F00222

NOAA FORM 76-35A

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

DESCRIPTIVE REPORT

Type of Survey Wire Drag

Field No. R/H-20-1-78

Registry No. F00222

LOCALITY

State Virginia-Maryland

General Locality Chesapeake Bay

Sublocality Chesapeake Channel to Cove Point

1978

CHIEF OF PARTY
R.V. Smart

LIBRARY & ARCHIVES

DATE December 4, 1987

DIAGRAM 77-3 & 78-3

Charts

12222
12254
12256
12221
12220
12224
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12270
12263
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12260

FORM C&GS-537 (5-66)

U.S. DEPARTMENT OF COMMERCE
ENVIRONMENTAL SCIENCE SERVICES ADMINISTRATION
COAST AND GEODETIC SURVEY

REGISTER NO.

FE-222WD

HYDROGRAPHIC TITLE SHEET

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.

R/V-20-1-78

State VIRGINA -- MARYLAND

General locality ~~EAST COAST INVESTIGATIONS~~ CHESAPEAKE BAY

Locality CHESAPEAKE ~~BAY~~ CHANNEL TO COVE POINT

Scale 1 : 20,000 Date of survey Feb. 27 - Aug. 16, 1978

Instructions dated 8 DECEMBER 1978 ~~7~~ Project No. OPR-E609-RU/HE-78

Vessel RUDE (S590) and HECK (S591)

Chief of party LCDR. ROBERT V. SMART

Surveyed by LCDR. R.V. SMART, LCDR. T.W. RUSZALA, LT(jg) S.P. De BOW, ENS. P.M. CONNERS
LT(jg) C.E. GROSS, ENS. M.A. CLASSICK

Soundings taken by ~~echo sounder~~, hand lead, ~~pole~~ wire drag

Graphic record scaled by N/A

Graphic record checked by N/A

Protracted by N/A Automated plot by Rough Plot only CALCOMP 618 plotter (AMC)

~~Soundings penciled~~ Verification by Evaluation and Analysis Group, Hydrographic Surveys Branch (AMC)

Soundings in ~~fathoms~~ feet ~~at~~ MLW ~~MEAN~~ ~~PREDICTED TIDES~~ (smooth tides)

REMARKS:

STANDARDS CK'D 12-19-87
Clay

AWOIS/BURF ✓ 11/16/88 STY

SC331-97

USCOMM-DC 37009-P66

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

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VIII. LETTER DATED 27 JUNE 1978 - ASSOCIATE DIRECTOR, MARINE SURVEY AND MAPS

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XII. Letter dated 24 September 1979 - U.S. Army Corps of Engineers

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

DESCRIPTIVE REPORT

TO ACCOMPANY FE-222 WD

WIRE DRAG FIELD. NO. R/H 20-1-78

PROJECT OPR-E609-RU/HE-78

EAST COAST INVESTIGATIONS

CHESAPEAKE BAY

I.

A. AUTHORITY

This project was authorized under Project Instructions OPR-E609-RU/HE-78, Wire Drag, East Coast Investigations, Chesapeake Bay, dated 8 December 1977. The instructions were amended by Change No. 1 dated 30 January 1978, Change No. 2 dated 19 June 1978, and also Change No. 3 dated 26 July, 1978.

B. CHARACTERS AND LIMITS OF WORK

The purpose of the project was to investigate a total of nine (9) items within the Chesapeake Bay. This report covers the completion of eight (8) of the items and a portion of ITEM #3 which was not fully completed.

The western third of the position circle on ITEM #5 was not surveyed due to the agreement mentioned in the letter

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dated 14 July 1978 from the Chief, Marine Surveys Division (Attachment VI). In addition, standard bottom clearances were not obtained on ITEM #6 in agreement with the aforementioned letter. The required effective depth of 55 feet was obtained over the portion of the position circle in question.

C. CONTROL *See also section 2.a. of the Modified Evaluation Report.*

Raydist DR-S range-range control was the only electronic control used during the survey. The stations operated on a frequency of 3294.495 KHz which provided a lane width of 45.481635 meters. The positions of the stations for each sheet is given in Attachment IV D.

With the installation of new DECCA radars on both vessels, the accuracy of the ranges has been increased by the aid of the variable range ring. Ranges were recorded each fix, along with a bearing to the ships, thereby putting a limit on any lane ambiguity if one vessel's Raydist control remains good.

Control on ITEM #8 was basically LORAN-C and visual. However, control was not as important since the Navy was intending to remove the obstructions after a marker buoy was deployed, as per project instructions.

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D. SHORE SIGNALS AND CALIBRATION

Calibration of the Raydist was accomplished in the working area by obtaining sextant angles to objects of known geodetic coordinates. In addition, during some portions of the survey, a circle calibration was undertaken on a structure of known coordinates. Calculations of red and green lane values from angles taken in a three-point fix were computed using an HP-65 programmable calculator. ATTACHMENT IV-C contains the shore signals utilized during various stages of the project.

Three-point fixes for calibration during the investigation on ITEM #7 were corrected for inclined sextant angles as per Section A.5.3.1.5 of the Hydrographic Manual.

E. RAYDIST LANE LOSS

Initial problems with the Raydist was rectified by Hastings Engineers. Attenuators were attached to the system correcting the initial problems. Lane loss due to power failures or thunderstorms shall be mentioned under the section for each item.

F. DATES OF SURVEY

The project began on 27 February 1978 and was completed on 16 August 1978.

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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, Virginia with the following correctors applied:

ITEM	H.W.	L.W.	HEIGHT RATIO
1+1a	-1.10 hrs.	-1.22 hrs.	X 1.08
2	-43 min.	-35 min.	X 1.08
3	+11 min.	+24 min.	X 0.86
4	+3.59 hrs.	+3.69 hrs.	X 0.48
5	+7.35 hrs.	+7.53 hrs.	X 0.36
6	+6.59 hrs.	+6.65 hrs.	X 0.39
7	+5.87 hrs.	+5.77 hrs.	X 0.52

H. JUNCTIONS AND SPLITS

See section 10.a. of the Modified Evaluation Report.

There were no junctions or splits during this project.

I. INCOMPLETE ITEMS — See section 10.b. of the Modified Evaluation Report.

Of the nine items assigned during the project, only ITEM #3 was not completed due to the numerous amount of crab pots in the area. The letter dated 26 May 1978 from the Associate Director, Marine Surveys and Maps (Attachment V),

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relieved the command of completing the item at that point in time. However, it was expected that the item be finished at a later date. Since the time did not exist at the end of the season, the item was left uncompleted.

J. CURRENTS AND WINDS

Throughout the project currents had to be accounted for before a drag could be planned. Usually, drags were either run with the current or at slack water. Running a drag against a 1 or 2 knot current would not only be very slow but excessive lifts result. Since the Chesapeake Bay is a tidal basin, currents were encountered at various degrees throughout the project. The strongest being near the Bay-Bridge Tunnel while working on ITEM #1.

Winds were not a serious problem throughout the project. However, winds in excess of 15 knots would generally cause an unworkable situation.

K. DIVING PROCEDURES

Due to a NOS Directive that all diving on board the ships would be suspended until a positive pressure oxygen resusitator was acquired, operations were hampered while investigating ITEM #3. With the acquisition of this system the vessels were able to resume diving operations during hangs.

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In addition, it was the Commands feeling that the use of divers while investigating ITEM #5 was very hazardous. Since the obstructions were clusters of fish impoundment stakes, it was believed that a solid hang would not exist.

On most hangs divers went down the wire and attached a marker buoy to the obstruction so that later investigation would not be hindered by hanging on a wire under tension. This method was found to be very useful, enabling the divers to scour the wreck without the apprehension that the wire could slip off the hang at any time.

Full wet suits were worn with standard scuba diving gear. Visibility varied from 0 to near 20 feet, averaging 5 feet.

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 asterick (*) next to the section indicates the test came from the HECK's Launch 20.

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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 considred 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 uncertainity 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 Raydist it was difficult to see if the ships were moving without taking a complete fix. The Raydist's saw tooth recorder gives a permanent record of movement of the ships at all times. The Raydist strip chart was checked at the end of each drag to ascertain proper ship movement before the drag was aborted.

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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 personnally 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.

O. PERSONNEL AND EQUIPMENT

Throughout the project, the RUDE and HECK acted as guide and end vessel, respectively. Both vessels are equipped with Raytheon DE-723 fathometers for reconnaissance hydrography.

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The newly acquired Klein Side-Scan Sonar unit was very helpful in discovering obstructions which were charted in wrong positions. In addition, the new DECCA radars installed last winter enabled more accurate ranges to be taken to the respective vessels during the drag. As a result, errors were eliminated which could have come about from estimating between range rings. Both of the vessel's Bristol launches were utilized as drag tenders. Bearings to the end buoys and opposite vessel were made on Sperry Gyro Repeaters. Standard wire drag equipment was used throughout the project. The officers participating were: LCDR R. V. Smart, LCDR T. W. Ruszala, LTJG S. P. DeBow, ENS M. A. Classick, LTJG C.E. Gross, 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, LCDR, NOAA

R. V. Smart

Commanding Officer

NOAA Ships RUDE & HECK

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II.

A. STATEMENT ON ITEM 1A

Item 1A was the subject of Change No. 1 to the Project Instructions and is a sunken navigational buoy. The buoy, when found, was to be marked with a buoy enabling the Coast Guard to recover it.

B. GROUNDING OR HANGS

Drag A-1 hung an object in the vicinity of the sunken buoy, but due to adverse conditions, divers were not able to identify the obstruction. Drag B-1 hung the same object and divers attached a marker buoy. No clearing strips were run since the buoy was to be removed by the Coast Guard Cutter Madrona (WLB 302).

C. NOTED OCCURENCES DURING SURVEY

The item under investigation was initially found using Klein Side Scan Sonar on 23 February and a good position was obtained relative to its replacement buoy (records enclosed). Progress on the item was hampered by Raydist problems which were corrected by installation of signal attenuators.

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NR 01

P 051940Z APR 78
FM USCGC MADRONA
TO ZEN/CCGDFIVE PORTSMOUTH VA
INFO ZEN/COMCOGARDGRU HAMPTON ROADS VA
NOAA NORFOLK VA
NOAA VESSEL HECK
NOAA VESSEL RUDE
CG GR NC
BT
UNCLAS
1. 1340R RECOVERED SUNKEN HORSESHOE CROSSING LBB (LLN-3151) IN POSITION 37101.3N; 76-08.9W WITH SHIPS GRAPPEL. BUOY HAS NUMEROUS BULLET HOLES CAUSING THE SINKING, ATTRIBUTED TO VANDALISM.
2. VESSEL RUDE AND HECK DID AN OUTSTANDING JOB OF FINDING AND MARKING SUBJ BUOY. WE WERE ABLE TO RECOVER ON THE FIRST PASS.
3. MY SINCEIRE APPRECIATION TO NOAA AND VESSELS RUDE AND HECK FOR THEIR COOPERATION AND ASSISTANCE.
BT

05/2311Z BP AR

D. SUMMARY - *This item was not processed as the sunken buoy was recovered.*

The marker buoy secured to the mooring chain of the sunken buoy enabled the Coast Guard Cutter Madrona to recover the buoy on 5 April, thus completing the item (see enclosed message).

E. RECOMMENDATIONS

Since the sunken buoy was recovered, no charting action is required on this item. - *Concur*

III. ITEM 1

A. STATEMENT ON ITEM 1

Item 1 was reported to be an obstruction, 13 feet, reported at Lat. 37°02.5'N, Long. 76°06.7'W. The hazard was found by the U.S. Navy during minesweeping operations in 1967.

B. GROUNDINGS OR HANGS

Hang C-1 - A hang with N-F in line was encountered on the HECK's side of the drag. It was the commands feeling that the large end weight was stuck in sand waves. The same sand waves were encountered in this area in 1977 due to the scouring near the Chesapeake Bay-Bridge Tunnel. The area was cleared to

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19 ~~1/2~~ feet on Drag D-1 (south to north) and later cleared to 21 ~~1/2~~ feet during Drag G-1 (North to South). — See section 6.a. of the Modified Evaluation Report.

Hang D-2 - Again the drag is believed to have grounded out on the HECK's towline. The uprights were set at 22 feet with virtually no tide and run in charted hydrography of 26 feet. Later reconnaissance showed sand waves up to 6 feet in amplitude. The area was cleared to 20 feet by Drag G-1. Drag strip D-2 rejected by the field and was not office processed. - The records were examined and a grounding, not a hang, is evident.

Hang H-1 - A hang was indicated at position Lat. 37°01' ~~65~~ 42.2"N, Long. 76°06' ~~62~~ 40.4"W. Diver investigation found a mushroom anchor projecting 4- ~~1/2~~ 3/4 feet from the bottom. A least depth by the use of a pneumatic air guage was 2~~4~~5.8 (corrected) feet in 29.3 feet of water. The effective depth of the drag was 23 feet at the time of the hang and the position was cleared to 22 feet by Drag J-2. [20' by M-1 North to South] — The least depth by pneumatic depth gage was rejected since it is deeper than the hang depth.

Hang J-1 - A hang (@22') was indicated on pick-up and a detached position of Lat. 37°01' ~~27~~ (OK) N and Long. 76°06.9'W was obtained. It was believed that the hang was a grounding in sand waves and the position was cleared to 22- ~~1/2~~ feet in 2~~7~~8 feet of water by Drag K-2 (North to South) {22' by M-2 - South to north}. — See section 6.a. of the Modified Evaluation Report.

Hang K-1 - The effective depth of this drag was ~~23~~ 15 feet at the time of the hang, which is believed to be a grounding. This was cleared by Drag ~~K-2~~ J-1 to ~~22~~ 17 feet, thus substantiating the suspected grounding. - See section 6.a. of the Modified Evaluation Report.

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Hang L-1 - A temporary hang was found at an effective depth of 21~~-1/2~~ feet and slipped off before divers could investigate the obstruction. The area was eventually cleared by Drag N-1 (South to North) to 19~~-1/2~~ feet & G-1 to 20' - North to South. — See section 6.a. of the Modified Evaluation Report.

Hang N-2 - Another grounding was found on this drag before an effective depth could be obtained. However, the wire was set at 27 feet with two feet of predicted tides at the time of the hang. It was cleared by the following strip, N-3, to 25 feet in 26 feet of charted hydrography. Strip N-2 was rejected by the field and was not office processed. The records were examined and a grounding, not a hang, is evident.

C. NOTED OCCURENCES DURING SURVEY

The numerous hangs encountered on this item were due mostly to shifting sand waves in the area. Side scan sonar and reconnaissance hydrography showed waves up to 6 feet in amplitude in the position circle. Except for the hang on H day, all of the other hangs are expected to be groundings. See sections 6. & 7. of the Modified Evaluation Report.

D. SUMMARY

Although numerous hangs were a problem on this item, the vessels never did find the reported obstruction with a least depth of 13 feet. The only substantial hang was a mushroom anchor imbedded in the bottom at Lat. 37°~~0.65'~~ 01'42.2" N and Lat. 76°06'~~.62'~~ 40.4" W. It is a possibility that the towed minesweeping gear could have snagged this object which would

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account for the great amount of tension experienced by the reporting unit. However, this is only conjecture and cannot be proven at the present time.

E. RECOMMENDATIONS See sections 7.a. 1), 2), 3), & 4) of the Modified Evaluation Report.

Since the reported obstruction was not found and cannot be disproven, it is the Commands recommendation that the 13-foot obstruction be charted as a Position Doubtful (PD). Do not concur. See Section 7.a. of the Modified Evaluation Report. As for the object found, the symbol denoting a dangerous submerged obstruction cleared by wire drag (Chart No. 1, Section O.-6) to 20 feet, should be charted on Chart 12222 at φ37°01'~~65~~ 42.2" N, and λ76°06'~~62~~ 40.4" W. See section 6.a. of the Modified Evaluation Report.

No charting action is recommended on the other hangs because they were all cleared to within 3-1/2 feet of the charted depth and this area is subject to shifting sand waves. Do not concur. See section 6.a. of the Modified Evaluation Report.

IV. ITEM 2 See also FE-249 (1984)

A. STATEMENT ON ITEM 2

Item 2 is reportedly a sunken barge about 60 feet long and extending 10 feet off the bottom near York Spit Channel. The original report stated that the item was located one-half nautical mile south, southwest of York Spit Channel Buoy #19, with a G.P. of φ37°10'~~8~~ 42" N, and λ76°09'~~4~~ 24" W. The descriptive

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position was later changed, via telephone conversation, to be one-half mile south of Buoy #23, due to a discrepancy in the original reported position.

B. GROUNDINGS OR HANGS

Hang R-1 - A subsurface sphere attached to approximately 400 feet of dredge pipe was hung at Lat. 37°11'~~55~~ 32.2" N, and Long. 76°11'~~03~~ 00.1" W. The steel sphere was tethered with wire rope and was submerged about 10 feet below the surface. The ~~obstruction~~ subsurface sphere was removed by the Coast Guard Cutter "Madrona" after a surface marker buoy was attached to the sphere by ship's divers on 5 May 1978. Upon removal of the buoyant ball, the area was not cleared since a hazard to navigation did not exist. — See section 6.a. of the Modified Evaluation Report.

Hang U-1 - Drag U-1 was set out with the intention of hanging York Spit Navigational Buoy #24 from the south. The buoy was hung at an effective depth of 23-1/2 feet in φ37°-11.4'N and λ76°09.1'W and no unknown obstruction existed in the immediate vicinity. — Hangs on floating aids to navigation were not verified.

Hang Y-1 - York Spit Channel Buoy #23 was hung from the northerly direction at 33-1/2 feet effective. The buoy was to be on station with no obstruction nearby. — Hangs on floating aid to navigation were not verified.

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Hang Z-2 - Another buoy, #19, was found to be in position and was hung at an effective depth of 33 feet. No obstructions existed in the vicinity of said buoy. - Hangs on floating aids to navigation were not verified.

Hang AB-1 - This drag hung on the first position, what was found to be the item under investigation. There was no effective depth, but divers obtained a sounding at the hang of 37 feet. - Wrist ~~depth~~ gage depths are not acceptable Initial investigation with side scan sonar enabled the ships to locate the barge-like wreck. The position obtained on the hang was φ37°~~09.10'~~ 08' 53.2" N, and λ76°09'~~22"~~ 09.3" W. The item was cleared to ~~28 1/2~~ 27 feet by Drag AH-1.

Hang AD-1 - While attempting to clear the barge found on "AB" day, this drag hung at φ37°08'~~89'~~ 53.2" N and λ76°09'~~16'~~ 09.3 W, with an effective depth of 35 ~~34~~ feet. Strip AH-1 cleared the hang at ~~28 1/2~~ 27 feet.

Hang AE-3 - Again this drag was intended to clear ITEM #2 but hung with an effective depth of 33~~-1/2~~ feet. A firm position was not obtained because the drag hung at Intermediate Buoy #1 which was submerged while the vessels were hung. It was known that this was the wreck under investigation since the buoy was on top of a set of marker buoys which were attached to the wreck by divers. The area was cleared by Drag AH-1 to ~~28 1/2~~ 27 feet.

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Hang AF-1 - This drag also hung the wreck at 37°~~09.1'~~ 08'53.2" N, and 76°09'~~.2'~~ 09.3" W, with an effective depth of 32 feet. Strip AH-1 cleared the area to ~~28-1/2~~ 27 feet effectively.

Hang AF-2 - Again this strip hung the item under investigation at 30 feet effective. This hang was also cleared by Drag AH-1.

Hang AG-1 - This strip cleared the item in question and hung York Spit Channel Buoy #17. However, before a closing calibration could be obtained, thunderstorms caused the vessels to lose lock on Raydist. The navigation buoy was found to be on station. - Strip rejected by field and not offic processed.

Hang AH-1 - Clearing Item #~~2~~ to ~~28-1/2~~ 27 feet effectively, this strip also hung York Spit Channel Buoy #17. The buoy was found to be at it's designated position with no obstructions nearby. Hangs on floating aids to navigation were not verified

C. NOTED OCCURENCES DURING SURVEY

Due to the fact that an obvious discrepancy existed on the descriptive position of the item, a side scan sonar investigation was carried out by the HECK on 2 May 1978, near the original reported position of the wreck. Consequently, a large underwater obstruction was found 350 yards north, northwest of York Spit Channel Buoy #13. The item was hung

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several times, investigated and identified by divers, and eventually cleared to ~~28-1/2~~ 27 feet on 17 May 1978. Correspondence with the Associate Director, Marine Surveys and Maps, dated 30 May 1978 and 27 June 1978 (Attachments VII and VIII), relieved the vessels of further investigation on the item.

Cooperation with the Coast Guard Cutter "Madrona" enabled the subsurface sphere, which was attached to 400' of dredge pipe, to be removed on 5 May, thereby eliminating the necessity of clearing strips over the obstruction found 6 April 1978. Do not concur.

Thunderstorms caused Raydist lane loss on 15 and 16 May, 1978 while the vessels were trying to obtain clearing strips on the item.

D. SUMMARY

As it turned out, the original descriptive position of the sunken barge as 1/2 nautical mile south, southwest of York Spilt Channel Buoy #19 was found to be correct and the location of the barge was 0.2 nautical mile from this position. Approximately 90% of the 1 nautical mile investigation circle was completed with a cleared least depth of 24-~~1/2~~ feet west of York Spit Channel and 19-~~1/2~~ feet to the east. The remaining area required to hang surface navigation buoys had been dredged twice by the Corps of Engineers with no wreck found (Attachment IX).

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E. RECOMMENDATIONS

A symbol denoting a wreck cleared by wire drag (Chart No. 1, Section "O".15a) should be charted at Position φ37°~~11.55'~~ 05' 53.2" N, Long. λ 76°~~11.13'~~ 09' 09.3" W. The cleared depth of ~~20 1/2~~ 27 feet is based on ~~predicted~~ smooth tides. ~~and must await smooth tides to determine the depth at MLW.~~ See section 7.a.5) of the Modified Evaluation Report.

In addition, the existing submerged dangerous wreck symbol, charted as PA in φ37°10.7'N and λ76°09.4'W should be removed. ← has already been removed from all effected charts. The reasons for this action are supported by the initial ambiguity as to the location of the wreck and actual location found by the vessels which was very close to the initial descriptive position.

V. ITEM 3

A. STATEMENT ON ITEM 3 See FE-260 (1984)

Item 3 is believed to be a wreck with mast visible at 37°~~10.12'~~ 18' 12" N and 76°~~07.54'~~ 07' 54" W. The wreck was previously marked by an orange buoy with white strobe light which was later removed.

B. GROUNDINGS OR HANGS

Hang W-1 - This hang was encountered after Position #8 and before the wire could be fully tested. Therefore, an

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effective depth was not obtained. Also, intermediate Buoy #4, in close proximity of the hang, was towed under so that cuts were taken to intermediate Buoys #3 and #5. Unfortunately, these did not plot a firm position on the hang. Diver investigation of the hang was nullified due to restrictions imposed by a NOS Directive that a positive pressure oxygen resusitation must be aboard the diving platform. See sections 7.a.8), AWOIS#3183, of the Modified Evaluation Report.

Hang X-1 - This drag hung an obstruction in ϕ37°18' ~~42~~ 22.6" N, and λ76°07' ~~79~~ 46.8" W with an effective depth of 3~~5~~ 4 feet, based on ~~predicted~~ smooth tides. Due to the reasons mentioned previously, divers were not deployed. However, during pick-up, a mast was visible tangled in the wire off the stern of the RUDE. An attempt was made to tie a line on the mast, but it slipped off the wire before it could be reached. See sections 6.b. and 7.a.7) of the Modified Evaluation Report. (AWOIS# 3182)

Hang Z-1 - A hang was encountered in ϕ37°18' ~~55~~ 33.0" N and λ76°07' ~~72~~ 43.2" W at an effective depth of 3~~3~~ 2 feet. The directive limiting diving was lifted and divers found the wire hung on a small rock projecting a foot and a half off the bottom. No other wreckage was found. (AWOIS# 3435)

Hang AE-2 - This drag hung a piece of metal projecting 2-1/2 feet off the bottom in ϕ37°18' ~~65~~ 39.8" N and λ76°07' ~~93~~ 56.7" W with an effective depth of 3~~8~~ 6 feet. However, high tension on the wire caused it to slip off the hang before further investigation could be made. (AWOIS# 3436)

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C. NOTED OCCURENCES DURING SURVEY

Thunderstorms again hampered the acquisition of quality data on "Z" day, 25 April (JD 115). This problem was later rectified by doing lane checks on nearby navigation buoys.

With the restriction of diving placed on the vessels, a chance of identifying and thus proving the item under investigation was lost on "X" day. Since the background specifically states that a mast was visible, the vessels could have been hung on the item.

Crab pots in the vicinity of the item hampered effective operations in the area. Correspondence with C3, dated 26 May, 1978 (Attachment V) relieved the vessels of completing the item at that point in time. Due to uncontrollable circumstances, the item was not rescheduled for completion later in the season.

D. SUMMARY

Of the five drags run over the item, four were hangs. Two of these were investigated without conclusive evidence that the item had been found. However, Drag X-1 did produce a mast. Side scan sonar investigation of the area did not produce large wreckage as suspected. Since a buoy was initially placed over the item and the mast was visible at one time, it

4/28471

is felt that the initial position was fairly accurate.

E. RECOMMENDATIONS

No charting action is recommended due to the fact that the item was not fully investigated. The item should be re-assigned in the future so that a complete investigation can be carried out. See sections 6.b. and 7.a.6) of the Modified Evaluation Report

VI. ITEM 4 — Not processed — present survey data superseded by FE-27555 (1984) for this item (AL015#3673)

A. STATEMENT ON ITEM #4

Item 4 was reported to a 197-foot LSM type vessel, with a least depth of 45 feet in 63 feet of water about 2.2 miles from Smith Point Light. The wreck was published in Notice to Mariners #48, 30 November 1957 and is charted at 37°55.0'N, and 76°11.0'W.

Contact with local fisherman revealed that the barge was carrying paper pulp for the C. G. Willis, Company of Norfolk, Virginia when it went down at night in a bad storm.

B. GROUNDINGS AND HANGS

Hang AL-1 - A temporary hang was encountered on this strip after Position 6. It was felt that the hang was, in

422471

fact, a grounding, since an excessive amount of debris was found on the bottom wire. The HECK began recon hydrography in the area and recorded an obstruction rising 10 feet off the bottom at 37°55.2'N and 76°11.2'W.

Hang AM (JD 151) - A solid hang was recorded at 37°55.19'N, and 76°11.2'W by the ships on this day 31 May, but due to thunderstorms and eventual Raydist loss, all of the data was rejected.

Hang AM-1 - Winds of 12-15 knots set the guide vessel over a 52-foot sounding with the uprights set at 53 feet. By increasing speed and using bridle, the vessels pulled the wire off the bottom. After Position 8, a hang was indicated and diver investigation revealed the item being sought. Divers found a conventional barge about 210 feet in length, lying in a east, northeast orientation, with a least depth of 48 feet on divers guages. The position of 37°55.2'N, 76°11.2'W agrees with the initial report and previous hangs. Drag AN-3 cleared the item to 44 feet based on predicted tides.

C. NOTED OCCURENCES DURING THE SURVEY

Thunderstorms caused rejection of data on 31 May 1978. A total of eight acceptable drags, resulting in three hangs, were run over the item. The item was initially found with the aid of side scan sonar and investigated on AM day. The

422471 #2

greatest cleared depth over the wreck was 44 feet effective.

Divers identified the item and determined that the barge could be hung from all directions.

D. SUMMARY

As was the case for Items 1a and 2, this item was found with the new Klien Side Scan Sonar equipment. The description of the wreck along with the position from the Notice to Mariners agrees closely with what the divers and ships found. It is the Commands feeling that the wreck found was the item being sought.

E. RECOMMENDATIONS

It is recommended that the following charting positions be taken on Charts 12225, 12228, and 12230:

1. The wreck symbol presently charted at 37°55.0'N and 76°11.0'W be removed.

2. The symbol denoting a wreck cleared by wire drag (Chart No. 1, Section "O"-15a) should be charted in 37°11.19'N and 76°11.22'W. The greatest cleared depth of 44 feet is based on predicted tides and must await smooth tides in order to be reduced to MLW.

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VII. ITEM 5

A. STATEMENT ON ITEM 5

Item 5 was reported in Notice to Mariners #16 of 1964 is a submerged obstruction, PA, 4 feet reported 1963, charted at φ38°46.19'N and λ76°30.54'W.

Local information confirmed that numerous pilings existed in the area where two commercial fish pounds were erected, but sheered off by ice. The stakes were not marked and are only visible at low tides in conjunction with large swells.

B. GROUNDINGS AND HANGS

Hang AT-1 - An expected grounding occured at the end of this strip and will not be investigated further. The grounding occured in 18 feet of charted hydrography with uprights set at 19 feet. — An expected grounding, not a hang, which does not conflict with prior hydrography — not plotted.

Hang AT-2 - A hang was encountered after position 31 and before the wire could be completely tested. By the configuration of the buoys a multiple hang was suspected between buoys 3 through F. A firm position was not obtained since the drag was not completely tested and no effective depth obtained. — A hang on one of the two fish impoundment areas.

422447

Hang AT-3 - This strip was similar to the previous strip in that it was intended to hang the obstruction recently found. With an effective depth of 13-~~1/2~~ feet, the drag resulted in a multiple hang. The position of the hangs were:

1. Lat. 38°4~~7~~ 6' 59" ~~01'~~ N
   Long. 76°29' 47" ~~92'~~ W

2. Lat. 38°47' 04" ~~05'~~ N
   Long. 76°30' 05" ~~00'~~ W

It was believed that the vessels were hung on the item under investigation since information from local fisherman confirmed that one of two fish impoundments was in the general locale of the hang. Divers were not utilized due to the potential hazard of an accident occuring should the wire slip off the stakes.

The letter from Chief, Marine Surveys Division dated 14 July, relieved the command of clearing the obstructions (See Attachment VI).

Hang AV-1 - Strip AV-1 grounded on set-out. Attempts to free the wire proved fruitless so the wire was picked up. A position of ϕ38°44' 45.8" ~~8'~~ N and λ76°30' 42.8" ~~7'~~ W was obtained at the point of ~~grounding~~ hang. The area was cleared by strip AV-2 to 1~~2~~' feet effective. See section 6.a. of the Modified Evaluation Report.

42447

Hang AV-3 - This drag showed that no other obstructions existed to the south of the previous hangs. The drag also hung the stakes from the opposite direction with the eastern and western extremities of the pilings at:

1. Lat. 38°~~47.0'~~ 46' 59" N
   Long. 76°29'~~.8'~~ 47" W

2. Lat. 38°47'~~.07'~~ 04" N
   Long. 76°30'~~.05'~~ 05" W

Upon pick-up of the wire, both vessels had a number of pilings tangled in the ground wire. The stakes varied in width (diameter) from 6-10 inches and were about 25 feet long.

Hang AW-1 - While trying to clear the obstructions found earlier, the vessels hung again. Cuts showed the positions of the multiple hang to be in the same area deliniated by strip AV-3.

Hang AW-2 - A temporary hang was encountered in the vicinity of the fish impoundment while running this clearing strip. It was believed that the wire was hung on the stakes but slipped off due to tension on the wire.

Hang AY-1 - Relying on a tip from local fisherman, this drag hung a second set of fishstakes to the northeast of the

422447- Side 2

set previously found. Although an effective depth was not obtained, a firm position on the multiple hang was:

1. Lat. 38°47' ~~30~~ 23" N
   Long. 76°29' ~~26~~ 28" W

2. Lat. 38°47' ~~38~~ 18" N
   Long. 76°29' ~~44~~ 07" W

The line from Position 1 to Position 2 above is congested with the same type of stakes that were found earlier. Neither a least depth nor a greatest cleared depth was obtained as the individual pilings differ in height. However, it can be assumed that some extend very near the surface (1 to 2 feet).

Hang AZ-1 - This drag hung the stakes found on AY-1 from the southerly direction at an effective depth of ~~6 1/2~~ 5 feet, based on ~~predicted~~ smooth tides. The positions agree exactly with those that were obtained on Drag AY-1. By an agreement with C3, the area of the obstructions need only be deliniated, since a least depth could not be obtained practicably.

Hang AZ-2 - Proving that no obstructions exist near navigation buoy N "9B", this drag hung at an effective depth of ~~20~~ 19 feet. The buoy was found to be on station. — Hangs on floating aids to navigation were not verified.

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Hang AZ-3 - With the intention of hanging navigational buoy N "8B", this drag hung an obstruction at ϕ38°45' ~~.22'~~ 13.3" N and λ76°29' ~~.97'~~ 55.7" W. Diver investigation found the wire hung at 23 feet on an engine block covered with marine growth. The object projected about a foot and a half (1-1/2 foot) off the bottom with no other obstructions in the area. Since it does not present a hazard to navigation, no further investigation is deemed necessary. See section 6.a. of the Modified Evaluation Report.

Hang BA-1 - This drag hung buoy "9B" from the south at ϕ38°46.22'W and λ76°29.64'W. The buoy was hung at an effective depth of 23 feet and no other obstructions were found in the vicinity. - Hangs on floating aids to navigation were not verified

C. NOTED OCCURENCES DURING THE SURVEY

Thunderstorms caused lane loss on the guide vessel on 27 June, day AV. However, passes on a marker buoy deployed before the storm hit showed that the RUDE had gained 274 lanes on the red raydist rate. Although this creates doubt on the position of the hangs on AV day, the drags on AW day verified the positions before the thunderstorm activity started.

Local knowledge aided the vessels in determining the extent and relative position of the two fish impoundments. After finding and delineating the extent of the fish stakes,

4224119

the vessels were relieved of the obligation to obtain a least depth in accordance with the aformentioned letter from C3.

D. SUMMARY

Approximately ~~75%~~ 60% of the one mile radius circle had been wire dragged. The remaining ~~25%~~ 40% will not be investigated as per instructions. The uninvestigated area shoals to 12 feet and was congested with crab pots. The only substaintial obstructions found in the area surveyed were two sections where fish pounds were formally worked. These hangs brought pilings to the surface while in the process of recovering the ground wire. The use of divers was deemed hazardous during this phase of the project because of the numerous rotted pilings in the area.

E. RECOMMENDATIONS

The following recommendations pertain to Charts 12263, 12266, and 12270:

1. The obstruction symbol charted at φ38°46.19'N and λ76°30.54'W should be removed has already been removed from all affected charts since the area was cleared by wire drag with no obstructions found. Concur

2. A symbol indicating a line of submerged pilings (Chart No. 1, Section "O"-30) should be charted with the following positions. From a point φ38°47'~~30~~ 23"N and λ76°29'~~26~~ 28"W

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to a point ϕ38°47~~'38"~~ 18" N and λ76°29~~'44"~~ 07" W. Another symbol should be placed from a point ϕ38°47~~'00"~~ 04" N and λ76°~~29.80'~~ 30'05" W to a point ϕ38°~~47.07'~~ 46' 59" N and λ76°~~30.05'~~ 29'47" W. Do not concur - See section 7.a.10) of the Modified Evaluation Report.

VIII. ITEM 6

A. STATEMENT ON ITEM 6

Item 6 is reported to be a 150-foot loaded barge, sunk in 70 feet of water, charted in ϕ38°36.30'N and λ76°25.7'W. The wreck originates with Notice to Mariners 13 of 1952. Conversation with the owner of a local dive shop brought forth further evidence about the wreck. A comparison of the Notice to Mariners and a dive report (enclosed) which the owner possessed, confirmed that the barge was the "Eckie" owned and operated by the S.C. Loveland Company, Inc., of Philadelphia. The Loveland Company was contacted and a more definite description of the barge was obtained (enclosed).

B. GROUNDINGS AND HANGS

Hang AP-1 - A substantial obstruction was recorded on the ship's fathometer on 8 June 1978, northeast of the charted wreck symbol. This drag was intended to hang that obstruction and in fact did at ϕ38°37~~'08"~~ 03.2" N and λ76°24~~'59"~~ 35.9" W with an effective depth of ~~47-1/2~~ 46 feet. Divers identified the hang as a deteriorated wreck with a small metal house on the after portion. A least depth by divers guages was 46-1/2 feet in 55 feet of water. The item was cleared by strip AR-3 to

- wrist gage depths are not acceptable

- North to South

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40-~~1/2~~ feet based on ~~predicted~~ smooth tides.

Hang AQ-1 - Intended to be a clearing strip over the wreck, this drag hung at 44 feet effective at ϕ38°37'~~.03~~ 03.2" N and λ76°24'~~.61~~ 35.9" W. An anomoly occurred because by mistake 500 feet of wire was deployed in Section 2-3 rather than 400 feet. This fact must be kept in mind when conservation of wire at the hang is investigated. Strip AR-3 (North to South) cleared the wreck to 40-~~1/2~~ feet effectively.

Hang AQ-2 - This clearing strip hung the vessel under investigation at an effective depth of ~~41-1/2~~ 42 feet in ϕ38°37'~~.01~~ 03.2" N and λ76°24'~~.60~~ 35.9" W. The wreck was cleared by strip AR-3 (North to South) to 40-~~1/2~~ feet, based on ~~predicted~~ smooth tides.

Hang AU-1 - In order to conduct a diver investigation the wreck was intentionally hung at 43 feet. Divers found that the wreck was a wooden vessel close to 100 feet long and about 18 feet wide. It was believed that the vessel was at least 50 years old. By the size and construction of the wreck (AWOIS #2778), it was ascertained that this was not the item assigned. See section 7. of the Modified Evaluation Report.

Hang BB-2 - This drag hung an obstruction at ϕ38°36'~~.4~~ 27.7" N, and λ76°25'~~.87~~ 50.8" W with an effective depth of 5~~½~~ 6 feet. It was thought that this was the item being sought since the position of the hang was very close to the charted wreck symbol. Later, diver investigation found a steel hull tug, push boat type,

422449- Side 2

about 40 feet long and 12 feet wide. It was resting upside down in 67 feet of water. A diver's least depth was obtained of 50 feet. The wreck was cleared by strip BG-2 to an effective depth of 46-~~1/2~~ feet.

wrist gage depths are not acceptable

Hang BC-1 - This drag hung the tug found on BB day at 55-~~1/2~~ feet effective in ϕ38°36'~~43~~ 27.7" N and λ76°25'~~9~~ 50.8" W. However, the wire slipped off the hang before divers could be deployed. The wreck was cleared to 46-~~1/2~~ feet by strip BG-2.

Hang BC-2 - After three positions into the drag, this strip hung the tug at ϕ38°36'~~47~~ 27.7" N and λ76°25'~~85~~ 50.8" W. It was on this hang that divers investigated the wreck and found it to be lying upside down. Subsequent diver searches proved the wreck to be a push boat tug rather than the barge under investigation. This hang was also cleared by strip BG-2.

Hang BD-1 - A temporary ~~grounding~~ hang at 45 feet was found after position 18 but slipped off the hang before a good "V" developed. Hang position = Lat. 38°36'29.4"N, Long. 76°26'28.5"W The drag also grounded out at the end of the line. This was anticipated and did not warrant further investigation. Strip BE-1 cleared the area to 4½ feet effectively. See section 6.a. of the Modified Evaluation Report. The grounding at the end of the strip is not in conflict with prior hydrography and did not warrant further investigation. The temporary hang at 45 feet in prior depths of 54 feet was not anticipated and did warrant further investigation.

Hang BE-2 - This drag hung the wreck found on "BB" day. The position of the hang was ϕ38°36'.46'N and λ76°25'~~82~~ 50.8" W at an effective depth of 5½ feet. Based on ~~predicted~~ smooth tides, strip BG-2 cleared the wreck to 46-~~1/2~~ feet.

422450

Hang BF-1 - A hang was encountered after position 5 at φ38°36'~~48"~~ 27.7" N and λ76°25'~~82"~~ 50.8" W, while attempting a clearing strip. This agrees with previous positions on the tug. An effective depth of 50-~~1/2~~ feet was obtained. The wreck was cleared by strip BG-2.

Hang BG-1 - Again this strip hung the tug at 48-~~1/2~~ feet effective in the same position as the previous hang. The following strip, BG-2, cleared the tug to 46-~~1/2~~ feet.

Hang BH-1 - This strip ran aground in 39-40 feet of water with uprights set at 40-1/2 feet. Although this was not done intentionally, the area was not cleared ~~by drag BJ-1 to 37 feet effectively~~ No conflict - not plotted.

Hang BK-1 - Intending to cover a portion of the 1 nm circle to 55 feet, this drag hung the tug, found on "BB" day, by accident. This fact was readily apparent and no further investigation was undertaken.

Hang BN-~~2~~ 3 - A detached position was obtained on a solid hang at the end of this drag. The effective depth of the strip was 46-~~1/2~~ feet estimated at the time of the hang. The obstruction was hung on "BP" day at 44 feet and was found to be the item in question, the barge "Eckie." A least depth by lead line was 42.~~8~~ 3 feet, based on ~~predicted~~ smooth tides.

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Hang BP-1 - This drag hung the obstruction found on "BN" day with an effective depth of 44 feet at φ38°35'45.9"N and λ76°24'43.8"W. With the aid of the description provided by the owners, divers identified the wreck as the item being sought. The wreck was partially buried near the bow, resting on the starboard bilge plate, in an upright position, with a 25° starboard list. Divers recorded a least depth by standard gauges as 42 feet. Since visibility was good and the full extent of the wreckage was determined, a least depth by lead-line was obtained. Based on predicted tides, a least depth of 42.3 feet was recorded over the wreck. With this information, it was felt that the item was completed.

C. NOTED OCCURENCES DURING THE SURVEY

Throughout the investigation of this item thunderstorms presented a major problem. A number of drags had to be rejected due to these late afternoon storms. In an effort to decrease the amount of rejected data, the ships began a series of lane checks on a navigational buoy in the area. Buoy "CR" is located at φ38°38.6'N and λ76°25.2'W about 2-1/2 nm north of the charted position of Item 6.

Floating aids to navigation were not verified during processing.

The use of side scan sonar aided the ships in finding the old wooden wreck and also in developing an orientation on the push boat tug.

. 422450- Side 2

Currents caused control problems during the ebbing flow from the Choptank River. It was also under these conditions that good diver investigation would be limited by poor visibility.

In the letter dated 14 July 1978 from the Marine Surveys Division (ATTACHMENT VI), a requirement of obtaining 55 feet within the 1 nm circle was granted rather than adhering to standard bottom clearances.

D. SUMMARY

Approximately 95 percent of the investigative circle had been surveyed and two uncharted wrecks discovered before the item was found. By the description of the barge from the S. C. Loveland Company, it was relatively easy to identify the wreck. With the exception of the areas where wrecks were found, bottom clearances were obtained in accordance with the modified requirements, i.e., 55 feet. In depths less than 55 feet, standard bottom clearances were obtained.

E. RECOMMENDATIONS

On Charts 12263 and 12266 the following actions should be taken:

1. For the wooden packet boat, a symbol indicating a wreck cleared by wire drag (Chart No. 1, Section "O" 15a)

. 422450- Side 2

should be charted at ϕ38°37'~~.08'~~ 03.2" N and 76°24'~~.59'~~ 35.9" W. The greatest cleared depth found over the wreck was 40~~-1/2~~ feet, based on ~~predicted~~ smooth tides. See section 7.a.14) of the Modified Evaluation Report.

2. A symbol indicating a wreck for the push boat tug, cleared by wire drag should be charted in ϕ38°36'.45'N and λ76°25'~~.85'~~ 50.8" W. This symbol should show a clearance of 46~~-1/2~~ feet over the wreck, based on ~~predicted~~ smooth tides. See section 7.a.13) of the Modified Evaluation Report.

3. For the wreck of the "Eckie" a symbol indicating a wreck cleared by wire drag should be charted at ϕ38°35'~~.77'~~ 45.9" N and λ76°24'~~.72'~~ 43.8" W. A depth of 42.~~8~~ 3 feet, based on ~~predicted~~ smooth tides, was obtained by lead line and should be ascribed to the wreck. See section 7.a.12) of the Modified Evaluation Report.

4. Finally, the symbol of a wreck, position approximate, at 38°36.3'N and 76°25.7'W should be removed. ~~This~~ has already been removed from all effected charts This symbol was marking the wreck of the barge "Eckie" which was found to be close to 1 nm southeast of the present charted position. Concur

IX. ITEM 7 — Only the position of this sunken barge was verified. Since all other data is superseded by the U.S. Army C. of E. Letter dated 24 Sept. 1979, Attachment XII. See section 7.a. of the Modified Evaluation Report.

~~A.~~ STATEMENT ON ITEM 7

Item 7 was the ~~subject~~ of Change No. 2, Supplement to Instructions and was a sunken barge ~~charted~~ at 38°25.46'N and 76°23.40'W. The wreck originated with local Notice to Mariners 3 of 1978 which stated that a buoy was established

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in 47 feet of water, 33 yards, 70° true from the wreck. A least depth over the wreck was estimated to be 37 feet.

B. GROUNDINGS OR HANGS

Strip BQ-1 - An obstruction was recorded on the ship's fathometer on 8 August in the general area of the wreck. A marker buoy was deployed to facilitate later investigation. This strip temporarily hung the wreck but slipped off the hang before it "Veed" up.

Hang BQ-2 - This drag hung the item at 34-1/2 feet effective in 38°25.43'N and 76°23.49'W. This effective depth was the same as the first strip so that it can be assumed that BQ-1 was temporarily hung on the wreck. Diver investigation was hampered by extremely poor visibility. Strip BR-1 cleared the wreck to 33 feet and Strip BR-3 cleared at 33-1/2 feet, based on predicted tides.

C. NOTED OCCURENCES DURING SURVEY

The purpose of the investigation was to determine the exact position and nature of the wreck due to it's proximity to the El Paso LNG terminal docks. Based on the descriptive position of the item, a search with ships fathometer recorded the wreck. Diver investigation was useless so that the wreck had to be cleared from opposing directions.

422451

D. SUMMARY

The wreck was found approximately 400 feet, 250° true from buoy "WR63." It was cleared at 33-1/2 feet and 33 feet from the opposite direction. A Notice to Mariners was submitted to the 5th Coast Guard District Headquarters in conjunction with the project instructions.

E. RECOMMENDATIONS

On Charts 12260, 12263, 12264 and SC 12265, the following actions are recommended:

1. The old PA wreck symbol should be removed.

2. A symbol for a wreck cleared by wire drag with a depth of 33 feet should be charted at 38°25.43'N and 76°23.49'W.

X. ITEM 8 - See also section 1. of the Modified Evaluation Report.

A. STATEMENT ON ITEM 8

Item 8 was the subject of Change No. 3: Supplement to Instructions, dated 26 July 1978. The item was a series of submerged pilings at the bombing range in Prohibited Area 204.42 and Restricted Area 204.42 on NOS Chart 12230. This area has several targets which were destroyed by bombing.

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Once located, the pilings were to be marked with a buoy so that the Navy could find the obstructions.

B. FIELD PROCEDURES ON THE ITEM

Since it was determined that a hazardous condition existed in the area, launches were used in lieu of the ships for hanging the pilings. Visual control was used since the purpose of this investigation was to locate and buoy the obstructions for the Navy. Obstruction A was given as Lat. 38°14.13'N and 76°20.30'W, located within Restricted Area 204.42. It was hung on 11 and 15 August. A NOAA/Navy diving team investigated the hang, verified it was the obstruction and secured a surface marker. Obstruction B, in Lat. 38°13.07'N and Long. 76°18.85'W, located within Prohibited Area 204.42, was the center bombing target. It was hung on 16 August and a surface marker dropped at the hang position. Obstruction C, in Lat. 38°12.98'N and 76°18.97'W, also within Prohibited Area 204.42, was known as Old Hooper, another bombing target. It was located on 16 August and a surface marker also dropped at the point of hang. These pilings were part of the fourth generation of targets constructed. Previous targets were destroyed either by bombing or surface ice. The subsurface water column is literally a pile of lumber, steel and concrete, hazardous to both ship and diver.

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C. RECOMMENDATIONS

No action is required as the structures were located and buoyed for the Navy to recover the sites. This item should be considered complete as per project instructions.

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STOCK NO. 37
(4-30-57)
COSM-DC 2M424

ATTACHMENT II

DATE	DAY LETTER	STRIP	VOL. #	POSITIONS	L.N.M.	S.N.M.	RED CORR.	GREEN CORR.	LENGTH OF DRAG	SMOOTH PLOT	REMARKS
27 FEB (058)	A	1	1	12					3000		Hung Item 1a
6 MAR (065)	B	1	1	5					2400		Hung & marker buoyed Item 1a
7 MAR (066)	C	1	1	13	1.05	.37			3000		Temporary hang - Item #1
		2	1	12	1.30	.50			3000		
13 MAR (072)	D	1	2	20	2.10	.74			3000		
		2	2	8	1.00	.20			3000		Grounded Hang
15 MAR (074)	E	1	2	27	2.20	.99			4000		
16 MAR (075)	F	1	2	20	1.80	.90			4000		
17 MAR (076)	G	1	2	44	2.7	1.2			4000		
20 MAR (079)	H	1	3	21	2.0	1.1			4000		Hung old anchor
22 MAR (081)	J	1	3	12	1.9	.95			4000		HAng on pick-up - Detached Pos.
		2	3	10	1.0	.35			2400		
23 MAR (082)	K	1	3	25	2.6	1.3			4000		
		2	3	9	1.0	.20			2400		
24 MAR (083)	L	1	3	21	1.8	.54			3000		
28 MAR (087)	M	1	4	9	.7	.21			2400		
		2	4	9	.6	.18			2400		
29 MAR (088)	N	1	4	12	1.0	.40			3200		
		2	4	8							Drag Rejected due to control prob
		3	4	16	.7	.28			3000		Finished Item # 1
31 MAR (090)	P	1	4	16	2.7	.95			3200		Item # 2 - IMitial Coverage
		2	4	14	1.6	.64			3200		
5 APR (095)	Q	1	4	12	1.8	.90			4000		
6 APR (096)	R	1	5	23	2.0	1.2			4800		Hang - Dredge pipe & ball float
7 APR (097)	S	1	5	13	1.5	.63			3000		Clear Holiday
10 APR (100)	T	1	5	18	2.3	.82			3000		Clear Split
12 Apr (102)	U	1	5	19	2.1	.95			4000		Hung Nav. Buoy # 24

STOCK NO. 37
(4-30-57)
COMM-DC 28424

ATTACHMENT II

DATE	DAY LETTER	STRIP	VOL. #	POSITIONS	L.N.M.	S.N.M.	RED CORR.	GREEN CORR.	LENGTH OF DRAG	SMOOTH PLOT	REMARKS
13 APR (103)	V	1	V	21	2.4	1.2			4000		
17 APR (107)	W	1	VI	13	.75	.30			4000		Item # 3- Initial Coverage- Hang
18 APR (108)	X	1	VI	23	1.7	.85			4000		Hang Item #3
24 APR (114)	Y	1	VI	19	1.1	.55			4000		Item # 2 investigation
1 MAY (121)	Z	1	VI	9	.9	.21			2400		
3 MAY (123)	AA	1	VI	8	.5	.15			1600		
4 MAY (124)	AB	1	VI	1	.1	.03			1600		Hung Barge Wreck - Item #2
5 MAY (125)	AC	1	VI	N/A	N/A	N/A					Determine Position of wreck by Raydist.
10 MAY (130)	AD	1	VII	4	.50	.10			1600		Clearing strip on item #2- Hung
11 MAY (131)	AE	1	VII	5	.50	N/A			1600		Rejected
		2	VII	6	.10	.02			1600		Item #3 - Hung
		3	VII	8	.80	.16			1600		Clearing Strip on #2 - Hung
12 MAY (132)	AF	1	VII	8	.60	.09			1600		Clearing Strip - 32 Ft. - Hung
		2	VII	14	.90	.18			1600		" " - 30 Ft. - Hung
16 MAY (136)	AG	1	VII	7	.60						Rejected due to lane loss
17 MAY (137)	AH	1	VII	10	.80	.16			1600		Cleared Item #2 to 28½ Ft.
25 MAY (145)	AJ	1	VIII	1.9	1.3				3000		Rejected due to lifts
		1	VIII	11	1.5	.60			3000		Initial Drag on Item #4
26 MAY (146)	AK	1	VIII	20	1.2	.48			3000		
		2	VIII	8	1.2	.48			3000		
30 MAY (150)	AL	1	VIII	15	1.35	.27			3000		Grounded at 37-54.85, 76-10.9
1 JUN (152)	AM	1	VIII	15	.60	.09			1600		Hung Barge found on 31 May
2 JUN (153)	AN	1	IX	8	.80	.16			1600		Clearing strip on #4 at 42½ FT
		2	IX	13	.60	.12			1600		Hung Item #4 at 46 Ft.
		3	IX	9	.80	.16			1600		Cleared item #4 to 44 Ft.
7 JUN (160)	AP	1	IX	15	.90	.27			2000		Hung ITem #6 at 47½ Ft.
14 JUN (165)	AQ	1	IX	12	.80	.24			2000		Hung Item #6 at 44 Ft.
		2	IX	23	1.3	.32			2000		Hung Item #6 at 41½ Ft.

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ATTACHMENT II

DATE	DAY LETTER	STRIP	VOL. #	POSITIONS	L.N.M.	S.N.M.	RED CORR.	GREEN CORR.	LENGTH OF DRAG	SMOOTH PLOT	REMARKS
15 JUN (166)	AR	1	X	17	1.37	.41			2000		Cleared Item #6 at 39½ Ft.
		2	X	8	.70	.18			2000		Excessive lift
		3	X	10	.97	.24			2000		Cleared Item #6 at 40½ Ft.
20 JUN (171)	AS	1	X	16	1.07	.18			2400		RADIAL DRAG - RUDE ONLY ITEM #5
22 JUN (173)	AT	1	X	28	2.1	.95			3200		Item #5 coverage
		2	X	12	.30	.12			3200		No effective Depth
		3	X	10	.50	.20			3200		
23 JUN (174)	AU	1	XI	10	.90	.18			2000		
27 JUN (178)	AV	1	XI	5					3200		Not Tested Before Hang
		2	XI	5	.40	.08			1600		Hung Item #5 - Pilings & Thorms
		3	XI	28	2.10	.95			3200		
28 JUN (179)	AW	1	XI	8	.40	.16			3200		Item #5 Coverage
		2	XI	7	.60	.27			3200		
JUN (180)	AX	1	XI	21	2.0	1.2			4000		
4 JULY (185)	AY	1	XII	7	.30	.12			4000		
5 JULY (186)	AZ	1	XII	19	1.1	.55			4000		Completed Item #5
		2	XII	10	.70	.35			4000		
		3	XII	13	.70	.35			4000		
6 JULY (187)	BA	1	XII	18	.90	.45			4000		Item #6 Coverage
12 JULY (193)	BB	1	XII	28	2.55	1.26			4000		
		2	XIII	25	1.4	.82			4000		HUNG - Steel Vessel
13 July (194)	BC	1	XIII	13	.60	.18			2000		Hang - Steel Vessel
		2	XIII	7	.30	N/A					Dive on Steel Vessel
17 JULY	BD	1	XIII	39	1.9	.86			3200		Temporary Hang - Close on "CR" Buoy
20 JULY (201)	BE	1	XIII	21	2.4	1.4			4000		Item #6 Area Coverage
		2	XIV	19	1.6	.80			4000		Hung Push Boat - Item #6
JULY (202)	BF	1	XIV	9	.50	.15			2000		Hung "Push Boat" at 50½ Ft.
24 JULY (205)	BG	1	XIV	8	.42	.11			2000		Hung Boat at 48½ Ft.
		2	XIV	7	.80	.20			2000		Cleared "PUSH BOAT" AT 46½ Ft.

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ATTACHMENT II

DATE	DAY LETTER	STRIP	VOL. #	POSITIONS	L.N.M.	S.N.M.	RED CORR.	GREEN CORR.	LENGTH OF DRAG	SMOOTH PLOT	REMARKS
25 JULY (206)	BH	1	XIV	13	1.05	.40			3000		Drag Western edge of circle in Item #6
26 JULY (207)	BJ	1	XIV	11	1.25	.44			3000		
27 JULY (208)	BK	1	XIV	12	1.00	.30			2400		
		2	XV	12	1.1	.30			2400		
28 JULY (209)	BL	1	XV	14	1.3	.39			2400		
1 AUG (213)	BM	1	XV	26	2.5	1.0			3000		
2 AUG (214)	BN	1	XV	11	1.2	.36			2400		
		2	XV	8	1.0	.32			2400		
		3	XV	16	1.2	.42			2800		Hang - NO Dive - Detached Pos.
3 AUG (215)	BP	1	XVI	16	1.1	.39			2800		HUNG - "ECKIE" Found - Item #6 Completed - Least Depth= 42.8 Ft
AUG (222)	BQ	1	XVI	7	.80	.12			2000		Initial Coverage - Item #7
		2	XVI	9	.80	.16			2000		Hung Item #7 @ 34½ Ft.
14 AUG (226)	BR	1	XVI	10	1.1	.33			2000		Cleared Item #7 @ 33 Ft FROM N
		2	XVI	9	1.0	.30			2000		
		3	XVI	8	1.0	.25			2000		Cleared Item # 7 @ 33½ Ft. Finished Item.

ATTACHMENT III C.

GP•S OF OBJECTS USED FOR CALIBRATION

ITEMS # 1,1a,2,& 3

SHEETS 20-1a-78 & 20-1b-78

A) CIRCLE CALIBRATION - THIMBLE SHOALS LIGHTHOUSE, (TOY) 1919
LAT: 37°00'51.712" N
LONG: 76°14'25.075" W
RED: 270.24 , ANGLES: 052° , 232°
GREEN: 559.87 , ANGLES: 158°,, 338°

B) VISUAL CALIBRATION

HEN (CAPE HENERY ~~LTHSE~~. LIGHTHOUSE, 1887)	LAT: 36°55'34.335" N LONG: 76°00'27.216" W
WIT (LITTLE CREEK ~~NAB WATER TANK~~ NAV AMPH BASE TK, 1952)	LAT: 36°54'31.740" N LONG: 76°08'53.000" W
CUR (NAB DESERT COVE TANK, LITTLE CREEK 1955)	LAT: 36°55'14.382" N LONG: 76°09'42.063" W
LAM (LITTLE CREEK ~~NAB TANK LIGHT~~ AMPHIB BASE TK, 1952)	LAT: 36°55'06.190" N LONG: 76°11'22.544" W
ORB (OCEAN VIEW MUNICIPAL TANK, 1950)	LAT: 36°56'51.663" N LONG: 76°15'33.886" W
TOY (THIMBLE SHOALS LIGHTHOUSE, 1919)	LAT: 37°00'51.712" N LONG: 76°14'25.075" W
ANT (OLD POINT COMFORT LIGHTHOUSE, 1866)	LAT: 37°00'05.745" N LONG: 76°18'24.519" W
FLY (FORT MONROE TANK, 1929)	LAT: 37°00'24.444" N LONG: 76°18'41.996" W
BUM (HAMPTON ~~(PHEBUS)~~ MUNICIPAL WATER TANK, 1938)	LAT: 37°01'04.358" N LONG: 76°19'34.629" W
DUD (FISHERMANS ISLAND NAVY TOWER, 1959)	LAT: 37°05'57.891" N LONG: 75°58'45.131" W
EBB (FISHERMANS ~~IS.~~ ISLAND NAVY WATER TANK, 1959)	LAT: 37°06'04.124" N LONG: 75°58'43.436" W
MUG (CAPE CHARLES NEW LIGHTHOUSE, 1887)	LAT: 37°07'22.007" N LONG: 75°54'24.577" W
PUP (CAPE CHARLES 771 ST NORTH DOME, AN/FPS TOWER 1962)	LAT: 37°08'03.9766"N LONG: 75°57'04.193" W
SUE (CAPE CHARLES 771 ST SOUTH DOME, AN/FPS TOWER 1962)	LAT: 37°08'02.246" N LONG: 75°57'04.202" W

ATTACHMENT III C.

GP'S OF OBJECTS USED FOR CALIBRATION

ITEM # 4

SHEETS 20-1c-78

A) CIRCLE CALIBRATION - SMITH POINT LIGHTHOUSE, 1898 (SKI)

LAT: 37°52'47.090" N ✓
LONG: 76°11'02.732" W ✓

RED: 118.33 lanes ANGLES: 000°, 180°
GREEN: 471.31 lanes ANGLES: 055°, 235°

ATTACHMENT III C.

GP'S OF OBEJECTS USED FOR CALIBRATION

ITEM # 5 SHEET 20-1e-78

ITEM # 6 SHEET 20-1d-78

A) VISUAL CALIBRATION

ROT (NAVY RESEARCH LAB RADAR, 1978)	LAT: 38°39'19.2442" N ✓ Field	
	LONG: 76°31'42.5056" W ✓ Position	
WHO (NAVY RESEARCH LAB WATER TANK, 1978)	LAT: 38°39'26.0315" N ✓ Field	
	LONG: 76°31'59.0588" W ✓ Position	
PIT (NAVY RESEARCH LAB WEATHER VANE, 1978)	LAT: 38°39'27.7794" N ✓ Field	
	LONG: 76°31'44.2111" W ✓ Position	
BED (DAY BEACON # 1, 1978)	LAT: 38°44'05.8131" N ✓ Field	
	LONG: 76°31'03.0098" W ✓ Position	
DIM (DAY BEACON # 2, 1978)	LAT: 38°44'03.0424" N ✓ Field	
	LONG: 76°32'19.5745" W ✓ Position	
ZOO (DAY BEACON # 3, 1978)	LAT: 38°44'25.5060" N ✓ Field	
	LONG: 76°32'40.0743" W ✓ Position	
FAT (DAY BEACON # 4, 1978)	LAT: 38°45'55.3933" N ✓ Field	
	LONG: 76°33'10.1854" W ✓ Position	
VET (DAY BEACON # 5, 1978)	LAT: 38°46'01.2590" N ✓ Field	
	LONG: 76°33'17.4002" W ✓ Position	

ATTACHMENT III C.

GP'S OF OBJECTS USED FOR CALIBRATION

ITEM # 7 SHEET 20-1f-78

A) VISUAL CALIBRATION

PIX (PIPES ON NORTH REACTOR) 1978
LAT: 38°26'04.3370" N ✓ Field
LONG: 76°26'33.7619" W ✓ Position

LIP (LIGHT ON MICOWAVE TOWER) 1978
LAT: 38°25'56.0208" N ✓ Field
LONG: 76°26'36.9246" W ✓ Position

DUN (DISCHARGE LIGHT) 1978
LAT: 38°26'21.9158" N ✓ Field
LONG: 76°26'31.4471" W ✓ Position

COP (COVE POINT LIGHTHOUSE) 1848
LAT: 38°23'10.0090" N ✓
LONG: 76°22'55.5430" W ✓

GRN (~~GREEN RAYDIST TOWER~~) H-15-MD-78, 1978
LAT: 38°26'15.0439" N ✓ Field
LONG: 76°26'40.8979" W ✓ Position

ATTACHMENT III D.

GEOGRAPHIC POSITIONS OF RAYDIST STATIONS FOR OPR - E609

STATION	GP•S		BOATSHEET	ITEMS
H-1-VA-77, 1977 (RED)	LAT: 36°55'31.9566" N ✓ Field		20-1a-78	1 & 1a
	LONG: 76°09'28.2350" W ✓ Position		20-1b-78	2 & 3
FEN, 1960 (GREEN)	LAT: 37°05'36.2431" N ✓			
	LONG: 75°58'17.5538" W			
PAUL #1, 1978 (RED)	LAT: 37°52'47.5400" N ✓ Field		20-1c-78	4
	LONG: 76°14'42.9230" W ✓ Position			
H-1-MD-78, 1978 (GREEN)	LAT: 38°02'20.4429" N ✓ Field			
	LONG: 76°19'19.2588" W ✓ Position			
H-2-MD-78, 1978 (RED)	LAT: 38°39'28.6368" N ✓ Field		20-1e-78	5
	LONG: 76°31'54.4882" W ✓ Position		20-1d-78	6
H-3-MD-78, 1978 (GREEN)	LAT: 38°46'22.4531" N ✓ Field			
	LONG: 76°33'55.0641" W ✓ Position			
H-2-MD-78, 1978 (RED)	LAT: 38°39'28.6368" N ✓ Field		20-1f-78	7
	LONG: 76°31'54.4882" W ✓ Position			
H-15-MD-78, 1978 (GREEN)	LAT: 38°26'15.0439" N ✓ Field			
	LONG: 76°26'40.8979" W ✓ Position			

STOCK NO. 37 (4-30-57) COMM-DC 28424

ATTACHMENT IV

See sections 6. & 7. of the Modified Evaluation Report for relevant grounding and hangs of this survey.

DAY LETTER	BUOY NO.	LAT.	LONG.	GROUNDED EFF. DEPTH	CLEARED BY STRIP NO.	CLEARED EFF. DEPTH	SOUNDING	CHARTED DEPTH		REMARKS
A-1	3	37-01.3	76-09.0	N/A	N/A	N/A				Hang on Coast Guard
B-1		"	"	"	"	"				" " "Buoy "
C-1	F	N/A	N/A	21½	C2	17½				Grounding - Sand Waves
D-2	F	"	"	21½	G1	20	26	20		Grounded End bouy-Sand
H-1	3	37-01.6	76-06.6	23	J2	22	30			Mushroom Anchor
J-1	N	37-01.3	76-06.9	22½	K2	22½	25	25		Hang on Pick-up
K-1	F	N/A	N/A	23	K2	22				Temporary Grounding
L-1	5-F	"	"	21½	N1	19½				" "
N-2	1-2	"	"	25	N3	25		26		" "
R-1	4-5	37-11.6	76-11.0	29½	Removed by Coast Guard - Dredge Pipe Floa					t
U-1	N-1	37-11.4	76-09.1	23½	N/a	N/A				Hung Nav. Buoy #24
W-1	4	37-19.2	76-08.3	N/A	N/A	N/A	Uninvestigsted Hang In Item #3			
X-1	1-2	37-18.4	76-07.8	35	N/A	N/A		37		Hung Mast In Item #3
Y-1	2-3	In Position		33½	"	"				Hung Nav Buoy # 23
Z-1	2-3	37-18.6	76-07.7	33	"	"				Hung Rock In Item #3
Z-2	N-1	In Position		33	"	"				Hung Nav Buoy # 19
AB-1	1-2	37-09.1	76-09.2	37	AH1	28½	37			Hung Barge Near Buoy17
AC-1	N/A	37-08.9	76-09.2	N/A	AH1	28½	Detached Pos. On Item #2			
AD-1	N	" "	" "	35	AH1	28½				Hung Barge near Buoy17
AE-2	1-2	37-18.7	76-07.9	33	N/A	N/A				Hang in Item #3
AE-3	1	Buoy #1	Under	33½	AH1	28½				Clearing strip - HUNG
AF-1	2-3	37-09.1	76-09.2	32	AH1	28½				" " "
AF-2	2-3	37-09.1	76-09.2	30	AH1	28½				" " "
AG-1	3-F	In Position		28½	N/A	N/A				Hung Nav. Buoy #17
AH-1	2-3	" "		28½	N/A	N/A				" " " "
AP-1	1-2	Grounding		51	AP2	46½				Temporary Grounding
AP-2	N-1	38-37.1	76-24.6	47½	AR3	40½	55	55		Hang-Item #6-Wooden Ve
AQ-1	3-4	38-37.0	76-24.6	44	AR3	40½	55	55		" " " " "
AQ-2	3-4	38-37.0	76-24.6	41½	AR3	40½	55	55		" " " " "
AT-2	2 THRU6	38-47.0	76-29.9	19	AW2	8		25		Hung Fish stakes-Item5
"	2 THRU6	38-47.1	76-30.0	"	"	"		"		Multiple Hang
AL-1	4-F	37-55.2	76-11.2	58	AN3	44		45		Hang in vicinity #4
AM-1	2-3	37-55.2	76-11.2		AN3	44		45		Data Rejected-Raydist Loss
AM-2	1-2	37-55.2	76-11.2	52½	AN3	44		45		Hung 210' Barge-Item 4
AN-2	1-2	37-55.2	76-11.2	46	AN3	44		45		Hung while Clearing
AT-3	2 Thru6	38-47.0	76-29.9	13½	N/A	N/A				Multiple Hang-Fish
"	"	38-47.1	76-30.0	"	"	"				Stakes-Item #5
AU-1	3-4	38-37.0	76-24.6	43	AR3	40½		55		Diver INves. Wreck-#6
AV-1	4-5	38-44.8	76-30.7	19½	AV2	12		18		Grounding
AV-3	2 Thru5	38-47.0	76-29.8	19½	N/A	N/A				Hung Fish Stakes
"	"	38-47.1	76-30.1	"	"	"				" " "
AW-1	1 Thru4	38-47.0	76-29.8	18	N/A	N/A				Multiple Hang-Fish
"	"	38-47.1	76-30.1	"	"	"				Stakes- Item #5

...K NO. 37
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ATTACHMENT IV

See sections 6. & 7. of the Modified Evaluation Report for hangs and relevant groundings on this survey.

OSITION NO / AY LETTER	BUOY NO.	LAT.	LONG.	GROUNDED EFF. DEPTH	CLEARED BY DAY STRIP NO.	CLEARED EFF. DEPTH	SOUNDING	CHARTED DEPTH		REMARKS
AY-1	2 THRU6	38-47.3	76-29.3	N/A	N/A	N/A				Second Set Of Fish
"	"	"	"	"	"	"				Stakes-Multiple Hang
AZ-1	3 THRU6	38-47.3	76-29.3	6½	N/A	N/A				Hung Stakes- Item #5
"	"	38-47.4	76-29.4	"	"	"				" " " "
AZ-2	4-5	IN Position		20	N/A	N/A				Hung Buoy "9B"
AZ-3	5-6	38-45.2	76-30.0	24½	"	"				Hung Buoy "8B"
BA-1	5-6	38-46.2	76-29.6	24	"	"				Hung Buoy "9B"
BB-2	4-5	38-36.4	76-25.9	57	BG2	46½	66	66		Hang-Later Found-Tug
BC-1	3-4	38-36.4	76-25.9	55½	BG2	46½	66	66		Small "Push Boat"-#6
BC-2	2-3	38-36.5	76-25.9	58	BG2	46½	66	66		"push boat"-L.D. 48 FT.
BD-1	3-4	Temporary Hang		46	BE1	44				Temporary Grounding
BE-2	4-5	38-36.5	76-25.8	54	BG2	46½				Hung Pushboat @ 54 Ft.
BF-1	2	38-36.5	76-25.8	50½	BG2	46½				" " " 50½
BG-1	3-4	38-36.5	76-25.8	48½	BG2	46½				" " " 48½
BH-1	N-1	Temp. Grounding		40	BJ1	37	40½	43		Grounding
BK-1	F	38-36.5	76-25.8	55	BG2	46½				Accidently Hung PushBt.
BN-2	N-1	38-35.8	76-24.7	46½	LEAD LINE	42.8				Detached Position-#6??
BP-1	3-4	38-35.8	76-24.7	44½	"	42.8				Item6 Found-"ECKIE"
BQ-2	1-2	38-25.4	76-23.5	34½	BR1	33		46		Item #7 Found+Cleared

ATTACHMENT V

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

C35/AJP

MAY 2 6 1978

TO: Commanding Officer
NOAA Ships RUDE and HECK

FROM: Richard H. Houlder
Associate Director
Marine Surveys and Maps

SUBJECT: OPR-E609-RU/HE-78, Item #3 (Your memo, 5/15/78)

As per your request, the Marine Surveys Division has reviewed the results of your investigations in the vicinity of item #3. This review indicates that additional investigation is required to locate or disprove the charted wreck. The difficulty you have experienced with crab pots is appreciated; therefore, no further effort is expected at this time. However, you should plan to reschedule completion of the investigation for a later date this field season.

cc:
CAM101

ATTACHMENT V

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

COPY FOR SAM ✓

DATE: 15 May 1978

TO: Associate Director
Marine Surveys and Maps (C3)

FROM: LCDR Robert V. Smart Robert V. Smart, LT. CDR, NOAA
Commanding Officer

SUBJ: OPR-E609-RU/HE-78, Item #3

Item number three of OPR-E609-RU/HE-78 is listed as a submerged dangerous wreck, with mast visible, charted in latitude 37°18.2'N, longitude 76°07.9'W, which originates with Notice to Mariners 19 of 1974. It is shown on Chart number 12221. It is not known how this position was determined, but the Notice to Mariners itself notes that the wreck was marked (1974) by an orange buoy with a white strobe light, and it gives the position accurate to seconds. Therefore, it is presumed that the position was known fairly accurately since a mast was showing, a buoy was placed, and position given with indicated accuracy.

At the indicated location today, there is no mast projecting above the water, nor any buoy. Drags W1, X1, Z1, and AE2 - a total of four drags - have been completed to date. Each drag has resulted in a hang. Drag W1 resulted in a hang at 37°19.22'N, 76°08.30'W which is well outside the one-half nautical mile search area required for a wreck with charted position. This hang could not be dived on at the time because of NOS policy restricting diving. Drag X1 was our most successful drag. It ran on a flood tide in a northerly direction and covered about fifty percent of the one-half mile radius circle to within three feet of the bottom. It passed over the charted position of the wreck with no indication of a hang. However, two-tenths of a mile farther on, a hang was encountered at 37°18.42'N, 76°07.79'W. The hang could not be investigated by divers due to NOS policy restricting diving. When picking up the wire from the drag, a steel mast about six inches in diameter and at least 15 feet long was brought to the surface by the RUDE (the ship closest to the hang). Unfortunately, the mast slipped free of the wire right at the transom, just before a tethering line could be bent on. Drag Z1 was run with the intention of rehanging the X1 hang after diving capability was restored. The drag hung at position 37°18.55'N, 76°07.72'W and was found by divers to be a tip of rock projecting about a foot and a half off the bottom. Drag AE2 was run to try to rehang the X1 hang. It hung at 37°18.65'N, 76°07.93'W and diver investigation proved it to be a metal bar about 3" by 4" projecting 2'5" above the bottom.

See Sheet 4 of 7

Further wire drag investigation has been hampered by over a hundred crab pots in the search area. However, extensive side scan sonar work has uncovered nothing of a suspicious nature that would indicate substantial remains of a wreck.

Thus, it now stands that half of the search area has been covered; a mast has been seen and removed from the wreck; two of four hangs investigated proved to be fruitless; side scan sonar indicates nothing large above the bottom; and further investigation by wire drag cannot be accomplished until crab pots are removed.

A determination is requested as to whether this item should be pursued further at this time, rescheduled for a later date, or be considered complete.

Copy to:
CAM 101

ATTACHMENT VI

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

C351/DJH

C.O. RVS
X.O. TR
retain → F.C.O. SPD

JUL 14 1978

TO: Commanding Officer
NOAA Ships RUDE and HECK

THRU: Director
Atlantic Marine Center

FROM: A. J. Patrick
Chief, Marine Surveys Division

SUBJECT: OPR-E609-RU/HE-78, Items 5 and 6

The difficulties associated with the completion of the wire-drag investigation of the subject items have been reviewed and recommendations relative to the extent of further work follow.

The situation, as communicated to this office by Mr. Dennis Hill, indicates that approximately one-third of the investigation circle around item 5 is congested with crab pots. In addition, the same area is shoal to depths of 12 feet. Local knowledge has indicated that there exist no known obstructions other than fish stakes approximately 1 mile north of the charted feature. Your investigation has located and identified these stakes and has disproven the existence of an obstruction at the charted position. Accordingly, it is not required that the remaining area be wire dragged.

An irregular bottom requiring numerous drags at differing effective depths is cause for a review of the existing survey requirements for item 6. It is concluded that, to expedite operations, it will be sufficient to attempt to obtain an effective cleared depth of 55 feet over the charted position of the wreck to the limits of the 1-mile radius investigation circle. This depth is based on knowledge of a U.S. Corps of Engineers proposal to dredge Chesapeake Bay channels to 50 feet. Areas of less than 55 feet within the investigation circle need be cleared, within present project specifications, to a maximum depth corresponding to the least depth displayed on available hydrography. In addition, should wreckage discovered to the northwest but outside the area of required wire drag be positively identified as item 6, further investigation is not necessary.

The results of this investigation, including an accurate diagram of the clearance strips, should be carefully described in the Monthly Report.

This memorandum may be referenced in your Descriptive Report concerning these two items.

ATTACHMENT VII

...IONAL OCEAN SURVEY
NOAA SHIPS RUDE & HECK
439 West York Street
Norfolk, Va. 23510

SAM - Your Copy

DATE: 30 May 1978

TO: Associate Director
Marine Survey and Maps (C3)

THRU: Atlantic Marine Center
Operations Division (CAM 1)

FROM: LCDR Robert V. Smart
Commanding Officer Robert V. Smart, LT-CDR, NOAA

SUBJ: OPR-E609-RU/HE-78, Item #2

The item in question is reportedly a sunken barge about 60 feet long and extending 10 feet off the bottom near York Spit Channel. The original report stated that the item was located one-half mile nautical mile SSW of York Spit Channel Buoy #19, with a G.P. of Lat. 37°-10.8'N, Long. 76°-09.4'W. The descriptive position was later changed, via telephone communication, to be one-half mile south of Buoy #23 due to the fact that a discrepancy existed in the original report.

Wire Drag Investigation

Wire drag investigation of the item began on 31 March 1978 and continued until 17 May 1978. During this period 17 acceptable drags were run in the area, completing approximately 90% of the item, with a cleared least depth of 24 1/2 feet on the western half of the position circle and 19 1/2 feet on the eastern half of the circle. The remaining 10% consisted of seven (7) drags required to hang the five (5) navigational buoys in the area, three (3) of which had already been hung from one direction.

Side Scan Sonar Investigation

On 2 May 1978, the HECK was investigating the area between Buoys #17 and #19 with Klein Side Scan Sonar on the possibility that the initial descriptive position was correct. A large underwater obstruction was recorded approximately 350 yards NNW of Buoy #17. Subsequently, six (6) drags were run over the item, resulting in five (5) hangs and a final clearing strip of 28 1/2 feet, based on predicted tides. The position of the item, determined by cross cuts to the hung buoys and strong detached positions was found to be Lat. 37°-11.55'N, Long 76°-11.03'W. Diver investigations were conducted on two occasions and it was ascertained that

the wreck was a wooden barge, approximately 80 feet long, lying in 50 feet of sea water. No superstructure was found and a least cleared depth of 30 feet was recorded by the diver's gauges. Furthermore, the barge appeared to be intact, sitting on an even keel and lying in a N-NW orientation.

Recommended Charting Action

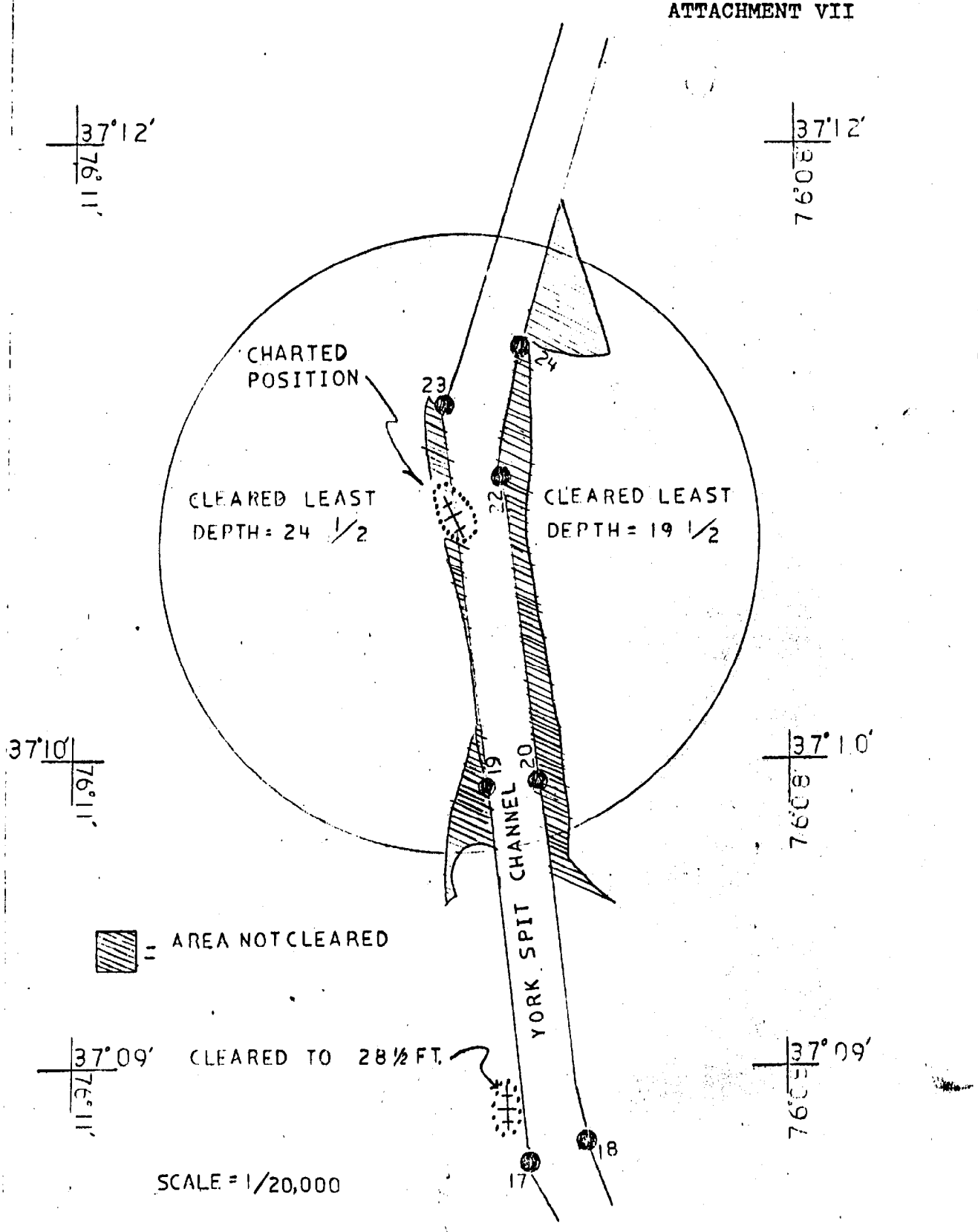
1. It is this Command's recommendation that a wreck symbol be charted as soon as possible, at position Lat. 37°-11.55'N, Long 76°-11.13'W. The symbol should show that the wreck has been cleared to 28 1/2 feet effectively, based on predicted tides.

2. It is also this Command's recommendation that the charted wreck symbol, charted in Lat. 37°-10.7'N, Long. 76°-09.4'W be removed. The reasons for this action are: (a) The initial ambiguity as to the position of the wreck and, (b), the barge found and surveyed was, in fact, 0.2 NM from the initial descriptive position.

3. Although several short strips are remaining in order to hang the five navigational buoys in the area of the charted wreck symbol, information from the U.S. Army Corps of Engineers (copy enclosed) indicated that the area was recently dredged twice with no obstructions found.

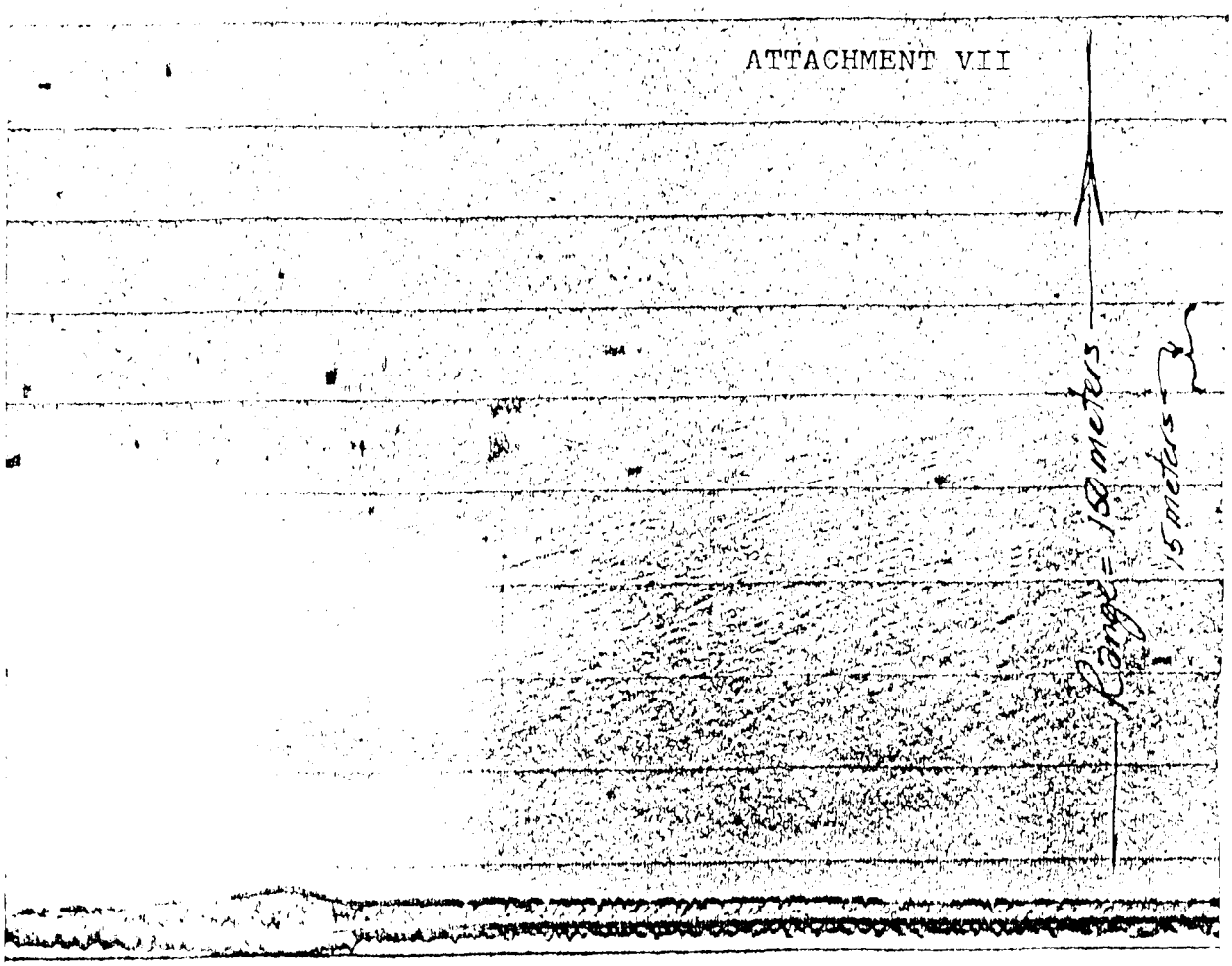
4. Based on the aforementioned information, it is requested that this item be considered completed. It is well known that the 1 NM "investigative circle" around charted wrecks is an arbitrary boundry. If, in fact, the circle was 2 NM on this item, the barge would have ultimately been found and there would have been no question as to the completion of the item. For these reasons, this Command strongly recommends that this item be considered finished for survey purposes.

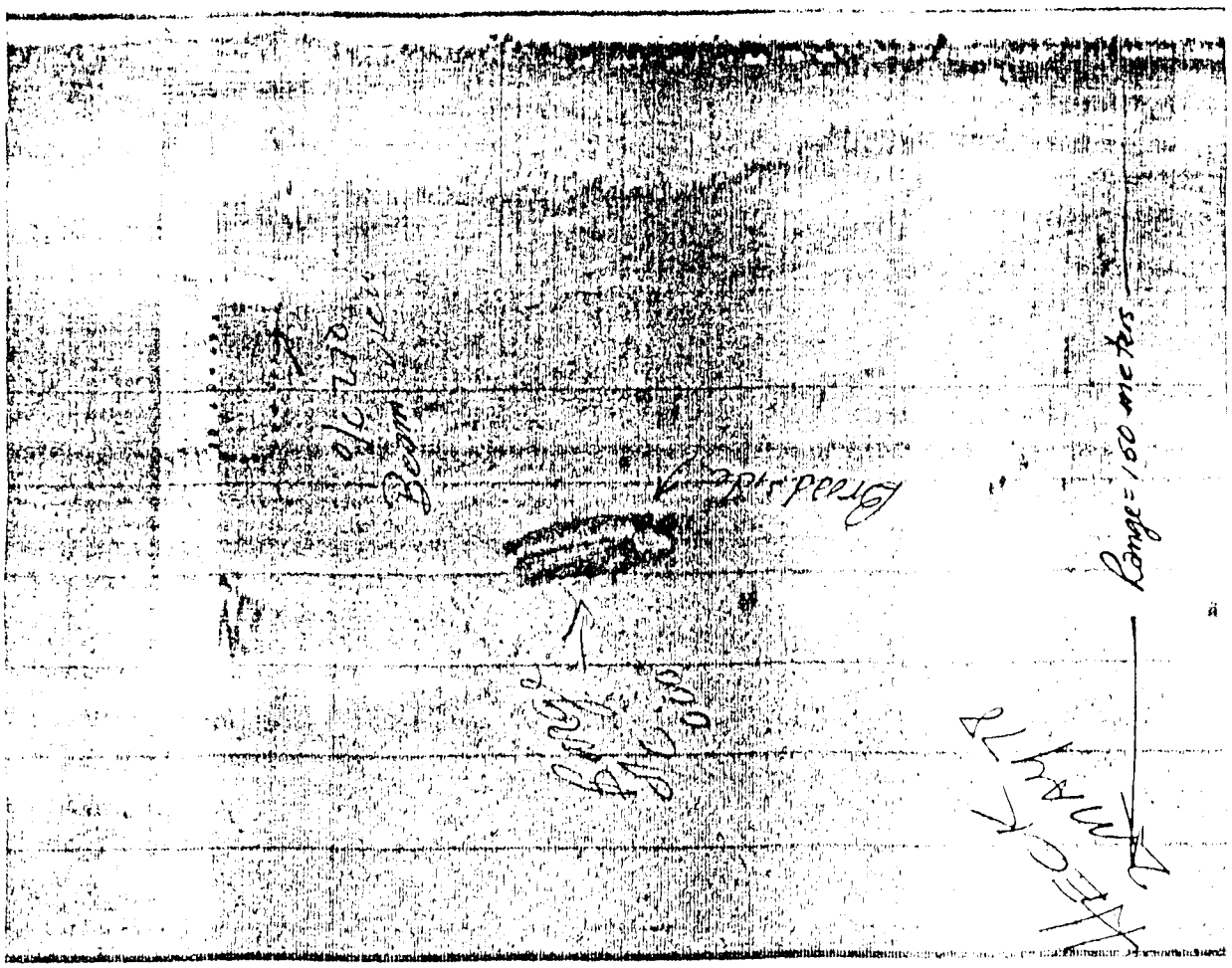
ATTACHMENT VII



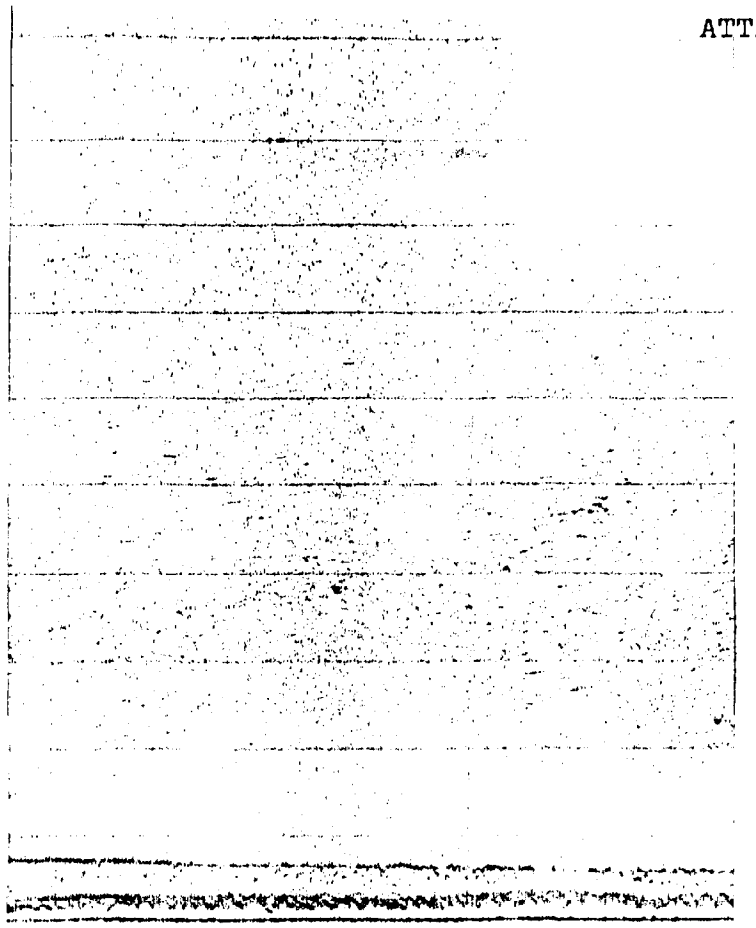
ATTACHMENT VII.

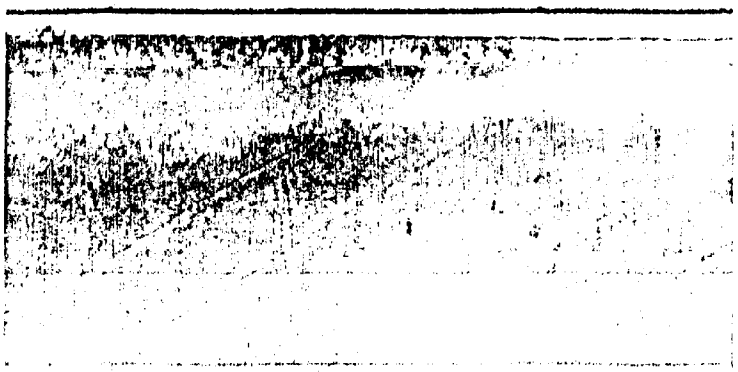
ATTACHMENT VII



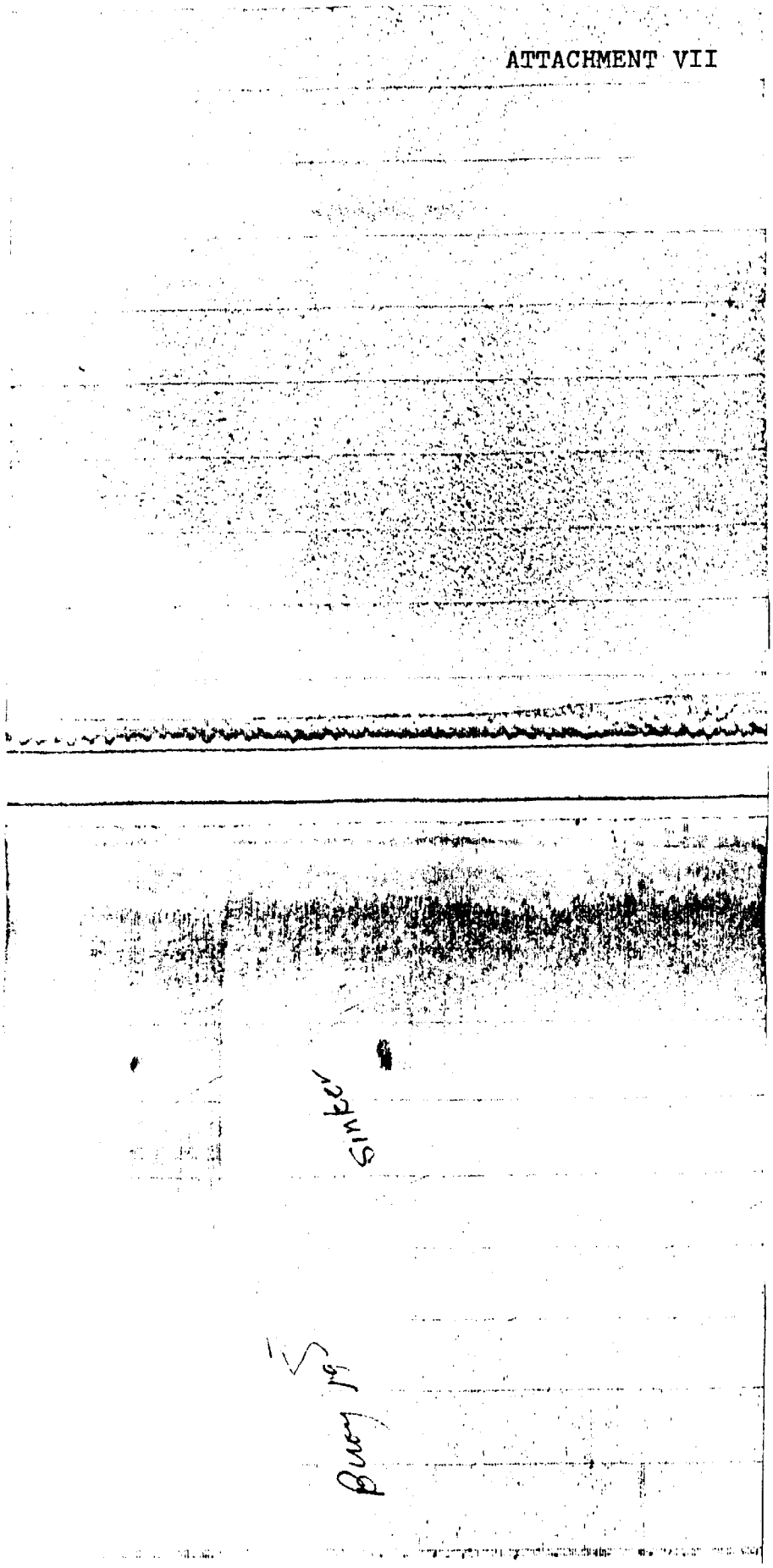


ATTACHMENT VII

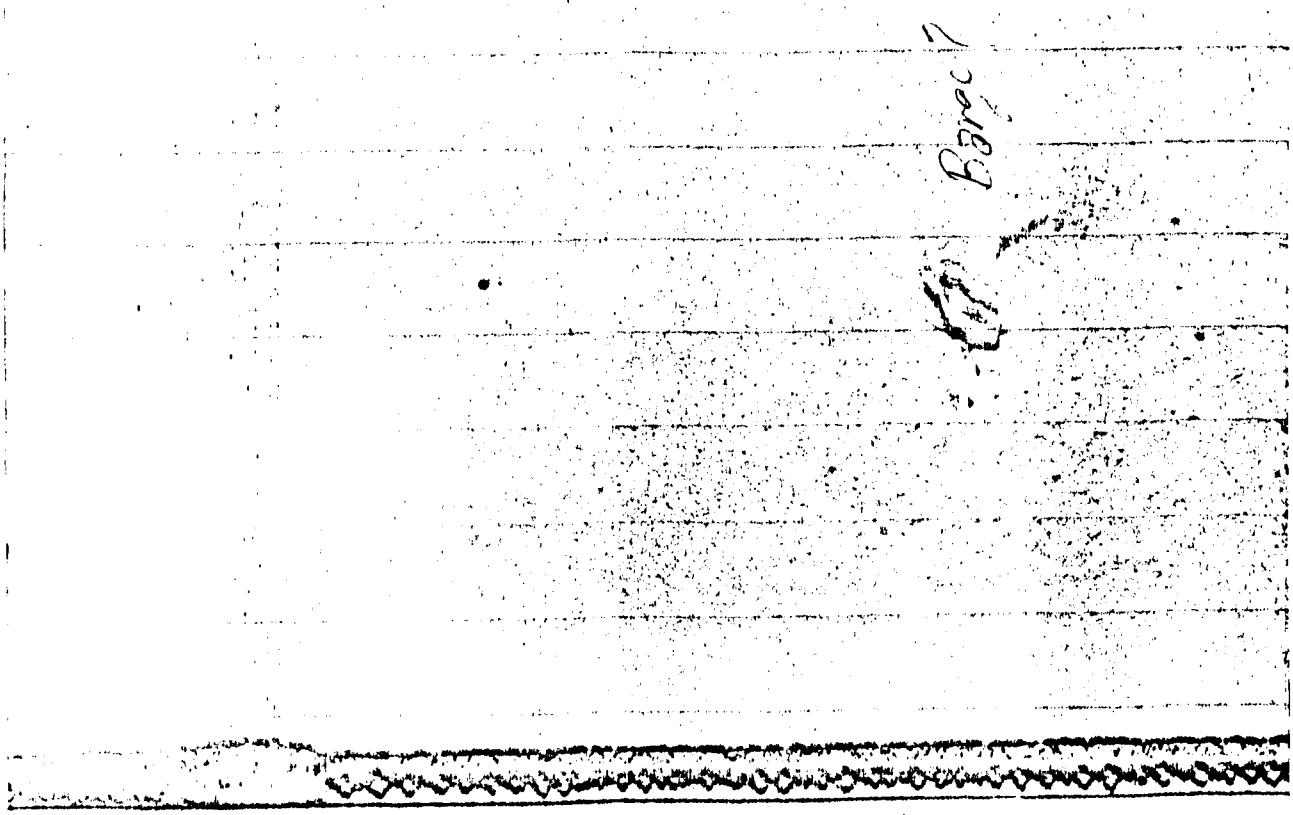


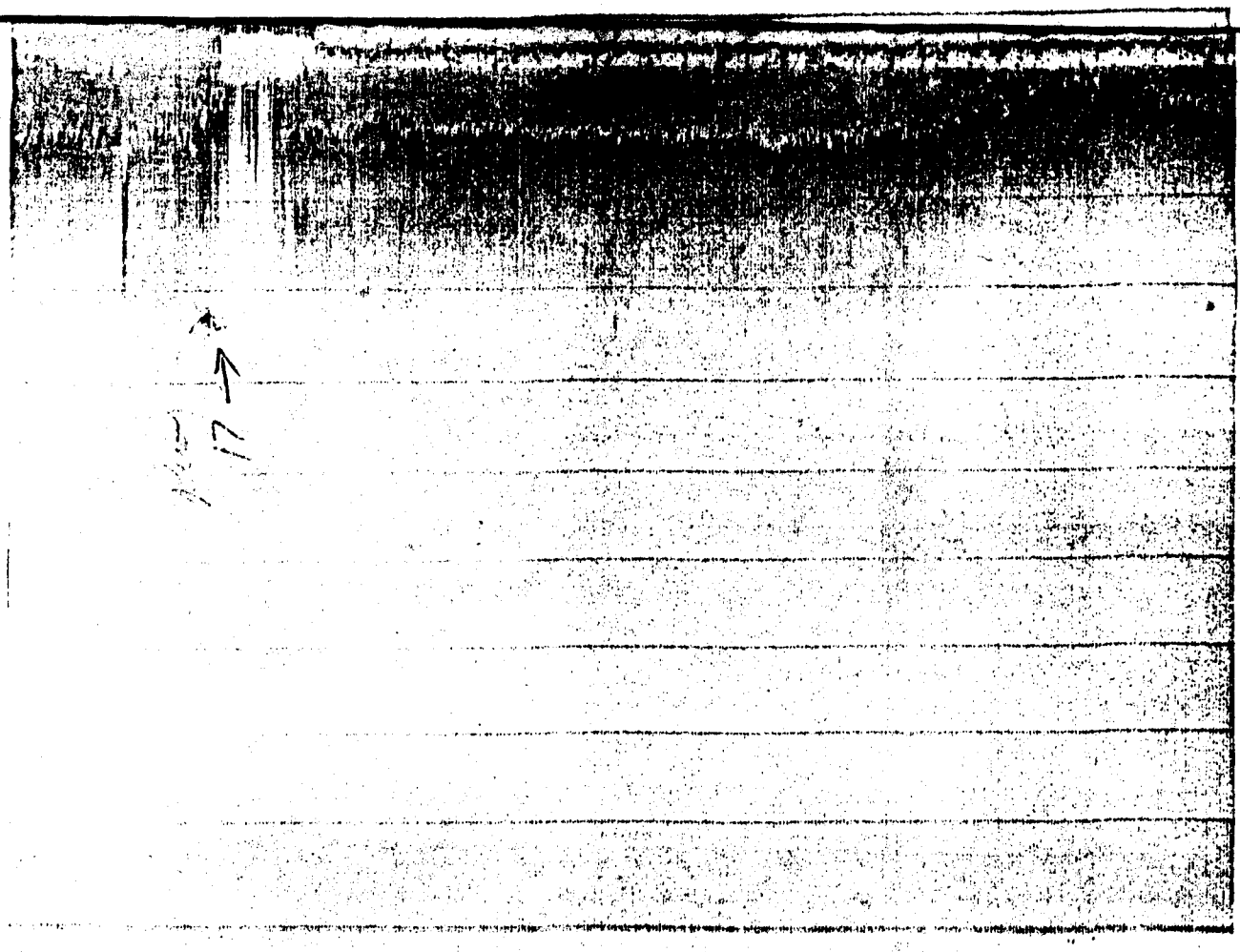


ATTACHMENT VII



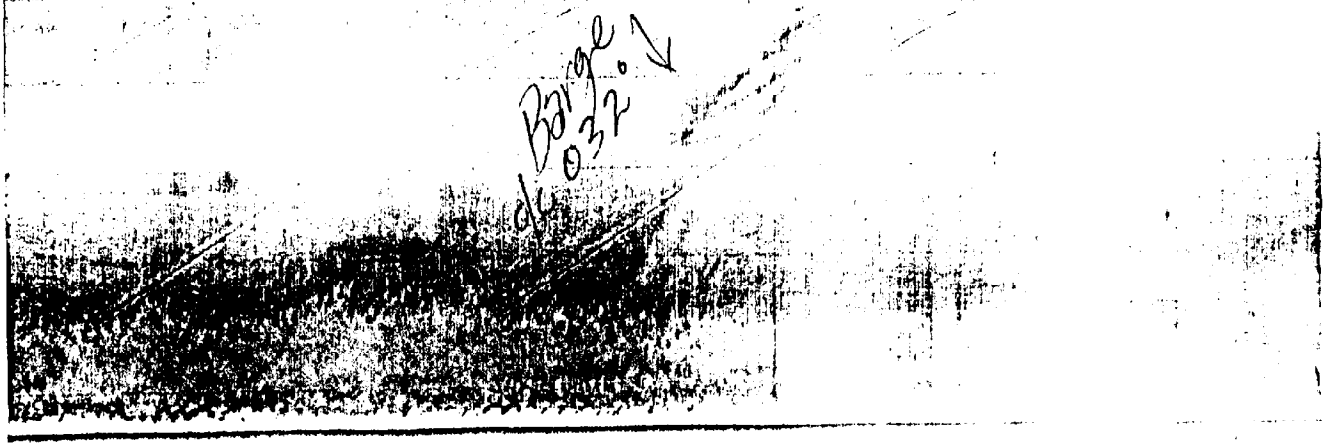
ATTACHMENT VII





ATTACHMENT VII

ATTACHMENT VII



ATTACHMENT VIII

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

C351/DLS

C.O. RVS
X.O. Copy to
Retain → F.O.O. SID.

JUN 27 1978

TO: Commanding Officer
NOAA Ships RUDE and HECK

THRU: Chief, Operations Division NX
Atlantic Marine Center

FROM: Richard H. Houlder RH Houlder
Associate Director
Marine Surveys and Maps

SUBJECT: OPR-E609-RU/HE-78, Item #2

The description of the wire-drag investigation and the Command's recommendations concerning Item #2 of OPR-E609-RU/HE-78 have been reviewed by this office. The charting recommendations are accepted and will be applied. This item is to be considered complete.

ATTACHMENT IX

DEPARTMENT OF THE ARMY
NORFOLK DISTRICT, CORPS OF ENGINEERS
FORT NORFOLK, 803 FRONT STREET
NORFOLK, VIRGINIA 23510

IN REPLY REFER TO

NAOOP-R

26 April 1978

SUBJECT: Sunken Barge, York Spit Channel

Commanding Officer
N.O.A.A. Ships RUDE and HECK
439 West York Street
Norfolk, Virginia 23510

1. Reference is made to recent telephone conversations between LT SMART and Mr. Lawless concerning subject wreck.

2. The Corps of Engineers has performed maintenance dredging in York Spit Channel twice since 1971, in Dec 72 and Jan 73 and in Nov-Dec 76. The 1976 dredging covered the eastern toe of the channel between our stations -12 and 360, or from between buoys 18 and 20 to between 30 and 32. The 1972-73 work covered the same general area as 1976 on the east side of the channel, and between stations 60 and 264 on the west side, or from about 1500 feet south of buoy 23 to 500 feet south of 29. No obstructions of any kind were reported during these dredging operations.

3. Inclosed is a copy of our latest survey of York Spit Channel (filed with the field records) with the dredging areas marked. If there is anything further the Corps of Engineers can do in this matter please let me know.

FOR THE DISTRICT ENGINEER:

1 Incl
as

JACK G. STARR
Chief, Construction-Operations Division

ATTACHMENT #XI

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

DATE: 21 Aug 1978

TO: Commander
5th Coast Guard District
Portsmouth, Va. 23705

FROM: LCDR Robert V. Smart
Commanding Officer

SUBJ: Submerged Wreck

REF: Commander (oan) letter dtd 18 May 1978

1. The above reference requested the investigation of a submerged wreck near Buoy "WR63" (L.L. 2741.43). The NOAA Ships RUDE and HECK have recently completed the investigation of a submerged obstruction marked by Buoy "WR63" located north of the LNG terminal near Cove Point.

2. During August 10-14, 1978 the ships hung the obstruction and obtained clearing strips from the north and south. The obstruction is located at Lat 38°-25.43'N, Long 76°-23.49'W in 48 feet of water. Buoy "WR63" lies approximately 400 feet on a bearing of 070° T. from said wreck. The greatest cleared depth over the wreck, based on unverified field data and predicted tides, is 33 feet.

3. It is felt that Buoy "WR63" adequately marks the wreck. The wreck is of importance because LNG ships draw 36 feet and the least depth cleared by wire drag was 33 feet. However, the wreck lies to the north of the maneuvering area for the LNG terminal. Diver investigation of the wreck was attempted, but was not effective due to extremely poor visibility. This was due in part to the nuclear power plant cooling water discharge located nearby. Diving at ebb current is especially bad.

4. Charts 12260, 12263, 12264, and SC 12265 are affected by the above obstruction.

ATTACHMENT XI

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

DATE: 21 Aug 1978

TO: Commander
5th Coast Guard District
Portsmouth, Va. 23705

FROM: LCDR Robert V. Smart
Commanding Officer

SUBJ: Hazard to Navigation

The NOAA Ships RUDE and HECK have located a submerged wreck at Lat 38°-25.43'N, Long 76°-23.49'W, in 48 feet of water. The greatest cleared depth over the wreck, based on unverified field data and predicted tides, is 33 feet.

Buoy "WR63" Lat 38°-25.46'N, Long 76°-23.40'W marks the obstruction, and lies approximately 400 feet away on a bearing of 070° T. from said wreck.

Charts 12260, 12263, 12264, and SC 12265 are affected by the above obstruction.

ATTACHMENT #XI

NATIONAL OCEAN SURVEY

19 May 1978

To: U.S. Coast Guard Marine Safety Officer, Portsmouth, VA

From: Robert V. Smart, LT. COR., NOAA
Commanding Officer, NOAA Ships Rude and Heck

Subject: Hazard to Navigation

1. A wooden hulled barge, approximately 70 feet long has been located by NOAA's wire drag survey ships Rude & Heck at latitude 37° 08.89' N longitude 76° 09.16' W.

This location is approximately 350 yds NNW of the charted position of York Spit Channel buoy "17". The least depth over the barge is 28½ feet based on predicted tides using Sewells Point as the reference station.

This barge is suspected of being the wreck charted at latitude 37° 10.7' N longitude 76° 09.4' W, which is approximately ½ mile south of York Spit Channel buoy "23". The wreck symbol at this location will probably be deleted when wire drag field data has been verified.

Mariners with deep draft vessels transiting York Spit Channel are advised to use extreme caution in the vicinity of the sunken barge.

2. The steel float ball, previously reported to you by this command, at latitude 37° 11.55'N longitude 76° 11.03'W has been removed by the Coast Guard Cutter Madrona and no longer presents a hazard to navigation.

ATTACHMENT IXI

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

26 April 1978

To: U.S. Coast Guard
Marine Safety Officer
Fifth Coast Guard District
Portsmouth, Virginia

From: Commanding Officer NOAA Ships Rude and Heck

Subject: Navigational Hazard

During wire drag operations on 6 April 1978, a steel float 3 feet in diameter, tethered to submerged dredging pipe by 22 feet of 1 inch steel rope, was located at

LAT 37° 11.55'N

LONG 76° 11.03'W

Steel float is buoyant, but held submerged 10 feet below the surface and is considered a hazard to navigation.

R.V. Smart, LCDR, NOAA Corps

R.V. Smart, LCDR, NOAA

ATTACHMENT #XI

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

Date : 13 January 1978

Reply to Attn. of:

To : Commander, Fifth Coast Guard District
Portsmouth, Virgina 23707

From : Lcdr. Robert V. Smart Robert V. Smart, LT. CDR, NOAA
Commanding Officer
NOAA Ships RUDE & HECK

Subject: Wire Drag Survey Information

The National Oceanic and Atmospheric Administration advises that the NOAA Ships RUDE & HECK will be conducting wire drag survey operations for several items in the Upper and Lower Chesapeake Bay area commencing Mid-February and continuing until Mid-May. During wire drag operations the two white 90ft. survey vessels will be setting out ,dragging, and picking up a 1/4 inch steel cable. The wire is supported by small bouys, is set at various depths, and ranges in length from 3,000 to 8,000 feet.

Wire drag investigations will be conducted to locate the following items:

1.) An Obstruction at Lat. 37°02.5'N, Long. 75°06.7'W.
2.) A wreck at Lat. 37°10.7'N, Long. 76°09.4'W
3.) A wreck at Lat. 37°18.2'N, Long. 76°07.9'W.
4.) A wreck at Lat. 37°55.0'N, Long. 76°11.0'W.
5.) An obstruction at Lat. 38°46.19'N, Long. 76°30.54'W.
6.) A wreck at Lat. 38°36.3'N, Long. 76°25.7'W.

Mariners are requested to stay clear as the vessels can only maneuver with difficulty during these operations. In addition, two twenty foot launches frequently involved in diving operations, will be in attendance.

KGV/SPD

Attachment XII

#42 rep

CC 411/81

Rec'd 11 may 81 OA/CAM 31 RDS

DEPARTMENT OF THE ARMY
BALTIMORE DISTRICT, CORPS OF ENGINEERS
P.O. BOX 1715
BALTIMORE, MARYLAND 21203

REPLY TO ATTENTION OF:
NABOP-FE

24 September 1979

SUBJECT: Sunken Barge at Cove Point, Maryland

Commander (mps)
Fifth Coast Guard District
Federal Building
431 Crawford Street
Portsmouth, Virginia 23705

1. References:

a. Letter, dated 14 November 1978, from Colonel G. K. Withers to Rear Admiral J. E. Johansen, subject as above.

b. Letter, dated 11 May 1979, from this office to Commander (mps), subject as above.

2. Work on the subject barge, located at latitude 38°25.43' N, longitude 76°23.49' W, marked by wreck buoy "WR63", has been completed in accordance with the contract. There is now a 42-foot clearance above the remains of the barge at mean low water.

3. The Corps of Engineers no longer considers this derelict a hazard to navigation and you may remove wreck buoy "WR63" at your convenience.

FOR THE DISTRICT ENGINEER:

John P. O'Hagan

JOHN P. O'HAGAN
Chief, Operations Division

NOAA FORM 61-29
(12-71)

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

LETTER TRANSMITTING DATA

REFERENCE NO.
MOA23-65-87

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

☐ ORDINARY MAIL ☐ AIR MAIL
☒ REGISTERED MAIL ☐ EXPRESS
☐ GBL *(Give number)* _____

TO:

Chief, Data Control Branch, N/CG243
Room 151, WSC-1
Hydrographic Surveys Branch
National Ocean Service
Rockville, MD 20852

DATE FORWARDED
14 October 1987

NUMBER OF PACKAGES
three (3)

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.

FE-222WD (R/H-20-1-78)
OPR-E609, CHESAPEAKE BAY

Pkg. 1: (tube)
4 Field A&D Sheets
1 Original Descriptive Report containing seven Smooth Sheets
112 Rough Wire Drag Strip Plots (Office Verified), Rough A&D Sheets, and miscellaneous working overlays for Items 1, 2, 3, 4, 5, 6, and 7

Pkg. 2: (box)
1 Accordian Folder containing field strips, strip charts, and rough tester records for Year Days: 058, 065, 066, 072, 074, 075, 076, 079, 081, 082, 083, 087, 088, 090, 095, 096, 097, 100, 102, 103, 107, 108, 114, and 121 (Letter Days A through Z); plus some supplemental data (sonargrams, echograms, data listings [redacted]).

DO NOT DISCARD ANY OF THIS DATA.

FROM: *(Signature)*
Maurice B. Hickson III
Maurice B. Hickson, III

RECEIVED THE ABOVE
(Name, Division, Date)

Return receipted copy to:

Chief, Hydrographic Surveys Branch,
N/MOA23
Atlantic Marine Center
439 W. York Street
Norfolk, VA 23510-1114

NOAA FORM 61-29 SUPERSEDES FORM C&GS 413 WHICH MAY BE USED.

☆ U.S. G.P.O. 1981-564-008/1048

NOAA FORM 61-29
(12-71)

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

LETTER TRANSMITTING DATA

REFERENCE NO.
MOA23-65-87

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

☐ ORDINARY MAIL ☐ AIR MAIL
☒ REGISTERED MAIL ☐ EXPRESS
☐ GBL (Give number) _____

TO:

Chief, Data Control Branch, N/CG243
Room 151, WSC-1
Hydrographic Surveys Branch
National Ocean Service
Rockville, MD 20852

DATE FORWARDED
14 October 1987

NUMBER OF PACKAGES
three (3)

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.

FE-222WD (R/H-20-1-78)
OPR-E609, CHESAPEAKE BAY

Pkg. 2: (box) - continued
1 Accordian Folder containing field strips, strip charts, and rough tester records for Year Days: 123, 124, 125, 130, 131, 132, 136, 137, 145, 146, 150, 152, 153, 160, 165, 166, 171, 173, 174, 178, 179, 180, 185, and 186 (Letter Days AA through AZ); plus some supplemental data (echograms and data listings).
1 Accordian Folder containing field strips, strip charts, and rough tester records for Year Days: 187, 193, 198, 201, 202, 205, 207, 208, 209, 213, 214, 215, 222, and 226 (Letter Days BA through BR).

DO NOT DISCARD ANY OF THIS DATA.

FROM: (Signature) Maurice B. Hickson, III
Maurice B. Hickson, III

RECEIVED THE ABOVE
(Name, Division, Date)

Return receipted copy to:

Chief, Hydrographic Surveys Branch,
N/MOA23
Atlantic Marine Center
439 W. York Street
Norfolk, VA 23510-1114

NOAA FORM 61-29
(12-71)

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

REFERENCE NO.
MOA23-65-87

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 Branch, N/CG243
Room 151, WSC-1
Hydrographic Surveys Branch
National Ocean Service
Rockville, MD 20852

DATE FORWARDED
14 October 1987

NUMBER OF PACKAGES
three (3)

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.

FE-222WD (R/H-20-1-78)
OPR-E609, CHESAPEAKE BAY

Pkg. 3: (box)
27 Wire Drag Volumes
2 Tender Tester Record Books
1 Envelope of Data removed from the Descriptive Report
1 Envelope of Smooth Tides

DO NOT DISCARD ANY OF THIS DATA.

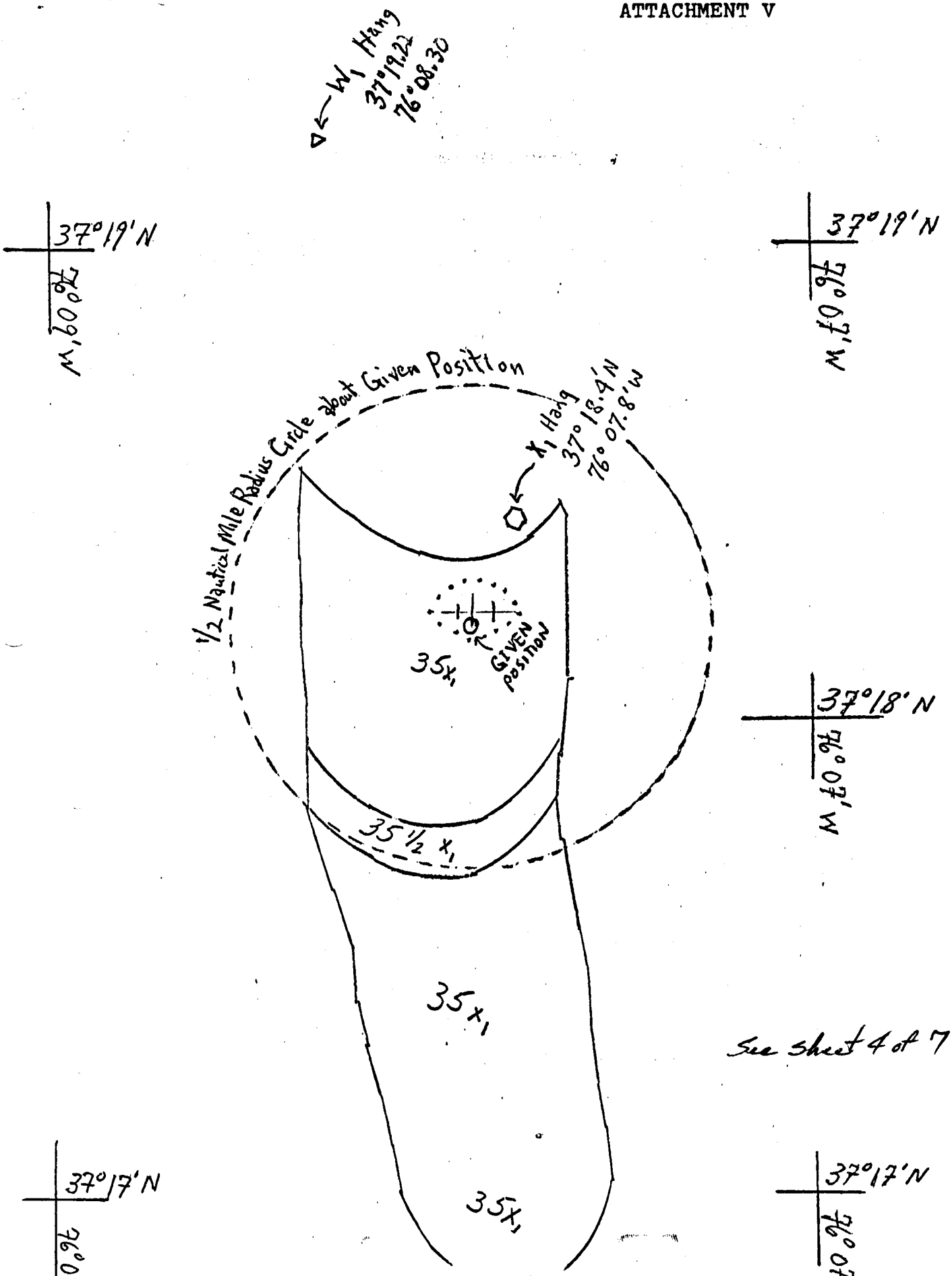
FROM: *(Signature)* Maurice B. Hickson, III
Maurice B. Hickson, III

RECEIVED THE ABOVE
(Name, Division, Date)

Return receipted copy to:

Chief, Hydrographic Surveys Branch,
N/MOA23
Atlantic Marine Center
439 W. York Street
Norfolk, VA 23510-1114

ATTACHMENT V



See sheet 4 of 7

date: April 1952

NAME: Eckie

RIG: Barge

OFFICIAL NUMBER: 220141

DATE & LOCATION BUILT: 1920

DATE SUNK: March 11, 1952 3:35 a.m.

REPORTED POSITION WHERE SUNK: 3 miles North of Sharp's Island
Gas bouy 18A in Chesapeake Bay, West of main shipping lane.

EXACT POSITION:

OWNER: S. C. Loveland Co., Inc., 151 South Front St., Philadelphia, Pa.

MASTER AT TIME OF SINKING: none (in tow of tug Gertrude Loveland) Captain of tug: Ben Royal Piner

CARGO AT TIME OF SINKING: Nitrate of Soda (500 tons)

HOME PORT: Philadelphia, Pa.

LAST PORT SAILED FROM: Norfolk, Va.

PORT BOUND FOR:

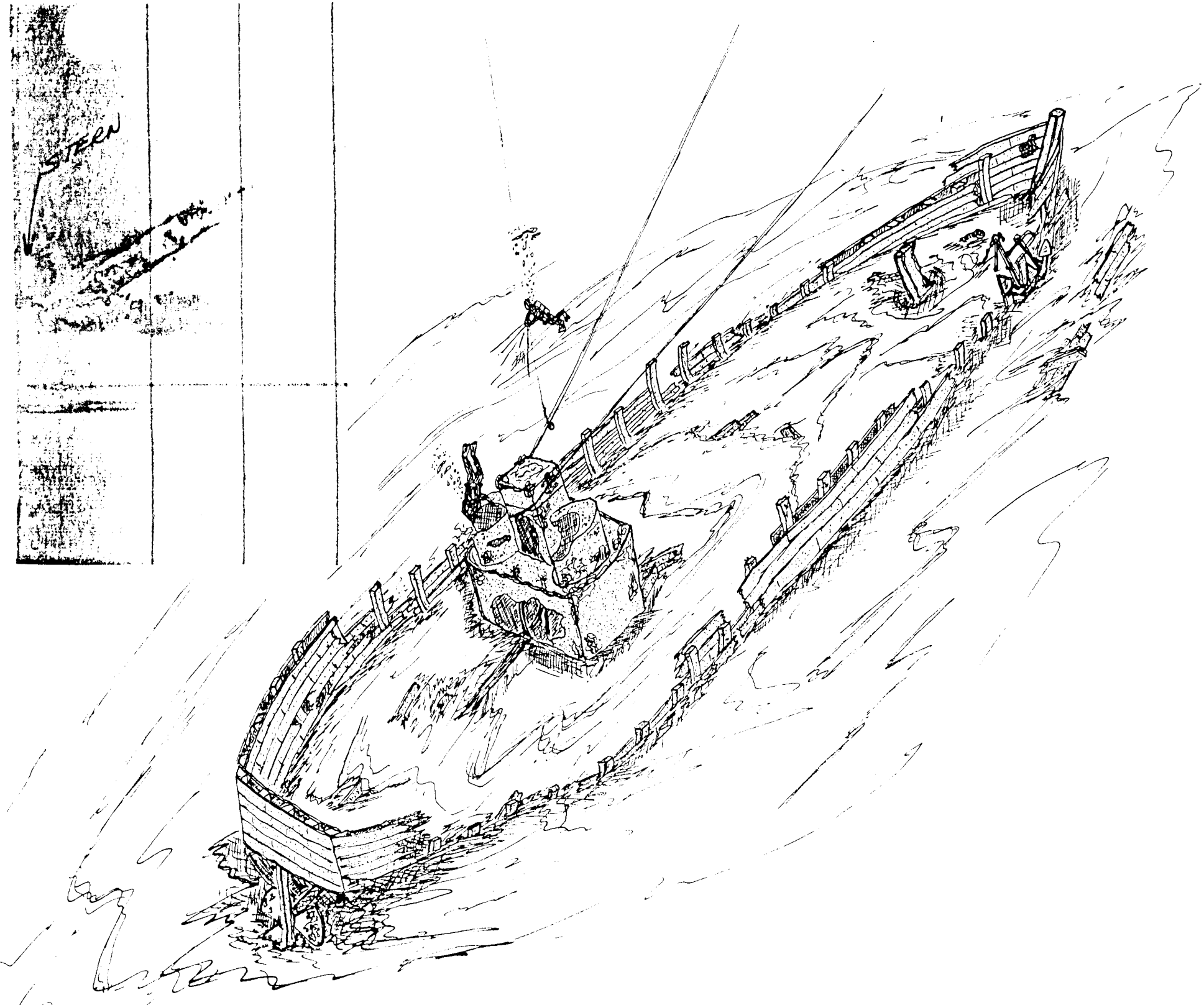
WEATHER CONDITIONS AT TIME OF SINKING: wind Southeast 40 knots, seas rough, heavy rain

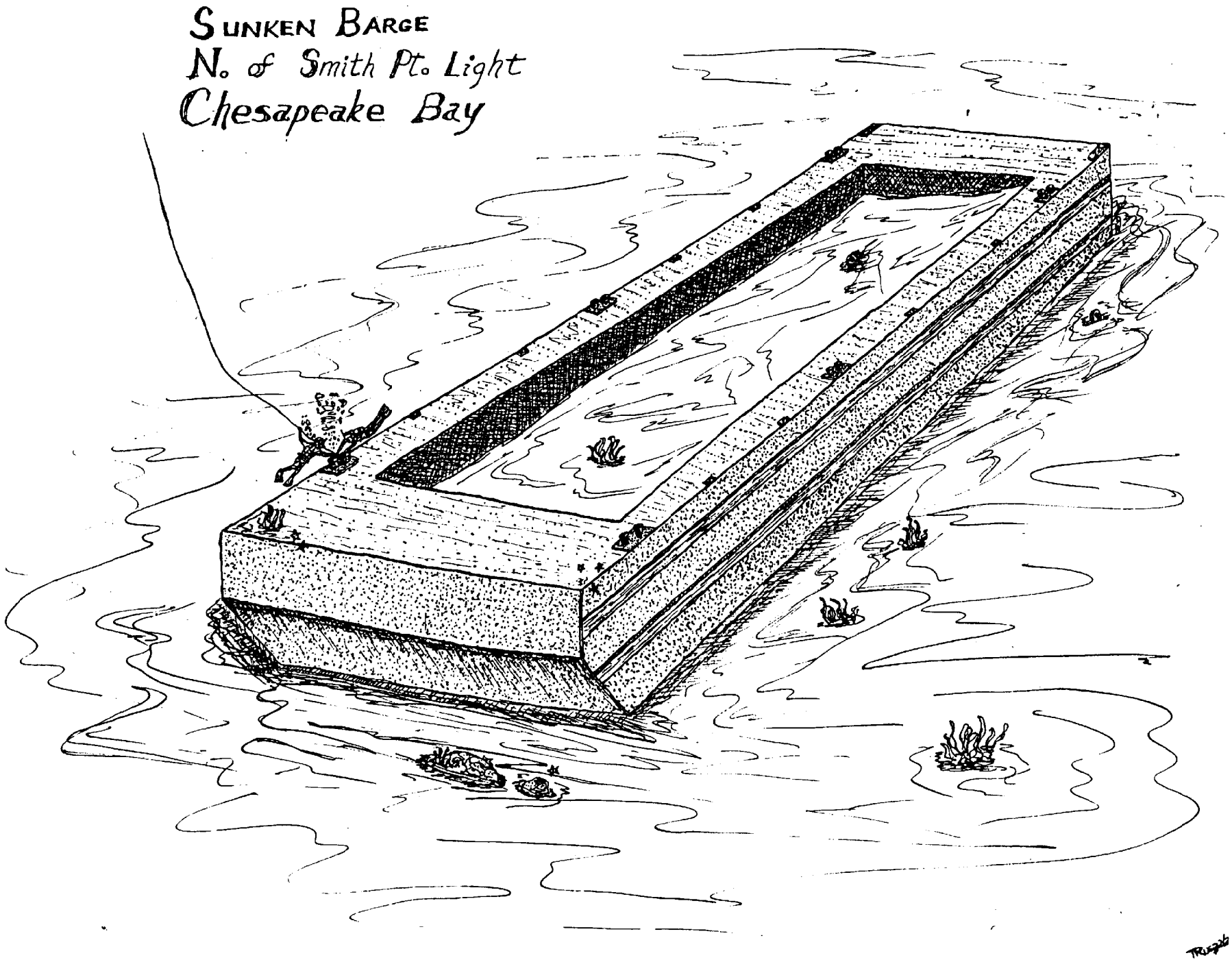
PHOTOGRAPH &/OR DRAWING: none

CONSTRUCTION: steel

CONDITION OF WRECK AT PRESENT (VERIFIED BY DIVING SURVEY):

REFERENCES & SUPPORTING DATA: Sandy Point C. G. Station radiod; U.S.C.G. casualty report and findings of Board of Inquiry.


STERN


SUNKEN BARGE
N. of Smith Pt. Light
Chesapeake Bay

C.O.
X.O.
I.O.

S. C. LOVELAND CO., INC.
MARINE TRANSPORTATION
320 WALNUT STREET
PHILADELPHIA, PA. 19106

July 7, 1978

Commanding Officer NOAA
Ships RUDI and HECK
439 West York Street
Norfolk, Virginia 23510

ATTENTION: Samuel DeBow, Lieutenant (j.g.)

Dear Sir:

Relative to your telephone inquiry of June 30, asking for information regarding the barge ECKIE we have ascertained that the registered dimensions of this barge are length: 149', beam: 20.2' and depth: 10.9'. It was built as a steam barge, the PUTNAM, at Staten Island, New York in 1920 and purchased and converted to a barge by us about 1938. It was originally a rivited steel hull but the conversion work was all welded. The barge had one cargo hold with water-tight steel bulkheads at the bow and stern compartments. It was single skinned and had a wooden ceiling (floor) in the cargo hold. My recollection is that it had three (3) hatches about 14 1/2" wide but it could have used only two (2) hatches with a dead hatch in between. It had a small cabin for one man at the stern. It had two (2) heavy longitudinal guards running the entire length of the barge, one just below the deck and the other about 2 1/2' below it, I think made out of extra heavy half-round pipe. Both the bow and stern were tapered inward slightly (semi-cigar shaped) and there were two (2) skegs fitted under the stern rake. The bilge plate was at a forty-five degree angle to provide a sort of self-trimming effect in the cargo hold and which resulted in the barge's flat bottom being only about 15' wide.

We hope this will enable you to positively identify the wreck you have found.

Yours very truly,

S. C. LOVELAND CO., INC.

S. C. Loveland

S. C. Loveland, Jr.

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): 863-8863 Chesapeake Bay Bridge Tunnel, VA
863-5750 Lewisetta, VA
857-2770 Matapeake, MD
857-7330 Solomons, MD

Period: March 7 - August 14, 1978

~~HYDROGRAPHIC SHEET:~~ R/H 20-1-78. FE-222 WD

OPR: E609-RU/HE-78

Locality: Chesapeake Bay

Plane of reference (mean lower low water): See below

Height of Mean High Water above Plane of Reference is See below

REMARKS: See page 2 for zoning:

Station	MLW (ft.)	MHW (above MLW)(ft.)
(1) 863-8863 Chesapeake Bay Bridge Tunnel	24.72	2.6
863-5750 Lewisetta	2.82	1.3
857-2770 Matapeake	3.92	1.0
857-7330 Solomons	3.43	1.2

James R. Hubbard
Chief, Datums and Information Branch

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

TIDE NOTE FOR HYDROGRAPHIC SHEET

Recommended zoning:

Item	Station	Time Corrections ~~HW~~	~~LW~~	Range Ratio
1	Ches. Bay Br-Tr	~~Direct~~ Direct	~~Direct~~	Direct
2	Ches. Bay Br-Tr	~~+15 min.~~ +25min.	~~+30 min.~~	Direct
3	Ches. Bay Br-Tr	~~+60 min.~~ +75min.	~~+85 min.~~	x0.81
4	Lewisetta	~~-70 min.~~ -65min.	~~-65 min.~~	x0.92
5	Matapeake	~~-75 min.~~ -65min.	~~-55 min.~~	Direct
6	Solomons Island	~~+80 min.~~ +80min.	~~+80 min.~~	x0.83
7	Solomons Island	~~+25 min.~~ +25min.	~~+25 min.~~	Direct

NOAA FORM 76-155
(11-72)

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

SURVEY NUMBER

FE-222 WD

GEOGRAPHIC NAMES

* Name on Survey	A ON CHART NO.	B ON PREVIOUS SURVEY NO.	C ON U.S. QUADRANGLE MAPS	D FROM LOCAL INFORMATION	E ON LOCAL MAPS	F P.O. GUIDE OR MAP	G RAND MCNALLY ATLAS	H U.S. LIGHT LIST	K	
CHESAPEAKE BAY (title)										1
CHESAPEAKE CHANNEL (title)										2
COVE POINT (title)										3
MARYLAND (title)										4
VIRGINIA (title)										5
										6
										7
										8
										9
										10
										11
										12
										13
										14
										15
										16
										17
					Approved:					18
										19
					Chas. E. Harrington					20
					Chief Geographer - N/CG2x5					21
					FEB 10 1987					22
										23
										24
										25

NOAA FORM 76-155 SUPERSEDES C&GS 197

HYDROGRAPHIC SURVEY STATISTICS
REGISTRY NO.: FE-222WD

Number of positions	2706
Number of soundings	N/A
Number of control stations	34

	TIME-HOURS	DATE COMPLETED
Preprocessing Examination		
Verification of Field Data	452	12 FEB 1987
Quality Control Checks		
Evaluation and Analysis	167	19 MAY 1987
Final Inspection	23	14 MAY 1987
TOTAL TIME	642	
Marine Center Approval		19 MAY 1987

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-222WD FIELD NO.: R/H-20-1-78

Virginia--Maryland, Chesapeake Bay, Chesapeake Channel to Cove Point

SURVEYED: February 27 through August 16, 1978

SCALE: 1:20,000 PROJECT NO.: OPR-E609-RU/HE-78

SOUNDINGS: Wire Drag & Leadline CONTROL: Raydist (Range-Range)

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

Surveyed by.....T. W. Ruszala
.....S. P. De Bow
.....C. E. Gross
.....P. M. Conners
.....M. A. Classick

1. INTRODUCTION

a. The purpose of this survey is adequately defined in the Descriptive Report and the Project Instructions. Presurvey Review Items #1A, #1 (AWOIS #923), #2 (AWOIS #3190), #3 (AWOIS #3181), #4 (AWOIS #3673), #5, #6 (AWOIS #2366), #7, and #8 were assigned and investigated by this survey. Several other charted wrecks and obstructions not assigned are common to the surveyed areas and are addressed in section 7. of this report. Only Presurvey Review Items #1, #2, #3, #5, and #6 were processed. Presurvey Review Item #1A was not processed as the obstruction was removed by the U. S. Coast Guard (see section II. of the Descriptive Report). Presurvey Review Item #4 was not processed as FE-275SS (1985) supersedes present survey data. Presurvey Review Item #7 was processed only to verify the position of the wreck since U. S. Army Corps of Engineers documentation supersedes present survey data. Presurvey Review Item #8 was not processed since the submerged piles located were buoyed for removal by the U. S. Navy and no survey data was was submitted for this item (see section X. of the Descriptive Report). Processing of this survey has been modified so that only the verified hangs not superseded by subsequent data, clearances, one least depth , and accompanying notes have been smooth plotted. Hangs on wrecks and obstructions superseded by subsequent data were not smooth plotted. Several groundings occurred during this survey but were not smooth plotted. Of these several groundings, only two conflicted with hydrographic data and are addressed in section 6. of this report. This modified

and limited processing is considered complete in regard to nautical charting requirements.

b. Eight plots of the verified hangs 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 during office processing to the Descriptive Report are denoted in red ink.

2. CONTROL AND SHORELINE

a. Seventeen (17) of the thirty-five (35) 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. Eighteen (18) of the thirty-five (35) horizontal control stations used during this survey are field positions established on objects used for calibration or for Raydist antenna sites. These eighteen (18) stations are assumed to be of Third Order, Class I accuracy or better and established on the North American Datum of 1927, but cannot be verified as such. Positioning methods are adequately discussed in the Descriptive Report. Calibration methods are adequately discussed in the Descriptive Report and the field calibrations are adequately recorded in the survey volumes.

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

3. HYDROGRAPHY

The only sounding taken on this survey is one leadline least depth.

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 deficiencies of this survey to investigate or adequately investigate seven hangs and not clearing or clearing in one direction only seven hangs are noted. The Presurvey Review Item #3 investigation was not completed. These deficiencies are noted since they impact charting recommendations made in section 6. and 7. of this report.

5. JUNCTIONS

There are no junctions on this survey.

6. COMPARISON WITH SURVEYS

a. PRIOR SURVEYS

H-7750 (1948-50) 1:40,000
FE-68 (FE No. 5, 1948) 1:20,000
H-7075 (1945) 1:10,000
H-6958 (1943-44) 1:10,000
H-6952 (1943-44) 1:20,000
H-5501 (1933) 1:20,000
H-5374 (1933) 1:10,000

Prior survey H-7750 is common to the entire area of investigation of Presurvey Review Item #1 (AWOIS #923). Present effective clearance depths range from 2 to 21 feet shoaler than prior depths within the common area. However, present clearance depths are generally 5 to 10 feet shoaler than the prior hydrography. Charting recommendations for Presurvey Review Item #1 (AWOIS #923) are made in section 7. of this report. No conflicts exist between present clearance depths and prior hydrography except three hangs and two groundings on the present survey which are addressed as follows:

A present survey hang occurred at 21 feet in the vicinity of Latitude 37°02'04.4"N, Longitude 76°06'16.1"W, position approximate (±1,000 feet). This hang was cleared in one direction by 20 feet and an opposing direction by 19 feet. This hang lies in prior depths of 29 feet and subsequent survey (H-10116) depths of 29 to 30 feet. This hang was not investigated. It is recommended that this hang be charted in the approximate position determined by the present survey as a dangerous submerged obstruction, position approximate, with a label in parentheses: (cleared 19 feet). Additional field work is recommended to either prove and more precisely locate the obstruction or disprove the existence of an obstruction at the approximate position of this present survey hang. A strong possibility exists that this hang may be AWOIS #917, a dangerous sunken wreck, position approximate, charted in Latitude 37°02'N, Longitude 76°06'W (see section 7.a.3) of this report).

The present survey hang on a large mushroom anchor (AWOIS #3096) in Latitude 37°01'42.2"N, Longitude 76°06'40.4"W is discussed in section 7.a.4) of this report. OK

A present survey hang occurred at 22 feet in Latitude 37°01'16.9"N, Longitude 76°06'54.2"W. This hang was cleared in two opposing directions by 22 feet. This hang lies in prior depths of 26 to 29 feet and subsequent survey (H-10116) depths of 26 to 28 feet. This hang was not investigated. The hydrographer believed that this was a hang on a sand wave. It is possible that this was a hang on a sand wave since it is in an area of large sand waves, but

as no investigation was made and the hang is 4 to 6 feet shoaler than current depths, it is considered a probable hang on an obstruction. It is recommended that this hang be charted in the position determined by the present survey as a dangerous submerged obstruction with a label in parentheses: (cleared 22 feet). Additional field work is recommended to either prove or disprove the existence of an obstruction at the position of this present survey hang. A possibility exists that this hang may be AWOIS #916, see section 7.a.2) of this report. Wire drag is not an effective search method to resolve this hang due to the large sand waves throughout this area. It is recommended that this hang be resolved by side-scan sonar investigations.

A present survey grounding, also called a "moving hang", occurred at 24 feet from Latitude 37°02'56"N, Longitude 76°06'55"W to Latitude 37°02'33"N, Longitude 76°06'36"W. This grounding was cleared in one direction by 21 feet and partially cleared in in the opposing direction by 19 feet. This grounding lies in prior depths of 24 to 30 feet and subsequent survey (H-10116) depths of 23 to 30 feet. This grounding or "moving hang" is, by all appearances, a series of groundings or temporary hangs. This grounding is in an area of large and shifting sand waves and is believed to be a grounding on a sand wave. This grounding or "moving hang" is not recommended for charting and has not been smooth plotted.

A present survey grounding occurred at 15½ feet in Latitude 37°01'31"N, Longitude 76°07'25"W (strip K-1). This grounding was cleared in one direction only (same direction as the grounding strip) by 17 feet (strip J-1) with no indication of a grounding. This grounding lies in prior depths of 22 feet and subsequent survey (H-10116) depths of 21 feet. There is no evidence of sags, lifts, or documentation of unusual problems in either strip which would possibly account for this conflict. With the available information it is not possible to resolve this conflict. It is suspected that either an upright was set wrong or slipped during the drag, causing the grounding. This grounding has been disregarded (not smooth plotted) and is not recommended for charting.

Prior surveys H-7750 (1948-50) and FE-68 (1948) are common to the entire area of investigation of Presurvey Review Item #2. Present effective clearance depths range from 1-foot deeper to 11 feet shoaler than prior depths within the common area. However, present clearance depths are generally within 3 feet of prior hydrography. An isolated shoal with prior depths of 29-30 feet in the vicinity of Latitude 37°10'36"N, Longitude 76°10'16"W was partially cleared by an effective depth of 30 feet. These 1-foot conflicts are considered insignificant and are attributed to natural changes occurring over the 17 to 19

years between the present and prior surveys. No other conflicts exist between present clearance depths and prior hydrography except two hangs on the present survey which are addressed as follows:

A present survey hang occurred at 29 feet in Latitude 37°11'32.2"N, Longitude 76°11'00.1"W. This hang was not cleared. This hang was identified as dredge pipe, 400 feet in length (no orientation given), 3 feet in diameter, and extending 1½ feet off the bottom. This hang lies in prior depths of 32 feet. It is recommended that this hang be charted in the position determined by the present survey as a submerged obstruction with a label in parentheses: (29 feet rep). Additional field work is recommended to determine the least depth, limits, and orientation of this obstruction.

The present survey hang on a sunken barge (AWOIS #3190) in Latitude 37°08'53.2"N, Longitude 76°09'09.3"W is discussed in section 7.a.5) of this report.

Prior survey H-7750 is common to the entire area of investigation of Presurvey Review Item #3. Present effective clearance depths range from 3 to 6 feet shoaler than prior depths within the common area. No conflicts exist between present effective depths and prior hydrography except four hangs on the present survey which are addressed as follows:

The present survey hang on an uninvestigated obstruction (AWOIS #3183) in Latitude 37°19'19.6"N, Longitude 76°08'09.8"W is discussed in section 7.a.8) of this report. This item was identified as wreckage by subsequent survey FE-260 (1984).

A present survey hang occurred at 36 feet in Latitude 37°18'39.8"N, Longitude 76°07'56.7"W. This hang was not cleared. This hang was investigated and is described as a piece of metal, measuring 3" by 4", and extending 2½ feet off the bottom. The Hydrographer noted that this was a very solid hang as much force was exerted upon it without moving it and believed it to be part of something larger below the bottom especially since another larger piece of metal extending one foot off the bottom was three feet away. This hang lies in prior depths of 38 feet. This hang is AWOIS #3436, an uncharted feature. This hang is considered to be a hazard to surface navigation. It is recommended that this hang be charted in the position determined by the present survey as a dangerous submerged obstruction with a label in parentheses: (35 feet rep). Additional field work is recommended to ascertain its least depth.

A present survey hang occurred at 32 feet in Latitude 37°18'33.0"N, Longitude 76°07'43.2"W, position approximate. This hang is plotted from the journal notes of rejected strip Z-1 (Year Day 115). No plots were provided nor was the data logged. The position recorded in the journal is the smooth plotted position and is approximate. This hang was not cleared. This hang was investigated and is described as a rock extending 1½ feet off the bottom. This hang lies in prior depths of 38 feet. This hang is AWOIS #3435, an uncharted feature. This hang is considered to be a hazard to surface navigation. It is recommended that this hang be charted in the position determined by the present survey as a submerged rock with a label in parentheses: (31 feet rep). Additional field work is recommended to ascertain its least depth.

3435
NAD 83
37°18'33.5"
76°07'41.9"
EDM

A present survey hang occurred at 34 feet in Latitude 37°18'22.6"N, Longitude 76°07'46.8"W. Upon pickup of the drag a broken off mast was seen entangled in the ground wire. This hang is AWOIS #3182 and is discussed in sections 6.b. and 7.a.7) of this report.

3182
EDM
Supersedes log FE-260 Deleted

Prior surveys H-5501 (1933) and H-5374 (1933) are common to the entire area of investigation of Presurvey Review Item #5. Present effective depths range from 2 to 26 feet shoaler than prior depths within the common area. However, present effective depths are generally within 3 to 6 feet of prior hydrography. No conflicts exist between present effective depths and prior hydrography except two hangs on submerged obstructions and two areas of multiple hangs on submerged fish impoundment stakes on the present survey which are addressed as follows:

Multiple present survey hangs occurred in two areas on submerged fish impoundment stakes. These areas of submerged fish impoundment stakes (charted as submerged piling) are discussed in section 7.a.9) of this report.

✓ A present survey hang occurred at 23 feet in Latitude 38°45'13.3"N, Longitude 76°29'55.7"W, position approximate. The position of this hang is approximate as a double hang occurred on this drag with the wire hanging this obstruction and a navigation buoy and hang positioning by the Hydrographer was poor. This hang was not cleared. This hang was investigated and is described as an engine block extending 1½ feet off the bottom. This hang lies in prior depths of 25 feet. This hang is not considered to be a hazard to surface navigation. It is recommended that this✓ hang not be charted. Additional field work is not recommended on this obstruction.

✓ A present survey hang occurred in Latitude 38°44'45.8"N, Longitude 76°30'42.8"W. The hang depth is uncertain due to a change in the upright depth. Whether the

upright depth was changed prior to the hang or after the initial contact of hang (prior to drag "V" up), is unknown. This hang was cleared by 11 feet in in one direction only. This hang was not investigated. This hang lies in prior depths of 17 feet. It is recommended that this hang be charted in the position determined by the present survey as a dangerous submerged obstruction with a label in parentheses: (cleared 11 feet). Additional field work is recommended to either prove or disprove the existence of an obstruction at the position of this present survey hang.

Prior surveys H-7075 (1945), H-6958 (1943-44), and H-6952 (1943-44) are common to the entire area of investigation of Presurvey Review Item #6. Present effective depths range from 0 to 60 feet shoaler than prior depths within the common area. However, present effective depths are generally within 5 to 10 feet of prior hydrography. No conflicts exist between present effective depths and prior hydrography except four hangs on the present survey which are addressed as follows:

The present survey hang on the sunken wreck of the barge ECKIE (AWOIS #2366) in Latitude 38°35'45.9"N, Longitude 76°24'43.8"W is discussed in section 7.a.12) of this report.

The present survey hang on the sunken wreck of a push boat type steel hull tug (AWOIS #3683) in Latitude 38°36'27.7"N, Longitude 76°25'50.8"W is discussed in section 7.a.13) of this report.

The present survey hang on the sunken wreck of the old wooden cargo vessel NEW JERSEY (AWOIS #2778) in Latitude 38°37'03.2"N, Longitude 76°24'35.9"W is discussed in section 7.a.14) of this report.

A present survey temporary hang occurred at 45 feet in Latitude 38°36'29.4"N, Longitude 76°26'28.5"W. This hang was not investigated. This hang was cleared in one direction by 42 feet and an opposing direction by 47 feet. The 47-foot clearance is not valid since the hang was not investigated and it could be a sloping obstruction. This hang lies in prior depths of 54 feet. It is recommended that this temporary hang be charted in the position determined by the present survey as a dangerous submerged obstruction with a label in parentheses: (cleared 42 feet). Additional field work is recommended to either prove or disprove the existence of an obstruction at the position of this present survey temporary hang.

It is not the intent of the present survey to supersede but only to supplement prior hydrography.

b. SUBSEQUENT SURVEYS

H-10116 (1983) 1:10,000
FE-249 (1984) 1:20,000
FE-260 (1984) 1:20,000
FE-275SS (1985) 1:20,000

Subsequent survey H-10116 (1983) is common to the entire area of investigation of Presurvey Review Item #1 (AWOIS #923). Present effective clearance depths range from 0 to 22 feet shoaler than subsequent depths within the common area. However, present clearance depths are generally 5 to 10 feet shoaler than the subsequent hydrography. This subsequent survey shows evidence of sand waves within the common area which rise as much as 7 feet above the surrounding bottom. No conflicts exist between present clearance depths and subsequent hydrography except three hangs and two groundings which are adequately addressed in section 6.a. of this report under prior survey H-7750 (1948-50). This subsequent survey supersedes prior survey H-7750 within its common area but has not been applied to the effected charts at the time of processing. Charting recommendations for Presurvey Review Item #1 (AWOIS #923) are made in section 7. of this report.

Subsequent survey FE-249 is an investigation of AWOIS #3190, a dangerous sunken wreck identified as a sunken barge. This subsequent survey found this wreck and provided a more detailed description than given by the present survey. This more detailed description is given in the discussion of this wreck in section 7.a.5) of this report. The position of this wreck obtained by this subsequent survey is only 23 meters from the position obtained by the present survey. This minor positional difference is insignificant since the barge is 100 feet long. A least depth was taken on this wreck by this subsequent survey but is not considered valid as explained in the Evaluation Report for FE-249 (1984). Charting recommendations pertaining to this wreck are made in section 7.a.5) of this report.

Subsequent survey FE-260 is an investigation which is common to the area of investigation of Presurvey Review Item #3 (AWOIS #3181) and supersedes present survey data for this item and AWOIS #3182 and #3183 which originated with the present survey. Charting recommendations for AWOIS #3181, #3182, and #3183 are made in the Evaluation Report for FE-260. Since area coverage plots and the sonargrams of FE-260 are not available, it is not possible to make an adequate comparison between this subsequent survey and the present survey. AWOIS #3435, a rock extending 1½ feet off th bottom in Latitude 37°18'33.0"N, Longitude 76°07'43.2"W, and AWOIS #3436, a piece of metal (3" by 4") extending 2½ feet off the bottom in Latitude 37°18'39.8"N, Longitude 76°07'56.7"W were apparently within the area covered by

side-scan sonar by FE-260 but were not detected. AWOIS #3182 was an uninvestigated hang on the present survey (FE-222WD), but a broken off mast was seen entangled in the ground wire during pickup. The broken off mast is described as being metal, about 6" in diameter and at least 15 feet long which is similar to the masts prevalent on modern fiberglass hulled sail boats. This hang was a solid hang which was not moved by the force of the wire drag pulling on it for over 35 minutes. If this hang was on a fiberglass hulled wreck completely filled with water, it could be acoustically transparent to side-scan sonar. It is the opinion of this Evaluator that additional wire drag is necessary in order to disprove AWOIS #3182.

Subsequent survey FE-275SS is a side-scan sonar investigation which is common to the area of investigation of Presurvey Review Item #4 (AWOIS #3673) and supersedes present survey data for this item. Processing of present survey data for Presurvey Review Item #4 was not considered necessary; therefore, no comparisons were made with this subsequent survey.

7. COMPARISON WITH CHARTS 12222 (30th Ed., June 8, 1985)
12224 (17th Ed., Feb. 4, 1984)
12264 (22nd Ed., May 28, 1983)
12266 (22nd Ed., Aug. 25, 1984)
12270 (22nd Ed., Jan. 15, 1983)

a. HYDROGRAPHY

The charted hydrography originates with the previously discussed prior surveys and from sources not readily available. The previously discussed prior surveys require no further consideration. Editions of charts current at the time of this survey (1978) were not considered for comparisons. Only the editions of charts current at the time of processing (1986-87) were used since advance information from the present survey and subsequent information is presently charted. Attention is directed to the following:

1) Presurvey Review Item #1 (AWOIS #923), a charted dangerous submerged obstruction, position doubtful in Latitude 37°02'33N, Longitude 76°06'42"W, originated with Chart Letter 281 of 1967 as position approximate, 13 feet reported, and revised to position doubtful, no reported depth charted, by Chart Letter 1960 of 1978 from advance information from the present survey (FE-222WD). This charted obstruction is unidentified. This item was not located but was cleared in one direction by 21 feet and an opposing direction by 18 feet by the present survey. This item is in prior depths (H-7750) of 24 to 29 feet and subsequent depths (H-10116) of 29 to 30 feet. Since clearance depths over this charted item are not sufficient for disproval, this obstruction is not disproved. This item

is in an area of large and shifting sand waves. It is strongly suspected that the U. S. Navy minesweeping gear (see Chart Letter 281 of 1967) was actually much deeper than was thought and became stuck on a large sand wave rather than an obstruction. In this area, wire drag will not be able to disprove the existence of this item and is therefore not recommended. If item disproval is necessary, it is recommended that it be accomplished with side-scan sonar. It is recommended that this item be charted in its reported position as a dangerous submerged obstruction, existence doubtful, with a label in parentheses: (cleared 18 feet). This recommendation supersedes the recommendation by the Evaluation Report for survey H-10116 (1983) in section 7.a.5). *

2) AWOIS #916, a charted dangerous sunken wreck, position approximate in Latitude 37°02'00"N, Longitude 76°07'00"W, originated with Local Notice to Mariners No. 46 of 1974, identified as a 19-foot cabin cruiser, was not found by the present survey. This wreck was not assigned but is common to the Presurvey Review Item #1 area of investigation covered by wire drag. Present clearance depths over the charted position of this wreck are 23 feet in one direction and 20 feet in the opposing direction. Search radius requirements of ½-mile radius are considered met for this item; however, wire drag clearance requirements from the bottom were not met for disproval. This charted wreck lies in prior depths (H-7750) of 29 feet and subsequent depths (H-10116) of 32 feet. The present survey is not adequate to disprove this wreck. The area in which this wreck is charted is an area of large sand waves and wire drag is not able to disprove the existence of this wreck. It is recommended that this dangerous sunken wreck be retained as presently charted with a label in parentheses: (cleared 20 feet).

3) AWOIS #917, a charted dangerous sunken wreck, position approximate in Latitude 37°02'00"N, Longitude 76°06'00"W, originated with Notice to Mariners No. 37 of 1966, identified as a 27-foot boat, was not considered found by the present survey. This wreck was not assigned but is common to the Presurvey Review Item #1 area of investigation covered by wire drag. The present clearance depth over the charted position for a ½-mile radius about this wreck is 19 feet. This charted wreck lies in prior depths (H-7750) of 32 to 34 feet and subsequent depths (H-10116) of 34 feet. The present survey is not adequate to disprove this wreck. It is recommended that this dangerous sunken wreck with a label in parentheses: (cleared 19 feet) be charted.

4) AWOIS #3096, a charted dangerous submerged obstruction (21 feet reported, 1978), position doubtful in Latitude 37°01'39"N, Longitude 76°06'37"W, originated with Chart Letter 1960 of 1978 from advance information from the

* Telecon (7/6/89) - R. Roberson - S. Kerry (N/CG241); the wire-drag data from FE-222WD/78 will supersede the side scan sonar data from H-10116/83 re. AWOIS item 923 because "the condition of the side scan sonar records for the survey (H-10116) is considered very poor" (par. 4e)

present survey (FE-222WD), identified as a large mushroom anchor, was located by the present survey. The present survey (FE-222WD) is the source for this charted obstruction and hung this obstruction at 23 feet in Latitude 37°01'42.2"N, Longitude 76°06'40.4"W. Clearance depths over this obstruction are 22 feet in one direction and 20 feet in the opposing direction. This obstruction lies in prior depths (H-7750) of 29 feet and subsequent depths (H-10116) of 29 to 30 feet. This obstruction was identified as a large mushroom anchor extending 4 3/4 feet off the bottom. It is recommended that this obstruction be charted in the position determined by the present survey as a dangerous submerged obstruction with a label in parentheses: (cleared 20 feet). Additional field work is not recommended on this obstruction.

5) Presurvey Review Item #2 (AWOIS #3190), a presently charted dangerous sunken wreck, cleared by 28 feet in Latitude 37°08'53.4"N, Longitude 76°09'09.6"W, originated with Chart Letter 1884 of 1971 as a dangerous sunken wreck, position approximate in Latitude 37°10'42"N, Longitude 76°09'24"W. Chart Letter 1960 of 1978 revised this wreck to its presently charted position and clearance depth from advance information from the present survey (FE-222WD). This wreck was hung by the present survey at 30 feet in Latitude 37°08'53.2"N, Longitude 76°09'09.3"W and cleared in one direction only by 27 feet. The clearance of 27 feet in one direction only is considered a valid clearance as the wreck was hung in opposing directions several times, the present survey dive report states a height above the bottom of 10 feet, and it lies in prior survey depths (both H-7750 and FE-68) of 40 feet. Subsequent survey FE-249 (1984) investigated this wreck and describes it as a barge of wood and steel construction, 100-foot LOA, 30-foot beam, and extends 9 feet off the bottom which is a more detailed description than provided by the present survey. In consideration of all the factors of this investigation and the positional ambiguity of the initial report, the wreck found is considered the wreck sought (Presurvey Review Item #2). It is recommended that this wreck be charted in the position determined by the present survey as a wreck with a 27-foot depth cleared by wire drag. Additional field work is not recommended on this wreck.

— 83. NAD 37°08'53.7" 76°09'08.0"

charted

6) Presurvey Review Item #3 (AWOIS #3181), a charted dangerous sunken wreck with a mast in Latitude 37°18'12"N, Longitude 76°07'54"W originated with Notice to Mariners #19 of 1974. This wreck was not located by the present survey but a mast was hung (AWOIS #3182) by the present survey in Latitude 37°18'22.6"N, Longitude 76°07'46.8"W and is addressed in the discussion of AWOIS #3182. The charted position of this item was cleared in one direction only by 34 feet. This item is in prior depths (H-7750) of 37 feet. This item (AWOIS #3181) is adequately

Deleted by FE 2160

discussed and charting recommendations made in the Evaluation Report of FE-260 (1984).

7) AWOIS #3182, a charted dangerous sunken wreck in Latitude 37°18'25.2"N, Longitude 76°07'47.4"W originated with Chart Letter 1960 of 1978 from advance information from the present survey (FE-222WD). This wreck originated from the present survey hang at 34 feet in Latitude 37°18'22.6"N, Longitude 76°07'46.8"W that was not investigated due to diving restrictions but a broken off metal mast approximately 6 inches in diameter and at least 15 feet long was seen entangled in the ground wire during drag pickup. This hang was not cleared. This hang lies in prior survey (H-7750) depths of 38 feet. The present survey data pertaining to this item has been superseded by FE-260 (1984) and charting recommendations for this item are made in the Evaluation Report of FE-260 (1984). This hang is not smooth plotted. See section 6.b. of this report for additional comments on AWOIS #3182.

8) AWOIS #3183, a charted dangerous submerged obstruction in Latitude 37°19'19.5"N, Longitude 76°08'09.5"W originated with Chart Letter 1960 of 1978 from advance information from the present survey (FE-222WD). This obstruction originated from a present survey hang at 32 feet (estimated) in Latitude 37°19'19.6"N, Longitude 76°08'09.8"W that was not investigated due to diving restrictions. This hang was not cleared. This hang lies in prior survey (H-7750) depths of 38 feet. This item was identified as wreckage by subsequent survey FE-260 (1984). The present survey data pertaining to this item has been superseded by FE-260 (1984) and charting recommendations for this item are made in the Evaluation Report of FE-260 (1984). This hang is not smooth plotted.

9) Presurvey Review Item #5, a dangerous submerged obstruction (4 feet reported 1963) in Latitude 38°46.19'N, Longitude 76°30.54'W, position approximate, originated with Notice to Mariners No. 16 of 1964, identified as a submerged pile, was not found by the present survey. This item was cleared by 17 feet in one direction only. This item lies in prior survey (H-5501) depths of 23 feet. This assigned item is not presently charted (1983 edition) since the Chief, Marine Surveys Division (Attachment VI. of the Descriptive Report) determined that sufficient data had been obtained for item disproval.

10) Presently charted (1983 edition) lines of submerged piling from Latitude 38°47'23"N, Longitude 76°29'27"W to Latitude 38°47'18"N, Longitude 76°29'16"W and from Latitude 38°47'04"N, Longitude 76°30'03"W to Latitude 38°47'00"N, Longitude 76°29'48"W originating with advance information from the present survey (FE-222WD). Multiple hangs occurred on the present survey from approximately

Latitude 38°47'23"N, Longitude 76°29'28"W to approximately Latitude 38°47'18"N, Longitude 76°29'07"W and from approximately Latitude 38°47'04"N, Longitude 76°30'05"W to approximately Latitude 38°46'59"N, Longitude 76°29'47"W. These areas of multiple hangs were identified as areas submerged fish impoundment stakes. As these fish impoundment areas are somewhat irregular in shape it is recommended that the smooth plot delineation of these areas be used for chart application. These fish impoundment stakes are 6" to 10" in diameter and approximately 27 feet in length and are large enough to be considered piles. One area had a shoalest hang depth of 5 feet and the other area had a shoalest hang depth of 8 feet. Neither of these areas were cleared. The northern area lies in prior survey (H-5501) depths of 25 to 28 feet and the southern area lies in prior survey (H-5501) depths of 21 to 25 feet. It is recommended that these abandoned commercial fish impoundment areas be shown on the chart delineated by a danger line identified as submerged piling in accordance with the limits defined by the present survey. Additional field work is not recommended on these abandoned fish impoundment areas.

✓ 11) A charted dangerous sunken wreck, source unknown, identity unknown, in Latitude 38°46'33.0"N, Longitude 76°29'24.5"W was not found by the present survey. This charted wreck was not assigned but is common to the Presurvey Review Item #5 area of investigation covered by wire drag. This wreck was charted at the time of the present survey (FE-222WD). Present clearance depths over the charted position of this wreck are 23 feet in one direction and 22 feet in the opposing direction. This charted wreck lies in prior survey (H-5501) depths of 28 feet. The present survey is not adequate to disprove this wreck. It is recommended that this dangerous sunken wreck be retained as presently charted with a label in parentheses: (cleared 22 feet). Additional field work is not addressed regarding this charted wreck.

✓ 12) Presurvey Review Item #6 (AWOIS #2366), a presently charted dangerous sunken wreck with a 42½-foot least depth in Latitude 38°35'46.2"N, Longitude 76°24'43.2"W, originated with Notice to Mariners No. 13 of 1952 as a dangerous sunken wreck, position approximate, in Latitude 38°36.3'N, Longitude 76°25.7'W. Advance information from the present survey (FE-222WD) revised this wreck to its presently charted position and least depth. This wreck was hung by the present survey at 44 feet and a leadline least depth obtained of 42.3 feet (corrected to MLW) in Latitude 38°35'45.9"N, Longitude 76°24'43.8"W. Divers investigated this wreck and identified it as the barge ECKIE. The wreck found, the barge ECKIE, is the assigned item, Presurvey Review Item #6. The ECKIE is described as a steel hulled barge, LOA: 149 Feet, beam: 20 feet, depth: 11 feet. This wreck lies in prior survey

(H-6952) depths of 52 feet. It is recommended that this wreck be charted in the position determined by the present survey as a known 42-foot depth wreck with a danger curve. Additional field work is not recommended on this wreck.

✓13) AWOIS #3683, a charted dangerous sunken wreck, cleared by 46½ feet, in Latitude 38°36'27"N, Longitude 76°25'51"W, originated with advance information from the present survey (FE-222WD). This wreck originated from the present survey hang at 48 feet in Latitude 38°36'27.7"N, Longitude 76°25'50.8"W. This hang was investigated and is described as a steel hull tug (push boat type), twin screw, 40 feet long and 12 feet wide, lying upside down and resting on the pilot house. This hang was cleared by 46 feet in one direction only. Clearance in one direction is considered valid since the wreck was diver investigated. This wreck lies in prior survey (H-6952) depths of 65 feet. It is recommended that this wreck be charted in the position determined by the present survey as a dangerous sunken wreck with a label in parentheses: (cleared 46 feet). Additional field work is not recommended on this wreck.

✓14) AWOIS #2778, a charted dangerous sunken wreck, cleared by 40½ feet, in Latitude 38°37'04.8"N, Longitude 76°24'35.4"W, originated with advance information from the present survey (FE-222WD). This wreck originated from the present survey hang at 42 feet in Latitude 38°37'03.2"N, Longitude 76°24'35.9"W. This wreck was investigated by divers during the present survey and was investigated in 1982 by the National Diving Center. This wreck was identified as the NEW JERSEY, a cargo vessel owned by the Baltimore Steam Packet Company, built in 1862, and sunk as a result of fire on Feb. 26, 1870. This wreck is described as a wood hull cargo vessel, gross tons: 494, length: 166½ feet, beam: 22½ feet, depth: 9 feet. The present dive investigation noted the wreck as badly deteriorated and encrusted with marine growth. This hang was cleared by 40 feet in one direction only. Clearance in one direction is considered valid since this wreck was diver investigated. This wreck lies in prior survey (both H-6952 and H-6958) depths of 55 feet. It is recommended that this wreck be charted in the position determined by the present survey as a dangerous sunken wreck with a label in parentheses: (cleared 40 feet). Additional field work is not recommended on this wreck.

✓15) AWOIS #3684, a charted dangerous sunken wreck, 46 feet reported, in Latitude 38°37'41"N, Longitude 76°26'02"W, position approximate, originated with Notice to Mariners No. 25 of 1966 and was revised by Notice to Mariners No. 34 of 1967. This charted wreck is identified as 145-foot steel barge. This wreck was not assigned but is is common to the Presurvey Review Item #6 area of investigation covered by wire drag. The present clearance

depth over the charted position of this wreck is 43 feet in one direction only. This charted wreck lies in prior survey (H-6952) depths of 53 feet. The present survey is not adequate to disprove this wreck. It is recommended that this dangerous sunken wreck be retained as presently charted. Additional field work is not addressed regarding this charted wreck.

16) Presurvey Review Item #7, a charted dangerous sunken wreck, 37 feet reported 1977, in Latitude 38°25'28.8"N, Longitude 76°23'26"W, originated with Notice to Mariners No. 3 of 1978 and is identified as a barge. The present survey located this wreck in Latitude 38°25'26.0"N, Longitude 76°23'29.4"W which is in close agreement with the position given by the U. S. Army Corps of Engineers. Present survey data on this wreck, except wreck positional data, is superseded by U. S. Army Corps of Engineers letter dated 24 September 1979 which is attached to the Descriptive Report. This item is not smooth plotted.

b. Aids To Navigation

Eleven fixed aids to navigation were used as a visual control stations and are listed in Attachment III.C. of the Descriptive Report. Five floating aids to navigation were located by this survey. None of these floating aids to navigation were verified. It is recommended that these floating aids 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. Recommendations for additional field work are made in sections 6. and 7. of this report.

10. MISCELLANEOUS

a. One split exists in the area covered by wire drag for Presurvey Review Item #5. This small split does not adversely affect the investigation and is considered insignificant.

b. In regard to completion (wire drag coverage) of required areas of search for the assigned Presurvey Review Items, the following is noted:

1) Presurvey Review Item #1A was not processed.

2) The Presurvey Review Item #1 required area of investigation was completely covered by wire drag and the assigned item is considered complete in regard to wire drag investigations.

3) The Presurvey Review Item #2 required area of investigation was not completed by wire drag, but the item is considered completed by Attachment VIII. of the Descriptive Report.

4) The Presurvey Review Item #3 required area of investigation was not completed by wire drag. Subsequent survey FE-260 (1984) completed this area.

5) Presurvey Review Item #4 was not processed. (See section 1. of this report.)

6) The Presurvey Review Items #5 and #6 required areas of investigation were not completed by wire drag, but the items are considered completed by Attachment VI. of the Descriptive Report.

7) Present survey data, except wreck positioning, for Presurvey Review Item #7 is superseded by U. S. Army Corps of Engineers Letter dated 24 September 1979, Attachment XII. to the Descriptive Report.

8) Presurvey Review Item #8 was not processed, see the statement and recommendation made by the hydrographer in section X. of the Descriptive Report.

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

ADDENDUM TO ACCOMPANY SURVEY FE-222WD

The average values for shifting surveyed NAD 1927 positions to NAD 1983 positions for this survey are as follows:

Position shifts (NAD 1983 minus NAD 1927):
Average Latitude shift = 0.473 seconds = 14.6 meters
Average Longitude shift = -1.188 seconds = -29.0 meters

INSPECTION REPORT
FE-222WD

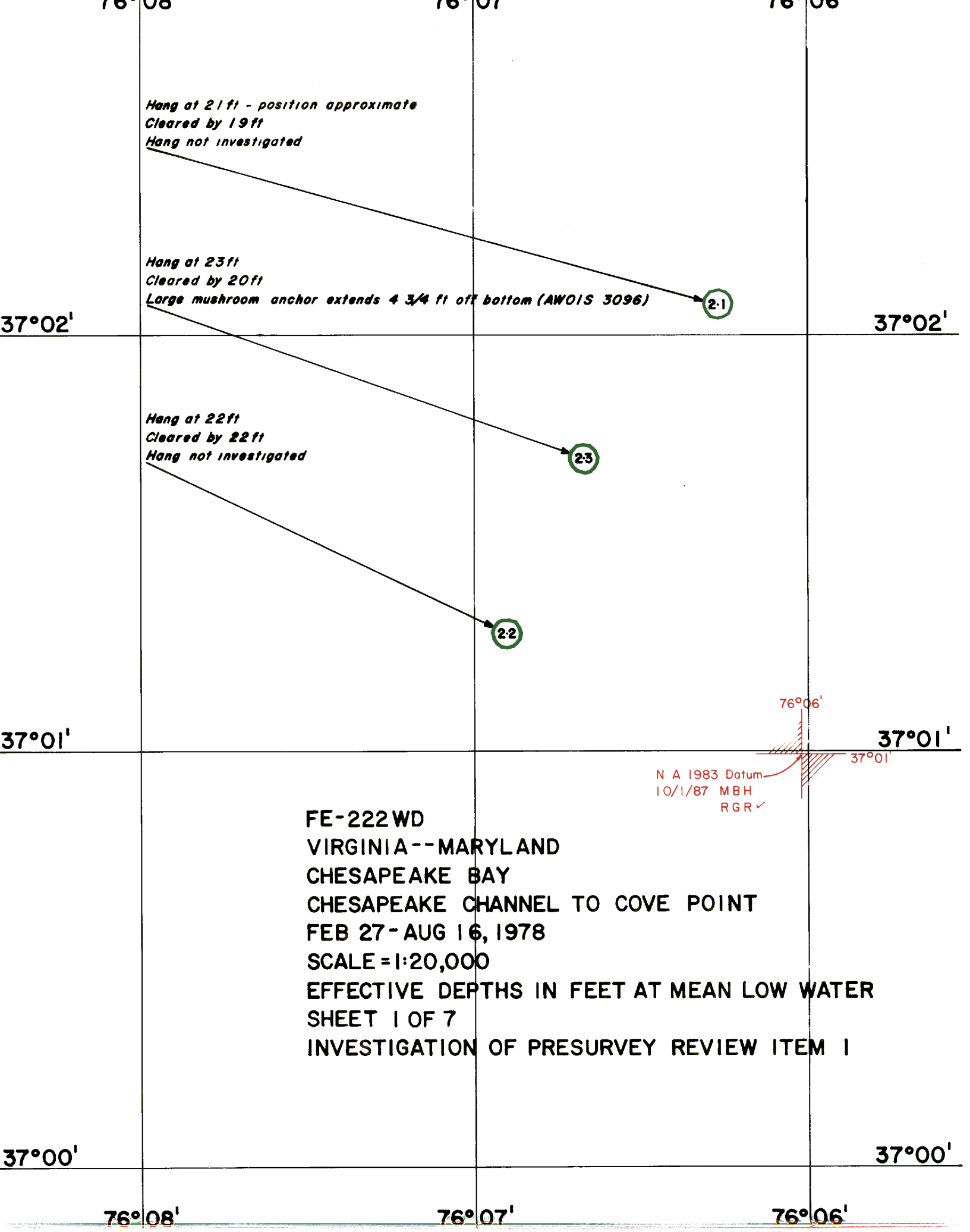
The completed survey has been inspected with regard to survey coverage, investigation of hangs and clearance depths, cartographic symbolization, and verification or disproval of charted data. The survey complies with National Ocean Service requirements except as noted in the Evaluation Report. The survey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

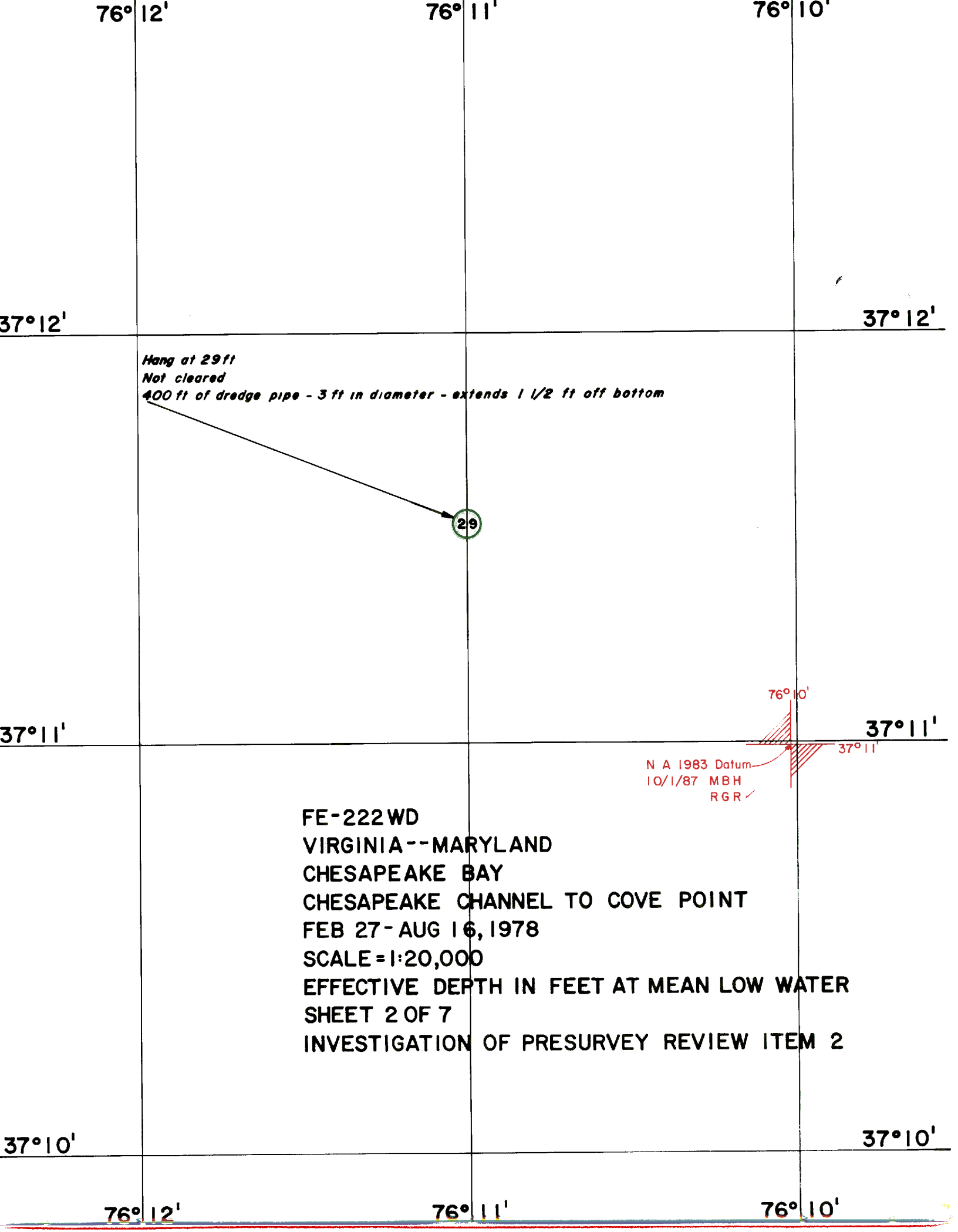
Inspected

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

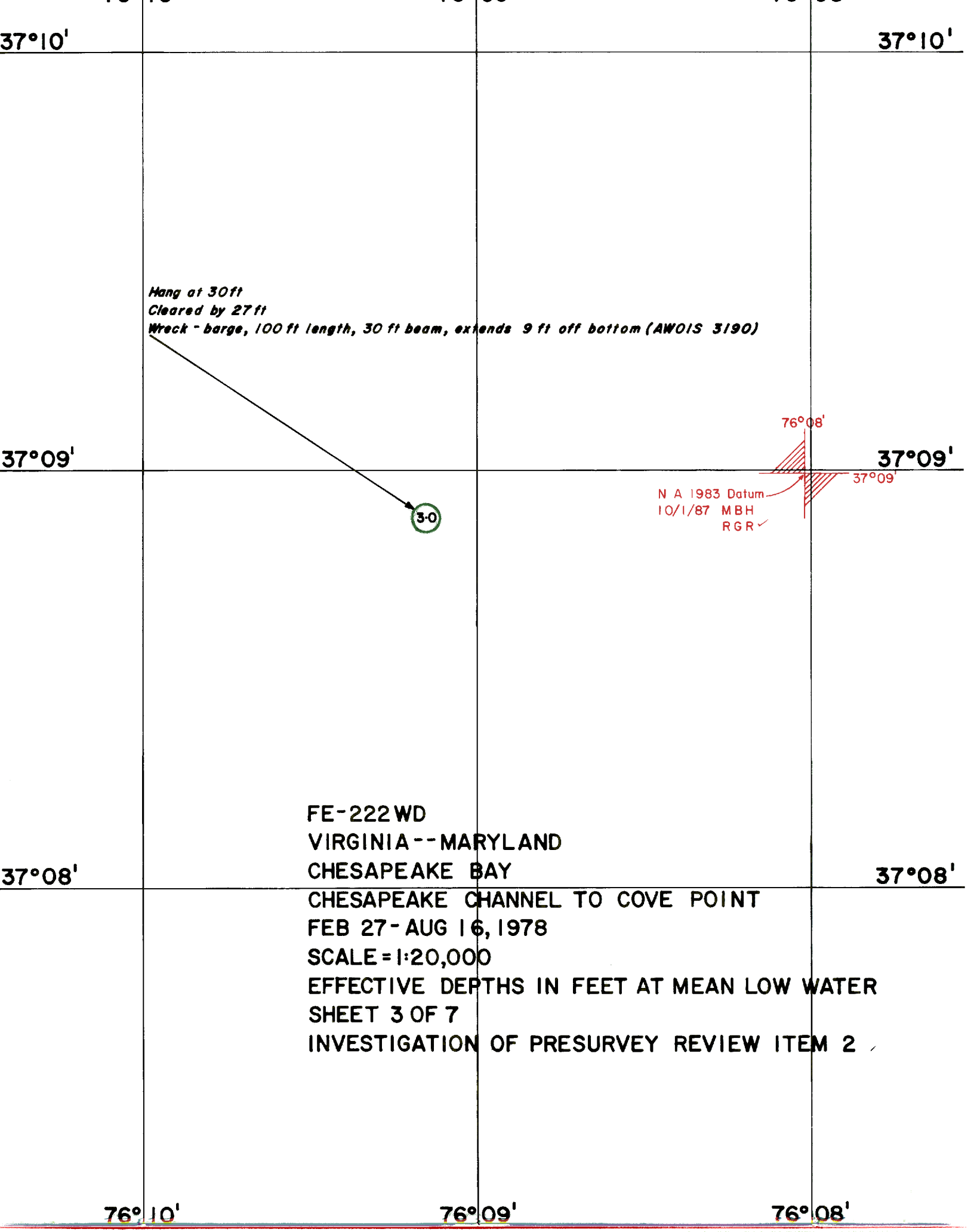
Approved May 19, 1986

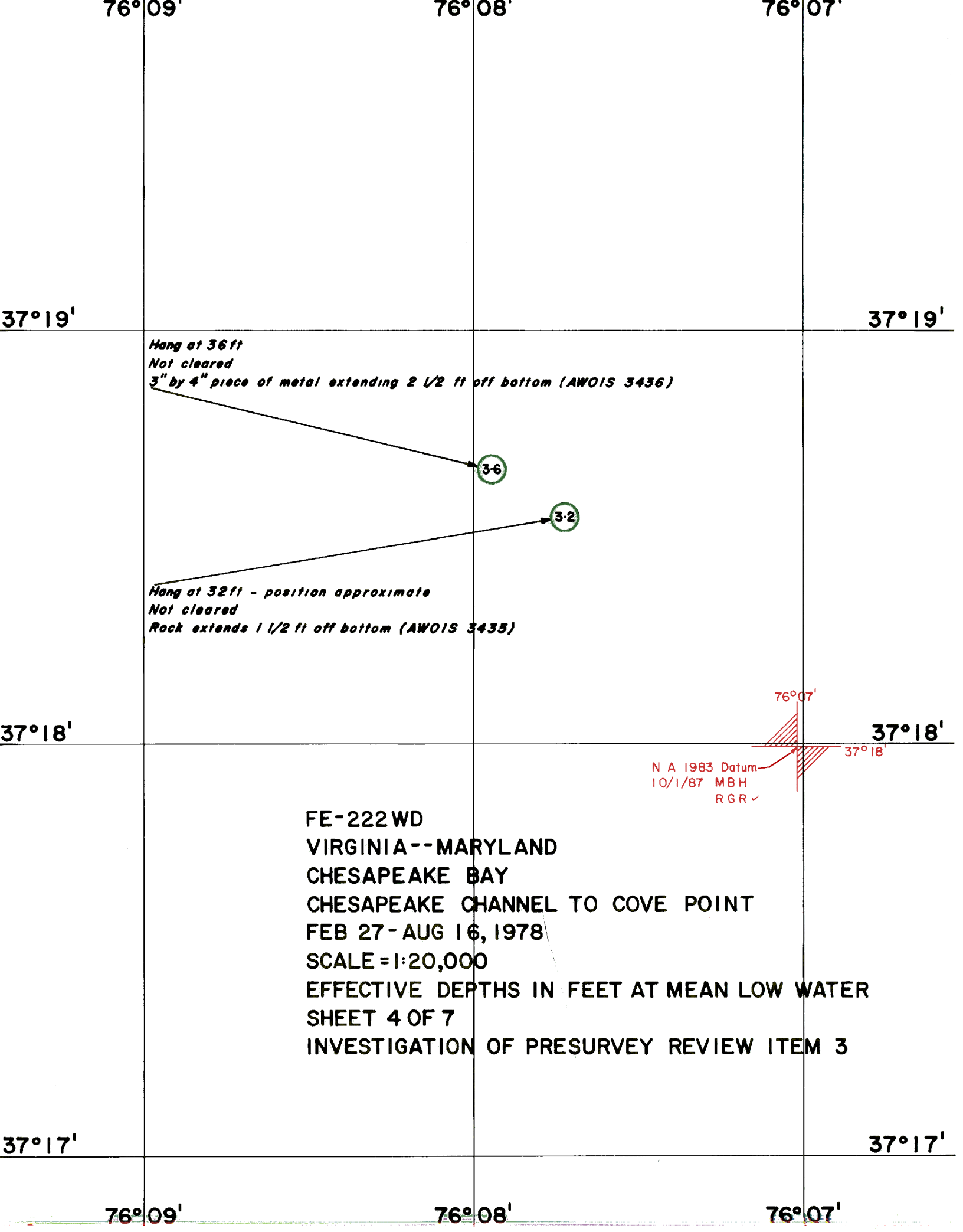
Ray E. Moses, RADM, NOAA
Director, Atlantic Marine Center

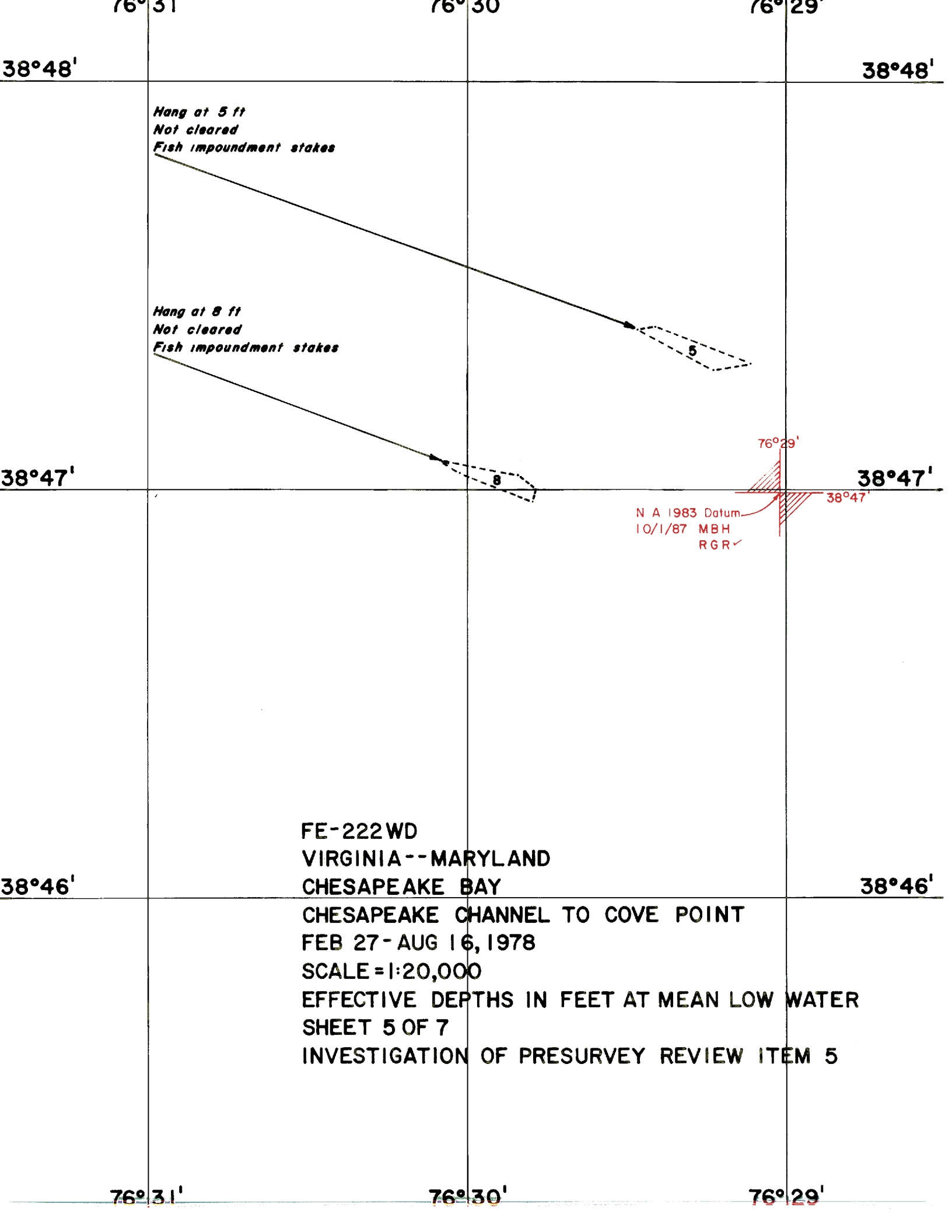

76°08'
76°07'
76°06'
Hang at 21 ft - position approximate
Cleared by 19 ft
Hang not investigated
Hang at 23 ft
Cleared by 20 ft
Large mushroom anchor extends 4 3/4 ft off bottom (AWOIS 3096)
2-1
37°02'
37°02'
Hang at 22 ft
Cleared by 22 ft
Hang not investigated
2-3
2-2
76°06'
37°01'
37°01'
37°01'
N A 1983 Datum
10/1/87 MBH
RGR ✓
FE-222WD
VIRGINIA--MARYLAND
CHESAPEAKE BAY
CHESAPEAKE CHANNEL TO COVE POINT
FEB 27-AUG 16, 1978
SCALE=1:20,000
EFFECTIVE DEPTHS IN FEET AT MEAN LOW WATER
SHEET 1 OF 7
INVESTIGATION OF PRESURVEY REVIEW ITEM 1
37°00'
37°00'
76°08'
76°07'
76°06'



FE-222WD
VIRGINIA--MARYLAND
CHESAPEAKE BAY
CHESAPEAKE CHANNEL TO COVE POINT
FEB 27-AUG 16, 1978
SCALE=1:20,000
EFFECTIVE DEPTH IN FEET AT MEAN LOW WATER
SHEET 2 OF 7
INVESTIGATION OF PRESURVEY REVIEW ITEM 2


37°10'
37°10'
Hang at 30ft
Cleared by 27ft
Wreck - barge, 100 ft length, 30 ft beam, extends 9 ft off bottom (AWOIS 3190)
76°08'
37°09'
37°09'
37°09'
N A 1983 Datum
10/1/87 MBH
RGR
3-0
37°08'
37°08'
FE-222WD
VIRGINIA--MARYLAND
CHESAPEAKE BAY
CHESAPEAKE CHANNEL TO COVE POINT
FEB 27-AUG 16, 1978
SCALE=1:20,000
EFFECTIVE DEPTHS IN FEET AT MEAN LOW WATER
SHEET 3 OF 7
INVESTIGATION OF PRESURVEY REVIEW ITEM 2
76°10'
76°09'
76°08'


76°09'
76°08'
76°07'
37°19'
37°19'
Hang at 36 ft
Not cleared
3" by 4" piece of metal extending 2 1/2 ft off bottom (AWOIS 3436)
3-6
3-2
Hang at 32 ft - position approximate
Not cleared
Rock extends 1 1/2 ft off bottom (AWOIS 3435)
37°18'
37°18'
76°07'
37°18'
N A 1983 Datum
10/1/87 MBH
RGR ✓
FE-222WD
VIRGINIA--MARYLAND
CHESAPEAKE BAY
CHESAPEAKE CHANNEL TO COVE POINT
FEB 27-AUG 16, 1978
SCALE=1:20,000
EFFECTIVE DEPTHS IN FEET AT MEAN LOW WATER
SHEET 4 OF 7
INVESTIGATION OF PRESURVEY REVIEW ITEM 3
37°17'
37°17'
76°09'
76°08'
76°07'



FE-222WD
VIRGINIA--MARYLAND
CHESAPEAKE BAY
CHESAPEAKE CHANNEL TO COVE POINT
FEB 27-AUG 16, 1978
SCALE=1:20,000
EFFECTIVE DEPTHS IN FEET AT MEAN LOW WATER
SHEET 5 OF 7
INVESTIGATION OF PRESURVEY REVIEW ITEM 5

38°46'

38°46'

Hang at 23ft - position approximate
Not cleared
Engine block extends 1 1/2 ft off bottom

23

Hang at an undetermined depth
Cleared by 11ft - one direction only
Hang not investigated

38°45'

76°29'

38°45'

38°45'

N A 1983 Datum
10/1/87 MBH
RGR ✓

38°44'

FE-222WD
VIRGINIA--MARYLAND
CHESAPEAKE BAY

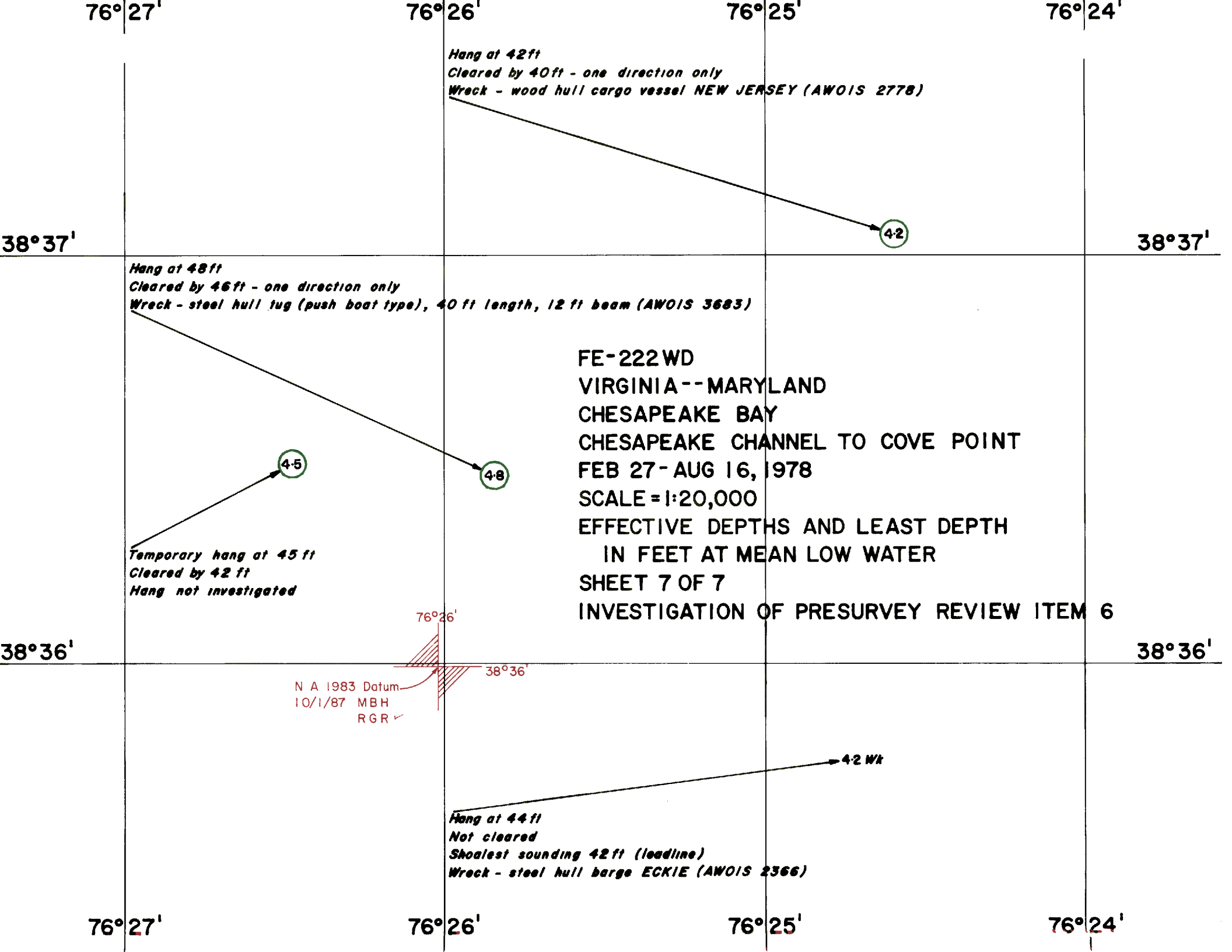
38°44'

CHESAPEAKE CHANNEL TO COVE POINT
FEB 27-AUG 16, 1978
SCALE = 1:20,000
EFFECTIVE DEPTHS IN FEET AT MEAN LOW WATER
SHEET 6 OF 7
INVESTIGATION OF PRESURVEY REVIEW ITEM 5

76°31'

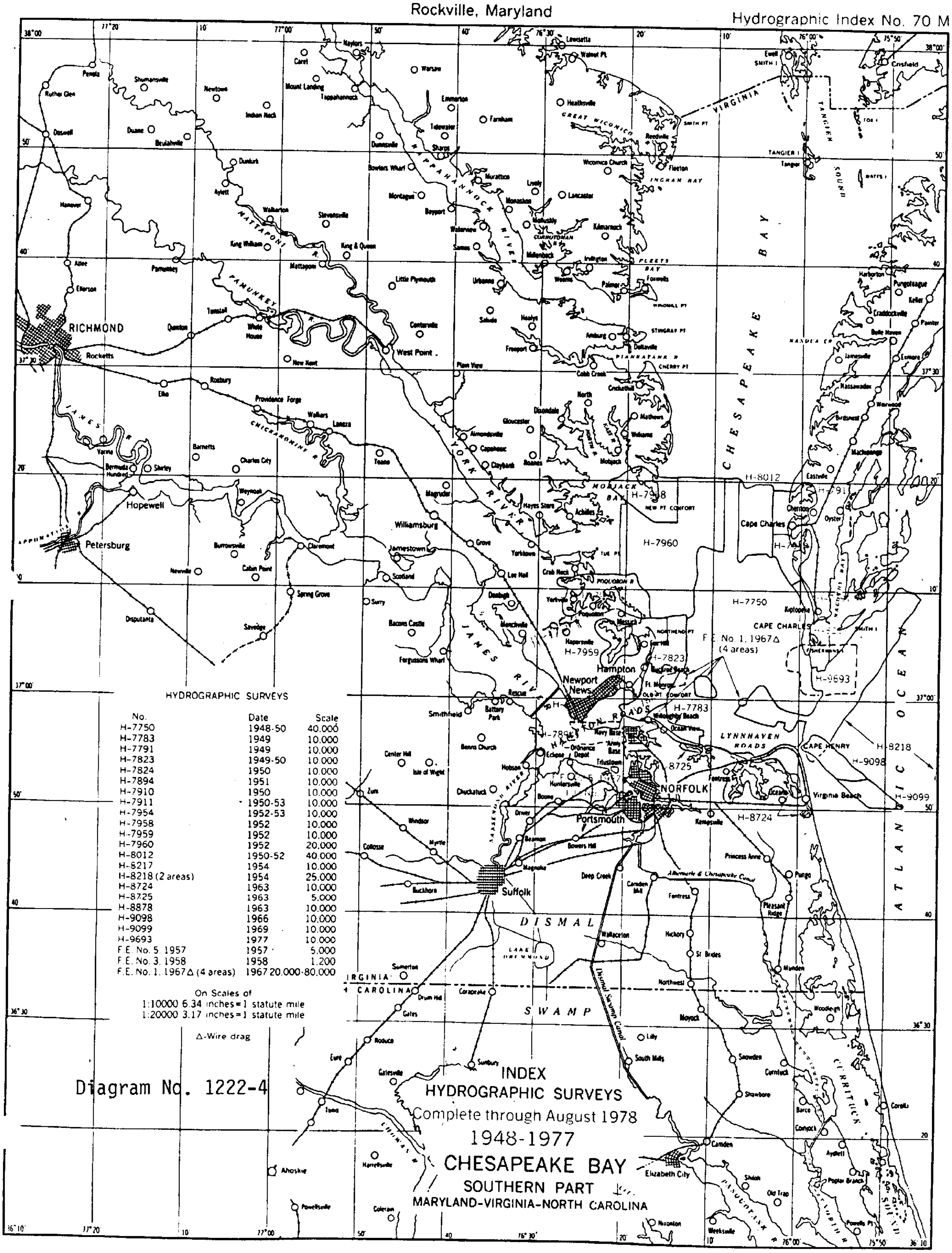
76°30'

76°29'


76°27'
76°26'
76°25'
76°24'
38°37'
38°36'
Hang at 42 ft
Cleared by 40 ft - one direction only
Wreck - wood hull cargo vessel NEW JERSEY (AWOIS 2778)
4·2
Hang at 48 ft
Cleared by 46 ft - one direction only
Wreck - steel hull tug (push boat type), 40 ft length, 12 ft beam (AWOIS 3683)
4·8
4·5
Temporary hang at 45 ft
Cleared by 42 ft
Hang not investigated
FE-222WD
VIRGINIA--MARYLAND
CHESAPEAKE BAY
CHESAPEAKE CHANNEL TO COVE POINT
FEB 27-AUG 16, 1978
SCALE = 1:20,000
EFFECTIVE DEPTHS AND LEAST DEPTH
IN FEET AT MEAN LOW WATER
SHEET 7 OF 7
INVESTIGATION OF PRESURVEY REVIEW ITEM 6
N A 1983 Datum
10/1/87 MBH
RGR
4·2 Wk
Hang at 44 ft
Not cleared
Shoalest sounding 42 ft (leadline)
Wreck - steel hull barge ECKIE (AWOIS 2366)

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

Hydrographic Index No. 70 M



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

Diagram No. 1222-4

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

NOAA FORM 75-96
(10-83)

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

MARINE CHART BRANCH

RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. E-222WD

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
12238	2-8-89	J. Bailey	Full ~~Part Before~~ After Marine Center Approval Signed Via
			Drawing No. 41
~~12256~~			
12256	5/24/89	Gerald Kohl	Full ~~Part Before~~ After Marine Center Approval Signed Via
			Drawing No. 7
12254.	5/24/89	Gerald Kohl	Full ~~Part Before~~ After Marine Center Approval Signed Via
			Drawing No. 56
12227	5/24/89	Gerald Kohl	Full ~~Part Before~~ After Marine Center Approval Signed Via
			Drawing No. 32
12266 ✓	6-1-89	BHanna	Full ~~Part Before~~ After Marine Center Approval Signed Via
			Drawing No. 37
12270 ✓	6-1-89	BHanna	Full ~~Part Before~~ After Marine Center Approval Signed Via
			Drawing No. 50
12263 ✓	6-2-89	BHanna	Full ~~Part Before~~ After Marine Center Approval Signed Via
			Drawing No. 68
12221	12/13/89	Gerald Kohl	Full ~~Part Before~~ After Marine Center Approval Signed Via
			Drawing No. 85
12224	9-6-90	Ed Martin	Full ~~Part Before~~ After Marine Center Approval Signed Via
			Drawing No. 20
12220	10-22-90	L. Chapman	Full ~~Part Before~~ After Marine Center Approval Signed Via
			Drawing No. 53 Thru CHT 12221
12260	11/27/90	Efrial B. Dominguez	Full application of critical soundings from SS applied.

SUPERSEDES C&GS FORM 8352 WHICH MAY BE USED.