

# 8584

Diag. Cht. No. 1266-2.

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-5-1-61 Office No. H-8584

### LOCALITY

State Alabama

General locality Mobile Bay

Locality Upper Reach of Mobile Bay Channel

1961

CHIEF OF PARTY

J. R. Plaggmier

LIBRARY & ARCHIVES

DATE 1-24-62

USCOMM-DC 37022-P66

8584

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-8584

Field No. ECFP-05-1-61

State ALABAMA

General locality MOBILE BAY

Locality UPPER REACH OF MOBILE BAY CHANNEL ~~AND MOBILE RIVER~~

Scale 1:25,000 Date of survey 26 Jan. to 14 April 1961

Instructions dated 22/MEK, ECFP-2, dated 18 September 1959

Vessel Launch CS-183, Launch CS-1177, Skiff 758

Chief of party Lcdr. John R. Plaggmier

Surveyed by Robert A. Lewis <sup>(civilian)</sup> ; L.S. Brown

Soundings taken by fathometer, graphic recorder, hand lead, ~~XXX~~

Fathograms scaled by Party Personnel

Fathograms checked by Party Personnel

Protracted by George L. Fernandes

Soundings penciled by George L. Fernandes

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

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

*Handwritten initials/signature*

DESCRIPTIVE REPORT  
TO ACCOMPANY HYDROGRAPHIC SURVEY H-8584  
(Field No. ECFP 05-1-61)

SCALE: 1:5,000                      1961                      EAST COAST FIELD PARTY  
CHIEF OF PARTY:                      JOHN R. FLAGGMIER  
SURVEYED BY:                          R.A. LEWIS

\* \* \* \* \*

A. PROJECT

Work on Project CS-410 was executed in accordance with instructions 22/mek, ECFP-2, dated 18 September 1959. ✓

B. AREA SURVEYED

This survey is in the vicinity of Mobile Bay, Alabama and covers the area of Mobile Bay Channel upper reach - lat.  $30^{\circ}-37.7'$  to Mobile Channel lat.  $30^{\circ}-41.3'$ .

Hydrography began 26 January 1961 and ended 14 April 1961. ✓

This survey makes junction with contemporary surveys H-8587 (1961) (Field No. ECFP 10-1-61) scale 1:10,000 on the south, H-8585 (1961) (Field No. ECFP 05-2-61) scale 1:5,000 on the north and H-8588 (1961) (Field No. ECFP 10-2-61) scale 1:10,000 on the east.

C. SOUNDING VESSEL

Launch CS-183, CS-1177 and 25 ft. hydro skiff 758 were used to obtain soundings.

Identifying colors:

Lch. CS-183	violet
Lch. CS-1177	blue
Skiff 758	red

D. SOUNDING EQUIPMENT

An EDO-255C type fathometer, serial No. 13, was used on both launches. Fathometer 808j No. 113S was used on Skiff 758 to obtain soundings in depths greater than 3 feet, a sounding pole was used in depths less than 3 feet. A bar check was taken daily to determine instrumental corrections to be applied to the fathometers. No unusual difficulties were encountered with the sounding equipment. ✓

E. SMOOTH SHEET

The smooth sheet was made by ruling machine in the Washington Office. ✓

#### F. CONTROL

Horizontal control was obtained by standard visual three-point fix methods as described in the Hydrographic Manual.

Appendix A of this report contains a list of control stations and the source of location for each.

An unusual method of positioning the launch, while executing hydrography in pier slips, was necessitated due to inability to obtain a three-point sextant fix. Hydrography was controlled by sextant cuts taken by 2 men stationed at the pier corners. The locations of these stations were determined by a three-point sextant fix and check angle. On a signal, received via radio from the launch, the anglers occupying these stations would take sextant cuts from a known shore object to the launch. The angles were then relayed to the launch via radio and the cuts were immediately plotted by the hydrographer. The stations were designated on the boat sheet by blue circles and single capital letters.

*see Memorandum dated 15 May 1962 in this Descriptive Report*

#### G. SHORELINE

Shoreline detail was taken from Manuscript T-10935. The shoreline detail was verified by the hydrographer. The small pier shown on Chart 1266 at latitude  $30^{\circ}-38.9'$  long.  $88^{\circ}-03.5'$ , Brookley AFB Terminal, is no longer in evidence and should be deleted from the chart. The low water line was not defined by soundings due to numerous snags and foul areas that extended along the banks of the river.

#### H. CROSSLINES

Crosslines were run to the extent of 25% of the regular system of sounding lines. Crossings were in good agreement with the exception of (d day) Launch CS-1177, which was a crossline run approximately 2½ months later. During the lapse of time between the crossline and regular hydrography The Mobile River was at flood stage for 2 weeks, at which time the river bottom was probably scoured in places by the swift current caused by flood waters. The crossline checks in areas less likely to be scoured. *see Review Report part 3A*

#### I. JUNCTIONS

The depths at the junctions with the surveys listed in Section B are in good agreement and depth curves can be adequately drawn at the junctions.

*see review report sections*

#### J. COMPARISON WITH PRIOR SURVEYS

A comparison was not made with prior survey Register No. 737, dated 1860. The channel and shoreline has completely changed.

K. COMPARISON WITH THE CHART

A comparison with Chart 1266, 16th edition, Jan. 30, 1961 indicates good agreement for the most part with this survey. The small channel south of Pinto Island is shown on the chart as having a controlling depth of 13 ft. This survey shows a controlling depth of 6 feet. No other note-worthy differences were found.

Chart review item No. 34 (pier ruins) are still in evidence and should remain on the chart.

Chart review item No. 35 (stranded wreck - house boat) was searched for and not found. This feature should be deleted from the chart.

L. ADEQUACY OF THE SURVEY

This survey is complete and is considered adequate to supersede prior surveys.

M. AIDS TO NAVIGATION

A comparison with the Light List and Chart 1266 indicate the aids adequately serve the purpose for which they were established.

N. STATISTICS

<u>VESSEL</u>	<u>NO. OF POSITIONS</u>	<u>NAUTICAL MILES OF SDGS.</u>
Launch CS-183	515	44.4
Launch CS-1177	172	21.8
Skiff 758	<u>360</u>	<u>29.6</u>
TOTALS	1047	95.8

Total area surveyed: 2.5 sq. nautical miles

One tide station was used for control of the entire survey. This was a portable automatic tide gage located at the Alabama State Docks, Mobile. Data for reduction of the soundings was taken directly from the station records without time or range corrections. See Appendix C, "TIDAL NOTE", for additional information.

19 bottom samples were obtained.

There were no current stations within the limits of this survey.

O. MISCELLANEOUS

The Mobile Bay Ship Channel is maintained by the U. S. Corps of Engineers to a controlling depth of 38 feet.

The channel area covered by this survey was dredged shortly after completion of hydrographic operations.

INDEX OF APPENDIX

- A. LIST OF SIGNALS
- B. ABSTRACT OF CORRECTIONS TO ECHO SOUNDINGS
- C. TIDAL NOTES
- D. APPROVAL SHEET

Submitted by

*Robert A. Lewis*

Robert A. Lewis  
Survey Tech.

APPENDIX D

APPROVAL SHEET TO ACCOMPANY  
Hydrographic Sheet H- 8584 (ECFP - 05-1-61)  
Project OPR-410

The Records, corrections, and all field and office work was supervised LCDR John R. Plaggmier.

The descriptive report was written by Robert A. Lewis.

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

Approved and Forwarded,

*Steven L. Hollis*  
Steven L. Hollis, Jr.  
LCDR, C&GS  
OFFICER IN CHARGE

APPENDIX A

LIST OF SIGNALS  
Hydrographic Sheet H-8584 (ECFP-05-1-61)

TRIANGULATION STATIONS

AERO BANK BUILDING, AERO BEACON, 1935  
CENT ST. VINCENTS CATHOLIC CHURCH SPIRE, MOBILE, 1935  
DRUG MOBILE DRUG CO., WATER TANK, 1935  
GYPS MOBILE, NATIONAL GYPSUM WATER TANK, 1960

TOPOGRAPHIC STATIONS

From Topographic Sheet # 1 :

ARM <i>Gable</i>	HUT Lt "1"	OFF <i>Officers Club</i>	WAD Lt "7"
DEB Bn "5"	MOP Bn "6"	PEP Bn "9"	WIT <i>Ad. Ch. Lt "13"</i>
FIN Lt "2"	OBI Lt "11"	SOL Lt "3"	YET Bn "10"
			GUY

From Topographic Sheet # 2 :

ABE	✓ BAG	✓ KAY	POT	✓ TOP
✓ ANN	✓ FIX	✓ NAT	REV	TOY
✓ ANT	✓ FUN	✓ NOR	TEX <i>Public</i>	

HYDROGRAPHIC SIGNALS

BED	FOR Lt "22"	LUG
CAT	KIM Lt "40"	MAX
		TAX Lt "31A"



APPENDIX B

ABSTRACT OF CORRECTIONS TO ECHO SOUNDINGS

Hydrographic Survey H-8584  
 Project OPR - 410  
 East Coast Field Party

Field No. ECFP 05-1-61  
 Mobile Bay, Alabama  
 1960-61 Field Season

<u>VESSEL</u>	<u>DAY &amp; DATE</u>	<u>RECORDER NO.</u>	<u>FATH. DEPTH (ft.)</u>	<u>CORR. (ft.)</u>
Lch. CS-183	a - 1/26/61	EDO-255C #13	0.0 - 20.0	0.4
			20.1 - 24.0	0.2
			24.1 - 32.0	0.0
			32.1 - 35.0	0.2
			38.1 - 41.0	0.6
			41.1 - 44.0	0.8
			44.1 - deeper	1.0
Lch. CS-183	b - 1/27/61	EDO-255C #13	0.0 - 16.0	+0.2
			16.1 - 43.0	0.0
			43.1 - Deeper	+0.2
Lch. CS-183	c - 1/30/61	EDO-255C #13	0.0 - 14.0	0.0
			14.1 - 23.0	-0.2
			23.1 - 28.0	0.0
			28.1 - 32.0	+0.2
			32.1 - 35.0	+0.4
			35.1 - 38.0	+0.6
			38.1 - 41.0	+0.8
			41.1 - 44.0	+1.0
44.1 - Deeper	+1.2			
Skiff #758	a & b - 2/16 & 17/61	808j #113S	0.0 - 9.0	0.0
			9.1 - 15.0	-0.2
			15.1 - 22.0	-0.4
			22.1 - 33.0	-0.6
			33.1 - 36.0	-0.8
			36.1 - Deeper	-1.0
Lch. 1177	a, b, c, d, 3/31-4/3, 11, 14/61	EDO-255C #13	0.0 - 15.0	-0.6
			15.1 - 19.0	-0.4
			19.1 - 22.0	-0.2
			22.1 - 25.0	0.0
			25.1 - 36.0	+0.2
			36.1 - Deeper	0.0

APPENDIX C

TIDAL NOTE

Gage Location:	Mobile River, Mobile, Alabama Lat. $30^{\circ}-42.45'$ N Long. $88^{\circ}-02.6'$ W
Gage Type:	Portable Automatic
Staff:	Vitrified scale - MLW corresponds to 2.4' on staff
Correction:	NONE

90th meridian time was used at this station

# Memorandum

TO : Chief, Marine Data Division  
Coast and Geodetic Survey  
Washington 25, D.C.

DATE: 15 May 1962

FROM : Officer in Charge, East Coast Field Party

2231  
X1113.

SUBJECT: 22-39-13b4 dtd May 4, 1962

Hydrographic Sheets of the area in question were on a 1:5,000 Scale while the Topo Sheet T-10935 was 1:10,000. In order to obtain greater accuracy we worked from Topo Sheets and planetable at 1:5,000 Scale. These are the Sheets No. 1 and 2, and they were retained on the Party for plotting of Smooth Sheet H-8585. They are being forwarded to Washington immediately.

In explanation of Signals located on T-10935: These were identified by the photogrammetrist previously assigned to support East Coast Field Party (LTJG E.E. Brown). When it was decided these locations were not within acceptable limits of accuracy when transferred to a 1:5,000 scale Boat Sheet, LT. Hull re-located the signals in question on Topo sheets 1 and 2 as per Project Instructions.

*Steven L. Hollis, Jr.*  
Steven L. Hollis, Jr.

GEOGRAPHIC NAMES

Survey No. H-8584

Name on Survey	Source										
	A	B	C	D	E	F	G	H	K		
Arlington Channel	✓										1
Choctaw Point	✓										2
Garrows Bend	✓										3
Garrows Bend Chan.	✓										4
Mc Duffie I.	✓										5
Mobile		✓									6
Mobile Bay		✓									7
Mobile Channel	✓										8
Mobile River	✓										9
Old Channel	✓										10
Pinto Island	✓										11
Pinto I. Reach	✓										12
Pinto Pass	✓										13
<del>Quarantine Station</del>											14
Upper Reach	✓										15
Little Sand Is.		Sheet 10932									16
Choctaw Pass											17
Old Channel											18
											19
											20
											21
											22
											23
											24
											25
											26
											27

APPROVED  
GEOGRAPHIC NAMES SECTION  
MAR 20 1972

2-9-62

Reviewed, and additions  
and changes approved.

8-21-72  
A. J. Wright  
Geographic Names

RHC

TIDE NOTE FOR HYDROGRAPHIC SHEET

~~XXXXXXXXXXXXXX~~

May 2, 1962

Division of Charts: R. H. Carstens

Plane of reference approved in  
5 volumes of sounding records for

HYDROGRAPHIC SHEET 8584

Locality Mobile Bay, Alabama

Chief of Party: J. R. Plaggmier (1961)  
Plane of reference is mean low water reading  
2.4 ft. on tide staff at State Pier (Mobile)  
11.0 ft. below B. M. NO. 1 (1960)

Height of mean high water above plane of reference is: 1.6 feet.

Condition of records satisfactory except as noted below:

J. M. Symons  
Chief, Tides and Currents Branch  
~~Chief, Division of Tides and Currents~~

Hydrographic Surveys (Chart Division)

HYDROGRAPHIC SURVEY NO. 8584

Records accompanying survey: Smooth sheets 1...;  
 boat sheets 1...; sounding vols. 5...; wire drag vols. ....;  
 Descriptive Reports 1...; graphic recorder envelopes 4...;  
 special reports, etc. ....  
 .....

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

Number of positions on sheet		1047
Number of positions checked		70 (100, D.M.T.)
Number of positions revised		Numerous, D.M.T.
Number of soundings revised (refers to depth only)		10 (D.M.T.)
Number of soundings erroneously spaced		Numerous (D.M.T.)
Number of signals erroneously plotted or transferred		12 (D.M.T.)
Topographic details	Time	24 hours (5 hrs D.M.T.)
Junctions	Time	NIL (4 hrs, D.M.T.)
Verification of soundings from graphic record	Time	10 hrs, D.M.T. 2.5 hours
Special adjustments	Time	10 hours

Verification by *Alvin M. Taylor* Total time 250 hrs. Date April 27, 1967  
*Raymond C. Baywa* Total time 170 Date June 5, 1962  
*F. Powers* Total time 51  
 Reviewed by *Kuss Larson* Time 81 Date 9-12-72  
 Insp. by *RH Carstens* Time 32 hr Date 5/16/73

OFFICE OF MARINE SURVEYS AND MAPS

MARINE CHART DIVISION

HYDROGRAPHIC SURVEY REVIEW

REGISTRY NO. H-8584

FIELD NO. ECFP-05-1-61

Alabama, Mobile Bay, Upper Reach of Mobile Bay Channel

SURVEYED: January 26, through April 14, 1961

SCALE: 1:5,000

PROJECT NO.: CS-410

SOUNDINGS: EDO 255C Depth Recorder,  
808 Fathometer, Sounding  
Pole

CONTROL: Visual fixes on  
shore signals

Chief of Party .....	J. R. Plaggmier
Surveyed by .....	R. A. Lewis
.....	L. S. Brown
Protracted by .....	G. L. Fernandes
Soundings plotted by .....	G. L. Fernandes
Verified and Inked by .....	R. S. Bajwa
.....	D. M. Taylor
Reviewed by .....	K. Larson
.....	Date: September 12, 1972
Inspected by .....	R. H. Carstens

1. Description of the Area

This is a survey of a portion of the Mobile Bay ship channel and the port of Mobile north of lat.  $30^{\circ}37'45''$ , and south of lat.  $30^{\circ}41'30''$ .

The area consists primarily of Federally maintained channels (Mobile Bay and River Channels; Arlington Channel and Garrows Bend Channel). Much of the inshore area is foul and shallow.

Depths in the main shipping channel are from 35 to 40 feet and in Arlington Channel and slips depths are about 20 to 30 feet. The bottom is generally soft mud.

## 2. Control and Shoreline

The origin of control is adequately described in Part F of the Descriptive Report supplemented by the Memorandum dated May 15, 1962. New positions of signals determined by planetable necessitated replotting soundings in the Garrows Bend area by the verifier.

The shoreline originates with reviewed photogrammetric manuscripts T-10935 (1957-1961) and T-10933 (1957-1961). The pier shown on T-10935 at lat.  $30^{\circ}38.93'$ , long.  $88^{\circ}03.5'$  was reported not to be visible above water by the hydrographer. As no specific investigation was made for submerged remains, the pier has been carried forward to the present survey as submerged pier ruins.

## 3. Hydrography

A. Depths at crossings were in good agreement except in cases where crosslines were run  $2\frac{1}{2}$  months after the regular system of lines, as explained in Part H of the Descriptive Report. A few lines of soundings in changeable areas were not plotted.

B. The usual depth curves were adequately delineated except the low water line, which adjoined shallow foul areas in many places. The 3-foot depth curve was added to better delineate the bottom configuration.

C. The development of the bottom configuration and the investigation of least depths are considered adequate except in shallow foul areas and along some piers where ships were moored. Extensive foul areas beyond the limits of dredged channels remain without soundings or a knowledge of general depths.

## 4. Condition of the Survey

The field work, sounding records, smooth plotting, and Descriptive Report are adequate and conform to the requirements of the Hydrographic Manual except that the times of soundings between positions were not usually recorded in accordance with Hydrographic Manual requirements.

## 5. Junctions

Adequate junctions were effected with H-8585 (1961) on the north and with H-8588 (1961) on the east. A partial butt junction was necessary with H-8587 (1961) on the south due to the latter survey showing depths of 2 to 4 feet deeper than H-8584 within the dredged channel. The review report for H-8587 should be consulted for further details on this junction.



6. Comparison with Prior Surveys

- A. H-214 (1849) 1:10,000  
 H-228 (1850) 1:10,000  
H-737 (1860) 1:10,000

These surveys together cover the entire area of the present survey. H-737 and H-228 both cover Mobile River and essentially show the same bottom configuration, although H-737 is somewhat more intensely developed.

Comparison of the prior surveys with the present survey show large changes in the bottom and shoreline due to dredging, spoiling, filling, and port construction over the last 100 years. The Mobile River Channel has remained essentially fixed in position but has been deepened from 14 to 20 feet to 38 to 40 feet. Other areas on both sides of the channel have been filled from 5 to 10 feet to form dry land in many cases.

These surveys are entirely superseded by the present survey within the common area.

- B. H-4024 (1918) 1:40,000

This survey covers the areas on the present survey south of lat.  $30^{\circ}40'$ . The small scale of the prior survey permits only a rough comparison to be made.

Bottom and shoreline changes between the prior and present survey show both deepening and shoaling due to dredging, spoiling, filling, port construction, and river silt deposition. South of lat.  $39^{\circ}38.5'$  depths have shoaled 2 to 5 feet, mainly near the present dredged channels where spoil is dumped.

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

7. Comparison with Chart 1266 and Inset, (latest print date, 25th Ed., September 4, 1971)

- A. Hydrography

The charted hydrography originates with the previously discussed prior surveys which require no further consideration, supplemented

by the partial application of information from the present boat sheet and smooth sheet before verification and review and from various chart letters and blueprints.

Attention is directed to the following:

1. The stranded wreck charted in lat.  $30^{\circ}38.88'$ , long.  $88^{\circ}02.8'$  from N. M. 42/1957 is no longer visible according to the hydrographer nor is it shown on the contemporary topography survey. Considering that the wreck falls in a shallow, foul, spoil area, charting the wreck as submerged would serve little use and the wreck should be disregarded.
2. Ruins and piling charted from T-5531 and T-5532 of 1934 largely in Garrows Bend and in the vicinity of the pier ruins on the present survey south of Arlington Channel are considered adequately superseded by the present survey foul notes and contemporary topographic delineation.
3. The following piles originate with previously established daybeacons and should be retained on the chart as piles in accordance with N.M. 39/1963:
  - a. Pile - lat.  $30^{\circ}39.51'$ , long.  $88^{\circ}02.68'$
  - b. Pile - lat.  $30^{\circ}39.41'$ , long.  $88^{\circ}02.85'$
4. The following items were charted subsequent to the date of the survey and should be retained on the chart:
  - a. A slip charted in lat.  $30^{\circ}41.25'$ , long.  $88^{\circ}01.99'$  from Chart Letter 95 of 1963.
  - b. Spoil Areas along the channels from Corps of Engineers Bp 65854 (1964).
  - c. Shoreline for Little Sand Island, McDuffie Island, and Garrows Bend area from U.S. Geological Survey quad "Mobile" photorevised in 1967.
  - d. Depths reported in slips as follows:

<u>Depth (ft.)</u>	<u>Lat.</u>	<u>Long.</u>	<u>Source</u>
9	$30^{\circ}41.27'$	$88^{\circ}02.00'$	CL 95/1963
42	$30^{\circ}40.25'$	$88^{\circ}02.17'$	CL 136/1971

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 for Mobile Ship Channel are based on Corps of Engineers Chart Letter No. 1083 of 1971 and supersede the present survey information.

C. Aids to Navigation

Most of the aids to navigation have been established or relocated subsequent to the date of the present survey. The presently charted aids adequately mark the features intended.

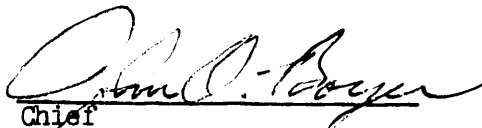
8. Compliance with Instructions

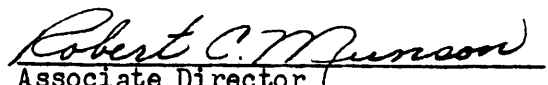
This survey adequately complies with the Project Instructions.

9. Additional Field Work

This survey is considered a good basic survey and no additional field work is recommended. However, several slips and mooring areas occupied at the time of the survey remain unsounded.

Examined and Approved:

  
Chief  
Marine Chart Division

  
Associate Director  
Office of Marine Surveys and Maps

H-8584

Items for Future Pre-Survey Review

Most of the navigable areas of the survey are within Corps of Engineer Projects. Of the other areas, controlling depths in docks and condition of remnants of old piles and piers were incompletely investigated and should be emphasized on future surveys. Large changes in shoreline are constantly occurring.

Position index - lat. 304, long. 0881

Bottom change - 4

Use index - 5

Resurvey cycle - 25 yrs.

Position index - lat. 303, long. 0881

Bottom change - 4

Use index - 5

Resurvey cycle - 25 yrs.



