

# FE220

## WIRE DRAG

Diagram No. 78-3

NOAA FORM 76-35A

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

### DESCRIPTIVE REPORT

Type of Survey ..... Field Examination  
Field No. .... R/H-20-1-79  
Office No. .... FE-220WD

#### LOCALITY

State ..... Virginia  
General Locality ..... Chesapeake Bay  
Locality ..... Smith Point to Windmill Point

1979

CHIEF OF PARTY  
LCDR R.V. Smart

#### LIBRARY & ARCHIVES

DATE ..... September 16, 1986

☆U.S. GOV. PRINTING OFFICE: 1980-766-230

Area 1  
CAT

1 222.6  
2 235  
1 228  
1 225  
1 230  
1 220

CARTOG  
SIGN OF IN  
BACK

## HYDROGRAPHIC TITLE SHEET

FE-220 WD ✓

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.

RH-20-1-79 ✓

State VIRGINIA ✓

General locality ~~EAST COAST INVESTIGATIONS~~ Chesapeake Bay ✓Locality ~~CHESAPEAKE BAY~~ Smith Point to Windmill Point ✓

Scale 1:20,000 ✓

Date of survey Feb. 26 - Apr. 13, 1979 ✓

Instructions dated 19 DECEMBER 1978 ✓

Project No. OPR-E609-RU/HE-79 ✓

Vessel RUDE (S590) and HECK (S591) ✓

Chief of party LCDR. ROBERT V. SMART ✓

Surveyed by LCDR. SMART, LCDR. M.C. GRUNTHAL, LT(jg) S.P. DeBOW, ENS. P.M. CONNORS ✓

Soundings taken by echo sounder, hand lead, pole wire drag, &amp; side scan sonar ✓

Graphic record scaled by Ship's Personnel ✓

Graphic record checked by Evaluation and Analysis Group, AMC ✓

Protracted by N/A ✓

Automated plot by Rough plot of strips - Xylocics 1201 plotter, AMC ✓

Verification by Evaluation and Analysis Group, AMC ✓

Soundings in ~~XXXXXX~~ feet at MLW ~~XXXXX~~ - PREDICTED TIDES (smooth tides) ✓

REMARKS:

STANDARDS CK'D 9-17-86

Clay

AWOIS AND SURF CK 3/89 LQ

## TABLE OF CONTENTS

- I.
  - A. Authority
  - B. Characters and Limits of Work
  - C. Control
  - D. Shore Signals and Calibration
  - E. ARGO Lane Loss
  - F. Dates of Survey
  - G. Tide Reducers
  - H. Junctions and Splits
  - I. Incomplete Items
  - J. Currents and Winds
  - K. Diving Procedures
  - L. Testing
  - M. General Notes
  - N. Discrepancies with Recent Charts
  - O. Personnel and Equipment
  - P. Approval
  
- II. Item 2
  - A. Statement on Item 2
  - B. Grounds or Hangs
  - C. Noted Occurences During Survey
  - D. Summary
  - E. Recommendations
  
- III. Item 5
  - A. Statement on Item 5
  - B. Groundings or Hangs
  - C. Noted Occurences During Survey
  - D. Summary
  - E. Recommendations
  
- IV. Item 6
  - A. Statement on Item 6
  - B. Groundings or Hangs
  - C. Noted Occurences During Survey
  - D. Summary
  - E. Recommendations
  
- V. Item 7
  - A. Statement on Item 7
  - B. Groundings or Hangs
  - C. Noted Occurences During Survey
  - D. Summary
  - E. Recommendations

VI. Item 8

- A. Statement on Item 8
- B. Groundings or Hangs
- C. Noted Occurences During Survey
- D. Summary
- E. Recommendations

VII. List of Attachments

- I.\*Daily ARGO Correctors
- II. Statistics
- III. List of Hangs
- IV. Parameters
  - \*A. Electronic Control Parameters
  - \*B. Projection Parameters
  - C. G.P.'s of Station Objects and Items
- V.\*Request for Predicted Tide Correctors
- VI. Letter dated 2 March 1979 - Captain of the Port,  
Hampton Roads
- VII. Change No. 1 to Project Instructions
- VIII. Letter dated 22 March 1979 - LCDR R. V. Smart  
Commanding Officer  
NOAA Ships RUDE & HECK
- IX. Letter dated 15 March 1979 - Captain of the Port,  
Hampton Roads
- X.\*Letter dated 1 February 1979 - LCDR R. V. Smart  
Commanding Officer  
NOAA Ships RUDE & HECK
- XI.\*Project Instructions
- XII. Pictures of Items

*\* = Data removed from the Descriptive Report and filed with the field records.*

DESCRIPTIVE REPORT

TO ACCOMPANY FE-220WD

WIRE DRAG FIELD NO. <sup>R/H-</sup> 20-1-79

PROJECT OPR-E609-RU/HE-79

EAST COAST INVESTIGATIONS

CHESAPEAKE BAY

I.

A. AUTHORITY

This project was authorized under Project Instructions OPR-E609-RU/HE-79, Wire Drag, East Coast Investigations, Chesapeake Bay, dated 19 December 1978. The instructions were amended by Change No. 1, dated 8 March 1979.

B. CHARACTERS AND LIMITS OF WORK

The initial instructions called for the investigation of eight (8) items within the Chesapeake Bay. In addition, the amended instructions called for a search for six containers at the Norfolk International Terminals. This report covers the investigation of five (5) of the initial items, three (3) of which are considered complete. Three (3) containers were positively found and later removed by the Coast Guard with respect to the amended instructions. - See sections 6. & 7. of the Modified Evaluation Report.

Item 6 was never hung, but a firm detached position was determined by the ship's fathometer. The item was cleared from opposing directions to 57 feet, based on <sup>smooth</sup> predicted tides, and is considered complete due to a verbal agreement with the author of the Project Instructions, Mr. Steve Baumgardner, on 29 March 1979. - See section 7. of the Modified Evaluation Report.

C. CONTROL - ARGO STATIONS

The new ARGO DM54 system was the only electronic control used for the project. The units operated on a frequency of 1643 KHz which provided a lane width of 91.196 meters. The two ARGO shore stations were located at:

R1=Red= H-1-VA-79<sup>1979</sup>, at Smith Point, VA.  
Lat. 37°-52' 47.546"N ✓  
Long. 76°-14' 43.844"W ✓ *field position*

R2=Green=H-2-VA-79<sup>1979</sup>, at Windmill Point, VA.  
Lat. 37°-37' 11.844"N ✓  
Long. 76°-18' 10.05"W ✓ *field position*

Radar ranges were recorded each fix, along with a bearing to the ships, thereby putting a limit on any lane ambiguity if one vessels control remains good. The maximum observed daily corrector to the ARGO system was .08 lanes on E-Day. The system was very reliable within the working area and no problems were encountered.

#### D. SHORE SIGNALS AND CALIBRATION

Primarily, the ARGO was calibrated by circling Smith Point Lighthouse. The G.P. of the light is  $37^{\circ}52' 47.090''N$  and  $76^{\circ}11' 02.732''W$ .

<sup>1979</sup>  
R1 (Red): 59.25 Lanes - Angles:  $000^{\circ}, 180^{\circ}$   
R2 (Green): 336.33 Lanes - Angles:  $110^{\circ}, 290^{\circ}$

Other shore signals were supplied which could be used for a three-point fix calibration, but the occasion never arose in which these signals were utilized. The positions of these signals were:

<sup>1900</sup>  
Stingray Point Lighthouse, (STY)  
Lat.  $37^{\circ}33' 40.062''N$  X = 2646226.31  
Long.  $76^{\circ}16' 13.411''W$  Y = 454652.26

<sup>1898</sup>  
Windmill Point Lighthouse, (WIN)  
Lat.  $37^{\circ}35' 48.513''N$  X = 655789.26  
Long.  $76^{\circ}14' 10.740''W$  Y = 467875.29

<sup>43.995''N Water 1942</sup>  
Kilmarnock Municipal Tank, (KIM)  
Lat.  $37^{\circ}42' 14.974''N$  X = 2613505.19  
Long.  $76^{\circ}22' 44.547''W$  Y = 508927.73

<sup>1898</sup>  
Great Wicomico River Lthse., (GUM)  
Lat.  $37^{\circ}48' 14.974''N$  X = 2644842.82  
Long.  $76^{\circ}16' 04.608''W$  Y = 543136.54

<sup>1938</sup>  
Reedville Morris Factory Stack, (REV)  
Lat.  $37^{\circ}49' 56.238''N$  X = 2640497.36  
Long.  $76^{\circ}16' 55.768''W$  Y = 553279.61

#### E. ARGO LANE LOSS

Throughout the entire project no lane loss was observed on the ARGO units. An added feature of the system is the "Lane Ident" Mode, which is capable of telling the user the status of the signal being received. The rates were checked periodically during the day and not gain or loss was ever observed.

#### F. DATES OF SURVEY

The project began on 26 February 1979 when the ship's personnel searched for the containers which were the subject of Change No. 1. On 13 April 1979 the vessels completed work on OPR-E609-RU/HE-79.

G. TIDE REDUCERS — *Smooth tides have been applied to the verified data.*

Field processing of the daily work was completed using predicted tides for the reference station at Hampton Roads, VA., with the following correctors applied: ✓

<u>ITEM</u>	<u>H.W.</u>	<u>L.W.</u>	<u>HEIGHT RATIO</u>
2	+2 hrs.13m	+2 hrs.29m	X0.44
5	+3 hrs.08m	+3 hrs.16m	X0.44
6	+3 hrs.08m	+3 hrs.16m	X0.44
7	+3 hrs.08m	+3 hrs.16m	X0.44
8	+3 hrs.22m	+3 hrs.28m	X0.46

H. JUNCTIONS AND SPLITS

There were no junctions or splits during this project. ✓

I. INCOMPLETE ITEMS

An enclosed report dated 22 March 1979 ✓ discloses the accomplishment on the Change No. 1 portion of the project. Of the other eight (8) items assigned for the project, only five (5) were investigated and three (3) of these are considered complete. Items 1, 3 and 4 were not surveyed due to scheduling problems. Items 5, 6, and 7 are considered complete. A strong detached position via the ships fathometer and side scan was obtained on both Item 2 and Item 8. Further investigation by divers is required before these items can be proven or disproven. — *See sections 6. & 7. of the Modified Evaluation Report.* ✓

J. CURRENT AND WINDS

Substantial currents were experienced in the vicinity of Smith Point Lighthouse which was in close proximity to Items 5, 6 and 7. Drags were set up so that they ran in the direction of the ebbs and floods which were north-south. No drags were run in an east-west direction since this would cause control problems. ✓

In addition, winds in excess of 15 knots would normally pose an unworkable situation. First of all the vessels would be hard to control unless there was a following wind. Secondly, winds of this velocity would create seas over 3 feet which causes constantly fluctuating lifts and uncertain effective depths. ✓

K. DIVING PROCEDURES

Divers were utilized twice throughout the project for survey operations. On 8 March 1979, divers went down a marker buoy deployed on Item 7, but due to zero visibility and extreme cold, nothing was accomplished. Again on 5 April divers went down on a marker buoy believed to be Item 2. Unfortunately, this dive was also fruitless ✓

since the buoy was not directly on the wreck and since the visibility was about 4 feet, nothing was found.

Ironically, divers were not deployed on the three hangs encountered during the project because of the hazardous conditions in the area, i.e., strong currents, limited visibility, hyperthermia, and constant surface traffic.

#### L. TESTING

Testing results were recorded in both the rough and smooth tester volumes. The rough tester records the actual height of the mark on the tester pole after pick-up. In the smooth tester record, the test was recorded corrected to the wire depth. The smooth test record shows the actual lift and sag.

In the smooth test record, an asterisk (\*) next to the section indicates the test came from the HECK's Launch 20.

Definition of a sag miss: A test in which the tester rod has definitely been thrown in ahead of the ground wire, and picked up after the ground wire has passed yet has no marks on the pole. The wire is assumed to have passed underneath the tester rod and the test is considered valid providing a maximum value for the amount of lift present.

Definition of a TOB: TOB refers to "tester on bottom." It is a test result that occurs when the tester rod shows signs of having touched the ocean floor. Lifts associated with this type of test generally are not accepted because of the uncertainty as to where the ground wire struck the rod. It is likely that if the tester rod is stuck in the ocean floor the ground wire might first ride up the rod until enough force is generated to push the rod away.

#### M. GENERAL NOTES

It is important to know that the ships are moving properly at the close of the drag. Before ARGO it was difficult to see if the ships were moving without taking a complete fix. The ARGO's saw-tooth recorder gives a permanent record of movement of the ships at all times. The ARGO strip chart was checked at the end of each drag to ascertain proper ship movement before the drag was aborted. By the use of the saw-tooth strip chart, one can tell the path of the ships between fixes. This fact may be important in specific cases where it is possible that between fixes the proper overlapping may not have been met.

Relative Pen Lengths: In most cases, the three strip chart pens were not exactly the same length, making proper interpretation of the record impossible without the appropriate adjustments. Relative pen lengths, entered on the strip charts by means of completing a rubber stamp, were noted each day.

All buoy and tester uprights were personally verified correct by the Officer-in-Charge before the project began.

N. DISCREPANCIES AND COMPARISON WITH RECENT CHARTS

Any discrepancies and comparison with recent charts are noted in the recommendations section of the item description at a later time in this report. — See section 7. of the Modified Evaluation Report. ✓

O. PERSONNEL AND EQUIPMENT

Throughout the project, the RUDE was the guide vessel and the HECK was the end vessel. Control was a electronic range-range system, ARGO. ✓

Both vessels are equipped with a Raytheon DE-723 fathometer for reconnaissance hydrography and detached positions on the items. ✓

On this project the Klein Side Scan Sonar was the primary survey tool. It found all of the Items investigated (2, 5, 6, 7 and 8) and was able to prove that at least one (Item 5, the CITY OF ANNAPOLIS), was the item being sought. Records on Items 6 and 7 have already been submitted to the Marine Charts Division. Additional records will be submitted with this report. — See sections 6, 7, and 10. of the Modified Evaluation Report. ✓

Again the new DECCA radars enabled the ships to limit any lane ambiguity between the vessels on each fix. Both of the ship's Bristol launches were used as drag tenders and also diving platforms. Bearings to the opposite vessel and the end buoys were made on Sperry Gyro Repeaters. Standard wire drag equipment was used throughout the project. ✓

The officers participating in the survey were: LCDR R.V. Smart, LCDR M. C. GRUNTHAL, LTJG S.P. DeBOW and ENS P.M. CONNORS. ✓

P. APPROVAL

All records of this survey, including the smooth plots, except for the addition of the effective depths (which must await smooth tides) and the drafting of a composite A & D sheet, are hereby approved. The field work was personally supervised by the undersigned. The boat sheets and records were inspected daily. This survey is considered complete and adequate for charting. ✓

*Robert V. Smart, LT. COB, NOAA*

R. V. Smart

Commanding Officer

NOAA Ships RUDE & HECK

## II.

A. STATEMENT ON ITEM 2

The item under investigation was reported in 1949 when the steamship OREMAR struck it on Nov. 26, 1949. An investigation of the obstruction was conducted during project F.E. No. 5 of 1949, (PBS-S149-WD), from 5 Dec. to 14 Dec. 1949. It was hung at 40 feet effective and cleared to 38 feet. A fathometer trace record showed a characteristic wreck sounding of 47 feet in 65 feet of water. *FE 79WD ✓*

B. GROUNDING OR HANGS

Only one wire drag was deployed on the item and had to be aborted due to heavy vessel traffic in the survey area. ✓

C. NOTED OCCURENCES DURING THE SURVEY

On 23 March 1979, the wreck was relocated in 63 feet of water with a ~~least depth~~ <sup>shear of sounding</sup> of 51<sup>2</sup> feet, (unreduced for tides). Side scan sonar traces showed a small boat shaped object lying in a north-northwesterly direction. A substantial amount of scouring exists in the area and it is believed that the wreck has settled into the bottom during the thirty odd years it has been down. ✓

On 3 April 1979, a detached position was obtained on the wreck with the ARGO positioning system, which had been circle calibrated on Smith Point Lighthouse. The position found was Lat. 37°40' <sup>21.9"</sup>45" N and Long. 76°10' <sup>23.8"</sup>37" W. This position lies <sup>approximately</sup> 1240' T, range 300 feet from the previously reported position of 1949. ✓

Divers were deployed on 5 April 1979 on a marker buoy placed by fathometer over the wreck. Visibility of about 4 feet did not reveal the wreck since the buoy could have been misplaced by a number of feet. ✓

D. SUMMARY

From the ships cursory investigation of the item, it is believed that this was the item being sought since no other item was observed in the area on side scan sonar. Due to the close proximity and similar soundings to those obtained on the prior survey, this suspicion is warranted. — See *Section 6.6. of the Modified Evaluation Report.* ✓

E. RECOMMENDATIONS

Based on the data collected on 3 April it is the commands recommendation that another wire drag survey be conducted to not only ascertain current least depth on the item, but also to verify the charted position. Although divers never found the obstruction, it would be conducive to have divers investigate the wreck so that the full extent could be realized. No charting action is recommended at this time. — See *section 6.6. of the Modified Evaluation Report.* ✓

## III.

A. STATEMENT ON ITEM 5

Item 5 was believed to be the screw steamer "CITY OF ANNAPOLIS," which sank after a collision with the "CITY OF RICHMOND" at Lat. 37°51.28'N and Long. 76°10.31'W. The vessel was 261.6 feet long, had a beam of 53.1 feet and a draft of 14.1 feet. A least depth of 40 feet was reported over the wreck in Notice to Mariners #44 of 1928. Further investigation led ship's personnel to the Archives in the Newport News Mariners Museum, where various pictures of the vessel were obtained. Copies of these picture are enclosed, as are the originals.

B. GROUNDINGS OR HANGS

Hang D-1 - A hang with an effective depth of 50<sup>0</sup> feet, was observed after Position Number 11 at 1156Z. Unfortunately, the wire slipped off the hang before a strong position was obtained. From cuts taken to buoy 2 and 3, a position for the wreck was Lat. 37°51.25'N and Long. 76°10.22'W. Later investigation by side scan sonar and fathometer placed the wreck at Lat. 37°51.25'N and Long. 76°10.25'W. The hang was eventually cleared to 49<sup>1/2</sup> feet by Drag E-1 and in an opposite direction to 49 feet effective by Drag G-1.

C. NOTED OCCURENCES DURING SURVEY

Explicit side scan sonar records were obtained on 20 March which, when studied, were able to prove that the vessel being surveyed was the one being sought. One record shows a very narrow bow profile with the stern being very round as can be observed in the pictures obtained on the wreck. The wreck lies on a ledge between 72 to 108 feet and is believed to be lying upside down since there were no definite traces on its superstructure. A least depth recorded on the ships fathometer was 58 feet. *corrected for shallowest sounding tides only*

D. SUMMARY

Although divers were never deployed to investigate the wreck, it is believed that from all of the supporting evidence obtained with the side scan sonar, the vessel found was in fact the "CITY OF ANNAPOLIS." In addition, the close proximity of the wreck in relation to its previously charted position also verifies that this is the wreck being sought. Due to the fact that the vessel was 260 feet long, minor discrepancies will exist in the exact position because it is not known at what point on the wreck the position was obtained. *See section 7. of the Modified Evaluation Report.*

E. RECOMMENDATIONS

It is the command's opinion that the previously charted position for the wreck at Lat. 37°51.28'N and Long. 76°10.31'W be transferred to the

*detached*  
~~hang~~ position of  $37^{\circ}51'25''$ <sup>18.32''</sup>N and  $76^{\circ}10'22''$ <sup>11.55''</sup>W. The symbol should show a wreck cleared by wire drag (Chart No. 1, Section "0" 15a) to a depth of 49 feet, based on ~~predicted~~<sup>smooth</sup> tides. - *Concur - See section 7. of the Modified Evaluation Report.*

IV.

A. STATEMENT ON ITEM 6

Item 6 was the wreck of the steamer "DOROTHY" which sank after a collision with the steamer "EURANA" in Lat.  $37^{\circ}51.48'$ N and Long.  $76^{\circ}09.69'$ W. The vessel sank on 1 September 1929 and originates with Notice to Mariners 38 and 42 of 1929. ✓

Again, a search in the Archives of the Newport News Mariners Museum produced the following information from Lloyd's Register of Shipping for 1928: ✓

- The vessel was previously named the BRIAN.
- She was owned by A.H. Bull Steamship Co.
- She was fitted for fuel.
- Length 309.2 feet
- Beam 48.2 feet
- Depth 21.2 feet (molded depth = 24 feet).
- Deck Erections:
  - Poop - 25 feet
  - Bridge - 96 feet
  - Forecastle - 38 feet.
- She was carrying a cargo of Phosphate Rock from Tampa, FL to Baltimore, MD when she sank. ✓

No pictures could be found in the files, but a photo of a ship which is believed to be her sister ship has been forwarded to Mr. Steve Baumgardner of C351 for future reference. ✓

B. GROUNDINGS OR HANGS

The vessel was never hung by the ships since the project requirements requested a clearance of 55 feet over the wreck. ✓

C. NOTED OCCURENCES DURING SURVEY

Since the HECK was recalled to AMC for a new crane installation, a full wire drag survey was not completed on the item. However, the position of the wreck was determined via the ships fathometer on 19 March at Lat.  $37^{\circ}51'36''$ <sup>36.00''</sup>N and Long.  $76^{\circ}09'42''$ <sup>42.00''</sup>W. In addition, the wreck was cleared from both directions to an effective depth of 57 feet before the HECK was detached. Although this procedure is not the normal mode of operations for the ships, it does ascertain that a hazard to <sup>surface</sup> navigation does not exist. *(In the context of the project requirements)* - *Concur -*

*- See section 7. of the Modified Evaluation Report.*

Excellent side scan records were obtained over the wreck but since there are no pictures available at the present time, not much can be proven by the traces. It is evident that the vessel has a substantial port list and is in the vicinity of 300 feet in length. From the background information obtained, these two facts agree closely with what is known about the condition of the wreck. Notice to Mariner 42 of 1929 states that the vessel is lying on its side and it was registered in Lloyd's as being 309.2 feet long. ✓

#### D. SUMMARY

The position of the wreck determined by the ships at Lat.  $37^{\circ}51'58''$ <sup>36.18"</sup> N and Long.  $76^{\circ}09'42''$ <sup>41.30"</sup> W is about 600 feet on a bearing of 344°T from the charted position for the wreck. Again, a problem arises when determining the position of a vessel this large solely by the fathometer. Since the least depth can only be found by either wire drag or divers. This ambiguity shall exist until the wreck is surveyed further in the future, if possible. ✓

#### E. RECOMMENDATIONS

From the data obtained, it is the command's recommendation that the charted position of the wreck be shifted to the position found with the fathometer and side scan sonar. A symbol denoting a wreck cleared by wire drag, (Chart No. 1, Section "O" 15a) should be plotted in Lat.  $37^{\circ}51'58''$  N and Long.  $76^{\circ}09'42''$  W showing a cleared depth of 57 feet, based on predicted tides. ✓

*Smooth*

*Concur - see section 7. of the Modified Evaluation Report.*

V.

#### A. STATEMENT ON ITEM 7

A steamer lying in 90 feet of water with a least depth of 47 feet, charted in Lat.  $37^{\circ}51.81'$  N and Long.  $76^{\circ}09.50'$  W is the subject of Item 7. The wreck originates with Notice to Mariners 15, 16 and 23 of 1942, which state that it is lying in a Northwest-Southeast direction. ✓

Further investigation into the background of the wreck proved fruitless at the Mariners Museum. A name for the charted wreck was noticed on a local fishing guide chart as the "SS BRAZILIA." However, there is no record of a ship by this name in Lloyd's Register, or any where else for that matter. It must therefore be assumed that this is not the actual name of the vessel. ✓

#### B. GROUNDINGS OR HANGS

*Rejected strip-hang position kept.*  
Hang A-1 (8 March) - A hang was encountered during the drag before a full round of tests could be completed on the wire. However, a firm position was obtained on the wreck at Lat.  $37^{\circ}51'58''$  N and Long.  $76^{\circ}09'49''$  W. ✓  
The wreck was later hung with an effective depth obtained at the point of the hang.

Hang A-1 (12 March) - A hang was intentionally made on Buoy "SP" in the middle of the traffic separation zone to insure that no obstructions existed in the immediate vicinity of the buoy. The buoy was hung at an effective depth of 51 1/2 feet and was found to be ~~on station~~. *95 meters SSE of the charted position.* ✓

Hang B-1 - The wreck previously hung on 8 March was again hung at an effective depth of 51 1/2 feet. The position of Lat. 37°51' ~~44"~~ N and Long. 76°09' ~~49"~~ W agreed ~~almost exactly~~ with the position found on 8 March. The wreck was cleared in the northerly direction by Strip A-1 of 12 March at 51 1/2 feet, based on ~~predicted~~ <sup>simulated</sup> tides. It was also cleared in the southerly direction to an effective depth of 52 1/2 feet by Strip C-1. ✓

### C. NOTED OCCURENCES DURING SURVEY

The wreck was initially found on 7 March 1979 with the side scan sonar and ship's fathometer. The records were so explicit and clear that the following information was attained solely from the side scan sonar: ✓

- The wreck has a gash in its port quarter.
- Vessel is intact with no surrounding debris.
- The orientation is with the bow heading southeast, or 100°T (This fact agrees with N. M. #16 of 1942). ✓
- Length overall is approximately 180 feet.
- Beam is approximately 45 feet.
- The vessel has a starboard list.
- Various deck erections, masts and antenna were visible on the shadow portion of the record.

In addition, divers were deployed on a marker buoy placed on the wreck by the ship's fathometer and found that the vessel was of steel construction. Due to poor visibility, further underwater investigation was deemed hazardous and the dive was aborted. The ship's fathometer verified that the wreck was in 90 feet of water which agrees with Notice to Mariners 16 of 1942. ✓

A major portion of the side scan records for the item have been presented to the Director, National Ocean Survey and are presently being circulated throughout headquarters. Additional records are supplied with this report. ✓

*(See section 10.3) of the Modified Evaluation Report.*

### D. SUMMARY

From the information obtained by wire drag, it is believed that this is the wreck being sought. The charted position and the position found by wire drag agree very closely. Side scan investigation shows no other wreckage in the area of the charted wreck. ✓

Unfortunately insufficient background information cannot verify that this is the wreck being sought. A vast amount of data has been compiled by the side scan sonar but is useless until more information about the wreck is obtained. The only two facts which agree exactly are the direction in which the wreck lies on the bottom (NW-SE) and the surrounding water depth. However, it is felt that these two facts alone prove that the vessel hung was the one being sought. - Concur - See section 7. of the Modified Evaluation Report. ✓

E. RECOMMENDATIONS

1. The wreck symbol charted at Lat.  $37^{\circ}51.81'N$  and Long.  $76^{\circ}09.50'W$  should be removed on Chart 12225. - *Concur* ✓

2. A symbol indicating a wreck cleared by wire drag (Chart No. 1, Section "O" 15a) should be charted in Lat.  $37^{\circ}51.77'N$  and Long.  $76^{\circ}09.49'W$ . The symbol should show a cleared depth of  $51.72$  feet based on ~~predicted~~ *Smooth* tides. - *Concur - See section 7. of the Modified Evaluation Report.* ✓

## VI.

A. STATEMENT ON ITEM 8

Item 8 is believed to be the wreck of the C.G. Willis Barge; registry No. 251866; gross tonnage 756; length 190 feet; Beam 40 feet; Construction - steel. The item originates with Notice to Mariners #2 of 1961 and is charted in Lat.  $37^{\circ}53.41'N$  and Long.  $76^{\circ}08.00'W$ , with a least depth of 49 feet. The Notice also states that the wreck lies in a North-South orientation. ✓

B. GROUNDINGS OR HANGS

No groundings or hangs were encountered since there were no drags deployed on the Item. ✓

C. NOTED OCCURENCES DURING SURVEY

On 2 April 1979, a side scan sonar and fathometer investigation was run on the item. An object was found which closely resembles a barge, i.e., perfectly square edges, shallow draft, etc.. The detached position obtained on the wreck with ARGO was in Lat.  $37^{\circ}53.42'N$  and Long.  $76^{\circ}07.98'W$ . This position is 100 feet at a bearing of  $040^{\circ}T$  from the charted position. In addition, the sonar records determined that the barge lies on the bottom with an orientation of  $310^{\circ}$ - $130^{\circ}$  and is about 175 feet long. *Data not processed - See sections 6.c. and 7.a. of the Modified Evaluation Report.* ✓

D. SUMMARY

Although the wreck was never hung, its position was verified by this cursory investigation. It is known that the barge lies in the same position, has a northerly-southerly direction and is about the same length. However, further assumptions cannot be made with the data on hand. Consequently, the item should be reassigned in the future to be hung so that more data can be collected on the wreck. - *See sections 6.c. and 7.a. of the Modified Evaluation Report.* ✓

E. RECOMMENDATIONS

From the investigation done on 2 April, it is known that wreck is charted in the right position. Therefore, the only recommendation that

can be made is to leave the wreck symbol at the position it is presently charted. A cleared depth was not obtained and the shoalest point on the wreck was never ascertained. As a result, the charted least depth of 49 feet should stay on the chart until it is proven or disproven in the future. - See sections 6.c. and 7.a. of the Modified Evaluation Report. ✓

DATE	DAY LETTER	STRIP	VOL. #	POSITIONS	L.N.M.	S.N.M.	RED CORR.	GREEN CORR.	LENGTH OF DRAG	SMOOTH PLOT	REMARKS
8 Mar (067)	-	1	1	8	-	-			2400		Rejected strip - Hang position on Item #7 was good and was kept.
12 Mar (071)	A	1	1	35	2.5	.75			2400		Cleared Item #7 @ 51 <sup>2</sup> 1/2 ft.
13 Mar (072)	B	1	1	17	1.5	.45			2400		Hung Item #7 @ 53 1/2 ft. Pos. #37 - 51.77, 76-09.49 29.45"
19 Mar (078)	C	1	1	16	1.4	.42			2400		Cleared Item #7 @ 52 1/2 ft.
20 Mar (079)	D	1	1	15	1.7	.51			3000		Hung Item #5 @ 53 <sup>0</sup> ft. Pos. = 37-51.25, 76-10.22 11.55"
21 Mar (080)	E	1	2	20	2.0	.70			2400		Cleared Item #5 @ 49 1/2 ft.
26 Mar (085)	F	1	2	13	1.3	.42			2400		Cleared Item #5 from So. @ 48 1/2 ft.
27 Mar (086)	G	1	2	15	1.6	.48			2400		Cleared Item #5 From S. @ 49 ft. Completed Item #5
28 Mar (087)	H	1	2	16	1.7	.60			2400		Cleared Item #6 from S. @ 57 ft.
		2	2	11	1.0	.30			2400		Cleared Item #6 from N. @ 59 1/2 ft.
2 Apr (092)	J		2	N/A	N/A	N/A			N/A		Side Scan & Fatho. Item #8 ✓
3 Apr (093)	K		2	N/A	N/A	N/A			N/A		Side Scan and determine Pos on Item #2 ✓

BOOK NO. 37  
4-30-57)  
GMM-DC 28424

ATTACHMENT III ✓

POSITION NO.

BUOY LETTER

BUOY NO.

LAT.

LONG.

GROUNDED EFF. DEPTH

CLEARED BY DAY STRIP NO.

CLEARED EFF. DEPTH

*Uncorrected*  
SOUNDING

CHARTED DEPTH

REMARKS

Rejected A 8 Mar (467)	—	37° 51' 46.70"	76° 49' 29.45"	—	A-1 C-1	52			Rejected Strip - good hang Position on Item 7
B 13 Mar	3-4	37° 51' 46.70"	76° 09' 49.51"	4	A-1 C-1	51 1/2 52 1/2	57	47	Item #7 ✓
D 20 Mar	2-3	37° 51' 18.32"	76° 10' 11.65"	510	E-1 G-1 F-1	49 1/2 49 48	58	47	Item #5 "CITY OF ANNAPOLIS" ✓

STATION DESCRIPTION - SHORT FORM

\*\*\*\*\*  
 \*10\*SSN-      , DRC CODE-2 \*11\*QUAD-V32076L, QSN-      , \*12\*SURF MK TYPE-003, M-CODE-4, \*13\*UNDERGROUND MK TYPE-      , M-CODE-      ,  
 \*14\*STATION NAME--      , \*15\*STATE CODE/COUNTY--VA, NORTHUMBERLAND  
H-1-KA-79, \*21\*YEAR--1979, CHIEF OF PARTY--RCM, \*22\*MARKER TYPE-D, TRANSP CODE-A, PACK TIME-00 HRS, 05 MIN, \*23\*HGT OF TELESCOPE--1.65 METERS  
8.1 NOS, \*24\*CODE/RECOVERY BY AGENCY--      , \*25\*YEAR--      , CHIEF OF PARTY-      , \*26\*CONDI- TION-      , TRANSP CODE-      , PACK TIME-       HRS,        MIN, \*27\*HGT OF TELESCOPE--       METERS  
1/1

M-CODE MARK TYPE	NAME OR DESCRIPTION OF REFERENCE OBJECT (edit and/or abbreviate as necessary)	COM-PASS HDNG	MEASURED DISTANCE		A if approx distance OTHER THAN MEASURED DISTANCE WITH UNITS	DIRECTION tenths of SEC		
			H-hor, S-slope, V-VG, N-not VG IN FEET	IN METERS		DEG	MIN	SEC
*30*	-----							
*30*	-----							
*30*	-----							
*30*	-----							
*30*	-----							

\*30\*,\$,\$,- append \*30\*\$\$ to indicate end of reference data. NOTE - Use V (VG) or N (not VG) for objects to which measured distance is not given.

\*\*\*\*\* ORIGINAL OR RECOVERY DESCRIPTIVE TEXT \*\*\*\*\*

\*40\* THE STATION IS LOCATED AT SMITH POINT IN VIRGINIA ON PROPERTY OWNED BY  
 \*40\* MR C. C. PAUL  
 \*40\* TO REACH FROM THE INTERSECTION US HIGHWAY 360 AND STATE ROUTE 200 IN  
 \*40\* BURGESS, VIRGINIA, GO EAST ON STATE HIGHWAY 360 FOR 3.9 MILES TO COUNTY  
 \*40\* ROAD 652 TURN LEFT ON COUNTY ROAD 652 AND CONTINUE EAST FOR 1.2 MILE TO  
 \*40\* COUNTY ROAD 651 TURN LEFT ON COUNTY ROAD 651 AND GO 1.3 MILE TO A  
 \*40\* MAILBOX (C.C. PAUL) AND DIRT ROAD RIGHT FOLLOW THE DIRT ROAD ABOUT 0.2 MILE  
 \*40\* TO MR PAUL'S RESIDENCE AND THE STATION IN THE FIELD ON THE LEFT  
 \*40\* THE STATION IS AN ALUMINUM NOS DISK STAMPED--H-1-KA-79--SECURED TO  
 \*40\* THE TOP OF AN ALUMINUM ROD SET 16 INCHES BELOW THE SURFACE OF THE  
 \*40\* GROUND  
 \*40\* THE STATION IS IN THE PLOWED FIELD 208.75 FEET EAST OF POWER POLE  
 \*40\* #C004, 161.5 FEET NORTHEAST OF THE NORTHWEST CORNER OF THE HOUSE AND  
 \*40\* 144.0 FEET NORTHWEST OF THE NORTHEAST CORNER OF THE HOUSE

\*40\*,\$,\$,- insert \*40\*\$ between paragraphs and append \*40\*\$\$ to indicate end of descriptive text. NOTE - Do not divide words between records.

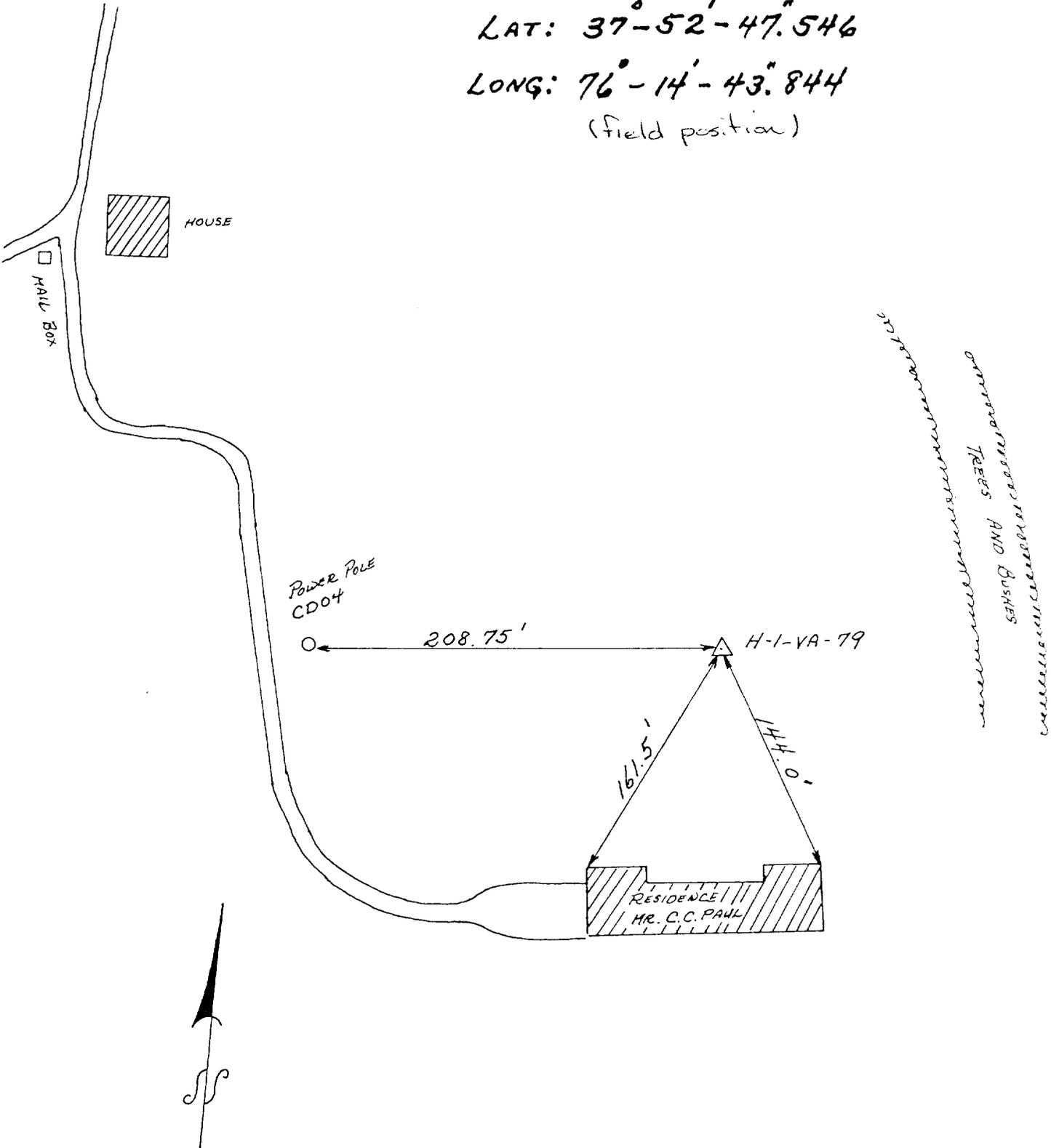
ATTACHMENT IV A

H-1-VA-79, 1979

LAT:  $37^{\circ}52'47.546''$

LONG:  $76^{\circ}14'43.844''$

(field position)



STATION DESCRIPTION - SHORT FORM

\*10\*SSN-... DRC CODE-D... \*11\*QUAD-V370761... \*12\*SURF MK TYPE-D03... \*13\*UNDERGROUND MK TYPE-... M-CODE-... \*14\*STATION NAME-- H-2-VA-79, 1979... \*15\*STATE CODE/COUNTY-- VA-LANCASTER... \*20\*CODE/MONUMENT BY AGENCY-- 8.L.W.05... \*21\*YEAR-- 1979... CHIEF OF PARTY-- RCM... \*22\*MARKER TRANSP PACK TYPE-D CODE-R TIME-00 HRS 05 MIN... \*23\*HGT OF TELESCOPE-- 1.50 METERS... \*24\*CODE/RECOVERY BY AGENCY-- L... \*25\*YEAR--... CHIEF OF PARTY--... \*26\*CONDI-TION-... CODE-... TIME-... HRS... MIN... \*27\*HGT OF TELESCOPE--... METERS

Table with columns: M-CODE, MARK TYPE, NAME OR DESCRIPTION OF REFERENCE OBJECT, COM-PASS IDNG, MEASURED DISTANCE (IN FEET, IN METERS), A if approx distance (OTHER THAN MEASURED DISTANCE WITH UNITS), DIRECTION (tenths of SEC DEG MIN SEC). Rows include JACOBSON 1954 and STINGRAY POINT LIGHTHOUSE.

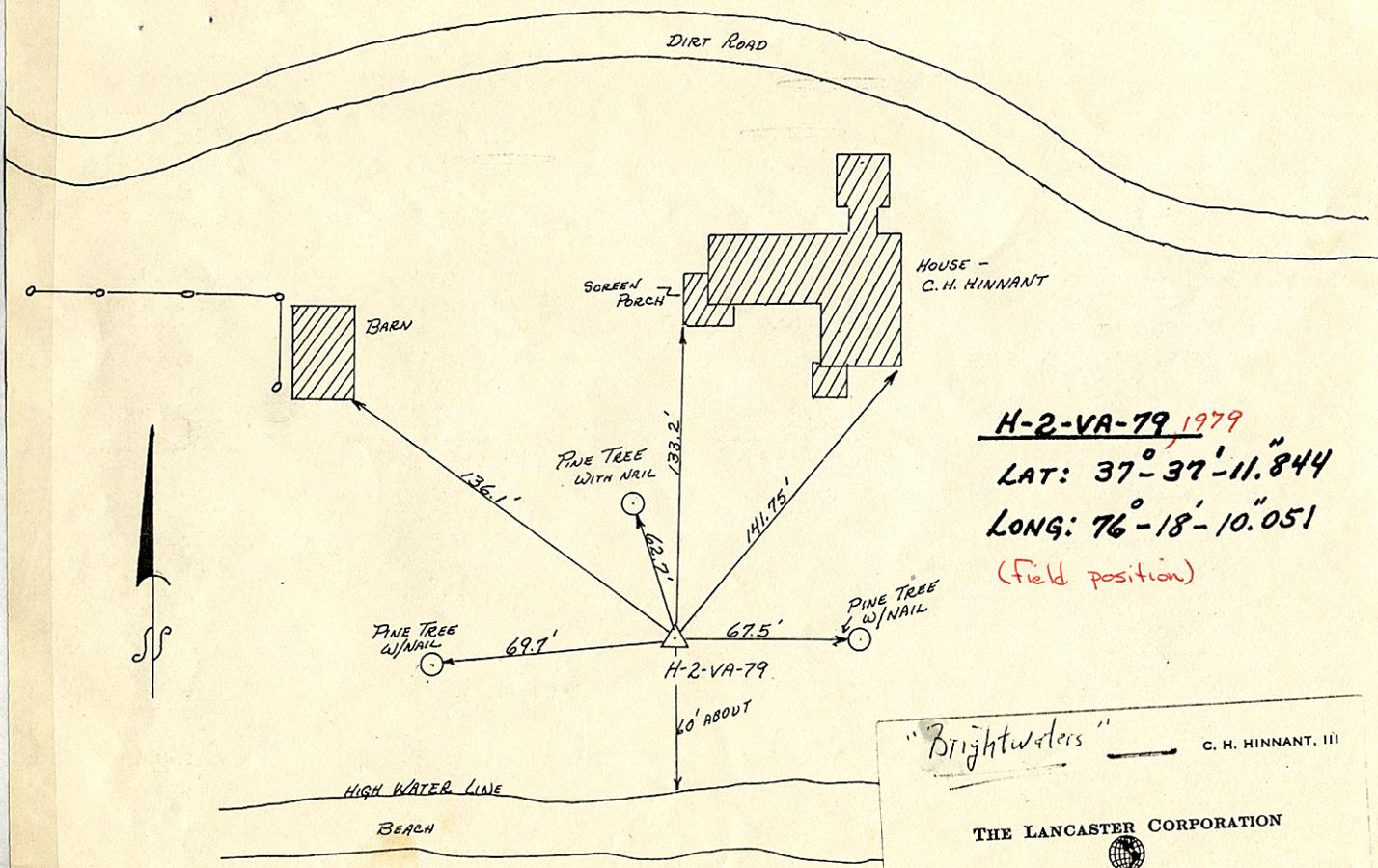
\*30\* \$, \$, - append \*30\*\$ to indicate end of reference data. NOTE - Use V (VG) or N (not VG) for objects to which measured distance is not given.

\*\*\*\*\* ORIGINAL OR RECOVERY DESCRIPTIVE TEXT \*\*\*\*\*

\*40\* THE STATION IS 7 MILES EAST OF WHITE STONE, VIRGINIA AT WINDMILL POINT, ON THE PROPERTY OF C.H. HILNANT III. \*40\* TO REACH FROM THE INTERSECTIONS OF STATE ROUTES 3, 200 AND COUNTY ROAD 625, GO EAST ON COUNTY ROAD 625 FOR 7.35 MILES TO A DIRT ROAD RIGHT. \*40\* TURN RIGHT, WEST, AND GO 0.6 MILE TO AREA KNOWN AS BELIGHTWATERS AND TO A WOOD CONTEMPORARY HOUSE AND THE STATION ON THE LEFT. THE STATION IS IN THE BACK YARD ABOUT 60 FEET NORTH OF THE HIGH WATER MARK. \*40\* THE STATION IS AN ALUMINUM NOS DISK STAMPED--H-2-VA-79, 1979-- SECURED TO A 10 INCH ALUMINUM ROD SET FLUSH WITH THE GROUND. THE STATION IS 133.2 FEET SOUTH OF THE SOUTHWEST CORNER OF A SCREEN PORCH, 141.75 FEET SOUTH WEST OF THE SOUTHEAST CORNER OF THE HOUSE, 136.1 FEET SOUTHEAST OF THE SOUTHEAST CORNER OF A SMALL BARN, 69.7 FEET EAST OF A 10 INCH PINE TREE WITH A NAIL AT THE BASE, 67.5 FEET WEST OF A 10 INCH PINE WITH A NAIL AT THE BASE AND 62.7 FEET SOUTH-SOUTHEAST OF A 10 INCH PINE TREE WITH A NAIL AT THE BASE.

\*40\* \$, \$, - insert \*40\*\$ between paragraphs and append \*40\*\$ to indicate end of descriptive text. NOTE - Do not divide words between records.

ATTACHMENT IV A



H-2-VA-79 1979  
 LAT: 37°-37'-11.844  
 LONG: 76°-18'-10.051  
 (field position)

"Brightwaters" C. H. HINNANT, III

THE LANCASTER CORPORATION  
 INTERNATIONAL CONSULTANTS

P. O. BOX 343  
 IRVINGTON, VA 22480  
 U.S.A.

AREA CODE 804  
 438-5170  
 home 435-6543

ATTACHMENT IV A

ATTACHMENT IV C

OPR - E609 - RU/HE - 79  
Chesapeake Bay  
Sheet 20-1a-79

G.P.<sup>s</sup> of Items

- 1.) Lat.  $37^{\circ}34'48''$  ✓, Long.  $76^{\circ}12'54''$  W ✓
- 2.) Lat.  $37^{\circ}40'28.8''$  ✓ N, Long.  $76^{\circ}10'24.6''$  ✓ W

G.P.<sup>s</sup> of Shore Signals

- 3.) Kilmarnock Municipal Water Tank, 1942 Lat.  $37^{\circ}42'43.995''$  N ✓  
Long.  $76^{\circ}22'44.547''$  W ✓
- 4.) Jackson 2, 1954 Lat.  $37^{\circ}34'19.316''$  N ✓  
Long.  $76^{\circ}20'49.492''$  W ✓
- 5.) Stingray Point Lthse., 1900 Lat.  $37^{\circ}33'40.062''$  N ✓  
Long.  $76^{\circ}16'13.411''$  W ✓
- 6.) Windmill Point Lthse., 1898 Lat.  $37^{\circ}35'48.513''$  N ✓  
Long.  $76^{\circ}14'10.740''$  W ✓

## ATTACHMENT IV C

OPR - E609 - RU/HE - 79  
 Chesapeake Bay  
 Sheet 20-1b-79

G.P.<sup>s</sup> of Items

- 4.) Lat. 37°48'06"<sup>8</sup>N, Long. 76°12'18"<sup>8</sup>W  
 5.) Lat. 37°51'15.6"<sup>8</sup>N, Long. 76°10'18.6"<sup>8</sup>W  
 6.) Lat. 37°51'28.8"<sup>8</sup>N, Long. 76°09'41.4"<sup>8</sup>W  
 7.) Lat. 37°51'48.6"<sup>8</sup>N, Long. 76°09'30.0"<sup>8</sup>W  
 8.) Lat. 37°53'24.6"<sup>8</sup>N, Long. 76°08'00.0"<sup>8</sup>W

G.P.<sup>s</sup> of Shore Signals

- 9.) Smith Point Lthse., 1898 Lat. 37°52'47.090" N ✓  
 Long. 76°11'02.732" W ✓
- 10.) Reedville Muni. Water Tank, 1955 Lat. 37°50'23.556" N ✓  
 Long. 76°16'38.420" W ✓
- 11.) Reedville Morris Factory Stack, 1938 Lat. 37°49'56.238" N ✓  
 Long. 76°16'55.768" W ✓
- 12.) Great Wicomico River Lthse., 1898 Lat. 37°48'14.974" N ✓  
 Long. 76°16'04.608" W ✓
- 13.) Kilmarnock Muni. Water Tank, 1942 Lat. 37°42'43.995" N ✓  
 Long. 76°22'44.547" W ✓

ATTACHMENT VI

Commanding Officer  
USCG Marine Safety Office  
Hampton Roads  
Federal Building  
200 Cranby Hall  
Norfolk, Virginia 23510

16700  
2 March 1979

National Oceanic and Atmospheric Administration  
439 W. York Street  
Norfolk, Virginia 23510

Dear Sir,

As you are aware the container barge NBC 1 capsized at Norfolk International Terminals Container Berth 2 on January 28, 1979 losing nearly 100 containers. Some containers drifted across the river as far as Craney Island. Six containers are as yet unrecovered. As Captain of the Port, my responsibility is for safety of the vessel traffic and, accordingly, I request that a suitable NOAA vessel search the area to ensure that all the containers and pieces of containers are removed.

C. R. THOMPSON  
Captain, U. S. Coast Guard  
Captain of the Port  
Hampton Roads

ATTACHMENT VII



U.S. DEPARTMENT OF COMMERCE  
National Oceanic and Atmospheric Administration  
NATIONAL OCEAN SURVEY  
ATLANTIC MARINE CENTER  
439 West York Street  
Norfolk, Virginia 23510

March 8, 1979

CAM102/JDS

Commanding Officer  
NOAA Ships RUDE and HECK

CHANGE NO. 1 to PROJECT INSTRUCTIONS: OPR-E609-RU/HE-79,  
Wire Drag, East Coast Investigations, Chesapeake Bay

1. An NBC barge capsized at Norfolk International Terminals on January 28, 1979, loosing nearly 100 containers. Some of the containers drifted across the main channel as far as Craney Island. All but six of the containers have been recovered. To ensure the safety of vessel traffic in the area, the U. S. Coast Guard Captain of the Port, Hampton Roads, has requested that the NOS conduct a search to locate the missing containers. (A copy of the letter is attached.)

2. A search of the area using side scan sonar or launch wire drag shall be accomplished prior to departing Norfolk for the upper Chesapeake Bay.

3. Control shall be by visual methods, using charted landmarks or aids to navigation.

4. When a container is found, a marker buoy shall be placed over it so it can be located and removed by the proper authorities.

5. Since the containers will be removed after they are found, standard wire drag procedures pertaining to tides, control, and processing are not required.

6. Submit recommendations if it appears advisable to amend these instructions.

7. Receipt of these instructions shall be acknowledged.

Robert C. Munson  
Director, Atlantic Marine Center

Attachment

CC:  
CAM02  
CAM101, 102  
CAM3  
CAM5  
CAM6, 4, XO  
C351





## ATTACHMENT VIII

U.S. DEPARTMENT OF COMMERCE  
National Oceanic and Atmospheric Administration  
NATIONAL OCEAN SURVEY  
NOAA SHIPS RUDE & HECK  
439 West York Street  
Norfolk, Va. 23510

*F.O.O.'s Copy*

Date: 22 March 1979

To: Mr. W. T. Mayes  
Commercial Agent  
Norfolk, Baltimore & Carolina Line, Inc.  
Norfolk, Va.

Thru: Director, Atlantic Marine Center  
439 West York Street  
Norfolk, Va.

From: LCDR Robert V. Smart *Robert V. Smart, LCDR, NOAA*  
Commanding Officer

Subj: Search for lost containers

1. In accordance with verbal orders of 23 February 1979, and written project instructions dated 8 March 1979 (copy enclosed), a survey of the container ship berthing area south of Pier Number 1, Norfolk International Terminals, was conducted from 26 February 1979 to 2 March 1979. This search was conducted at the request of Captain C.R. Thompson, USCG, Captain of the Port, Hampton Roads. The request was made as a result of container barge NBC 1 (Norfolk, Baltimore & Carolina Line Barge 1) capsizing at container berth 2 on 28 December 1978. Nearly 100 containers were on board.

2. At the time of the survey, all but six of the containers had been accounted for by salvage/clearing operations in the immediate vicinity of the capsizing at CB 2. It was felt that the other containers may have floated intact for a while and drifted away from CB 2 before sinking. The area south of Pier 1 is dredged and a shoal lies to the south of the dredged area extending out to Craney Island Reach, and forming a Cul-de-Sac in the dredged area for any object drawing over a few feet of water. At the time of the capsizing, 1800 local time, 28 December 1978, the winds were from NNW at 8 to 12 knots, and the current was approaching maximum flood of one knot. Tides were as follows:

1354 low tide - 0.5 ft.  
1445 slack water  
1708 Maximum flood - 1 knot  
2004 high tide - +2.4 ft.

3. It was decided to concentrate the search inside the cul-de-sac or dredged area of the Norfolk International Terminal inasmuch as it was felt unlikely that a floating container would have escaped that area given the wind and current prevailing at the time of the capsizing.

During the five day search using the Klein Side Scan Sonar with a 100 KHz towfish, the area was looked over closely. The area covered was from the south side of Pier #1 out to buoy N"2" and then along the edge of the shoal formed by dredging between buoys N"2", N"4", N"6" and N"8". Thence along the south edge of the dredged area to shore at Tanner Point and back north along the face of the seawall of the Container Bulk Terminal to the intersection with Pier No. 1 south side - the point of beginning. The entire area was searched repeatedly during the five days and all along the wall and pier were covered at one time during the search when ships were not present. In addition, the fathometer was run on line parallel to the container bulk terminal seawall at various ranges from 5 feet to 100 feet off the wall.

4. Three containers were found along the south shoal area between buoys N"2" and N"6". Also, evidence of some minor debris along the container bulk terminal seawall was observed, but nothing less than 34 feet of water was observed. The three containers found along the edge of the shoal have since been removed.

5. It must be emphasized that while side scan sonar cannot provide the same degree of certainty that no obstruction exists as would a formal wire drag survey, the small extent of the survey area in this case, and the numerous passes made in all directions over the area during the five days, should give some assurance that no whole containers remain in the terminal area. Side scan was deemed the best survey instrument in this case in lieu of wire drag because of the bathymetry, extent of the area, and logistics reasons. The area was too small for wire drag except with launches and the bathymetry was very uneven along the edge of the shoal. Also, construction and salvage barges and numerous ships would have hampered wire drag efforts.

6. Contact was made during the project with the following men:

Cdr. Ingram, USCG, (804) 441-3300  
 Mr. Distin, USCG, (804) 441-3296  
 Mr. Bill Mayes, NBC Lines (804) 423-4231/622-3613  
 Mr. Donald O. Hawkins, Jr., Maritime Terminals, Inc., (804) 489-2400

7. All side scan records and fathometer records for this survey have been retained on board NOAA Ships RUDE and HECK for submission with the descriptive report for Project OPR-E609-RU/HE-79, Wire Drag, East Coast Investigations, Chesapeake Bay. A copy of the Captain of the Port's letter; Change 1 to OPR-E609-RU/HE-79; and a chartlet of the work area are enclosed with this report. R

cc: Mr. Donald O. Hawkins, Jr.  
 Safety Assistance, Marine Terminals, Inc.  
 Operators of Norfolk International Terminals  
 7737 Hampton Blvd.  
 Norfolk, Va. 23505

No records of this investigation were submitted with FE-224 W.D. (RAH 24-1-79)





UNITED STATES COAST GUARD

Commanding Officer  
USCG Marine Safety Office  
Hampton Roads  
Federal Building  
200 Granby Mall  
Norfolk, Virginia 23510

16700  
15 March 1979

National Oceanic and Atmospheric Administration  
Attn: RADM Robert C. MUNSON  
439 W. York Street  
Norfolk, Virginia 23510

Dear Sir,

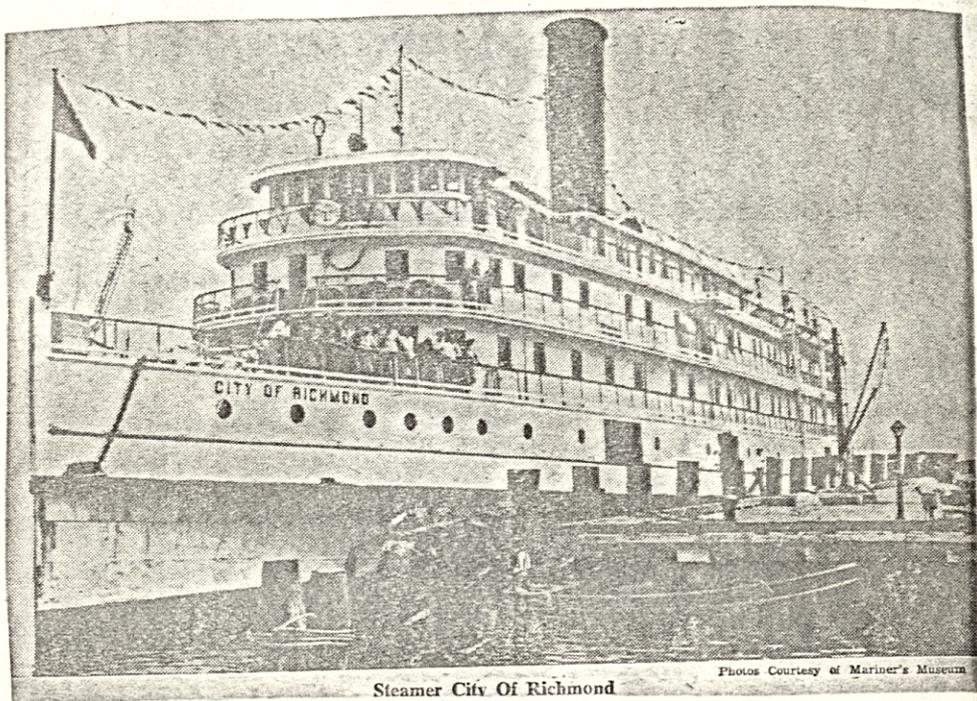
Please accept and extend to the officers and crew of the NOAA ships RUDE and HECK my appreciation for the work recently performed for the U. S. Coast Guard. They did a fine job searching for a number of containers missing from the NBC Lines Container Barge 1 which capsized at Norfolk International Terminals on January 28, 1979.

Sincerely,

C. R. THOMPSON  
Captain, U. S. Coast Guard  
Captain of the Port  
Hampton Roads

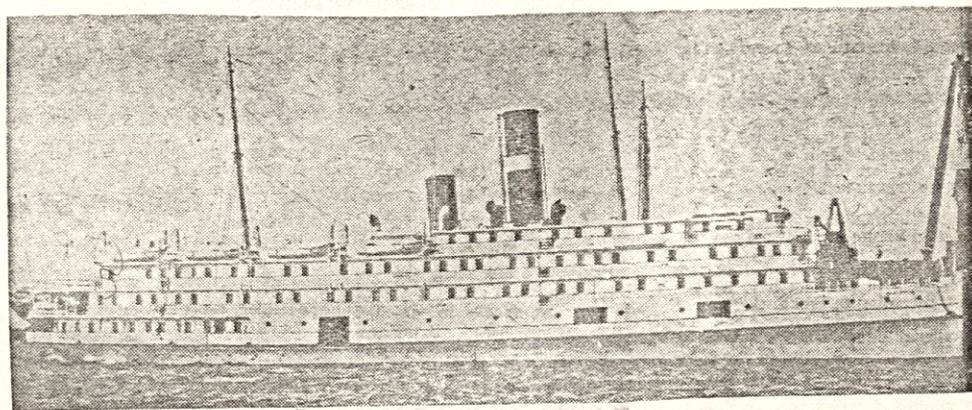
C.O. AVIS  
X.O. WACE  
Hyp/ \_\_\_\_\_

*please make copies to  
post and give me a  
copy for my retention.*

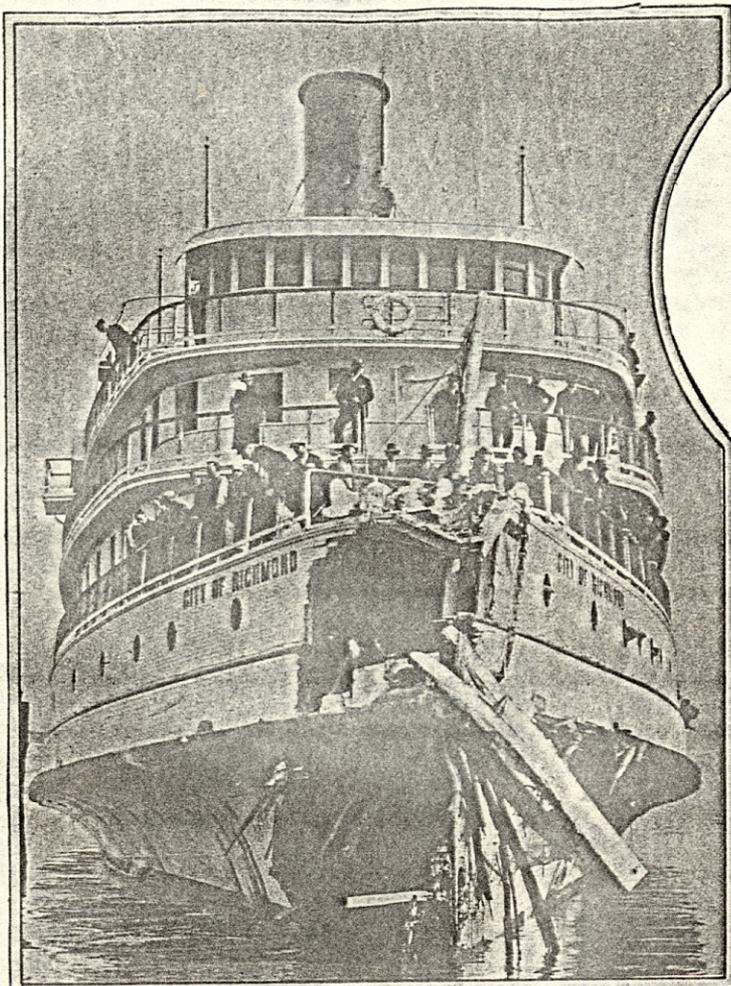


Steamer City Of Richmond

Photos Courtesy of Mariner's Museum



Steamer City Of Annapolis



MIXED GEOGRAPHY ON THE POTOMAC RIVER: THE CITY OF  
RICHMOND, FEB. 22, 1927  
Which Collided Recently With Her Sister Ship, the City of Annapolis, During a  
Heavy River Fog.

GEOGRAPHIC NAMES

FE 220 WD

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	RAND McNALLY ATLAS	U.S. LIGHT LIST				
CHESAPEAKE BAY (title)												1
SMITH POINT (title)												2
VIRGINIA (title)												3
WINDMILL POINT (title)												4
												5
												6
												7
												8
												9
												10
												11
												12
												13
												14
												15
												16
												17
												18
												19
												20
												21
												22
												23
												24
												25

Approved:

*Charles E. Harrington*  
Chief Geographer - N/CG2X5

AUG 28 1986

HYDROGRAPHIC SURVEY STATISTICS  
REGISTRY NO.: FE-220WD

Number of positions	332
Number of soundings	N/A
Number of control stations	3

	<u>TIME-HOURS</u>	<u>DATE COMPLETED</u>
Preprocessing Examination		
Verification of Field Data	80	16 AUG 1986
Quality Control Checks		
Evaluation and Analysis	57	29 AUG 1986
Final Inspection	4	27 AUG 1986
TOTAL TIME	141	
Marine Center Approval		29 AUG 1986

Transmittal letter of survey and survey records will be included in the Descriptive Report to identify the records accompanying the survey.

ATLANTIC MARINE CENTER  
MODIFIED EVALUATION REPORT

SURVEY NO.: FE-220WD

FIELD NO.: R/H-20-1-79

Virginia, Chesapeake Bay, Smith Point to Windmill Point

SURVEYED: February 26 through April 13, 1979

SCALE: 1:20,000

PROJECT NO.: OPR-E609-RU/HE-79

SOUNDINGS: Wire Drag,  
Raytheon DE-723  
Fathometers, and  
Side Scan Sonars

CONTROL: ARGO DM-54  
(Range-Range)

Chief of Party.....R. V. Smart

Surveyed by.....M. C. Grunthal  
.....S. P. DeBow  
.....P. M. Conners

1. INTRODUCTION

a. The purpose of this survey is adequately defined in the Descriptive Report and the Project Instructions. Processing of this survey has been modified so that only the verified hangs, the wrecks located by side scan sonar, and accompanying notes have been smooth plotted. This modified and limited processing is considered complete in regard to nautical charting requirements.

b. Two plots of the two verified hangs and two detached positions on wrecks and accompanying notes were generated and are attached to this report. These plots are considered the final plots or smooth sheets for this survey.

c. Corrections and notes made by the evaluator to the Descriptive Report are denoted in red ink.

2. CONTROL AND SHORELINE

a. Horizontal control stations used during this survey are of Third Order, Class I accuracy or better, and are established on the North American Datum of 1927. Positioning methods are adequately discussed in the Descriptive Report. Calibration methods are adequately discussed in the Descriptive Report and adequate calibration data is recorded in the field records.

b. No shoreline exists within the limits of this survey.

### 3. HYDROGRAPHY

The only soundings on this survey are detached soundings (by fathometer) taken on the wrecks located by wire drag and side scan sonar. No sounding data tapes were submitted nor necessary sounding correctors determined. The time of acquisition of detached soundings was recorded only on the sounding data gathered on Presurvey Review Item #5. Times were not recorded for detached soundings on any of the other items investigated. These soundings are of reconnaissance value only and not suitable for charting except as "reported" soundings. Hydrography was not required by the Project Instructions.

The extent of the side scan sonar search made on the assigned items cannot be determined as insufficient records were submitted to demonstrate the degree or adequacy of coverage. The hydrographer makes no statements regarding the extent of side scan sonar coverage in the Descriptive Report.

### 4. CONDITION OF SURVEY

The adequacy of the final field sheets, survey records, and reports, and conformity to the requirements of the HYDROGRAPHIC MANUAL and the WIRE DRAG MANUAL were not considered during the modified processing of this survey. Only the deficiency of this survey to adequately investigate assigned Item #2 is addressed in section 6. of this report. This deficiency is noted since it impacts the charting recommendation made in section 6. of this report.

### 5. JUNCTIONS

There are no junctions on this survey.

### 6. COMPARISON WITH SURVEYS

#### a. PRIOR SURVEYS

H-8280 (1955) 1:20,000  
H-8277 (1955) 1:10,000  
H-8191 (1954-55) 1:20,000

These prior surveys are common to Presurvey Review Items #2, #5, #6, and #7. No conflicts exist between prior hydrography and present effective depths. Prior hydrography ranges from 0-108 feet deeper than present effective depths within the common area. A 49-foot sounding was obtained on Item #2 by survey H-8191 (1954-55) in Latitude 37°40'28.8"N, Longitude 76°10'24.6"W. See also section 6.b. of this report. A 62-foot sounding on a wreck in Latitude 37°51'47.5"N, Longitude 76°09'30.4"W was found by survey H-8280 (1955) on Item #7. This prior sounding is

approximately 30 meters north-northwest from the position gained by the present survey on this item. Presurvey Review Item #8 is common to prior survey H-8435 (1956) but is not discussed since subsequent survey FE-275SS (1985) resolved this item. See section 6.c. of this report.

It is not the intent of the present survey to supersede but only to supplement prior hydrography, with the exception of the 62-foot sounding on a wreck by survey H-8280 (1955) which is considered superseded by the present survey.

b. WIRE DRAG SURVEYS

FE-79WD (FE No. 5, 1949) 1:80,000

Prior wire drag field examination FE-79WD is common to and previously located presently assigned Presurvey Review Item #2 (AWOIS #03185). No other presently assigned items are common to this prior survey. This item is referred to as Obstruction No. 4 by this prior survey (FE-79WD). Presurvey Review Item #2 originated with Chart Letter 977 of 1949 as an unknown submerged obstruction struck by the SS OREMAR. Prior survey FE-79WD located this item by wire drag and fathometer search 83 meters northwest of the present survey position. The present survey investigated this item by side scan sonar and fathometer search only. The wreck was located by the present survey in Latitude 37°40'27.05"N, Longitude 76°10'22.03"W. A shoalest sounding by fathometer of 52 feet (uncorrected) was obtained. This wreck is the same obstruction located by the above prior survey since the present survey would have detected any obstruction within the vicinity (100+ meters) of this wreck. The present survey investigation of this wreck is incomplete as no least depth or identification was obtained. However, the position determined by the present survey is a more accurate position and is adequate to supersede the position determined by survey FE-79WD. The hang depth of 40 feet and clearance depth of 38 feet from survey FE-79WD are still valid and are not superseded. The differences in position are attributed to improved positioning methods and equipment on the present survey. It is recommended that this submerged obstruction be charted as a dangerous sunken wreck in the position found by the present survey with the clearance depth of 38 feet obtained by survey FE-79WD. Additional field work is recommended to identify and obtain a least depth on this wreck.

c. SUBSEQUENT SURVEY FE-275SS (1985) 1:20,000

Subsequent side scan sonar survey FE-275SS is common to Presurvey Review Item #8 (AWOIS #3189). No other presently assigned items are common to this subsequent survey. Item #8 (AWOIS #3189) has been adequately resolved

by this subsequent survey and supersedes all present data pertaining to this item.

7. COMPARISON WITH CHARTS 12225 (36th Ed., Dec. 2, 1978)  
12225 (41st Ed., Dec. 17, 1983)  
12226 (11th Ed., Sept. 29, 1984)  
12228 (23rd Ed., May 31, 1986)

a. HYDROGRAPHY

The charted hydrography originates with the previously discussed prior surveys, with the exception of assigned Presurvey Review Items #5, #6, and #7. The previously discussed prior surveys require no further consideration. Assigned Presurvey Review Item #8 (AWOIS #03189) is adequately addressed and charting recommendations made in the Evaluation Report of survey FE-275SS (1985). Attention is directed to the following:

1) Presurvey Review Item #5 (AWOIS #00999), a dangerous sunken wreck with a least depth of 40 feet, originated with Notice to Mariners No. 10 of 1927 and is identified as the wreck of the CITY OF ANNAPOLIS, a steel hull screw steamer, 1,923 tons in weight, 261.6 feet in length, a beam of 53.1 feet, and a draft of 14.1 feet. Notice to Mariners No. 44 of 1928 is the source of the charted (chart 12225, 36th Ed., Dec. 23, 1978) 40-foot least depth. This wreck is presently charted (chart 12225, 41st Ed., Dec. 17, 1983) in Latitude 37°51'15.00"N, Longitude 76°10'13.2"W with a clearance depth of 49 feet from advance information from the present survey (FE-220WD). The present survey hung the wreck in Latitude 37°51'18.32"N, Longitude 76°10'11.55"W at 50 feet and subsequently cleared it in two directions by 49 feet. A shoalest sounding of 58 feet (corrected for tides only) was found during a fathometer search. The side scan sonar information gathered indicates the wreck is oriented 030°T-210°T. This wreck was not investigated by divers on the present survey, but a successful dive was made in October, 1981 by Mr. Ernie Livingston of the National Dive Center and verified that this wreck was in fact the CITY OF ANNAPOLIS. It is recommended that this item be charted as a dangerous sunken wreck cleared by 49 feet in the position determined by the present survey. No additional field work is recommended on this item.

2) Presurvey Review Item #6 (no AWOIS number presently assigned), a dangerous sunken wreck with a least depth of 70 feet, originated with Notice to Mariners No. 38 of 1929 and is identified as the wreck DOROTHY, a screw steamer, 2,873 tons in weight, 309.2 feet in length, a beam of 48.2 feet, a draft of 21.2 feet, and a highest deck erection of 96 feet (the bridge). Notice to Mariners No. 42 of 1929 is the source of the charted (chart 12225, 36th Ed.,

Dec. 23, 1978) 70-foot least depth. This wreck is presently charted (chart 12225, 41st Ed., Dec. 17, 1983) in Latitude 37°51'34.80"N, Longitude 76°09'43.2"W with a clearance depth of 57 feet from advance information from the present survey (FE-220WD). The present survey located this wreck in Latitude 37°51'36.18"N, Longitude 76°09'41.30"W by side scan sonar and fathometer search. This wreck was not hung but was cleared in two directions by a least clearance depth of 57 feet. A shoalest sounding of 82 feet (uncorrected) was found during a fathometer search. The side scan sonar information gathered shows the wreck is in an upright position with the masts and superstructure apparently intact as they are quite evident on the sonagram. This wreck extends at least 44 feet off the bottom in prior survey depths of 116 feet. The wreck lies in a northeast-southwest orientation. Although the information gained by this survey does not positively prove that this wreck is the item being sought, sufficient information exists to justify the conclusion that this is the wreck DOROTHY. Since the minimum required clearance depth of 55 feet (Project Instructions OPR-E609-RU/HE-79) was met by this survey, this item is considered complete and not a hazard to surface navigation. It is recommended that this item be charted as a dangerous sunken wreck cleared by 57 feet in the position determined by the present survey. No additional field work is presently recommended; however, it would be advantageous to obtain a least depth and a positive identification on this wreck at an opportune time.

✓ 3) Presurvey Review Item #7 (AWOIS #02361), a dangerous sunken wreck with a least depth of 47 feet, originating with Notice to Mariners No. 15 of 1942 and is identified as an unknown steamer. Notice to Mariners No. 23 of 1942 is the source of the charted (chart 12225, 36th Ed., Dec. 23, 1978) 47-foot least depth. This wreck is presently charted (chart 12225, 41st Ed., Dec. 17, 1983) in Latitude 37°51'46.2"N, Longitude 76°09'29.4"W with a clearance depth of 51 feet from advance information from the present survey (FE-220WD). The present survey hung the wreck in Latitude 37°51'46.70"N, Longitude 76°09'29.45"W at 54 feet and subsequently cleared it in two directions by 52 feet. A shoalest sounding of 57 feet (uncorrected) was found by fathometer search. The side scan sonar information gathered shows the wreck is intact with various deck erections and masts evident, has a starboard list, is oriented 100°T-280°T with the heading being 100°T, has a gash in the port quarter, is approximately 180 feet in length, and has a beam of approximately 45 feet. Divers were only able to determine that the wreck is of steel construction due to poor diving conditions. The identity of this wreck is unknown but is locally called the SS BRAZILIA. Although the identity of this wreck was not determined by the present survey, sufficient work was accomplished to justify the conclusion that this is the wreck assigned as Item #7. This assigned

Presurvey Review Item was hung in in two opposing directions and cleared within the required standards in two opposing directions and is considered a completed item. It is recommended that this item be charted as a dangerous sunken wreck cleared by 52 feet in the position determined by the present survey. No additional field work is recommended; however, it would be advantageous to obtain a least depth and a positive identification of this wreck at an opportune time.

b. Aids To Navigation

One fixed aid to navigation, Smith Point Light (Smith Point Lighthouse, 1898) was used as a visual control (calibration) station and is listed in section D. and Attachment IV.C of the Descriptive Report. Three other fixed aids to navigation are listed in section D. and Attachment IV.C of the Descriptive Report but were not used during this survey. One floating aid to navigation was located by this survey but is only noted as being hung in section V. of the Descriptive Report. Smith Point Fairway Lighted Bell Buoy "SP" was located approximately 95 meters south southeast of the charted position by the present survey. It is recommended that this floating aid to navigation be charted in accordance with the most current available information.

8. COMPLIANCE WITH INSTRUCTIONS

Compliance of this survey with the Project Instructions was not considered during this modified processing.

9. ADDITIONAL FIELD WORK

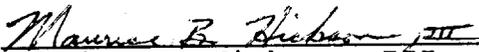
In general the adequacy of this survey was not considered during modified processing, except as it serves charting needs. Additional field work is recommended as noted in section 6.b. of this report.

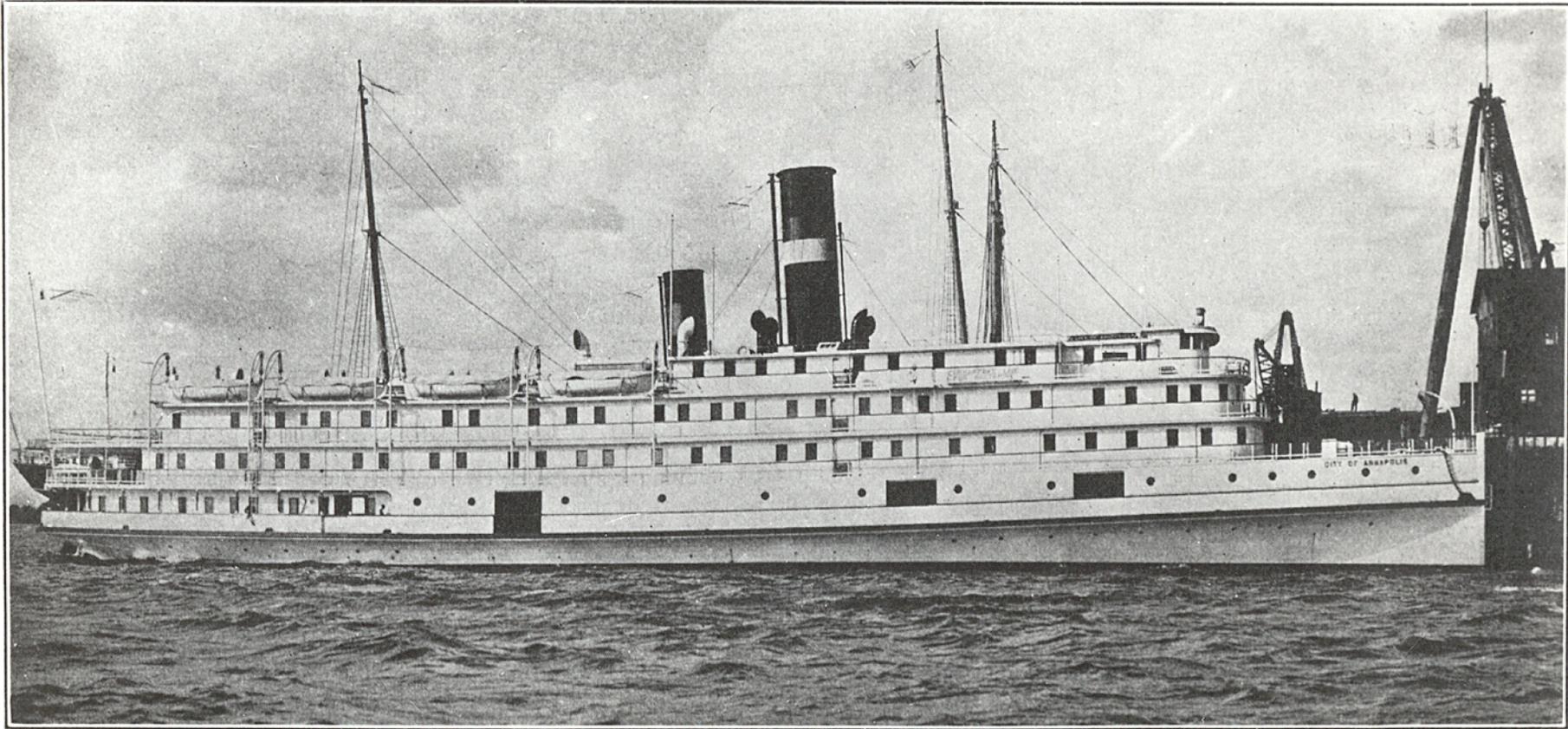
10. MISCELLANEOUS

1) No splits exist within the area covered by wire drag by the present survey.

2) A side scan sonar investigation in the vicinity of Pier No. 1, Norfolk International Terminals, Norfolk, Virginia was conducted in compliance with Change No. 1 (dated March 8, 1979) to Project Instructions OPR-E609-RU/HE-79. No records were submitted with the present survey of this investigation. Therefore no processing was accomplished for this investigation. See Attachments VI, VII, VIII, and IX of the Descriptive Report.

3) The side scan sonargrams included in the survey records are small cut out sections of the entire side scan sonar records. These small sonargram sections lacked proper labeling and annotation. As noted in section O. of the Descriptive Report, pertinent side scan sonar records on Presurvey Review Items #6 and #7 were sent directly to headquarters instead of being included with this survey. These factors hampered the processing of this survey and necessitated a reliance on the statements of the hydrographer and the judgement of the evaluator in lieu of adequate survey records to provide sufficient data to fully justify the charting conclusions and recommendations made during Evaluation and Analysis.

  
Maurice B. Hickson, III  
Cartographer  
Modified and Limited Verification  
of Field Data  
Modified and Limited Evaluation and  
Analysis



COPIED BY  
THE MARINERS MUSEUM  
NEWPORT NEWS, VIRGINIA

Negative No. PB 20632

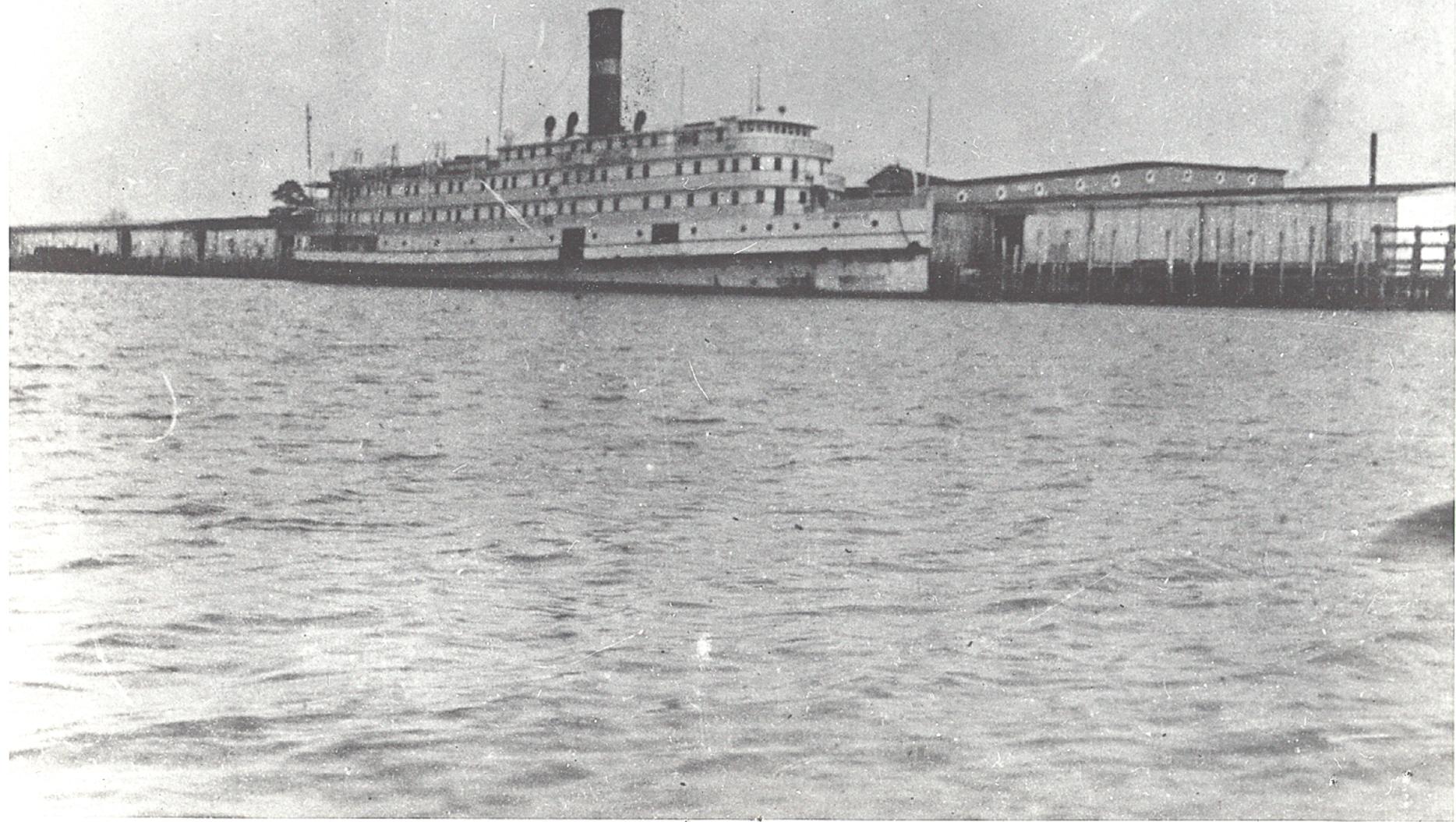
Print Date 4/20/79

Source \_\_\_\_\_

Not to be copied or reproduced without  
written permission of The Mariners Museum.

If reproduced by permission, credit line  
should read "Courtesy of The Mariners  
Museum, Newport News, Virginia."

PB 20632



*1955  
PB 26526  
R*

COPIED BY  
THE MARINERS MUSEUM  
NEWPORT NEWS, VIRGINIA

Negative No. PB 26526

Print Date 4/20/79

Source \_\_\_\_\_

Not to be copied or reproduced without  
written permission of The Mariners Museum,

If reproduced by permission, credit line  
should read "Courtesy of The Mariners  
Museum, Newport News, Virginia."



COPIED BY  
THE MARINERS MUSEUM  
NEWPORT NEWS, VIRGINIA

Negative No. PB.17215  
Print Date 4/20/79  
Source \_\_\_\_\_

Not to be copied or reproduced without  
written permission of The Mariners Museum.

If reproduced by permission, credit line  
should read "Courtesy of The Mariners  
Museum, Newport News, Virginia."

PB17215

January 8, 1980 U.S. DEPARTMENT OF COMMERCE  
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION  
NATIONAL OCEAN SURVEY

TIDE NOTE FOR HYDROGRAPHIC SHEET

Processing Division: Atlantic Marine Center:

Hourly heights are approved for

Tide Station Used (NOAA Form 77-12): 863-5750 Lewisetta, VA

Period: March 8 -28, 1979

HYDROGRAPHIC SHEET: (R/H 20-1-79) FE-220 WD

OPR: E609

Locality: Chesapeake Bay, off Smith Point, Virginia

Plane of reference (mean ~~lower~~ low water): 2.82 ft.

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

REMARKS: Recommended zoning:

Items 5, 6, and 7. Apply -95 minute time correction and range  
ratio x0.85.

  
Chief, Datums and Information Branch

The "City of Annapolis" left West Point, Virginia with passengers bound for Baltimore in the evening of February 23, 1927. The "City of Richmond" had left Baltimore, ~~Virginia~~ Maryland with passengers en route to West Point, Virginia. The two ships were nearly head-on between 0500 and 0600 in dense fog about 3,700 yards from Smith Point Lighthouse bearing about  $156^{\circ}$  from the lighthouse when they struck. The "City of Annapolis", northbound, was struck on the port side of the ship near the bridge. Confusion reigned as passengers were awakened and transferred to the "City of Richmond" which remained engaged on her bow with the "City of Annapolis" in the foggy, pre dawn darkness. After the transfer of passengers and crew to the "City of Richmond", the ship backed off the "City of Annapolis" which had taken on considerable water. The "City of Annapolis" took an immediate port list and appeared to roll over to port before sinking. Captain Layton was the skipper on the "City of Annapolis", and Captain Howard Willing was the skipper of the "City of Richmond". Captain Willing had a brother living in Irvington, Virginia, and Mrs. Marshall Gaskins who presently lives in Irvington, Va. (804-435-1322) is related to Captain Willing.

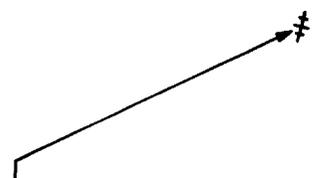
76° 11'

76° 10'

76° 09'

37° 41'

37° 4



*Not hung - located by side scan sonar and fathometer search  
 Not cleared by survey FE-220WD (cleared by 38 ft - FE-79WD, 1949)  
 Shoalest sounding 52 ft (uncorrected) by fathometer  
 Wreck - identity unknown*

37° 3

37° 4

FE-220WD  
 VIRGINIA  
 CHESAPEAKE BAY  
 SMITH POINT TO WINDMILL POINT  
 FEB. 26 - APR. 13, 1979  
 SCALE = 1:20,000  
 EFFECTIVE DEPTHS IN FEET AT MEAN LOW WATER  
 SHEET 1 OF 2  
 INVESTIGATION OF ITEM 2

37° 39'

37° 3

76° 11'

76° 10'

76° 09'

76° 11'

76° 10'

76° 09'

37° 52'

37° 52'

*Hang at 54ft**Cleared by 52ft**Shoalest sounding 57ft (uncorrected) by fathometer**Wreck - identity unknown (locally called SS BRAZILIA)*

54

*Not hung - located by side scan sonar and fathometer search  
Cleared by 57ft**Shoalest sounding 82ft (uncorrected) by fathometer**Wreck - DOROTHY (no positive identification)*

50

37° 51'

37° 51'

*Hang at 50ft**Cleared by 49ft**Shoalest sounding 58ft (corrected for tides only) by fathometer**Wreck - CITY OF ANNAPOLIS (no positive identification)*

FE-220WD

VIRGINIA

CHESAPEAKE BAY

SMITH POINT TO WINDMILL POINT

FEB 26 - APR 13, 1979

SCALE = 1:20,000

EFFECTIVE DEPTHS IN FEET AT MEAN LOW WATER

SHEET 2 OF 2

INVESTIGATION OF ITEMS 5, 6, &amp; 7

37° 50'

37° 50'

76° 11'

76° 10'

76° 09'

INSPECTION REPORT  
FE-220WD

The completed survey has been inspected with regard to survey coverage, investigation of hangs and clearance depths, cartographic symbolization, and verification or disproval of charted data. The survey complies with National Ocean Service requirements except as noted in the Evaluation Report. The survey records comply with NOS requirements except where noted in the Evaluation Report.

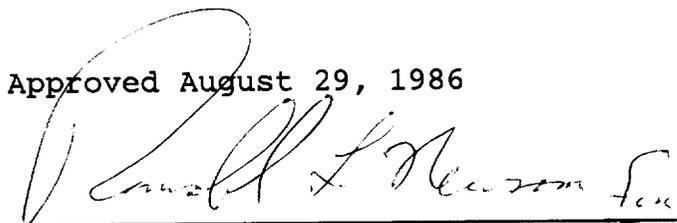
Inspected



---

R. D. Sanocki  
Chief, Hydrographic Surveys  
Processing Section  
Hydrographic Surveys Branch

Approved August 29, 1986



---

Wesley V. Hull, RADM, NOAA  
Director, Atlantic Marine Center

DEPARTMENT OF COMMERCE  
National Oceanic and Atmospheric Administration

National Ocean Survey  
Rockville, Maryland

Hydrographic Index No. 69 K

