9659

Diag. Cht. No. 1000-4

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-80-5-76

Office No. H-9659

LOCALITY

State VIRGINIA

General Locality ATLANTIC OCEAN, CONTINENTAL SLOPE

Locality OFFSHORE OF CHINCOTEAQUE INLET

1976

CHIEF OF PARTY
Wesley V. Hull

LIBRARY & ARCHIVES

DATE January 11, 1978

☆ U.S. GOV. PRINTING OFFICE: 1976—669-441

9659

Area 1 + 2
Chart
12003
12200

NOAA FORM 77-28 (11-72) | U.S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

HYDROGRAPHIC TITLE SHEET

REGISTER NO. H-9659

FIELD NO. MI-80-5-76

INSTRUCTIONS - The Hydrographic Sheet should be accompanied by this form, filled in as completely as possible, when the sheet is forwarded to the Office.

State ~~MARYLAND~~, VIRGINIA

General locality ~~NORTHEAST~~ ATLANTIC ~~COAST~~ Ocean Continental ~~Shelf~~ Slope Offshore of Chincoteague Inlet

Locality ~~ASSATEAGUE ISLAND to CAPE CHARLES, VIRGINIA~~ Offshore Virginia

Scale 1:80,000 Date of survey 28 SEPT to 3 OCT 1976

Instructions dated OCT 1, 1975 Project No. OPR-516-MI-76

Vessel NOAA SHIP MT MITCHELL MSS-22

Chief of party CAPT WESLEY V. HULL, NOAA

Surveyed by SEE REMARKS

Soundings taken by echo sounder, hand lead, pole ECHO SOUNDER

Graphic record scaled by PWS, FS, SA, EM, BD

Graphic record checked by PWS, FS, KLC

Protracted by N/A Automated plot by ~~NOAA SHIP MT MITCHELL MSS-22~~ ~~HYDROPLOT SYSTEM~~ Calcomp - 618 Plotter (ARC)

Verification by ~~N/A~~ M.B. Hickson

Soundings in fathoms ~~feet at MLW MLLW~~ (NO TIDES REQUIRED) for Applied

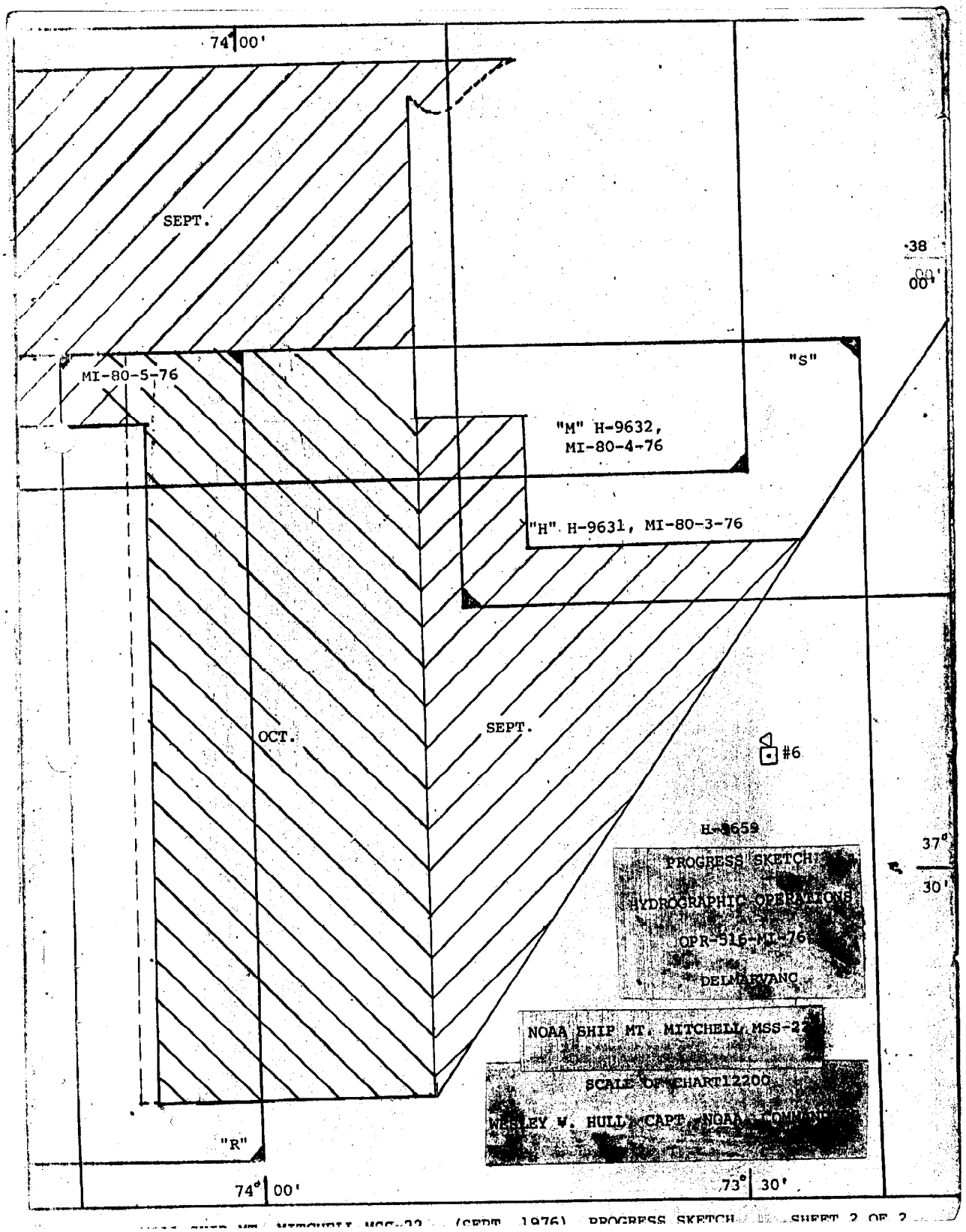
REMARKS: LCDR G. MILLS, LTjg D. WALTZ, ENS R. MANN, ENS, W. DEWHURST, ENS D. RICE ENS V. NEWELL, ENS M. HENDERSON, ENS K. COX

Applied To Hds 6-9-78 PSK

RWW 10/6/92

NOAA FORM 77-28 SUPERSEDES FORM C&GS-537.

☆ U.S. G.P.O. 1972-769-565/519 REG. #6


74° 00'
SEPT.
38
00'
MI-80-5-76
"S"
"M" H-9632,
MI-80-4-76
"H" H-9631, MI-80-3-76
OCT.
SEPT.
#6
H-9659
37°
30'
PROGRESS SKETCH
HYDROGRAPHIC OPERATIONS
OPR-516-MI-76
DELMARVANC
NOAA SHIP MT. MITCHELL MSS-22
SCALE OF CHART 1:2200
"R"
74° 00'
73° 30'

A. PROJECT ✓

This survey, MI-80-5-76 (H-9659) was conducted by the NOAA SHIP MT MITCHELL MSS-22, as a portion of the Atlantic Seaboard Area Project OPR-516-MI-76, "DELMARVANC" phase, in accordance with Project Instructions dated 1 October 1975 and Changes Nos. 1,2,3 and 4 dated 25 November 1975, 7 April 1976, 4 May 1976 and 25 May 1976.

B. AREA SURVEYED ✓

This survey was conducted offshore of the ~~Atlantic~~ Virginia Coast ~~between Assateague Island, VA and Cape Charles, VA~~ on the Continental Slope extending outward from the 100 fathom curve to the limits of the Atlantic Seaboard Area Project "DELMARVANC" as designated in the Project Instructions. The limits of this survey are described by lines connecting the following points in a clockwise direction:

(1) 37°54.0' 74°06.0'	(4) 37°47.0' 73°25.5'	(7) 37°19.0' 74°06.0'
(2) 37°54.0' 73°44.0'	(5) 37°45.0' 73°25.5'	
(3) 37°47.0' 73°43.0'	(6) 37°19.0' 73°48.0'	

This survey was conducted on the following dates:

September 28 (JD 272) to October 3 (JD 277) 1976

C. SOUNDING VESSEL ✓

Soundings for this survey were obtained by the NOAA SHIP MT MITCHELL MSS-22 (VESSEL NO. 2220 for all survey records) using a fully Automated Hydroplot Survey System.

D. SOUNDING EQUIPMENT AND CORRECTIONS TO ECHO SOUNDINGS ✓

Soundings were obtained by a Raytheon Universal Graphic Recorder (S/N 170) with the sound room 2 transducer and an EDO Model 248-1 transceiver (S/N 219). Sounding from the UGR recorder were either entered manually or digitized by a Digitrak Model 261C (S/N 202). A Ross Model 5000 Fineline Recorder (S/N 1052) and a Ross Model 4000 transceiver (S/N 1050) was used in shoal water (less than 200 fathoms) for comparison purposes against the UGR record. All soundings obtained by the Ross Recorder were digitized by a Ross Depth Digitizer, Model 6000 (S/N 1039-2), and had an antenna distance of 32.0 meters since the skeg transducer was used. All UGR soundings were taken from the sound room 2 transducer and had an antenna distance of 0.0 meters.

All graphic 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, digitizing errors were corrected and the effects of seas were meaned and corrected on the electonic corrector tape. Scale checks on the UGR and phase calibration checks on the Ross fathometer were made at frequent intervals to ensure proper digitizing. Any necessary adjustments were made and noted in the sounding volume and the fathogram.

Velocity corrections were obtained from 1 Nansen Cast and 1 STD probe taken at the following locations:

	Date:	Velocity Table:	Latitude:	Longitude:
Nansen Cast #6	Sept 21, 1976	#10	37°35.48	73°28.06'
STD	Oct 1,1976	#11	37°12.36	73°43.42'

Corrections for velocity were determined from the salinity and temperature data obtained from the Nansen Cast and STD records. The depth/velocity correction curve and a printout of the velocity tape are included with this report.

A draft of 2.2 fathoms was applied to all soundings during the on-line process. Changes in draft and settlement and squat correctors were insignificant for the depth of this survey and were not incorporated into the TC/TI tape. A TC/TI tape was generated with one entry of 0.0 fathoms.

Tide corrections were not required in plotting the sheet.

E. HYDROGRAPHIC SHEETS ✓

This survey was plotted on two complot roll plotter sheets by the NOAA SHIP MT MITCHELL Hydroplot System. The skew used was 90, 21, 60. The survey was plotted off line using an electronic corrector tape. Soundings on the field sheets were corrected for draft, initial, digitizing errors and sound velocity. They are not corrected for settlement and squat, instrument error or tides.

The final smooth sheet will be plotted at the Atlantic Marine Center, Norfolk, Virginia.

The following tapes will be forwarded with the other records to the Atlantic Marine Center:

Master Range-Range Data Tapes
Range-Range Electronic Corrector Tapes
Parameter Tapes
ASC II Signal Tapes
Transducer Corrector/Table Indicating Tape (TC/TI)
Velocity Corrector Tape

F. CONTROL STATIONS ✓

Two shore control stations at the following locations were used:

Name:	Signal No:	Longitude:	Latitude:
Assateague (H-1-VA-76)	300	37°51'46.378"N	75°22'03.957"W
Indian River (H-3-~~76~~-DL-76)	400	38°34'45.917"N	75°03'32.067"W

All shore stations were located by personnel from the Atlantic Marine Center, Operations Division.

G. HYDROGRAPHIC POSITION CONTROL ✓

A Decca Sea Fix System, operating at a frequency of 1618.650 KHZ, in the Range-Range Mode, provided the position control for this survey on the following days:

September 28 (JD 272) to October 3 (JD 277) 1976

The following Decca Sea Fix Equipment was used:

Type:	Serial No:
Ship Equipment:	
Master MDU	004
Master Transmitter	009
Master Receiver	129
Interface (Panalogic)	005
Sawtooth Recorder	5911
Shore Station (Left) Equipment:	
Slave Control Unit	027
Power Supply (Solar)	102
Transmitter Amplifier	007
Coupler	133
Shore Station (Right) Equipment:	
Slave Control Unit	026
Power Supply (Solar)	101
Transmitter Amplifier	011
Coupler	132

Sea Fix calibration was accomplished using three point sextant fixes and comparing observed range values with computed values obtained from the Hydroplot Calibration Program RK 561. A check fix was also taken with each calibration. Only those fixes with an inverse distance of less than 8 meters were used in the calibration.

The calibration area was located 3 miles off Ocean City, MD. Calibration fixes were taken with the ship on reciprocal headings and the corrections determined were found not to vary more than 0.1 lanes. The results were meaned and these corrections were applied to all positions until the next calibration.

The Sea Fix lane count was constantly monitored by the Survey Department personnel by comparing the navigation interface readout with a running count on the sawtooth recorder. An abstract of the calibration data is included with the records accompanying the report.

Whenever it became necessary for the whole lane count to be established, one of two buoys was circled at the following locations:

Buoy:	Latitude:	Longitude:
Mt Mitchell #3	37°50.8'N	74°11.6'W
2 JS	38°05.3'N	74°45.1'W

H. SHORELINE ✓

There was no shoreline within the limits of this survey.

I. CROSSLINES ✓

Crosslines were run at least 45° to the main scheme sounding lines. Crossline mileage was about 24% of the main scheme lines and agreement was good between crosslines and main scheme lines.

J. JUNCTIONS ✓

This survey junctions well with 80-3-76 (H-9631) to the northeast, 80-4-76 (H-9632) to the north and 80-6-76 (H-9633) field sheet to the west. This survey also junctions with H-9677 (1977) to the south

K. PRIOR SURVEYS ✓

The prior survey of this area was completed in 1938 (H-5713) at a scale of 1:120,000. The soundings from this prior survey were from 50 fathoms shoaler to 80 fathoms deeper than those of the present survey. The survey area is of moderate to high bottom relief and therefore this disagreement could be attributable to the improvement in positioning control since 1938. There were no pre-survey review items to be investigated. ✓

L. COMPARISON WITH THE CHART ✓

This survey is covered by Chart No. 12200 (C&GS 1109) Edition #27, April 12, 1975 which is derived largely from prior survey H-5713 (1938). Therefore, the same discrepancies exist as were mentioned in section K. ✓

M. ADEQUACY OF SURVEY ✓

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

N. AIDS TO NAVIGATION ✓

There were no aids to navigation within the survey area.

O. STATISTICS ✓

Linear Nautical Miles of Main Scheme Hydro	956.0
Linear Nautical Miles of Crosslines	233.5
Total Linear Nautical Miles of Hydro	1189.5
Total Linear Miscellaneous Miles	108.5
Total Linear Nautical Miles Run	1298.0
Square Miles Hydro	780
Total Positions	796
Nansen Casts	1
Bottom Samples	3
STD Casts	1

P. MISCELLANEOUS ✓

The sheet was plotted using an ANDIST of 32.0 meters on the parameter tape. The ANDIST was changed to 0.0 meters on the parameter tape due to the use of sounding room 2 transducer. The new parameter tape is included with this report to be used in the final plot done at Atlantic Marine Center, Norfolk, Virginia.

Extensive bottom sampling was not done since the area had been surveyed previously and the characteristics had been adequately determined. Sufficient samples were taken to verify no changes have occurred. Concur

Q. RECOMMENDATIONS ✓

None

R. AUTOMATED DATA PROCESSING ✓

The following hydroplot programs were used to complete the processing of this survey:

RK 111	Range-Range Real Time System	30 Jan 1976
RK 201	Grid, Signal and Lattice Plot	18 Apr 1975
RK 211	Range-Range Non-Real Time Plot	16 Aug 1974
PM 360	Electronic Tape Abstract	21 Mar 1974
RK 530	Velocity Correction Computations	10 Mar 1976
RK 561	H/R Geodetic Calibration	19 Feb 1975
RK 602	Extended Line Oriented Editor	21 Mar 1975

S. REFERENCE TO REPORTS

None

Respectfully Submitted:

Karen L. Cox

Karen L. Cox
Ensign, NOAA

APPROVAL SHEET

MI-80-5-76

H-9659

THE FIELD WORK ON THIS BATHYMETRIC SURVEY WAS UNDER MY SUPERVISION. THE BOAT SHEET AND RECORDS HAVE BEEN REVIEWED AND APPROVED BY ME.

WESLEY V. HULL
CAPTAIN, NOAA
COMMANDING

Atlantic Marine Center

Electronic Control Parameters

Project OPR- 516-MI-76 Reg. No. H-9659 Field No. MI- 80 -5 -76

Type of Control Sea Fix (Sea-Fix, Hi-Fix, Raydist, etc.)

Frequency 1618.650 KHz (for conversion of lanes to meters)

Mode of Operation (check one)

Range-Range [XXX] Range-Visual [ ]

Range One (R1) Station I.D.	Assateague 1976 (306) red arc	Lat.	37°	51'	46.378	"N.
		Long.	75°	22'	03.957	"W.
Range Two (R2) Station I.D.	Indian River 1976 (400) blue arc	Lat.	38°	34'	45.917	"N.
		Long.	75°	03'	32.067	"W.

Hyperbolic (3-station) [ ] Hyper-Visual [ ]

Slave One Station I.D.		Lat.	°	'	.	"N.
		Long.	°	'	.	"W.
Master Station I.D.		Lat.	°	'	.	"N.
		Long.	°	'	.	"W.
Slave Two Station I.D.		Lat.	°	'	.	"N.
		Long.	°	'	.	"W.

Location of Survey:

Range-Range [XXX] Imagine an observer is standing at R1 station and looking directly at R2 (check one):

Survey area is to observer's Right [XXX] A=Ø

Survey area is to observer's Left [ ] A=1

Hyperbolic [ ] Looking from survey area toward Master station:

Slave One must be to observer's Left

Slave Two must be to observer's Right

[XXX] This form is submitted as an aid in preparing a boat sheet.

[XXX] This form applies to all data on this survey.

[ ] This form applies to part of the data on this survey.

More than one set of stations used to control hydrography on this boat sheet: ____ Yes XXX No (If Yes: See additional copy of this form)

From: T:214245 Jul. Day 272 to T:132510 Jul. Day 277

Remarks: _____

ABSTRACT OF ANTENNA DISTANCES

JULIAN DATE	TIME	ANTENNA DISTANCE	JULIAN DATE	TIME	ANTENNA DISTANCE
272	000000	0.0			
276	181330	32.0			
	184350	0.0			
	200315	32.0			
	202105	0.0			
277	030140	32.0			
	032410	0.0			
	131330	32.0			

VELOCITY CORRECTOR TAPE PRINTOUT

MI - 80 - 5 - 76

55 ENTRIES

COMPUTED VEL
CHECKED MEM

```
000030 0 0000 0001 001 222000 080576
000052 0 0001
000073 0 0002
000093 0 0003
000117 0 0004
000140 0 0005
000160 0 0006
000185 0 0007
000205 0 0008
000230 0 0009
000253 0 0010
000275 0 0011
000302 0 0012
000325 0 0013
000350 0 0014
000373 0 0015
000400 0 0016
000428 0 0017
000453 0 0018
000480 0 0019
000508 0 0020
000535 0 0021
000565 0 0022
000620 0 0023
000630 0 0024
000665 0 0025
000700 0 0026
000735 0 0027
000775 0 0028
001023 0 0029
001000 0 0030
001050 0 0035
001250 0 0040
001555 0 0045
002100 0 0055
002800 0 0065
003620 0 0075
004380 0 0085
005050 0 0095
005700 0 0105
006300 0 0115
006950 0 0125
007500 0 0135
008030 0 0145
```

VELOCITY CORRECTOR TAPE PRINTOUT

MI - 80 - 5 - 76 CONT

COMPUTED VEL
CHECKED MEH

008500	0	0155
008950	0	0165
009400	0	0175
009850	0	0185
010280	0	0195
010700	0	0205
011100	0	0215
011500	0	0225
011900	0	0235
012300	0	0245
999999	0	0245

80-5-76

FATH

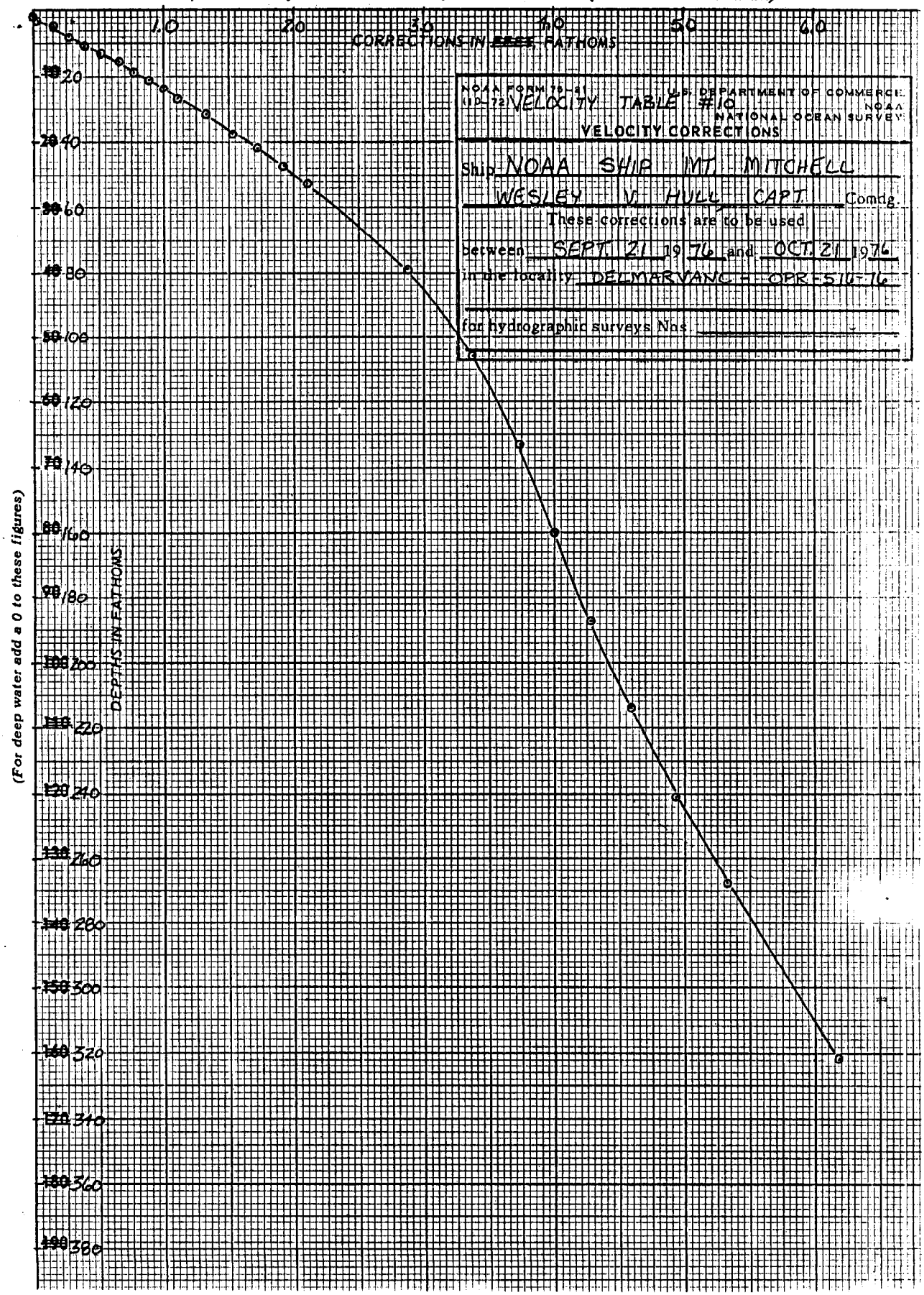
VELOCITY CORRECTION TO DEPTHS (FROM GRAPHS OF EACH VELOCITY TABLE)

COMPUTED VE
CHECKED KLC

VELOCITY TABLES

Fm	#11		Fm	#11		Fm	#11
0.0	3.0 ✓		2.6	70.0 ✓		23.5	1190 ✓
0.1	5.2 ✓		2.7	73.5 ✓		24.5	1230 ✓
0.2	7.3 ✓		2.8	77.5 ✓		25.5	— ✓
0.3	9.3 ✓		2.9	82.3 ✓			
0.4	11.7 ✓		3.0	90 ✓	CORRECTIONS AND DEPTHS TO HORS ARE FROM TABLE #10		
0.5	14.0 ✓		3.5	105 ✓			
0.6	16.0 ✓		4.0	125 ✓			
0.7	18.5 ✓		4.5	155.5 ✓			
0.8	20.5 ✓		5.5	210 ✓			
0.9	23.0 ✓		6.5	280 ✓			
1.0	25.3 ✓		7.5	362 ✓			
1.1	27.5 ✓		8.5	438 ✓			
1.2	30.2 ✓		9.5	505 ✓			
1.3	32.5 ✓		10.5	570 ✓			
1.4	35.0 ✓		11.5	630 ✓			
1.5	37.3 ✓		12.5	695 ✓			
1.6	40.0 ✓		13.5	750 ✓			
1.7	42.8 ✓		14.5	803 ✓			
1.8	45.3 ✓		15.5	850 ✓			
1.9	48.0 ✓		16.5	895 ✓			
2.0	50.8 ✓		17.5	940 ✓			
2.1	53.5 ✓		18.5	985 ✓			
2.2	56.5 ✓		19.5	1028 ✓			
2.3	60.0 ✓		20.5	1070 ✓			
2.4	63.0 ✓		21.5 ✓	1110 ✓			
2.5	66.5 ✓		22.5 ✓	1150 ✓			

(Let 1 inch equal 4 fathoms for deep water and 1 inch equal 0.4 fathom for shoal.)



NOAA FORM 76-41
(12-72) VELOCITY TABLE #10

U.S. DEPARTMENT OF COMMERCE
NOAA
NATIONAL OCEAN SURVEY

VELOCITY CORRECTIONS

Ship NOAA SHIP MT. MITCHELL

WESLEY V. HULL, CAPT. Comdg.

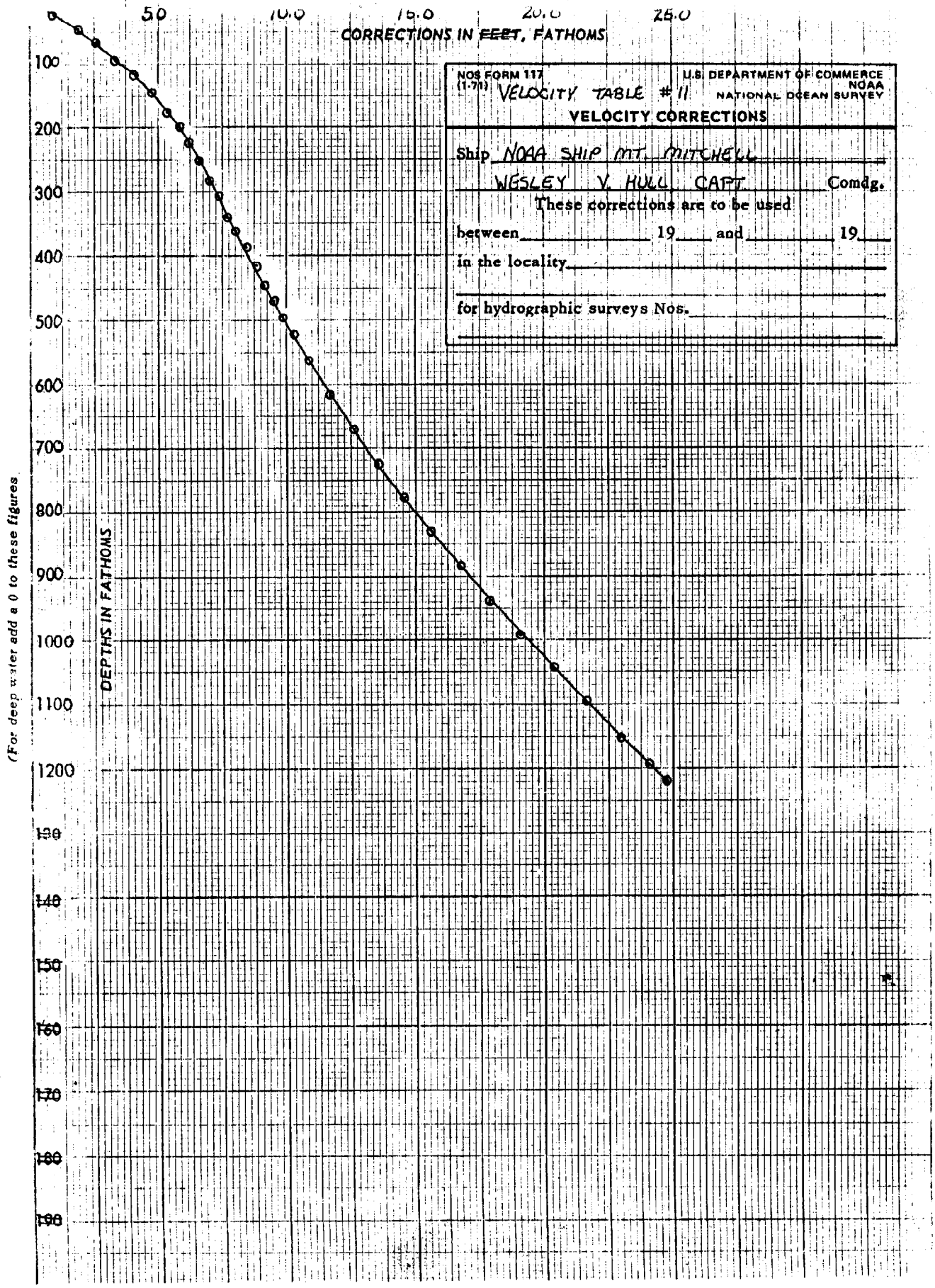
These corrections are to be used

between SEPT. 21 1976 and OCT. 21 1976

in the locality DELMARVANC + OPR-E516-76

for hydrographic surveys Nos.

KEUFFEL & ESSER CO. 20 X 20 TO THE INCH 46
7 X 10 INCHES
MADE IN U.S.A.



NOS FORM 117 (1-71) VELOCITY TABLE #11

U.S. DEPARTMENT OF COMMERCE
NOAA
NATIONAL OCEAN SURVEY

VELOCITY CORRECTIONS

Ship NOAA SHIP MT. MITCHELL

WESLEY V. HULL CAPT. Comdg.

These corrections are to be used

between _____ 19___ and _____ 19___

in the locality _____

for hydrographic surveys Nos. _____

CAM3-12
2-2-74

OPR 516-MI-76

TRA CORRECTION ABSTRACT

VESSEL: 2220

SHEET: MI-80-5-76

REGISTRY NO: H-9659

Vol.	Jul. Day	GMT From Time	GMT To Time	Velocity Table ~~Ft~~/Fms	Draft	Instrument Error Corr.	Initial Corr.	S & S Corr.	TRA Corr. ~~Ft~~/Fms	Remarks
1	272	214200	235959	1	2.2	0.0	0.0	0.0	0.0	
1	273	000000	235959	1	2.2	0.0	0.0	0.0	0.0	Instrument error
1	274	000000	235959	1	2.2	0.0	0.0	0.0	0.0	Initial Correction
1	275	000000	235959	1	2.2	0.0	0.0	0.0	0.0	S&S Correction
1	276	000000	235959	1	2.2	0.0	0.0	0.0	0.0	Negligable at depth
1	277	000000	235959	1	2.2	0.0	0.0	0.0	0.0	of survey

SIGNAL NAMES LIST

MI-80-5-76 H-9659

128	MYSTIC HARBOR TANK	AMC OPER DIV
138	OCEAN CITY SOUTH TANK	MD VOL 2 PG 663
142	OCEAN CITY CENTER TANK	AMC OPER DIV
144	OCEAN CITY NORTH MUNICIPAL TANK	MD VOL 2 PG 665
150	FENWICK ISLAND LIGHT	DEL VOL 2 PG 83
201	AZIMUTH TANK 66 STREET	AMC OPER DIV
300	ASSATEAGUE	AMC OPER DIV
400	INDIAN RIVER	AMC OPER DIV

NOAA FORM 76-155
(11-72)

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

SURVEY NUMBER

H-9659

GEOGRAPHIC NAMES

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	
VIRGINIA		} TITLE								1
CHINCOTEAGUE INLET										2
ATLANTIC OCEAN										3
										4
										5
										6
										7
										8
										9
										10
										11
										12
										13
										14
										15
										16
										17
					APPROVED					18
					Chas. E. Harrington					19
					Chief GEOGRAPHER-CBXS					20
						13 June 1978				21
										22
										23
										24
										25

NOAA FORM 76-155 SUPERSEDES C&GS 197

U.S. G.P.O. 1972-769-585/516 REG.#6

APPROVAL SHEET
FOR
SURVEY H- 9659

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: Dec 13, 1977

Signed: William L Joms

Title: Chief, Verification Branch

NOAA FORM 77-27
(5-77)

U. S. DEPARTMENT OF COMMERCE
NOAA

HYDROGRAPHIC SURVEY STATISTICS

HYDROGRAPHIC SURVEY NUMBER: H-9659

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

RECORD DESCRIPTION	AMOUNT	RECORD DESCRIPTION	AMOUNT
SMOOTH SHEET	1	BOAT SHEETS & PRELIMINARY OVERLAYS	2 6&1
DESCRIPTIVE REPORT	1	SMOOTH OVERLAYS: POS. ARC, EXCESS	2

DESCRIPTION	DEPTH RECORDS	HORIZ. CONT. RECORDS	PRINTOUTS	TAPE ROLLS	PUNCHED CARDS	ABSTRACTS/ SOURCE DOCUMENTS
ENVELOPES	X		1-Smooth			
CAHIERS	1		1 -file			
VOLUMES						1
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			496
POSITIONS CHECKED			189
POSITIONS REVISED			0
SOUNDINGS REVISED			3
SOUNDINGS ERRONEOUSLY SPACED			0
SIGNALS (CONTROL) ERRONEOUSLY PLOTTED			0
	TIME – HOURS		
CRITIQUE OF FIELD DATA PACKAGE (PRE-VERIFICATION)	2	0	2
VERIFICATION OF CONTROL			2
VERIFICATION OF POSITIONS			18
VERIFICATION OF SOUNDINGS			6
COMPILATION OF SMOOTH SHEET			39
APPLICATION OF TOPOGRAPHY			0
APPLICATION OF PHOTOBATHYMETRY			0
JUNCTIONS			6
COMPARISON WITH PRIOR SURVEYS & CHARTS			14
VERIFIER'S REPORT			8
OTHER			9
	2	102	104
TOTALS			

Pre-Verification by M. W. Johnson, R. L. Keene	*Beginning Date* 12/16/76	*Ending Date* 04/22/77
Verification by M. B. Hickson	*Beginning Date* 11/01/77	*Ending Date* 12/05/77
Verification Check by B. J. Stephenson	*Time (Hours)* 3	*Date* 12/08/77
Marine Center Inspection by Hydrographic Inspection Team (AMC)	*Time (Hours)* 15	*Date* 12/09/77
Quality Control Inspection by E. P. SAULSBURY	*Time (Hours)* 21	*Date* 2-14-78
Requirements Evaluation by [signature]	*Time (Hours)* 2	*Date* 7/25/78

/D.R. Engle　　Shs　　2-13-78

REGISTRY NO. H-9659 (1976)

No corrections necessary

The Computer and Excess Sounding Cards for this survey have not been corrected to reflect the changes made to the Computer Card and Excess Card Printouts at this time of the review.

When the cards have been updated to reflect the final results of the survey, the following shall be completed:

CARDS CORRECTED

DATE_____ TIME REQUIRED_____ INITIALS_____

REMARKS:

REGISTRY NO. _____

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

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

MAGNETIC TAPE CORRECTED

DATE_____ TIME REQUIRED_____ INITIALS_____

REMARKS:

H-9659

Information for Future Presurvey Reviews

None

Position Index		Bottom Change	Use	Resurvey
Lat.	Long.	Index	Index	Cycle

Survey depths exceed 20 fathoms. The resurvey cycle is 50 years.

ATLANTIC MARINE CENTER
VERIFIER'S REPORT

REGISTRY NO. H-9659 FIELD NO. MI-80-5-76

Atlantic Coast, Continental Shelf, Offshore Virginia

SURVEYED: September 28 through October 3, 1976

SCALE: 1:80,000 PROJECT NO.: OPR-516

SOUNDINGS: Raytheon UGR
Ross Model 5,000

CONTROL: Decca Sea-Fix
(Range-Range)

Chief of Party ..... W. Hull
Surveyed by ..... G. Mills
..... D. Waltz
..... R. Mann
..... W. Dewhurst
..... D. Rice
..... V. Newell
..... M. Henderson
..... K. Cox
Automated Plot by ..... Calcomp Plotter #618 (AMC)
Verified and Inked by ..... M. Hickson
December 5, 1977

1. Introduction

This survey is a bathymetric survey. No unusual problems were encountered. Necessary changes made by the verifier to the Descriptive Report are denoted in red ink.

2. Control and Shoreline

a. The source of control is adequately described in Section F of the Descriptive Report.

b. There is no shoreline within the area of the survey.

3. Hydrography

a. Depths at crossings are in good agreement.

b. Depth contours were drawn at the standard 100-fathom intervals and adequately delineate the bottom configuration.

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

Adequate junctions have been effected with the following surveys:

H-9631 (1976) to the north (eastern portion)
H-9632 (1976) to the north (western portion)
H-9633 (1976) to the west

Survey H-9677 (1977) in the southern junctional area of the survey has not been processed to a stage that would allow a junction to be accomplished. The junction in this area has been deferred and will be completed by the Quality Control Branch, C352, pending completion of processing and transmittal of data.

There is no contemporary survey to the east of the present survey.

6. Comparison With Prior Surveys

H-5713 (1934) 1:120,000
H-5994 (1935) 1:120,000

These prior surveys cover a majority of the surveyed area. Comparisons with the above surveys reveals similar general bottom characteristics in respect to configurations of troughs and ridges. The contours display a nonuniform displacement in the comparisons. These differences are attributed to a more detailed and sophisticated present survey. Refer to Section K of the Descriptive Report for the hydrographer's evaluation.

The present survey is considered adequate to supersede the prior surveys within the common areas.

7. Comparison With Chart 12200 (27th Edition, April 12, 1975)

a. The charted hydrography originates with the previously discussed prior surveys and soundings from a source not readily ascertainable. The previously discussed prior surveys require no further consideration.

The following soundings are charted from an unknown source:
(generally from U.S.N. surveys & C&GS. TRACKLINES)

		Source
1080 fathoms in latitude 37° 33.8', longitude 73° 42.5'		BP-52945 (1955) USN
1185 fathoms in latitude 37° 35.6', longitude 73° 37.2'		BP-47935 (1951) USN
885 fathoms in latitude 37° 37.0', longitude 73° 55.1'		undetermined
1135 fathoms in latitude 37° 37.6', longitude 73° 41.0'		BP-52945 (1955) USN
1220 fathoms in latitude 37° 38.0', longitude 73° 35.6'		BP-52945 (1955) USN

1230 fathoms in latitude 37° 39.3', longitude 73° 31.7' BP-47935 (1951) USN
1045 fathoms in latitude 37° 39.7', longitude 73° 43.0' BP-52945 (1955) USN
955 fathoms in latitude 37° 39.8', longitude 73° 46.5' BP-69268 (1965-CGS Tracking)
1070 fathoms in latitude 37° 42.2', longitude 73° 39.4' Undetermined.
1150 fathoms in latitude 37° 42.4', longitude 73° 34.2' BP-45013 (1949) U.S.N.
1190 fathoms in latitude 37° 44.6', longitude 73° 31.0' Undetermined.

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

b. Aids to Navigation

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

8. Compliance With Instructions

This survey adequately complies with the Project Instructions, except as noted below:

a. Section 6.4 of the Project Instructions required splits or development in bottom areas of steep or irregular slope. The present survey split the southern one-fourth of the sheet where the contours do not warrant splitting the main-scheme. In the northwest quadrant of the survey, where the slopes are quite steep, the main-scheme was not split and should have been to provide a more detailed presentation for contours. concur

b. Main-scheme line spacing in this survey averages approximately 1700 meters, which is greater than one statute mile but less than one nautical mile. Refer to Sections 5.7 and 6.4 of the Project Instructions. ✓

c. The vessel failed to establish numbered positions at major course changes (crosslines) as per Section 4.4.5 of the Provisional Hydrographic Manual. ✓

9. Additional Field Work

This is an adequate bathymetric survey. Additional field work is not recommended. ✓

Inspection Report
H- 9659

Any verification errors regarding procedures and presentation of survey data detected during inspection by the Hydrographic Inspection Team have been corrected before submission for administrative approval. HIT comments regarding quality of field work, compliance with instructions, and adequacy of the survey have been incorporated within the Verifier's Report.

Examined and Approved:
Hydrographic Inspection Team
Date: Dec 13, 1977

Robert A. Trauschke, CDR, NOAA
Chief, Processing Division

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

R. D. Sanocki
Technical Assistant
Processing Division

C. Douglas Mason, LT, NOAA
Chief, Electronic Data
Processing Branch

Guy F. Trefethen
Team Leader
Verification Branch

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/FPS

February 14, 1978

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

THRU: Chief, Quality Control Branch

FROM: F. P. Saulsbury
Quality Evaluator

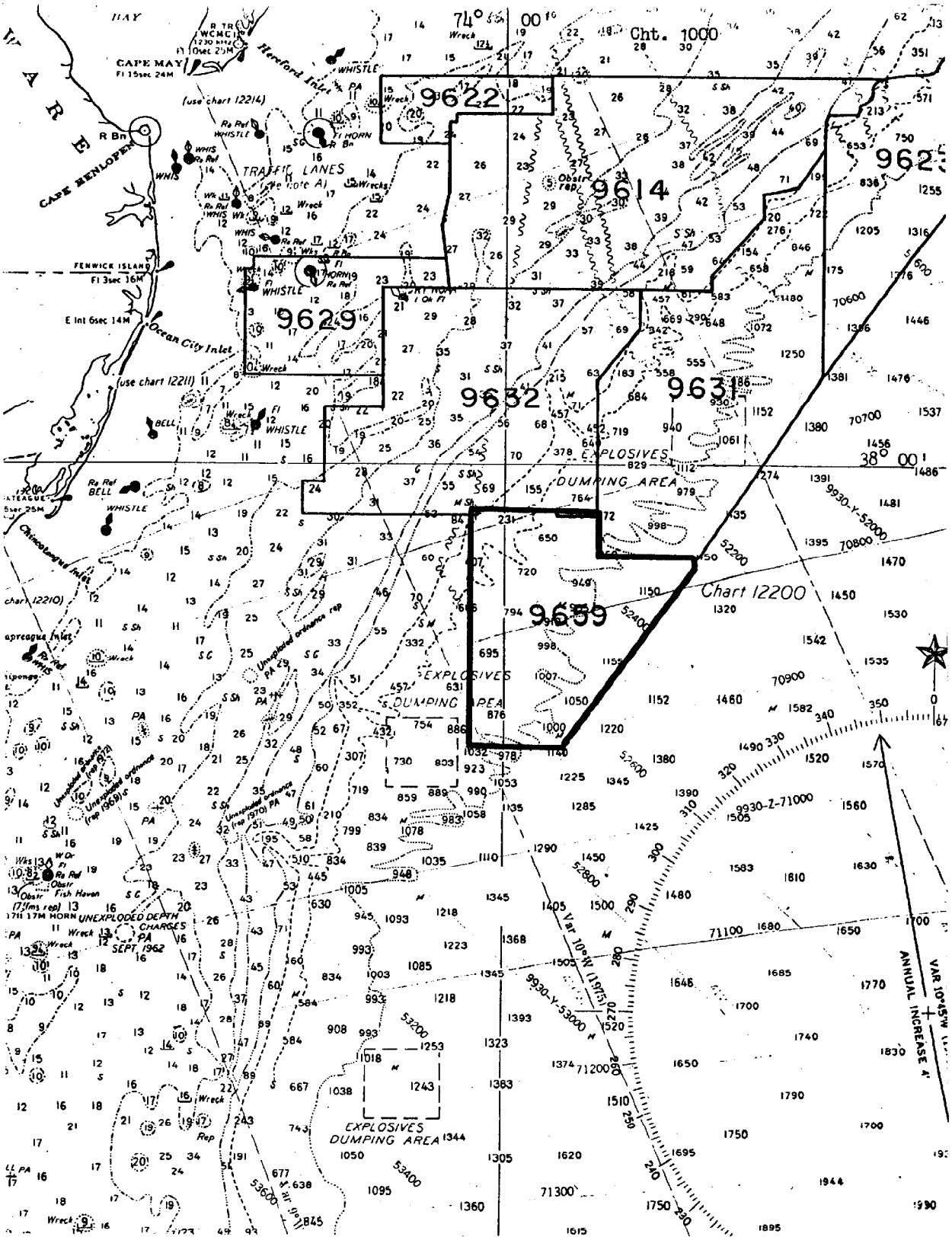
SUBJECT: Quality Control Report for H-9659 (1976), Virginia, Atlantic Ocean, Continental Slope, Offshore of Chincoteague Inlet

A quality control inspection of H-9659 was accomplished to monitor the survey for obvious deficiencies with respect to data acquisition, delineation of the bottom, determination of least depths, navigational hazards, junctions, sounding line crossings, smooth plotting, decisions and actions taken by the verifier, and the cartographic presentation of data. In general, it was found to conform to the National Ocean Survey's standards and requirements except as noted in the Verifier's Report.

1. Junctions on the north with H-9631 (1976) and H-9632 (1976) are adequate. Minor revisions to overlapping depth curves to make them coincidental were effected during quality control inspection. Junctions on the west and south with H-9633 (1976) and H-9677 (1977) will be compared when these surveys are inspected.

2. While depth curves on the present survey adequately delineate bottom configuration for nautical charting, they are inadequate for bathymetric mapping and would have to be recompiled to satisfy bathymetric requirements.

cc:
C35
C351


9622
9614
9629
9632
9631
9633
74° 00'
38° 00'
Cht. 1000
Chart 12200
CAPE MAY
Fl 15sec 24M
(use chart 12214)
Hereford Inlet
WHISTLE
R Bn
CAPE HENLOPEN
TRAFFIC LANES
(See note A)
FENWICK ISLAND
Fl 3sec 16M
E Int 6sec 14M
Ocean City Inlet
(use chart 12211)
BELL
Chincoteague Inlet
(chart 12210)
EXPLOSIVES DUMPING AREA
UNEXPLODED DEPTH CHARGES
SEPT 1962
Fish Haven
9930-Y-52000
9930-Z-71000
9930-Y-53000
52200
52400
52600
52800
53200
53400
53600
70600
70700
70800
70900
71100
71200
71300
VAR 10°45'W (1975)
ANNUAL INCREASE 4'

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

NAUTICAL CHART DIVISION

RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. H-9659

INSTRUCTIONS

A basic hydrographic or topographic survey supersedes all information of like nature on the uncorrected chart.

1. Letter all information.
2. In "Remarks" column cross out words that do not apply.
3. Give reasons for deviations, if any, from recommendations made under "Comparison with Charts" in the Review.

CHART	DATE	CARTOGRAPHER	REMARKS
1109	10/30/78	Dick Keller	~~Full~~ Part ~~Before~~ After Verification Review Inspection Signed Via
			Drawing No. 44
12200	6/21/79	Bill Wanless	Full ~~Part Before~~ After Verification Review Inspection Signed Via
~~1109~~ KW			Drawing No. 45
13003	7/17/80	Barbara Lowey	Full ~~Part Before~~ After Verification Review Inspection Signed Via
(1000)			Drawing No. #57 Applied thru reduction of
			chart 12200 #45
			Full Part Before After Verification Review Inspection Signed Via
			Drawing No.
			Full Part Before After Verification Review Inspection Signed Via
			Drawing No.
			Full Part Before After Verification Review Inspection Signed Via
			Drawing No.
			Full Part Before After Verification Review Inspection Signed Via
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