

9764

Diag. Cht. Nos. 1219-2 & 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-20-1-78.....
Office No..... H-9764.....

LOCALITY

State Maryland & Delaware.....
General Locality ... Atlantic Coast.....
Locality ... Fenwick Island to Ocean City.....

19 78

CHIEF OF PARTY
K.W. Kieninger.....

LIBRARY & ARCHIVES

DATE August 29, 1979.....

9764

AREA-2
ell

12311 }
12214 }
12200 }
13003

App 2

HYDROGRAPHIC TITLE SHEET

H-9764

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-20-1-78

State Maryland[†] Delaware ~~ATLANTIC COAST~~

General locality Fenwick Island to Ocean City Atlantic Coast

Locality Ocean City, Maryland Fenwick Island to Ocean City

Scale 1:20,000 Date of survey 26 May - 8 July 78

Instructions dated 8 December 1977 Project No. OPR-D103 (516)-MI, WH-78

Vessel NOAA Ship Whiting Launches 1015 (2931) and 1014 (2932)

Chief of party CDR Karl Wm. Kieninger

Surveyed by Dennis M. Kuhl, Robert Mandzi, Nicholas E. Perugini, Douglas Schultz

Soundings taken by echo sounder, hand lead, pole Ross 5000 Echo Sounder

Graphic record scaled by Whiting Personnel

Graphic record checked by NEP, DRT, KWK

Protracted by _____ Automated plot by Hydroplot Xynerics 1201 plotter (AMC)

Soundings penciled by R.R. Hill

Soundings in fathoms feet at MLW MLLW

REMARKS: All times are Coordinated Universal Time

Applied to stds 6/25/80
RS

RWW 10/6/92

DESCRIPTIVE REPORT
TO ACCOMPANY SURVEY

H-9764

WH-20-1-78

A. PROJECT

Hydrographic survey WH-20-1-78, H-9764, was performed in accordance with project instructions for OPR-D103(516)-MI, WH-78, Atlantic Seaboard Area Project (ASAP), Delmarvanc Phase, dated 8 December 1977. The following changes have amended the original project instructions:

<u>CHANGE NO.</u>	<u>DATE</u>
1	16 Dec. 1977
2	21 Dec. 1977
3	7 Feb. 1978
4	6 Mar. 1978
5	9 Mar. 1978
6	16 Mar. 1978
7	10 Apr. 1978
8	27 Apr. 1978
9	22 May 1978
10	30 May 1978

B. AREA SURVEYED

~~H-9764~~

WH-20-1-78 was performed from Julian Days 146 to 189, 1978. The survey area extends from Ocean City Inlet, the southern limit, to 1 1/2 miles north of the Maryland-Delaware state line. The western limit is bounded by Fenwick Island. The eastern limit extends 1 1/2 to 2 1/2 miles offshore in the central and southern parts of the survey. The northern section of the survey extends 7 miles offshore.

Traffic in the survey area is generally limited to fishing vessels and pleasure craft. The bottom is sandy and smoothly sloping. The area is spotted with several shoals, the most prominent being Fenwick Shoal. This shoal, located six miles off Fenwick Island, contains two charted wrecks and has been a notorious danger to mariners. Several less prominent shoals exist 1-2 miles north of Ocean City Inlet.

C. SOUNDING VESSELS

WHITING Launches 1015 and 1014 performed all range-range and range-

azimuth survey work. EDP's for the launches are 2931 and 2932 respectively. Both launches were equipped with the PDP-8E Hydroplot System in conjunction with the Ross Model 5000 echo sounders. No major mechanical problems were encountered with the "Type 1" survey launches.

D. SOUNDING EQUIPMENT

H-9764

Echo sounders used on WH-20-1-78 were Ross Model 5000. Serial numbers for 1015 and 1014 are 1049 and 1087 respectively. Phase check calibrations were performed on the Ross Model 5000 in accordance with the Hydrographic Manual. This calibration was conducted regularly and is noted on all fathograms.

Bar checks were taken at least once a day, weather and sea conditions permitting. Quality of bar checks varied with wind, sea, and current conditions.

The automated hydroplot system was used to record depths on all days except Julian Day 162, vessel 2931. Depths and ranges were recorded manually on this day because of computer problems.

No major problems were encountered using the Ross Model 5000. The fathometer, S/N 1057, in launch 1015 was found to read an average of 0.3 of a foot deeper on the digital compared to the analog. This discrepancy was noted during scanning of fathograms.

The Ross Model 5000 has been found to perform adequately in areas with smoothly sloping bottoms. Investigation into wrecks and obstructions show the Ross is not effective due to narrow beam width. Several developments run with reduced line spacing show no trace of wrecks. At later dates several of these wrecks were located by chain drag.

Settlement and squat corrections are taken from trials performed by Whiting personnel in February, 1978. Graphs and corresponding tables for settlement and squat are in the appendix and applied on the TC/TT tape.

Velocity corrections were based on bar check averages. Data from bar checks was compiled in direct comparison logs, and velocity corrections were computed in accordance with the hydrographic manual. Due to the varying quality of analog traces, the following days only were used for computing bar check averages:

<u>VESNO 2931</u>	<u>VESNO 2932</u>
158	151
161	161
163	163
174	176
177	177
178(2)	179

All soundings on this sheet were taken on the 0-100 foot scale.

E. HYDROGRAPHIC SHEETS

The field sheets were prepared by Whiting personnel using a Houston Instruments DP-3 Roll Plotter, S/N 4680-1. For processing purposes, the area was divided into two plotter sheets. Plotter origins for the sheets are as follows:

NORTH: 38/24/03 N 75/05/48 W
SOUTH: 38/18/37 N 75/05/48 W

A total of four plotter sheets are submitted with this survey. Two sheets cover the entire field sheet. One pair of plotter sheets contain all main scheme hydrography, crosslines, splits and least depths found in development areas. The second pair of sheets is a set of overlays which contain detached positions of all buoys, bottom samples, and dives. Chain drag positions have not been plotted on the field sheet, but data will be submitted, and referred to.

F. CONTROL STATIONS

The following signals were used for electronic positioning sites or for calibration signals:

<u>SIGNAL NO.</u>	<u>NAME</u>
113	Coast Guard Radio Tower
117	Ocean City South Water Tank
125	GY-01-77
129	Ocean City Central Water Tank
133	GY-02-77
137	Ocean City North Water Tank
141	Azimuth Tank
145	ALDO
149	Ocean City Water Tank
153	Fenwick Island Lighthouse
157	9-01-77
163	MANZ
169	GRR

Stations 125, 133, and 157 were established by third order traverse in 1977 by Operations Division, Atlantic Marine Center.

Positions for the following signals were obtained from published horizontal control data: 113, 117, 129, 137, 141, 149, 153, 157.

Whiting personnel established spurs from third order control. All spurs were located using third order traverse methods. Distances were measured with HP Model 3800A Distance Meter, S/N 0987A00157,

or by steel tape. All angles were measured by T2 S/N 35803. The following spurs were established and used as electronic stations:

<u>SPUR</u>	<u>From STATION</u>
145 (ALDO)	RY-03-77
163 (MANZ)	145 (ALDO)
169 (GRR)	H-1-MD-77

All spurs are non-recoverable.

G. HYDROGRAPHIC POSITION CONTROL

Two types of position control were used in this survey, range-range, and range-azimuth. The Del Norte positioning system provided range control for all work.

1) Range-Range

The range-range hydrography was performed by launches 1015 and 1014, equipped with Del Norte Master units and distance measuring units. The Hydroplot system was used in all range-range work. Remote Del Norte stations were selected so that hydrography was run where intersections of rates was greater than 30 degrees and less than 150 degrees.

Daily calibration of the system was accomplished by using three-point sextant fixes (with check angle). Pattern correctors were computed by comparing visual and electronic fixes. Inverse distances between fixes and check fixes were compared and daily pattern correctors computed by means of weighting and averaging. In addition to daily visual calibrations, a baseline calibration was performed every two weeks.

Del Norte master units and distance measuring units were kept paired between baseline calibrations. The following Master-DMU pairs were used during the project:

	<u>Vessel</u>	<u>Master S/N</u>	<u>DMU S/N</u>
Julian Days 146-156	1015	281	515
	1014	159	159
Julian Days 157-172	1015	281	515
	1014	159	123
Julian Days 173-185	1015	123	159
	1014	281	515
Julian Days 186-189	1015	123	159
	1014	281	515

2) Range-Azimuth

Vessels 1015 and 1014 performed all range-azimuth work.

All ranges and depths were recorded using RK-111, the Range-Range Real Time Plot. On Julian Day 162, vessel 2931 data was logged manually due to a computer failure. Azimuths were measured with a Wild T2, S/N 35803.

Several problems were encountered when using the Del Norte positioning system. Two days were totally lost due to an erratic signal. It should be noted that Hydrographic Survey Branch, Field Party 4 (HSB-4) was surveying on the bay side of Fenwick Island at this time. Both the Whiting and HSB-4 were using 700 series Del Norte. At this time the Whiting changed to 800 series. This did not solve the problem entirely, but did reduce the incidence of interference.

Problems also existed when condominiums, now very close to the MHW line due to beach erosion, cut off signals inshore. This problem was solved by the establishment of spurs off existing control.

H. SHORELINE See Verifier's Report

No shoreline manuscripts were available for this survey. Shoreline for this sheet was taken from a 1:20,000 blowup of NOS Chart No. 12211, 25 Ed. Jan. 8/78, 1:80,000, obtained from C351. Shoreline is therefore unverified, especially due to the extensive erosion of the last winter.

I. CROSSLINES

The percentage of crosslines run on this survey was 7.7%. Agreement with main scheme lines was excellent in most cases, 0-2 feet. Crosslines were run in a north-south direction, perpendicular to the east-west main scheme. Several radials were run by 2931 to check range-azimuth work.

J. JUNCTIONS See Verifier's Report

To the north and east, this survey junctions with contemporary surveys H-9578 and H-9579. Agreement with these surveys is excellent, 0-2 feet. Near Ocean City Inlet, survey H-9715, performed by HSB-4 in 1978, also junctions excellently. To the south, this survey junctions with WH-20-2-78, performed by the Whiting. Junctions are excellent. ↪ H-9780

A small section of shoreline and main scheme was not compared because H-9714 was not available. This is the northwest section of the sheet.

K. COMPARISON WITH PRIOR SURVEYS

Survey 4951, October 31, 1929, 1:20,000

Comparisons were made in the area bounded by:

NORTH 38/29/00 EAST 74/58/00

SOUTH 38/26/00 WEST Fenwick Island

In general, main scheme agreement is good with discrepancies of 0-4 feet noted. In four areas, shoals have appeared to migrate south, keeping their same basic configurations.

A shoal centered at 38/28/00 N, 75/00/00 W, has shifted 0.2 mile southeast. Discrepancies of 5-15 feet are noted because of this shift.

A small shoal centered at 38/26/54 N, 75/00/12 W, has shifted 0.15 miles southwest. Depths found on the present survey are 29-30 feet compared to 40 foot depths on the prior survey.

A shoal centered at 38/27/30 N, 74/59/30 W, has shifted 0.2 mile south. Current depths are 28-29 feet, while depths on the prior survey are 33-36 feet.

The basic configuration of Fenwick Shoal agrees within 4 feet. Examining the 30 foot contour shows one minor discrepancy. The southernmost tip of the shoal appears to have shifted 0.1 mile south. The prior survey delineated a much steeper slope than the current survey, thus a 40 foot discrepancy exists on this southern slope.

Both current and prior surveys contain wrecks within the 18 foot contour. Depths within the 18 foot contour agree within 2 feet. Least depths of wrecks will be discussed in item investigation.

Survey-4951 Comparisons were made in the area bounded by:

NORTH 38/26/00 EAST 75/00/00
SOUTH 38/24/00 WEST Fenwick Island

This area contains several shoals. Examining the 30 foot contour shows all shoals have shifted 0.1 to 0.3 miles south. The most striking example of this is the shift of the 30 foot contour containing a shoal centered at: 38/25/45 N
75/25/45 W
01

Three to five foot discrepancies are noted in this area.

Survey H-8711, (1962), 1:10,000

NORTH 38/24/30 EAST 3 miles off shore
SOUTH 38/19/25 WEST Fenwick Island

Excellent agreement exists with this recent survey.

PSI 24 25

CHARTED ITEM: Wreck "20 feet reported"
CHARTED POSITION: 38/19/43 N
75/04/38 W

VESNO 2932
JD 174 (856-874)
175 (890-902)
179 (4100-4109)

This item is a charted wreck with a reported least depth of 20 feet.

The item was developed by means of reducing spacing to 40 meters. No trace of the wreck was found after this initial investigation.

On JD 175 a chain drag was performed on this area. A hang was encountered and a position was taken directly over the snag at fix 902. Whiting divers failed to locate the nature of the snag due to current and turbid conditions at this inshore area. Geographic position of fix 902 is: 38/19/41.7 N
75/04/42.1 W

On JD 179 the wreck was relocated by means of chain drag and again, conditions were not desirable for divers to investigate the wreck. Although no trace of the wreck could be found from the fathogram, a better position for the snag was found to be at fix 4106. Geographic position of this fix is: 38/19/42.5 N
75/04/40.6 W
39.2

It is recommended that the wreck symbol remain and be charted at position 4106. Since a least depth was not found, it is recommended that the "20 foot reported" note be retained.

Chart wreck at position of subm. Concur RH
PSI 25 2.4 obstruction shown on smooth sheet.

CHARTED ITEM: Wreck
CHARTED POSITION: 38/19/26 N VESNO 2932
75/04/43 W JD 174 (880-889)

Note: Position approximate

Investigation into a charted wreck was performed by splitting main scheme spacing to 45 meters. The wreck is charted 0.2 mile east of the jetty at Ocean City Inlet. Preliminary investigation of the area showed no evidence of the wreck.

On JD 175, a chain drag was performed and a hang was encountered at position 918. Geographic position of this hang is: 38/19/18.8 N
Shown as subm obstr on smooth sheet 75/04/48.8 W

On JD 179, another chain drag of the area was performed. A hang was encountered at 4114. Geographic position of this fix is: 38/19/33.7 N *Shown as subm obstr on smooth sheet*
75/04/48.4 W

Because of the large discrepancy between these two positions, further investigation of this item is needed. Item 25³ lies slightly south of the present sheet limits, and has not yet been conclusively resolved. A final recommendation will be made on WH-20-2-78.
Recommend wreck symbol remain as charted RH

PSI 26
CHARTED ITEM: Wreck VESNO 2931
CHARTED POSITIONS: 38/27/30 N JD 174 (3800-3823)
75/00/48 W

An investigation was performed on a charted wreck by reducing main scheme spacing to 45 meters. Several north-south lines were also run making a grid pattern over the charted position of the wreck. All lines were run at reduced speed. Published information of this

wreck states that this item is a wreckage of a ^V~~steamship~~ *barge, Neosho from wreck list # 3931* lost towards the end of last century. No trace of the wreck was found in this development. Least depth of the development was found to be 33 feet at position 3820. Geographic position is: 38/27/22.2 N
75/00/51.9 W

A later investigation of this wreck was performed by chain drag on JD 175, positions 920-944. No hangs were encountered. The area of the drag covered does not warrant the deletion of the wreck. Also, according to local sources the wreck still exists, and it is recommended that the charted wreck symbol be retained. *Concur 2H*

DEVELOPMENT 1N

CHARTED ITEM: Wreck VESNO 2931
CHARTED POSITION: 38/27/59 N JD 175 (3824-3848)
74/58/50 W

This item is a sunken coal barge, the Joseph E. Hooper. It is reported constructed of wood, length 267 feet, breadth 46 feet, sunken in 1921. A grid pattern was run over this wreck at reduced speed. The fathogram shows traces of the wreck on several lines. A least depth of 35 feet was between fixes 3845-3846. Geographic position of this depth is: 38/27/58.1 N
74/58/50.1 W *Concur RH*

The wreck clearly projects off the bottom at least 5 feet. It is recommended that the charted wreck be retained at the above position. *Chart as Wreck (25) from FE. No. 9 WD (1950)*

DEVELOPMENT 2N

CHARTED ITEM: Fenwick Shoal VESNO 2931
POSITION NOS. 3545-3719 JD 163-164

Fenwick Shoal, located 6 miles off Fenwick Island, is a notoriously dangerous area to mariners. The shoal is littered with several wrecks and can be an extreme hazard to deep draft vessels. The area is also a fine fishing and diving spot. Many charted fishing vessels from Ocean City can be seen here. The shoal lies in a 030°-210° orientation and is 3 miles in length. A gradual drop-off is characteristic of the north, east and west sides of the shoal while the southern side drops off sharply (40ft/0.1 miles).

Fenwick shoal was developed by splitting main scheme lines and reducing effective spacing to 95 meters. Lines perpendicular to the shoal's axis (135-315) were also run for better delineation.

Excluding wrecks, the least depth found in the development was 14 feet, 1 out from fix 3674. Geographic position is: 38/27/12.2 N
74/56/10.3 W

In general, depths agree with currently charted depths. The southern tip of Fenwick Shoal has shifted 0.1 mile south, thus creating a discrepancy in the 30 foot contour. It is recommended that this contour be charted south to accurately delineate the shoal. Two wreck investigations will be discussed later in this report.

Concur RH

DEVELOPMENT 3N

CHARTED ITEM: Wreck 6
CHARTED POSITION: 38/27/28
74/56/23

JD 175 (chain drag) 945-963
JD 176 (dive) 3848

This item is a charted wreck located on Fenwick shoal. It is charted as having a clear depth of 6 feet by wire drag. The area is temporarily buoyed by plastic bottles, delineating the approximate position of the wreck. The wreck is a well known fishing and diving spot in the Ocean City area.

On JD 17⁵, Whiting personnel conducted a chain drag of the area, subsequently hanging at position 963. Because of the nature of the snag, the tangled chain was buoyed and left for the following day.

Whiting divers dove on the snag on JD 17⁶. Scattered remains of the wreck were noted by divers. The wreck appears to have been dynamited and is scattered over a large area. Although positive identification of the type vessel could not be made, divers noted hull plates, remnants of masts, and piles protruding as much as 10 feet off the bottom. All remnants were barnacle covered. Divers covered an area (200 foot radius) and still did not reach the limits of the wreck. A tide-corrected least depth of 20 feet was found at lead line position 3849. This was taken on a large pile protruding off the bottom about 7 feet. Geographic position of this fix is:

38/27/27.4 N
74/56/24.2 W

Although the least depth was obtained by leadline, per telecon with the vessel, the depth was apparently reduced for predicted tide without a time of observation. Therefore, the position is shown by "sub-pile" on the smooth sheet.

After talking to several divers in Ocean City, most believe that the wreck has a least depth closer to 10 feet. Because of the scattered nature of the wreck and potential danger to navigation, it is recommended that the wreck remain charted at the above position and the wire drag symbol of 6 foot cleared be retained.

*Concur with
from F.E. No. 9 WD (1950)*

*see note
on smooth
sheet.*

DEVELOPMENT 4N

CHARTED ITEM: Wreck 8
CHARTED POSITION: 38/27/28
74/56/05

VESNO 2931
JD 176 (Dive) 3850

This item is a charted wreck located on Fenwick Shoal. It is currently charted as a wire drag cleared of 8 feet. The wreck is buoyed temporarily by plastic bottles and is well known as good fishing and diving territory.

Whiting divers performed an investigation on this wreck on JD 176. Divers discovered a hull partially intact covered with barnacles. The uppermost part of the hull and superstructure were collapsed into the skeleton of the wreck. The wreck projects a maximum of 10 feet off the bottom. Divers are confident the entire span of the wreck was covered. The wreck is about 130 feet long and many parts of the wreck are cradled in sand. It is situated on a slight slope and is oriented in an east-west direction. Least depth of the wreck was found to be 15 feet at position 3850. Geographic position was found to be:

38/27/28.2 N
74/56/02.2 W

This least depth was not plotted because the depth obtained by leadline (per telecon with vessel) was apparently reduced for predicted tide and was not accompanied by a time of observation.

Because of the thorough investigation by Whiting divers, it is recommended that the wreck be charted at ~~the above position~~ ^{lat 38° 22' 10" N long 74° 56' 16" W} noting a ~~least depth of 15 feet.~~ *Cleared depth of 8 feet* *Concur Rlt - describe as "wreckage"*

DEVELOPMENT 5S

CHARTED ITEM: Shoal VESNO 2932
CHARTED POSITION: Centered at 38/21/30 N JD 164 (746-788)
75/02/30 W 173 (789-831)

CHARTED LEAST DEPTH: 15 feet

This item is a shoal which extends for 4 miles and is located 1 mile northeast of Ocean City Inlet. The bottom was found to be gently sloping and sandy. The area is generally traversed by fishing and pleasure boats.

The development was investigated by splitting the main scheme for an effective spacing of 95 meters. A line thru the axis of the shoal was also run at a 229° heading. Least depth of the shoal was found to be 15 feet, 2 out from 826. Geographic position is:
38/21/10.7 N 14
75/02/58.5 W

Charted depths in this area are currently 15 feet. It is recommended that the ~~charted 15 foot depth be retained.~~ *area be charted in accordance with the present survey.* *Concur Rlt*

DEVELOPMENT 6S

CHARTED ITEM: Shoal VESNO 2932
CHARTED POSITION: Centered at 38/21/01 N JD 173 (844-855)
75/01/50 W

CHARTED DEPTH: 24-26 feet

Splits of the main scheme were run to develop this small sandy shoal. A least depth of 26 feet was found 5 out from 129 on the main scheme. Geographic position of this sounding is:
38/20/41.0 N
75/02/03.1 W

It is recommended that the currently charted depths (24-26 feet) be retained. *Concur Rlt*

DEVELOPMENT 7S

CHARTED ITEM: Shoal VESNO 2932
CHARTED POSITION: Centered at 38/20/11 N JD 173 (832-843)
75/02/57 W

CHARTED DEPTH: 20 feet

This item is a small shoal developed by splitting the main scheme. The bottom is gently sloping and sandy. A least depth of 21 feet was found 4 out from 835. G.P. of this sounding is 38/20/06.9 N, 75/02/59.9 W. It is recommended that the ~~21~~ ²⁰ foot depth be retained and charted at the above position. *Concur Rlt*

L. COMPARISON WITH THE CHART

H-9764 was compared with Chart 12211, Fenwick Island Light to Chincoteague Inlet, 25 Ed., Jan.8/1978, a 1:80,000 scale.

Area bounded by: NORTH 38/28/45 EAST 74/54/00
SOUTH 38/25/00 WEST Fenwick Island

In general, agreement with the chart in this area is good. As noted in comparing the current survey to prior surveys, all shoals appear to have shifted 0.1 to 0.3 miles south. For example, the 30 foot contour on the south part of Fenwick Shoal is now found 0.1 mile south of its currently charted position. Thus a least depth of 26 feet is outside the 30 foot contour. A shoal centered at 38/28/00 N, 75/00/00 W has also shifted south 0.1-0.2 of a mile. Depths of 20 feet now exist outside the 30 foot curve, thus a 10 foot discrepancy.

A shoal currently charted at 38/25/40, 75/02/00, has also shifted south. Currently charted depths are 20-27 feet. The new survey has found depths of 29-36 feet in this area. The entire 30 foot contour should be re-evaluated in this area.

Area bounded by: NORTH 38/25/00 EAST 75/00/00
SOUTH 38/19/30 WEST Fenwick Island

Agreement in this area is generally good (0-4 feet). It is recommended that the 30 foot contour be shifted 0.1 mile south.

BA Concur

M. ADEQUACY OF SURVEY

This survey is complete and adequate to supersede prior surveys.

N. AIDS TO NAVIGATION

The following is a list of the aids to navigation found on H-9764.

<u>POSITION NUMBER</u>	<u>GEOGRAPHIC POSITION</u>	<u>DESCRIPTION</u>
81	38/20/07.741 N 75/03/48.762 W	WR 2
174	38/21/14.045 N 75/03/18.255 W	W Or Priv. Maintained
435	38/19/21.905 N 75/04/07.524 W	R "2" F1 R BELL
3057	38/26/43.139 N 74/57/23.283 W	"IFIS" F1 4 sec WHISTLE
3058	38/26/43.213 N 74/57/11.478 W	Can station buoy for IFIS

Buoy WR2 is not currently charted. The buoy was placed over a wreck which sank in May, 1978. The Whiting contacted the U.S. Coast Guard Aids to Navigation, District Five, Portsmouth, and was advised that the buoy would be removed by the end of August, 1978. The wreck was

completely removed and the Coast Guard assured the Whiting that the buoy was only temporary.

Buoy "IFIS" Fl 4 sec WHISTLE, adequately delineates the southwestern tip of Fenwick Shoal. A small station buoy accompanies the shoal buoy.

Position 174 is a privately maintained buoy in a fish haven. The currently charted position is: 38/21.0 N, 75/03.5 W. The position of the buoy found by the Whiting was 0.3 of a mile northeast of the charted position. *C. near RH*

Fenwick Island Light is located 0.3 of a mile in shore at 38/27/04.475, 75/03/19.185. This light is the major fixed aid to navigation in the area and is properly charted.

O. STATISTICS

<u>VESNO</u>	<u>NUMBER OF POSITIONS</u>	<u>TOTAL MILES</u>
2931	1096	200.5
2932	1230	247.4
TOTALS:	2326	447.9

TOTAL SQUARE MILES: 30.5
TIDE GAGES ESTABLISHED: NONE

P. MISCELLANEOUS

Whiting Chain Drag

The chain drag for item investigation used by the Whiting utilizes two survey launches. Three hundred feet of 3/8 inch galvanized chain is towed on the bottom between the vessels. A 100 foot tow line is shackled to each end of the bottom chain. In order to keep the ends of the chain on the bottom, a short length of heavy chain, weighing approximately 40 pounds was also attached to each end.

The boats were run on parallel tracts, 60 meters apart. The effective width of the drag was 80% or 48 meters. The overlap of succeeding sweeps by the guide vessel was 40 meters.

The guide vessel used range-range to control its position. The end vessel interrogated a Remote Del Norte unit which was on the guide vessel. In this way, the guide vessel would steer a line by using the hydroplot system and the end vessel would maintain a distance of 60 meters away from the guide boat.

Q. RECOMMENDATIONS

None

R. AUTOMATED DATA PROCESSING

<u>PROGRAM NO.</u>	<u>DESCRIPTION</u>	<u>VERSION DATE</u>
RK 111	Range-Range Real Time Hydroplot	1-30-76
RK 201	Grid and H/R Lattice Plot	4-18-76
RK 211	Range-Range Off-Line Plot	1-15-76
RK 212	Visual Station Table Load	4-01-74
RK 216	Range-Azimuth Position and Sounding Plot	5-16-74
RK 300	Utility Computations	2-10-76
RK 330	Data Reformat and Check	3-12-76
AM 500	Predicted Tide Generator	11-10-72
RK 561	Hyperbolic and Range-Range Geodetic Calibration	2-19-75
AM 602	Extended Line Oriented Editor	3-10-72
RK 407	Geodetic Inverse/Direct Computation	10-23-75

S. REFERENCES TO REPORTS

None

APPROVAL SHEET

Submitted by:

Nicholas E. Perugini

Nicholas E. Perugini
Ensign, 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 Project Instructions.

Approved/Forwarded:

Karl Wm. Kieninger

Karl Wm. Kieninger
CDR, NOAA
Commanding Officer, NOAA Ship WHITING

D103

SIGNAL TAPE

113	6	38	19	39961	075	05	27474	139	0000	000000	Coast Guard Radio Tower ✓
117	6	38	19	40442	075	05	21961	139	0000	000000	Ocean City S. Wtr. Tank ✓
125	6	38	19	37617	075	05	00013	¹³⁹ 250	0000	000000	GY-01-77 ✓
129	6	38	20	42283	075	04	51918	139	0000	000000	Ocean City Cent. Wtr. Tank ✓
133	6	38	21	19698	075	04	24914	250	0000	000000	GY-02-77 ✓
137	6	38	22	06126	075	04	23897	139	0000	000000	Ocean City N. Wtr. Tank ✓
141	6	38	23	19347	075	04	02751	139	0000	000000	Ocean City Azimuth Tank ✓
145	6	38	23	56223	075	03	37796	254	0000	000000	ALDO ✓
149	6	38	26	30359	075	03	20043	139	0000	000000	Ocean City Water Tank ✓
153	6	38	27	04475	075	03	19185	139	0000	000000	Fenwick Is. Lighthouse ✓
157	6	38	28	09325	075	03	01179	250	0000	000000	9-01-77 ✓
163	6	38	23	54771	075	03	37700	254	0000	000000	MANZ ✓
169	6	38	26	24209	075	03	05622	254	0000	000000	GRR ✓

NOAA FORM 74-40
(8-74)

Replaces C&GS Form 567.

TO BE CHARTED
 TO BE REVISED
 TO BE DELETED

REPORTING UNIT
(Field Party, Ship or Office)
Coastal Mapping Div.
Norfolk, Va.

STATE
Maryland

LOCALITY
Ocean City Inlet

DATE
7/21/77

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

FOR CHARTS

ORIGINATING ACTIVITY

- HYDROGRAPHIC PARTY
- GEODETIC PARTY
- PHOTO FIELD PARTY
- COMPILATION ACTIVITY
- FINAL REVIEWER
- QUALITY CONTROL & REVIEW GRP.
- COAST PILOT BRANCH

(See reverse for responsible personnel)

The following objects HAVE BEEN INSPECTED FROM SEAWARD TO DETERMINE THEIR VALUE AS LANDMARKS.

OPR PROJECT NO. 516 JOB NUMBER CM-7505 SURVEY NUMBER TP-00866 DATUM NA 1927

POSITION

LATITUDE LONGITUDE

D.M. Meters D.P. Meters

DESCRIPTION

(Record reason for deletion of landmark or aid to navigation. Show triangulation station names, where applicable, in parentheses)

CHARTING NAME

METHOD AND DATE OF LOCATION

OFFICE FIELD

CHARTS AFFECTED

LIGHT Ocean City Inlet Light 6 38 19 26.63 75 05 06.92 168 F-3-6-L April 1977 12211

LIGHT Ocean City Inlet Obstruction Light 38 19 39.82 75 05 38.01 923 " "

LIGHT Ocean City Harbor Light 2 38 19 39.50 75 05 47.28 1148 " "

LIGHT Ocean City Harbor Light 3 38 19 36.38 75 06 03.73 91 " "

LIGHT Sinepuxent Bay Channel Light 5 38 19 10.70 75 06 25.37 616 " "

*DAY BEACON Isle of Wight Bay Daybeacon 38 20 29.89 75 05 08.50 206 F-V-VIS 4/7/77 12211

LIGHT Isle of Wight Bay Channel Light 2 38 20 922 15.20 369 F-4-8-L 4/7/77 12211

*DAY BEACON Isle of Wight Bay Warning Daybeacon 38 20 52.12 75 05 17.75 431 F-4-8-L 4/7/77 12211

*DAY BEACON Isle of Wight Bay Daybeacon 4 38 20 56.56 75 05 17.75 431 F-4-8-L 4/7/77 12211

*DAY BEACON Isle of Wight Bay Daybeacon 4A 38 20 1744

*N.T. in place at time of field investigation

NOAA FORM 76-40
(8-74)

Replaces C&GS Form 567.

TO BE CHARTED
 TO BE REVISED
 TO BE DELETED

REPORTING UNIT
(Field Party, Ship or Office)
Coastal Mapping Div.
AMC, Norfolk, Va.

STATE
Maryland

LOCALITY
Ocean City Inlet

DATE
7/21/77

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

LANDMARKS FOR CHARTS

ORIGINATING ACTIVITY

- HYDROGRAPHIC PARTY
- GEODETIC PARTY
- PHOTO FIELD PARTY
- COMPILATION ACTIVITY
- FINAL REVIEWER
- QUALITY CONTROL & REVIEW GRP
- COAST PILOT BRANCH

(See reverse for responsible personnel)

The following objects HAVE BEEN INSPECTED FROM SEAWARD TO DETERMINE THEIR VALUE AS LANDMARKS.

CHARTING NAME	DESCRIPTION (Record reason for deletion of landmark or aid to navigation. Show triangulation station names, where applicable, in parentheses.)	DATUM		POSITION		LONGITUDE // D.P. Meters	OFFICE	METHOD AND DATE OF LOCATION (See instructions on reverse aide)	CHARTS AFFECTED
		JOB NUMBER	SURVEY NUMBER	LATITUDE // D.M. Meters	LONGITUDE // D.P. Meters				
*TANK	Ocean City, Center Water Tank ht = 119 (123) (New position)	38 20	75 04	51.92				/ F-3-6-L 4/76 F-V-VIS 4/6/77	12211
LOOKOUT TOWER	Ocean City, Coast Guard Tower, ht = 63 (72)	38 19	75 05	18.23				F-V-VIS 4/6/76	12211
*TANK	Mystic Harbor Water Tank ht = 160 (170)	38 19	75 07	03.97				4776 F-V-VIS 4/6/77	12211
TANK	(Ocean City, North Municipal Water Tank, 1962) ht = 121 (125)	38 22	75 04	23.900				76C(I) 3878 3/24/76	12211
DOME	ht = 63 (72)	38 20	75 05	580.2				76C(I) 3876 3/24/76	12211
TANK	(Ocean City, South Municipal Water Tank, 1955) ht = 121 (129)	38 19	75 05	21.961				76C(I) 3876 3/24/76	12211
*Position	from Airport Computation Form 1976			533.4					

NOAA FORM 76-40
(8-74)

Replaces C&GS Form 567.

TO BE CHARTED
 TO BE REVISED
 TO BE DELETED

REPORTING UNIT
(Field Party, Ship or Office)
Coastal Mapping Div.
Norfolk, Va.

STATE
Maryland

LOCALITY
Ocean City Inlet

DATE
7/21/77

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

LANDMARKS FOR CHARTS

ORIGINATING ACTIVITY

- HYDROGRAPHIC PARTY
 - GEODETIC PARTY
 - PHOTO FIELD PARTY
 - COMPILATION ACTIVITY
 - FINAL REVIEWER
 - QUALITY CONTROL & REVIEW GRP.
 - COAST PILOT BRANCH
- (See reverse for responsible personnel)

The following objects HAVE HAVE NOT been inspected from seaward to determine their value as landmarks.

CHARTING NAME	DESCRIPTION (Record reason for deletion of landmark or aid to navigation. Show triangulation station name, where applicable, in parentheses)	DATUM		POSITION		LONGITUDE		METHOD AND DATE OF LOCATION (See Instructions on reverse side)		CHARTS AFFECTED
		JOB NUMBER	SURVEY NUMBER	LATITUDE	LONGITUDE	OFFICE	FIELD	D.P. Meters		
								D.M. Meters	D.P. Meters	
516	CM-7505 TP-00866	NA	1927							
TANK	(Ocean City, Center Municipal Water Tank, 1955) Destroyed	3820	42.27 1303.2	75 04	51.98 1262.2	-76C(I) 3877 3/24/76				-12211

BAR CHECK DATA ABSTRACTS

VESNO 2931

<u>DEPTH</u>	<u>CORRECTION</u>
10.2	-0.2
15.0	0.0
19.8	+0.2
24.7	+0.3
29.7	+0.3
34.6	+0.4
39.5	+0.5
49.3	+0.7

VELOCITY TAPE

VESSEL NO. 2931

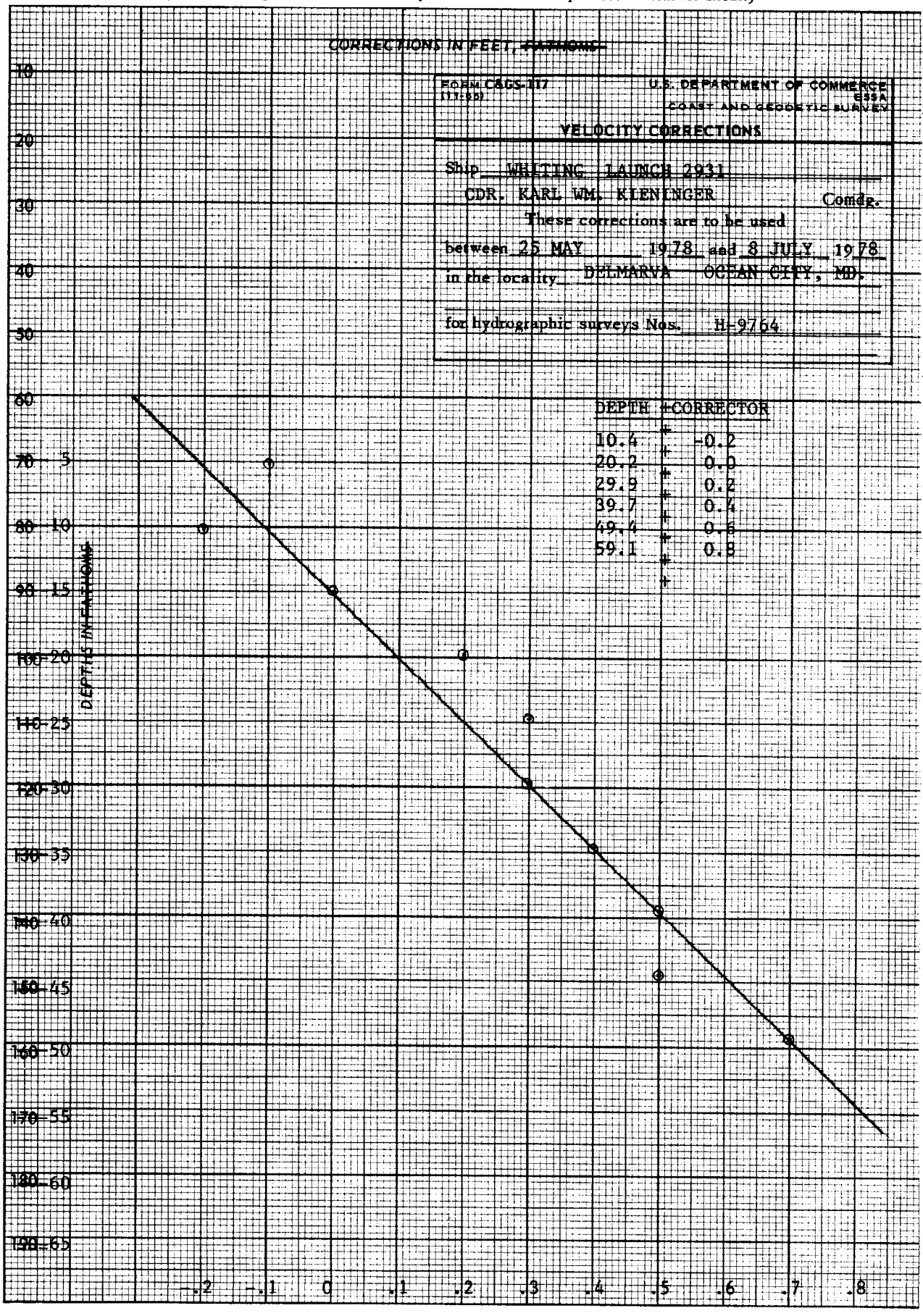
000104 1 1002 0001 000 293100 009764
000202 0 0000
000299 0 0002
000397 0 0004
000494 0 0006
000591 0 0008
000750 0 0010
999999 0 0000

(For 1 inch equal 7 fathoms for deep water and 1 inch equal 0.4 fathom for shore.)

CORRECTIONS IN FEET, FATHOMS

FORM C&GS-117 (11-68)	U.S. DEPARTMENT OF COMMERCE COAST AND GEODESIC SURVEY	
VELOCITY CORRECTIONS		
Ship <u>WHITING LAUNCH 2931</u>		
CDR. KARL WM. KIENINGER		Comdr.
These corrections are to be used		
between <u>25 MAY 1978</u> and <u>8 JULY 1978</u>		
in the locality <u>DELMARVA OCEAN CITY, MD.</u>		
for hydrographic surveys Nos. <u>H-9764</u>		

For deep water add 0.0 to these figures.



DEPTH	CORRECTOR
10.4	-0.2
20.2	0.0
29.9	0.2
39.7	0.4
49.4	0.6
59.1	0.8

BAR CHECK DATA ABSTRACTS

VESNO 2932

<u>DEPTH</u>	<u>CORRECTION</u>
9.9	+0.1
14.8	+0.2
19.7	+0.3
24.7	+0.3
29.5	+0.5
34.5	+0.5
39.2	+0.8
44.2	+0.8

VELOCITY TAPE

VESSEL NO. 2932

000105 0 0000 0002 000 293200 009764
000205 0 0002
000306 0 0004
000406 0 0006
000507 0 0008
000750 0 0010
999999 0 0000

POKAI BAY BREAKWATER LIGHT 2

CORRECTIONS IN FEET, FATHOMS

FORM CGS-117
(11-65)

U.S. DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY

VELOCITY CORRECTIONS

Ship WHITING LAUNCH 2932

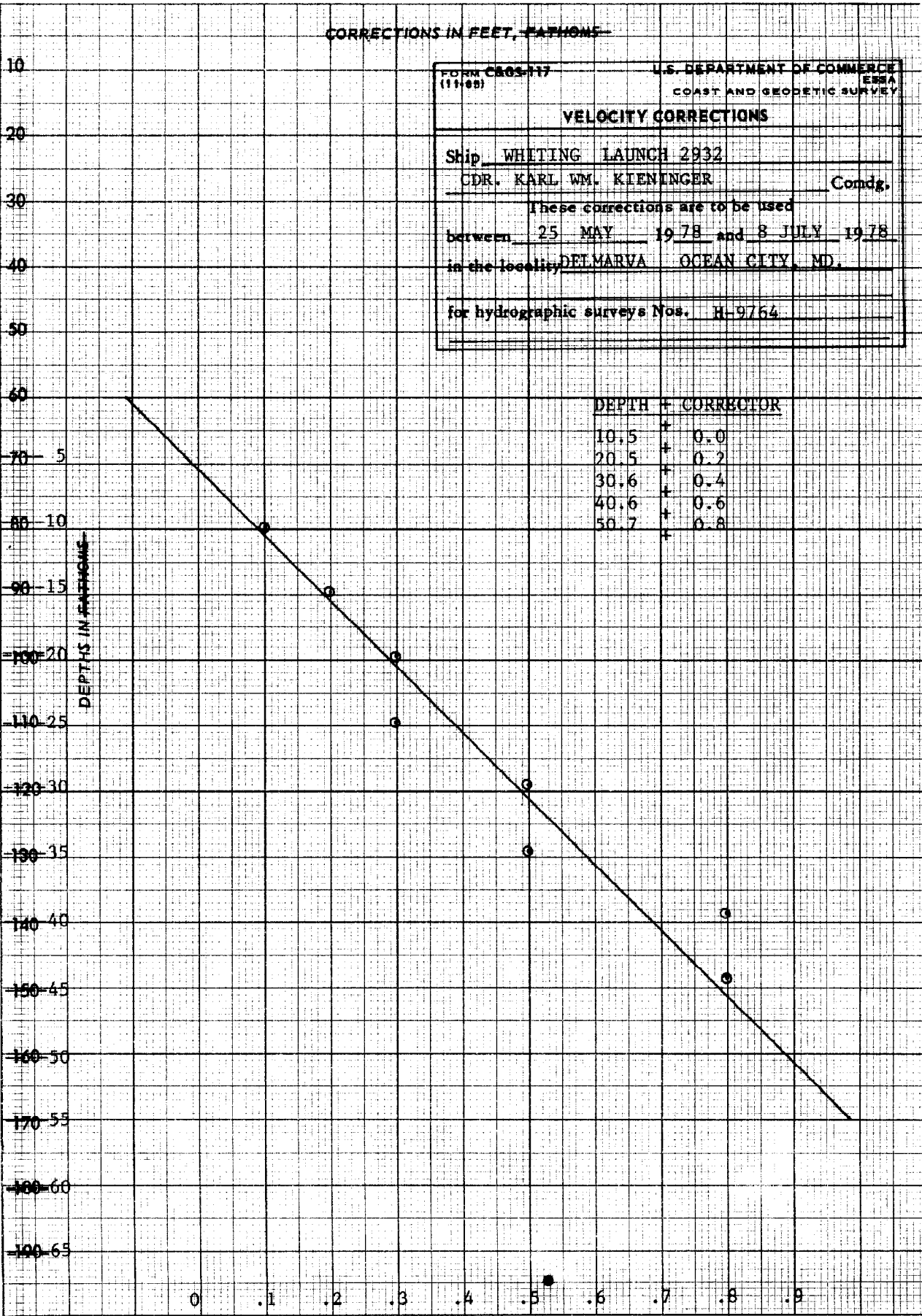
CDR. KARL WM. KIENINGER

Comdg.

These corrections are to be used
between 25 MAY 1978 and 8 JULY 1978
in the locality DELMARVA OCEAN CITY, MD.

for hydrographic surveys Nos. H-9764

(For deep water add a 0 to these figures)



20 X 20 TO THE INCH 46 1240
7 X 10 INCHES
MADE IN U.S.A.
KEUFFEL & ESSER CO.

SETTLEMENT AND SQUAT TRIALS

Settlement and squat trials were run on launches 1014 and 1015 at Governor's Island, New York in February and April 1978. Trials were run using a level and rod. The level rod was held over the transducer location. Results are the average of one run towards the observer and one run away from the observer at the speeds listed below.

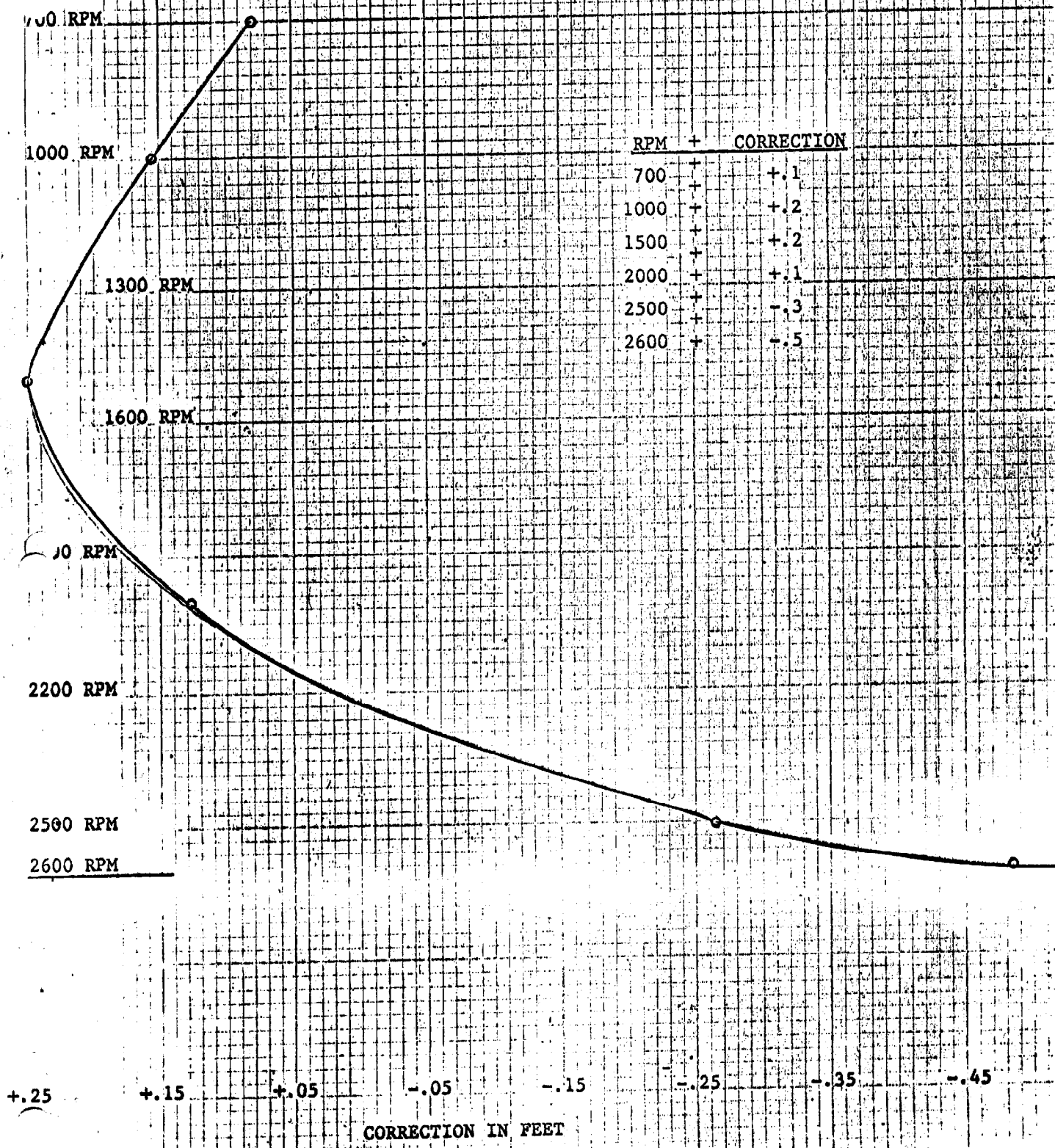
<u>Speed in RPM</u>	<u>Correction 1014</u>	<u>Correction 1015</u>
700	+0.006	+0.080
1000	+0.070	+0.156
1500	+0.158	+0.250
2000	+0.172	+0.127
2500	-0.081	-0.263
2600	-0.176	-0.486

Corrections for settlement and squat are made on the TC/TI Tape. Periods of reduced speed during actual hydrography are noted in the sounding volumes and on the printouts.

See the attached graph of the correctors versus RPM for each vessel.

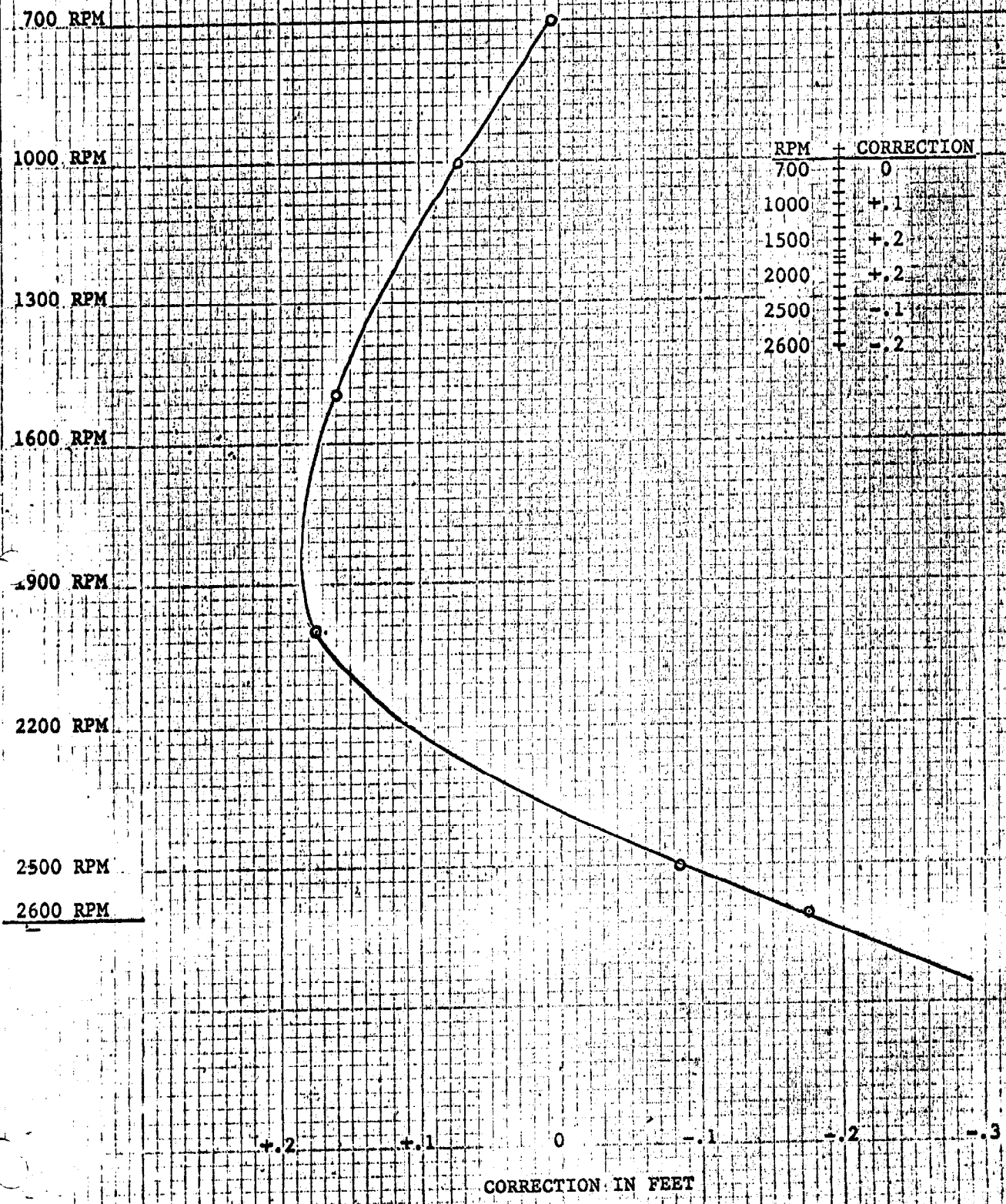
SETTLEMENT AND SQUAT CURVE

VESNO 2931, LAUNCH 1015



SETTLEMENT AND SQUAT CURVE

VESNO 2932, LAUNCH 1014



FIELD TIDE NOTE

The soundings on the field sheet were reduced by predicted tides based on preliminary zoning furnished with the project instructions. Values of -1hr 50 min on Hampton Rds. VA, were applied to times of high and low water. A ratio of 1.66 was applied to heights of tide.

A tide gage at the fishing pier, Ocean City, Maryland, was the only control gage used in the survey area. The gage is a Fischer-Porter ADR 1550, SN-6803A3012M14. Location of the gage is: 38/19.~~57~~ N, 75/05.0/W. The tide gage was inspected on various occasions by Whiting personnel along with personnel from NOAA Launch 1255.



U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SURVEY

DATE: July 28, 1978
TO: C331
Chief, Tides & Water Levels Branch
FROM: CDR. *Karl Wm. Klentzger* NOAA
Commanding Officer, NOAA Ship WHITING
SUBJECT: Smooth tides for survey H-9764

Please forward smooth tides for Fenwick Island, Maryland Beach to Ocean City Inlet, to Chief, Processing Division (CAM 3), Atlantic Marine Center. Hydrography was done in the area shown on the attached chartlet. Smooth tides are needed for julian days; 146,150,151,158,161,162,163,164,173,174, 175,176,177,178,179,189, for the year 1978.

November 22, 1978 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): 857-0280 Ocean City, Maryland

Period: May 26 - July 8, 1978

HYDROGRAPHIC SHEET: H-9764

OPR: D103

Locality: Off Fenwick Island, Maryland

Plane of reference (mean ~~lower~~ low water): 4.08 ft.

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

Remarks: Zone direct.

Don M. Spillman 11/22/78
Chief, Tides Branch

APPROVAL SHEET
FOR
SURVEY H-9764

- 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 Hydrographic Manual. Exceptions are listed in the Verifier's Report.

Date: 8/14/79

Signed: 

Title: Chief, Verification Branch

HYDROGRAPHIC SURVEY STATISTICS

H-9764

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

RECORD DESCRIPTION		AMOUNT	RECORD DESCRIPTION		AMOUNT	
SMOOTH SHEET		1	BOAT SHEETS & PRELIMINARY OVERLAYS		4 & 0	
DESCRIPTIVE REPORT		1	SMOOTH OVERLAYS: POS. ARC, EXCESS		3	
DESCRIP-TION	DEPTH RECORDS	HORIZ. CONT. RECORDS	PRINTOUTS	TAPE ROLLS	PUNCHED CARDS	ABSTRACTS/SOURCE DOCUMENTS
ENVELOPES						Tides & misc. DATA
CAHIERS	1- with printouts		1- with fathos.			
VOLUMES	5					
BOXES			1- SMOOTH			

T-SHEET PRINTS (List) 1- chart #12211, 1- blowup of chart # 12211

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			2326
POSITIONS CHECKED		200	
POSITIONS REVISED		5	
SOUNDINGS REVISED		30	
SOUNDINGS ERRONEOUSLY SPACED		10	
SIGNALS (CONTROL) ERRONEOUSLY PLOTTED		0	
	TIME - HOURS		
CRITIQUE OF FIELD DATA PACKAGE (PRE-VERIFICATION)			
VERIFICATION OF CONTROL		8	
VERIFICATION OF POSITIONS		30	
VERIFICATION OF SOUNDINGS	6	60	
COMPILATION OF SMOOTH SHEET		65	
APPLICATION OF TOPOGRAPHY		3	
APPLICATION OF PHOTOBATHYMETRY		0	
JUNCTIONS		21	
COMPARISON WITH PRIOR SURVEYS & CHARTS		22	
VERIFIER'S REPORT		10	
OTHER		29	
TOTALS	6	248	254

Pre-Verification by
F. Lamison, F. Saunders, R. Hill

Beginning Date
08/30/78

Ending Date
07/01/79

Verification by
R. Hill

Beginning Date
07/10/78

Ending Date
08/14/79

Verification Check by
B.J. Stephenson

Time (Hours)
4

Date
08/06/79

Marine Center Inspection by
Hydrographic Inspection Team (AMC)

Time (Hours)
6

Date
08/09/79

Quality Control Inspection by
G. Myers

Time (Hours)
43

Date
12/19/79

Requirements Evaluation by
J. Baumgardner

Time (Hours)
4

Date
5/5/80

Accuracy Inspection - 3 hrs 4/8/80

REGISTRY NO. _____

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

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

CARDS CORRECTED

DATE _____ TIME REQUIRED _____ INITIALS _____

REMARKS:

REGISTRY NO. H-9764

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

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

MAGNETIC TAPE CORRECTED

DATE _____ TIME REQUIRED _____ INITIALS _____

REMARKS:

ATLANTIC MARINE CENTER
VERIFIER'S REPORT

REGISTRY NO. H-9764

FIELD NO. WH-20-1-78

Maryland and Delaware, Atlantic Coast, Fenwick Island to Ocean City

SURVEYED: May 26, 1978 through July 8, 1978

SCALE: 1:20,000

PROJECT NO.: OPR-D103

SOUNDINGS: Ross Digital
Echo Sounder

CONTROL: Del-Norte
(Range-Range)
Del-Norte-Wild T2
(Range-Azimuth)

Chief of Party K.W. Kieninger
Surveyed by D.M. Kuhl
..... R. Mandzi
..... N.E. Perugini
..... D. Schultz
Automated Plot by XYNETICS 1201 Plotter (AMC)
Verified and Inked by R.R. Hill
July 31, 1979

1. Introduction

During verification of this survey no unusual problems were encountered. All red notes in the Descriptive Report were made by the verifier.

2. Control and Shoreline

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

b. Shoreline was transferred in black from Class I manuscript TP-00866 (1976-77), however this manuscript was compiled at a scale of 1:10,000, which required reduction for application. The remaining shoreline was transferred in brown from an enlargement of chart #12211, for orientation purposes only. A shoreline change is noted at latitude 38°22'30", longitude 75°04'00" between the charted shoreline and TP-00866.

3. Hydrography

a. Depths at crossing are in good agreement.

b. The standard depth curves were adequately delineated.

c. The development of the bottom configuration, Presurvey Review Items, and 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 Hydrographic Manual with the following exceptions:

a. More emphasis should have been placed upon neutralizing the effect of wave action during the scanning of fathograms. However, the field's scanning is considered adequate and the accuracy of this survey is not effected.

b. In the Descriptive Report, the field noted detached positions (902, 918, 4106, 4114, 3849, and 3850) taken during the investigation of Presurvey Review Items, however these positions were not plotted on the field's boatsheet and the data were not included in the raw data tapes. Also, the time of acquisition and raw depths were not given for positions 3849 and 3850.

Only position 902 not ascertained

5. Junctions

An adequate junction was effected with H-9780 (1978) and H-9715 (1977) on the south. *Junctions to be checked at Q.C. of these surveys.*

H-9578	(1975)	to the north	} <i>Junctions made during quality control of present survey.</i>
H-9579	(1977)	to the east	
H-9714	(1977)	to the north	
<i>H-9759</i>	<i>(1978)</i>	<i>to the southeast</i>	

Junctions with the above surveys were not completed due to the unavailability of these surveys for adjustments. Some depth curves are not in complete harmony and should be considered further by Quality Control.

6. Comparison With Prior Surveys

a.	H-8711	(1962)	1:10,000
	H-4951	(1929)	1:20,000

These prior surveys are the most recent in this area that provide complete coverage. The comparison with these prior survey is adequately discussed under Section K. of the Descriptive Report. Differences encountered are attributed to different methods of sounding and position control used by the prior surveys.

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

b. F.E. No. 9 WD (1950) 1:40,000

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, these hangs should be retained as charted and have been brought forward to supplement the

present survey:

- a. A hang of 25.5 feet located at latitude 38°27'58.8", longitude 74°58'50.4". *25WK carried forward*
- b. A hang depth of 7.0 feet located a latitude 38°27'27.6", longitude 74°56'24". *7WK carried forward*
- c. A hang depth of 9.0 feet located at latitude 38°27'28.8", longitude 74°56'07.2".

Also, conflicts were encountered with the effective depths of some of the drag strips in the vicinity surrounding Fenwick Island Shoal. These differences, which vary from 1 to 7 feet are attributed to the changeable nature of the bottom topography in this area.

7. Comparison With Chart #12211 (25th Edition, January 8, 1978)

a. Hydrography

The charted hydrography originates with the previously discussed prior surveys, with the exception of charted depths located in the northwesterly portion of the survey area. Hydrography in this area is believed to originate with prior survey H-4942 (1929), however; this prior survey is not available to this office for comparison at this time.

Attention is directed to the following:

1. The disposition of a fish haven charted in latitude 38°21'00", longitude 75°03'30" was not disproved by the present survey and it is recommended that this feature be retained on *concur* the chart.
2. The disposition of a 29 foot shoal charted in latitude 38°25.8', longitude 75°01.2', which originates with prior survey H-4951 was not completely disposed of by the present survey, however a 32 foot depth was located 280 meters Southeast. Due to the manner in which the bottom topography shifts in this area, it is recommended that the present survey's hydrography supersede this charted depth. *concur*
3. A submerged dangerous wreck, 20 feet reported, charted in latitude 38°19.72', longitude 75°04.66', originates with Chart Letter 1204 of 1970 and LNM of 1970. The investigation of this Presurvey Review Item (No. 25) by the field produced only a hang on an obstruction located in latitude 38°19'42.5", longitude 75°04'48.6". No least depth was obtained on this obstruction and it is recommended that the wreck symbol be retained ~~as charted~~. *at the present survey position.* *concur*

The present survey is considered adequate to supersede the charted information within the common area.

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. (Also see Section N. in the Descriptive Report)

8. Compliance With Instructions

This survey adequately complies with the Project Instructions.

9. Additional Field Work

This is considered a good basic survey and no additional field work is recommended.

Inspection Report
H-9764

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: August 9, 1979

In R. D. Sanocki, Acting Chief
Robert A. Trauschke, CDR, NOAA
Chief, Processing Division

Absent
David W. Yeager, Lt. Cdr., NOAA
Field Procedures Officer
Operations Division

R. D. Sanocki
Technical Assistant
Processing Division

Maureen R. Kenny
Maureen Kenny, LT, NOAA
Chief, Electronic Data
Processing Branch

Robert G. Roberson
Robert G. Roberson
Team Leader
Verification Branch

Approved/Forwarded

Ronald C. Munson
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

OA/C352:GKM

December 19, 1979

TO: Glen R. Schaefer *GRS.*
Chief, Hydrographic Surveys Division

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

SUBJECT: Quality Control Report for H-9764 (1978), Maryland and Delaware,
Fenwick Island to Ocean City

A quality control inspection was accomplished to monitor the survey for obvious deficiencies with respect to data acquisition, delineation of the bottom, determination of least depths and navigation hazards, junctions, shoreline transfer, decisions and actions by the verifier, and cartographic presentation of data.

Adequate junctions were effected during quality control with those surveys that were unable to be completed during verification as stated in the Verifier's Report. Also, an additional junction was made with H-9759 (1978) on the southwest which was not considered at the time of verification.

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

1. A 35-foot sounding recorded in the raw data printouts was correctly excessed from the smooth sheet during verification so that a supplemental 25-foot depth from F.E. No. 9, 1950 W.D. could be accurately plotted at latitude $38^{\circ}27.99'N$, longitude $74^{\circ}58.85'W$. However, the 35 should have been noted on the smooth sheet as the least depth that was obtained in this area during the present survey. (See Hydrographic Manual, section 6.3.7.3.)
2. A discussion concerning the comprehensive evaluation of data pertaining to differences between prior and present surveys that fall in a common area must be noted under the appropriate heading, "Comparison with Prior Surveys," in the Verifier's Report. Therefore, the statement pertaining to the charted 29-foot depth at latitude $35^{\circ}25.8'N$, longitude $75^{\circ}01.2'W$ from H-4951 (1929) should have been made under the aforementioned heading instead of the heading, "Comparison with Charts," in the Verifier's Report.



3. A 21-foot depth located at latitude $38^{\circ}20.1'N$, longitude $75^{\circ}03.03'W$ on the verified smooth sheet was scanned 5 feet less than shown on the fathogram trace. This sounding was corrected during quality control.
4. The wire-drag survey, H-6341 (1938) WD, which covers a portion of the present survey was not considered during verification. An evaluation during quality control revealed that effective drag depths do not conflict with depths on the present survey. However, two prior soundings have been brought forward to supplement the present survey.
5. The top of the integer "4" numbered on the machine-plotted smooth sheet is very small. The drawing of this figure should be revised so as to clearly represent the numeral.
6. The Coast Guard Radio Tower located at latitude $38^{\circ}19.67'N$, longitude $75^{\circ}05.46'W$ on the verified smooth sheet was described incorrectly as a "Dome." The proper landmark description was affixed during quality control inspection.
7. The lookout tower and dome located at latitude $38^{\circ}19.5'N$, longitude $75^{\circ}05.3'W$ and latitude $38^{\circ}20.1'N$, longitude $75^{\circ}05.1'W$, respectively, were transferred to the smooth sheet from TP-00866 during quality control. NOAA form 76-40 was not included in the Descriptive Report and was inserted by the quality evaluator.

cc:
OA/C35
OA/C351



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

JUN 2 1980

OA/C351:S

TO: OA/CAM - Richard H. Houlder

FROM: *[Signature]*
F/OA/C3 - Roger F. Lanier

SUBJECT: H-9764 (1978), OPR-D103(516)-WH-78, Maryland and Delaware, Fenwick Island to Ocean City, Report of Compliance with Project Instructions

The smooth sheet and Descriptive Report for the subject survey have been examined. This survey, except as noted in the Quality Control Report, dated December 19, 1979 (copy attached), and the Hydrographic Survey Inspection Team Report, dated August 9, 1979, is complete and adequate for the purposes intended and is in compliance with Project Instructions OPR-D103(516)-WH-78, dated December 8, 1977.

Attachment

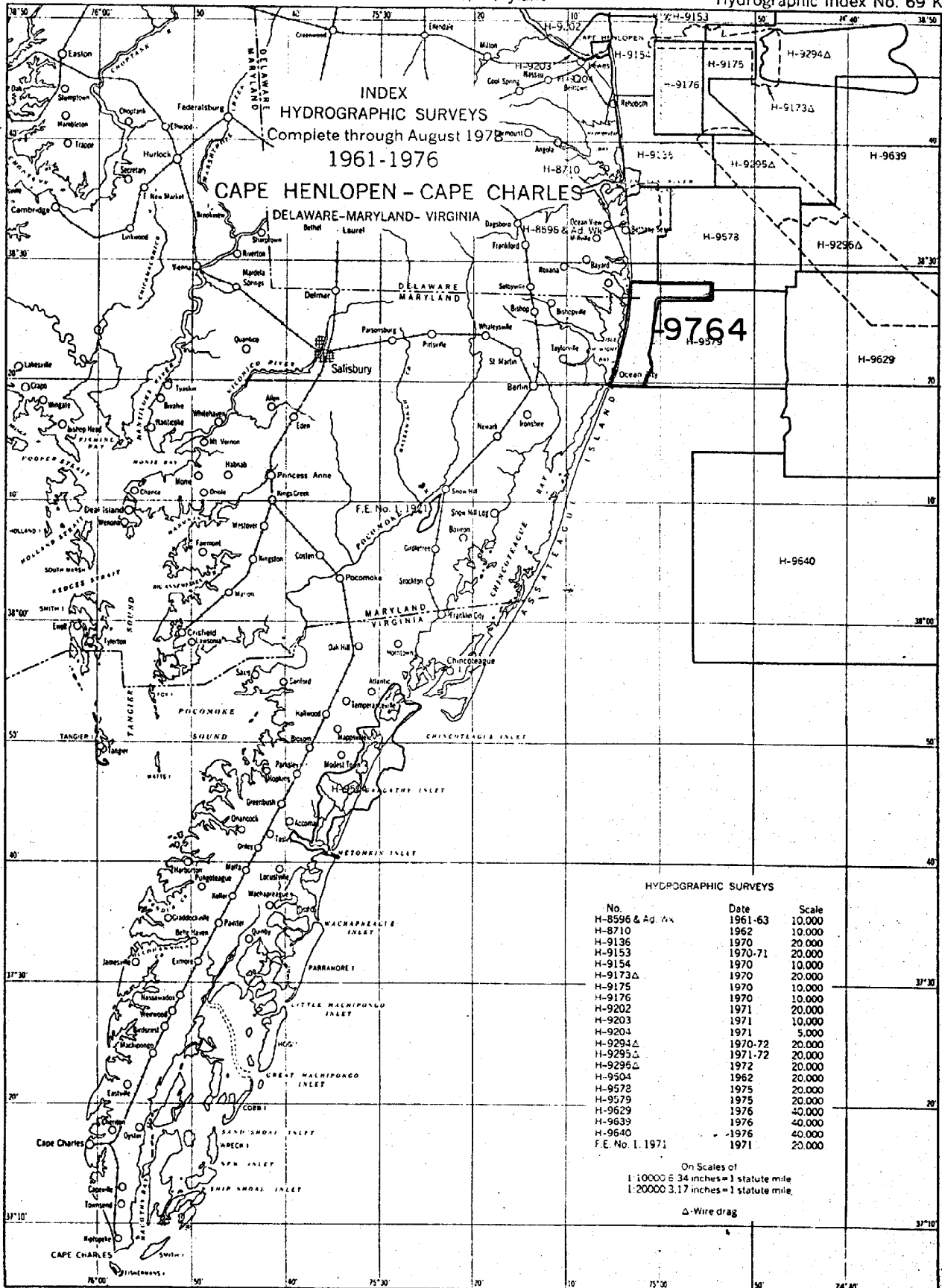
cc:
OA/C352 w/o att.



10TH ANNIVERSARY 1970-1980
National Oceanic and Atmospheric Administration
A young agency with a historic
tradition of service to the Nation

DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Ocean Survey
Rockville, Maryland

Hydrographic Index No. 69 K



INDEX
HYDROGRAPHIC SURVEYS
Complete through August 1978
1961-1976
CAPE HENLOPEN - CAPE CHARLES
DELAWARE-MARYLAND-VIRGINIA

HYDROGRAPHIC SURVEYS

No.	Date	Scale
H-8596 & Ad. xx	1961-63	10,000
H-8710	1962	10,000
H-9136	1970	20,000
H-9153	1970-71	20,000
H-9154	1970	10,000
H-9173Δ	1970	20,000
H-9175	1970	10,000
H-9176	1970	10,000
H-9202	1971	20,000
H-9203	1971	10,000
H-9204	1971	5,000
H-9294Δ	1970-72	20,000
H-9295Δ	1971-72	20,000
H-9296Δ	1972	20,000
H-9504	1962	20,000
H-9572	1975	20,000
H-9578	1975	20,000
H-9579	1976	40,000
H-9629	1976	40,000
H-9639	1976	40,000
H-9640	1976	40,000
F.E. No. I. 1971	1971	20,000

On Scales of
1:10000 3.4 inches = 1 statute mile
1:20000 3.17 inches = 1 statute mile.

Δ - Wire drag

