

H10703

NOAA FORM 76-35A

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

DESCRIPTIVE REPORT

Type of Survey Hydrographic/Side Scan Sonar

Field No. AHP-10-7-96

Registry No. H10703

LOCALITY

State Maryland

General Locality Chesapeake Bay

Locality Tolchester Beach to Worton Point

1996-98

CHIEF OF PARTY
Brian A. Link

LIBRARY & ARCHIVES

DATE DEC 27 1999

HYDROGRAPHIC TITLE SHEET

H-10703

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.

AHP-10-7-96

State Maryland

General locality Chesapeake Bay

Locality Tolchester Beach to ⁰Warton Point

Scale 1:10,000

Date of survey July 22, 1996 - March 25, 1998

Instructions dated 4-25-96

Project No. OPR-E346-AHP

Vessel NOAA Launch 1017, 0517

Chief of party Brian A Link

Surveyed by Atlantic Hydrography Party

Soundings taken by echo sounder, hand lead, pole Echosounder

Graphic record scaled by GDH, MJM, JBG, MMC*

Graphic record checked by GDH, MJM, JBG, MMC*

Protracted by HPS

Automated plot by HP DesignJet 750 Plus (FIELD)

HP DESIGNJET 2500 CP PLOTTER (AHD)

Verification by Atlantic Hydrographic Branch Personnel

Soundings in ~~meters~~ ^{feet} at ~~MLLW~~ MLLW

REMARKS: * GDH - Glenn D. Hendrix

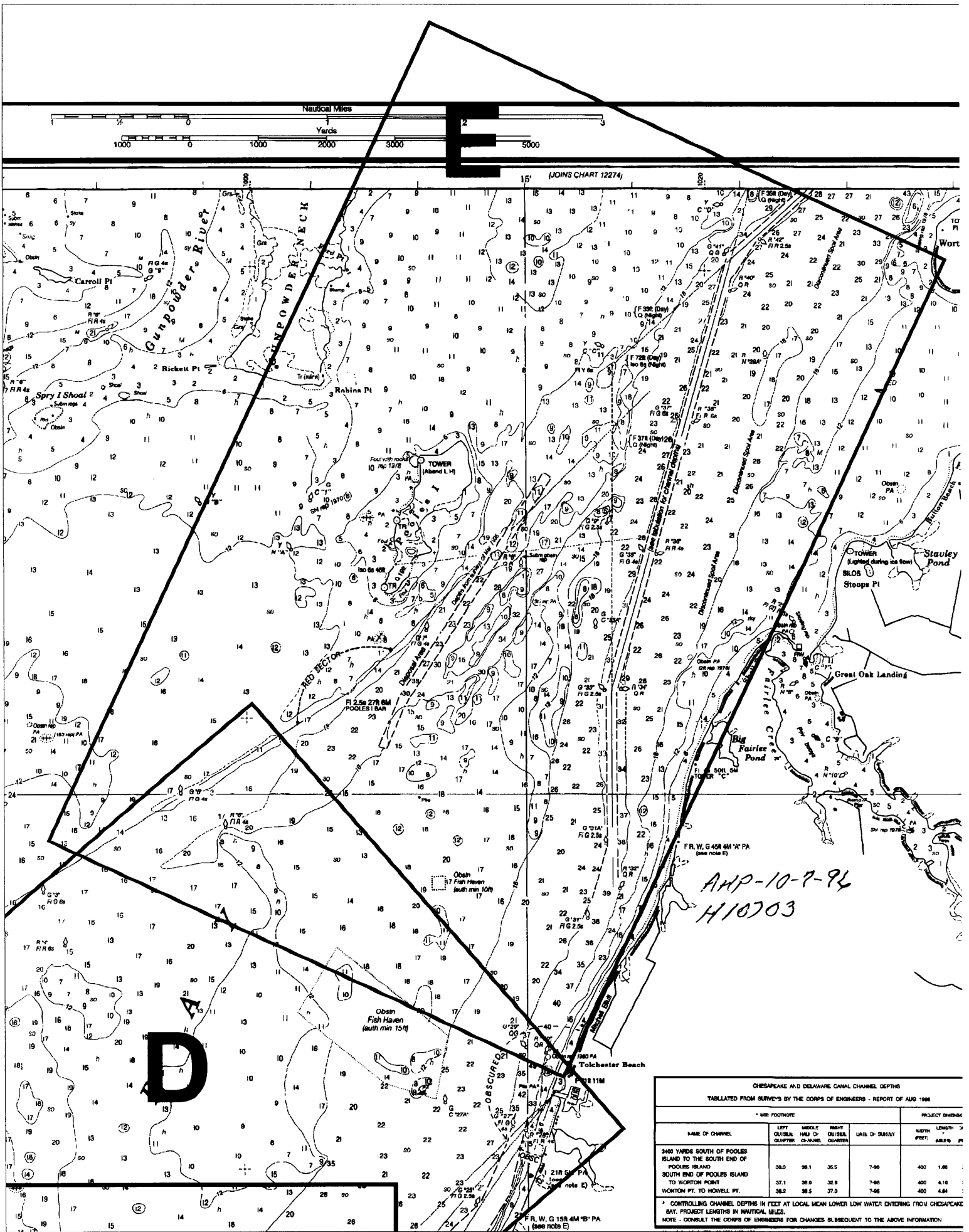
MJM - Mark J. McMann

JBG - John B. Gaskin

MMC - Monica M. Cisternelli

HANDWRITTEN NOTES IN THE DESCRIPTIVE REPORT WERE MADE DURING OFFICE PROCESSING

AWOIS/SURF ✓ 10/22/99 SJV



CHESAPEAKE AND DELAWARE CANAL CHANNEL DEPTHS
TABULATED FROM SURVEYS BY THE CORPS OF ENGINEERS - REPORT OF AUG 1966

* SEE FOOTNOTE

NAME OF CHANNEL	MIDDLE HALF OF CHANNEL			DATE OF SURVEY	PROJECT DIMENSIONS	
	LEFT QUARTER	MIDDLE	RIGHT QUARTER		DEPTH (FEET)	LENGTH (MILES)
3400 YARDS SOUTH OF POOLES ISLAND TO THE SOUTH END OF POOLES ISLAND	30.3	36.1	35.5	7-66	400	1.86
SOUTH END OF POOLES ISLAND TO WORTON POINT	37.1	38.0	32.8	7-66	400	4.16
WORTON PT. TO HOWELL PT.	38.2	38.5	37.0	7-66	400	4.84

* CONTROLLING CHANNEL DEPTHS IN FEET AT LOCAL MEAN LOWER LOW WATER ENTERING FROM CHESAPEAKE BAY. PROJECT LENGTHS IN NAUTICAL MILES.
NOTE - CONSULT THE CORPS OF ENGINEERS FOR CHANGES SUBSEQUENT TO THE ABOVE INFORMATION.

DESCRIPTIVE REPORT TO ACCOMPANY
HYDROGRAPHIC SURVEY H-10703
FIELD NO. AHP-10-7-96
SCALE: 1:10,000
1996-98
ATLANTIC HYDROGRAPHIC PARTY
CHIEF OF PARTY: Brian A. Link

A. PROJECT

This survey was conducted in accordance with Hydrographic Project Instructions OPR-E346-AHP, Northern Chesapeake Bay - Baltimore Harbor, Maryland, dated April 17, 1995, change No. 1 dated April 25, 1996, change No. 2 dated March 31, 1997 and change No. 3 dated January 15, 1998. This survey is designated as "E" on the sheet layout dated August 21, 1995.

The purpose of this project is to provide contemporary hydrography for updating charts and responds to requests from the Maryland Port Administration, Association of Maryland Pilots, U.S. Army Corps of Engineers, and the U.S. Coast Guard.

B. AREA SURVEYED

The area surveyed for H-10703 includes a portion of the Tolchester Ship Channel and has the following limits:

North - 39°19'30"N
South - 39°12'30"N
East - 076°11'22"W
West - 076°17'00"W

This survey was conducted from July 22, 1996 (DN 204) to March 25, 1998 (DN 084).

C. SURVEY VESSELS

Vessel 1017, a 30-foot Jensen and vessel 0517, a 21^{FT} MonArk were used to collect all hydrography, side scan data and detached positions. There were no unusual vessel configurations nor problems encountered.

D. AUTOMATED DATA ACQUISITION AND PROCESSING *SEE ALSO THE EVALUATION REPORT*

The Hydrographic Data Acquisition and Processing System (HDAPS) was used to collect and process all hydrographic data for launch 1017 from July 22, 1996 (DN 204) to August 27, 1996 (DN 240). Coastal Oceanographic's HYPACK was used to collect data from March 13, 1997 (DN 072) to March 25, 1998 (DN 084).

The Hydrographic Processing System (HPS) was used for processing hydrographic data from March 13, 1997 (DN 072) to March 25, 1998 (DN 084). The hydrographic data for launch 1017 collected from July 22, 1996 (DN 204) to August 27, 1996 (DN 240) and processed with HDAPS was converted to HPS format.

The following non-HDAPS and non-HPS computer programs were used:

MapInfo	Ver. 4.5
VELOCITY	Ver. 2.0 (12/18/92)
Velocity	Ver. 3.1 (2/25/98)
NADCON	Ver. 1.01
MS-WORD	Ver. 7.0

E. SIDE SCAN SONAR EQUIPMENT

Side scan sonar (SSS) operations were conducted using an EG&G model 260 slant-range corrected SSS recorder and an EG&G 272-T dual-channel, single frequency towfish. The towfish was operated on the 100-kHz frequency and was configured with a 20° beam depression. Serial numbers (S/N) for the side scan sonar equipment used throughout the survey are listed below:

<u>Vessel</u>	<u>SSS Towfish S/N</u>	<u>Recorder S/N</u>	<u>Dates</u>
1017	0011901	0012102	7/22/96 - 3/25/98
0517	016835	016671	4/21/97 - 12/03/97

On launch 1017 the SSS towfish was deployed using a Superwinch Model W115 in conjunction with an adjustable davit arm on the stern of the launch. The SSS towfish was towed with vinyl-coated Kevlar cable and was connected to the recorder via a slip ring assembly. Launch 0517 was configured for side scan sonar operations with an adjustable stern mounted boom. The side scan sonar towfish was deployed manually. Tow cable and all other connections were identical to those used on launch 1017.

Side scan data were collected utilizing the 50-meter range scale. In order to acquire the required 200% SSS coverage, main-scheme lines were run at a spacing of 40 meters. Adequate coverage was determined by producing two separate swath plots and ensuring 100% coverage on each plot.

The SSS towfish was maintained at a height off the bottom of 8 to 20 percent of the range scale used. Confidence checks were performed on a routine basis, primarily by noting changes in bottom texture on the outer edges of the sonargram and on buoys in the survey area.

The sonargrams were scanned on line and checked scanned in the office.

All significant contacts were measured off the sonargrams and entered into the HPS Contact Table. The contact heights were computed using the Compute Contact Height function located in HPS. Only the computed contact heights of 0.9 meter or more were investigated. Developments at 10-meter line spacing were run on each of the contacts listed below. A complete contact listing is included in the survey data accordion folder.

<u>Contact Name</u>	<u>Contact height (M)</u>
1917.5	3.2
1982.1	1.1
2429.7	1.1
2456.4	0.9
2485.3	1.8
2900.9	1.1
4622.1	1.0
5016.5	2.1
6763.0	1.0
7177.0	1.5
7177.06	1.0
8049.1	1.4
8062.2	1.3
8094.5	1.4
8812.1	2.3*
9800.3	0.9

* The height for contact 8812.1 did not compute nor was a development performed on this contact. There was an echosounder hit on day 134 (1997), position 8811.9, during main scheme side scan sonar operations in this area. The hydrographer recommends that a sounding be charted at 39°15'51.88"N, 076°14'18.46"W with a least depth of 8.1 meters corrected for predicted tides, velocity and draft. *CORRDR.* *APPROVED*

SHOULD THE SCALE OF THE CHART ALLOW

Results of the contact developments are shown in the following table.

Year	DN	Contact	DevRef	Latitude	Longitude	Depth	Chart Rec
1997	345	1917.5	15480	39°16'01.84"	76°14'26.28"	22 ft	sounding
1998	021	1982.1	15792	39°17'42.57"	76°13'46.88"	23 ft	sounding
1998	021	2429.7	15677	39°17'02.93"	76°13'53.42"	27 ft	sounding
1998	026	2456.4	15930	39°17'44.10"	76°13'37.81"	26 ft	sounding
1998	026	2485.3	16108	39°18'30.36"	76°13'18.38"	none	SubmObstr
1997	345	2900.9	15564	39°16'21.92"	76°14'03.76"	none	SubmObstr
1997	345	4622.1	15552	39°15'59.47"	76°13'46.89"	31 ft	sounding
1997	345	5016.5	15343	39°14'56.38"	76°14'04.16"	none	SubmObstr
1998	026	6763.0	16181	39°18'32.98"	76°12'13.20"	21 ft	sounding
1998	026	7177.0 7177.06	16005	39°18'06.03"	76°12'08.67"	14 ft	sounding
1997	344	8049.1	15319	39°15'20.34"	76°14'41.92"	19 ft	sounding
1997	345	8062.2	15399	39°15'40.98"	76°14'33.83"	28 ft	sounding
1998	021	8094.5	15622	39°16'32.46"	76°14'12.05"	24 ft	sounding
1997	134	*8812.1	none	39°15'51.90"	76°14'18.76"	26 ft	sounding
1997	345	9800.3	15556	39°15'59.60"	76°13'59.60"	28 ft	sounding

Contacts 13866.1 - 14337.9 are located within a charted fish haven investigated as AWOIS Item 9728. These contacts are addressed in the Item Investigation Report for AWOIS Item 9728, in section N. of this report.

F. SOUNDING EQUIPMENT

A Raytheon model DSF-6000 serial number A111N was used on launch 1017 to collect data from July 22, 1996 (DN 204) to August 27, 1996 (DN 240). An Innerspace model 448 depth sounder, serial number 187 was used on launch 1017 to collect data from March 13, 1997 (DN 072) to October 23, 1997 (DN 296). An Innerspace model 448 depth sounder, serial number 243 was used on launch 1017 to collect data from December 10, 1997 (DN 344) to March 25, 1998 (DN 084).

An Innerspace model 448 depth sounder, serial number 241 was used on launch 0517 to collect data from April 21, 1997 (DN 111) to December 3, 1997 (DN 337).

A standard lead line calibrated in meters, was used during this survey for comparison readings with the echo sounders.

G. CORRECTIONS TO SOUNDINGS

Soundings were recorded using the Innerspace model 448 and the Raytheon model DSF-6000 depth sounders. They were adjusted for an assumed speed of sound through water of 1500 meters/second. Changes to the gain and/or chart speed were noted on the

echograms. Digitized soundings agreed with the analog trace within 0.1 meter. Necessary corrections were made while scanning the echogram.

Corrections for the speed of sound through water were computed from data obtained with Sea-Bird Electronics, Inc., SEACAT electronic profiler, serial number 192276-287. Data quality assurance tests were performed in accordance with Field Procedures Manual (FPM) 2.1.3.2. Program VELOCITY, version 2.0, was used to compute speed of sound through water corrections. Copies of the velocity tables and cast data are in the "Survey Separates." ✕

Correctors for the velocity of sound through water were determined from the casts listed below:

Vessel	Year	Table Number	Cast Number	Deepest Depth (m)	Applicable DN	Position	Day
1017	1996	4	4	17.0/22.1*	204-207	39°10.5'/76°32.5'	208
1017	1996	5	5	15.5/20.1*	213-222	39°10.0'/76°24.0'	219
1017	1996	6	6	17.0/22.1*	229-240	39°10.5'/76°26.0'	229
1017	1997	13	18	10.7/12.1*	072-083	39°13.0'/76°15.0'	072
1017	1997	14	19	14.0/18.2*	084-093	39°15.0'/76°14.5'	093
1017	1997	15	20	14.0/18.2*	105-112	39°15.0'/76°14.5'	105
1017	1997	17	21	13.1/17.0*	118-120	39°15.0'/76°14.5'	118
1017	1997	20	22	14.8/19.3*	128-135	39°15.5'/76°14.0'	129
1017	1997	22	23	13.3/17.4*	149-168	39°15.0'/76°14.5'	149
1017	1997	25	29	16.3/21.2*	227-251	39°20.0'/76°20.0'	241
1017	1997	28	31	11.6/15.1*	274-296	39°10.5'/76°25.0'	275
1017	1997	30	33	16.7/21.7*	344-345	39°10.5'/76°26.4'	338
1017	1998	31	34	8.0/10.4*	021-026	39°11.0'/76°26.5'	364
1017	1998	32	35	14.3/18.5*	084	39°09.3'/76°22.0'	077
0517	1997	16	20	14.0/18.2*	111-113	39°15.0'/76°14.5'	105
0517	1997	18	21	13.1/17.0*	120	39°15.0'/76°14.5'	118
0517	1997	19	22	14.8/19.3*	135-139	39°15.0'/76°14.5'	129
0517	1997	21	23	13.3/17.4*	148	39°15.0'/76°14.5'	149
0517	1997	26	26	12.2/15.9*	192-195	39°10.0'/76°25.0'	198
0517	1997	27	31	11.6/15.1*	259-302	39°10.5'/76°25.0'	275
0517	1997	29	33	16.7/21.7*	337	39°10.5'/76°26.4'	338

* software extrapolated depth

Correctors were applied to the sounding data using the HPS program REAPPLY prior to plotting.

Weather permitting, lead line comparisons were conducted each day in accordance with FPM 2.1.3.1. No instrument error was detected from these comparisons. The lead line comparison form is in the "Survey Separates." ✕

✕ FILED WITH THE ORIGINAL FIELD RECORDS

A static draft of 0.6 meters was applied to the on-line data from July 22, 1996 (DN 204) to August 27, 1996 (DN 240) for launch 1017. The static draft information was provided to AHP personnel from the Atlantic Marine Center. After the installation of a new transducer, a static draft of 0.4 meters was applied to data acquired from March 13, 1997 (DN 072) to March 25, 1998 (DN 084). The new transducer draft was measured by subtracting the difference from a punch mark on the side of launch 1017 to the water surface. The punch mark was measured from the transducer surface, while the launch was hauled out for bottom cleaning and transducer installation.

Settlement and squat measurements for launch 1017 were performed on February 7, 1995 (DN 038) in the Elizabeth River, Norfolk, Virginia, using level S/N 100225. A second Settlement and Squat was performed for launch 1017 as a result of the installation of the new Innerspace transducer. This was conducted on January 31, 1997 (DN 031) at Fort Smallwood Park, Maryland, using Lietz level S/N 08745. Settlement and squat correctors and the static draft corrector were applied on-line through the offset table. Copies of the field data, the graphs of the settlement and squat correctors vs. speed in m/sec., and the offset table are included in the "Survey Separates."

A static draft of 0.3 meters was applied to the on-line data for launch 0517. The draft was measured by subtracting the difference from a punch mark on the side of launch 0517, 0.6 meters above the transducer, to the water surface.

Settlement and squat measurements were performed on December 20, 1994 (DN 346), at Clear Lake, Texas, using Lietz level S/N 08754 for launch 0517. A second set of settlement and squat measurements for launch 0517 were obtained on September 15, 1997 (DN 258), at Fort Smallwood Park, MD, using Lietz level S/N 08754. Settlement and squat correctors and the static draft correctors were applied on-line through the offset table. Copies of the field data, the graphs of the settlement and squat correctors vs. speed in m/sec. and the offset tables are included in the "Survey Separates".*

The Baltimore, Maryland, tide station number 857-4680, served as control for datum determination. This station is also the reference station for the predicted tides which were applied to the final sounding plot. Zone CB30, shown in the Project Instructions, was the only zone used for this survey. The time corrector used was +48 minutes with a range corrector of 1.08.

Approved tides were requested from the Sea and Lake Levels Branch, N/OES231, in a letter dated July 21, 1998. A copy of the letter is appended to this report. * *APPROVED TIDES AND ZONES WERE APPLIED DURING OFFICE PROCESSING.*

** FILED WITH THE ORIGINAL FIELD DATA*

H. CONTROL STATIONS *SEE ALSO THE EVALUATION REPORT*

The horizontal control datum for this project is the North American Datum of 1983. Two stations, the USCG Differential GPS (DGPS) Beacons at Cape Henlopen (38°46'36.406"N, 075°05'15.661"W) and Cape Henry, Virginia (36°55'37.580"N, 076°00'23.884"W), were used to control this survey.

I. HYDROGRAPHIC POSITION CONTROL

DGPS was used as the method of positioning for all hydrographic data on this survey. The USCG Differential GPS beacons at Cape Henlopen, Delaware and Cape Henry, Virginia were used as reference stations in conjunction with beacon receiver serial number 036, beacon receiver serial number X-1251 and Ashtech sensor serial number 700417B1270 on launch 1017 from July 22, 1996 (DN 204) thru December 11, 1997 (DN 345). A Starlink DNAV-212G, 12 channel DGPS receiver and 2 channel Beacon receiver, S/N 855 was used from January 21, 1998 (DN 021) thru March 25, 1998 (DN 084). This equipment met the accuracy standards for this 1:10,000 scale survey.

Beacon receiver serial number X-1085, antenna serial number MBA-M1063 and Ashtech sensor serial number 700417B1126 were used on launch 0517. This equipment met the accuracy standards for this 1:10,000 survey.

Performance checks were conducted daily by resting the launch alongside stations CAL 1 1996 (39°09'02.966"N, 076°29'42.400"W) and CAL. 2 1997 (39°08'46.070"N, 076°27'29.443"W). The abstracts of these checks are included in the "Survey Separates." * The calibration points was established by measuring a single GPS baseline, between a third-order, class I station and the calibration points. The computation for the CAL 1 1996 point was submitted with survey H-10688, computation for CAL 2 1997 point is included in the "Survey Separates." * *FILED WITH THE ORIGINAL FIELD DATA*

Occasionally, a good position misplotted on the raw track plot. This problem was attributed to good DGPS data following a period of questionable DGPS data. These positions were reviewed, then edited or rejected as necessary.

J. SHORELINE

No shoreline verification was required.

K. CROSSLINES

A total of 38 nautical miles of crosslines were run, representing 6.5% of the main scheme hydrography. Crossline soundings show an over all agreement of 0.6 meter when compared with the main scheme soundings.

L. JUNCTIONS *SEE ALSO THE EVALUATION REPORT.*

This survey junctions with H-10688, sheet "D" from project OPR-E346-AHP, to the south. Because of an oversight, data from H-10688 was submitted to AHB without retaining a copy of the junction area. Therefore, a field comparison of the two surveys was not made.

M. COMPARISON WITH PRIOR SURVEYS *SEE ALSO THE EVALUATION REPORT.*

The prior survey comparison will be performed by AHB. The prior surveys covering this area are H-6372, 1:10,000, 1938; H-6375, 1:20,000, 1938 and miscellaneous USACE surveys.

The hydrographer recommends that data from the present survey be used to supersede all of the prior surveys within their common areas. *Concur*

N. ITEM INVESTIGATION REPORTS

Eleven AWOIS items were assigned to this survey. All of the items originated from the chart.

N.1 - AWOIS ITEM 4058

Item Description: Obstruction

Source: CL1647/84

AWOIS ITEM Position: 39°17'13"N, 076°11'32"W

Required Investigation: SD, S2, DI **Search Radius:** 200m

Charts Affected: 12273, 12278

Date/DN: October 29, 1997/302

Position Numbers: 39669 - 39847

Launch Number: 0517

Investigation Used: Side Scan Sonar

Position Determined By: DGPS

Investigation Summary: A 200-meter radius side scan sonar search was conducted with 200% coverage over the area. The sonargrams were scanned on line and check scanned in the office. Nothing was found.

Charting RECOMMENDATION: The hydrographer recommends that the obstruction be removed from the charts.

*DO NOT CONCUR, SEE SECTION N. 1.
OF THE EVALUATION REPORT.*

N.2 - AWOIS ITEM 9728

Item Description: Fish haven

Source: CL120/89

AWOIS Position: 39°14'20"N, 076°15'50"W

Required Investigation: SD, S2, DI **Search Radius:** 500m

Charts Affected: 12273, 12278

Date/DN: August 26, 1997/238, December 10, 1997/344

Position Number: 13838-14348, 15051-15288

Launch Number: 1017

Investigation Used: Side Scan Sonar

Position Determined By: DGPS

Investigation Summary: A 500-meter radius side scan sonar investigation with 200 percent coverage was conducted around the AWOIS position. Several contacts were encountered and are listed in the contact table below. The major portion of the fish haven is located about 500 meters NW of the AWOIS position. Several smaller contacts were located close to the AWOIS position. A development at 10-meter line spacing was performed over the area where the larger contacts were encountered. A least depth and recommendations are listed below.

Contact Number Contact Height (M)

13866.1	1.4
13868.0	0.8
13901.6	1.4
13901.9	1.8
13908.7	0.8
13910.1	1.3
13910.2	2.8
14287.6	0.7
14288.5	0.4
14290.5	0.5
14294.7	1.1
14295.0	3.2
14297.0	0.3
14297.1	1.5
14326.5	0.4
14328.0	0.4
14329.0	0.4
14330.1	0.4
14337.2	3.1
14337.9	1.4

Charting Recommendation: The hydrographer recommends that the charted fish haven be removed from the chart and re-charted at the following position 39°14'32.805"N, 076°16'07.518"W with a radius of 250 meters. The shoalest depth found was a ~~3.4m~~ ^{2.8} (11ft) at 39°14'30.140"W, 076°16'08.702"W, corrected by predicted tides.

CONCUR IN PART. SEE ALSO SECTION N.2 OF THE EVALUATION REPORT

APPROVED

N.3 - AWOIS ITEM 9729

Item Description: Pile

Source: LNM18/90

AWOIS Position: 39°14'58"N, 076°16'01"W

Required Investigation: SD, S2, DI

Search radius: 200m

Charts Affected: 12273, 12278

Date/DN: September 8, 1997/251

Position Number: 14349-14444

Launch Number: 1017

Investigation Used: Side Scan Sonar

Position Determined By: DGPS

Investigation Summary: A 200-meter radius side scan sonar investigation was conducted with 200-percent coverage around the AWOIS listed position. No contacts were found.

Charting Recommendation: The hydrographer recommends that the item be removed from the chart. *CONCUR. DELETE 0 FILE*

N.4 - AWOIS ITEM 9731

Item Description: Obstruction

Source: CL1245/80

AWOIS position: 39°13'05"N, 076°14'47"W

Required Investigation: SD, S2, DI **Search Radius:** 200m

Charts Affected: 12273, 12278

Date/DN: April 21, 1997/111, April 22, 1997/112
June 05, 1997/156, June 06, 1997/157

Launch Number: 1017

Investigation Used: Side Scan Sonar

Position Determined by: DGPS

Investigation Summary: A 200-meter radius side scan sonar investigation was conducted during main scheme side scan sonar operations on the days listed above. Only 120 meters was conducted to the east of the item because of shallow water. No contacts were found.

Charting Recommendation: The hydrographer recommends that the obstruction be removed from the chart. *CONCUR.*

DELETE Obstr Rep 1980 PA

N.5 - AWOIS ITEM 9744

Item Description: Obstruction

Source: CL1730/78

AWOIS Position: 39°16'00.39"N, 076°13'28.83"W

Required Investigation: SD, S2, DI **Search radius:** 200m

Charts Affected: 12273, 12278

Date/DN: April 22, 1997/112, April 28, 1997/118
June 05, 1997/156, June 06, 1997/157

Launch Number: 1017

Investigation Used: Side Scan Sonar

Position determined By: DGPS

Investigation Summary: A 200-meter radius side scan sonar investigation with 200-percent coverage, was conducted during main scheme side scan sonar operations on the days listed above. No contacts were found.

Charting Recommendation: The hydrographer recommends that the item be removed from the chart. *CONCUR. DELETE Obstrn PA*

(LFT rep 1978) ☉

N.6 - AWOIS ITEM 9746

Item Description: ~~Obstruction~~ *PILE PA*

Source: CL889/70

AWOIS Position: 39°12'52.89"N, 076°14'53.83"W

Required Investigation: VS, SD, S2, DI **Search Radius:** 100m

Charts Affected: 12273, 12278

Date/DN: April 15, 1997/105, April 21, 1997/111
June 05, 1997/156, June 06, 1997/157
March 25, 1998/084

Launch Number: 1017

Investigation Used: Side Scan Sonar

Position Determined By: DGPS

Investigation Summary: A 200-meter radius side scan sonar investigation with 200-percent coverage, was conducted during main scheme operations on the days listed above. Only 120 meters was conducted to the east of the item because of shallow water. No contacts were found.

Charting Recommendation: The hydrographer recommends that the item be removed from the chart. *CONCOR. DELETE FILE PA 0*

N.7 - AWOIS ITEM 9925

Item Description: Wreck

Source: LNM44/73

AWOIS Position: 39°16'08.39"N, 076°16'21.83"W

Required Investigation: SD, S2, BD, DI **Search Radius:** 500m

Charts Affected: 12273, 12278

Date/DN: October 02, 1997/275, October 03, 1997/276
October 10, 1997/283, October 21, 1997/294
October 29, 1997/302

Position Numbers: 14620-14850, 14851-14970
39131-39341, 39432-39639
39648-39668

Launch Number: 1017, 0517

Investigation Used: Side Scan Sonar

Position Determined BY: DGPS

Investigation Used: A 500-meter radius side scan sonar investigation with 200 percent coverage, was conducted around the listed AWOIS position. No contacts were found.

Charting Recommendation: The hydrographer recommends that the item be removed from the chart. *CONCOR. DELETE (H) PA*

N.8 - AWOIS ITEM 9926

Item Description: Obstruction

Source: CL1549/78

AWOIS Position: 39°17'24.39"N, 076°18'⁰⁰2.83"W

Required Investigation: Search Radius:

Charts Affected: 12273, 12278

Date/DN: October 07, 1997/280, December 03, 1997/337

Position Number: 39125, 39849-39852

launch Number 0517

Investigation Used: visual search

Position Determined By: DGPS

Investigation Summary: A visual search was made of the area around the AWOIS position. Large pieces of concrete were located along shore. The area was further investigated and small rocks were found scattered over the bottom. The rocks appeared flush with the bottom or no more than 0.1 meter off the bottom.

Charting Recommendation: The hydrographer recommends that the foul area remain as charted. *CONCUR. REVISE NOTATION "FOUL WITH ROCKS REP 1978" TO "FOUL"*

N.9 - AWOIS ITEM 9927

Item Description: Shoaling reported

Source: CL1298/70

AWOIS Position: 39°17'09"N, 076°17"W

Required Investigation: ES Search Radius: 500m

Charts Affected: 12273, 12278

Date/DN: October 06, 1997

Position Number: 38902-39119

Launch Number: 0517

Investigation Used: ES development

Position Determined By: DGPS

Investigation Summary: A development was performed over the required area at 40-meter line spacing (east-west) splitting the main scheme hydrography and 70-meter line spacing (north-south). The shoalest sounding found was a 0.7 meter, 200 meters NNE of buoy "1".

Charting Recommendation: The hydrographer recommends that the shoaling reported notation be removed from the chart and that the survey soundings be charted. *CONCUR. DELETE SHI REP 1970*

N.10 - AWOIS ITEM 9928

Item Description: Wreck

Source: LNM43/66

AWOIS Position: 39°17'16.39"N, 076°16'00.83"W

Required Investigation:

Search Radius:

Charts Affected: 12273, 12278

Date/DN: October 07, 1997/280

Position Number: 39130

Launch Number: 0517

Investigation Used: visual search

Position Determined By: DGPS

Investigation Summary: A visual search was performed over a large area with good visibility of the bottom from near shore out to one meter of water and nothing was found.

Charting Recommendation: The hydrographer recommends that the item be removed from the chart. *CONCUR DELETE (H) PA*

N.11 - AWOIS ITEM 9929

Item Description: Wreck

Source: LNM31/81

AWOIS position: 39°17'00.39"N, 076°16'28.84"W

Required Investigation: SD, BD, DI **Search radius:** 500m

Charts Affected: 12273, 12278

Date/DN: September 23, 1997/266, September 25, 1997/268
September 26, 1997/269, October 06, 1997/279

Position Number: 37368-37667, 37668-38340
38341-38710, 38711-38901

Launch Number: 0517

Investigation Used: development

Position Determined By: DGPS

Investigation Summary: The area around the AWOIS item was too shallow to perform side scan sonar operations. Per telephone conversation with Steve Verry of the Hydrographic Surveys Division(301-713-2702), we were given permission to perform an echosounder development over the required area. A 500-meter radius development was performed at 10-meter line spacing over the required area and nothing was found.

Charting Recommendation: The hydrographer recommends that the item be removed from the chart and that the survey soundings be charted. *CONCUR. DELETE (H) PA*

0. COMPARISON WITH THE CHART *SEE ALSO THE EVALUATION REPORT.*

Comparisons were made with chart 12278, 67th Edition, November 15, 1997. Survey soundings compare to within 3 feet of the charted soundings, with the survey soundings generally deeper. There was one danger to navigation identified on this survey. It was located during SSS operations and was determined by dive investigation to be a metal tank-like structure. This obstruction should be charted at 39°18'05.57"N, 076°12'08.79"W. The least depth is 14 ft, corrected by predicted tides. A copy

of the Danger to Navigation letter is located in the Appendices of this report. *Do Not Concur. SEE SECTION 0.1. OF THE EVALUATION REPORT.*

The charted ^{SUBM} obstruction, ^{REP.} at 39°16'44"N, 076°15'01"W no longer exists. A 200% side scan sonar search was performed over a 200-meter radius area on day 274, (positions 14445 - 14532). The data were scanned on line and then checked scanned in the office. Nothing was found. The Hydrographer recommends that the obstruction be removed from the chart. *CONCUR IN PART. SEE SECTION 0.2. OF THE EVALUATION REPORT.*

A development at 25-meter line spacing was performed on the charted shoaling reported PA centered at 39°16'24"N, 076°14'50"W, on day 296, (positions 14971 - 15051). The shoalest sounding found was a ⁸ft (2.4m). The Hydrographer recommends that the shoaling reported PA notation be removed from the chart and that survey soundings be charted. *CONCUR*

The discontinued spoil area at 39°17'24"N, 076°12'58"W, no longer exists. The area was covered with 40-meter line spacing during main scheme side scan sonar operations. There was no indication of a spoil area. The hydrographer recommends the discontinued spoil area be removed from the chart and that survey soundings be charted. *CONCUR. DELETE NOTE: DISCONTINUED SPOIL AREA.*

The discontinued spoil area at 39°18'54"N, 076°12'11"W, no longer exists. The area was covered with 40-meter line spacing during main scheme side scan sonar operations. There was no indication of a spoil area. The hydrographer recommends that the ^{DISCONTINUED} spoil area be removed from the chart and that survey soundings be charted. *CONCUR. DELETE NOTE: DISCONTINUED SPOIL AREA.*

The discontinued spoil area at 39°16'54"N, 076°13'17"W, no longer exists. The area was covered with 40-meter line spacing during main scheme side scan sonar operations. There was no indication of a spoil area. The hydrographer recommends that the ^{DISCONTINUED} spoil area be removed from the chart and that survey soundings be charted. *CONCUR. DELETE NOTE: DISCONTINUED SPOIL AREA.*

The main scheme hydrography covering the shoal at 39°14'00"N, 076°15'46"W, was split to 50 meters. The shoalest sounding found was 11ft (3.4m). The hydrographer recommends that survey soundings be charted in this area. *CONCUR*

The shoal at 39°18'04"N, 076°12'43"W, was covered with 40-meter line spacing during main scheme side scan sonar operations. There was no indication of a shoal. The shoalest sounding found was 21ft (6.4m). The hydrographer recommends that survey soundings be charted in this area. *CONCUR.*

The main scheme hydrography was split to 50 meters on the shoal located at 39°16'15"N, 076°15'22"W. The shoalest sounding found was 18ft (5.5m). The hydrographer recommends that survey soundings be charted in this area. *CONCUR*

CHARTED 11FT

A portion of the shoal at 39°16'02"N, 076°14'29"W, was covered with 40-meter line spacing during main scheme side scan sonar operations. The main scheme hydrography was split to 50 meters on the remaining portion of the shoal. The shoalest sounding found was 18ft (2.4m). The hydrographer recommends that survey soundings be charted in this area. *CONCUR*

The main scheme hydrography was split to 50 meters over the shoal at 39°14'01"N, 076°15'46"W. The shoalest sounding found was 10ft (3.1m). The hydrographer recommends that survey soundings be charted in this area. *SAME AS PARAGRAPH 6, PAGE 17.*

The bottom in the survey area east of Pooles Island and west of the Tolchester Ship Channel is very jagged. There are several small shoals located within this area. The main scheme hydrography in these areas was split to 50 meters or less. The hydrographer recommends that survey soundings be charted in this area. *CONCUR*

The charted rock at 39°17'14"N, 076°16'06"W, still exists. Detached position 39134 was taken on day 280. The rock should be retained on the chart at the location found by this survey. *CONCUR IN PART. REVISE TO A ROCK 1FT @ MLLW*

The charted rock at 39°17'04"N, 076°16'14"W, still exists. Detached position 39856 was taken on day 337. The rock should be retained on the chart at the location found by this survey. *CONCUR IN PART. REVISE TO A ROCK THAT UNCOVERS 1FT @ MLLW*

There were four uncharted rocks located within the survey area. Detached positions 39131 and 39133 on day 280 and positions 39853 and 39855 on day 337 were taken on these rocks. Because of the rocks proximity to shore they are not a danger to navigation. The rocks are recommended for charting. *CONCUR. SEE SECTIONS 0.3 AND 4 OF THE EVALUATION REPORT.*

Sounding discrepancies with the chart are as follows:

<u>Charted Depth</u>	<u>Survey Location</u>	<u>Least Depth</u>	<u>Charting Recommendation</u>
12ft	39°14' ⁵ 44"N 076°16'12"W	13ft 3.9m 4.0	survey soundings
12ft	39°14'50"N 076°15'53"W	13ft 3.9m 4.0	survey soundings
12ft	39°14' ⁴² 39"N 076°15' ⁴⁰ 39"W	13ft 4.0m 4.3	survey soundings
17ft	39°16' ⁵¹ 49"N 076°14' ⁵⁰ 47"W	18ft 20ft 6.1m 5.5	survey soundings

9ft	39°14' ⁴⁸ 24"N 076°14' ⁵ 47"W	⁹ 10 ft 3.1 m 2.7	survey soundings
11ft	39°17'52"N 076°14'24"W	12ft 3.7m	survey soundings
9ft	39°17'58"N 076°14'24"W	⁹ 10 ft 3.1 m 2.7	survey soundings
12ft	39°15' ⁸ 41"N 076°18'27"W	13ft 4.0m	survey soundings
11ft	39°16'01"N 076°18'11" ² W	13ft 4.0m	survey soundings
12ft	39°16'0 ³ 1"N 076°17'2 ⁸ 0"W	12ft 3.6m 7	survey soundings
6ft	39°16'3 ⁵ 1"N 076°16'37"W	⁷ 8 ft 2.4m	survey soundings
6ft *	39°17'10"N 076°16'40"W	7ft 2.1m	survey soundings
12ft	39°18'5 ³ 0"N 076°15'0 ⁸ 8"W	12ft 3.6m 9	survey soundings
10ft	39°18'53"N 076°14'5 ¹ 3"W	11ft 3.4m	survey soundings
9ft	39°17'40"N 076°14'4 ⁶ 6"W	⁰ 11 ft 3.4m	survey soundings
6ft *	39°17'0 ¹⁰ 9"N 076°16'4 ⁰ 1"W	⁷ 8 ft 2.4m 1	survey soundings

The hydrographer recommends sounding data from this survey be used to update the chart. *Concur*

P. ADEQUACY OF SURVEY *SEE ALSO THE EVALUATION REPORT.*

This survey is complete and adequate to supersede all prior surveys within the common area.

* BOTH ARE THE SAME 6-FT SOUNDING.

Q. AIDS TO NAVIGATION

There are twenty five floating aids and six non-floating aids to navigation located in the survey area. All were located by detached position, except Robins Point Shoal Buoy 1, LL No. 27285. Two attempts were made to position this buoy, however on both occasions, the positional data would not convert into the HPS format. *This bouy should remain as charted at 39°17'07.32"N, 76°17'01.18"W. The located aids were compared with the U.S. Coast Guard Light List Volume II, 1997* *CONDR. CHARTED AS GC "1"*

Floating Aids

Red lighted buoy "30" (Light List #8540)

Light List Published Position - 39°13.1', 076°14.8'
Surveyed Position (No. 13783) - 39°13'04.88"N, 076°14'50.20"W
Surveyed position is 80 meters south-southwest of the charted position.

Green lighted buoy "29" (Light list #85³25)

Light List Published Position - 39°13.1', 076°15.0'
Surveyed Position (No. 13784) - 39°13'07.71"N, 076°15'00.38"W
Surveyed position is 60 meters south-southwest of the charted position.

Green lighted buoy "31" (Light List #85450)

Light List Published Position - 39°14.1', 076°14.4"
Surveyed position (No. 13785) - 39°14'05.06"N, 076°14'25.75"W
Surveyed position agrees with the charted position.

Red lighted buoy "32" (Light List #8550)

Light List Published Position - None
Surveyed Position (No. 13786) - 39°14'17.51"N, 076°14'07.95"W
Surveyed position is 70 meters south-southwest of the charted position.

Green lighted buoy "31A" (Light List #8547)

Light List Published Position - None
Surveyed Position (No. 13787) - 39°14'37.68"N, 076°14'15.63"W
Surveyed position agrees with the charted position

Green can buoy "33A" (Light List #8585)

Light List Published Position - 39°16.2', 076°14.3'
Surveyed Position (No. 13788) - 39°15'37.19"N, 076°14'36.63"W
Surveyed position is 1210 meters south-southwest of the charted position.

Green lighted buoy "33" (Light List #8580)

Light List Published Position - 39°15.8', 076°14.3'
Surveyed Position (No. 13789) - 39°15'44.24"N, 076°14'16.80"W
Surveyed position is 70 meters south-southwest Of the charted position.

Red lighted buoy "34" (Light List #8590)

Light List Published Position - 39°15.8', 076°14.1'
Surveyed Position (No. 13790) - 39°15'44.35"W, 076°14'07.33"W
Surveyed position is 80 meters south-southwest of the charted position.

Green lighted buoy "35" (Light List #8605)

Light List Published Position - 39°16.8'N, 076°13.9'W
Surveyed Position (No. 13791) - 39°16'44.87"N, 076°13'54.74"W
Surveyed position is 80 south of the charted position.

Red lighted buoy "36" (Light List #8610)

Light List Published Position - 39°16.7', 076°13.8'
Surveyed Position (No. 13792) - 39°16'43.23"N, 076°13'46.51"W
Surveyed position is 90 meters south of the charted position.

Green lighted buoy "9" (Light List #8690)

Light List Published Position - 39°17.0', 076°14.2'
Surveyed Position (No. 13793) - 39°16'57.94"N, 076°14'14.14"W
Surveyed Position is 70 meters south of charted position.

Yellow can buoy "C" (Light List #8715)

Light List Published Position - None
Surveyed Position (No. 13797) - 39°18'14.77"N, 076°14'16.76"W
Surveyed position agrees with charted position

Green lighted buoy"37" (Light List #8615)

Light List Published Position - None
Surveyed Position (No. 13798) - 39°17'43.69"N, 076°13'33.86"W
Surveyed position agrees with the charted position

Red lighted buoy "38" (Light List #8620)

Light List Published Position - None
Surveyed Position (No. 13799) - 39°17'42.24"N, 076°13'27.18"W
Surveyed position agrees with the charted position.

Red nun buoy "38A" (Light List #8625)

Light List Published Position - 39°18.2', 076°12.8'
Surveyed Position (No. 13800) - 39°18'10.60"N, 076°12'46.67"W
Surveyed position is 50 meters southwest of the charted position.

Red lighted buoy "40" (Light List #8630)

Light List Published Position - None
Surveyed Position (No. 13801) - 39°18'39.32"N, 076°13'07.06"W
Surveyed position is 70 meters south-southwest of the charted.
position

Green lighted buoy "41" (Light List #8635)

Light List Published Position - None
Surveyed Position (No. 13802) - 39°18'54.72"N, 076°13'07.69"W
Surveyed Position is 80 meters south oh the charted position.

Red lighted buoy "42" (Light List #8640)

Light List Published Position - None
Surveyed Position (No. 13803) - 39°19'01.43"N, 076°12'48.66"W
Surveyed Position is 70 meters south of the charted position.

Yellow can buoy "D" (Light List #8720)

Light List Published Position - 39°19.3'N, 076°13.2'W
Surveyed Position (No. 13805) - 39°19'17.88"N, 076°13'10.92"W
Surveyed Position is 60 meters southwest of the charted position.

Red lighted buoy "8" (Light List #8675)

Light List Published Position - None
Surveyed Position (No. 13835) - 39°16'39.18"N, 076°15'02.71"W
Surveyed Position is 50 meters southwest of the charted position.

Green lighted buoy "7" (Light List #8670)

Light List Published Position - None
Surveyed Position (No. 13836) - 39°16'11.45"N, 076°15'55.36"W
Surveyed position agrees with the charted position.

Yellow ^{NUN} can buoy "A" (Light List No. 8705,27290)

Light List Published Position - 39°16.8', 076°17.2'
Surveyed position (No. 39121) - 39°16'46.21"N, 076°17'10.72"W
Surveyed position agrees with the charted position.

Red lighted buoy "6" (Light List #8665)

Light list Published Position - None
Surveyed position (No. 39123) - 39°14'45.43"N, 076°17'47.09"W
Surveyed position agrees with the charted position.

Green lighted buoy "5" (Light List #86⁶70)

Light List Published Position - None
Surveyed position (No. 39124) - 39°15'00.41"N, 076°18'13.01"W
Surveyed position agrees with the charted position.

Non - Floating Aids

Pooles Island South Range Front Light - (Light List No. 8555)

Light List Published Position - 39°17.5', 076°14.2'
Surveyed Position (No. 13794) - 39°17'31.63"N, 076°14'12.13"W
Surveyed position is 40 meters southwest of the charted position.

Pooles Island South Range Rear Light (Light List No. 8560, 8700)

Light List published Position - None
Surveyed Position (13795) - 39°18'06.68"N, 076°14'12.07"W
Surveyed position is 30 meters southwest of the charted position.

Upper Chesapeake Channel Range Front Light (Light List No. 8595)

Light List Published Position - 39°19.2', 076°13.0'
Surveyed Position (13804) - 39°19'12.02"N, 076°12'58.58"W
Surveyed position is 50 meters south of the charted position.

Pooles Island North Range Front Light (Light List No. 8695)

Light List Published Position - 39°18.3', 076°13.4'
Surveyed Position (13806) - 39°18'31.40"N, 076°13'37.58"W
Surveyed position is 40 meters southwest of the charted position.

Pooles Island Bar Light (Light List No. 8575)

Light List Published Position - 39°15.7', 076°16.7"
Surveyed Position (13837) - 39°15'44.21"N, 076°16'40.07"W
Surveyed position agrees with the charted position.

Pooles Island Warning Light (Light List No. 8693)

Light List Published Position - None
Surveyed Position (13796) - 39°18'02.49"N, 076°14'17.48"W
Surveyed position is 140 meters southwest of the charted position.

All of the aids serve their intended purpose, ^{CONCOR} although should be re-charted using current surveyed positions. ~~Do Not CONCOR.~~

R. STATISTICS

	<u>Launch 1017</u>	<u>Launch 0517</u>	<u>Totals</u>
Total Number of Positions	16278	9856	26123
Total LNM Hydrography	455.1	129.4	584.5
Square NM of Hydrography	14.9	5.9	20.8
Days of Production	51	21	72
Detached Positions	28	15	43
Bottom Samples	49	0	49
Tide Stations	1	0	1
Velocity Casts	14	7	21

S. MISCELLANEOUS *SEE ALSO THE EVALUATION REPORT.*

No anomalous currents or tides were observed during this survey.

Forty-nine bottom samples were taken on this survey. Bottom samples were not taken west of Pooles Island because of the Aberdeen Proving Ground Restricted Area. See section 6.7 of the Project Instructions, Change No. 2, dated March 31, 1997. The samples were submitted to the Smithsonian Institution along with the original Oceanographic Log Sheet-M, NOAA Form 75-44. A copy of the Oceanographic Log Sheet-M, NOAA Form 75-44, is included in the "Survey Separates". *FILED WITH THE ORIGINAL FIELD RECORDS.*

The "assign fix" function of the program QUICK EDIT, was used to assign position numbers to the beginning or ending of a line as needed.

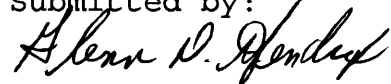
T. RECOMMENDATIONS

No additional field work was identified after field office processing was completed. Specific recommendations are made sections N, O and Q of this report.

U. REFERRAL TO REPORTS

No reports or data are referred to in this Descriptive Report that are not included with this survey.

Submitted by:




Glenn D. Hendrix
Launch Hydrographer in Charge

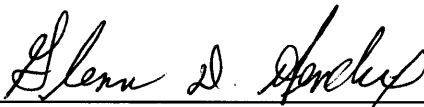
APPROVAL SHEET
Basic Hydrographic Survey
OPR-E346-AHP
AHP-10-7-96
H-10703
1996-98

This basic hydrographic survey was conducted in accordance with the Project Instructions for OPR-E346-AHP, the Hydrographic Manual, the Hydrographic Survey Guidelines, and the Field Procedures Manual. All reports, records, and survey sheets were reviewed by Mr. Glenn D. Hendrix, the hydrographer-in-charge of daily operations. The descriptive report was reviewed and approved by the Chief of Party. The Chief of Party did not directly supervise any part of this survey.

This survey is a complete basic hydrographic survey for the area described in Section B of this report.



Brian A. Link
Chief, Atlantic Hydrographic Party



Glenn D. Hendrix
Hydrographer-in-charge of daily operations



**U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration**

Atlantic Hydrographic Party
439 West York St.
Norfolk, VA 23510-1114

June 5, 1997

Commander (oan)
U.S. Coast Guard District Five
Federal Building
431 Crawford Street
Portsmouth, VA 23704-5004

Dear Sir:

While conducting a hydrographic survey of Upper Chesapeake Bay, Maryland (project OPR-E346-AHP, registry H-10703), the following item was identified as a danger to navigation. I recommend this item be included in the Local Notice to Mariners. The position is based on NAD 83 datum and the sounding has been reduced to Mean Lower Low Water (MLLW) using predicted tides. The item was located using Differential GPS and was verified by diver investigation.

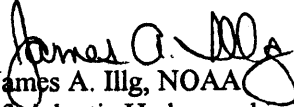
<u>DESCRIPTION</u>	<u>NAD 83 POSITION</u>	<u>DEPTH (ft)</u>
Obstruction (steel tanks)	39°18'05.57"N 076°12'08.79"W	14

This information affects the following charts:

<u>CHART NO.</u>	<u>EDITION</u>	<u>DATE</u>
12273	48th	Oct 22/94
12278	65th	Sep 28/96

This is advance information which is subject to office review. A chart section, showing the location of this danger, is attached. Questions concerning this report should be directed to me at (410) 437-9811.

Sincerely,


LT James A. Illg, NOAA
Chief, Atlantic Hydrographic Party

Attachment

cc: N/CS26
N/CS33
DMAHTC

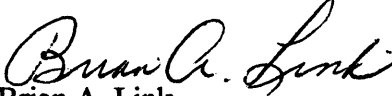




UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SERVICE, Office of Coast Survey
Atlantic Hydrographic Party
439 West York Street
Norfolk, VA 23510-1114

July 21, 1998

TO: N/OES231 - Product and Services Branch, Datums Section

FROM: 
Brian A. Link
Chief, Atlantic Hydrographic Party

SUBJECT: Request for Approved Tide Level Data

Please provide the following data:

1. Approved Tide Level Note (Form 712)
2. Approved Hourly Heights for Days of Hydrography
3. Hourly Heights on Magnetic Tape

Transmit the data to the following office:

Atlantic Hydrographic Branch (N/CS33)
Norfolk, VA

These data are required for the processing of Hydrographic Survey:

		<u>Survey Limits</u>
Registry Number:	H-10703	N - 39°20'00"N
Field Number:	AHP-10-7-96	S - 39°13'06"N
Project Number:	OPR-E346-AHP	E - 076°11'06"W
Locality:	MD - Upper Chesapeake Bay Tolchester Beach to Worton Point	W - 076°16'42"W

A chartlet showing the survey area, the Abstract of Times of Hydrography, the Field Tide Note, and the MapInfo digital files of the survey area are included with this request.

Tide data are required within 30 days of the receipt of this request. If this schedule cannot be met, please advise: Chief, Atlantic Hydrographic Branch, (N/CS33), telephone 757-441-6746.



843
1998
JK
KRF

RETURN TO SOURCE
DATA SECTION FILES

John W.S. Foster, III
P.O. Box 105
Queenstown, Maryland 21658
410-827-7459
jfoster3@shore.intercom.net

May 25, 1998

Mr. Kenneth R. Forster
Department of Commerce, NOAA
Nautical Data Branch
N/CG26, Station 7317
1315 East-West Highway
Silver Spring, MD 20910

Dear Mr. Forster,

re: Salisbury Reef site

Attached is the questionnaire pertaining to Permit No: 97-62368-9, for artificial reefs in the Chesapeake Bay. Also attached is a list of the corner coordinates for each of the reefs along with the permitted depth clearances. The coordinates are in NAD 83. Generally, the depths are 12 feet in the tributaries and 15 in the Bay proper, with the * exception of three sites which had previously existing clearance depths as noted.

Please feel free to give me a call if you have further questions.

** Please see next page for clearance information.*

Sincerely,

John W.S. Foster, III
Reef Coordinator
for Maryland Environmental Service, permit holder

(C)

cc: W. Young

PRODUCTS

(1882
7/9/99)

CP3 - NC #39 6/23/99

- JUN/2272 Appd 9/14/98 MH
 - JUN/2278 Appd 9/14/98 MH
 - JUN/2273 Appd 9/14/98 MH
 - JUN/2280 Appd 9/15/98 MH
- 13003NC

EXAMINED FOR NM

ECC

many - see maps are accurate w/ earliest deployments
started in 1968. Coord. were scaled from BOS
Charts per John Foster, Prof. Coast, MD Env. Serv.

WDB
6-5-98

OK as
charted

✓ Sharp's Island
50 acres

38°34.2716.2
38°34.2714.2
38°33.6297.2
38°33.6291.2

076°24.5231.2
076°24.3219.2
076°24.5291.2
076°24.3209.2

15 ft

12266
L-1015(88)

✓ Tangier Sound
86 acres

37°55.2219.8
37°55.0814.8
37°55.0814.8

075°56.6740.2
075°56.9054
075°56.3531

15 ft

12228
L-854(88)

19 Tilghman Island
84 acres

38°41.7243.2
38°41.7243.2
38°41.3018
38°41.3018

076°22.8802.8
076°22.4325.8
076°22.8802.8
076°22.4325.8

15 ft

12266
not charted

* 20 Tolchester
50 acres

Center, 278 yd radius
39°14.3822.8

076°16.1371.8

12 ft

12272
not charted



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

TIDE NOTE FOR HYDROGRAPHIC SURVEY

DATE: February 24, 1999

HYDROGRAPHIC BRANCH: Atlantic

HYDROGRAPHIC PROJECT: OPR-E346-AHP

HYDROGRAPHIC SHEET: H-10703

LOCALITY: Upper Chesapeake Bay, MD
Tolchester Beach to Worton Point

TIME PERIOD: July 23, 1996 - March 25, 1998

TIDE STATION USED: 857-3364 Tolchester, MD
Lat. $39^{\circ} 12.8'N$ Lon. $76^{\circ} 14.7'W$

PLANE OF REFERENCE (MEAN LOWER LOW WATER): 0.000 meters

HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE: 0.433 meters

REMARKS: RECOMMENDED ZONING

Use zone(s) identified as: CB23, CB30, CB31, CB31A, CB33 & CB33A.

Refer to attachments for zoning information.

Note 1: Provided time series data are tabulated in metric units (meters), relative to MLLW and on Greenwich Mean Time.

Thomas V. Mero 2/24/99

CHIEF, REQUIREMENTS AND ENGINEERING BRANCH



Final tide zone node point locations for OPR-E346-AHP-97,
Sheet H-10703

Format: Longitude in decimal degrees (negative value denotes
Longitude West),
Latitude in decimal degrees
Tide Station (in recommended order of use)
Average Time Correction (in minutes)
Range Correction

	Tide Station Order	AVG Time Correction	Range Correction
Zone CB23			
-76.228711 39.350947	857-3364	+54	1.09
-76.172078 39.327913			
-76.167485 39.290153			
-76.179151 39.290271			
-76.181156 39.290462			
-76.254779 39.335591			
-76.228711 39.350947			
Zone CB30			
-76.286603 39.300625	857-3364	+36	1.01
-76.276526 39.352625			
-76.254779 39.335591			
-76.181156 39.290462			
-76.186458 39.275185			
-76.205204 39.266953			
-76.212233 39.26849			
-76.260054 39.291367			
-76.286603 39.300625			
Zone CB31			
-76.226178 39.232184	857-3364	+18	1.01
-76.312435 39.269396			
-76.286603 39.300625			
-76.260054 39.291367			
-76.212233 39.26849			
-76.218436 39.245982			
-76.226178 39.232184			
Zone CB31A			
-76.340596 39.232604	857-3364	0	1.00
-76.312435 39.269396			

-76.226178 39.232184
-76.240177 39.191831
-76.340596 39.232604

Zone CB33

-76.312435 39.269396	857-3364	+12	0.92
-76.384576 39.278581			
-76.386811 39.284059			
-76.38264 39.285099			
-76.338768 39.305403			
-76.343607 39.312169			
-76.335328 39.317477			
-76.286603 39.300625			
-76.312435 39.269396			

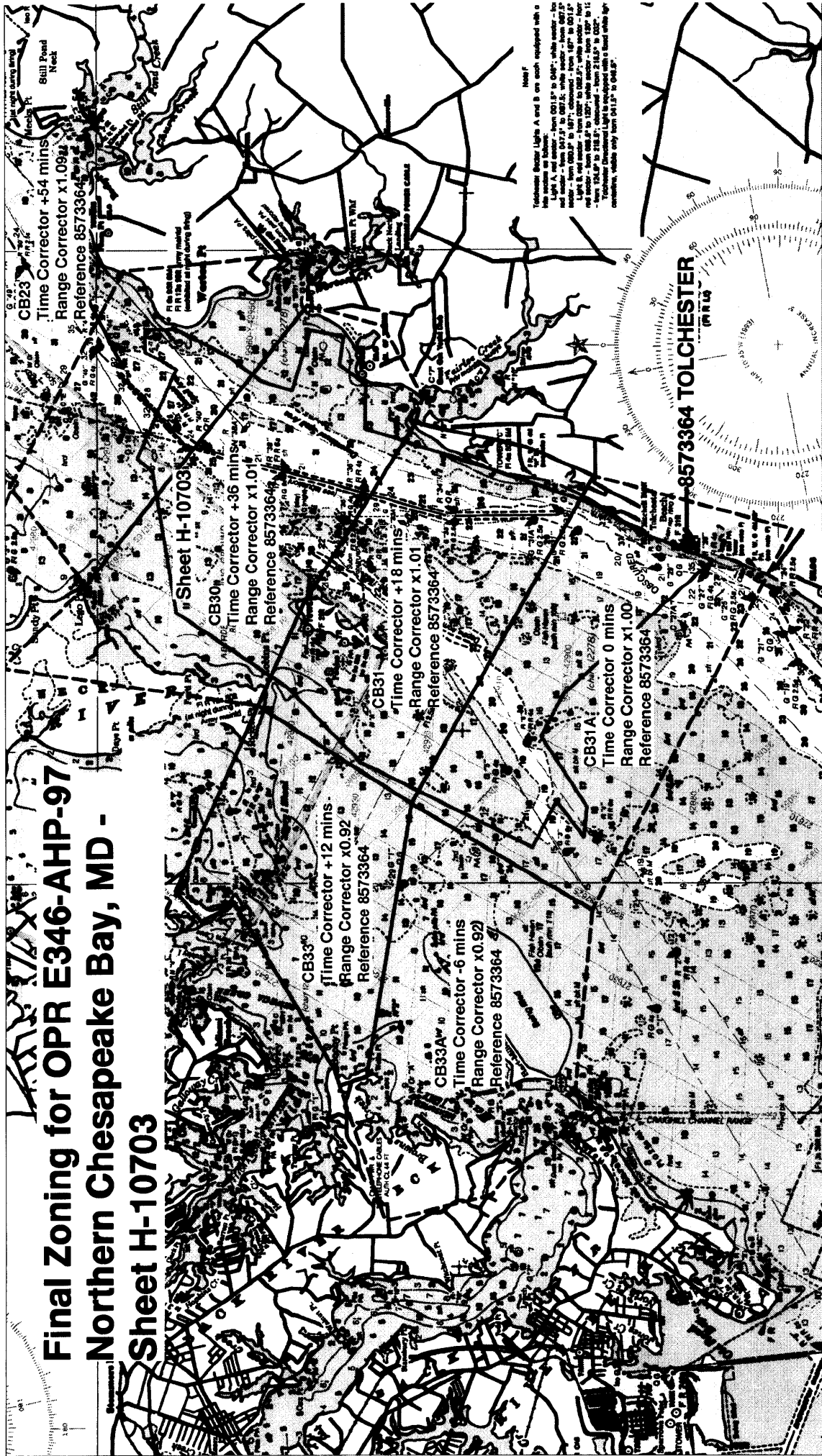
Zone CB33A

-76.398818 39.23799	857-3364	-6	0.92
-76.409737 39.249742			
-76.415417 39.253022			
-76.422384 39.274803			
-76.386811 39.284059			
-76.384576 39.278581			
-76.312435 39.269396			
-76.340596 39.232604			
-76.388789 39.236148			
-76.394445 39.23112			
-76.403334 39.228606			
-76.403686 39.232556			
-76.398818 39.23799			

Final Zoning for OPR E346-AHP-97

Northern Chesapeake Bay, MD -

Sheet H-10703



GEOGRAPHIC NAMES

H-10703

Name on Survey	A ON CHART NO. 12272, 12278		B ON PREVIOUS SURVEY NO.		C ON U.S. QUADRANGLE MAPS		D FROM LOCAL INFORMATION		E ON LOCAL MAPS		F P.O. GUIDE OR MAP		G RAND McNALLY ATLAS		H U.S. LIGHT LIST		K	
BUTTON BEACH (locale)	X		X															1
CHESAPEAKE BAY	X		X															2
HANDYS POINT	X		X															3
MARYLAND (title)	X		X															4
POOLES ISLAND	X		X															5
ROBINS POINT	X		X															6
SHELL POINT	X		X															7
STOOPS POINT	X		X															8
TOLCHESTER BEACH (pp1)	X		X															9
TOLCHESTER CHANNEL	X																	10
WORTON POINT	X		X															11
																		12
																		13
																		14
																		15
																		16
																		17
																		18
																		19
																		20
																		21
																		22
																		23
																		24
																		25

Approved

Dennis J. Koenigsberg
Chief Geographer
APR 26 1999

10/13/99

HYDROGRAPHIC SURVEY STATISTICS
REGISTRY NUMBER: H10703

NUMBER OF CONTROL STATIONS		2
NUMBER OF POSITIONS		26123
NUMBER OF SOUNDINGS		26123
	TIME-HOURS	DATE COMPLETED
PREPROCESSING EXAMINATION	29.5	02/25/99
VERIFICATION OF FIELD DATA	390.0	08/17/99
QUALITY CONTROL CHECKS	3.0	
EVALUATION AND ANALYSIS	32.5	
FINAL INSPECTION	57.0	08/19/99
COMPILATION	128.0	10/12/99
TOTAL TIME	640.0	
ATLANTIC HYDROGRAPHIC BRANCH APPROVAL		08/25/99

N/CS33-79-99

LETTER TRANSMITTING DATA

DATA AS LISTED BELOW WERE FORWARDED TO YOU
BY (Check):

- ORDINARY MAIL AIR MAIL
- REGISTERED MAIL EXPRESS
- GBL (Give number) _____

TO:

NOAA/National Ocean Service
 Chief, Data Control Group, N/CS3x1
 SSMC3, Station 6815
 1315 East-West Highway
 L Silver Spring, MD 20910-3282

DATE FORWARDED

October 15, 1999

NUMBER OF PACKAGES

1 Box, 1 Tube

NOTE: A separate transmittal letter is to be used for each type of data, as tidal data, seismology, geomagnetism, etc. State the number of packages and include an executed copy of the transmittal letter in each package. In addition the original and one copy of the letter should be sent under separate cover. The copy will be returned as a receipt. This form should not be used for correspondence or transmitting accounting documents.

H10703

Maryland, Chesapeake Bay, Tolchester Beach to Worton Point


1 Box Containing:

- 1 Original Descriptive Report for H10703
- 1 HISTORY OF CARTOGRAPHIC WORK for H10703 for chart 12278

1 Tube Containing:

- 1 Original Smooth Sheet for H10703
- 1 Paper Composite plot (1 of 2) of survey H10703 for chart 12278
- 1 Paper Composite plot (2 of 2) of survey H10703 for chart 12278
- 1 Mylar H-Drawing of H10703 for chart 12278

FROM: (Signature)


 Richard H. Whitfield

RECEIVED THE ABOVE
(Name, Division, Date)

Return receipted copy to:

Atlantic Hydrographic Branch N/CS331
 439 W. York Street
 Norfolk, VA 23510-1114

**ATLANTIC HYDROGRAPHIC BRANCH
EVALUATION REPORT FOR H10703 (1996-98)**

This Evaluation Report has been written to supplement and/or clarify the original Descriptive Report. Sections in this report refer to the corresponding sections of the Descriptive Report.

D. AUTOMATED DATA ACQUISITION AND PROCESSING

The following software was used to process data at the Atlantic Hydrographic Branch:

Hydrographic Processing System (HPS)
MicroStation 95, version 5.05
SiteWorks, version 2.01
NADCON, version 2.10
I/RAS B, version 5.01

The smooth sheet was plotted using a Hewlett Packard DesignJet 2500CP plotter.

H. CONTROL STATIONS

Horizontal control used for this survey during data acquisition is based upon the North American Datum of 1983 (NAD 83). The smooth sheet has been annotated with ticks showing the computed mean shift between the NAD 83 and the North American Datum of 1927 (NAD 27).

To place this survey on the NAD 27 datum, move the projection lines 0.393 seconds (12.11 meters or 1.21 mm at the scale of the survey) north in latitude and 1.164 seconds (27.90 meters or 2.79 mm at the scale of the survey) east in longitude.

L. JUNCTIONS

H10688 (1996-97) to the south

The smooth sheet for survey H10688 (1996-97) is archived at National Ocean Service (NOS) headquarters, Silver Spring, Maryland and a standard junction could not be made. In this case, the note "ADJOINS" has been shown on the present survey smooth sheet. Any adjustments to the depth curves will have to be made on the chart during compilation.

There are no contemporary surveys to the north, east or west of the present survey.

Present survey depths are in harmony with the charted hydrography.

M. COMPARISON WITH PRIOR SURVEYS**Hydrographic**

H6372	(1938)	1:10,000
H6373	(1938)	1:10,000
H6374	(1938)	1:10,000
<u>H6375</u>	<u>(1938)</u>	<u>1:20,000</u>

A comparison of prior surveys was done in the areas of the present survey not covered with 200% Side Scan Sonar. This is in accordance with section 4. of the memorandum titled *Changes to Hydrographic Survey Processing*, dated May 24, 1995.

1. Prior survey H6372 (1938) covers the eastern portion of the present survey. A comparison of the prior survey was not done because this area has been covered by 200% side scan coverage by the present survey.

2. Prior survey H6373 (1938) covers the western portion of the present survey. The prior survey is in general agreement with the present survey with variable differences of one foot.

3. Prior survey H6374 (1938) covers the southeastern portion of the present survey. A comparison of the prior survey was not done because this area has been covered by 200% side scan coverage by the present survey.

4. Prior survey H6375 (1938) covers the center portion of the present survey east of Pooles Island and west of Stoops Point from Latitude 39°15'00"N, to Latitude 39°19'30"N. The prior survey is in general agreement with the present survey in areas with a flat bottom, with scattered differences of plus or minus 1 to 3 feet. There is less agreement in areas with an irregular bottom, with most discrepancies occurring west of Longitude 76°14'00"W. The Tolchester Channel was not dredged to its current depth in 1938, so that is a major factor in the depths not agreeing.

Differences between the present and prior surveys can be attributed to natural changes in the bottom configuration, cultural change, and/or improved hydrographic surveying methods.

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

N. ITEM INVESTIGATIONS

1. AWOIS item #4058 is a charted dangerous obstruction PA originating with Chart Letter 1647 of 1984 (CL1647/84) in Latitude 39°17'13"N, Longitude 76°11'32"W. The area was investigated by the hydrographer and an obstruction with a depth of 10 feet was found in Latitude 39°17'12.67"N, Longitude 76°11'31.60"W. Surrounding depths are 12 feet. It is recommended that the charted dangerous obstruction PA be revised to a dangerous obstruction with a depth of 10-ft as shown on the present survey

2. The following two Fish Havens are presently shown on the latest edition of the chart:

AWOIS item #9728, is a square fish haven (auth min 10ft) originating with Chart Letter 120 of 1989 (CL120/89) in Latitude 39°14'20"N, Longitude 76°15'50"W. The area was developed by the hydrographer with no indication of any change in the bottom within the limits of the fish haven. It is recommended that the Obstn Fish Haven (auth min 10ft) be removed from the chart unless other information indicates otherwise.

The second is a circular fish haven (auth min 12ft) originating with CL843/98 and centered in Latitude 39°14'22.8"N, Longitude 76°16'07.8"W. The area was developed by the hydrographer. Shoal depths of 9 to 11 feet were found inside and approximately 100 meters north of the limits of the charted position of the fish haven. It is recommended that the Obstn Fish Haven (auth min 12ft) be revised and centered in Latitude 39°14'32.81"N, Longitude 76°16'07.52"W. A copy of the chart letter is appended to the Descriptive Report.

- O. COMPARISON WITH CHARTS 12272 (27th Edition, Jun. 07/97)
12273 (49th Edition, Sep. 20/97)
12274 (30th Edition, May. 02/98)
12278 (69th Edition, Oct. 31/98)

Hydrography

The charted hydrography originates with the previously discussed prior surveys. The hydrographer makes an adequate chart comparison with Chart 12278 in section O. of the Descriptive Report. The following should be noted:

1. One Danger to Navigation Report was submitted the Commander (oan) Fifth Coast Guard District, Portsmouth, Virginia for inclusion in the Local Notice to Mariners, and to the Marine Chart Division, Silver Spring, Maryland. A copy of

the report is appended to the Descriptive Report.

The item submitted as a danger to navigation is presently charted as a dangerous submerged obstruction with a depth of 14 feet in Latitude 39°18'05.57"N, Longitude 76°12'08.79"W. The depth of 14 feet was computed with predicted tides. Upon verification of field records and application of approved tides, a depth of 12 feet was found on the obstruction in Latitude 39°18'06.79"N, Longitude 76°12'07.87"W. It is recommended that the charted dangerous submerged obstruction with a depth of 14 feet be revised to a dangerous submerged obstruction with a depth of 12 feet as shown on the present survey.

2. The charted reported submerged obstruction in Latitude 39°16'44"N, Longitude 76°15'01"W was developed by the hydrographer. During office verification of side scan sonar records it was found that the obstruction is a shoal natural bottom feature with a depth of 13 feet. It is recommended that the notation "subm obstn rep" be deleted from the chart. It is also recommended that the 13 foot sounding be charted as shown on the present survey should the scale of the chart allow.

3. Two uncharted rocks were located by the hydrographer: a rock that covers 2 feet at MLLW in Latitude 39°16'53.26"N, Longitude 76°16'20.23"W and a rock that covers 1 foot at MLLW in Latitude 39°16'55.29"N, Longitude 76°16'20.72"W. It is recommended that these rocks be charted as shown on the present survey.

4. The following rocks were located by the hydrographer:

<u>Feature</u>	<u>Latitude N</u>	<u>Longitude W</u>
Rk	39°17'14.64"	76°16'02.76"
Rk	39°17'15.55"	76°16'02.83"

Because of the scale of the chart, it is recommended that the notation "Foul" be charted and foul limits shown on the chart to delineate the limits of these rocks.

5. A charted visible wreck PA in Latitude 39°19'00"N, Longitude 76°13'30"W is shown on the 69th Edition of chart 12278. This item was charted subsequent to the completion of the present survey. It is recommended that the visible wreck PA be retained as charted.

6. Numerous charted soundings are subsequent to the present survey within and around the Disposal Area in the vicinity of Latitude 39°17'15"N, Longitude 76°15'00"W. These

charted soundings originate with United States Army Corps of Engineers (USACOE) Blueprints 165471, 165472, 165473, 168057, 168058, 168263, 168264, and 168265 of 1998. It is recommended that presently charted data within the limits of these blueprints be retained as charted.

7. Pooles Island Warning Light, located by the present survey in Latitude 39°18'02.49"N, Longitude 76°14'17.48"W, is not shown on the latest edition of chart 12278. It is recommended that the light be charted as shown on the present survey unless other information indicates otherwise.

The present survey is adequate to supersede the charted hydrography in the common area except as noted above.

P. ADEQUACY OF SURVEY

This is an adequate hydrographic/side scan sonar survey and should supersede all prior surveys within the common area with the exception of those items noted above.

S. MISCELLANEOUS

Chart compilation using the present survey data was done by Atlantic Hydrographic Branch personnel in Norfolk, Virginia. Compiled data will be forwarded to Hydrographic Survey Division, Silver Spring, Maryland.

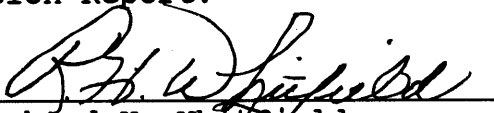
The following NOS charts were used for compilation of the present survey: 12278 (69th Ed., Oct 31/98)

Marilyn Schlüter
Marilyn L. Schlüter
Cartographic Technician
Verification of Field Data
Evaluation and Analysis

APPROVAL SHEET
H10703


Initial Approvals:

The completed survey has been inspected with regard to survey coverage, delineation of depth curves, development of critical depths, cartographic symbolization, and verification or disproval of charted data. The digital data have been completed and all revisions and additions made to the smooth sheet during survey processing have been entered in the digital data for this survey. The survey records and digital data comply with NOS requirements except where noted in the Evaluation Report.


Richard H. Whitfield
Cartographer
Atlantic Hydrographic Branch

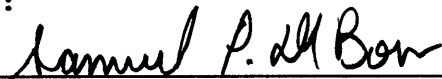
Date: 8/25/99

I have reviewed the smooth sheet, accompanying data, and reports. This survey and accompanying digital data meet or exceed NOS requirements and standards for products in support of nautical charting except where noted in the Evaluation Report.


Andrew L. Beaver, LCDR, NOAA
Chief, Atlantic Hydrographic Branch

Date: 8/25/99

Final Approval:

Approved: 
Samuel P. De Bow, Jr.
Captain, NOAA
Chief, Hydrographic Surveys Division

Date: 12/22/99

