fathograms checked by ECFP

Protracted by G.F. Trefethen

Soundings penciled by G.F. Trefethen

Soundings in fathoms feet at MLW MLLW

REMARKS: It is suggested⁺ that "1" day be plotted on sheet ECFP
(H-8526)
10-3-60 (This was done)

2

DESCRIPTIVE REPORT
TO ACCOMPANY

Hydrographic Survey H-8524, Field No. ECFP 10-1-60
Northeast of Fort Gaines
Mobile Bay, Alabama

SCALE: 1:10,000

HOWARD S. COLE, CHIEF OF PARTY

PROJECT: 410

EAST COAST FIELD PARTY

SURVEYED BY: ENS. Melvin E. Jones & ENS. Melvin J. Umbach

A. PROJECT

Work on project CS-410 was executed in accordance with Instructions 22/MEK, ECFP, dated 18 September 1959.

B. SURVEY LIMITS AND DATES

General Locality: Mobile Bay, Alabama, Northeast of Fort Gaines. Work covered by this survey began on January 26, 1960 and was completed on 26 July 1960.

The area covered by this survey extends from latitude $30^{\circ} 14.00'$ N to latitude $30^{\circ} 18.00'$ N and from longitude $88^{\circ} 01.50'$ W to the northeast shore of Dauphin Island, Alabama and the Dauphin Island Bridge.

This survey makes junction with contemporary survey H-8525 to the East and contemporary survey H-8526 to the south and contemporary survey ECFP 10-1-60 to the north.

^{Overlap} Junction is made with prior surveys H-6686 (1:20,000, 1941) and H-6685 (1:20,000, 1941).

C. VESSELS AND EQUIPMENT

Launches CS-183 and CS-1177 which were based at the Dauphin Island Marina, were generally used in depths of greater than 5 feet. Launch CS-183 used the Edo-255C #15 sounding machine from "a" day through "r" day and Edo-255C #16 was used from "s" day through "ka" day. Soundings of 6.0' or less were taken with a 12.0' wooden sounding pole and are noted as such in the volume. Launch CS-1177 used the Edo-255C No. 13 sounding machine.

A 14' skiff, powered by a Johnson 10 H.P. motor was used inside Dauphin Island Bay and on the inshore hydrography East of Little Dauphin Island.

All soundings taken from the skiff with a 12.0' wooden sounding pole. A lead line, graduated in feet, was used for obtaining soundings deeper than 11.8'.

D. TIDE STATIONS

A portable automatic tide gage, located at Fort Morgan, Alabama (latitude $30^{\circ} 12.49'$ N, longitude $88^{\circ} 01.45'$ W), was used for control from 26 January 1960 ("a" day) through 10 March 1960 ("p" day). The same type of gage, located at Fort Gaines, Alabama (latitude $30^{\circ} 15.03'$ N, longitude $88^{\circ} 04.49'$ W) was used for control from 14 March 1960 ("r" day), through 26 July 1960. No time or range corrections were used on either of these gages.

No current stations were occupied.

E. SMOOTH SHEET

The smooth sheet projection was made in the Washington office by a projection ruling machine. The shoreline and signals were transferred in the usual manner and were verified in accordance with 757 of the hydrographic manual.

F. CONTROL STATIONS

The following Triangulation Stations were used for this survey.

STATIONS

CHIEF OF PARTY

Pass Aux Herons Range A <u>Rear</u> light, 1958	R.E.L.
Pass Aux Herons Range A <u>Front</u> light, 1958	R.E.L.
Dauphin Island Bridge aero obstruction light 1960 <u>Sky</u>	
Dauphin Island Bridge aero obstruction light 1960 <u>Abe</u>	
Pass Aux Herons <u>leading</u> light B. 1958	R.E.L.
Fort Gaines (USE) 1958	R.E.L.
Dauphin Island Municipal water <u>tank</u> , 1956-1960	R.E.L.
Pass <u>Aux</u> Herons light 2, 1958	R.E.L.
Dauphin Island Southern Bell Tel & Tel Microwave tower 1960	R.E.L.
Peggy, 1935	
Fort Morgan U. S. Coast Guard <u>Radio</u> Mast 1958-1960	R.E.L.
MOBILE Bay, Mobile <u>Channel</u> light 3, 1959-1960	ECFP
Mobile Bay, Mobile <u>channel</u> light 4, 1960	ECFP
Mobile Bay, <u>Mobile</u> channel light 6, 1960	ECFP

Appendix A of this report contains a complete list of signals used. The triangulation station DAV, Mobile Bay, Mobile channel light 8, were off the limits of the smooth sheet. This station was plotted on a temporary dog ear.

G. SHORELINE AND TOPOGRAPHY

Shoreline and Topographic details were obtained from advance photographic manuscripts T- 10772, T-10762 and T-10761.

Changes in the shoreline and topography were found on the easterly end of Dauphin Island and on the North end of the Island. These changes are shown in Red on the smooth sheet and advance manuscript T-10762. These revisions were made by the photogrammetrist using the plane table method.

See RS- 890 and 891 of 1962

Changes in the H.W.L. were found by the hydrographer at the most Easterly point of Dauphin Island at about lat. 30°14'.70 and long. 88°04'.30 & is shown on the smooth sheet in pencil. (*inked in red*)

55

H. SOUNDINGS

All soundings greater than 6' were determined by Graphic Recorder those soundings 6' or less were determined by the use of a 12' wooden sounding pole and recorded as such in the records volumes. Velocity corrections were determined by the use of bar-checks from which corrections curves were drawn.

Fathograms containing the positions listed below show a more shallow depth than those recorded.

These areas were Investigated at a later date and the depths recorded in the volumes are the correct depths. The more shallow depths were probably layers of minute particles of mud in suspension which were often found in this area when the water has been turbulent causing the muddy bottom to be stirred up.

Looks to be too consistent to be lumpy layer - probably is internal fault in machine. These disappear in shall depths and is in range of 8-13 ft - BKM 6/1/65

(H cont.)

<u>POSITIONS</u>	<u>DAY</u>	<u>INVALID LAYER</u>
56 thru 63	"e"	10 feet
8 thru 20	"q"	10 feet
82 thru 90	"f" ←	8 feet
84 thru 88	"k"	9 feet
69 thru 73	"m"	9 feet

All soundings taken by the skiff, less than 12' were taken with a 12' sounding pole at fifteen second intervals. Ten second soundings were taken occasionally to more clearly define channels and shoals. When forward progress was exceedingly slow due to dragging bottom, 30 second soundings were obtained.

I. CONTROL OF HYDROGRAPHY

Horizontal control was obtained by the use of standard visual methods with sextant angles taken on fixed objects on the shoreline and fixed aids to navigation.

J. ADEQUACY OF SURVEY

This survey is considered adequate and can be used to supersede prior surveys. A comparison with contemporary survey H-8525, ECFP 10-2-60 was made at the eastern limits of this sheet and a comparison with survey H-8526, ECFP 10-3-60 was made at the southern limits of this sheet and the results are favorable.

K. CROSSLINES

Crosslines were run to the extent of 6 to 8 percent which meets the requirements of the project instructions. No noteworthy discrepancies were found.

L. COMPARISON WITH PRIOR SURVEYS

A comparison with hydrographic survey H-6685 (1:20,000-1941) shows a general agreement of soundings. The only notable difference is the now existing spoil area on the westerly side of Mobile Bay Channel.

For presurvey items #7,8,9,10,&23 refer to item U. of this report.

M. COMPARISON WITH CHART

A comparison with C&GS chart 873, 2nd. edition 2 July 1951 revised 16 May 60 shows a general agreement of sounding. A 9 foot channel at Lat 30° 15'.50 and Long. 88° 06.00 running across Dauphin Island Bay 9' Rep 1959 is not there and should be deleted from the chart.

An exception to be noted is a 8' sounding at Lat. 30°16.19 and Long. 88°02.65.

N. DANGERS AND SHOALS

The only dangers to be noted are those spoil areas on the westerly side of Mobile Bay Channel. And a wreck in Dauphin Island Bay at Lat. 30°15.66 and Long. 88°06.39.

O. COAST PILOT INFORMATION

Dockage for small vessels drawing no more than 5' can be obtained in Dauphin Island Bay where Fresh water, gasoline, diesel fuel, ice, and groceries are available.

O. cont.)

Entrance to these facilities should be made through a cut on the easterly point of Dauphin Island. Entrance should not be made through the opening known as Pass Drury because this pass is not maintained and is subject to shifting sands which can be considered a danger to navigation. Anchorage for the survey vessel was obtained here in Dauphin Island Bay during the survey.

Mobile Bay Channel is an artificial channel and is maintained to a depth of 36'. Presently charted (1972) ~~depth~~ ^{Project} depth of 40 feet

The course prescribed by chart 873, (2nd edition, 2 July 1951, revised 23 March 1959) for the Intercoastal Waterway were found to be satisfactory.

P. AIDS TO NAVIGATION

The following is a list of floating aids to navigation within the limits of this survey.

BOUY NAME	DEPTH	VOL.	POS.	DATE LOCATED	LAT. LONG.	LIGHT LIST PAGE
CAN#19	11.0	1	1a	1/26/60	30°17.487 88°07.28	938
CAN#17	11.0	1	2a	1/26/60	30°17.52 88°07.113	937
NUN#18	11.0	1	3a	1/26/60	30°17.60 88°07.11	937
NUN#20	11.0	1	4a	1/26/60	30°17.56 88°07.22	937
NUN#16	13.0	1	5a	1/26/60	30°17.576 88°06.914	937
NUN#14	11.0	1	6a	1/26/60	30°17.48 88°06.66	937
NUN#12	11.0	1	7a	1/26/60	30°17.39 88°06.354	937
NUN#10	11.0	1	8a	1/26/60	30°17.310 88°06.03	937
NUN#8	11.0	1	9a	1/26/60	30°17.243 88°05.75	937
NUN#6	12.0	7	54q	3/14/60	30°17.176 88°05.489	937
NUN#4	12.0	7	55q	3/14/60	30°17.089 88°05.189	937
CAN#21	12.0	7	52q	3/14/60	30°17.38 88°07.53	938
NUN#22	14.0	7	53q	3/14/60	30°17.421 88°07.58	938
CAN#5	21.0	7	21q	3/14/60	30°17.22 16.92 88°07.50 0217	790
LT. BOUY #2	31.0	8	1u	3/25/60	30°15.04 88°02.29	790
LT. BOUY #16	31.0	13	53ha	6/1/60	30°14.632 88°02.16	790
LT. BOUY BELL #17						
RADAR REF.	31.0	13	51ha	6/1/60	30°14.60 88°02.43	790
LT. BOUY # 7					30° 17.93 88° 02.01	

(P. cont.)

A floating bouy (2' long & 1' in diameter) is at the mouth of Pass Drury in 6' of water at Lat. 30°15.95 & Long. 88°05.12 (position 95 "p" day, located March, 1960). It is suggested that it not be charted because Pass Drury is no longer considered Navigable and is not maintained.

The privatey maintained channel markers in Dauphin Island Bay, are shown on this smooth sheet, were taken from advance mamscript T-10762.

It is suggested that Beacon No.(2) at Lat. 30°13.98 and Long. 88°06.67 be deleted from the charts because it is no longer maintained. This information was received by the Coast Gaurd at Mobile, Alabama. And form 567 has been reported to the Tampa office

All fixed aids to navigation were reported by photo. party except Lt. 3,6, & 8, will be reported by the ECFP at the end of the project.

The following are privately maintained bouys leading into Dauphin Island Bay from Bayou Aloe. These bouys are maintained by the Dauphin Island Marina and they are maintained seasonally.

BOUY DESCRIPTION	DEPTH	VOL.	POS	DATE	LAT	LONG
Black bouy about 2' long & 1' in diameter	5	17	46f	5/16/60	30°16.02	88°07.18
"	6	17	47f	5/16/60	30°16.02	88°07.25
"	5	17	48f	5/16/60	30°16.04	88°07.41
"	5	17	49f	5/16/60	30°16.05	88°07.48
"	5	17	50f	5/16/60	30°16.07	88°07.60
"	6	17	51f	5/16/60	30°16.09	88°07.71
"	6	17	52f	5/16/60	30°16.12	88°07.84
"	6	17	53f	5/16/60	30°16.12	88°07.97

Q. LANDMARKS FOR CHARTS

It is suggested that twin radar domes maintained by the Air Force and located at latitude 30°15.00 N and longitude 88°04.73' be charted as a landmark.

R. GEOGRAPHIC NAMES

The cut from Fort Gaines to Pass Drury on Dauphin Island which is maintained by ~~USN~~ has been listed as Fort Gaines Channel in the Notice To Mariners 21 April 1960.

S. SILTED AREAS

A silted area was located in the vicinity of Lat. 30°14.55' and Long. 88°05.00' South to Lat. 30°14.00' Long. 88°04.50'.

This finding was verified by field investigations with a lead line. When the lead was lowered it would pass through the shallower sounding and settle on the deeper sounding. When the lead was raised it was covered by a "mud" of low Viscosity to the depth indicated on the fathogram.

T. BY PRODUCT INFORMATION

None to be reported.

UthruY. MISCELLANEOUS

Presurvey Reveal Items (Project CS- 410)

Probably against Air Force Policy Do not chart
PDS

Shown on Smooth Sheet
PDS

(U thru Y)

Item No. 7: "Heavy Iron Obstruction- 6feet in diameter". No heavy obstruction was found in this area. However, a heavy iron obstruction of the exact description was located on the East side of Little Dauphin Island, Lat. $30^{\circ}16'.22$ Long. $88^{\circ}06'.17$. A U. S. Air Force swimming reservation was found where the obstruction was charted. It is the hydrographers opinion that the obstruction was dragged to the East side of Little Dauphin Island to facilitate beautification of the swimming area. *Obstruction not shown on Chart 872-JC, 52 FD. DW*

Item No. 8: See Special Investigation Report submitted to Washington, 5 April 1960. Present charted controlling depth of 4 ft. (Feb. 1972)

Item No. 9: See Special Investigation Report submitted to Washington, 5 April 1960. This feature no longer exists (1972) [see sect. 0 par 2 of this report]

Item NO. 10: "The charted location.....correct charting". Privately maintained channel and pile markers in Dauphin Island Bay were located by plane table methods and shown on Advance Manuscript T-10762. It is recommended that the controlling depth of this channel as far as the Marina be shown as 4'.

The privately maintained floating aids leading into Mississippi Sound from Dauphin Island Bay were located by standard visual methods and sounding lines were run perpendicular to the line of bouys to define the channel. It is recommended that this channel show a controlling depth of 5'. All privately maintained aids to navigation were established in the summer of 1956, by the Dauphin Island Chamber of Commerce, and the Dauphin Island Property Owners Association. The aids are seasonal and are maintained by Harold M. Whitman, Dauphin Island Harbormaster.

Item No. 23 Presurvey review item 23 was investigated and a sounding of 5' as shown on C&GS chart 873, 2nd edition, 2 July 1951, revised 16 May 1960 could not be verified (latitude $30^{\circ}17'.30'$ Longitude $88^{\circ}06'.95'$). However, a sounding of 6' was found at latitude $30^{\circ}17'.25'$ longitude $88^{\circ}06'.90'$. *Disregard prior sounding - area now charted as spoil area DW 4/2/73*
Respectfully Submitted,

Guy F. Trefethen
Surveying Technician

The old boiler on east side of Little Dauphin Island appears to be remains of a wreck in that position used as a signal on H-2939 (1904) and bears no relationship with the heavy iron obstruction on H-6686 (1941) on the south shore of Dauphin

I.

*DW
4/21/73*

APPENDIX ATTACHMENTS

- A. LIST OF CONTROL STATIONS
- B. STATISTICS
- C. ABSTRACT OF GRAPHIC RECORDER CORRECTIONS
- D. TIDAL NOTES
- E. APPROVAL SHEET

APPENDEX A

PHOTO-HYDRO
MANUSCRIPT T- 10762

BEE	EVA	IFF	MUM	RON	TIT
BOB	FOR	ITS	NAY	ROW	VAL
CAB	FUN	JUG	NEW	SHE	VIT
CAM	GAB	JUT	ORA	SIG	WAS
CAT	GOB	KEY	PET	SIR	WAR
COD	HAG	KID	PIX	SOP	YAM
DUD	HIM	LAG	RAN	TEL	YET
ERG	HOP	MAG	RED	THE	

MANUSCRIPT T-10772

AXE	DOM	MAN	PEL
DAD	GEM	NIC	SUE

TRIANGULATION

ABE	EAR	OBI	TAN
AUX	FRO	PEG	TOW
DAV	HAN	RAD	USE
DIN	NEL	SKY	

HYDRO-SIGNALS

DOC

APPENDIX B

(9)

Launch CS-183

STATISTICS

1960 DATE	VOL	DAY	NO. D. P.	POS	NAUT. MILES
26 JAN	1	a	9	9	0.0
8 FEB	1	b	0	57	11.0
11 FEB	1&2	c	0	120	22.9
15 FEB	2	d	0	139	25.3
16 FEB	2&3	e	0	85	15.8
19 FEB	3	f	0	4	0.5
23 FEB	3	g	2	92	16.7
24 FEB	3&4	h	0	91	17.4
26 FEB	4	j	3	90	16.1
4 MAR	4&5	k	0	112	20.9
7 MAR	5	l	plotted on sheet H-8526 ECFP 10-3-60		
8 MAR	5&6	m	0	100	17.3
9 MAR	6	n	0	88	16.3
10 MAR	6&7	p	1	107	18.5
14 MAR	7	q	11	56	14.8
16 MAR	7	r	0	15	2.0
22 MAR	7&8	s	0	95	16.5
23 MAR	8	t	0	101	12.7
25 MAR	8&9	u	1	55	6.9
28 MAR	9	v	0	66	10.8
5 APR	9	w	3	34	5.1
7 APR	9	x	3	62	8.8
8 APR	10	y	4	53	7.2
11 APR	10	z	0	82	16.0
12 APR	10&11	aa	2	131	20.4
13 APR	11	ba	0	17	3.0
15 APR	11	ca	1	80	15.8
20 APR	12	da	10	12	0.2
21 APR	12	ea	7	62	8.2
25 APR	12	fa	4	48	4.0
31 MAY	12&13	ga	0	88	12.4
1 JUN	13	ha	2	81	16.7
14 JUN	13	ja	1	12	1.2
23 JUN	13	ka	0	85	7.7
			<u>64</u>	<u>2329</u>	<u>389 .1</u>

Launch CS-1177

21 APR	14	a	0	48	4.4
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APPENDIX B (cont.)

(10)

1960 DATE	VOL	DAY	NO. D. P.	POS	NAUT. MILES
31 MAR	15	a	3	56	3.2
3 MAY	15	b	3	110	14.9
9 MAY	15&16	c	1	118	9.8
11 MAY	16	d	0	112	10.5
13 MAY	16&17	e	2	106	10.8
16 MAY	17	f	12	111	10.2
17 MAY	17&18	g	14	101	7.1
18 MAY	18	h	<u>2</u>	<u>41</u>	<u>4.2</u>
			#37	755	70.7
SKIFF 758					
26 JUL	19	a	1	22	1.0

APPENDIX C

ABSTRACT OF GRAPHIC RECORDER CORRECTION

LAUNCH CS-183
GRAPHIC RECORDER EDU 255C # 15

RECORDER DEPTH	"a" day through "m" day & "p" day	RECORDER CORRECTIONS
0 to 22.0 ft.		0.0
22.1 to 23.5 ft.		0.2
23.6 to 25.5 ft.		0.4
25.6 to 27.5 ft.		0.6
27.6 to 30.0 ft.		0.8
30.1 to 40.0 ft.		1.0

"n" day correction

10 to 20.5 ft.	0.4
20.6 to 26.5 ft.	0.6
26.6 to 32.5 ft.	0.8
32.6 to 40.0 ft.	1.0

"q" day & "r" day correction

0 to 19.5 ft.	0.0
19.6 to 21.5 ft.	0.2
21.6 to 23.0 ft.	0.4
23.1 to 26.0 ft.	0.6
26.1 to 28.5 ft.	0.8
28.6 to deeper	1.0

GRAPHIC RECORDER EDU 255C # 16

"s" day & "u" day

0 to 12.0 ft.	0.0
12.1 to 20.5 ft.	0.2
20.6 to 24.0 ft.	0.4
24.1 to 28.0 ft.	0.6
28.1 to deeper	0.8

"t" day

0.0 to 6.0 ft.	0.0
6.1 to 19.5 ft.	0.2
19.6 to 21.8 ft.	0.4
21.9 to 24.0 ft.	0.6
24.1 to 33.0 ft.	0.8
33.1 to deeper	1.0

"v" day

0.0 to 20.6 ft.	0.0
20.6 to 21.4 ft	0.2

APPENDIX C (cont.)

(12)

"v" day (cont)

21.4 to 22.5 ft.

0.4

"w" day through "ba" day

0.0 to 14.5 ft.
 14.6 to 16.6 ft.
 16.7 to 24.0 ft.
 24.1 to 27.0 ft.
 27.1 to 29.0 ft.
 29.1 to 32.8 ft.
 32.9 to 36.0 ft.

0.0
 0.2
 0.4
 0.6
 0.8
 1.0
 1.2

"ca" day

0.0 to 6.0 ft.
 6.1 to 13.0 ft.
 13.1 to 15.5 ft.
 15.6 to 18.0 ft.
 18.1 to 21.0 ft.
 21.1 to 24.0 ft.
 24.1 to 30.0 ft.
 30.1 to 34.0 ft.
 34.1 to deeper

0.0
 0.2
 0.4
 0.6
 0.8
 1.0
 1.2
 1.4
 1.6

"da" day & "ea" day

0.0 to 15.0 ft.
 15.1 to 18.0 ft.
 18.1 to 21.0 ft.

0.0
 0.2
 0.4

"fa" day

0.0 to 13.0 ft.
 13.1 to 15.0 ft.
 15.1 to 17.0 ft.
 17.1 to 19.0 ft.
 19.1 to 22.0 ft.
 22.1 to 25.0 ft.
 25.1 to 27.0 ft.
 27.1 to 30.0 ft.
 30.1 to 32.0 ft.
 32.1 to 35.0 ft.
 35.1 to 37.0 ft.

0.0
 0.2
 0.4
 0.6
 0.8
 1.0
 1.2
 1.4
 1.6
 1.8
 2.0

"ga" day & "ha" day

12.0 to 19.4 ft.
 19.5 to 22.4 ft.
 22.5 to 25.4 ft.
 25.5 to 28.2 ft.
 28.3 to 31.2 ft.
 31.3 to 34.2 ft.
 34.3 to 37.4 ft.
 37.5 to 40.4 ft.

0.4
 0.2
 0.0
 0.2
 0.4
 0.6
 0.8
 1.0

APPENDIX C (cont.)

"ja" day & " ka " day

6.0 to 14.0 ft.	0.8
14.1 to 18.0 ft.	0.6
18.1 to 19.5 ft.	0.4
19.6 to 21.0 ft.	0.2
21.1 to 23.5 ft.	0.0
23.6 to 26.5 ft.	0.2
26.5 to deeper	0.4

LAUNCH CS-1177
GRAPHIC RECORDER EDO 255C # 13

"a" day

No corrections all day	0.0
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(14)

APPENDIX D
TIDAL NOTES FOR
HYDROGRAPHIC SHEET H-8524 (ECFP 10-1-60)

STAFF: Fort Morgan Mean low water corresponds to 1.0 feet
on the staff.

Fort Gaines Mean low water corresponds to 0.7 feet
on the staff.

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

APPENDIX E
APPROVAL SHEET TO ACCOMPANY
HYDROGRAPHIC SHEET H-8524 (ECFP 10-1-60)

The record, corrections and all field and office work was
supervised by CDR. Howard S. Cole. ✓

All soundings were taken with an EDO 255C graphic recorder and a
12.0' sounding pole, and lead line.

The descriptive report was written by ENS. Melvin E. Jones and
Guy F. Trefethen.

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

Approved and Forwarded,
John R. Plaggmuer
John R. Plaggmuer
LCDR., C&GS
Officer-in-charge, ECFP

RHC
15

TIDE NOTE FOR HYDROGRAPHIC SHEET

~~DIVISION OF COASTAL SURVEYS~~

28 December 1960

Division of Charts: R.H. Carstens

Plane of reference approved in
18 volumes of sounding records for

HYDROGRAPHIC SHEET 8524

Locality Mobile Bay, Alabama

Chief of Party: H.S. Cole (1960)
Plane of reference is mean low water reading.
1.0 ft. on tide staff at Fort Morgan, Ala.
5.5 ft. below B. M. 1 (1940)
0.7 ft. on tide staff at Fort Gaines, Ala.
18.3 ft. below B. M. 1 (1960)

Height of mean high water above plane of reference is:

Fort Morgan, Ala. 1.2 ft.
Fort Gaines, Ala. 1.1 ft.

Condition of records satisfactory except as noted below:

Burt W. Wilcox

Chief, Tides and Currents Branch

~~CHIEF, DIVISION OF TIDES AND CURRENTS.~~

GEOGRAPHIC NAMES

Survey No. H-8524

Name on Survey	Source										BGN
	A	B	C	D	E	F	G	H	K		
✓ Spring Bayou <i>A.J.W.</i> Bayou Matagua	x										1
✓ Woods Bayou <i>A.J.W.</i> Big Pass Margaret	x										2
✓ Dauphin Island	x								x		3
✓ Dauphin Island Bay	x										4
✓ Fort Gaines	x										5
✓ Fort Gaines Channel											6
✓ Little Dauphin I.	x										7
✓ Mobile Bay (title)	X										8
✓ North Point	x										9
✓ Pass aux Herons	x										10
✓ Pass Drury	x										11
✓ Pelican Point	x								x		12
Dauphin Island Spit	<i>Chart 872-5C</i>										13
Indian Bay	<i>Chart 872-5C</i>										14
Chugae Point	<i>Chart 872-5C</i>										15
Confederate Pass	<i>Chart 872-5C</i>										16
West Bank	<i>Chart 872-5C</i>										17
<i>DLW</i> Middle Ground	<i>872-5C</i>										18
											19
											20
											21
											22
											23
											24
											25
											26
											27

George M. Bass
GEOGRAPHIC NAMES SECTION
14 DECEMBER 1960

Names rechecked & approved
A. J. Wright
11-3-72

Hydrographic Surveys (Chart Division)

HYDROGRAPHIC SURVEY NO. 8524

Records accompanying survey: Smooth sheets 1;
 boat sheets 2; sounding vols. 18; wire drag vols.;
 Descriptive Reports 1; graphic recorder envelopes 15;
 special reports, etc. 1-Blackline print T-10762.
 ..Volume 5 see Descriptive Report Appendix B.....

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

Number of positions on sheet	.....	3160
Number of positions checked	.....	636
Number of positions revised	.....	4
Number of soundings revised (refers to depth only)	.....	25
Number of soundings erroneously spaced	.....	15
Number of signals erroneously plotted or transferred	.....	0
Topographic details	Time	10
Junctions	Time	14
Verification of soundings from graphic record	Time	18
Special adjustments	Time	.....

Verification by George K. Myers Total time 112 Date February 25, 1966
 Reviewed by Kenneth W. Wellman Time 294 Date June 16, 1965
 Inspected by: D.E. Vistfrank TIME 46 hrs. DATE 4/26/79
Cautious 10 hrs 5/10/74

OFFICE OF MARINE SURVEYS AND MAPS

MARINE CHART DIVISION

HYDROGRAPHIC SURVEY REVIEW

REGISTRY NO. H-8524

FIELD NO. ECFP-10-1-60

Alabama, Mobile Bay, Vicinity of Dauphin I

SURVEYED: January 26 to July 26, 1960

SCALE: 1:10,000

PROJECT NO.: CS410

SOUNDINGS: EDO 255C Depth Recorders
Sounding pole and Lead Line

CONTROL: Sextant fixes on
shore stations

Chief of Party..... H. S. Cole
Surveyed by..... M. E. Jones
..... M. J. Umbach
Protracted by..... G. F. Trefethen
Soundings Plotted by..... G. F. Trefethen
Verified and inked by..... G. K. Myers
Reviewed by..... K. W. Wellman
Date: Dec. 1972
Inspected by..... D. E. Westbrook

1. Description of the Area

This survey covers the southwest corner of Mobile Bay including Dauphin Island Bay.

Mobile Bay Channel, with a project depth of 40 feet (1972), extends along the entire length of the eastern portion of this survey.

In the area southeast of Fort Gaines, between Pelican Point and Mobile Bay Channel, there are numerous 1-2 foot sand ridges in 8-10 foot depths. Except for spoil banks alongside the ship channel, the rest of the survey area is flat or gently sloping.

The bottom consists of soft brown and grey mud in the northern portion of the survey and hard sand over most of the remaining area.

2. Control and Shoreline

The source of the control is given in the descriptive report. The shoreline, with the exception of the eastern and southeastern portion of

2.

Dauphin Island, originates with reviewed photogrammetric surveys T-10761, T-10762, T-10772 and T-10773 of 1957-60. The shoreline at the eastern tip of Dauphin Island, in the vicinity of Pelican Point, originates with R.S. 890 (Bp-74531) and R.S. 891 (Bp-72158), from air photos of 1962. The southern shoreline of Dauphin Island, shown in red on the smooth sheet, originates with the present survey.

The numerous privately maintained channel markers in Dauphin Island Bay have been plotted on the present survey using the positions shown on the field control plot on which the signals were also located. Minor differences exist between the positions of the markers on the field control plot and T-10762, but the former was accepted as the source most nearly contemporary with the hydrography.

The power poles in the vicinity of lat. $30^{\circ}16'$, long. $88^{\circ}07'$ were plotted on the smooth sheet from air photos 62W4801 and 4802.

3. Hydrography

- A. Depths at crossings are in good agreement.
- B. The usual depth curves were adequately delineated. Several dashed and brown curves have been added to emphasize important bottom features.
- C. The development of the bottom configuration and the investigation of least depths are considered adequate.

4. Condition of the Survey

The field plotting, sounding records and the Descriptive Report are adequate and conform to the requirements of the Hydrographic Manual, except that much of the shoreline was inaccurately transferred to the smooth sheet, necessitating extensive corrections during later processing.

5. Junctions

Adequate junctions were effected with H-8560 (1960) on the north, H-8526 (1960) on the south, H-8525 (1960) on the east and H-8642 (1961) on the west.

6. Comparison with Prior Surveys

H-192 (1847-48)	1:20,000
H-467 (1855)	1:20,000
H-1613B (1885)	1:20,000
H-2124 (1892)	1:20,000
H-2125 (1892)	1:20,000
H-2128 (1892)	1:20,000
H-2939 (1908)	1:20,000

3.

All or parts of these prior surveys fall within an area common to the present survey and reviewed surveys H-6685 (1941) and H-6686 (1941). Except as mentioned in Part 6C of this review, the above surveys require no further consideration.

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

B.	H-191 (1847)	1:20,000
	H-193 (1848)	1:20,000
	H-2125 (1892)	1:20,000
	H-2220 (1894)	1:40,000
	H-4020 (1917-18)	1:40,000
	<u>H-4023 (1917-18)</u>	<u>1:40,000</u>

These prior surveys cover the entire area north of lat. $30^{\circ}15'00''$ on the present survey. Comparison was made in the common area west of long. $88^{\circ}05'00''$. The remainder of the common area was discussed in the reviews of H-6685 (1941) and H-6686 (1941). The comparison revealed a general natural shoaling of 0 to 4 feet in Mobile Bay. Depths in Dauphin Island Bay, and its channel to the west, have deepened 0 to 2 feet over most of the area with the exception of the southern part of the bay where cultural changes have occurred to alter the shoreline and deepen the water near shore. Extensive natural shoreline changes have occurred on Little Dauphin Island. Three bayous have been closed on the Mobile Bay end of each. Further deposition has created North Point and the island to the northwest of North Point. The northeast shoreline of Little Dauphin Island has receded approximately 100 meters and the 12 foot curve, in Mobile Bay, has migrated approximately 1600 to 2300 meters eastward since the time of the earliest survey. The bottom characteristics and the 6 foot curve have remained basically unchanged. The two most recent surveys show a deepening, attributable to dredging, of 5 to 13 feet in the Pass Aux Herons Channel.

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

C.	H-6685 (1941)	1:20,000
	<u>H-6686 (1941)</u>	<u>1:20,000</u>

These reviewed surveys cover the entire area east of long. $88^{\circ}05'30''$ on the present survey. A comparison between these prior surveys and the present survey reveals a natural shoaling of 1 foot over most of the area. Shoaling of 1 to 3 feet in the presently charted spoil areas and deepening of 5 feet in the Mobile Bay Channel is attributable to the dredging of the main channel and deposition of dredgings in the spoil areas. Additional natural shoaling of 1 to 8 feet has occurred due south of Dauphin Island. The 12-foot depth, carried

4.

forward to H-6685 (1941) from H-4023 (1917-18) at lat. 30°15.19', long. 88°01.59', has been superseded by 14 to 15 foot depths on the present survey and was therefore not brought forward to the present survey.

The south shoreline of Dauphin Island has accreted as much as 90 meters seaward since 1941. A comparison with H-192 (1847-48) however, reveals more extensive shoreline changes. The northern and eastern shoreline of Dauphin Island has receded as much as 190 meters while the southern shoreline has accreted approximately 120 meters since the time of H-192 (1847-48).

The construction of groins around the eastern tip of Dauphin Island seems to have halted the erosion to some extent in that area.

The heavy iron obstruction on H-6686 in lat. 30°14.68', long. 88°04.80' was not found on the present survey. Because the south shoreline of Dauphin Island has accreted southward to the above position of the obstruction, no further consideration need be given to this feature.

Several bottom characteristics have been brought forward from these prior surveys to supplement the present survey.

With the addition of these bottom characteristics, the present survey is adequate to supersede these prior surveys within the common area.

7. Comparison with Chart 872SC, 8th Edition, August 12, 1972

A. Hydrography

The charted hydrography originates with the previously discussed prior surveys which require no further consideration, supplemented by Corps of Engineers Surveys, the boat sheet of H-9109 (1970) (Bp-78566), items from Notice to Mariners and Chart Letters, and partial application of the present survey before verification and review. Only minor differences were noted between charted depths and present survey depths.

Attention is directed to the following:

(1) The pier, charted in lat. 30°14.98', long. 88°04.48', originates with Bp-42368 (1947). The charted position of this pier was found by the hydrographer to be a foul area with scattered rocks. It is recommended that this pier be charted as a pier in ruins. *Applied*

(2) The following items are charted from sources subsequent to the date of the present survey and should be retained on the chart:

5.

- a. Obstruction in lat. 30°16.02', long. 88°01.99' CL 1191 (1961) ✓
- b. Obstruction in lat. 30°16'27", long. 88°05'48" N to M 6/64 ✓
- c. Fish Haven in lat. 30°16'17", long. 88°05'41" CL 701 (1971) ✓
- d. Sunken Wreck PA in lat. 30°16'48", long. 88°03'36" CL 792 (1972) ✓

(3) The pier ruins in lat. 30°14'56", long. 88°04'27" originate with Bp-81481, a revision survey of T-10772, using 1969 and 1971 photography. This is subsequent to the present survey and should be retained on the chart. ✓

(4) The breakwater charted in the vicinity of lat. 30°15'49", long. 88°06'42" originates with CL-1157/68, subsequent to the present survey and should be retained on the chart. ✓

(5) The pier in lat. 30°15'^{0.1}47", long. 88°06'^{2.4}49" and the structure in lat. 30°15'44", long. 88°06'45" originated with a source not readily ascertainable but subsequent to the present survey. It is recommended that the topographic features in this area be charted from T-10762 which was compiled from photography flown in 1969 and 1971.

(6) The dike in lat. 30°15'39", long. 88°05'27" originates with Bp-98103 (1964) subsequent to the present survey and should be retained on the chart. This dike closes Pass Drury to navigation. ✓

(7) The five private markers, west of the bridge over Dauphin Island Bay, originate with CL-1389/70 subsequent to the present survey, and should be retained on the chart. ✓

(8) There are 17 markers charted in Dauphin Island Bay near the shore of Dauphin Island, whereas the present survey shows a total of 18. The locations of these markers should be charted as shown on the present survey, not T-10762, because the field control sheet has been accepted as the source for plotting these markers. ✓

One marker, presently charted in lat. 30°15'^{21"}35", long. 88°05'^{22.2"}37" is no longer in existence and should be deleted from the chart. No com

(9) The present survey shows a submerged pipe in lat. 30°15.48', long. 88°06.31'. This pipe should be added to the chart. ✓

(10) Numerous soundings in the vicinity of Dauphin I. Spit are presently charted from the boat sheet of H-9109 (1970) (Bp-78566). These soundings should be retained as charted, pending verification and review of that survey.

Item (10) This statement incorrect, second sentence should read, The shoal soundings should be retained as charted, pending verification and review of that survey. Per George Myers. (WBW 6-9-75)

6.

(11) The microwave Tower charted in lat. 30°15'06", long. 88°05'10" originates with L-1002B (1965). It should be charted as a landmark and its charted position should be revised to agree with T-10762 of 1957-60.

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

B. Controlling Depths

The charted controlling depths in the Mobile Bay Channel, the Pass Aux Herons Channel, and the Fort Gaines Channel from Mobile Bay to Dauphin Island Bay are from information received subsequent to the date of the present survey.

C. Aids to Navigation

Several aids to navigation have been established or relocated subsequent to the date of the present survey.

The aids presently charted adequately mark the features intended.


8. Compliance with Instructions

The survey adequately complies with the project instructions.


9. Additional Field Work

This is an excellent basic survey and no additional field work is recommended.

Examined and Approved:



Chief
Marine Chart Division



Associate Director
Office of Marine Surveys
and Maps

H-8524

Items for Future Presurvey Reviews

The items discussed in sections 7-A-2, 7-A-3 of this review should be investigated and verified or disproved during future work in the area.

<u>Position Index</u>		<u>Bottom Change</u>	<u>Use</u>	<u>Resurvey</u>
<u>Lat.</u>	<u>Long.</u>	<u>Index</u>	<u>Index</u>	<u>Cycle</u>
301	0881	4	5	25 Years

