8062

Diag. Cht. No. 100702.

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. HY-20253 *Office No.* H-8062

LOCALITY

State Alabama - Florida

General locality Gulf of Mexico

Locality South Central Gulf of Mexico

1953-54

CHIEF OF PARTY

L. S. Hubbard

LIBRARY & ARCHIVES

DATE March 8, 1961

USCOMM-DC 37022-P66

8062

Form 537
(Ed. June 1946)

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-8062

Field No. HY-20253

State Florida

General locality Gulf of Mexico

Locality South Central Gulf of Mexico

Scale 1:200,000 Date of survey 8 August - 24 September 1953, 12 July - 10 August 1954

Instructions dated 20 March 1952, 9 March 1953, 27 January 1954

Vessel Ship HYDROGRAPHER

Chief of party L.S. Hubbard

Surveyed by R.A. Earle, I.R. Rubottom, R.M. Stone, M.T. Paulson, G.E. Morris

Soundings taken by fathometer, graphic recorder, ~~Kand-Read, Wire~~

Fathograms scaled by Personnel aboard Ship HYDROGRAPHER

Fathograms checked by Personnel of Norfolk Processing Office

Protracted by R.D. Lynn (Norfolk Processing Office) } see below

Soundings penciled by R.D. Lynn " " " }

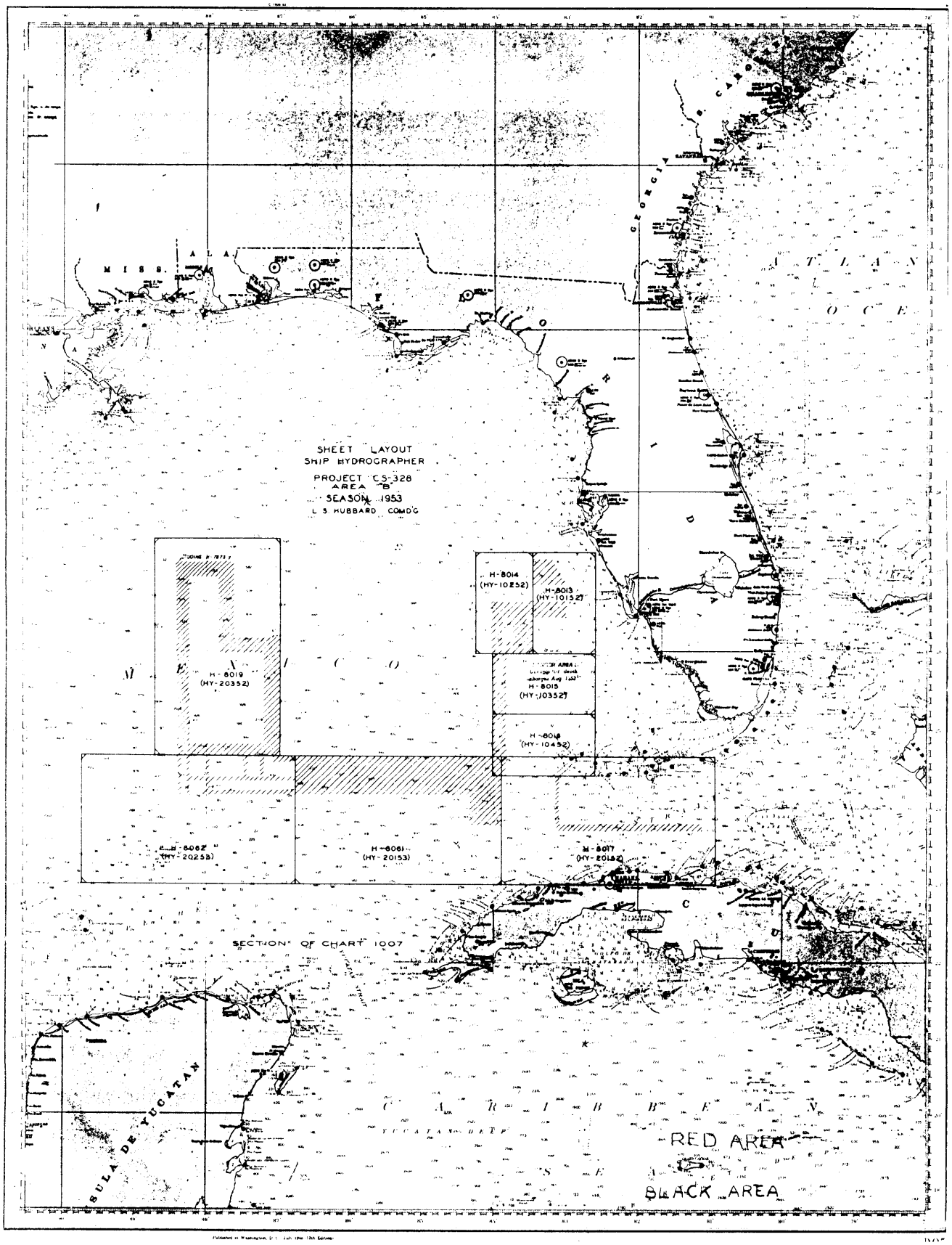
Soundings in fathoms ~~feet~~ MLW ~~MLLW~~

REMARKS: Offshore survey, Control by EPI system

This survey was originally smooth plotted by manual methods in 1961. In order to facilitate the verification process, the records were digitized and a new smooth sheet was plotted at the Pacific Marine Center by Gerber Digital Plotter. The original smooth sheet will be destroyed after the review is signed.

DEW 1/7/69

U. S. GOVERNMENT PRINTING OFFICE 693019


SHEET LAYOUT
SHIP HYDROGRAPHER
PROJECT C.S.328
AREA "B"
SEASON 1953
L.S. HUBBARD, COMD'G
H-8014
(HY-10252)
H-8013
(HY-10327)
H-8019
(HY-20352)
H-8015
(HY-10352)
H-8018
(HY-10452)
H-8062
(HY-20253)
H-8061
(HY-20153)
H-8017
(HY-20152)
SECTION OF CHART 1007
RED AREA
BLACK AREA
MISS.
ALA.
GEORGIA
FLORIDA
ATLANTIC
OCEAN
MEXICO
GULF OF
CARIBBEAN SEA
YUCATAN DEEP
PENINSULA DE YUCATAN

Information & Notes

for

Descriptive Report

To Accompany

Hydrographic Survey H-8062 (HY 20253)

8 August - 24 September 1953

12 July - 10 August 1954

L. S. Hubbard

Chief of Party

A. PROJECT:

This survey was made under Instructions from the Director, to the Commanding Officer, Ship HYDROGRAPHER, for Project CS 328 and are dated 20 March 1952, 9 March 1953, and 27 January 1954.

B. SURVEY LIMITS & DATES:

This survey was made in the Gulf of Mexico north of the Yucatan Peninsula. The survey was completed only along the upper half of the eastern edge of the sheet, with a few additional lines in the north central portion of the sheet. An index sheet, showing the location of the sheet, the work done, and the adjacent contemporary sheets, is included with this report. In addition to the contemporary sheets shown on the index sheet, the work junctions with prior survey H-8018, completed in 1952. Field work was done from 8 August through 24 September in 1953, and from 12 July through 10 August in 1954.

C. VESSEL & EQUIPMENT:

All hydrography was done by the Ship HYDROGRAPHER, using EPI control.

The ship has a turning radius of 80 to 120 meters at sounding speed, depending on the wind and/or current.

The fathometers used in this survey were 808J No. 153, NMC II No. 86, and Edo No. 3. The 808 was used throughout its range in fathoms and the NMC and Edo in deeper water.

D. TIDES & CURRENTS:

The standard Key West tide station was used in 1953 and 1954. In 1953 no time or range corrections were applied, in accordance with a letter from the Director, dated 31 July 1952. In 1954 a time correction of minus 1 hour with no range correction was applied, in accordance with a letter from the Director dated 9 August 1954.

E. SMOOTH SHEET:

The smooth sheet was originally plotted by the Norfolk Processing Office. A new automated smooth sheet was plotted by Gerber Digital Plotter at PMC Seattle, Wash.

F. CONTROL STATIONS:

Control was by EPI using stations EPI E and EPI F in 1953, and EPI F ✓ and EPI G in 1954.

Station EPI E was located at RM 3 of triangulation station KEY 1934 ✓ and was established as an EPI station in 1952 under J. C. Sammons, Chief of Party. The location is on Grassy Key, Monroe County, Florida.

Station EPI F was located close to triangulation station EAT 1951 and ✓ was established as an EPI station in 1952 under J. C. Sammons, Chief of Party. The location is at Boca Ciega Bay, West Coast of Florida.

Station EPI G was located at Key West as triangulation station EPI G ✓ 1954 under L. S. Hubbard, Chief of Party. The station is located on the grounds of the U. S. Naval Station, Key West, Florida.

G. SHORELINE AND TOPOGRAPHY:

None.

H. SOUNDINGS:

The soundings were by fathometer. For information relative to the ✓ corrections applied, see the Velocity Correction Reports and the Fathometer Correction Reports for 1953 and 1954.

I. CONTROL OF HYDROGRAPHY:

Control of hydrography was by EPI for all of the field work, as was ✓ covered in section F.

J. ADEQUACY OF SURVEY:

This survey is incomplete over the major portion of the sheet. The triangular area in the northeast section of the sheet, bounded by Lat. 23° 18', Long. 86° 45', Lat. 24° 43', Long. 87° 35'; Lat. 24° 41, Long. 86° 45', is complete for the depth of bottom involved. The crossings are generally in agreement. Slight disagreement of the crossings might be attributed to ✓ errors in posit ion due to the extreme range of the EPI and the slimness of the intersections used. It is believed that several crossings apparently in disagreement on the boat sheet will be found in agreement on the smooth sheet, since on some days the fathometer soundings were recorded directly on the boat sheet, and on others the soundings were reduced before putting on the boat sheet.

See Par. 9 Review

Smooth sheet now shows good crossings.

J. ADEQUACY OF SURVEY (continued):

Junctions with adjoining surveys are satisfactory in the completed area. ✓

Depth curves can be adequately drawn over most of the completed area of the sheet. However, in the extreme northwesterly area of the ~~completed~~ survey ~~portion~~, the bottom drops so abruptly that a few additional lines would have helped in drawing the lines considerably. This portion of the bottom is very irregular. ✓

K. CROSSLINES:

Crosslines in the completed area amount to about 15% of the total lines run. This excessive percentage was due to the necessity of extra running to complete this one area. ✓

L. COMPARISONS WITH PRIOR SURVEYS:

M. COMPARISON WITH CHARTS:

The completed area of the sheet and the preliminary sounding lines to the westward were compared to Chart 1003, 11/16/53 and Chart 1007, 2/4/52. In general, the agreement is satisfactory, but the chart soundings are deeper than the boat sheet soundings along the northeast edge of Campeche Bank on Chart 1003, and the charted soundings are shoaler than the boat sheet soundings on the northern end of Campeche Bank on Chart 1007. ✓ See Par. 7 Review

N. DANGERS AND SHOALS:

O. COAST PILOT INFORMATION:

P. AIDS TO NAVIGATION:

Q. LANDMARKS FOR CHARTS:

R. GEOGRAPHIC NAMES:

S. SILTED AREAS:

T. BY*PRODUCT INFORMATION:

None.

U. MISCELLANEOUS:

The records for this sheet were kept as outlined in a letter to the Commanding Officer, Ship HYDROGRAPHER, dated 22 August 1950. In using this method, mean velocities are determined for the various depths and the velocity templates to be used in conjunction with a fathogram scanner are noted on the fathogram. The corrections for instrumental error, phase, tides, etc. are

Templates were not used when soundings logged for automated plot. See Par. 4 Review.

U. MISCELLANEOUS (Continued):

summed and entered on the bottom of the fathogram. Thus, the field records for this sheet consist of the fathograms and the position plotting abstracts.

Abstracts of these corrections, plus abstracts of the EPI correctors used, are at the end of this report.

V. RECOMMENDATION FOR FUTURE WORK:

It is recommended that when work is resumed on this sheet in the future, that consideration be given to the establishment of an EPI station on the Yucatan Peninsula, to strengthen the fixes available.

Z. TABULATION OF APPLICABLE DATA:

25 Mar. 54	Report of Velocity Corrections 1953
19 Apr. 55	Report of Velocity Corrections 1954
13 Dec. 54	Report of Fathometer Corrections 1953
19 Apr. 55	Report of Fathometer Corrections 1954

The body of this report covers two seasons of field work on this sheet and since the officer preparing it was not present during either field season , it should be considered primarily as a review of the records and field work, and as an aid for the smooth plotter, rather than a complete Descriptive Report.

Respectfully submitted;

Hubert W. Keith Jr.
Lieutenant, USC&GS

1953 ✓

STATISTICS

For Hydrographic Survey No. H-8062 (HY-20253)

Date	Day Letter	Volume Number	Number of Positions	Statute Miles of Sounding
1953				
8 August	A	I	31	70.2
22 August	B	I	39	91.9
26 August	C	I	24	38.0
6 September	D	I	51	136.6
9 September	E	I	32	85.0
23 September	F	I	72	187.4
24 September	G	I	21	51.4
			270	660.5

Ck'd: PH

Number of Temperature and salinity observations in this area: 5 *

Total area surveyed: 2910 square statute miles

*---Refer to "Computation of Velocity Corrections"

1954 ✓

Date	Day Letter	Volume Number	Number of Positions	Statute Miles of Sounding
1954				
12 July	H	II	87	202.1
13 July	J	II	57	154.7
23 July	K	II	49	116.9
24 July	L	II	26	66.9
8 August	M	II	83	214.2
9 August	N	II	99	239.2
10 August	P	II	33	79.8
			434	1073.8

Number of Temperature and Salinity observations in this area: 2*, 19 BT

Total area surveyed: 1866 square statute miles

* Oceanographic Stations

TOTAL 1953 - 1954

Final no. of positions = 716 (several additional positions logged for automated plotting)

Number of Positions 704, Statute miles of sounding 1734.3,
Square statute miles 4776

Copy PH

6

✓

TIDE NOTE

Tide Station:	Key West, Florida
Latitude:	24°33.2'N
Longitude:	81°48.5'W
Plane of Reference:	Mean low water = 6.0 feet on tide staff (Director's letter of 15 Aug. 1952)
Area Covered:	Entire area of Sheet HY-20253 (Director's letter of 31 July 1952)
Time Correction:	None) Director's letter of 31 July 1952.
Height Correction:	None)

Tide reducers for the project area were determined by using observed tides for Key West in 1952 and predicted tides for the 1953 season, as authorized in the Director's letter, 36-rjb, dated 25 August 1953, a copy of which is appended to this report.

Hourly heights for the 1952 season were furnished by the Washington Office. These heights were referred directly to Mean Low Water.

1954

Same Tide Station	MLW = 4.3 ft. on staff
Time Correction:	Minus one hour - Director's letter of 9 August 1954
Height Correction:	None

Tides for the project area for 1954 were determined by using the observed tides for Key West, supplied by the Office, using the above time and range corrections.

VELOCITY CORRECTION TEMPLATES

1953

AREA B

Gulf of Mexico

SURVEYS: H - 8013, (HY-10152) H-8016, (HY-10452) H-8061, (HY-20153)
H-8014, (HY-10252) H-8017, (HY-20152) H-8062, (HY-20253)
H-8015, (HY-10352) H-8019, (HY-20352)

Templates not used in final automated plot.
Velocity correction tables used

PERIOD: 13 July through 25 September 1953

DEPTH FATHOMS From	To	TEMPLATE Meters per second
00.0	28.6	1545
28.8	94.0	1530
94.2	210	1515
211	and deeper	1500

Use Table #1 = 0-500fms
" Table #2 = 501-deeper

this provides adequate conversion from template corrections.

PERIOD: 5 October through 25 November 1953

DEPTH FATHOMS From	To	TEMPLATE Meters per second
00.0	111.5	1530
112	210	1515
211	and deeper	1500

— Not applicable to H-8062

Comp by: RMS
Ck'd by: GWT

1954

Abstract of Velocity Templates

1954

Sheet H-8062

Gulf of Mexico Mean		Serial No. 5	
Depth, fm.	Template m/s	Depth, fm.	Template m/s
0 - 101	1545	0 - 30	1545
101 - 280	1530	30 - 101	1530
280 - 530	1515	101 - 230	1515
530 - 2000	1500	over 230	1500
over 2000	1515		

H day, 12 July, first day of 1954 season. Gulf of Mexico Mean until between positions 17 &18, where depth crosses 230 fathoms. The remainder of H day, use Serial No. 5.

J day, 13 July, use Serial No. 5 until between positions 43 & 44, where depth crosses 230 fathoms. Remainder of J day, use the Gulf of Mexico Mean.

All other days of 1954, use the Gulf of Mexico Mean.

Templates not used in final automated plot. Velocity correction tables used.

Use Table 3 for 808 fathometer
Use Table 1 for 0 - 500 fms.
Use Table 2 for 501 to deeper

} Velocity tables attached

Provides adequate conversion from template corrections.

ABSTRACT OF DRAFT CORRECTORS - - 1953

1953 ✓

(Correctors in ±0.2 fms. and ±0.5 fms.)

Trip No.	Time and Date		±0.2	±0.5
1	0000 - 20 April	to 1200 - 22 April	-0.2	0.0
	1201 - 22 April	to 2400 - 24 April	-0.2	-0.5
2	0000 - 26 April	to 1200 - 27 April	0.0	0.0
	1201 - 27 April	to 1200 - 28 April	-0.2	0.0
	1201 - 28 April	to 2400 - 1 May	-0.2	-0.5
3	0000 - 5 May	to 2400 - 9 May	0.0	0.0
	0000 - 10 May	to 0800 - 15 May	-0.2	0.0
	0800 - 15 May	to 2400 - 15 May	-0.2	-0.5
4	0000 - 18 May	to 1200 - 20 May	0.0	0.0
	1201 - 20 May	to 2400 - 29 May	-0.2	0.0
5	0000 - 9 June	to 0800 - 13 June	0.0	0.0
	0801 - 13 June	to 0800 - 18 June	-0.2	0.0
	0801 - 18 June	to 2400 - 19 June	-0.2	-0.5
6	0000 - 23 June	to 2400 - 25 June	0.0	0.0
	0000 - 26 June	to 2400 - 2 July	-0.2	0.0
7	0000 - 13 July	to 2400 - 15 July	0.0	0.0
	0000 - 16 July	to 2400 - 17 July	-0.2	0.0
8	0000 - 21 July	to 0400 - 22 July	0.0	0.0
	0401 - 22 July	to 2400 - 26 July	-0.2	0.0
	0000 - 27 July	to 2400 - 31 July	-0.2	-0.5
9	0000 - 6 August	to 1200 - 9 August	0.0	0.0
	1201 - 9 August	to 0400 - 12 August	-0.2	0.0
	0401 - 12 August	to 2400 - 14 August	-0.2	-0.5
10	0000 - 20 August	to 0800 - 26 August	0.0	0.0
	0801 - 26 August	to 2400 - 28 August	-0.2	0.0
11	0000 - 3 September	to 2400 - 7 September	0.0	0.0
	0000 - 8 September	to 2400 - 12 September	-0.2	0.0
12	0000 - 21 September	to 2400 - 27 September	0.0	0.0
13	0000 - 6 October	to 2400 - 10 October	0.0	0.0
14	0000 - 12 October	to 2400 - 15 October	0.0	0.0
	0000 - 16 October	to 2400 - 16 October	-0.2	0.0
15	0000 - 21 October	to 1800 - 28 October	0.0	0.0
	1801 - 28 October	to 2400 - 29 October	-0.2	0.0
16	0000 - 4 November	to 1200 - 9 November	0.0	0.0
	1201 - 9 November	to 2400 - 12 November	-0.2	0.0
17	0000 - 19 November	to 1200 - 21 November	0.0	0.0
	1201 - 21 November	to 2400 - 25 November	-0.2	0.0

Comp by: RMS
Ck'd by: PH

1954

DRAFT CORRECTIONS

1954

Ship HYDROGRAPHER L. S. Hubbard, Comdg.

From	To	0.1 fm. corr.	0.2 fm. corr.
5 May	0936 10 May	0.0	0.0
0936 10 May	17 May	-0.1	-0.2
21 May	1912 25 May	0.0	0.0
1912 25 May	29 May	-0.1	-0.2
7 June	1424 12 June	0.0	0.0
1424 12 June	17 June	-0.1	-0.2
21 June	0448 22 June	-0.1	0.0
0448 22 June	0000 27 June	0.0	0.0
0000 27 June	30 June	-0.1	-0.2
9 July	16 July	0.0	0.0
21 July	0000 26 July	0.0	0.0
0000 26 July	31 July	-0.1	-0.2
5 August	0000 7 August	-0.1	0.0
0000 7 August	0330 12 August	0.0	0.0
0330 12 August	15 August	-0.1	-0.2
21 August	0000 26 August	0.0	0.0
0000 26 August	30 August	-0.1	-0.2
9 Sept.	1320 13 Sept.	0.0	0.0
1320 13 Sept.	16 Sept.	-0.1	-0.2
21 Sept.	1312 27 Sept.	0.0	0.0
1312 27 Sept.	30 Sept.	-0.1	-0.2
6 October	0000 7 October	-0.1	0.0
0000 7 October	9 October	0.0	0.0
15 October	2136 17 October	0.0	0.0
2136 17 October	20 October	-0.1	-0.2
23 October	0448 26 October	0.0	0.0
0448 26 October	30 October	-0.1	-0.2
6 Nov.	1200 10 Nov.	0.0	0.0
1200 10 Nov.	12 Nov.	-0.1	-0.2
16 Nov.	0400 20 Nov.	-0.1	-0.2
0400 20 Nov.	21 Nov.	-0.2	-0.2

1954

DRAFT CORRECTORS

1954

Ship HYDROGRAPHER L. S. Hubbard, Comdg.

From	To	0.5 fm. corrector
5 May	0712 30 July	0.0
0712 30 July	31 July	-0.5
5 August	1424 29 August	0.0
1424 29 August	30 August	-0.5
9 September	1000 29 October	0.0
1000 29 October	30 October	-0.5
6 November	0500 19 November	0.0
0500 19 November	21 November	-0.5

Draft correction zero for 1.0, 2.0, and 4.0 fathom correctors for all days.

✓ 1953

FATHOMETER INSTRUMENTAL CORRECTORS

PERIOD "B"
(13 July to 25 November, 1953)

SURVEYS:

H-8013, (HY-10152)
H-8014, (HY-10252)
H-8015, (HY-10352)
H-8016, (HY-10452)
H-8017, (HY-20152)
H-8019, (HY-20352)
H-8061, (HY-20153)
H-8062, (HY-20253)

Fathometer, 808-J, No. 132-SG:

Scale (phase)	A	B	C	D
Correctors to 0.2 fathoms:	-0.2	-0.8	-1.4	-1.4
Correctors to 0.5 fathoms:	---	---	-1.5	-1.5

Fathometer, 808-J, No. 152-SPK:

Scale (phase)	A	B	C	D
Correctors to 0.2 fathoms:	-0.2	+0.8	+1.0	+0.6
Correctors to 0.5 fathoms:	---	---	+1.0	+0.5

Fathometer, NMC-2:

Correctors to 0.5 fathoms: -1.5

Comp by: RMS
Ck'd by: PH

1954

INSTRUMENTAL CORRECTIONS

1954

SHIP HYDROGRAPHER L. S. Hubbard, Comdg.

808 Fathometers

	No. 132					No. 153			
Scale	0.1	0.2	0.5	1.0 fm. corr.	Scale	0.1	0.2	0.5	1.0 fm. corr.
A	+0.2	+0.2			A	-0.2	-0.2		
B	-0.6	-0.6	-0.5		B	+1.1	+1.0	+1.0	
C	-1.1	-1.2	-1.0		C	+1.7	+1.6	+1.5	
D		-1.2	-1.5 C+O	-1.0	D		+0.8	+0.5	+1.0

NMC Fathometer

Scale	0.2	0.5	1.0	2.0	4.0 fm. corr.
0-400, 400-800	-1.2	-1.5	-1.0	-2.0	
Deep			-3.0	-4.0	-4.0

Edo Fathometer

Scale	0.2	0.5	1.0	2.0	4.0 fm. corr.
0-600, 600-1200	-4.6	-4.5	-5.0	-4.0	
1200-1800				~~-22.0~~ -30.0	
Deep					~~-20.0~~ -40.0

Revised from Comparison along sdg. lines between EDO and NMC II

5-19-66

EPI CORRECTORS
(in microseconds)

1953

Ship HYDROGRAPHER -- - Season of 1953

Period "B"- - Gulf of Mexico

SURVEYS: H-8013, (HY-10152) H-8017, (HY-20152)
H-8014, (HY-10252) H-8019, (HY-20352)
H-8015, (HY-10352) H-8061, (HY-20153)
H-8016, (HY-10452) H-8062, (HY-20253)

DATE	SURVEYS	EPI CORRECTOR			
		EPIE		EPIF	
		Regular Set #31	Spare Set #11	Regular Set #32	Spare Set #10
13 July through 25 November 1953	All Surveys	(-5.1)	(-3.7)	(-4.9)	(-3.8)

Comp by: IRR
Ck'd by: RMS

1954

EPI CORRECTORS

(in microseconds)

GULF OF MEXICO

Surveys: H-8013, (HY-10152) H-8015, (HY-10352) H-8016, (HY-10452) H-8017, (HY-20152) H-8062, (HY-20253)

Date	EPI Corrector F Regular Set #32	F Spare Set #10	G Regular Set #31	G Spare Set #11
10 July - 19 Oct.	-3.3	-4.5	-6.1	-9.7
23 Oct. - 11 Nov.	-6.7		-6.0	
16 Nov. - 19 Nov.	-7.9		-4.0	

Comp: GEM
Chkd: JDH

1953

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

Ref. No. 223/MEK
S-1-HY

POST OFFICE ADDRESS:

TELEGRAPH ADDRESS:

21 October 1953
EXPRESS ADDRESS:

To: Commanding Officer
USC&GS Ship HYDROGRAPHER
P. O. Box 1259
St. Petersburg, Florida

Subject: Registry Numbers, Request for
Project CS-328, Gulf of Mexico and
Straits of Florida

The following registry numbers have been assigned to the hydrographic surveys listed in your letter dated 14 October 1953:

Field Number	Registry Number
HY-8153	H-8060
HY-20153	H-8061
HY-20253	H-8062

/s/ Earl O. Heaton
Acting Director

cc. Supervisor, Southeastern District
Supervisor, Southern District
Chief, Hydrographic Br., Chart Division

17

COPY

1953

Ref. No. 36-rjb

25 August 1953

To: The Commanding Officer
U.S.C.& G.S. Ship HYDROGRAPHER
P. O. Box 1259
St. Petersburg, Florida

Subject: Tide Reducers, Project CS-328

Reference is made to your letter of 19 August 1953 requesting that subject project area for the 1953 season be zoned for tide reducer purposes using St. Petersburg as the reference station.

The use of St. Petersburg as a reference station would result in relatively large time corrections. The inside location of the St. Petersburg station makes it subject to local tide conditions that would not necessarily be reflected in the project area. The project area is offshore where the time and range of tide have not been accurately determined. Under the circumstances therefore it is believed that tide reducers for the project area could be more effectively determined by using predicted tides for Key West rather than observed tides for St. Petersburg, and this procedure is authorized.

Zoning for project area using Key West as a reference station was furnished in my letter of 31 July 1952, a copy of which is enclosed.

/s/ Robert W. Knox

Acting Director

Enclosure

(12)

1953-54

VELOCITY CORRECTIONS

800 fm./sec.
NMC-2 EDO

Table 2

Corrections to Depth

∔ 0.1 fm.	5.0 fm.	∔ 4.3 fm.	91.0 fm.
∔ 0.2	7.0	∔ 4.5	95.0
∔ 0.3	9.0	∔ 4.7	100.0
∔ 0.4	11.0	∔ 4.9	105.0
∔ 0.5	14.0	∔ 5.0	112.0
∔ 0.7	18.0	∔ 5.5	123.0
∔ 0.9	22.0	∔ 6.0	135.0
∔ 1.1	26.0	∔ 6.5	148.0
∔ 1.3	30.0	∔ 7.0	160.0
∔ 1.5	34.0	∔ 8.0	195.0
∔ 1.7	38.0	∔ 9.0	222.0
∔ 1.9	42.0	∔10.0	254.0
∔ 2.1	46.0	∔11.0	289.0
∔ 2.3	50.0	∔12.0	327.0
∔ 2.5	54.0	∔13.0	367.0
∔ 2.7	58.0	∔14.0	408.0
∔ 2.9	62.0	∔15.0	462.0
∔ 3.1	66.0	∔16.0	542.0
∔ 3.3	70.0	∔17.0	615.0
∔ 3.5	74.0	∔18.0	722.0
∔ 3.7	78.0	∔20.0	835.0
∔ 3.9	83.0	∔22.0	933.0
∔ 4.1	87.0	∔24.0	1018.0

Use table II ✓ to correct depths to 500 fms.

Velocity corrections from historical data.

Table above submitted by Starr, Oceanographic Analysis Branch, is extended to greater depths from field corrections in sounding volumes, H-8061 (1953-54)

+26.0 fm.	1035 fm	+38.0 fm	1435 fm	+50.0 fm	1750 fm
+28.0	1115	+40.0	1495	+52.0	1840
+30.0	1185	+42.0	1545	+56.0	Deepest
+32.0	1250	+44.0	1605		
+34.0	1315	+46.0	1655		
+36.0	1380	+48.0	1705		

6/66 1954

VELOCITY CORRECTIONS

820 fm./sec.
808 Fmtr.

Table 3

Gulf Stream Axis -- Florida Keys

Correction	to	Depth
0.0 fm.		2.5 fm.
∔ 0.1		7.0
∔ 0.2		11.0
∔ 0.3		14.0
∔ 0.4		21.0
∔ 0.6		28.0
∔ 0.8		36.0
∔ 1.0		45.0
∔ 1.2		55.0
∔ 1.4		65.0
∔ 1.6		76.0
∔ 1.8		89.0
∔ 2.0		119.0
∔ 2.5		180.0

Use to correct all 808 sdgs. on H-8062

Velocity Table constructed from historical data by Mr. Starr, Oceanographic Analysis Branch.

VELOCITY CORRECTIONS

820 fm./sec.
808 Fmtr.

Not used on H-8062 (1953-54)

Table 4

Gulf Stream Axis----Cuba and the Bahamas

Correction	to	Depth
0.0 fm.		2.5 fm.
+ 0.1		7.5
+ 0.2		11.0
+ 0.3		14.0
+ 0.4		21.0
+ 0.6		29.0
+ 0.8		36.0
+ 1.0		44.0
+ 1.2		51.0
+ 1.4		59.0
+ 1.6		67.0
+ 1.8		75.0
+ 2.0		83.0
+ 2.2		92.0
+ 2.4		101.0
+ 2.5		120.0
+ 3.0		152.0
+ 3.5		Deeper than 152.0 fms.

1953-54

VELOCITY CORRECTIONS

800 fm./sec.
NMC-2 EDO

Table 1

Corrections to Depth

∔ 0.1	fm.	5.0	fm.	∔ 4.0	fm.	86.0	fm.
∔ 0.2		7.0		∔ 4.2		91.0	
∔ 0.3		9.0		∔ 4.4		96.0	
∔ 0.4		10.0		∔ 4.6		101.0	
∔ 0.5		12.0		∔ 5.0		117.0	
∔ 0.6		16.0		∔ 5.5		130.0	
∔ 0.8		20.0		∔ 6.0		143.0	
∔ 1.0		24.0		∔ 6.5		156.0	
∔ 1.2		27.0		∔ 7.0		183.0	
∔ 1.4		31.0		∔ 8.0		219.0	
∔ 1.6		35.0		∔ 9.0		272.0	
∔ 1.8		39.0		∔10.0		345.0	
∔ 2.0		43.0		∔11.0		433.0	
∔ 2.2		47.0		∔12.0		509.0	
∔ 2.4		51.0		∔13.0		569.0	
∔ 2.6		55.0		∔14.0		636.0	
∔ 2.8		59.0		∔15.0		736.0	
∔ 3.0		64.0		∔17.0		850.0	
∔ 3.2		68.0		∔19.0		950.0	
∔ 3.4		72.0					
∔ 3.6		77.0					
∔ 3.8		82.0					

use table 2 to correct depths greater than 500 fm

This velocity table constructed from historical data by Mr. Starr, Oceanographic Analysis Branch.

H-8062
HY-20253

APPROVAL SHEET

The field work accomplished on this survey was under the immediate supervision of Captain Leonard S. Hubbard. He made daily inspections of the records, fathograms and boat sheet as the survey progressed. He was detached after the 1954 field season prior to the completion of the processing of the field records and the writing of the Preliminary Descriptive Report.

This work commenced in 1953. The area covered, which is the northeast part of this sheet, is complete. A Basic Survey of the area covered was considered important as all traffic thru Yucatan Strait making or leaving the gulf ports pass thru this area. The EPI control was considered too weak with the present location of EPI stations to extend the survey into Campeche Bank.

The survey as far as it extends is considered complete and adequate.

Walter J. Chovan
CDR, USC&G Survey
Commanding Officer
Ship HYDROGRAPHER

NORFOLK PROCESSING OFFICE
ADDENDUM
To Accompany

HYDROGRAPHIC SURVEY H-8062 (Hy-20253)

GENERAL

Although incomplete, this survey was smooth plotted in accordance with the Director's letter dated 1 April 1960, 839: hrm.

Soundings are in good agreement at crossings considering the water depths and the irregular character of the the bottom in this area.

SOUNDINGS

All fathograms recorded with the NMC fathometer were re-scanned using appropriate velocity templates to apply the corrections entered on the fathograms. The final reduced soundings were recorded in the volumes in red pencil diredtly under the corresponding unreduced field readings.

As no velocity templates were available to reduce the few soundings recorded with the EDO fathometer, the uncorrected soundings were transferred to pages in the back part of volume 2 and reduced in the conventional manner. Appropriate notes were entered in the volumes where this condition ocurred.

↑ Final automated plot did not utilize this procedure. See Par. 4 Review

Norfolk, Va.
1 March 1961

Respectfully submitted,

Hugh L. Proffitt

Hugh L. Proffitt
Cartographer

CROSS REFERENCING OF POSITION NUMBERS
H-8062

Original Records (Sounding volumes)				Automated Records		
Day	Date	Position		Day	Year	Positions
A	8-08-53	1-31		220	53	1-31
B	8-22-53	1-39		234	53	32-70
C	8-26-53	1-24		238	53	71-94
D	9-06-53	1-51		249	53	95-146
E	9-09-53	1-32		*251(252)	53	147-179
F	9-23-53	1-72		266	53	180-255
G	9-24-53	1-21		267	53	256-277
H	7-12-54	1-90		193	54	278-362
J	7-13-54	1-57		194	54	363-419
K	7-23-54	1-49		204	54	420-465
L	7-24-54	1-26		205	54	466-494
M	8-08-54	1-83		220	54	495-578
N	8-09-54	1-99		221	54	579-680
P	8-10-54	1-33		222	54	681-716

The total number of positions for a certain day as recorded in the original records and the automated records may differ by a few numbers. Positions not plotted and rejected positions recorded in the original records are not reflected in the totals of the automated records. Also additional artificial fixes (turning positions, etc.) recorded in the automated records are not reflected in the totals of the original records.

(For artificial fixes – see next page)

Artificial Fixes

Day	Year	Positions
220	53	19
249	53	134
*251(252)	53	150
266	53	209,224,234,239,255
267	53	260
193	54	280,291
205	54	427,480
220	54	532,557
221	54	602,631,643
222	54	687,700

* Day number originally logged as 251. It should have been 252.

Reg. No. H-8062 (1953-54)

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

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

CARDS CORRECTED

DATE_____ TIME REQ'D_____ INITIALS_____

REMARKS:

FORM 197
(3 -55)

GEOGRAPHIC NAMES

Survey No.H-8062

Name on Survey	A: On Chart No. 1007	B: On previous survey No.	C: On U. S. quadrangle Maps	D: From local information	E: On local Maps	F: P. O. Guide or Map	G: Rand McNally Atlas	H: U. S. Light List ✓	K	
Gulf of Mexico (Title)	✓									1
										2
										3
										4
										5
										6
										7
										8
										9
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										25
										26
										27

Georgia M. Case
Geographic Names
4/14/61

Form 946

Hydrographic Surveys (Chart Division)

HYDROGRAPHIC SURVEY NO. 8062

Records accompanying survey: Smooth sheets 1;

boat sheets 1; sounding vols. 2; wire drag vols. ;

Descriptive Reports 1; graphic recorder envelopes 6;

special reports, etc. 1 Cahier-EPI Plottings Abstracts 1953 and 1954;

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

Number of positions on sheet		716
Number of positions checked		3 ← In addition to comparison with old smooth plot
Number of positions revised		3
Number of soundings revised (refers to depth only)		0
Number of soundings erroneously spaced		0
Number of signals erroneously plotted or transferred		0
Topographic details	Time	0
Junctions	Time	8 hrs.
Verification of soundings from graphic record	Time	16 hrs.
Special adjustments	Time	

Verification by J.C. Chambers Total time 135 hrs. Date June 1968

Reviewed by Dale E. Westbrook Time 46 hrs. Date Jan. 9, 1969

INFORMATION FOR FUTURE PRE-SURVEY REVIEWS

A future survey of this area should include an investigation of the three reported features presently charted on Chart 1007 as follows:

1. 32-fm. PA Rep (1959) lat. 23°54', long. 87°21!5
2. 75-fm. PA Rep (1959) lat. 24°05', long. 87°30'
3. 105-fm. Rep (1966) lat. 23°58', long. 88°29'

Dale E. Westbrook

OFFICE OF HYDROGRAPHY AND OCEANOGRAPHY

MARINE CHART DIVISION

HYDROGRAPHIC SURVEY REVIEW

REGISTRY NO. H-8062 FIELD NO. HY-20253

Alabama--Florida, Gulf of Mexico, South Central Gulf of Mexico

SURVEYED: August through September 1953 and July through August 1954

SCALE: 1:200,000 PROJECT NO.: CS-328

SOUNDINGS: Depth Recorders 808J, NMC II, and EDO CONTROL: EPI (Electronic Position Indicator)

Chief of Party..... L. S. Hubbard
Surveyed by.....R. A. Earle
..... I. R. Rubottom
..... R. M. Stone
..... M. T. Paulson
..... G. E. Morris
Plotted by..... Gerber Digital Plotter
Soundings by..... Gerber Digital Plotter
Verified by..... J. C. Chambers (Rockville
Reviewed by..... D. E. Westbrook
..... Date: Jan. 9, 1969
Inspected by..... R. H. Carstens

1. Description of the Area

This survey covers part of the south central Gulf of Mexico off the northern end of Campeche Bank. The survey portrays a portion of the Mexican continental shelf and slope north of the Yucatan Peninsula. Much of the area covered contains only a few sounding lines, and consequently the survey provides little more than a general picture of the bottom configuration under those circumstances.

The shelf appears to be relatively flat or gently sloping, from depths of 44 fathoms near the southwest edge of the survey, to depths of 200-300 fathoms through the survey's central portion. In this vicinity, the bottom begins to drop off rapidly to depths as deep as 1931 fathoms (lat. 24°20', long. 88°30'). The configuration on the slope is much more irregular than on the shelf as evidenced by several small valleys which intersect the slope. The heads of these valleys are ill defined, which may indicate that their upper ends are filling with sediments.

The bottom is generally composed of mud in the deeper portions of the area with some sand, broken shells, and coral primarily on the shelf.

2. Control and Shoreline

The source of the control is adequately described in the Descriptive Report.

There is no shoreline falling within the limits of the smooth sheet.

3. Hydrography

A. Depths at crossings are in good agreement.

B. The usual depth curves were adequately delineated in the northeast portion of the survey but could not be adequately drawn throughout the remaining area sparsely covered by a few sounding lines. Portions of the depth curves were drawn with dashed lines to show the general bottom configuration where information was lacking to definitely fix the location of the curves.

The 1500-fathom depth curve was added in brown ink to accentuate its location, since this non-standard curve is charted on Chart 1003.

C. The development of the bottom configuration and determination of least depths are adequate only in the northeast portion of the survey. However, no dangers to surface navigation are believed to exist in the survey area.

3.

4. Condition of the Survey

The sounding records, automated plotting, and the Descriptive Report are adequate and conform to the requirements of the Hydrographic Manual and the Instruction Manual, Automated Hydrographic Surveys.

The plotter center at PMC did not forward a final revised listing of the Computer Cards or Excess Indicator Cards. These listings will be produced later in Rockville when the cards are requested.

This survey was originally smooth plotted by manual methods, and the soundings were reduced by using templates. In order to facilitate the verification of the survey and to eliminate the hand inking of the soundings, the original data were logged in digital form, reduced by computer, and a new smooth sheet produced by Gerber Digital Plotter. The old manual smooth sheet was utilized during the verification process and will be destroyed after this review is signed.

Velocity corrections for the automated smooth sheet were constructed from historical data by Mr. Starr, Oceanographic Analysis Branch. These velocity corrections correspond reasonably well to the original velocity corrections applied to the soundings on the manual smooth sheet using templates; the greatest difference being about 10 fathoms in depths of 1900 fathoms.

The day number for September 9, 1953, was logged in the automated records as 251 and should have been 252.

5. Junctions

Adequate junctions were effected with surveys H-8061 (1953-54) on the east, H-8018 (1952) on the northeast, and H-8019 (1952-53) on the north. No contemporary surveys join the present survey to the west and south. However, the present survey is in general harmony with charted depths in these areas.

6. Comparison With Prior Surveys

H-1353	(1:600,000)	1875-77
H-1399	(1:800,000)	1877-78

These two early reconnaissance surveys comprise the only prior C&GS survey coverage of the present survey area. Although controlled by dead reckoning and star sights, the wire soundings on survey H-1353 are in suprisingly good agreement with those on the present survey.

Survey H-1399 contains only one sounding, a 95-fathom depth, which falls within the present survey limits. A note on the prior survey indicates that the positioning of the 95-fathom depth may be unreliable. In view of this note, this sounding is considered superseded and will not be brought forward to the present survey. The sounding is not presently charted.

Several soundings and bottom characteristics have been brought forward from H-1353 to supplement the present survey in areas not adequately sounded.

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

7. Comparison With Chart 1003, 7th. Ed., September 23, 1968
Chart 1007, 21st. Ed., October 7, 1968

A few charted soundings in the present survey area originate with the previously discussed prior surveys which require no further consideration. The remaining soundings have been supplemented by depths from various sources among which are the boat sheet of the present survey, U.S. Navy trackline compilation Bp-48066, U.S. Navy charted soundings Bp-45015, Chart Letter No. 506 of 1952, and U.S.N. H.O. Chart 0966 (1949).

All of these supplemental soundings are from ship's tracklines and appear to be of varying degrees of accuracy. Most of these charted soundings are considered superseded by the more accurately controlled present survey.

Attention is directed, however, to the following:

A. The 32-fm. sounding, PA Rep (1959) on Chart 1007 in lat. 23°54', long. 87°21.5 and the 75-fm. sounding, PA Rep (1959) on Chart 1007 in lat. 24°05', long. 87°30' originate with Notice to Mariners No. 10 of 1960 (CL-220/60). Since the present survey did not adequately cover the reported positions of these soundings, they should be retained as charted until such time as they can be adequately investigated.

B. The 105-fm. sounding Rep (1966) on Chart 1007 in lat. 23°58', long. 88°29' originates with Notice to Mariners No. 19 of 1966 (CL-856/66). Since the present survey did not adequately cover the position of the above reported sounding it should be retained as charted until such time as it can be adequately investigated.

C. Three soundings charted on Chart 1007 from various sources fall in a holiday area on the present survey. Since they appear reasonably reliable, and may prove useful to the cartographer in selecting soundings for the chart in this sparsely sounded area, these soundings may be retained as follows:

SDG.	LAT.	LONG.	SOURCE
110-fm	23°45'	87°53'	Bp-48066 U.S.N.
108 fm.	23°46'	87°41!5	CL-506/52
101-fm.	23°47!5	88°15'	Undetermined source prior to 1900

Except as noted above, the present survey adequately supersedes the charted soundings within the common area.

8. Compliance With Instructions

The survey adequately complies with the Project Instructions in the northeastern portion of the area covered. The remaining survey area was covered by only a few sounding lines and was recognized as incomplete by the field party. The EPI control was considered weak in the extreme western portion of the area and that may be one reason more lines were not run.

The ship was not subsequently assigned to complete the survey, and in 1961 the survey was smooth plotted in Norfolk in accordance with a letter from the Director, dated April 1, 1960.

9. Additional Field Work

This survey is not considered basic over the portion of its area covered only by widely spaced sounding lines. However, with the retention of certain features noted in

this review, the survey is adequate for charting, and no additional field work is recommended. Additional work in the sparsely covered areas might be necessary in the future should a more complete delineation of the bottom be necessary for bathymetric mapping.

Examined and Approved:

Chief
Marine Chart Division

Associate Director
Office of Hydrography
and Oceanography

Form 712
DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY
Rev. Apr. 1950

✓
R H C

TIDE NOTE FOR HYDROGRAPHIC SHEET

~~Division of Coastal Surveys~~ 11 May 1961

Division of Charts: R. H. Carstens

Plane of reference approved in
2 volumes of sounding records for

HYDROGRAPHIC SHEET 8062

Locality South Central Gulf of Mexico

Chief of Party: L. S. Hubbard (1953)
Plane of reference is mean low water
ft. on tide staff at
ft. below B. M.

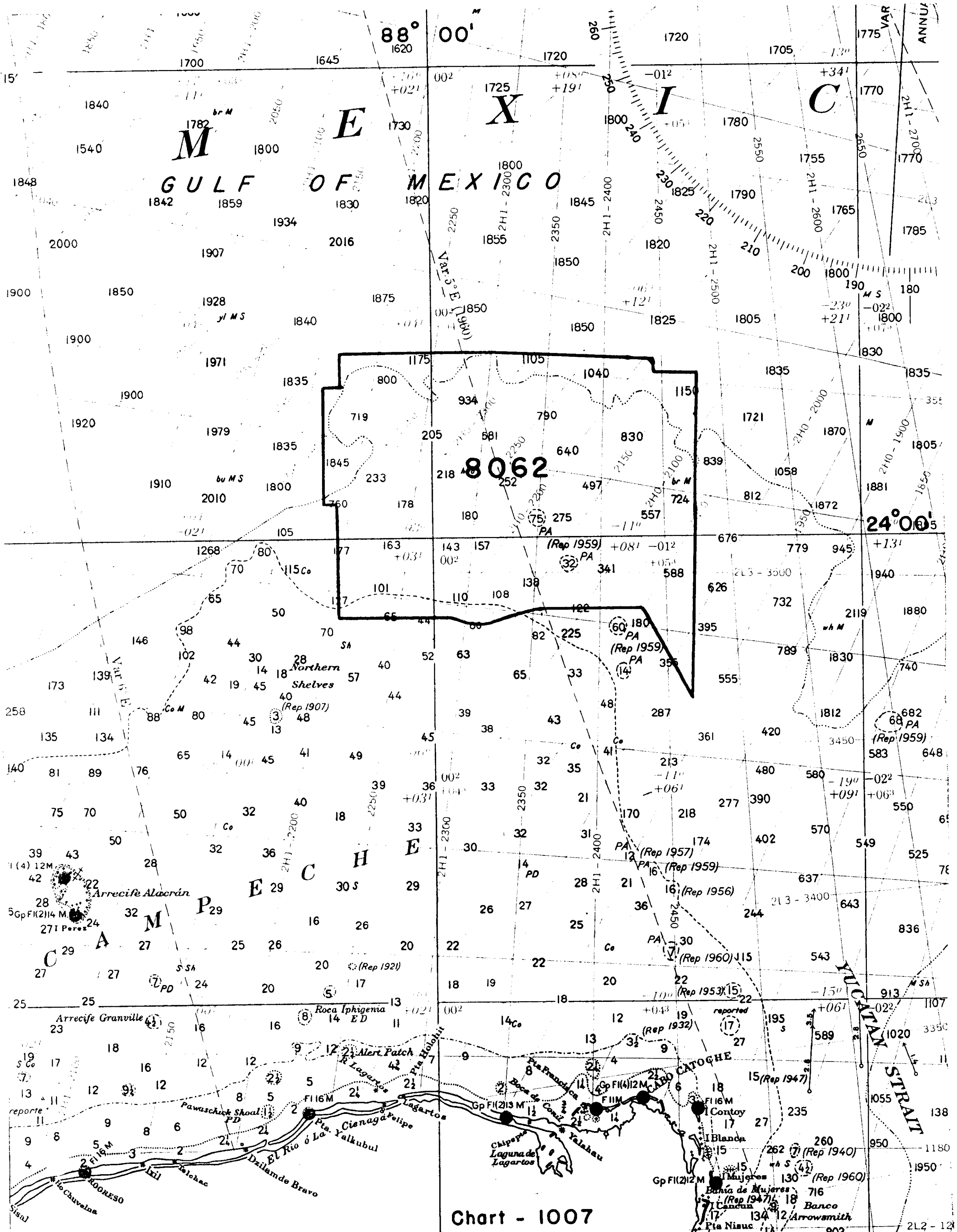
Height of mean low water above plane of reference is 1.3 ft.

Condition of records satisfactory except as noted below:

Burton W. Wilcox
Chief, Tides & Currents Branch

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

U. S. GOVERNMENT PRINTING OFFICE 877933



88° 00'
24° 00'
MEXICO
GULF OF MEXICO
8062
CAMPECHE
Northern Shelves
Arrecife Alacrán
Arrecife Granville
Roca Iphigenia
Alert Patch
CABO CATOCHE
Pta Francisca
Boca de Conil
Laguna de Lagartos
I Contoy
I Blanca
I Mujeres
Bahía de Mujeres
Cancun
Pta Nisuc
Banco Arrowsmith
YUCATAN STRAIT
Pawaschick Shoal
El Rio ó La Cienaga
Dzilam de Bravo
Sisal
MERIDA
Var 5°E (1960)
Chart - 1007

NAUTICAL CHARTS BRANCH

SURVEY NO. H-8062

Record of Application to Charts

DATE	CHART	CARTOGRAPHER	REMARKS
7/26/61	1007	O. Svendsen	Exam. No corr. Before ~~After~~ Verification and Review
4 Jan 62	1003	Nichols	Before ~~After~~ Verification and Review Exam - no corr -
8-25-70	1007	Eric Frey	Part appd. ~~Before~~ After Verification and Review Examined for critical corrections only. Fwd till fully appd to large scale cht.
CH 8/29/71	1003	S. McKellar	Partial ~~Before~~ After Verification and Review Exam. for critical corrections; Few corrections made.
11/8/71	1007	S. McKellar	~~Before~~ After Verification and Review, inspection Partly applied thru chart 1003
CH 1-9-73	1003	D. Williams	~~Before~~ After Verification and Review, Inspection, Fully App'd.
~~2-13-73~~	~~1007~~	" "	
WJR 2/13/73	1007	D. Williams	Fully applied ~~Before~~ After ~~Verification and Review~~ Inspection (Fully Applied to Dwg #49)
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review

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.