

9607

Diag. Cht. Nos. 902 & 904-2

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. MI-10-3-76
Office No. H-9607

LOCALITY

State PUERTO RICO
General Locality ... SOUTH COAST
Locality PUNTA VIENTO TO PUNTA TUNA

19 76

CHIEF OF PARTY
Wesley V. Hull

LIBRARY & ARCHIVES

DATE October 18, 1977

2096
9607

Area 3

Charts
250-4
250-7
250-8
250-40

HYDROGRAPHIC TITLE SHEET

H-9607

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.

MI-10-3-76

State Puerto Rico

General locality South Coast

Locality Punta Viento to Punta Tuna, P.R.

Scale 1:10,000

Date of survey March 22 to April 16, 1976

Instructions dated October 1, 1976

Project No. OPR-423-MI-76

Vessel NOAA Ship MT. MITCHELL, vesno 2220, 2223, 2225, 2226, 2227

and Launches 1207, 1002, 1004, MonArk

Chief of party Wesley V. Hull, CDR. NOAA

Surveyed by see remarks

Soundings taken by echo sounder, ~~XXXXXX~~

Graphic record scaled by wd, ap, si, dw, rm, dt, nk, wd, dr, jb, rw, ps, fs, em, fl

Graphic record checked by rw, ps, em, fs, fl

Protracted by N/A

Automated plot by Calcomp 618 AMC

Soundings penciled by N/A

verified by J. Scott Bradford

Soundings in ~~XXXXXX~~ feet at MLW ~~XXXXX~~

REMARKS: LCDR. W. Daniels, LT. A. Potok, LTJG. S. Iwamoto, LTJG. D. Waltz,

ENS. R. Mann, ENS. D. Terry, ENS. N. Konchuba, ENS. W. Dewhurst, ENS. D. Rice,

ENS. J. Bailey

Miscellaneous data filed with field records

Applied to state 5/12/78
[Signature]

A. Project

This survey, MI-10-3-76 (H-9607), south coast of Puerto Rico, was conducted in accordance with project instruction dated 1 October 1975 and change No. 1 dated 16 January 1976.

B. Area Surveyed

This survey was conducted from approximately one mile west of Punta Viento at Long. 65 59.3'W to Punta Tuna at Long. 65 53.1'W. The northern limit is the south coast of Puerto Rico and the southern limit is the 115 fathom curve.

This survey was conducted on the following dates:

March 22 (JD82) thru March 26 (JD86), 1976
April 15 (JD106) thru April 16 (JD107), 1976

C. Sounding Vessels

Soundings for this survey were obtained by the following vessels:

NOAA #	Vessel #
MSS-22 (MT MITCHELL)	2220
1207	2223
1002	2225
1004	2226
17' MonArk	2227

D. Sounding Equipment and Corrections to Echo Soundings

Launches 2225, 2226, & 2227 were used for main scheme, shoreline and developments in shoal water. Launch 2223 was used for bottom samples and the Mt. Mitchell, 2220, was used for deep water soundings. Launch 2225 used a Ross Laboratories Model 5000 Fineline Recorder (S/N 1053) to obtain soundings. This launch worked generally the central half of the survey area from the shoreline to depths of approximately 130 feet. Launch 2226 used a Ross Laboratories Model 200A Fineline Recorder (S/N 1039). This launch worked generally the eastern and western limits of the survey area from the shoreline to approximately 130 feet except on the southwestern limit where soundings to depths of 600 feet were obtained using the fathom scale. The Mt. Mitchell used either a Ross Laboratories Model 5000 Fineline Recorder (S/N 1035) or a Raytheon Universal Graphic Recorder (UGR), (S/N 170). The Ross was utilized from approximately 60 feet to 230 feet while the UGR was used in depths greater than 230 feet. All soundings obtained by the UGR were in fathoms. The Mt. Mitchell worked only the southern limits of the survey area to the 115 fathom curve. Launch 2227 used a Raytheon DE 719B Survey Fathometer (S/N 3947) to obtain soundings. This launch worked only a small area of shoreline in the northwestern limit of the survey. Launch 2223 used a Raytheon DE 723D Survey Fathometer (S/N 37010). This launch was used only for bottom samples.

All soundings obtained by the Ross Recorders were digitized to the nearest tenth of a foot. The UGR digitized to the nearest tenth of a fathom while the survey was plotted in feet. The serial numbers of all sounding equipment used is found in the appendix.

On all Ross Recorders the initial trace was checked and phase calibrations made frequently during the day to ensure proper belt speed. Any necessary adjustments were made and noted in the sounding volumes and on the fathogram. Any departures of the mean from the calibration due to phase differences were corrected during the scanning process. All survey records were scanned by trained Survey Department personnel and checked by the officer in charge. Peaks and deeps considered significant that occurred between soundings were inserted, digitized errors were corrected and the effects of seas were meaned and corrected on a corrector tape.

Velocity corrections were obtained from 2 Nansen casts taken on the following dates at the following locations:

Cast #	Lat.	Long.	Date	JD
4	17 15.0'N	65 51.6'W	March 14	(64)
5	17 51.6'N	65 57.3'W	March 15	(65)

A third Nansen cast was taken as a check at the following location:

6	17 52.5'N	65 50.8'W	April 17	(108)
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Corrections for velocity for launches 2223, 2225, 2226, and 2220 were made from the salinity and temperature data obtained from the first two casts. The data was meaned and a depth versus velocity correction was made for each and compared. Velocity corrections for launch 2227 were meaned from bar checks since the velocity curve from the Nansen casts did not coincide with the correctors for launch 2227. Printouts of the velocity tapes and all tables are included in Appendix IV.

Bar checks were made by each launch on a daily basis if weather permitted. The results of the bar checks for each launch were meaned separately and the correctors are included in the instrument ^{ship} error and applied to the TC/TI tape. A printout of this tape is included in Appendix IV. The settlement and squat correctors versus engine RPM for each launch was computed in Norfolk in January 1976. A copy of these correctors is included in Appendix IV. These correctors are included in the TC/TI tape and will be applied to the final smooth plot by the Atlantic Marine Center.

E. Hydrographic Sheets

This survey was plotted on three mylar Complot Roll plotter sheets by the Mt. Mitchell Hydroplot system. One sheet is the main scheme sounding

lines, one is the development of shoals and the third sheet is the shoreline, presurvey review items, prior survey soundings and bottom samples. The skew is 05,21,54. The survey was plotted offline using an electronic corrector tape and a velocity corrector tape. The final smooth sheet will be plotted at the Atlantic Marine Center, Norfolk, Va. All field records and the following tapes have been forwarded to the Atlantic Marine Center:

- Range-Range Master Tapes
- Range-Range Corrector Tapes
- Range-Azimuth Master Tape
- Range-Azimuth Corrector Tape
- Velocity Tapes
- TC/TI Tape
- ASCII Signal Tape
- Projection Parameter Tape

Data from launch 2225, 2226, and the Mt. Mitchell were recorded by the online real-time hydroplot range-range program. Data from launch 2227 was manually logged into a master range-azimuth tape format. Data from launch 2223 was recorded online on a master printout and later logged into a master tape.

F. Control Stations

All stations were located by at least third order accuracy traverse or photo points. These stations were located by ship's personnel or by AMC Horizontal Control Party. A list of signal names, numbers, and signal positions is included in ^{this report} Appendix VI, and are indicated by ^{appropriate} cartographic codes ~~250~~. Reference is made to the horizontal control report for OPR-423-MI-76.

G. Hydrographic Position Control

Control for this survey was obtained by Del Norte units. This included range-range and range-azimuth type control.

A T-2 theodolite, to measure the azimuth, and a Del Norte unit to measure the distance were used for the range-azimuth control. The Del Norte unit consisted of the master unit, the remote unit and a distance measuring unit (DMU). The master unit and the theodolite were set up at a known position while the remote unit and DMU were set up in launch 2227. These soundings were assigned azimuths and ranges and recorded in the sounding volume. Later these were logged on a master tape for plotting by the hydroplot system.

Calibration of the Del Norte units was accomplished by measuring a distance with an AGC Model Geodimeter (S/N 1012) then setting up the Del Norte units and comparing the Del Norte range with the geodimeter range. This was done on 3 separate days and the correctors were meaned and applied to the boat sheets. An abstract of the electronic correctors used is in Appendix V.

The following Del Norte equipment was used in the vessels:

Launch #	2223	2225	2226	2227	2220
DMU	S/N 179	188	190	190	188
Master	169	219	277	277	219
Parallel Buffer	125	119	126	-	119

Launch 2226 used DMU S/N 159 and Master S/N 263 on JD 107 while launch 2227 used DMU S/N 190 and Master S/N 277 on JD 107. The Mt. Mitchell used DMU S/N 188 and Master S/N 219 on JD 106 and 107.

H. Shoreline

Shoreline for this survey was transferred from photo manuscripts No. T-13358 and T-12151. The shoreline details have been field edited and all corrections and changes have been transferred to the field sheet.

I. Crosslines

Crosslines were ^{occasionally} run at least 45° to the mainscheme lines. The crosslines agreed well with the mainscheme lines. Crossline mileage was about 10% of the mainscheme lines.

J. Junctions

This survey junctions well with contemporary survey MI-10-4-76 (H-9608) to the east and MI-100-1-76 (H-9595) to the south. The western limit on this sheet and the eastern limit on MI-10-2-76 (H-9596) were run by the same vessel, 2226, on the same day and consequently there is no junction line. The contour lines are in agreement.

K. Comparison with Prior Surveys

The prior surveys of the area surveyed are H-2583, 1:20,000 (1902), and H-2424 (1899) & H-4740, 1:20,000 (1927). Most soundings were in general agreement.

The presurvey review items are listed below with the results of the investigations and recommendations:

1. Unnumbered presurvey review item - 17 feet charted at Lat. 17 58' 54" N, ^{55"} ~~49"~~ Long. 65 53' 57" W. Sheet shows least depth of 17 feet ^{190 m west} in immediate vicinity. Recommend 17 ^{27"} feet for charting purposes. Origin H-2583 (1902); 17 feet carried fwd. to present survey.
2. Presurvey review item "D" (wreck) - charted at Lat. 17 59' 24" N, Long. 65 53' 54" W. No indication of wreck or of shoaling. * ^{see verifier reports}
- ✓ 3. Presurvey review item No. 13 (wreck) - wreck charted at Lat. ^{Origin C/L 521/1969} 17 59' 21" N, Long. 65 54' 00" W. Wreck found, ^{bars} exposed ⁸ feet at Lat. ^{concur} 17 59' 20" N, Long. 65 54' 01" W. Recommend leaving as charted.
- ✓ 4. Unnumbered presurvey review item - charted as 6 3/4 fathoms (40 feet) at Lat. 17 57' 36" N, Long. 65 58' 27" W. Least depth found was ⁴⁸ feet. Recommend using ⁴¹ feet for charting purposes. Origin H-2583 (1902) ⁴⁸ ^{41 ft. carried fwd. to present survey.}
- ✓ 5. Unnumbered presurvey review item - charted as 5 fathoms (30 feet) at Lat. 17 58' 06" N, Long. 65 57' 30" W. Least depth found was 28 feet in immediate vicinity. Recommend using 28 feet for charting purposes. ^{concur} Origin H-2583 (1902)

L. Comparison with the Chart

This survey is covered by Charts No. 25677 (C&GS 902), No. 25659 (C&GS 924), and No. 25650 (C&GS 904). Most soundings compared well with the chart with no major discrepancies.

M. Adequacy of Survey

This survey is complete and adequate to super⁵cede all prior work in the area.

N. Aids to Navigation

There were no floating aids to navigation within the survey area. A copy of NOAA form 76-40, Report on Nonfloating Aids or Landmarks for Charts, is found in Appendix IX.

O. Statistics

Linear Nautical Miles of Hydro	141.5
Linear Nautical Miles of Crosslines	14.0
Total Linear Nautical Miles of Hydro	155.5
Total Linear Miscellaneous Miles	80.2
Total Linear Nautical Miles Run	235.7
Square Miles of Hydro	8.8
Total Positions	1413
Nansen Casts	3
Bottom Samples	51

P. Miscellaneous

Fresh to strong easterly winds, predominant during survey operations, created dangerous surf conditions. This limited hydrography to relatively deep water in many areas. The heavy surf and small range of tide prohibited delineation of low water lines by hydrographic methods.

Q. Recommendations

None

R. Automated Data Processing

The following Hydroplot programs were used to process this survey:

	Name	Version Date
RK111	Range-Range Real Time System	1/30/76
RK211	Range-Range Non Real Time System	8/16/74
RK201	Grid, Signal, and Lattice Plot	4/18/75

	Name	Version Date
PM360	Electronic Tape Abstract	3/21/74
RK530	Layer Corrections for Velocity	6/25/74
RK300	Utilities Computations	5/22/75
RK602	Elinore Line Editor	5/21/75

S. Reference to Reports

Reference is made to the Horizontal Control Report for OPR-423-MI-76.

Respectfully Submitted,

Robert G. Mann

Robert G. Mann,
ENS, NOAA


APPROVAL SHEET

MI-10-3-76

H-9607

The field work on this hydrographic survey was under my daily supervision.

The boatsheet and all records have been reviewed and approved by me.


Wesley G. Hull
Commander, NOAA
Commanding Officer

SIGNAL NAMES LIST

MI-10-3-76

H-9607

018 ARROYO BEACON LIGHT	FIGG (1966)	Q170661, 1002
023 2-75		AMC RECORDS, 1975
029 BR-05		AMC RECORDS, 1975
031 5-75		AMC RECORDS, 1975
033 6-75		AMC RECORDS, 1975
037 HOUSE	1966-70	Q170654, 1001
062 FENCE		VOL 1, P 10
063 TANK		VOL 1, P 6
064 PT VIENTO DEL NORTE		VOL 1, P 3
065 MID BAY		VOL 1, P 12 (HOUSE 1965?)
066 BAY CORNER		VOL 1, P 13
067 PP-5		PHOTO PT, T-12151

NOTE:

BASIC CONTROL REFERENCED TO QUAD AND STATION NUMBER OR USGS. PREVIOUSLY ESTABLISHED SUPPLEMENTAL CONTROL ARE REFERENCED TO AMC RECORDS. SUPPLEMENTAL CONTROL ESTABLISHED DURING CURRENT SEASON REFERENCED TO FIELD OBSERVATION VOLUMES AND PAGE. COMPUTATIONS OF POSITIONS ARE CONTAINED IN THE COMPUTATION NOTEBOOK ACCOMPANYING HORIZONTAL CONTROL REPORT, 1976. PHOTO POINTS ARE REFERRED TO T-SHEETS.

SIGNAL TAPE
MI-10-3-76
H-9607

018	7	17	57	15897	066	02	54675	250	0006	000000
023	7✓	17	58	17415	065	59	05197	254	0002	000000
029	7✓	17	58	21047	065	57	18861	254	0000	000000
031	7✓	17	58	27199	065	56	20914	254	0000	000000
033	7✓	17	58	39074	065	55	08580	254	0002	000000
037	7✓	17	59	24818	065	53	08350	250	0023	000000
062	7	17	58	53924	066	01	05956	254	0003	000000
063	7✓	17	58	36712	065	58	07926	254	0020	000000
064	7	17	58	11443	065	58	38229	243	0003	000000
065	7✓	17	59	14329	065	54	17456	254	0002	000000
066	7✓	17	59	39552	065	53	32817	254	0002	000000
067	7✓	17	58	40742	065	55	59937	254	0002	000000
37-		17	59	26321	065	53	08060	139		

House

Point Tona L.H. Ref. Sta.

VELOCITY CORRECTOR TAPE
VESNO 2220, 2223, 2225, 2226
MI-10-3-76
H-9607

000080 0 0002 0001 000 222000 009607
000120 0 0004
000160 0 0006
000220 0 0008
000260 0 0010
000320 0 0012
000360 0 0014
000400 0 0016
000450 0 0018
000500 0 0020
000550 0 0022
000590 0 0024
000650 0 0026
000680 0 0028
000730 0 0030
000760 0 0032
000810 0 0034
000860 0 0036
000900 0 0038
000940 0 0040
000980 0 0042
001030 0 0044
001150 0 0050
001310 0 0060
001560 0 0070
001760 0 0080
001960 0 0090
002160 0 0100
002360 0 0110
002560 0 0120
002750 0 0130
002950 0 0140
003150 0 0150
003350 0 0160
003540 0 0170
003730 0 0180
003920 0 0190

VELOCITY CORRECTOR TAPE
VESNO 2220, 2223, 2225, 2226
M1-10-3-76
H-9607

004110 0 0200
004300 0 0210
004500 0 0220
004700 0 0230
004800 0 0240
005070 0 0250
005250 0 0260
005490 0 0270
005640 10 0280
006000 0 0290
006200 0 0300
006300 0 0310
006500 0 0320
006900 0 0340
007200 0 0360
007600 0 0380
008100 0 0400
008500 0 0420
009000 0 0440
009600 0 0460
010000 0 0480
010600 0 0500
011400 0 0520
012000 0 0540
012500 0 0560
013000 0 0580
999999 0 0600

VELOCITY CORRECTOR TAPE
LAUNCH 2227

000020 1 0001 0002 ⁰⁰⁰~~001~~ 222700 999999
000043 0 0000
000068 0 0001
000090 0 0002
000115 0 0003
000138 0 0004
000162 0 0005
000180 0 0006
000200 0 0007
000221 0 0008
000243 0 0009
000263 0 0010
000283 0 0011
000302 0 0012
000324 0 0013
000348 0 0014
000365 0 0015
000388 0 0016
000403 0 0017
000430 0 0018
000442 0 0019
000470 0 0020
000488 0 0021
000505 0 0022
000530 0 0023
000550 0 0024
000571 0 0026
000610 0 0027
000635 0 0028
999999 0 0028

Settlement and Squat Correctors

Launch 1002		Launch 1004		Launch 1207	
rpm	corrector	rpm	corrector	rpm	corrector
600	+0.0	600	+0.0	400	+0.0
700	+0.0	700	+0.1	500	+0.1
800	+0.1	800	+0.1	600	+0.1
900	+0.1	900	+0.1	700	+0.1
1000	+0.1	1000	+0.2	800	+0.2
1100	+0.2	1100	+0.2	900	+0.3
1200	+0.2	1200	+0.3	1000	+0.3
1300	+0.2	1300	+0.3	1100	+0.4
1400	+0.2	1400	+0.4	1200	+0.5
1500	+0.2	1500	+0.4	1300	+0.6
1600	+0.2	1600	+0.4	1400	+0.7
1700	+0.2	1700	+0.4	1500	+0.7
1800	+0.2	1800	+0.4		
1900	+0.2	1900	+0.4		
2000	+0.1	2000	+0.3		
2100	+0.0	2100	+0.3		
2200	+0.0	2200	+0.2		
2300	-0.1	2300	+0.1		
2400	-0.2	2400	+0.0		
2500	-0.2	2500	+0.0		

8/10/76

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

TIDE NOTE FOR HYDROGRAPHIC SHEET

Processing Division: Atlantic Marine Center:

Hourly heights are approved for

Tide Station Used (NOAA Form 77-12): Yabucoa Harbor

Period: March 3 - April 18, 1976

HYDROGRAPHIC SHEET: H-9607

OPR: 423

Locality: Off the southeast coast of Puerto Rico

Plane of reference (mean ^{diurnal} ~~lunar~~ low water): 1.62 ft.

Height of Mean High Water above Plane of Reference:
0.8 ft.

Remarks: Zone direct.

James R. Hubbard
Chief, Tides Branch

W

GEOGRAPHIC NAMES

H-9607

Name on Survey	Source of Name										
	A	B	C	D	E	F	G	H	K		
	ON CHART NO.	ON PREVIOUS SURVEY NO.	ON U.S. QUADRANGLE MAPS	FROM LOCAL INFORMATION	ON LOCAL MAPS	P.O. GUIDE OR MAP	GRAND McNALLY ATLAS	U.S. LIGHT LIST			
ARRECIFE SARGENT ✓										1	
MAR CARIBE										2	
PUERTO MAUNABO ✓										3	
PUERTO PATILLAS ✓										4	
PUNTA TUNA ✓										5	
PUNTA VIENTO ✓										6	
RECIO ✓										7	
CABO MALA PASCUA ✓										8	
										9	
										10	
										11	
										12	
										13	
										14	
										15	
										16	
										17	
										18	
										19	
										20	
										21	
										22	
										23	
										24	
										25	

APPROVED

Chas. E. Harrington

STAFF GEOGRAPHER - 05142

19 Oct. 1977

APPROVAL SHEET
FOR
SURVEY H- 9607

- A. All revisions and additions made on the smooth sheet during verification have been entered in the magnetic tape records for this survey. A new final position printout has/~~has not~~ been made. A new final sounding printout has/~~has not~~ been made.
- B. The verified smooth sheet has been inspected, is complete, and meets the requirements of the Provisional Hydrographic Manual. Exceptions are listed in the Verifier's Report.

Date: Oct 5, 1977

Signed: William D. Jones

Title: Chief, Verification Branch

HYDROGRAPHIC SURVEY STATISTICS

H-9607

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

RECORD DESCRIPTION		AMOUNT	RECORD DESCRIPTION		AMOUNT	
SMOOTH SHEET		1	BOAT SHEETS & PRELIMINARY OVERLAYS		23 & 9	
DESCRIPTIVE REPORT		1	SMOOTH OVERLAYS: POS. ARC, EXCESS		34	
DESCRIP-TION	DEPTH RECORDS	HORIZ. CONT. RECORDS	PRINTOUTS	TAPE ROLLS	PUNCHED CARDS	ABSTRACTS/SOURCE DOCUMENTS
ENVELOPES	2		1-Smooth P/			1-misc.data
CAHIERS	1-with printouts		1			
VOLUMES	23					
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	TOTALS
POSITIONS ON SHEET			1413
POSITIONS CHECKED		300	
POSITIONS REVISED		21	
SOUNDINGS REVISED		115	
SOUNDINGS ERRONEOUSLY SPACED		5	
SIGNALS (CONTROL) ERRONEOUSLY PLOTTED		0	
	TIME - HOURS		
CRITIQUE OF FIELD DATA PACKAGE (PRE-VERIFICATION)	6		
VERIFICATION OF CONTROL		1	
VERIFICATION OF POSITIONS		53	
VERIFICATION OF SOUNDINGS		143	
COMPILATION OF SMOOTH SHEET		70	
APPLICATION OF TOPOGRAPHY		5	
APPLICATION OF PHOTOBATHYMETRY		0	
JUNCTIONS		5	
COMPARISON WITH PRIOR SURVEYS & CHARTS		15	
VERIFIER'S REPORT		10	
OTHER		9	
TOTALS	6	311	317
Pro-Verification by F. L. Saunders	Beginning Date 06/11/76	Ending Date 06/14/76	
Verification by F. Lamison, B. Stephenson, J. Bradford	Beginning Date 07/01/76	Ending Date 09/15/77	
Verification Check by W. L. Jones	Time (Hours) 10	Date 09/27/77	
Marine Center Inspection by Hydrographic Inspection Team (AMC)	Time (Hours) 14	Date 09/29/77	
Quality Control Inspection by R.W. Derkazarian	Time (Hours) 46	Date 11/30/77	
Requirements Evaluation by D.J. Hill	Time (Hours) 4	Date 04/17/78	

Carstens 14 hr 4/17/78

Reg. No. 9607

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 REQ'D _____ INITIALS _____

REMARKS:

Pos. 004
343
405
473

Reg. 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 12-6-82 TIME REQ'D _____ INITIALS JAE

REMARKS:

H-9607

Items for Future Presurvey Reviews

Future surveys should include the existence of the Presurvey Review wreck in latitude 17°59'24", longitude 65°53'54" and determine its least depth.

<u>Position Index</u>		<u>Bottom Change</u>	<u>Use</u>	<u>Resurvey</u>
<u>Lat.</u>	<u>Long.</u>	<u>Index</u>	<u>Index</u>	<u>Cycle</u>
175	660	2	1	50 years

ATLANTIC MARINE CENTER
VERIFIER'S REPORT

REGISTRY NO. H-9607

FIELD NO. MI-10-3-76

Puerto Rico, South Coast

SURVEYED: March 22 through April 16, 1976

SCALE: 1:10,000

PROJECT NO.: OPR-423

SOUNDINGS: Raytheon UGR, Raytheon
DE-723D, Raytheon DE-719B,
Ross Model 5,000, and
Ross Model 200A

CONTROL: Del-Norte
(Range-Range)
Del-Norte and
T-2 Theodolite
(Range-Azimuth)

Chief of Party CDR W. Hull
Surveyed by LCDR W. Daniels
..... LT A. Potok
..... LTJG S. Iwamoto
..... LTJG D. Waltz
..... ENS R. Mann
..... ENS D. Terry
..... ENS N. Konchuba
..... ENS W. Dewhurst
..... ENS D. Rice
..... ENS J. Bailey
Automated Plot by Calcomp--618 (AMC)
Verified and Inked by J. S. Bradford
September 12, 1977

1. Introduction

During the verification of H-9607 the following problems were encountered:

a. Survey data printouts show that Del-Norte "skip zones" were numerous and areas of the survey were time and coursed to complete survey lines. Without proper annotation these hydrographic lines can only be assumed to be straight and that the survey launch maintained a straight course.

b. Numerous errors in fathogram scanning were present. "Peaks" and "deeps" were moved to coincide with regular sounding intervals. The allowable tolerance for moving "peaks" is outlined in the Provisional Hydrographic Manual, 1.6a.

c. The hydrographer used the term "exposed" to describe rocks and features along the shoreline. This term was taken as meaning awash and rocks were shown by awash symbols on the Smooth Sheet. Vol 1, page 6.

2. Control and Shoreline

a. The control is adequately described in Sections F and G of the Descriptive Report.

b. The shoreline originates with Class I, unreviewed manuscripts T-12151 and T-13358 of March 1970, field edit March 1976.

3. Hydrography

a. Depths at crossings are in good agreement.

b. The standard depth curves are adequately delineated, with the inclusion of several brown curves to delineate certain features.

c. Areas of the survey with irregular bottom features were developed with 50 meter spacing. A shoal sounding of 34 feet at latitude 17° 57' 30", longitude 65° 56' 05" should have been allowed more time for the possibility of locating a shoaler depth.

4. Condition of Survey

The sounding records, Smooth Sheet and accompanying overlays, hydrographic records, and the Descriptive Report are adequate and conform to the requirements of the Provisional Hydrographic Manual.

5. Junctions

See Q.C. Report

Adequate junctions have been effected with the following surveys:

H-9595 (1976) to the south
H-9608 (1976) to the east
H-9597 (1976) to the west

Verification of H-9608 was completed before H-9607. A closer investigation of hydrographic sounding lines from H-9607 reveals slight differences and a proper junction in this area cannot be effected; therefore, differences should be adjusted on H-9608.

6. Comparison With Prior Surveys

H-4740 (1927) 1:20,000

H-2583 (1902) 1:20,000

~~H-2424 (1899) 1:20,000~~ NOT in common area.

See A.C. Report

These prior surveys cover the area of the present survey. A comparison between the present and prior surveys reveals a variable pattern of depth differences, with present survey depths generally one to ten feet deeper than prior depths. Presurvey Review Items (dashed-circles), originating from prior surveys, are adequately described in Section K of the Descriptive Report.

The present survey is adequate to supersede the above prior surveys within the common area, with the addition of several soundings brought forward from prior surveys (H-4740 and H-2583). Additional development of these soundings would have been beneficial in establishing the validity of prior survey soundings.

7. Comparison with Charts 25650 (21st Edition, October 30, 1976)⁽⁹⁰⁴⁾
 25677 (13th Edition, December 13, 1975)⁽⁹⁰²⁾
 25659 (5th Edition, August 23, 1975)⁽⁹²⁴⁾

a. Hydrography

The charted hydrography originates with the previously discussed prior surveys and reported depths which were adequately disposed of in Section K, "Comparison With Prior Surveys", of the Descriptive Report and requires no further consideration.

The Presurvey Review Item "D" (wreck) charted at latitude 17° 59' 24" N, longitude 65° 53' 54" W was not adequately developed and submerged wreck should be retained on chart. *Concur ASD*
Origin L.N.M. 35/1975

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

b. Aids to Navigation

There are no floating aids to navigation in the area of the present survey. Point Tuna Lighthouse is the only fixed aid to navigation on the present survey and adequately serves the purpose intended.

8. Compliance With Instructions

This survey adequately complies with the Project Instructions.

9. Additional Field Work

This is an adequate basic survey; additional field work is not recommended.



U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SURVEY
Atlantic Marine Center
439 West York Street
Norfolk, Virginia 23510

File No: D6-5
Ser. No: 77-134

October 3, 1977

CAM3/RAT

TO: RADM Robert C. Munson
Director, Atlantic Marine Center

FROM: CDR Robert A. Trauschke
Chief, Processing Division

SUBJECT: Hydrographic Inspection Team Report, H-9607 (1976)

The NOAA Ship MT. MITCHELL conducted this Puerto Rican survey in 1976. It is in general compliance with Project Instructions.

FIELD WORK

This survey is in an area of irregular bottom, with depths for the most part under 100 feet. As such, the main scheme of sounding lines with 200 meter spacing does not meet the basic requirements as specified in the Provisional Hydrographic Manual. However, this survey should be considered adequate to supersede the prior surveys, because many developments were run on significant bottom features. Inside of the 30-foot curve some additional lines would have been desirable. Additional lines in the area of the "drop-off" would have greatly facilitated the drawing of the depth curves in that area.

VERIFICATION


Brown curves were used inappropriately on a number of features on the Smooth Sheet. The name of the reference station was omitted from Stamp 42.

The Hydrographic Inspection Team devoted 14 hours to this sheet.

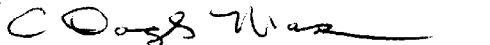



H-9607


Examined and Approved:
Hydrographic Inspection Team
Date: *September 28, 1977*


CDR Robert A. Trausonke, NOAA
Chief, Processing Division

* CDR Charles H. Nixon, NOAA
Chief, Operations Division

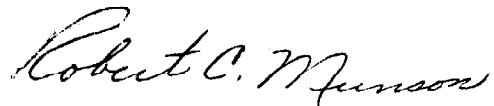

C. Douglas Mason, LT, NOAA
Chief, EDP Branch


R. D. Sanocki
Technical Assistant
Processing Division


Harry R. Smith
Verification Branch

* ABSENT

Approved/Forwarded



Robert C. Munson
RADM, NOAA
Director, Atlantic Marine Center



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SURVEY
Rockville, Md. 20852

C352/RWD

November 30, 1977

TO: *A. J. Patrick*
A. J. Patrick
Chief, Marine Surveys Division

THRU: Chief, Quality Control Branch

FROM: R. W. Derkazarian *R.W. Derkazarian*
Quality Evaluator

SUBJECT: Quality Control Report for H-9607 (1976), Punta Viento to
Punta Tuna, South Coast, Puerto Rico

Survey H-9607 was inspected to evaluate the accuracy and adequacy of the survey with respect to data acquisition, delineation of the bottom, determination of least depths, navigational hazards, junctions, sounding line crossings, shoreline transfer, smooth plotting, decisions and actions taken by the verifier, and the cartographic presentation of data.

An adequate junction was effected with H-9608 during the quality evaluation. The junction between the present survey and H-9595 was evaluated. The soundings are in good agreement, but because of the large scale difference between these surveys, the curves have not been brought into coincidence. The curves from the present survey should be used for charting purposes.

In general, the survey was found to conform to the National Ocean Survey's standards and requirements except as stated in the report by the Verifier and the Hydrographic Inspection Team and as follows:

1. This information should be entered under the "Comparison with Prior Surveys"; reasons for the change in the bottom were not stated in the Verifier's Report.

The differences noted in depths between prior and present surveys is attributed to the irregularity of the bottom; a slight displacement in position changes the bottom measurably. Several additional soundings and bottom characteristics have been carried forward during the quality evaluation.

Differences in the high water line are indicated between the past and present surveys; varying migration and accretion of as much as 100 meters is attributed to wave action and sedimentation.



H-9607

2

2. One sounding from the prior surveys was transferred to the present survey approximately 70 meters out of position. This was corrected during the quality evaluation.

cc:
C351

66° 00'

Chart 902

