

1002 ✓
8733

Diag. Cht. No. 1002.

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-100-1-63 Office No. H-8733

LOCALITY

State Florida

General locality Straits of Florida

Locality Off Cay Sal Bank

1963

CHIEF OF PARTY

R. M. Stone

LIBRARY & ARCHIVES

DATE April 20, 1965

8733

HYDROGRAPHIC TITLE SHEET

H-8733

INSTRUCTIONS - The Hydrographic Sheet should be accompanied by this form, filled in as completely as possible, when the sheet is forwarded to the Office.

FIELD NO.

HY-100-1-63

State South of Florida Keys

General locality ~~Southwest Atlantic Ocean~~ Straits of Florida

Locality ~~Straits of Florida~~ Off Cay Sal Bank

Scale 1:100,000 Date of survey 4/7 thru 5/11, 1963
1/16/62, supplemented 1/30/63,

Instructions dated amended 3/22/63 Project No. OPR-328

Vessel USC&GS Ship HYDROGRAPHER

Chief of party Raymond M. Stone

Surveyed by C. D. Upham, S. C. Miller, H. A. Uzpurvis, D. G. Popejoy,
R. A. Ganse, N. A. Barnes

Soundings taken by echo sounder, ~~and tape plot~~ Precision Depth Recorder

aphic record scaled by Ship's Personnel

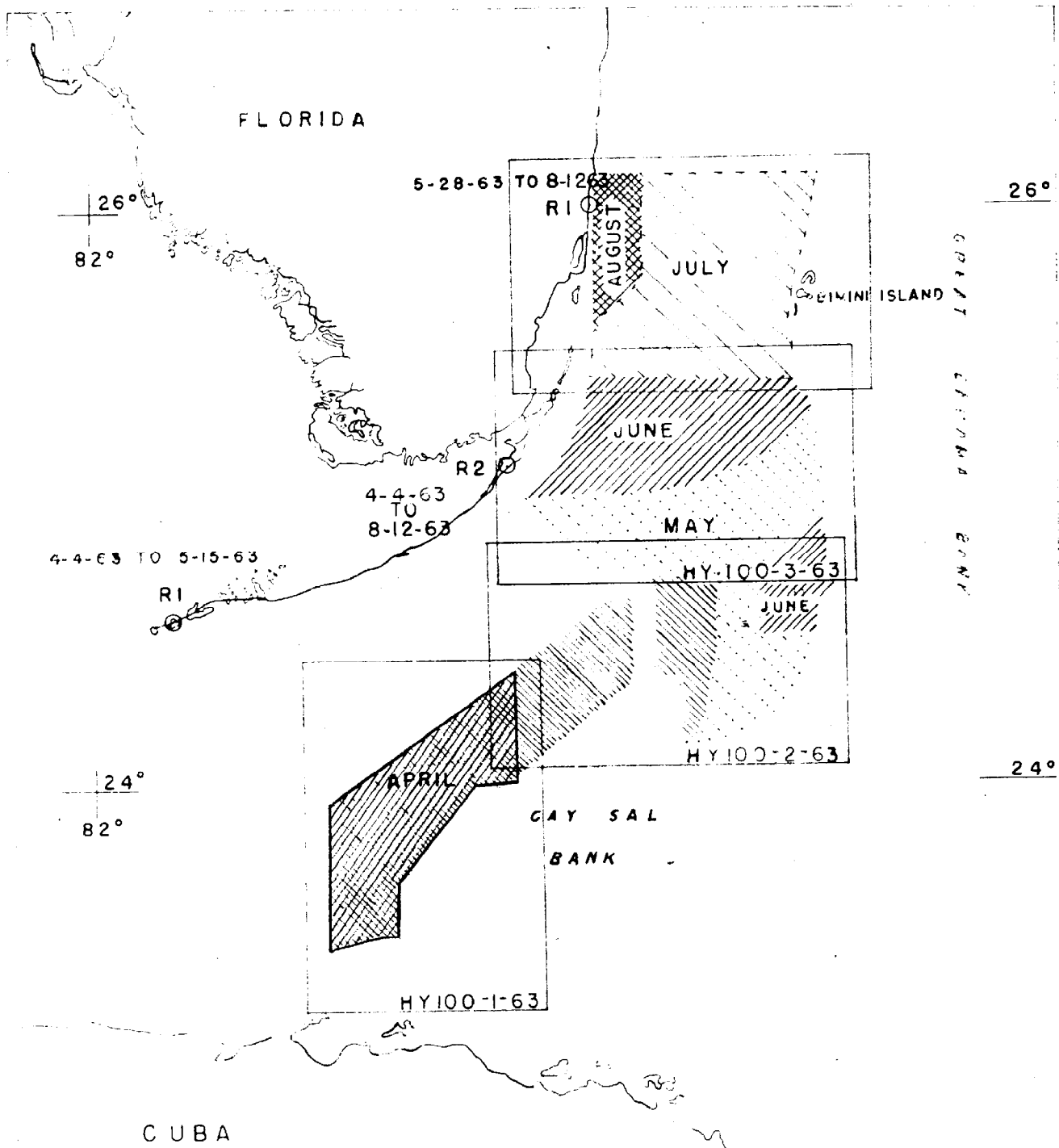
Graphic record checked by Ship's Personnel

Protracted by ~~To be~~ plotted by machine in the Pacific Marine Center ~~Washington Office~~

Soundings penciled by - - -

Soundings in fathoms ~~XXXX~~ at MLW ~~XXXXX~~ are true depths

REMARKS: This survey is an offshore survey, controlled by Raydist. The data
was recorded by the DATEX Automatic Hydrographic Digital Recording System. A
punch tape for automatic plotting of this survey was cut by ship's personnel
after all fathograms had been check-scanned, Raydist Corrections determined,
and all other errors rectified. The original printout, as corrected, serves
as the complete survey record. .



PROGRESS SKETCH
 STRAITS OF FLORIDA
 PROJECT OPR-328
 HYDROGRAPHIC OPERATIONS
 4 APRIL 1963 — 12 AUGUST 1963
 USC & GSS HYDROGRAPHER
 R.M. STONE CDR, COMD'G.
 SCALE OF CHART NO. 1007

DESCRIPTIVE REPORT

To Accompany

Hydrographic Survey H-8733 (HY-100-1-63)

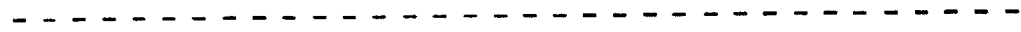
April 7 through May 11, 1963

SHIP HYDROGRAPHER

Scale: 1:100,000

Raymond M. Stone, CDR, C&GS

Chief of Party



A. PROJECT

This survey was accomplished under Project OPR-328, Straits of Florida; Revised Instructions dated January 16, 1962; Supplemental Instructions dated January 30, 1963; and Amended Instructions dated March 22, 1963.

B. AREA SURVEYED

This survey covers an offshore area of 1,070 square nautical miles in the Straits of Florida. The survey extends from Latitude 24° 27' N, Longitude 80° 23' W; southwest to latitude 24° 00' N, longitude 81° 06' W; south to latitude 23° 27' N, longitude 81° 06' W; east to latitude 23° 28' N, longitude 80° 49' W, then in a general northeast direction to the point of origin.

Field work began on April 7, 1963 and was completed on May 11, 1963. The oceanographic portion of this project was accomplished during the period June 18 through June 29, 1962. Refer to Oceanography Report, USC&GS Ship HYDROGRAPHER, Oceanographic Cruise, June 18 through June 29, 1962.

This survey makes a junction with contemporary survey H-8734, Field No. HY-100-2-63 to the northeast, and overlaps the following prior surveys:

<u>Registry Number</u>	<u>Scale</u>	<u>Date of Survey</u>
H-8017	1:200,000	1952
H-8104	1:100,000	1954
H-8105	1:100,000	1954
H-8570	1:200,000	1960

C. SOUNDING VESSEL

All hydrography on this survey was accomplished by the Ship HYDROGRAPHER.

D. SOUNDING EQUIPMENT

All soundings on this survey were taken using the EDO-185 Echo Sounder with the Precision Depth Recorder (PDR) LGO Mark V, Serial No. 162.

Depths ranged from approximately 350 to 720 fathoms.

All hydrographic data for this survey was recorded with the DATEX Automatic Hydrographic Digital Recording System (Refer to section "O" of this report) which allows the following sounding corrections to be entered:

a. Tide Correction:

Since the tide range was less than 0.5% of the depth, tide corrections were omitted (Sect. 5-101, Hydrographic Manual).

b. Draft Correction:

In the DATEX system it is necessary to combine the echo sounder instrument correction, phase correction, initial or index correction, settlement and squat correction, and draft correction and enter the resulting value as "draft" on the parameter board. PDR depths ^{on this survey} do not contain errors requiring the first three corrections. Consequently, only settlement and squat and draft corrections are required, and these are required only when their sum is in excess of 0.5% of the depth.

Settlement and squat were determined to be negligible; the ^{transducer} draft is 2 fathoms. Therefore the correction was entered only in depths of less than 400 fathoms. * Draft corrector was applied to all depths on smooth tape included in 3.2 fm. corrector reported in attached sheet in D.R.

c. Velocity Factor:

Sound velocity corrections for this survey were determined and furnished in advance by the Washington Office. Because of the recording system used, it was necessary to compute velocity factors from the velocity corrections. In the automatic processing of the data these factors will be applied to each sounding by multiplication to determine the true depth below the transducer. In the event the survey is smooth-plotted in the conventional manner, it will be necessary to apply the velocity corrections furnished by the Washington Office.

For a more detailed discussion on the determination of corrections refer to "Report on Corrections to Echo Soundings", Project OPR-328, Straits of Florida, April 4 through August 12, 1963.

E. SMOOTH SHEET

A smooth punch tape for this survey was cut by personnel from the HYDROGRAPHER after all errors were determined and corrections applied. It is assumed that this tape will be used for the machine plotting of this survey. The original printout contains all final corrected data in digital and literal form. (See addendum - page 14)

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F. CONTROL

Hydrography on this sheet was controlled entirely by the Raydist electronic positioning system, using the duplex antennae system.

The R¹ (Red) station mast was erected over reference mark number 4 of existing triangulation station ROCK POINT 3, 1934, in the vicinity of Boca Chica, Florida. This station was established by personnel from the ship HYDROGRAPHER in 1960, using third-order traverse methods.

The R² (Green) station mast was erected over triangulation station LARGO, 1962, in the vicinity of Key Largo, Florida. This station was established by personnel from the HYDROGRAPHER in February, 1962, using third-order triangulation methods (three-point problem with short base).

The Raydist shore station locations are as follows:

R¹ (Red) station (ROCK POINT 3, 1934, RM-4), Boca Chica, Florida
Latitude 24° 33' 36.139" N - Longitude 81° 41' 03.731" W

R² (Green) station (LARGO, 1962), Key Largo, Florida
Latitude 25° 05' 09.310" N - Longitude 80° 26' 05.833" W

Raydist calibration sheets (scale 1:20,000) of the Boca Chica and Key Largo areas were furnished by the Washington Office. Raydist equipment was calibrated using both sheets, and on several occasions Raydist traverses were established between the two calibration areas. There was a slight discrepancy between the corrections obtained at Boca Chica and those obtained at Key Largo. It was assumed that the control in the Boca Chica area was less accurate due to a possible accumulation of errors in extending the triangulation scheme westward along the Florida Keys. For this reason, the LARGO corrections were held and all other corrections were reduced to equivalent LARGO values. A calibration range was established at Elbow Cay, Cay Sal Bank, by Raydist traverse using equivalent LARGO values.

For more detailed information concerning the Raydist control and calibration see "Raydist Report, 1963 Field Season, Project OPR-328, Straits of Florida".

G. SHORELINE

There is no shoreline or topography within the area covered by this survey.

H. CROSSLINES

Approximately 9% of all sounding lines are crosslines. All crossings were in good agreement.

I. JUNCTIONS

Satisfactory junctions were made with all prior surveys listed in section "B" of this report.

J. COMPARISON WITH PRIOR SURVEYS

No overall prior survey of this area exists. However, several isolated lines from H-8104, 1954 (1:100,000) and H-8105, 1954 (1:100,000) cross this sheet and are in good general agreement.

K. COMPARISON WITH CHART

A comparison of this survey with chart 1113 (6th Ed., 3/6/61) indicates random disagreement.

Of the 39 soundings compared 5 are in gross disagreement and appear to be blunders: a 560 in depths of 690, a 385 in depths of 585, a 440 in depths of 570, a 370 in depths of 541 and a 395 in depths of 560. Of the other charted soundings 25 agree, 7 are too shoal (up to 50 fathoms) and 2 are too deep (up to 37 fathoms). *See Review par 7.*

L. ADEQUACY OF SURVEY

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

M. AIDS TO NAVIGATION

The Old Tower (abandoned light tower), Elbow Cay, Cay Sal Bank, was located graphically by a series of gyro bearings taken from the ship. Its position was determined to be latitude 23° 57.3' N and longitude 80° 26.6' W. This is an abandoned light tower and is of no use to navigation except as a landmark. ** This tower, as located herein, plots about 1/4 mile offshore of the charted land area. This would indicate a probable displacement of the islands on charts.*

N. STATISTICS

Vessel	Number of Positions	Nautical Miles Sounding Line	Area in Sq. Naut. Miles	Bottom Samples
Ship HYDROGRAPHER	921	1328.5	1070	17 *

* Refer to appended tabulation of bottom samples, page 13.

O. MISCELLANEOUS

The field records for this survey were recorded automatically by the DATEX Automatic Hydrographic Digital Recording System. The authorized hydrographic record consists of a digital and literal printout and a punched tape to be used for automatic processing and plotting.

The format used for the digital printout on this survey during field operations is as follows:

Time	Sounding	Phase Indicator	R ¹	R ²	Position No.	Day No.	Ft. or Fms.	Tide	Draft	Velocity Factor	Ship's Heading
22100	0426	01	30105	25143	022	001	1	000	000	1026	216

Under section "D" of this report it was explained that there were no tide corrections to be entered for this survey. It was also explained that the combination of corrections entered on the DATEX parameter board as Draft is negligible for depths exceeding 400 fathoms.

The format was changed after the completion of this survey. The smooth punch tape that was cut by this vessel for automatic processing and plotting has the following format:

Time	RDR or DE-723	Soundings	Position Number	Transducer Depth(Draft)	Tide Correction	Velocity Factor	Ft. or Fms.	R ¹	R ²	Ship's Heading	Day of Year
143800	00	0423	0001	000	000	1026	1	309030	234840	213	097

For more detailed information on the DATEX system and how it was used for this survey refer to "Report on Automatic Digital Recording System - 1963", and to "Report on Corrections to Echo Soundings, Project OPR-328, Straits of Florida, April 4 - August 12, 1963".

The Oceanographic portion of Project OPR-328 was accomplished in the Straits of Florida from June 18 - 29, 1962, in accordance with Revised Instructions dated January 16, 1962. During the cruise 30 bottom cores were obtained, 8 of which came from the area covered by Hydrographic Sheet H-8733 (Field No. HY-100-1-63). The bottom characteristics of these 8 cores were plotted on the Boat Sheet to supplement the bottom samples required in hydrography. During the 1962 cruise the cores were located by excellent Loran control. All cores were analyzed by Florida State University. Information concerning the 8 cores was obtained from the reports tabulated below:

1. Report submitted by Ship HYDROGRAPHER titled "Oceanographic Report, Ship HYDROGRAPHER Oceanographic Cruise, June 18 - 29, 1962, Project OPR-328, Straits of Florida".
2. Report submitted by Mr. Robert B. Starr, C&GS Oceanographer, titled "Report on Oceanographic Cruise, Project OPR-328, Ship HYDROGRAPHER, June 11 - 29, 1962, Straits of Florida (Cay Sal Bank)", File No. 223-141-526a, dated August 9, 1962.
3. Report from Florida State University titled "Marine Geology of the Florida Straits".

Listed below is a tabulation of the cores used as bottom samples on this survey:

Hydrographic Sheet Number	C&GS Oceanographic Station No.	Florida State Univ. Core No.	Depth (Fathoms)	Latitude (North)	Longitude (West)	Bottom Characteristics
HY-100-1-63	19*	12*	420	24°06.5'	80°23.5'	gy or S
<i>H-8733</i>	21	14	487	24-10.2	80-40.7	gn M, brk Sh
	22	13	525	24-02.0	80-33.9	yl br S, brk Sh
	27	21	680	23-52.6	80-55.5	yl br M, brk Sh
	28	22	650	23-42.4	80-49.0	gy or M, brk Sh
	30	18	580	23-23.5	80-51.5	gy or M, brk Sh
	33	20	740	23-40.0	81-06.6	gy or M, brk Sh
	34	19	650	23-26.0	81-03.0	br gy Cl

*Core #12 on Station No. 19 is also shown on Sheet HY-100-2-63. *CH-8734*)

P. RECOMMENDATIONS

This survey is complete and adequate for charting purposes.

Q. REFERENCES TO REPORTS

The reports listed below are necessary for a complete evaluation and understanding of this survey and have been submitted to the Washington Office.

Title of Report	Date forwarded Wash. Off.
Raydist Report, USC&GSS HYDROGRAPHER, 1963 Field Season, Project OPR-328, Straits of Florida	9/13/63
Report on Corrections to Echo Soundings, USC&GSS HYDROGRAPHER, 1963 Field Season, Project OPR-328, Straits of Florida	11-15-63
Season's Report, USC&GSS HYDROGRAPHER, 1963 Field Season	TO BE FORWARDED
Oceanographic Report, USC&GSS HYDROGRAPHER, 1962	6/29/62
Report on Automatic Hydrographic Digital Recording System, USC&GSS HYDROGRAPHER, 1963 Field Season	TO BE FORWARDED

Submitted:

Sidney C. Miller
Sidney C. Miller, LT, C&GS

Approved and forwarded:

William E. Randall
William E. Randall, CDR, C&GS

TIDE NOTE

Sheet (HY-100-1-63)

Registry No. H-8733

In accordance with Section 5-101 of the Hydrographic Manual, tide corrections for this sheet were omitted for the reason that the area surveyed is considered an offshore area and all depths are greater than 101 fathoms.

U.S. DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY
WASHINGTON 25, D.C.

Om *10*
IN REPLY, PLEASE ADDRESS THE
DIRECTOR, COAST AND GEODETIC
SURVEY, AND NOT THE SIGNER
OF THIS LETTER, AND REFER TO

2310-51-562

March 13, 1963

Commanding Officer
USCandGS HYDROGRAPHER
P. O. Box 1259
St. Petersburg 1, Florida

PROJECT OPR-328, Straits of Florida, Sound Velocity
Correction Data

References: (a) Supplemental Instructions - PROJECT
OPR-328, Straits of Florida

(b) C.O. USCand GS Memo. dated Feb.12,1963

In accordance with references (a) and (b), the enclosed
tables are forwarded for the corrections of soundings
on PROJECT OPR-328. Table I should be used for soundings
west of 80° W. longitude and Table II for soundings east
of 80°.

Kenneth S. Ulm
Kenneth S. Ulm, Chief
Marine Data Division

Enclosures

*Error made by Marine Data Div.
Table II is correct for area
of this survey*

*Not Applicable to this
Survey. Table II used.
um*

Used Factors: Table II (next page)

Table II

VELOCITY FACTORS

Project OPR-328

Straits of Florida

(Area East of Longitude 80° W.)

For Period (April 4 - August 12, 1963)

For Hydrographic Sheets - (HY-100-1-63)
 (HY-100-2-63)
 (HY-100-3-63)
 (HY-100-4-63)

Observed Depth

<u>With</u> DE-723 Fath. Initial Set At 0.0 Fms.	<u>With</u> DE-723 Fath. Initial Set At 2.0 Fms.	<u>With</u> FDR Fath. Initial At 0.0 Fms.	<u>Velocity</u> <u>Factor</u>
10.0 - 14.5	12.0 - 16.5		1.042
14.6 - 20.0	16.6 - 22.0		1.044
20.1 - 33.0	22.1 - 35.0		1.046
33.1 - 105.0	35.1 - 107.0		1.048
105.1 - 135.0	107.1 - 137.0	105 - 135	1.046
135.1 - 171.0	137.1 - 173.0	136 - 171	1.044
		172 - 211	1.042
		212 - 275	1.040
		276 - 325	1.038
		326 - 386	1.036
		387 - 455	1.034
		456 - 500	1.032
		501 - 565	1.030
		566 - 643	1.028
		644 - 723	1.026

These factors used for reduction
 of edgs. H-8733 automated plot.

~~82~~

1/200
 OSP

Table II

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

RAIDIST CORRECTIONS

PROJECT 09B-328, STRAITS OF FLORIDA

1963 FIELD SEASON

USCGS SHIP HYDROGRAPHER RAYMOND M. STONE, CDR, USCGS, COMD.

DAY OF THE YEAR	MONTH	DAY	TIMES:		CORRECTIONS:	
			FROM	TO	R-1	R-2
94	APRIL	4 ^A	1140	2400	- 2.2	/ 0.2
95		5 ^B	0001	2400	- 2.2	/ 0.2
95		5	2020	2400	- 2.2	- 1.8
96		6	0001	1907	- 2.2	- 1.8
96		6	1908	2400	- 2.2	- 2.8
97		7	0001	0314	- 2.2	- 2.8
97		7	0315	1547	- 1.2	- 1.8
97		7	1548	2230	- 0.2	- 1.8
98		8	0526	2029	/ 0.6	- 1.4
98		8	2030	2039	/ 1.6	/ 0.6
98		8	2040	2209	/ 3.6	/ 2.6
98		8	2210	2400	/ 2.6	/ 4.6
99		9	0001	1859	/ 2.6	/ 4.6
99		9	1900	1909	/ 1.6	/ 3.6
99		9	1910	1919	- 0.4	/ 0.6
99		9	1920	1929	/ 1.6	/ 3.6
99		9	1930	1939	+1.6 / 6.6	/ 0.6 ^{23.6} adj to T+C
99		9	1940	2400	/ 3.6	/ 1.6
100		10	0001	0629	/ 3.6	/ 1.6
100		10	0630	2020	/ 4.6	/ 2.6
108	APRIL	18	1330	2400	- 0.6	- 0.8
109		19	0001	2400	- 0.6	- 0.8
110		20	0001	2400	- 0.6	- 0.8
111		21	0001	1916	- 0.6	- 0.8
111		21	1917	2400	- 0.6	/ 1.2
112		22	0001	2400	- 0.6	/ 1.2
113		23	0001	1924	- 0.6	/ 1.2
113		23	1925	2400	/ 0.4	/ 0.2
114		24	0001	0012	/ 0.4	/ 0.2
114		24	0013	0146	- 0.6	/ 1.2
114		24	0147	1939	/ 1.4	/ 2.2
129	May	9	2144	2400	- 1.3	/ 2.8
130		10	0001	1310	- 1.3	/ 2.8
130		10	2320	2400	/ 0.2	/ 0.5
131		11	0001	2400	/ 0.2	/ 0.5
132		12	0001	0610	/ 0.2	/ 0.5
133		13	0000	0409	0.0	/ 0.1
133		13	0410	0449	0.0	/ 1.1
133		13	0450	1829	/ 2.0	/ 3.1
133		13	1830	1952	/ 3.0	/ 2.1
133		13	1953	1958	/ 2.0	/ 4.1
133		13	1959	2000	/ 3.0	/ 5.1

Checked by: *[Signature]*

INDEX

Objects Located By Gyro Bearings

From Hydrographic Positions

Sheet (HY-100-1-63)

1963 Season

USC&GS Ship HYDROGRAPHER - - - - - CDR R. M. Stone, Comdg.

<u>Name of Object</u>	<u>Date</u> (1963)	<u>Day Number</u> or <u>Day Letter</u>	<u>Position</u> <u>Number</u>
OLD TOWER ON ELBOW CAY	Apr. 7	001 or "A"	Time: 145600
"	" 7	001 or "A"	005
"	" 8	002 or "B"	010
"	" 8	002 or "B"	015
"	" 10	004 or "D"	091
"	" 22	009 or "J"	059
"	" 22	009 or "J"	061
"	" 22	009 or "J"	063
"	" 22	009 or "J"	065
"	" 22	009 or "J"	067
"	" 22	009 or "J"	069
"	" 22	009 or "J"	071
CAYO PIEDRAS	Apr. 21	008 or "H"	Time: 133500
DEL. NOTRE LIGHT (Cuba)	" 21	008 or "H"	079
<i>NOTE</i>	" 21	008 or "H"	103

INDEX
 Hydrographic Information
Sheet (HY-100-1-63)
 1963 Season

USC&GS Ship HYDROGRAPHER - - - - - CDR R. M. Stone, Comdg.

<u>Subject</u>	<u>Date</u> (1963)	<u>Day Number</u> or <u>Day Letter</u>	<u>Position</u> <u>Number</u>	<u>Consecutive</u> <u>Number</u>
Bottom Sample	May 9	010 or "K"	001	846
" "	May 9	010 or "K"	002	847
" "	May 10	011 or "L"	009	856
" "	May 10	011 or "L"	017	864
" "	May 11	012 or "M"	002	886
" "	May 11	012 or "M"	010	894
" "	May 11	012 or "M"	035	918
" "	May 11	012 or "M"	036	919
" "	May 11	012 or "M"	043	926

<u>Subject</u>	<u>Latitude</u> (North)	<u>Longitude</u> (West)	<u>Source</u>
Bottom Sample	24°-06.5'	80°-23.5'	Obtained during Oceanographic Cruise (June - 1962) Ship HYDROGRAPHER (Refer to Section "O" MISCELLANEOUS of Descriptive Report for Sheet (HY-100-1-63))
" "	24--10.2	80--40.7	
" "	24--02.0	80--33.9	
" "	23--52.6	80--55.5	
" "	23--42.4	80--49.0	
" "	23--23.5	80--51.5	
" "	23--40.0	81--06.6	
" "	23--26.0	81--03.0	

ADDENDUM (SMOOTH SHEET)

The smooth punch tape was proof-read and it was found that the tape contained several errors. A tape containing corrections for the smooth tape was then cut as a supplement.

*On four different occasions continuous hydrographic lines were run between H-8733 and H-8734. A supplementary tape was cut to facilitate the plotting of these junctions. Position numbers in the 5000 series were arbitrarily assigned to the positions from H-8734 which were used to extend junctions on H-8733. ✓

** Correctors used to reduce H-8733 sdgs were different than those used to reduce H-8734 resulting in disagreement between overlapping junctional soundings although both originated with the same raw soundings. Numerous overlapping soundings were eliminated, thus effecting a butt junction during review of H-8734.*

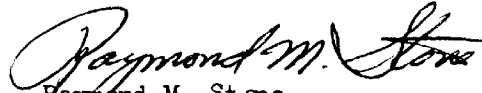
17
September 27, 1963

APPROVAL SHEET

Field No. HY-100-1-63

The field work accomplished on this survey, during the 1963 season (April 7 - May 11, 1963) was under my immediate supervision. Daily inspections of the boat sheet, Datex printout records, and fathograms were made as the survey progressed.

As of the date of my detachment from the Ship HYDROGRAPHER on September 27, 1963, the boat sheet, and all Datex printout records have been reviewed and are approved by me. On the basis of the boat sheet review, the survey is complete and adequate, and no additional field work is recommended.



Raymond M. Stone,
CDR, USC&GS
Commanding Officer,
USC&GS Ship HYDROGRAPHER

HY-100-1-63

H-8733

Project No. OPR-328

The two soundings at Latitude 23° 35' Longitude 80° 35' were obtained during the oceanographic portion of Project OPR-328 in 1962. These were core samples taken at that time. The characteristics of the core samples at the above mentioned location were not recorded in the records nor do they appear on the boat sheet. They do plot as position numbers 878 and 879 respectively.

Much work had been done on this sheet in the Washington office involving many people. However, it has been given the same scrutinization as other sheets and the final results are in accordance with prescribed standards.

Tapes were remade using Table II velocity factor. In addition, a 3.2 fm. ^(Draft Instr. Set. & Squat) transducer correction was applied to adjust for agreement with prior surveys.

Two bottom samples were scaled and transferred from the boat sheet as no position number could be found to support them.

GEOGRAPHIC NAMES

Survey No. H-8733

Name on Survey											
	A	B	C	D	E	F	G	H	K		
Atlantic Ocean											1
Straits of Florida											2
Cay Sal Bank 1002											3
											4
											5
											6
											7
											8
											9
											10
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A. J. Wright
Names approved
6-25-65
A. J. Wright

FORM C&GS-946
(REV. 3-1-64)
(PRESC. BY
HYDROGRAPHIC
MANUAL 20-2,
6-94, 7-13)

U.S. DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY
NAUTICAL CHART DIVISION

HYDROGRAPHIC SURVEY STATISTICS
HYDROGRAPHIC SURVEY NO. 8733

RECORDS ACCOMPANYING SURVEY: To be completed when survey is registered.

RECORD DESCRIPTION	AMOUNT	RECORD DESCRIPTION	AMOUNT
SMOOTH SHEET	1	BOAT SHEETS	1
DESCRIPTIVE REPORT	1	OVERLAYS	1

DESCRIPTION	DEPTH RECORDS	HORIZ. CONT. RECORDS	PRINTOUTS	TAPE ROLLS	PUNCHED CARDS	ABSTRACTS/SOURCE DOCUMENTS
ENVELOPES	3					
CAHIERS			1			
VOLUMES						
BOXES						

T-SHEET PRINTS (List)

SPECIAL REPORTS (List)

OFFICE PROCESSING ACTIVITIES

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

PROCESSING ACTIVITY	AMOUNTS			TOTALS
	PRE-VERIFICATION	VERIFICATION	REVIEW	
POSITIONS ON SHEET				921
POSITIONS CHECKED			10	
POSITIONS REVISED			0	
DEPTH SOUNDINGS REVISED		40	40	
DEPTH SOUNDINGS ERRONEOUSLY SPACED			0	
SIGNALS ERRONEOUSLY PLOTTED OR TRANSFERRED			0	
	TIME (MANHOURS)			
TOPOGRAPHIC DETAILS			0	
JUNCTIONS			14	
VERIFICATION OF SOUNDINGS FROM GRAPHIC RECORDS			2	
SPECIAL ADJUSTMENTS				
ALL OTHER WORK			28	
TOTALS			44	

PRE-VERIFICATION BY _____ BEGINNING DATE _____ ENDING DATE _____

VERIFICATION BY *Pacific Marine Center* BEGINNING DATE _____ ENDING DATE *?*

REVIEW BY *J. L. Engle* BEGINNING DATE *July 2, 1970* ENDING DATE *Sep 24, 1970*

Z.W.N. 6-11-81 -> Smooth sheet received at Washington 04-65 / Admin in States Report 20 Vols 465

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OFFICE OF HYDROGRAPHY AND OCEANOGRAPHY

MARINE CHART DIVISION

HYDROGRAPHIC SURVEY REVIEW

REGISTRY NO. H-8733

FIELD NO. HY-100-1-63

Florida -- Straits of Florida -- Off Cay Sal Bank

SURVEYED: April 7, 1963, through May 11, 1963

SCALE: 1:100,000

PROJECT NO.: OPR-328

SOUNDINGS: EDO-185 with
Precision
Depth Recorder

CONTROL: Raydist

Chief of Party.....	R. M. Stone
Surveyed by.....	C. D. Upham
.....	S. C. Miller
.....	H. A. Uzpurvis
.....	D. G. Popejoy
.....	R. A. Ganse
.....	N. A. Barnes
Machine Plotted.....	Pacific Marine Center
Machine Inked.....	Pacific Marine Center
Verified by.....	Pacific Marine Center
Reviewed by.....	D. R. Engle
.....	Date: September 24, 1970
Inspected by.....	R. H. Carstens

1. Description of the Area

This survey falls off Cay Sal Bank and about 40 miles southeast of Sombrero Key in the Straits of Florida midway between the Florida Keys and the northern coast of Cuba.

The bottom consists of sand and mud. Depths range from approximately 350 to 720 fathoms.

2. Control and Shoreline

The origin of the control is given in the Descriptive Report.

This is an offshore survey and no shoreline has been applied.

3. Hydrography

- A. Depths at crossings are in good agreement.
- B. The usual depth curves are adequately delineated.
- C. The development of bottom configuration and least depths is adequate.

4. Condition of the Survey

The field plotting, records and reports are adequate and conform to the requirements of the Hydrographic Manual and preliminary memoranda for automated surveys.

5. Junctions

Adequate junctions were effected with H-8734 (1963) to the northeast and H-8104 (1954) to the north.

A holiday exists to the south of the present survey which is not covered by any contemporary survey. This holiday was authorized by amended project instructions for OPR-328, dated March 22, 1963. Junctions on the west with H-8570 (1960) and H-8017 (1952-54) and on the east with H-8105 are considered in the reviews of those surveys.

6. Comparison with Prior Surveys

H-1091	(1869)	1:400,000
<u>H-1532</u>	<u>(1882)</u>	<u>1:2,400,000</u>

These small scale reconnaissance surveys may be disregarded as lacking sufficient reliable information for a comparison of any cartographic value. The present survey is adequate to supersede these prior surveys in the common area.

7. Comparison with Chart 1112 (Latest print date Dec. 13, 1969) 1113 (Latest print date Dec. 23, 1968)

Charted hydrography originates with the previously discussed surveys, with surveys by the U.S. Oceanographic Office and with partial application of the present survey and overlapping contemporary survey boat sheets and smooth sheets before verification and review.

Soundings charted from U.S. Oceanographic Office surveys are generally shoaler, some by as much as 25 to 50 fathoms, than

3.

present survey depths. Inasmuch as soundings by the Oceanographic Office are uncorrected for velocity and little is known of the accuracy of the horizontal control of the sounding lines, they are considered to be discredited by the present survey.

The present survey is adequate to supersede the charted hydrography.


8. Compliance with Instructions

The survey adequately complies with the project instructions.


9. Additional Field Work

A holiday in hydrography is discussed in paragraph 5 above. The present survey of the remaining areas is complete and considered to be a good basic survey. No additional work is recommended.

Examined and Approved:



Chief
Marine Chart Division



Associate Director
Office of Hydrography
and Oceanography

:

H-8733

Information for Future Pre-Survey Reviews

Upon future improvement of the international situation, it would be desirable to extend the southern limit of this survey to fill the holiday which presently exists between this survey and H-8105.

RECORD OF APPLICATION TO CHARTS

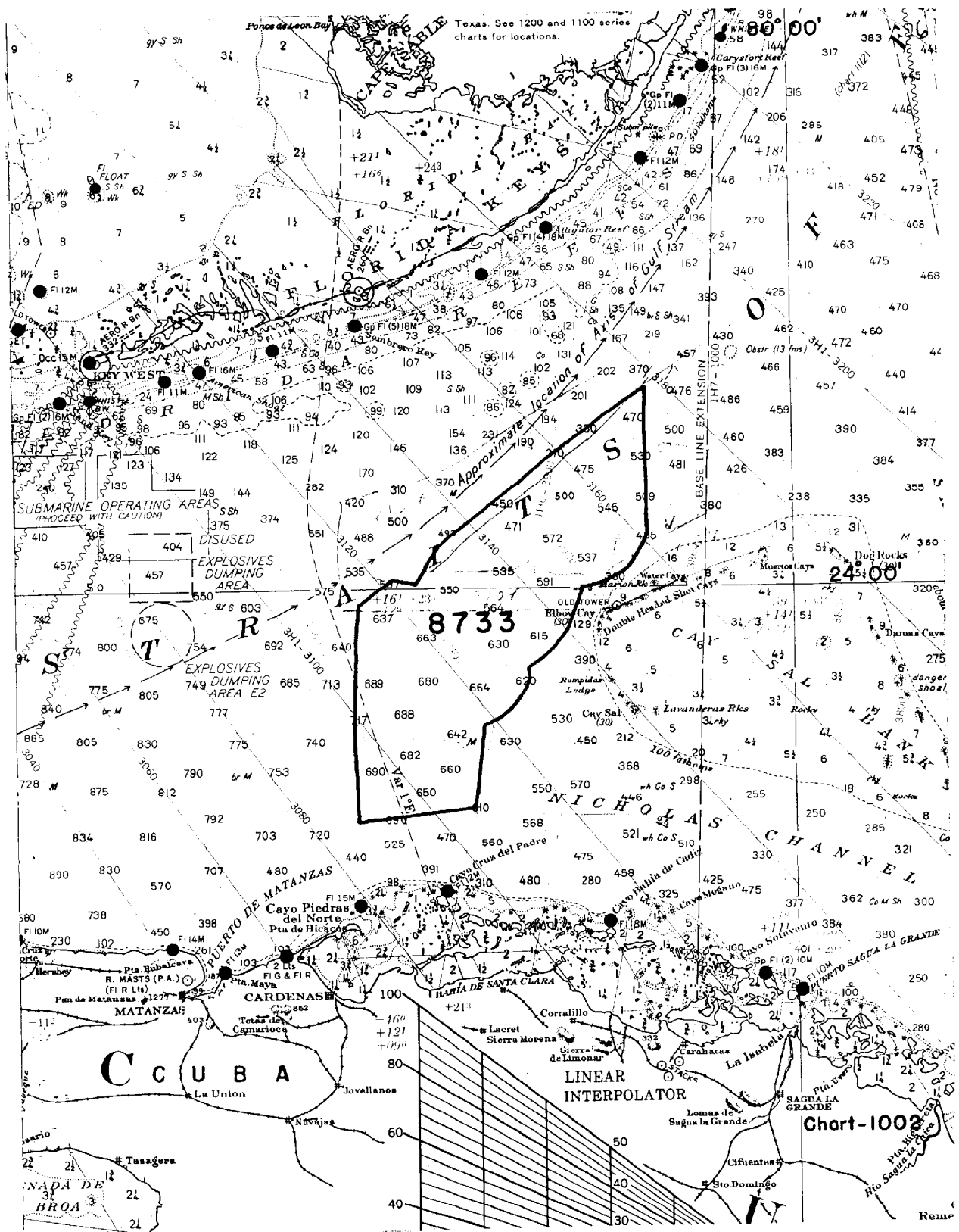
FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. _____

INSTRUCTIONS

A basic hydrographic or topographic survey supersedes all information of like nature on the uncorrected chart.

1. Letter all information.
2. In "Remarks" column cross out words that do not apply.
3. Give reasons for deviations, if any, from recommendations made under "Comparison with Charts" in the Review.

CHART	DATE	CARTOGRAPHER	REMARKS
1007	6/8/65	Helmer	Full Part Before After Verification Review Inspection Signed Via Drawing No. Exam for critical changes. No correction
1350 ← canceled	7/7/65	F.R. Scarsella	Full Part Before After Verification Review Inspection Signed Via Drawing No. Completely Revised Hydro
1112	7/15/65	F.R. Scarsella	Full Part Before After Verification Review Inspection Signed Via Drawing No.
1002	10-8-65	Richard Radde	Full Part Before After Verification Review Inspection Signed Via Drawing No. 26 part appl'd thru cht. 1112, part not cover'd by cht. 1112 appl'd directly from sheet
1351	10/21/65	J.H. Eaton	Full Part Before After Verification Review Inspection Signed Via Drawing No.
1113	12-22-66	John T. Gallahan	Full Part Before After Verification Review Inspection Signed Via Drawing No. #18 revised only in area part appl'd thru 1350 & 1112 - some overlap between this & chart.
1113	10/15/70	O. Williams	Full Part Before After Verification Review Inspection Signed Via Drawing No. Revise soundings & curves
1002	10/20/70	O. Williams	Full Part Before After Verification Review/Inspection Signed Via Drawing No. ^{before}
1112	8-30-71	C.E. Harrington	Full Part Before After Verification Review Inspection Signed Via Drawing No. Revised sdgs & curves
1007	11-15-71	S. McKellar	Full Part Before After Verification Review Inspection Signed Via Drawing No. Thru chart 1002
1351	1-5-72	R.A. Lillis	Full applied after verif., Review & Insp Dwg # 4
1113	10-30-73	R.A. Lillis	Fully applied after verif., Review & Insp Dwg # 23
1002	10-31-73	R.A. Lillis	Fully Applied after Verifi., Review & Insp. Dwg. # 36
1007	3/27/75	E.V. Barrer	Fully Applied after Verif., Review & Insp thru Dwg 51 thru chart 1002



Texas. See 1200 and 1100 series charts for locations.

SUBMARINE OPERATING AREAS (PROCEED WITH CAUTION)

DISUSED EXPLOSIVES DUMPING AREA

EXPLOSIVES DUMPING AREA E2

CUBA

LINEAR INTERPOLATOR

Chart-1002

Reg. No. 8733

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 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 3/11/72 TIME REQ'D 6 hrs INITIALS JAC

REMARKS: