

8989

Diag. Cht. No. 901-2.

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. WH 20-1-68 Office No. H-8989

LOCALITY

State COMMONWEALTH OF PUERTO RICO

Offshore -
General locality SOUTHWEST COAST

Off -
Locality CABO ROJO TO PUNTA JORABADO

1968

CHIEF OF PARTY

WAYNE L. MOBLEY

LIBRARY & ARCHIVES

DATE 24 JUN 1970

USCOMM-DC 37022-P66

8989

HYDROGRAPHIC TITLE SHEET

H 8989

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.

WH 20-1-68

State Commonwealth of Puerto Rico

General locality ^{Offshore -} South Coast of Puerto Rico

Locality ^{Off} Cabo Rojo to Punta Jorobado

Scale 1 : 20,000

Date of survey 3/30 thru 4/16/68

Instructions dated 24 January 1968 (Rev.)

Project No. OPR-423

Vessel USC&GS Ship WHITING

Chief of party CDR Wayne L. Mobley, USESSA

Surveyed by LT J.G. Carlen, LTJG P. M. Hall, ENS K. C. Markve, ENS C. A. Hardt, ENS R. S. Patwell

Soundings taken by echo sounder, hand lead, pole P.D.R. & Ross

Graphic record scaled by Ship's force

Graphic record checked by LTJG P.M. Hall, ENS K. C. Markve, CST Hill

Protracted by Gerber Digital Plotter Automated plot by PMC

Soundings penciled by Gerber Digital Plotter

Soundings in Feet at MLW ~~MLW~~

REMARKS: Off shore deep water required sounding and plotting depths in fathoms

contrary to project instructions. (smooth sheet plotted in feet)

DESCRIPTIVE REPORT TO ACCOMPANY HYDROGRAPHIC SURVEY H-8989

APRIL 1968

Field No. WH-20-1-68

State: Commonwealth of Puerto Rico

Location: South West Coast of Puerto Rico

Cabo Rojo to Punta Jorobado

USC&GS Ship WHITING

WAYNE L. MOBLEY, CDR, USESSA, Commanding

Scale: 1,20,000

Surveyed by:

LT Jeffrey G. Carlen
LTJG Peter M. Hall
ENS Kenneth C. Markve
ENS Roderick S. Patwell
ENS Clarence W. Tignor

A. PROJECT

Authority for this project is granted by the revised instructions dated 24 January, 1968, Project OPR-423-Puerto Rico.

B. AREA SURVEYED

Since the effective size of the plotter aboard the WHITING is 34 X 31.4 inches, it cannot plot a full size boat sheet therefore, WH-20-1-68 was divided into two sections, 1A and 1B.

The limits of 1A are between Latitude $17^{\circ} 40' 21''$ N and $17^{\circ} 56' 00''$ N and between Longitude $67^{\circ} 13' 00''$ W and $67^{\circ} 04' 00''$ W. The limits of 1B are between Latitude $17^{\circ} 48' 21''$ N and $17^{\circ} 56' 00''$ N and between Longitude $67^{\circ} 06' 00''$ and $65^{\circ} 57' 10''$ W.

Hydrographic operations began on 29 April 1968 and ended on 30 April 1968.

Junctions were made with contemporary surveys:

WH-10-3-68	H-8986
WH-10-4-68	H-8987
WH-10-5-68	H-8988

C. SOUNDING VESSELS

H-8989

The ship WHITING was the sounding vessel used on WH-20-1-68.

The soundings ^{on boat sheet} were all plotted in black ink by WHITING'S computer-plotter system.

D. SOUNDING EQUIPMENT

Soundings were taken along the edge of the shelf at the 100 fathom curve by the Ross Fathometer Mark IV. The initial value of the trace was set at zero. A draft correction of 2 fathoms was applied thru a hardware hand module in the computer-plotter system so that the on-line plot of the boat sheet indicated the corrected depth.

The Precision Depth Recorder serial number 159 was used for the remainder of the sheet. Soundings were recorded in fathoms, however, in accordance with project instruction, the depths should be converted at PMC into feet for charting.

A paper tape uncorrected for draft was punched out by the on-line system. The final draft correction was applied in the Seattle Edit.

Reference should be made to the report "Corrections to Echo Soundings" for understanding of depth corrections applied.

In general, leadline comparisons were made with the Ross Fathometer, Nansen Casts were made, and the Ross Analog Trace was frequently checked with the Raytheon Fathometer DE-723 unit numbered 262.

E. SMOOTH SHEET

The smooth sheet is to be plotted by the Pacific Marine Center's Computer Plotter System from the tapes created, corrected, and converted to Friden Code, by the WHITING'S Computer Plotter System.

F. CONTROL

The Hydrography conducted by the ship WHITING was controlled electronically by the DECCA HI-FIX Navigation System. All hydrography was run in the hyperbolic mode, using a master and two slave stations.

The master station was located on the Isle de Maguey. Slave station number one was located on Cabo Rojo and slave station number two was located on Punta Jorobado.

Master-Isla de Maguey 17° 58' 15.89" 67° 02' 42.41"
Slave 1 - Cabo Rojo 17° 56' 07.50" 67° 11' 32.85"
Slave 2 - Punta Jorobado 17° 56' 25.71" 66° 57' 20.33"

(a) The basic system of sounding lines used was parallel straight lines at the appropriate spacing. In order to accomplish this, use was made of a feature of the computer-plotter system in which the input is the ~~coordinates~~ (in meters) ~~of~~ two points on the proposed sounding line, and output is in the form of signals to a left/right indicator on the bridge. The ship's position is constantly being determined from the hyperbolic lane count into the computer.

(b) The computer was used to solve a visual three-point fix for position, in terms of hyperbolic lane. These computed positions were compared with the observed hyperbolic position on the lane count indicator of the Hi-Fix Receiver.

The calibration procedure was done twice a day and after any break-down in the Hi-Fix equipment or after any suspected error in the Hi-Fix equipment.

G. SHORELINE

There was no shoreline as WH-20-1-68 was an off-shore sheet.

H. CROSSLINES

Crosslines on the sheet amounted to 9.3% of the total area. Agreement was good between the depths of the crosslines and the depths of the regular lines, except in the area between Latitude 17° 50' 00" and 17° 51' 00" parallel and adjacent to Longitude 62° 12' 00". Side echos and misses were noted on the PDR trace for the regular guiding lines. In area the regular line was rejected and the crossline was used.

I. JUNCTIONS

The boat sheets were plotted with tapes uncorrected for tide as the tide correction in the area is negligible. When the correction is made, junction will be good. Discrepancies of not more than 1' foot were noted in all junctions.

J. COMPARISON WITH PRIOR SURVEYS

No comparison was made with a prior survey since the survey should be considered an original survey.

K. COMPARISON WITH CHART

A comparison was made with chart 901. The agreement was generally good. It should be noted that chart 901 is based on surveys made over forty years ago. The bottom samples indicated that the bottom is coral and therefore the bottom continues to change as the coral continues to grow.

L. ADEQUACY OF SURVEY

The survey is complete and adequate. This sheet should be considered as part of an original survey of the area; due to the time since the area was surveyed and due to the better methods used by the present day survey.

The 48 fathom curve was delineated better on the 20,000 sheet since the soundings were made in fathoms and the lines were run normal to the 48 fathom curve line.

M. AIDS TO NAVIGATION

There is only one aid to navigation visible from the area covered by WH-10-4-68, Cabo Rojo Light.

→ H-8987

Lattitude $17^{\circ} 56' 08.92$
Longitude $67^{\circ} 11' 33.82$

N. STATISTICS

VESSEL	NUMBER OF POSITIONS	NAUTICAL MILES
Ship WHITING		
WH-20-1A-68	428	105.7
WH-20-1B-68	$\frac{413}{895}$	$\frac{92.1}{197.8}$

No bottom samples were taken on this sheet due to the depth of the water. Bottom samples were taken on the sheets which junction with this survey.

Total Areas Surveyed = 67.7 Sq. miles

0. REFERENCE TO REPORTS

Reference should be made to the following reports:

CORRECTIONS TO ECHO SOUNDINGS
HI-FIX REPORT
COMPUTER PLOTTER REPORT

Kenneth C. Markve
Kenneth C. Markve
ENS, USESSA

25 June 1969

APPROVAL SHEET

H 8989 - WH 20-01-68

Positions were checked during survey operations. Sounding records were observed to be adequate. The soundings were not plotted for several weeks after the fact as a new program had to be written to merge the depth with the position data. A sounding sheet was plotted on board the WHITING.

All digital data has been sent to PMC for the preliminary plot which will be sent to AMC for verification prior to smooth plotting.

I consider the data adequate for smooth plotting and charting, however, a check should be made in the verification process to determine the discrepancies that may have resulted from the messaging of data in the WHITING off-line processes. (Note these processes are being revised).


Wayne L. Mobley
CDR, USESSA
Commanding Ship WHITING

HI-FIX CORRECTIONS
WH 20-1A-68

DAY	POS #	PAT I	PAT II	TIME
120	0001-0058	+.04	+.11	070500-094741
	0059-0180	+.09	+.11	095600-114540
	0181-0217	+.15	+.07	150000-163901
	0218-0261	+.09	+.11	164801-184100
121	0676-0721	+.15	+.07	1143200-153939
	0722-0844	+.09	+.11	154320-183020
	0845-0895	+.03	+.11	183300-192740

WH 20-1B-68

120	0262-0311	+.15	+.07	194801-213600
	0312-0374	+.14	+.10	214100-235800
121	0375-0393	+.09	+.12	000000-004040
	0394-0447	+.07	+.09	013200-033400
	0448-0520	+.11	+.11	034100-062900
	0521-0540	+.05	+.04	093440-100040
	0541-0579	+.07	+.09	100900-105220
	0580-0675	+.09	+.12	105520-124859

Verifiers: H.R. Smith & W.W. Feazel

Norfolk, Va.
Jan. 30, 1970

AMC PLOTTER NOTE TO EDAT
SURVEY H-8989

Verification of the sounding overlay for this survey has been completed and we are returning the sounding card printout for the applications of corrections indicated on the printout in red pencil.

The number of corrections is much greater than usual as we had to rescan and mean wave action from digitized Ross fathograms. Additional corrections were needed to resolve depth discrepancies between Ross and PDR fathometers where soundings from the latter were interspersed with Ross soundings in depths of from 50 to 100 feet.

When the indicated corrections have been made, please furnish this office a smooth plot of this survey.

The position card printout is also being returned as position 635 is to be destroyed. It is obviously out of position as most of the soundings are misses.


Hugh L. Proffitt
Chief, Hydro Branch, AMC

POPULATION TABLE NO. 2
OPR-423 PUERTO RICO 1968
USE WITH: H-8989

000030 01 0001 0002 000 0 000000 000000
000050 01 0002
000080 01 0003 -ok
000110 01 0004
000120 01 0005
000140 01 0006
000170 01 0007
000200 01 0008
000220 01 0009
000240 01 0010
000280 01 0011
000310 01 0012
000330 01 0013
000360 01 0014
000400 01 0015
000430 01 0016
000460 01 0017
000500 01 0018
000530 01 0019
000560 01 0020
000600 01 0021
000630 01 0022
000660 01 0023
000690 01 0024
000720 01 0025
000750 01 0026
000790 01 0027
000820 01 0028
000850 01 0029
000880 01 0030
000910 01 0031
000940 01 0032
000980 01 0033
001010 01 0034
001120 01 0035
001280 01 0040
001430 01 0045
001590 01 0050
001730 01 0055
002020 01 0060
002320 01 0070
002630 01 0080
002920 01 0090
003350 01 0100
003820 01 0110
004340 01 0120
004880 01 0130
005400 01 0140
005930 01 0150
006840 01 0160
007880 01 0180
008920 01 0200
009980 01 0220
011030 01 0240
011750 01 0260
012360 01 0280
012980 01 0300
013580 01 0320
014200 01 0340
014800 01 0360
015380 01 0380

HI-FIX CORRECTIONS
WH 20-1A-68

DAY	POS #	PAT I	PAT II	TIME
120	0001-0058	+.04	+.11	070500-094741
	0059-0180	+.09	+.11	095600-114540
	0181-0217	+.15	+.07	150000-163901
	0218-0261	+.09	+.11	164801-184100
121	0676-0721	+.15	+.07	143200-153939
	0722-0844	+.09	+.11	154320-183020
	0845-0895	+.03	+.11	183300-192740

WH 20-1B-68

120	0262-0311	+.15	+.07	194801-213600
	0312-0374	+.14	+.10	214100-235800
121	0375-0393	+.09	+.12	000000-004040
	0394-0447	+.07	+.09	013200-033400
	0448-0520	+.11	+.11	034100-062900
	0521-0540	+.05	+.04	093440-100040
	0541-0579	+.07	+.09	100900-105220
	0580-0675	+.09	+.12	105520-124859

EOF

* G

EOF

* G

- 10.
- 20.
- 30.
- 40.
- 50.
- 60.
- 70.
- 80.
- 90.
- 100.
- 110.
- 120.
- 130.
- 140.
- 150.
- 160.
- 170.
- 180.
- 190. ✓

Red

EOF

* G

- 5.
- 10.
- 15.
- 20.
- 25.
- 30.
- 35.
- 40.
- 45.
- 50.
- 55.
- 60.
- 65.
- 70.
- 75.
- 80.
- 85.
- 90.
- 95.
- 100.
- 105.
- 110.
- 115. ✓

Blue

EOF

*

H-8989

#5

ATLANTIC MARINE CENTER

PROJECTION PARAMETERS

POLYCONIC OR MODIFIED TRANSVERSE MERCATOR

- 1. Project No. OPR 423
- 2. Reg. No. H-8989
- 3. Field No. WH-20-1-68
- 4. Requested By Verification Branch
- 5. Ship or Office AMC
- 6. Date Required ASAP

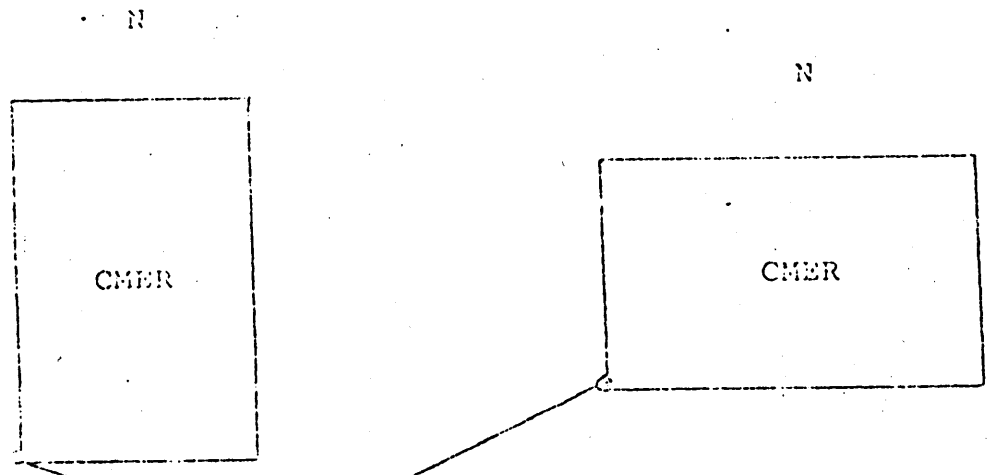
7. Polyconic Modified Transverse Mercator

8. Central Meridian of Projection 67° 03' 00"

9. Survey Scale: 1: 20,000

10. Size of Sheet (check one):
 36 x 54 36 x 60 Other Specify _____

11. Sheet Orientation (check one):
 NYX = 1 NYX = β



12. Plotter Origin: S.W. Corner of Sheet (not necessarily a grid intersection)
 Latitude 17° 47' 30"
 Longitude 67° 13' 15"

13. G.P.'s of triangulation and/or signals attached

14. Material Desired: Tracing Paper Mylar
 Smooth Sheet Other Specify Smooth overlay

15. Remarks: Master Isla de Maguey 17° 58' 15.890" 67° 02' 44.410"
Slave 1 Cabo Rojo 17° 56' 07.500" 67° 11' 32.850" Slave 2 Punta
Jorobado 17° 56' 25.710" 66° 57' 20.330" Hi-Fix frequency 1799.6
 kc

GEOGRAPHIC NAMES

Survey No. H-3989

Name on Survey											
	A	B	C	D	E	F	G	H	K		
Mar Caribe											1
											2
											3
											4
											5
											6
											7
											8
											9
											10
											11
											12
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											20
											21
											22
											23
											24
											25
											26
											27

PREPARED BY

Frank W. ...
CARTOGRAPHIC TECHNICIAN

APPROVED BY

A. J. Wright
CHIEF GEOGRAPHER

FORM C&GS 946
(REV. 11-63)
(PRESC. BY
HYDROGRAPHIC
MANUAL 20-2,
6-66, 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-8989 (WH26-1-C2)*

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

RECORD DESCRIPTION		AMOUNT	RECORD DESCRIPTION		AMOUNT	
SMOOTH SHEET		1	BOAT SHEETS		2 <i>A/B</i>	
DESCRIPTIVE REPORT		1	OVERLAYS <i>position Mylar</i>		1 + 3	
DESCRIPTION	DEPTH RECORDS	HORIZ. CONT. RECORDS	PRINTOUTS	TAPE ROLLS	PUNCHED CARDS	ABSTRACTS/ SOURCE DOCUMENTS
ENVELOPES	1					
CAMERS	XXXXXXXX		XX			
VOLUMES						
BOXES			1			

T-SHEET PRINTS (1.181)

None

SPECIAL REPORTS (1.181)

Fathometer & Hi-Fix.

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				895
POSITIONS CHECKED		85		
POSITIONS REVISED		0		
DEPTH SOUNDINGS REVISED				
DEPTH SOUNDINGS ERRONEOUSLY SPACED				
SIGNALS ERRONEOUSLY PLOTTED OR TRANSFERRED				
	TIME (MANHOURS)			
TOPOGRAPHIC DETAILS				
JUNCTIONS		34		
VERIFICATION OF SOUNDINGS FROM GRAPHIC RECORDS		64		
<i>Rescanning photographs</i> SPECIAL ADJUSTMENTS	34			
ALL OTHER WORK		92		
TOTALS	34	190		
PRE-VERIFICATION BY <i>H.R. Smith & W.W. Feazel</i>	BEGINNING DATE <i>23 Oct 1969</i>	ENDING DATE <i>5 Nov 1969</i>		
VERIFICATION BY <i>H.R. Smith & G.F. Trelathan</i>	BEGINNING DATE <i>22 Oct 1969</i>	ENDING DATE <i>10 April 1970</i>		
REVIEW BY	BEGINNING DATE	ENDING DATE		

FIG. 18.

DESCRIPTIVE REPORT DATA RECORD		
PART I SMOOTH SHEET PREPARATION		
	PREPARED BY/OPERATOR	DATE
A. PLOTTER OPERATOR	EDAT	
B. DISTORTION MARKS PLOTTED	EDAT	
C. PROJECTION INTERSECTIONS PLOTTED	EDAT	
D. POINTS OF ELECTRONIC CONTROL ARCS PLOTTED		
E. OVERLAYS PREPARED BY	EDAT	
1. POSITION NUMBER	EDAT	
2. EXCESS SOUNDINGS	EDAT	
3. PRELIMINARY SMOOTH PLOT	EDAT	
4. LIST OTHERS		
A.		
B.		
F. SOUNDING SELECTION BY	EDAT	
G. PLOTTER INPUT PREPARED	EDAT	
H. CHECKED	EDAT	
I. DESCRIPTIVE REPORT ADDENDUMS		
PART II SMOOTH SHEET COMPLETION		
	CARTOGRAPHER	DATE
A. DISTORTION SCALE TICKS IDENTIFIED BY NOTE	GFT	4-10-70
B. PROJECTION INTERSECTIONS VERIFIED BY	GFT	4-9-70
C. PROJECTION LINES RULED BY	GFT	4-9-70
D. ELECTRONIC CONTROL ARCS RULED AND LOCATION VERIFIED	Arc overlays will be furnished when plotter w/ AMC becomes operative	
E. OVERLAYS COMPLETED BY		
1. POSITION NUMBER LEADERS ADDED	GFT	4-10-70
2. EXCESS SOUNDING OVERLAY COMPARED	GFT	4-8-70
3. PRELIMINARY SMOOTH PLOTS COMPARED	GFT	4-8-70
4. OTHERS UTILIZED		
A.		
B.		
F. DESCRIPTIVE REPORT ADDENDUM		
G. CONTROL STATIONS VERIFIED	NONE HI Fix Hypocyclic made	
H. POSITIONS MANUALLY PLOTTED	HRS	16 Oct 1969
I. MANUAL PLOT VERIFIED	HRS	6 Nov 1969
J. SHORELINE APPLIED	NONE	
K. BOTTOM CHARACTERISTICS ADDED	NONE	
L. NOTES AND DEPTH CURVES ADDED	GFT	4-9-70

FORM C&GS-946A
(REV. 11-65)
(PRES. BY HYDROGRAPHIC
MANUAL, 6-94)

U.S. DEPARTMENT OF COMMERCE
ESSA
COAST AND GEODETIC SURVEY

VERIFIER'S REPORT
HYDROGRAPHIC SURVEY, H 8989

INSTRUCTIONS - This form serves to identify items of a check list in verification together with items which are separately reported to the Reviewer. The form is not to be forwarded to the Reviewer. A report, which is prepared for the Reviewer, should identify items by number and letter and will be filed in the Descriptive Report until the survey is reviewed.

CL - Check List Items: should be checked as having been completed during the verification processes.

R - Report Item: This column refers to those items reported to the reviewer and is used to indicate the items discussed.

Part I - DESCRIPTIVE REPORT	CL	R	Part III - JUNCTIONS (Continued)	CL	R
<p>Note: The verifier should first read the Descriptive Report for general information and problems.</p> <p>1. The Descriptive Report was consulted, paragraphs checked if found satisfactory, and notations were made in soft black pencil regarding action taken. Remarks Required: -- None</p>	✓		<p>10. Junctions with contemporary surveys were satisfactory except as follows: Remarks Required: -- Consider conditions after adjustments have been made; note adjustments made. Make special notes of Butt junctions and areas which are SUPERSEDED.</p>	✓	
<p>2. Soundings originating with the survey and mentioned in the Descriptive Report have been verified and checked in soft black pencil, including latitude and longitude, together with position identification. Remarks Required: -- None</p>	✓		<p>Part IV - VOLUMES</p> <p>11. All items affecting the plotting of the survey which are entered in the remarks columns of the sounding records were noted and check marked. In all cases appropriate action was taken and exceptions noted in the volumes. Remarks Required: -- None <i>None</i></p> <p>12. Condition of sounding records was satisfactory except as follows: <i>None</i> Remarks Required: -- Mention deficiencies in completeness of notes or actions for the following: (a) rocks (b) line turns (c) position values of beginning and ending of lines (d) bar check or velocity correctors (e) time recording (f) notes or markings on fathograms (g) was reduction of soundings accurately done? (h) was scanning accurate? (i) were peaks at uneven intervals missed? (j) were stamps completed? (k) references to adjacent features</p>	✓	
<p>3. All reference to survey sheets mentioned in the Descriptive Report should include registry number and year. Remarks Required: -- None</p>	✓				
<p>Part II - SHORELINE AND SIGNALS</p> <p>4. Source of shoreline signals Remarks Required: -- List all surveys a. Give earliest and latest dates of photographs <i>None</i> b. Field inspection date c. Field Edit date d. Reviewed-Unreviewed</p>	✓				
<p>5. The transfer of contemporary topographic information was carefully examined and reconciled with the hydrography. Remarks Required: -- Discuss remaining differences. <i>None</i></p>	✓				
<p>6. The plotting of all triangulation stations, topographic stations and hydrographic signals has been checked and noted in processing stamp No. 42 on the smooth sheet. Remarks Required: -- None ✓ <i>None</i></p>	✓				
<p>7. Objects on which signals are located and which fall outside of the high-water line have been described on the sheet. <i>None</i> Remarks Required: -- List those signals still under f.e.d.</p>	✓		<p>Part V - PROTRACTING</p> <p>13. All positions verified instrumentally were check marked in color in the sounding records, and verifier initialed the processing stamp. Remarks Required: -- None</p>	✓	
<p>Part III - JUNCTIONS</p> <p>Note: Make a cursory comparison preliminary to inking soundings in area of overlap.</p> <p>8. All junctions of contemporary or overlapping sheets were transferred in colored ink and overlapping curves were made identical. Remarks Required: -- None</p>	✓		<p>14. The protracting and plotting of all unsatisfactory crossings were verified. Remarks Required: -- None</p>	✓	
<p>9. The notation in slanted lettering "JOINS H---- (19)" was added in colored ink for all verified contemporary adjoining or overlapping sheets. Those not verified are shown in pencil. Remarks Required: -- None</p>	✓		<p>15. All detached positions locating critical soundings, rocks, buoys, breakers, obstructions, kelp, etc., were verified and the position numbers are legible. Remarks Required: -- None</p>	✓	

Fig. 20 (cont'd.)
Form 946 A (back of form)

Part V - PROTRACTING (Continued)	CL	R	Part VIII - AIDS TO NAVIGATION	CL	R
16. The protracting was satisfactory except as follows: Remarks Required: -- Refers to protracting in general except for specific faults repeated often, or faults in control information, which required considerable reploting or adjustments.	✓		26. All fixed aids located together with those on the contemporary topographic sheets, have been shown on the survey. <i>None</i> Remarks Required: -- Conflicts of any nature listed.	✓	
17. The protractor has been checked within the last three months. Remarks Required: -- Date of check, type of protractor and number.	✓		27. All floating aids listed in the Descriptive Report should be verified and checked in soft black pencil, including latitude and longitude and position identification. Remarks Required: -- None <i>None</i>	✓	
Part VI - SOUNDINGS 18. All soundings are clear and legible, and critical soundings are a little larger than adjacent soundings. Remarks Required: -- None	✓		Part IX - BOAT SHEET 28. The boat sheet was constantly compared with the smooth sheet with reference to notes, position of sounding lines and supplemental information. Remarks Required: -- None	✓	
19. Sounding line crossings were satisfactory except as follows: Remarks Required: -- Discuss adjustments.	✓		29. Heights of rocks awash were correctly reduced and compared with topographic information. <i>None</i> Remarks Required: -- Note excessive conflicts with topographic information.	✓	
20. The spacing of soundings as recorded in the records was closely followed; Remarks Required: -- None	✓		Part X - GENERAL 30. All information on the sheet is shown in accordance with figures 82 and 83 in the Hydrographic Manual (Pub. 20-2). Remarks Required: -- None	✓	
21. The scanning, reduction, spacing, plotting of questionable soundings have been verified. Remarks Required: -- None	✓		31. Unnecessary pencil notes have been removed from the sheet. Remarks Required: -- None	✓	
22. The smooth plotting of soundings was satisfactory except as follows: Remarks Required: -- Refer to legibility, errors in spacing, and errors in numbers - but not to errors in scanning.	✓		32. Degree, minute values and symbols have been checked; also electronic distance arcs have been properly identified and checked on the smooth sheet. Remarks Required: -- None	✓	
Part VII - CURVES 23. The depth curves have been inspected before inking. Remarks Required: -- By whom was the penciled curves inspected. <i>NWF</i> 24. The low-water line and delineation of shoal areas have been properly shown in accordance with the following: <i>None</i> a. From T-Sheet in dotted black lines b. From soundings in orange c. Approximate position of sketched curve is dashed orange d. Approximate position of shoal area not sounded in black dashed Remarks Required: -- None	✓		33. The bottom characteristics are adequately shown. <i>None</i> Remarks Required: -- None	✓	
25. Depth curves were satisfactory except as follows: (This statement should not refer to the manner in which the curves were drawn). Remarks Required: -- Indicate areas where curves could not be drawn completely because of lack of soundings. For some inshore areas a general statement is sufficient.	✓		Part XI - NOTES TO THE REVIEWER 34. Unresolved discrepancies and questionable soundings. 35. Notation of discrepancies with photogrammetric survey inserted in report of unreviewed photogrammetric survey or on copy. 36. Supplemental information.	✓	
Verified by <i>G.F. Trebetzen</i>			Date <i>4-10-70</i>		

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A. Additions and corrections have been furnished the plotter center by the verification unit.

Date June 16, 1970

Signed *Charles J. Puffer*
Title Chief, Verification Br.

B. Additions and corrections have been added to the survey records and the final smooth sheet forwarded to the ~~verification~~
~~unit~~ ^{Review} unit.

Date June 16, 1970

Signed *Charles J. Puffer*
Title Chief, Verification Br.

C. The smooth sheet has been inspected, is complete, and meets the requirements of the General Instructions for automated surveys and the Hydrographic Manual. (Note: All exceptions are listed in the verifier's report).

Date June 16, 1970

Signed *Charles J. Puffer*
Title Chief, Verification Br.

D. Smooth sheet and records forwarded to Rockville, Maryland Office.

Date June 17, 1970

VERIFICATION NOTES
H-8989

GENERAL

With the exception of the items listed below, this appears to be an excellent basic survey in an area of extremely irregular coral bottom.


SOUNDINGS

The lines extending from deep water into the shoaler water on the shelf were sounded with a deep water PDR fathometer. With few exceptions PDR soundings, even in the shoaler depths, were retained to avoid leaving holidays in an area which is rather sparsely developed. Most of these soundings appear to be in general agreement with those on the shorter inshore lines run with a Ross fathometer.

A considerable amount of rescanning was required on both the PDR and digitized Ross fathograms.

HYPERBOLIC ARCS

This Branch does not have the capability at the present time for plotting the hyperbolic lattice on the position overlay
this plotted should be made later.



Hugh L. Proffitt
Chief, Verification Br., AMC

Norfolk, Va.
June 16, 1970

