9629

Diag. Cht. Nos. 1219-2, 1220-2 & 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-40-3-76

Office No. H-9629

LOCALITY

State MARYLAND

General Locality NORTHEAST ATLANTIC COAST

Locality OFFSHORE OCEAN CITY

1976

CHIEF OF PARTY
Wesley V. Hull

LIBRARY & ARCHIVES

DATE December 13, 1977

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

9629

Area 2
Charts
12200 (1104)
13003
12211 (1220)
12214 (1214)

NOAA FORM 77-28 (11-72)

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

REGISTER NO.

H-9629

HYDROGRAPHIC TITLE SHEET

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-40-3-76

State Maryland

General locality Northeast Atlantic Coast

Locality Offshore Ocean City

Scale 1:40,000 Date of survey 3 June to 18 Oct. 1976 18 June, 1976

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

Vessel NOAA Ship MT. MITCHELL, MSS-22

Chief of party Wesley V. Hull, Capt., NOAA

Surveyed by See Remarks

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

Graphic record scaled by PWS,DRR,SJG,WJD,REM,RPW,FDS

Graphic record checked by PWS,DRR,SJG,WJD,REM,RPW,FDS Verification Branch (AMC)

Protracted by N/A Automated plot by NOAA SHIP MT. MITCHELL HYDROPLOT SYSTEM EALCOMP 618 AMC BOP

Verification by R. G. Cram

Soundings in fathoms feet at MLW MLLW feet at MLW

REMARKS: LCDR W. Daniels, LCDR J. Mills, LT(jg)D. Waltz, LT(jg) S. Iwamoto, ENS W. Dewhurst, ENS. R. Mann, ENS V. Newell, ENS D. Rice, ENS M. Henderson, ENS K. Cox, ENS L. Cosgriff, ENS K. Olson, ENS P. Daugherty.

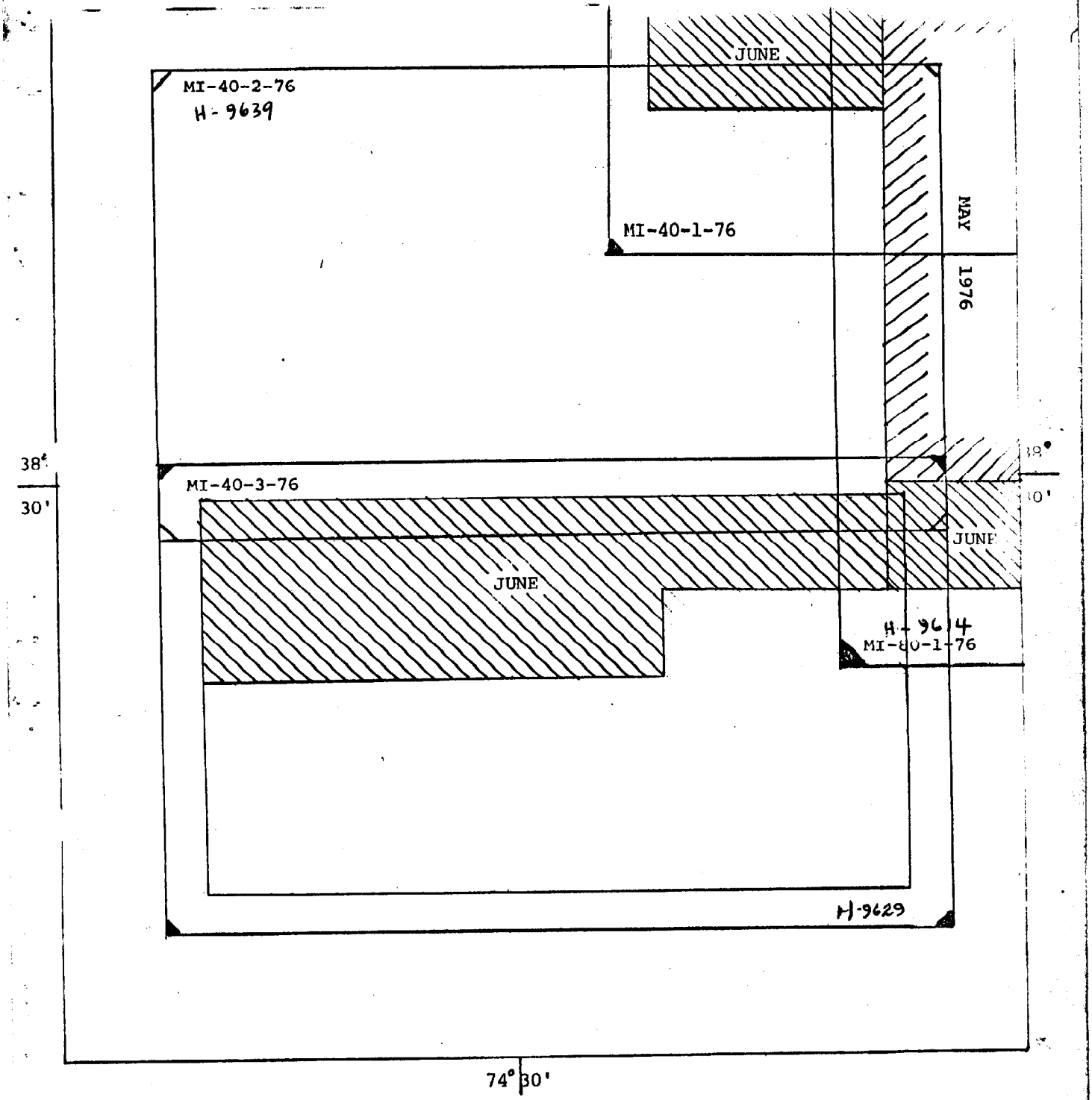
All notes in red by R.G. Cram during verification

Applied to stds 5/11/78

RWW 10/6/92

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

☆ U.S. G.P.O. 1972-769-565/519 REG.#6

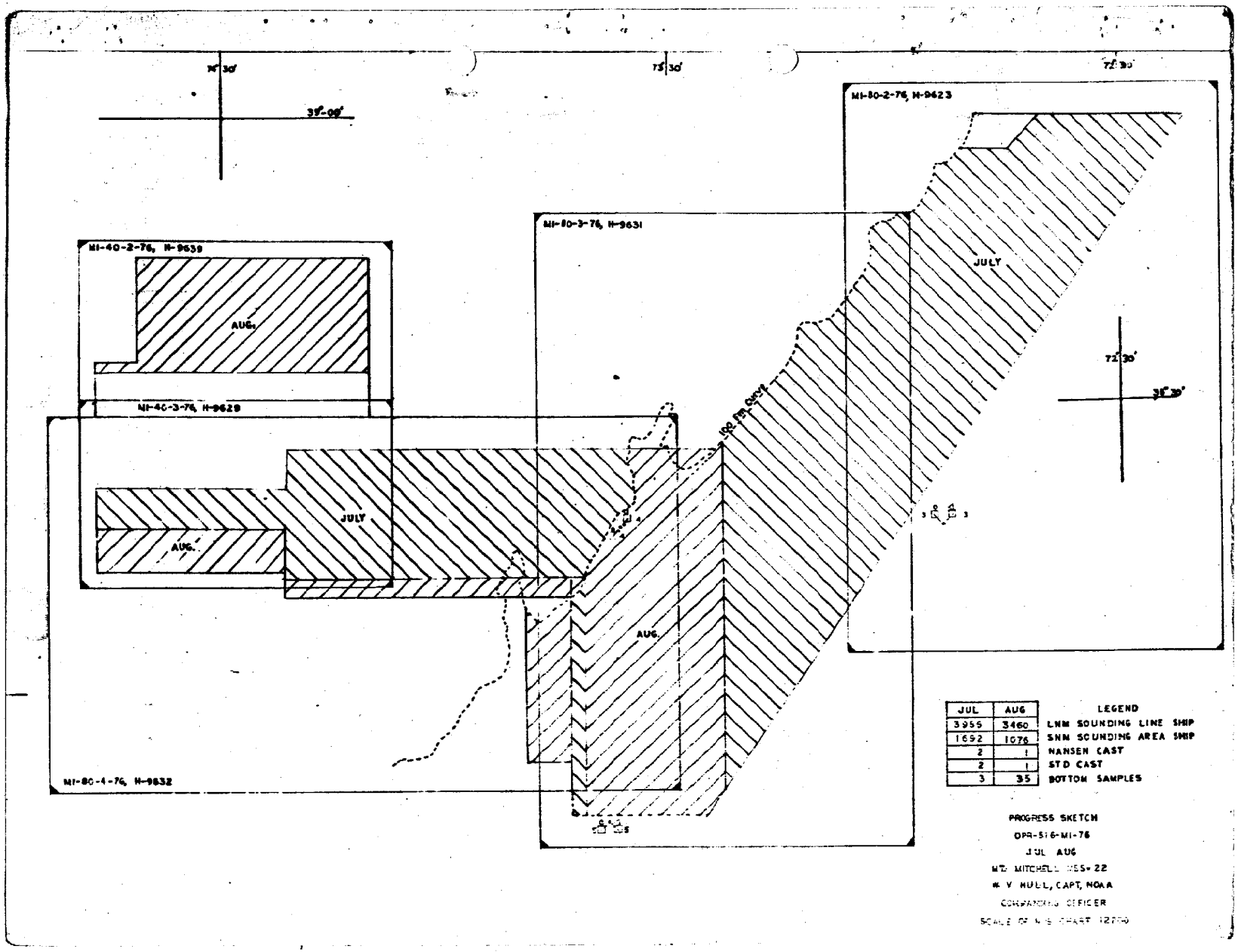


PROGRESS SKETCH

JUNE, 1976

NOAA SHIP MT. MITCHELL MSS-22

SHEET 2 of 2


74° 30'
75° 30'
72° 30'
39°-00'
MI-80-2-76, H-9623
MI-80-3-76, H-9631
MI-40-2-76, H-9639
MI-40-3-76, H-9629
MI-80-4-76, H-9632
AUG.
JULY
AUG.
JULY
AUG.
100 FM Curve
72° 30'
38° 30'
JUL
AUG
3955
3460
LNM SOUNDING LINE SHIP
1692
1076
SNM SOUNDING AREA SHIP
2
1
NANSEN CAST
2
1
STD CAST
3
35
BOTTOM SAMPLES
LEGEND
PROGRESS SKETCH
OPR-516-MI-76
JUL AUG
MT. MITCHELL WSS-22
W. V. HULL, CAPT, NOAA
COMMANDING OFFICER
SCALE OF M.S. CHART 1:2750

DESCRIPTIVE REPORT

TO

ACCOMPANY

HYDROGRAPHIC SURVEY H-9629

MI-40-3-76

1:40,000

OFFSHORE OCEAN CITY, MARYLAND

3 JUNE 1976 TO 18 OCTOBER 1976

NOAA SHIP MT MITCHELL MSS-22

WESLEY V. HULL
CAPTAIN, NOAA
COMMANDING

TABLE OF CONTENTS

APPENDICES

✓= *All or portions of the indicated Appendices are filed in the Box with the field records*

A. PROJECT

This survey, MI-40-3-76 (H-9629), was conducted by the NOAA SHIP MT MITCHELL MSS-22, as a portion of the Atlantic Seaboard Area Project OPR-516-76, "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, respectively.

B. AREA SURVEYED

This survey was conducted offshore of the Atlantic Coast between Fenwick Island, Maryland and 10 miles south of Ocean City, Maryland, generally between the 11 and 20 fathom curves. The limits of this survey are described by lines connecting the following points in a clockwise direction:

Latitude:	Longitude:
38°11'00"N	74°06'48"W
38°37'00"N	74°06'48"W
38°37'00"N	74°48'42"W
38°11'00"N	74°48'42"W

This survey was conducted on the following dates:

June 3-4 Bottom Samples
June 14-18 JD(166-170)
July 7 (JD 189), 25 (JD 207), 28-30 (JD 210-212)
August 4-9 (JD 217-222), 11-12 (JD 224-225)
September 12 (JD 256), 28 (JD 272)
October 18 (JD 292), 20 (JD 294)

C. SOUNDING VESSEL

Soundings for this survey were obtained by the NOAA SHIP MT MITCHELL MSS-22 (Vessel Number 2220 for all survey records) using a fully automated Hydroplot survey system.

D. SOUNDING EQUIPMENT AND CORRECTIONS TO ECHO SOUNDINGS

All soundings were obtained by a Ross Model 5000 Fineline Recorder(S/N 1052) using one skeg mounted transducer and a Ross Model 4000 Transceiver (S/N 1050). All soundings were digitized by a Ross Depth Digitizer Model 6000 (S/N 1039-2).

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, digitizing errors were corrected, and the effects of the seas were meaned and corrected on the electronic corrector tape.

Phase calibration checks on the Ross Fathometer were made at frequent intervals to ensure proper belt speed. Any necessary adjustments were made and noted in the sounding volume and on the fathogram. Also, any departures of the trace from the calibration due to phase differences were corrected during the scanning process.

Velocity corrections were obtained from 4 Nansen Casts taken on the following dates at the following locations:

Velocity Table #1
May 26, 1976 (JD 147)
Latitude: 38°37'54"N
Longitude: 73°57'00"W

Velocity Table #5
August 4, 1976 (JD 217)
Latitude: 38°01'12"N
Longitude: 74°23'12"W

Velocity Table #8
September 8, 1976 (JD 252)
Latitude: 38°33'00"N
Longitude: 74°34'24"W

Velocity Table #12
October 6, 1976 (JD 280)
Latitude: 38°27'30"N
Longitude: 74°03'36"W

Corrections for velocity were made from the salinity and temperature data obtained from these Nansen Casts using RK 530 Velocity Correction Computations and a depth versus velocity corrections curve was made. Printouts of the velocity tapes and all tables are included at the end of this report.

In order to more accurately describe changes in the water column during this survey, the velocity corrections were zoned using 3 corrector tapes as follows:

1) Velocity Correction Tape #1 (Velocity Table #1) was applied to June Hydrographic data (Pos: 39-1161), JD 166-170.
2) Velocity Corrections Tape #2 (Velocity Table #5) was applied to July and August Hydrographic data (Pos: 1162-2232), JD 189-225.
3) Velocity Corrections Tape #3 (Velocity Tables #8 and 12) was applied to September and October Hydrographic data (Pos: 2233-2352), JD 256-294.

A draft of 14.0 feet was applied to all soundings during the on-line process. Significant changes in the draft along with settlement and squat correctors are incorporated into the TC/TI Tape included with the survey data. A printout of this tape is included with this report.

A copy of settlement and squat correctors versus engine RPM is also included. These correctors were determined on 22 July 1974 in Mayport, FL. Results of a vertical cast and Nansen Cast (JD 295) conducted near Buoy #10 of the Thimble Shoals Channel in the Chesapeake Bay to determine the fathometer instrument correction are also included in this report. The error was less that 0.2 feet and considered to be 0 due to the accuracy of the cast.

This survey was conducted using predicted tides based on daily predictions for Breakwater Harbor, Delaware as found in the Tides Tables for 1976. Prezoned tide correctors were supplied by the Rockville Tides Branch in letter dated Oct 7, 1975. A correction of one hour and 38 minutes was subtracted from the high and low water times, and the high and low water heights were multiplied by 0.91. A copy of the request for the actual tides for the area surveyed is included with this report. Tide correctors were inserted on the master data tapes while the survey was being conducted.

E. HYDROGRAPHIC SHEETS

This survey was plotted on two mylar Complot roll plotter sheets by the MT MITCHELL Hydroplot system. MI-40-3-76 (H-9629) is divided into a North sheet and a South sheet with a skew of 0, 21, 60. The survey was plotted off-line using an electronic corrector tape and velocity corrector tape. Soundings on the field sheets were corrected for predicted tides, draft, initial and digitizing error and sound velocity. They are not corrected for settlement and squat and instrument error. The final smooth sheet will be plotted at the Atlantic Marine Center, Norfolk, Virginia.

All field records and the following tapes have been forwarded to the Atlantic Marine Center:

Master Range-Range Tapes
Electronic Corrector Tapes
Velocity Corrector Tapes
ASCII Signal Tapes
Parameter Tapes
Transducer Corrector/Table Indicating Tape
Predicted Tides Tapes (ASCII and BIN)

F. CONTROL STATIONS

Electronic control stations used for this survey were:

Date:	Signal:	Signal No:	Latitude:	Longitude:
JD 166-222	McCabe 1976	100	38°14'32.217"N	75°08'04.599"W
	Haven 1975	200	39°32'51.112"N	74°15'12.847"W
JD 224-294	Assateague 1976	300	37°51'46.378"N	75°22'03.957"W
	Indian River 1976	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.

The following Sea Fix equipment was used:

Type:	Serial No:
Ship Equipment:	
Master MCU	004
Master Transmitter	009
Master Receiver	129
Interface (Panalogic)	005
Sawtooth Recorder	9511
Coupler	134
Shore Station One Equipment (100,300):	
Slave Control Unit	027
Power Supply (Solar)	107
Transmitter Amplifier	010 (9/10/76 #007)
Coupler	133
Shore Station Two Equipment (200,400):	
Slave Control Unit	026
Power Supply (Solar)	101
Transmitter Amplifier	011
Coupler	131

Sea Fix calibration was accomplished by sextant fix or by comparison of Sea Fix values with ranges observed from two Del Norte stations at the following locations:

Signal No:	Signal Name:	Position:	Ser No:	Unit Type:
136	Coast Guard Lookout Tower, Ocean City, MD	38°19'30.836"N 75°05'18.229"W	927	A
150	Fenwick Island Light	38°27'04.478"N 75°03'19.186"W	527	B

The ship's Master Del Norte Station Serial Number was 169. Both shore Del Norte stations were located by personnel from the Atlantic Marine Center, Operations Division.

The calibration areas were located approximately three miles offshore from Ocean City, Maryland and Fenwick Island, Maryland. The third calibration location, Indian River Inlet, Delaware, is beyond the range of both Del Norte stations, so that sextant fixes were the sole method of calibration. Fixes were taken with the ship on reciprocal headings and corrections used were from fixes with inverses of less than 10 meters. The results were meaned and these corrections were applied to all positions until the next calibration. Whenever it was necessary to establish a whole lane count, one of the following buoys was circled:

Buoy Name:	Latitude:	Longitude:
NOAA Buoy EB-41	38°43.2'N	73°38.1'W
Fenwick Shoal R "2"	38°25.2'N	74°45.9'W
Mt Mitchell Buoy #1	38°46.6'N	73°09.5'W
Delaware Traffic Lane Buoy "DA"	38°32.7'N	74°47.0'W
Mt Mitchell Buoy #2	38°06.3'N	74°05.3'W

After the failure of the navigation interface on JD 166 at 0600 GMT, no visual calibration values were determined before resuming hydrography; lane count was set from results of a LORAN C calibration and the calibration values determined at 0949 were applied back to the beginning of the day. No final calibration values were determined at the completion of JD 212, Instead an average of 4 LORAN C Sea Fix comparisons showed the lane count to agree with the Hydroplot correctors established at 2200 (JD 211) by a Del Norte calibration offshore Ocean City, Maryland.

The lane count was constantly monitored by the Survey Department, by comparing the navigation interface readout with a running count on the sawtooth recorder. LORAN C rates were compared with Sea Fix rates using program RK 611 as a check on the sawtooth running count, but were not normally used to set the lane count if the count was lost. An abstract of calibration data is included with the records accompanying this report.

H. SHORELINE

There was no shoreline with the limits of this survey.

I. CROSSLINES

Crosslines were run at least 45° to the main scheme sounding lines. Mileage of crosslines amounted to 6% of the regular sounding lines. These crossline soundings agree within 2 feet of the main scheme soundings.

J. JUNCTIONS See Verifier's Report

This survey junctions within 2 feet with contemporary surveys MI-80-1-76 (H-9614) and MI-80-4-76 (H-9632) to the east, MI-40-2-76 (H-9639) to the north and MI-40-4-76 (H-9640) to the south, H-9578 (1975) to the Northwest and H-9579 (1975) to the west.

K. COMPARISON WITH PRIOR SURVEYS

This survey compares ~~within~~ well 4 feet with ~~prior surveys~~ H-9578 (1975) and H-9579 (1975) junction surveys conducted by the Whiting in 1975. These soundings are corrected only for TRA and smooth tides and not for velocity. Selected soundings from prior surveys H-6272, 1937 agree within 2 feet, from H-6344, 1938 within 3 feet, from H-5350, 1933 an average agreement of 3 feet exists with major discrepancies of 10 feet in sand ridge areas bounded by 38°12'N, 38°17'N, 74°33'W and 74°25'W. Soundings from prior survey H-5348, 1933 agree within 3 feet except in the area between 38°16'N, 38°18.5'N, 74°40'W and 74°47'W. No indication of shoaling was found in these areas on H-9629. (1976) See Verifier's report

The following are findings regarding pre-survey review items for MI-40-3-76 H-9629 from pre-survey review dated April 29, 1976.

1. Shoaling was indicated at the unnumbered pre-survey review item of 61 feet, charted at 38°18.7'N, 74°45.5'W with a least depth of 68 feet from H-5348 (1933) Recommend deleting the 61 foot and replacing with the 67 foot depth. Pos. # 1804 day 219 See Verifier's report

2. A least depth of 66 feet was located in the shoal area of the unnumbered pre-survey review item of 56 feet charted at 38°16.7'N and 74°45.5'W. from H-5348 (1933) Recommend deleting the 56 ft and replacing with the 66 ft. Pos # 1746 day 170 See Verifier's report

3. Development of 59 feet from H-5348 (1933) unnumbered pre-survey review item charted at 38°14.5'N and 74°45.0'W revealed a least depth of 62 feet. Recommend replacing the prior survey sounding with the 62 feet from the present survey. Pos # 2174-2175 day 223 See Verifier's report

4. The least depth in the shoal area of the 96 feet pre-survey review item charted at 38°20.5'N and 74°26.0'W was 97 feet. from H-6344 (1938) Pos # 1716 - 1717 day 219 Recommend Retaining this item as charted.

5. Depths determined by (Wrecks) wire-drag, FE-8 1949 62 feet and 72 feet, charted at 38°13.4'N and 74°45.5'W were not found and no shoaling was indicated in these areas. See verifier's report

6. No indication of the wire-drag-determined depth of 78 feet, FE-NO. 5, 1950 IND Wreck charted at 38°28.9'N and 74°32.7'W nor the NO 120 foot depth charted at 38°26.0'N and 74°23.5'W was found. ~~sounding disproved by present survey recommend removing from chart~~ BJS See verifier's report for 77 ft.

7. A least depth of 70 feet was determined for the 72 feet unnumbered pre-survey review item charted at 38°23.2'N and 74°34.95'W. from H-6344 (1938) Position # 1046 - 1047 day 169 Recommend ~~replacing~~ retaining the 72 feet charted depth ~~with the 70 foot present survey depth~~ 12 fathom The source document study of 73 ft. was carried forward to supplement present depths.

8. Development of a 57 foot wire-drag determined pre-survey review item charted at 38°25.8'N and 74°46.2'W revealed a spike on the fathogram with a least depth of 71 feet. (Wreck 1937) Item 26 FE. NO. 9. 1959 Recommend retaining wire drag ~~sounding~~ cleared depth of 57.0 feet. Pos # 1069-1070 day 169 Concur See Verifier's report

L. COMPARISON WITH CHARTS

Selected soundings from Charts 12214 (1:80,000) 29th edition, revised Jan 17, 1976 and 12211 (1:80,000) 23rd edition, revised Feb 14, 1976 agreed within 2 feet with soundings from H-9629. Soundings from Chart 12200 (1:416,944) 28th edition, revised Apr 3, 1976 agreed within 4 feet with H-9629 soundings except in sand ridge areas bounded by 38°12'N, 38°17'N, 74°33'W and 74°25'W where 10 foot discrepancies exist.

M. ADEQUACY OF THE SURVEY

This survey is considered complete and adequate to supercede prior surveys for charting.

N. AIDS TO NAVIGATION

There are 2 aids to navigation in the survey area - the Delaware Traffic Lane Lighted Horn Buoy "D" (LL #124.01, rev.18/76) with red nun station buoy "D" and Fenwick Shoal Lighted Whistle Buoy R"2" (LL #133). The location of R"2" was determined by obtaining Sea Fix lane values while taking bearings and circling the buoy. Geographic positions were determined from the lane values using RK 300. "D" was located by converting Sea Fix values (from detached positions obtained on-line) to GP'S and plotting them using bearings noted. The observed positions are plotted on the mylar overlay accompanying this report with locations as follows:

	Light List Latitude	Light List Longitude	Observed Latitude	Observed Longitude
"D" Buoy	38°27.3'N	74°41.8'W	38°27'16.3"N	74°41'50.5"W
R"2" Buoy	38°25.2'N	74°45.9'W	38°25'19.789"N	74°45'58.577"W

Both aids to navigation are adequately located for their intended purposes. The solutions for these computations are included in the appendix. All other characteristics describing these buoys agree with those in the Light List 1976 Volume I, Atlantic Coast.

O. STATISTICS

Linear Nautical Miles Main Scheme Hydrography	1608.5
Linear Nautical Miles of Crossline	109.0
Linear Nautical Miles of Development	51.0
Total Linear Miles of Hydrography	1768.5
Total Miscellaneous Miles	628.5
Total Miles	2397.0
Total Number of Positions	2352
Nansen Casts	4
STD Casts	0
Bottom Samples	38

P. MISCELLANEOUS

A sufficient number of bottom samples were taken during this survey to substantiate prior survey bottom characteristics.

Q. RECOMMENDATIONS

None

R. AUTOMATED DATA PROCESSING

The following Hydroplot Programs were used to complete the processing of this survey:

Program Name:		Version:
RK 111	Range-Range Real Time	30 Jan 1976
RK 201	Grid, Signal Lattice Plot	18 Apr 1975
RK 211	Range-Range Non-Real Time	16 Aug 1974
RK 300	Utility Computations	22 May 1975
RK 360	Electronic Tape Abstract	21 Mar 1974
AM 500	Predicted Tide Generator	10 Nov 1972
RK 530	Velocity Correction Computations	10 May 1976
RK 561	H/R Geodetic Calibration	19 Feb 1975
RK 602	Extended Line Oriented Editor	21 Mar 1975
RK 611	CHC Focal 69	1 Apr 1975

S. REFERENCE TO REPORTS

None

Respectfully Submitted:

Virginia E. Newell

Virginia E. Newell
Ensign, NOAA

APPENDIX 2

[redacted] TIDE NOTE

3/8/77

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): Bethany Beach, De.

Period: June 3 - October 20, 1976

HYDROGRAPHIC SHEET: H-9629

OPR: 516

Locality: Offshore, east of Ocean City, Maryland

Plane of reference (mean ~~lower~~ low water): June-July: 3.4 ft.
Aug: 3.7 ft.
Sept.-Oct.: 4.3 ft.

Height of Mean High Water above Plane of Reference is
3.6 ft. - Bethany

Remarks: Recommended zoning:

	Time Correction	Range Ratio
(2) (1) West of 74°25'	-20 min	Direct
(1) (2) East of 74°25'	-30 min.	x0.94

James R. Halland
for Chief, Tides Branch

APPENDIX 3

CORRECTIONS TO ECHO SOUNDINGS

M1-40-3-76

Launch Survey No. VESUVIO 2220
OPR No. 316-M1-76
L.L. No. SHIPS FEET

Record of simultaneous leadline and echo sounder comparisons

Echo Sounder No. Ross 1052

Julian Day	Date (1976)	L.L. Sndg.	L.L. Corr.	L.L. Depth	Echo Sndg.	Echo Sndg. Corr.	Echo Depth	
296	10/22							
	STBD 1	30.1	-.04	30.06	16.1	14.30	30.40	-.34
	2	30.0	↓	29.96	16.0	↓	30.30	-.34
	3	30.0		29.96	16.1		30.40	-.44
	4	30.0		29.96	16.0		30.30	-.34
	5	30.0		29.96	16.2		30.50	-.54
								-.40
	PORT 1	30.5	-.04	30.46	16.0	14.30	30.30	+.16
	2	30.4	↓	30.36	16.1	↓	30.40	-.04
	3	30.4		30.36	15.9		30.20	+.16
	4	30.4		30.36	16.0		30.30	+.06
	5	30.3		30.26	16.1		30.40	-.14
								+.04

DRAFT AFT 13.95 FEET
Velocity Correction +.35 feet
Echo Sndg Corr 14.30 feet

Instrument Corr = -.18 feet

LL Corr. measured 10/22 after Cast at 30 FEET MARK on LL Vs STEEL TAPE = 29.96 FEET
LL Corr = -.04 feet

CHECKED VHS
COMPUTED RPW

22 July 1974

NOAA Ship MT MITCHELL MSS-22

Abstract of Settlement and Squat Correctors

RPM'S	S+S Correctors (ft)	S+S Correctors (ft)
105	0.0	0.0
110	0.045	0.0
120	0.140	0.1
130	0.225	0.2
140	0.300	0.3
150	0.356	0.4
160	0.403	0.4
170	0.440	0.4
180	0.472	0.5
190	0.500	0.5

Computed by: Evelyn J. Fields

Checked by: David Pasciuti

VELOCITY CORRECTIONS TAPE PRINTOUT

MI - 40 - 3 - 76

POS: 39-1161

```
 000160 0 0000 0001 000 222000 040376
000200 0 0001
000240 0 0002
000280 0 0003
000317 0 0004
000357 0 0005
000400 0 0006
000440 0 0007
000480 0 0008
000520 0 0009
000560 0 0010
000600 0 0011
000635 0 0012
000675 0 0013
000720 0 0014
000770 0 0015
000820 0 0016
000875 0 0017
000935 0 0018
001000 0 0019
001064 0 0020
001130 0 0021
001203 0 0022
001275 0 0023
001345 0 0024
001415 0 0025
001485 0 0026
001555 0 0027
001625 0 0028
001695 0 0029
001765 0 0030
001835 0 0031
999999 0 0031
```

VELOCITY CORRECTIONS TAPE PRINTOUT

MI - 40 - 3 - 76

POS: 1162-2232

```
000152 0 0000 0002 000/222000 040376
000177 0 0001
000202 0 0002
000223 0 0003
000250 0 0004
000270 0 0005
000290 0 0006
000310 0 0007
000330 0 0008
000350 0 0009
000370 0 0010
000388 0 0011
000408 0 0012
000430 0 0013
000450 0 0014
000473 0 0015
000495 0 0016
000520 0 0017
000542 0 0018
000565 0 0019
000590 0 0020
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000762 0 0027
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001250 0 0038
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001585 0 0044
001640 0 0045
001695 0 0046
001745 0 0047
001803 0 0048
001905 0 0049
999999 0 0049
```

VELOCITY CORRECTIONS TAPE PRINTOUT

MI - 40 - 3 - 76

POS: 2233-2352

```
000150 0 0000 0003 000 222000 040376
000178 0 0001
000204 0 0002
000228 0 0003
000251 0 0004
000276 0 0005
000302 0 0006
000330 0 0007
000356 0 0008
000385 0 0009
000414 0 0010
000440 0 0011
000470 0 0012
000500 0 0013
000530 0 0014
000562 0 0015
000598 0 0016
000630 0 0017
000668 0 0018
000705 0 0019
000742 0 0020
000780 0 0021
000822 0 0022
000866 0 0023
000912 0 0024
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001005 0 0026
001070 0 0027
001130 0 0028
001195 0 0029
001255 0 0030
001325 0 0031
001395 0 0032
001455 0 0033
001520 0 0034
001575 0 0035
001635 0 0036
001700 0 0037
001765 0 0038
001825 0 0039
001885 0 0040
999999 0 0040
```
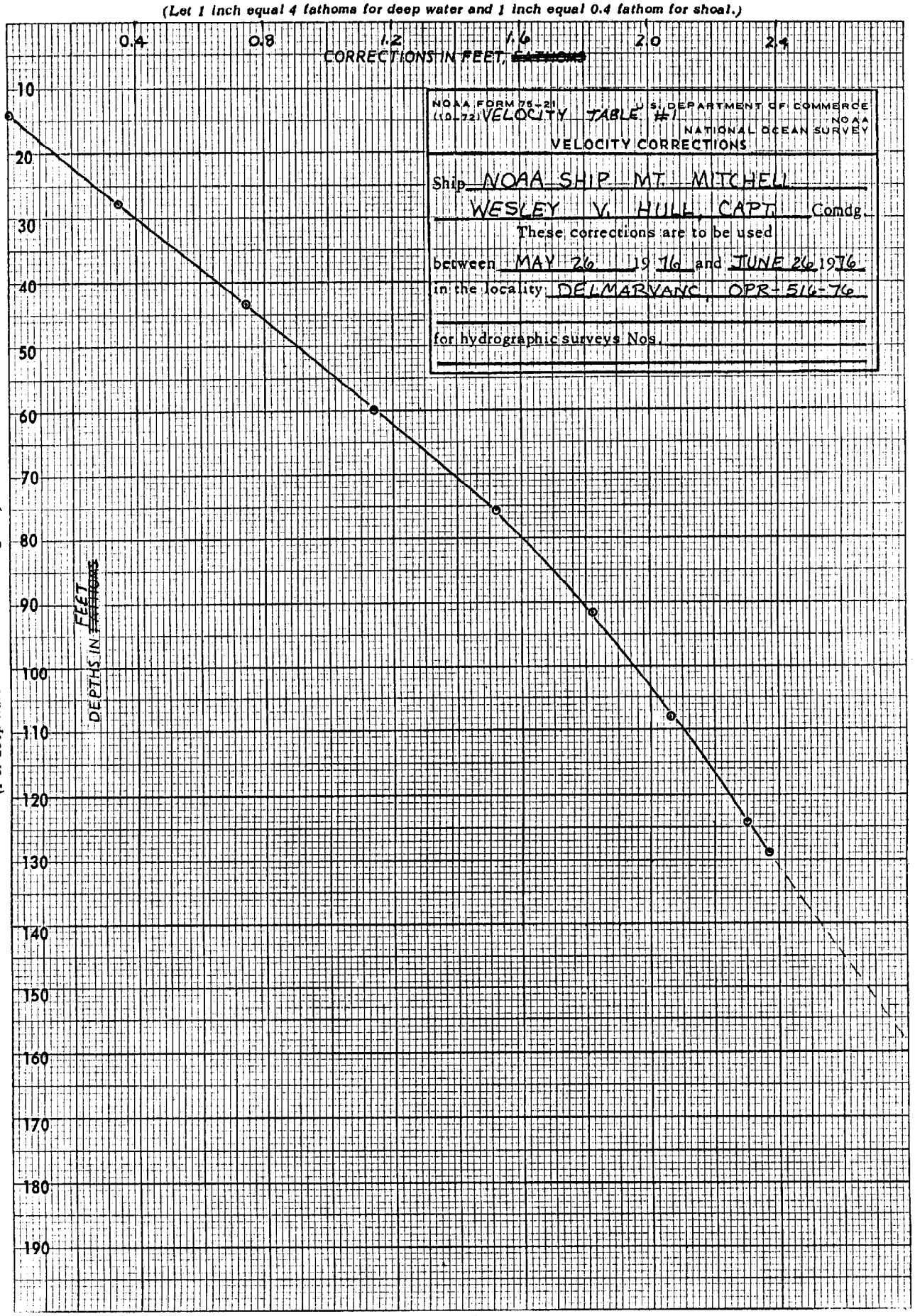

(Let 1 inch equal 4 fathoms for deep water and 1 inch equal 0.4 fathom for shoal.)



NOAA FORM 76-21 (10-72) VELOCITY TABLE #1

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 MAY 26 1976 and JUNE 26 1976

in the locality DELMARVANC, OPR-516-76

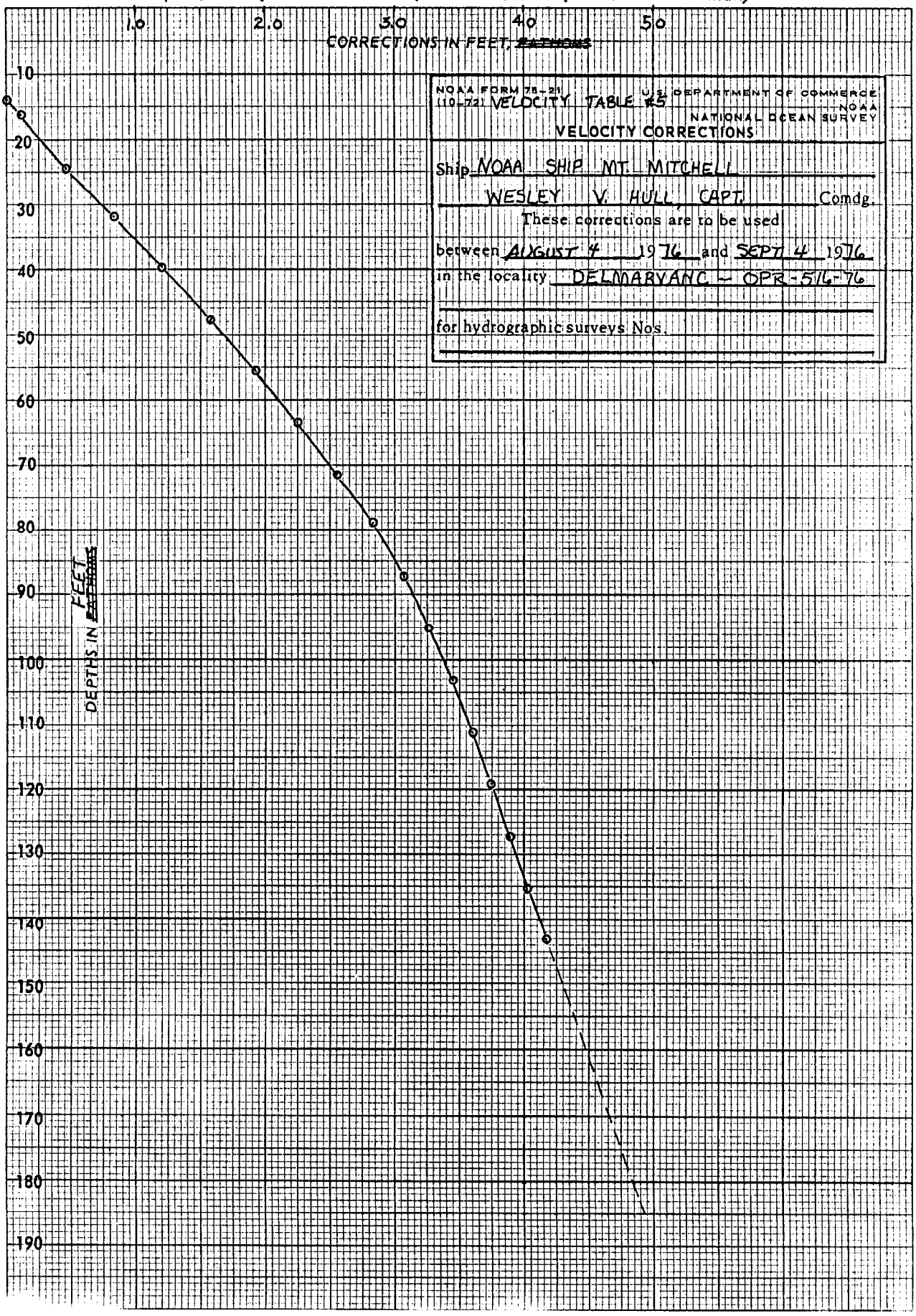
for hydrographic surveys Nos.

(For deep water add a 0 to these figures)

46 1240

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

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



NOAA FORM 76-21 (10-72) VELOCITY TABLE #5

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 AUGUST 4 1976 and SEPT 4 1976

in the locality DELMARVANC - OPR-516-76

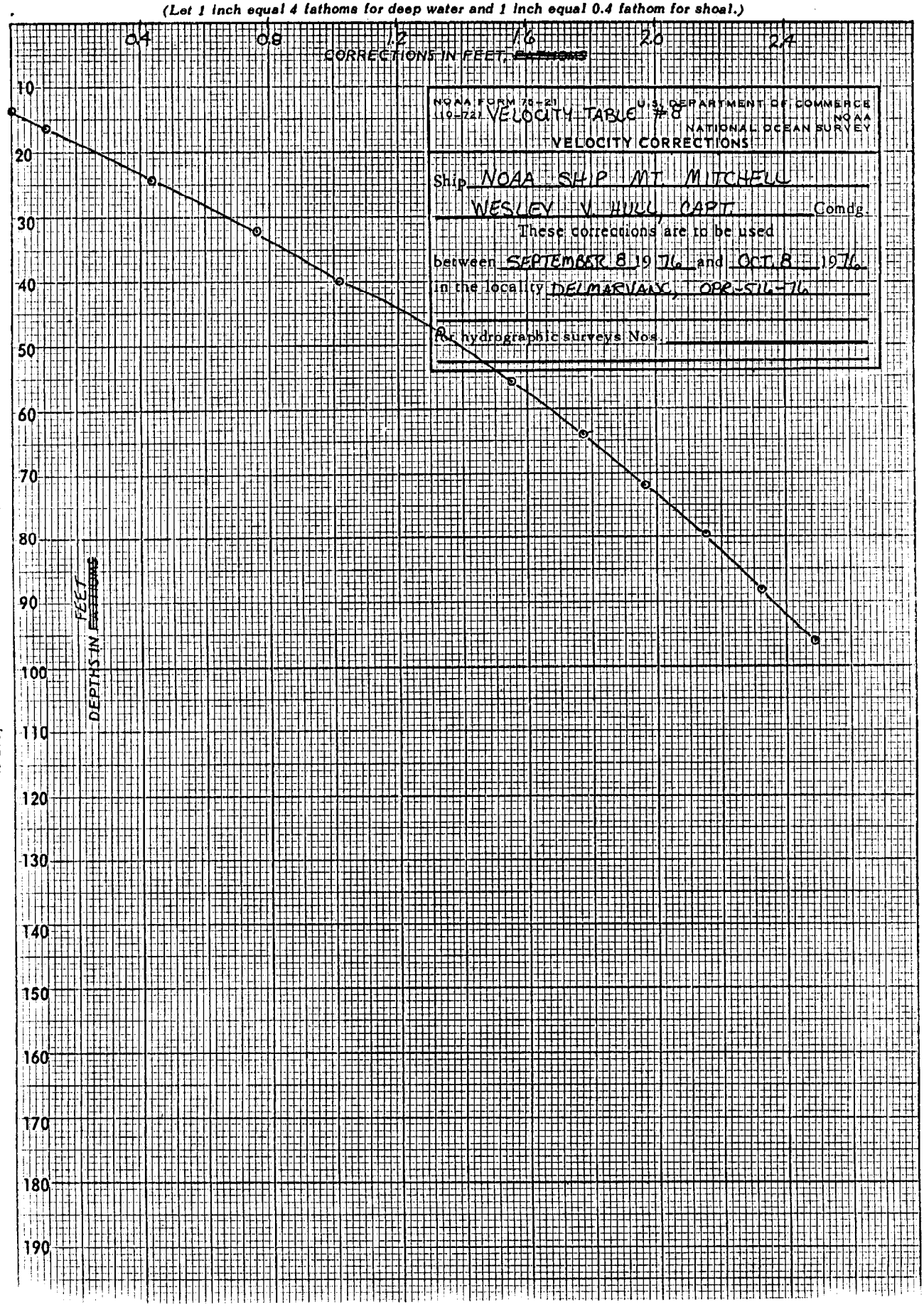
for hydrographic surveys Nos.

(For deep water add a 0 to these figures)

46 1240

KEUFFEL & ESSER CO. MADE IN U.S.A.

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



NOAA FORM 76-21 (10-72) VELOCITY TABLE #8

U.S. DEPARTMENT OF COMMERCE
NOAA
NATIONAL OCEAN SURVEY

VELOCITY CORRECTIONS

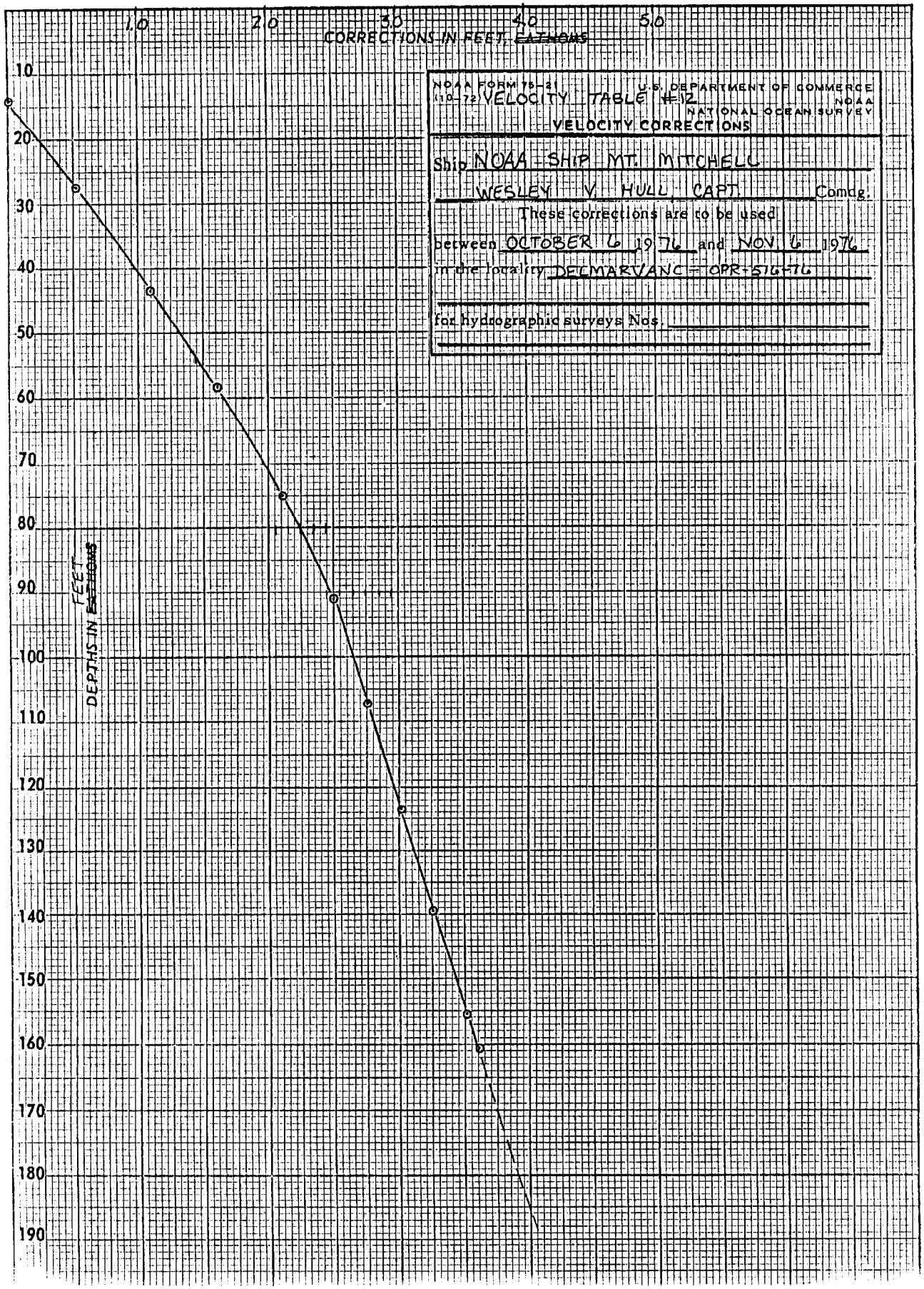
Ship NOAA SHIP MT. MITCHELL
WESLEY V. HULL, CAPT. Comdg.

These corrections are to be used
between SEPTEMBER 8 1976 and OCT. 8 1976
in the locality DELMARVAS, OPR-516-76

for hydrographic surveys Nos.

KEUFFEL & ESSER CO.

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



NOAA FORM 76-21 (10-72) VELOCITY TABLE #12

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 OCTOBER 6 1976 and NOV 6 1976

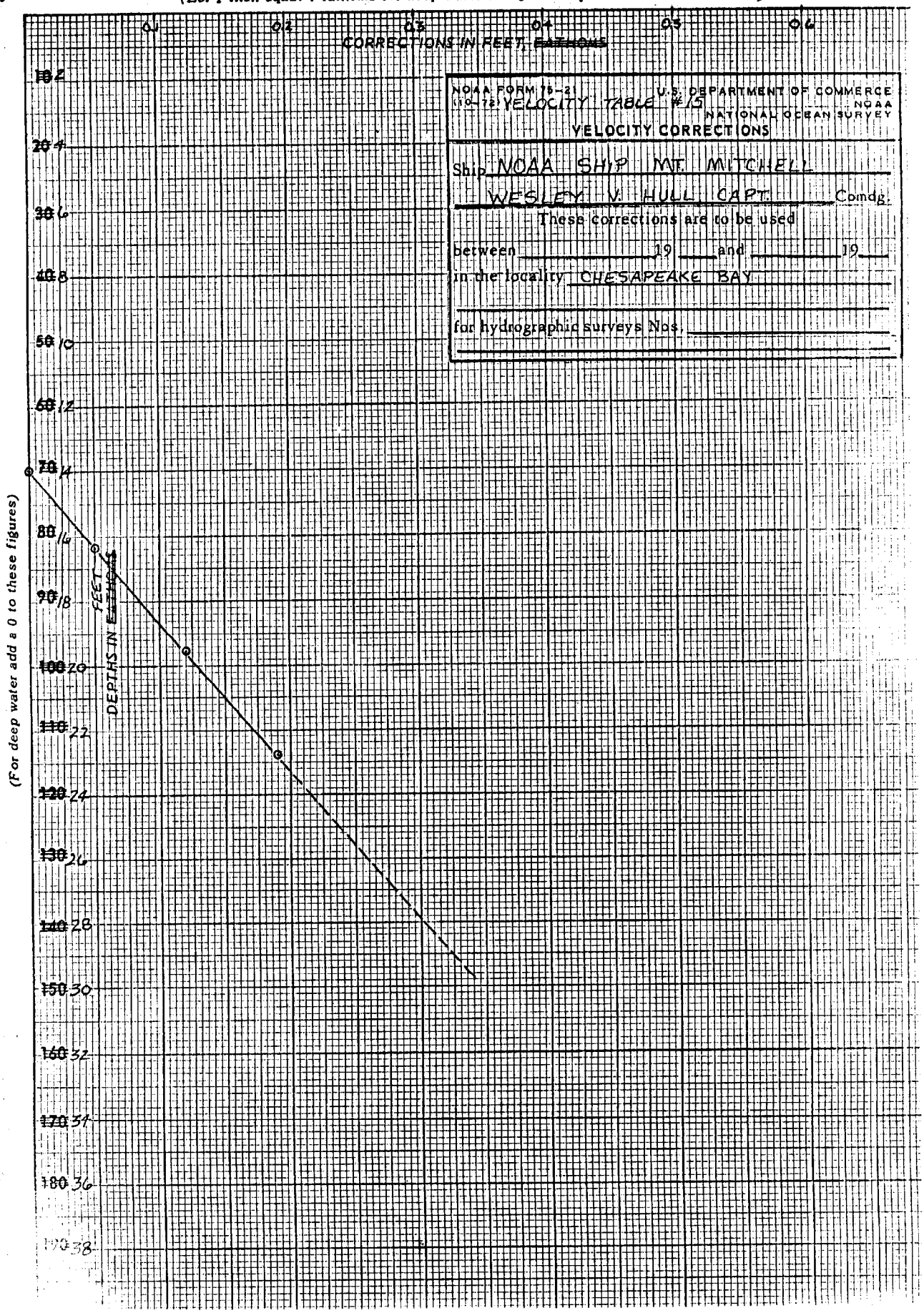
in the locality DELMARVANC - OPR-516-76

for hydrographic surveys Nos.

or deep water add a 0 to these figures)

KEUFFEL & ESSER CO.

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



NOAA FORM 76-21 (10-72) VELOCITY TABLE #15 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 CHESAPEAKE BAY

for hydrographic surveys Nos. _____

1240

MEUFFEL & ESSER CO.

APPENDIX 5

LIST OF STATIONS

SIGNAL NAMES TAPE LISTING

MI - 40 - 3 - 76

100	MC CABE SEAFIX	AMC OPER DIV
128	MYSTIC HARBOR TANK	AMC OPER DIV
132	NORTH JETTY LIGHT	AMC OPER DIV
136	OCEAN CITY TOWER #146	MD VOL 2 PG 662
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
149	LIGHT GREEN TANK	AMC OPER DIV
150	FENWICK ISLAND LIGHT	DEL VOL 2 PG 83
152	BETHANY BEACH WATER TANK	DEL VOL 2 PG 104
154	HAPPY	DEL VOL 2 PG 128
156	REHOBETH BEACH MUNICIPAL WATER TANK	DEL VOL 2 PG 144
159	FORT MILES WATER TANK	DEL VOL 2 PG 147
200	HAVEN SEAFIX	AMC OPER DIV
201	AZIMUTH TANK 66 STREET	AMC OPER DIV
300	ASSATEAGUE	AMC OPER DIV
400	INDIAN RIVER	AMC OPER DIV

SIGNAL TAPE LISTING

MI - 40 - 3 - 76

100	7	38	14	32217	075	08	04599	250	0000	161865
128	7	38	19	36984	075	07	03971	139	0000	000000
132	7	38	19	26626	075	05	06924	139	0000	000000
136	7	38	19	30836	075	05	18229	139	0000	000000
138	7	38	19	40442	075	05	21961	139	0000	000000
142	7	38	20	42283	075	04	51918	139	0000	000000
144	7	38	22	06121	075	04	23899	139	0000	000000
149	7	38	26	30359	075	03	20043	139	0000	000000
150	7	38	27	04478	075	03	19186	139	0000	000000
152	7	38	32	16041	075	03	31782	139	0000	000000
154	7	38	36	23801	075	03	53036	139	0000	000000
158	7	38	43	00667	075	04	57666	139	0000	000000
159	7	38	46	07942	075	05	12236	139	0000	000000
200	7	39	32	51112	074	15	12847	250	0000	161865
201	7	38	23	19348	075	04	02751	139	0000	000000
300	4	37	51	46378	075	22	03957	250	0000	161865
400	4	38	34	45917	075	03	32067	250	0000	161865

APPROVAL SHEET

MI-40-3-76

H-9629

The field work on this hydrographic survey was under my daily supervision. The boat sheet and records have been reviewed and approved by me.

Wesley V. Hull
Captain, NOAA
Commanding

NOAA FORM 76-155
(11-72)

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

SURVEY NUMBER

H-9629

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	
OCEAN CITY (TITLE)										1
										2
										3
										4
										5
										6
										7
										8
										9
										10
										11
										12
										13
										14
										15
										16
						APPROVED				17
						Chas. E. Harrington				18
						STAFF GEOGRAPHER		C51x2		19
						27 Dec. 1977				20
										21
										22
										23
										24
										25

NOAA FORM 76-155 SUPERSEDES C&GS 197

U.S. G.P.O. 1972-769-565/516 REG.#6

NOAA FORM 77-27 (5-77) | U. S. DEPARTMENT OF COMMERCE NOAA | HYDROGRAPHIC SURVEY NUMBER H-9629

HYDROGRAPHIC SURVEY STATISTICS

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

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

DESCRIPTION	DEPTH RECORDS	HORIZ. CONT. RECORDS	PRINTOUTS	TAPE ROLLS	PUNCHED CARDS	ABSTRACTS/ SOURCE DOCUMENTS
~~Accord.~~ ENVELOPES	N					3
CAHIERS	1		1-filed			
VOLUMES	2					
BOXES			1-smooth, sawtooth records			

T-SHEET PRINTS *(List)*

SPECIAL REPORTS *(List)* 3-Chart markups

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			2352
POSITIONS CHECKED		235	235
POSITIONS REVISED		3	3
SOUNDINGS REVISED		25	25
SOUNDINGS ERRONEOUSLY SPACED			0
SIGNALS (CONTROL) ERRONEOUSLY PLOTTED			0
	TIME – HOURS		
CRITIQUE OF FIELD DATA PACKAGE (PRE-VERIFICATION)	2		2
VERIFICATION OF CONTROL			
VERIFICATION OF POSITIONS		37	37
VERIFICATION OF SOUNDINGS		63	63
COMPILATION OF SMOOTH SHEET		38	38
APPLICATION OF TOPOGRAPHY			0
APPLICATION OF PHOTOBATHYMETRY			0
JUNCTIONS		6	6
COMPARISON WITH PRIOR SURVEYS & CHARTS		28	28
VERIFIER'S REPORT		8	8
OTHER			0
TOTALS	2	180	182

Pre-Verification by F. Saunders	*Beginning Date* 12/14/76	*Ending Date* 12/14/76
Verification by F. Lamison, F. Saunders, L. Cram	*Beginning Date* 01/03/77	*Ending Date* 11/07/77
Verification Check by B. J. Stephenson	*Time (Hours)* 7	*Date* 11/08/77
Marine Center Inspection by Hydrographic Inspection Team (AMC)	*Time (Hours)* 24	*Date* 11/11/77
Quality Control Inspection by K. W. Wellman 39	*Time (Hours)*	*Date* 12-22-77
Requirements Evaluation by DJHill	*Time (Hours)* 3	*Date* 5/3/78

Carstens 11 hr 4/27/78

Cartogue

REGISTRY NO. _____

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. H-9629

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-9629

Information for Future Presurvey Reviews

Slight shifting of bottom features is expected to continue.

Position Index Lat.	Long.	Bottom Change Index	Use Index	Resurvey Cycle
381	0745	3	2	50 years
381	0744	2	3	50 years
381	0743	2	3	50 years
382	0745	2	6	25 years
382	0744	2	6	25 years
382	0743	2	3	50 years
382	0742	0	3	50 years

ATLANTIC MARINE CENTER
VERIFIER'S REPORT

REGISTRY NO. H-9629 FIELD NO. MI-40-3-76

Maryland, Northeast Atlantic Coast, Offshore Ocean City

SURVEYED: June 3 through October 18, 1976

SCALE: 1:40,000 PROJECT NO.: OPR-516

SOUNDINGS: Ross Fineline Fathometer CONTROL: Decca Sea-Fix (Range-Range)

Chief of Party ..... CAPT W. Hull
Surveyed by ..... LCDR W. Daniels
..... LCDR G. Mills
..... LTJG D. Waltz
..... LTJG S. Iwamoto
..... ENS W. Dewhurst
..... ENS R. Mann
..... ENS V. Newell
..... ENS D. Rice
..... ENS M. Henderson
..... ENS K. Cox
..... ENS L. Cosgriff
..... ENS K. Olson
..... ENS P. Daugherty
Automated Plot by ..... Calcomp Plotter #618 (AMC)
Verified and Inked by ..... L. G. Cram
September 26, 1977

L. G. Cram

1. Introduction

a. No unusual problems were encountered during the verification of this survey.

b. The projection parameter was revised and notes added to the Descriptive Report in red ink during the verification of this survey.

2. Control and Shoreline

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

b. There is no shoreline on this survey.

3. Hydrography

a. The agreement of soundings at crossings is adequate.

b. The standard depth curves were adequately delineated. A 90-foot curve and additional brown curves were added to define the bottom configuration more distinctly and to delineate other significant bottom features.

c. The development of bottom configuration and the investigation of least depths ~~is~~ are considered adequate.

4. Condition of Survey

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

5. Junctions

Adequate junctions were effected with the following surveys:

H-9578 (1975) 1:20,000 to the northwest
H-9579 (1975) 1:20,000 to the west
H-9614 (1976) 1:80,000 to the northeast
H-9632 (1976) 1:80,000 to the east
H-9639 (1976) 1:40,000 to the north
H-9640 (1976) 1:40,000 to the south

Surveys in the southwestern junctional area of the present survey have not yet been received. A junction in this area has been deferred and will be completed by the Quality Control Branch, C352, pending processing and transmittal of data.

6. Comparison With Prior Surveys

a. H-5348 (1933) 1:40,000 { H-4939 (1929) 1:40,000 / H-4944 (1929) 1:40,000
H-5349 (1933) 1:20,000
H-5350 (1933) 1:20,000
H-5351 (1933) 1:40,000
H-5352 (1933) 1:10,000

These earlier surveys cover the area of the present survey. A comparison reveals a variable pattern of depth differences of ±2 to ~~10~~ 8 feet, with scattered indications of stable areas. Present depths range from 2 to 10 feet deeper in some areas. The greatest depth differences (±13 ft) occur on shoal features in the vicinity of latitude 38° 19.8' N, longitude 74° 33.0' W and latitude 38° 16.7' N, longitude 74° 45.6' W. These features are well represented with greater depths on subsequent prior surveys and the present survey. They are interpreted to be relatively stable sand ridge features; therefore, the existence of the much shoaler depths of the above

prior surveys are considered to be unlikely. These differences are attributed to survey methods and equipment, not natural changes. The above prior surveys are considered to be superseded in the common areas by the following subsequent prior surveys and the present survey. (See Q.C. Report-item 3)

b. H-6272 (1937) 1:40,000
H-6344 (1938) 1:40,000

These later prior surveys are in excellent agreement with the present survey, within ±2 feet, which is in contrast to the earlier prior surveys. Minor differences are attributed to sounding equipment improvement on the present survey. Several soundings and one bottom ~~sample~~ characteristic have been brought forward from H-6344 to supplement the present survey. With these additions, the present survey is adequate to supersede the above prior surveys within the common areas. (See Q.C. Report-item 4)

c. F.E. No. 5, 1950 WD 1:40,000
F.E. No. 8, 1949 WD 1:40,000
F.E. No. 9, 1950 WD 1:40,000

(See Q.C. Report-item 5)
These wire drag investigations cover the Presurvey Review wrecks on the present survey. The present survey developments were inadequate to verify or disprove the existence of the following hang wire drag depths; therefore, they should be retained as charted and have been brought forward to the present survey:

(1) From F.E. No. 5, 79 feet in latitude 38° 29.07' N, longitude 74° 32.65' W

(2) From F.E. No. 9, 57 feet in latitude 38° 25.83' N, longitude 74° 46.10' W

(3) From F.E. No. 8, 76 feet in latitude 38° 13.~~37~~43' N, longitude 74° 45.~~38~~41' W and 64 feet in latitude 38° 13.37' N, longitude 74° 45.76' W

d. H-9296, 1972 WD 1:20,000
H-6341, 1938 WD 1:40,000

These wire drag surveys cover portions of the present survey area. No conflicts between present depths and effective wire drag depths were encountered, except for a clearance of 63 feet on H-9296 in the vicinity of latitude 38° 29.20' N, longitude 74° 39.08' W, which is in conflict with the present depth of 61 feet. The differences can be attributed to natural changes in
(See Q.C. Report-item 6)

the area subsequent to the above survey, H-9296 (1972), or unknown differences due to differing survey methods. It is felt that the differences encountered are not significant considering the depths they occur in and the more conservative representation of the present survey for charting purposes.

7. Comparison With Charts 12200 (28th Edition, ~~February 14~~ April 3, 1976)
12214 (29th Edition, January 17, 1976)
12211 (23rd Edition, February 14, 1976)

a. Hydrography

The charted hydrography originates with the previously discussed prior surveys and requires no further consideration.

Attention is directed to the following:

(1) The 77-foot cleared depth on the wreck charted in latitude 38° 29.07' N, longitude 74° 32.65' W originates with a hang depth of 79 feet from F.E. No. 5 of 1950 WD and should be retained.

(2) The 57-foot cleared depth on the wreck charted in latitude 38° 25.83' N, longitude 74° 46.10' W originates with ~~a hang depth of 59 feet from~~ F.E. No. 9 of 1950 WD and should be retained.

(3) The 72- and 62-foot depths on the wrecks charted in latitude 38° 13.37' N, longitude 74° 45.~~38~~40' W and latitude 38° 13.37' N, longitude 74° 45.~~76~~81' W respectively, originates with hang depths of 7~~4~~6 and 64 feet from F.E. No. 8 of 1949 WD and should be retained.

(4) The charted cleared depth of 20 fathoms in latitude 38° 26.0'N, longitude 74° 23.5' W originates with F.E. No. 5 of 1950 WD, which was a search for a sunken wreck which was not located by that survey. Present survey depths of 147 to 152 feet were found in the area without indication of the wreck. It is recommended that the 20-fathom cleared depth be retained as charted, as the existence of the wreck has not been positively verified or disproved.

(5) The following nondangerous sunken wrecks originating with the U.S. Navy Wreck List of 1957 have not been positively verified or disproved by the present survey and should be retained as charted:

Latitude	38°	25.1'	N, longitude	74°	42.0' W
	38°	23.2'	N	74°	39.1' W
	38°	21.1'	N	74°	40.0' W
	38°	28.0'	N	74°	31.8' W

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

b. Aids to Navigation

The aids in the survey area adequately mark the features intended. The field unit located the station buoy "LS/D" and failed to mention it in the Descriptive REport. A note was made to that effect in the Descriptive Report and the buoy plotted on the Smooth Sheet.

8. Compliance With Instructions

This survey adequately complies with the Project Instructions dated October 1, 1975.

9. Additional Field Work

This is an excellent basic survey. No additional field work is recommended.

9629

APPROVAL SHEET
FOR
SURVEY H-9629

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: Nov 30, 1977

Signed: William L Jones

Title: Chief, Verification Branch

Inspection Report
H- 9629

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: NOV.30,1977

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/KWW

December 22, 1977

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

THRU: Chief, Quality Control Branch

FROM: K. W. Wellman
Quality Evaluator

SUBJECT: Quality Control Report for H-9629 (1976), Maryland, Northeast Atlantic Coast, Offshore Ocean City

A quality control inspection of H-9629 (1976) has been accomplished to evaluate the accuracy and adequacy of the survey with respect to data acquisition, delineation of the bottom, determination of least depths and navigational hazards, junctions, decisions and actions by the verifier, and cartographic presentation of data.

Junctional sheets H-9578 (1975) on the northwest, H-9579 (1975) on the west, H-9639 (1976) on the north, and H-9640 (1976) on the south are not presently available for comparisons. The evaluations of the junctions will be considered in the Quality Control Reports for those surveys.

In general, the present survey was found to conform to National Ocean Survey standards and requirements except as discussed in the Verifier's Report, the HIT Report, and as follows:

1. The depth curve segments in the junctional areas between the present survey and H-9632 (1976) on the east and H-9614 (1976) on the northeast were not in coincidence, thus necessitating appropriate revisions during quality control evaluation. (See memorandum dated August 6, 1976, from the Office of Marine Surveys and Maps entitled "Depth Contour Agreement in Overlap Areas.")

2. During verification, a 71-foot sounding (comprising the shoalest depth located in the area) in latitude 38°25.83', longitude 74°46.11' was excessed to facilitate the retention of a shoaler wire-drag hang depth of 57 feet, carried forward from F.E. No. 9 (1950) W.D. In such cases, the smooth sheet should be annotated to indicate the least present survey depth obtained in the area. (See provisional manual--section 6.3.7.3.) The necessary annotation was added during quality control evaluation.

3. Reference section 6a of the Verifier's Report:

Two additional prior surveys were not considered during verification, thus necessitating comparisons with the present survey during quality control evaluation.

Section 6a of the Verifier's Report is supplemented by the following:

The integrity of the general bottom configuration, as indicated by the 120-foot depth curves, has remained relatively intact. The area of the present survey, however, is considered subject to some limited shifting of bottom sediments. The noted depth differences, therefore, are attributed to minor shifting of bottom sediments, as well as to the less accurate methods and equipment employed on the prior surveys.

4. Section 6b of the Verifier's Report is supplemented by the following:

. . . within ± 2 feet, with scattered differences of as much as ± 8 feet. The noted depth differences are attributed to minor shifting of bottom sediments as well as the less accurate methods employed on the prior surveys. Several soundings and one bottom characteristic . . . .

5. Reference section 6c of the Verifier's Report:

The referenced section of the Verifier's Report does not include any mention of conflicts between present survey depths and cleared effective depths. (See provisional manual--section 6.6(11).)

Section 6c of the Verifier's Report is supplemented by the following:

Conflicts between present depths and indicated cleared depths are noted as follows:

Present depth (feet)	Latitude	Longitude	Cleared depth (feet)	Survey
103	38°27.76'	74°32.93'	104	F.E. No. 5
65	38°14.38'	74°45.30')	74	F.E. No. 8
62	38°14.33'	74°45.15')		

The noted conflicts are attributed to changes in the bottom configuration. The cleared depths in proximity to the above noted conflicts are considered presently invalid.

6. Section 6d of the Verifier's Report is supplemented by the following:

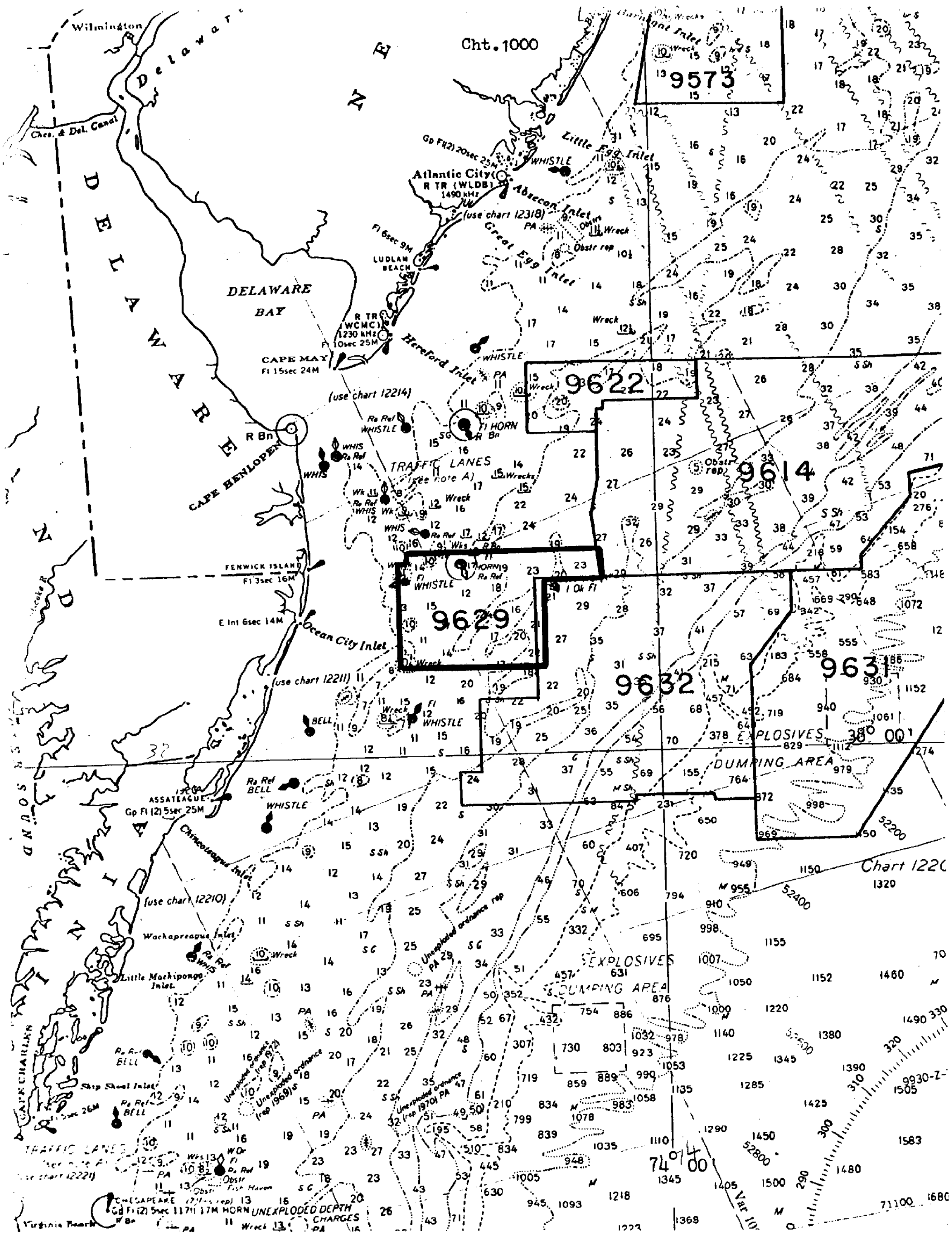
Additional conflicts between present depths and cleared depths on H-9246 W.D. are noted as follows:

Present depth (feet)		Latitude	Longitude	Cleared depth (feet)
61		38°29.20'	74°39.10'	63
75		38°26.70'	74°37.80'	77
74 75	vicinity of	38°26.70'	74°38.00'	76

The effective drag depths in proximity to the above noted conflicts are considered presently invalid.

A wire-drag depth of 65 feet in the vicinity of latitude 38°28.75', longitude 74°39.10' was carried forward to supplement the present survey.

cc:
C351


Cht.1000
9573
9622
9614
9629
9632
9631
Wilmington
Delaware
Ches. & Del. Canal
DELAWARE
DELAWARE BAY
Atlantic City
Little Egg Inlet
Absecon Inlet
Great Egg Inlet
Hereford Inlet
CAPE MAY
CAPE HENLOPEN
FENWICK ISLAND
Ocean City Inlet
ASSATEAGUE
Chincoteague Inlet
Wachapreague Inlet
Little Machipongo Inlet
Ship Shoal Inlet
CHESAPEAKE
TRAFFIC LANES
EXPLOSIVES DUMPING AREA
Chart 1220
UNEXPLODED DEPTH CHARGES
Unexploded ordnance rep

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

NAUTICAL CHART DIVISION

RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. 9629

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
12211	10-6-78	Richard L. Hogan	Full ~~Part Before~~ After Verification Review Inspection Signed Via
(1220)			Drawing No. 39
12214	11/2/78	Bill Wanless	Full ~~Part Before~~ After Verification Review Inspection Signed Via
(1219)			Drawing No. 43
12200	5/1/79	Bill Wanless	Full ~~Part Before~~ After Verification Review Inspection Signed Via
(1109)	RH		Drawing No. 45 F.
			Applied in part thru 12214 (1219)
			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.
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