

10372

10372

Diagram No. 1222-5

NOAA FORM 76-35A

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

DESCRIPTIVE REPORT

Type of Survey Side Scan Sonar
Field No. HE 10-10-90
Registry No. H-10372

LOCALITY

State Virginia
General Locality Chesapeake Bay Entrance
Sublocality Approaches to Thimble
..... Shoal Channel

1990

CHIEF OF PARTY
LCDR S. R. Iwamoto

LIBRARY & ARCHIVES

DATE March 30, 1992

☆U.S. GOV. PRINTING OFFICE: 1985-566-054

ECIG
PRODUCTS

- 12222
- 12207
- 12254
- 12205 AgA
- 12220
- 12221
- 12200
- 12208

HYDROGRAPHIC TITLE SHEET

H-1037A

~~FE-356SS~~

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.

HE 10-10-90

State VIRGINIA

General locality ENTRANCE TO CHESAPEAKE BAY

Locality APPROACHES TO THIMBLE SHOAL CHANNEL

Scale 1:10,000

Date of survey NOV. 7 thru NOV. 28⁷ 1990

Instructions dated SEPTEMBER 20⁵th, 1990

Project No. OPR-D111-HE

Vessel HECK S-591 (9140)

Chief of party LCDR STANLEY R. IWAMOTO, CMDG.

Surveyed by *J.W.* LT. MOELLER, *J.S.* LT. WILKES, *K.N.* LT. HARBISON, *W.R.* ST. MORRIS

Soundings taken by echo sounder, hand lead, pole ECHO (DSF 6000) and LEAD LINE

Graphic record scaled by SHIP PERSONNEL

Graphic record checked by LT. MOELLER

Protracted by _____ Automated plot by HDAPS (FIELD)

XYNETICS 1201 PLOTTER (AHS)

Verification by *Atlantic Hydrographic Section Personnel.*

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

REMARKS: CHANGE NO.4 dated NOVEMBER 2nd 1990

Change No.3 dated Oct.15, 1990

Change No.2 dated Oct.4, 1990

Change No.1 dated, Sept 20, 1990

Notes in the Descriptive Report were made in red during office processing.

SC JAN 29 1997

KWW

AWOIS/SARP ✓ 4/20/92 SS

SCHEME
 or entering and
 marked by a
 line of fairway

NOTE F
 CAUTION
 The Chesapeake Bay Bridge-Tunnel
 complex has on several occasions suffered

NOTE E
 Chesapeake Bay Bridge - Tunnel
 (Privately maintained lights)

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 CAUTION
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 Heights in feet above Mean High Water.

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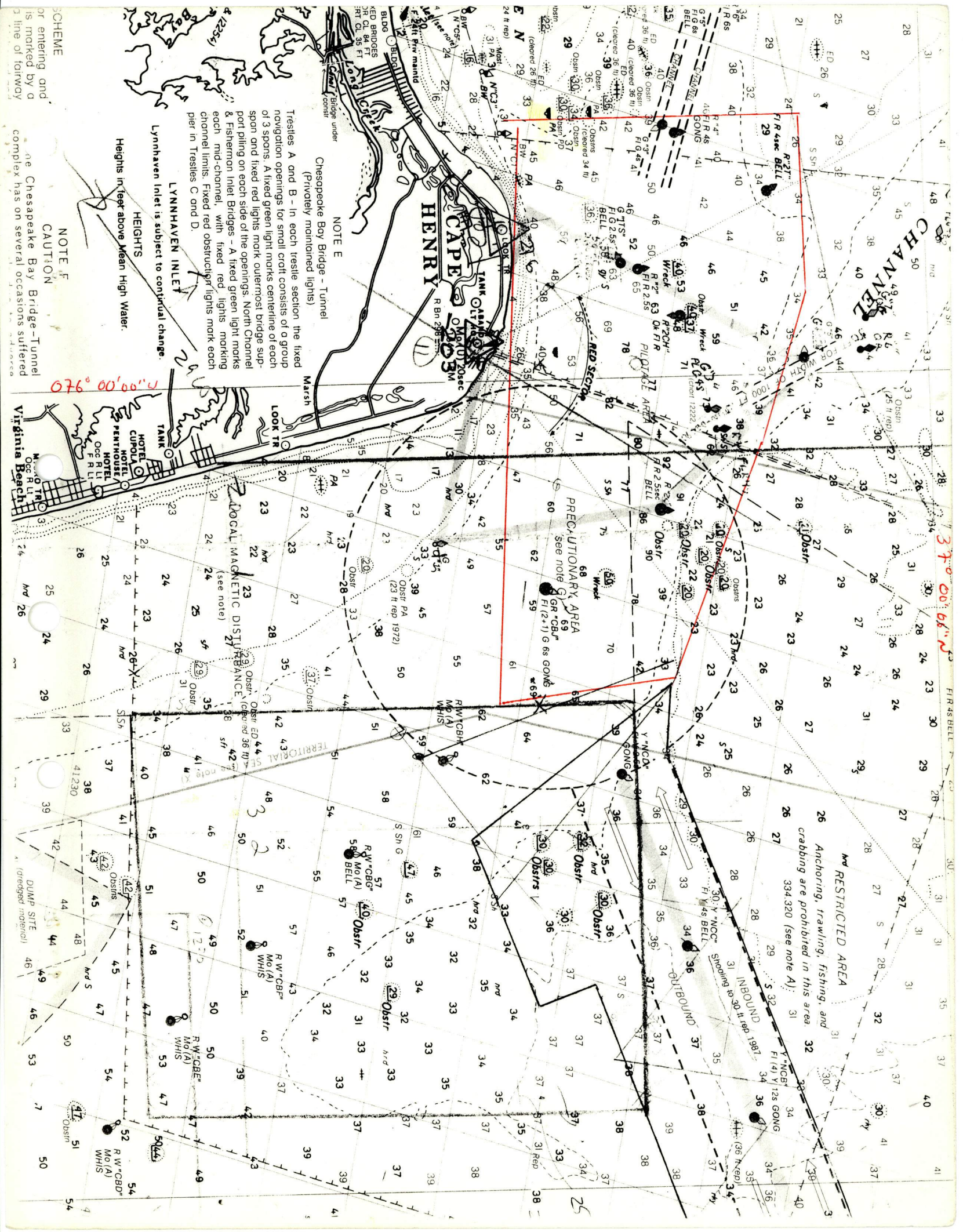
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 Heights in feet above Mean High Water.

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DESCRIPTIVE REPORT TO ACCOMPANY
SURVEY ~~FE-356SS~~ *H-10372*
FIELD NUMBER HE-10-10-90
VIRGINIA
CHESAPEAKE BAY ENTRANCE
APPROACHES TO THIMBLE SHOAL CHANNEL
Scale 1:10000
NOAA SHIP HECK S-591
LCDR Stanley R. Iwamoto, CMDG

A. PROJECT

This survey was conducted in accordance with Hydrographic Project Instructions OPR-D111-HE, Chesapeake Bay Entrance, Virginia, dated September 5, 1990 / Change 1-September 20, 1990 / Change 2-October 4, 1990 / Change 3-October 15, 1990 / Change 4 - November 2, 1990.

The purpose of this project was to investigate and resolve contacts located by the NOAA Ship WHITING during survey operations on H-10343 and complete the 200% side scan coverage of the northern edge of the project limits.

B. AREA SURVEYED

The survey area lies in the mouth of the Chesapeake Bay. The actual survey area consists of 49 discrete items, and two area surveys lying within the boundaries of survey H-10343.

Survey operations were conducted from November 7, 1990 (DOY 311) to November 27, 1990 (DOY 331).

C. SURVEY VESSELS

All hydrographic data were collected by the NOAA Ship HECK (EDP 9140). No unusual vessel configurations were used.

D. AUTOMATED DATA ACQUISITION AND PROCESSING

Survey data acquisition and processing were accomplished utilizing the HDAPS system hardware and the latest version of the NAVITRONIC NAVISOFT 300 software provided to the ship by N/CG24.

E. SONAR EQUIPMENT

HECK is equipped with an EG&G model 260 slant range corrected Side Scan Sonar (SSS) recorder and model 272 dual frequency towfish. Serial numbers and dates of usage are as follows:

Towfish S/N 0011901 DOY 311 - 331

Recorder S/N 0012106 DOY 311 - 331

The beam width and down angle are not adjustable on this unit. All SSS data was collected using the 100, 75 and 50 meter range scales and 100 Khz frequency. Line spacing of 180 meters was used for required disprovals and area surveys.

Confidence Checks were obtained, and annotated on the sonargrams, by towing the side scan unit past known bottom features. Twice daily confidence checks were not obtained on all days as required, however, the sonargrams of items located matched those of the WHITING's accurately enough to confirm the units performance.

Required proof of sonar coverage, for disprovals, is demonstrated through the included swath plot. The hydrographer chose this method in lieu of the sonar coverage abstract. The choice of method is left to the hydrographer per Side Scan Sonar Manual section 3.1.3.

The sonar contact list (Side Scan Sonar Manual 3.1.1.1.) is provided through the automated HDAPS printout that is produced during the computation and logging of contacts. These printouts are located with the sonargrams on which they were identified.

The assigned contacts were logged on Carto Table number 2. Contacts were listed on New Contact Tables 3, 5, 6, and 9.

F. SOUNDING EQUIPMENT

The following Raytheon DSF-6000N echosounder was used during this survey:

S/N A110N DOY 311 - 331

Both low and high frequency depths were digitized, but only high frequency depths were plotted.

G. CORRECTIONS TO ECHOSOUNDINGS

The following table shows dates and locations of velocity casts conducted using the ODOM Digibar sound velocimeter (S/N 168):

VELOCITY TABLE	DATE	LOCATION
A1	11/07/90 (DOY 311)	36°57.4N 075°58.4W

The velocity cast data were reduced and velocity corrections calculated using program VELOCITY. The computed velocity correctors were then applied on line to echosounder depths (both high and low frequency) by entering the correction data into the HDAPS sound velocity table.

On DOY 071, instrument correctors were determined by conducting a dual leadline comparison of echosounder and leadline depths. Comparison resulted in a mean difference of 0.020 meter or a corrector of 0.0 meter.

A static draft of 2.10 meters was applied on line to all echosoundings via the HDAPS offset table.

Settlement and squat correctors for the HECK were determined on March 10, 1989 (DOY 69), at Craney Island fuel pier in Norfolk, Virginia using the level rod method. No alterations have been made to HECK that would change these values.

Settlement and squat values were applied on line to hydrographic soundings via the HDAPS offset table.

Heave is measured by a Datawell B.V. (S/N 19110-C) heave, roll, and pitch sensor (HIPPY) located midships near the transducer. The sensor gathers on line data which is applied to the soundings in near real time. All data acquired in the echosounder mode have been corrected by applying HIPPY correctors.

The tidal datum for this survey was mean lower low water (MLLW). The tide station at Hampton Roads was the reference station for this survey. No tide stations were established by the HECK in support of this survey.

All hydrographic depths have been corrected for predicted tides using the zone correctors specified in the project instructions. Tidal correctors were applied on line via the HDAPS predicted tide table. *Approved tides and zoning were applied during offline processing.*

H. CONTROL STATIONS *See section 2.a. of the Evaluation Report.*

The horizontal datum for this project is the North American Datum of 1983 (NAD 83). All stations used were existing control recovered by HECK personnel. All coordinates were taken from NGS Geodetic Control Data. No new stations were established. A list of the horizontal control stations appears in appendix III, LIST OF HORIZONTAL CONTROL STATIONS submitted with this survey. One station, Chesapeake Light, lies seaward of the high water line and is a fixed navigational aid.

I. HYDROGRAPHIC POSITION CONTROL *See section 2.a. of the Evaluation Report*

Position control was multiple LOP, utilizing Motorola Mini-Ranger shore stations. Control station positions were entered into the HDAPS Control Station Tables. (See APPENDIX III, LIST OF HORIZONTAL CONTROL STATIONS). The appropriate Mini-Ranger codes were attached to the station number on this table.

Baseline calibration was performed on July 25, 1990 (DOY 206).

the data for RPU S/N H0375, R/T S/N 3409 was previously submitted with survey FE-354SS.

Equipment serial numbers appear as part of the header information on each days data print out.

System checks were conducted in accordance with the Field Procedures Manual and appear as HDAPS screen dumps on the data printouts.

All survey offsets were applied on-line using the HDAPS Offset Table.

At no time during this project did the maximum residual consistently exceed 0.5 mm at the survey scale (5 meters) nor did the 95% confidence ECR consistently exceeded 1.5 mm at the survey scale (15 meters). Data not meeting these requirements were examined and high residuals either accepted or smoothed and high ECR's smoothed or rejected.

During this survey the FALCON system began having *EPROM* errors which prevented certain code numbers from being entered into the system in order to overcome this problem S/N D-2128 code D was changed to code B and S/N E-2963 code B was changed to code 6. This code changed is reflected on C-O tables 6 and 7.

J. SHORELINE *See section 2. b. of the Evaluation Report.*

Not applicable as per project instructions.

K. CROSSLINES *See section 3. a. of the Evaluation Report.*

Not applicable as per project instructions.

L. JUNCTIONS *See section 5. of the Evaluation Report.*

This sheet junctions with WHITING survey H-10343. Normal junctions were not obtained, however, where overlap did occur depths compared well with random differences of 0.2 meters or less.

M. COMPARISON WITH PRIOR SURVEYS *See section 6. of the Evaluation Report.*

With the exception of the AWOIS items, all items on this survey originate from and were compared to survey H-10337.

Investigation of the assigned items originating with H-10337⁴³ yielded the following results:

ITM	POS #	lat	lon	RESULTS least depth	RECOMMEND +
1	2137-2138 2475-2483	36° 56' 58.8"	076° 01' ^{21.0} 18.1"	16.8M <i>SEE ALSO SECTION G.C. OF THE EVALUATION REPORT</i>	WRECK 16.8M CONCUR
2	1892-1894 1998-2001	36° 56' 10.3 ⁴⁴ 7"	075° 57' ^{43.69} 42.5"	19.5M <i>2</i>	OBST 19.5M* <i>DO NOT CLART</i>
3	1905-1906 2493	36° 56' 06.46 ³⁹ "	075° 57' ⁸⁶ 17.7"	16.5M <i>SEE ALSO SECTION 7.2.2 OF THE EVALUATION REPORT</i>	OBST 16.5M* CONCUR
4	1923-1926	36° 55' 54.54"	075° 56' 29.1"	NOTHING FOUND	NONE CONCUR
5	2061-2062	36° 56' 52.40"	075° 58' 33.6"	INSIG	NONE CONCUR
6	2063-2065	36° 56' 22.01"	075° 58' 46.8"	INSIG	NONE CONCUR
7	1895-1896 1983-1990	36° 56' 00.40 ⁸² "	075° 57' ^{3.89} 34.2"	18.9M <i>2</i>	OBST 18.9M*
8	2073-2074 2105-2111	36° 56' 25.65 ⁷ "	075° 57' ⁵⁵ 16.3"	21.1M ^{20.3} <i>20.3</i>	OBST 21.1M* CONCUR
9	2152-2158	36° 57' 18.39 ⁸ "	075° 01' ^{6.33} 05.8"	18.1M <i>4</i>	OBST 18.1M*
10	2119-2124	36° 57' 02.69"	076° 02' 14.1"	NOTHING FOUND	NONE CONCUR
11	2133-2136	36° 56' 53.12"	076° 01' 31.5"	INSIG	NONE CONCUR
12	2141-2144	36° 57' 23.17"	076° 01' 31.2"	INSIG	NONE CONCUR
13	1933-1934 2005-2008	36° 56' 29.27 ⁵² "	075° 58' ⁴⁵ 04.1"	19.6M <i>3</i>	OBST 19.6M* CONCUR
14	2159-2162	36° 56' 45.74 ³ "	076° 01' 16.4 ² "	17.6M <i>8</i>	OBST 17.6M* CONCUR
15	2134-2140	36° 57' 08.79"	076° 01' 20.6"	SINKER FOR R"2"	NONE CONCUR
16	2125-2128	36° 56' 50.35"	076° 02' 02.9"	INSIG	NONE CONCUR
17	2129-2132	36° 56' 48.10"	076° 01' 43.3"	INSIG	NONE CONCUR
18	2165-2169	36° 56' 24.90"	076° 00' 22.0"	INSIG	NONE CONCUR
19	1899-1904 1970-1976	36° 55' 32.1"	076° 57' 47.6"	INSIG	NONE <i>CHART AS 13⁵ OBST (A)</i>
20	1929-1930	36° 55' 09.34"	076° 56' 46.5"	NOTHING FOUND	NONE CONCUR
21	1907-1908 2009-2035	36° 56' 45.31 ⁵ "	075° 57' ^{29.96} 30.0"	21.3M <i>20.7</i>	WRECK 21.3M CONCUR
22	2145-2148	36° 57' 35.01"	076° 01' 16.9"	13.8M <i>14.0</i>	WRECK 13.8M CONCUR <i>"CARMINA" 14.0</i>
23	1913-1914 2036-2043	36° 56' 47.76 ⁵ "	075° 57' ^{4.5} 23.9"	24.7M <i>4</i>	OBST 24.7M* CONCUR
24	1919-1922 2075-2087	36° 56' 12.3"	075° 55' 10.5"	INSIG	NONE CONCUR
25	2177-2178	36° 57' 31.72"	076° 00' 29.1"	INSIG	NONE CONCUR
26	2149-2150	36° 57' 38.97"	076° 00' 58.1"	INSIG <i>SEE ALSO SECTION G.B.</i>	NONE CONCUR
27	2170-2171	36° 57' 24.05"	075° 59' 57.4"	INSIG	NONE CONCUR
28	2069-2070	36° 57' 08.23"	075° 58' 42.4"	NOTHING FOUND	NONE CONCUR
29	1909-1912	36° 56' 55.46"	075° 57' 36.4"	INSIG	NONE CONCUR
30	2172-2176 2448-2449	36° 57' 26.47 ³¹ "	075° 59' ⁷⁵ 32.2"	24M <i>2</i>	OBST 24M
31	1939-1940 2048-2045	36° 57' 12.9"	075° 58' 15.8"	INSIG <i>SEE ALSO SECTION B.B.</i>	NONE CONCUR
32	1935-1936 2044-2047	36° 57' 12.45 ¹⁴ "	075° 57' ⁷¹ 57.2"	25.8M <i>25.8</i>	OBST 26.1M* CONCUR <i>WK 25.8</i>
33	1941-1942 2115-2118	36° 57' 18.94 ³ "	075° 58' ^{6.06} 25.5"	28.7M <i>8</i>	OBST 28.7M* CONCUR <i>CHART AS 25⁸ WK</i>
34	2071-2072	36° 57' 24.65"	075° 58' 50.5"	INSIG	NONE CONCUR
35	2179-2180 2183-2184 2484-2490	36° 57' 39.15 ⁷⁴ "	076° 00' ^{38.92} 36.6"	13.1M <i>14.5</i>	WRECK 13.1M CONCUR <i>"CHILORE" 14.5</i>

+ No contacts are shown on the present where the hydrographers recommendation is none.

ITM	POS #	lat	lon	RESULTS least depth	RECOMMEND
36	1931-1932 1966-1969	36°55'24.67"	075°58'14.6"	INSIG	NONE <i>concur</i>
37	2257	36°57'20.06"	075°58'21.0"	BUOY ANCHOR FOR "2C"	
38	2163-2164	36°56'38.29"	076°00'42.8"	INSIG <i>17.0 Echo sounder</i>	NONE <i>17 Obstr</i>
39	1915-1916 2088-2104	36°56'23.39"	075°55'28.7"	13.3M	OBST 13.3
		<i>Not considered an obstruction</i>			
40	2181-2182	36°57'49.23"	076°00'36.9"	NOTHING FOUND	NONE <i>concur</i>
41	1897-1898 1977-1982	36°55'36.8"	075°57'44.0"	16.7M	OBST 16.7M
		<i>Not considered an obstruction</i>			
42	1943-1944 2446-2447	36°57'28.27"	075°58'26.5"	27.0M 26.9	OBST 27.0M* <i>concur</i> 26.9
43	1937-1938 2055-2060	36°57'24.07"	075°58'12.8"	23.8M 13.38 26.5 ✓	OBST 23.8M* <i>concur</i> 26.5

44-49 THESE TARGETS WERE COVERED AS PART OF THE AREA SURVEY ON DOY-319. ALL TARGETS WERE FOUND TO BE INSIGNIFICANT, OR WERE FOUND NOT TO EXIST. *Concur. Not shown on the present survey*

* NOTE: The items listed should be charted as obstructions that are **not hazardous** to navigation. *500 Fathoms*

Comparison of soundings showed good agreement with random differences of less than 0.3 meters.

N. COMPARISON WITH THE CHART *See section 7, of the Evaluation Report.*

One danger to navigation was reported during this survey, an unlit mooring buoy located in Lynnhaven Roads. The mooring buoy was located by Mini-Ranger and sextant at fix number 2397 at LAT 36°57'00"N LON 076°04'21". No additional dangers were reported as a result of survey operations. *Not in survey area*

Comparison of the AWOIS items were made to NOS charts 12221, 57th ED., JAN 28, 1989 / 12222, 3rd ED., AUG 18, 1990 / 12254, 33rd ED., JAN 6, 1990. The results of these comparisons are as follows:

AWOIS #833- Wreck, Cleared to 50 feet. *(15.2m)* This is item 21 above. Item was investigated and found using ship's side scan sonar, and was identified as contact (5) on contact table (9). A ~~hydro~~ *Fathometer* least depth was obtained with the following recommendation: Change chart to read Wreck, Least Depth 69⁸ feet. *(30.7M) Concur, See also section 7.a. of the Evaluation Report.*

AWOIS #839- Obstruction. Items 28, 34, and 44 lie within the boundaries of this AWOIS, nothing of significance was located. This item is presently not charted, the following recommendations made: Nothing should be charted and item should be removed from AWOIS listing. *Concur. This item originates with NTM 42/50 in Lat. 36°57'18.0" N*

Long. 79°59'18.0" W. One significant item was found in the area and corresponds with AWOIS ITEM #892. SEE ALSO RECOMMENDATION FOR THIS ITEM IN THE D.R. FOR H-10343 (1990).

AWOIS #848- Wreck, Cleared 40 feet. Item 22 above. Item was located by side scan sonar and is listed as contact (25) on contact table (3). Least depth was obtained by ship's divers with the following recommendation: Wreck, Least Depth 49⁶ feet. *(14M)* *See section 6.d. of the Evaluation Report.*

AWOIS #855- Wreck, Cleared ^{42 (12.8m)} 37 feet. No evidence of this wreck was found by WHITING. Review by verification resulted in the opinion that Item 1 was this wreck. Item 1 was reported as a danger by WHITING and is presently charted as a dangerous wreck with a reported least depth of 56 feet. ^(17m) This item was located and identified by side scan sonar, and ships divers. An echo sounder ^(17.2m) least depth of 55 feet was obtained. ~~Recommend deleting the charted 37 foot wire cleared wreck and revising the WHITING's dangerous 56 foot reported wreck to a wreck with least depth of 55 feet at the surveyed position.~~ *Do not concur. See section 6.e. of the Evaluation Report.*

AWOIS #857- Wreck, Cleared 37 feet. ^(11.3m) Item 35 above. This item was located by side scan sonar and is listed as contact (11) on contact table (5). A ~~hydro/diver~~ ^{BATHYMETER} least depth of ~~13.1~~ ^{14.5} meters was obtained. This item is not presently charted. The information charted applies to AWOIS 855. Therefore, the information charted for AWOIS 855 should be replaced with: Wreck, Least Depth 43 feet. ^(13.1m) *Do not concur. See section 6.f. of the Evaluation Report.*

AWOIS 892-Sounding 74/73 feet. Item 30 above. This item was located with side scan sonar and is listed as contacts (8) and (9) on contact table (5). A ~~hydro~~ ^{BATHYMETER} least depth was obtained with the following recommendation: Change chart to ~~Wreck~~ ^{Obstr}, Least Depth 78 feet. ^(14.2m) *Do not concur. See section 6.g. of the Evaluation Report.*

AWOIS #2902- Obstruction no depth given. Items 31, 33, 37, 42, and 43, listed, above all lie within the boundary of this AWOIS. All items were located with side scan sonar. On all items of significance a ~~hydro~~ least depth was obtained with the following results: *AWOIS #2902 ORIGINATES WITH N/M 29/57 IN LAT. 36° 57' 21.0" N, LONG. 75° 58' 12.0" W. TWO CONTACTS ARE SHOWN ON SIDE SCAN SONOGRAMS IN AREA OF ITEM #31. THE ITEM IS NOT CONSIDERED DISPROVED BY THE PRESENT SURVEY. SEE ALSO SECTION 6.b. OF THE EVALUATION REPORT.*

- a) Item 33 is listed as contact (15) on contact table (9), recommend charting an Obstruction, Least Depth ~~94~~ feet. ^{28.9m} *Concur. Should the scale of the chart allow.*
- b) Item 37 is anchor for buoy "2C". *Concur. Do not chart.*
- c) Item 42 is listed as contact (16) on contact table (9), recommend charting an Obstruction, Least Depth ~~88~~ feet. ^{36.8m} *Do not concur. Shoaler soundings are shown on both the present survey AND prior survey H-10343 (1990)*
- d) Item 43 is listed as contact (13) on contact table (9). This contact is the AWOIS item listed. ^(#2902) Recommend the chart be changed to Obstruction, Least Depth ~~74~~ feet. ^{21.9m} *Concur. LAT. 36° 57' 25.70" N. LONG 75° 58' 13.75" W.*

AWOIS #7553- Obstruction, Cleared 40 feet. Ship's side scan sonar was unable to locate this item. The item is either AWOIS 857 or does not exist. Recommend deletion from chart. *Concur **

AWOIS #7554- Obstruction. Presently occupied by buoy "2CH". Nothing of significance was found relating to this AWOIS in the area survey. Recommend deletion from AWOIS listing. *Concur **

AWOIS #7556- Obstruction, Cleared 36 feet. Additional 200% side scan coverage was completed between fixes 2185 and 2237. Nothing of any significance was found to lie within the radius of this item. Recommend deletion of item from chart. *Concur **

** See also Descriptive Report for H-10343 (1990)*

Q. ADEQUACY OF SURVEY

This survey is complete and adequate to resolve all items assigned for the purposes of supplementing survey H-10343 and updating the charts of the survey area.

P. AIDS TO NAVIGATION

Detached positions of buoys compared closely with charted positions. Buoy characteristics and locations were plotted on the smooth depth sheet.

Q. STATISTICS

<u>ITEM</u>	<u>for... NOAA Ship HECK</u>	<u>AMOUNT</u>
1. Total No. of Positions		601 Fixes
2. Lineal NM of Soundings		71.4 NMi
3. Square NM Hydrography		7.2 NMi ²
4. Days of Production		7 Days
5. Bottom Samples		None
6. Tide Stations Established		None
7. Current Stations Established		None
8. Velocity Casts Performed		1 Cast
9. Magnetic Stations Established		None
10. Detached Positions		8

R. MISCELLANEOUS

No anomalies in either tide or current were noted. No bottom samples were taken. Weather conditions are noted in the header information of each days data.

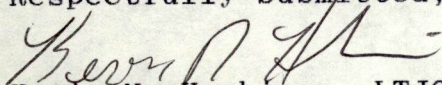
S. RECOMMENDATIONS

Recommendations concerning specific items are located in sections M and N of this report.

T. REFERRAL TO REPORTS

Descriptive Report FE-344SS submitted October 1990

Respectfully Submitted,


Kevin N. Harbison, LTJG, NOAA
Junior Officer
NOAA Ship HECK

DESCRIPTIVE REPORT APPENDICES

- I. DANGER TO NAVIGATION REPORTS
- II. NON-FLOATING AIDS AND LANDMARKS FOR CHARTS *
- III. LIST OF HORIZONTAL CONTROL STATIONS
- IV. GEOGRAPHIC NAMES (FIELD)*
- V. TIDES AND WATER LEVELS *
- VI. SUPPLEMENTAL CORRESPONDENCE
- VII. APPROVAL SHEET

SEPARATES TO BE INCLUDED WITH SURVEY DATA

- I. HYDROGRAPHIC SHEETS AND PARAMETERS
- II. BOTTOM SAMPLES
- III. HORIZONTAL POSITION CONTROL AND CORRECTIONS TO POSITION DATA
- IV. SOUNDING EQUIPMENT CALIBRATIONS AND CORRECTIONS
- V. SIDE SCAN SONAR DATA
- VI. ITEM INVESTIGATION DATA

* Filed with the original field records.

LIST OF HORIZONTAL CONTROL STATIONS

NUMBER	NAME	POSITION	
203	* Cape Henry Light	36° 55' 34.911"	076° 00' 25.834"
216	H-52VA FT. Story	36° 55' 50.100"	076° 01' 52.823"
217	Dam Neck BOQ	36° 47' 18.061"	075° 57' 33.733"
220	FEN	37° 05' 36.757"	075° 58' 16.308"
230	H-55VA	36° 54' 30.676"	075° 05' 49.850"

NAME
 * DEL Norte Site at Cape Henry Lighthouse



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
Office of NOAA Corps Operations
NOAA Ship HECK S-591
439 W. York Street
Norfolk, VA 23510-1114

October 16, 1990

Commander, Aids to Navigation
Fifth Coast Guard District
Federal Building
431 Crawford Street
Portsmouth, VA 23704

Dear Sir,

The following hazard to navigation was located while conducting survey operations on OPR-D111-HE-90 Chesapeake Bay Entrance.


An unlit mooring bouy exists at latitude 36/57/00.3N and longitude 76/04/21.5W

This item affects charts: 12221, 12222, 12254

If you have any questions or require additional information please contact LT David W. Moeller at (804) 441-6639, 827-6639 FTS.

Not in survey area

Sincerely,


Stanley R. Iwamoto, LCDR, NOAA
Commanding Officer
NOAA Ship HECK





UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
Office of NOAA Corps Operations
NOAA Ship HECK S-591
439 W. York Street
Norfolk, VA 23510-1114

October 17, 1990

MEMORANDUM FOR: Commander Christopher Lawrence, NOAA
Chief Atlantic Hydrographic Section

FROM : Lieutenant Commander Stanley R. Iwamoto, NOAA
Commanding Officer, NOAA Ship HECK

SUBJECT : Chart Corrections

During survey operations on OPR-D111-HE-90 Chesapeake Bay Entrance, the following chart corrections were observed:

REMOVE 1. Submerged wreck with "mast" charted at latitude 36/55/40N, longitude 76/04/00W. The Virginia Pilots report this wreck was salvaged a few days after going down. No sign of masts was observed by the HECK.

* 2. Three mooring buoys: latitude 36/56/19N
longitude 76/05/17W

latitude 36/56/44N
longitude 76/05/18W

latitude 36/56/46N
longitude 76/09/56W

ADD Lighted mooring bouy: latitude 36/55/58N
longitude 76/10/20W

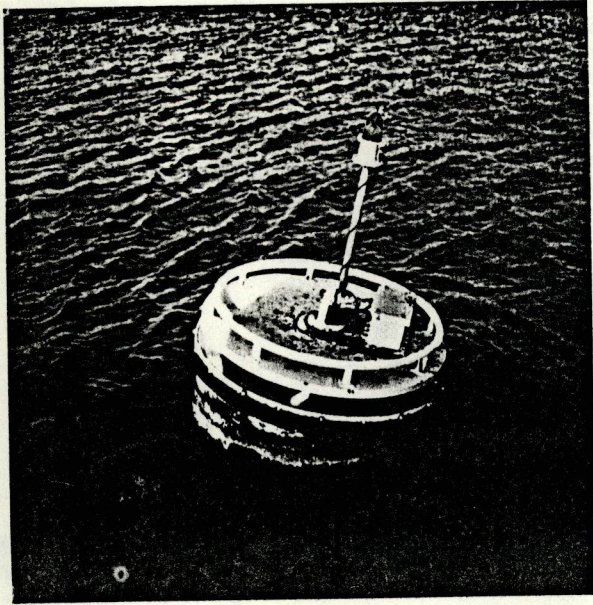
ADD Unlit mooring buoy: latitude 36/57/00N
longitude 76/04/21W

A danger to navigation report was issued for the unlit buoy.
(see attachment)

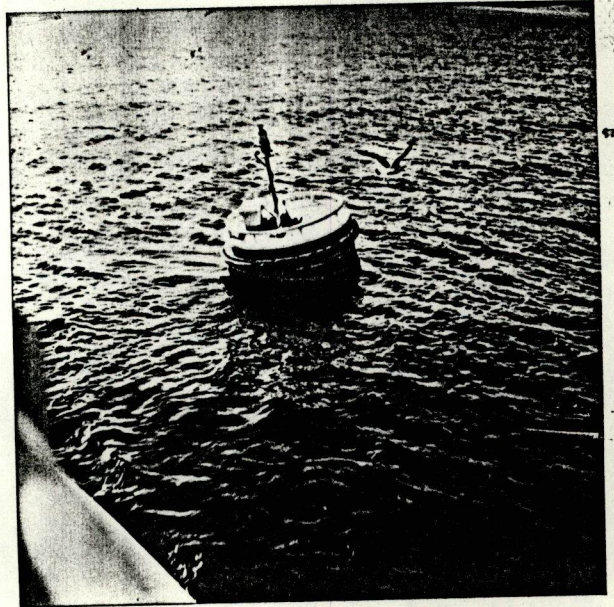
The corrections above were positioned by visual bearings and radar ranges and the changes affect charts 12221, 12222, 12254.

* outside present survey limits

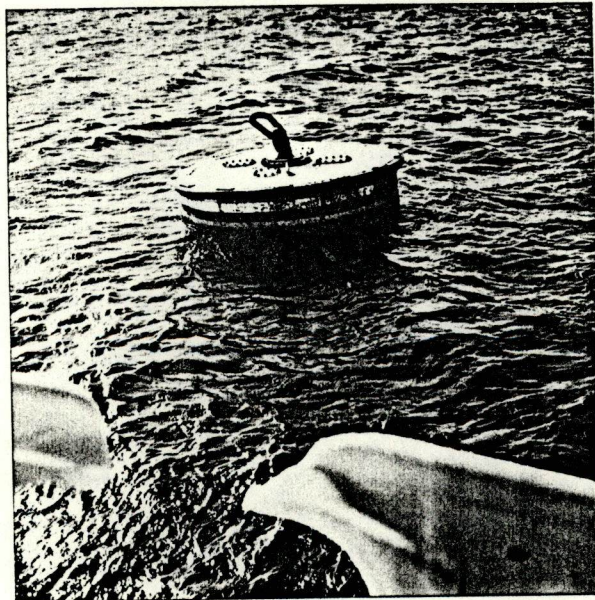




LITTLE CREEK MOORING BUOY 1



mooring Buoy #1 LITTLE CREEK



Mooring Buoy #2 Lynshaven
unlit

061700 June
P 241300Z MAY 90
FM NOAA S WHITING
TO CCGDFIVE PORTSMOUTH VA
INFO NOAAOMO ROCKVILLE MD
NOAAOMA NORFOLK VA
BT
UNCLAS
AMC128

KT

H-10343
"E"

SUBJ: NOTICE TO MARINERS INFO FOR CHES. BAY ENTRANCE
HAZARD TO NAVIGATION

PLEASE PASS TO COMMANDER, 5TH USCG DISTRICT THE FOLLOWING INFO.

DURING HYDROGRAPHIC OPERATIONS, THE NOAA SHIP WHITING HAS FOUND
THE FOLLOWING HAZARD TO NAVIGATION:

OBJECT - WRECK

LOCATION: 36/56/58.⁸97N, 76/01/20.^{21.0}87W (NAD 83 DATUM)
WRECK LOCATED ¹⁰⁰25 METERS EAST OF NAVIGATION BUOY 1TS

DEPTH: 17.1 METERS (56.1 FEET)
SURROUNDING WATER DEPTHS ARE 19.3 METERS (63.3 FEET)
DEPTHS ARE REFERENCED TO MEAN LOWER LOW WATER.

CHARTS AFFECTED: 12205, 12221, 12222, 12254

BT
128

NNNN



**United States Army
Corps of Engineers**

*... Serving the Army
... Serving the Nation*

Norfolk District

**ENGINEERING ANALYSIS OF
NINE SIDE SCAN SONAR TARGETS
FROM THE THIMBLE SHOAL CHANNEL
TO THE SOUTH ATLANTIC SEA LANE
CHESAPEAKE BAY ENTRANCE, VIRGINIA**

Prepared by:

**Waterway Surveys & Engineering, Ltd.
321 Cleveland Place
Virginia Beach, Virginia 23462**

February 1985

Final Report

Prepared for:

**Dredging Management Branch
Norfolk District, Corps of Engineers
803 Front Street
Norfolk, Virginia 23510**

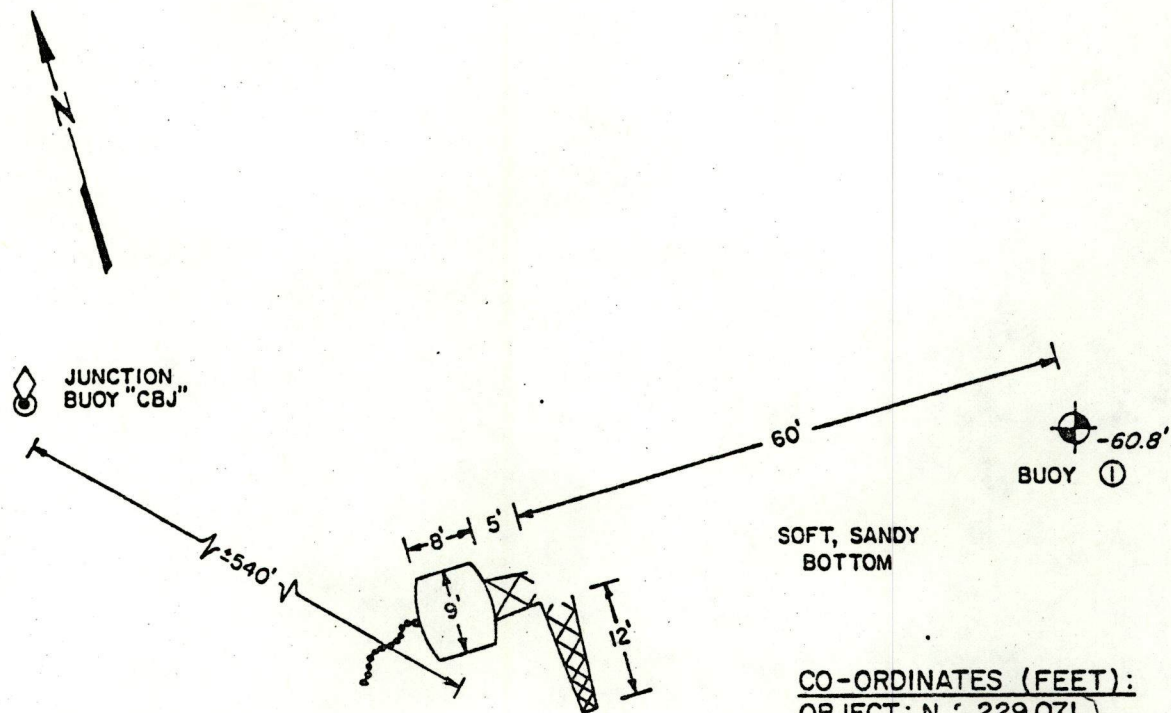
TARGET: ATL #11

Interpretation of side scan sonar records showed a target 5 feet wide by 15 feet long in 65 feet of water, with a maximum height of 8 feet above the bottom. A 60-foot radial sweep of the bottom around buoy 1 revealed a soft sand with scattered shells and an average bottom depth of -62 feet MLW.

A large steel object was found at 60 feet west of buoy 1 (see Figure 5). Further investigation revealed a channel buoy lying on its side in an east-west direction with the upper 12 feet of the steel-framed tower bent 90 degrees to the south. The base of the buoy was 9 feet in diameter and 8 feet tall, with a short length of chain attached to the west end of the buoy. The buoy was probably struck by a ship because it was dented in on one side and ripped open along the bottom.

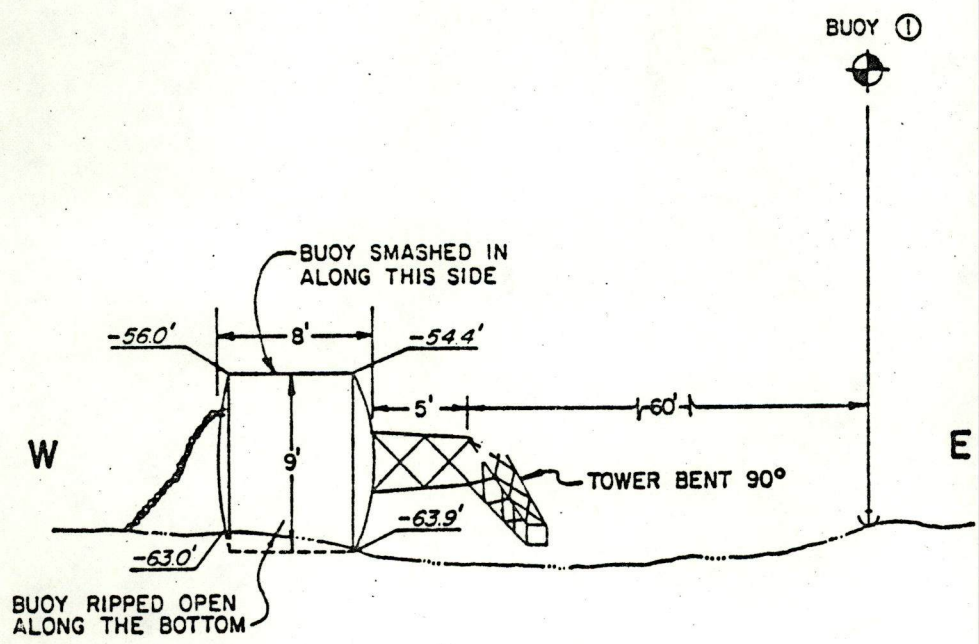
The buoy lies approximately 540 feet southeast of junction buoy "CBJ" which marks the point where the Thimble Shoal Channel intersects with the Atlantic Sea Lanes. The buoy is in direct line with ship traffic entering and exiting the Port of Hampton Roads and should be removed since its least depth is -54.4 feet MLW.

The position of the sunken channel buoy was given to the U.S. Coast Guard at their request. They will attempt to retrieve the buoy and will contact the Corps of Engineers to confirm its removal.



CO-ORDINATES (FEET):
 OBJECT: N 229,071
 E 2,743,614
 36-56-05.95 } NAD27
 75-57-19.84 }

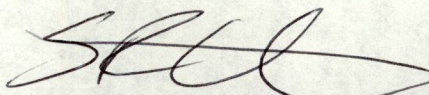
LOCATION OF OBJECT FOUND AT ATL #11
 SCALE: 1" = 20'



PROFILE VIEW
 SCALE: 1" = 10'
 FIGURE 5

VII. LETTER OF APPROVAL

Field operations contributing to the accomplishment of this survey were conducted under my direct supervision with frequent personal checks of progress and data quality. This report, fieldsheets, and data records have been closely reviewed and are complete and adequate for charting.



Stanley R. Iwamoto, LCDR, NOAA
Commanding Officer
NOAA Ship HECK

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

TIDE NOTE FOR HYDROGRAPHIC SURVEY

DATE: February 20, 1991

MARINE CENTER: Atlantic

OPR: D111-HE-90

HYDROGRAPHIC SHEET: ^{H-1037A} ~~FE-356SS~~

LOCALITY: Chesapeake Bay Entrance to Thimble Shoal Channel, VA.

TIME PERIOD: November 7 - December 17, 1990

TIDE STATION USED: 863 8863 Chesapeake Bay Bridge Tunnel, VA.
LAT. 36 58.0'N LONG. 76 6.8'W

PLANE OF REFERENCE (MEAN LOWER LOW WATER): = 24.84 ft.

HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE: = 2.7 ft.

REMARKS: RECOMMENDED ZONING

East of longitude 75 59.0'W apply a x1.23 range ratio to all heights, and a -0 hr. 30 min. time correction, between west of longitude 75 59.0'W and east of 76 2.0'W apply a X1.23 range ratio to all heights, and a -0 hr 15 min time correction, and west of 76 2.0'W apply a X1.05 range ratio to all heights, and a -0 hr 6 min time correction for Chesapeake Bay Bridge Tunnel.



CHIEF, TIDAL DATUM QUALITY
ASSURANCE SECTION

GEOGRAPHIC NAMES

Name on Survey	Source of Name										
	A	B	C	D	E	F	G	H	K		
	ON CHART NO.	ON PREVIOUS SURVEY NO.	ON U.S. QUADRANGLE MAPS	FROM LOCAL INFORMATION	ON LOCAL MAPS	P.O. GUIDE OR MAP	GRAND McNALLY ATLAS	U.S. LIGHT LIST			
CHESAPEAKE BAY (title)										1	
THIMBLE SHOAL CHANNEL (title)										2	
VIRGINIA (title)										3	
										4	
										5	
										6	
										7	
										8	
										9	
										10	
										11	
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										22	
										23	
										24	
										25	

Approved:

Charles E. Harrington
Chief Geographer - N/CG 2x5

MAR - 3 1992

03/25/92

HYDROGRAPHIC SURVEY STATISTICS
REGISTRY NUMBER: H-10372

NUMBER OF CONTROL STATIONS		5
NUMBER OF POSITIONS		578
NUMBER OF SOUNDINGS		2767
	TIME-HOURS	DATE COMPLETED
PREPROCESSING EXAMINATION	53	09/16/91
VERIFICATION OF FIELD DATA	166	09/24/91
ELECTRONIC DATA PROCESSING	93	
QUALITY CONTROL CHECKS	118	
EVALUATION AND ANALYSIS	147	03/03/92
FINAL INSPECTION	23	01/31/92
TOTAL TIME	600	
ATLANTIC HYDROGRAPHIC SECTION APPROVAL		03/20/92

N/CG244-22-92

LETTER TRANSMITTING DATA

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

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

TO:

Chief, Data Control Section, N/CG243
 NOAA/National Ocean Service
 Room 151, WSC-1
 Rockville, MD 20852

DATE FORWARDED

26 March 1992

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.

H-10372

Virginia, Entrance to Chesapeake Bay, Approaches to Thimble Shoal Channel

1 Tube containing:

- ✓ Original Descriptive Report
- ✓ Smooth Sheet for H-10372
- ✓ Smooth Position Overlay
- ✓ Smooth Excess Overlays
- ✓ Field Smooth Swath Plot
- ✓ Field Smooth Depth Plot
- ✓ Field Smooth Track Plot

1 Box containing:

- ✓ Envelope containing Sounder Corrector Abstracts
- ✓ Envelope containing Misc. Data removed from the original Descriptive Report
- ✓ Envelope containing separates removed from the original Descriptive Report
- ✓ Binder containing Position Printout, Sounding Printout, Control Listing, Contact List, and Line File Listing
- ✓ Envelopes containing side scan sonograms for days 311, 317, 318, 319, and 320
- ✓ Accordion folder containing fathograms and daily printouts for:
VESNO 9140 JD's: 311, 313, 317, 318, 319, 320, 331

FROM: (Signature)

Richard H. Whitfield
 Richard H. Whitfield

RECEIVED THE ABOVE
(Name, Division, Date)

Return receipted copy to:

Atlantic Hydrographic Section, N/CG244
 439 W. York Street
 Norfolk, VA 23510-1114

D. S. Clark
 3/30/92

**COAST AND GEODETIC SURVEY
ATLANTIC HYDROGRAPHIC SECTION
EVALUATION REPORT**

SURVEY NO.: H-10372

FIELD NO.: HE-10-10-90

Virginia, Entrance to Chesapeake Bay, Approaches to Thimble Shoal Channel

SURVEYED: 07 November through 27 November 1990

SCALE: 1:10,000

PROJECT NO.: OPR-D111-HE-90

SOUNDINGS: RAYTHEON DSF-6000N Echosounder, EG&G Model 260 Side Scan Sonar, and Lead Line

CONTROL: MOTOROLA FALCON 484 Mini-Ranger (Range/Range)

Chief of Party.....S. R. Iwamoto

Surveyed by.....D. W. Moeller
.....D. S. Wilkes
.....K. N. Harbison
.....W. R. Morris

Automated Plot by.....XYNETICS 1201 Plotter (AHS)

1. INTRODUCTION

a. This is a combined basic hydrographic and side scan sonar survey. A RAYTHEON DSF-6000N Fathometer was operated concurrently with the side scan sonar. Lead lines were used to determine depths when dives were conducted. Upon finding an assigned item with side scan sonar, fathometer developments were conducted to search for items and to determine a depth when dive operations were not conducted. In cases where the side scan sonar was used to determine the estimated depth of an object, the item is shown on the present survey with the upper case letter 'A' in parenthesis. Depths on these items were estimated by scaling heights off the bottom from side scan sonar records. Positions were determined by computing offsets from the vessel's track. This note is shown on the present survey smooth sheet in proximity to the title block. See also the memorandum titled "Showing Estimated Side Scan Sonar Depths on Smooth Sheets", dated 23 February 1989, for an explanation of the note shown on the present survey smooth sheet.

b. All geographic positions listed are on the North American Datum of 1983 unless otherwise stated. Geographic positions of items from prior sources that have been transferred to the present survey have been converted to the NAD83 datum.

c. No unusual problems were encountered during office processing.

d. Notes in the Descriptive Report were made in red during office processing.

2. CONTROL AND SHORELINE

a. Control is adequately discussed in sections H. and I. of the Descriptive Report.

Horizontal control used for this survey during data acquisition is based upon the North American Datum of 1983 (NAD83). Office processing of this survey is based on these values. The smooth sheets have been annotated with ticks showing the computed mean shift between the survey datum and the North American Datum of 1927 (NAD27). To place this survey on the NAD27 datum, move the projection lines .529 seconds (16.30 meters or 1.63 mm at the scale of the survey) north in latitude, and 1.253 seconds (30.99 meters or 3.10 mm at the scale of the survey) east in longitude.

b. There is no shoreline within the limits of this survey.

3. HYDROGRAPHY

Hydrography shown on the smooth sheet has had all correctors applied and may be used to supplement the charted hydrography in the common area.

a. There are no crosslines shown on the present survey.

b. The standard 10, 15, 20, 25, and 30 meter curves could be drawn in their entirety.

c. Development of bottom configuration and determination of least depth is considered adequate with the following exception:

During office processing it was noted that the lead line depths obtained by the hydrographer on items 1 and 3 in Latitude 36°56'58.8"N, Longitude 76°01'21.0"W and Latitude 36°56'06.39"N, Longitude 75°57'17.86"W, respectively, were found to be deeper than echosounder depths over the items. In these cases the shoaler echosounder depths are shown.

4. CONDITION OF SURVEY

The smooth sheets and accompanying overlays, hydrographic

records, and reports are adequate and conform to the requirements of the HYDROGRAPHIC MANUAL, FIELD PROCEDURES MANUAL, SIDE SCAN SONAR MANUAL, and the Project Instructions with the following exceptions:

a. Diving forms used by the hydrographer contained minimal critical information pertaining to the description or location of an item: i.e. no position number, latitude and longitude, or time. The location of the dive for all items is listed as "Southern New England Coast" on the dive forms. For item #3 the day of year, November 20, shown on the dive form is not the same day as the echogram, November 27, when the hydrographer states the dive was done. For these reasons deeper fathometer depths were used for the present survey.

b. The proper format for discussing AWOIS items was not used as required in the Descriptive Report Checkoff List, sections N. and M. (figure 6.1) of the Field Procedures Manual (FPM).

5. JUNCTIONS

H-10340 (1990) to the east
 H-10343 (1990) to the east
H-10356 (1990) to the north

Standard junctions were effected between the present survey and surveys H-10340 (1990), H-10343 (1990) and H-10356 (1990).

A standard junction was not effected in the vicinity of Latitude 36°56'30"N, Longitude 76°02'00"W. A comparison of soundings in this area shows present survey soundings 0⁵ to 1 meter deeper than the soundings shown on junctional survey H-10343 (1990). The differences in soundings are attributed to the natural migration of the bottom sediment.

There are no contemporary surveys to the south and west of the present survey. The charted depths and the present survey depths are in harmony to the south and west.

6. COMPARISON WITH PRIOR SURVEYS

H-10343 (1990)

Prior surveys common to the present survey are adequately discussed in the Evaluation Report for H-10343 (1990).

The present survey was conducted to ascertain information

on specific items that were selected for additional investigation. In the cases where investigations provided conclusive proof that the item or feature was found by the present survey, the present survey is considered adequate to supersede information shown on the prior survey H-10343 (1990). In cases where the present survey did not provide sufficient information to positively conclude that an item was disproved the present survey may be considered supplemental to prior survey H-103434 (1990).

The following should be noted:

a. The following items, originating with the prior survey, were investigated by the hydrographer and are considered disproved by the present survey.

<u>Present Survey Item</u>	<u>Prior Survey Item (Meters)</u>	<u>Latitude (N)</u>	<u>Longitude (W)</u>
#3	15 ⁶ Obstr (A)	36°56'06.33"	75°57'18.03" <i>see 7a(2)</i>
#4	18 ² Obstr (A)	36°55'54.54"	75°56'29.14"
#6	18 ² Obstr (A)	36°56'22.01"	75°58'46.89"
#8	18 ⁴ Obstr (A)	36°56'25.48"	75°57'16.62"
#11	16 ⁵ Obstr (A)	36°56'53.12"	76°01'31.59"
#7	17 ⁹ Obstr (A)	36°55'57.89"	75°57'34.48"
#12	13 ⁸ Obstr (A)	36°57'22.54"	76°01'33.57"
#13	17 ⁶ Obstr (A)	36°56'29.64"	75°58'04.38"
#16	14 Obstr (A)	36°56'50.35"	76°02'02.96"
#17	15 ⁴ Obstr (A)	36°56'48.10"	76°01'43.38"
#18	12 ⁹ Obstr (A)	36°56'24.90"	76°00'22.00"
#19	13 ⁷ Obstr (A)	36°55'32.10"	75°57'47.65"
#24	12 ³ Obstr (A)	36°56'12.12"	75°55'10.18"
#25	18 ⁸ Obstr (A)	36°57'31.72"	76°00'29.15"
#28	21 ⁹ Obstr (A)	36°57'08.23"	75°58'42.45"
#30	22 Obstr (A)	36°57'26.47"	75°59'32.23"
#37	27 ² Obstr (A)	36°57'20.06"	75°58'21.04"
#38	16 ⁴ Obstr (A)	36°56'38.29"	76°00'42.88"
#40	15 ⁹ Obstr (A)	36°57'49.23"	76°00'36.98"
#42	25 ² Obstr (A)	36°57'28.23"	75°58'27.22"
#43	24 ⁵ Obstr (A)	36°57'23.99"	75°58'13.52"
#46	10 ⁶ Obstr (A)	36°57'57.88"	75°59'07.92"
#48	12 ² Obstr (A)	36°58'12.45"	75°59'51.35"

It is recommended that these items not be charted and the recommendations listed in the Descriptive Report supersede the prior survey recommendations.

b. The following items, originating with the prior survey, are not considered disproved by the present survey and

were brought forward from the prior survey to supplement the present survey.

<u>Present</u> <u>Survey Item</u>	<u>Prior Survey</u> <u>Item (Meters)</u>	<u>Latitude (N)</u>	<u>Longitude (W)</u>
#26	14 ⁶ Obstr (A) 48	36°57'42.86"	76°01'02.11"
	12 Obstr (A) 40	36°56'32.95"	75°55'29.73"
#31	25 ² Obstr (A) 83	36°57'12.90"	75°58'15.82"
	11 ⁷ Obstr (A) 38	36°56'27.59"	75°55'29.61"

It is recommended that these items be charted until additional work can be accomplished at an opportune time.

c. Item 1, a previously uncharted wreck with a reported depth of 56-ft (17¹ m) in Latitude 36°56'58.97"N, Longitude 76°01'20.87"W, originates with H-10343 (1990) and was shown for the first time on the 34th edition of chart 12254. A Danger to Navigation report was submitted during hydrographic operations for H-10343 (1990). A copy of the report is appended to this Descriptive Report. During office processing of H-10343 (1990), the depth on the wreck was revised to 16⁸ meters (55 ft) after application of approved tides. The wreck was investigated by the present survey and a fathometer depth, 17² meters (56 ft), was obtained. The wreck was brought forward from the prior survey to supplement the present survey because the present survey depth is deeper. It is recommended that the charted wreck with a reported depth of 56 feet be revised and charted as a wreck with a depth of 16⁸ m (16⁸ Wk) as shown on the present survey.

n/c, Rev. APPD
Then H-10343

d. AWOIS item #848, a charted wreck "CARMINA" with a wire drag clearance depth of 40 ft (12² m) in Latitude 36°57'36.00"N, Longitude 76°01'18.00"W (NAD27), originates with C/L 792/44 as an obstruction hung at 39.5 feet (12 m) in Latitude 36°57'32.6"N, Longitude 76°01'17.0"W (NAD27). The presently charted position originates with H-7028WD (1945). A diver least depth of 14 m (46 ft) was obtained on the wreck by the present survey in Latitude 36°57'35.01"N, Longitude 76°01'16.9"W. It is recommended that the charted wreck with a wire drag clearance depth of 40 feet be deleted and charted as a wreck with a least depth of 14 m (14 Wk) in the position determined by the present survey. It is also recommended that the wreck with a depth of 15¹ meters (15¹ Wk) shown on prior survey H-10343 (1990) not be charted.

Kept AT 40
Then 12208

e. AWOIS item #855, an uncharted wreck "WILLIAM D. SANNER" with a wire drag clearance depth of 42 ft (12⁸ m) in Latitude 36°57'36.0"N, Longitude 76°00'30.0"W (NAD27),

n/c, deleted
Then H-10343

originates with H-7028WD (1945). The location of AWOIS item #855 was not investigated by the present survey. Item 1, discussed by the hydrographer in section N. of the Descriptive Report and in section 6.c of this report, is 1,700 meters to the southwest of the AWOIS item. Though the wreck is in the required search radius, it is not considered AWOIS item #855. No indication of a wreck was found in the immediate area of the AWOIS item with side scan sonar by prior survey H-10343 (1990). No change in charting status for AWOIS item #855 is recommended.

f. AWOIS item #857, a charted wreck "CHILORE" with a wire drag clearance depth of 37 ft (11² m) in Latitude 36°57'38.0"N, Longitude 76°00'39.0"W (NAD27), originates with H-7028WD (1945-50). The wreck was hung at 11⁶ m (38 ft) but not cleared by prior wire drag survey H-9871WD (1976). A diver least depth, uncorrected for tides, of 13⁴ m (44 ft) was obtained by the present survey on the wreck; however, it is not recommended that the dive depth be used because neither a position nor time was provided. A fathometer depth of 14⁵ m (47.6 ft) was obtained on the wreck by the present survey. Because the present survey fathometer depth on the wreck is deeper, the hang depth originating with H-9871WD (1976) is not considered disproved by the present survey. The 11⁶ m (38 ft) hang was brought forward to supplement the present survey in Latitude 36°57'39.53"N, Longitude 76°00'38.7"W. It is recommended that the wreck "CHILORE" with a wire drag clearance depth of 37 ft (11² m) be retained as charted. It is also recommended that a diver investigation and a least depth determination be accomplished at an opportune time. N/C

g. AWOIS item #892, a charted 74 ft (22⁵ m) sounding in Latitude 36°57'24.80"N, Longitude 75°59'33.87"W (NAD27), originates with prior survey H-9901 (1980). It should be noted that this is the position of a 73 ft (22² m) sounding shown on the prior survey. A side scan sonar obstruction with an estimated depth of 22 m (72 ft) was found by prior survey H-10343 (1990) in the same area. A fathometer depth of 24² m (79 ft) on an obstruction was obtained by the present survey in Latitude 36°57'26.31"N, Longitude 75°59'32.75"W. The 22² m (73 ft) sounding was brought forward from prior survey H-9901 to supplement the present survey in Latitude 36°57'25.33"N, Longitude 75°59'32.62"W. It is recommended that the charted 74-ft sounding be revised to 22² m (73 ft). It is also recommended that a diver investigation and a least depth determination be accomplished at an opportune time. APPD Thru
CHT 12208

7. COMPARISON WITH CHARTS 12221 (57th Ed., Jan 28/90)
12222 (3rd Ed., Aug 18/90)
12254 (33rd Ed., Jan 6/90)

a. Hydrography

The charted hydrography originates with prior surveys previously discussed in the Evaluation Report for H-10343 (1990) and needs no further consideration. Attention is directed to the following:

1) AWOIS item #833, a charted wreck "WESTMORELAND" with a wire drag clearance depth of 50 ft (15² m) in Latitude 36°56'45.0"N, Longitude 75°57'36.0"W (NAD27), originates with Lighthouse Notice to Mariners number 42 of 1939 (CGNM42/39). During survey operations a fathometer depth of 20⁷ m (68 ft) was obtained on the wreck by the present survey in Latitude 36°56'45.35"N, Longitude 75°57'29.96"W. It is recommended that the charted wreck with a wire drag clearance depth of 50 feet be deleted and charted as a wreck with a depth of 20⁷ m (20⁷ Wk) in the position determined by the present survey. It is also recommended that the estimated depth of 21⁶ meters (71 ft) on a wreck [21⁶ Wk (A)] shown on prior survey H-10343 (1990) not be charted.

2) The uncharted obstruction with a depth of 16⁵ m (54.1 ft) in Latitude 36°56'06.39"N, Longitude 75°57'~~43.69~~"W is in agreement with target ATL #11 discussed in the Corps of Engineers report titled "Engineering Analysis Of Nine Side Scan Sonar Targets From The Thimble Shoal Channel To The South Atlantic Sea Lane, Chesapeake Bay Entrance, Virginia" that was prepared by Waterway Surveys & Engineering Ltd. in February 1985. The section pertaining to target ATL #11 is appended to the Descriptive Report. It is recommended that obstruction with a depth of 16⁵ m (16⁵ Obstr) be charted as shown on the present survey unless other information indicates its removal.

17.86" (SSV 4/22/92)

The present survey is adequate to supersede the charted hydrography in the common area.

b. Aids to Navigation

The field unit located ten (10) floating aids to navigation. These aids appear adequate to serve their intended purposes. There are no fixed aids to navigation within the limits of the present survey.

c. Dangers to Navigation

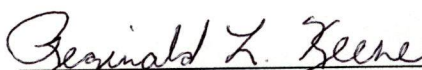
One Danger to Navigation report was submitted by the hydrographer to the Commander (oan), Fifth Coast Guard District, Federal Building, 431 Crawford Street, Portsmouth, Virginia 23704. A copy of the notice is appended to the Descriptive Report. The danger to navigation submitted is not within the limits of the present survey.

8. COMPLIANCE WITH INSTRUCTIONS

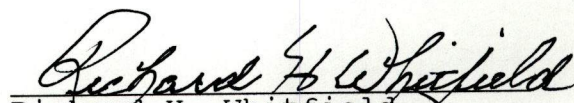
This survey adequately complies with the Project Instructions except as noted elsewhere in this report.

9. ADDITIONAL FIELD WORK


This is an adequate hydrographic side scan sonar survey. No additional field work is recommended except as stated in sections 6.b., 6.f. and 6.g. of this report.



Reginald L. Keene
Cartographic Technician
Verification of field data



Richard H. Whitfield
Cartographer
Evaluation and Analysis



Robert R. Hill
Senior Cartographic Technician
Verification Check

APPROVAL SHEET
H-10372

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 disproof 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 magnetic tape record for this survey. Final control, position, and sounding printouts of the survey have been made. The survey records and digital data comply with NOS requirements except where noted in the Evaluation Report.

Robert G. Roberson
Robert G. Roberson
Chief, Evaluation and Analysis Team
Atlantic Hydrographic Section

Date: 24 March 1992

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.

Christopher B. Lawrence
Christopher B. Lawrence, CDR, NOAA
Chief, Atlantic Hydrographic Section

Date: 20 March 1992

Final Approval:

Approved: J. Austin Yeager
for J. Austin Yeager
Rear Admiral, NOAA
Director, Coast and Geodetic Survey

Date: 12/8/94

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

Hydrographic Index No. 70 M

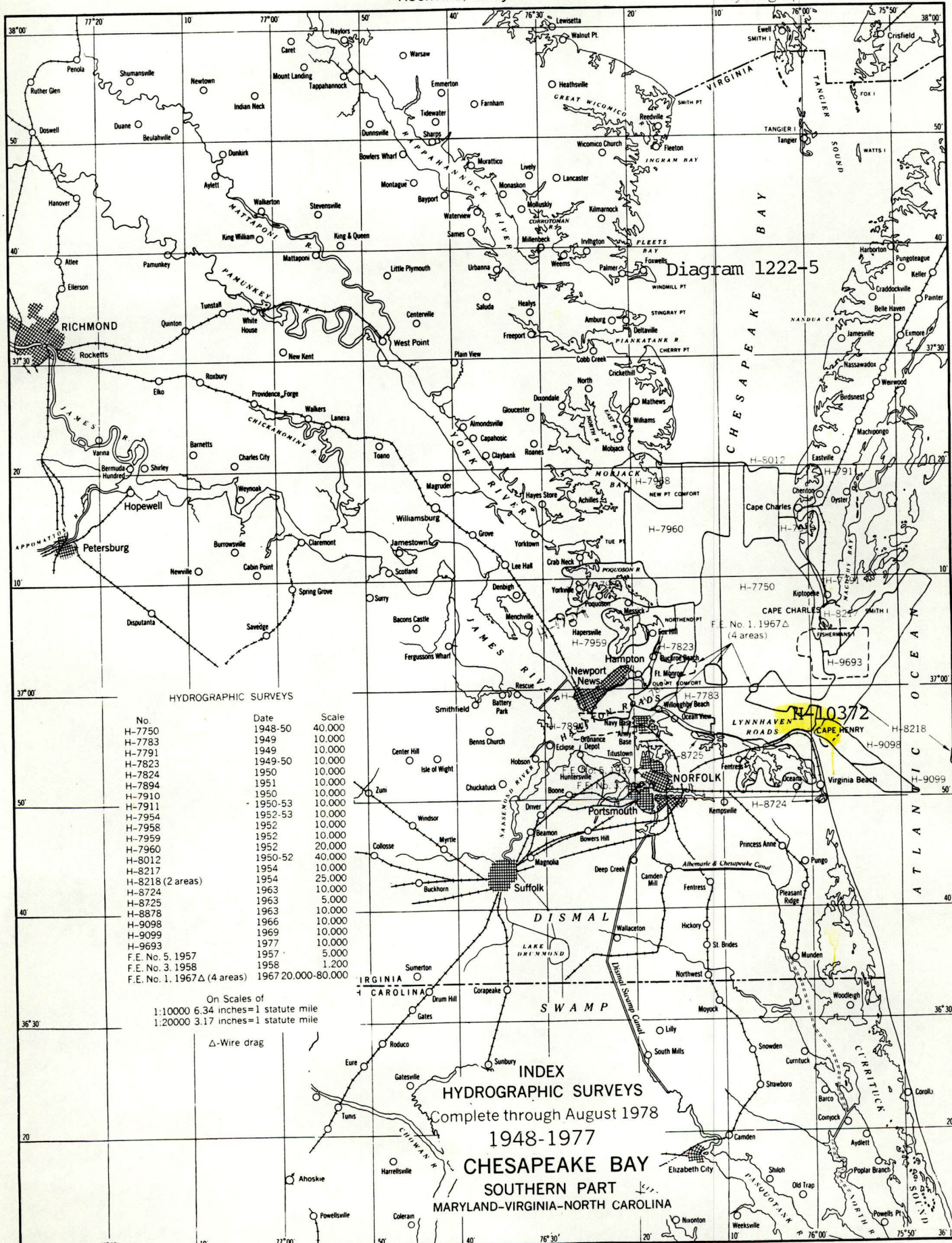


Diagram 1222-5

HYDROGRAPHIC SURVEYS

No.	Date	Scale
H-7750	1948-50	40,000
H-7783	1949	10,000
H-7791	1949	10,000
H-7823	1949-50	10,000
H-7824	1950	10,000
H-7894	1951	10,000
H-7910	1950	10,000
H-7911	1950-53	10,000
H-7954	1952-53	10,000
H-7958	1952	10,000
H-7959	1952	10,000
H-7960	1952	20,000
H-8012	1950-52	40,000
H-8217	1954	10,000
H-8218 (2 areas)	1954	25,000
H-8724	1963	10,000
H-8725	1963	5,000
H-8878	1963	10,000
H-9098	1966	10,000
H-9099	1969	10,000
H-9693	1977	10,000
F.E. No. 5, 1957	1957	5,000
F.E. No. 3, 1958	1958	1,200
F.E. No. 1, 1967Δ (4 areas)	1967	20,000-80,000

On Scales of
1:10000 6.34 inches=1 statute mile
1:20000 3.17 inches=1 statute mile

Δ-Wire drag

INDEX
HYDROGRAPHIC SURVEYS
Complete through August 1978
1948-1977
CHESAPEAKE BAY
SOUTHERN PART
MARYLAND-VIRGINIA-NORTH CAROLINA

MARINE CHART BRANCH
RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. H-10372

INSTRUCTIONS

- A basic hydrographic or topographic survey supersedes all information of like nature on the uncorrected chart.
1. Letter all information.
 2. In "Remarks" column cross out words that do not apply.
 3. Give reasons for deviations, if any, from recommendations made under "Comparison with Charts" in the Review.

CHART	DATE	CARTOGRAPHER	REMARKS
12208	4/6/92	JOSEPH ROBINSON	Full Part Before After Marine Center Approval Signed Via Drawing No. #11 Reconstruction
12221	9/16/92	L. Arkenan	Full Part Before After Marine Center Approval Signed Via Drawing No. 88 APPD THRU 12208 prior to signature
12254	11/12/92	Don Black	Full Part Before After Marine Center Approval Signed Via Drawing No. 60
12222	11/13/92	Don Black	Full Part Before After Marine Center Approval Signed Via Drawing No. 35 PTLY THRU 12254. "
12220	1/26/93	L. Arkenan	Full Part Before After Marine Center Approval Signed Via Drawing No. 55, APPD THRU CHT 12221
12200	1/28/93	L. Arkenan	Full Part Before After Marine Center Approval Signed Via Drawing No. 54, APPD THRU CHT 12220
12207	1/28/93	L. Arkenan	Full Part Before After Marine Center Approval Signed Via Drawing No. 27, APPD THRU CHT 12221
12205-A	6-9-93	LILLIS	Full Part Before After Marine Center Approval Signed Via APPLIED THRU 12221 Drawing No. 23 BEFORE SIGNATURE
			Full Part Before After Marine Center Approval Signed Via Drawing No.
			Full Part Before After Marine Center Approval Signed Via Drawing No.