9623

9623

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-80-2-76

Office No. H-9623

LOCALITY

State .... NEW JERSEY - DELAWARE

General Locality .... CONTINENTAL SLOPE

Locality .... EAST OF CAPE MAY

1976

CHIEF OF PARTY
W.V. HULL

Area 2

APP'd 5/9/79

1109 applied 2-16-78

1109 Applied RLH 11/8/77

☆ U.S. GOV. PRINTING OFFICE: 1975—668-353

NOAA FORM 77-28 (11-72) | U.S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION | REGISTER NO.

HYDROGRAPHIC TITLE SHEET

H-9623

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-80-2-76

State: NEW JERSEY, DELAWARE, ~~MARYLAND~~

General locality: ~~NORTHEAST ATLANTIC COAST~~ CONTINENTAL SLOPE

Locality: ~~CAPE MAY, NJ TO OCEAN CITY, MD~~ EAST OF CAPE MAY

Scale: 1:80,000 Date of survey: JULY 7 thru JULY 24, 1976

Instructions dated: OCTOBER 1, 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: PS, EM, WD, SG, FS, DR

Graphic record checked by: PS, EM, WD, SG, FS, DR

Protracted by: N/A Automated plot by: CALCOMP Plotter - 618 NOAA SHIP MT MITCHELL HYDROPLOT SYSTEM

Verification by: N/A B.J. Stephenson

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

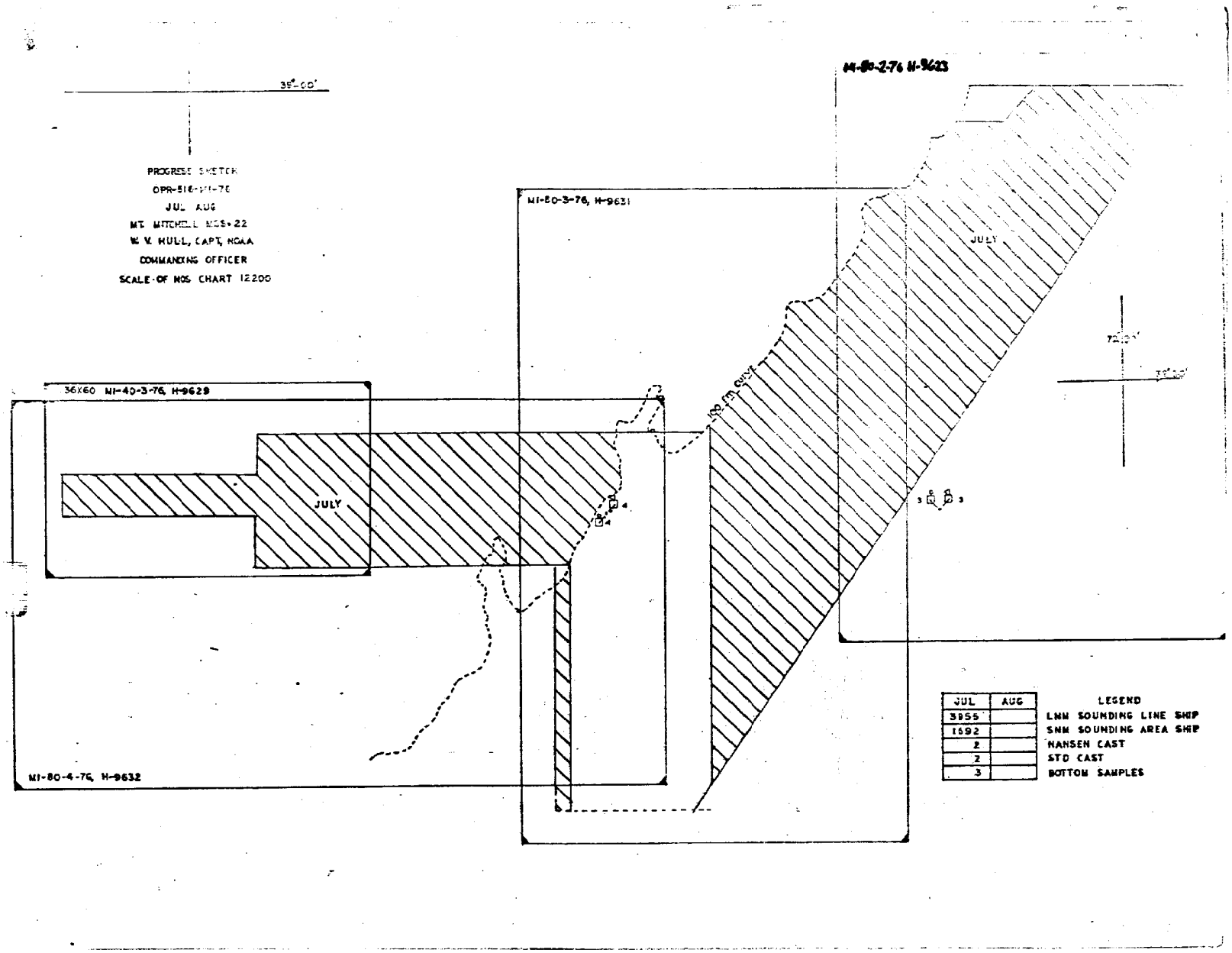
REMARKS: LCDR G. MILLS, LTJG S. IWAMOTO, LTJG D. WALTZ, ENS R. MANN, ENS L. COSGRIFF, ENS W. DEWHURST, ENS V. NEWELL, ENS D. RICE ENS M. HENDERSON, ENS K. COX

Applied to stds 10-25-77

KWW 10/6/92

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

☆ U.S. G.P.O. 1972-769-565/519 REG.#6


35°-00'
PROGRESS SKETCH
OPR-516-MI-76
JUL AUG
MT. MITCHELL MOS-22
W. V. HULL, CAPT, NOAA
COMMANDING OFFICER
SCALE OF NOS CHART 12200
MI-80-2-76 H-9633
MI-80-3-76, H-9631
36X60 MI-40-3-76, H-9629
JULY
JULY
MI-80-4-76, H-9632
JUL
AUG
3855
1592
2
2
3
LEGEND
LNM SOUNDING LINE SHIP
SNM SOUNDING AREA SHIP
NANSEN CAST
STD CAST
BOTTOM SAMPLES

DESCRIPTIVE REPORT

TO

ACCOMPANY

BATHYMETRIC SURVEY H-9623

MI-80-2-76

1:80,000 SCALE

CAPE MAY, NJ TO OCEAN CITY, MD

7 JULY 1976 TO 24 JULY 1976

NOAA SHIP MT MITCHELL MSS-22

WESLEY V. HULL
CAPTAIN, NOAA
COMMANDING

TABLE OF CONTENTS

HYDROGRAPHIC TITLE SHEET
PROGRESS REPORT

APPENDICES

✓ = Miscellaneous items removed from the D. R. and filed with the field records.

A. PROJECT

This Survey, MI-80-2-76 was conducted by the NOAA SHIP MT MITCHELL MSS-22 as a portion of Project "ASAP", DELMARVANC Phase, OPR-516 in accordance with Project Instructions dated Oct.1, 1975 and change No. 1 dated Nov.25, 1975, change No. 2 dated April 7, 1976 and change No. 3 dated May 4, 1976.

B. AREA SURVEYED

This bathymetric survey was conducted offshore of the Atlantic Coast between Cape May, NJ and Ocean City, MD generally between the 100 and 1300 fathom curve. The survey limits are described as the lines connecting the following corner points in a clockwise direction:

Latitude:	Longitude:
39°00'00"N	72°42'00"W
38°50'00"N	73°03'00"W
38°12'00"N	73°03'00"W
39°00'00"N	72°19'00"W

Hydrography was conducted on the following dates:

July 7, 1976 (JD 189) thru July 24, 1976 (JD 206).

C. SOUNDING VESSEL

All soundings for this survey were obtained by the NOAA SHIP MT MITCHELL MSS-22 (Vessel Number 2220 for all survey records) utilizing a fully automated Hydroplot System.

D. SOUNDING EQUIPMENT AND CORRECTIONS TO ECHO SOUNDINGS

All soundings were obtained by a Raytheon Universal Graphics Recorder (UGR) (S/N 170) with the sound room 2 transducer and an EDO Model 248-1 transciever (S/N 219). A Ross Model 5000 Fineline Recorder (S/N 1052) was used as a comparison in depths less than 200 fathoms. All soundings were either digitized on a Digitrak Digitizer (S/N 202) or entered manually.

All graphic records were scanned by trained survey personnel and checked by the officer in charge. Significant peaks and deeps that occured between soundings were inserted, digitized errors were corrected and the effects of seas were meaned and corrected on a corrector tape. Scale checks were made at frequent intervals to ensure proper digitizing.

On July 10, 1976 (JD 192) a Nansen Cast was taken at Latitude 38°17.0'N and Longitude 72°53.5'W. From the temperature and salinity data obtained

by this cast layer corrections for the velocity of sound were computed. A depth versus velocity correction curve was made and is included with this report. Printouts of the velocity tape are included also with this report.

Several draft readings were taken throughout the work on this survey. A draft of 2.2 fathoms was applied to all soundings during the on line process and on the corrector tape. Changes in the TC/TI tape is included with the survey data. A printout of this tape is included with this report.

A copy of the settlement and squat versus engine RPM is also included with this report. These corrections were determined on July 22, 1974 in Mayport, Florida.

Tide corrections were not required in plotting this sheet.

E. HYDROGRAPHIC SHEETS

This survey was plotted on two mylar complot roll plotter sheets by the Mt Mitchell Hydroplot system. The skew used was 90, 21, 54. This survey was plotted off line using a velocity corrector tape and an electronic corrector tape.

The final smooth sheet will be plotted at the Atlantic Marine Center. The following tapes and their printouts will be forwarded to the Atlantic Marine Center:

Master Range-Range Data Tapes
Range-Range Electronic Corrector Tapes
Parameter Tapes
ASC II Signal Tape
Velocity Corrector Tape
TC/TI Tape

F. CONTROL STATIONS

Control was obtained by 2 Sea Fix control shore stations located at the following positions:

Name:	Signal No:	Latitude:	Longitude:
McCabe Sea Fix	100	38°14'32.217"N	75°08'04.599"W
Haven Sea Fix	200	39°32'51.112"N	74°15'12.847"W

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

G. HYDROGRAPHIC POSITION CONTROL

The following Decca Sea Fix equipment, operating in a Range-Range Mode at a frequency of 1618.650 KHZ was used:

Type:		Serial No:
Ship	Equipment:	
	Master MDU	002 (Changed JD 191 to 004)
	Master Transmitter	009
	Master Receiver	129
	Interface (Panalogic)	006
	Sawtooth Recorder	9511
Shore	Station One Equipment:	
	Slave Control Unit	027
	Power Supply (Solar)	102
	Transmitter Amplifier	007
	Coupler	133
Shore	Station Two 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 10 meters were used in the calibrations.

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 to 0.2 lanes. The results were meaned and these corrections were applied to all positions until the next calibration.

When visibility conditions precluded three point sextant fixes, calibration was accomplished by comparing Sea Fix values with ranges observed from two Del Norte Stations at the following locations:

Signal No:	Serial No:	Type:	Name:	
136	927	C	Coast Guard Lookout Tower	38°19'30.836"N Lat 75°05'18.229"W Long
150	527	B	Fenwick Island Light	38°27'04.478"N Lat 75°03'19.186"W Long

The ship's Master Del Norte Station Serial No. was 169. Both shore Del Norte stations were located by the Atlantic Marine Center, Operations Division.

The 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 this report.

Whenever it became necessary for the whole lane count to be established one of two buoys was circled. One buoy was deployed by the Mt Mitchell on JD 194 and the other was NOAA Environmental Buoy EB-41. These were located at the following positions:

Buoy:	Latitude:	Longitude:
NOAA EB-41	38°43.2'N	73°38.0'W
MT MITCHELL BUOY #1	38°46.6'N	73°09.5'W

Hydroplot correctors to the whole lane count were established twice by taking Loran C rates and comparing them with the Sea Fix rates using program RK 111 and the ship's Loran C - Sea Fix comparison program. The first time the correctors were set with Loran C rates was on Julian Day 191 at 0900. Buoy EB-41 was circled 15 hours later and the hydroplot correctors agreed with the P2 value but disagreed with P1 by one lane. Similarly on Julian Day 204 at 0445 the hydroplot correctors were set with the Loran C - Sea Fix comparison program. By circling buoy EB-41 four hours later a one lane error was again found on P1 and P2 was shown to be correct. In both instances no unaccounted for lane jumps could be found after a thorough investigation of the sawtooth records. Hence, the lane count at buoy EB-41 was held as the correct value and the correctors were applied back to the times of the Loran C - Sea Fix comparisons.

On JD 206 at 0940 hours the Mt Mitchell Buoy #1 was circled to establish lane count. Work continued on MI80-2-76 running a total of 124 nm of hydrography. This mileage consisted of 21 miles of crossline, 35 miles of 1/2 mile spacing for further development of a submarine canyon and 68 miles of mainscheme. The mainscheme and development was being run for the second time due to excessive lane losses from phase shifting or "stretching" of the Sea Fix lanes. The distance from the stations was between 120 to 130 nautical miles.

A visual calibration was completed on JD 207 at 1440 GMT. A one lane discrepancy was found in pattern 1. A very thorough review of the sawtooth records has been made and the one lane cannot be accounted for. It is possible that the one lane error was introduced by the phase shifting or "stretching" of the Sea Fix signal as was observed earlier. It is not known where this lane loss occured.

Since this was the second time this hydrography had been run and the Sea Fix was very unstable at these distances, which are much greater than the design capabilities of the system, it was felt the loss of one lane would meet the accuracy requirements for bathymetric mapping.

The 124 miles of hydrography is between positions 742 and 817.

During work on this survey much time was lost and many soundings rejected due to Sea Fix malfunctions, atmospheric interference and the survey area being at the outer limits of the range of Sea Fix. Lane jumps were frequent which resulted in rejection of positions 74-103 and 574-615. These positions totaled 106 miles and were subsequently rerun. An abstract of the electronic correctors is included with this report.

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 20% of the main scheme lines and agreement was good between crosslines and main scheme lines.

J. JUNCTIONS

This survey junctions well with MI-80-1-76 (H-9614) to the northwest and H-9553 (1975) to the north. Most soundings were in general agreement. This survey also junctions with MI-80-3-76 (H-9631) to the west but that survey was not plotted with velocity corrections. The two surveys appear to junction well.

K. PRIOR SURVEYS

Prior survey H-6220 (1937) was conducted in the survey area. It compared well with the survey at most depths. 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). Most soundings compared well with the chart.

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 Hydro	1157.0
Linear Nautical Miles of Crosslines	225.0
Total Linear Nautical Miles of Hydro	1382.0
Total Linear Miscellaneous Miles	496.0
Total Linear Nautical Miles Run	1878.0
Square Miles Hydro	640.0
Total Positions	818
Nansen Casts	1
Bottom Samples	2

P. MISCELLANEOUS

The final field sheet was plotted with an incorrect velocity corrector tape creating a two fathom error at 1340 fathoms. In addition, positions 350 to 445 were plotted one lane off on P1 on the final field sheet. The correct velocity corrector tape and printout, electronic corrector tape and printout and other tables accompany or are included in this report.

Q. RECOMMENDATIONS

The recommendation is made that if future surveys are to be run at this great distance offshore, a more reliable positioning system must be employed.

R. AUTOMATED DATA PROCESSING

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

	Name:	Date:
RK 111	Range-Range Real Time Plot	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 561	H/R Geodetic Calibration	19 Feb 1975
RK 602	Elinore Line Editor	21 Mar 1975
RK 530	Velocity Correction Computations	25 Jun 1974

S. REFERENCE TO REPORTS

None

Respectfully Submitted:

Robert G. Mann

Robert G. Mann
Ensign, NOAA

APPENDIX II

FIELD TIDE NOTE

FIELD TIDE NOTE

PROJECT INSTRUCTIONS DID NOT REQUIRE THIS

SURVEY TO BE PLOTTED WITH TIDE CORRECTIONS

APPENDIX III

CORRECTIONS TO ECHO SOUNDINGS

VELOCITY CORRECTOR TAPE PRINTOUT

MI - 80 - 2 - 76

69 ENTRIES

COMPUTED VEW
CHECKED MEH

000033	0	0000	0001	001	222000	080276
000055	0	0001				
000080	0	0002				
000105	0	0003				
000133	0	0004				
000160	0	0005				
000190	0	0006				
000220	0	0007				
000250	0	0008				
000280	0	0009				
000313	0	0010				
000345	0	0011				
000378	0	0012				
000412	0	0013				
000445	0	0014				
000485	0	0015				
000520	0	0016				
000555	0	0017				
000590	0	0018				
000625	0	0019				
000660	0	0020				
000695	0	0021				
000727	0	0022				
000763	0	0023				
000795	0	0024				
000825	0	0025				
000860	0	0026				
000897	0	0027				
000935	0	0028				
000970	0	0029				
001005	0	0030				
001045	0	0031				
001085	0	0032				
001125	0	0033				
001165	0	0034				
001205	0	0035				
001250	0	0036				
001295	0	0037				
001345	0	0038				
001390	0	0039				
001435	0	0040				
001485	0	0041				
001535	0	0042				
001590	0	0043				

VELOCITY CORRECTOR TAPE PRINTOUT

MI : 80 : 2 : 76 CONT

COMPUTED VEN
CHECKED MEN

001650	0	0044
001970	0	0045
002750	0	0055
003550	0	0065
004300	0	0075
005050	0	0085
005750	0	0095
006350	0	0105
006950	0	0115
007500	0	0125
008000	0	0135
008500	0	0145
009000	0	0155
009450	0	0165
009900	0	0175
010330	0	0185
010750	0	0195
011150	0	0205
011550	0	0215
011970	0	0225
012350	0	0235
012750	0	0245
013130	0	0255
013450	0	0265
999999	0	0265

VELOCITY

CORRECTION TO DEPTHS (FROM GRAPHS OF EACH VELOCITY TABLE)

COMPUTED VEW
COPY CHECK KLC

VELOCITY TABLES

Fm	#3	Fm	#3	Fm	#3
0.0	3.3 ✓	2.6	86.0 ✓	11.5	695 ✓
0.1	5.5 ✓	2.7	89.7 ✓	12.5	750 ✓
0.2	8.0 ✓	2.8	93.5 ✓	13.5	800 ✓
0.3	10.5 ✓	2.9	97.0 ✓	14.5	850 ✓
0.4	13.3 ✓	3.0	100.5 ✓	15.5	900 ✓
0.5	16.0 ✓	3.1	104.5 ✓	16.5	945 ✓
0.6	19.0 ✓	3.2	108.5 ✓	17.5	990 ✓
0.7	22.0 ✓	3.3	112.5 ✓	18.5	1033 ✓
0.8	25.0 ✓	3.4	116.5 ✓	19.5	1075 ✓
0.9	28.0 ✓	3.5	120.5 ✓	20.5	1115 ✓
1.0	31.3 ✓	3.6	125.0 ✓	21.5	1155 ✓
1.1	34.5 ✓	3.7	129.5 ✓	22.5	1197 ✓
1.2	37.8 ✓	3.8	134.5 ✓	23.5	1235 ✓
1.3	41.2 ✓	3.9	139.0 ✓	24.5	1275 ✓
1.4	44.5 ✓	4.0	143.5 ✓	25.5	1310 ✓
1.5	48.5 ✓	4.1	148.5 ✓	26.5	1345 ✓
1.6	52.0 ✓	4.2	153.5 ✓	27.5	— ✓
1.7	55.5 ✓	4.3	159.0 ✓		
1.8	59.0 ✓	4.4	165.0 ✓		
1.9	62.5 ✓	4.5	197 ✓		
2.0	66.0 ✓	5.5	275 ✓		
2.1	69.5 ✓	6.5	355 ✓		
2.2	72.7 ✓	7.5	430 ✓		
2.3	76.3 ✓	8.5	505 ✓		
2.4	79.5 ✓	9.5	575 ✓		
2.5	82.5 ✓	10.5	635 ✓		

CORRECTION TO DEPTHS (FROM GRAPHS OF EACH VELOCITY TABLE)

VELOCITY TABLES #3

	TEMP				SALINITY			
	NANSEN	UP STD	DOWN STD	STD AVERAGE	NANSEN	UP STD	DOWN STD	
200	11.93	11.16	10.60	10.88	35.43	35.57	35.46	
250		9.62	9.35	9.48		35.40	35.28	
300	R 14.55	8.50	8.30	8.40	35.30	35.25	35.18	
350		7.62	7.30	7.46		35.15	35.12	
400	R 13.04	6.65	6.45	6.55	35.43	35.12	35.08	
450		6.00	5.90	5.95		35.09	35.06	
500	5.78	5.60	5.53	5.56	34.97	35.07	35.04	
600	5.07	5.05	5.00	5.02	34.95	35.05	35.02	
800	4.50	4.47	4.45	4.46	34.93	35.04	35.02	
1000	4.18	4.23	4.19	4.21	34.91	35.02	35.03	
	4.00	4.03	4.03	4.03	34.93	35.03	35.04	
	3.78	3.80	3.78	3.79	34.91	35.05	35.06	
	3.34	3.37	3.37	3.37	34.90	35.07	35.10	
	2.86	2.87	2.87	2.87	34.81	35.07	35.10	

Nansen Cast - STD comparison

VESSEL =2220

DATE =JULY 10 1976 (J.D. 192)

TIME =1342 GMT

LATITUDE = 038/17/00.00

LONGITUDE = 072/53/30.00

TYPE OF OBSERVATION =NANSEN STATION #3

VELOCITY TABLE #3

CAST-DEPTH (SURFACE) (M)	TEMP (DEG C)	SALINITY (0/00)	SND VEL (M/SEC)
0000.0	23.05	31.67	1526.32
0010.0	20.10	34.18	1521.61
0020.0	17.94	35.02	1516.67
0030.0	17.17	35.34	1514.96
0050.0	14.54	35.31	1507.10
0075.0	13.77	35.44	1505.30
0100.0	13.23	35.44	1503.85
0150.0	12.94	35.49	1503.73
0200.0	11.93	35.43	1501.05
0250.0	09.48	35.34	1493.31
0300.0	08.40	35.22	1489.65
0350.0	07.46	35.14	1486.77
0400.0	06.55	35.10	1483.97
0450.0	05.95	35.08	1482.37
0500.0	05.56	35.06	1481.60
0600.0	05.02	35.04	1481.02
0800.0	04.46	35.03	1482.31
1000.0	04.21	35.02	1484.28
1200.0	04.03	35.04	1486.30
1500.0	03.79	35.06	1490.94
2000.0	03.37	35.08	1497.65
2500.0	02.87	35.08	1504.24

VALUES ARE FROM STD

```
1) CURVE FIT  2) NO CURVE FIT
SPECIFY OPTION (1,2)    1

DEPTH 1 = 0

DEPTH 2 =    100

LAYER THICKNESS = 10

ANOTHER INTERVAL? (Y,N)Y

DEPTH 1 = 100

DEPTH 2 = 500

LAYER THICKNESS = 25

ANOTHER INTERVAL? (Y,N)Y

DEPTH 1 = 500

DEPTH 2 = 1200

LAYER THICKNESS = 50

ANOTHER INTERVAL? (Y,N)Y

DEPTH 1 = 1200

DEPTH 2 = 2500

LAYER THICKNESS = 100
***** BUFFER FULL *****



DEPTH 1 = 0

DEPTH 2 = 100

LAYER THICKNESS = 10

ANOTHER INTERVAL? (Y,N)Y

DEPTH 1 = 100
```

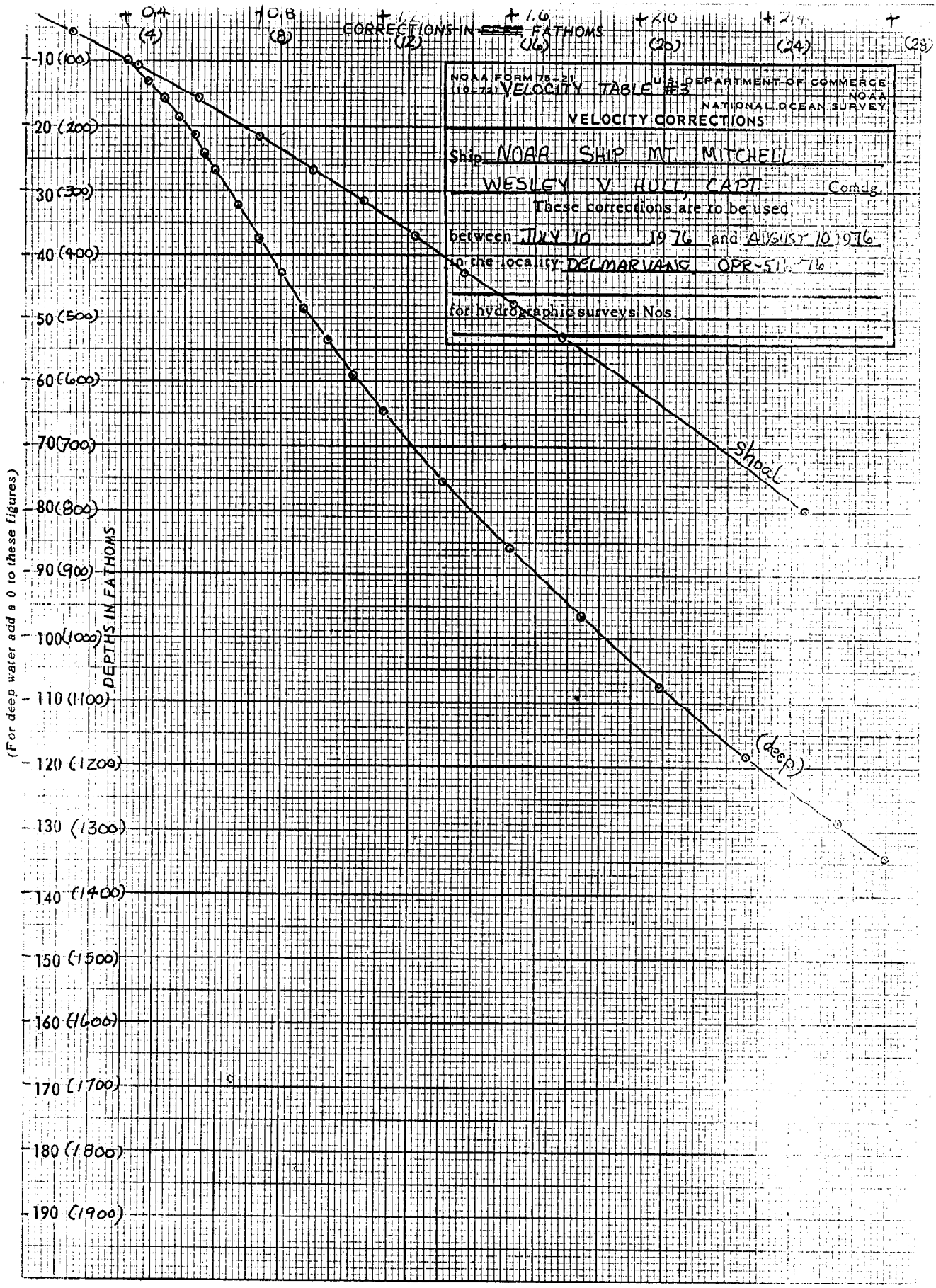
```
DEPTH 2 = 500
LAYER THICKNESS = 50
ANOTHER INTERVAL? (Y,N)Y
DEPTH 1 = 500
DEPTH 2 = 1200
LAYER THICKNESS = 100
ANOTHER INTERVAL? (Y,N)Y
DEPTH 1 = 1200
DEPTH 2 = 2500
LAYER THICKNESS = 200
ANOTHER INTERVAL? (Y,N)N

PUNCH ON? (Y) Y
```

MID-DEPTH (M)	SND VEL (M/SEC)	LAYER THICKNESS (M)
0005.00	1524.38	0010.00
0015.00	1518.78	0010.00
0025.00	1515.71	0010.00
0035.00	1513.43	0010.00
0045.00	1509.04	0010.00
0055.00	1505.92	0010.00
0065.00	1505.14	0010.00
0075.00	1505.20	0010.00
0085.00	1504.83	0010.00
0095.00	1504.14	0010.00
0125.00	1503.41	0050.00
0175.00	1503.23	0050.00
0225.00	1497.01	0050.00
0275.00	1490.83	0050.00
0325.00	1488.31	0050.00
0375.00	1485.26	0050.00
0425.00	1483.03	0050.00
0475.00	1481.91	0050.00
0550.00	1481.25	0100.00
0650.00	1481.09	0100.00
0750.00	1481.60	0100.00
0850.00	1482.50	0100.00
0950.00	1483.65	0100.00
1050.00	1484.92	0100.00
1150.00	1486.23	0100.00
1300.00	1488.23	0200.00
1500.00	1490.94	0200.00
1700.00	1493.65	0200.00
1900.00	1496.32	0200.00
2100.00	1498.96	0200.00
2300.00	1501.54	0200.00
2450.00	1503.43	0100.00

VELOCITY CORRECTION TABLE OPTIONS:
0) NO TABLE
1) IN FEET
2) IN FATHOMS
3) IN METERS
2
DRAFT = 2.2

Apparent depth

ACTUAL DEPTH (SURFACE) MINUS VELOCITY CORRECTION (FM)	VELOCITY CORRECTION (FM)
0005.33	0000.14
0010.59	0000.35
0015.86	0000.54
0021.14	0000.73
0026.44	0000.90
0031.75	0001.06
0037.06	0001.22
0042.37	0001.38
0047.68	0001.53
0052.99	0001.69
0079.58	0002.44
0106.17	0003.19
0132.87	0003.83
0159.70	0004.35
0186.56	0004.82
0213.49	0005.23
0240.46	0005.61
0267.44	0005.96
0321.44	0006.64
0375.45	0007.32
0429.44	0008.01
0483.39	0008.74
0537.30	0009.51
0591.17	0010.33
0644.98	0011.19
0752.46	0013.08
0859.74	0015.16
0966.81	0017.45
1073.68	0019.94
1180.36	0022.62
1286.84	0025.50
1340.02	0027.01



46 1240

APPENDIX V

LIST OF STATIONS

SIGNAL NAMES LIST

MI-80-2-76 H-9623

100	MC CABE SEAFIX	AMC OPER DIV
120	MYSTIC HARBOR TANK	AMC OPER DIV
132	NORTH JETTY LIGHT	AMC OPER DIV
134	COAST GUARD RADIO TOWER	AMC OPER DIV
136	OCEAN CITY TOWER #146	MD VOL 2 PG 662
138	OCEAN CITY SOUTH TANK	MD VOL 2 PG 663
144	OCEAN CITY NORTH MUNICIPAL TANK	MD VOL 2 PG 665
146	CONDOMINIUM(HIGHEST LIGHT)	AMC OPER DIV
150	FENWICK ISLAND LIGHT	DEL VOL 2 PG 83
200	HAVEN SEAFIX	AMC OPER DIV
201	AZIMUTH TANK 66 STREET	AMC OPER DIV

SIGNAL LIST
MI-80-2-76
H-9623

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
134	7	38	19	39961	075	05	27474	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
144	7	38	22	06121	075	04	23899	139	0000	000000
146	7	38	24	43509	075	03	25333	139	0000	000000
150	7	38	27	04478	075	03	19186	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

APPROVAL SHEET

MI-80-2-76

H-9623

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

Wesley V. Hull
Captain, NOAA
Commanding Officer

NOAA FORM 76-155
(11-72)

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

SURVEY NUMBER

H-9623

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	
BERKELEY CANYON										1
CARTERET CANYON										2
HENDRICKSON CANYON										3
LINDENKOHL CANYON										4
MIDDLE TOMS CANYON										5
SOUTH TOMS CANYON										6
TOMS CANYON										7
										8
										9
										10
										11
										12
										13
										14
										15
										16
										17
										18
										19
										20
										21
										22
										23
										24
										25

APPROVED

Chas. E. Harrington

STAFF GEOGRAPHER - C5 1x2

24 Aug 1977

NOAA FORM 76-155 SUPERSEDES C&GS 197

☆ U.S. G.P.O. 1972-769-565/516 REG.#6

APPROVAL SHEET
FOR
SURVEY H-9623

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: May 25, 1977

Signed: William L Jones

Title: Chief, Verification Branch

NOAA FORM 77-27
(9-72)
(PRESC. BY HYDROGRAPHIC MANUAL 20-2, 6-94, 7-13)

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

HYDROGRAPHIC SURVEY STATISTICS

HYDROGRAPHIC SURVEY NO. H-9623 (MI-80-2-76)

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

RECORD DESCRIPTION	AMOUNT	RECORD DESCRIPTION	AMOUNT
SMOOTH SHEET with PNO & excess overlay	1	BOAT SHEETS 4 ~~2~~ / 2-mylar 2-paper (~~2~~ parts)	1
DESCRIPTIVE REPORT	1	OVERLAYS (preliminary)	3 ~~2~~

DESCRIPTION	DEPTH RECORDS	HORIZ. CONT. RECORDS	PRINTOUTS	TAPE ROLLS	PUNCHED CARDS	ABSTRACTS/ SOURCE DOCUMENTS
ENVELOPES	PDR 11 ~~2~~ *		1-Smooth pos. & Sndg.			~~2~~
CAHIERS			1 & Ross fatho, misc. data			
VOLUMES	2					
BOXES			1*			

T-SHEET PRINTS *(List)*

SPECIAL REPORTS *(List)* * in box with 2 bundles of sawtooth rec. & sndg.vols.

OFFICE PROCESSING ACTIVITIES

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

PROCESSING ACTIVITY	AMOUNTS: PRE-VERIFICATION	VERIFICATION	REVIEW	TOTALS
POSITIONS ON SHEET				818
POSITIONS CHECKED		81		
POSITIONS REVISED		0		
DEPTH SOUNDINGS REVISED		10		
DEPTH SOUNDINGS ERRONEOUSLY SPACED				
SIGNALS ERRONEOUSLY PLOTTED OR TRANSFERRED				
	TIME (MANHOURS)			
TOPOGRAPHIC DETAILS		2	0	
JUNCTIONS		6	1	
VERIFICATION OF SOUNDINGS FROM GRAPHIC RECORDS		16	4	
SPECIAL ADJUSTMENTS				
ALL OTHER WORK		11	14+16	
TOTALS		35	~~19~~ 35	

	BEGINNING DATE	ENDING DATE
PRE-VERIFICATION BY F. L. Saunders	11-10-76	11-11-76
VERIFICATION BY B. J. Stephenson	04-21-77	04-25-77
REVIEW BY B. J. Stephenson	04-25-77	06-01-77
~~HIT (AMC)~~	~~05-25-77~~	~~06-03-77~~ 07-07-77

Quality Control by K. W. Wellman - D.R. Engle 24 hrs. 6 hrs 8-31-77

Cartographic: 7 hrs DHH 10-11-77

★ U.S. G.P.O. 1972-769-562/439 REG.#6 8-24-77

Reg. 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 REQ'D_____ INITIALS_____

REMARKS:

Reg. No. 9623

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 REQ'D._____ INITIALS_____

REMARKS:

H-9623

Information for Future Presurvey Reviews

None

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

Present survey depths exceed 20 fathoms thus obviating the need for Resurvey Cycle information.

ATLANTIC MARINE CENTER
VERIFIER'S REPORT

REGISTRY NO. H-9623 FIELD NO. MI-80-2-76

New Jersey, Delaware, Maryland; Offshore
(Cape May, New Jersey to Ocean City, Maryland)

SURVEYED: July 7 through July 24, 1976

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

SOUNDINGS: Raytheon Universal Graphic Recorder and Ross Model 5,000 Fineline Depth Recorder

CONTROL: Sea ~~Hi~~-Fix (Range-Range)

Chief of Party ..... CDR W. Hull
Surveyed by ..... LCDR G. Mills
..... LTJG S. Iwamoto
..... LTJG D. Waltz
..... ENS R. Mann
..... ENS L. Cosgriff
..... ENS W. Dewhurst
..... ENS V. Newell
..... ENS D. Rice
..... ENS M. Henderson
..... ENS K. Cox
Automated Plot by ..... Calcomp-618 (AMC)
Verified and Inked by ..... B. J. Stephenson

1. Introduction

No unusual problems were encountered. The projection parameter was revised during verification.

2. Control and Shoreline

a. The source of control is adequately described in Sections F and G of the Descriptive Report; however, the extremely large lane correctors have to diminish the overall credibility of the survey.

b. No shoreline falls within the limits of the present survey.

3. Hydrography

a. Depths at crossings are in good agreement.

b. The standard depth curves adequately represented the bottom.

c. The development of the bottom configuration and the investigation of least depths are adequate; however, the canyons could have been developed more extensively to give a better representation of the features.

4. Condition of Survey

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

5. Junctions

An adequate junction has been effected with the following contemporary surveys: (See Q.C. Report-item 2)

H-9614 (1976) to the northwest
H-9553 (1975) to the north
H-9631 (1976) to the west
H-9556 (1975) to the northeast (See Q.C. Report-item 3)

There are no other contemporary surveys that join this survey.

6. Comparison With Prior Surveys

H-6220 (1937) 1:20,000
H-6192 (1936) 1:20,000
FE No. 8 (1940) 1:1,200,000 (See Q.C. Report-item 5) (Trackline)

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 shoaler than prior depths.* These depth differences are attributed to natural changes in the bottom and less detailed and less accurate methods employed on the prior surveys.
* See Q.C. Report-item 4)
The more completely developed present survey is adequate to supersede the prior surveys within the common area.

7. Comparison With Chart #12200, 27th Edition, April 12, 1975 (Formerly C&GS 1109)

a. Hydrography

The charted hydrography originates with the previously discussed prior surveys which require no further consideration.

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.

9. Additional Field Work

This is a good bathymetric survey. Additional field work is not recommended.

10. Hydrographic Inspection Team Comments

Hydrographic Inspection Team comments are included within this report and verification deficiencies found, if any, have been corrected on the smooth sheet.

Approval Sheet for H-9623

Examined and Approved:
Hydrographic Inspection Team
Date: May 26, 1977

CDR Robert A. Trauschke, NOAA
Chief, Processing Division

CDR Jeffrey G. Carlen, NOAA
Chief, Coastal Mapping Division

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

William L. Jonns
Chief, Verification Branch

Dorothy C. Calland
Verification Branch

Approved/Forwarded

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

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

C352

August 24, 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-9623 (1976), New Jersey-Delaware, Continental Slope, East of Cape May

A quality control inspection of H-9623 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 navigation hazards, junctions, decisions and actions by the verifier, and cartographic presentation of data.

Junctional survey H-9614 (1976) on the northwest is not presently available. The junction with H-9614 will be inspected during the quality evaluation of that survey.

In general, the present survey was found to conform to National Ocean Survey standards and requirements except as follows:

1. In general, the depth curves were adequately interpreted. In one case, however, a depth curve improperly indicated a deeper depth than that justified by the hydrography in the area.

2. Contrary to the statement made in the Verifier's Report, adequate junctions were not effected (i.e., completed) during verification. Depth curves in the junctional areas were not in coincidence and the junctional note was not added to H-9553 on the north. Additional work necessary to complete the junctions should be discussed in the appropriate section of the Verifier's Report (see the memorandum dated August 6, 1976, from the Office of Marine Surveys and Maps entitled "Depth Contour Agreement in Overlap Areas"). Additional work necessary to complete the junctions and to reconcile the depth curves was accomplished during quality control inspection.

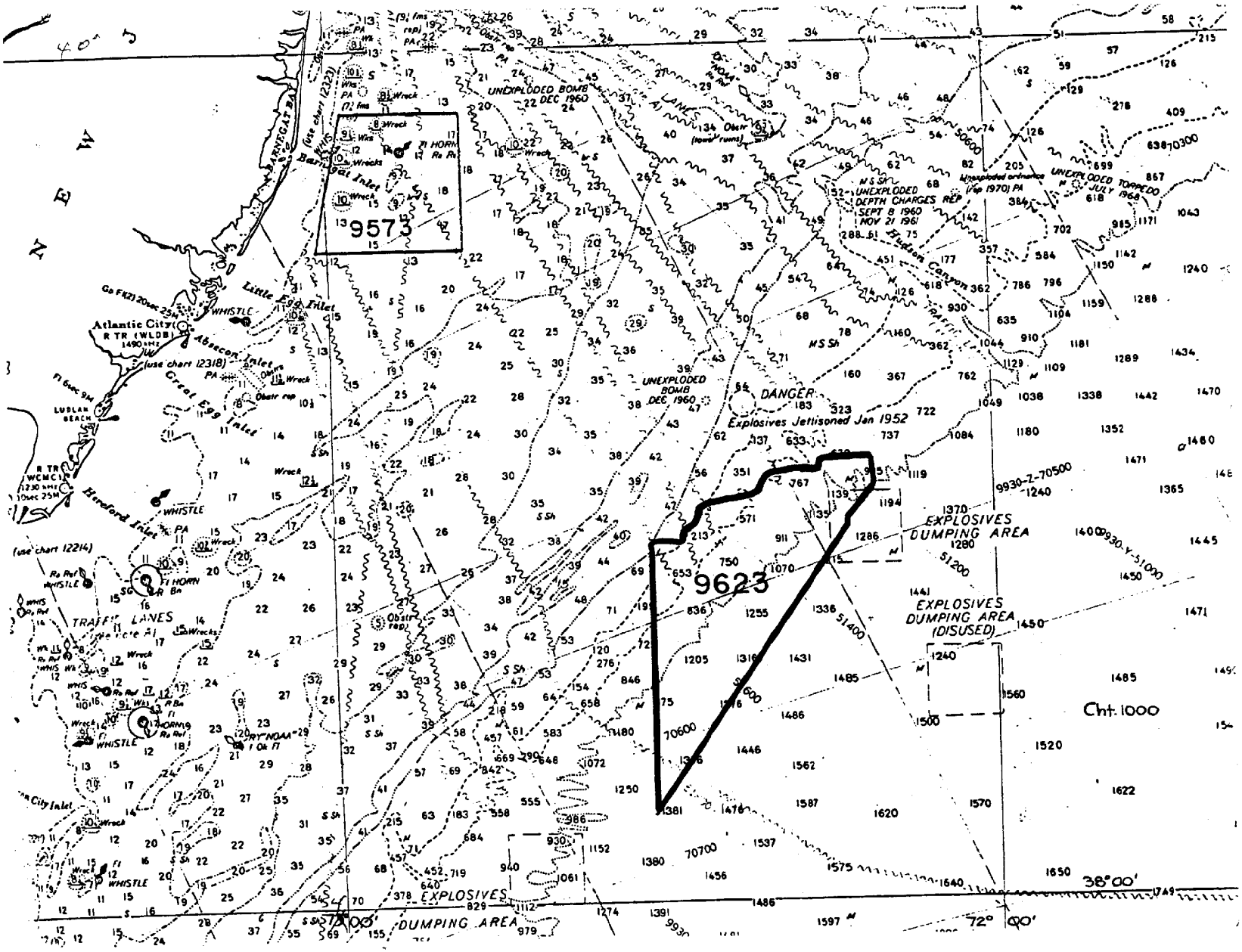
3. The junction with H-9556 (1975) was not considered during verification. During quality control inspection, an adequate junction was effected with H-9556 (1975) on the northeast.

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

. . . than prior depths. (Present depths are as much as 130 fathoms shoaler than the larger scale prior surveys and as much as 200 fathoms shoaler than depths on F.E. No. 8. Differences are primarily attributable to methods of control.)

5. Section 6 of the Verifier's Report erroneously stated the scales of the prior surveys with which comparison was made during verification and, further, is lacking any reference to a comparison with F.E. No. 8 (1940), a trackline which covers a portion of the present survey area.

cc:
C351


9573
9623
UNEXPLODED BOMB DEC 1960
UNEXPLODED BOMB DEC 1960
UNEXPLODED DEPTH CHARGES REP SEPT 8 1960 NOV 21 1961
Explosives Jettisoned Jan 1952
DANGER
EXPLOSIVES DUMPING AREA
EXPLOSIVES DUMPING AREA (DISUSED)
EXPLOSIVES DUMPING AREA
TRAFFIC LANES
Atlantic City
Little Egg Inlet
Great Egg Inlet
Absecon Inlet
Hereford Inlet
Brigantine Inlet
Hudson Canyon
Cht. 1000
38°00'
72° 00'

(3-25-63)

NAUTICAL CHART DIVISION

RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. 9623

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	11/7/77	Richard L. Hogan	Full ~~Part Before~~ After Verification Review Inspection Signed Via
			Drawing No. 43
1108	2-16-78	W Chandler	Full ~~Part Before~~ After Verification Review Inspection Signed Via
			Drawing No. 47 PARTLY THRU 1109
1000	5-9-79	R Fairfield	Full ~~Part Before~~ After Verification Review Inspection Signed Via
(13003)			Drawing No. 56
			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
			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
			Drawing No.