

# 9579

Diag. Cht. No. 1220-2

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. .... WH-20-4-75 ..  
Office No. .... H-9579 ..

### LOCALITY

State ..... MARYLAND ..  
General Locality EAST OF OCEAN CITY ..  
Locality ..... OFFSHORE OF FENWICK ISLAND ..

19 75

CHIEF OF PARTY  
Robert A. Trauschke ..

### LIBRARY & ARCHIVES

DATE ..... March 22, 1978 ..

9579

*Area 2  
Charts*

- 12211 (1220)
- 12214 (1219)
- 12200 (1109)
- 13003

**HYDROGRAPHIC TITLE SHEET**

H-9579

**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.

WH 20-4-75

State Delaware/Maryland

General locality Delaware/Maryland Coast East of Ocean City

Locality Inshore to 11 Fathom curve of coast of Ocean City, Md. to Fenwick Island  
*Offshore of*

Scale 1:20000 Date of survey Oct 21 to Nov 3, 1975

Instructions dated August 18, 1975 Project No. OPR 516

Vessel WHITING 2930

Chief of party Robert A. Trauschke, CDR, NOAA, Comdg NOAA Ship WHITING

Surveyed by Ships Officers

Soundings taken by echo sounder, ~~XXXXXX, XXXX~~ Ross Model 5000 Fineline 1055&1049

Graphic record scaled by Ships Personnel

Graphic record checked by Ships Personnel

Protracted by \_\_\_\_\_ Automated plot by Cal-Comp - 618  
WHITING System

Verification by \_\_\_\_\_ R. R. Hill

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

REMARKS: This Survey is not complete.

*The Vel. corrector for this survey H-9579 are in  
error I suspect the Vel corr were taken from  
a Junctions survey H-9639 ME 40-2-76 Vel. Table #1  
The Neansen Cast for H-9639 was taken about the  
same time of year and in the same general area  
4/20/77  
RRT*

*XWW 9/10/92*

OPR 516

DESCRIPTIVE REPORT

HYDROGRAPHIC SURVEY NO. H-9579

FIELD SHEET NO. WH 20-4-75

OCTOBER-NOVEMBER, 1975

NOAA SHIP WHITING

Robert A. Trauschke, Cdr, NOAA Comdg.

*Applied to stde 5/11/78*  
*TR*

A. PROJECT:

This hydrographic survey, WH 20-4-75 was conducted under project instructions OPR-516-MI, PE, WH-75-76, Atlantic Seaboard Area Project (ASAP), Delmarvanc Phase, dated August 18, 1975. No changes, supplements or amendments to these instructions were issued during the field season. The survey was accomplished in accordance with the provisional Hydrographic Manual.

B. AREA SURVEYED:

The limits of survey H-9579 extend from the inshore safe navigation limits to approximately 15 miles offshore. The area surveyed as part of WH 20-4-75 is located from an inshore limit of 2.3 miles from the beach to approximately 15 miles offshore from Ocean City, Maryland.

The area surveyed is defined by the following limits:

- 1) 38° 28' 00"✓ 74° 46' 30"✓
- 2) 38° 19' 30"✓ 74° 46' 30"✓
- 3) 38° 19' 30"✓ 75° 01' 00"✓
- 4) 38° <sup>26</sup>22' <sup>30</sup>00"✓ 75° 01' 00"✓
- 5) 38° <sup>26</sup>22' <sup>30</sup>00" 74° 54' 30"✓
- 6) 38° 28' 00"✓ 74° 54' 30"✓

The survey was conducted during the period October 21, 1975 (julian date 294) to November 3, 1975 (j.d. 307). Approximately 76 square miles of area and 1037 nautical miles of hydrography were covered in completing this portion of hydrographic survey WH 20-4-75.

C. SOUNDING VESSEL:

All soundings on hydrographic survey WH 20-4-75 were obtained by the NOAA Ship WHITING (CSS-29), vessel number 2930.

The following table is a summary of all data compiled on this survey:

<u>Julian Date</u>	<u>Positions</u>	<u>Type</u>
294	1-421	Hydrographic
295	422-1003	"
296	1004-1048	"
296	1049-1070	Bottom samples
303	1168-1295	Hydrographic
304	1246-1804	"
305	1805-2187	"
306	2198-2484	
306	2894-2524	Bottom samples
307	2525-2694	Hydrographic

D. SOUNDING EQUIPMENT AND CORRECTIONS TO ECHO SOUNDINGS:

All soundings were obtained in feet. Ross "Fineline" model 5000, serial Nos. 1049 and 1055 fathometers were used to obtain all soundings. Initials were reset at each scale of the fathometer during the course of hydrography. Corrections to instrument initials were applied during on line operation and again during visual scanning of the analog trace. As a result, the soundings recorded on master tape are correct unless modified by the corrector tape. No additional correction need be made on the TC/TI tape to compensate for instrument error.

The transducer draft was determined to be 10.5 feet during the survey. Soundings were run at standard speed of 280 RPMs for all soundings except when developing shoal areas. At these times, speed was occasionally reduced to 180 RPMs.

Related corrections due to settlement and squat, as determined during testing of the Ship WHITING in 1971, were taken into account in TC/TI correctors (reference Appendix 4). These correctors were not applied during final field plot and should be incorporated during smooth plotting.

The following hydrography was run at reduced speed:

<u>Julian date</u>	<u>Positions</u>	<u>Times</u>	<u>Speed RPMs</u>
294	358-363	201751-211430	180
295	860-879	173639-182319	180
305	1821-1826	004215-005129	180
305	2093-2098	203840-205140	180
305	2099-2106	205200-210841	220
305	2107-2115	210901-212630	240

All other hydrography was run at 280 RPMs (standard speed),

Predicted tides at Sandy Hook, New Jersey were corrected to Ocean City, Maryland and were used for on line plotting. Final field plotting was accomplished using predicted tides computed from hourly heights at Breakwater Harbor, Delaware. Tide Correctors of -1 hr 15 min and 0.95 were applied to time and range of tide respectively.

Velocity corrections were obtained using leadline comparisons at various depths to construct a velocity correction curve. An attempt to obtain information from a TDC cast was made, however, results obtained from the TDC cast indicated the Martek unit used was not operating properly. Results of the TDC cast as well as lead line comparisons are in Appendix 4 "Abstract of Corrections to Echo Soundings" at the end of this report. Velocity corrections were applied during final field plotting.

*see Title Sheet*

E. HYDROGRAPHIC SHEETS:

Hydrographic sheets were constructed by the WHITING's automated system using a PDP-8E and Complot drum plotter model No. DP-3-5. Because of the width limitations on the plotter, it was necessary to construct two hydrographic sheets, WH 20-4N-75 (North sheet) and WH 20-4S-75 (South sheet). The sheets junctioned at latitude  $38^{\circ} 18' 30''$ . The sheets were constructed at a scale of 1:20,000 on a modified transverse mercator projection. In addition various shoals that were developed by hydrography were plotted at a scale of 1:10,000. See Appendix 1 at the end of this report for projection parameters and electronic control patterns used in manufacturing field sheets WH 20-4N-75 and WH 20-4S-75 and all developments.

F. CONTROL STATIONS:

The method of control used by the Ship WHITING to accomplish survey WH 20-4-75 was range-range electronic Raydist. The Raydist was itself

calibrated using electronic range-range Del Norte equipment. The electronic control stations established for Raydist control were traverse stations located by the Atlantic Marine Center personnel using third order methods. The control stations established for Del Norte sites were intersection or triangulation stations established by personnel from the National Geodetic Survey in Rockville, Maryland using third order methods.

The following list of stations was used to control all survey operations on WH 20-4-75:

Raydist

<u>Station</u>	<u>Pattern</u>	<u>Station No.</u>	<u>Locality</u>	<u>Latitude</u>	<u>Longitude</u>
So. Raydist H-AMC-1-75VA)	1	100	Chincoteague I. Virginia	37 51 48.335	75 03 <sup>22 06.157</sup> <del>32.620</del>
No. Raydist	2	112	Sussex Shore, Delaware	38 34 46.022	75 03 32.620

The following stations were used as Del Norte sites to calibrate electronic Raydist.

Del Norte

<u>Station</u>	<u>Pattern</u>	<u>Station No.</u>	<u>Locality</u>	<u>Latitude</u>	<u>Longitude</u>
Ocean City Coast Guard Lookout tower	A	106	Ocean City Maryland	38 19 30.836	75 05 18.229
Fenwick I. Light	B & D	110	Fenwick I., Delaware	38 27 04.478	75 03 19.186
Cotton Patch 2	C	113	Sussex Shores Delaware	38 34 46-641	75 03 33.774



G. HYDROGRAPHIC POSITION CONTROL:

Electronic Hastings/Raydist positioning system operating at a frequency of 3292.40 KHZ was used for all positioning of the Ship WHITING during survey WH 20-4-75. The Raydist system was frequently calibrated using direct meter readings from Del Norte equipment. The Del Norte equipment was calibrated at AMC prior to beginning field work. This made it possible to obtain direct distance readings (in meters) from each station located on shore. In calibrating Raydist, an intersection of two Del Norte rates was used to determine the ships position and a third rate was used as a check against the inverse distance between the computed ships position and the shore station. The computed ships position was then converted into Raydist patterns and compared against the patterns read from the Raydist Navigator. In this manner partial electronic correctors were determined. A list of the partial electronic lane correctors is given in Appendix "Abstract of Corrections to Electronic Position Control".

H. SHORELINE:

This survey WH 20-4-75 was conducted from safe navigational limits to approximately the 11-fathom curve. The safe navigation limit of the WHITING was determined to be 2.3 miles from the beach. The remaining portions of the survey area should be accomplished by launches in the upcoming years of the project. Since no shoreline manuscripts for the survey area were received during this field season, no shoreline is presented on the final field plots. It is recommended that shoreline be presented on the boatsheets at the time that the survey work is completed by the launches.

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I. CROSSLINES:

A total of 63.5 miles of hydrography or 6.1 percent of the hydrography run on WH 20-4-75 was crosslines.

Comparisons of the crossline soundings with those of main scheme hydrography were good. A maximum of 1-foot discrepancy was found ← ? in all those soundings compared.

J. JUNCTIONS:

This survey WH 20-4-75 junctioned with contemporary survey WH 20-3-75 to the North. However, because the two surveys were accomplished at the same scale, by the same vessel, during the same field season, no junction soundings were required. Depth curves were compared for continuity between WH 20-3-75 and WH 20-4-75. The depth curve junctioned well. This survey WH 20-4-75 did not junction with any other contemporary surveys.

K. COMPARISON WITH PRIOR SURVEYS:

No prior surveys of the survey area were received by the WHITING. As a result it was not possible to obtain any comparison of the survey WH 20-4-75 to prior surveys of the area.

L. COMPARISON WITH THE CHART:

The survey WH 20-4-75 was compared with chart No. 12211 (C&GS <sup>1220</sup>~~12201~~) dated June 1974 at a scale of 1:80,000.

Soundings on the chart were in feet which allowed for easier comparison of soundings. In general, comparison of soundings was good, with a maximum discrepancy of 3 feet occurring in 60 feet of water.

The reasons for the discrepancies were apparently to be due in part to shifting sediments and in part to the velocity corrections used during final field plot. Comparison soundings from the chart are shown on the final field plots in red.

M. ADEQUACY OF SURVEY:

This survey WH 20-4-75 is not complete. The portion of the survey from approximately 2.3 miles from the beach to the eastern limit of the survey was completed. However, the remaining portion of the survey from 2.3 miles off the beach to the West has yet to be completed.

It is recommended that the findings of this survey not be incorporated into charts of the area until the survey is complete.

N. AIDS TO NAVIGATION:

The following aids to navigation were within the limits of WH 20-4-75:

<u>Item Name</u>	<u>Type of Aid</u>	<u>Light List No.</u>
1 Fenwick Island Light	Fixed	131
2 Fenwick Shoal	Lighted whistle buoy I FIS	132
3 Ocean City N. tank	Fixed (CP)	
4 Ocean City S. tank	Fixed (CP)	
5 Sinepuxent Bay Bridge	Fixed (CP)	
6 Ocean City Inlet Lt. 6		136
7 Ocean City Inlet North Breakwater		137

<u>Item</u>	<u>Name</u>	<u>Type of Aid</u>	<u>Light List No.</u>
8	Ocean City lighted bell buoy 2 (entrance buoy)		138
9	Perimeter buoys (for danger area)	W or banded (CP)	
10	R2	buoy	133
11	Isle of Wight Shoal	Buoy IWS	page 16

The following positions of floating aids in the survey area were recorded:

<u>Buoy</u>	<u>Latitude</u>	<u>Longitude</u>
OW "C"	38°25'38"	74°57'20"
OW "P"	38°30'34"	74°55'24"
"N"	38°35'19"	74°57'48"
"O"	38°32'49"	74°56'40"
RB "WIS"	38°23'36"	74°56'00"

*Not on this sheet*  
*Not on this sheet*  
*Not on this sheet*

All the navigational aids, except 1, appeared in their proper charted position. The orange and white can buoy "C" and RB buoy "WIS" appeared to have shifted slightly North of its charted position.

No contact was made with the Coast Guard regarding these buoys.

O. STATISTICS:

The following is a total list of statistics for the work completed on survey WH 20-4-75:

<u>No. of Positions</u>	<u>Miles of Hydrography</u>	<u>Number of Bottom Samples</u>
2696	1037	52

A daily breakdown showing positions of crosslines, development, bottom samples, rejected positions, and duplicate positions is given in Appendix 7 "ABSTRACT OF POSITIONS" at the end of this report.

P. MISCELLANEOUS:

Bottom samples were taken in accordance with project instructions and the Provisional Hydrographic Manual. Bottom characteristics proved to be well graded, medium grained, brown sand with some broken shells.

A list of all bottom samples taken on this survey is contained in Appendix 8, "BOTTOM SAMPLES: at the end of this report.

Indications of a possible obstruction were discovered in the area of  $38^{\circ}25'30''N$ ,  $74^{\circ}57'15''W$ . A spike was discovered while the ship was conducting a change in course. The depth at the spike was ~~53~~<sup>55</sup> feet deep in 68 feet of water depth. The area was developed and a second spike was uncovered at the above position. It is recommended the area surrounding this indication of obstruction be wire dragged to confirm any obstruction.

Sec	Day #	294	Pos #	364-365	T:	2116:30
	Day #	295	Pos. #	936-937	T:	2043:17
<u>Q. RECOMMENDATIONS:</u>	Day #	295	Pos. #	947-948	T:	2105:32

This survey, WH 20-4-75 is not complete. The inshore portions of the survey are yet to be accomplished by launch hydrography. The work is considered adequate for charting, however it is recommended the findings of this survey not be incorporated into charts of the area until the survey is completed and the area of the possible obstruction found be wire dragged for confirmation of an obstruction.

R. AUTOMATED DATA PROCESSING:

The finald field sheets were completed by the WHITING automated system. The following list of programs were used in completing survey WH 20-4-75:

<u>Program</u>	<u>Name</u>	<u>Version</u>
RK111	Real Time Range Range Plot	8/7/74
RK201	Grid, lattice, and signal plot	4/18/75
RK211	Non Real Time Range Range Plot	8/16/74
RK300	Utility Computations	5/22/75
RK500	Predicted Tide Generator	11/10/72
AM602	Elmore	5/21/75

S. REFERENCE TO REPORTS:

None

Type

100	0	37	51	48335	075	22	06156	250	0000	329240	South Raydist	Traverse
106	0	38	19	30836	075	05	18229	250	0000	000000	O.G.C.S. Tower D?V	Traverse
107	0	38	19	40442	075	05	21961	250	0000	000000	O.C. Jetty (VIS)	Traverse
108	0	38	20	42202	075	04	51447	250	0000	000000	O.C. Center Tank V	Traverse
109	0	38	22	06121	075	04	23900	250	0000	000000	O. C. N. Water tank	Traverse
110	0	38	27	04478	075	03	19186	250	0000	000000	Fenwick I. Light D	Traverse
111	0	38	32	16041	075	03	31782	250	0000	000000	B.B. Water Tank (V)	Traverse
112	0	38	34	46022	075	03	32620	250	0000	329240	North Raydist	Traverse
113	0	38	34	46641	075	03	33774	250	0000	000000	Cotton Patch 2 (D)	Traverse

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

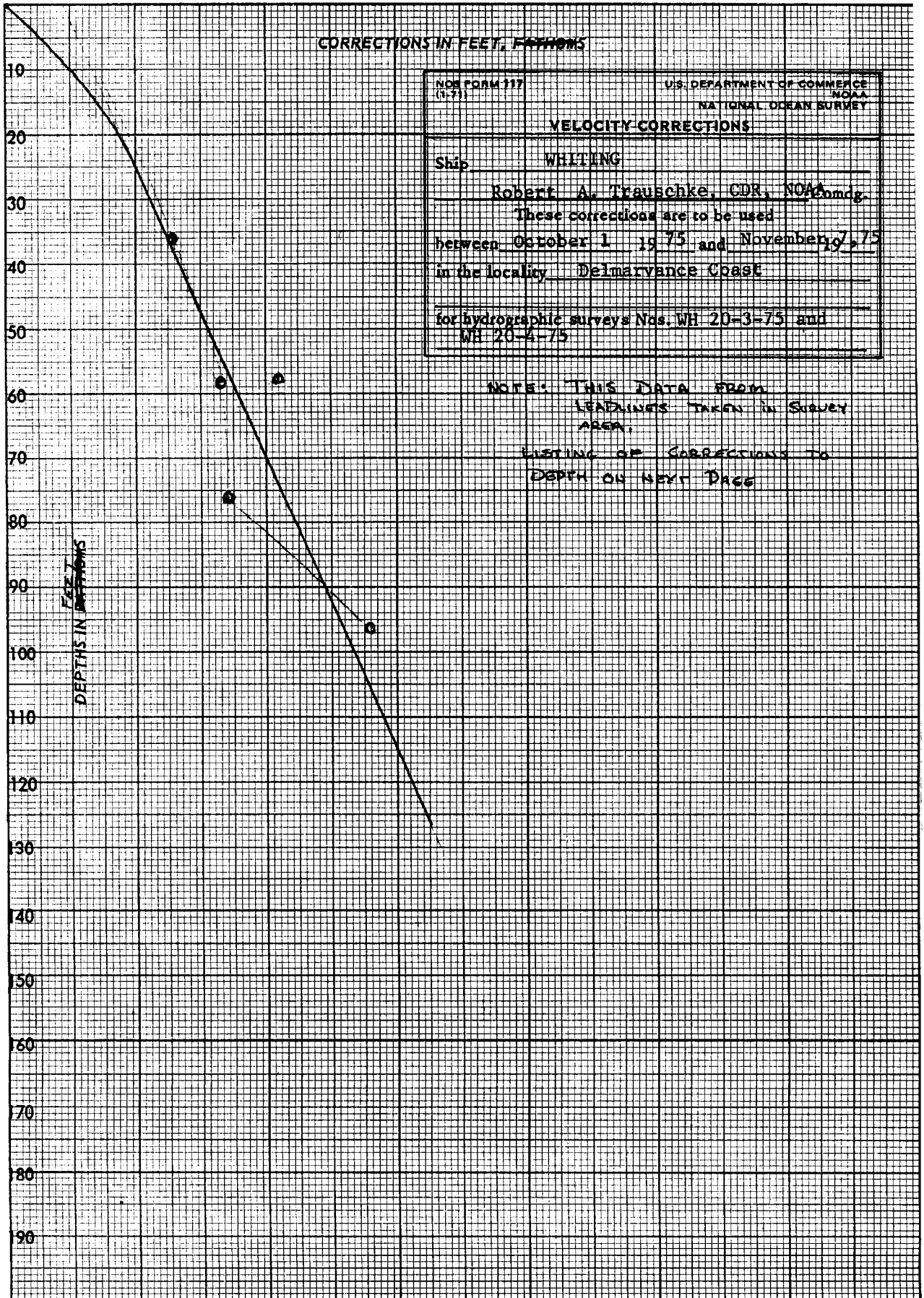
CORRECTIONS IN FEET, FATHOMS

NOE FORM 117 (11-71)	U.S. DEPARTMENT OF COMMERCE NOAA NATIONAL OCEAN SURVEY
<b>VELOCITY CORRECTIONS</b>	
Ship	WRITING
Robert A. Trauschke, CDR, NOAA Comdg.	
These corrections are to be used between October 1, 1975 and November 7, 1975 in the locality Delmarvance Coast	
for hydrographic surveys Nos. WH 20-3-75 and WH 20-4-75	

NOTE: THIS DATA FROM  
LEADINGS TAKEN IN SURVEY  
AREA.

LISTING OF CORRECTIONS TO  
DEPTH ON NEXT PAGE

(For deep water add a 0 to these figures)





VELOCITY TAPE LISTING

000020 0 0002 0001 000 293000 040275

000038 0 0004

000056 0 0006

000078 0 0008

000100 0 0010

000123 0 0012

000150 0 0014

000177 0 0016

000210 0 0018

000250 0 0020

000296 0 0022

000340 0 0024

000384 0 0026

000430 0 0028

000473 0 0030

000520 0 0032

000564 0 0034

000607 0 0036

000655 0 0038

000700 0 0040

(Continued next sheet)

000744 0 0042

000790 0 0044

000833 0 0046

000880 0 0048

000924 0 0050

000978 0 0052

001015 0 0054

001060 0 0056

001110 0 0058

001150 0 0060

999999 0 0062

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OPR 516

TRA CORRECTION ASSISTANT

VESSEL WH 2930

SHEET WH-20-4-75

REGISTRY NO. H-

Jul. Day	GMT From Time	GMT To Time	Velocity Table ft/Sec	Draft	Initial Corr.	Sec Corr.	TRA CORR. ft/Sec	Remarks
294	001341	201731		10.5	0.0	0.7	11.2	
294	201751	211410		10.5	0.0	0.2	10.7	
294	211430	173619		10.5	0.0	0.7	11.2	
295	173639	182319		10.5	0.0	0.2	10.7	
295	182339	004155		10.5	0.0	0.7	11.2	
305	004215	005109		10.5	0.0	0.2	10.7	
305	005129	203820		10.5	0.0	0.7	11.2	
305	203840	205140		10.5	0.0	0.2	10.7	
305	205200	212610		10.5	0.0	0.2	10.7	
305	212630			10.5	0.0	0.7	11.2	

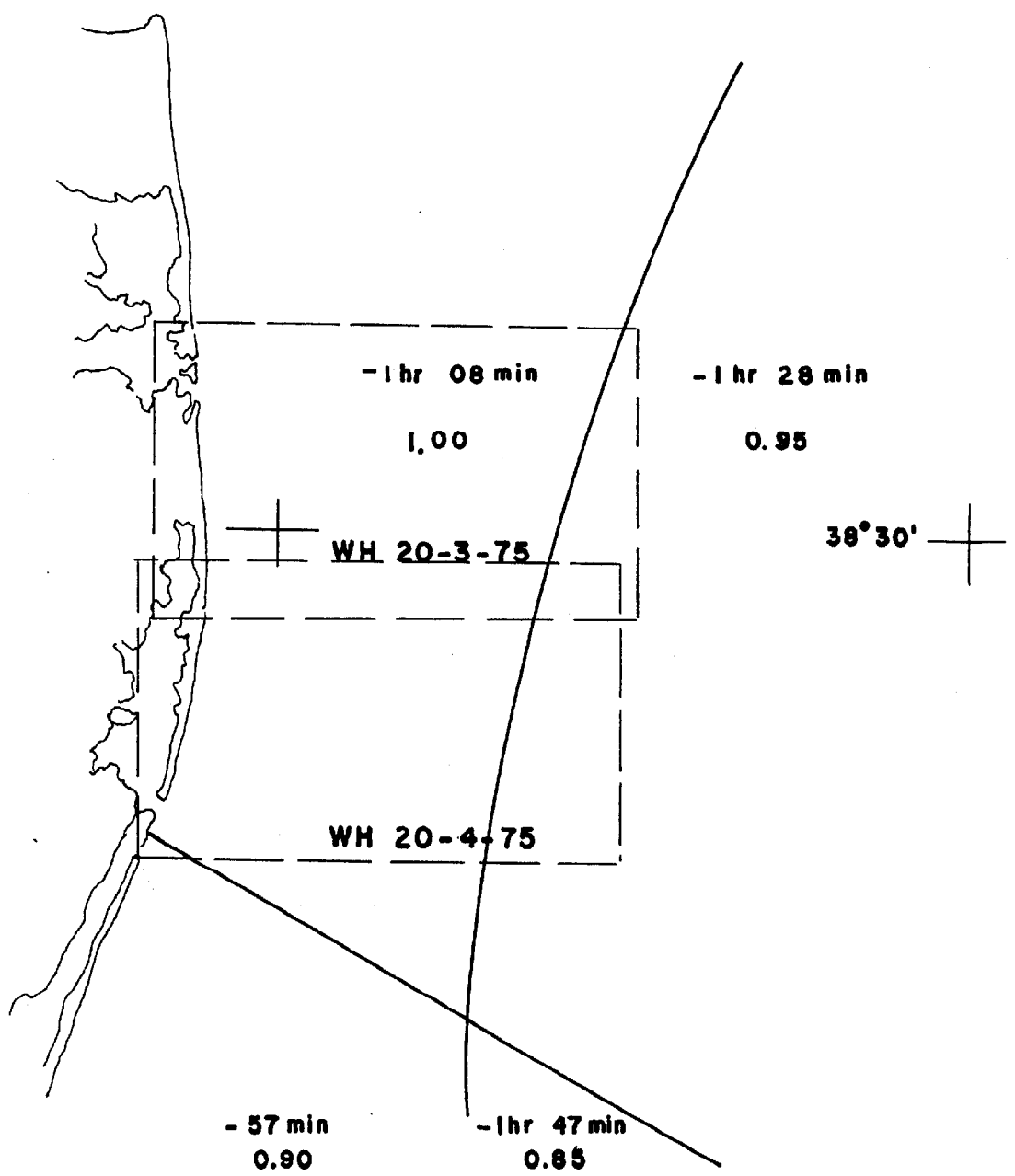
Final field plotting of boatsheets accomplished on OPR 516-WH-75 was done using predicted tides. Predicted tides at Breakwater Harbor, Delaware were corrected for time (-1 hr 18 min.) and range (0.98) to the survey area. Suggested tidal zoning was received with project instructions. In addition, hourly predicted heights were for Breakwater Harbor were received from Rockville, Maryland. A formatted tape and listing of these hourly heights was made and is submitted with the surveys.

Smooth tides should be requested from Rockville and applied, using zoning furnished, to smooth sheet.

75° 00'

39° 00'

74° 30'



OPR 516  
SUGGESTED TIDAL ZONING  
BASED ON BREAKWATER HARBOR, DEL.

4/29/76

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

TIDE NOTE FOR HYDROGRAPHIC SHEET

Processing Division: Atlantic Marine Center:

Hourly heights are approved for

Tide Station Used (NOAA Form 77-12): Ocean City, Maryland

Period: October 21 - November 3, 1975

HYDROGRAPHIC SHEET: H-9579

OPR: 516

Locality: Offshore, northeast of Ocean City, Maryland

Plane of reference (mean ~~lower~~ low water): 4.18 ft.

Height of Mean High Water above Plane of Reference:

3.4 ft. - Ocean City

Remarks: Recommended zoning:

Time correction

-10 min.

Range ratio

x1.03

*Data with H-9578*

*James R. Hubbard*  
\_\_\_\_\_  
Chief, Tides Branch

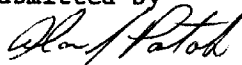
H-9579

GEOGRAPHIC NAMES

Name on Survey	<div style="display: flex; justify-content: space-between;"> <span>A ON CHART NO.</span> <span>B ON PREVIOUS SURVEY NO.</span> <span>C ON U.S. QUADRANGLE MAPS</span> <span>D FROM LOCAL INFORMATION</span> <span>E ON LOCAL MAPS</span> <span>F P.O. GUIDE OR MAP</span> <span>G GRAND McNALLY ATLAS</span> <span>H U.S. LIGHT LIST</span> <span>K</span> </div>											
	FENWICK ISLAND (TITLE)											
ISLE OF WIGHT SHOAL												2
OCEAN CITY (TITLE)												3
												4
												5
												6
												7
												8
												9
												10
												11
												12
												13
												14
												15
												16
												17
												18
									APPROVED			19
									<i>Chas. E. Harrington</i>			20
									<del>CHIEF</del> GEOGRAPHER - CBx8			21
									14 April 1978			22
												23
												24
												25

APPROVAL SHEET

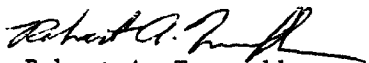
Submitted by



Alan J. Potok  
Lt. (jg), NOAA

Supervision of field and office work on this hydrographic survey was continuous on a day to day basis to ensure completeness of the survey and that all work was done in accordance with the instructions.

Approved/Forwarded



Robert A. Trauschke  
Cdr., NOAA  
Commanding Officer, NOAA Ship WHITING



APPROVAL SHEET  
FOR  
SURVEY H-9579

- 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: March 7, 1978

Signed: *J. R. DeSmith*  
Title: Chief, Verification Branch

## HYDROGRAPHIC SURVEY STATISTICS

H-9579

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

RECORD DESCRIPTION		AMOUNT	RECORD DESCRIPTION		AMOUNT	
SMOOTH SHEET		1	BOAT SHEETS & PRELIMINARY OVERLAYS		3 parts (B/S)	
DESCRIPTIVE REPORT		1	SMOOTH OVERLAYS: POS. ARC, EXCESS		2	
DESCRIP- TION	DEPTH RECORDS	HORIZ. CONT. RECORDS	PRINTOUTS	TAPE ROLLS	PUNCHED CARDS	ABSTRACTS SOURCE DOCUMENTS
ENVELOPES	1		1			1-misc.data (incl.tides)
CAHIERS	1		1			
VOLUMES	1					
BOXES			1-Smooth			1-Sawtooth records

T-SHEET PRINTS (List)

SPECIAL REPORTS (List)

## OFFICE PROCESSING ACTIVITIES

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

PROCESSING ACTIVITY	AMOUNTS		
	PRE- VERIFICATION	VERIFICATION	TOTALS
POSITIONS ON SHEET			2696
POSITIONS CHECKED		300	
POSITIONS REVISED		5	
SOUNDINGS REVISED		323	
SOUNDINGS ERRONEOUSLY SPACED		0	
SIGNALS (CONTROL) ERRONEOUSLY PLOTTED		0	
	TIME - HOURS		
CRITIQUE OF FIELD DATA PACKAGE (PRE-VERIFICATION)			
VERIFICATION OF CONTROL		5	
VERIFICATION OF POSITIONS		20	
VERIFICATION OF SOUNDINGS	14	65	
COMPILATION OF SMOOTH SHEET		5	
APPLICATION OF TOPOGRAPHY		0	
APPLICATION OF PHOTOBATHYMETRY		0	
JUNCTIONS		5	
COMPARISON WITH PRIOR SURVEYS & CHARTS		32	
VERIFIER'S REPORT		16	
OTHER		170	
TOTALS	14	318	332
Pre-Verification by W. Tyndall, F. Saunders	Beginning Date 12/31/75	Ending Date 01/01/76	
Verification by D. Mason, F. Saunders, R. Hill	Beginning Date 05/20/76	Ending Date 02/16/78	
Verification Check by R. D. Sanocki	Time (Hours) 8	Date 02/21/78	
Marine Center Inspection by Hydrographic Inspection Team (AMC)	Time (Hours) 24	Date 02/23/78	
Quality Control Inspection by D.R. Payne	Time (Hours) 23	Date 4/12/78	
Requirements Evaluation by D.J. Hill	Time (Hours) 3	Date 4/26/78	

Reg. No. H-9579

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. \_\_\_\_\_

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-9579

Items for Future Presurvey Reviews

The 55-foot sounding located in latitude 38°25.9', longitude 74°57.49' on the present survey should be specifically investigated at an opportune time in the future.

<u>Position Index</u>		<u>Bottom Change</u>	<u>Use</u>	<u>Resurvey</u>
<u>Lat.</u>	<u>Long.</u>	<u>Index</u>	<u>Index</u>	<u>Cycle</u>
382	0745	2	6	25 years
382	0750	1	2	50 years



### 3. Hydrography

- a. Depths at crossings were in good agreement.
- b. The standard depth curves were adequately delineated. Additional brown curves and supplemental 36-foot curves were included to further delineate the bottom configuration.
- c. The development of the bottom configuration and the investigation of least depths were 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, except as follows:

- a. Differences were found between the Descriptive Report's electronic control corrector abstract, the electronic corrector tapes applied, and the electronic calibration forms. These differences could not be resolved by the verifier and were presented to the field unit responsible. Final determination of electronic correctors was made by the Ship WHITING's personnel. The corrector abstract listed in the Descriptive Report was designated as the proper corrections for application to the smooth sheet.

- b. The plotting of a least depth noted in Section P of the Descriptive Report was done incorrectly on the field's boat sheet. Also, the depth obtained was not included in the sounding records for this survey. (This depth has been inserted into records by the verifier.)

### 5. Junctions

An adequate junction was effected with H-9578 (1975) on the north.

A junction on the east with MT. MITCHELL survey H-9629 (1976) was not completed. Due to the unavailability of this survey for adjustments, the 90-foot brown curve is not in complete harmony and should be considered further by Quality Control.

There are no contemporary surveys available to the south, east, or northwest at this time.

## 6. Comparison With Prior Surveys

- a. H-4944 (1929) 1:40,000
- H-4951 (1929) 1:20,000
- H-5348 (1933) 1:40,000
- H-5349 (1933) 1:20,000
- H-8711 (1962) 1:10,000

A comparison between the above surveys and the present survey revealed relatively minor to significant differences in depths. Different methods of sounding and position control were used by the ~~above~~ prior surveys and in part, differences with the findings of the present survey may be attributed to them. However, a detailed comparison with each above survey revealed the following:

H-4944 - A comparison with this survey revealed shifting of features in the vicinity of latitude  $38^{\circ} 20'$ , longitude  $75^{\circ} 00'$ , southward approximately 200 to 400 meters. This shifting resulted in differences in depths of up to 5 feet. These differences may be attributed to a combination of natural processes and survey methods. Other areas appear to be in general agreement with the present survey bottom configuration, with the present survey being 1 to 3 feet shoaler, *and in random areas 1-3 ft. deeper.*

H-4951 - There were generally variable differences of  $\pm 3$  feet in areas where bottom configuration is relatively flat. This occurs in depths of 45 to 70 feet. However, in areas of large shoal features rising up to approximately 25 feet off the bottom, distinct shifts of up to 300 meters of these features\* occur. In these areas more significant differences in depths occur - up to  $\pm 6$  feet. These differences are attributed to natural changes in the bottom configuration and differences in survey position control used. Other differences may be attributed to differences in sounding methods and survey position control used.

*\* Shoal extends about 300 meters in lat.  $38^{\circ} 23'$ , long  $74^{\circ} 56'$*

H-5348 - Variable differences of up to  $\pm 6$  feet were revealed, with the prior survey being somewhat shoaler overall. This is attributed to the difference in sounding methods between the prior (flashing white-light indicating fathometer) and the present survey (Ross Fineline depth recorder).

H-5349 - Only a small portion of this prior survey falls within the limits of the present survey - the northeastern junctional area. Variable differences occurred, with prior survey depths being from 4 feet deeper to 9 feet shoaler in depths of 80 to 93 feet on the present survey. *Comparison with only a few soundings.*

H-8711 - General agreement to  $\pm 2$  feet; however, several significantly shoaler depths on bottom features have been brought forward to supplement the present survey, such as the:

28 foot shoal in latitude  $38^{\circ} 19.92'$ , longitude  $75^{\circ} 01.02'$  - *from H-4944 (1929)*  
 31 foot shoal in latitude  $38^{\circ} 19.80'$ , longitude  $75^{\circ} 01.09'$

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

- b. H-6341 WD (1938) 1:40,000  
F.E. No. 9 WD (1950) 1:40,000

H-6341 WD - The drag strip on Isle of Wight Shoal, with an effective drag depth of 30 feet, was found to be in conflict with the present survey at the northeastern end of the drag at *lat.  $38^{\circ} 21.44'$ , long.  $74^{\circ} 56'$* . Present survey depths to 28 feet exist in this area. The differences are attributed to shoaling in the area of the present survey. A sounding of 29 feet, originating with H-6341 WD (1938), in latitude  $38^{\circ} 21.63'$ , longitude  $75^{\circ} 01.75'$  occurs in the vicinity of present survey depths of 35 feet. This depth *is being* brought forward to supplement the present in this area.

Except as noted above, no conflicts exist between the present survey depths and effective depths of H-6341 WD.

F.E. No. 9 (1950) WD - This wire drag survey covers portions of the present survey. Development of the bottom by the present survey was 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) A hang depth of 65 feet located at latitude  $38^{\circ} 27.42'$ , longitude  $74^{\circ} 47.14'$  ✓  
 (2) A hang depth of 57 feet located at latitude  $38^{\circ} 24.72'$ , longitude  $74^{\circ} 50.23'$  ✓  
 (3) A hang depth of 59 feet located at latitude  $38^{\circ} 25.87'$ , longitude  $74^{\circ} 46.10'$  ✓  
*09'*

Also, conflicts were encountered with the effective depths of the following wire drag strips:

- (1) The drag strip south of Isle of Wight Shoal, with an effective depth of 46 feet was found to be in conflict *Immediate vicinity of Wight Shoal at lat  $38^{\circ} 23.2'$ , long.  $75^{\circ} 55.5'$*



with present survey depth at the northern end of the drag. Present survey depths to 31 feet exist in this area. These differences are attributed to shoaling in the area of the present survey.

(2) The drag strip in the vicinity of latitude  $38^{\circ} 27' 00''$ , longitude  $74^{\circ} 54' 00''$ , with an effective drag depth of 46 feet, was found to be in conflict with the present survey. This conflict occurs in the southwestern portions of the drag, with depths to 31 feet on the present survey. The differences are attributed to shoaling in the area of the present survey.

(3) The drag strip in the vicinity of latitude  $38^{\circ} 25.0'$ , longitude  $74^{\circ} 49.0'$ , with an effective depth of 76 feet, was found to be in conflict with the present survey in the southwestern end of drag. Depths to 65 feet exist in this area on the present survey and the differences are attributed to natural shoaling in the bottom in this area.

Except where noted above, no conflicts exist between present survey depths and the effective depths for this wire drag survey.

7. Comparison With Charts 12211 (21st Edition, June 15, 1974)  
12200 (27th Edition, April 12, 1975)

a. Hydrography

The charted hydrography originates with the previously discussed prior surveys and, with the exception of several depths from unascertainable sources, requires no further consideration.

Attention is directed to the following:

(1) Two nondangerous sunken wrecks shown on Chart 12200, in latitude  $38^{\circ} 22.75'$ , longitude  $74^{\circ} 58.75'$  and latitude  $38^{\circ} 21.1'$ , longitude  $74^{\circ} 52.9'$ , originate with an unknown source. The existence of these wrecks was neither verified nor disproved by the present survey and should be retained as charted unless subsequent information indicates otherwise.

(2) The obstruction, cleared by 54 feet, charted in the vicinity of latitude  $38^{\circ} 24.72'$ , longitude  $74^{\circ} 50.23'$ , originates with wire drag survey F.E. No. 9 of 1950. No indication of this obstruction, a reported wreck - ELIZABETH PALMER - sunk in 1915, was found by the present survey and it is recommended that it be retained as charted.

1109  
Applied  
to 12200  
(12211)

(3) The sunken wreck, cleared by 57 feet, charted in the vicinity of latitude  $38^{\circ} 25.83'$ , longitude  $74^{\circ} 46.24'$ , originates with wire drag survey F.E. No. 9 of 1950. No indication of this wreck was found by the present survey. The wreck should be retained as charted. ✓

(4) The sunken wreck, cleared by 61 feet, charted in the vicinity of  $38^{\circ} 27.42'$ , longitude  $74^{\circ} 47.14'$ , originates with wire drag survey F.E. No. 9 of 1950. No indication of this wreck was found by the present survey. The wreck should be retained as charted. ✓

b. Aids to Navigation

The aids to navigation located on the present survey are in substantial agreement with their charted positions and adequately serve the purposes intended.

8. Compliance With Instructions

This survey adequately complies with Project Instructions.


9. Additional Field Work

This is considered a good basic survey, and no additional work is recommended at this time.


Inspection Report  
H-9579


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: 2/23/78

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

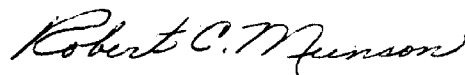
*ABSENT*  
Charles H. Nixon, CAPT, NOAA  
Chief, Operations Division

  
R. D. Sanocki  
Technical Assistant  
Processing Division

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

  
Harry R. Smith  
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/GKM

April 12, 1978

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

FROM: *G. K. Myers*  
G. K. Myers  
Chief, Quality Control Branch

SUBJECT: Quality Control Report for H-9579 (1975), Maryland, East of  
Ocean City, Offshore of Fenwick Island

Survey H-9579 was inspected to evaluate the accuracy and adequacy of the survey with respect to data acquisition, delineation of the bottom, determination of least depths, navigational hazards, junctions, sounding line crossings, smooth plotting, action taken by the verifier, and cartographic presentation of data.

An adequate junction was effected with H-9629 (1976) on the east during quality control. However, curves were inked on the smooth sheet of the present survey within the area of overlap during verification. If a junction is not completed between two contemporary surveys at the Marine Center, curves should only be penciled within the area of the junction.

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 59 WK located at latitude  $38^{\circ}25.82'$ , longitude  $74^{\circ}46.09'$  was displaced about 5 mm to the northwest of its true position on the smooth sheet of the present survey. This error was corrected during quality control.
2. Prior soundings carried forward during verification that originate with H-4944 (1929) were misidentified on the smooth sheet in accordance to their source. These soundings were erroneously shown to originate with H-8711 (1962). Furthermore, many of these soundings were superseded by the 1962 survey.
3. The 29-foot sounding located at latitude  $38^{\circ}21.63'$ , longitude  $75^{\circ}01.25'$  from a prior wire-drag survey was mistakenly inked in orange rather than green on the smooth sheet.



4. The following comments supplement the discussion pertaining to FE No. 9 (1950) WD noted in the Verifier's Report.

The purpose of the Field Examination was to locate wrecks, so that in places the wire drag was pulled along the bottom without clearing it. Such was evidently the case in many areas where significant differences were found between the drag depth and shoaler soundings on the present survey.

In areas around latitude  $38^{\circ}25.4'$ , longitude  $74^{\circ}49'$  present depths are 1 to 4 feet shoaler than the effective drag depth.

Present depths are 2 to 3 feet shoaler than drag depths in the immediate vicinity of latitude  $38^{\circ}25.7'$ , longitude  $74^{\circ}53.5'$ .

In the area of latitude  $38^{\circ}27'$ , longitude  $74^{\circ}53.6'$  present depths are as much as 4 feet shoaler than effective wire-drag depths.

Forty- and forty-one-foot depths are found on the present survey in areas around latitude  $38^{\circ}26.3'$ , longitude  $74^{\circ}55.2'$  where 51- and 53-foot swept depths exist.

At latitude  $38^{\circ}22.5'$ , longitude  $74^{\circ}58.4'$  present depths are as much as 4 to 5 feet shoaler than drag depths.

cc:  
C351

