8735

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-100-3-63 Office No. H-8735

LOCALITY

State: Florida

General locality: Straits of Florida

Locality: Off Key Largo

1963

CHIEF OF PARTY

R. M. Stone

LIBRARY & ARCHIVES

DATE: May 5, 1965

USCOMM-DC 37022-P66

8735

FORM C&GS-537
(8-15-59)

U.S. DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY

REGISTER NO.

H-8735

HYDROGRAPHIC TITLE SHEET

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-100-3-63

State Florida

General locality ~~Atlantic Ocean~~ Straits of Florida

Locality ~~Straits of Florida~~ Off Key Largo

Scale 1:100, 000 Date of survey May 23 - August 12, 1963

Instructions dated 1-16-62; Supp. 1-30-63, 3-22-63 Amended Project No. OPR-328

Vessel USC&GS Ship HYDROGRAPHER

Chief of party Raymond M. Stone, CDR, USC&GS

Surveyed by W.E. Randall, C.D. Upham, S.C. Miller, D.G. Popejoy, J.H. Allred, N.A. Barnes R.A.Ganse, H.A.Uzpurvis

Soundings taken by echo sounder, hand lead, pole PDR, DE-723 #61-29 & #216

Graphic record scaled by ship personnel

Graphic record checked by ship personnel

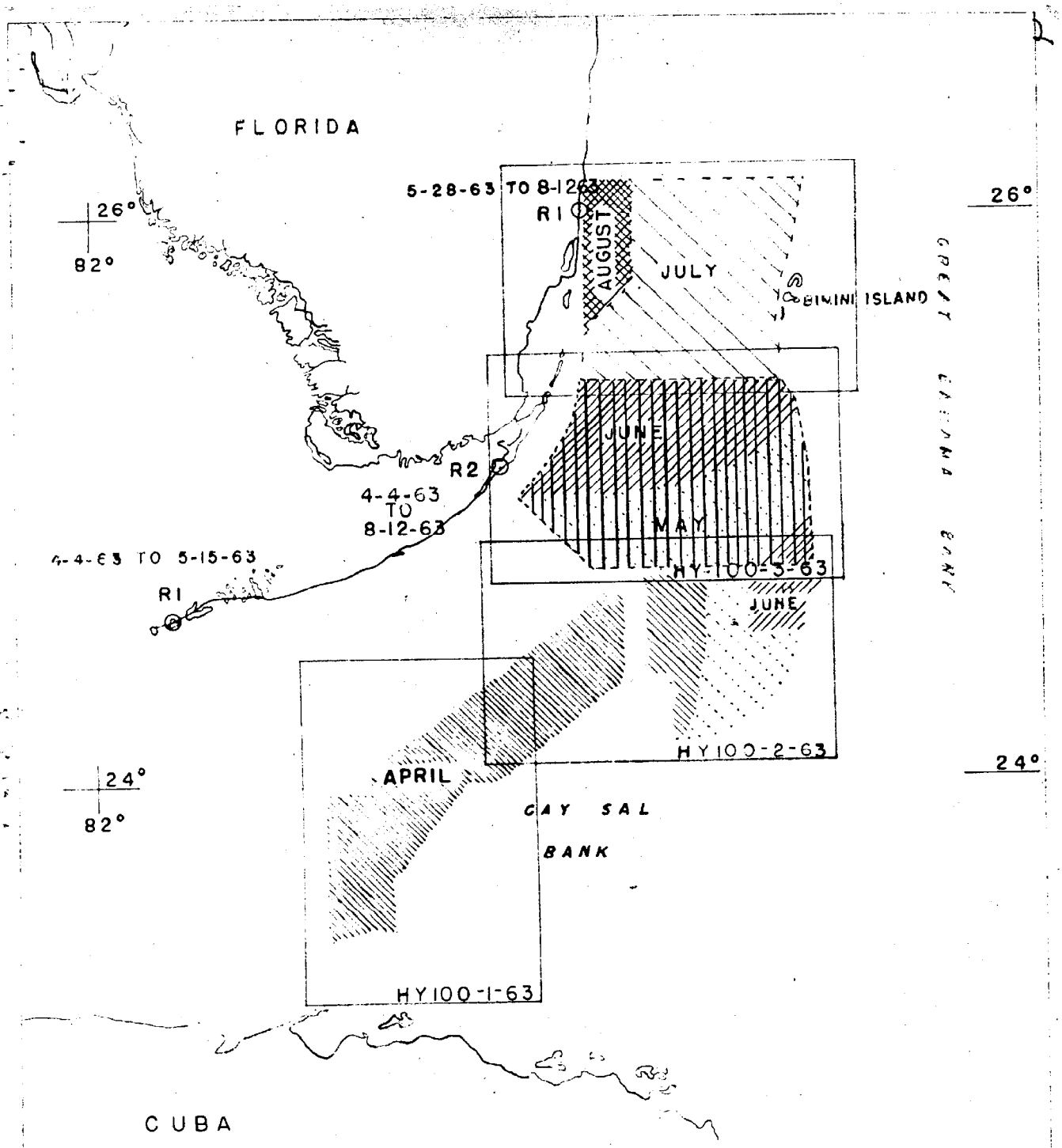
Protracted by to be plotted by machine in ~~Washington Office~~ Pacific Marine Center

Soundings penciled by

Soundings in fathoms ~~feet~~ at MLW ~~and MLLW~~ are true depths

REMARKS: This is an offshore survey controlled by Raydist. The hydrographic data was recorded by the Automatic Hydrographic Digital Recording System. A smooth punch tape for this survey will be cut by the ship's personnel for use in machine plotting of the smooth sheet in the ~~Washington Office~~ Pacific Marine Center.

USCOMM-DC 6272-P62



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-8735 (FIELD NO. HY-100-3-63)

1963 FIELD SEASON

USC&GS Ship HYDROGRAPHER — Scale 1:100, 000

Raymond M. Stone, CDR, USC&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 area of 2,320 square nautical miles in the Straits of Florida. It lies between latitudes 25° 25' North and 24° 45' North; longitudes 79° ~~80~~ 14' West and 80° 23' West.

Hydrography began on May 23, 1963 and was completed on August 12, 1963.

The survey junctions with contemporary surveys, H-8734 (Field No. HY-100-2-63), at the southern limits, and H-8736 (Field No. HY-100-4-63) at the northern limits. ~~It overlaps prior survey, H-8112, scale 1:100,000, 1954.~~ * This survey was cancelled. Junctions were made with the following prior surveys:

Registry Number	Scale	Date of Survey
H-5878a	1:20,000	1934
H-5726a	1:20,000	1934
H-5578	1:20,000	1934
H-5879a	1:20,000	1935
H-8060	1:80,000	1953

C. Sounding Vessel:

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

D. Sounding Equipment:

Hydrography, in depths of less than 150 fathoms, was accomplished using the Raytheon Survey Fathometers, Model DE-723, serial numbers 61-29 and 216. In depths greater than 150 fathoms, hydrography was accomplished using the EDO-185 echo sounder (serial number 3) with the Precision Depth Recorder (PDR) LGO Mark V, serial number 162.

The DE-723 initial settings were maintained at 2.0 throughout the entire survey with the exception of the last day, August 12, 1963, during which the initial was set at 0.0. The PDR was operated with a 0.0 initial throughout the survey.

Depths encountered ranged from 10 to 477 fathoms.

Corrections to echo soundings were determined as follows:

(a) Transducer draft corrections were derived from draft measurements, made at the beginning and end of each trip as outlined in Report on Corrections to Echo Soundings, OPR-328, 1963.

(b) Settlement and Squat corrections were used as determined from tests made on September 13, 1950 and October 24, 1950.

(c) Echo sounder instrument corrections were determined by simultaneous comparisons (vertical casts) made in areas of smooth bottom during periods of calm weather and sea conditions.

(d) DE-723 phase corrections were derived from phase comparisons made in areas of smooth bottom during periods of calm weather and sea conditions. Phase corrections are not applicable for the PDR.

(e) Sound velocity corrections were furnished by the Washington Office (refer to Chief, Marine Data Division letter number 2310-51-562, dated March 13, 1963, and attachments which are appended to this report).

For methods of applying these corrections, refer to section "O" of this report.

E. Smooth Sheet:

All data for this survey was recorded via the DATEX Automatic Hydrographic Digital Recording System, which provides a record consisting of a digital and literal printout and a coded punched paper tape for use in computer reduction of soundings and mechanical plotting. (Refer

to section "O" of this report). A smooth punch tape will be cut by personnel on the Ship HYDROGRAPHER, based on the corrected hydrographic record, for plotting the smooth sheet in the Washington Office. Comments relative to the smooth punch tape will be appended to this report after the tape has been proof-read.

F. Control:

All control on this survey was by means of Raydist using the duplex antenna system.

The R_1 (Red) station was located on North Miami Beach, Florida. The Raydist mast was erected over STONE, 1963; latitude 25° 54' 56.10" North, longitude 80° 07' 25.13" West.

The R_2 (Green) station was located in the vicinity of Key Largo, Florida. The Raydist mast was erected over LARGO, 1962; latitude 25° 05' 09.310" North, longitude 80° 26' 05.833" West.

Raydist corrections were derived from three-point sextant fix calibrations on a calibration sheet (scale 1:20,000) of the Key Largo area, which was furnished by the Washington Office. Corrections were also derived from observations on natural ranges within and adjacent to the survey area, which were established by Raydist traverses from the Key Largo calibration area.

An abstract of Raydist corrections is appended to this report. For detailed information concerning Raydist corrections and calibrations, refer to Raydist Report, 1963 Field Season, OPR-328, Straits of Florida.

G. Shoreline:

There is no shoreline within the area of this survey.

H. Crosslines:

Approximately 6% of the regular system of lines were run as crosslines. All crossings were in good general agreement.

I. Junctions:

Satisfactory junctions were made with prior and contemporary surveys listed in section "B" of this report. Depths at the junctions were in good agreement.

J. Comparison With Prior Surveys: * H-8112 has been cancelled

A comparison of this survey with prior survey *H-8112, 1954 (scale 1:100,000) was made in the area included between meridians 80° 00' West and 79° 50' West. The remaining area of this survey was not previously surveyed. The comparison of this survey with survey *H-8112 indicates good, general agreement. (Pre-survey Review Items See Page 4a).

K. Comparison With The Charts:

A comparison of this survey with C&GS Chart 1249 (6th. Ed., April 4, 1960) indicates good, general agreement in depths less than approximately 100 fathoms. Depths greater than 100 fathoms on this survey were found to be deeper, in general, than those on Chart 1249. The following depths appear to be in extreme error: a charted 185 in depth of 307 fathoms, 210 in depth of 355 fathoms, 138 in depth of 241 fathoms, 243 in depth of 353 fathoms, and 285 in depth of 352 fathoms. †

The reported obstruction on Chart 1249 and included in the supplemental instructions, dated January 30, 1963, located at latitude 25° 13.1' North, longitude 80° 12.2' West, was not ~~completely~~ investigated with the ship due to the shoal area in which the obstruction was reported.

A comparison of this survey was made with C&GS Chart 1112 (7th. Ed., July 30, 1962). A comparison of 50 soundings follows: 10 soundings were in good, general agreement, 5 charted depths were too deep, and 35 charted depths were too shoal. The following depths appear in extreme error: 230 in depth of 431 fathoms, 175 in depth of 264 fathoms, 460 in depth of 373 fathoms, and 460 in depth of 404 fathoms. †

It is believed that the majority of these discrepancies on charts 1249 and 1112 are a result of erroneous or inadequate control and/or inaccurate depth determinations on prior surveys from which these charts were compiled.

† See Review par 7A(c)

L. Adequacy of Survey:

This survey is complete and adequate for charting purposes, in all respects.

M. Aids to Navigation:

There were three aids to navigation located graphically by a series § of gyro bearings from the ship. The following aids were located:

DESCRIPTIVE REPORT TO ACCOMPANY HYDROGRAPHIC SURVEY H-8735(FIELD NO. HY-100-3-63) - 1963 FIELD SEASON - cont'd.

J. Comparison With Prior Surveys (Wreck Investigations):

1. No. 833

Mimiva, cargo ship, 355 tons, sunk 2-24-44, located at latitude 25° 23' North, longitude 80° 03' West, ± 1 to 3 miles. The least depth within ~~the area~~ a radius of 1.5 miles was found to be 78 fathoms.

2. No. 8705

Northern Light, sailing ship, 2351 tons, sunk 11-8-30, located at latitude 25° 03' North, longitude 80° 13' West, ± 3 to 5 miles. The least depth within a radius of 2.5 miles ~~the area~~ was 46 fathoms.

3. No. 831

Vitric, cargo ship, 765 tons, sunk 3-29-44, located at latitude 24° 58' North, longitude 80° 19' West, ± 1 to 3 miles. The least depth within a radius of 1.5 miles ~~in the area~~ was ~~38~~ 44 fathoms.

DESCRIPTIVE REPORT TO ACCOMPANY HYDROGRAPHIC SURVEY H-8735 (FIELD NO. HY-100-3-63) - 1963 FIELD SEASON - cont'd.

(a) Turtle Harbor Lighted Whistle Buoy 2 (Light List No. 4370) was found to be located in the charted position.

(b) Riding Rock Light (Light List No. 4373)

Charted Position (C&GS Chart 1112)	Lat.	25° 13.8' North
	Long.	79° 10.0' West
Located (by gyro bearings)	Lat.	25° 14.3' North
	Long.	79° ~~09.2~~ 08.3' West

(c) Radio Antenna on Orange Cay is a mast located at Lat. 24° 56.~~4~~5' North, Long. 79° 07.8' West (located by gyro bearings).

For the dates of the observations, refer to the index of this report, "Objects Located By Gyro Bearings From Hydrographic Positions".

N. Statistics:

Vessel	USC&GS Ship HYDROGRAPHER
Number of Positions	2,136
Nautical Miles of Sounding Line	3,234
Area (Square Nautical Miles)	2,320
Bottom Samples	28

A tabulation of bottom samples is appended to this report.

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 coded, punched, paper tape to be used in automatic processing and mechanical plotting systems.

During the period May 23, 1963 to July 15, 1963, the following format was used for the printout.

Time	Sounding	Phase	R_1	R_2	Position Number	Day	Ft. or Fms.	Draft	Tide	Velocity Factor	Ship's Heading
083000	0387	04	08446	15147	042	002	1	000	000	1042	247

On the above format, the tide correction was subsequently changed on all original printouts to read 60.0. The value 60.0 is an arbitrary factor added to the tide reducer to make all tide corrections positive, and will be subtracted from the sounding as the final step in the computer reduction of the sounding.

On the last day of this survey, August 12, 1963, the format was changed to read as follows:

Time	Phase	Sounding	Position Number	Draft	Tide	Velocity Factor	Ft. or Fms.	R_1	R_2	Ship's Heading	Day
104000	01	0174	2145	020	600	1044	1	015646	007515	208	224

The above format was adopted in order to facilitate machine processing. The day number was changed to indicate the day of the year, and position numbers were made consecutive for the entire sheet.

After all corrections have been entered and checked on the original printout and all DE-723 soundings have been reduced for phase, (ie. when on B-scale, add 40.0 to A-scale, etc; all phase-reduced soundings are entered in blue pencil on the left column of the original printout), a smooth punch tape will be cut using the following format:

Time	Phase	Sounding	Position Number	Draft	Tide	Velocity Factor	Fathoms	R_1	R_2	Ship's Heading	Day of the Year
184200	01	0148	1262	000	600	1048	1	257820	178440	219	182

On the above format, the phase indicator has been changed to show the type of echo sounder used, with 00 indicating the use of the PDR and 01 indicating the use of the DE-723.

Corrections to echo soundings were entered on the DATEX printout as follows:

(a) Tide Correction:

Since the area surveyed is classified as an offshore coastal area, tide corrections were not entered for depths greater than 101 fathoms, in accordance with section 5-101 of the

Hydrographic Manual. In these depths the tide correction was entered on the smooth tape as 60.0

In depths less than 101 fathoms, the tide reducer was entered as 60.0 plus or minus the actual tide correction.

(b) Draft Correction:

In the automatic recording system, it is necessary to combine the echo sounder instrument correction, phase correction (if applicable), initial or index correction, settlement and squat correction, and draft correction and enter the resulting algebraic sum as draft on the parameter board. However,* in depths greater than 400 fathoms, these corrections were omitted, since their algebraic sum was less than 0.5% of the depth (refer to section 5-101 of the Hydrographic Manual). A tabulation of draft corrections is appended to this report.

* + 2fm Draft corr. was used on junctional survey H-8734 thus introducing a 2-fm difference in the junctional area.

(c) Velocity Factor:

As indicated in section "D" of this report, 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 uncorrected sounding by multiplication, to determine the true depth below the transducer. For a detailed discussion of the method used in the conversion of velocity correctors to velocity factors and additional information on the use of the Automatic Recording System during the 1963 season, refer to Report On Corrections To Echo Soundings, Project OPR-328, Straits of Florida, April 14 to August 12, 1963.

A tabulation of the original velocity corrections and velocity factors is appended to this report. In addition, refer to Report On Automatic Hydrographic Digital Recording System, Ship HYDROGRAPHER, 1963, for a more detailed discussion of the DATEX System as used during 1963.

P. Recommendations:

This survey is complete and adequate for charting. However, in the adjacent inshore area the obstruction at latitude 25° 13.1' North,

longitude 80° 12.2' West shown on C&GS Chart 1249 and referred to in Supplemental Instructions, dated January 30, 1963, should be investigated when inshore surveys are conducted. This obstruction is in depths too shallow for ship operations.

Q. References To Reports:

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

Title of Report	Date Forwarded to Washington Office
Raydist Report, 1963 Field Season Project OPR-328, Straits of Florida	9/13/63
Report on Corrections to Echo Soundings, 1963 Field Season, Project OPR-328, Straits of Florida	11/15/63
Season's Report, 1963 Field Season	
Report on Automatic Hydrographic Digital Recording System, Ship HYDROGRAPHER, 1963 Field Season	
Report on Landmarks for Charts and Fixed Aids to Navigation	11/22/63

Respectfully submitted:

Norment A. Barnes, Jr.

Norment A. Barnes, Jr.
ENS., USC&GS

Approved and Forwarded:

William E. Randall

William E. Randall
CDR, USC&GS
Com'd'g., USC&GS Ship HYDROGRAPHER

TIDE NOTE

Registry No. H-8735

Sheet No. (HY-100-3-63)

Tide Station: Miami Beach, Florida
Latitude 25°46'N.
Longitude 80°08'W.

Plane of Reference: MLW = 2.4 feet on tide staff

Time Meridian: 75 degrees West

Time Correction: None

Height Correction: None

Area Covered: Entire area of Sheet HY-100-3-63 Survey No. H-8735

In compliance with Chief, Marine Data Division, letters 2321-238-982h, dated September 4, 1963, and 2321-254-982h dated September 19, 1963 (copies appended to this report), tidal data, from the Miami Beach, Florida, Tide Station, was used to determine the tide corrections.

An abstract of tide corrections is appended to this report.

WLR + RMS 12

UNITED STATES GOVERNMENT

Memorandum

U.S. DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY

TO : Commanding Officer
C&GS Ship HYDROGRAPHER

DATE: September 4, 1963
In reply refer to:-
2321-238-982h

FROM : Chief, Marine Data Division

SUBJECT: Tide Reducers, OPR 328

Enclosed are copies of hourly heights of the tide observed at Miami Beach for requested days in May, June and July, 1963. Data for August will be furnished after the August tide roll is received and processed.

Heights at Miami Beach are referred to a datum which is 2.4 ft. below mean low water. No correction is needed for the areas of hydrographic sheets HY 100-3-63 and 100-4-63.

Kenneth S. Ulm

Enclosures

UNITED STATES GOVERNMENT

Memorandum

U.S. DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY

TO : Commanding Officer
USC&GS Ship HYDROGRAPHER

DATE: September 19, 1963
In reply refer to:
2321-254-982h

FROM : Chief, Marine Data Division

SUBJECT: Tide Reducers for OPR-328.

Please refer to our memo of September 4, 1963, 2321-238-982h.

Enclosed are copies of hourly heights for Miami Beach for August 7-12, 1963.

Kenneth S. Ulm

ABSTRACT OF TIDE CORRECTIONS

HYDROGRAPHIC SURVEY H-8735 (HY-100-3-63)

DATE (1963)		TIME (90 WMT)	CORRECTION (FMS)
May 23	(A)	2150 - 2246	- 0.4
May 24	(B)	1118 - 1202	- 0.2
May 26	(D)	0245 - 0550	0.0
		0740 - 0835	- 0.3
		0836 - 1000	- 0.4
May 29	(G)	0128 - 0300	- 0.4
		0301 - 0400	- 0.3
		0645 - 0800	0.0
		0801 - 0935	- 0.1
		1445 - 1605	- 0.3
		1710 - 1845	- 0.1
		2155 - 2250	- 0.2
		2251 - 2340	- 0.3
June 6	(H)	2120 - 2225	-0.3
June 8	(J)	0100 - 0420	0.0
		0421 - 0525	- 0.1
June 10	(L)	1326 - 1430	0.0
		1431 - 1745	∠ 0.1
		1746 - 1845	0.0
June 11	(M)	0235 - 0642	0.0
		0643 - 0753	- 0.1
		1826 - 1934	0.0
		1935 - 2025	- 0.1
		2026 - 2120	- 0.2
June 12	(N)	0740 - 0836	- 0.1
		0837 - 0945	- 0.2
		0946 - 1300	- 0.3
		1410 - 1503	- 0.1
		1504 - 1615	0.0
		1616 - 1844	∠ 0.1
		1845 - 2005	0.0
		2205 - 2400	- 0.3

ABSTRACT OF TIDE CORRECTIONS

HYDROGRAPHIC SURVEY H-8735 (HY-100-3-63)

DATE (1963)		TIME (90 WMT)	CORRECTION (FMS)
June 13	(P)	0000 - 0100	- 0.4
		0101 - 0225	- 0.3
		0226 - 0320	- 0.2
June 20	(Q)	2328 - 2400	0.0
June 21	(R)	0840 - 0933	- 0.3
		0934 - 1012	- 0.2
		1013 - 1052	- 0.1
		1053 - 1138	0.0
June 22	(S)	0019 - 0130	0.0
		0131 - 0335	∠ 0.1
		1112 - 1200	- 0.1
		1201 - 1235	0.0
		1236 - 1325	∠ 0.1
		1326 - 1540	∠ 0.2
		1922 - 2300	- 0.4
June 23	(T)	0428 - 0528	0.0
		0529 - 0620	- 0.1
		0621 - 0715	- 0.2
		1333 - 1710	∠ 0.1
		1841 - 1918	- 0.2
		1919 - 2000	- 0.3
		2001 - 2332	- 0.4
June 24	(U)	0000 - 0031	- 0.3
		0032 - 0117	- 0.2
		1303 - 1355	- 0.1
		1356 - 1452	0.0
		1453 - 1800	∠ 0.1
		1801 - 1845	0.0
		1846 - 1930	- 0.1
		2112 - 2355	- 0.4
June 25	(V)	1300 - 1400	- 0.2
		1401 - 1500	- 0.1
		1501 - 1915	0.0

ABSTRACT OF TIDE CORRECTIONS

HYDROGRAPHIC SURVEY H-8735 (HY-100-3-63)

DATE (1963)		TIME (90 WMT)	CORRECTION (FMS)
June 26	(W)	0000 - 0100	- 0.4
		0200 - 0300	- 0.2
		0301 - 0352	- 0.1
		0353 - 0750	0.0
		0751 - 0850	- 0.1
		1000 - 1345	- 0.3
		1605 - 2000	0.0
		2102 - 2205	- 0.2
		2206 - 2334	- 0.3
		2335 - 2400	- 0.4
June 27	(X)	0000 - 0131	- 0.4
		0132 - 0246	- 0.3
July 9	(Y)	2300 - 2400	- 0.4
July 10	(Z)	0000 - 0022	- 0.4
		0023 - 0120	- 0.3
		0121 - 0208	- 0.2
		0209 - 0330	- 0.1
		0331 - 0510	0.0
		0511 - 0633	- 0.1
		0634 - 0730	- 0.2
		0731 - 0832	- 0.3
		0833 - 1215	- 0.4
		1515 - 1800	0.0
		1801 - 1900	- 0.1
		1901 - 2000	- 0.2
July 15	(AA)	1935 - 2339	- 0.1
		2340 - 2403	- 0.2
August 12	(BA)	0941 - 1035	- 0.1
		1036 - 1127	- 0.2
		1128 - 1300	- 0.3
		1301 - 1500	- 0.4
		1501 - 1620	- 0.3
		1621 - 1722	- 0.2
		1723 - 1840	- 0.1

Computed MAB

Checked JTL

Abstract of Draft Corrections (Fms)

Hydrographic Survey H- 8735 (HY-100-3-63)

Date 1963	DE-723 (Initial Set At 2.0)	PDR (Initial Set At 0.00)
0800 May 22 To 2400 May 31	0.0	∠ 2.0
0800 June 5 To 0800 June 9	∠ 0.2	∠ 2.0
0801 June 9 To 2400 June 13	0.0	∠ 2.0
0800 June 19 To 2400 June 22	∠ 0.2	∠ 2.0
0001 June 23 To 2400 June 27	0.0	∠ 2.0
0800 July 8 To 2000 July 12	∠ 0.2	∠ 2.0
2001 July 12 To 1500 July 17	0.0	∠ 2.0
	DE-723 (Initial Set At 0.0)	
0001 August 10 To 2400 August 12	∠ 2.0	∠ 2.0

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

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

No. 8310-51-562

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

Table I W. of 80°W

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	630.0
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		

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

VELOCITY FACTORS

Project OFR-328

Straits of Florida

(Area West 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			
With DE-723 Fath. Initial Set At 0.0 Fms.	With DE-723 Fath. Initial Set At 2.0 Fms.	With FDR Fath. Initial At 0.0 Fms.	Velocity Factor
11.0 - 21.0	13.0 - 23.0		1.044
21.1 - 23.0	23.1 - 25.0		1.046
23.1 - 92.0	25.1 - 94.0		1.048
92.1 - 107.0	94.1 - 109.0		1.046
107.1 - 130.0	109.1 - 132.0	107 - 130	1.044
130.1 - 164.0	132.1 - 166.0	131 - 164	1.042
164.1 - 180.0	166.1 - 182.0	165 - 180	1.040
		181 - 212	1.038
		213 - 244	1.036
		245 - 277	1.034
		278 - 310	1.032
		311 - 344	1.030
		345 - 390	1.028
		391 - 450	1.026
		451 - 560	1.024
		561 - 700	1.022
		701 - 950	1.020

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			
With DE-723 Fath. Initial Set At 0.0 Fms.	With DE-723 Fath. Initial Set At 2.0 Fms.	With FDR Fath. Initial At 0.0 Fms.	Velocity Factor
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

✓ T227
✓ OSP

RADIAN CORRECTIONS

PROJECT OPR-328, STRAITS OF FLORIDA

1963 FIELD SEASON

HSCAGS SHIP HYDROGRAPHER RAYMOND M. STONE, CDR., USCAGS, COMDG.

DAY OF THE YEAR	MONTH	DAY	TIMES: FROM	TIMES: TO	CORRECTIONS: R=1	CORRECTIONS: R=2
94	APRIL	4	1140	2400	- 2.2	≠ 0.2
95		5	0001	2019	- 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
98		8	0001	1859	≠ 2.6	≠ 4.6
99		9	1900	1909	≠ 1.6	≠ 3.6
99		9	1910	1919	- 0.4	≠ 1.6
99		9	1920	1929	≠ 1.6	≠ 3.6
99		9	1930	1939	≠ 6.6	≠ 0.6
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	0846	- 0.6	≠ 1.2
114		24	0847	1939	≠ 1.4	≠ 2.2
129	May	9	2144	2400	- 1.3	≠ 2.8
130		10	0001	1310	- 1.3	≠ 2.8
130		10	1800 2989	2400	≠ 0.2	≠ 0.5
131		11	0001	2400	≠ 0.2	≠ 0.5
132		12	0001	0810	≠ 0.2	≠ 0.5
133		13	0000	0409	0.0	≠ 0.1
133		13	0410	0448	0.0	≠ 1.1
133		13	0458	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]

BAYDIST CORRECTIONS, PROJECT OPR-325, 1963 FIELD SEASON, USC&GS HYDROGRAPHER CONTINUED.

DAY OF THE YEAR	MONTH	DAY	TIMES: FROM	TO	CORRECTIONS: R-1	R-2
133	MAY	13	2002	2118	+ 3.0	+ 4.1
133		13	2119	2203	+ 4.0	+ 5.1
133		13	2204	2228	+ 5.0	+ 4.1
133		13	2229	2230	+ 6.0	+ 4.1
133		13	2231	2237	+ 4.0	+ 3.1
133		13	2238	2305	+ 3.0	+ 3.1
134		14	0513	1851	- 0.8	- 0.1
134		14	1852	1941	- 2.8	+ 1.9
134		14	1942	1947	- 2.8	+ 0.9
134		14	1948	1952	- 1.8	- 1.1
134		14	1953	1956	- 3.8	- 1.1
134		14	1957	2000	- 3.8	- 3.1
134		14	2001	2005	- 3.8	- 4.1
134		14	2006	2025	- 3.8	- 2.1
134		14	2026	2038	- 6.8	+ 0.9
134		14	2039	2046	- 7.8	+ 0.9
134		14	2047	2050	- 7.8	+ 3.9
135		15	1010	2036	- 0.6	- 0.1
143	MAY	23	2200	2400	+ 0.2	- 0.1
144		24	0001	2400	+ 0.2	- 0.1
145		25	0001	2400	+ 0.2	- 0.1
146		26	0001	0227	+ 0.2	- 0.1
146		26	0327	2400	+ 1.0	+ 0.8
147		27	0001	2400	+ 1.0	+ 0.8
148		28	0001	2400	+ 1.0	+ 0.8
149		29	0001	1030	+ 1.0	+ 0.8
149		29	1031	1040	+ 1.0	+ 12.8
149		29	1041	1556	+ 1.0	+ 51.8
149		29	1739	1925	+ 0.5	- 0.3
149		29	2247	2354	- 0.1	- 0.2
157	JUNE	6	2127	2400	- 0.3	- 1.0
158		7	0001	2113	- 0.3	- 1.0
159		8	0322	2400	- 0.8	- 0.8
160		9	0001	2400	- 0.8	- 0.8
161		10	0001	2400	- 0.8	- 0.8
162		11	0001	2015	- 0.8	- 0.8
162		11	2016	2102	- 0.8	- 1.8
162		11	2103	2339	- 2.8	+ 2.2
162		11	2340	2347	- 2.8	+ 3.2
162		11	2348	2400	- 2.8	+ 2.2
163		12	0001	2400	- 2.8	+ 2.2
164		13	0001	0230	- 2.8	+ 2.2
171	JUNE	20	2207	2400	+ 0.4	- 0.4
172		21	0001	2400	+ 0.4	- 0.4
173		22	0001	2400	+ 0.4	- 0.4
174		23	0001	2400	+ 0.4	- 0.4
175		24	0001	0023	+ 0.4	- 0.4
175		24	0024	2400	+ 1.4	- 1.4

Checked by: [signature]

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RAYDIST CORRECTIONS, PROJECT OPR-[illegible], 1963 FIELD SEASON, [illegible] HYDROGRAPHER, CONTINUED.

DAY OF THE YEAR	MONTH	DAY	TIMES: FROM	TO	CORRECTIONS: R-1	R-2
176	JUNE	25	0001	1820	+ 1.4	- 1.4
177		26	0000	0655	- 0.2	- 0.4
177		26	0656	0703	- 0.2	- 13.4
177		26	0704	0709	- 0.2	- 15.4
177		26	0710	0721	- 0.2	- 34.4
177		26	0722	0813	- 0.2	- 42.4
177		26	1010	1200	- 0.2	- 0.6
177		26	1545	2400	+ 2.9	+ 6.2
178		27	0001	0123	+ 2.9	+ 6.2
190	JULY	9	2218	2316	+ 0.1	+ 1.2
190		9	2317	2339	+ 1.1	+ 0.2
190		9	2340	2400	+ 0.1	+ 1.2
191		10	0001	1153	+ 0.1	+ 1.2
191		10	1154	1197	+ 0.1	+ 9.2
191		10	1543	1954	+ 0.1	- 0.2
191		10	2319	2400	+ 4.7	- 5.4
192		11	0001	0201	+ 4.7	- 5.4
192		11	0202	0220	+ 4.7	- 1.4
192		11	0221	0950	+ 4.7	- 11.4
192		11	1020	1652	+ 4.7	- 11.6
192		11	1653	2217	+ 4.7	- 23.6
192		11	2258	2400	- 0.6	- 1.2
193		12	0001	1814	- 0.6	- 1.2
193		12	1815	1827	- 0.6	- 3.2
193		12	1828	2300	- 0.6	- 5.2
194		13	0216	2400	- 0.6	- 5.2
195		14	0001	0318	- 0.6	- 5.2
195		14	0319	0328	- 0.6	+ 52.8
195		14	0329	0338	- 0.6	+ 136.8
195		14	0339	0528	- 0.6	+ 159.8
195		14	1233	2033	- 1.0	- 6.1
195		14	2034	2400	- 1.0	- 4.1
196		15	0000	0303	- 1.0	- 4.1
196		15	0304	2428	0.0	- 4.1
205	JULY	24	0435	2400	+ 1.2	+ 0.6
206		25	0001	2400	+ 1.2	+ 0.6
207		26	0001	2400	+ 1.2	+ 0.6
208		27	0001	2400	+ 1.2	+ 0.6
209		28	0001	2400	+ 1.2	+ 0.6
210		29	0001	0131	+ 1.2	+ 0.6
210		29	0132	0136	+ 1.2	+ 4.6
210		29	0137	0139	+ 1.2	+ 0.6
210		29	0140	0141	+ 1.2	+ 2.6
210		29	0142	0143	+ 1.2	+ 4.6
210		29	0144	0229	+ 1.2	+ 5.6

Checked by: [signature]

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RANGE CORRECTIONS, PROJECT OPR - 328, 1963 FIELD SEASON, USC&GSS HYDROGRAPHER, CONTINUED.

DAY OF THE YEAR	MONTH	DAY	TIMES: FROM	TO	CORRECTIONS: R-1	R-2
210	JULY	29	0224	0225	≠ 0.2	≠ 9.6
210		29	0226	0229	≠ 0.2	≠ 13.6
210		29	0230	0231	≠ 0.2	≠ 10.6
210		29	0232	0330	≠ 0.2	≠ 11.6
210		29	0331	0550	≠ 0.2	≠ 14.6
210		29	0551	1039	≠ 0.2	≠ 12.6
210		29	1122	2400	- 0.5	- 4.6
219	AUGUST	7	0646	2400	- 0.2	- 0.4
220		8	0001	0803	- 0.2	- 0.4
220		8	0804	1847	- 0.2	≠ 1.6
220		8	1848	2400	≠ 2.2	- 0.4
221		9	0001	0047	≠ 2.2	- 0.4
221		9	0048	2400	≠ 2.2	- 2.4
222		10	0001	0426	≠ 2.2	- 2.4
222		10	0427	2400	≠ 2.2	- 0.4
223		11	0001	0020	≠ 2.2	- 0.4
223		11	0021	1838	≠ 2.2	≠ 1.6
223		11	1839	1840	≠ 2.2	- 1.4
223		11	1841	1847	≠ 2.2	- 8.4
223		11	1848	1854	≠ 2.2	- 25.4
223		11	2041	2400	- 1.8	≠ 1.9
224		12	0001	1739	- 1.8	≠ 1.9

Checked by: [signature]

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BOTTOM SAMPLE INFORMATION

H-8735 (Field No. HY-100-3-63)

1963 Season

USC&GS Ship HYDROGRAPHER — R. M. Stone, CDR, USC&GS, Com'd'g.

Bottom Sample Description	Date (1963)	Day Number or Day Letter	Consecutive Position Number
crs br S, Co	June 8	159 or "J"	794
crs br S	"	"	801
crs gy S, M, Sh	"	"	808
crs dk br S	"	"	833
crs dk br S, lt gy M, wh M	"	"	843
wh M	"	"	851
wh M, wh S	"	"	865
lt gy M, Co, Sh	June 9	160 or "K"	928
fne lt br S, Sh	"	"	937
fne lt wh S, Sh	June 10	161 or "L"	944
fne lt br S	June 11	162 or "M"	1114
Co, Sh	"	"	1158
crs br S, brk Sh	June 12	163 or "N"	1200
wh S, M	June 22	173 or "S"	1487
crs br S	"	"	1519
wh M, fne br S	June 23	174 or "T"	1613
crs br S	"	"	1631
fne br S, Co, Sh	"	"	1675
crs br S, Co, Sh	June 24	175 or "U"	1690
crs br S, gy M	"	"	1703
crs br S, br M	"	"	1717
wh M, fne wh S	"	"	1727
fne lt br S	"	"	1738
crs br S, Co, Sh	"	"	1792
gy M, Sh	June 25	176 or "V"	1836
gy M, fne br S	"	"	1844
gy M, fne br S	"	"	1855
wh M, fne br S, Co	"	"	1862

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Objects Located By Gyro Bearings From Hydrographic Positions

Sheet (HY-100-3-63)

1963 Season

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

Name of Object	Date (1963)	Day Number or Day Letter	Position Number
RIDING ROCK LIGHT	May 24	002 or "B"	024
	" 24	002 or "B"	025
	" 24	002 or "B"	097
	" 25	003 or "C"	103
	" 26	004 or "D"	098
	" 27	005 or "E"	Time: 194459*
	" 28	006 or "F"	106
	" 28	006 or "F"	107
	" 28	006 or "F"	108
	June 9	010 or "K"	058
	* (Observed on Sndg. between Pos. 116 & 117)		
RADIO ANTENNA on Orange Cay	May 28	006 or "F"	092
	" 28	006 or "F"	093
	" 28	006 or "F"	094
	" 28	006 or "F"	095
TURTLE HARBOR LIGHTED WHISTLE BUOY (Red Buoy R"2") (#4370 in Light List)	July 10	024 or "Z"	060
	" 10	024 or "Z"	061
	" 10	024 or "Z"	062

September 27, 1963

APPROVAL SHEET

Field No. HY-100-3-63

The field work accomplished on this survey, during the 1963 season (May 23 - August 12, 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

Smooth Sheet Addendum

A smooth tape was cut by personnel on the Ship HYDROGRAPHER, using the corrected hydrographic record, for use in plotting the smooth sheet in the Washington Office.
This smooth tape was proof-read and found to contain no errors.

FORM C&GS-712
(4-62)

U.S. DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY

TIDE NOTE FOR HYDROGRAPHIC SHEET

Nautical Chart Division: R.H.Carstens 1/21/63

Plane of reference approved ~~xx~~
~~xolumes of sounding records~~ for

HYDROGRAPHIC SHEET H-8735(HY-100-3-63)

Locality Straits of Florida, Florida

Chief of Party: W.E.Randall (1963)

Plane of reference is mean low water

ft. on tide staff at

ft. below B. M.

Height of mean high water above plane of reference at the working grounds is: 2.5 ft.

Condition of records satisfactory except as noted below:

J. M. Symons
Chief, Tides and Currents Branch

USCOMM-DC 16543-P62

ABSTRACT OF TIDE CORRECTIONS

HYDROGRAPHIC SURVEY H-8735 (HY-100-3-63)

DATE (1963)		TIME (90 MER)	CORRECTION (FMS)
May 23	(A)	2150 - 2246	- 0.4
May 24	(B)	1118 - 1202	- 0.2
May 26	(D)	0245 - 0550	0.0
		0740 - 0835	- 0.3
		0836 - 1000	- 0.4
May 29	(G)	0128 - 0300	- 0.4
		0301 - 0400	- 0.3
		0645 - 0800	0.0
		0801 - 0935	- 0.1
		1445 - 1605	- 0.3
		1718 - 1845	- 0.1
		2155 - 2250	- 0.2
		2251 - 2340	- 0.3
June 6	(H)	2120 - 2225	-0.3
June 8	(J)	0100 - 0420	0.0
		0421 - 0525	- 0.1
June 10	(L)	1326 - 1430	0.0
		1431 - 1745	≠ 0.1
		1746 - 1845	0.0
June 11	(M)	0235 - 0642	0.0
		0643 - 0753	- 0.1
		1826 - 1934	0.0
		1935 - 2025	- 0.1
		2026 - 2120	- 0.2
June 12	(N)	0740 - 0836	- 0.1
		0837 - 0945	- 0.2
		0946 - 1300	- 0.3
		1410 - 1503	- 0.1
		1504 - 1615	0.0
		1616 - 1844	≠ 0.1
		1845 - 2005	0.0
		2205 - 2400	- 0.3

ABSTRACT OF TIDE CORRECTIONS

HYDROGRAPHIC SURVEY H-8735 (HY-100-3-63)

DATE (1963)		TIME (90 WSE)	CORRECTION (TIME)
June 13	(P)	0000 - 0100	- 0.4
		0101 - 0225	- 0.3
		0226 - 0320	- 0.2
June 20	(Q)	2328 - 2400	0.0
June 21	(R)	0840 - 0933	- 0.3
		0934 - 1012	- 0.2
		1013 - 1052	- 0.1
		1053 - 1138	0.0
June 22	(S)	0019 - 0130	0.0
		0131 - 0335	≠ 0.1
		1112 - 1200	- 0.1
		1201 - 1235	0.0
		1236 - 1325	≠ 0.1
		1326 - 1540	≠ 0.2
		1922 - 2300	- 0.4
June 23	(T)	0428 - 0528	0.0
		0529 - 0620	- 0.1
		0621 - 0715	- 0.2
		1333 - 1710	≠ 0.1
		1841 - 1918	- 0.2
		1919 - 2000	- 0.3
		2001 - 2332	- 0.4
June 24	(U)	0000 - 0031	- 0.3
		0032 - 0117	- 0.2
		1303 - 1355	- 0.1
		1356 - 1452	0.0
		1453 - 1800	≠ 0.1
		1801 - 1845	0.0
		1846 - 1930	- 0.1
		2112 - 2355	- 0.4
June 25	(V)	1300 - 1400	- 0.2
		1401 - 1500	- 0.1
		1501 - 1915	0.0

ABSTRACT OF TIDE CORRECTIONS

HYDROGRAPHIC SURVEY H-8735 (HE-100-3-63)

DATE (1963)	TIME (90 WMZ)	CORRECTION (FEET)
June 26 (W)	0000 - 0100	- 0.4
	0200 - 0300	- 0.2
	0301 - 0352	- 0.1
	0353 - 0750	0.0
	0751 - 0850	- 0.1
	1000 - 1345	- 0.3
	1605 - 2000	0.0
	2102 - 2205	- 0.2
	2206 - 2334	- 0.3
	2335 - 2400	- 0.4
June 27 (X)	0000 - 0131	- 0.4
	0132 - 0246	- 0.3
July 9 (Y)	2300 - 2400	- 0.4
July 10 (Z)	0000 - 0022	- 0.4
	0023 - 0120	- 0.3
	0121 - 0208	- 0.2
	0209 - 0330	- 0.1
	0331 - 0510	0.0
	0511 - 0633	- 0.1
	0634 - 0750	- 0.2
	0751 - 0832	- 0.3
	0833 - 1215	- 0.4
	1515 - 1800	0.0
	1801 - 1900	- 0.1
	1901 - 2000	- 0.2
July 15 (AA)	1935 - 2339	- 0.1
	2340 - 2403	- 0.2
August 12 (BA)	0941 - 1035	- 0.1
	1036 - 1127	- 0.2
	1128 - 1300	- 0.3
	1301 - 1500	- 0.4
	1501 - 1620	- 0.3
	1621 - 1722	- 0.2
	1723 - 1840	- 0.1

TC Branch
Wharton
11/3/64

Computed _____

Checked _____

Abstract of Draft Corrections (Fms)

Hydrographic Survey H- 8735 (HY-100-3-63)

Date 1963	DR-723 (Initial Set At 2.0)	FDR (Initial Set At 0.00)
0800 May 22 To 2400 May 31	0.0	∮ 2.0
0800 June 5 To 0800 June 9	∮ 0.2	∮ 2.0
0801 June 9 To 2400 June 13	0.0	∮ 2.0
0800 June 19 To 2400 June 22	∮ 0.2	∮ 2.0
0001 June 23 To 2400 June 27	0.0	∮ 2.0
0800 July 8 To 2000 July 12	∮ 0.2	∮ 2.0
2001 July 12 To 1500 July 17	0.0	∮ 2.0
	DR-723 (Initial Set At 0.0)	
0001 August 10 To 2400 August 12	∮ 2.0	∮ 2.0

OPR-328 - H-8735, HY-100-3-63

Riding Rock Light (Light List No. 4373) and Charted Position (C&GS Chart 1112)	Lat. 25° 13.8' N. Long. 79° 10.0' W.
Field Location (by gyro bearings)	Lat. 25° 14.3' N. Long. 79° 09.2' W.
Relocation by Data Processing Office (using same gyro bearings)	Lat. 25° 14.3' N. * Long. 79° 08.6' W.

*Inked during review. See Review par. 7

The above mentioned light has been left in* pencil on the smooth sheet as there seems to be a slight discrepancy in the exact location.

As previously mentioned in the Descriptive Report, the comparison with prior surveys and existing charts shows a considerable difference and this survey should supersede all others.

All machine errors have been relogged and printouts corrected.

All plotted data has been verified by the Seattle Processing Office.

FORM 197
(3-16-55)

GEOGRAPHIC NAMES

Survey No. H-8735

Name on Survey	A On Chart No.	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	
Florida	1249									1
Key Largo	"									2
Pacific Reef	"									3
Straits of Florida	2111 2									4
Pickles Reef	1249									5
Great Bahama Bank	1112				Names approved 2-10-66 A.J. Wright					6
										7
										8
										9
										10
										11
										12
										13
										14
										15
										16
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										25
										26
										27

OFFICE OF HYDROGRAPHY AND OCEANOGRAPHY

MARINE CHART DIVISION

HYDROGRAPHIC SURVEY REVIEW

REGISTRY NO. H-8735 FIELD NO. HY-100-3-63

Florida -- Straits of Florida -- Off Key Largo

SURVEYED: May 23 to August 12, 1963

SCALE: 1:100,000 PROJECT NO.: OPR-328

SOUNDINGS: De-723 Depth Recorder, EDO-185 with Precision Depth Recorder CONTROL: Raydist

Chief of Party	R. M. Stone
Surveyed by	W. E. Randall
	C. D. Upham
	S. C. Miller
	D. G. Popejoy
	R. A. Ganse
	H. A. Uzpurvis
	J. H. Allred
	N. A. Barnes
Machine Plotted by	Pacific Marine Center
Machine Inked by	Pacific Marine Center
Verified by	Pacific Marine Center
Reviewed by	D. R. Engle
	Date: April 14, 1970
Inspected by	R. H. Carstens

1. Description of the Area

This survey falls in the Straits of Florida between Key Largo and Great Bahama Bank, and between lat. 24°44' and 25°26' North.

The bottom, predominantly sand and mud, slopes sharply from the 20 to the 50-fathom depth curve, very gradually to the 200-fathom curve, moderately to the 300-fm curve, and then very gradually to depths of as great as 478 fathoms on the axis of the straits.

Continuing eastwardly, the bottom begins its gradual rise toward Great Bahama Bank which falls several miles outside the survey limits. Depth curves are generally smooth. Two interesting features are noted adjacent to the 300-fathom curve in the northwestern corner of the survey where a narrow ridge about a mile inside the curve rises 5 to 35 fathoms off the sloping bottom, and a depression about one and a half miles outside the curve is covered by approximately 450 fathoms of water.

2. Shoreline and Control

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 very good agreement.

B. The usual depth curves are adequately delineated. However, a larger scale survey would have revealed a more accurate delineation of depth curves on the western slope.

C. The development of bottom configuration and least depths is satisfactory.

4. Condition of 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

Satisfactory junctions were effected with H-8736(1963-64) on the north, H-8734(1963) and H-8104(1954) on the south, and with H-8060(1953), H-5879a(1935), H-5878a (1934-35), H-5726a(1934) and H-5578(1934) on the west.

6. Comparison with Prior Surveys

A. H-369 (1853) 1:20,000
H-443 (1854) 1:20,000
H-553 (1856) 1:20,000
H-568 (1855) 1:20,000
H-777 (1863) 1:40,000

These surveys overlap a strip on the western edge of the present survey. Comparison reveals minor differences in the shoaler water and progressively larger differences in deeper water. These differences are attributed to less accurate methods of depth measurement and control on the prior surveys. The present survey supersedes the prior surveys in the common area.

Attention is called to the 80-ft. sounding charted in error on 1249 in lat. 25°17.9, long. 80°09.2 from H-443. The correct value is 180 ft.

B. H-1091 (1869) 1:400,000 Reconnaissance

This small scale survey lacks sufficient reliable information for a comparison of any cartographic value and is considered to be superseded by the present survey in the common area.

C. H-5548 W.D. (1934) 1:20,000

This wire-drag survey investigated Pacific Reef Channel and the entrance to Turtle Harbor, parts of which fall on the western edge of the present survey. No conflicts exist between the present depths and the effective wire-drag depths of the prior survey.

7. Comparison with Chart 1249 (latest print date 10/21/1968)
Chart 1112 (latest print date 12/16/1968)

A. Hydrography

(1) Charted hydrography in the area of the present survey originates with the previously discussed surveys, with surveys by the U. S. Navy Oceanographic Office and with partial application of the present survey boat

sheet and smooth sheet before verification and review.

(2) Numerous soundings charted outside the 100-fathom curve from U. S. Navy Oceanographic Office sounding collection sheets are in gross conflict with present depths. Prior soundings are generally shoaler than present depths, most by 10 to 50 fathoms, others by as much as 200 fathoms. A few are deeper than present depths by 10 to 100 fathoms. Inasmuch as soundings from Navy surveys are uncorrected for velocity and little is known of the degree of accuracy of horizontal control used for these prior lines, they are considered to be superseded by the present survey.

(3) The nondangerous sunken wrecks charted on the above listed charts were not disproved by the present survey and should be retained as presently charted.

(4) The 19-ft. Reported Obstruction charted in lat. 25°13'.1, long. 80°12'.2 from Chart Letter 352(1960) is erroneously charted as 19 fathoms on Chart 1112 and should be revised. This reported obstruction was not investigated on the present survey and should be retained on the charts.

B. Aids to Navigation

One floating aid, Turtle Harbor Lighted Whistle Buoy "2", was located by the present survey in lat. 25°17'.5, long. 80°10'.0. This aid, as presently charted, adequately marks the feature intended.

One fixed aid, Riding Rock Light, was located by the present survey in lat. 25°14'.3, long. 79°08'.7. The survey position falls about 1¼ miles east-northeast of the charted position. It should be noted that the survey positions of this light and of the Radio Antenna on Orange Cay in lat. 24°56'.5, lat. 79°07'.8, were determined by a series of gyro bearings from hydrographic positions and are considered to be correctly positioned with

respect to the deep water hydrography on the present survey. However, the survey positions are in conflict with the charted positions of the islets and banks of the Bahamas which are noted on Chart 1112 to be unreliable.

8. Compliance with Instructions

The survey adequately complies with the project instructions. However, the investigation of the reported obstruction discussed in paragraph 7A(4) of this review was not accomplished as specified in the project instructions because of possible danger to the ship. It is anticipated that this item will be investigated by wire-drag when the wire-drag vessels are in the area enroute to the Gulf of Mexico.

9. Additional Field Work

This is a good basic survey and no additional field work is recommended.

Examined and Approved:

Chief
Marine Chart Division

Associate Director
Office of Hydrography
and Oceanography

INFORMATION FOR FUTURE PRE-SURVEY REVIEWS

The 19-ft Reported Obstruction charted in lat. 25°13.1, long. 80°12.2 from Chart Letter 352(1960) was not investigated as specified in the project instructions because of possible danger to the ship.

It would be desirable to investigate this item by wire drag when the wire-drag vessels are in the area.

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. 8735

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	19					
CAHIERS	1					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			
	PRE-VERIFICATION	VERIFICATION	REVIEW	TOTALS
POSITIONS ON SHEET				2136
POSITIONS CHECKED			10	
POSITIONS REVISED			0	
DEPTH SOUNDINGS REVISED			15	
DEPTH SOUNDINGS ERRONEOUSLY SPACED			-	
SIGNALS ERRONEOUSLY PLOTTED OR TRANSFERRED			-	
	TIME (MANHOURS)			
TOPOGRAPHIC DETAILS			-	
JUNCTIONS			24	
VERIFICATION OF SOUNDINGS FROM GRAPHIC RECORDS			4	
SPECIAL ADJUSTMENTS			-	
ALL OTHER WORK			53	
TOTALS			81	

PRE-VERIFICATION BY	BEGINNING DATE	ENDING DATE
VERIFICATION BY Pacific Marine Center	BEGINNING DATE	ENDING DATE
REVIEW BY D.R. Engle	BEGINNING DATE 2-5-70	ENDING DATE 4-14-70

USCOMM-DC 6641-P64

FORM C&GS-8352
(3-25-63)

NAUTICAL CHART DIVISION

(17)

RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. H-8735

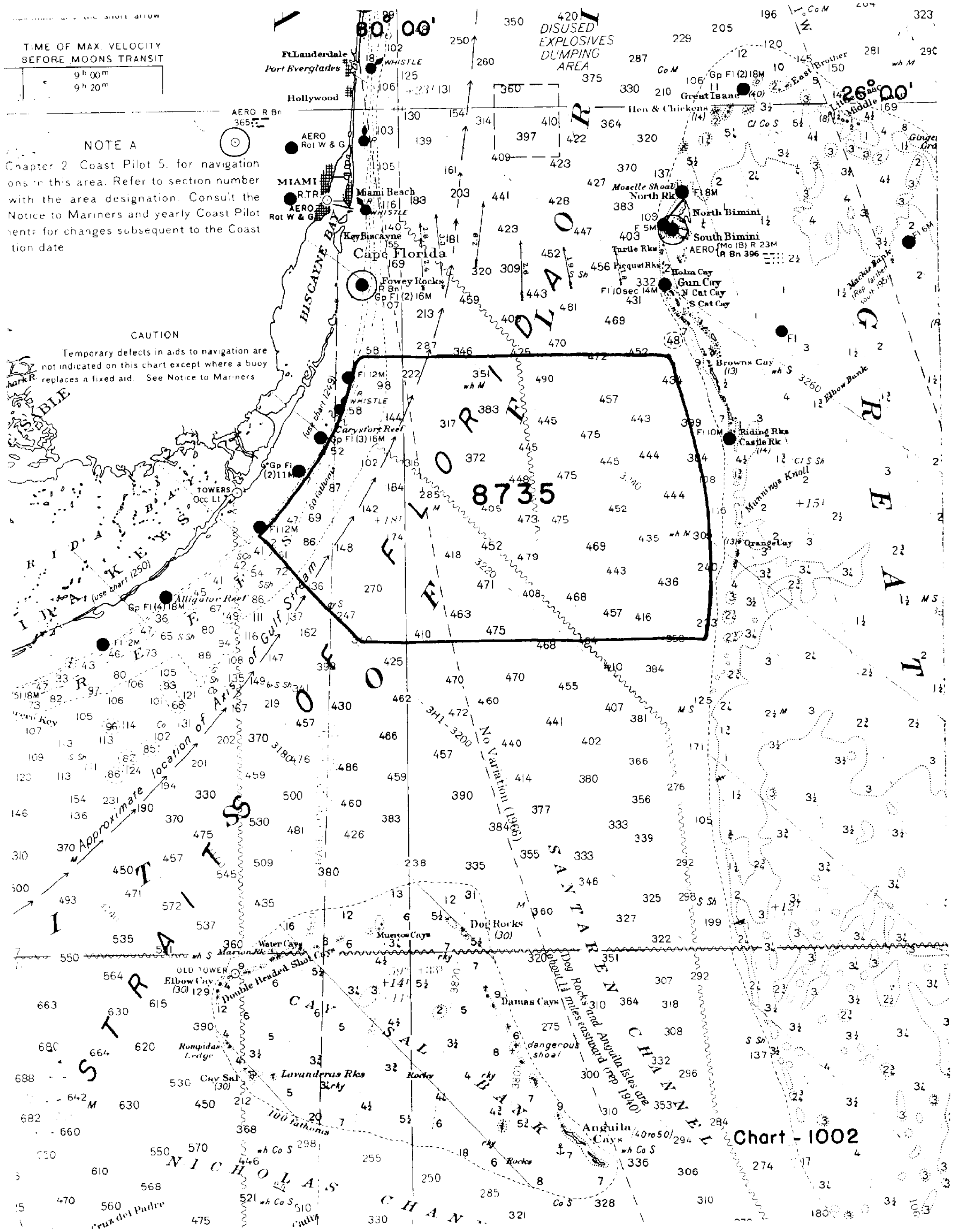
INSTRUCTIONS

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
141-SC	5/20/65	R.S. ~~House~~	Full (Part) Before After Verification Review Inspection Signed Via
			Drawing No. Exam., no corr. after Veri. but before R
1112	9/20/65	F.R. Scarcella	~~Full~~ Part Before ~~After Verification~~ Review Inspection Signed Via
			Drawing No.
1002	10-8-65	Heberden Ledden	~~Full~~ Part Before ~~After Verification~~ Review Inspection Signed Via
			Drawing No. 26 part appl'd thru cht. 1112 P 25
1249	10-19-65	F.R. Scarcella	~~Full~~ Part Before ~~After Verification~~ Review Inspection Signed Via
			Drawing No. VMC
1007	3-8-66	M. Rogers	~~Full~~ Part ~~Before~~ After Verification Review Inspection Signed Via
			Drawing No. No significant changes affecting chart 1007 since Before
			BS hydro was appld. thru Lp 64615.
141-SC	4-11-66	D.J. Kennon	~~Full~~ Part Before ~~After Verification~~ Review Inspection Signed Via
			Drawing No. Applied fill-in soundings thru cht.
			1249 dwg #25 - T. P. [illegible] C.
141-SC	4-29-70	CB Samuel	Full ~~Part Before~~ After ~~Verification~~ Review, Before Inspection Signed Via
			Drawing No. No change during inspection DHC
1249	7-17-70	Eric Frey	~~Full~~ Part ~~Before~~ After Verification Review ~~Inspection~~ Signed Via 141
			Drawing No. applied 18 soundings via cht 141 SC & revised
			one sounding per review.
1007	8-25-70	Eric Frey	~~Full~~ Part Before After Verification Review Inspection Signed Via
			Drawing No. No critical corrections per review before
			Hold for application to large scale chartts
1002	11/9/70	O. Williams	~~Full~~ Part ~~Before~~ After Verification Review Inspection Signed Via
			Drawing No. Hold until appl'd to large scale charts.
1112	8-30-71	C.C. Harrington	PART APPLD AFTER VERI. REVIEW, INSPECT. - EXAM.
			REVIEWED ITEMS FOR CRITICAL CORR - MOVED LT.
			(S. RIDING ROCK LT.) - APPLY HYDRO THRU LARGE
			SCALES WHEN COMPLETED
1249	3-16-73	R.A. Lillis	Part appl'd by examining review after
			veri., review & inspection - No Corrections
1249	6-6-73	D.R. Carlton	Fully applied after verification review insp
1002	4-16-74	R.A. Lillis	Fully applied after verif., review & insp
1007	3/26/75	E. Barner	Fully Appl'd after ver., review & insp. Dwg #51 thru chart 1002

FORM C&GS-8352 SUPERSEDES ALL EDITIONS OF FORM C&GS-975.

USCOMM-DC 8558-P63


TIME OF MAX. VELOCITY BEFORE MOONS TRANSIT
9h 00m
9h 20m
NOTE A
Chapter 2 Coast Pilot 5 for navigation ons in this area. Refer to section number with the area designation. Consult the Notice to Mariners and yearly Coast Pilot ents for changes subsequent to the Coast tion date
CAUTION
Temporary defects in aids to navigation are not indicated on this chart except where a buoy replaces a fixed aid. See Notice to Mariners
80° 00'
26° 00'
DISUSED EXPLOSIVES DUMPING AREA
Ft.Lauderdale
Port Everglades
Hollywood
MIAMI
Miami Beach
BISCAYNE BAY
Key Biscayne
Cape Florida
Fowey Rocks
Carysfort Reef
Alligator Reef
Hen & Chickens
Great Isaac
North Rk
North Bimini
South Bimini
Gun Cay
Browns Cay
Riding Rks
Castle Rk
Mannings Knoll
Orange Cay
Elbow Bank
Mackie Bank
Moselle Shoal
Turtle Rks
Picquet Rks
8735
Approximate location of Axis of Gulf Stream
No Variation (1966)
Dog Rocks and Anguilla Isles are about 1½ miles eastward (rep 1940)
Dog Rocks
Water Cays
Muertos Cays
Damas Cays
Double Headed Shot Cays
Elbow Cay
Lavanderas Rks
Anguila Cays
dangerous shoal
100 fathoms
STRAITS OF FLORIDA
SANTAREN CHANNEL
CAL SAL BANK
NICHOLAS CHAN
GREAT
Chart - 1002

Reg. No. 8735

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 3-25-72 TIME REQ'D 1 hour INITIALS D.J.R.

REMARKS:

FORM C&GS-8352
(3-25-63)

NAUTICAL CHART DIVISION

RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. H-8735

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
11451	5-30-75	Allen L. TAYLOR	Full ~~Part~~ ~~Before~~ After Verification Review Inspection Signed Via
(1411-SC)			Drawing No. Applied thru DRAWING #3, Chart 11462 (1249)
11463	5-30-91	Pearce Hunt	Full ~~Part Before~~ After Verification Review Inspection Signed Via
			Drawing No. 31
			Full Part Before After Verification Review Inspection Signed Via
			Drawing No.
			Full Part Before After Verification Review Inspection Signed Via
			Drawing No.
			Full Part Before After Verification Review Inspection Signed Via
			Drawing No.
			Full Part Before After Verification Review Inspection Signed Via
			Drawing No.
			Full Part Before After Verification Review Inspection Signed Via
			Drawing No.
			Full Part Before After Verification Review Inspection Signed Via
			Drawing No.
			Full Part Before After Verification Review Inspection Signed Via
			Drawing No.

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USCOMM-DC 8558-P63