9534

Diag. Cht. Nos. 1000-3, 1217-2, & 1219-2

NOAA FORM 76-35A

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

DESCRIPTIVE REPORT
(HYDROGRAPHIC)

Type of Survey ..... HYDROGRAPHIC

Field No. MI-40-1-75

Office No. H-9534

LOCALITY

State ..... NEW JERSEY

General Locality ..... OFFSHORE ATLANTIC ~~OCEAN~~ Coast

Locality ... CAPE MAY TO ATLANTIC CITY

1975

CHIEF OF PARTY
RONALD M. BUFFINGTON

LIBRARY & ARCHIVES

DATE 3/18/76

☆U.S. GOVERNMENT PRINTING OFFICE: 1974-763-098

9534

1217
1219
1109

FORM C&GS-537
(8-15-59)

U.S. DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY

REGISTER NO.

H - 9534

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-40-1-75

State New Jersey

General locality Offshore Atlantic Coast

Locality Cape May to Atlantic City, ~~N.J.~~

Scale 1 : 40,000 Date of survey 11 June to 16 July, 1975

Instructions dated 27 March, 1975 Project No. OPR-517-MI-75

Vessel NOAA SHIP MT. MITCHELL, (MSS-22) Vesno 2220

Chief of party Ronald M. Buffington, Commander, NOAA

Surveyed by LCDR W.Daniels, LTJG T. RUSSEL, LTJG D. Pasciuti, LTJG K. O'Donnell, ENS E. Fields, ENS R. Marriner

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

Graphic record scaled by tr, ps, rm, rw

Graphic record checked by tr, ps, rm, rw Verified by: B.J. Stephenson

Protracted by NA CALCOMP -618 (AMC) Automated plot by ~~Atlantic Marine Center~~

Soundings penciled by NA Verified by: B.J. Stephenson

Soundings in ~~fathoms~~ feet at MLW ~~MLLW~~

REMARKS:

Applied to Stds 7/14/76
CAB.

RWW 8/27/92

USCOMM-DC 19086-P65

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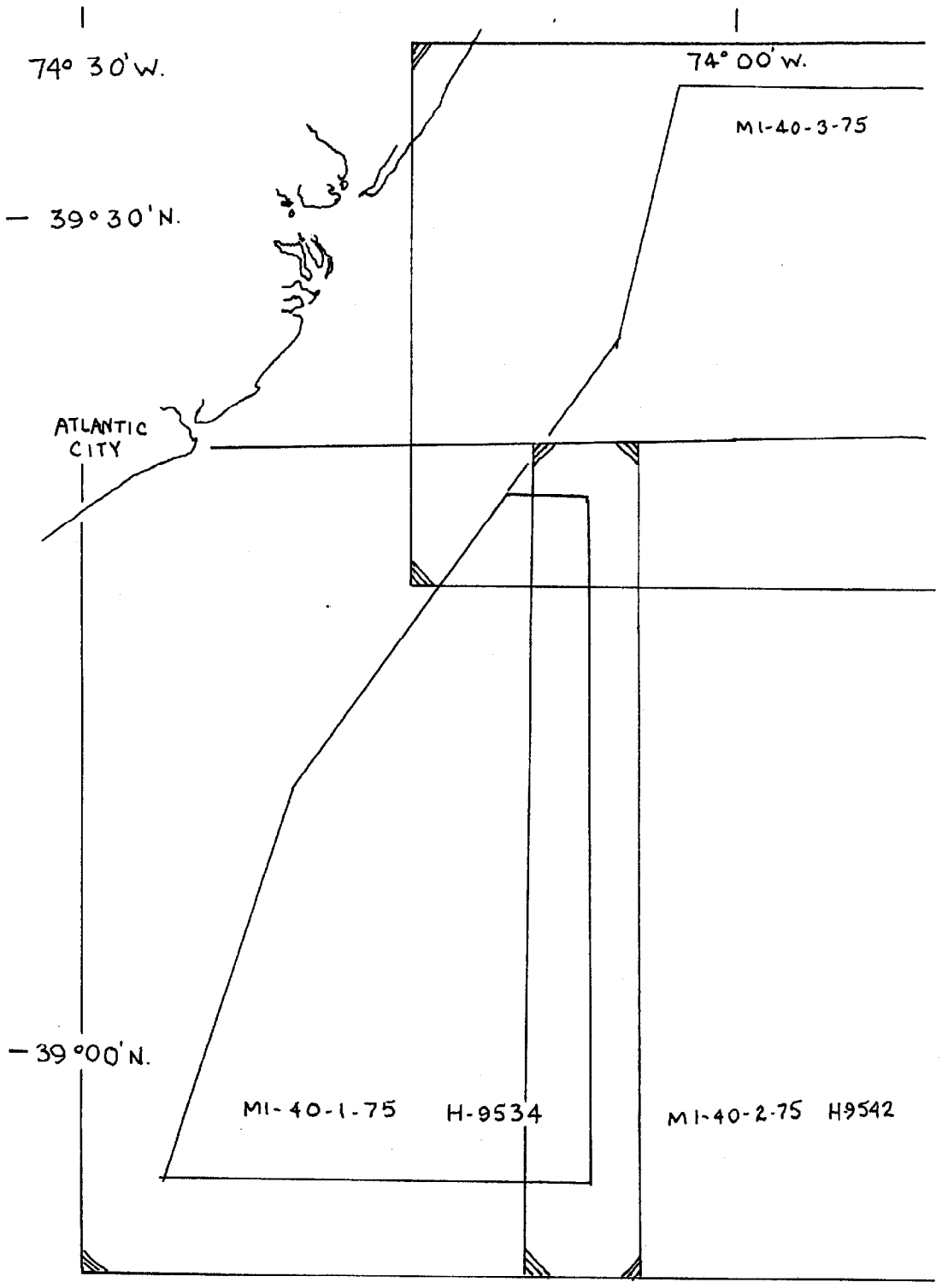
74° 30'W.
74° 00'W.
MI-40-3-75
39° 30'N.
ATLANTIC CITY
39° 00'N.
MI-40-1-75 H-9534
MI-40-2-75 H9542

DESCRIPTIVE REPORT

to accompany

HYDROGRAPHIC SURVEY H-9534, MI-40-1-75

1 : 40,000 1975

NOAA SHIP MT. MITCHELL, (MSS-22)

Ronald M. Buffington, Commander, NOAA

Commanding Officer

A. PROJECT

This survey was carried out in accordance with Project Instructions OPR-517-MI-75, issued 27 March, 1975, as amended by change No. 1, dated 14 April, 1975.

B. AREA SURVEYED

This survey, at a 1 : 40,000 scale, covered an area offshore of the New Jersey Coast from the approximate 11 fathom curve seaward. The survey area is described by the following points, connected counter-clockwise:

Lat.	38° 55.5'N	Long.	74° 26.0'W
	38° 55.5'N		74° 06.7'W
	39° 20.6'N		74° 06.7'W
	39° 20.6'N		74° 10.0'W
	39° 09.5'N		74° 20.0'W
	38° 55.5'N		74° 26.0'W

Survey operations were conducted between 11 June, 1975 and 16 July, 1975.

C. SOUNDING VESSEL

The NOAA Ship MT. MITCHELL (Vesno 2220) was used to obtain all soundings for this survey.

D. SOUNDING EQUIPMENT AND CORRECTIONS TO ECHO SOUNDINGS

The following sounding equipment was used to obtain depth information for this survey:

Ross Model 5000 Fine-Line Depth Sounder	
Recorder	SN 1052
Digitizer	SN 1039-2
Transceiver	SN 1050

The digitizing feature of the Ross depth sounder was used during on-line sounding operations. However, the action of the seas on the ship made necessary the correction of a large number of soundings. These corrections were applied using the Hydroplot corrector tape and were determined during off-line scanning of the graphic records.

Variations in the instrument initial were adjusted on-line after hourly phase comparison checks. Any uncorrected shifts were corrected by applying correctors during off-line scanning.

Settlement and squat corrections were applied using the TC/TI tape and are not included in the data plotted on the field sheets.

D. SOUNDING EQUIPMENT AND CORRECTIONS TO ECHO SOUNDINGS (Cont'd)

Draft changes of the sounding vessel were measured on entering and leaving port, and periodically through the survey period. These corrections were applied on the TC/TI tape and are not included in the data plotted on the field sheets.

Velocity of sound through water corrections were applied to all soundings using the Hydroplot system velocity corrector tape. These corrections were determined using Hydroplot program RK 530, with temperature and salinity data taken from Nansen casts in the operating area. The first Nansen cast was taken on 10 June and showed a substantial temperature and salinity change below a depth of 15 meters, indicating the presence of a layer of relatively fresh, warm water overlaying the colder, more saline bottom water. A second cast was taken on 11 June and showed the same layer change occurring below a depth of 10 meters. Data for both casts were processed separately to determine corrections. Comparison of the corrections showed negligible differences, so the correctors were meaned graphically and applied to all soundings. Nansen casts to determine velocity of sound through water corrections were taken at the following locations:

Cast # 1	10 June,1975	Lat. 39° 01.8'N	Long. 74° 08.6'W
Cast # 2	11 June,1975	39° 00.8'N	74° 08.6'W

The following instruments were used to analyze the temperature and salinity data from the Nansen casts:

Protected reversing thermometers Serial #	Last calibration
12973	2 Jan. 1974
12982	2 Jan. 1974
13008	2 Jan. 1974
13261	2 Jan. 1974
13263	2 Jan. 1974
13276	2 Jan. 1974
13300	25 Feb. 1974
13310	2 Jan. 1974
13315	25 Feb. 1974
13321	2 Jan. 1974
A58865	2 Jan. 1974
Salinometer : Beck Model RS-7B	
28289	10 Dec. 1973

E. HYDROGRAPHIC SHEETS

Field sheets on this survey were prepared using the Hydroplot system aboard the NOAA ship MT. MITCHELL. Field records will be forwarded to the Atlantic Marine Center for processing and verification.

Soundings on the field sheets are corrected for: velocity, draft, predicted tides, initial error and digitizer errors, but are not corrected for settlement and squat changes from the assumed draft of 14.0 ft.

F. CONTROL STATIONS

Control stations used for hydrography were:

Signal	Name	Latitude	Longitude
005	H-AMC-1-NJ-1975	38°56'12.690"N	74°53'44.342"W
015	ZIMM, 1975	38°45'44.159"N	74°06'19.764"W

Geodetic positions were provided by the Operations Division, Atlantic Marine Center, and Hi-Fix antennas were erected at the locations by ship's personnel.

G. HYDROGRAPHIC POSITION CONTROL

The Hi-Fix Navigation system was used in the Range-Range mode for position control for this survey. The following equipment was used:

Shipboard

Hi-Fix	Master MDU	sn 078
	Master transmitter	sn A250
	Ship receiver	sn A358
		(changed to sn A274 on 16 June)
	Sawtooth recorder	sn D254
	Navigation interface	sn 200587

Station 1

Hi-Fix	transmitter	sn A224
	receiver	sn 065
		(changed tosn A273 on 24 June)

Station 2	Hi-Fix transmitter	sn 075
	receiver	sn 251

Calibration of Electronic control system:

Calibration of the Hi-Fix Range-Range system was accomplished using three point sextant fixes and comparing observed range values to the computed values. A simultaneous check fix was taken with each calibration and fixes with an inverse distance from the fix to the check fix of greater than 5 meters were rejected.

The calibration correction (difference between the observed Hi-Fix range values and the computed ones) was found to vary with the ship's heading, so calibrations were taken at headings of North, East, South and West. The resulting calibration corrections were meaned and the mean applied to all positions taken for the remainder of that two week operating trip. Calibration was checked at the end of each two weeks and the results compared to the original corrections. During on-line operations lane jumps were detected by operating personnel, using the saw-tooth recorder, and were corrected using the Hydroplot controller.

Calibration buoys were placed in the operating area and the Hi-Fix positions established by circling the buoy. Frequent returns were made to check the whole lane count and reset correct lane values to the calibration corrections established at the start of the trip. An abstract of calibration data is included in the supporting material accompanying this survey.

G. HYDROGRAPHIC POSITION CONTROL (Cont'd)

During work in the project area, there were many hours lost because of Hi-Fix malfunctions. During specific work on this survey, the following down-times were caused by Hi-Fix failure:

12 June	0253-1054	8:01 hrs.
12 June	1441-1738	2:57 hrs.
16 June	2106 to	
17 June	0606	9:00 hrs.
	Total:	19:58 hrs.

H. SHORELINE

There was no shoreline within the limits of this survey.

I. CROSSLINES

Crosslines for this survey were run in a North-South direction, perpendicular to the main scheme of sounding lines and were run in segments scheduled to begin approximately one hour before predicted low water and end approximately one hour after.

Crossing agreements are very good throughout the survey area with random one foot errors.

Crossline mileage was 7.4% of the regular sounding lines.

J. JUNCTIONS

There were no completed contemporary surveys junctioning with this survey. Work was started on survey MI-40-2-75, which will junction to the East, and MI-40-3-75, which will junction to the North.

K. COMPARISON WITH PRIOR SURVEYS

This survey ~~junctions with~~ overlaps the following prior surveys:

H-6264	1 : 40,000	1937
H-6271	1 : 40,000	1937
H-6345	L : 80,000	1938

Comparison of randomly selected soundings was made for each of these prior surveys. Agreement was found to be very good, with only minor discrepancies throughout the area.

The following numbered pre-survey items were specifically investigated:

13 - (Obstruction reported at 39°12.0'N, 74°14.9'W) - a development (pos.1378/92) was run over the charted position and no evidence of an obstruction was found. Deletion of the item is NOT recommended. See Review item 6Cb1

14 - (Fish Haven) - The inshore limit of hydrography for this survey was extended to cover the entire Fish Haven area. A peak of 64 ft. was found during development (pos. ~~1427-1442~~ 7464-7043) at 39°14.4'N, 74°18.1'W. A peak of 52 ft. was found in the western corner of the Fish Haven (pos.984-985) at 39°16.1'N, 74°16.3'W.

L. COMPARISON WITH THE CHART

Chart No. 12318 (C&GS 1217) (27th. edition Oct.12/74) is the largest scale chart covering the survey area. The chart was found to be an adequate representation of the area's depths.

M. ADEQUACY OF THE SURVEY

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

N. AIDS TO NAVIGATION

There are no aids to navigation within the limits of this survey.

O. STATISTICS

Total number of positions	1526
Total nautical miles of sounding line (excluding crosslines)	1307
Total nautical miles of crosslines	96
Total square nautical miles of hydrography	231
Temperature and salinity stations	2
Bottom samples (not required by project instructions)	Ø 37 BJS

P. MISCELLANEOUS

The bottom samples for this Survey were obtained by the George B. Kelez FRS-91 and were merged into the Survey. Positions 1527-1563 BJS

None.

Q. RECOMMENDATIONS

None

R. AUTOMATED DATA PROCESSING

The following Hydroplot programs were used for processing data for this survey:

	NAME	VERSION DATE
RK 111	Range-Range Real Time System	8/7/74
RK 201	Grid, Signal & Lattice Plot	2/19/75
RK 211	Range-Range Non-real time plot	8/16/74
AM 300	Utility Computations	5/24/73
AM 500	Predicted Tide Correctors	11/10/72
RK 530	Velocity Corrections	6/25/74
RK 561	Geodetic Calibration	7/1/74
AM 602	Elinore	3/10/72

Respectfully Submitted,

Thomas G Russel

Thomas G. Russel, LTJG, NOAA

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ATLANTIC MARINE CENTER

PROJECTION PARAMETERS

POLYCONIC OR MODIFIED TRANSVERSE MERCATOR

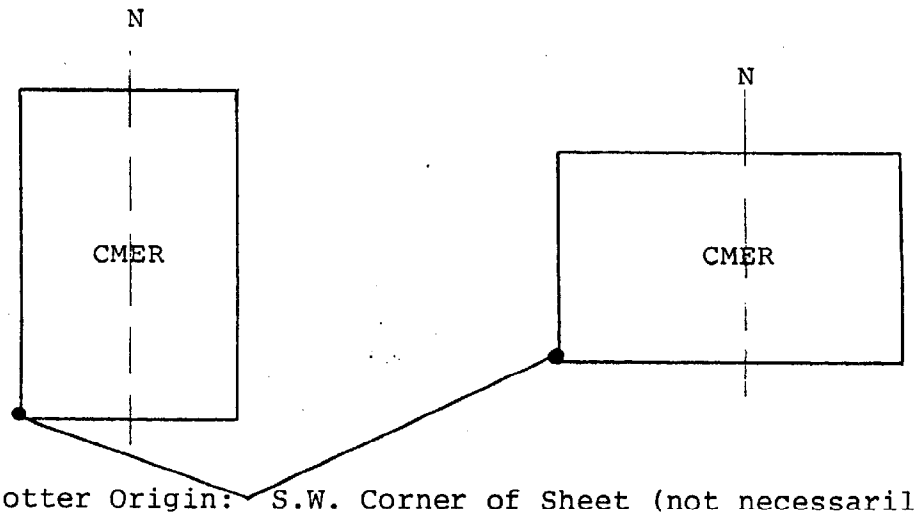
1. Project No. OPR-517
2. Reg. No. H-9534
3. Field No. MI 40-1-75
4. Requested By W.H. TYNDALL
5. Ship or Office VER. BRANCH (AMC)
6. Date Required ASAP

7. Polyconic [X] Modified Transverse Mercator [ ]
8. Central Meridian of Projection 74 ° 15 ' 00 "
9. Survey Scale: 1: 40,000
10. Size of Sheet (check one):

    36 x 54 [X] 36 x 60 [ ] Other [ ] Specify _____

11. Sheet Orientation (check one):

    NYX = 1 [1] NYX = Ø [ ]



12. Plotter Origin: S.W. Corner of Sheet (not necessarily a grid intersection)

    Latitude 38 ° 51 ' 58 "

    Longitude 74 ° 30 ' 00 "

13. G.P.'s of triangulation and/or signals attached [ ]
14. Material Desired: Tracing Paper [ ] Mylar [X]

    Smooth Sheet [X] Other [ ] Specify _____

15. Remarks: _____

P.O. CHECKED BY BJS
DATE 12-29-75
VERIFICATION BR., AMC

ATTACHMENT No.1 cont'd.

Atlantic Marine Center

Electronic Control Parameters SHEET "A"

Project OPR-517-MI-75 Reg. No. H-9534 Field No. MI-40-1-75

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

Frequency 1799.600 KHz (for conversion of lanes to meters)

Mode of Operation (check one)

Range-Range [x] Range-Visual [ ]

Range One (R1)	(SIGNAL NO.5)	Lat.	38°56'12.6899"N.
Station I.D.	H-AMC-1-NJ-1975	Long.	74°53'44.3419"W.
Range Two (R2)	(SIGNAL NO.15)	Lat.	39°45'44.1589"N.
Station I.D.	ZIMM	Long.	74°06'19.7642"W.

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

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

Location of Survey:

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

Survey area is to observer's Right [x] 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

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

[x] 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 x No (If Yes: See additional copy of this form)

From: T:_____ Jul. Day ____ to T:_____ Jul.Day_____

Remarks:_____

ATTACHMENT #1 cont'd.

FIELD SHEET PARAMETER TAPE PRINTOUTS

```
SHEET 1 OF THREE        SKEW 00.21.36
FEST = 100000
CLAT = 4300000
CMER = 73/55/00
GRID = 2/0
PLSCL = 40000
PLAT = 38/52/00
PLON = 74/30/00
VESNO = 2220
YR = 75
ANDIST = 0

SHEET 2 OF THREE        SKEW 00.21.36
FEST = 100000
CLAT = 4300000
CMER = 73/55/00
GRID = 2/0
PLSCL = 40000
PLAT = 39/01/00
PLON = 74/30/00
VESNO = 2220
YR = 75
ANDIST = 0

SHEET 3 OF THREE        SKEW 00.21.36
FEST = 100000
CLAT = 4300000
CMER = 73/55/00
GRID = 2/0
PLSCL = 40000
PLAT = 39/10/30
PLON = 74/30/00
VESNO = 2220
YR = 75
ANDIST = 0
```

ATLANTIC MARINE CENTER

VERIFICATION OF SMOOTH TIDES

SURVEY H- 9534 (MI 40-1-75)

PLANE OF REFERENCE MLW OR MLLW
TIME MERIDIAN ~~____~~ GMT
HEIGHT DATUM ON STAFFS 1. ~~4.53~~ 2. ____ 3. ____

TIDE STATIONS	POSITION	TYPE GAGE	TIME CORR. H.W.	TIME CORR. L.W.	HEIGHT CORR. * H.W.	HEIGHT CORR. * L.W.
1. Atlantic City N.J.	Ø 39 - 21' Y 74 - 25'	Std				
2.	Ø Y					
3.	Ø Y					

HOURLY HRIGHTS [ ] FROM ROCKVILLE OFFICE [X] FROM FIELD MARIGRAMS VERIFIED BY: Rockville

TIDE ZONING [X] NOT APPLICABLE [ ] BY COMPUTER [ ] FROM TWO OR MORE GAGES

LIMITS AND DESCRIPTION OF ZONING METHODS

TIDE CORRECTIONS COMPILED [X] BY COMPUTER [ ] MANUALLY VERIFIED BY: GFT VERIFIED BY: ____

HEIGHT OF MHW ABOVE PLANE OF REFERENCE 4.1

TIDE CORRECTIONS VERIFIED ON SOUNDING PRINTOUT BY: GFT

DATE OF VERIFICATION 11-3-75

*OR RATIO

EXAMINED & APPROVED

CJ Jones

10/16/75

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): Atlantic City

Period: June 10 - July 16, 1975

HYDROGRAPHIC SHEET: H-9534

OPR: 517

Locality: Off the New Jersey coast in the vicinity of Atlantic City

Plane of reference (mean ~~lower~~ low water): 4.53 ft.

Height of Mean High Water above Plane of Reference: 4.1 ft.

Remarks: Zone direct.

James R Hubbard
for Chief, Tides Branch

ATTACHMENT # 2 - FIELD TIDE NOTE

Field tide reduction of soundings was based on predicted tides from Sandy Hook, N.J. corrected to the center of the survey area, with correctors for time and height supplied by Requirements and Facilities Section, Oceanographic Division. Correctors applied were: - 30 minutes on times of high and low waters and 0.89 ratio of heights of high and low waters. All times of predicted tides are in GMT. Correction of predicted tide data to the working area was accomplished using Hydroplot program AM500 on a PDP 8/E computer. A tide gage was installed by Coastal Mapping Tides Party at Wildwood, N.J. (Lat. 38° 58.5'N, Long. 74° 49.5'W). A letter from Operations Division, AMC, 4 June, 1975 reported the gage as operating. No other information as to quality of records is available at this time.

ATTACHMENT # 3 - GEOGRAPHIC NAMES LIST

The investigation of geographic names was not included in Project Instructions for this survey.

CAM3-12
2-22-74

OPR 517

TRA CORRECTION ABSTRACT

VESSEL 2220 SHEET MI-40-1-75 REGISTRY NO. H- 9534

Vol.	Jul. Day	GMT From Time	GMT To Time	Velocity Table ft/fms	Variation in Draft	Instrument Error Corr.	Initial Corr.	S&S Corr.	TRA Corr. ft/fms	Remarks
I	162	004300	135730	0001	* -0.4			+0.4	0.0	*14.0 ft. Draft used on
		135730	202600					+0.1	-0.3	Corrector tapes. Changes
		202600	163/ 003100					+0.4	0.0	from that are included
	163	003100	010030					0.0	-0.4	on TC/TI tape.
		010030	230613					+0.5	0.1	
		230613	232515					+0.1	-0.3	Instrument and initial
		232515	235815		-0.3			+0.4	0.1	error included in
		235815	164/ 002130					0.0	-0.3	scanning corrections,
	164	002130	112500					0.4	0.1	
		112500	121945					0.1	-0.2	All corrections in feet.
		121945	165/ 100030					0.4	0.1	
	165	100030	100700					0.1	-0.2	
		100700	131130					0.4	0.1	
		131130	133700					0.1	-0.2	
		133700	166/ 022100					0.4	0.1	
	166	022100	025600		-0.2			0.2	0.0	
		025600	074500					0.0	-0.2	

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ATTACHMENT #4 ABSTRACT OF CORRECTIONS TO ECHO SOUNDINGS.

CAM3-12
2-22-74

OPR ~~H-~~ 517

TRA CORRECTION ABSTRACT

VESSEL 2220 SHEET MI-40-1-75 REGISTRY NO. H-9534

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
	166	074500	100600	0001	-0.2			+0.1	-0.1	
		100600	134315					0.0	-0.2	
		134315	165230					0.3	0.1	
		165230	195201					0.4	0.2	
		195201	200001					0.1	-0.1	
		200001	167/ 010300					0.4	0.2	
	167	010300	011200					0.0	-0.2	
		011200	084416					0.5	0.3	
		084416	115345					0.3	0.1	
		115345	185145					0.5	0.3	
		185145	191430					0.1	-0.1	
		191430	168/ 100631					0.5	0.3	
	168	100631	121030					0.4	0.2	
		121030	130216					0.5	0.3	
		130216	132531					0.1	-0.1	
		132531	169/ 074430					0.5	0.3	
	169	074430	105830		-0.1			0.3	0.2	

CAM3-12
2-22-74

OPR 517

TRA CORRECTION ABSTRACT

VESSEL 2220 SHEET MI-40-1-75 REGISTRY NO. H- 9534

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
	169	105830	115000	0001	-0.1			0.0	-0.1	
		115000	122529					0.3	0.2	
		122529	142730					0.1	0.0	
		142730	170/074931					0.4	0.3	
	170	074931	176/ 180200					0.3	0.2	
	176	180200	183500					0.5	0.4	
12		183500	191730					0.3	0.2	
		191730	202530					0.5	0.4	
		202530	205130					0.3	0.2	
		205130	212600					0.5	0.4	
		212600	214130					0.3	0.2	
		214130	220630					0.5	0.4	
		220630	221730					0.3	0.2	
		221730	177/ 125646					0.5	0.4	
	177	125646	130731					0.3	0.2	
		130731	197/ 071015					0.5	0.4	
	197	071015 071730	071730 235959					0.1 0.5	0.0 0.4	

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

HYDROPLOT VELOCITY CORRECTOR TAPE PRINTOUT

000165 0 0000 0001 000 222000 009534

000222 0 0002

000281 0 0004

000340 0 0006

000399 0 0008

000463 0 0010

000540 0 0012

000650 0 0014

000837 0 0016

001024 0 0018

001210 0 0020

001399 0 0022

001582 0 0024

999999 0 0026

H-9534 TC/TI

```
004300 0 0000 0001 162 222000 001975
135730 0 -003 0001 162 222000 001975
202600 0 0000 0001 162 222000 001975
003100 0 -004 0001 163 222000 001975
010030 0 0001 0001 163 222000 001975
230613 0 -003 0001 163 222000 001975
232515 0 0001 0001 163 222000 001975
235815 0 -003 0001 163 222000 001975
002130 0 0001 0001 164 222000 001975
112500 0 -002 0001 164 222000 001975
121945 0 0001 0001 164 222000 001975
100030 0 -002 0001 165 222000 001975
100700 0 0001 0001 165 222000 001975
131130 0 -002 0001 165 222000 001975
133700 0 0001 0001 165 222000 001975
022100 0 0000 0001 166 222000 001975
025600 0 -002 0001 166 222000 001975
074500 0 -001 0001 166 222000 001975
100600 0 -002 0001 166 222000 001975
134315 0 0001 0001 166 222000 001975
165230 0 0002 0001 166 222000 001975
195201 0 -001 0001 166 222000 001975
200001 0 0002 0001 166 222000 001975
010300 0 -002 0001 167 222000 001975
011200 0 0003 0001 167 222000 001975
084416 0 0001 0001 167 222000 001975
115345 0 0003 0001 167 222000 001975
185145 0 -001 0001 167 222000 001975
191430 0 0003 0001 167 222000 001975
100631 0 0002 0001 168 222000 001975
121030 0 0003 0001 168 222000 001975
130216 0 -001 0001 168 222000 001975
132531 0 0003 0001 168 222000 001975
074430 0 0002 0001 169 222000 001975
105830 0 -001 0001 169 222000 001975
115000 0 0002 0001 169 222000 001975
122529 0 0000 0001 169 222000 001975
142730 0 0003 0001 169 222000 001975
074931 0 0002 0001 170 222000 001975
180200 0 0004 0001 176 222000 001975
183500 0 0002 0001 176 222000 001975
191730 0 0004 0001 176 222000 001975
202530 0 0002 0001 176 222000 001975
205130 0 0004 0001 176 222000 001975
212600 0 0002 0001 176 222000 001975
214130 0 0004 0001 176 222000 001975
220630 0 0002 0001 176 222000 001975
221730 0 0004 0001 176 222000 001975
125646 0 0002 0001 177 222000 001975
130731 0 0004 0001 177 222000 001975
071015 0 0000 0001 197 222000 001975
071730 0 0004 0001 197 222000 001975
235959 0 0000 0001 197 222000 001975
235959 0 0000 0000 400 222000 000000
***** TAPEMARK *****
***** TAPEMARK *****
***** TAPEMARK *****
```

VELOCITY CORRECTIONS FOR SURVEY H 9534.

H-9534

TABLE NUMBER 1. UNIT IS FEET.

DEPTH+TRA	VELOCITY CORRECTION
16.5	0.0
22.2	0.2
28.1	0.4
34.0	0.6
39.9	0.8
46.3	1.0
54.0	1.2
65.0	1.4
83.7	1.6
102.4	1.8
121.0	2.0
139.9	2.2
158.2	2.4
99999.9	2.6

TC/TI TAPE PRINTOUT

```
004300 0 0000 0001 162 222000 009534
135730 0 1003
202600 0 0000
003100 0 1004 0001 163 222000 009534
010030 0 0001
230613 0 1003
232515 0 0001
235815 0 1003
002130 0 0001 0001 164 222000 009534
112500 0 1002
121945 0 0001
100030 0 1002 0001 165 222000 009534
100700 0 0001
131130 0 1002
133700 0 0001
022100 0 0000 0001 166 222000 009534
025600 0 1002
074500 0 1001
100600 0 1002
134315 0 0001
165230 0 0002
195201 0 1001
200001 0 0002
010300 0 1002 0001 167 222000 009534
011200 0 0003
084416 0 0001
115345 0 0003
185145 0 1001
191430 0 0003
100631 0 0002 0001 168 222000 009534
121030 0 0003
130216 0 1001
132531 0 0003
074430 0 0002 0001 169 222000 009534
105830 0 1001
115000 0 0002
122529 0 0000
142730 0 0003
074931 0 0002 0001 170 222000 009534
180200 0 0004 0001 176 222000 009534
183500 0 0002
191730 0 0004
202530 0 0002
205130 0 0004
212600 0 0002
214130 0 0004
220630 0 0002
221730 0 0004
125646 0 0002 0001 177 222000 009534
130731 0 0004
071015 0 0000 0001 197 222000 009534
071730 0 0004
235959 0 0000
```

NOTE: TRA CORRECTION INCLUDES S&S CORR AND CHANGES FROM ASSUMED DRAFT OF 14.0 FT. ONLY.

ATTACHMENT #5ABSTRACT OF CORRECTIONS TO ELECTRONIC POSITION CONTROL

ELECTRONIC CORRECTOR ABSTRACT

VESSEL : 2220 SHEET : H-9534

TIME	DAY	PATTERN 1	PATTERN 2
004300	162	-00015	-00040
012245		-00015	-00140
154930		-00015	-00040
185900		-00015	-00040
210130		-00015	-00040
000000	163	-00015	-00040
000000	164	-00015	-00040
011745		+00085	-00040
030830		+00085	+00260
071400		+00085	+00360
083230		+00085	+00460
084545		+00085	+00360
121945		-00015	+00360
125714		+00085	+00360
132114		+00185	+00360
132459		+00285	+00360
132714		+00385	+00360
193729		-00013	-00040
000000	165	-00013	-00040
090130		-00013	-00040
113630		-00013	-00040
211015		-00013	-00040
234330		-00013	-00040
000000	166	-00013	-00040
022401		-00013	-00140
060501		-00013	-00240
063701		-00013	-00340
063801		-00013	-00440
065801		-00013	-00540
071401		-00013	-00440
165230		-00013	-00040
000015	167	-00013	-00040
022045		-00113	-00040
022945		-00013	-00040
034001		-00113	-00040
040946		-00013	-00040
042746		+00087	-00040
045730		+00187	-00040
053500		+00287	-00040
053845		+00387	-00040
075145		+00287	-00040

ELECTRONIC CORRECTOR ABSTRACT

VESSEL : 2220 SHEET : H-9534

TIME	DAY	PATTERN 1	PATTERN 2
110400	167	+00287	-00040
132530		+00287	-00040
174200		-00013	-00040
204615		+00087	-00040
213015		+00187	-00040
213745		+00287	-00040
232745		+00387	-00040
233815		+00287	-00040
002600	168	+00287	-00040
100631		-00013	-00040
010515	169	-00013	-00040
050400		-00013	-00040
053330		+00087	-00040
062845		+00087	+00160
065400		+00087	+00260
065600		+00187	+00260
072000		+00187	+00260
074930		+00187	+00260
091230		+00187	+00260
100200		+00187	+00260
105830		+00187	+00260
115000		+00187	+00260
122529		+00187	+00260
131600		+00187	+00260
142730		+00187	+00260
185700		+00187	+00260
192400		+00287	+00260
201901		+00287	+00260
213630		+00387	+00260
220600		+00487	+00260
225830		+00587	+00260
225930		+00687	+00280
232700		+00587	+00260
001945	170	+00587	+00260
010400		+00687	+00260
012200		+00687	+00280
012600		+00587	+00260
022331		+00687	+00260
024300		+00687	+00260
050600		+00687	+00260
061000		+00687	+00460
070600		+00787	+00460
074931		+00787	+00460

ELECTRONIC CORRECTOR ABSTRACT

VESSEL : 2220 SHEET : H-9534

TIME	DAY	PATTERN 1	PATTERN 2
180200	176	-00079	-00221
183500		-00079	-00221
191730		-00079	-00221
195900		-00079	-00221
205130		-00079	-00221
211100		-00079	-00221
222900		-00079	-00221
000300	177	-00079	-00221
010900		-00079	-00221
012930		-00079	-00221
021900		-00079	-00221
024745		-00179	-00221
031145		-00179	-00221
042415		-00179	-00221
050215		-00179	-00221
053500		-00179	-00221
054800		-00279	-00221
060930		-00279	-00221
064245		-00279	-00221
081900		-00279	-00221
090000		-00179	-00221
100800		-00179	-00221
103145		-00179	-00221
122916		-00179	-00221
213601	196	-00035	-00032
221900		-00035	-00032
231315		-00035	-00032
002545	197	-00035	-00032
003602		-00035	-00032
004745		-00035	-00032
011225		-00035	-00032
013931		-00035	-00032
020606		-00035	-00032
025550		-00035	-00032
043210		-00035	-00032
062945		-00035	-00032

ATTACHMENT #6 LIST OF STATIONS

None fall on present survey

HYDROPLOT SIGNAL TAPE PRINTOUT

005	7	38	56	12690	074	53	44342	250	0000	179960
015	7	39	45	44159	074	06	19764	250	0000	179960
050	7	38	59	32638	074	48	50112	139	0000	000000
060	7	39	00	18103	074	47	48913	139	0000	000000
070	7	39	02	22138	074	46	09783	139	0000	000000
080	7	39	03	14366	074	45	31719	139	0000	000000
090	7	39	06	22554	074	42	49631	139	0000	000000
120	7	39	16	37661	074	34	51168	139	0000	000000
130	7	39	16	27824	074	34	35883	139	0000	000000
140	7	39	16	53578	074	34	35393	139	0000	000000
150	7	39	19	28587	074	30	53706	139	0000	000000
160	7	39	20	03068	074	30	11664	139	0000	000000
170	7	39	21	09739	074	26	38701	139	0000	000000
180	7	39	21	26671	074	25	55913	139	0000	000000
190	7	39	21	58343	074	24	52376	139	0000	000000
200	7	39	22	14238	074	25	38434	139	0000	000000
210	7	39	23	58012	074	22	18905	139	0000	000000
220	7	39	32	06286	074	15	47098	139	0000	000000
230	7	39	33	46764	074	14	31479	139	0000	000000
240	7	39	35	10198	074	13	29143	139	0000	000000
260	7	39	39	49041	074	09	55912	139	0000	000000
300	7	39	45	51179	074	06	23919	139	0000	000000

005	H-AMC-1-NJ-1975 (HI-FIX STATION)	AMC OPER DIV
015	ZIMM, 1975 (HI-FIX STATION)	AMC OPER DIV
050	WILDWOOD, STANDPIPE, 1928	VOL 1 P328
060	NORTH WILDWOOD, NORTH STANDPIPE, 1962	VOL 2 P97
070	STONE HARBOR, COAST GUARD STATION CUPOLA, 1932	VOL 2 P95
080	STONE HARBOR WATER TANK, 1962	VOL 2 P94
090	AVALON STANDPIPE, 1932	VOL 2 P65
120	OCEAN CITY STANDPIPE, 1962	VOL 2 P89
130	OCEAN CITY FLANDERS HOTEL CUPOLA, 1962	VOL 2 P90
140	OCEAN CITY WATER TANK, 1962	VOL 2 P88
150	MARGATE CITY STANDPIPE, 1962	VOL 2 P86
160	MARGATE CITY WATER TANK, 1962	VOL 2 P86
170	RITZ AERO BEACON, 1931	VOL 2 P101
180	ATLANTIC CITY, CLARIDGE HOTEL, (DOME), 1932	VOL 1 P31
190	ABSECON LIGHT, 1931	VOL 2 P105
200	ATLANTIC CITY MUNICIPAL WATER TANK, 1962	VOL 2 P115
210	HOTEL, 1962	VOL 2 P108
220	HOLGATE WATER TANK, 1962	VOL 2 P216
230	BEACH HAVEN WATER TANK, 1975	AMC OPER DIV
240	LONG BEACH WATERWORKS STANDPIPE, 1962	VOL 2 P210
260	SURF CITY STANDPIPE, 1962	VOL 2 P207
300	BARNEGAT LIGHTHOUSE, 1962	VOL 2 P160

M3-11
7-74

OPR 517

POSITION DATA SHEET

SHIP ~~LAUNCH~~ Vesno 2220 SHEET MI-40-1-75 REGISTRY NO. H- 9534

ATTACHMENT #7 ABSTRACT OF POSITIONS

Jul. Day	First Pos. No.	Time (GMT)	Last Pos. No.	Time (GMT)	Development Positions	Detached Positions	Rejected Positions	Duplicate Positions	Omitted Positions	Bottom Sample
162	0001	004300	0176	235230			0097			
163	0177	000000	0289	235815			0235 0268-0269			
164	0290	000000	0439	235245						
165	0440	000000	0629	235830			0626			
166	0630	000000	0776	235800						
167	0777	000530	0936	235615			0860-0861			
168	0937	002600	1040	220145			0941-0942			
169	1041	010515	1175	235901	1061-1118 1144-1175		1073-1074 1098			
170	1176	001945	1222	081100	1176-1222					
176	1223	143322	1300	235414	1244-1380		1223-1243			
177	1301	000300	1426	133630	1303-1402 1405-1426		1301-1302 1403-1404			
196	1427	213801	1452	235645	1427-1452					
197	1453	002545	1526	072115	1453-1526		1464			
	1527		1563							NOAA SHIP GEORGE B. KELEZ

ATTACHMENT # 8 - APPROVAL SHEET

The field work and data processing for Hydrographic Survey H-9534 were performed under my immediate daily supervision and are approved by me. This survey is considered adequate and complete for charting.

Ronald M. Buffington
Commander, NOAA

ATLANTIC MARINE CENTER
APPROVAL SHEET
FOR
AUTOMATED SURVEY H- 9534

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.

Date: 3/3/76

Signed: C Dan North

Title: Chief, Processing Division

B. The verified smooth sheet has been inspected by the Hydrographic Inspection Team, is complete, and meets the requirements of the Hydrographic and AMC Manuals. Exceptions are listed in the verifier's report.

Date: 3/3/76

Signed: R M Burfington

Title: Chief, Operations Division

C. Approved and forwarded.

Date: 3/4/76

Signed: Alfred C. Holmes

Title: Director, Atlantic Marine Center

NOAA FORM 76-155
(11-72)

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

SURVEY NUMBER

H-9534

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	
ATLANTIC CITY	(NOT SHOWN ON SHEET - PURPOSE OF ORIENTATION)									1
ATLANTIC OCEAN										2
CAPE MAY	"	"	"	"		"	"	"		3
										4
										5
										6
										7
										8
										9
										10
										11
										12
										13
										14
										15
										16
										17
					Approved					18
					Chas. E. Harrington					19
					Staff Geographer C51x2					20
					9 June 1976					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
(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-9534

(MI-40-1-75)

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

RECORD DESCRIPTION	AMOUNT	RECORD DESCRIPTION	AMOUNT
SMOOTH SHEET & 2-Overlays	1	BOAT SHEETS (paper)	3
DESCRIPTIVE REPORT	1	OVERLAYS	6 *

DESCRIPTION	DEPTH RECORDS	HORIZ. CONT. RECORDS	PRINTOUTS	TAPE ROLLS	PUNCHED CARDS	ABSTRACTS/ SOURCE DOCUMENTS
ENVELOPES						
CAHIERS	1 with P/O.		*			
VOLUMES		2				
BOXES			1 & Sawtooth Rec.			

T-SHEET PRINTS *(List)*

NONE

SPECIAL REPORTS *(List)*

NONE

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				1526
POSITIONS CHECKED		150		
POSITIONS REVISED		10		
DEPTH SOUNDINGS REVISED		100		
DEPTH SOUNDINGS ERRONEOUSLY SPACED		---		
SIGNALS ERRONEOUSLY PLOTTED OR TRANSFERRED		---		
	TIME (MANHOURS)			
TOPOGRAPHIC DETAILS		2		
JUNCTIONS		2		
VERIFICATION OF SOUNDINGS FROM GRAPHIC RECORDS		11		
SPECIAL ADJUSTMENTS		--		
ALL OTHER WORK		90		
TOTALS		105	32	

PRE-VERIFICATION BY	BEGINNING DATE	ENDING DATE
W.H. Tyndall	08/12/75	08/21/75
VERIFICATION BY	BEGINNING DATE	ENDING DATE
B.J. Stephenson	12/12/75	02/12/76
REVIEW BY	BEGINNING DATE	ENDING DATE
HIT AMC		

QC Evaluation: M.K. Myers 22 hrs.

* U.S. G.P.O. 1972-769-562/439 REG.#6

H-9534

Information for Future Presurvey Reviews

There are no noteworthy items for a future Presurvey Review in the area of the present survey.

Position Index Lat.	Long.	Bottom Change Index	Use Index	Resurvey Cycle
385	0741	1	3	50 years
385	0742	1	3	50 years
385	0743	1	3	50 years
390	0741	1	3	50 years
390	0742	1	3	50 years
390	0743	1	3	50 years
391	0741	1	3	50 years
391	0742	1	3	50 years

HYDROGRAPHIC INSPECTION TEAM

ATLANTIC MARINE CENTER

HYDROGRAPHIC SURVEY REVIEW

REGISTRY NO.: H-9534 FIELD NO.: MI-40-1-75

GENERAL LOCALITY and SPECIFIC LOCATION

New Jersey, East Coast, Great Egg Harbor Inlet to Hereford Inlet

SURVEYED: June 11, 1975 through July 16, 1975

PROJECT NO.: OPR-517-MI-75 SCALE: 1:40,000

SOUNDINGS BY: Ross Digital Depth Recorder CONTROL: HI-FIX (Range-Range) Freq. (1799.6 KHz)

Chief of Party ..... R.M. Buffington
Surveyed by ..... W. Daniel
..... T. Russel
..... D. Pasciuti
..... K. O'Donnell
..... E. Fields
..... R. Mariner
Automated Plot by ..... Calcomp Plotter #618 (AMC)
Verified and Inked by ..... B.J. Stephenson

1. Description of the Area

This survey covers an area offshore of the New Jersey Coast from the approximately eleven fathoms seaward. The surveyed area is described by the following coordinates connected counter clockwise:

Latitude:	38° 55.5'N	Longitude:	74° 26.0'W
	38° 55.5'N		74° 06.7'W
	39° 20.6'N		74° 06.7'W
	39° 20.6'N		74° 10.0'W
	39° 09.5'N		74° 20.0'W
	38° 55.5'N		74° 26.0'W

The bottom is predominantly fine sand and shell and the depth ranges from 52 to 140 feet.

2. Control and Shoreline
Type-Source-Origin

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

This is an offshore survey and no shoreline is shown.

3. Hydrography

A. Crossings: Depths at crossings are in good agreement.

B. Depth Curves: The standard depth curves were adequately delineated. Dashed and brown curves were added to emphasize the ninety foot curve and certain important bottom features.

C. Developments: The developments of the bottom configuration and Pre-survey Review Items were considered adequate, with the exception of Pre-survey Review Item #13 (see "Comparison with the Chart.")

4. Condition of the Survey

The sounding records, automated plotting and the Descriptive Report are adequate and conform to the requirements of the Provisional Hydrographic Manual, supplemented by the Atlantic Marine Center Manual.

5. Junctions

An adequate junction was made with H-9542 (1975) on the east, and H-9552 (1975) on the north. (Standard curves only.) There were no contemporary surveys to the south or west.

6. Comparisons

A. Prior Surveys: H-6264 (1937) 1:40,000
H-6271 (1937) 1:40,000
H-6345 (1938) 1:40,000

The prior surveys taken together cover the area of the present survey. A comparison reveals only minor differences. Slight curve displacement and bottom configuration changes are evident. Such changes are considered to result from natural causes.

B. Wire Drag: FE-No. 3 (1951)W.D. 1:40,000
This Wire Drag investigation covers the Wire Drag sounding (69 feet) mentioned in the chart comparison section.

C. Published Chart #12318 (formerly C&GS 1217) 27th edition, dated October 12, 1974, and #12214 (formerly C&GS 1219) 27th edition, dated May 25, 1975.

(a) Hydrography

The charted hydrography and the present survey reveal only minor differences, as previously mentioned under prior surveys.

(b) Attention is directed to the following:

C L 225(1951)

(1) Pre-survey Review Item #13, the obstruction reported at Latitude 39° 12.0'N, Longitude 74° 14.9'W was not adequately developed over the charted obstruction position. The verifier recommends that the item be retained on the charts and that it be disproved by Wire Drag.

(2) Pre-survey Review Item #14, the inshore limit of hydrography for this survey was extended to cover the entire Fish Haven area, located at Latitude 39° 15.0'N, Longitude 74° 14.0'W. A shoal depth of 64 feet at Latitude 39° 14.4'N, Longitude 74° 12.95'W, position 1444-1445, and least depth of 52 feet at Latitude 39° 16.1'N, Longitude 74° 16.4'W, position 984-985 were found during this survey.

(3) The 69 foot Wire Drag wreck on chart #12318 (formerly C&GS 1217) at Latitude 39° 14' 45"N, Longitude 74° 09' 06"W did not show up on the fathograms, so no further investigation was attempted. (See section, soundings enclosed by triangles, Pre-survey Review, OPR-517, dated March 21, 1975.) Except as noted above, the present survey is adequate to supersede the charted hydrography in the common area.

(c) Aids to Navigation

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

7. Compliance with Instructions

This survey does comply with the Project Instructions with the following exceptions:

The line spacing between positions 393-402 and 403-413 are from 50 to 200 meters over the required 400 meter spacing for this sheet. This space was between Boatsheets. The problem was in the electronic correctors.

8. Additional Field Work

This is an excellent basic survey. Additional field work is not recommended.

9. Hydrographic Inspection Team Comments

Hydrographic Inspection Team comments are included within the verifier's report and Verification deficiencies found, if any, have been corrected on the Smooth Sheet.

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

C352

May 7, 1976

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

THRU: Chief, Quality Control Branch

FROM: G. K. Myers
Quality Evaluator

SUBJECT: Quality Control Report, H-9534 (1975), New Jersey, Offshore Atlantic Coast, Cape May to Atlantic City

A quality control inspection of H-9534 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, decisions and actions by the verifier, and cartographic presentation of data.

The following deficiencies are noted:

1. A fathogram in the records of the present survey revealed indications of the submerged wreck charted at latitude 39°14.74', longitude 74°09.1' from a prior wire-drag survey, FE 3, 1951 WD. Further investigation of this wreck should have been done by the hydrographer. The verifier reported that the feature "did not show up on the fathograms, so no further investigation was attempted." The 69-foot sounding and wreck were carried forward in green during quality control inspection.

2. The Descriptive Report noted an instrument correction. However, survey records do not indicate a simultaneous comparison between vertical cast and echo sounder depths. More survey data pertaining to this correction would have been desirable.

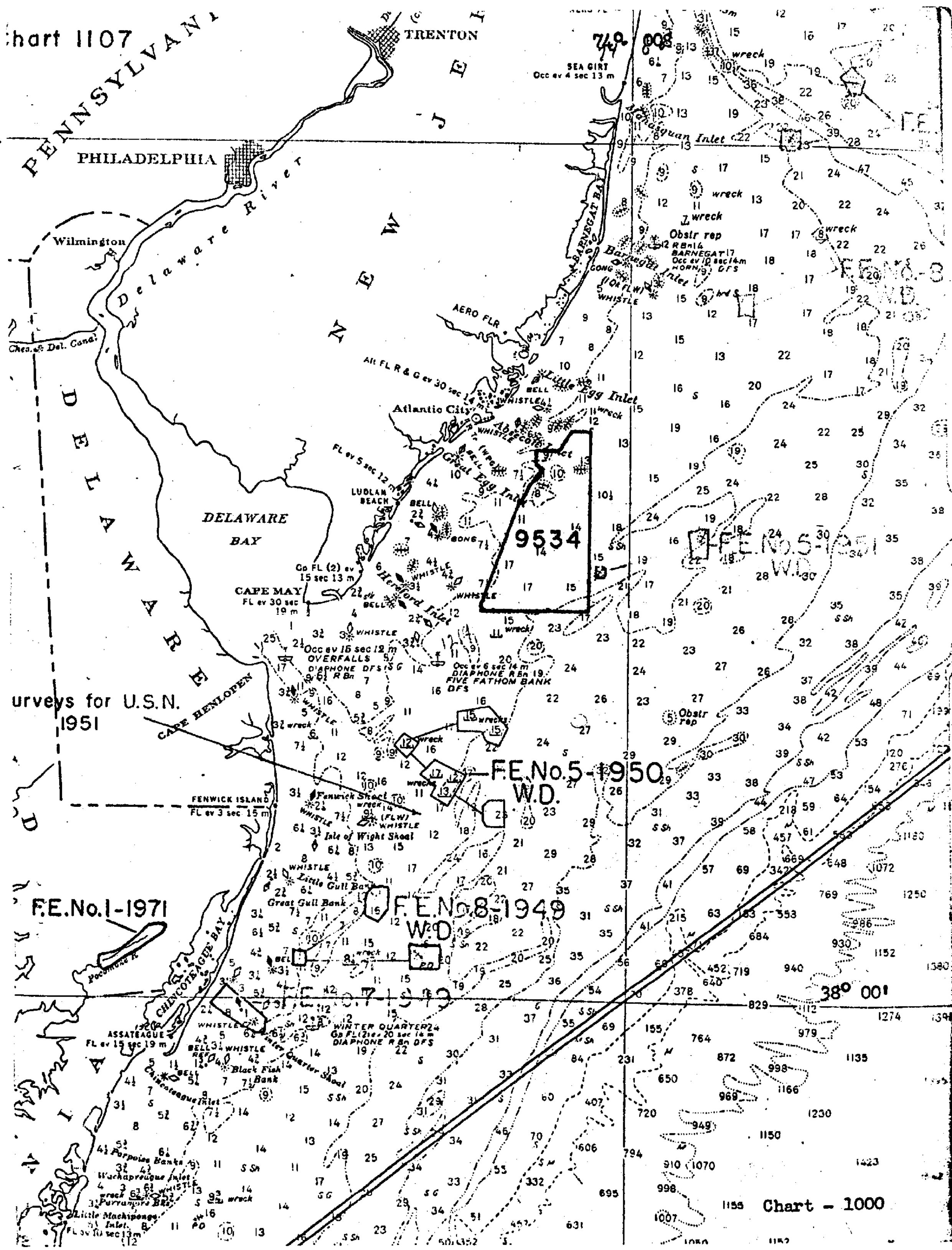
3. An adequate junction was effected with H-9542 (1975) on the east. However, depth curves within the overlapping area were not drawn by the verifier to coincide.

4. A comparison with prior surveys--FE No. 2 (1951) WD, FE No. 3 (1951) WD, H-6343 (1938) WD--was completed during quality evaluation. No conflicts between present depths and effective wire-drag depths were found, except in the vicinity of latitude 38°55.6', longitude 74°24.75', where a few soundings were as much as 3 feet shoaler than cleared depths swept at 81 feet on FE No. 2 (1951) WD. These differences are reflected in a

comment made in the Descriptive Report of the prior survey that "the drag was bumping on a shoal."

5. The survey title in the verifier's report is not the same as indicated on the title page of the Descriptive Report.

cc:
C351



:hart 1107
TRENTON
PHILADELPHIA
Wilmington
Delaware River
DELAWARE BAY
CAPE MAY
Atlantic City
LUDLAM BEACH
SEA GIRT
Manasquan Inlet
Barnegat Inlet
Little Egg Inlet
Great Egg Inlet
Hereford Inlet
OVERFALLS
FIVE FATHOM BANK
CAPE HENLOPEN
FENWICK ISLAND
Fenwick Shoal
Isle of Wight Shoal
Little Gull Bank
Great Gull Bank
CHINCOTEAGUE BAY
ASSATEAGUE
WINTER QUARTER
Black Fish Bank
Chincoteague Inlet
Porpoise Banks
Wachapreague Inlet
Little Machipongo Inlet
9534
urveys for U.S.N.
1951
F.E.No.5-1950
W.D.
F.E.No.8-1949
W.D.
F.E.No.1-1971
F.E.No.5-1951
W.D.
38° 00'
Chart - 1000

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

NAUTICAL CHART DIVISION

RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. H-9534

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
1217	10-7-76	MIKE PANAS	Full ~~Part Before~~ After Verification Review Inspection Signed Via
			Drawing No. FULLY APPLIED Reviewed 10/18-76 [illegible]
9219	11-9-76	Paul T. [illegible]	Full ~~Part Before~~ After Verification Review Inspection Signed Via
			Drawing No.
1109	12-17/76	Joseph Perone	Full ~~Part Before~~ After Verification Review Inspection Signed Via
			Drawing No. Applied correction thru 1217
1108	3-11-77	Richard L. Hogan	Full ~~Part Before~~ After Verification Review Inspection Signed Via
			Drawing No. APPLIED THRU 1217 & 1109
1000	7-12-77	R.J. Winfield	Full ~~Part Before~~ After Verification Review ~~Inspection~~ Signed Via
			Drawing No. #54 Applied SOUNDINGS thru cht. 1108 Dwg #46
			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.