

H10823

NOAA FORM 76-35A

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

DESCRIPTIVE REPORT

Type of Survey . HYDROGRAPHIC/SIDE SCAN SONAR .

Field No. AHP-10-7-98

Registry No. H10823

LOCALITY

State MARYLAND

General Locality CHESAPEAKE BAY

Sublocality HOLLAND POINT TO
TILGHMAN ISLAND

19 98

CHIEF OF PARTY
BRIAN LINK, CHIEF OF PARTY

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DATE OCT 9 1999

REGISTRY NUMBER:

H-10823

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 NUMBER:

AHP-10-7-98

State: Maryland

General locality: Chesapeake Bay

Locality: Holland Point to Tilghman Island

Scale: 1: 10,000 Date of survey: July 15 - November 13, 1998

Instructions dated: April 17, 1995 Project Number: OPR-E346-AHP

Vessel: NOAA Survey Vessel BAY HYDROGRAPHER (1107)

Chief of Party: Brian Link

Surveyed by: LTJG Shepard Smith, K Callahan, M. Cisternelli

Soundings taken by echo sounder, hand lead-line, or pole: DSF 6000N fathometer, Odom Echotrac

Graphic record scaled by: LTJG Shepard Smith, K Callahan, M. Cisternelli

Graphic record checked by: LTJG Shepard Smith, K Callahan, M. Cisternelli

Protracted by: N/A Automated plot by: ~~HP 750C~~ HP 2500CP Plotter

Verification by: Hydrographic Surveys Branch Personnel

Soundings in: Feet: Fathoms: Meters: at MLW: MLW: (*):

Remarks: Time Zone Used, 0 (UTC)

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

A. J. [unclear] 8/30/98 [unclear]

DESCRIPTIVE REPORT TO ACCOMPANY
HYDROGRAPHIC SURVEY
OPR-E346-AHP
AHP-10-7-98
H-10823

Atlantic Hydrographic Party
NOAA S/V BAY HYDROGRAPHER
LTjg SHEPARD SMITH, OFFICER IN CHARGE

A. PROJECT

A.1 This basic hydrographic survey was conducted in accordance with Hydrographic Project Instructions OPR-E346-AHP, Northern Chesapeake Bay - Baltimore Harbor, Maryland

A.2 The original instructions are dated April 17, 1995

A.3 There have been four changes to the original instructions:

- Change No. 1 dated April 25, 1996
- Change No. 2 dated March 31, 1997
- Change No. 3 dated January 15, 1998
- Change No. 4 dated March 25, 1998

A.4 This Descriptive Report covers sheet "K" of OPR-E346-AHP. This sheet lies between Holland Point and Tilghman Island, Maryland. See section B.2 for exact survey boundaries.

A.5 Project OPR-E346-AHP responds to requests from Maryland Port Authority, Association of Maryland Pilots, U.S. Army Corps of Engineers, and the U.S. Coast Guard for modern hydrographic surveys.

B. AREA SURVEYED

B.1 This survey covers the navigable area between Holland Point and Tilghman Island, Chesapeake Bay.

B.2 This sheet has the following boundaries, starting at the Northwest corner and progressing counter clockwise:

1. 38°44'57"N 076°30'21"W
2. 38°43'00"N 076°30'15"W
3. 38°41'12"N 076°31'00"W
4. 38°41'12"N 076°23'20"W
5. 38°44'36"N 076°24'11"W
6. 38°44'58"N 076°25'05"W

B.3 Data collection for this survey began on July 13, 1998 (DN 194) and ended on November 13, 1998 (DN 317).

C. SURVEY VESSELS

C.1 The following vessel was used during this survey:

<u>Vessel</u>	<u>EDP Number</u>	<u>Primary Function</u>
NOAA Survey Vessel BAY HYDROGRAPHER	1107	Hydrography. Side Scan, and Multibeam Operations

C.2 No unusual vessel configurations were used during this survey.

D. AUTOMATED DATA ACQUISITION AND PROCESSING *- See also Evaluation Report*

D.1 All sounding data acquisition software and data processing software versions are found on the **Hydrosoft** CD, version 8.2. **HYPACK** software was used exclusively for data acquisition; no processing modules were used.

D.2 The SEABIRD SBE-19 sound velocity profile unit was utilized with **SEASOFT 3.3M** and **SEACAT 3.1** software. The program **VELOCITY** (Version 3.1) was used to process the collected data and calculate velocity corrections. **Velocity for Windows** (Version 4) was used to process casts from DN 313-316. See section G.

D.3 Post processing of sounding data was accomplished using **HPS** (Hydrographic Processing System), **MapInfo**, and the **HPS_MI** MapBasic application.

D.4 ISIS Version 3.41 was used for digital side scan sonar acquisition. The digital data was logged as **XTF** files (Extended Triton Format). Data was logged with a sample size of 8 bits per pixel for the entire project.

Isis version 3.41 was used for Multibeam sonar acquisition. Multibeam was used exclusively for item investigation and least depth determination. The digital data was logged as **XTF** files (Extended Triton Format). Data was logged with a sample size of 8 bits per pixel for the entire project.

D.5 Caris **SIPS** (Sonar Image Processing System) was used to process the digital side scan sonar data. Sips was used to check bottom tracking quality, towfish navigation, slant-range correct the image, pick contacts, measure contact heights, and create mosaics.

D.5a. Caris **HIPS** (Hydrographic Image Processing System) was used to process the multibeam sonar data. Hips was used to clean multibeam sounding data, check navigation, heave, pitch and roll values, and create work files. All multibeam data was exported into HPS.

D.6 Software and hardware problems were encountered periodically in running the Klein 5000 sonar system in conjunction with the Isis digital sonar acquisition system. The following is a summary of the problems and solutions:

PROBLEM ENCOUNTERED	SOLUTION
<p>During acquisition, most notable during acquisition with the 100m range scale, a hardware reset occurs. Approximately 2 seconds of digital data is missed during each reset, leaving gaps in the imagery.</p>	<p>All questionable data is rerun to fulfill 200% coverage requirement.</p>
<p>Backup/restore jobs performed on the server while Isis is online bogs the Isis system down, leaving small gaps in the imagery.</p>	<p>Refrain from file management activity on the server while in acquisition mode. Questionable data is rerun to fulfill 200% coverage requirement.</p>

D.7 No software or hardware problems were encountered with the Reson Seabat Multibeam during this project.

E. SIDE SCAN SONAR EQUIPMENT.

E.1 The BAY HYDROGRAPHER conducted all side scan sonar operations using a Klein system 5000 sonar T5100 (S/N 101). This integrated system includes the high resolution, multiple beam side scan sonar towfish, and the T5100 Sonar Transceiver module (for output of sonar data and trigger).

The towfish is configured with a 40° beam depression at 455 KHz frequency.

E.2 Because of the varying water depth throughout the survey, it was determined that the survey area would require line spacing of 40 meters with the use of the 50-meter range scale, 60 meter line spacing with the use of the 75-meter range scale, and 80 meter line spacing for the 100-meter range scale. These range scales were used to obtain complete area coverage and provide optimal contact resolution. The line spacing is in accordance with the value specified in section 7.3.2.1 of the Field Procedures Manual (FPM).

E.3 Side scan sonar operations were limited to a speed-over-ground of 10 knots. Confidence checks were performed by noting changes in linear bottom features extending to the outer edges of the digital side scan image, and by passing aids to navigation. These features were identified during post-processing in Caris **SIPS**.

E.4 a. Two hundred percent side scan sonar coverage was completed for this survey. Side scan sonar coverage was checked using MapInfo generated swath "A" and "B" plots to ensure proper overlap between adjoining lines. Side scan sonar coverage was also determined by using mosaics generated in SIPS and imported into MapInfo. Any deficiencies in the side scan sonar data were found, and a holiday line file was created from these mosaics and swath plots to complete the 200 percent requirement.

E.4 b. All contacts were digitized in Caris **Sips**. Digitizing a contact included measuring apparent height, and creating a "snapshot" of each image. All contacts were added to the HPS contact database. Snapshots for each contact were also integrated into the HPS data structure.

Contacts appearing significant were further investigated by side scan sonar. Final positioning and least depth determination of significant items was acquired with multibeam. (See section F)

All information concerning a contact was displayed in the **Correlator**, including comparisons between contacts and AWOIS item positions, surrounding depths and contact cross references. *Correlator chartlets for each contact are included in Separates V.

E.4 c. The towfish was deployed exclusively from the stern.

F. MULTIBEAM SONAR EQUIPMENT

F.1 The Bay Hydrographer conducted all multibeam sonar operations using a Reson Seabat 9001 sonarhead, S/N 214019, 455 kHz, and a Seabat 9001 processor S/N 3314, . The sensor head is mounted vertically (0° mount) at a depth of 6ft below the water line on the end of a pole secured to the stern.

A stern mounted sensor head required the Bay Hydrographer to orient the sensor's projector aft, creating an azimuthal offset of 180°.

The 9001's combined transmit and receive beams yield 60 soundings per ping, with each beam being 1.5° alongtrack x 1.5° crosstrack.

F.2 Multibeam operations were limited to a speed-over-ground of 5.5 knots. Line spacing for item investigations varied depending on water depth.

F.3 Contacts appearing significant from the side scan sonar imagery were investigated using the Seabat multibeam sonar. Passes were made directly over the contact, attempting to hit the contact as close to nadir as possible. Multiple passes with 5-10 meter line spacing were made over larger contacts to ensure complete coverage of the item.

F.4 Seabat depth data were monitored using ISIS during acquisition and processed using CARIS-HIPS multibeam data cleaning programs. Digital multibeam depth profiles were visually reviewed and fliers were identified and manually flagged as "rejected". Vessel navigation data from DGPS and attitude data from heave, pitch, roll, and gyro sensors

were displayed and manually cleaned. After review and cleaning, the data was then merged with sound velocity, tide, and vessel configuration data to compute the true depth and position of each beam footprint. Shoal biased binning with a 1-meter grid was used to import processed soundings into workfiles. Finally, processed soundings were exported to HPS, with data from each day exported as a separate .dat file. Final review of soundings and least depth determination was accomplished in MapInfo.

F. SOUNDING EQUIPMENT.

F.1 A Raytheon Model 6000N Digital Survey Fathometer (DSF-6000N S/N: A109N) was used to measure water depths during this survey from July 13, 1998 (DN 194) to October 27, 1998 (DN 300).

F.2 The Odom Echotrac echosounder S/N 9551 100Khz was installed on October 30, 1998 (DN 303) and was used as the primary echosounder through the completion of this survey on November 13, 1998 (DN 317).

F.3 The Odom Echotrac frequently mis-digitized. Numerous depth edits were required to correct the data.

F.4 Both high (100 kHz) and low (24 kHz) frequency sounding data were recorded during data acquisition. Only high frequency soundings were edited and plotted. Single beam data collected in conjunction with multibeam sounding data was fully scanned and processed. This data should be considered an accurate representation of the seafloor and may be used for smooth sheet compilation.

G. CORRECTIONS TO SOUNDINGS.

Sound Velocity Correctors

The velocity of sound through water was measured using a Sea-Bird SBE 19 Seacat Profiler (s/n 285). Seacat Data Quality Assurance Tests were conducted after each respective velocity cast to ensure that the unit was operating within tolerance. A DQA (Data Quality Assurance) was taken with each velocity cast using an Odom Digibar (S/N 168).

All sound velocity data was processed using program **VELOCITY**. Computed velocity correctors were entered into the HPS sound velocity table and re-applied to DSF data

during post-processing to both high and low frequency soundings. **Velocity 4.0** for Windows was installed on November 6, 1998 and was used to download and process casts taken on DN 313, and DN 316. Sound velocity data were loaded and applied to the multibeam data in HIPS exclusively.

<u>Cast</u>	<u>DN</u>	<u>Days Covered</u>
		<u>(DN)</u>
01	209	194-209
03	237	238-246
04	278	278-279
05	293	293-298
06	309	300-311
07,08	313	313
09	316	316,317

b. Leadline Comparison

The leadline comparison for this survey was conducted alongside Herrington Harbor South Marina, Rose Haven, MD on March 11, 1998 (DN 070). The water was calm, enabling the leadman to make multiple readings, and provided a steady fathometer reading. *Data from these comparisons can be found in Separate IV. A leadline comparison was taken after the installation of the Odom Echotrac on May 13, 1998 (DN 133).

c. Static Draft

On Jun 14, 1997, while the Bay Hydrographer was out of the water for repairs, LT(jg) Shep Smith and ST Mike Annis painted draft markings every tenth of a meter from the transducer on the side of the vessel. When the multibeam pole was installed in July, 1998, measurements were taken on the pole to determine static draft for the Seabat transducer. Sensor offsets were stored in the HIPS Vessel Configuration File for use in multibeam data processing. *Refer to Separate III for the vessel's Offset Table #1 entered in HPS and the vessel configuration file used in HIPS.

d. Dynamic Draft (Settlement and Squat Correctors)

Settlement and squat correctors for the BAY HYDROGRAPHER were determined on the Elizabeth River, Norfolk, VA in

February, 1998 using on the fly GPS for relative measurements. An Ashtech M12 receiver was set up on a benchmark at building 3 in Norfolk, VA and a second receiver was setup on the Bay Hydrographer. Both receivers logged data for two continuous hours as the ship ran a series of runs and their reciprocal courses at varying speeds. The data was then run through a GPS processing program to yield a relative vertical change versus time and speed table. The values obtained were applied to soundings through the HPS Offset Table #1. Dynamic draft correctors were stored in the HIPS Vessel Configuration File for use in data processing of multibeam data.*Refer to Separates III and IV for data records.

Heave, Roll, and Pitch Correctors

A TSS DMS-05 (S/N 002040) dynamic motion sensor collected heave, roll and pitch data. Heave correctors were collected during data acquisition and applied to raw data during HPS processing.

Heading data were acquired with Bay Hydrographer's Sperry SR-50 Gyrocompass and were used to determine both towfish and multibeam transducer azimuth and position.

Multibeam Calibration

On August 6, 1998, (DN 218), the Bay Hydrographer conducted the multibeam calibration (patch test) for the Reson system. The patch test measured the residual pitch and roll offsets, positioning time delay and azimuthal offset. All values obtained from the patch test and sensor offsets were entered in the HIPS Vessel Configuration File (VCF).*See the VCF in Separate III for data records.

Tide Correctors

The tidal datum for this project is Mean Lower Low Water. The operating tide station at Annapolis, MD (857-5512) served as control for datum determination. Correctors were applied to all data using the reapply HPTools tides utility in HPS. Upon completion of H-10823, preliminary actual tides were applied using Kent Point (857-2467). Zoning for H-10823 was as follows:

Zone	Range Corrector	Time Corrector
CB79	x1.09	-24 mins
CB81	x1.09	-48 mins

Preliminary actual tides from station 857-2467 were applied to both the narrow (100 kHz) and wide (24 kHz) DSF-6000N beams through the HPTools tide utility.

Preliminary actual tides from station 857-2467 were applied without zoning to HIPS data. Each day's data was binned separately to a 1-meter cell size. Since the data consists of a number of small item investigations that were completed in less than one hour each, the sounding selection is independent of any small zoning or datum adjustments that are made in the final approved tides. Consequently, no reprocessing of multibeam data in HIPS should be necessary.

Tide correctors were reapplied to multibeam data in HPTools tide utility upon completion of H-10823.

A request for Smooth Tides was submitted on December 14, 1998. ~~See~~ Appendix V for request for Smooth Tides.

The BAY HYDROGRAPHER employed no additional, unusual or unique methods or instruments to correct echo soundings.

H. CONTROL STATIONS. *See also Evaluation Report*

The horizontal datum for this survey is the North American Datum of 1983 (NAD 83). No horizontal control stations were used or established for this survey.

I. HYDROGRAPHIC POSITION CONTROL.

I.1 This survey was conducted exclusively using the Global Positioning System (GPS) corrected by the U.S. Coast Guard Differential GPS reference station network. Differential correctors were supplied from USCG radio beacon transmitters, precluding the need for shore-based horizontal control stations.

I.2 Accuracy requirements were met as specified by the Hydrographic Manual and Field Procedures Manual (FPM). The Horizontal Dilution of Precision (HDOP) and Expected Position Error (EPE) specified by the FPM were monitored during on-line data collection. If the positioning degraded beyond the acceptable limits while on-line, the

data were either smoothed or rejected, depending on the extent of the affected data.

I.3 Differential GPS Equipment:

<u>Unit A</u>	<u>Unit B</u>
Starlink GPS Receiver DNAV-212	Ashtech GPS Sensor s/n 700417B1129
Ashtech OEM Sensor II Starlink MRB-2A s/n 835	Firmware Version 1E89D-P Magnavox MX50R DGPS Receiver s/n 315

I.4 Correctors were received from the Cape Henry, VA, and Cape Henlopen, DE radio beacons for the entire survey.

I.5 Daily performance checks were conducted using the Shipboard Data Integrity Monitor program ("**SHIPDIM**", Version 2.1), according to section 3.4.5 of the FPM. ~~See~~ SHIPDIM PERFORMANCE CHECKS in Separate III for daily system checks.

I.6 The application of calibration data to the raw positioning data was not required, since DGPS was the primary positioning system.

I.7 a. There were no unusual methods used to operate or calibrate electronic positioning equipment.

I.7 b. No unusual atmospheric conditions affected data quality.

I.8 Antenna positions were corrected for offset and layback, and referenced to the position of the echo sounder transducer. These correctors are located in HPS Offset Table #1, and were applied online. ~~A~~ A copy of Offset Table #1 is contained in Separate III.

Offsets for the GPS antenna were applied from the HIPS Vessel Configuration File (VCF) to compute the position of the Seabat transducer. ~~See~~ Separate III for data records.

I.9. Offset and layback distances for the A-frame (tow point) are located in HPS Offset Table #1 and were applied on-line. Offset, layback, and height corrections were measured in June 1998 after the installation of the Seabat Pole.

J. SHORELINE. - See also Evaluation Report

No shoreline is contained within the boundaries of this survey.

K. CROSS LINES.

A combined total of 33.5 nautical miles of crosslines were acquired for this survey representing 11% of the 307.2 nautical miles of mainscheme hydrography.

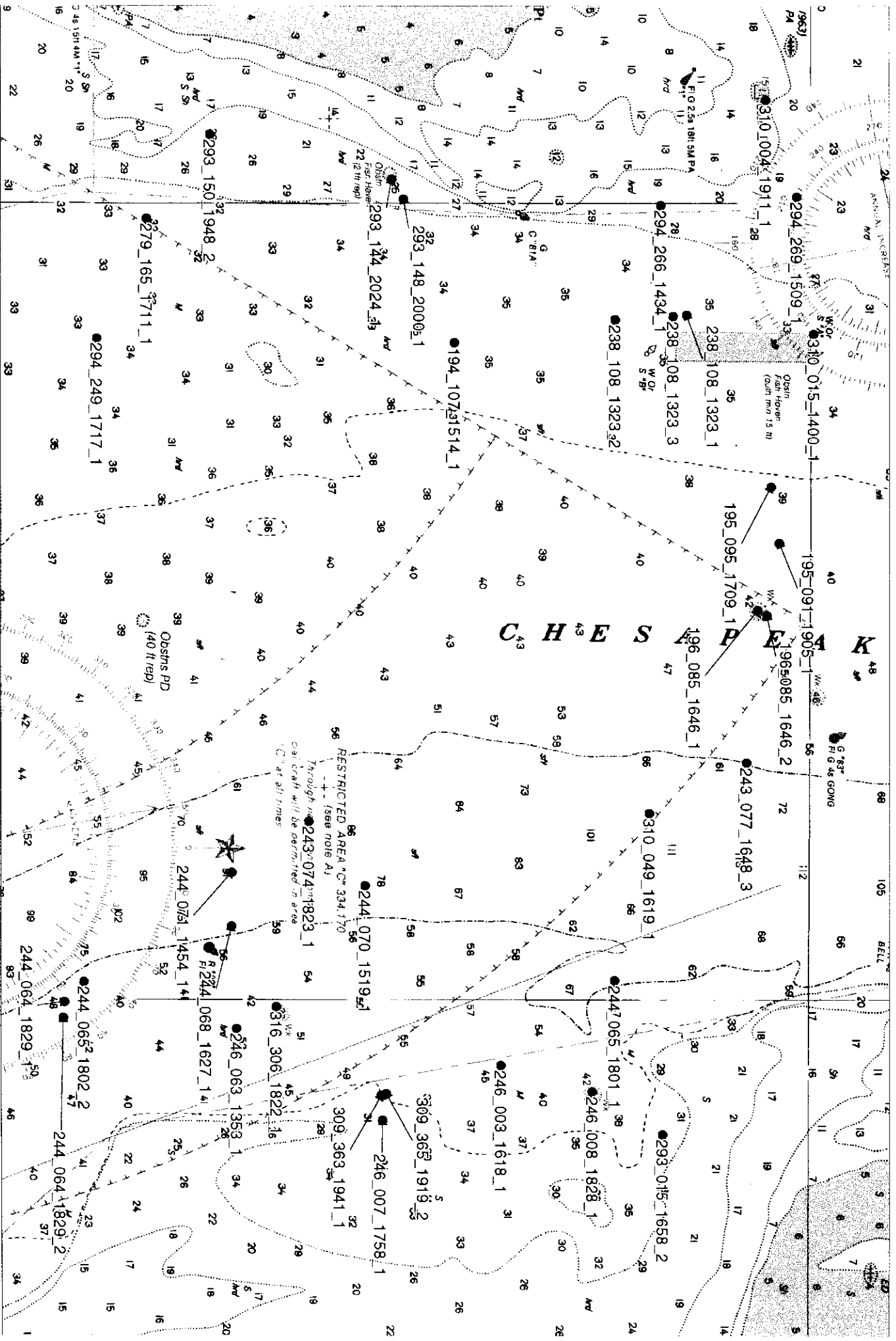
Agreement between main scheme and cross line soundings was found to be excellent.

L. JUNCTIONS - See also Evaluation Report

This sheet junctions with H-10790, sheet "J", to the north. Agreement between H-10790 soundings and H-10823 soundings is excellent. The majority of compared soundings fell within 1 foot of each other, with only an occasional difference of 2 feet noted in steeper bathymetry.

M. COMPARISON WITH PRIOR SURVEYS. - See also Evaluation Report

The Atlantic Hydrographic Branch as part of the office verification process will perform a comparison with prior surveys.



N. ITEM INVESTIGATION REPORTS - See also Evaluation Report Section N1.

See Correlator sheets included in **Separates V** for all side scan contact investigation information.

N1. - **AWOIS NO: 4464**

Item Description: Wreck

Source: LNM35/72

AWOIS Position: Lat. 38°43'56.85"N Lon. 076°24'25.81"W

Required Investigation: **Radius: 100 M**

Charts Affected: 12263, 12266, 12270

INVESTIGATION

See Correlator Sheet for 246_008_1828_1

Investigation Summary: This item was covered with 200% SSS and developed with shallow-water multibeam.

Charting Recommendation: The hydrographer recommends retaining the charted dangerous wreck symbol and least depth of 34 ft, but moving the position to the new least depth position as indicated on the Correlator sheet. *change w/ conditions*

Delete (34) WK in 38/43/56 ESN 76/24/25.81W
Add (36) WK in 38/43/56.99N 76/24/25.63W

Name 246_008_1828_1

Development 11 (36) #Selected 1149

Offset -42

LD Fix 69812 AWOIS# 4464

Shad Len 0

Day of LD 313 AWOIS Dist 0.5 34

Correlating Contact 311_359_1556_1

Contact Dist 5.5 LD Lat 38-43-56.92 N

Correlating Dist 2.1

LD Lon 076-24-25.62 W

Second Hill

Con Lat 38-43-56.86 N

Con Lon 076-24-25.79 W

Comments

boat shaped?

Contact Remark

Multibeam development-DN 313

Investigation

Retain least depth of 34 ft at new least depth position.

Charting Rec

Matching Swath Info

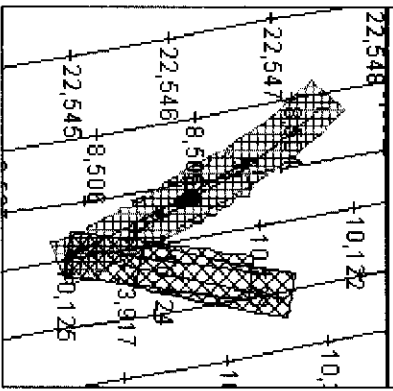
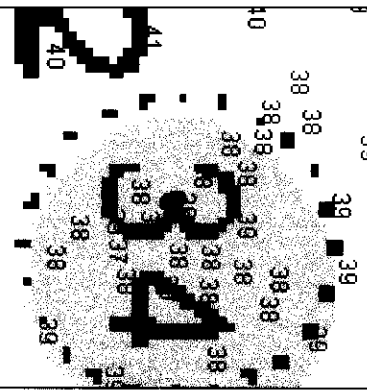
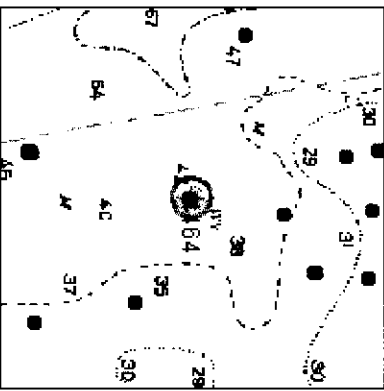
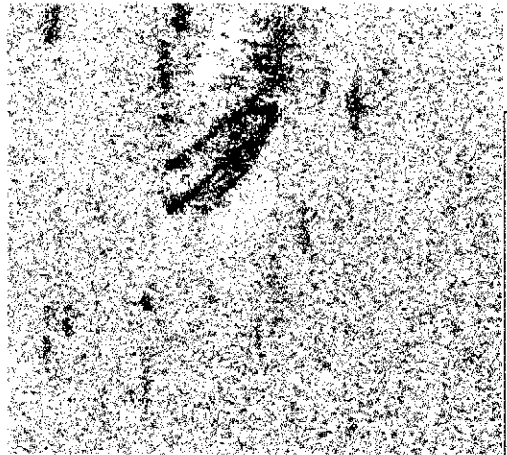
Line	Day	Fix Range
8	246	8479-8596
9	293	10098-10217
359	311	22574-22688

Fixes <Radius

313 69758
313 69935
313 69940
313 69941
313 69948
313 69953
313 69962
313 69986
313 69992
313 69995
313 69998
313 71063
313 71068
313 71069
313 71074
313 71078
313 71079

Local Contacts

293_009_1426_1 6.41
311_359_1556_1 2.10



Resolution: 1 20 10

1 25

100

7

Resolved

N2. - AWOIS NO: 4465 - Seacore Evaluation Report Section N-2.

Item Description: Wreck (DOTTIE)

Source: LNM10/74

AWOIS Position: Lat. 38°42'24.92"N Lon. 076°24'57.31"W

Required Investigation: Radius: 100 M

Charts Affected: 12263, 12266

INVESTIGATION

See Correlator Sheet for 316_306_1822_1

Investigation Summary: This item was covered with 200% SSS and developed with shallow-water multibeam.

Charting Recommendation: The hydrographer recommends retaining the charted dangerous wreck symbol and least depth of 37 ft, but moving the position to the new least depth position as indicated on the Correlator sheet. *Cancel w/condition*

Delete (37) wk in 38/42/24.92N 76/24/57.31W
Add (40) wk in 38/42/24.53N 76/24/57.68W

Name 316_306_1822_1

Development

Least Depth 12.3 (40) #Selected 1112
LD Fix 125261 AWOIS# 4465
Day of LD 316 AWOIS Dist 24.4
Contact Dist 9.7 LD Lat 38-42-24.53 N
LD Lon 076-24-57.68 W

Correlating Contact
0
Second Hit
Con Lat 38-42-24.24 N
Con Lon 076-24-57.82 W

Comments
Contact Remark
Investigation
Charting Rec

AWOIS 4465
Multibeam development-DN 316
Retain least depth of 37 ft, but
move to new least depth position.



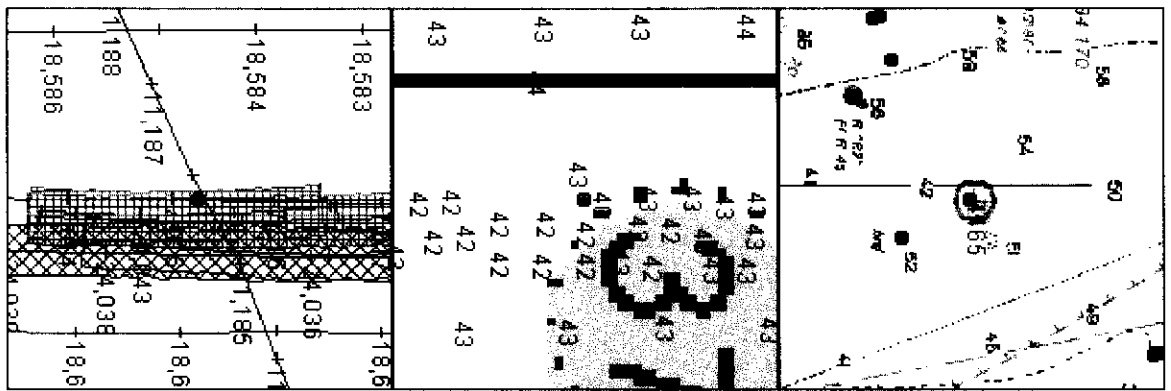
Matching Swath Info

Line Day Fix Range
64 244 6973-7104
206 306 18497-18627
205 306 18628-18754
306 316 24035-24041

Fixes <Radius

3
316 119684
316 119689
316 119692
316 119694
316 119695
316 119698
316 119700
316 119701
316 119705
316 119707
316 119717
316 125291
316 125297
316 125304
316 125310
316 125314

Local Contacts



Resolution
Resolution: 1.0
Resolution: 1.2
Resolution: 1.5
Resolution: 2.0
Resolution: 3.0

Resolution: 1.0
Resolution: 2.0
Resolution: 3.0
Resolution: 4.0
Resolution: 5.0

Resolution: 1.0
Resolution: 2.0
Resolution: 3.0
Resolution: 4.0
Resolution: 5.0

Resolution: 1.0
Resolution: 2.0
Resolution: 3.0
Resolution: 4.0
Resolution: 5.0

Resolution: 1.0
Resolution: 2.0
Resolution: 3.0
Resolution: 4.0
Resolution: 5.0

N3. - AWOIS NO: 7228 - See also Evaluation Report Section N.3.

Item Description: Wreck (Unknown)

Source: FE304/87SS

AWOIS Position: Lat. 38°44'44.99"N Lon. 076°27'27.67"W

Required Investigation: Radius: 100 M

Charts Affected: 12263, 12266, 12270

INVESTIGATION

See Correlator Sheet for 196_085_1646_1

Investigation Summary: This item was covered with 200% SSS and developed with shallow-water multibeam.

Charting Recommendation: The hydrographer recommends retaining the charted dangerous wreck symbol and least depth of 37 ft, but moving the position to the new least depth position as indicated on the Correlator sheet. *Concur w/conditions*

Delete (37) Wk in 38-44-44.99 N 76-27-27.67 W
Add (38) Wk in 38-44-^{44.99}~~45.02~~ N 76-27-27.⁶⁷~~66~~ W

Name 196_085_1646_1

Offset 6

Shad Len 0

Correlating Contact

317_011_1600_1

Correlating Dist

12.9

Second Hit

Con Lat 38-44-45.05 N

Con Lon 076-27-27.62 W

Development

Least Depth	11.7 (38)	#Selected	1388
LD Fix	870524c	AWOIS#	7228
Day of LD	313	AWOIS Dist	2.1
Contact Dist	1.7	LD Lat	38-44-45.02 N
		LD Lon	076-27-27.56 W

Comments

Awois 7228
Multibeam development-DN 313

Charting Rec

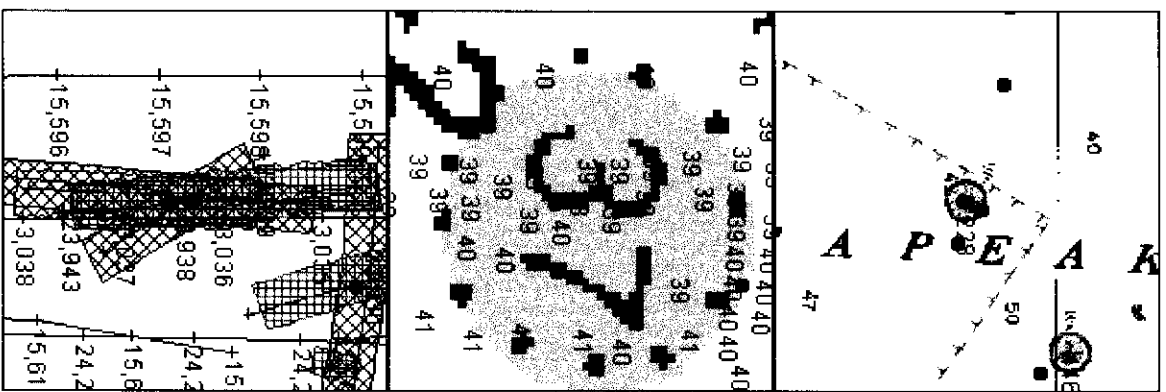
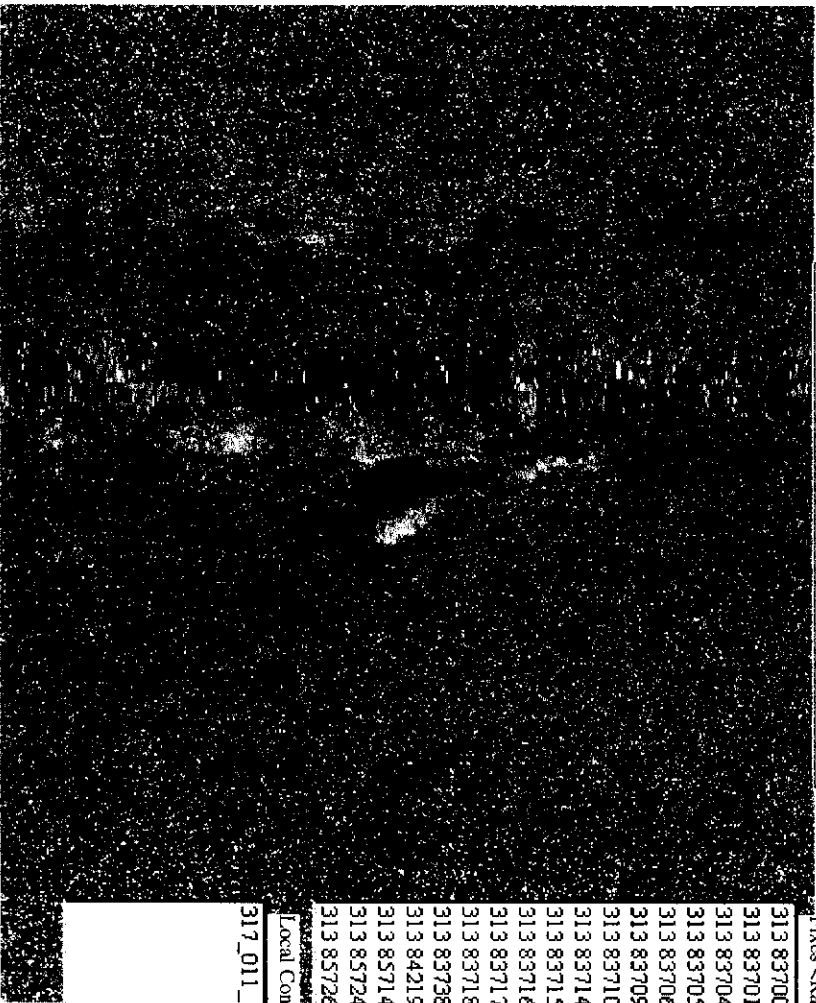
Retain least depth of 37 ft, but
move to new least depth position,
above

Matching Swath Info

Line	Day	Fix Range
85	196	3028-3149
227	297	15472-15606
226	297	15616-15742
11	317	24202-24213

Fixes <Radius

313 83700
313 83701
313 83704
313 83705
313 83706
313 83709
313 83710
313 83714
313 83715
313 83716
313 83717
313 83718
313 83738
313 84219
313 85714
313 85724
313 85726
Local Contacts
317_011_1600_1 12.9



Panel 1008

Resolution: 10

1 20 10

25

7

100

Resolved

multibeam

N4. - AWOIS NO: 9848

Item Description: Wire Drag hang

Source: FE222WD/78

AWOIS Position: Lat. 38°44'46.22"N Lon. 076°30'41.63"W

Required Investigation: **Radius: 100 M**

Charts Affected: 12263,12266,12270

INVESTIGATION

See Correlator Sheet for 310_004_1911_1

Investigation Summary: This item was covered with 200% SSS and developed with shallow-water multibeam. The multibeam failed to cover the contact fully, so no multibeam least depth was acquired. A single beam hit on the contact showed a 1 m high spike (fix # 23975^f, DN 316). The hydrographer recommends further investigation.

Charting Recommendation: The hydrographer recommends retaining the charted wire drag basket and least depth of 11 ft. *CONCUR*

Name 310_004_1911_1

Offset 32

Shad Len 0

Correlating Contact

310_010_1939_1

Correlating Dist

13.6

Second Hit

Con Lat 38-44-47.21 N

Con Lon 076-30-40.13 W

Development

Least Depth	4.8 (15)	#Selected	404
LD Fix	23975	AWOIS#	9848
Day of LD	316	AWOIS Dist	47.4
Contact Dist	10.2	LD Lat	38-44-47.04 N
		LD Lon	076-30-39.78 W

Comments

pos AWOIS
 Multibeam development-DN 316
 Charting Rec Return as charted.

Matching Swath Info

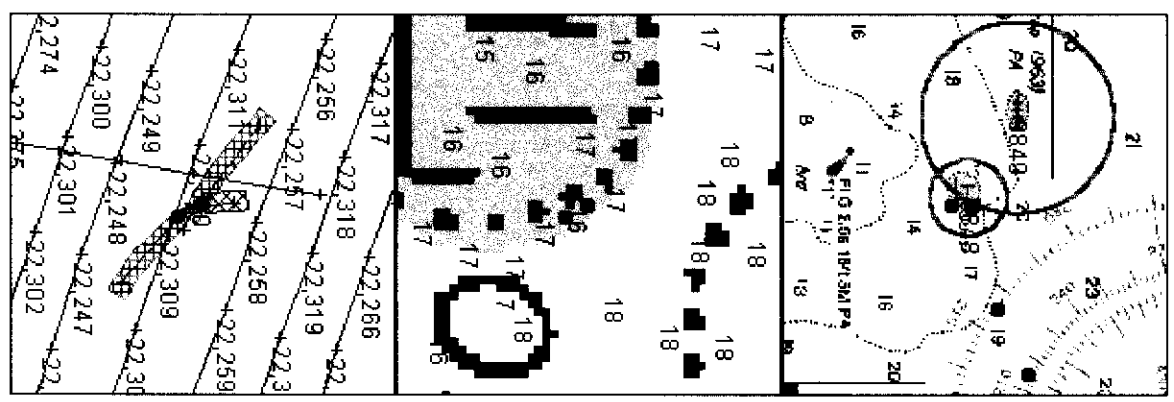
Line	Day	Fix	Range
6	310	22244-22253	
4	310	22254-22262	
5	310	22306-22314	
10	310	22328-22332	

Fixes <Radius

3	316 100128
	316 100892
	316 100897
	316 100907
	316 100911
	316 100938
	316 100947
	316 100948
	316 100949
	316 100950
	316 100958
	316 100960
	316 100961
	316 100967
	316 100968
	316 100970

Local Contacts

310_010_1939_1 13.6



Resolution: 100m

Scale: 1:25000

Chart: 1000

Resolved

N5. - AWOIS NO: 9850 - See also Evaluation Report Section N.5.

Item Description: Fishing Reef

Source: CL1246/67

AWOIS Position: Lat. 38°42'59.00"N Lon. 076°30'07.00"W

Required Investigation: Radius: 100 M

Charts Affected: 12263,12266

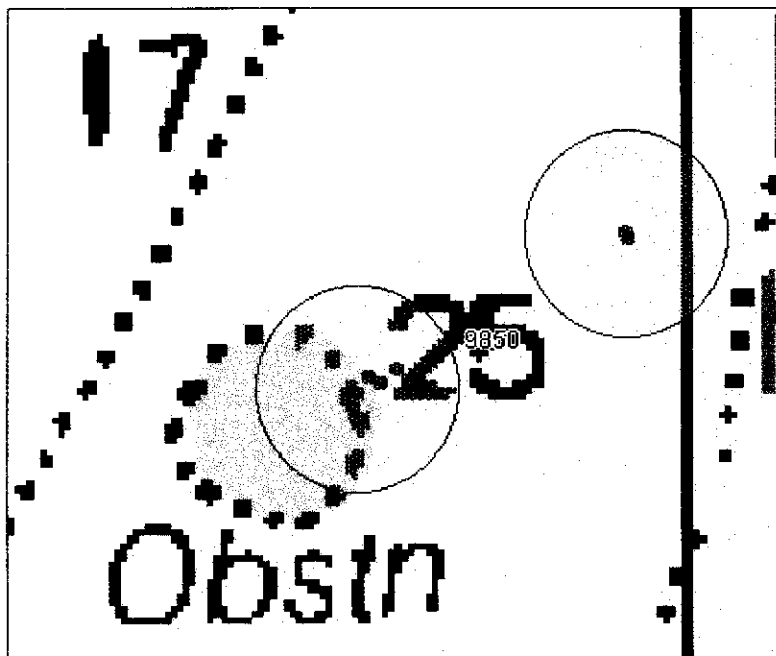
INVESTIGATION

See Correlator Sheet for 293_144_2024_1

Investigation Summary: This item was covered with 200% SSS and developed with shallow-water multibeam.

Charting Recommendation: The hydrographer recommends moving the blue tinted fish haven to cover the extent of the contacts as shown below. The new center should be 38-42-57.94⁵⁸ N 076-30-09.61⁷² W. The least depth within the new blue tinted area is 20 ft. Note that contact 293_148_2000_1, northeast of the fish haven, also falls in the search radius, but the hydrographer believes it to be a separate item, which should be charted as a separate obstruction. See section N.18 for discussion. *Do not cancel*

See also p. 28 of this Report



Name 293_144_2024_1

Offset -36

Shad Len 0

Correlating Contact 293_146_2012_2

Correlating Dist 6.5

Second Hit

Con Lat 38-42-57.72 N

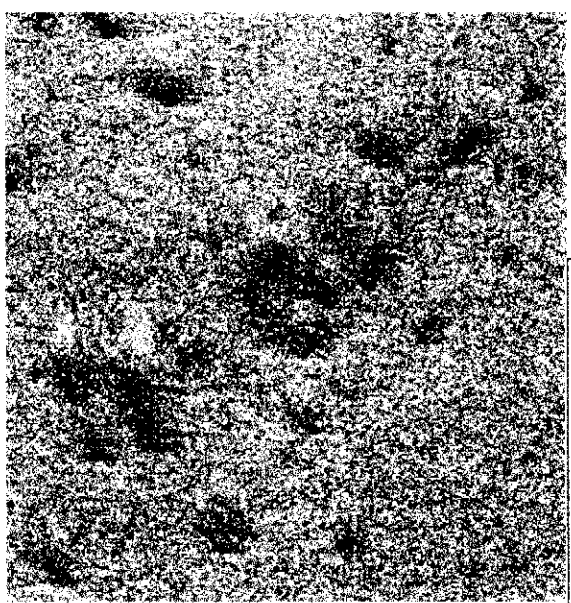
Con Lon 076-30-09.9 W

Development	Least Depth	6.4 (21)	#Selected	1718
LD Fix	146228	AWOIS#	9850	
Day of LD	316	AWOIS Dist	80.5	
Contact Dist	15.8	LD Lat	38-42-58.09 N	
		LD Lon	076-30-10.36 W	

Comments
 Contact Remark strange pile of something - looks m
 Investigation Multibeam development-DN 316
 Charting Rec Move obstruction circle be centered
 on new least depth position above

Matching Swath Info

Line	Day	Fix Range
146	293	11600-11651
144	293	11652-11691
309	308	19704-19747

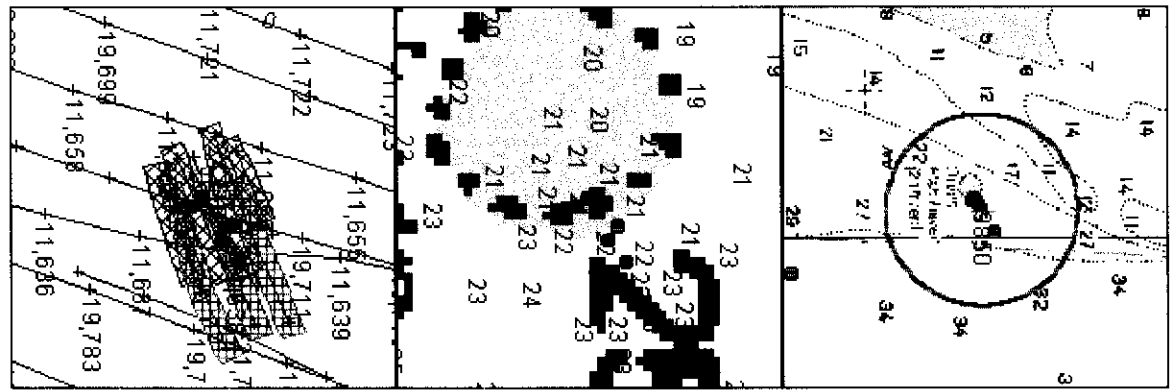


Fixes <Radius

3	316	144971
	316	145664
	316	145667
	316	145669
	316	145671
	316	145672
	316	145683
	316	145684
	316	145685
	316	145688
	316	145689
	316	145696
	316	145708
	316	145714
	316	145728
	316	145729

Local Contacts

293_146_2012_1	209
293_146_2012_2	6.54
293_146_2012_3	12.9
310_009_1515_1	24.2



Fixed Depth

1 20 10

25

100

7

Resolved

N6. - AWOIS NO: 9858

Item Description: Fish Haven

This item was not investigated due to time constraints. (Pencil)

No changes in charting recommended

N8. - AWOIS NO: 9853 and 9854

Item Description: Wrecks

These items were not investigated due to the shoal water in which they lie. *Caveat - No charting changes recommended.*

N9. - AWOIS NO: 9847

Item Description: Fish Aggregating Devices

Source: CL102/87

AWOIS Position: Lat. 38°44'42.42"N Lon. 076°29'05.83"W

Required Investigation: **Radius: 100 M**

Charts Affected: 12263,12266,12270

INVESTIGATION

Investigation Summary: This item was covered with 200% SSS as part of mainscheme hydrography on H-10823. No indication of the mid-column fish aggregating devices was noted on the side scan sonar records.

Charting Recommendation: The hydrographer recommends retaining the charted blue tint area. *Concur*

N10. - AWOIS NO: 4692. See also Evaluation Report Section N10.

Item Description: Obstruction

The Navy reported a metal obstruction 125-160 ft long in 1958. For a copy of the letter, refer to Appendix VI, Supplemental Correspondence. In the same year, the Corps of Engineers failed to locate the item. In 1987, RU/HE performed 200% SSS coverage of the area and also found nothing.

Source: CL106/58

AWOIS Position: Lat. 38°41'45.00"N Lon. 076°27'24.00"W

Required Investigation: Radius: 100 M

Charts Affected: 12263, 12266

INVESTIGATION

See Correlator Sheet for 244_068_1627_1

Investigation Summary: The search radius was covered as part of mainscheme hydrography and no items matching this description were found in the area. However, an item 172 ft long by 33 ft wide was located approximately 1.6 NM east-northeast of the reported location. This item was developed with shallow-water multibeam. The side-scan and multibeam both indicate a wreck-like contact.

Charting Recommendation: The hydrographer recommends removing the charted obstruction at the reported location and adding a new dangerous wreck symbol at least depth position and least depth as indicated on the Correlator sheet. *This item was reported as a Danger to Navigation in a letter dated December 14, 1998. (Concur w/ conditions.)

Delete (?) Obstrn PD (40ft rep)

See also p. 24 of this report

Name 244_068_1627_1

Offset -52

Shad Len 0

Correlating Contact 306_210_1533_1

Correlating Dist 6.7

Second Hit

Con Lat 38-42-11.111 N

Con Lon 076-25-28.09 W

Development	Least Depth	18 f (60)	#Selected	1640
LD Fix	48914		AWOIS#	
Day of LD	313		AWOIS Dist	0
Contact Dist	5.6		LD Lat	38-42-11.26 N
			LD Lon	076-25-28.22 W

Comments

Contact Remark Large contact/possible boat?

Investigation Multipbeam development-DN 313

Charting Rec Chart dangerous wreck with least depth and position as above. DTON.

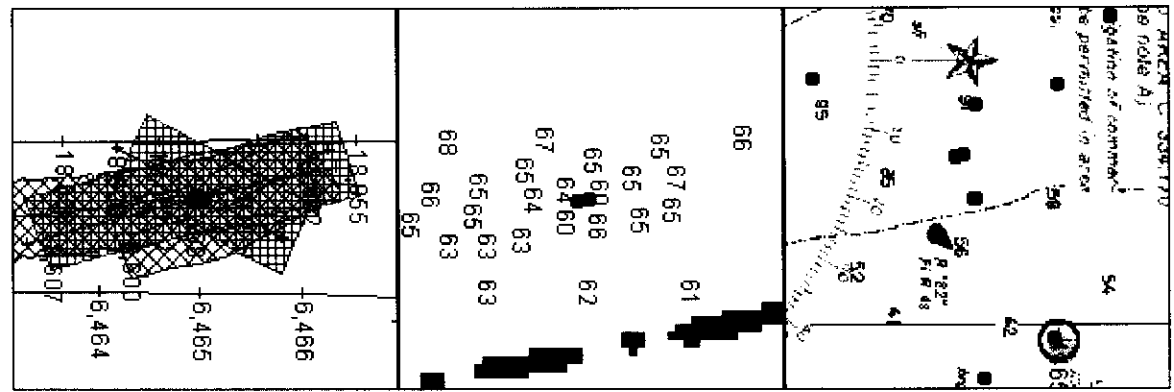
Matching Swath Info

Line	Day	Fix Range
68	244	6432-6564
9	246	8597-8599
10	246	8600-8603
11	246	8604-8608

Fixes <Radius

313 47978
313 47989
313 47997
313 48035
313 48036
313 48073
313 48074
313 48082
313 48122
313 48123
313 48155
313 48164
313 48193
313 48200
313 48231
313 48236
313 48264

Local Contacts 306_210_1533_1 6.73



Resolved

100

7

1 20 10

25

N11. - Contact 194_107_1514_1 - See also Evaluation Report Sect. 0.2.

See Correlator sheet for above contact number.

Charts Affected: 12263, 12266

INVESTIGATION

Investigation Summary: This item was covered with 200% SSS and developed with shallow-water multibeam.

Charting Recommendation: The hydrographer recommends adding a new dangerous wreck symbol at least depth position and least depth as indicated on the Correlator sheet. This item was reported as a ^{*}Danger to Navigation in a letter dated December 14, 1998. *C. P. N. K.*

*Chart a (25) WK in 38-43-16.15N
76-29-08.34W*

Name 194_107_1514_1

Offset -39
Shad Len 0
Correlating Contact 310_013_1435_1

Correlating Dist 3.3

Second Hit

Con Lat 38-43-16.21 N
Con Lon 076-29-08.32 W

Development			
Least Depth	7.7 (25)	#Selected	908
LD Fix	36190	AWOIS#	
Day of LD	313	AWOIS Dist	0
Contact Dist	1.9	LD Lat	38-43-16.15 N
		LD Lon	076-29-08.34 W

Comments

Contact Remark inice hit/investigate

Investigation multi-beam contact found

Charting Rec Chart dangerous wreck with least depth as above-DTON

Matching Swath Info

Line	Day	Fix	Range
13	310	21680	-21691
248	294	12696	-12833

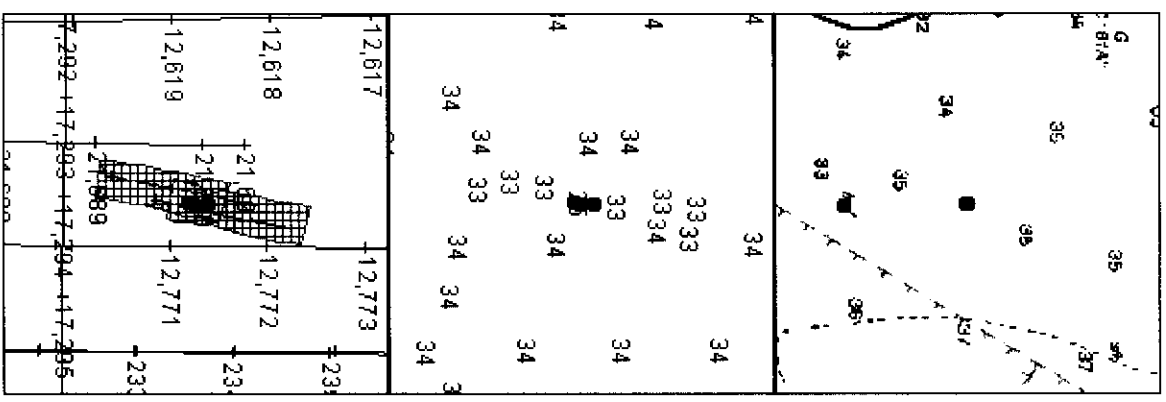


Fixes <Radius

313 35051
313 35057
313 35066
313 35070
313 35074
313 35075
313 35082
313 35091
313 35103
313 35108
313 35112
313 35117
313 35134
313 35137
313 35143
313 35257
313 36219

Local Contacts

294_248_1742_1 6.91
310_013_1435_1 3.28



Resolution

1 20 10

25

100

7

Resolved

multi-beam Id

N12. - Contact 195_095_1709_1 - See also Evaluation Report - Sect. 0.2.

See Correlator sheet for above contact number.

Charts Affected: 12263, 12266, 12270

INVESTIGATION

Investigation Summary: This item was covered with 200% SSS and developed with shallow-water multibeam.

Charting Recommendation: The hydrographer recommends adding a new obstruction at least depth position and least depth as indicated on the Correlator sheet. This item was reported as a ~~D~~anger to Navigation in a letter dated December 14, 1998. *Cincuk*

Chart a (33) Obstr in 38-44-48.83N 76-28-14 22 W

Name 195_095_1709_1

Offset -58

Shed Len 0

Correlating Contact

296_237_1709_1

Correlating Dist 2.9

Second Hit

Con Lat 38-44-49.02 N

Con Lon 076-28-14.34 W

Development

Least Depth	10 (33)	#Selected	1135
LD Fix	91721	AW/OIS#	
Day of LD	313	AW/OIS Dist	0
Contact Dist	6.6	LD Lat	38-44-48.83 N
		LD Lon	076-28-14.22 W

Comments

Contact Remark

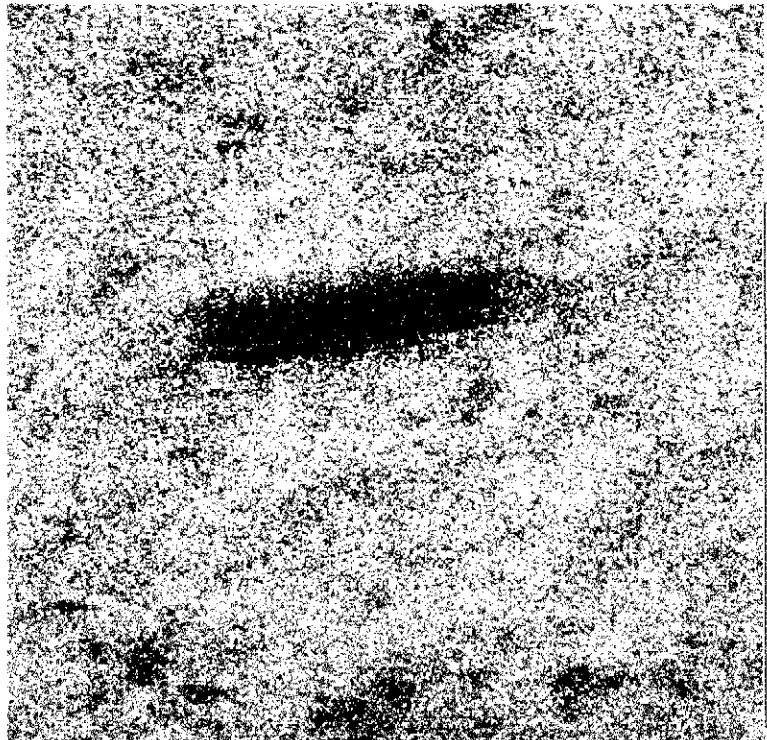
Investigation

Charting Rec

no shadow/long hit

Multibeam development-DN 313

Chart obsn with LD from MB-DTON



Matching Swath Info

Line Day Fix Range

95 195 1802-1935

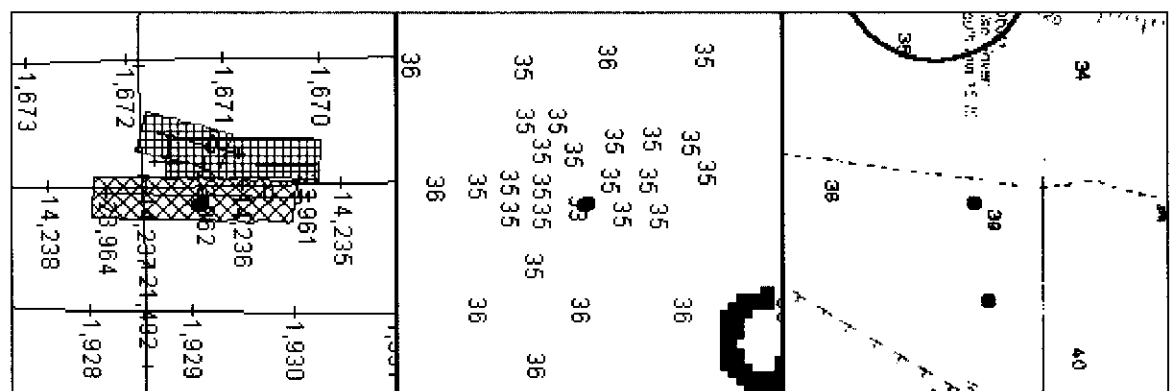
237 296 14231-14368

Fixes < Radius

313 91818
313 91845
313 91917
313 91933
313 91934
313 91937
313 91938
313 91950
313 91954
313 91974
313 91978
313 91987
313 92004
313 92160
313 92165
313 92174
313 92181

Local Contacts

296_237_1709_1 2.91



Resolution

1 20 10

25

100

7

Resolved

N13. - Contact 238_108_1323_1 - See also Evaluation Report Sect. 0.2.

See Correlator sheet for above contact number.

Charts Affected: 12263, 12266, 12270

INVESTIGATION

Investigation Summary: This item was covered with 200% SSS and developed with shallow-water multibeam.

Charting Recommendation: The hydrographer recommends adding a new dangerous wreck symbol at least depth position and least depth as indicated on the Correlator sheet. This item was reported as a ~~Danger~~ to Navigation in a letter dated December 14, 1998. (encure)

24 ← SJV 8/30/99
telcon w/ O. Bland (AMB)
Chart on (32) wk in 38-44-42.66 N
76-29-18.53 W

Delete on (33) wk in 38-44-24.44 N
76-29-18.85 W

Name 238_108_1323_1

Development

Least Depth 9.9 (32) #Selected 483
LD Fix 30758 AWOIS#
Day of LD 313 AWOIS Dist 0
Contact Dist 14.5 LD Lat 38-44-24.66 N
LD Lon 076-29-18.53 W

Correlating Contact 238_109_1350_1

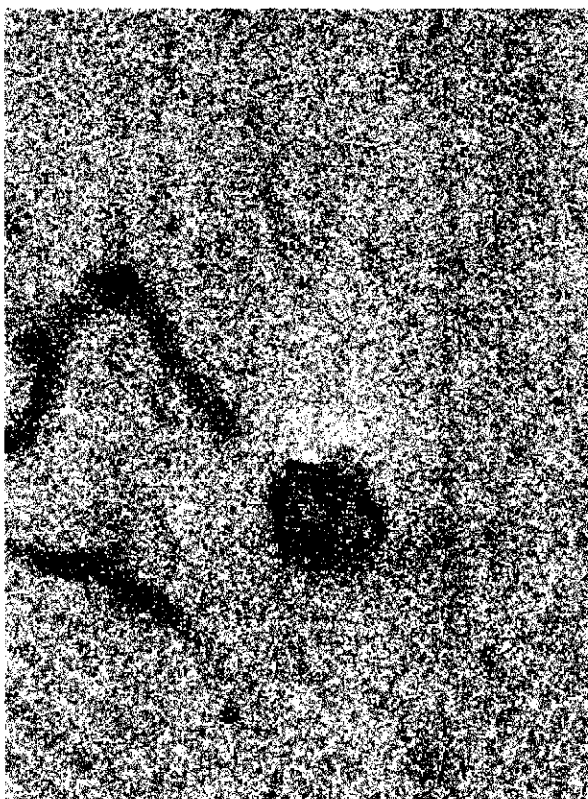
Correlating Dist 11.9

Second Hit

Con Lat 38-44-24.26 N
Con Lon 076-29-18.84 W

Least Depth	9.9 (32)	#Selected	483
LD Fix	30758	AWOIS#	
Day of LD	313	AWOIS Dist	0
Contact Dist	14.5	LD Lat	38-44-24.66 N
		LD Lon	076-29-18.53 W

Comments: Small boat shaped object--no shadow
 Contact Remark: Multibeam development-DN 313
 Investigation: Chart dangerous wreck with least depth as above. DTON
 Charting Rec:



Matching Swath Info

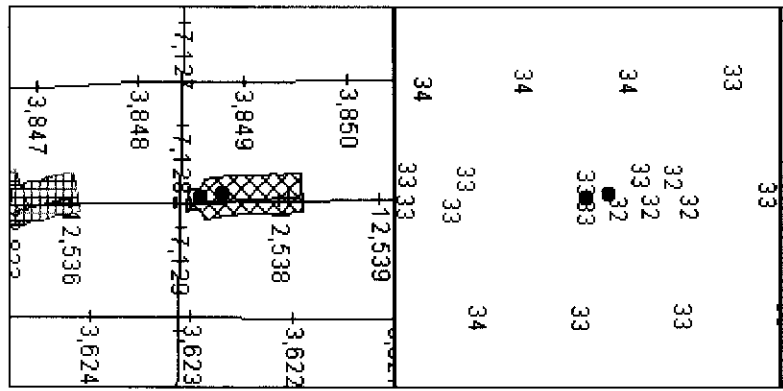
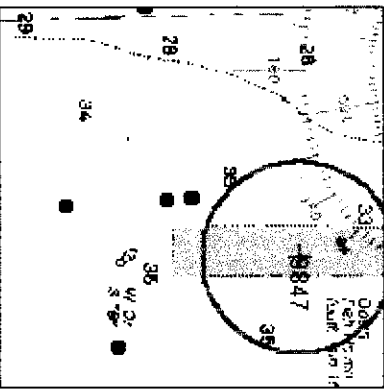
Line Day Fix Range
 108 238 3603-3736
 109 238 3737-3870
 250 294 12424-12558

Fixes <Radius

313 30534
313 30538
313 30543
313 30558
313 30559
313 30560
313 30564
313 30574
313 30576
313 30900
313 30921
313 30936
313 30943
313 30950
313 30955
313 30963
313 30975

Local Contacts

238_109_1350_1 11.8



Resolved

100

7

25

20

10

N14. - Contact 244_068_1627_1

See Correlator sheet for above contact number.

Charts Affected: 12263,12266

INVESTIGATION

Investigation Summary: This item was covered with 200% SSS and developed with shallow-water multibeam.

Charting Recommendation: The hydrographer recommends adding a new dangerous wreck symbol at position and least depth as indicated on the Correlator sheet. This item was reported as a ⁴Danger to Navigation in a letter dated December 14, 1998. *Concur*

Chart a 160' wk in 38-42-11.26N 76-25-28.22W

*AWOIS #4692
(page 20)*

SSV 8/30/99

Name 244_068_1627_1

Offset -52

Shad Len 0

Correlating Contact

306_210_1533_1

Correlating Dist 6.7

Second Hit

Con Lat 38-42-11.11 N

Con Lon 076-25-28.09 W

Development			
Least Depth	18.3 (60)	#Selected	1640
LD Fix	48914	AWOIS#	
Day of LD	313	AWOIS Dist	0
Contact Dist	5.6	LD Lat	38-42-11.26 N
		LD Lon	076-25-28.22 W

Comments

Contact Remark **Large contact/possible boat?**

Investigation **Multibeam development-DN 313**

Charting Rec **Chart dangerous wreck with least depth and position as above. DTOM.**

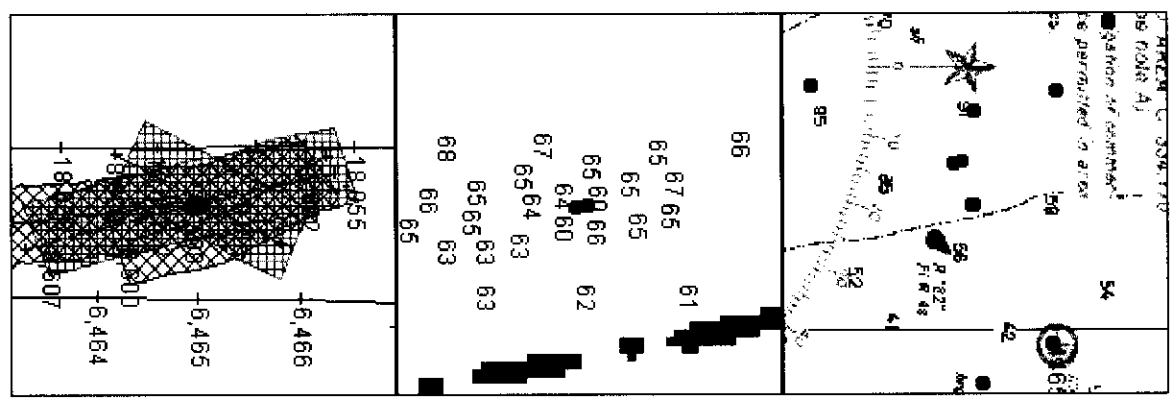
Matching Swath Info

Line	Day	Fix Range
68	244	6432-6564
9	246	8597-8599
10	246	8600-8603
11	246	8604-8608

Fixes <Radius

313.47978
313.47989
313.47997
313.48035
313.48036
313.48073
313.48074
313.48082
313.48122
313.48123
313.48155
313.48164
313.48193
313.48200
313.48231
313.48236
313.48264

Local Contacts
306_210_1533_1 6.73



Resolution

1 20 10

25

7

100

Resolved

N15. - Contact 246_003_1618_1 - See above Evaluation Report Section 0.2.

See Correlator sheet for above contact number.

Charts Affected: 12263,12266

INVESTIGATION

Investigation Summary: This item was covered with 200% SSS and developed with shallow-water multibeam.

Charting Recommendation: The hydrographer recommends adding a new obstruction at least depth position and least depth as indicated on the Correlator sheet. This item was reported as a ^{*}Danger to Navigation in a letter dated December 14, 1998. *Concur*

Chart a (39) Obstrn in 38-43-29.63N 76-24-35.72W

Name 246_003_1618_1

Offset 11

Shad Len 0

Correlating Contact 309_365_1919_1

Correlating Dist 4.6

Second Hit

Con Lat 38-43-29.98 N
Con Lon 076-24-35.7 W

Development			
Least Depth	12 (39)	#Selected	1965
LD Fix	62251	AWOIS#	
Day of LD	313	AWOIS Dist	0
Contact Dist	10.8	LD Lat	38-43-29.63 N
		LD Lon	076-24-35.72 W

Comments: Investigate
 Contact Remark: Multibeam development-DN 313
 Investigation:
 Charting Rec: Chart obstruction with least depth and position as above. DTON

Matching Swath Info

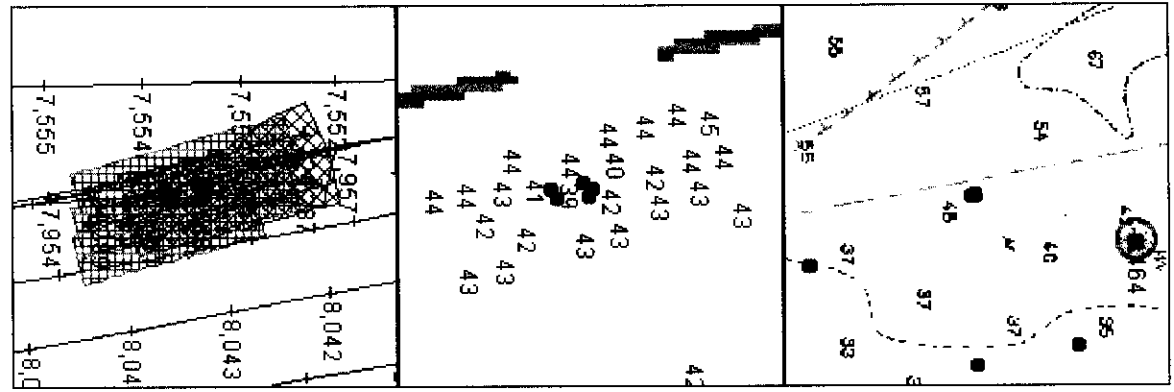
Line	Day	Fix	Range
61	246	7548-7635	
3	246	7887-7999	
365	309	21078-21165	
8	317	24244-24293	

Fixes <Radius

313 60846
313 61558
313 61559
313 62155
313 62158
313 62170
313 62174
313 62306
313 62312
313 62318
313 62340
313 62341
313 63502
313 63984
313 64015
313 64079
313 64084

Local Contacts

246_061A1446_1 8.17
309_365_1919_1 4.62
317_008_1653_1 16.6
317_008_1706_1 20.7



Printed by: [Name]

Scale: 1:10000

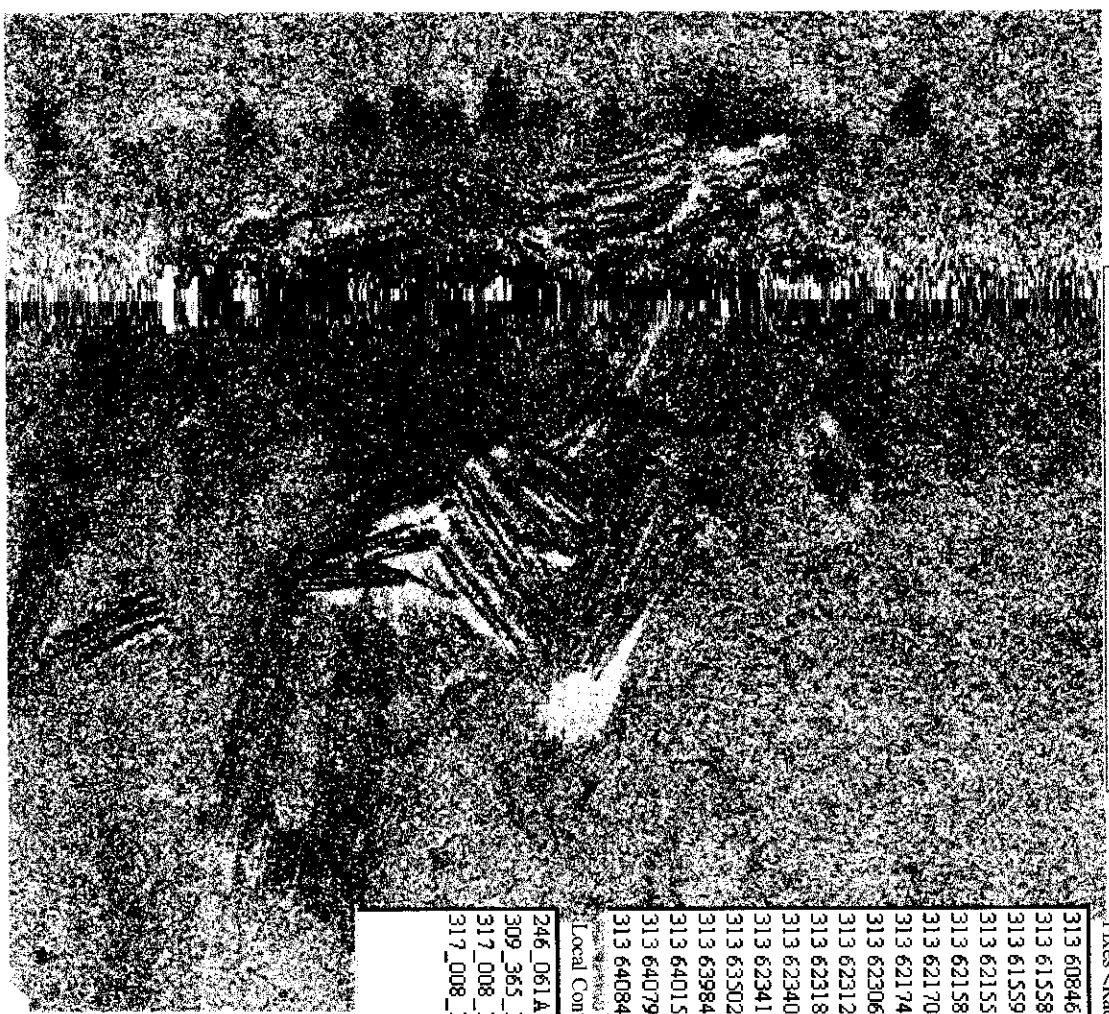
Map: [Map Name]

Projection: [Projection]

Units: [Units]

Resolution: [Resolution]

Resolution: Resolved



N16. - Contact 279_165_1711_1 - See also Section 0.2. of Evaluation Report

See Correlator sheet for above contact number.

Charts Affected: 12263,12266

INVESTIGATION

Investigation Summary: This item was covered with 200% SSS and developed with shallow-water multibeam.

Charting Recommendation: The hydrographer recommends adding a new obstruction at least depth position and least depth as indicated on the Correlator sheet. This item was reported as a ~~*~~Danger to Navigation in a letter dated December 14, 1998. (Concur)

Chart (13) Obstrn in 38-41-45.84N 76-29-54.77W

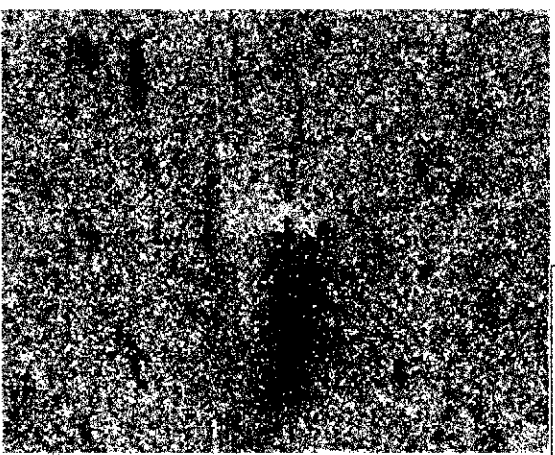
Name 279_165_1711_1

Offset 43
Shad Len 0
Correlating Contact 317_014_1929_1

Correlating Dist 5.2
Second Hit
Con Lat 38.41-45.95 N
Con Lon 076-29-54.91 W

Development			
Least Depth	4.2 (13)	#Selected	925
LD Fix	24087	AWOIS#	
Day of LD	316	AWOIS Dist	0
Contact Dist	4.9	LD Lat	38.41-45.84 N
		LD Lon	076-29-54.77 W

Comments
 Contact Remark Two connected lines
 Investigation Multibeam development-DN 316
 Charting Rec Chart obstruction at above least depth and position. DTON



Matching Swath Info

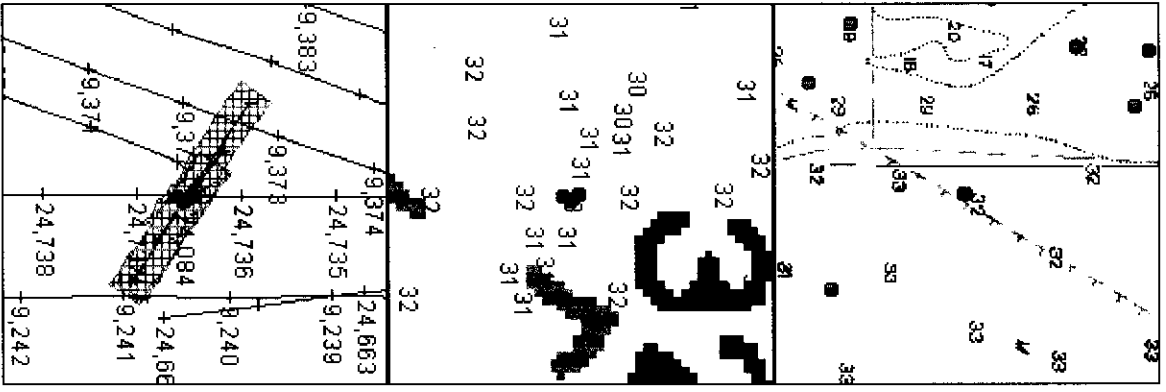
Line	Day	Fix Range
116	279	9184-9247
165	279	9350-9377
14	317	24661-24670
5	317	24691-24758

Fixes < Radius

3	316 140961
	316 140966
	316 140970
	316 140977
	316 140984
	316 140990
	316 141001
	316 141005
	316 141006
	316 141009
	316 141013
	316 141016
	316 141019
	316 141026
	316 141728
	316 141732

Local Contacts

317_005_1950_1 8.53
317_014_1929_1 5.16



Resolution

1 20 10

25

100

7

Resolved

N17. - Contact 294_249_1717_1 - See above Evaluation Report
Section C.2,
See Correlator sheet for above contact number.

Charts Affected: 12263,12266

INVESTIGATION

Investigation Summary: This item was covered with 200% SSS and developed with shallow-water multibeam.

Charting Recommendation: The hydrographer recommends adding a new obstruction at least depth position and least depth as indicated on the Correlator sheet. This item was reported as ~~a~~ Danger to Navigation in a letter dated December 14, 1998. *concur*

Charted (31) Obstr in 38-41-31.37N 76-29-09.62 W

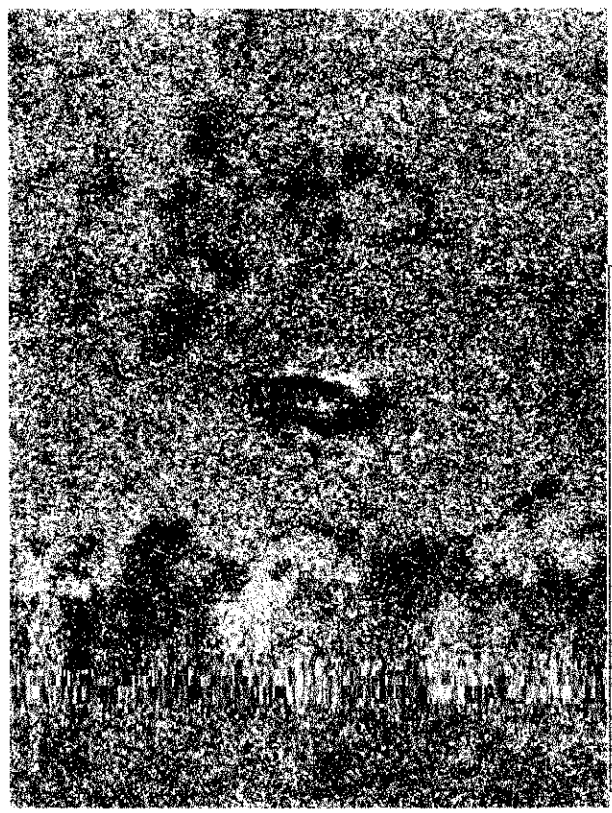
Name 294_249_1717_1

Offset -14
Shad Len 0
Correlating Contact 194_107_1552_1

Correlating Dist 2.2
Second Hit
Con Lat 38-41-31.34 N
Con Lon 076-29-09.61 W

Development			
Least Depth	9.4 (31)	#Selected	1035
LD Fix	138440-C2A	WOIS#	
Day of LD	316	AWOIS Dist	0
Contact Dist	0.5	LD Lat	38-41-31.34 N
		LD Lon	076-29-09.61 W

Comments
 Contact Remark probably fish but looks boat shaped
 Investigation Multibeam development-DN 316
 Charting Rec Chart obstruction at above least depth and position. DT0N



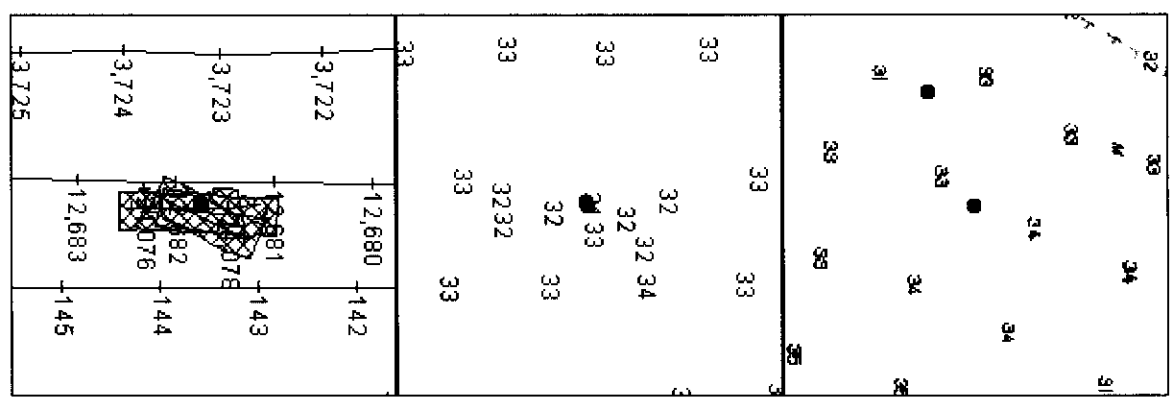
Matching Swath Info

Line	Day	Fix Range
107	194	123-156
249	294	12559--12695

Fixes < Radius

3	316 138981
	316 138989
	316 138990
	316 139003
	316 139014
	316 139020
	316 139021
	316 139027
	316 139034
	316 139037
	316 139044
	316 139046
	316 139049
	316 139052
	316 139062
	316 139063

Local Contacts
 194_107_1552_1 2.24



Resolution: 1 20 10
 25
 100
 7
 Resolved

N18. - Contact 293_148_2000_1 - See also Evaluation Report Sect. N5
See Correlator sheet for above contact number.
See also p. 16 of DR

Charts Affected: 12263, 12266

INVESTIGATION

Investigation Summary: This item was covered with 200% SSS and developed with shallow-water multibeam.

Charting Recommendation: The hydrographer recommends adding a new obstruction at least depth position and least depth as indicated on the Correlator sheet. See chartlet in section N5. ** This item was reported as a Danger to Navigation in a letter dated December 14, 1998. Do not encure*

*This 19' SWP was inside a Fish Haven centered in 38-42-56N
76-30-11W with a minimum authorized depth of 15ft.
No change in charting is recommended.*

Name 293_148_2000_1

Offset -18

Shad Len 0

Correlating Contact 293_150_1948_1

Correlating Dist 4.6

Second Hit

Con Lat 38-43-01.25 N

Con Lon 076-30-02.49 W

Development

Least Depth	5.07 (19)	#Selected	986
LD Fix	24125.4	AWOIS#	9850
Day of LD	316	AWOIS Dist	128.9
Contact Dist	6.3	LD Lat	38-43-01.05 N
		LD Lon	076-30-02.57 W

Comments

AWOIS Item
 Multibeam development-DN 316

Investigation

Chart obstruction at above least depth and position. DTON

Charting Rec

Chart obstruction at above least depth and position. DTON

Matching Swath Info

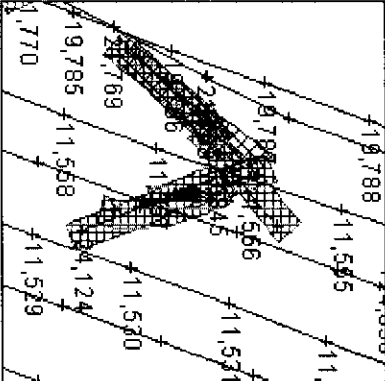
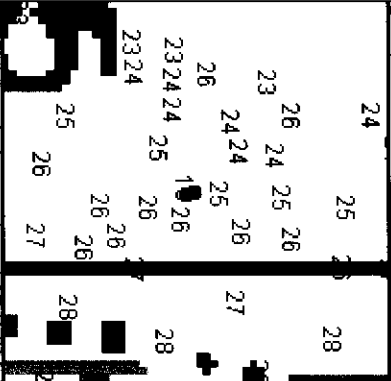
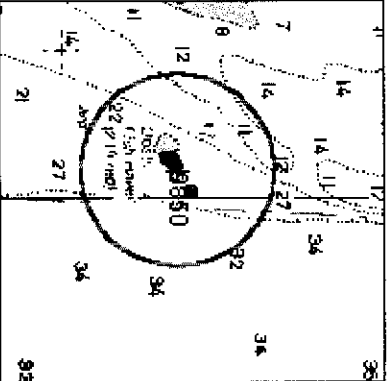
Line Day	Fix Range
150 293	11486-11541
148 293	11542-11599
305 309	19800-19852

Fixes <Radius

3	316 148201
	316 148626
	316 148628
	316 148629
	316 148630
	316 148632
	316 148633
	316 148634
	316 148635
	316 148638
	316 148639
	316 148640
	316 148642
	316 148643
	316 148646
	316 148647

Local Contacts

293_150_1948_1 4.59



Resolution

Height 1.1

Amplitude 1.2

Frequency 1.3

Wave Length 1.4

Speed of Sound 1.5

Charting Rec

1 20 10

25

100

7

Resolved



N19. - Contacts 195_091_1905_1 and 244_064_1829_1

See Correlator sheets for above contact numbers.

Charts Affected: 12263,12266

INVESTIGATION

Investigation Summary: These items were covered with 200% SSS and developed with shallow-water multibeam.

Charting Recommendation: The hydrographer recommends charting soundings from these contacts as normal soundings. These items were reported as a ~~✓~~ Danger to Navigation in a letter dated December 14, 1998. *Concur*

Chart 34ft sound 38-44-51.13N 76-27-52.91W
Delete ~~§~~ heading rep to 34ft ~~§~~ notation

Name 195_091_1905_1

Offset -14

Shad Len 0

Correlating Contact

Correlating Dist 0

Second Hit

Con Lat 38-44-51.33 N

Con Lon 076-27-53.07 W

Development

Least Depth	10.0 (34)	#Selected	1066
LD Fix	106480	AWOIS#	
Day of LD	316 105216	AWOIS Dist	0
Contact Dist	4	LD Lat	38-44-51.33 N
		LD Lon	076-27-52.94 W

Comments

Contact Remark possibly just a bottom feature
 Investigation Multibeam development-DN 316
 Charting Rec chart least depth in area-DTON

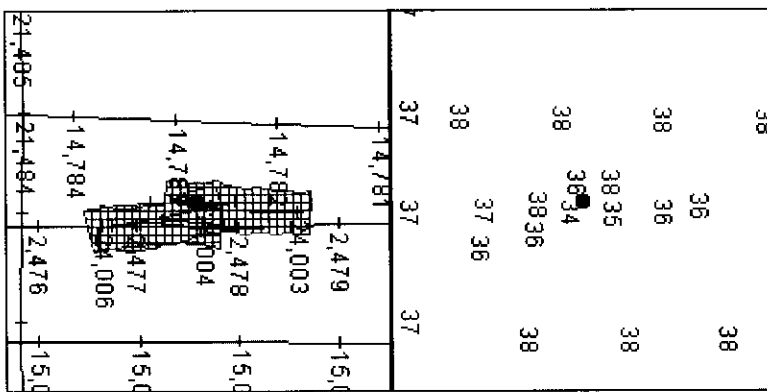
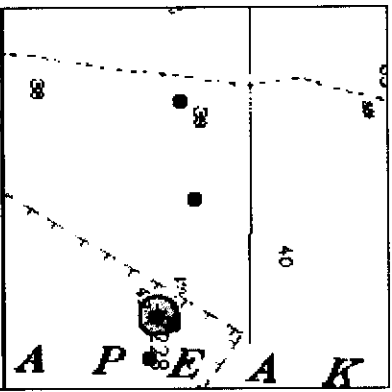
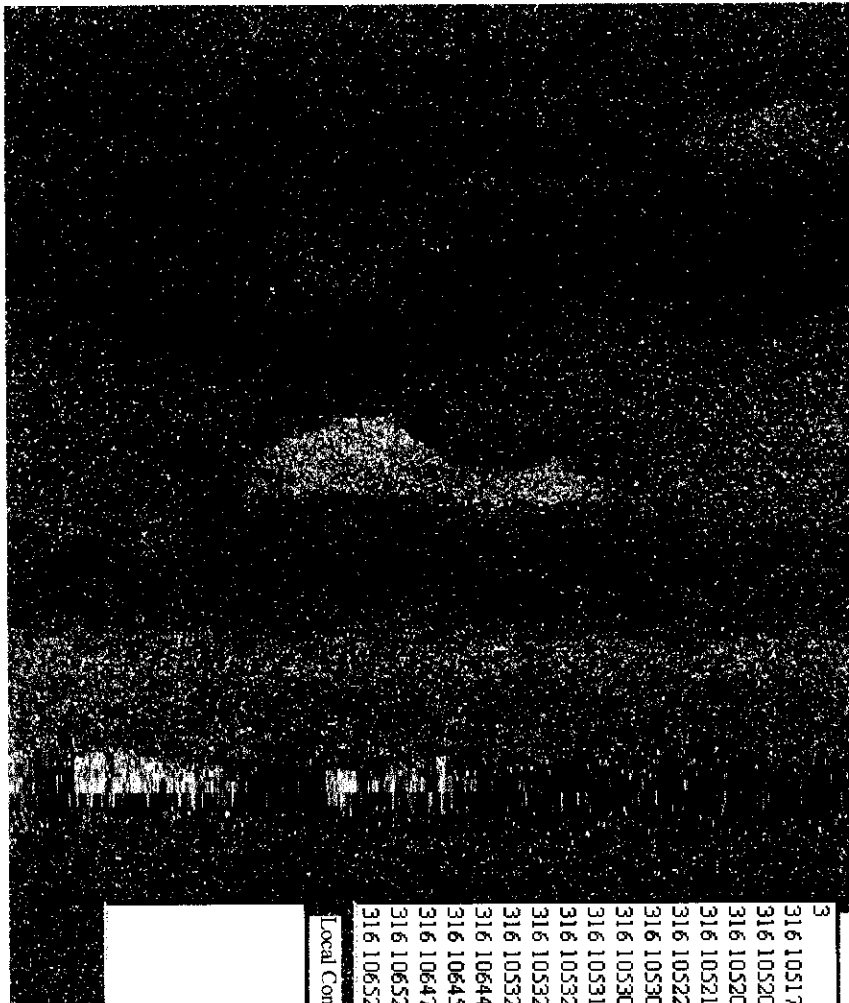
Matching Swath Info

Line Day Fix Range
 91 195 2347-2482
 233 297 14779-14912

Fixes <Radius

3	316 105171
	316 105201
	316 105202
	316 105211
	316 105220
	316 105300
	316 105305
	316 105313
	316 105320
	316 105325
	316 105326
	316 106444
	316 106452
	316 106477
	316 106526
	316 106527

Local Contacts



Resolution: 100

Scale: 7

Resolved

Buttons: 1, 25, 20, 10

Name 244_064_1829_1

Offset -62

Shad Len 0

Correlating Contact

Correlating Dist 0

Second Hit

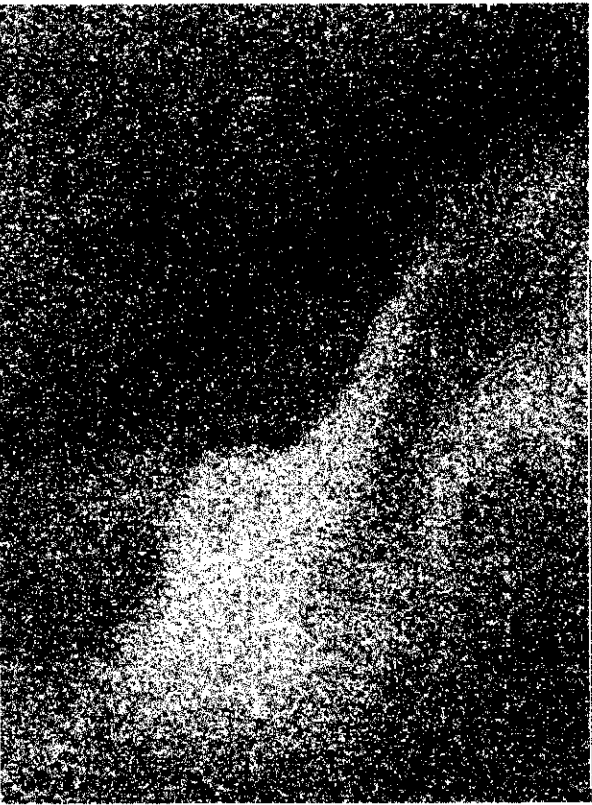
Con Lat 38-41-22.17 N

Con Lon 076-24-59.4 W

Development			
Least Depth	12.4 (40)	#Selected	1122
LD Fix	131559	AWOIS#	
Day of LD	316	AWOIS Dist	0
Contact Dist	24.6	LD Lat	38-41-22.64 N
		LD Lon	076-25-00.22 W

Comments
 Contact Remark
 Investigation
 Charting Rec

brod feature
 Multibeam development-DN 316
 Chart least depth in area. DTON



Matching Swath Info

Line Day Fix Range

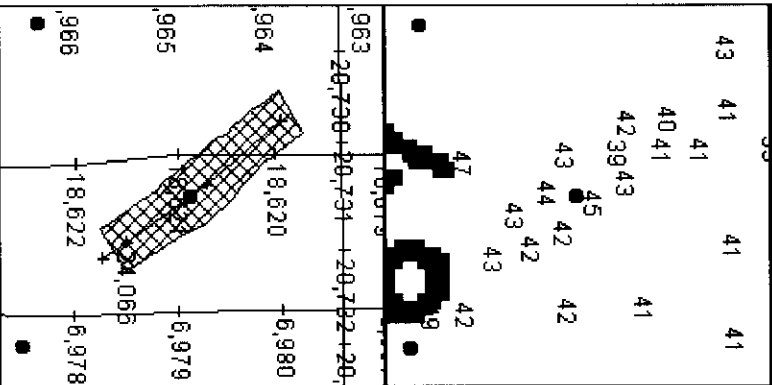
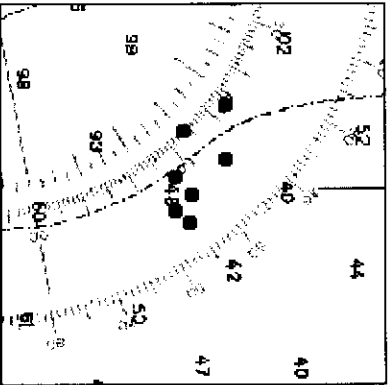
64 244 6973-7104
 206 306 18497-18627

Fixes <Radius

3
 316 132546
 316 132553
 316 132567
 316 132568
 316 132578
 316 132579
 316 132587
 316 132594
 316 132595
 316 132598
 316 132612
 316 132613
 316 132614
 316 132615
 316 132622
 316 132623

Local Contacts

3
316 132546
316 132553
316 132567
316 132568
316 132578
316 132579
316 132587
316 132594
316 132595
316 132598
316 132612
316 132613
316 132614
316 132615
316 132622
316 132623



Resolution: 10, 20, 10

Resolution: 100, 7

Resolved

O. COMPARISON WITH THE CHART - See also Evaluation Report

0.1 Four charts are affected by this survey:

Chart 12270
"Eastern Bay and South River"
29th Ed. 02 May 1998
Scale: 1:40,000

Chart 12660
"Cove Point to Sandy Point"
30th Ed. 19 March 1994
Scale: 1:80,000

Chart 12266
"Choptank and Herring Bay"
26th Ed. 2 April 1994
Scale: 1:40,000

Chart 12263
"Cove Point to Sandy Point"
49th Ed. 09 May, 1998
Scale: 1:80,000

0.2 One Danger to Navigation report addressing 10 items was submitted for this survey. See **Appendix I** for a copy of the report.

0.3 a. Comparisons were made between H-10823 and chart 12266. In general, agreement between charted soundings and surveyed soundings was adequate, with most charted depths agreeing with survey soundings to within 3 ft. The overall trend appears to be shoaling throughout the survey area. This trend was most noticeable in the deeper water of the main channel; the western 60-foot curve has moved 150m east.

P. ADEQUACY OF SURVEY - See also Evaluation Report

This survey is complete and fully adequate to supersede prior survey data within common areas.

Q. AIDS TO NAVIGATION - See also Evaluation Report

The survey limits for this project contain four aids to

navigation, as listed in the table below. During 200% side scan operations, all Aids to Navigation were picked off as contacts in **Caris Sips**. They were then added to the HPS contact database and overlaid on Chart 12270. All Aids to Navigation appear to serve their intended purpose. However, buoy G "81A" was located 44 m east of the charted position, and buoy W Or S "B" was located 60m east of the charted position. No new aids were found.

<u>Nav. Aid</u>	<u>Latitude</u>	<u>Longitude</u>
R "82" <i>Lighted</i>	38°42'03.6N	076°25'19.7W - LL # 7710
G "81A" <i>Cans</i>	38°43'34.4N	076°29'55.9W - LL # 7707
W Or S "B" <i>1210 mark</i>	38°44'11.8N	076°29'02.6W - LL # 7730
W Or S "A" <i>1210 mark</i>	38°44'59.7N	076°29'03.4W - LL # 7720

R. STATISTICS.

R.1 a.	Number of Positions149738
b.	Linear Nautical Miles of Sounding Lines:	
	Nautical Miles of Survey with the Use	
	of Side Scan Sonar	671.26
	Nautical Miles of Survey Without the Use	
	of Side Scan Sonar33.52
R.2 a.	Square Nautical Miles of Hydrography	
	per 100% of Coverage19.1
b.	Days of Production	26
c.	Detached Positions	4
d.	Bottom Samples	18
e.	Tide Stations	2
g.	Velocity Casts.	9

S. MISCELLANEOUS. - See also Evaluation Report

S.1 b. No evidence of anomalous tides or tidal current conditions was found during this survey.

S.2 Bottom samples were taken at 1000-meter intervals. Additional samples were collected to confirm bottom characteristics that were evident on the side scan mosaics. All samples were retained and shipped to the Smithsonian Institute in Washington, D.C.

T. RECOMMENDATIONS.

T.1 No present or planned construction or dredging should

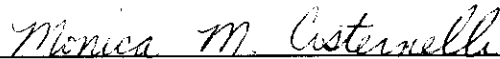
affect the results of this survey.

T.3 Because of insufficient multibeam coverage of AWOIS 9848, it is recommended that the Bay Hydrographer resume the investigation during the 1999 field season.

U. REFERRAL TO REPORTS

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

This report is respectfully submitted.



Monica M. Cisternelli
Survey Technician
NOAA Survey Vessel BAY HYDROGRAPHER



LTJG Shepard M. Smith, NOAA
Officer-in-Charge,
NOAA Survey Vessel BAY HYDROGRAPHER

APPENDIX III

LIST OF HORIZONTAL CONTROL STATIONS

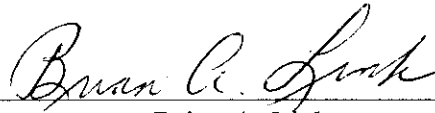
No horizontal control stations were needed for this survey since Differential GPS was employed exclusively for all positioning control. The geographic positions for the two Differential GPS radio beacons used during this survey are as follows:

Cape Henry, VA 289 KHz	36°55'37.580"N 76°00'23.884"W
Cape Henlopen, DE 298 KHz	38°46'36.421"N 75°05'15.667"W

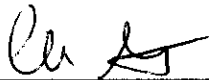
APPROVAL SHEET
Basic Hydrographic Survey
OPR-E346-AHP
AHP-10-7-98
H-10823

This basic hydrographic survey was completed in accordance with the Project Instructions for OPR-E346-AHP, the Hydrographic Manual, the Hydrographic Survey Guidelines, and the Field Procedures Manual. All reports, records, and survey plots were reviewed by LT(jg) Shepard Smith, Officer-in-Charge of the Bay Hydrographer. The Descriptive Report was also reviewed by the Chief, AHP. The Chief of the Party did not directly supervise the work on H-10823.

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



Brian A. Link
Chief, Atlantic Hydrographic Party



LT(jg) Shepard Smith, NOAA
Officer-in-Charge, NOAA BAY HYDROGRAPHER



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

TIDE NOTE FOR HYDROGRAPHIC SURVEY

DATE: February 24, 1999

HYDROGRAPHIC BRANCH: Atlantic

HYDROGRAPHIC PROJECT: OPR-E346-AHP

HYDROGRAPHIC SHEET: H-10823

LOCALITY: Chesapeake Bay, MD, Holland Point to Tilghman Island

TIME PERIOD: July 13, 1998 - November 13, 1998

TIDE STATION USED: 857-2467 Kent Point, MD.

Lat. $38^{\circ} 50.2'N$ Lon. $76^{\circ} 22.4'W$

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

HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE: 0.400 meters

REMARKS: RECOMMENDED ZONING

Use zone(s) identified as: CB79 & CB81.

Refer to attachments for zoning information.

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

Thomas V. Mero 2/24/99

CHIEF, REQUIREMENTS AND ENGINEERING BRANCH

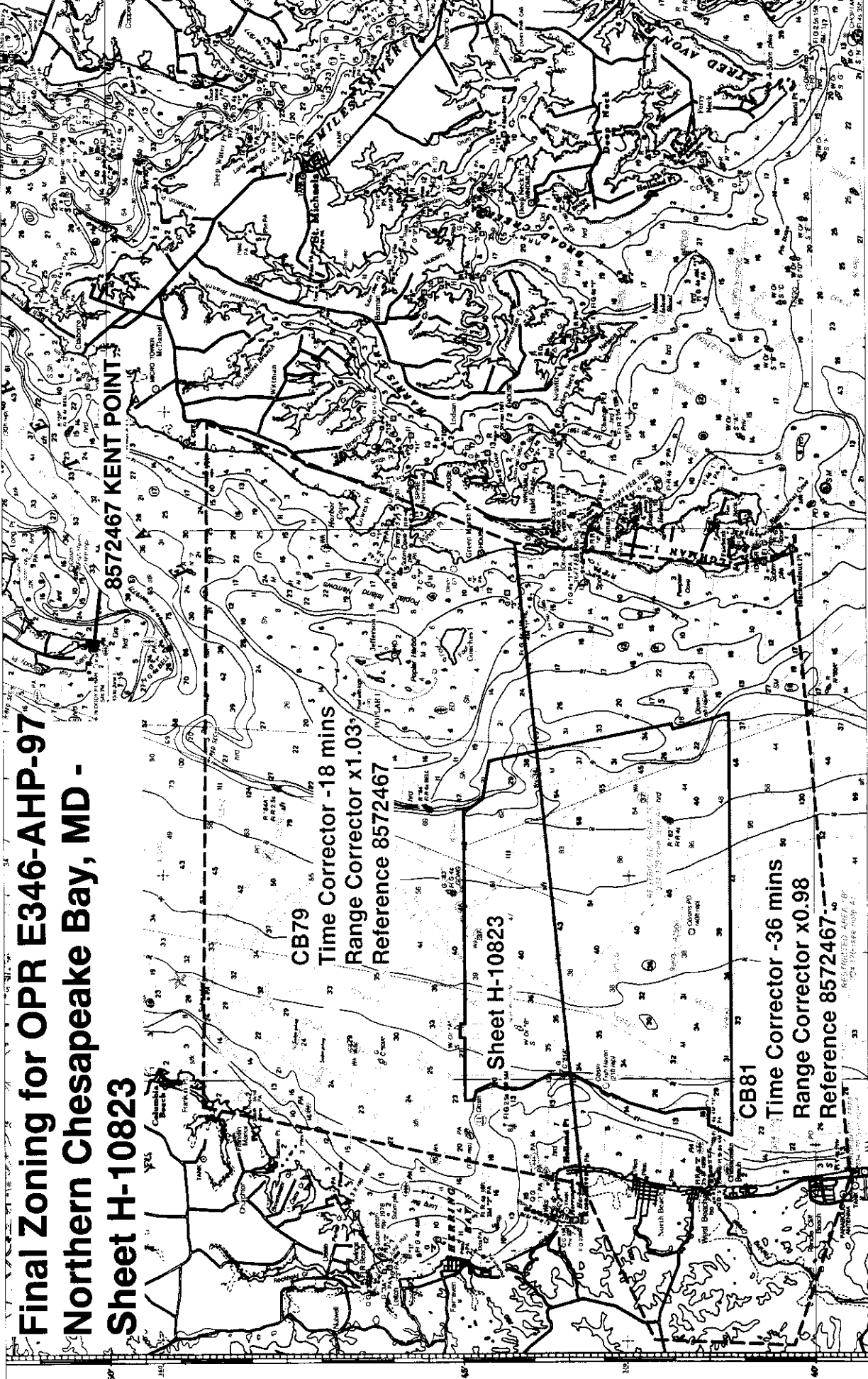


Final tide zone node point locations for OPR-E346-AHP-97,
 Sheet H-10823

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

	Tide Station Order	AVG Time Correction	Range Correction
Zone CB79			
-76.508159 38.811225	857-2467	-18	1.03
-76.531832 38.721895			
-76.337533 38.737095			
-76.30122 38.809621			
-76.508159 38.811225			
Zone CB81			
-76.531832 38.721895	857-2467	-36	0.98
-76.578873 38.704686			
-76.580584 38.671592			
-76.52984 38.65835			
-76.340436 38.67163			
-76.344642 38.686237			
-76.337533 38.737095			
-76.531832 38.721895			

**Final Zoning for OPR E346-AHP-97
Northern Chesapeake Bay, MD -
Sheet H-10823**



8572467 KENT POINT

CB79
Time Corrector -18 mins
Range Corrector x1.03
Reference 8572467

Sheet H-10823

CB81
Time Corrector -36 mins
Range Corrector x0.98
Reference 8572467

8572467

GEOGRAPHIC NAMES

H-10823

Name on Survey	A		B		C		D		E		F		G		H		K	
	ON CHART NO.	ON PREVIOUS SURVEY	ON CHART NO.	ON PREVIOUS SURVEY	CON U.S. QUADRANGLE MAPS	FROM LOCAL INFORMATION	ON LOCAL MAPS	P.O. GUIDE OR MAP	RAND McNALLY ATLAS	U.S. LIGHT LIST								
CHESAPEAKE BAY	X		X															1
COACHES ISLAND	X		X															2
HOLLAND POINT	X		X															3
MARYLAND (title)	X		X															4
SOUTH BAR POINT	X		X															5
																		6
																		7
																		8
																		9
																		10
																		11
																		12
																		13
																		14
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																		17
																		18
																		19
																		20
																		21
																		22
																		23
																		24
																		25

Approved

Thomas J. Romberg
Chief Geographer
FEB 12 1999

08/24/99

HYDROGRAPHIC SURVEY STATISTICS
REGISTRY NUMBER: H10823

NUMBER OF CONTROL STATIONS		2
NUMBER OF POSITIONS		138537
NUMBER OF SOUNDINGS		138537
	TIME-HOURS	DATE COMPLETED
PREPROCESSING EXAMINATION	51.5	02/09/99
VERIFICATION OF FIELD DATA	121.5	06/10/99
QUALITY CONTROL CHECKS	5.0	
EVALUATION AND ANALYSIS	8.5	
FINAL INSPECTION	13.0	06/18/99
COMPILATION	59.0	08/23/99
TOTAL TIME	258.5	
ATLANTIC HYDROGRAPHIC BRANCH APPROVAL		06/25/99

**ATLANTIC HYDROGRAPHIC BRANCH
EVALUATION REPORT FOR H10823 (1998)**

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

D. AUTOMATED DATA ACQUISITION AND PROCESSING

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

Hydrographic Processing System (HPS)
NADCON, version 2.10
SITEWORKS 02.01
MicroStation 95, version 5.05
I/RAS B, version 5.01

The smooth sheet was plotted using an HEWLETT-PACKARD 2500CP plotter.

H. CONTROL STATIONS

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

To place this survey on the NAD 27 datum move the projection lines 0.426 seconds (13.151 meters or 1.32 mm at the scale of the survey) north in latitude, and 1.169 seconds (28.249 meters or 2.82 mm at the scale of the survey) east in longitude.

J. SHORELINE

Brown shoreline originates with National Ocean Service (NOS) chart 12270 (29th Edition, May 2, 1998) and is for orientation purposes only.

L. JUNCTIONS

H10790 (1998) 1:10,000 to the north

A standard junction was effected between the present survey and survey H10790 (1997) to the north. A holiday exists between the junctional surveys in the vicinity of AWOIS Item 9848, in Latitude 38°44'46.22N Longitude 76°30'45.00W, where the present survey did not fully investigate the item.

Another holiday exists between the two surveys in an area centered at Latitude 38°44'45.00N Longitude 76°24'30.00W, where the present survey did not adequately junction with H10790.

M. COMPARISON WITH PRIOR SURVEYS

A comparison with prior surveys was not performed. This is in accordance with section 4. Of the memorandum titled, "Changes to Hydrographic Survey Processing," dated May 24, 1995.

N. ITEM INVESTIGATION REPORTS

N1. AWOIS Item #4464, a charted dangerous sunken wreck with a least depth of 34ft (8³m) in Latitude 38°43'56.85"N, Longitude 76°24'25.81"W originates with F00306 (1987). The present survey found a dangerous sunken wreck with a least depth of 36ft (11m) in Latitude 38°43'56.99"N, Longitude 76°24'25.63"W. It is recommended that the charted dangerous sunken wreck with a least depth of 34ft be deleted from the chart and that a dangerous sunken wreck with a least depth of 36ft (11m) be charted in the present survey location.

N2. AWOIS Item #4465, a charted dangerous sunken wreck with a least depth of 37ft (11³m) in Latitude 38°42'24.92"N, Longitude 76°24'57.31"W originates with F00306 (1987). The present survey found a dangerous sunken wreck with a least depth of 40ft (12³m) in Latitude 38°42'24.53"N, Longitude 76°24'57.68"W. It is recommended that the charted dangerous sunken wreck with a least depth of 37ft be deleted, and that a dangerous sunken wreck with a least depth of 40ft be charted in the present survey location.

N3. AWOIS Item #7228, a charted dangerous sunken wreck with a least depth of 37ft (11³m) in Latitude 38°44'44.99"N, Longitude 76°27'27.67"W originates with F00306 (1987). The present survey found a dangerous sunken wreck with a least depth of 38ft (11⁷m) in Latitude 38°44'44.99"N, Longitude 76°27'27.55"W. It is recommended that the charted dangerous sunken wreck with a least depth of 37ft be deleted, and that a dangerous sunken wreck with a least depth of 38ft be charted in the present survey location.

N5. AWOIS Item #9850, a charted obstruction, fish haven, with an authorized minimum depth of 15ft, in Latitude 38°42'59.00"N, Longitude 76°30'07.00"W originates with Chart Letter 1246 of 1967 (CL1246/67). A least depth of 19ft (5⁸m)

was found on the present survey in Latitude 38°43'01.05"N, Longitude 76°30'02.56"W. It is recommended that the charted obstruction, fish haven, with an authorized minimum depth of 15ft be retained as charted.

N10. AWOIS Item #4692, charted obstructions PD (40ft) rep. in Latitude 38°41'45.00"N, Longitude 76°27'24.00"W originate with Chart Letter 106 of 1958 (CL106/58). It is recommended that the charted obstructions PD (40ft) rep. be deleted from the chart and that present survey data be charted in the area.

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

- O.** COMPARISON WITH CHART 12260 (30th Edition, MAR 19/94)
12263 (48th Edition, OCT 11/97)
12266 (26th Edition, APR 02/94)
12270 (28th Edition, JUL 19/97)

O.1 Hydrography

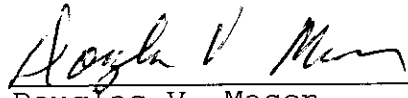
The charted hydrography originates with prior surveys and miscellaneous sources. The hydrographer makes adequate chart comparisons in Sections N. and O. of the Descriptive Report. The following should be noted:

O.2. Danger to Navigation

One Danger to Navigation Reports containing ten items was submitted to Commander (oan), Fifth Coast Guard District, 431 Crawford Street, Portsmouth, Virginia for inclusion in the Local Notice to Mariners, and to the Marine Chart Division, Silver Spring, Maryland. A copy of the report is appended to the Descriptive Report.

The following features are shown on the latest edition of the chart and originate with the present survey as Dangers to Navigation:

<u>FEATURES</u>	<u>LATITUDE (N)</u>	<u>LONGITUDE (W)</u>
60Wk	38°42'11.26"	76°25'28.22"
25Wk	38°43'16.15"	76°29'08.34"
33Obstn	38°44'48.83"	76°28'14.22"
39Obstn	38°43'29.63"	76°24'35.72"
31Obstn	38°41'31.37"	76°29'09.62"


A handwritten signature in cursive script, reading "Douglas V. Mason". The signature is written in black ink and is positioned above a horizontal line.

Douglas V. Mason
Cartographic Technician
Verification of Field Data
Evaluation and Analysis

APPROVAL SHEET
H10823

Initial Approvals:

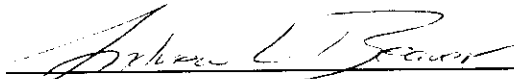
The completed survey has been inspected with regard to survey coverage, delineation of depth curves, development of critical depths, cartographic symbolization, and verification or disproval of charted data. The digital data have been completed and all revisions and additions made to the smooth sheet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



Date: 25 JUNE 99

Deborah A. Bland
Cartographer,
Atlantic Hydrographic Branch

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



Date: 6/25/99

Andrew L. Beaver
Lieutenant Commander, NOAA
Chief, Atlantic Hydrographic Branch

Final Approval:

Approved: 

Date: 10/9/99

Samuel P. De Bow, Jr.
Commander, NOAA
Chief, Hydrographic Surveys Division

APPENDIX I

DANGER TO NAVIGATION REPORTS

One Danger to Navigation report addressing 10 items was issued to the Commander of the fifth Coast Guard District on December 14, 1998, as a result of this survey. A copy of this report is attached.



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

December 14, 1998

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

Dear Sir,

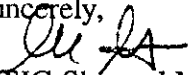
While conducting a hydrographic survey in the vicinity of Holland Point, Maryland (project OPR-E346-BH, registry H-10823), the following wrecks, obstructions, and shoals were discovered by the NOAA S/V BAY HYDROGRAPHER. I recommend that the items be included as dangers to navigation in the next Local Notice to Mariners. All items were investigated with 200% side scan sonar coverage and least depths were determined with multibeam sonar.

<u>Depth</u>	<u>Item</u>	<u>Latitude</u>	<u>Longitude</u>
33 ft	Wreck	38-44-24.44 N	076-29-18.85 W
33 ft	Obstruction	38-44-48.99 N	076-28-14.28 W
34 ft	Shoal	38-44-51.34 N	076-27-52.9 W
25 ft	Wreck	38-43-16.15 N	076-29-08.34 W
21 ft	Obstruction	38-43-01.04 N	076-30-02.44 W
14 ft	Obstruction	38-41-45.74 N	076-29-54.74 W
31 ft	Obstruction	38-41-31.36 N	076-29-09.62 W
39 ft	Shoal	38-41-22.84 N	076-25-00.3 W
60 ft	Wreck	38-42-11.32 N	076-25-28.26 W
39 ft	Obstruction	38-43-29.77 N	076-24-35.7 W

Affected Nautical Charts:

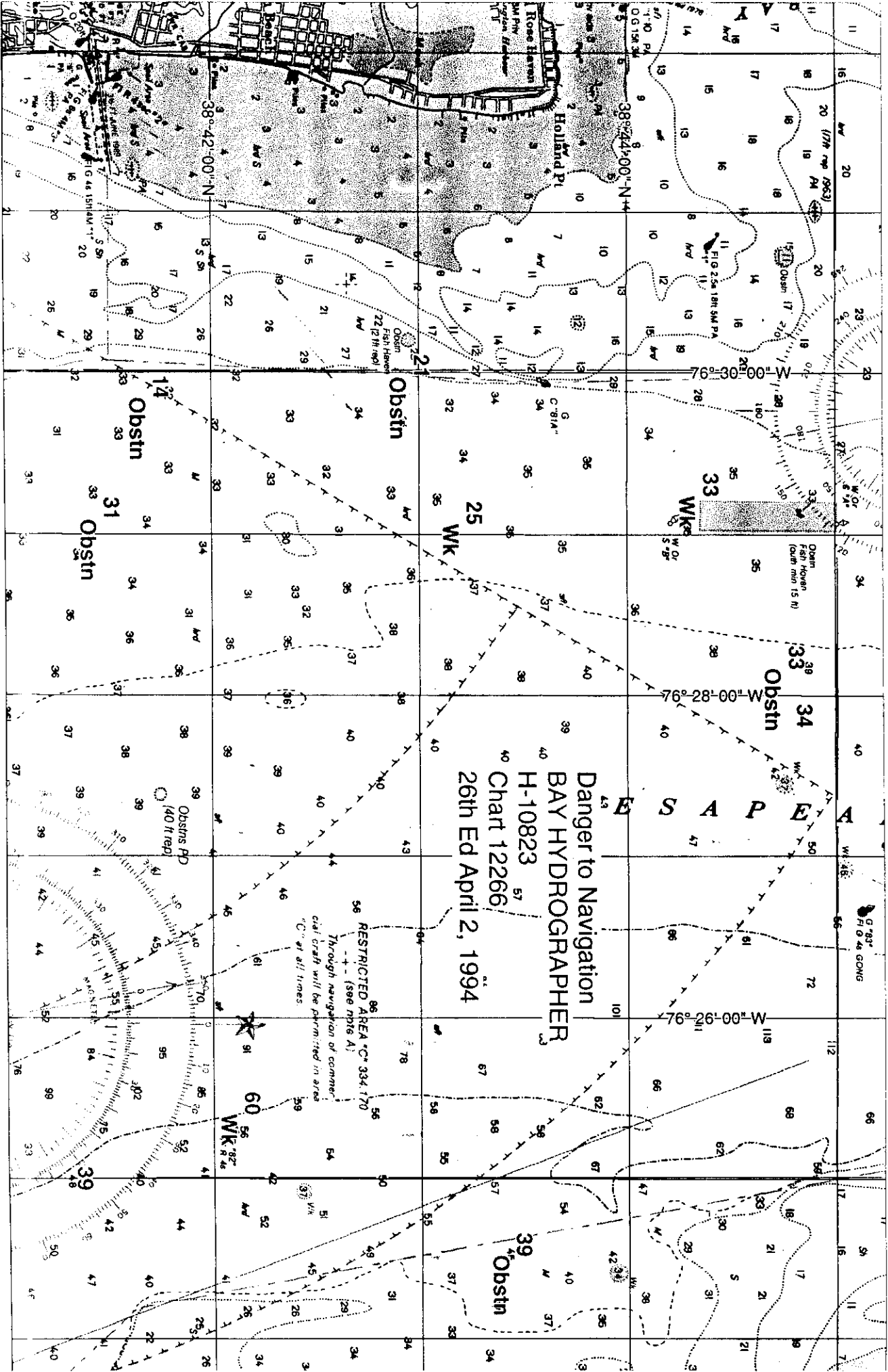
<u>Chart</u>	<u>Edition</u>	<u>Date</u>	<u>Horizontal</u>
<u>Number</u>	<u>Number</u>		<u>Datum</u>
12660	30 ed.	19 March 1994	NAD 83
12663	49 ed.	09 May 1998	NAD 83
12266	26 th ed.	02 April 1994	NAD 83
12270	29 th ed.	02 May 1998	NAD 83

The attached chartlet from chart 12266 depicts the wrecks, obstructions, and shoals to be added to the chart. Questions concerning this report should be directed to the Atlantic Hydrographic Branch by calling 757-441-6746.

Sincerely,

LTJG Shepard M. Smith
OIC, BAY HYDROGRAPHER

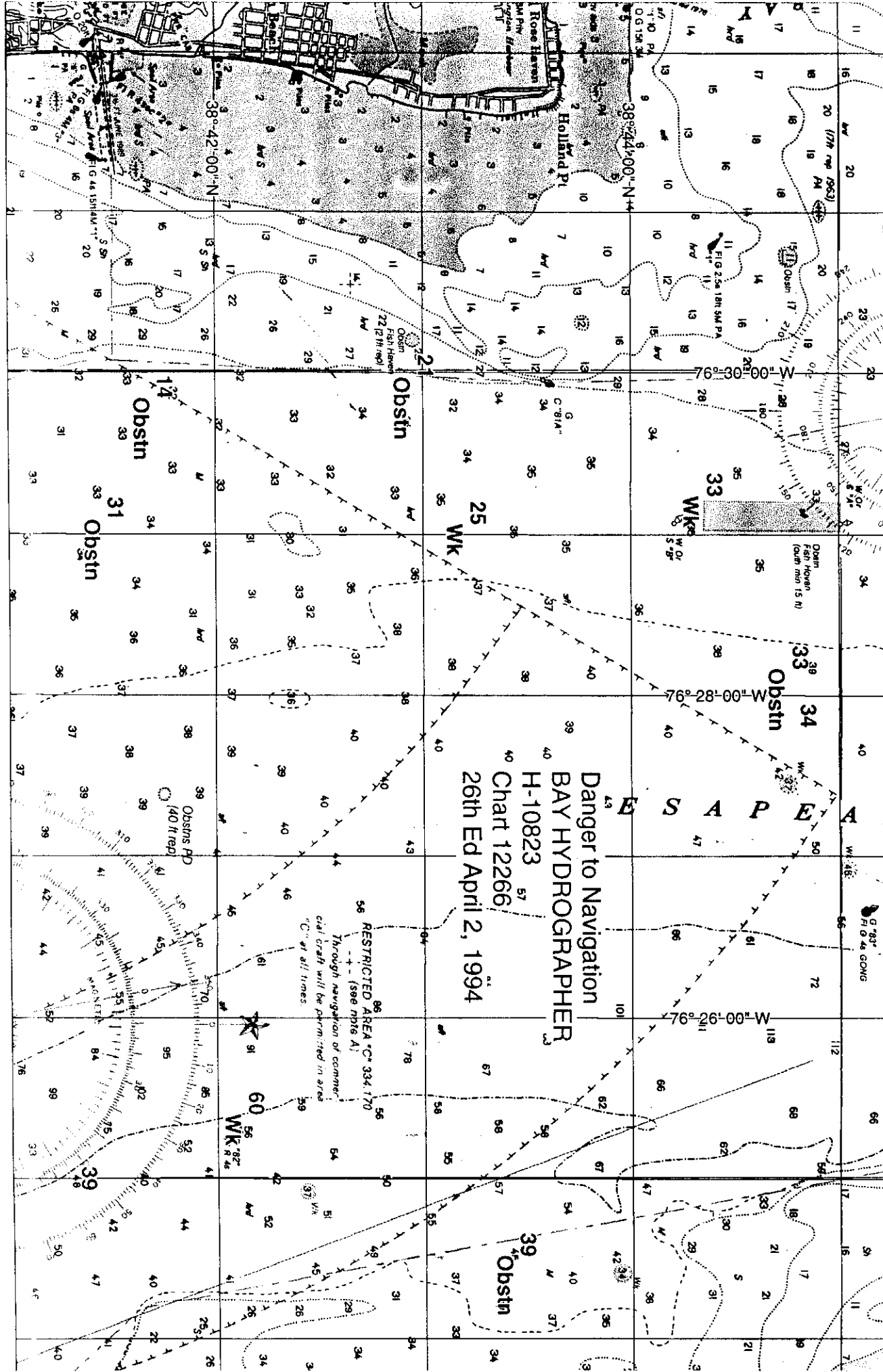
Attachment
cc: NIMA
N/CS26
N/CS31





Danger to Navigation
BAY HYDROGRAPHER
H-10823
Chart 12266
26th Ed April 2, 1994

RESTRICTED AREA "C" 334.170
Through navigation of commercial craft will be permitted in areas "C" at all times.
(See note A)



Danger to Navigation
BAY HYDROGRAPHER
H-10823
Chart 12266
26th Ed April 2, 1994

RESTRICTED AREA "C" 334.170
Through navigation of commercial craft will be permitted in areas "C" at all times.
(See note A)

NOAA

DRAWING HISTORY

U.S. DEPARTMENT OF COMMERCE
NOAA NATIONAL OCEAN SERVICE
OFFICE OF COAST SURVEYCHART 12266
DRAWING
EDITION 26th

REMARKS:

NC RC NE NP RP	To Reproduction Date	ITEMS	DATE COMPLETED	COMPILER (Signature)	DATE REVIEWED	REVIEWER (Signature)	
							APPLIED Part Full
	Print Date	1-17	6/25/99	DEBORAH A. BLAND	6/28/99		
	Notice to Mariners (FWD)						
	Source Data (FWD)						
X	1	H10823	7/13/98	Nos	Hydrography	38-43-00N 76-28-00W MD-CHESS. BAY - HOLLAND POINT TO TILGHMAN ISLAND	FULL APPLICATION OF SOUNDINGS AND CURVES.
X	2				AWOIS 4464	38-43-56.85N 76-24-25.81W	DELETE 34FT SUBM WK W/DANG CURVE
X	3				WRECK	38-43-56.99N 76-24-25.63W	ADD 36FT DANGEROUS SUNKEN WRECK
X	4				AWOIS 4465	38-42-24.92N 76-24-57.31W	DELETE 37FT SUBM WK W/DANG CURVE
X	5				WRECK	38-42-24.53N 76-24-57.68W	ADD 40FT DANGEROUS SUNKEN WRECK
X	6				AWOIS 7228	38-44-44.99N 76-27-27.67W	DELETE 38FT SUBM WK W/DANG CURVE
X	7				WRECK	38-44-44.99N 76-27-27.55W	ADD 38FT DANGEROUS SUNKEN WRECK
X	8				AWOIS 4692	38-41-45.00N 76-27-24.00W	DEL UNKNOWN OBSTNS PD (40FT REP)
X	9				WRECK	38-43-16.15N 76-29-08.34W	ADD 25FT DANGEROUS SUNKEN WRECK
X	10				OBSTRUCTION	38-44-48.83N 76-28-14.22W	ADD 33FT DANGEROUS SUBM OBSTR
X	11				WRECK	38-44-24.66N 76-29-18.53W	ADD 32FT DANGEROUS SUNKEN WRECK
X	12				WRECK	38-44-24.44N 76-29-18.85W	DEL 33FT DANGEROUS SUNKEN WRECK
X	13				WRECK	38-42-11.26N 76-25-28.22W	ADD 60FT DANGEROUS SUNKEN WRECK
X	14				OBSTRUCTION	38-43-29.63N 76-24-35.72W	ADD 39FT DANGEROUS SUBM OBSTR
X	15				OBSTRUCTION	38-41-45.84N 76-29-54.77W	ADD 13FT DANGEROUS SUBM OBSTR
X	16				OBSTRUCTION	38-41-31.37N 76-29-09.62W	ADD 31FT DANGEROUS SUBM OBSTR
X	17				NOTATION	38-44-51.13N 76-27-52.91W	DEL NOTE: SHOALING REP TO 34FT

MARINE CHART BRANCH
RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. 1110923

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
12266	6/28/99	D. L. ...	Full Part Before After Marine Center Approval Signed Via Drawing No.
			Full Part Before After Marine Center Approval Signed Via Drawing No.
			Full Part Before After Marine Center Approval Signed Via Drawing No.
			Full Part Before After Marine Center Approval Signed Via Drawing No.
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