7933
and
Additional work

IMPORTANT
PAGE 46 WAS ADDED
IT IS NOT A PAGE IN THE REPORT
IT SHOWS THE SURVEY LIMITS
OF H07933 FROM THE ORIGINAL
DOCUMENT NOT CLEAR ON THE
SCAN OF PAGE 45

Diag. Cht. Nos. 1002,1251-2 & 1252-2

Form 504

U. S. COAST AND GEODETIC SURVEY

DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey Hydrographic

Field No. HY-8151 *Office No.* H-7933

LOCALITY

State Florida

General locality Straits of Florida

Locality Sombrero Key to Sand Key

19 51-54

CHIEF OF PARTY

J. C. Sammons and L. S. Hubbard

LIBRARY & ARCHIVES

DATE October 8, 1952

B-1870-1 (1)

7933
and
Additional work

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-7933

Field No. HY-8151

State FLORIDA

General locality Straits of Florida

Locality Sombrero Key to Sand Key

Scale 1:80,000 Date of survey 21 April thru 8 July 1951 10 May 1954, addl. wk.

Instructions dated 26 September 1946; amended 21 March 1951

Vessel HYDROGRAPHER

Chief of party Jack C. Sammons

Surveyed by Ship's Officers

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

Fathograms scaled by Personnel aboard Ship HYDROGRAPHER

Fathograms checked by A. G. Atwill

Protracted by Myron M. Smith

Soundings penciled by A. G. Atwill

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

REMARKS: Offshore survey

This survey was smooth plotted in the Hydrographic Section of the Norfolk Processing Office.

U. S. GOVERNMENT PRINTING OFFICE 777032

JRE

DESCRIPTIVE REPORT

To Accompany

HYDROGRAPHIC SURVEY H-7933 (HY-8151)

21 April - 8 July 1951

Ship HYDROGRAPHER

Scale 1:80,000

Jack C. Sammons
Chief of Party

A. PROJECT

This survey was made under Instructions from the Director to the Commanding Officer, Ship HYDROGRAPHER, for Project CS-328 and are dated 26 September 1946; amended by Supplemental Instructions dated 21 March 1951.

B. SURVEY LIMITS AND DATES

This survey is offshore of the Florida Keys. It extends from the Florida Reefs to the southern limits of the submarine operating area between Sand Key and Sombrero Key. An index of adjacent hydrographic sheets is attached.

Starting on the northeast corner and proceeding thru the east, south, west and north to the point of beginning this survey joins:

COMPARISON ALSO MADE WITH FE No. 9 (1954)

1. Survey H-663, surveyed during 1858, scale 1:20,000
2. Survey H-1066, surveyed during 1868, scale 1:160,000
3. Survey H-4169b, surveyed during 1920, scale 1:40,000
4. Survey H-2875, surveyed during 1907-13, scale 1:15,000
5. Survey H-7932, surveyed during 1951, scale 1:20,000 junction made
6. Survey H-2932, surveyed during 1907-14, scale 1:15,000
7. Survey H-4165, surveyed during 1919-20, scale 1:15,000
8. Survey H-4169a, surveyed during 1920, scale 1:40,000

See P4 of Review

Computations of location of Loran antennas filed in Cahier

B. (Cont.)

9. Survey H-4168, surveyed during 1920, scale 1:40,000
10. Survey H-6325, surveyed during 1938-39, scale 1:20,000
11. Survey H-6323, surveyed during 1937-38, scale 1:20,000
12. Survey H-6318, surveyed during 1935-38, scale 1:20,000
13. Survey H-6133, surveyed during 1935-39, scale 1:20,000

See TP 4 of Review

Survey H-7911 " " 1952 " 1:80,000

The northern (except for Survey H-7932), ~~eastern and southern~~ limits of hydrography are the project limits. Modern surveys will be made to the west of this sheet and a satisfactory junction with these surveys will be made at that time.

H-7911, South & East

The field work on this survey was started on 21 April and was completed on 8 July 1951. The survey was made when the ship was based out of Key West. Due to heavy traffic and the shortage of experienced watch officers it was necessary for the ship to return to anchorage north of the Florida Reefs at night. The layout of lines was such that the development of the survey could be made without long runs to begin sounding. Heavy concentration of lines did occur in the vicinity of the entrance to Key West Main Ship Channel. Add. WK in 1954

In the area between Western Dry Rocks and Sombrero Key along the Florida Reefs the project limits calls for a junction with Surveys H-4169b, H-4169a and H-4168. The survey in this area was carried inshore to the limits of these surveys and except for a small strip between Middle Sambo and a point approximately two and three quarters miles east of American Shoal (covered by Survey H-6325) effected junctions with the surveys as listed above.

See TP 4 of Review.

1938-39

C. VESSEL AND EQUIPMENT

All work on this survey was accomplished by the Ship HYDROGRAPHER. No subparties (except the manning of the Shoran Stations) were operated from the ship on this survey.

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

Two 808J type depth recorders and a NMC-1 fathometer were used

C. (Cont.)

as sounding units on this survey. The 808J type units were used in water of less than 160 fathoms and the NMC-1 was generally used in greater depths. The installation of the 808J type machines was such that either could be used at will and both are considered regular units and neither a standby. When shifting from one type machine to the other the two (NMC-1 and 808) were operated simultaneously for a short period to assure the correct operation of the machines. The recorded soundings in the sounding volumes when the NMC-1 was in use are from the visual red light to the nearest fathom. The scale for use with the visual red light is larger than that on the fathogram and it makes for easier reading, especially when the field work is in progress. The fathograms are the permanent records and in plotting the smooth sheet should be used. (see paragraph H).

Frequent simultaneous comparisons were made during the 1951 season with the wire soundings and the 808J type machines to obtain corrections and to assure the correct operation of the fathometers at all times. The NMC-1 machine was checked as described in the preceding paragraph. Please refer to the reports on Velocity Corrections and Initial and Instrumental Corrections for additional details. Rept. in library

The gyroscope compass was used at all times while the survey was in progress. Bearings to charted objects were taken when proceeding in and out of anchorage and sun azimuths were observed on the working grounds to check the operation of the compass. The error was found to be negligible.

D. TIDE AND CURRENT STATIONS

No tide or current stations were occupied within the limits of hydrography on this survey.

The observed tides at the Sand Key tide station were used for the reduction of soundings. (see Tidal Note for additional information).

F. CONTROL STATIONS

The hydrographic lines on this survey were controlled - for the most part - by distance arcs from three shoran stations. One station was located at Sand Key Lightstation, one at American Shoal Lightstation and one at Sombrero Lightstation. The antennae at these stations were located eccentrically from the light by sub-parties working from the Ship HYDROGRAPHER at the time the shoran equipment was installed. The boat sheet was plotted from arcs drawn on the sheet with the position of the light used as the center of the circles. Given below is a table listing the DM's and the DP's of both the antennae and the lights.

Station		Position Light	Position Antenna
AND (Sand Key Light-house - 1853)	Lat. 24° 27'	385.7 meters	387.3 meters
	Long. 81 52	1,119.2 meters	1,117.6 meters
CAN (American Shoal Lighthouse-1909)	Lat. 24° 31'	886.5 meters	886.1 meters
	Long. 81 31	299.1 meters	297.0 meters
RO (Sombrero Key Lighthouse-1909)	Lat. 24° 37'	1,188.1 meters	1,188.4 meters
	Long. 81 06	1,116.2 meters	1,118.5 meters

The length of base between AND and RO is 49.729 statute miles, between AND and CAN is 23.080 statute miles and between CAN and RO is 26.669 statute miles.

All of the signals used for visual control are triangulation stations except hydrographic signal Bat and hydrographic signal Jay (Western Sambo Daybeacon "J"). Signals Gin, Hog, It and Jay were located originally from sextant cuts taken on the hydrographic lines. Signals Gin, Hog and It were later located by theodolite cuts from existing triangulation. Signal Jay was located as described below. These later locations should be used. Signal Bat was located from Confidential Triangulation. Its geographic position is:

Latitude: 24° 33' 49".015 (1,508.0)

Longitude: 81° 43' 40".504 (1,139.8)

Western Sambo Daybeacon "J" was located by a sextant fix taken from the dingy alongside. The position was computed. One cut on this beacon was obtained with a theodolite from American Shoal Lighthouse.

F. (Cont.)

This furnishes an azimuth check. A list of Geographic Positions for the stations located this year is submitted with this report.

The antennae positions differ very little from that of the lights (see table above). It is the opinion of the hydrographer that the positions of the lighthouse can be used for drawing the shoran arcs. The difference between this position and that of the lights is not large enough to affect the plotted positions of the hydrographic lines.

G. SHORELINE AND TOPOGRAPHY

This is an offshore survey.

H. SOUNDINGS

The corrections to the soundings on this survey were computed as outlined in the special reports. See paragraph Z for the dates the applicable reports were forwarded.

All soundings on the sheet were taken with 808J type depth recorders numbers 131 SG and 132 SG or NMC-1 type fathometer number 205. The 808J type depth recorders were used to a general depth of 160 fathoms. In greater depths the shoal scale or the shoal scale plus 400 fathoms on the NMC-1 fathometer was used. The effective length of the stylus arm for these machines was determined and checked. The speed of the 808J type machines was checked against the fathogram as described in paragraph 5554 of the Hydrographic Manual. Frequent additional checks were made during the season to assure the continued correct operation of the instruments. The speed of the 808J type depth recorders was also frequently checked by counting the number of turns of the stylus arm with the middle reed vibrating at its maximum amplitude. There were times when the governor on the 808J type machines failed to function properly. This accounts for a displacement of the true soundings. Notes have been made on the fathogram when this happened. These soundings should not be used unless proper correctors are applied.

The speed of the NMC-1 type fathometer is controlled by a tuning fork. When sounding on the shoal scales the stylus arm makes thirty (30) complete turns every sixty seconds and the disc for the visual red light soundings makes sixty (60) turns every sixty seconds. A special gear has been installed in the NMC-1 recording unit. This gear increased the travel speed of the chart paper four times its normal rate. The increase in paper speed did not affect the speed of

H. (Cont.)

the stylus arm or the disc on the visual red light. This increase in speed made for a much clearer record.

The method of recording mentioned in paragraph 20 of the Supplemental Instructions was followed. The soundings on this survey were recorded as described in paragraph 817 of the Hydrographic Manual using every other column - the intermediate columns being used to record the extra soundings as needed.

The fathograms have the following notation made on them:

(a) Fix marks, fix number, correct time on at least every sixth position mark and the phase settings.

(b) The velocity template to be used is noted at the beginning of each fathogram and at each change of velocity.

(c) Whenever a change occurs in the algebraic sum of all correctors (except velocity) the new corrector is entered at the bottom of the fathogram on the proper time ordinate. if practicable. Otherwise the corrector is entered in a clear area on the fathogram paying due attention to the proper time ordinate. An abstract of the computations of these correctors is a part of this report.

In computing the correctors for use with the templates on the 808 graphs a mean setting of 2 fathoms was used. The correctors as shown on the bottom of the 808 fathograms should be set off from ~~this value~~. zero of fathogram.

On the NMC-1 type machine the initial setting of the red light and the initial setting of the chart were set together. The initial reading on the red light was set at zero fathoms. The correctors for use with the templates for the NMC-1 fathometer were computed taking this setting into account. The correctors as shown on the bottom of the NMC-1 fathograms should be set from the initial as drawn on this graph; the printed scale, including the zero line should be ignored completely when using the templates except in the few cases when the initial is cut out. When this occurs the setting will have to be made from the zero line in an amount equal to the variation of the initial from the zero line.

There are a few places on the NMC-1 fathograms where the soundings did not record properly due to unsatisfactory operation of the

H. (Cont.)

recording unit. A velocity correction for use with the red light sounding can be determined by use of table 35, pages 879 and 880 of the Hydrographic Manual using the velocity as shown on the template. This can be combined algebraically with the velocity correction and entered as one corrector in the sounding volume. The reduced sounding is shown under the recorded sounding and the reducer. or spot recorded value on fgm and reduce with template

I. CONTROL OF HYDROGRAPHY

The intersections of the shoran arcs on the inshore end of the lines on the eastern part of the survey and on the inshore lines on the center and western part of the survey are very poor. Auxiliary methods of control were resorted to whenever the angle of intersection between the pair of arcs in use became less than approximately 30 degrees. These auxiliary methods consisted of bearings on the non-floating aids to navigation, a sextant angle observed between two objects, or if three signals were visible a three point sextant fix was observed. On occasion a combination of these methods with the shoran distances were used. In a few cases it will be necessary to plot the ends of the lines on one arc and dead reckoning. Careful study should be made of the boat sheet when plotting any of the lines controlled by these auxiliary methods.

For calibration of the shoran please refer to the applicable report. The values of zero set were determined to be:

	Set 2		Set 3	
Station	Rate	Drift	Rate	Drift
AND	99.788	99.793	99.780	99.785
CAN	99.788	99.793	99.780	99.785
RO	99.788	99.793	99.780	99.785

The values of zero check have been summed for each day's work. The value of zero set has been applied to these mean values. The resulting corrector may be applied to each shoran reading when the smooth sheet is plotted. The observed shoran readings are recorded in the top half of each position block to facilitate their reduction.

J. ADEQUACY OF SURVEY

This survey is complete and adequate to supersede prior surveys for charting except as noted under paragraph L and M below. All

see pars 6 of Review.

J. (Cont.)

junctions with contemporary adjoining surveys are satisfactory, no holidays or excessive differences exist. The differences on the boat sheet between the soundings taken with the 808J type instruments and the NMC-1 is due largely to velocity differences. No correctors were applied to the boat sheet soundings. The differences will smooth out when the final processing is completed. All depth curves can be drawn at the junctions with the other surveys without conflict after the above adjustment is made.

Depth curves have been left in pencil on the boat sheet.

K. CROSSLINES

Approximately 5.6% of the hydrography on this survey is crosslines. No excessive discrepancies were noted on the boat sheet.

L. COMPARISON WITH PRIOR SURVEYS

M. COMPARISON WITH EXISTING CHARTS

Comparison also made with FE No. 9 (1954)

Satisfactory junctions were obtained with the surveys listed in paragraph B above. In case of overlap this survey should supersede, except H-7932, all of the surveys listed. This survey also supersedes in part the following surveys:

1. Survey H-248, surveyed during 1850, scale 1:20,000 — See P 5 of Review

2. Survey H-281, surveyed during 1851, scale 1:10,000
   surveyed during 1903, scale 1:20,000

3. Survey H-1066, surveyed during 1868, scale 1:160,000

Comparison with H-4138(1919) in area of Western Dry Rocks and Sand Key L.H. shows no conflict in depths.

4. Survey H-4168, surveyed during 1920, scale 1:40,000

5. Survey H-4169a, surveyed during 1920, scale 1:40,000

6. Survey H-4169b, surveyed during 1920, scale 1:40,000

These old surveys are the source of the hydrography shown on the existing charts of this area. This survey was compared with the following charts: — See P 6 of Review

1. Chart No. 576 - print date 6/7/48

2. Chart No. 584 - print date 12/8/47

L & M (Cont.)

3. Chart No. 1007 - print date 9/18/50

4. Chart No. 1113 - print date 1/29/51

5. Chart No. 1251 - print date 1/8/51

6. Chart No. 1252 - print date 8/7/50

7. Chart No. 1351 - print date 4/24/50

The following comments are applicable to the charts as well as the surveys for the surveys are the source of the hydrography shown in this area.

Your attention is invited to the following:

1. Item 1 - preliminary review dated 3/9/51. This ~~item~~ wreck was investigated on Survey H-7932. | See FE 9, 1954 and H-7932 (1951). Wk Schr. ROSEMARY not found.

2. The submerged ridge in the vicinity of the entrance to Key West Main Ship Channel will be discussed in the report for Survey H-7932. (1951) | Not discussed in H-7932 Desc. Rpt.

3. The soundings encircled with dashed lines on the preliminiary review outside of the 100 foot curve are obvious errors. Additional development was accomplished in these areas and no indications of these soundings were found.

4. The soundings encircled with dashed lines on the preliminiary review inside the 60 foot curve were too close to the Florida Reefs for investigation by this vessel.

5. The ~~56~~ 57 foot shoal, charted (Lat. 24° 29.6', Long. 81° 36.2') approximately 1 mile south south-west of Pelican Shoal Light "I" was verified. (151-152 "FA" and 34"HA")

6. The 30 foot shoal approximately 1.2 miles east south-east of Western Sambo Daybeacon, 25 foot shoal approximately 1.5 miles southwest of Western Sambo Daybeacon, and 28 foot shoal 0.7 mile south of Sand Key Lighthouse are all on the edge of the project limits. They were not developed due to the close proximity of the Florida Reefs.

7. The measured mile has been done away with. (see paragraph 0). Subsequently layed out in accordance with ΔGTZ & 10079 1953 C&GS. See Chart 1251 dated 3-14-55.

L & M (Cont.)

8. The 10 fathom curve at the junction in the extreme northwest part of the survey is displaced in relationship to the curve drawn from the old surveys. It is thought that this and other apparent discrepancies between the new survey and the older surveys are due largely to differences in methods of control and sounding.

See 11 5B of Review.

N. DANGERS AND SHOALS

No new dangers or shoals were found within the limits of this survey. All shoal soundings within the limits of the survey were found as charted except those listed under L, M or N.

O. COAST PILOT INFORMATION

The coast pilot information for this area was the subject of a separate report forwarded on 12 December 1951.

P. AIDS TO NAVIGATION

The position for the Non-floating Aids to Navigation located by this party was forwarded on 20 July 1951. An additional copy is attached to this report.

No floating aids to navigation were located on this survey.

Z. TABULATION OF APPLICABLE DATA

The data listed below were forwarded to the Washington Office as indicated:

DATE	DATA
11/1/50	Report on Settlement and Squat Tests
1/6/51	Method of Recording Hydrographic Data
1/21/52	Season's Report for 1951
1/29/52	Shoran Report
1/23/52	Report on Calibration of Registering Sheaves
1/9/52	Report on Triangulation

- 10 addenda -

L & M (cont.)

9. Your attention is invited to the several places where a sharp depression and/or ridge is along the steep slope from the deep to the shoaler water. The following are several examples of this phenomenon:

Latitude 24° 14.0' - 151 E thru 153 E.- Two ridges, one offshore
Longitude 81 36.0 having 165 fathoms depth over it, one in-
CONFIRMED BY 39-40"G" → shore having 140 fathoms over it, with a valley between with a depth to 240 fathoms.

Latitude 24° 17.4' - 109 S thru 110 S.- V-shaped ridges that
Longitude 81 14.2 rise from a general depth of 155-160 fath-
extending to 81°15.5' oms to 144 fathoms then down to approxi-mately 163 fathoms with a sharp rise to 140 fathoms, then a break to a gentle slope toward shore.

Latitude 24° 18.5' - 111 DA thru 112 DA and 156 P.- A sharp
Longitude 81 47.5 V-shaped depression in a general depth of
confirmed by 156 "P" 120 - 125 fathoms.

Latitude 24° 15.2' - 194 EA thru 196 EA.- A sharp rise to a peak
Longitude 81 47.5 of approximately 158 fathoms with a V-
195-196"EA" shaped depression to about 220 fathoms then a sharp rise to 130 fathoms with a gentle slope from there to the reefs.

Also note 103 Fm. peak at edge of 151 Fm. deep at N. 24°19.8'-W.81°41.00' (S.R.)
11-12 "G"

Z. (Cont.)

DATE	DATA
12/12/51	Coast Pilot Report
1/23/52	Report on Velocity Corrections for 1951
1/23/52	Report on Initial and Instrumental Corrections for 1951

The sounding volumes, fathograms, Shoran plotting abstracts, boat sheet and related material are being forwarded to the Officer in Charge, Norfolk Processing Office.

J. E. Waugh
LCdr, USC&GS

LIST OF SIGNALS

H-7933

TRIANGULATION STATIONS

CAN	AMERICAN SHOAL L.H., 1909-35
BEA	BEACON "O", 1935-36
GIN	BIG PINE SHOAL, LIGHT G, 1951
TRI	EAST TRIANGLE LIGHT, 1934
KEY	KEY WEST L.H., 1849-1934
MID	KEY WEST, NAVAL RADIO MAST, MIDDLE, 1917-35
HOG	LOOE KEY, DAY BEACON H, 1951
NOO	NINE FOOT SHOAL, LIGHT, 1935
IT	PELICAN SHOAL, LIGHT 1, 1951
AND	SAND KEY L.H., 1853-1935
RO	SOMBRERO KEY L.H., 1909-35

TOPOGRAPHIC STATIONS

BAT	JAY	(Source- Computed sextant angles, See D.R.)

STATISTICS FOR HYDROGRAPHIC SURVEY H-7933 (1951)

Volume Number	Day Letter	Date 1951	Number of Positions	Statute Miles of Soundings
1	A	21 Apr.	101	92.6
1	B	22 Apr.	141	136.2
1	C	23 Apr.	158	153.9
1	D	24 Apr.	167	146.9
1	E	25 Apr.	169	152.2
1 & 2	F	26 Apr.	180	155.7
2	G	27 Apr.	60	50.6
2	H	5 May	126	121.7
2	J	6 May	191	157.8
2	K	7 May	41	41.2
2	L	23 May	107	95.4
2	M	24 May	162	129.4
2	N	25 May	169	140.6
2 & 3	P	26 May	181	143.8
3	Q	27 May	173	154.3
3	R	7 June	56	37.6
3	S	8 June	182	155.3
3	T	9 June	161	130.3
3	U	10 June	169	147.0
3	V	11 June	178	145.7
3 & 4	W	12 June	201	152.4
4	X	13 June	182	139.5
4	Y	14 June	225	140.3
4	Z	15 June	68	41.0
4	AA	21 June	179	148.6
4	BA	22 June	206	137.2
4	CA	23 June	144	89.1
4 & 5	DA	24 June	203	141.7
5	EA	25 June	231	133.9
5	FA	26 June	170	134.0
5	GA	27 June	102	91.4
5	HA	28 June	80	54.9
5	JA	29 June	5	2.9
5	KA	5 July	141	108.1
5	LA	6 July	25	14.3
5	MA	8 July	24	18.3
		TOTALS --	5,058	4,035.8

NUMBER OF SIMULTANEOUS COMPARISONS 17

NUMBER OF TEMPERATURE AND SALINITY OBSERVATIONS 10

TOTAL AREA SURVEYED 1940 Square Statute Miles

TIDE NOTE

Tide Station:	Sand Key Lighthouse
Latitude:	24° 27'.2
Longitude:	81 52'.6
Plane of reference:	Mean Low Water - 2.7 feet on tide staff
Time Correction:	None
Height Correction:	None

The value of the observed hourly heights for the times the ship was sounding was tabulated from the marigrams prior to forwarding them to the Washington Office. Tide curves were drawn and tide correctors were applied in the field as indicated in the Director's letters of 14 May 1951, 36-rcb; 22 May 1951, 36-rcb; and 31 May 1951, 36-mkl.

APPROVAL SHEET

The field work accomplished on this survey was under my immediate supervision. Daily inspections of the records, fathograms and boat sheet were made as the survey progressed.

The records and boat sheet as submitted to the Norfolk Processing Office have been reviewed and are approved by me.

Jack C. Sammons
Captain, USC&GS
Commanding Officer
Ship HYDROGRAPHER

Supplemental Report for H-7933

This report is to assist the smooth plotter in plotting the one days work accomplished on this sheet on 10 May 1954. The purpose of this work was to fill in a gap on the sheet left by the ship during a previous season in accordance with Supplemental Instructions - Project CS-328 dated 9 March 1953.

These soundings were obtained in the vicinity of latitude 24° 26.5 N, longitude 81° 54' W between Sand Key Lighthouse and the western limit of the sheet. All soundings were visually controlled using existing signals. Launch CS-115 was used for all work. Installed on launch CS-115 was an 808 type fathometer #153 SPX.

Bar checks were obtained at the beginning and the end of the day. Phase comparisons were obtained after the work was completed. Scale corrections were computed and checked and an abstract is included on page 2. (which follows)

Tide corrections were applied to the soundings using the standard tide gage at Key West, Florida. The tide curve was prepared from data furnished by the Washington Office. Mean low water is the datum used.

All soundings were obtained in feet. The Corrections were applied in feet and the reduced soundings in feet were converted to the nearest whole fathom.

Enclosed is a list of signals and their origins. All signals used are triangulation stations.

Respectfully submitted,

James D. Hodges

James D. Hodges
Lieut. (j.g.), USC&GS

Approved & Forwarded:

Walter J. Chovan

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

List of Signals - H-7933

(All signals are triangulation stations)

Hydro Name	Triangulation Name	Chief of Party
ABE	Eastern Dry Rocks Beacon P, 1935	W.H.B.
AND	Sand Key Lighthouse, 1853	J.T.
COW	East Rear Range, 1953	R.J.S
DOG	East Front Range, 1953	R.J.S.
DRY	Western Dry Rocks Beacon 2, 1903	--
MID	Key West, Naval Radio Mast, Middle, 1917	--

Abstract of Fathometer Corrections

808 Fathometer #153 SPX

A Scale	B Scale	C Scale	D Scale
-0.2 ft.	∠1.2 ft.	∠2.0 ft.	∠1.7 ft. use ∠2.0 ft.

Form 567
April 1945

DEPARTMENT OF COMMERCE
U. S. COAST AN EODETIC SURVEY

NONFLOATING AIDS OR LANDMARKS FOR CHARTS

TO BE CHARTED
TO BE DELETED } STRIKE OUT ONE

St. Petersburg, Florida 20 July 19 51

I recommend that the following objects which have (~~been~~ ~~xxxxx~~) been inspected from seaward to determine their value as landmarks, be charted on *(deleted from)* the charts indicated.

The positions given have been checked after listing by Joe K. Bailey, Jr.

Jack C. Semans *Chief of Party.*

STATE / CHARTING NAME	DESCRIPTION	SIGNAL NAME	POSITION LATITUDE ° ′	LATITUDE D.M. METERS	LONGITUDE ° ′	LONGITUDE D.P. METERS	DATUM	METHOD OF LOCATION AND SURVEY No.	DATE OF LOCATION	HARBOR CHART	INSHORE CHART	OFFSHORE CHART	CHARTS AFFECTED
Bn H	Loos Key Day Beacon H H-1933	Fog	24 32	1997.7	81 24	382.8	NA1927	Tri-angulation	Jul 51	X	X		a,c,d e,f
	Big Pine Shoal Light C H-1933	Oin	24 34	132.9	81 19	928.3	NA1927	ditto	"		X	X	a,c,d e, f
	Pelican Shoal Light I H-1933	It	24 30	611.0	81 36	00.3	NA1927	Triang-ulation	"		X	X	a,c,d e,h
Bn J	Western Sambo Day Beacon J H-1933	Jay	24 28	1803.5	81 42	480.4	NA1927	Sextant	8 July	X	X	X	a,c,d e,h,j
	Cosgrove Shoal Light H-8011	**	24 27	877.6	82 11	173.4	NA1927	Triang-ulation	9 July		X	X	a,b,d, f,h

Charts affected

Chart No.	
a=	1002
b=	1007
c=	1112
d=	1113
e=	1251
f=	1252
g=	1350
h=	1351
j=	584

This form shall be prepared in accordance with Hydrographic Manual, pages 800 to 804. Positions of charted landmarks and *nonfloating aids* to navigation, if redetermined, shall be reported on this form. The data should be considered for the charts of the area and not by individual field survey sheets. Information under each column heading should be given

USCAGSS HYDROGRAPHER
c/o U.S. NAVAL STATION
KEY WEST, FLORIDA

19 April 1951

To: The Director
U. S. Coast & Geodetic Survey
Washington 25, D. C.

Subject: Measured-mile-course

Reference: Paragraph 44, Supplemental Instructions for Project CS-328, dated 21 March 1951

The four range beacons marking the measured-mile-course, referenced above, no longer are visible above the water. A careful search was made in the vicinity of the charted position of these markers by a launch party consisting of one officer and three men from the ship HYDROGRAPHER. No evidence was found that these markers are still in existance. The launch was in this vicinity for over two hours.

It is recommended that the measured-mile-course be removed from the charts in accordance with the attached Form 567.

Jack C. Sammons
Commander, USC&GS
Commanding Ship HYDROGRAPHER

JEH/ovc

Form 567
April 1945

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

NONFLOATING AIDS OR LANDMARKS FOR CHARTS

[redacted] / TO BE DELETED } STRIKE OUT ONE

Key West, Florida, 19 April, 19 51

I recommend that the following objects which have (been) been inspected from seaward to determine their value as landmarks, be [redacted] *(deleted from)* the charts indicated.

The positions given have been checked after listing by _____

Jack C. Sammons *Chief of Party*

STATE / CHARTING NAME	DESCRIPTION	SIGNAL NAME	POSITION LATITUDE ° ′	LATITUDE D.M. METERS	LONGITUDE ° ′	LONGITUDE D.P. METERS	DATUM	METHOD OF LOCATION AND SURVEY No.	DATE OF LOCATION	HARBOR CHART	INSHORE CHART	OFFSHORE CHART	CHARTS AFFECTED
Marker	The four range beacons marking												
	the measured-mile-course north												
	east of Sand Key Lighthouse		24 27.6		81 52.0					*	*		584, 1251
[redacted]													
[redacted]													
[redacted]	July ~ but shown on H.7933												
[redacted]													

This form shall be prepared in accordance with Hydrographic Manual, pages 800 to 804. Positions of charted landmarks and *nonfloating aids* to navigation, if redetermined, shall be reported on this form. The data should be considered for the charts of the area and not by individual field survey sheets. Information under each column heading should be given

INSTRUMENTAL CORRECTIONS

1951

Abstract of Instrumental Corrections including the correction for Settlement and Squat (Ship installation)

Surveys: H-7932 (HY-2151); H-7933 (HY-8151); H-7934 (HY-8251); H-7935 (HY-8351)

FATHOM SCALES

Depth Rec.	Date	Scales:	A	B	C	D
131SG	21 April - 8 July		CORRECTORS TO 0.2 FATHOM			
		Speed:	All speeds			
		Corrn:	- 0.2	+ 0.2	+ 2.0	+ 3.2
			CORRECTORS TO 0.5 FATHOM			
		Speed:	All speeds			
		Corrn:	0.0	0.0	+ 2.0	+ 3.0

FOOT SCALES

131 SG	21 April 8 July	Speed:	120 RPM and over			
		Corrn:	- 0.5	0.0	+ 2.0	+ 3.0
		Speed:	106 RPM to 119 RPM incl.			
		Corrn:	- 1.0	- 0.5	+ 1.5	+ 2.5
		Speed:	105 RPM and under			
		Corrn:	- 1.5	- 1.0	+ 1.0	+ 2.0
	25 July 10 December	Speed:	120 RPM and over			
		Corrn:	- 0.5	0.0	+ 3.0	+ 4.5
		Speed:	106 RPM to 119 RPM incl.			
		Corrn:	- 1.0	- 0.5	+ 2.5	+ 4.0
		Speed:	105 and under			
		Corrn:	- 1.5	- 1.0	+ 2.0	+ 3.5

Comp: JEW
AJR

629.4
507.1
1223

275
209
64

D-Day H-8104 Rescanned

(210)
#55 – 352 +11 363
– 343 +10 353
– 334 +10 344
– 325 +10 335
– 311 +10 321
– 299 +10 309
– ~~284~~ +10 294 ~~OK~~
– 263 +9 272
– 228 +9 237
– 195 +8 203
(211)
#56 – 180 +7 187

N-Day H-7933 Using table #35

135Y	352		373	363
135N	347	+13	360	358
	343	+11	=354	354
	334	+7	=341	344
	326	+10	=336	336
136N	311	+11	=322	321
	299	+4	=303	309
	287	+3	=290	296 ~~294~~
	274	+	+273	283
	260		269	269
137N	216	+	227	223
~~(...)~~	~~199~~		~~203~~	~~208~~ ~~...~~
	~~182~~	+	~~+85~~	~~190~~
	~~196~~		201	
	~~187~~		~~190~~	
138N	~~177~~		~~185~~	

.02529
342
5058
10116
7587
864918
12
10.6
1517.6
-1.3
1516.3

.02529
343
7587
10116
7587
867447
11
3532
10.6

.02529
334
10116
7587
7587
844686
2
334
10.
344

343
10.6
3536

.02529
347
17703
12116
7587
897563

8.97
2.00
10.97
317.
3579
358

.02529
326
15174
5058
7587
824454
2
10.24
326
336

.02529
311
2529
2529
7587
7.865589
2
9.86
311
320.86
321

.02529
299
22761
22761
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756171
299
306.56
2
306
309

.02529
287
17703
20232
5058
7.25823
287
294
296

.02529
274
10116
17703
5058
6.92946
274
280.9
+2
282.9
283

.02529
260
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15179
5058
6.57540
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8.57
260
268.57
269

.02529
216
15174
2529
5058
5.46264
2
7.46
216
223

.03554
199
31986
3554
7.07246
2
9
199
208

.03554
182
7108
28432
3554
6.46828
2
8
182
190

.0024
1300
0000
0000
0072
0024
3.1200

52 — 557 +17 ~~-574~~ 573

556 +17 -573

554 ~~+17~~ -571

53 — 551 +17 -568

550 ~~+17~~ -567

549 +17 -566

54 — 547 +17 -564

544 +17 -561

542 +16 -558

540 +16 -556

539 +16 -555

55 — 536 +16 -552

534 +16 -550

531 +16 -547

528 +16 -544

526 +16 -542

56 — 522 +16 -538

520 +16 -536

518 +16 -534

515 +16 -531

57 — 512 +16 -528

509 +16 -525

508 +16 -524

505 +16 -521

58 — 501 +16 -517

499 +16 -515

59 — 497 +16 -513

495 +16 -511

492 +16 -508

490 +16 -506

489 +16 -505

60 — 489 +16 -505

4-8107

			Purple 44.74	Red 52.92
46 - 566	+17	583	- 583	
- 566	+17	01 583	583	
- 566	+17	02 583	583	
- 566	+17	03 583	582	
- 564 ✓	+17	04 581	580	
- 561 ✓	* +17	05 578	577	
- 560	+17	06 577	575	
- 558	* +17	07 575	575	
- 558	+17	08 575	573	
556	* +17	09 573	572	
47 - 555	+17	572		
553	+17	01 570		
551 ✓	+17	02 568		
549	+17	03 566		
548	+17	04 565		
546	+17	05 563		
543	+17	06 560		
541 ✓	+16	07 557		
537	+16	08 553		
535	+16	09 551 OK		
48 - 531 ✓	+16	497		

$$.02529 \times 566 = 14.31414$$

$$.02529 \times 560 = 14.1624$$

$$.02529 \times 558 = 14.11182$$

566
580.3

560
574.2

558
572.11

3-24

FATHOM SCALES

Depth Rec.	Date	Scales	A	B	C	D
132 SG	21 April - 8 July		CORRECTORS TO 0.2 FATHOM			
		Speed:	All speeds			
		Corrn:	0.0	0.0	+ 0.6	+ 0.4
			CORRECTORS TO 0.5			
		Speed:	All speeds			
		Corrn:	0.0	0.0	+ 0.5	+ 0.5

FOOT SCALES

132 SG	21 April - 8 July	Speed:	120 RPM and over			
		Corrn:	0.0	0.0	+ 0.5	+ 0.5
		Speed:	106 RPM to 119 RPM incl.			
		Corrn:	- 0.5	- 0.5	0.0	0.0
		Speed:	105 RPM and under			
		Corrn:	- 1.0	- 1.0	- 0.5	- 0.5
	25 July - 27 September	Speed:	120 RPM and over			
		Corrn:	+ 1.5	0.0	- 1.5	- 2.0
		Speed:	106 RPM to 119 RPM incl.			
		Corrn:	+ 1.0	- 0.5	- 2.0	- 2.5
		Speed:	105 RPM and under			
		Corrn:	+ 0.5	- 1.0	- 2.5	- 3.0
	3 October 10 December	Speed:	120 RPM and over			
		Corrn:	0.0	- 2.0	- 3.0	- 1.0
		Speed:	106 RPM to 119 RPM incl.			
		Corrn:	- 0.5	- 2.5	- 3.5	- 1.5
		Speed:	105 RPM and under			
		Corrn:	- 1.0	- 3.0	- 4.0	- 2.0

Comp: JEW
AJR

J-25

FATHOM SCALES

Depth Rec.	Date	Scales:	
205 (NMC-1) Visual & Chart	21 April - 8 July		CORRECTORS TO 0.5 FATHOM
		Speed:	All speeds
		Corrn:	All scales: 0.0

Comp: JEW
Ckd: AJR

VELOCITY CORRECTION

TEMPLATES

SURVEYS: H-7932 (HY-2151); H-7933 (HY-8151); H-7934 (HY-8251); H-7935 (HY-8351).

AREA A

PERIOD: 21 April through 8 July 1951

DEPTH FATHOMS From	To	TEMPLATE Meters per second
00.0	50.5	1530
50.6	205	1515
206	and deeper	1500

AREA B

PERIOD: 25 July through 9 October 1951

DEPTH FEET	TEMPLATE Meters per second
All depths	1545

PERIOD: 17 October through 9 December 1951

DEPTH FEET	TEMPLATE Meters per second
All depths	1530

ADDENDA
To Accompany

HYDROGRAPHIC SURVEY H-7933 (Field No. Hy-8151)

GENERAL

Scanning of fathograms and penciling of soundings were done by a single draftsman. Special spacing templates were constructed and temporarily attached to the velocity templates in order to obtain exact spacing of the desired number of soundings between positions. The soundings were scaled and entered in the sounding volumes in red pencil over the uncorrected field readings and then plotted at the convenience of the draftsman.

This system seemed to work out very well and it appears to be most economical in man hours saved. The entire operations of scanning the fathograms and penciling the soundings required only 182 man hours. INACCURACIES DUE TO HASTE, NOTICED IN MANY SPOTS. Some of these are marked in volumes with orange-color. For instance, vol. 4, p. 9 S. Rose

The field work on this survey appears to be unusually well done with care given to even the most minute detail. It was presented in such a manner that a minimum of time was required for processing and plotting.

VERTICAL CASTS

A few wire soundings were taken simultaneously with fathometer soundings, however, none were plotted on the smooth sheet as they averaged from 20 to 30 fathoms deeper than surrounding hydrography. Notes were often made in the volumes that wire was leading aft of vessel.

SOUNDINGS

On a few occasions for very short distances, there appeared to be poor functioning of the fathometer. The number of soundings involved was negligible and these areas were well covered without using these soundings.

Respectfully submitted,

Hugh L. Proffitt
Supervisory Cartographer

Norfolk, Va.
1 October 1952

Approved & Forwarded;

Earle A. Deily, Comdr., USC&GS
Supervisor, SE District

GEOGRAPHIC NAMES

Survey No. H-7933

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		(for title)							BGN	1
Straits of Florida		"								2
Sombrero Key		"								3
Sand Key		"		(Location of tide station)						4
										5
										6
										7
										8
				Names underlined in red are approved.						9
					10-18-52 L. Heck					10
										11
										12
										13
										14
										15
										16
										17
										18
										19
										20
										21
										22
										23
										24
										25
										26
										27

M 234

Hydrographic Surveys (Chart Division)

HYDROGRAPHIC SURVEY NO. H-7933...

Records accompanying survey: Sent to field 3/6/53 Received with job March 22, 1955 S-Rose

Boat sheets ...1...; sounding vols. ...65...; wire drag vols. .....;

bomb vols. .....; graphic recorder rolls .....; 24 Rolls to be folded later

special reports, etc. 1 Smooth Sheet; 1 Descriptive Report; 1 Cahier..

Shoran Plotting Abstracts; 1 Cahier Computation of Velocity Corrections....

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

Number of positions on sheet		5,058
Number of positions checked		72
Number of positions revised		4 (Northeast part of hydro where shoran fixes are weak)
Number of soundings revised (refers to depth only)		19 To accomodate curve.
Number of soundings erroneously spaced		0
Number of signals erroneously plotted or transferred		0
Topographic details	Time	0 Visual check of lights with charts.
Junctions	Time	38 HRS. 5 junctions 10 comparisons two old for jct.
Verification of soundings from graphic record	Time	9 HRS.

Verification by Stephen Rose Total time 270 HR. Date June 28 '55

Reviewed by Lee Reskind Time 99 Date 7-29-55

M-2232-1

RHC
3-30

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

TIDE NOTE FOR HYDROGRAPHIC SHEET

~~Division of Coastal Surveys~~ 1 April 1955

Division of Charts: R. H. Carstens

Plane of reference approved in
1 volumes of sounding records for

HYDROGRAPHIC SHEET 7933 Ad. Wk.

Locality Straits of Florida

Chief of Party: L. S. Hubbard in 1954
Plane of reference is mean low water, reading
4.3 ft. on tide staff at Key West
8.8 ft. below B. M. 29 (1923)

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

Condition of records satisfactory except as noted below:

E. C. McKay
Tides Branch

Chief, Division of Tides and Currents.

U. S. GOVERNMENT PRINTING OFFICE 877933

R54 c
5-31

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

TIDE NOTE FOR HYDROGRAPHIC SHEET

~~Division of Coast Survey~~ 15 October 1952

Division of Charts: R. H. Carstens

Plane of reference approved in 5 volumes of sounding records for

HYDROGRAPHIC SHEET 7933

Locality Straits of Florida, Florida Keys

Chief of Party: J. C. Sammons in 1951
Plane of reference is mean low water, reading
2.7 ft. on tide staff at Sand Key Lighthouse
3.6 ft. below B. M. 4 (1951)

Height of mean high water above plane of reference is 1.2 feet.

Condition of records satisfactory except as noted below:

E. C. McKay
Section of Tides
Chief, Division of Tides and Currents.

U. S. GOVERNMENT PRINTING OFFICE 877033

3-12

NAUTICAL CHARTS BRANCH

SURVEY NO. H-7933

Record of Application to Charts

DATE	CHART	CARTOGRAPHER	REMARKS
2-18-54	584	Earl M Bryan	Before ~~After~~ Verification and Review Partially appl.
7/12/54	1252	H. W Burgoyne	Before ~~After~~ Verification and Review after ~~partially applied~~ (Fully applied in offshore area in agreement with preliminary review made before verification)
			Before After Verification and Review
5/8/62	854	C.R. Williams	~~Before~~ After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review

M-2168-1

A basic hydrographic or topographic survey supersedes all information of like nature on the uncorrected chart. Give reasons for deviations, if any, from recommendations made under "Comparison with Charts" in the Review.

NAUTICAL CHARTS BRANCH

SURVEY NO. H-7933

Record of Application to Charts

DATE	CHART	CARTOGRAPHER	REMARKS
8/31/53	1251	C B Samuel	Before ~~After~~ Verification and Review
1/21/54	584	E Befearley	Before ~~After~~ Verification and Review – Examined for critical soundings – No change.
1-28-54	1002	R. K. McLawler	Partially applied Before ~~After~~ Verification and Review without considering larger scale charts finished per C&GS.
			~~Before~~ After Verification and Review
3-26-57	584	M. Rogers	Fully appld.
15 June 59	1251	Nichols	~~Before~~ After Verification and Review Fully applied thru 584
17 June 59	1252	Nichols	~~Before~~ After Verification and Review Fully applied
~~6-22-59~~	~~12~~		Thru overlap 1251 & thru 584
6-22-59	1250	M. Rogers	Completely applied ~~Before~~ After Verification and Review thru overlap with chart 1251.
10 Nov 59	1350 1351	Nichols	~~Before~~ After Verification and Review Fully applied thru chart 1251 (in part)
18 Nov 59	1113	Nichols	~~Before~~ After Verification and Review Fully applied thru Dwgs Cits 1350 & 1351
30 Nov 59	100V	Nichols	~~Before~~ After Verification and Review Fully applied thru Dwg chart 1113
30 Nov 59	1007	Nichols	After V & R. Fully applied thru Dwg chart 100V
15 Dec 59	111V	"	Thru Dwg Chart 1113.
3-9-64	1003	Hebesdon Rodden	After V&R Examined thru 1113 Drawing #15 Appl'd Soundings.

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.

DIVISION OF CHARTS

REVIEW SECTION - NAUTICAL CHART BRANCH

REVIEW OF HYDROGRAPHIC SURVEY

REGISTRY NO. H-7933 FIELD NO. HY-8151

Florida, Straits of Florida, Sombrero Key to Sand Key

Project No. CS-328

Surveyed, April, July, 1951 - May, 1954 Scale 1:80,000

Soundings: Control:

808 Fathometer
NMC Fathometer

Shoran
Sextant Fixes on shore signals

Chief of Party - J. C. Sammons
Surveyed by - J. E. Waugh, J. P. Lushene, G. E. Morris, E. L. Jones
R. M. Stone, C. S. Frost and G. W. Thompson
Protracted by - M. M. Smith
Soundings plotted by - A. G. Atwill
Verified and inked by - S. Rose
Reviewed by - I. M. Zeskind 7-29-55
Inspected by - R. H. Carstens

1. Shoreline and Control

No shoreline is shown on this offshore survey.

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

2. Sounding Line Crossings

Depths at crossings are in adequate agreement.

3. Depth Curves and Bottom Configuration

The usual depth curves were adequately delineated. The 120- and 150-fm. curves have been added to more clearly define the the bottom configuration.

The survey covers a portion of the Gulf of Mexico which lies just south of the Florida Reef between long. 81°05' and long. 81°56'. It extends in a north and south direction a distance of 25-35 miles. The bottom is generally smooth in depths less than 100 fms., and fairly irregular from there to depths of

150 fms. where an escarpment drops sharply to depths of 300 fms. From the bottom of the escarpment to the southern limits of the survey, the bottom is generally smooth. Submarine features of significant interest are the 3 sink holes found at the top of the escarpment between long. 81°36' and long. 81°50'. These features are 450 to 540 feet deeper than the surrounding bottom.

4. Junctions with Contemporary Surveys

Adequate junctions were effected with H-8011 (1951) on the west, with H-7932 (1951), H-6325 (1938-39), (except for holidays in portions of the junctional area) H-6323 (1937-38) H-6318 (1935-38) and H-6133 (1935-36) on the north. Except for H-7932 (1951), no contemporary surveys join the present survey on the north, west of long. 81°41'. In this latter area, the charted depths are in adequate agreement with the present depths. The project surveys on the east and south have not as yet been received in the Washington Office. The junctions will be considered in the Reviews of those surveys.

5. Comparison with Prior Surveys

A.

H-281 (1850-1903), 1:20,000	H-669 (1857), 1:20,000
H-248 (1850), 1:20,000	H-912 (1867-86), 1:40,000
H-359 (1852), 1:20,000	H-1066 (1868), 1:600,000
H-650 (1856), 1:20,000	H-1956 (1866), 1:400,000
H-663 (1858), 1:20,000	H-2649 (1903), 1:5,000

Except for survey H-1066, the prior surveys overlaps the present survey 1/4 to 1 mile on the north. Survey H-1066 is a reconnaissance survey which sparsely covers portions of the present survey. It extends southward to depths of as much as 367 fms. A comparison between the prior and present surveys reveals generally only minor differences of 1-2 fms. in depths less than 30 fms. and differences of as much as 50 fms. in depths as great as 320 fms. These differences in depths are attributed to dead reckoning control and to inaccuracies in early sounding methods. The following soundings falling at the edge of the Florida Keys on Chart 584 are from weakly controlled lines on the prior surveys and should be disregarded:

Charted Sounding (feet)	Latitude	Longitude	Source	Present depth (fathoms)
58	24°26.41'	81°54.93'	H-359	17 - 18
Line 50, 55, 54 & 51	24°27.0'	81°50.1'	H-248	17 - 21
85	24°26.74'	81°50.0'	H-248	21 - 27

The 52-ft sounding charted in lat. 24°26.97', long. 81° 51.3' from H-281 is in error on that survey. The sounding is actually from a line on H-248 where it is recorded as 81 ft. Apparently in touching up a dim sounding on H-281 the 52 was erroneously inked.

With the addition of three soundings carried forward from H-281 and one sounding carried forward from H-2649, the present survey is adequate to supersede the prior surveys within the common area.

B- H-4138 (1919), 1:15,000 H-4168 (1920), 1:40,000
H-4165 (1920), 1:15,000 H-4169a & b (1919-20), 1:40,000

These prior surveys fall on the present survey in depths ranging from about 10 fms. to 115 fms. A comparison between the prior and present surveys reveals only minor differences of 1-3 fms. except where prior depths were obtained by tube. These tube soundings were recognized to be in error at the time of the survey and were not inked on the smooth sheet. The 174-ft. sounding charted in lat. 24°26.87', long. 81° 44.0' from H-4169 is apparently 10 fms. in error and should be disregarded. Present depths of 36-38 fms. over relatively even bottom are adequate to discredit the prior depth.

A number of bottom characteristics and several soundings have been carried forward from the prior surveys to the present survey. With the additions mentioned above the present survey is adequate to supersede the prior surveys within the common area.

C. H-2875 WD (1907-14), 1:15,000
H-3580 WD (1914), 1:15,000

There are no conflicts between the present survey soundings and the effective wire-drag depths. Several soundings have been transferred from H-2875 WD to the present survey.

6. Comparison with Charts

A. Hydrography

Chart 584 (latest print date 5-3-54)

The charted hydrography originates principally with the present survey prior to verification and review, and with soundings from the previously discussed prior surveys. Some of the major differences in depths are mentioned in paragraph 5A and B above. In addition to these discrepancies,

the 216-ft. sounding charted in lat. 24°25.87', long. 81° 48.57', from H-2649 (1903) is in error and should actually be 246 ft.

The present survey is adequate to supersede the charted hydrography, except for supplemental soundings on the ridges in the vicinities of lat. 24°26.5', long. 81°53.0' and lat. 24°26.2', long. 81°55.5' which should be retained from H-2875 WD (1907-14) and H-4138 (1919) respectively.

Chart 1251 (latest print date 3-14-55)
" 1252 (latest print date 10-11-54)

The charted hydrography originates principally with the present survey prior to verification and review, supplemented by soundings from the previously discussed prior surveys which need no further consideration. Only minor differences of 1-2 fms. between the charted and the present survey depths are noted.

The present survey is adequate to supersede the charted hydrography within the common area.

Chart 1351 (latest print date 4-26-54)

The charted hydrography originates with advance information of the present survey shown on Bp. 48122. Differences of 1-18 fms. between the charted and present survey depths are noted.

The present survey is adequate to supersede the charted hydrography within the common area.

B- Aids to Navigation

The survey positions of the aids to navigation are in substantial agreement with the charted positions and adequately mark the features intended.

7. Condition of Survey

(a) The sounding records and Descriptive Report are complete and comprehensive.

(b) The smooth plotting was accurately done.

8. Compliance with Project Instructions

The survey adequately complies with the Project Instructions.

9. Additional Work Recommended

This is an excellent basic survey and no additional development is recommended. As a matter of record, it is noted that an unsurveyed area 0.3 to 0.4 miles wide occurs in the junction with H-6325 (1938-39) in lat. 24°29.5', long. 81°38.0'. Additional lines should be run here when surveys are resumed in this area.

Examined and Approved:

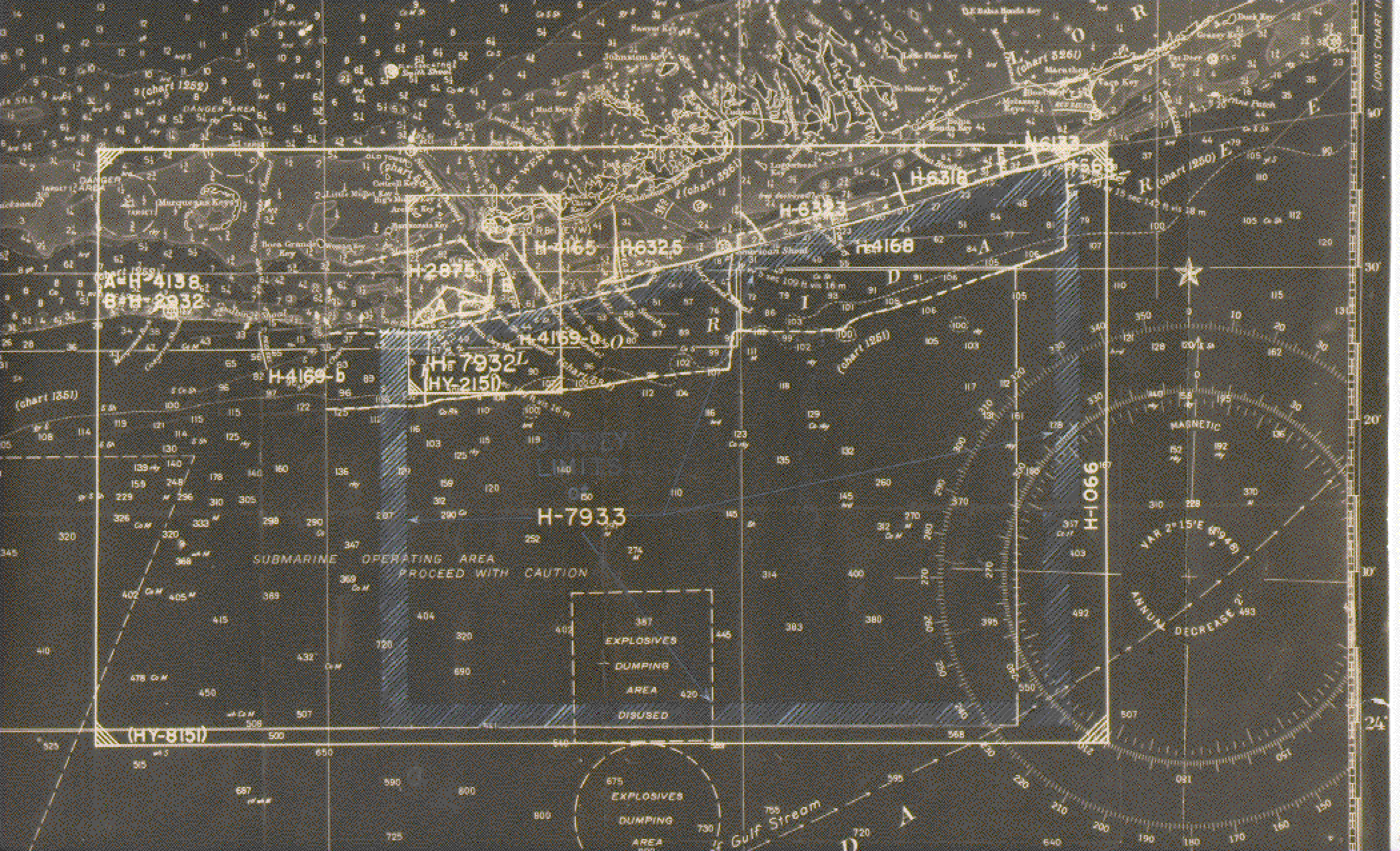
H. R. Edmonston
Chief, Nautical Chart Branch

E. R. McCarthy
~~Acting~~ Chief, Chart Division

J. C. Bull
Chief, Hydrography Branch

Earl O. Heaton
Chief, Division of Coastal Surveys

PAGE 46 WAS ADDED
IT IS NOT A PAGE IN THE REPORT
IT SHOWS THE SURVEY LIMITS OF H-7933



SURVEY
LIMITS
OF
H-7933
A-H-4138
B-H-2932
H-2875
H-4165
H-6325
H-6323
H-6318
H-4168
H-4169-a
H-4169-b
H-7932
(HY-2151)
H-1066
(HY-8151)
SUBMARINE OPERATING AREA
PROCEED WITH CAUTION
EXPLOSIVES
DUMPING
AREA
DISUSED
EXPLOSIVES
DUMPING
AREA
MAGNETIC
VAR 2°15'E (1948)
ANNUAL DECREASE 2'
Gulf Stream
(chart 1351)
(chart 1251)
(chart 1250)
(chart 1252)
(chart 3251)
Marquesas Keys
Johnston Key
Marathon