8104

Diag. cht. No. 1002

NOAA FORM 76-35A

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY

DESCRIPTIVE REPORT

(HYDROGRAPHIC)

Type of Survey ..... HYDROGRAPHIC

Field No. HY-10254

Office No. H-8104

LOCALITY

State ..... FLORIDA

General Locality ..... STRAITS OF FLORIDA

Locality ..... NORTHWEST OF CAY SAL BANK

1954

CHIEF OF PARTY
L. S. HUBBARD

LIBRARY & ARCHIVES

DATE 4/19/61

☆U.S. GOVERNMENT PRINTING OFFICE: 1974-763-098

8104

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-8104

Field No. Hy-10254

State FLORIDA

General locality STRAITS OF FLORIDA

Locality NORTHWEST OF CAY SAL BANK

Scale 1:100,000 Date of survey 5 MAY TO 22 JUNE 1954

Instructions dated 20 MARCH 1952, 9 MARCH 1953 & 27 ~~MARCH~~ JANUARY 1954

Vessel SHIP HYDROGRAPHER

Chief of party L.S. HUBBARD

Surveyed by W.J. CHOVAN, G.E. MORRIS, R.M. STONE, M.T. PAULSON
J.D HODGES, C.S. FROST & G.W. THOMPSON

Soundings taken by ~~xxxxxxxx~~ graphic recorder, ~~xxxxxxxxx~~

Fathograms scaled by PERSONNEL OF SHIP HYDROGRAPHER

Fathograms checked by PERSONNEL OF NORFOLK PROCESSING OFFICE

Protracted by A.G. ATWILL (NORFOLK PROCESSING OFFICE)

Soundings penciled by A.G. ATWILL " " "

Soundings in fathoms ~~xxxx~~ at MLW ~~XXXXX~~ and are true depths

REMARKS: CONTROLLED BY EPI.

U. S. GOVERNMENT PRINTING OFFICE 16—66520-1

RH

REVIEW

TO ACCOMPANY HYDROGRAPHIC SURVEY

H-8104 HY-10254

STRAITS OF FLORIDA 1954
SCALE 1:100,000 SHIP HYDROGRAPHER

Chief of Party: L. S. Hubbard

A. PROJECT:

Project CS-328, instructions dated 20 March 1952, supplemental instructions dated 9 March 1953, and 27 ~~March~~ January 1954.

B. SURVEY LIMITS AND DATES:

This survey is in the Straits of Florida due south of the tip of Florida to Cay Sal Bank. The western limit is longitude 81° 06' 30", the northwestern limit is latitude 24° 16', longitude 81° 06' 30" to latitude 24° 45', longitude 80° 07', eastern limit is longitude 79° 46' 00", and the southern limit is latitude 23° 58' 30". The area worked is very irregular in shape and the boat sheet should be consulted. About 50% of the area enclosed by the limits has been completed. Junction with HY-20152 (H-8103) to the west, HY-10354 (H-8105) to the south, and HY-10154 to the northeast will be made upon completion of these sheets. Rejected

The work began on 5 May 1954 and ended on 22 June 1954.

C. VESSEL AND EQUIPMENT:

The Ship HYDROGRAPHER was used solely in this survey using 808 type fathometer number 132, NMC II number 68, and EDO fathometer number 3.

The turning radius at sounding speed is from 80 - 120 meters.

D. TIDE AND CURRENT STATIONS:

The standard tide gage at Key West, Florida was used for tides with a range ratio of 1.5 and a time correction of minus (-) 1 hour. Also see tide note.

No current stations were observed within the limits of this sheet.

E. SMOOTH SHEET:

The original smooth sheet ~~is being made and~~ was plotted by the Norfolk Processing Office. Final smooth sheet plotted by the Gerber Digital Plotter - PMC.

1st. Ord.

24° 32' 46."25998 81° 48' 32."04234

(260)

EPIG - 1954 Key West US Naval Sta - Key West

EPIH - 1954 S End Miami Bch. U.S. Govt. Res.

25° 45' 54."49802 80° 07' 59."91190

(498) (912)

Info 38631 Geodesy.

F. CONTROL STATIONS:

Control was by EPI using stations EPIG and EPIH.

Station EPIG was located at Key West at triangulation station EPIG, 1954 by L. S. Hubbard. It is on the U. S. Naval Station at Key West, Florida.

Station EPIH was located at the south end of Miami Beach on U. S. Government Reservation, Engineer Department, on the north side of the main channel. It is triangulation station EPIH, 1954.

G. SHORELINE AND TOPOGRAPHY:

None.

H. SOUNDINGS:

The soundings were taken by fathometer, see item "C". A Velocity Correction Report and a Fathometer Correction Report will be sent to Norfolk and Washington.

I. CONTROL OF HYDROGRAPHY:

Control for entire sheet was by EPI.

J. ADEQUACY OF SURVEY:

This sheet has not been completed and is not considered adequate at this date. This survey, supplemented by the additional hydrographic development on the 1963 junctional surveys, is considered complete.

K. CROSSLINES:

This sheet has ~~not~~ been completed.

L. thru Z. not Applicable.

This report has been prepared by an officer who was not aboard this ship at the time of the survey and is to be considered only as a review or aid in further work on this sheet.

Respectfully submitted,

J. Morgan Ogilvie

J. Morgan Ogilvie
Ensign, USC&GS

Approved & Forwarded:

Walter J. Chovan
Comdr., USC&GS
Commanding Officer
Ship HYDROGRAPHER

STATISTICS

Letter Day	Date	Vol.	No. Pos.	Stat. Mi.	Automated Position Numbers
A	5-5	I	22	39.1	1-22
B	5-6	I	49	84.1	23-71
C	5-7	I	84	143.3	72-155
D	5-8	I	56	101.8	156-211
E	5-10	I	39	72.7	212-250
F	5-11	I	137	204.5	251-387
G	5-12	I, II	145	259.0	388-532
H	5-13	II	239	220.6	533-771
J	5-14	II	293	258.2	772-1064
K	5-15	II	189	175.1	1065-1247
L	5-16	II, III	283	246.2	1248-1530
M	5-17	III	43	42.0	1531-1573
N	5-21	III	70	54.1	1574-1643
P	5-22	III	200	178.7	1644-1843
Q	5-23	III	267	207.1	1844-2078
R	5-24	III	249	214.3	2079-2327
S	5-25	III, IV	295	246.8	2328-2617
T	5-26	IV	248	178.2	2618-2865
U	6-8	IV	67	73.6	2866-2932
V	6-9	IV	211	164.5	2933-3143
W	6-10	IV	274	219.6	3144-3413
X	6-11	IV, V	253	181.0	3414-3599 4000-4040
Y	6-12	V	74	55.0	4041-4111
Z	6-15	V	75	60.9	4112-4186
AA	6-~~XX~~16	V	38	37.3	4187-4224
BA	6-22	V	143	107.5	4225-4367
			4043	3825.2	

Square Stat. Miles: 1639

TIDE NOTE

A standard tide gage was maintained at Key West, Florida. Latitude 24° 33.2 N, longitude 81° 48.5 W. Mean low water of the gage is the 4.3 foot mark on the tide staff as per Director's letter of 9 August 1954. This gage is for the entire area of sheet HY-10254 as directed in letter of 9 August 1954. There is a 1.5 range ratio correction. A minus (-) one hour time correction is to be applied as per letter of 9 August 1954.

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

CROSS-REFERENCING OF POSITION NUMBERS

H-8104

ORIGINAL RECORDS				AUTOMATED RECORDS		
DAY	DATE	POSITIONS		DAY	YEAR	POSITIONS
A	5-5-54	1-22	- - - - -	125	54	1-22
B	5-6-54	1-49	- - - - -	126	54	23-71
C	5-7-54	1-84	- - - - -	127	54	72-155
D	5-8-54	1-56	- - - - -	128	54	156-211
E	5-10-54	1-39	- - - - -	130	54	212-250
F	5-11-54	1-137	- - - - -	131	54	251-387
G	5-12-54	1-145	- - - - -	132	54	388-532
H	5-13-54	1-239	- - - - -	133	54	533-771
J	5-14-54	1-293	- - - - -	134	54	772-1064
K	5-15-54	1-189	- - - - -	135	54	1065-1247
L	5-16-54	1-283	- - - - -	136	54	1248-1530
M	5-17-54	1-43	- - - - -	137	54	1531-1573
N	5-21-54	1-70	- - - - -	141	54	1574-1643
P	5-22-54	1-200	- - - - -	142	54	1644-1843
Q	5-23-54	1-267	- - - - -	143	54	1844-2078
R	5-24-54	1-249	- - - - -	144	54	2079-2327
S	5-25-54	1-295	- - - - -	145	54	2328-2617
T	5-26-54	1-248	- - - - -	146	54	2618-2865
U	6-8-54	1-67	- - - - -	159	54	2866-2932
V	6-9-54	1-211	- - - - -	160	54	2933-3143
W	6-10-54	1-274	- - - - -	161	54	3144-3413
X	6-11-54	1-209	- - - - -	162	54	3414-3599
		210-253	- - - - -	162	54	4000-4040
Y	6-12-54	1-74	- - - - -	163	54	4041-4111
Z	6-15-54	1-75	- - - - -	166	54	4112-4186
AA	6-16-54	1-38	- - - - -	167	54	4187-4224
BA	6-22-54	1-143	- - - - -	173	54	4225-4367

The total number of positions for a certain day as recorded in the original records and the automated records may differ

1954

EPI CORRECTORS

(in microseconds)

STRAITS OF FLORIDA

Surveys: H-8104, (HY-10254)
H-8105, (HY-10354)
H-8112, (HY-10154)
H-8017, (HY-20152)

Date	EPI Corrector			
	G		H	
	Regular Set #31	Spare Set #11	Regular Set #32	Spare Set #10
5 May - 28 June	-5.5	-5.0	-5.9	-4.4

Comp: GEM
Chkd: JDH

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	In machine plot use -1.5 RHC	C	∠1.7	∠1.6	∠1.5	
D		-1.2	-1.5	-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

← No Instrumental Corr. used in automated system, possibly causing some difference in junction
See Review sect 4

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

5-19-66

C324 ✓
Chambers

ENVIRONMENTAL SCIENCE SERVICES ADMINISTRATION

AIR MAIL

Director, Pacific Marine Center
Coast and Geodetic Survey, ESSA
1801 Fairview Avenue, East
Seattle, Washington 98102

May 18, 1966

C32

Chief, Marine Chart Division

Velocity correctors for 1952-1954 Hydrographic Surveys - Straits of Florida

The Office of Hydrography and Oceanography has orally approved (telephone conversation: R. Starr/E. Thomas) the Straits of Florida Velocity Correction Tables I and II as adequate for use to correct data in the area shown on attachment.

Table I should be used north of the Gulf Stream axis and Table II south of the axis. These tables are based on a calibration velocity of 800 fms./sec. and must be converted for use of the 808 fathometers which are calibrated for a velocity of sound of 820 fms./sec. The printout of each survey should contain the converted table used.

Tables I and II are enclosed.

(Signed) Lorne G. Taylor

Lorne G. Taylor

Enclosures: 3

C324 Chambers: pr 5/18/66

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		

Note: The velocity tables on this sheet were ~~was~~ separated at 400 fms. (400 fm curve treated as axis of Gulf Stream)

0 - 400 fms - Tables #1 & 3
401 - deeper - Tables #2 & 4

Duplicate copies of velocity tables 1-4 removed from this D.R. and filed in the cahier with the printouts.

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

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

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

6/66

VELOCITY CORRECTIONS

820 fm./sec.
808 Fmtr.

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.

1954

VELOCITY TEMPLATE ABSTRACT

1954

Ship HYDROGRAPHER Project CS-328

Sheets H-8017, H-8015, H-8104, H-8112, H-8013, H-8015, H-8016, H-8018, H-8061

No. 1		No. 2		No. 3 Gulf of Mexico Mean	
Depths fm	Template m/s	Depths fm	Template m/s	Depths fm	Template m/s
0-55	1545	0-75	1545	0-101	1545
55-155	1530	75-220	1530	101-280	1530
155-325	1515	220-400	1515	280-530	1515
325 & over	1500	400 & over	1500	530-2000	1500
				2000 & over	1515

Sheets H-8017, H-8105, H-8013, H-8015, H-8016, H-8018, H-8061
Gulf of Mexico Mean

Sheet H-8104 A thru M day, 5 May thru 17 May - No. 1
N thru T day, 21 May thru 26 May - No. 2
U thru end, 8 June thru end, Gulf of Mexico Mean

Template scanned soundings were disregarded. Velocity tables 1 through 4 were applied during automated processing.

Sheet H-8112 A thru C day, 5 May thru 17 May - No. 1
D day, 21 May - No. 2
E day thru end, 16 June thru end - Gulf of Mexico Mean

See printout for correctors

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.

APPROVAL SHEET

This survey is ~~not~~ complete and the approval sheet should be made after the smooth sheet has been plotted.

The field work accomplished was under the immediate supervision of Captain L. S. Hubbard. Daily inspections of the records, fathograms and boat sheet were made by him while the survey was in progress. The area covered was deliberately left in order to permit the running of sounding lines en route to and from port.

No topography of Cay Sal Bank was available, however, numerous rocks, hills, bluffs and lighthouses were cut in by sextant and Gyro bearings while on EPI sounding lines. This probably will be of value when topography of Cay Sal Bank becomes available. *This information is not shown on the smooth sheet.*

Walter J. Chovan
CDR, C&GS
Commanding, Ship HYDROGRAPHER

NORFOLK PROCESSING OFFICE
ADDENDUM
To Accompany

HYDROGRAPHIC SURVEY H-8104 (Hy-10254)

GENERAL

Considering the irregular character of the bottom, soundings at crossings are in good agreement in the offshore areas of this survey. Along the northern and eastern edge of ~~Salt~~ Cay ~~Key~~ Bank, where the gradient changes rapidly and the bottom is irregular, some of the soundings are obviously displaced. This condition may be attributed to rather erratic steering courses and to the inherent weakness of EPI where exact positioning is needed.

When other than arbitrary methods could be used, the smooth plotter made some position adjustments in this area to bring soundings into better agreement. As an aid to the verifiers several tracing paper overlays are being submitted with the sheet that will show numerous intermediate curves, position numbers of critical soundings, and other related information. *Paper overlays to be destroyed after signature.*

OVERLAYS

In order to avoid undue congestion on the smooth sheet, three overlays are being submitted which will show the soundings between positions 204 to 224X, 64 to 74Y and 89 to 105T. *See overlay no. 1*

An additional overlay is being forwarded to show the plot of cuts to locate Dog Rocks Tripod and Elbow Cay Tower. Fairly good intersections were obtained on Dog Rocks Tripod, while the cuts to Elbow Cay Tower were inconclusive. Only a few of the cutsr to other objects along the bank, which were referred to in the Comdg. Officer's approval sheet, could be found in the records of this survey. *A verifier's collation of these cuts, gleaned from the EPI Abstract, is filed in the cahier with the printouts.*

DISCREPANCIES

Lat. 24-01.8' and Long. 79-47.7' The sounding was omitted on position 205Qas it could not be identified on the fathogram. Shoalest sounding in the area is about 50 fathoms. *Edge of bank*

SOUNDINGS

All fathograms were check scanned in this Office. The soundings were reduced with velocity templates as indicated on the fathograms and were recorded in red pencil under corresponding field readings. *Velocity tables 1-4 utilized during verification in lieu of template reduced soundings.*

For hydrographic sheet

Norfolk, Va.
12 April 1961

Respectfully submitted,

Hugh L. Proffitt
Cartographer

Day	Time	Pos.	Depth	Scale	Fath.
A--	203400	1	422	∠ 400	NMC-2
125					
B--	001000	1	457	∠ 400	NMC-2
126	020000	12	401	0-400	
	030500	18	400	∠ 400	
	054700	34	399	0-400	
	070500	42	400	∠ 400	
C--	001000	1	405	∠ 400	NMC-2
127	001800	1	400	0-400	
	005000	3	406	∠ 400	
	010300	4	394	0-400	
	024400	14	400	∠ 400	
	035900	21	389	0-400	
	081600	47	402	∠ 400	
	083900	49	398	0-400	
	211200	66	400	∠ 400	
D--	001000	1	391	0-400	NMC-2
128	032600	20	390	∠ 400	
	090500	54	389	0-400	
E--	180000	1	190	0-400	NMC-2
130					
F--	001000	1	170	0-400	NMC-2
131	032800	21	400	∠ 400	
	063600	40	395	0-400	
	112600	69	405	∠ 400	
G--	001000	1	167	0-400	NMC-2
132	035700	24	398	∠ 400	
	040800	25	394	0-400	
	050300	31	399	∠ 400	
	082000	51	397	0-400	
	143000	90	144	D	808-J-132
	145000	92	108	C	
	145300	92	126	D	
	154000	97	156	0-400	NMC-2
	175500	110	98	C	808-J-132
	185000	113	152	D	
	195000	116	179	0-400	NMC-2
H--	001000	1	277	0-400	NMC-2
133	090000	58	148	D	808-J-132
	091800	61	161	0-400	NMC-2
	113200	88	156	D	808-J-132
	114200	90	129	0-400	NMC-2
	124200	102	91	C	808-J-132
	124300	102	73	B	
	124500	103	81	C	
	124600	103	102	D	
	125500	105	156	0-400	NMC-2
	172600	160	150	D	808-J-132
	172900	160	165	0-400	NMC-2
	180000	167	158	D	808-J-132
	182600	172	107	C	
	182900	172	114	D	
	183900	174	108	C	
	184200	175	164	0-400	NMC-2

Day	Time	Pos.	Depth	Scale	Fath.
133	192700	184	151	D	808-J-132
	194600	188	161	0-400	NMC-2
J--	000500	1	321	0-400	NMC-2
134	012000	16	154	D	808-J-132
	013500	19	155	0-400	NMC-2
	150200	185	91	C	808-J-132
	150500	186	121	D	
	154900	194	115	C	
	160000	197	65	B	
	160500	198	115	C	
	160600	198	121	D	
	161600	200	160	0-400	NMC-2
	182000	225	134	D	808-J-132
	182100	225	113	C	
	182400	225	125	D	
	182700	226	156	0-400	NMC-2
	190000	233	400	∠ 400	
K--	000500	1	407	∠ 400	NMC-2
135	000700	1	391	0-400	
	193700	144	394	∠ 400	
L--	000500	1	325	0-400	NMC-2
136	023200	30	393	∠ 400	
	033500	67	388	0-400	
	060500	73	396	∠ 400	
	060800	73	393	0-400	
	074300	86	150	D	808-J-132
	074600	87	92	C	
	075000	88	114	D	
	080800	91	173	0-400	NMC-2
	083500	97	129	D	808-J-132
	084100	98	171	0-400	NMC-2
	091000	104	132	D	808-J-132
	093900	109	110	C	
	094400	110	59	B	
	095900	112	93	C	
	100900	115	113	D	
	103500	121	109	C	
	111000	128	127	D	
	115100	136	93	C	
	115300	136	67	B	
	120200	138	92	C	
	120500	139	121	D	
	120800	139	94	C	
	120900	139	70	B	
	121100	140	31	A	
	121500	141	59	B	
	121700	141	90	C	
	122800	143	68	B	
	122900	143	31	A	
	123300	144	72	B	
	123400	144	101	C	
	123600	145	117	D	
	123700	145	111	C	
	123900	145	119	D	

Day	Time	Pos.	Depth	Scale	Fath.
136	124800	147	101	C	808-J-132
	130200	150	116	D	
	130600	151	109	C	
	132000	154	151	0-400	NMC-2
141500	144500	165	152	D	808-J-132
	142300	167	159	0-400	NMC-2
	142500	168	161	D	808-J-132
	144100	171	102	C	
	144400	171	71	B	
	145000	173	91	C	
	152200	179	134	D	
	161000	189	155	0-400	NMC-2
M--	000500	1	349	0-400	NMC-2
137	012600	20	399	∠ 400	
N--	181500	1	444	∠ 400	NMC-2
141	200500	23	400	0-400	
	211300	36	399	∠ 400	
	213800	41	398	0-400	
P--	000500	1	211	0-400	NMC-2
142	035400	46	405	∠ 400	
	043500	55	390	0-400	
	054000	68	399	∠ 400	
	125100	127	396	0-400	
	185000	138	401	∠ 400	
	192000	144	390	0-400	
	230500	189	398	∠ 400	
Q--	000500	1	422	∠ 400	NMC-2
143	022800	27	393	0-400	
	051600	61	400	∠ 400	
	052400	62	398	0-400	
	053000	64	393	∠ 400	
	061000	72	389	0-400	
	133100	144	207	0-600	EDO
	135100	148	209	0-400	NMC-2
	152300	166	118	D	808-J-132
	161100	176	158	0-400	NMC-2
	184000	205	42	A	808-J-132
	184300	206	132	0-400	NMC-2
R--	013000	1	370	0-400	NMC-2
144	021500	10	395	∠ 400	
	021700	10	388	0-400	
	022600	12	396	∠ 400	
	071200	69	388	0-400	
	143600	139	397	∠ 400	
	145500	143	394	0-400	
	214200	221	396	∠ 400	
	221000	227	399	0-400	
S--	000500	1	204	0-400	NMC-2
145	033200	42	398	∠ 400	
	055000	72	340	0-400	
	081200	102	422	∠ 400	

Day	Time	Pos.	Depth	Scale	Fath.
145	110100	138	390	0-400	NMC-2
	112100	142	401	∠ 400	
	212000	263	396	0-400	
T--	000500	1	353	0-400	NMC-2
146					
U--	183000	1	552	∠ 400	NMC-2
159	204400	27	393	0-400	
	222700	48	400	∠ 400	
	230500	56	391	0-400	
V--	000500	1	279	0-400	NMC-2
160	155500	115	394	∠ 400	
	165300	125	398	0-400	
	202200	167	394	∠ 400	
	203400	169	392	0-400	
W--	000500	1	169	0-400	NMC-2
161	050000	56	398	∠ 400	
	110000	130	396	0-400	
	132700	158	402	∠ 400	
	152800	179	000	0-400	
	232700	267	395	∠ 400	
X--	000500	1	403	∠ 400	NMC-2
162	010900	11	394	0-400	
	011400	12	399	∠ 400	
	014200	18	388	0-400	
	082300	89	402	∠ 400	
	094800	107	395	0-400	
	102500	115	396	∠ 400	
	135700	157	388	0-400	
	203000	210	143	D	808-J-132
	205100	214	80	C	
	205130	214	00	B	
	205200	214	103	C	
	205230	214	000	D	
	214400	225	158	0-400	NMC-2
Y--	000500	1	261	0-400	NMC-2
163	005400	11	28	A	808-J-132
	010000	13	56	B	
	010200	13	93	C	
	010500	14	128	D	
	011000	15	148	0-400	NMC-2
Z--	173000	1	292	0-400	NMC-2
166	195100	29	165	D	808-J-132
	195600	30	92	0-400	NMC-2
AA-	000500	1	365	0-400	NMC-2
167	011300	14	403	∠ 400	
BA-	125500	1	000	∠ 400	NMC-2
173	055100	36	000	0-400	
	110900	38	398	∠ 400	
	111500	40	392	0-400	
	114000	45	000	∠ 400	
	144300	81	000	0-400	
	160900	98	397	∠ 400	

FORM C&GS-946
(REV. 11-65)
(PRESC. BY HYDROGRAPHIC MANUAL 20-2, 6-94, 7-13)

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

HYDROGRAPHIC SURVEY STATISTICS

HYDROGRAPHIC SURVEY NO. H-8104

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 Also 1 roll	1

DESCRIPTION	DEPTH RECORDS	HORIZ. CONT. RECORDS	PRINTOUTS	TAPE ROLLS	PUNCHED CARDS	ABSTRACTS/ SOURCE DOCUMENTS
ENVELOPES	15					
CAHIERS						1
VOLUMES	5					
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				4043
POSITIONS CHECKED		All	1	
POSITIONS REVISED		4	1	
DEPTH SOUNDINGS REVISED		190	10	
DEPTH SOUNDINGS ERRONEOUSLY SPACED		58	4	
SIGNALS ERRONEOUSLY PLOTTED OR TRANSFERRED		—		
	TIME (MANHOURS)			
TOPOGRAPHIC DETAILS		None	0	
JUNCTIONS		50	25	
VERIFICATION OF SOUNDINGS FROM GRAPHIC RECORDS		12	2	
SPECIAL ADJUSTMENTS		—	3	
ALL OTHER WORK		223	49	
TOTALS		285	79	

PRE-VERIFICATION BY	BEGINNING DATE	ENDING DATE
VERIFICATION BY James C. Chambers Dennis J. Ramesburg James H. Cosgrove (Junction H-8069)	BEGINNING DATE 4-15-66	ENDING DATE 2-17-71
REVIEW BY Kenneth W. Wellman	BEGINNING DATE 11-5-75	ENDING DATE 11-26-75
Insp Carstens 8 hrs	2/5/76	

USCOMM-DC 36271-P65

REGISTRY NO. H-8104

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_____ TIME REQUIRED_____ INITIALS_____

REMARKS:

During update, all hand-plotted soundings, crossed out in the final excess sounding printout, should be restored to the smooth plot data bank in the appropriate format.

REGISTRY NO. _____

The magnetic tape containing the data for this survey has not been corrected to reflect the changes made during evaluation and review.

When the magnetic tape has been updated to reflect the final results of the survey, the following shall be completed:

MAGNETIC TAPE CORRECTED

DATE_____ TIME REQUIRED_____ INITIALS_____

REMARKS:

H-8104

Items for Future Presurvey Reviews

A few of the soundings charted from the U.S. Coast Guard investigation survey (see section 6-A-2 of the review), subsequent to the date of the present survey, are in conflict with present survey depths. The present survey control is more accurate than that used by the Coast Guard, and present depths should prevail as being the most reliable.

All depths on the present survey are greater than 20 fathoms, and the Position Index - Resurvey Cycle listing is therefore not necessary for the present survey.

by a few numbers. Positions not plotted and rejected positions recorded in the original records are not indicated in the totals of the automated records. Also, any additional artificial fixes (turning positions, etc.) recorded in the automated records are not reflected in the totals of the original records.

OFFICE OF MARINE SURVEYS AND MAPS

MARINE CHART DIVISION

MODIFIED HYDROGRAPHIC SURVEY REVIEW

REGISTRY NO. H-8104 FIELD NO. Hy-10254

Florida, Straits of Florida, Northwest of Cay Sal Bank

SURVEYED: May 5 - June 22, 1954

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

SOUNDINGS: 808, NMC II, and EDO Depth Recorders CONTROL: EPI

Chief of Party	L. S. Hubbard
Surveyed by	W. J. Chovan
	G. E. Morris
	R. M. Stone
	M. T. Paulson
	J. D. Hodges
	C. S. Frost
	G. W. Thompson
Automated Plot by	Gerber Digital Plotter (PMC)
Verified by	J. C. Chambers
	D. J. Romesburg
	J. H. Cosgrove
Reviewed by	K. W. Wellman
	Date: November 26, 1975
Cursory inspection made--survey processing considered complete	R. H. Carstens
	Date: February 5, 1976

1. Control and Shoreline

The origin of the control is adequately described in section F of the Descriptive Report.

There is no shoreline within the limits of this survey.

2. Hydrography

A. Depths at crossings are in good agreement.

B. The usual depth curves are adequately delineated.

C. The development of bottom configuration and the investigation of least depths are considered adequate.

3. Condition of Survey

The sounding records, automated plotting, and the Descriptive Report are adequate and conform to the requirements of the

Hydrographic Manual supplemented by the Instruction Manual - Automated Hydrographic Surveys, with the following exceptions:

A. Numerous soundings were plotted indistinctly on the smooth sheet due to worn or dirty characters on the numbering head of the plotter.

B. No excess sounding overlay was generated for this survey.

This survey was originally smooth plotted by manual methods with soundings reduced by utilizing templates. The original field data were logged in digital form, reduced by computer, and plotted by the Gerber Digital Plotter, thus obviating the need for hand inking of the soundings during verification. The original, manually plotted, smooth sheet will be destroyed upon the completion of the final inspection and approval of the automated smooth sheet.

4. Junctions

During review adequate junctions were effected with H-8017 (1952-54) on the southwest, H-7933 (1951) on the west, and H-8060 (1953) on the northwest. The junctions with the following surveys are discussed in their respective reviews:

H-8735	(1963)	on the north
H-8734	(1963)	on the east (and northeast-central section)
H-8733	(1963)	on the south (and southwest-central section)
H-8105	(1954)	on the south

5. Comparison with Prior Surveys

A.

H-1066	(1868)	1:160,000
H-1091	(1869)	1:400,000
H-1665	(1886)	1:300,000

These small scale reconnaissance surveys contain only a few scattered soundings within the area common to the present survey and offer no adequate basis for comparison.

The larger scale, more completely developed present survey is adequate to supersede the prior surveys within the common area.

B. H-8521 (1960) 1:1,001,516 at latitude 24°00'

This survey has one trackline which crosses the southwestern section of the present survey. Considering the small scale and lack of good horizontal control, soundings on this trackline survey are reasonably consistent with soundings on the present survey.

The larger scale and more completely developed present survey supersedes this trackline survey within the common area.

6. Comparison with Chart 11420 (formerly chart 1113), latest print date March 8, 1975
11460 (formerly chart 1112), latest print date November 2, 1974

A. Hydrography

The charted hydrography originates with the previously discussed junctional and prior surveys which require no further consideration, supplemented by the partial application of the boat sheet and unverified and verified smooth sheets of the present survey, by surveys of the U.S. Navy and U.S. Coast Guard, and Notice to Mariners 47/67.

Attention is directed to the following:

(1) The 106-fathom sounding charted on chart 1113 in latitude 23°58.90', longitude 80°28.90' originates with a source not readily ascertainable. It first appeared on the first edition of chart 1113 in 1916. This sounding is considered discredited by present survey depths of 383 to 387 fathoms and should be deleted from the chart. It was previously considered superseded by the review of H-8105 (1954).

(2) The charted soundings listed below originate with Bp 78184 (U.S. Coast Guard, 1968) subsequent to the present survey. Inasmuch as positional control for these soundings was Omega, numerous conflicts with present survey depths exist. Where these conflicts occur, the present depths should be used for charting.

Charted Sounding (Fathoms)	Latitude	Longitude
14	24°07.70'	80°08.30'
268	24°10.50'	80°04.90'
147	24°09.40'	80°03.00'
200	24°11.40'	80°02.80'
293	24°15.60'	80°00.00'
218	24°12.80'	79°59.30'
234	24°13.80'	79°55.90'
330	24°15.20'	79°52.20'
300	24°10.50'	79°50.30'
218	24°08.70'	79°48.90'
12	24°09.20'	79°52.60'

(3) The unexploded bombs, PA - Reported 1967, charted in latitude 24°09.70', longitude 79°54.50' originate with Notice to Mariners 47/67 subsequent to the date of the present survey and should be retained on the chart.

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

B. Aids to Navigation

There are no aids to navigation within the area of the present survey.

7. Compliance with Instructions

This survey adequately complies with the Project Instructions.

8. Additional Field Work

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

Examined and Approved:

R. H. Houston
Chief
Marine Chart Division

Robert C. Munson
Associate Director
Office of Marine Surveys
and Maps

FORM 197
(3-16-55)

GEOGRAPHIC NAMES

Survey No. H-8104

Name on Survey	✓	A: On Chart No. 1012	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	
Straits of Florida (Title)	✓										1
											2
Cay Sal Bank	C&H 11-26-75										3
											4
											5
											6
											7
											8
											9
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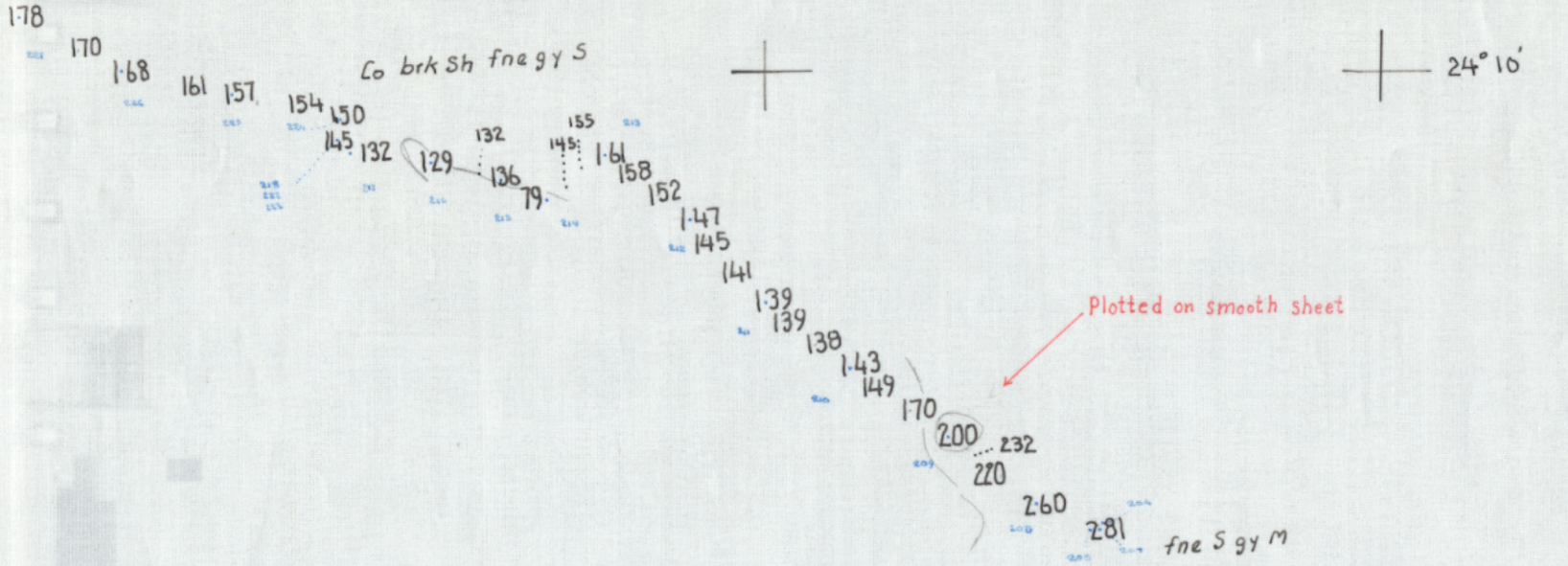
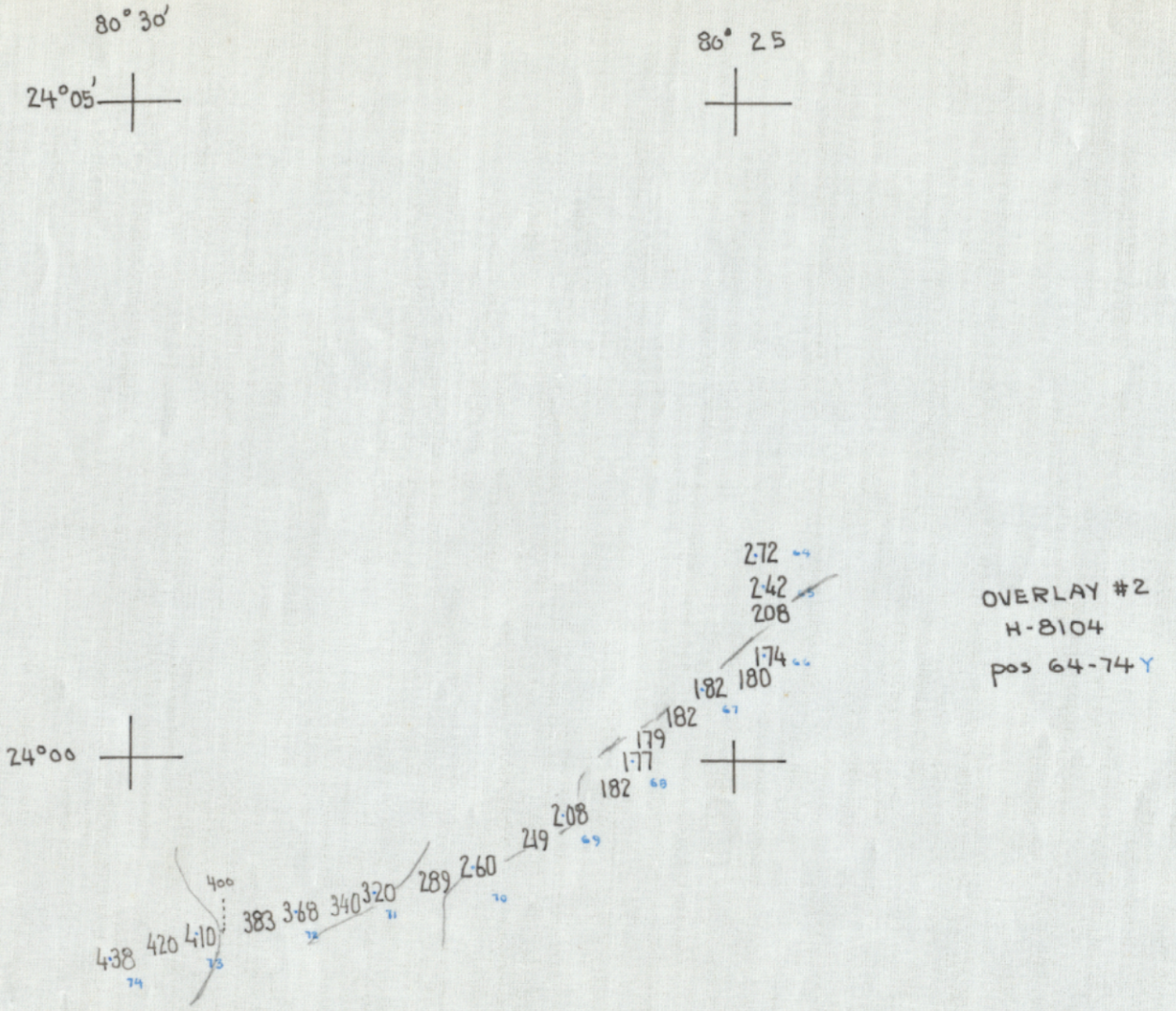
											26
											27

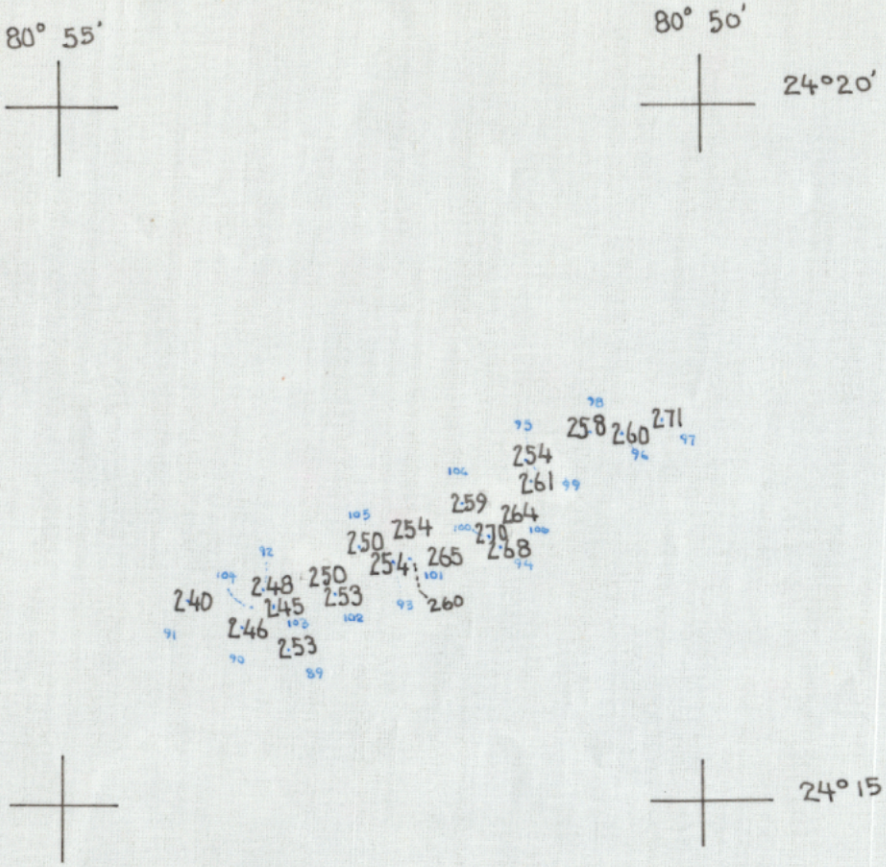
George W. Bage
Geographic Names
May 18th 1961



OVERLAY #1
H-8104
pos 204 - 224 X



OVERLAY #2
H-8104
pos 64-74 Y



OVERLAY #3
H - 8104
pos 89 - 105 T

RHC

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

TIDE NOTE FOR HYDROGRAPHIC SHEET

~~Division of Coastal Surveys~~: 9 May 1961

Division of Charts: R. H. Carstens

Plane of reference approved in
5 volumes of sounding records for

HYDROGRAPHIC SHEET 8104

Locality Straits of Florida

Chief of Party: L. S. Hubbard (1954)
Plane of reference is mean low water, reading
4.3 ft. on tide staff at Key West, Fla.
3.9 ft. below B. M. 23 (1923)

Condition of records satisfactory except as noted below:

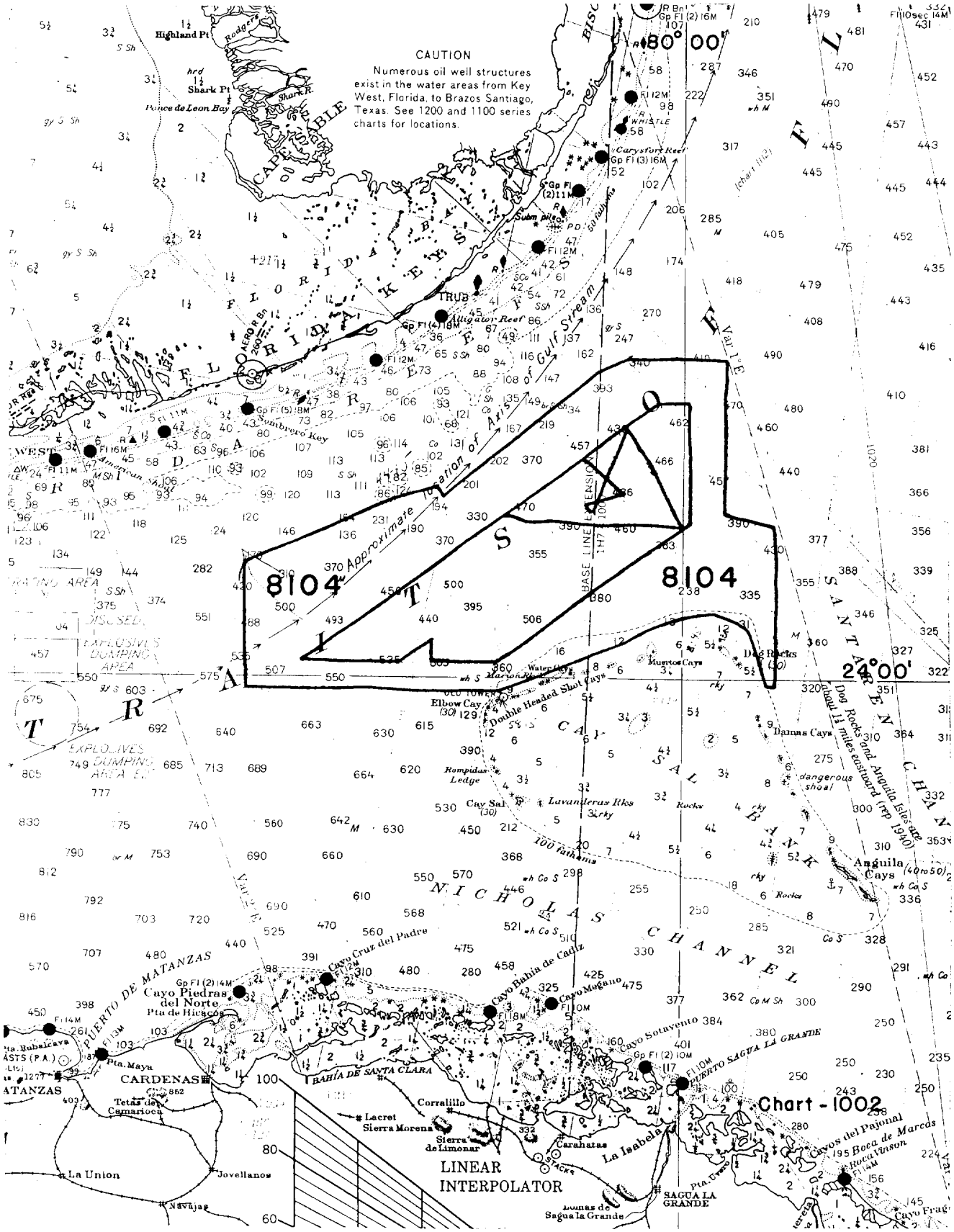
Height of mean high water above plane of reference is 1.3 Ft.

Burton Wilcox

Chief, Tides & Currents Branch

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

U. S. GOVERNMENT PRINTING OFFICE 877933


CAUTION
Numerous oil well structures exist in the water areas from Key West, Florida, to Brazos Santiago, Texas. See 1200 and 1100 series charts for locations.
8104
8104
Approximate location of Axis
BASE LINE EXTENSION
Gulf Stream
FLORIDA KEYS
FLORIDA
CAPE SABLE
Highland Pt
Shark Pt
Ponce de Leon Bay
Rodgers River
Shark R.
Currysfort Reef
Alligator Reef
Sombrero Key
American Shoal
Elbow Cay
Double Headed Shot Cays
Water Cay
Marion Pt
Mugrose Cays
Dog Rocks
Dog Rocks and Anguila Islets are (rep 1940)
Dannas Cays
dangerous shoal
Rompidas Ledge
Cay Sal
Lavanderas Rks
Rocks
100 fathoms
Anguila Cays
NICHOLAS CHANNEL
BAHAMA BANK
SANTAREN CHANNEL
EXPLOSIVES DUMPING AREA
DISCSED
PUERTO DE MATANZAS
Cayo Piedras del Norte
Pta de Hicacos
Pta. Maya
CARDENAS
MATANZAS
Tetas de Camarioca
Cayo Cruz del Padre
Cayo Bahia de Cadiz
Cayo Mugano
Cayo Sotavento
BAHIA DE SANTA CLARA
PUERTO SAGUA LA GRANDE
Corralillo
Lacret
Sierra Morena
Sierra de Limonar
Carahatas
La Isabela
Cayos del Pajonal
Boca de Marcos
Roca Vinson
SAGUA LA GRANDE
Lomas de Sagua la Grande
La Union
Jovellanos
Navajas
LINEAR INTERPOLATOR
Chart - 1002
80° 00'
24°00'

NAUTICAL CHARTS BRANCH

SURVEY NO. H-8104

Record of Application to Charts

DATE	CHART	CARTOGRAPHER	REMARKS
6-29-61	1350 / 11434	D.C. Davis	added sewer + edge Partially Applied Before ~~After~~ Verification and Review
7-24-61	1002 / 11013	Svendsen	Exam. No corr. Before ~~After~~ Verification and Review
5-23-62	1112 / 11460	JM Daley	Before ~~After~~ Verification and Review
1-10-63	1113 / 11460	N. Quimby	Before ~~After~~ Verification and Review Examined, no correction.
1-13-83	11434	J. TURNER	~~Before~~ After Verification and Review Inspector ✓FULLY APPLIED
1-19-83	11450	J. TURNER	~~Before~~ After Verification and Review Inspector ✓FULLY APPLIED
1-31-83	11460	J. TURNER	~~Before~~ After Verification and Review ✓INSPECTION. FULLY APP'D
2-14-84	11420	J. TURNER	FULLY APPLIED ~~Before~~ After Verification and Review ✓INSPECTION.
7-9-84	11013	J. TURNER	FULLY APPLIED ~~Before~~ After Verification and Review ✓ INSPECTION.
			THRU 11420
9/11/90	411	Don Clark	FULLY APP'D ~~Before~~ After Verification and Review THRU 11013.

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.