FE312

SIDE SCAN

Diagram No. 1215-3

NOAA FORM 76-35A

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

DESCRIPTIVE REPORT

Type of Survey Side Scan Sonar

Field No. WH-20-1-88

Registery No. FE-312SS

LOCALITY

State New York--New Jersey

General Locality Atlantic Ocean

Sublocality Vicinity of Ambrose Light

1988

CHIEF OF PARTY
CDR D.R. Seidel

LIBRARY & ARCHIVES

DATE September 26, 1989

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

FE312
SIDE SCAN

GP"

12327 N/M
12326 50
12402 15
12300 400
13006 675
13003 1206
12324 40

NOAA FORM 77-28 (11-72)

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

HYDROGRAPHIC TITLE SHEET

REGISTER NO.

FE-312 (1988) SS

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. WH-20-1-88
~~WH-20-2-88, WH-20-3-88~~

State NEW YORK ~~and~~ NEW JERSEY

General locality ATLANTIC OCEAN

Locality ~~APPROACHES TO NEW YORK HARBOR~~-VICINITY OF AMBROSE LIGHT

Scale 1:20,000 Date of survey 01 May 1988 - 02 June 1988

Instructions dated 15 May 1988 Project No. OPR-C121-WH

Vessel NOAA Ship WHITING S329 (Edp#2930), Launch 1014 (2932), Launch 1015 (2931)

Chief of party CDR Dean R. Seidel, NOAA

Surveyed by Dean R. Seidel, Todd A. Baxter, Samuel P. DeBow, Jeffrey A. Koch, James S. Verlaque, Mark P. Skarbek, Jeffrey D. Bear, Peter C. Stauffer

Soundings taken by echo sounder, ~~hand lead, pole~~ DSF6000

Graphic record scaled by SPD, JAK, JSV, MPS, JDB, PCS, Maxine Fetterly, Felix R. Cruz, Gale A. Variot

Graphic record checked by SPD, JAK, JSV, MPS, JDB, PCS, MF, FRC, GAV

Protracted by ____ Automated plot by HOUSTON INSTRUMENTS DP-03 Plotter (Field) XYNETICS 1201 PLOTTER (AHC)

Verification by Atlantic Hydrographic Section Personnel

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

REMARKS: Notes in red were made during office processing

AWOIS / SURF MSM 10/20/89

KWW. 3-18-91

NOAA FORM 77-28 (11-72) SUPERSEDES FORM C&GS-537

☆ U.S. GOVERNMENT PRINTING OFFICE: 1978-665-010-1174

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*Filed with original field records

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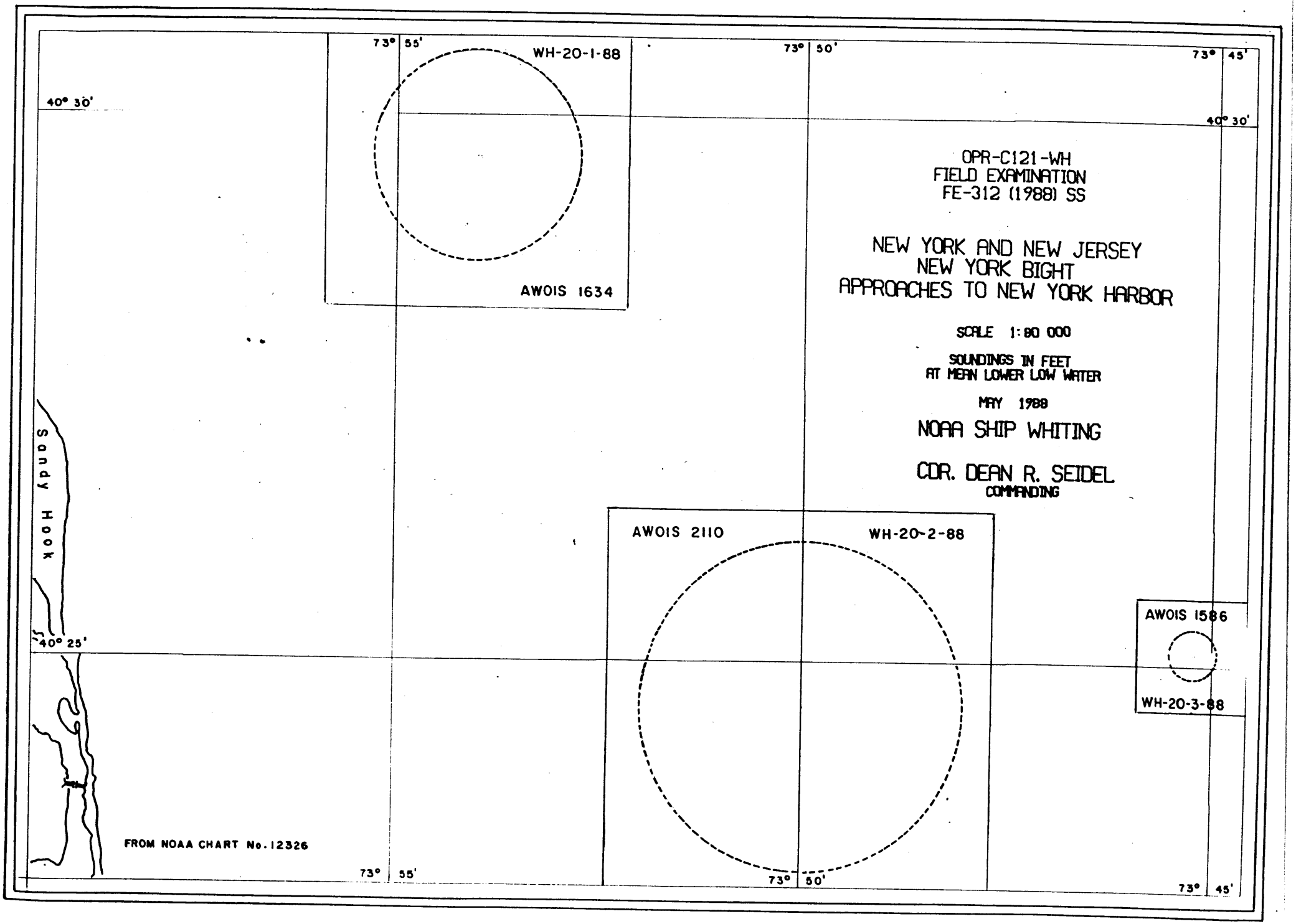
* Filed with the original field records.


73° 55'
WH-20-1-88
73° 50'
73° 45'
40° 30'
40° 30'
AWOIS 1634
OPR-C121-WH
FIELD EXAMINATION
FE-312 (1988) SS
NEW YORK AND NEW JERSEY
NEW YORK BIGHT
APPROACHES TO NEW YORK HARBOR
SCALE 1:80 000
SOUNDINGS IN FEET
AT MEAN LOWER LOW WATER
MAY 1988
NOAA SHIP WHITING
CDR. DEAN R. SEIDEL
COMMANDING
AWOIS 2110
WH-20-2-88
AWOIS 1586
WH-20-3-88
Sandy Hook
40° 25'
FROM NOAA CHART No. 12326
73° 55'
73° 50'
73° 45'

73° 45' 30"

73° 45' 00"

OPR-C121-WH
FIELD EXAMINATION
FE-312 (1988) SS
AWOIS 1586

NEW YORK AND NEW JERSEY
NEW YORK BIGHT
APPROACHES TO NEW YORK HARBOR

SCALE 1:10 000

SOUNDINGS IN FEET
AT MEAN LOWER LOW WATER

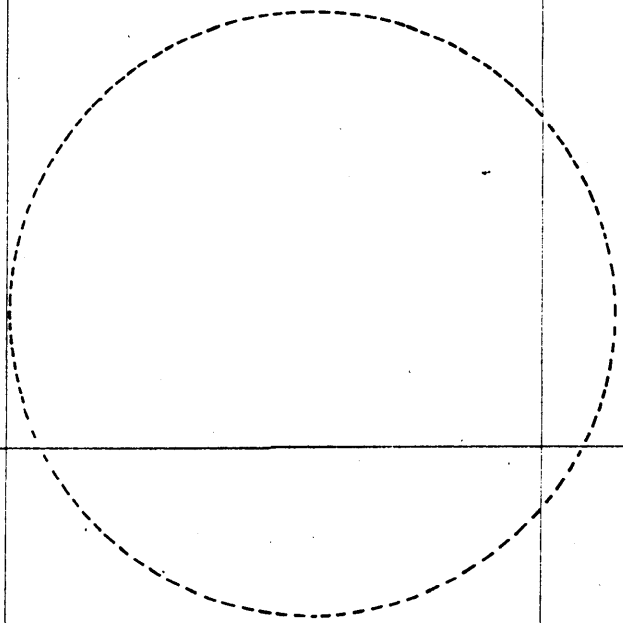
MAY 1988

NOAA SHIP WHITING

CDR. DEAN R. SEIDEL
COMMANDING

40° 25' 30"

40° 25' 30"

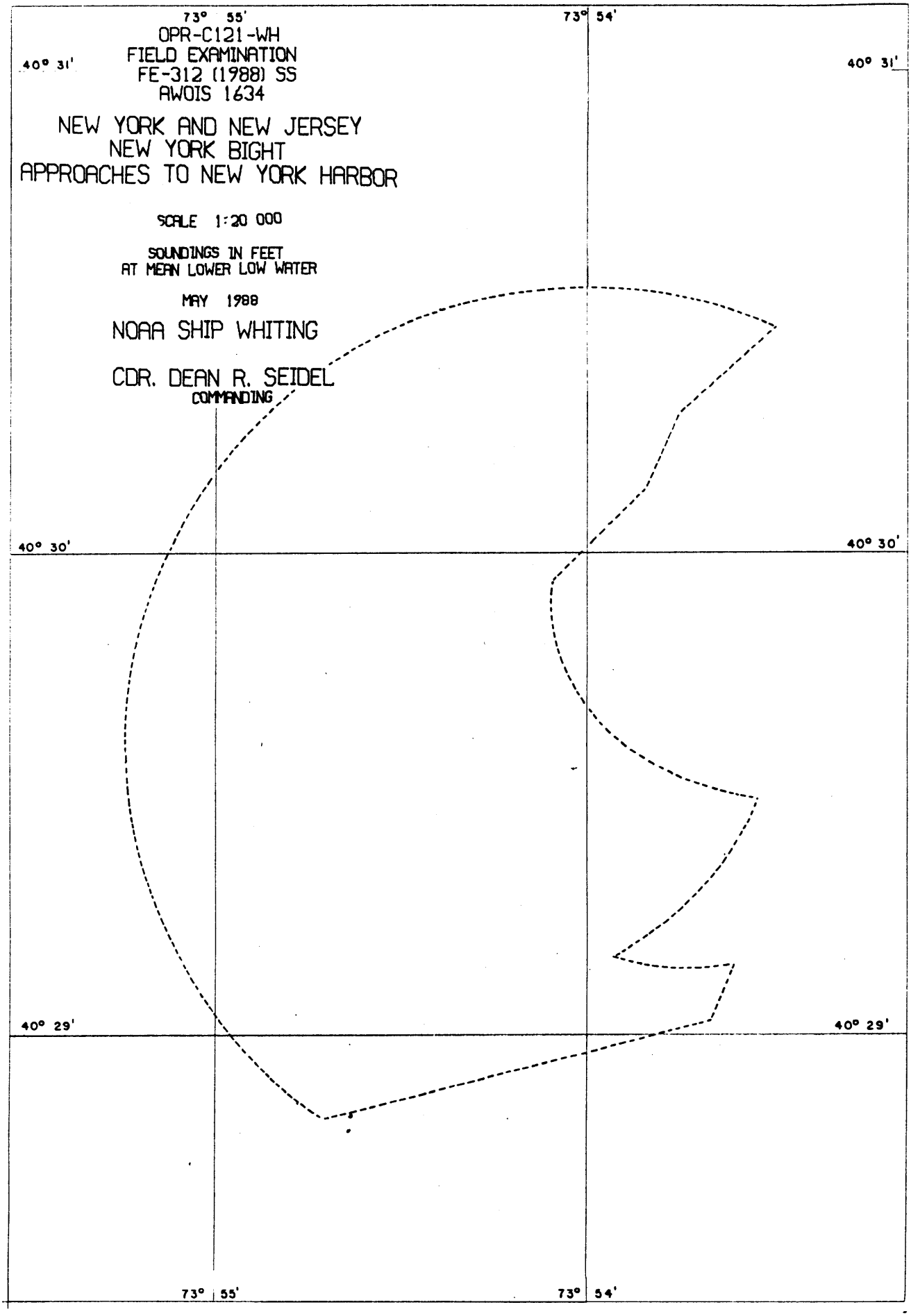


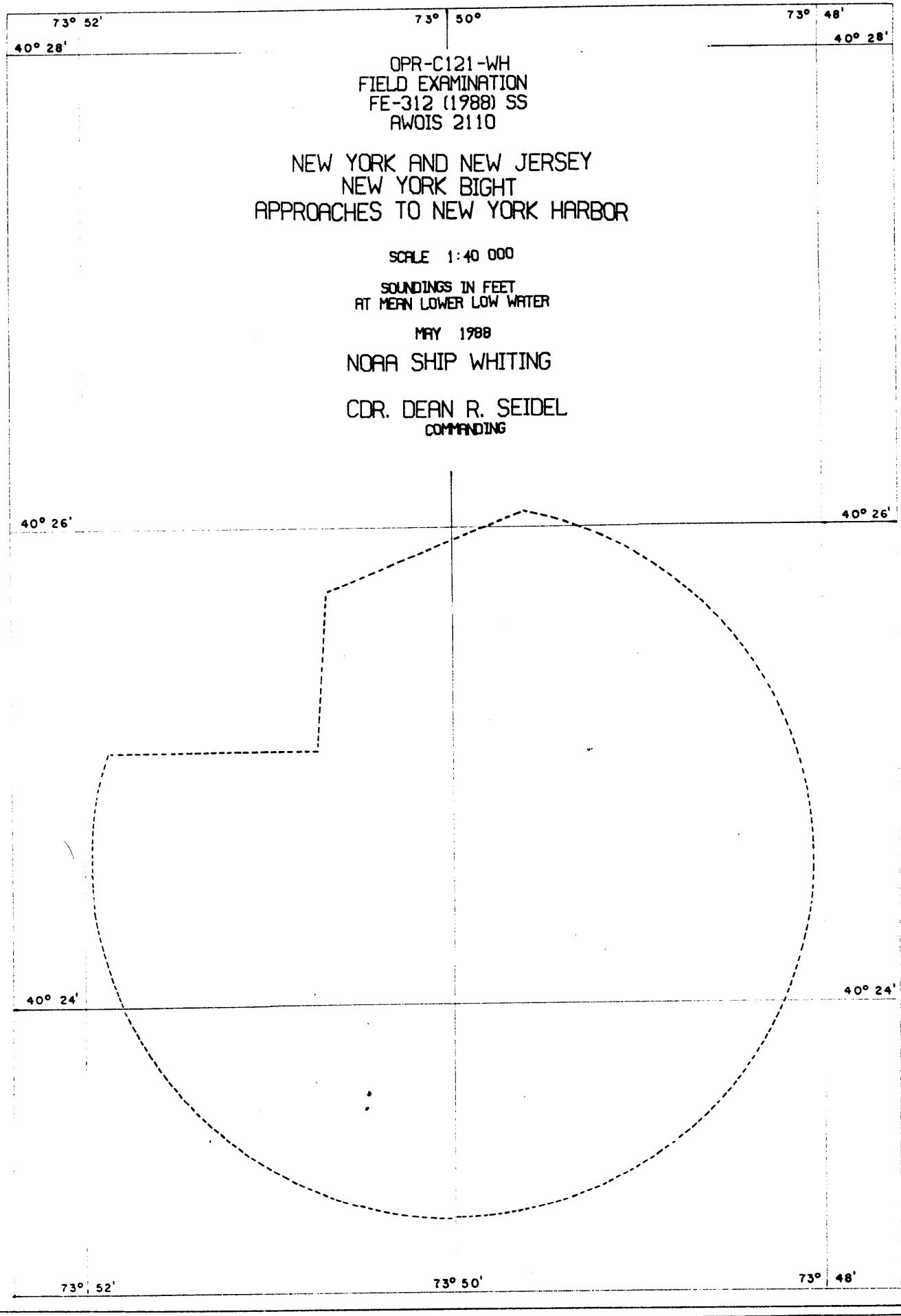
40° 25' 00"

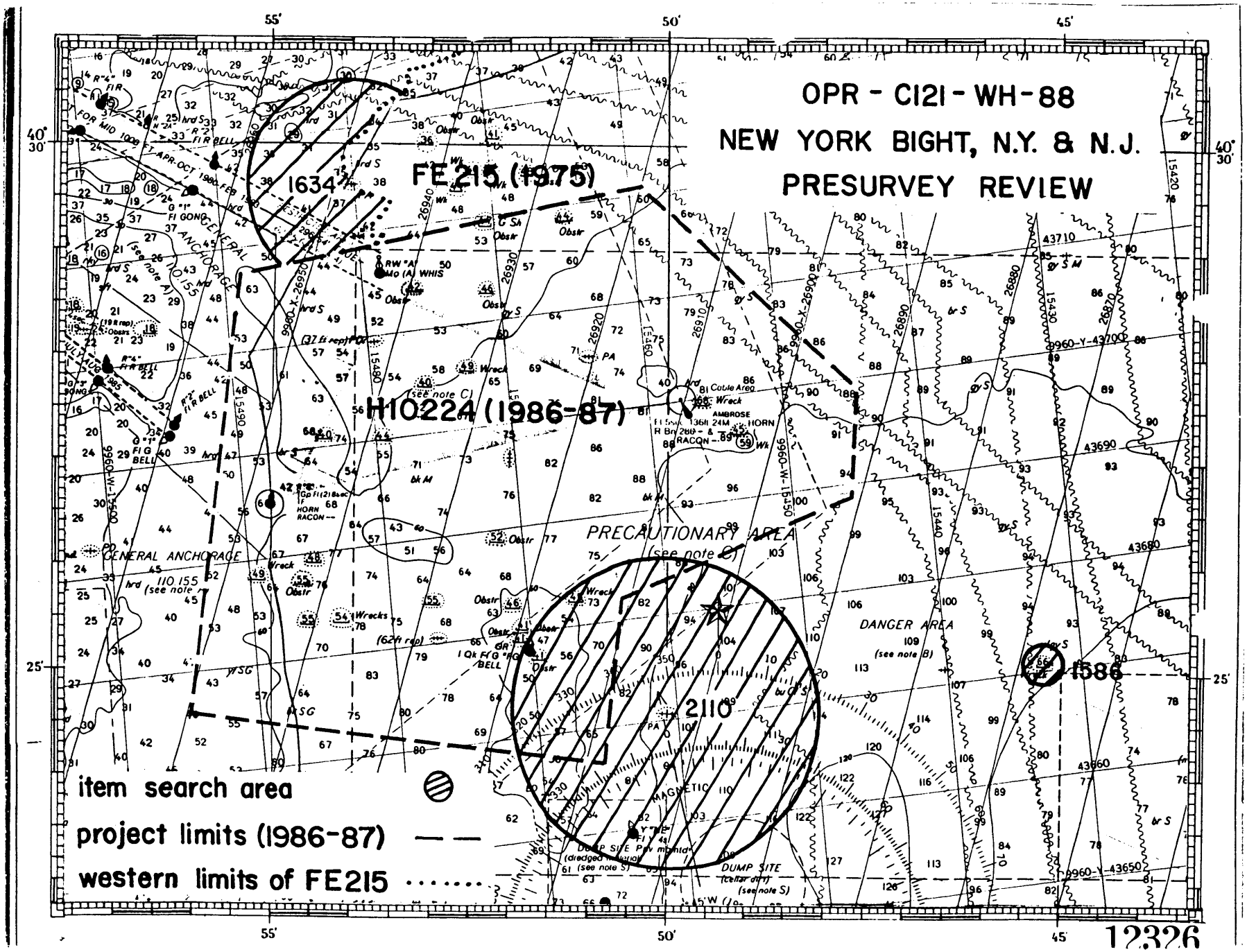
40° 25' 00"

73° 45' 30"

73° 45' 00"


73° 55'
73° 54'
40° 31'
40° 31'
OPR-C121-WH
FIELD EXAMINATION
FE-312 (1988) SS
AWOIS 1634
NEW YORK AND NEW JERSEY
NEW YORK BIGHT
APPROACHES TO NEW YORK HARBOR
SCALE 1:20 000
SOUNDINGS IN FEET
AT MEAN LOWER LOW WATER
MAY 1988
NOAA SHIP WHITING
CDR. DEAN R. SEIDEL
COMMANDING
40° 30'
40° 30'
40° 29'
40° 29'
73° 55'
73° 54'


73° 52'
73° 50'
73° 48'
40° 28'
40° 28'
OPR-C121-WH
FIELD EXAMINATION
FE-312 (1988) SS
AWOIS 2110
NEW YORK AND NEW JERSEY
NEW YORK BIGHT
APPROACHES TO NEW YORK HARBOR
SCALE 1:40 000
SOUNDINGS IN FEET
AT MEAN LOWER LOW WATER
MAY 1988
NOAA SHIP WHITING
CDR. DEAN R. SEIDEL
COMMANDING
40° 26'
40° 26'
40° 24'
40° 24'
73° 52'
73° 50'
73° 48'


OPR - C121 - WH - 88
NEW YORK BIGHT, N.Y. & N.J.
PRESURVEY REVIEW
FE 215 (1975)
H10224 (1986-87)
1634
2110
1586
item search area
project limits (1986-87)
western limits of FE215
GENERAL ANCHORAGE
PRECAUTIONARY AREA
DANGER AREA
DUMP SITE
55'
50'
45'
40° 30'
25'

DESCRIPTIVE REPORT TO ACCOMPANY
HYDROGRAPHIC SURVEY
FE-312 (1988) SS
1988
NOAA SHIP WHITING
CDR Dean R. Seidel
Commanding Officer

A. PROJECT

General

During the 1988 field season, project FE-312 (1988) SS was performed in an effort to resolve the status of three specific Automated Wreck and Obstruction Information System (AWOIS) items within the approaches to New York Harbor. Verification of these obstructions had been requested by the Pilot Associations, masters of vessels using these waters, and other maritime interests in the New York area.

The survey was conducted in accordance with Hydrographic Project Instructions OPR-C121-WH, issued 15 March 1988. Along with instructing the WHITING to resolve all items not completed from the 1987 survey (refer to the addendum to the Descriptive Report to accompany survey H-10224), the Project Instructions also assigned the investigation of AWOIS items 1586, 1634, and 2110. The instructions were amended in 1988 by Change No. 1 dated April 5, 1988 and Change No. 2 dated April 22, 1988. Change No. 1 forwarded the results of the presurvey review for 1988 incorporated as the AWOIS listing dated March 11, 1988. Change No. 2 authorized the WHITING to utilize velocity computation program "VELOCITY" for velocity correction calculations. The survey data acquired for this project affect NOS nautical charts 12326, 12327, and 12300.

Survey of Methods

The investigation of AWOIS items 1586, 1634, and 2110 was accomplished by 200% side scan sonar coverage and basic hydrographic procedures. Radial (Star) developments and 100% echo sounder coverage were run over stray soundings or significant side scan sonar contacts. Diver investigations were performed to identify possible wrecks and obstructions and to determine least depths.

In order to obtain the required 200% side scan sonar coverage the line spacing for both AWOIS item 1634 and 2110 was 50 meters, with the side scan sonar set on the 75, or 100 meter range scale. Area coverage was not attained on AWOIS 1586 since the wreck was located near the previously charted position.

The proximity of AWOIS 1634 near Ambrose Channel and the relatively shoaler depths within the one-mile search radius dictated a conservative approach toward the development of both side scan sonar contacts, and stray echogram soundings. All significant side scan sonar contacts were further investigated with hydrographic developments and/or diver investigations. Spurious stray echo sounder traces were investigated with star patterns after close inspection of the echograms and sonargrams in the vicinity of the peaks.

On the other hand, the deeper depths within the one and one-half mile radius search area for AWOIS 2110 (in excess of 120 feet on the eastern side) allowed for a more liberal approach toward the development of contacts and peaks. Unless the contact under scrutiny did not have the characteristics of the item being sought, only those side scan sonar contacts, or echogram peaks, that rose off the bottom by 10%, or more, of the surrounding depth were further investigated. The justification for this approach was that numerous dumpsites exist within the area which rise off the bottom by only a few feet and do not pose a hazard to navigation. Since the item contained in excess of 300 nautical miles of sounding lines within the search circle a judgement had to be made on what was a significant contact in order to allow for efficient operations.

B. AREA SURVEYED

The project area was located in the New York Bight. AWOIS Item 1586 consisted of a 300 yard circle with its center located at LAT 40° 25' 06.00" N, LONG 073° 45' 12.00" W. AWOIS item 1634 consisted of a one mile radius circle with its center located at LAT 40° 29' 36.00" N, LONG 073° 54' 00.00" W. Item 2110 consisted of a one and one-half mile radius circle with its center located at LAT 40° 24' 36.00" N, LONG 073° 50' 00.00" W.

C. SOUNDING VESSELS

The NOAA Ship WHITING and her two survey launches were used as the sounding vessels for this survey. The vessel numbers and the days that the vessels obtained hydrographic data were as follows:

AWOIS 1586

EDP#	Vessel	Hull No.	Days (1988)
2930	WHITING	S329	131, 132
2931	Launch	1015	None
2932	Launch	1014	150

AWOIS 1634

EDP#	Vessel	Hull No.	Days (1988)
2930	WHITING	S329	None
2931	Launch	1015	122-126, 132, 136-138, 144-145, 149
2932	Launch	1014	123-124, 137-138, 141, 145

AWOIS 2110

EDP#	Vessel	Hull No.	Days (1988)
2930	WHITING	S329	132-134, 139-141, 146-149
2931	Launch	1015	147-150
2932	Launch	1014	132, 134, 140, 145, 149

The launches were standard Jensen twenty-eight foot aluminum survey launches. The only modifications to the launches were the addition of towing davit arms mounted aft in the well deck to support sheaves and a hand winch used for handling the side scan towfish and cable.

Side scan operations were performed by the ship by utilizing the aft crane fitted with a block in which the side scan sonar cable was suspended.

Figure C-1a depicts the Mini-Ranger antenna positions, the transducer positions, and the layback configuration of the side scan sonar towfish for the WHITING. Figure C-1b illustrates the survey characteristics for each survey launch, VESNO (Vessel Number) 2931 and VESNO 2932.

D. SOUNDING EQUIPMENT AND CORRECTION TO ECHO SOUNDINGS

1. SOUNDING EQUIPMENT

Both of the survey launches were equipped with EG&G model 260 dual channel image correcting side scan sonar units. For the investigation of 2110, launch 1014 was also equipped with a Klein model 521T dual channel side scan sonar unit. The WHITING was equipped with a similar Klein model 521T dual channel side scan sonar unit. A listing of the vessel, serial numbers, and days of use follows.

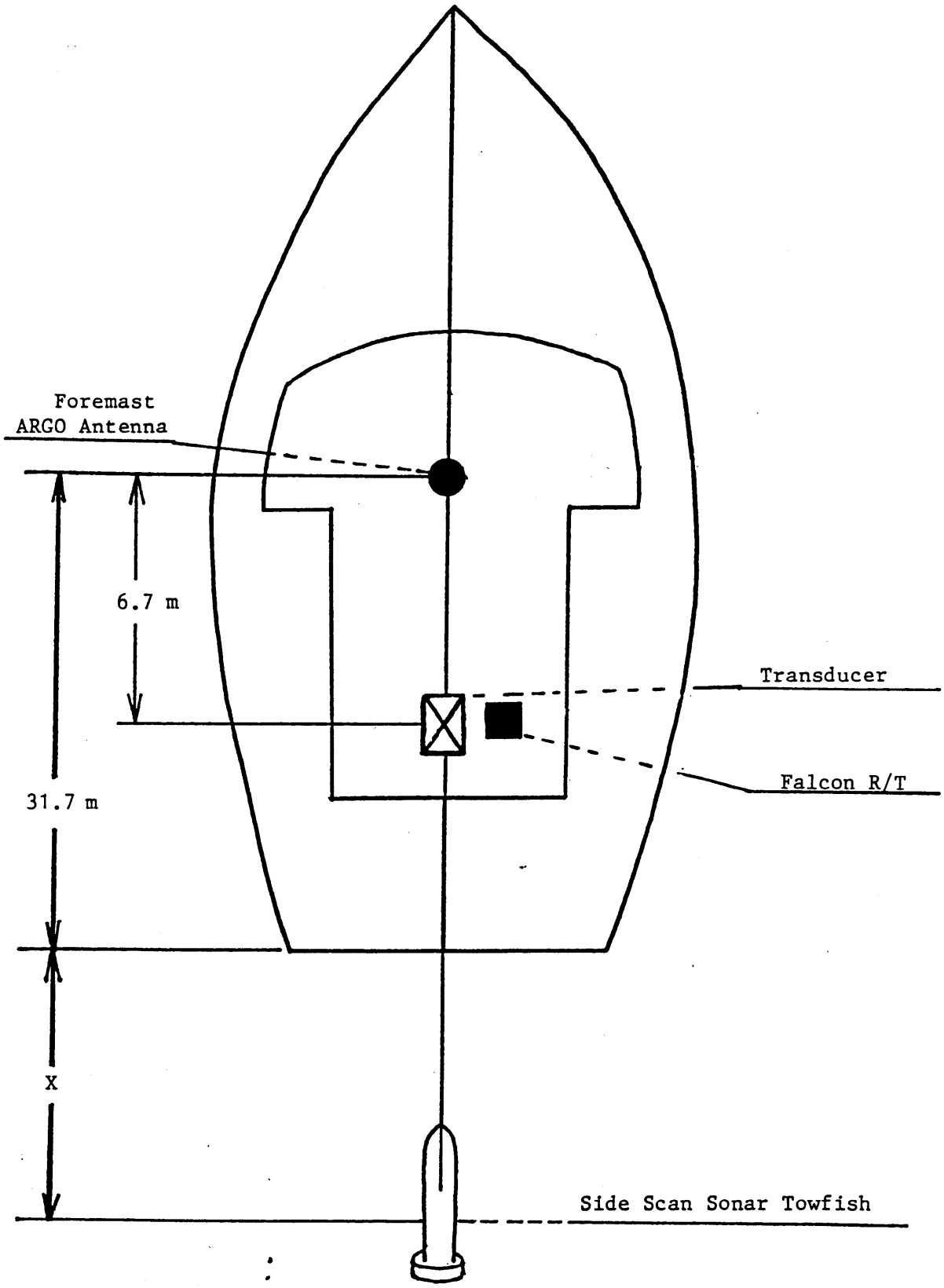


FIGURE C-1a: WHITING Survey Equipment Parameters

ANDIST = 0.0 m
DRAFT = 3.2 m (10 ft.)
LAYBACK= Horizontal distance from Transom to towfish (31.7 + X).

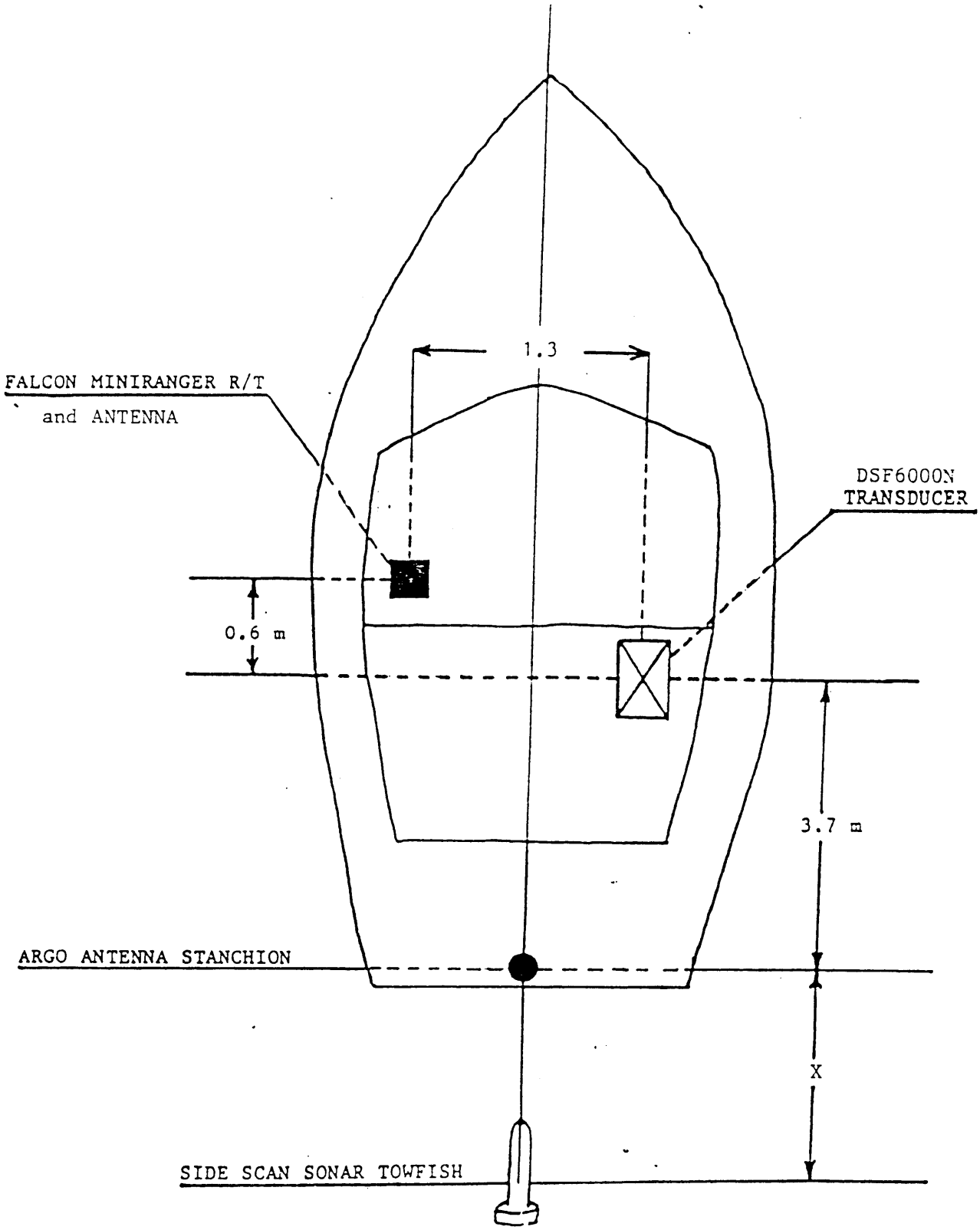


FIGURE C-1b : Launch Survey Equipment Parameters

ANDIST = 0.6 m
DRAFT = 0.5 m (1.7 ft.)
LAYBACK= Horizontal distance from Falcon antenna stanchion to towfish. (4.3 + X)

AWOIS 1586

EDP#	Vessel	Type	S/N	Days (1986)
2930	S329 WHITING	Klein Recorder 521T	223	132
		Towfish	417M	132
2931	Launch 1015	EG&G Recorder 260	61394	None
		Towfish	11908	None
2932	Launch 1014	EG&G Recorder 260	61395	None
		Towfish	11901	None

AWOIS 1634

EDP#	Vessel	Type	S/N	Days (1986)
2930	S329 WHITING	Klein Recorder 521T	223	None
		Towfish	417M	None
2931	Launch 1015	EG&G Recorder 260	61394	122-126, 132, 137-138, 144, 145
		Towfish	11908	122-126, 132, 137-138, 144, 145
2932	Launch 1014	EG&G Recorder 260	61395	None
		Towfish	11901	None

AWOIS 2110

EDP#	Vessel	Type	S/N	Days (1986)
2930	S329 WHITING	Klein Recorder 521T	223	132-134, 139-141, 146-149
		Towfish	417M	132-134, 139-141 146-149
2931	Launch 1015	EG&G Recorder 260	61394	None
		Towfish	11908	None
2932	Launch 1014	Klein Recorder 521T	61490	132, 148-149
		Towfish	349M	132, 148-149
		EG&G	61395	None
		Recorder 260	11901	None

The Klein side scan sonar units were modified at the Klein factory to include the "Klein Hands-Off-Tuning II" microprocessor controlled automatic digital tuning system. Processing of the EG&G sonargrams was accomplished by manual computations. The Klein sonargrams were processed with the aid of the Instant Target Analysis Computer (InTAC) computer system. A discussion of these special items and of the side scan sonar operations conducted during the survey is included in the Side Scan Sonar Report as* Supplemental 9A to this report.

Raytheon DSF 6000N echo sounders were the sounding equipment used during the survey. The following is a list of vessels, serial numbers, and days of use.

* filed with original field records

AWOIS 1586

EDP#	Vessel	Type	S/N	Days (1988)
2930	WHITING S329	DSF 6000N	B042N	131-132
			B054N	None
2931	Launch 1015	DSF 6000N	A122N	None
2932	Launch 1014	DSF 6000N	B051N	150

AWOIS 1634

EDP#	Vessel	Type	S/N	Days (1988)
2930	WHITING S329	DSF 6000N	B042N	None
			B054N	None
2931	Launch 1015	DSF 6000N	A122N	122-126, 132, 136-138, 144, 145, 149
2932	Launch 1014	DSF 6000N	B051N	123-124, 137-138, 141, 145

AWOIS 2110

EDP#	Vessel	Type	S/N	Days (1988)
2930	WHITING S329	DSF 6000N	B042N	132-134, 139, 146-149
			B054N	139-141, 146
2931	Launch 1015	DSF 6000N	A122N	147-150
2932	Launch 1014	DSF 6000N	B051N	132, 140, 145, 148-149

In accordance with the Project Instructions, section 7.5.2, the depths recorded with the DSF 6000N echo sounders were measured in feet with a calibrated velocity of sound through water of 1463.04 m/s.

Survey records were scanned by NOAA Commissioned Officers and Survey Technicians. Upon scanning the DSF 6000N analog records, any significant peaks or deeps which occurred between soundings, as well as any missed depths on the records, were inserted on the corrector tapes, and any incorrectly digitized soundings were corrected. The effect of sea and swell action on the echograms were also corrected.

Any spurious traces or low frequency spikes noted during echogram scanning were recorded in a "Stray Soundings Log" (included as Supplemental 6A)* The entries in the Stray Soundings Log were reevaluated by the Field Operations Officer and Chief Survey Technician. The soundings were then classified by one of the following notations:

1. Fish - Usually a high and/or low frequency echo separated from the bottom.

2. Nothing - Usually "noise" on the echogram.

3. Recorded - The "stray" sounding depth had been properly interpreted and recorded at the regular scanning interval by the scanning personnel.

4. Inserted - The "stray" sounding depth had been properly interpreted and recorded in between the sounding intervals by the scanning personnel.

5. Develop - The stray sounding required further investigation as any doubt concerning the nature of a stray sounding resulted in a decision to further develop the stray.

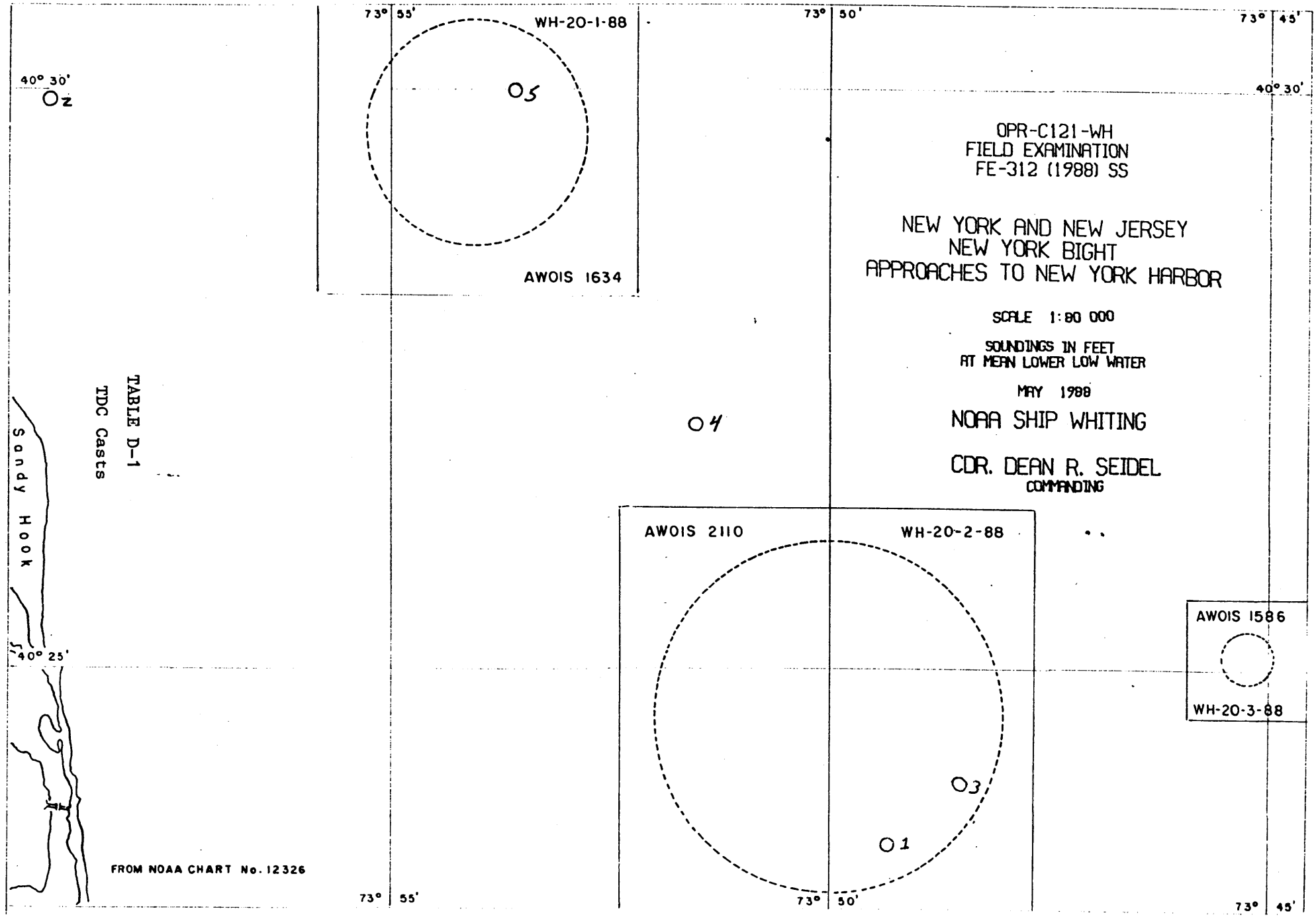
2. VELOCITY CORRECTIONS

Corrections for sound velocity in water were calculated from data obtained from a Martek Mark VII TDC module and sensor assembly, s/n 101.

During the 1988 project period, five TDC casts were completed. Bar checks as deep as 30 feet were conducted as a check on echo sounding equipment and were not used for comparison with the velocity corrector tables. Figure D-1 shows the locations and days of the TDC casts. The casts are abstracted in Supplemental 3B* to this report.

The TDC casts were obtained from the WHITING. No TDC casts were performed by the launches. The velocity cast occupying Oceanographic Stations #1 and #3 were the deepest casts obtained and were each completed to a depth of 112 feet which encompassed all depths encountered throughout the project areas. An abstract of velocity casts outlining cast depths, location, date, and time follows.

*filed with the original field records


73° 55'
WH-20-1-88
40° 30'
02
05
AWOIS 1634
73° 50'
73° 45'
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SCALE 1:80 000
SOUNDINGS IN FEET
AT MEAN LOWER LOW WATER
MAY 1988
NOAA SHIP WHITING
CDR. DEAN R. SEIDEL
COMMANDING
TABLE D-1
TDC Casts
04
AWOIS 2110
WH-20-2-88
AWOIS 1586
WH-20-3-88
Sandy Hook
40° 25'
03
01
FROM NOAA CHART No. 12326
73° 55'
73° 50'
73° 45'

Oceo Sta	Cast	Day	Depth	Time (UTC)	Location
1	TDC 1	127	112 ft	1330	40/23/30 N 073/49/00 W
2	TDC 2	127	40 ft	1545	40/30/00 N 073/59/00 W
3	TDC 3	145	112 ft	1400	40/24/18 N 073/48/36 W
4	TDC 4	145	80 ft	1510	40/27/12 N 073/51/36 W
5	TDC 5	145	33 ft	1610	40/29/54 N 073/53/24 N

Velocity corrections to soundings for each of the sounding vessels were computed from the TDC data assuming drafts of 1.7 feet for each of the survey launches and 10.5 feet for the ship. The corrections apply to both the high and low frequency soundings recorded by the DSF 6000N echo sounder. To obtain sound velocity correctors, the RK530 and IBM PC VELTAB programs were utilized.

Program RK530, Velocity Computations, was used to calculate the velocity of sound in water from the Martek cast data. To obtain sound velocities for each cast, surface temperature, surface salinity, depths, temperatures, and conductivities were the entering arguments to the RK530 program. RK530 then computed each depths' corresponding salinity and sound velocity. To compute velocity correctors, the velocities obtained from RK530 were entered into the IBM PC VELTAB program which used an assumed calibrated sound velocity in water of 1463.04 m/s.

In addition to programs RK530 and VELTAB, program "VELOCITY" was also utilized for velocity calculations. Change #2 to the project instructions dated April 22, 1988, authorized the WHITING to assist in testing this new velocity computation program. The WHITING was required to make at least five comparisons between the WHITING's current method (RK530 and VELTAB computations) and the new program. If no significant differences were observed, then the WHITING was given permission to use the new program for the remainder of the project (refer to report "EVALUATION OF PROGRAM 'VELOCITY'", submitted to N/CG24-CDR Russell Arnold, dated 02 June 1988).

Program "VELOCITY" was found to be devoid of any significant differences and was incorporated in all velocity computations. Supplemental 3 contains sound velocities and velocity corrections computed by both programs RK530 and VELTAB as well as by program "VELOCITY".

The velocity casts were conducted during different stages of tidal current and done in such a manner that the characteristics of each work area could be observed. One of the TDC casts was performed at flood tide, one at slack before flood, one at slack before ebb, and two at ebb tide. The casts were performed at the location of each AWOIS item in order to determine if the different locations possessed different velocity characteristics.

After all velocity cast data were compiled and velocities and velocity correctors computed, graphs of correctors from each cast were analyzed. On each particular day in which casts were performed, no significant shift was observed between casts, regardless of the stage of tide or the location of the casts. Therefore, the velocities computed from the individual casts were meaned so that for each day in which casts were performed, one velocity curve which represented the sounding characteristics of all of the project areas for that day was constructed. Correct

When the correctors obtained from each day were graphed as a function of day number, a shift in excess of one foot was observed between days 127 and 145. A seven degree increase in the surface water temperature between these two days is the most probable cause of the shift. Velocity tables were constructed in order to correct for this shift and were based on the following criteria:

1) the amount of the change
2) the days in which hydrographic data were collected between the days of the casts
3) any sudden change in surface water temperature which might indicate a warming trend within the water column

Based on this criteria, Velocity Tables 1 - 6 (three for the survey launches and three for the ship) were constructed to account for the changes in the water column. Tables 1, 3, and 5 were applied to data collected by both of the survey launches, while tables 2, 4, and 6 were applied to data collected by the ship. These velocity tables were applied to echo soundings during field processing of this survey as required by the Project Instructions, section 6.6.1. The velocity tables are included in Separate D* for reference. All velocity computations, data and serial numbers are included in Supplemental 3B* to this report.

Since sounding operations were conducted from the ship, velocity tables were constructed for the ship as well as the launches. Tables 1, 3, and 5 were applied to the data collected by both of the survey launches. Tables 2, 4, and 6 were applied to the sounding obtained by the ship.

3. BAR CHECKS

In accordance with the Raytheon DSF 6000N Echo-Sounder Operating and Processing Instructions (dated June 1983), a 20, 25, and 30 foot bar check was conducted daily whenever sea conditions

* filed with the original field records

permitted. Echo simulator checks were conducted prior to operation each day by the electronics department as part of routine equipment maintenance.

The DSF6000N Instructions also require low and high frequency depths to the bar during bar checks to compare within one-tenth of a sounding unit. Since this requirement is difficult to maintain when sounding in feet in swells of one foot or more, an excessive amount of operational time was expended during bar checks. The Command decided that narrow and wide beam comparisons within one-tenth of a foot would not be required for the purpose of this survey. However, sounding correctors generated from the bar check records were to be continued to be based on the high frequency narrow beam bar depths. If any low frequency wide beam soundings were to be selected for plotting, the average depth difference observed between the narrow and wide beam depths during the bar check were applied as a corrector to the wide beam depths. The bar checks continued to be taken without using excessive gain levels. If the difference between the two beams were greater that one-half of a foot, the echo sounder was checked with an echo simulator. Daily echo simulator checks were performed so that the narrow and wide beam returns compared within one-tenth of a foot. A letter reflecting this deviation from the provisional instructions was forwarded to N/MOA23-William Wert by the command on April 18, 1988, and is included in Supplemental 2,* "Correspondence".

4. VERTICAL CASTS

Shipboard echo sounder/leadline comparisons were conducted on Day 138 (17 May, 1988), while the ship was at anchor off Sandy Hook, NJ.

Leadlines were read on the port and starboard rails simultaneously. The series of leadline soundings were obtained at the rail on each side of the ship while the analog readings from the DSF-6000N echo sounder (s/n B042N) were recorded concurrently with each sounding. Soundings were coordinated via hand held radios and simultaneous between the plot room (echo sounder location) and the port and starboard rails. Readings for the rail to waterline distance were also taken. The port and starboard measurements for both the rail to bottom and rail to waterline were averaged. The analog depth was then obtained from the echo sounder and corrected by means of applying the appropriate velocity corrector for that depth. Subtracting the corrected analog depth and rail to waterline distance from the rail to bottom distance yields the vessel's draft plus instrument error.

On day 138, the leadlines were read at the mark on the starboard rail and directly opposite the mark on the port rail to account for any roll the ship may have had at the time of measurement. Ten measurements were obtained and averaged: from this average, a draft value of 10.6 feet was obtained, which agrees with

* filed with the original field records

the historical data for the WHITING. All vertical cast data is included in Supplemental 3D.

5. DRAFT CORRECTION

The transducer draft of the launches was 1.7 feet. The dynamic draft transducer corrections (static draft plus correction for settlement and squat) of the launches are included in the Abstract of Corrections to Echo Soundings in Separate D* and on the TC/TI tapes. The transducer depth of the WHITING was found to be 10.6 feet as explained in the preceding section.

6. SETTLEMENT AND SQUAT

On Day 105 settlement and squat measurements were conducted for both launches. However, measurements were not obtainable below 800 RPM for launch 1014 due to high engine idle speed. Shortly after Day 105, the idle speed for launch 1014 was reduced to 650 RPM. On Day 130, additional measurements were conducted on launch 1014 down to 650 RPM.

Settlement and squat correctors for the WHITING (VESNO 2930) were obtained from historical data determined on 04 April 1985 at Puerto Castilla, Honduras (OPR-303-MI/WH-85). A 0.0 foot corrector was determined for all engine speeds between all ahead "2's" and all ahead "5's". All data was collected by the ship at speeds between all ahead "2's" and all ahead "4's". This historical Settlement and squat data was applied to all soundings obtained by VESNO 2930. Historical data is included in Supplemental 3.*

7. TIDE CORRECTORS

Predicted tide correctors were applied on-line to all soundings that were collected with the DSF 6000N, except as noted in the Field Tide Note, Separate B.* All echo sounding data plotted on the final field sheet were plotted with predicted tide correctors.

The predicted tides were calculated based on Sandy Hook, New Jersey as the reference station. The time and height correctors were given in the Project Instructions, section 5.9, for the project area (a -30 minute time correction, and a 0.94 range ratio).

The control station for the survey was the operating primary tide station at Sandy Hook, New Jersey (853-1680). No secondary tide stations were established.

The predicted tide tapes used on-line and during field processing with the Hydroplot system were generated from program AM500, "Predicted Tide Generator".

* filed with the original field records

Smooth tides were requested from Chief, Sea and Lake Levels Branch, N/OMA12, in a letter dated July 15, 1988. A copy of the letter is included in Separate B.* The Field Tide Note is included in Separate B.* *filed with the original field records*

E. HYDROGRAPHIC SHEETS *(Field)*

The assigned survey scale was 1:20,000 , however a 1:10,000 plotting scale was used for the field sheets, rough plots, side scan sonar contact plots, semi-smooth, smooth, and master overlay sheets. All sheets were produced on board the WHITING with the PDP 8/E computer and Hydroplot plotter system. A list of all submitted sheets for each AWOIS item follows.

AWOIS 1586

Sheet	Scale	Quantity
Field	1:10,000	2
Rough Plot	1:10,000	1
Dev. Rough	1: 2,500	1
Smooth	1:10,000	1
	total	5

AWOIS 1634

Sheet	Scale	Quantity
Field	1:10,000	2
Master Overlay	1:10,000	1
SSS Plot	1:10,000	1
SSS Plot	1: 5,000	2
Rough	1:10,000	2
Dev. Plot	1:10,000	1
Dev. Rough	1: 5,000	4
Dev. Rough	1: 1,250	2
Smooth Plot	1:10,000	2
	total	17

AWOIS 2110

Sheet	Scale	North	South	East	West
Field	1:10,000			3	3
Rough	1:10,000			1	1
Dev. Rough Dump	1: 2,500			1	
Dev. Rough	1:10,000			1	1
SSS Plot	1:10,000			1	1
Master Overlay	1:10,000	1	1		
Semi-Smooth Dump	1: 2,500			1	1
Smooth	1:10,000			1	1
	total	1	1	7	6

Parameter tape printouts for all plotted sheets are included in Separate A. All field records and tapes will be forwarded to the Atlantic Marine Center, Hydrographic Surveys Branch for smooth plotting and verification.

F. CONTROL STATIONS *See section 2. of the Evaluation Report.*

The horizontal control datum for this project was the North American Datum of 1927. The following stations were used as Falcon Mini-Ranger shore stations during this survey.

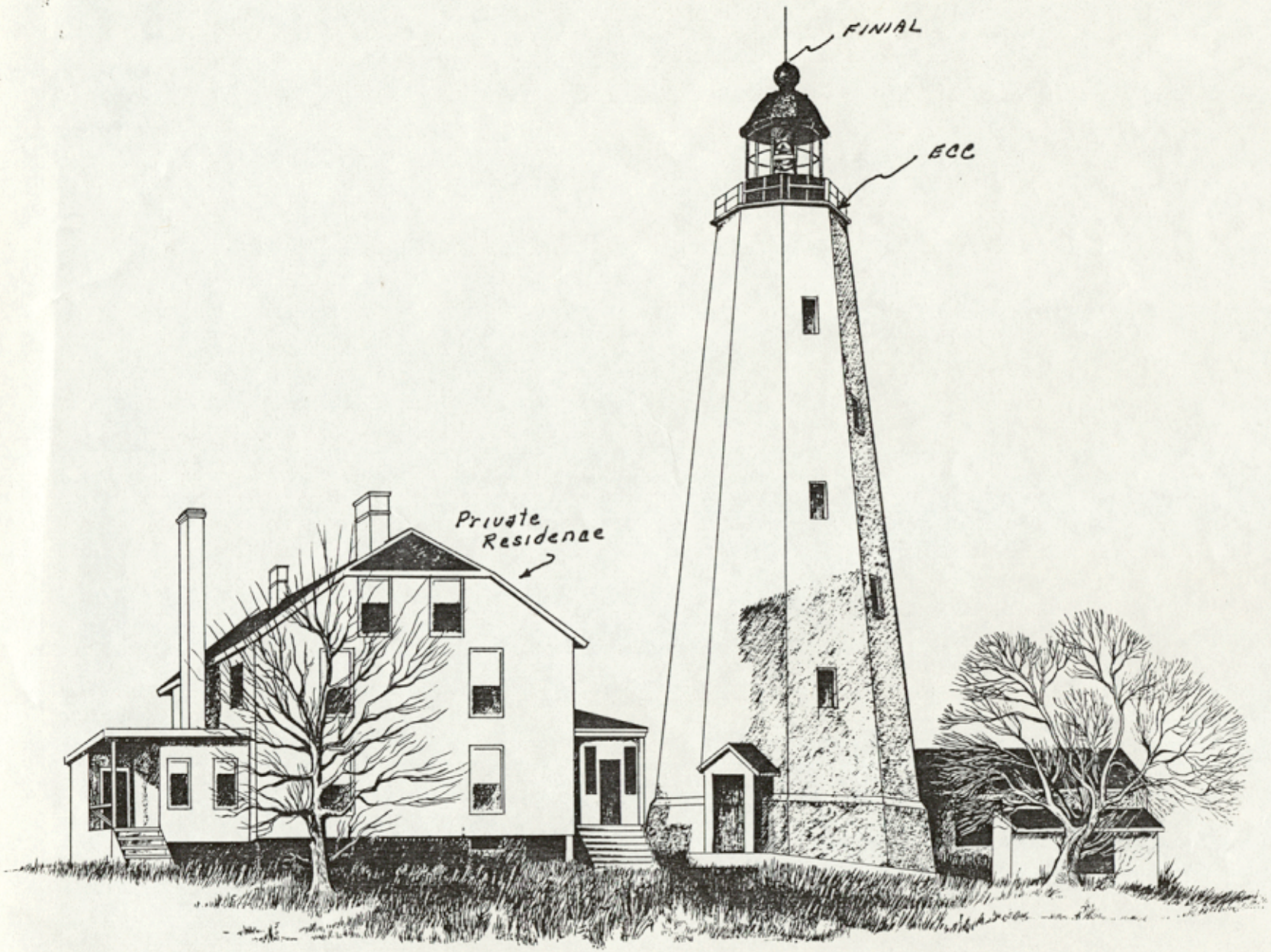
Signal No.	Name	Source	Year Est.
001	SANDY HOOK LIGHTHOUSE (ECC) (See drawing attached)	AMC	1986
002	TILDEN B410 1962 NO. 1	WHITING	1986
003	HOOK	AMC	1986
004	ROSARIO	AMC	1986

Ambrose Light Tower was used for critical system checks on VESNO's 2931 and 2932. For more information concerning the recovery of the geodetic stations used, refer to the Horizontal Control Report which can be found within Supplemental 3* to the Descriptive Report accompanying project C121-WH-86, H-10224, 1987.

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

Hydrographic position control was accomplished using the Mini-Ranger Falcon 484 system which provided accuracy adequate to exceed 1:20,000 scale survey requirements. Only range/range

** Filed with the original field records*



The Lighthouse at Sandy Hook

S IDY HOOK LIGHTHOUSE FINIAL

positioning was used during this project. The following MOTOROLA Mini-Ranger equipment was used:

AWOIS 1586

VESNO	Equipment	S/N	Day
2930	RPU*	E0138	131-132
	CDU	F0201	
	R/T	E2965	
2931	RPU	F0246	None
	CDU	D0061	
	R/T	E2960	
2932	RPU	F0259	150
	CDU	F0188	
	R/T	E2966	

AWOIS 1634

VESNO	Equipment	S/N	Day
2930	RPU	E0138	None
	CDU	F0201	
	R/T	E2965	
2931	RPU	F0246	122-126, 132,
	CDU	D0061	136-138, 144,
	R/T	E2960	145, 149
2932	RPU	F0259	123-124, 137,
	CDU	F0188	138, 141, 145
	R/T	E2966	

AWOIS 2110

VESNO	Equipment	S/N	Day
2930	RPU	E0138	132-134, 139-141,
	CDU	F0201	146-149
	R/T	E2965	
2931	RPU	F0246	147-150
	CDU	D0061	
	R/T	E2960	
2932	RPU	F0259	132, 134, 140
	CDU	F0188	145, 148-149
	R/T	E2966	

* RPU - Range Processing Unit
CDU - Control Display Unit
R/T - Receiver/Transmitter

Remote Reference Stations:

AWOIS 1586		AWOIS 1634		AWOIS 2110	
Code	S/N	Code	S/N	Code	S/N
2	E2959	2	E2959	2	E2959
4	G3571	4	G3571	4	G3571
7	C2059	5	E2976	7	C2059
10	F3241	6	F3290	10	F3241
		7	C2059		
		10	F3241		

Mini-Ranger Falcon Calibration

Baseline calibrations were performed to the standards of the draft AMC OPORDER 86 (Falcon 484 Calibration Procedures and Standard Forms). All records of these calibrations are included with the survey records in Supplemental 4A. For code 5 and code 6, opening baseline calibrations were performed on 14 April at Sandy Hook, New Jersey. Closing calibrations for codes 5 and 6 were performed on 8, 9 May at Sandy Hook, New Jersey. For the remaining codes used for the survey, opening baseline calibrations were performed on 8, 9 May at Sandy Hook, New Jersey. Closing baseline calibrations were performed on 30 May at Sandy Hook, New Jersey.

Several codes were calibrated while in New York as spare remote units. None of these units were used for positioning control for the investigation of these AWOIS items and therefore calibration data for those units are not included with the records. The codes calibrated but not used were code 3, code 8, and code 9.

A comparison of the Falcon correctors obtained from the opening and closing baseline calibrations are as follows:

RPU/R/T		Baseline Correctors			
Unit	Code	14 April	8,9, May	30 May	Difference
RPU E0138	Code 2	Not Used	-9.3 m	-9.6 m	0.3 m
R/T E2965	Code 4	Not Used	+7.5 m	+8.3 m	0.8 m
	Code 5	-3.2 m	-3.8 m	Not used	0.6 m
	Code 6	-5.1 m	-4.9 m	Not used	0.2 m
	Code 7	Not Used	-4.0 m	-5.2 m	1.2 m
	Code 10	Not Used	-1.7 m	-1.1 m	0.6 m
RPU F0259	Code 2	Not Used	-14.8 m	-15.6 m	0.8 m
R/T E2966	Code 4	Not Used	+2.2 m	+2.9 m	0.7 m
	Code 5	-7.9 m	-8.9 m	Not used	1.0 m
	Code 6	-9.2 m	-8.6 m	Not used	0.6 m
	Code 7	Not Used	-7.4 m	-9.5 m	2.2 m
	Code 10	Not Used	-3.0 m	-4.5 m	1.5 m

RPU F0241	Code 2	Not Used	-5.0 m	Not used	N/A
R/T E2967	Code 4	Not Used	+11.4 m	Not used	N/A
	Code 5	+1.4 m	+0.3 m	Not used	1.1 m
	Code 6	+1.2 m	-0.4 m	Not used	0.8 m
	Code 7	Not Used	+0.5 m	Not used	N/A
	Code 10	Not Used	+3.0 m	Not used	N/A
RPU F0246	Code 2	Not Used	-13.0 m	-13.8 m	2.0 m
R/T E2960	Code 4	Not Used	+5.6 m	+6.8 m	2.3 m
	Code 5	-7.4 m	-9.1 m	Not used	1.7 m
	Code 6	-10.6 m	-9.9 m	Not used	0.7 m
	Code 7	Not Used	-8.6 m	-10.3 m	1.7 m
	Code 10	Not Used	-6.0 m	-6.9 m	0.9 m

The greatest difference between the corrector values measured over the two baselines was 2.3 meters; the mean difference was 1.1 meters. The two baseline calibrations were therefore in good agreement in accordance with the AMC OPORDER 86, Section 3, Table I, which specifies 10 meters as the rejection limit for a 1:20,000 scale survey. The averaged baseline correctors were applied to the final smooth sheets.

DAILY SYSTEM CHECKS

Critical and noncritical daily system checks were performed according to the guidelines of AMC OPORDER 86. Critical checks were made using a fixed point critical check at the Ambrose Light tower. Original data for these system checks are included in Supplemental 4.*

Baseline correctors were applied to the Hydroplot system rather than input into the Mini-Ranger CDU during on-line operations. This allows the mean of beginning and ending correctors to be applied to the corrector tapes, and gives a Hydroplot system record of the correctors. Since a noncritical least squares system check requires that the baseline correctors be in the Mini-Ranger CDU, for least squares checks, the correctors were input into the Mini-Ranger and then removed prior to resuming hydro.

The difference between critical or noncritical system checks and baseline correctors was within the allowable 10 meter rejection limit for a 1:20,000 scale survey. Generally, the DELTA value for the critical system checks was less than 5 meters with the following exceptions.

* Filed with the original field records

VESNO 2930		VESNO 2931		VESNO 2932	
Day	Delta/Code	Day	Delta/Code	Day	Delta/Code
None		124	7.5/6	124	7.2/6
				132	6.3/7

Daily system checks confirmed the baseline correctors and insured that the Mini-Ranger equipment was operating properly. Abstracts of the Daily Systems Checks are included in Separate E to this report.

*Tables G-2, G-3, and G-4 show the daily system check values obtained by each vessel. The symbol "D" in the table indicates that a critical check was performed, and the value shown is DELTA, the absolute value of the difference between the system check corrector and the baseline corrector. Since the Mini-Ranger baseline correctors were not entered in the CDU unit, DELTA values were derived by taking the arithmetic difference of the observed range reading and the true range and then applying the baseline corrector. The arithmetic value of DELTA was within the acceptable limits as per OPORDER 86. *filed with "Separate E" with the original field records

The symbol "R" in the tables indicates the residual values from noncritical least squares checks, using three or four ranges from the Falcon Mini-Ranger reference stations. The geometric strength of the fix is reflected by the ECR (error circle radius). The SSR (sum of the squares of the residuals) is a check on the accuracy of the three or four ranges compared to each other. The least squares method of checking three to four ranges simultaneously is similar in theory to the Three Range Method described in AMC OPORDER 86, Separate S; Mini-Ranger Checking Procedures. Both methods use mathematical computations to derive the deviation from the mean of the fix. In the case of least squares this value is represented by the residual and must satisfy the minimum requirements of Table 1 in AMC OPORDER 86, which specifies 10 meters as the rejection limit for a 1:20,000 scale survey. The Falcon 484 computes ECR, SSR, and R internally. No computations using Hydroplot were needed. During least squares system checks, the baseline correctors were in the CDU and the plane range output mode was selected.

Daily systems checks (critical or noncritical) were performed on all days of operations with the following exceptions:

VESNO 2930 - DAYS 132, 139

VESNO 2931 - DAY 144

VESNO 2932 - DAYS 134, 140, 149

According to AMC OPORDER 86, critical checks are recommended weekly. Ambrose Light Tower was used for fixed point calibrations and its use was limited by sea and weather conditions. A fixed

point calibration was obtained by positioning the Mini-Ranger antenna of the launch directly under the Ambrose antenna located on the southeast corner of the Ambrose Light Tower station. Figure G-1 shows the positioning of the launch during fixed point calibration checks. The Mini-Ranger system on board the WHITING was calibrated by transferring the RPU, CDU, and R/T antenna to a survey launch and then conducting the fixed point calibration at Ambrose Light.

Since the Mini-Ranger baseline correctors were not entered in the CDU unit, DELTA values were derived by taking the arithmetic difference of the observed range reading and the true range and then applying the baseline corrector.

The most common problem encountered with the Falcon positioning system during the project was with shipping traffic obstructing the line of sight reception of Mini-Ranger signals. Low signal strength was noted on several days apparently due to ship traffic or antenna line of sight interference onboard WHITING.

During Falcon baseline calibrations, a nominal value of 15 was recorded as the minimum signal strength for acceptable operation. Although the attenuator was set at signal strength 15, the actual signal strengths during calibrations fluctuated in the 14-16 range. Therefore during survey operations, a 14 was accepted as meeting the minimum signal strength requirements. Signal strengths below 14 were not acceptable.

System halts produced from the Hydroplot system were a frequent problem encountered during the field season. The system halts were due to loose and worn circuit boards in the Hydroplot Controller and PDP/8e computer. These problems were resolved by opening the covers to the computers and reseating the circuit boards. All system halts are displayed on the raw master printouts.

Positions acquired with low signal strengths were rejected and rerun if more than three consecutive soundings had less than acceptable signal strengths. When three or less soundings with unacceptable signal strengths occurred sequentially, they were plotted on time and course (T&C).

H. SHORELINE *See section 2. of the Evaluation Report*

No shoreline lies within the project boundaries or field sheet boundaries. Therefore, delineation of shoreline detail was not applicable to this survey. *Concur*

I. CROSSLINES *See section 3. of the Evaluation Report.*

AWOIS 1586

No crosslines were run for AWOIS 1586. The investigation of item 1586 consisted only of dive investigations and involved very little mainscheme coverage.

AWOIS 1634

A total of 5.0 nautical miles of crosslines were run for item 1634 and amounted to approximately 5.4% of the main scheme performed. Since the main scheme sounding lines were intensified to 50-meter line spacing in order to acquire 200% side scan sonar coverage for the entire survey, the percentage of crosslines did not fully conform to the 8-10% requirement. Two of the crosslines (1.7 nm each) were run North-South, 90 degrees to the East-West main scheme lines and were spaced 1000 meters apart. The remainder of the crosslines consisted of three Northwest-Southeast lines spaced 325 meters apart which also functioned as the channel lines for Ambrose Channel. These channel lines junctioned to the south east with the channel lines run as part of H-10224 in 1987.

Crossline soundings, as plotted on the field sheets, agreed very well, and are within two feet when compared to the main scheme soundings. This complies within the allowable discrepancies as stated in the Hydrographic Manual, section 4.6.1.

AWOIS 2110

For item 2110, a total of 15.5 nautical miles of crosslines were run at 1000-meter spacing to conform with 1:10,000 scale survey requirements. The total miles of crosslines run amount to approximately 4.8% of the main scheme performed. Again, since the main scheme sounding lines were intensified to 50-meter line spacing in order to acquire 200% side scan sonar coverage for the entire survey, the percentage of crosslines did not fully conform to the 8-10% requirement. The crosslines were run East-West, 90 degrees to the North-South main scheme lines. While the majority of the mainscheme was conducted from the ship, the crosslines were run by the launches and agreed with the mainscheme hydrography within two feet as required.

J. JUNCTIONS See Section 5. of the Evaluation Report.

AWOIS 1586

No junctions existed within the survey area for item 1586.

AWOIS 1634

AWOIS item 1634 junctioned with survey H-10224 (1:20,000 scale, performed in 1986, 1987) to the south and wire drag survey FE-215 (1:20,000 scale, performed in 1975) to the east. All soundings junctioning with the sheet limits of H-10224 as well as the channel lines of both surveys agreed within two feet.

Junctioning with wire drag survey FE-215 was in excellent agreement as well. The effective depth of the wire drag and the soundings of the investigation of item 1634 ~~agreed within three feet~~ SHOW NO CONFLICT. A junction cannot be effected with a wire drag survey

The hydrographer recommends that in common areas the soundings obtained from the investigation of item 1634 be utilized to update the hydrography in this area. Concur

AWOIS 2110

AWOIS item 2110 junctioned with survey H-10224 (1:20,000 scale, performed in 1986, 1987) to the north. All soundings junctioning with the sheet limits of H-10224 agreed within two feet.

The hydrographer recommends that in common areas the soundings obtained from the investigation of item 2110 be utilized to update the hydrography in this area. Concur

K. COMPARISON WITH PRIOR SURVEYS See Section 6. of the Evaluation Report

AWOIS 1586

BACKGROUND

Item 1586 was reported to be a large wreck (MOHAWK) in Notice to Mariners 8, 1942. Wire drag survey FE101/51WD found a wreck on sonar in LAT 40° 25' 06.00" N, LONG 073° 45' 12" W with a 71 foot sounding in 92 foot depths. A wire drag ~~hung at~~ cleared by 66 feet.

On May 2, 1988, the Field Operations Officer, LT Samuel De Bow paid a visit to the American Littoral Society, located on Sandy Hook, NJ., to obtain information about the assigned AWOIS items. He

made contact with Mr. Gene Geer (Home: 201-264-3129) of the Society who is an avid diver on the wrecks in the area. Upon checking his records Mr. Geer reported that the wreck is located at LORAN C rates 26867.8 and 43670.7. He stated that the wreck is of the U.S. Revenue Cutter "MOHAWK", a wooden hull vessel, built in 1904, 980 tons, with dimensions of 200 foot length, 32 foot beam, and 11 foot draft. The vessel reportedly sunk in 1917.

Further background information (enclosed) obtained by LT De Bow from the Eldridge Collection at the Newport News Mariners Museum Library found that the vessel was built by the William R. Trigg Company in Richmond, VA and launched on March 25, 1902. She was 205.6 feet overall, 32 foot beam, and 12.7 foot draft. Her displacement was 1150 tons. She had 4 Scotch boilers and a maximum speed of 17 knots. The "Dictionary of American Fighting Ships" stated that the "MOHAWK" was temporarily transferred to the Navy on April 6, 1917. While serving on coastal duty in connection with convoy operations, she was struck by an unknown merchant vessel, and sank October 1, 1917 off Sandy Hook, NJ. All hands were saved but the water was deemed too deep to warrant salvage operations. A copy of an 8 X 10 photograph of the vessel is enclosed.

HYDROGRAPHY

The item was found on the first pass over the LORAN rates supplied by Mr. Geer. There was very little hydrography acquired to compare with the prior survey in the area.

SURVEY FINDINGS AND RECOMMENDATIONS

Item #	Position	Corrected ** Least Depth (ft)	Recommendations
AWOIS 1586	Charted: 40/25/06.00 N 073/45/12.00 W	66	Divers found a large metal and wooden vessel. Should be charted as a wreck over which depth is known. Concur See also Section 6.6.2 of the Evaluation Report
	Observed: 40°25'01.18" N 073/45/10.99 W	78.8	

** Least depth on wreck corrected for predicted tides and pneumatic gauge correction. smooth tides have been applied.

AWOIS 1634

BACKGROUND

AWOIS 1634 was reported in Local Notice to Mariners 51, 1973 as being a 44 foot fishing vessel reported sunk in 35 feet of water at

Approximate Position LAT 40° 29' 36.00" N, LONG 073° 54' 00.00" W. No other information was supplied about the item.

HYDROGRAPHY

The only other prior hydrographic survey conducted in this area was survey H-5735, performed in 1934. The most significant discrepancy noticed was within Ambrose Channel. The charted controlling depth within the channel now is 45 feet instead of 40 feet. The only other discrepancy between the prior survey and the work performed this year was that the 30 foot shoal discovered in 1934 at LAT 40° 30 ' 10" N, LONG 073° 54' 12" W no longer exists. The soundings in this area now are all 32 feet or greater. All other comparisons between survey H-5735 and the investigation of item 1634 performed this year agreed within two feet.

SURVEY FINDINGS AND RECOMMENDATIONS

The modified one mile search area was investigated with 200% side scan sonar coverage and basic hydrography at 50 meter line spacing. The assigned item was never positively identified on the sonargrams but a number of other obstructions were found in the search area. The hydrographer recommends the wreck symbol for the item be removed. For a more detailed description of each item found, refer to Supplemental 7, AWOIS Item Investigation Report. The following is a list of the items found that should be charted.

POS. #	Surveyed Position	Corrected * Least Depth (ft)	Recommendations
20.3P	40/30/14.80 N 073/53/59.42 W	29.4	Found to be large pile of rocks and debris. Chart as an obstruction ~~over which depth is known.~~ with a least depth of 29 feet. (29 obstr)
69.3S	40/30/10.25 N 073/54/01.91 W	~~33.0~~ 32.0	Should be charted as a ~~33.0~~ 32.0 ft sounding. Concur.
252.8P	40/29/41.72 N 073/54/13.01 W	~~34.1~~ 33.0	Should be charted as a ~~34.1~~ 33.0 ft sounding. Concur.
330.1S	40/29/31.40 N 073/54/20.45 W	39.6	Divers found a portion of a wreck. Chart as ~~a~~ wreckAGE over which depth is known. See section 7.a.1) of the Evaluation Report.
355.3P**	40/29/29.91 N 073/55/15.66 W	~~50.1~~ 49.0	Divers found portion of fiberglass wreck in Ambrose Channel. Chart as a ~~50.1~~ 49.0 ft sounding, on a dangerous sunken wreck (49 wk)

SEE NOTE SHEET ATTACHED TO BACK COVER

← NOTE IS MISSING OCN 2-9-5

7510 7508 7511

379.6S	40/29/28.5~~6~~7 N 073/54/21.~~18~~20 W	36.~~1~~0	Divers found portion of metal wreck. Chart as ~~a~~ wreckage over which depth is known. See section 7.a.1) of the Evaluation Report. 1509
382.2P	40/29/26.~~41~~38 N 073/54/35.5~~3~~1 W	~~37.1~~ 36.0	Should be charted as a ~~37.1~~ 36.0 ft sounding. Concur
392.0P**	40/29/26.9~~8~~6 N 073/55/20.44 W	51.~~3~~0	Divers found a large anchor lying flat in Ambrose Channel. 7512 Chart as a 51.~~3~~0 ft sounding, on an obstruction (51 obstr)
425.4P**	40/29/23.6~~8~~5 N 073/55/07.70 W	49.~~8~~0	Divers found a portion of wreckage in Ambrose Channel. 7513 Chart as a 49.~~8~~0 ft sounding on an obstruction (wreckage) (49 obstr)
220.2S	40/29/48.8~~5~~7 N 073/55/14.~~77~~80 W	~~36.1~~ 35.0	Should be charted as a 3~~6.1~~5.0 ft sounding. Do not Concur. Chart as an obstruction with a least depth of 35-ft (35 obstr) 7514
220.3S	40/29/48.96 N 073/55/15.73 W	~~38.1~~ 37.0	Should be charted as a ~~38.1~~ 37.0 ft sounding. Do not Concur. Not shown on the present survey.
220.5S	40/29/~~49.00~~ 48.69 N 073/55/17.~~08~~60 W	~~38.6~~ 36.0	Should be charted as a ~~38.6~~ 36.0 ft sounding. Concur
217.8P	40/29/47.6~~5~~2 N 073/54/48.0~~1~~6 W	~~34.9~~ 35.0	Should be charted as a ~~34.9~~ 35.0 ft sounding. Concur

* Least depths on features corrected for predicted tides, velocity (echo), or pneumatic gauge corrections (diver). Smooth tides have been applied.

** Although sonar contacts 355.3P, 392.0P and 425.4P were determined to be obstructions in Ambrose Channel, the least depth over each was deeper than the controlling depth of the channel, and consequently should not be charted as obstructions. Do not Concur - see annotations above.

AWOIS 2110

BACKGROUND

AWOIS 2110 was reported in Local Notice to Mariners 12, 1982 suspected as being the Renegade IV, a 41 foot sailing vessel reported sunk in 90 feet of water 3 miles south of Ambrose Light. Position Approximate was given as LAT 40° 24' 36" N, LONG 073° 50' 00" W.

HYDROGRAPHY

Soundings from the current survey were compared with survey H-6190, performed in 1936 at a scale of 1:40,000. While preparing the master overlay a major difference was noted between the prior

survey soundings and the present charted soundings inshore of the 100 foot contour. Consistent dredge spoil dumping in the area since 1936 has changed the bottom topography completely west of LONG 073° 50' W. The Descriptive Report for wire drag survey FE-101WD mentions on page 3, second paragraph, that "The area inside the charted ten fathom curve at latitude 40° 25.5', longitude 73° 51.5' has been decreased in depth by material dumped from scows and dredges". Later in the same paragraph, "During wire drag operations in this vicinity the dumping was in the area immediately south of the ten fathom curve". Therefore, comparisons between the present survey and H-6190 differed as much as 30 feet.

Of major concern was at the south-east edge of the present survey area where an active dumpsite now exists. The dumpsite area is up to 20 feet shoaler than the presently charted soundings in some areas (refer to Section L., Comparison with the Chart, for item 2110). East of the 100 foot contour the present survey soundings agree within three feet to H-6190.

SURVEY FINDINGS AND RECOMMENDATIONS

The one and one-half mile search area was investigated with 200% side scan sonar coverage and basic hydrography at 50 meter north-south line spacing. The active dumpsite was developed with 25 meter east-west line spacing. Because the dumpsite is still active, a drift detached position on the least depth was only obtained while obtaining a bottom sample on the shoal. No other drift detached positions were obtained, as it would be rendered obsolete due to the continuous dumping activities. Dredge spoil from within New York Harbor was observed being dumped at the site as late as June 1, 1988 by the Tug "Mark Mc Allister", prior to the departure of the WHITING from the working grounds.

The assigned item was never positively identified on the sonargrams but a number of other obstructions were found in the search area. The hydrographer recommends the wreck symbol for the item be removed from the chart. For a more detailed description of each item found, refer to Supplemental 7, AWOIS Item Investigation Report* The following is a list of the items found that should be charted. Concur. See also section 7.a.2) of the Evaluation Report.

Item #	Position	Corrected * Least Depth (ft)	Recommendations
8157.7P	40/23/54.24 N 073/49/52.0~~8~~2 W	88.0 ✓	Should be charted as a 88.0 ft sounding. Concur.
8159.6S	40/24/09.~~39~~27 N 073/49/49.5~~0~~2 W	~~95.2~~ 94.0 ✓	Should be charted as a ~~95.2~~ 94.0 ft sounding. Concur
8316.4S	40/23/22.4~~2~~3 N 073/49/38.~~64~~52 W	~~93.2~~ 92.0 ✓	Should be charted as a ~~93.2~~ 92.0 ft sounding. Concur

*Appended to the Descriptive Report

3

8596.2S	40/25/34.94 N 073/50/08.34 W	72.2 ✓	Divers found compressed shipyard debris. Chart as a non-hazardous obstruction over which depth is known. Concur

Chart as an obstruction with a least depth of 72-ft. (72 obstr)

7515

* Least depth on features corrected for predicted tides, velocity (echo), or pneumatic gauge corrector (diver). Smooth tides have been applied.

L. COMPARISON WITH THE CHART See section 7. of the Evaluation Report

Comparison of data from the present survey was made during the course of data acquisition with a 1:20,000 scale enlargement of Chart 12346, 38th Edition, dated February 22, 1986 per section 7.9 of the Project instructions.

AWOIS 1586

Item 1586 was found in close proximity to the presently charted position for the wreck. The hydrographer recommends that item be charted as a wreck over which the diver determined depth of 78.8 feet (Corrected for ~~predicted~~ tides and pneumatic gauge correctors) is known, using symbol 15, section "O" from Chart No. 1. The observed position of the wreck was LAT 40° 25' 01.18" N, LONG 073° 45' 10.99" W. No other comparisons with the chart could be made. Concur

on 2

See also Section 6.b.2) of the Evaluation Report

AWOIS 1634

In addition to the obstructions mentioned in Section K. which should be charted, the only other discrepancy that exits between charted soundings and the findings of this survey is where the 30 foot shoal was discovered in 1934. This shoal was reflected in the charts as a 29 foot sounding*. As mentioned before, this shoal no longer exists, and 32 foot depths should be charted to reflect the true bottom depth. All other charted soundings agree with the survey performed this year to within two feet. Concur - chart present survey depths.

on 4

* In the vicinity of Lat. 40°30'05"N, Lon. 73°55'00"W.

AWOIS 2110

+ In addition to the obstructions mentioned in Section K. which should be charted, the shoal resulting from dumping activities within the survey area should be reflected on the charts. The shoalest depth charted within the dumpsite is 61 feet. However, the area within the dumpsite bounded by LAT 40° 23' 00" N, LONG 073° 50' 00" W and LAT 40° 23' 35" N, LONG 073° 50' 45" W, should be charted as 39 feet. A letter advising a Local Notice to Mariners update reflecting this shoaling was sent by the command to the Commander, Third Coast Guard District on June 7, 1988 (refer to Supplemental Correspondence). The buoys marking the dumpsite have been changed per Local Notice to Mariners 21/87, First Coast Guard District, and

on 3

2, - filed with the original field records

+ See section 7.a.2) of the Evaluation Report.

Notice to Mariners 43/87. Although they still accurately mark the dumpsite, buoys "OM" (Light List # 750) and "KVK" (Light List # 755) have replaced buoy "NE", which has been removed. Concur.

Although a discrepancy was observed between the prior survey soundings west of LONG 073° 50' 00" W (See Section K.) soundings from the present survey agree with the presently charted soundings within two feet, except within the active dumpsite. Concur

M. ADEQUACY OF SURVEY

This survey was conducted in accordance with the Project Instructions, Hydrographic Survey Guidelines, AMC OPORDERS, and the Hydrographic Manual. This survey is adequate, within the boundaries of the area surveyed to supersede all previous surveys of the area.

N. AIDS TO NAVIGATION See section 7.d. of the Evaluation Report.

Floating Aids to Navigation

Detached positions (D.P.s) were obtained on all floating aids to navigation in the survey area. During survey operations, D.P.s were obtained on obstruction buoy "FG" and yellow dumpsite buoys "KVK", "NY", and "OM". Buoy "NE" is charted within the survey area on 2110, but has been removed. A comparison of the buoys with the DIPFILE listing is as follows: Concur Chart as shown on the present survey

Buoy	D.P.	DIPFILE Position	Light List No.
Dumping Ground Lighted Buoy "NY"	40/22/42.~~9189~~ 073/50/47.36	40/22/47.00 073/50/45.00	750
Dumping Ground Lighted Buoy "KVK"	40/22/49.5~~8~~6 073/50/18.24	None	755
Dumping Ground Lighted Buoy "OM"	40/22/58.4~~7~~5 073/51/02.38	None	760
Dumping Ground Lighted Buoy "NE"	Removed	40/23/30.00 075/50/40.00	N/A
Fishing Grounds Obstruction Lighted Bell Buoy "FG"	40/25/10.8~~13~~ 073/51/~~41.98~~ 42.14	40/25/11.60 073/51/42.10	745

Non-Floating Aids to Navigation

The only non-floating aid to navigation nearby the survey area was Ambrose Light (Light List # 730) which was positioned to third order accuracy for survey H-10224 in 1986 (See Horizontal Control Report submitted with H-10224, 1986).

O. STATISTICS

AWOIS 1586

	2930	2931	2932	total
No. of Positions	25	0	1	26
No. of Side Scan Positions	22	0	0	22
No. of Crossline Positions	0	0	0	0
No. of Development Positions	0	0	0	0
No. of Rejected Positions	1	0	0	1
Linear NM of Sounding Lines	1	0	0	1
Linear NM of Side Scan Inv.	1	0	0	1
Square NM of Hydrography	--	0	0	--
Bottom Samples	0	0	0	0
Detached Positions	2	0	1	3
Omitted Positions	0	0	0	0
Duplicated Positions	0	0	0	0
Dive Investigations	0	0	2	2

AWOIS 1634

	2930	2931	2932	total
No. of Positions	1	1162	301	1464
No. of Side Scan Positions	0	889	12	901
No. of Crossline Positions	0	24	0	24
No. of Development Positions	0	225	276	501
No. of Rejected Positions	0	14	7	21
Linear NM of Sounding Lines	0	96	15	111
Linear NM of Side Scan Inv.	0	78	0	78
Square NM of Hydrography	0	3	0	3
Bottom Samples	0	5	0	5
Detached Positions	1	10	6	17
Omitted Positions	0	0	1	0
Duplicated Positions	0	0	0	0
Dive Investigations	0	7	7	14

AWOIS 2110

	2930	2931	2932	total
No. of Positions	1911	343	249	2503
No. of Side Scan Positions	1693	000	195	1888
No. of Crossline Positions	0	104	0	104
No. of Development Positions	0	212	12	224
No. of Rejected Positions	218	10	40	268
Linear NM of Sounding Lines	267	33	21	321
Linear NM of Side Scan Inv.	267	0	21	288
Square NM of Hydrography	6	0	1	7
Bottom Samples	0	4	0	4
Detached Positions	0	17	2	19
Omitted Positions	0	0	0	0
Duplicated Positions	0	0	0	0
Dive Investigations	0	0	1	1

Additional Statistics

	2930	2931	2932	total
TDC Casts	5	0	0	5
Nansen Casts	0	0	0	0
Tide Stations Leveled	2	0	0	2
Days of Production	--	--	--	27

P. MISCELLANEOUS

Shipboard Hydrography (AWOIS 2110)

Main scheme Side Scan Sonar coverage of item 2110 was performed almost exclusively by the ship. 24-hour operations were advantageous in obtaining the complete coverage of the one and one-half mile search radius. However, there were several factors which impeded operations significantly. The area was densely populated with lobster traps ("pots") which repeatedly entangled the side scan sonar cable so that operations had to be delayed until the lines entangling the sonar could be severed. The constant entanglement of the towfish put considerable strain on the side scan cable which resulted in damage to the cable and was eventually replaced. Heavy traffic within the work area also presented problems. Operations were continuously delayed due to traffic situations, which constituted more significant setbacks than was the case for launch operations due to the ship being less maneuverable. Poor weather also caused operational difficulties. Visibility was often greatly reduced by heavy rain and fog, which made traffic situations even more difficult. Finally, numerous survey lines had to be rerun due to poor signal strengths from the Falcon Mini-Ranger system.

Crosstalk Between Side Scan Sonar and DSF6000N

Crosstalk interference between the side scan sonar unit and the DSF6000N echosounder occurred on several occasions during survey operations. The crosstalk was marked by the existence of numerous narrow vertical lines on the high frequency trace of the echogram record which had to be accounted for when scanning or interpreting the data. Refer to memos sent to N/CG24 concerning excessive indicated peaks on DSF-6000N analog trace, also included in Supplemental 2, Correspondence.*

Loran-C Chart Verification

Section 8.3 of the Project Instructions required Loran-C chart verification of the project area. Both the WHITING and Vessel 2932 were equipped with a Loran-C unit for this purpose. However, it was discovered that Format and Data Check Program RK330 would not recognize data tapes with Loran-C data present. The project office was informed of this problem via radio and in a radio message dated 12 May 88 1800Z (copy enclosed in Supplemental 2, "Correspondence");* the project office excused the Whiting from acquiring Loran-C data.

Q. RECOMMENDATIONS

Although a Field Examination does not require that the "basic"* hydrography acquired on-line be fully processed, all sounding data were handled as such and smooth sheets for AWOIS Items 1634 and 2110 at 1:10,000 scale were compiled. The last "basic" survey of the area is over 50 years old and the bottom topography has changed substantially in some areas. Rather than processing isolated areas where dumping has occurred, the entire search radii, run at 50-meter line spacing, were fully processed. The hydrographer recommends that in common areas the soundings from the present survey be utilized to update the nautical chart. Concur. *A field survey (FE) maybe BASIC: IT IS JUST OF limited EXTENT.

A shoal sounding was picked up on the bridge echo sounder on board WHITING in the vicinity of Rockaway Inlet while picking up a shore party. The peak was developed by Launch 1015 on Day 150 using visual control and three-point sextant fixes, with check angle for control. A least depth of 24.3 feet, corrected for ~~predicted~~ Smooth tides only, was observed at LAT 40° 31' 22.46" N, LONG 073° 56' 12.66" W. The existence of the peak, although outside the survey limits, was incorporated in the Danger to Navigation Report submitted to N/CG222 - Chart Information Section, on June 7, 1988 (enclosed under Correspondence in Supplemental 2).* The records of the investigation are contained in the last section of the accordian file for AWOIS 1634. See section 7.a.3) of the Evaluation Report.

Since the present survey, as well as H-10224, had been requested by a number of maritime interests in the New York area a

*filed with the original field records

copy of the final smooth sheets should be sent to the following parties:

Capt. Thomas J. McGovern
United New York Sandy Hook Pilots'
Benevolent Association
201 Edgewater Street
Staten Island, New York 10303

Capt. Neil Keating
United New Jersey Sandy Hook Pilots'
Benevolent Association
201 Edgewater Street
Staten Island, New York 10303

Capt. James Stilwaggon
Interport Pilots Agency, Inc.
P.O. Box 312
Atlantic Highlands, New Jersey 07716

Mr. N. Nick Cretan
Executive Director
Maritime Association of New York
and New Jersey
17 Battery Place
Suite 1006
New York, NY 10004

R. AUTOMATED DATA PROCESSING

The following Hydroplot programs were used to acquire and process the survey data:

Program	Program Name	Version
RK 112	Range-Range and Hyperbolic Real-Time Hydroplot	03/01/86
RK 201	Grid, Signal, and Lattice Plot	09/16/81
RK 212	Visual Station Table Load and Plot	04/01/74
RK 221	Range-Range Off Line Plot	07/25/86
RK 300	Utility Computations	10/21/80
RK 330	Data Reformat and Check	05/04/76
RK 362	RK 362 (Combined RK 330/AM 602)	08/20/84
AM 500	Predicted Tide Generator	11/10/72
RK 530	Velocity Correction Computations	05/10/76
RK 561	Hyperbolic and Range-Range Geodetic Calibration	12/01/82
AM 602	Elinore (Extended Line Oriented Editor)	12/08/82
MI 999	Utility Plot	05/30/73

In addition to the above programs, the following non-Hydroplot system computer programs were used:

MK-9	Sippican Ocean System Program Tape	03/15/83
SEAS	Semi-Automatic System, Version 1.5	01/12/85
VELTAB	Velocity Table Computations (IBM PC)	02/01/85
InTAC	SEAQUEST Associates, Inc.	Copyright 1986
VELOCITY	Velocity Computations (IBM PC)	

S. REFERRAL TO REPORTS

Title	Transmittal Information
Descriptive Report To Accompany Survey H-10224	Hydrographic Surveys Branch Atlantic Marine Center N/MOA23 Transmittal WH-SU-21-87 Dated 20 February 1987
Descriptive Report To Accompany Addendum To Survey H-10224	Hydrographic Surveys Branch Atlantic Marine Center N/MOA23 Transmittal WH-OPS-28-88 Dated 15 June 1988
Horizontal Control Report	Photogrammetry Branch Atlantic Marine Center N/MOA22 Written by: Mr. R. DeCroix Field Surveys Section, N/MOA222
Chart Sales Agent Report	Mr. Kenneth H. Moyer N/CG33 Transmittal WH-26-OPS-88 Dated 09 June 1988
User Evaluation Report	Program Planning & Requirement Atlantic Marine Center N/MOA2x1 Transmittal WH-SU-2-87 Dated 06 January 1987

Evaluation of Program "VELOCITY"	Director Atlantic Marine Center N/MOA Transmittal WH-OPS-30-88 Dated 15 June 1988
Chart Inspection Report	Mr. Rudolph D. Sanocki Atlantic Marine Center N/MOA232 Transmittal WH-OPS-25-88 Dated 09 June 1988
Danger to Navigation Report	Chart Information Section N/CG222 Written by: LT. Samuel P. DeBow N/MOAWH 07 June 1988

In addition to those listed above, the following special reports are attached to this descriptive report:

Side Scan Sonar Report
Dive Report
Item Investigation Report

Respectfully submitted:

Jeffrey D Bear

ENS Jeffrey D. Bear, NOAA

Reviewed By:

Samuel P. DeBow

LT Samuel P. DeBow, NOAA
Field Operations Officer

Approved:

CDR Dean R. Seidel, NOAA
Commanding Officer

APPROVAL SHEET

HYDROGRAPHIC AND
SIDE SCAN SONAR SURVEY FE-312 "1988" SS

This combined hydrographic and side scan sonar survey was conducted in accordance with the Project Instructions for OPR-C121-WH (as supplemented by changes 1 and 2), the Hydrographic Manual, the AMC OPORDERS, and the Hydrographic Survey Guidelines. The survey and reports were completed under daily supervision. All boat sheets and final transmitted sheets were reviewed in their entirety and all supporting records were checked as well.

This survey is adequate for charting purposes and to supersede prior surveys within the areas of boundaries completed.

Dean R. Seidel, CDR NOAA
Commanding Officer
NOAA Ship WHITING

STATION LIST
FE-312(1988)SS
OPR-C121-WH
WH-20-3-88

001	7	40	27	41803	074	00	08729	250	0026	000000
002	7	40	33	37006	073	53	47258	250	0024	000000
003	7	40	27	34211	073	59	40591	250	0020	000000
004	7	40	33	43602	073	52	58508	250	0023	000000

STA	NAME	SOURCE	DATE
001	SANDY HOOK LIGHTHOUSE(ECC)	AMC	1986
002	TILDEN B410 NO.1	WHITING	1986
003	HOOK	AMC	1986
004	ROSARIO	AMC	1986

NOAA Ship WHITING
439 West York Street
Norfolk, VA 23510
14 June 1988

TO: N/MOA232 - Rudolph D. Sanocki

FROM: N/MOAWH - Dean R. Seidel

SUBJECT: Coast Pilot Report, OPR-C121-WH

REFERENCE: Coast Pilot Manual, fourth edition (1987)

The purpose of this memorandum is to provide a report on a review of the U.S. Coast Pilot, Volume 2, Chapter 11 - New York Harbor.

Between 12 April and 2 June 1988 the NOAA Ship WHITING conducted a field examination in the New York Bight near Ambrose Light. During the course of the examination, the WHITING made several transits between Ambrose Light and Governor's Island, New York.

The following are recommendations for all of the sections which were reviewed and needed change:

Ambrose Light (page 202). Delete the sentence "Storm warning signals are displayed during daytime." found in lines 14-15/R. Ambrose Light is no longer manned. Refer to LNM No. 12 Vol. 2, 23 March 1988.

Sandy Hook (page 202). Delete the sentence "Sandy Hook Light 15 is at the extreme north point of Sandy Hook; it is frequently relocated to mark this north tip." found in lines 19-21/R. Remove the picture on page 203 to reflect the above change. Sandy Hook Light 15 no longer exists. Refer to Light List Vol. 1, 1988, the more recent picture on page 217, 1987 Coast Pilot and the Summary of Corrections, April 1988 - Vol. 1. See attachments.

Vessel Traffic Service (New York) page 206. Delete lines 64/R page 206 - 64/L page 207. Change line 65/L page 207 to read "East River. In the East River ..." Change line 7/R page 207 to read "Ferries. The New York City ..." Delete lines 14/R page 207 - 34/R page 207. This change stems from a conversation with the Captian of the Port, New York. He stated that the VTS will be discontinued 10 June 1988.

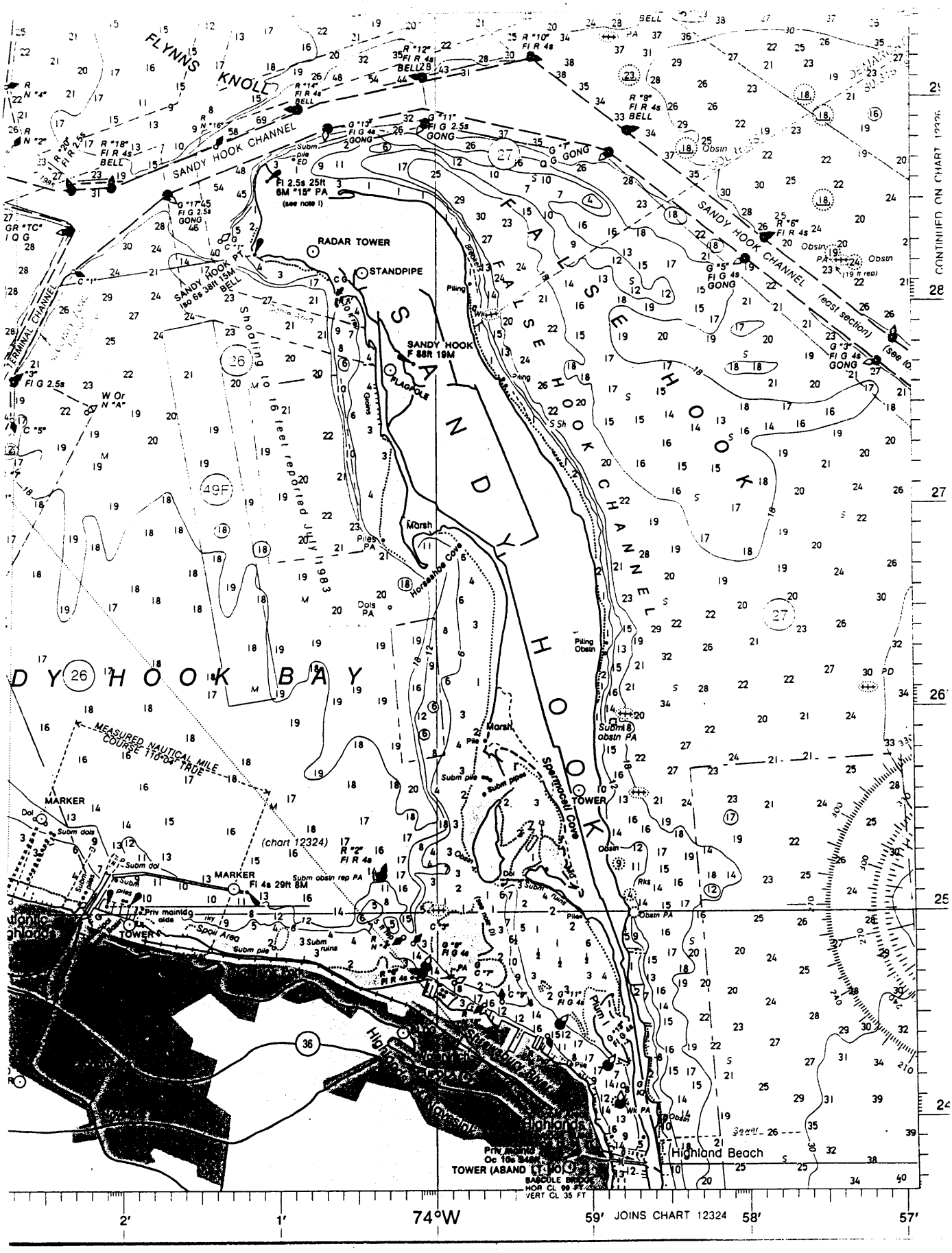
Submitted By:

ENS. Peter C. Stauffer

Approved By:

CDR Dean R. Seidel, NOAA
Commanding Officer
NOAA Ship WHITING

Attachments


FLYNNS KNOLL
SANDY HOOK CHANNEL
FALSE HOOK CHANNEL
SANDY HOOK
RADAR TOWER
STANDPIPE
SANDY HOOK PT
SANDY HOOK F 88ft 19M
FLAGPOLE
Shoaling to 16 feet reported July 1983
DY HOOK BAY
MEASURED NAUTICAL MILE COURSE 110°-02° TRUE
(chart 12324)
MARKER
Fl 4s 29ft 8M
TOWER
Spermaceti Cove
Horseshoe Cove
Marsh
Highlands
Highland Beach
PRIV MAINTD Oc 10s 34ft
TOWER (ABAND)
BASCULE BRDG
HOR CL 99 FT
VERT CL 35 FT
74°W
59'
JOINS CHART 12324
58'
57'
CONTINUED ON CHART 12326

3/15/86 LAST NM 52/87
Change — Period of buoy "18" to 2.5s
Color of buoy to green

1Ed. 3/15/86 LAST NM 1/88
Relocate — Buoys "4" close NW to
"6" close NE
"18" close S

Change — Color of buoys, each to green
"1"
"21"

1Ed. 3/15/86 LAST NM 4/88
Delete — Buoy "G"
Light

1Ed. 3/15/86 LAST NM 5/88
Relocate — Buoy "SP" close E to

Change — Color of buoy "1" to green

Designation of buoy "6A" to "6"

3/15/86 LAST NM 6/88
Dangerous wreck
(Supersedes 41/87-12327)

Relocate — Buoys
"4" (40°27′50″N 73°57′06″W) to
"6" (40°28′19″N 73°57′55″W)
"7" (40°39′49″N 74°01′23″W)
"9" (40°40′20″N 74°01′28″W)
"17" (40°38′35″N 74°09′13″W)
"18" (40°28′34″N 74°02′04″W)
(See 50, 52/87, 4/88-12327)

Change — Characteristic of buoys
"A" to Fl(2+1) G 6s
"2" to Fl R 4s
"SP" to Fl(2+1) R 6s
(See 6/88-12327)

Add — Dangerous wreck

81Ed. 3/15/86 LAST NM 7/88
Relocate — Buoy "12"
(40°38′36″N 74°08′20″W) to

itute — Buoy "12" red, Fl R 4s for
light (articulated) "12"
(See 9/87-12327)

81Ed. 3/15/86 LAST NM 8/88
Delete — Light "15" and legend "(see note I)"

Note I

Add — Light Fl Y 4s

81Ed. 3/15/86 LAST NM 10/88
Change — Color of buoys, each to green
"9"
"3"

81Ed. 3/15/86 LAST NM 12/88
Change — Characteristic of buoy "TC" to
Fl(2+1) G 6s

16Ed. 6/28/86 — NEW EDITION
Add — Buoys, white and orange bands, can
(Previously published 31/86)

Delete — Designation from buoys "A"
"B"
"C"
"D"
(Previously published 33/86)

(44/87 CG1) 1/88
40°33′33″N 74°01′34″W
40°39′41″N 74°04′31″W

(45/87 CG1) 4/88
40°27′50″N 73°57′06″W
40°28′19″N 73°57′55″W
40°28′34″N 74°02′04″W

SUBREGION
12

40°40′09″N 74°08′21″W
40°41′38″N 74°07′27″W

(48/87 CG1) 5/88
40°40′30″N 74°04′08″W
40°39′16″N 74°08′50″W

(49/87 CG1) 6/88
40°28′42″N 74°02′59″W

40°39′31″N 74°08′58″W

40°29′54″N 74°16′58″W

(50, 51/87 CG1) 7/88
40°28′54″N 73°54′24″W

40°27′50″N 73°57′04″W
40°28′19″N 73°57′53″W
40°39′49″N 74°01′21″W
40°40′21″N 74°01′27″W
40°38′35″N 74°09′11″W
40°28′34″N 74°02′02″W

40°38′44″N 74°10′07″W
40°39′43″N 74°08′40″W
40°28′42″N 74°02′59″W

40°28′54″N 73°54′22″W

(52/87, 3/88 CG1) 8/88

40°38′37″N 74°08′20″W

40°32′00″N 74°00′54″W

(5/88 CG1) 10/88
40°28′36″N 74°01′04″W

40°23′57″N 74°06′13″W

40°40′19″N 74°01′06″W

(7/88 CG1) 12/88

40°31′25″N 74°00′52″W
40°29′05″N 74°15′37″W

(10/88 CG1) 15/88

40°28′21″N 74°02′20″W

(NOS) 35/86
40°26′58.9″N 74°02′32.8″W
40°27′23.3″N 74°03′34.4″W

40°27′28″N 74°02′13″W
40°27′52″N 74°03′15″W
40°26′29″N 74°02′53″W
40°26′54″N 74°03′54″W

Summary of corrections, April 1988 - Vol 1

CHART # 12326 ITEM # AWOIS 1586

ITEM DESCRIPTION: Unknown wreck, reported cleared to 66 feet, 71 ft sounding obtained in 92 feet of water.

SOURCE: AWOIS listing dated March 11, 1988

REFERENCES: NM 8/42, FE 101/51WD (FE 10/51WD)

INVESTIGATION DATE: 5/10/88 (DAY 131) ECHO
5/11/88 (DAY 132) SSS
5/29/88 (DAY 150) DIVE

VESSEL: 2930 DAY 131 OIC: SKARBEK (DAY 131)
2930 DAY 132 SKARBEK (DAY 132)
2932 (1014) DAY 150 KOCH (DAY 150)

OBSERVED LEAST DEPTH: 69.5 ft (echo) uncorrected

POSITION # 0024 (Day 132) TIME: 152547 UTC

CORRECTED LEAST DEPTH: 80.6 ft

TRA Correctors Applied Draft = +10.5 ft

Predicted Tide Correctors Applied -0.2 ft

Velocity Corrector Applied +0.8 ft

DIVER LEAST DEPTH: 79.0 ft (pneumo) uncorrected

POSITION # 2000 (Day 150) TIME: 154838 UTC

CORRECTED LEAST DEPTH: 78.8 ft

Pneumo Corrector Applied -0.3 ft

Predicted Tide Corrector Applied -0.4 ft

GEODETIC POSITION:	Latitude	Longitude
Charted:	40/25/06.00 N	73/45/12.00 W
Observed:	40/25/01.1 N	73/45/10.99 W

POSITION DETERMINED BY:

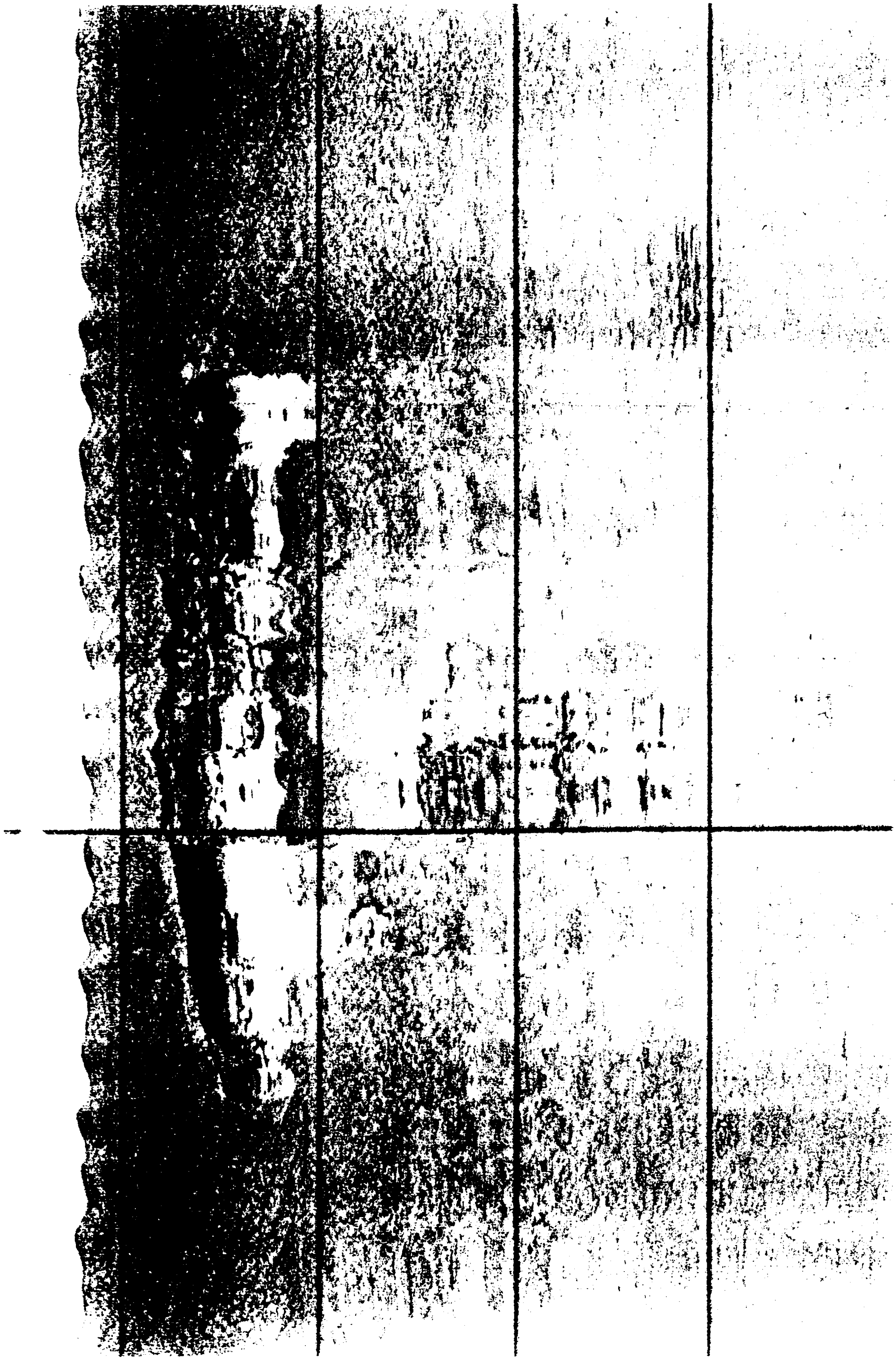
Range-Range, using Falcon Mini-Ranger.

METHOD OF ITEM INVESTIGATION:

Echosounder investigation on day 131, side scan sonar investigation on day 108. Dive investigation on day 150 - See attached dive report.

CHARTING RECOMMENDATION:

The hydrographer recommends that the item be charted as a wreck over which the depth is known, using symbol 15, section O from Chart No.1. See Section 6.b.2) of the Evaluation Report



Anvil's
1586
"Mohawk"
←

T: 142105
F: 006

AWOIS 1586

Dive 1 5/29/88

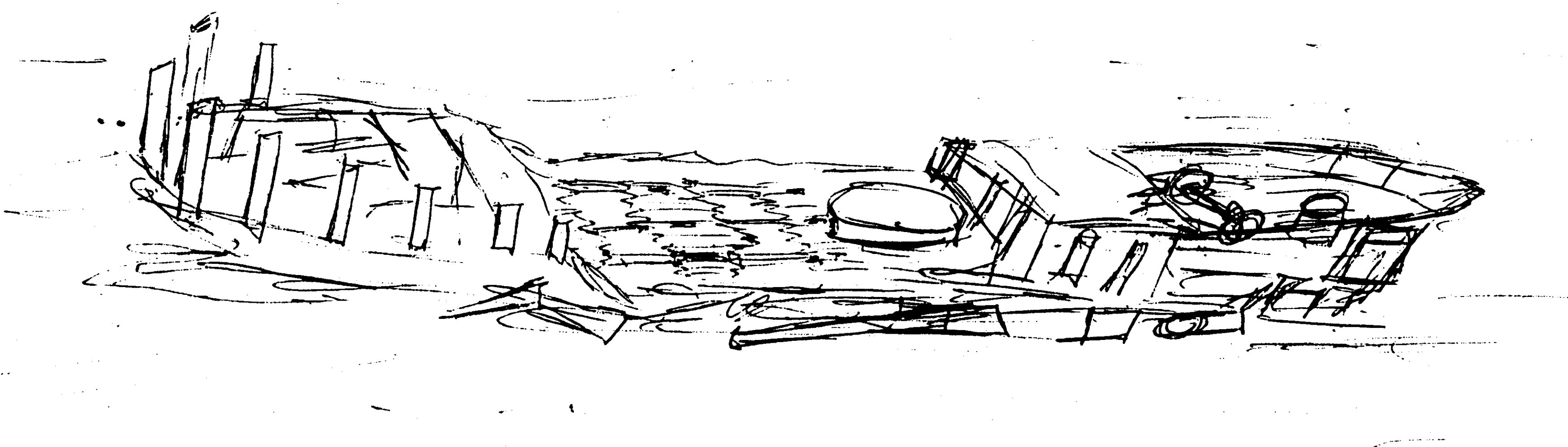
Divers Skarbek and Kalinowski descended the marker buoy line onto the remains of a metal and wood vessel. They swept the the wreck from South to North and then back to the southern end of the wreck. The southern section was identified as the stern, and consisted of large metal ribs sticking straight up out of the surrounding bottom of sand and sewage sludge. Proceeding north, divers observed a section of wooden deck that was partially rotted away, along with hatches and various metal debris. Amidships, divers located a large cylindrical object sticking out of the deck, which at this point was at a lower level than the bow and stern. The bow section was mostly intact, and an anchor windlass was observed partially collapsed into the deck. Divers checked the depth of the bow against that of the stern, and found them to be within 1-2 ft of each other (by divers gauge). Divers then surfaced.

Dive 2 5/29/88

Divers DeBow and Koch descended the buoy line to the least depth location established by divers on the previous dive. The least depth was measured using a calibrated, surface supplied pneumo gauge (sn 8406714n). The orafice was held to the point representing the least depth (see pos # 2000). Divers then swept up the west end of the site to the northern limits of the wreck. At this location divers observed several beams extending approximately 10 feet upward from the sand and silt bottom. Divers observed the least depth at this end, using divers depth gauges, to be within 2 feet of the least depth already measured. Divers swept down the east end of the wreck, and surfaced at the buoy marking position # 2000. Additional measurements were not possible due to limitations in allowable bottom time.

Because of limited bottom time due to the depth of the wreck (100 ft), limited visibility (5 - 7 ft), and potential toxicity (wreck is located at the edge of the New York raw sewage sludge dump site), a pneumo depth was taken only at the southern end of the site. The possibility exists that the northern end of the wreck may be 1 - 2 ft shoaler than the measured pneumo depth taken at the southern end of the site.

Awois 15



Item 1586 was reported to be a large wreck in Notice to Mariners 8, 1942. Wire drag survey FE101/51WD found a wreck on sonar in LAT 40 25' 06.00"N, LONG 073 45'12" W with a 71 foot sounding in 92 foot depths. A wire drag ~~hung at~~ cleared by 66 feet.

On May 2, 1988, the Field Operations Officer, LT. Samuel De Bow paid a visit to the American Littoral Society, located on Sandy Hook,NJ, to obtain information about the assigned AWOIS items. He made contact with Mr. Gene Geer (Home 201-264-3129) of the Society who is an avid diver on the wrecks in the area. Upon checking his records Mr. Geer reported that the wreck is located at LORAN C rates 26867.8 and 43670.7. He stated that the wreck is of the U.S. Revenue Cutter "Mohawk", a wooden hull vessel, built in 1904, 980 tons, with dimensions of 200 foot length, 32 foot beam, and 11 foot draft. The vessel reportedly sunk in 1917.

Further background information (enclosed) obtained by LT DeBow from the Eldridge Collection at the Newport News Mariners Museum Library found the vessel was built by the William R. Trigg Company in Richmond, Va. and launched on March 25, 1902. She was 205.6 feet overall, 32 foot beam, and 12.7 foot draft. Her displacement was 1150 tons. She had 4 Scotch boilers and a maximum speed of 17 knots. The "Dictionary of American Fighting Ships" stated that the "Mohawk" was temporarily transferred to the Navy on April 6, 1917. While serving on coastal duty in connection with convoy operations, she was struck by an unknown merchant vessel, and sank October 1, 1917 off Sandy Hook, NJ. All hands were saved but the water was deemed too deep to warrant salvage operations. A copy of an 8x10 photograph of the vessel is enclosed.

#193. copyright

" Mohawk "

US Cutter
Built 1902
Richmond, Va
Steel screw
Wm.R.Trigg Co

205.6 oa x 32 x 12.7 1150
158 17.

Engine 25,37½,56½x 30 2400ihp 17 knots 4 Scotch boilers

Launched March 1/1902 25,1902;christened by Miss Henrietta Marie Webster,daughter ofCommander Harrie Webster,USN
4 rapid fire 6 pounders

NG 6/2/1904 The new revenue cutter 'Mohawk' has sailed for New York from Baltimore after completing her equipment at that port(Baltimore) She was built by the Trigg Co. and is intended eventually for service on the Great Lakes. At present she will relieve the 'Gresham' on the NewYork station while that boat goes off for an overhauling.

1915 Stationed at New York

Edwards Card.

Lakes melted to allow further operations. *Mohawk* was then laid up in ordinary at Sacketts Harbor. She was reported unfit for repairs in 1821 and soon after sold and broken up.

II

(ScStr: t. 464; l. 162'4"; b. 24'4"; dr. 14'; s. 9 k.; cpl. 90; a. 4 32-pdrs.)

The second *Mohawk* was built as *Caledonia* by Teas & Birely, Philadelphia, Pa.; launched 11 June 1853; chartered by the Navy 13 September 1858; and entered service soon after, Comdr. Augustus L. Case in command.

Mohawk sailed at once for South America to take part in Flag Officer William B. Shubrick's 18-ship expedition against Paraguay, attempting to gain satisfactory apology for the 1855 firing upon survey steamer *Water Witch*. Arriving Asunción with the squadron 25 January 1859, *Caledonia* took position above Rosario in La Plata River, ready for operations while negotiations were conducted. Paraguay agreed to apologize for the incident and pay an indemnity.

The steamer returned to the United States in February, was purchased by the Navy 14 June 1859, and renamed *Mohawk* on that date. She commissioned at New York Navy Yard 19 September 1859, Lt. T. A. M. Craven in command.

Mohawk operated against pirates and slavers off the east coast and in the Caribbean through 1861, capturing slave ship *Wildfire* in Old Bahama Canal 28 April 1860, and delivering the prize to Key West where the crew was imprisoned. The 530 Africans on board were placed in a camp for protection, guarded by *Mohawk*'s marines, until they could be returned home. From 15 November on Lieutenant Craven in *Mohawk* with steamer *Wyandotte* defended Forts Jefferson and Taylor at Key West, Fla., from actions of "bands of lawless men", a farsighted action that enabled the Union to retain that vital Florida base, so valuable during the forthcoming naval operations in the Civil War.

The steamer remained on guard at Key West until the end of January 1861 and then sailed for New York. On 11 March 1861, *Mohawk* departed for the Caribbean, escorting supply ship *Empire City* to Havana and then Indianola, Tex. The warship proceeded to Pensacola via Havana and Key West, arriving 10 May and took up her blockade station off that port. She next moved on to patrol off St. Marks, Fla., capturing sloop *George B. Sloat* 5 July attempting to run the blockade. She remained on station until sailing for New York 8 April 1862.

Two and one-half month later, *Mohawk* sailed for Port Royal, S.C., to join Flag Officer Samuel F. DuPont's South Atlantic Blockading Squadron. She returned to Port Royal in June 1863 for duty as guardship. Ordered north for repairs 27 June 1864, on 6 July she reported to Commodore E. K. Stribling at Philadelphia Navy Yard. *Mohawk*'s old and damaged boilers with her poor general condition from wartime use proved her unfit for further service. She was sold 12 July 1864.

III

(YT–17: dp. 368; l. 103'10"; b. 24'; dr. 10'9"; s. 12 k.)

The third *Mohawk* (YT–17) was built in 1893 as *T. P. Fowler* by T. S. Marval & Co., Newburgh, N.Y.; acquired by the Navy from Cornell Steamboat Co., 23 April 1898; and assigned to the 5th Naval District.

The tug operated in and around the navy yard, Norfolk, Va., for nearly half a century, making several voyages a year to naval installations throughout the Potomac and Chesapeake Bay area, serving the fleet by towing barges and aiding naval vessels. Designated YT–17 in 1920, her name was canceled in 1942. *YT–17* was renamed *YTL–17* in 1944 and continued service at Norfolk through the end of World War II. The tugboat was turned over to the War Shipping Administration for disposal 1 October 1946 and sold to W. S. Sanders, Norfolk, Va., in 1948. She was subsequently sold to H. B. Stone of Wilmington, N.C.

#180

IV

(RC: dp. 1,150; l. 205'6"; b. 32'; dr. 12'7")

The fourth *Mohawk*, a first-class steel revenue cutter built at Richmond, Va., commissioned 10 May 1904. Based at New York, she cruised the Atlantic and adjacent waters between Gay Head, Mass., and the Delaware breakwater. Her primary duties were assisting vessels in distress and enforcing navigational laws.

Mohawk was temporarily transferred to the Navy 6 April 1917. While serving on coastal duty in connection with convoy operations, she was struck by an unknown merchant vessel, and sank 1 October off Sandy Hook, N.J. All hands were saved but the water was deemed too deep to warrant salvage operations.

V

(WPG–78: dp. 1,000; l. 165'; b. 36'; dr. 13'7"; s. 13 k.; cpl. 60; a. 2 3")

The fifth *Mohawk* (WPG–78), a Coast Guard cutter, was built by Pusey & Jones Corp., Wilmington, Del., and launched 1 October 1934. First assigned patrol and general icebreaking duties on the Hudson and Delaware Rivers, the outbreak of war found her stationed at Cape May, N.J. In accordance with Executive Order No. 8929 of 1 November 1941, *Mohawk* was directed to serve as part of the naval forces. Assigned North Atlantic escort operations, she launched a total of 14 attacks against submarine contacts between 27 August 1942 and 8 April 1945.

Highlights of her at-sea rescue operations included the 27 August 1942 rescue of 293 survivors from USAT *Chatham* and the 22 November rescue of 24 men from SS *Barberry*. *Mohawk* assumed ice patrol duties 25 May to 14 August 1945, and was directed to return to Treasury Department jurisdiction 1 January 1946.

Mohican

A tribe of Algonquin Indians which formerly lived on the banks of the Hudson River but were gradually absorbed into the surrounding tribes. The remnants of the Mohicans are now known as the Stockbridge Indians.

I

(ScSlp: dp. 1,461; l. 198'9"; b. 33'; dr. 13'; s. 10.5 k.; cpl. 160; a. 2 11", 4 32-pdrs.; cl. *Mochican*)

The first *Mohican*, a steam sloop of war, was laid down by Portsmouth Navy Yard, N.H., in August 1858; launched 15 February 1859; and commmissioned 29 November 1859, Comdr. S. W. Godon in command.

Assigned to the African Squadron, Mohican departed Portsmouth 19 January 1860 for the South Atlantic and for the next year and one-half cruised on patrol against pirates and slavers off the coasts of Africa and at times Brazil. On 8 August 1860, the sloop captured slaver *Eric* off the Congo and forced that ship to unload its captive cargo at Monrovia, Liberia. She remained on station until sailing for home 13 August 1861 and following her arrival at Boston, 27 September, sailed to join Flag Officer Samuel F. DuPont's South Atlantic Blockading Squadron off Sandy Hook, N.J. Departing Norfolk 29 October for Port Royal, S.C., as part of the largest U.S. naval squadron assembled to that time, the sloop steamed in the battleline 7 November as DuPont's squadron pounded Fort Walker on Hilton's Head, forcing the Confederates to abandon the emplacement, thereby allowing a combined Union Army and Navy Force to land and occupy this important base of operations. *Mohican* was hit six times by Confederates shells in this engagement, suffering superficial hull damage and having one man killed and seven wounded.

The steamer sailed to Charleston Bar at the end of November accompanying part of the "Stone Fleet," and stood by while these ships were scuttled, 18 and 19 December, to obstruct channels to Confederate ports in the Carolinas and Georgia. The warship then operated off

Dictionary of American Fighting Ships

Dictionary of Disasters at Sea during the Age of Steam - 1824-1962 - by Charles Hocking. F.I.I

MODUM

Finn Friis & C. O. Lund; 1892; Irvine & Co.; 2,937 tons; 314×40·6×20·9; 249 n.h.p.; triple-expansion engines.

The Norwegian steamship *Modum* was sunk by a German submarine off Ushant on December 8th, 1916.

MOENA

Stoomv. Maats. Nederland; 1923; Sir J. Laing & Sons; 9,286 tons; 480·5×60·4×37·4; 1,053 n.h.p.; triple-expansion engines.

The Dutch steamship *Moena* was torpedoed and sunk by a German submarine on August 24th, 1942, soon after leaving Trinidad for St. John, N.B., and the U.K.

MOERO

German Government; 1937; Flensburger Schiffsbau Ges.; 6,111 tons; 426·5×55·7×25; 972 n.h.p.; oil engines.

The motor vessel *Moero* was formerly Belgian, seized by the Germans. She was bombed and sunk by Russian aircraft on September 22nd, 1944, at Riga.

MOGAMI

Japanese Navy, heavy cruiser; 1934; Kure Dockyard; 14,000 tons; 639·7×59·7×14·7; 90,000 s.h.p.; 33 knots; turbine engines; Kanpon boilers; eight 8 in. guns, eight 5 in.A.A., 6 m.g., 12 T.T., 4 aircraft.

The heavy cruiser *Mogami* was one of the ships engaged in the disastrous action in the Surigao Strait on the night of October 24th, 1944. The *Mogami* turned about to escape but sustained severe damage and was sighted at dawn on the 25th in a disabled condition in the Mindanao Sea. She was attacked and sunk by U.S. carrier-borne aircraft.

The full story of the Surigao Strait action is told under the battleship *Yamashiro*. The full story of the battle of Leyte Gulf, of which the above action formed part, is told under the battleship *Musashi*.

MOGAMIGAWA MARU

Toyo Kaiun K.K.; 1934; Mitsubishi Jukogyo K.K.; 7,497 tons; 436·3×58·5×32·8; 839 n.h.p.; oil engines.

The aircraft transporter *Mogamigawa Maru* was torpedoed and sunk by the U.S. submarine *Pogy* on August 1st, 1943, N. of Dunkin Reef, Caroline Islands.

MOHAMED ALI EL-KEBIR

Pharaonic Mail Line; 1922; Scott's S.B. & E. Co.; 7,527 tons; 422·8×56·2×30·4; 1,469 n.h.p.; turbine engines.

The Egyptian steamship *Mohamed Ali El-Kebir*, on a voyage from Avonmouth to Gibraltar with troops and military stores, was torpedoed and sunk by a German submarine on August 7th, 1940, off the west coast of Ireland. Some 740 survivors were landed out of a total of 860 on board.

MOHAWK

United States Navy, revenue cutter; 1902; United States; 980 tons; 205×32×11; single screw; 2 guns.

The United States revenue cutter *Mohawk* was lost by collision off New York on October 1st, 1917.

MOHAWK

Clyde S.S. Co. Inc.; 1908; W. Cramp & Sons S. & E.B. Co.; 4,623 tons; 367×48·3×20·4; 336 n.h.p.; triple-expansion engines.

The American ship *Mohawk*, carrying passengers and general cargo from New York to Charleston, caught fire on January 2nd, 1925, and was beached at Delaware Breakwater.

MOHAWK

Agwilines Inc.; 1926; Newport News S.B. & D.D. Co.; 5,896 tons; 387·5×54·3×20; 4,200 i.h.p.; 15 knots; turbine engines.

The liner *Mohawk* left New York on the afternoon of January 24th, 1935, in bitterly cold weather. She was commanded by Capt. Joseph E. Wood and carried 53 passengers, 110 crew and general cargo. At about 9.30 p.m. when four miles off Seagirt, New Jersey, she collided with the Norwegian steamship *Talisman*, Capt. Wang. A hole was torn in the liner's side and it was at once apparent that she must sink. Great difficulty was experienced in getting out the boats as the boat davits were thick with ice.

Capt. Wood made an effort to beach his ship while she was still under steam but the engine room flooded and the attempt failed. Meanwhile the liner *Algonquin* of the same line and the *Limon* of the United Fruit Line had come on the scene. The former picked up four of the *Mohawk's* boats containing 97 persons and the latter picked up two others with very few survivors. The *Mohawk* developed a heavy list and sank in less than an hour. The number drowned was 45, of whom 15 were passengers.

MOHAWK

British Navy, destroyer; 1937; Thornycroft & Co.; 1,870 tons; 355·5×36·5×9; 44,000 s.h.p.; 36·5 knots; turbine engines; 3-drum boilers; eight 4·7 in. guns, 7 smaller, 4 T.T.

The destroyer *Mohawk*, Cdr. J. W. M. Eaton, was one of a half flotilla consisting of *Jervis*, leader, Capt. Mack, *Janus* and *Nubian*, cruising between Sicily and Tripoli on April 15th, 1941. The ships sighted an Italian convoy of five merchantmen escorted by three destroyers. In the ensuing action the whole of this force was sunk by the British with great loss of life to the Italians.

Mohawk was hit by a torpedo and sank later with the loss of two officers and 39 ratings killed and 23 ratings wounded.

See also Italian destroyer *Luca Tarigo*.

#98 Copyright

MOHEGAN

Atlantic Transport Co.; 1898; Earle's Co.; 6,889 tons; 482·4×52·1×31·3; 894 n.h.p.; 13 knots; triple-expansion engines.

The liner *Mohegan* left London for New York on October 13th, 1898, with 149 persons on board, of whom 53 were passengers. She was commanded by Capt. Griffiths, commodore of the line. On the afternoon of the 14th she was reported off Rame Head, and by 7 o'clock the same evening her lights were observed by watchers at Porthoustock, near Falmouth. She was steaming at between 12 and 13 knots and was well off her proper course. The only indication of her presence was her masthead and cabin lights and she was so close inshore as to make any warning unavailing. Shortly after being sighted she passed to shoreward of the Manacles Bell Buoy and struck on the Maen Voces Rock, in the Varsis Ledge.

The *Mohegan* struck the rocks head on and the impact was so violent that the electric lights failed immediately. The oil lamps were in the lamp locker in the fore part of the ship and it was impossible to reach them, consequently there was no light of any sort available. Rockets were sent up in response to which the Porthoustock lifeboat put out, followed later by those from Cadgwith, Falmouth and Polperro. Meanwhile the liner was rocking to and fro on the ledge, making the task of getting away her boats a most difficult one, despite which two cleared the side though only partly full.

In the black darkness of the winter's night without the guidance of lights from the stricken ship the lifeboats searched around in a vain endeavour to find the wreck. At last they came upon the drifting boats whose occupants told them that the *Mohegan* had foundered in 15 minutes.

The ship sank by the bow in 11 fathoms with a list to port, only her masts and funnel showing above water. Unfortunately the side canted to port held the rocket apparatus and many of the rockets plunged into the sea instead of soaring upwards. A number of people managed to climb the rigging, among them Quartermaster Juddery who swam to a lifeboat, obtained a line and swam back to the masts, thus enabling 16 people to be hauled through the seas to safety. On shore the rocket apparatus came into action but failed to reach the wreck which lay too far out.

The number drowned was 106, including Capt. Griffiths and all his officers.

MOHICAN

Clyde S.S. Co. Inc.; 1904; W. Cramp & Sons S. & E.B. Co.; 2,255 tons; 237·9×40·1×19·5; 97 n.h.p.; triple-expansion engines.

The American ship *Mohican* caught fire on May 10th, 1925, on a voyage from Jacksonville to Miami and sank off Cape Canaveral.

PN4232

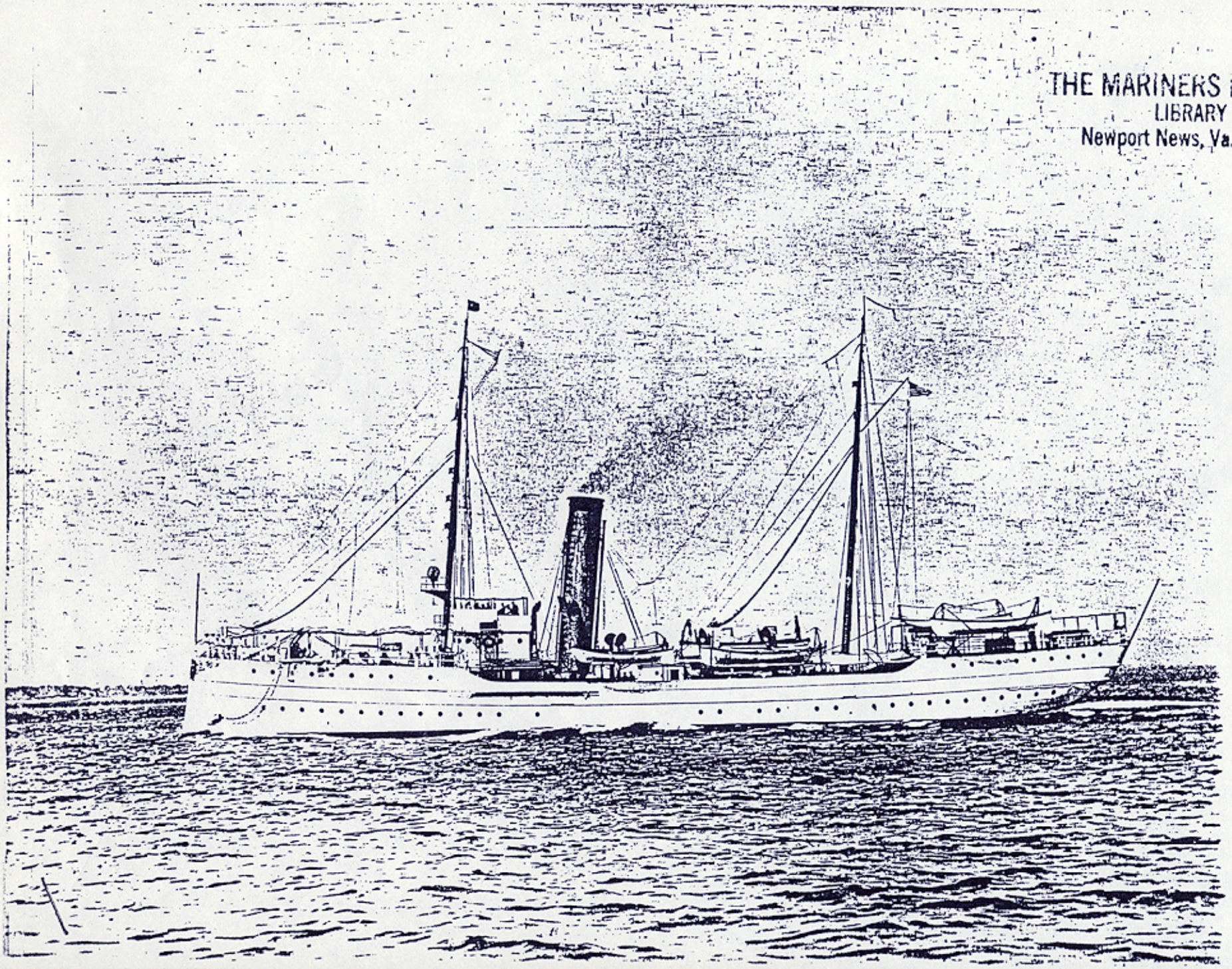


CHART # 12326 ITEM # 20.3p

ITEM DESCRIPTION: 1.0 meter high side scan sonar contact in 35 ft of water.

SOURCE: Survey FE - 312 (1988) SS, AWOIS 1634

REFERENCES: 1.9p, 4.3s, 6.5s, 9.5s, 12.2s, 14.6p, 40.2p, 40.2s, 45.9s

INVESTIGATION DATE: 5/01/88 (DAY 122) SSS
5/02/88 (DAY 123) DIVE

#7510

VESSEL: 2931 (1015) DAY 122
2932 (1014) DAY 123

OIC: VERLAQUE DAY 122
KOCH DAY 123

DIVER LEAST DEPTH: 30.3 ft (pneumo) uncorrected

POSITION # 4000 (Day 123) TIME: 192800 UTC

CORRECTED LEAST DEPTH: 29.~~4~~ 0 ft

Pneumo Corrector Applied = -0.5 ft

Predicted Tide Correctors Applied -0.4 ft

GEODETIC POSITION:	Latitude	Longitude
Charted:	N/A	N/A
Observed:	40/30/14.8~~0~~ 1 N	73/53/59.4~~2~~ 3 W

POSITION DETERMINED BY:

Range-Range with position fix for D.P. using Falcon Mini-Ranger.

METHOD OF ITEM INVESTIGATION:

Initial position of contact supplied by Head boat "APACHE V" - Loran C rates given. 200% side scan sonar coverage, 50 meter line spacing, day 122. Side scan sonar box development run on day 122. Dive investigation on day 123 - see attached dive report.

CHARTING RECOMMENDATION:

The hydrographer recommends that the item be charted as an obstruction over which depth is known, using symbol 27 from section 0, Chart no. 1. Chart as an obstruction with a least depth of 29 feet (29 obstr)

PKT 4/12/89

20.3 P
same
as
1.9 P

20.3p

Dive 2 5/2

Divers descended marker buoy onto a pile of rock and debris, the perimeter of the pile was swept and the site was estimated to be approximately 70 feet long and 40 feet wide. A 100 foot circle search was performed around the site with no additional items found. The dumpsite consisted of rocks ranging in size from 6 inches to 4 feet, as well as bricks, small pieces of wood, and pieces of old trawl net. The site was inhabited by large schools of small fish, that were stationary 3 feet above the top of the site. Divers positioned the marker buoy on the site of the least depth and a pneumo depth was taken. Divers then surfaced.

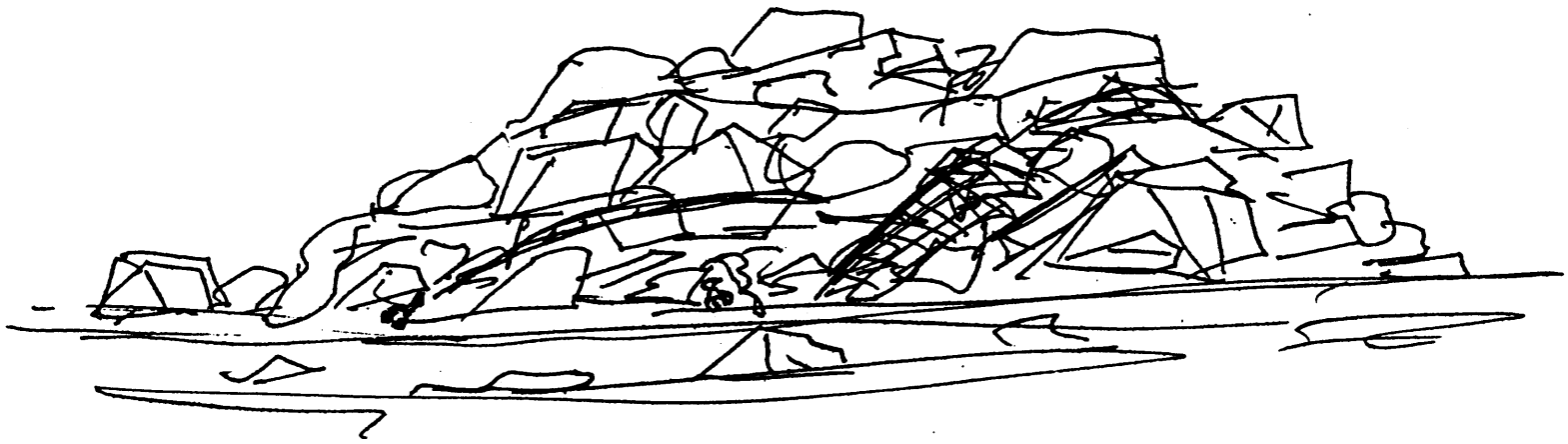


CHART # 12326 ITEM # 57.4s

ITEM DESCRIPTION: 1.0 meter high side scan sonar contact in 35 ft of water.

SOURCE: Survey FE - 312 (1988) SS, AWOIS 1634

REFERENCES: ~~82.4s~~, ~~73.2p~~, 75.8s, ~~107.9p~~, ~~96.7s~~

INVESTIGATION DATE: 5/01/88 (DAY 122) SSS

VESSEL: 2931 (1015) DAY 122

OIC: VERLAQUE

OBSERVED LEAST DEPTH: N/A ft uncorrected

POSITION # N/A TIME: N/A UTC

CORRECTED LEAST DEPTH: N/A ft

TRA Correctors Applied Draft = N/A ft

Predicted Tide Correctors Applied N/A ft

GEODETIC POSITION:	Latitude	Longitude
Charted:	N/A	N/A
Observed:	N/A	N/A

POSITION DETERMINED BY:

Range-Range with position fix for D.P. using Falcon Mini-Ranger.

METHOD OF ITEM INVESTIGATION:

200% side scan sonar coverage, 50 meter line spacing.

Side scan sonar box development run.

Echosounder development - 5 meter line spacing, no peaks found.

CHARTING RECOMMENDATION:

The hydrographer recommends that no further investigation is necessary (NFIN). Concur

CHART # 12326 ITEM # 69.3s

ITEM DESCRIPTION: 1.7 meter high side scan sonar contact in 35 ft of water.

SOURCE: Survey FE - 312 (1988) SS, AWOIS 1634

REFERENCES: 63.2s, 85.8p

RLT 4/24/89

INVESTIGATION DATE: 5/01/88 (DAY 122) SSS
5/03/88 (DAY 124) echo

VESSEL: 2931 (1015) DAY 122
2932 (1014) DAY 124

OIC: VERLAQUE
SKARBEK

OBSERVED LEAST DEPTH: 34.5 ft uncorrected

POSITION # 4003+2+I (Day 124) TIME: 140522 UTC

CORRECTED LEAST DEPTH: ~~33.0~~ 32.0 ft

TRA Correctors Applied Draft = +1.8 ft

Predicted Tide Correctors Applied -3.8 ft

Velocity Corrector Applied +0.5 ft

GEODETIC POSITION:	Latitude	Longitude
Charted:	N/A	N/A
Observed:	40/30/10.2~~5~~6 N	73/54/01.9~~7~~6 W

POSITION DETERMINED BY:

Range-Range with position fix for D.P. using Falcon Mini-Ranger.

METHOD OF ITEM INVESTIGATION:

200% side scan sonar coverage, 50 meter line spacing.

Echosounder development - 5 meter line spacing, 34.5 ft peak found in 38.0 ft of water.

CHARTING RECOMMENDATION:

The hydrographer recommends that the ~~33.0~~ 32.0 ft sounding be charted at the above position. Concur

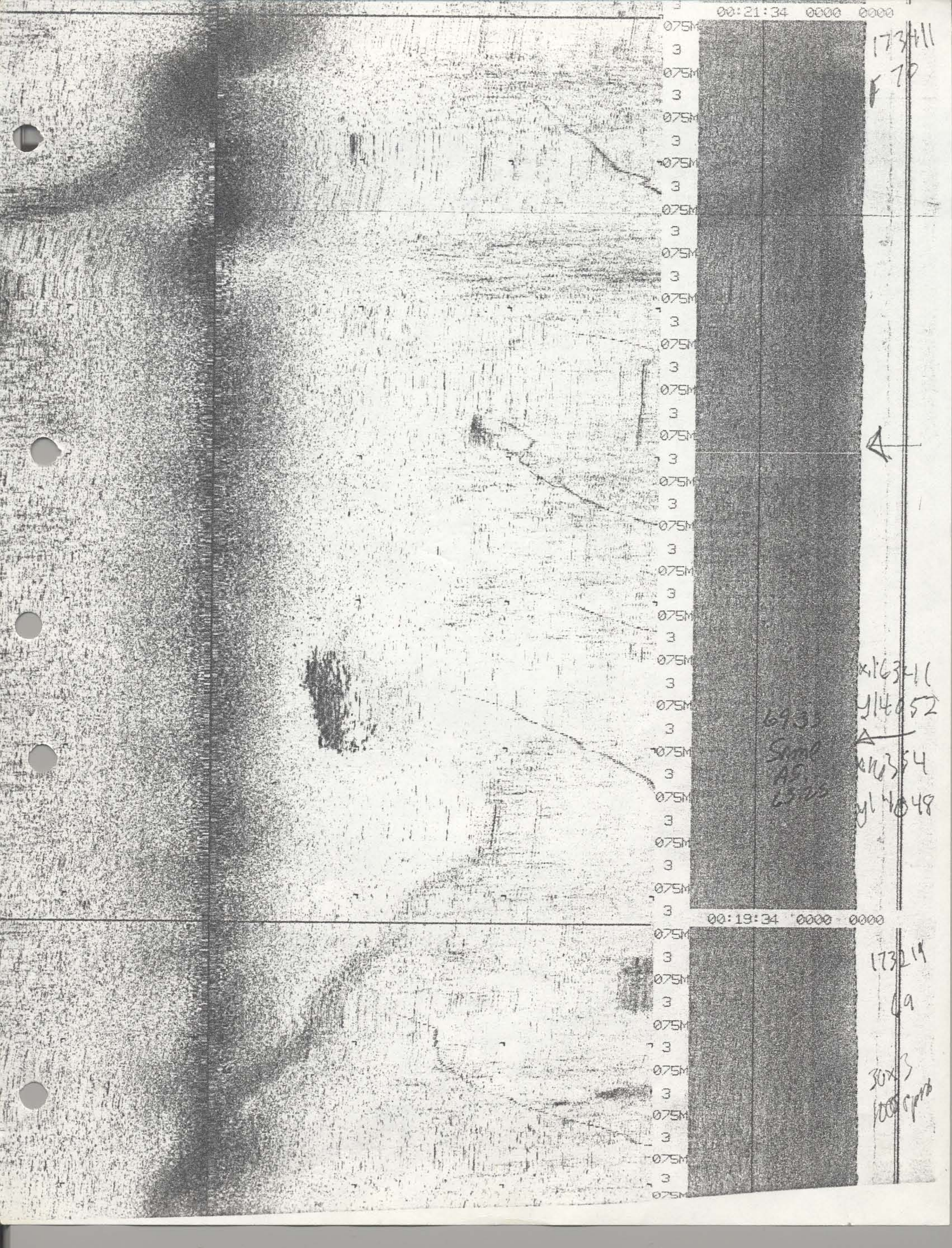

00:21:34 0000 0000
075M
3
173411
00:19:34 0000 0000

CHART # 12326 ITEM # 252.8p

ITEM DESCRIPTION: 0.4 meter high side scan sonar contact in 40 ft of water.

SOURCE: Survey FE - 312 (1988) SS, AWOIS 1634

REFERENCES: 262.4s, 249.3s

INVESTIGATION DATE: 5/03/88 (DAY 124) SSS
5/03/88 (DAY 124) ECHO

VESSEL: 2931 (1015) DAY 124
2932 (1014) DAY 124

OIC: VERLAQUE
SKARBEK

OBSERVED LEAST DEPTH: 34.0 ft uncorrected (echo)

POSITION # 4060+2+I (Day 124) TIME: 155903 UTC

CORRECTED LEAST DEPTH: ~~34.1~~ 33.0 ft

TRA Correctors Applied Draft = +1.8 ft

Predicted Tide Correctors Applied -2.2 ft

Velocity Corrector Applied +0.5 ft

GEODETIC POSITION:	Latitude	Longitude
Charted:	N/A	N/A
Observed:	40/29/41.~~7~~5 N	73/54/13.0~~1~~9 W

POSITION DETERMINED BY:

Range-Range with position fix for D.P. using Falcon Mini-Ranger.

METHOD OF ITEM INVESTIGATION:

200% side scan sonar coverage, 50 meter line spacing.

Echosounder development - 5 meter line spacing, echosounder least depth of 34.0 ft (corrected) in 38 ft of water.

CHARTING RECOMMENDATION:

The hydrographer recommends that the sounding of ~~34.1~~ 33.0 ft be charted at the above position. Concur

RLV 4/24/89

JGN

252.8
249.3

CHART # 12326 ITEM # 271.1p

ITEM DESCRIPTION: 0.4 meter high side scan sonar contact in 43 ft of water.

SOURCE: Survey FE - 312 (1988) SS, AWOIS 1634

REFERENCES: N/A

INVESTIGATION DATE: 5/03/88 (DAY 124) SSS
5/17/88 (DAY 138) ECHO

VESSEL: 2931 (1015) DAY 124
2931 (1015) DAY 138

OIC: VERLAQUE
VERLAQUE

OBSERVED LEAST DEPTH: N/A ft uncorrected (echo)

POSITION # N/A TIME: N/A UTC

CORRECTED LEAST DEPTH: N/A ft

TRA Correctors Applied Draft = N/A ft

Predicted Tide Correctors Applied N/A ft

GEODETIC POSITION:	Latitude	Longitude
Charted:	N/A	N/A
Observed:	N/A	N/A

POSITION DETERMINED BY:

Range-Range with position fix for D.P. using Falcon Mini-Ranger.

METHOD OF ITEM INVESTIGATION:

200% side scan sonar coverage, 50 meter line spacing. Echosounder development on day 138, no peaks found.

CHARTING RECOMMENDATION:

The hydrographer recommends that no further investigation is necessary (NFIN). Concur

CHART # 12326 ITEM # 279.3p

ITEM DESCRIPTION: 0.7 meter high side scan sonar contact in 39 ft of water.

SOURCE: Survey FE - 312 (1988) SS, AWOIS 1634

REFERENCES: N/A

INVESTIGATION DATE: 5/03/88 (DAY 124) SSS

VESSEL: 2931 (1015) DAY 124

OIC: VERLAQUE

OBSERVED LEAST DEPTH: N/A ft uncorrected (echo)

POSITION # N/A TIME: N/A UTC

CORRECTED LEAST DEPTH: N/A ft

TRA Correctors Applied Draft = N/A ft

Predicted Tide Correctors Applied N/A ft

GEODETIC POSITION:	Latitude	Longitude
Charted:	N/A	N/A
Observed:	N/A	N/A

POSITION DETERMINED BY:

Range-Range with position fix for D.P. using Falcon Mini-Ranger.

METHOD OF ITEM INVESTIGATION:

200% side scan sonar coverage, 50 meter line spacing.

CHARTING RECOMMENDATION:

The hydrographer recommends that the contact be considered a change in bottom texture (CIBT). Concur

RDS

CHART # 12326 ITEM # 284.7p

ITEM DESCRIPTION: 1.3 meter high side scan sonar contact in 42 ft of water.

SOURCE: Survey FE - 312 (1988) SS, AWOIS 1634

REFERENCES: 306.7s

INVESTIGATION DATE: 5/03/88 (DAY 124) SSS

VESSEL: 2931 (1015) DAY 124

OIC: VERLAQUE

OBSERVED LEAST DEPTH: N/A ft uncorrected (echo)

POSITION # N/A TIME: N/A UTC

CORRECTED LEAST DEPTH: N/A ft

TRA Correctors Applied Draft = N/A ft

Predicted Tide Correctors Applied N/A ft

GEODETIC POSITION:	Latitude	Longitude
Charted:	N/A	N/A
Observed:	N/A	N/A

POSITION DETERMINED BY:

Range-Range with position fix for D.P. using Falcon Mini-Ranger.

METHOD OF ITEM INVESTIGATION:

200% side scan sonar coverage, 50 meter line spacing.

CHARTING RECOMMENDATION:

The hydrographer recommends that the contact be considered a change in bottom texture (CIBT). Concur

CHART # 12326 ITEM # 285.4p

ITEM DESCRIPTION: 0.4 meter high side scan sonar contact in 42 ft of water.

SOURCE: Survey FE - 312 (1988) SS, AWOIS 1634

REFERENCES: 311.1s, 306.1p, 306.1s

INVESTIGATION DATE: 5/03/88 (DAY 124) SSS

VESSEL: 2931 (1015) DAY 124

OIC: VERLAQUE

OBSERVED LEAST DEPTH: N/A ft uncorrected (echo)

POSITION # N/A TIME: N/A UTC

CORRECTED LEAST DEPTH: N/A ft

TRA Correctors Applied Draft = N/A ft

Predicted Tide Correctors Applied N/A ft

GEODETIC POSITION:	Latitude	Longitude
Charted:	N/A	N/A
Observed:	N/A	N/A

POSITION DETERMINED BY:

Range-Range with position fix for D.P. using Falcon Mini-Ranger.

METHOD OF ITEM INVESTIGATION:

200% side scan sonar coverage, 50 meter line spacing.

CHARTING RECOMMENDATION:

The hydrographer recommends that no further investigation is necessary (NFIN). Concur

CHART # 12326 ITEM # 304.9s

ITEM DESCRIPTION: 0.6 meter high side scan sonar contact in 39 ft of water.

SOURCE: Survey FE - 312 (1988) SS, AWOIS 1634

REFERENCES: 312.5p, 330.8

INVESTIGATION DATE: 5/03/88 (DAY 124) SSS

VESSEL: 2931 (1015) DAY 124

OIC: VERLAQUE

OBSERVED LEAST DEPTH: N/A ft uncorrected (echo)

POSITION # N/A TIME: N/A UTC

CORRECTED LEAST DEPTH: N/A ft

TRA Correctors Applied Draft = N/A ft

Predicted Tide Correctors Applied N/A ft

GEODETIC POSITION:	Latitude	Longitude
Charted:	N/A	N/A
Observed:	N/A	N/A

POSITION DETERMINED BY:

Range-Range with position fix for D.P. using Falcon Mini-Ranger.

METHOD OF ITEM INVESTIGATION:

200% side scan sonar coverage, 50 meter line spacing.

CHARTING RECOMMENDATION:

The hydrographer recommends that the contact be considered a change in bottom texture (CIBT). Concur

CHART # 12326 ITEM # 312.1p

ITEM DESCRIPTION: 0.6 meter high side scan sonar contact in 40 ft of water.

SOURCE: Survey FE - 312 (1988) SS, AWOIS 1634

REFERENCES: 331.2s, 343.9s

INVESTIGATION DATE: 5/03/88 (DAY 124) SSS

VESSEL: 2931 (1015) DAY 124

OIC: VERLAQUE

OBSERVED LEAST DEPTH: N/A ft uncorrected (echo)

POSITION # N/A TIME: N/A UTC

CORRECTED LEAST DEPTH: N/A ft

TRA Correctors Applied Draft = N/A ft

Predicted Tide Correctors Applied N/A ft

GEODETIC POSITION:	Latitude	Longitude
Charted:	N/A	N/A
Observed:	N/A	N/A

POSITION DETERMINED BY:

Range-Range with position fix for D.P. using Falcon Mini-Ranger.

METHOD OF ITEM INVESTIGATION:

200% side scan sonar coverage, 50 meter line spacing.

CHARTING RECOMMENDATION:

The hydrographer recommends that the contact be considered a change in bottom texture (CIBT). Concur

CHART # 12326 ITEM # 315.9p

ITEM DESCRIPTION: 0.3 meter high side scan sonar contact in 40 ft of water.

SOURCE: Survey FE - 312 (1988) SS, AWOIS 1634

REFERENCES: 327.7p

INVESTIGATION DATE: 5/03/88 (DAY 124) SSS
5/17/88 (DAY 138) SSS

VESSEL: 2931 (1015) DAY 124
2931 (1015) DAY 138

OIC: VERLAQUE
VERLAQUE

OBSERVED LEAST DEPTH: N/A ft uncorrected (echo)

POSITION # N/A TIME: N/A UTC

CORRECTED LEAST DEPTH: N/A ft

TRA Correctors Applied Draft = N/A ft

Predicted Tide Correctors Applied N/A ft

GEODETIC POSITION:	Latitude	Longitude
Charted:	N/A	N/A
Observed:	N/A	N/A

POSITION DETERMINED BY:

Range-Range with position fix for D.P. using Falcon Mini-Ranger.

METHOD OF ITEM INVESTIGATION:

200% side scan sonar coverage, 50 meter line spacing. Side scan sonar development on day 138, no peaks or shadows.

CHARTING RECOMMENDATION:

The hydrographer recommends that no further investigation is necessary (NFIN). Concur

CHART # 12326 ITEM # 329.1s

ITEM DESCRIPTION: 0.5 meter high side scan sonar contact in 39 ft of water.

SOURCE: Survey FE - 312 (1988) SS, AWOIS 1634

REFERENCES: N/A

INVESTIGATION DATE: 5/03/88 (DAY 124) SSS

VESSEL: 2931 (1015) DAY 124

OIC: VERLAQUE

OBSERVED LEAST DEPTH: N/A ft uncorrected (echo)

POSITION # N/A TIME: N/A UTC

CORRECTED LEAST DEPTH: N/A ft

TRA Correctors Applied Draft = N/A ft

Predicted Tide Correctors Applied N/A ft

GEODETIC POSITION:	Latitude	Longitude
Charted:	N/A	N/A
Observed:	N/A	N/A

POSITION DETERMINED BY:

Range-Range with position fix for D.P. using Falcon Mini-Ranger.

METHOD OF ITEM INVESTIGATION:

200% side scan sonar coverage, 50 meter line spacing.

CHARTING RECOMMENDATION:

The hydrographer recommends that the contact be considered a change in bottom texture (CIBT). Concur

PAR

CHART # 12326 ITEM # 330.1s

ITEM DESCRIPTION: 1.1 meter high side scan sonar contact in 40 ft of water.

SOURCE: Survey FE - 312 (1988) SS, AWOIS 1634

REFERENCES: 345.4p, 345.4s, 363.6p, 365.2p

#7508

INVESTIGATION DATE: 5/03/88 (DAY 124) SSS
5/03/88 (DAY 124) ECHO
5/16/88 (DAY 137) DIVE

VESSEL: 2931 (1015) DAY 124
2932 (1014) DAY 124
2932 (1014) DAY 137

OIC: VERLAQUE
SKARBEK
KOCH

DIVER LEAST DEPTH: 40.0 ft uncorrected

POSITION # 4131 (Day 137) TIME: 181333 UTC

CORRECTED LEAST DEPTH: 39.~~8~~ 0 ft

Pneumo Corrector Applied -0.6 ft

Predicted Tide Correctors Applied +0.2 ft

GEODETIC POSITION:	Latitude	Longitude
Charted:	N/A	N/A
Observed:	40/29/31.~~40~~ 38 N	73/54/20.45 W

POSITION DETERMINED BY:

Range-Range with position fix for D.P. using Falcon Mini-Ranger.

METHOD OF ITEM INVESTIGATION:

200% side scan sonar coverage - 50 meter line spacing, Echosounder development - 5 meter lines - day 124.

Dive investigation on day 137 - see attached dive report.

CHARTING RECOMMENDATION:

The hydrographer recommends that the item be charted as a wreck over which the depth is known as 39.~~8~~ 0 ft, using symbol 15 from section 0, Chart No. 1, charted at the above position. See section 7.a.1) of the EVALUATION Report.

00:53:58 0000

330.1s

Dive 1 5/16/88

Divers Kalinowski and DeBow descended a marker buoy to a sand bottom approximately five feet from metallic wreckage. The wreckage was of a metallic structure similar in size and description to that which was described by divers on day 125, laying in a scour approximately 2 feet deep. The wreckage was a four sided metal structure approximately 2 to 5 feet thick. The top and 3 out of 4 sides of the structure were coated with red anti-fouling paint. No marine growth was observed in these areas. The fourth side of the structure was defined by jagged edges covered with heavy marine growth and several holes exposing longitudinal supports in the interior of the structure. Sacraficial zincs were observed on the top of the structure. Divers measured the dimensions of 45 feet by 20 feet by 5 feet with a steel tape measure.

Dive 2 5/16/88

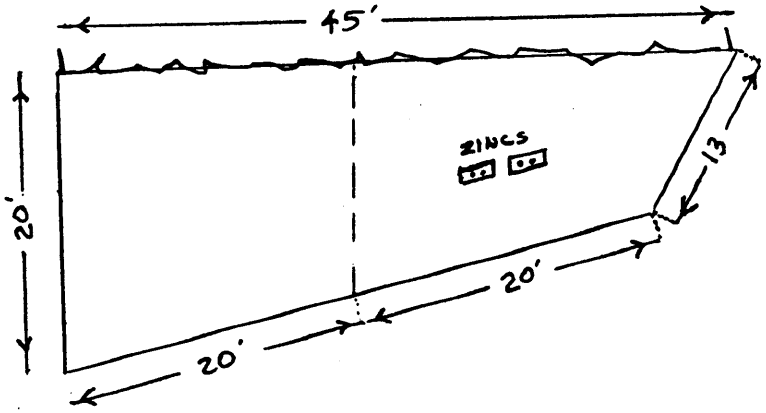
Divers Kalinowski and DeBow unsuccessfully attempted to establish a least depth for the site with a pneumatic depth gauge. Strong currents pulled the divers and the marker buoy off the site before a least depth could be obtained.

Dive 3 5/16/88

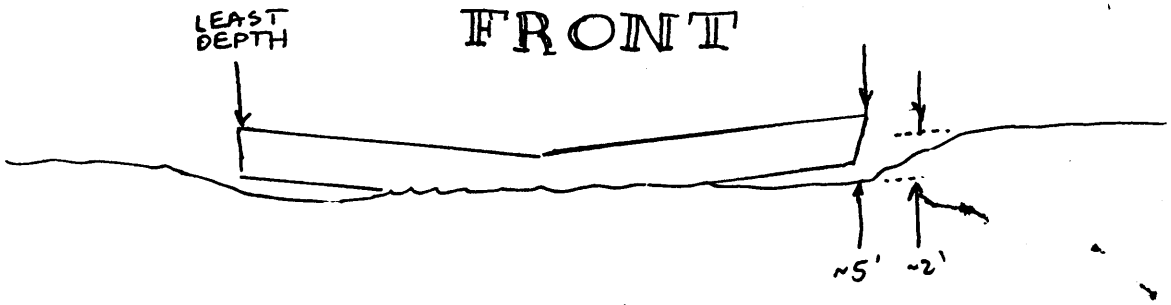
Divers Koch and Kalinowski obtained an uncorrected pneumo depth of 40.0 feet to one of the corners of the wreckage (see position # 4131). Additional investigation of the site revealed that the structure was an unsymmetric 4 sided shape. The similarity of this site to the size, shape, location and general character of the site described by divers on day 125, indicates that these two sections of wreckage were originally attached to each other along the now jagged edges.

Awois 1634
330.15

TOP



FRONT



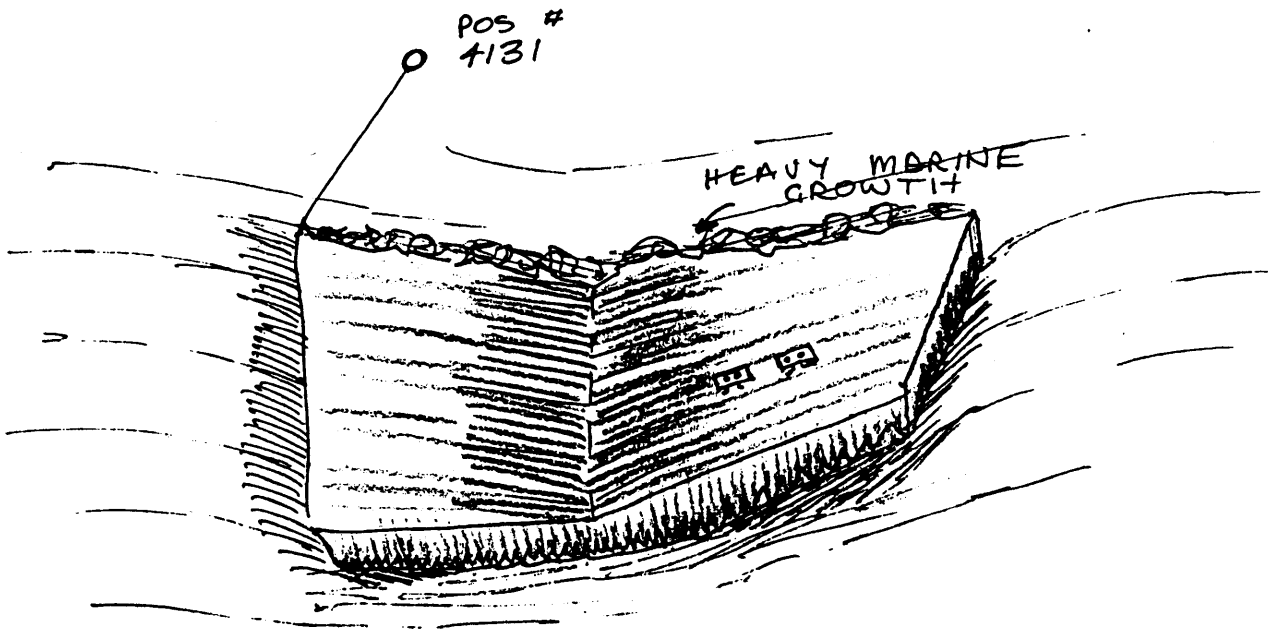


CHART # 12326 ITEM # 368.8p

ITEM DESCRIPTION: 0.5 meter high side scan sonar contact in 40 ft of water.

SOURCE: Survey FE - 312 (1988) SS, AWOIS 1634

REFERENCES: N/A

INVESTIGATION DATE: 5/03/88 (DAY 124) SSS

VESSEL: 2931 (1015) DAY 124

OIC: VERLAQUE

OBSERVED LEAST DEPTH: N/A ft uncorrected (echo)

POSITION # N/A TIME: N/A UTC

CORRECTED LEAST DEPTH: N/A ft

TRA Correctors Applied Draft = N/A ft

Predicted Tide Correctors Applied N/A ft

GEODETIC POSITION:	Latitude	Longitude
Charted:	N/A	N/A
Observed:	N/A	N/A

POSITION DETERMINED BY:

Range-Range with position fix for D.P. using Falcon Mini-Ranger.

METHOD OF ITEM INVESTIGATION:

200% side scan sonar coverage, 50 meter line spacing.

CHARTING RECOMMENDATION:

The hydrographer recommends that the contact be considered a change in bottom texture (CIBT). Concur

CHART # 12326 ITEM # 346.4p

ITEM DESCRIPTION: 0.9 meter high side scan sonar contact

SOURCE: Survey FE - 312 (1988) SS, AWOIS 1634

REFERENCES: 363.2p

INVESTIGATION DATE: 5/03/88 (DAY 124) SSS

VESSEL: 2931 (1015) DAY 124

OIC: VERLAQUE

OBSERVED LEAST DEPTH: N/A ft uncorrected (echo)

POSITION # N/A TIME: N/A UTC

CORRECTED LEAST DEPTH: N/A ft

TRA Correctors Applied Draft = N/A ft

Predicted Tide Correctors Applied N/A ft

GEODETIC POSITION:	Latitude	Longitude
Charted:	N/A	N/A
Observed:	N/A	N/A

POSITION DETERMINED BY:

Range-Range with position fix for D.P. using Falcon Mini-Ranger.

METHOD OF ITEM INVESTIGATION:

200% side scan sonar coverage, 50 meter line spacing.

CHARTING RECOMMENDATION:

The hydrographer recommends that the contact be considered a change in bottom texture (CIBT). Concur

CHART # 12326 ITEM # 346.7p

ITEM DESCRIPTION: 1.1 meter high side scan sonar contact in 38 ft of water.

SOURCE: Survey FE - 312 (1988) SS, AWOIS 1634

REFERENCES: 362.9p

INVESTIGATION DATE: 5/03/88 (DAY 124) SSS
5/24/88 (DAY 145) DIVE

VESSEL: 2931 (1015) DAY 124
2932 (1014) DAY 145

OIC: VERLAQUE
KOCH

DIVER LEAST DEPTH: N/A ft uncorrected (echo)

POSITION # 4301 TIME: 220310 UTC

CORRECTED LEAST DEPTH: N/A ft

TRA Correctors Applied Draft = N/A ft

Predicted Tide Correctors Applied N/A ft

GEODETIC POSITION:	Latitude	Longitude
Charted:	N/A	N/A
Observed:	N/A	N/A

POSITION DETERMINED BY:

Range-Range with position fix for D.P. using Falcon Mini-Ranger.

METHOD OF ITEM INVESTIGATION:

200% side scan sonar coverage, 50 meter line spacing.

Dive investigation on day 145, see attached dive report.

CHARTING RECOMMENDATION:

The hydrographer recommends that the contact be considered a change in bottom texture (CIBT). Concur

Dip on
day 195
CIBT.
346.7
X= 157
Y=128
X=157
Y=128
346.4
CIBT
NFIN
DRS
SPD
5/26/82

346.7p

Dive 4 5/24/88

Divers Koch and DeBow descended the marker buoy line to a small rocky outcrop on a sandy bottom. The area consisted of small rocks and scattered natural growth which rose up off the bottom no more than one foot. Divers moved the buoy anchor to the center of the debris field and conducted a 100 ft circle search. No other debris or contacts were found. Divers surfaced.

CHART # 12326 ITEM # 351.3p

ITEM DESCRIPTION: 0.8 meter high side scan sonar contact in 38 ft of water.

SOURCE: Survey FE - 312 (1988) SS, AWOIS 1634

REFERENCES: 360.4p

INVESTIGATION DATE: 5/03/88 (DAY 124) SSS

VESSEL: 2931 (1015) DAY 124

OIC: VERLAQUE

OBSERVED LEAST DEPTH: N/A ft uncorrected (echo)

POSITION # N/A TIME: N/A UTC

CORRECTED LEAST DEPTH: N/A ft

TRA Correctors Applied Draft = N/A ft

Predicted Tide Correctors Applied N/A ft

GEODETIC POSITION:	Latitude	Longitude
Charted:	N/A	N/A
Observed:	N/A	N/A

POSITION DETERMINED BY:

Range-Range with position fix for D.P. using Falcon Mini-Ranger.

METHOD OF ITEM INVESTIGATION:

200% side scan sonar coverage, 50 meter line spacing.

CHARTING RECOMMENDATION:

The hydrographer recommends that the contact be considered a change in bottom texture (CIBT). Concur

CHART # 12326 ITEM # 357.2p

ITEM DESCRIPTION: Side scan sonar contact found offline.

SOURCE: Survey FE - 312 (1988) SS, AWOIS 1634

REFERENCES: 357.6p

INVESTIGATION DATE: 5/03/88 (DAY 124) SSS
5/16/88 (DAY 137) SSS

VESSEL: 2931 (1015) DAY 124
2931 (1015) DAY 137

OIC: VERLAQUE
VERLAQUE

OBSERVED LEAST DEPTH: N/A

POSITION # N/A TIME: N/A UTC

CORRECTED LEAST DEPTH: N/A ft

TRA Correctors Applied Draft = N/A ft

Predicted Tide Correctors Applied N/A ft

GEODETIC POSITION:	Latitude	Longitude
Charted:	N/A	N/A
Observed:	N/A	N/A

POSITION DETERMINED BY:

Range-Range with position fix for D.P. using Falcon Mini-Ranger.

METHOD OF ITEM INVESTIGATION:

200% side scan sonar coverage, 50 meter line spacing, on day 124. Side scan sonar box development on day 137, no contact found.

CHARTING RECOMMENDATION:

The hydrographer recommends that no further investigation is necessary (NFIN). Concur.

EJV

#13

CHART # 12326 ITEM # 379.6s

ITEM DESCRIPTION: 2.4 meter high side scan sonar contact in 38 ft of water.

SOURCE: Survey FE - 312 (1988) SS, AWOIS 1634

REFERENCES: 363.5s, 365.1s, 399.5p

#1509

INVESTIGATION DATE: 5/03/88 (DAY 124) SSS
5/03/88 (DAY 124) SSS
5/04/88 (DAY 125) DIVE

VESSEL: 2931 (1015) DAY 124
2932 (1014) DAY 124
2932 (1015) DAY 125

OIC: VERLAQUE
SKARBEK
KOCH

DIVER LEAST DEPTH: 37.1 ft (pneumo)uncorrected

POSITION # 494 (Day 125) TIME: 200800 UTC

CORRECTED LEAST DEPTH: 36.1 → 0 ft

Pneumo Corrector Applied -0.6 ft

Predicted Tide Correctors Applied -0.4 → 2 ft

GEODETIC POSITION:	Latitude	Longitude
Charted:	N/A	N/A
Observed:	40/29/28.56 → 7 N	73/54/21.18 → 20 W

POSITION DETERMINED BY:

Range-Range with position fix for D.P. using Falcon Mini-Ranger.

METHOD OF ITEM INVESTIGATION:

200% side scan sonar coverage, 50 meter line spacing, and echosounder development, 5 meter spacing on day 124.

Dive investigation on day 125 - see attached dive report.

CHARTING RECOMMENDATION:

The hydrographer recommends that the item be charted as a wreck over which the depth is known as 36.1 → 0 ft, ~~using symbol 15 from section O, Chart No. 1.~~ charted at the above position. See section 7.a.i) of the Evaluation Report

RT 4/24/89

01:33:19 0000 0000
01:31:19 0000 0000

379.6s

Dive 1 5/4/88

Divers descended marker buoy in a stiff current to a sand bottom, they observed the buoys anchor weight being dragged along the bottom and aborted the dive.

Dive 2 5/4

Divers descended the launch anchor line to a sand bottom, they performed a 100' circle search without observing anything other than a sand bottom. Divers then surfaced.

Dive 3 5/4

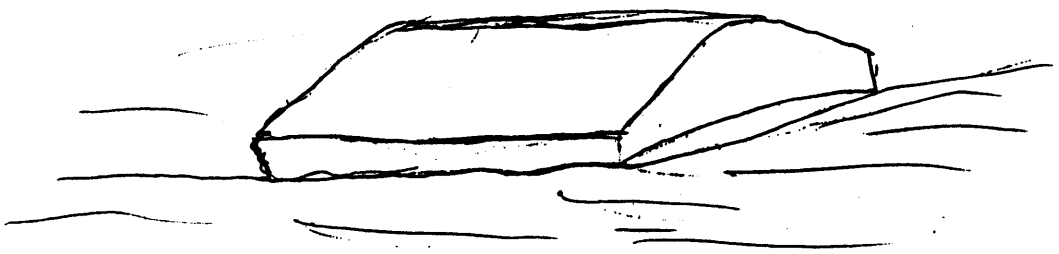
Divers descended marker buoy onto the remains of a portion of a keel from a metal hulled vessel. The vessel was lying inverted with the keel section exposed. A portion of a bilge keel was observed on the western portion of the wreck. The portion of the wreck observed was apparently from the midsection of a vessel. The entire structure was coated with anti fouling paint and was 90% devoid of marine life. Divers swept the wreckage and then measured the site (45 feet at the beam, 37 feet at the northern end, and 18 feet long). Divers observed zinks attached to the hull, and the southern end of the site was bent and twisted metal. The hull stood approximately 3 feet off the bottom at the northern end , and a sand scour at the southern end exposed approximately 6 to 8 feet of the wreck (3 to 4 feet below the surrounding bottom). Divers then surfaced.

Dive 4 5/4

Divers descended marker buoy and obtained a pneumo least depth on the top of the hull, tied off a marker buoy on a zinc mount in the center of the hull for a D.P. and then surfaced.

/BUM

Amos 1634
329.65



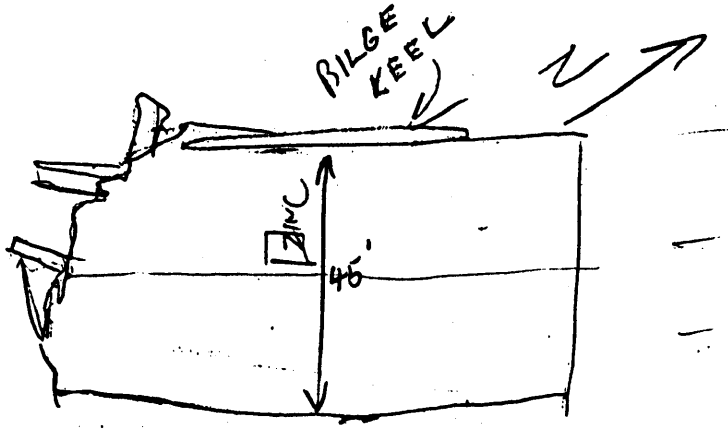


CHART # 12326 ITEM # 368.5s

ITEM DESCRIPTION: 0.7 meter high side scan sonar contact in 38 ft of water.

SOURCE: Survey FE - 312 (1988) SS, AWOIS 1634

REFERENCES: 373.5s

INVESTIGATION DATE: 5/03/88 (DAY 124) SSS

VESSEL: 2931 (1015) DAY 124

OIC: VERLAQUE

OBSERVED LEAST DEPTH: N/A ft uncorrected (echo)

POSITION # N/A TIME: N/A UTC

CORRECTED LEAST DEPTH: N/A ft

TRA Correctors Applied Draft = N/A ft

Predicted Tide Correctors Applied N/A ft

GEODETIC POSITION:	Latitude	Longitude
Charted:	N/A	N/A
Observed:	N/A	N/A

POSITION DETERMINED BY:

Range-Range with position fix for D.P. using Falcon Mini-Ranger.

METHOD OF ITEM INVESTIGATION:

200% side scan sonar coverage, 50 meter line spacing.

CHARTING RECOMMENDATION:

The hydrographer recommends that the contact be considered a change in bottom texture (CIBT). Concur

CHART # 12326 ITEM # 372.2p

ITEM DESCRIPTION: 0.7 meter high side scan sonar contact in 38 ft of water.

SOURCE: Survey FE - 312 (1988) SS, AWOIS 1634

REFERENCES: 405.5p

INVESTIGATION DATE: 5/03/88 (DAY 124) SSS

VESSEL: 2931 (1015) DAY 124

OIC: VERLAQUE

OBSERVED LEAST DEPTH: N/A ft uncorrected (echo)

POSITION # N/A TIME: N/A UTC

CORRECTED LEAST DEPTH: N/A ft

TRA Correctors Applied Draft = N/A ft

Predicted Tide Correctors Applied N/A ft

GEODETIC POSITION:	Latitude	Longitude
Charted:	N/A	N/A
Observed:	N/A	N/A

POSITION DETERMINED BY:

Range-Range with position fix for D.P. using Falcon Mini-Ranger.

METHOD OF ITEM INVESTIGATION:

200% side scan sonar coverage, 50 meter line spacing.

RLJ

CHARTING RECOMMENDATION:

The hydrographer recommends that the contact be considered a change in bottom texture (CIBT). Concur

CHART # 12326 ITEM # 382.2p

ITEM DESCRIPTION: 0.2 meter high side scan sonar contact in 40 ft of water.

SOURCE: Survey FE - 312 (1988) SS, AWOIS 1634

REFERENCES: 397.8p, 397.8s, 418.2

INVESTIGATION DATE: 5/03/88 (DAY 124) SSS
5/28/88 (DAY 149) ECHO

VESSEL: 2931 (1015) DAY 124
2931 (1015) DAY 149

OIC: VERLAQUE
VERLAQUE

OBSERVED LEAST DEPTH: ~~34.8~~ 36.0 ft uncorrected (echo)

POSITION # 1142+3+I (Day 149) TIME: 160607 UTC

CORRECTED LEAST DEPTH: 37.1 ft

TRA Correctors Applied Draft = +1.9 ft

Predicted Tide Correctors Applied -0.4 ft

Velocity Corrector Applied +0.8 ft

GEODETIC POSITION:	Latitude	Longitude
Charted:	N/A	N/A
Observed:	40/29/26.~~41~~ 38 N	73/54/35.5~~3~~ 4 W

POSITION DETERMINED BY:

Range-Range with position fix for D.P. using Falcon Mini-Ranger.

METHOD OF ITEM INVESTIGATION:

200% side scan sonar coverage, 50 meter line spacing.

Echosounder development run on day 149, 3-4 ft peak in 40 ft of water.

CHARTING RECOMMENDATION:

The hydrographer recommends that the ~~37.1~~ 36.0 ft sounding be charted at the above position. Concur

PK
4/24/89

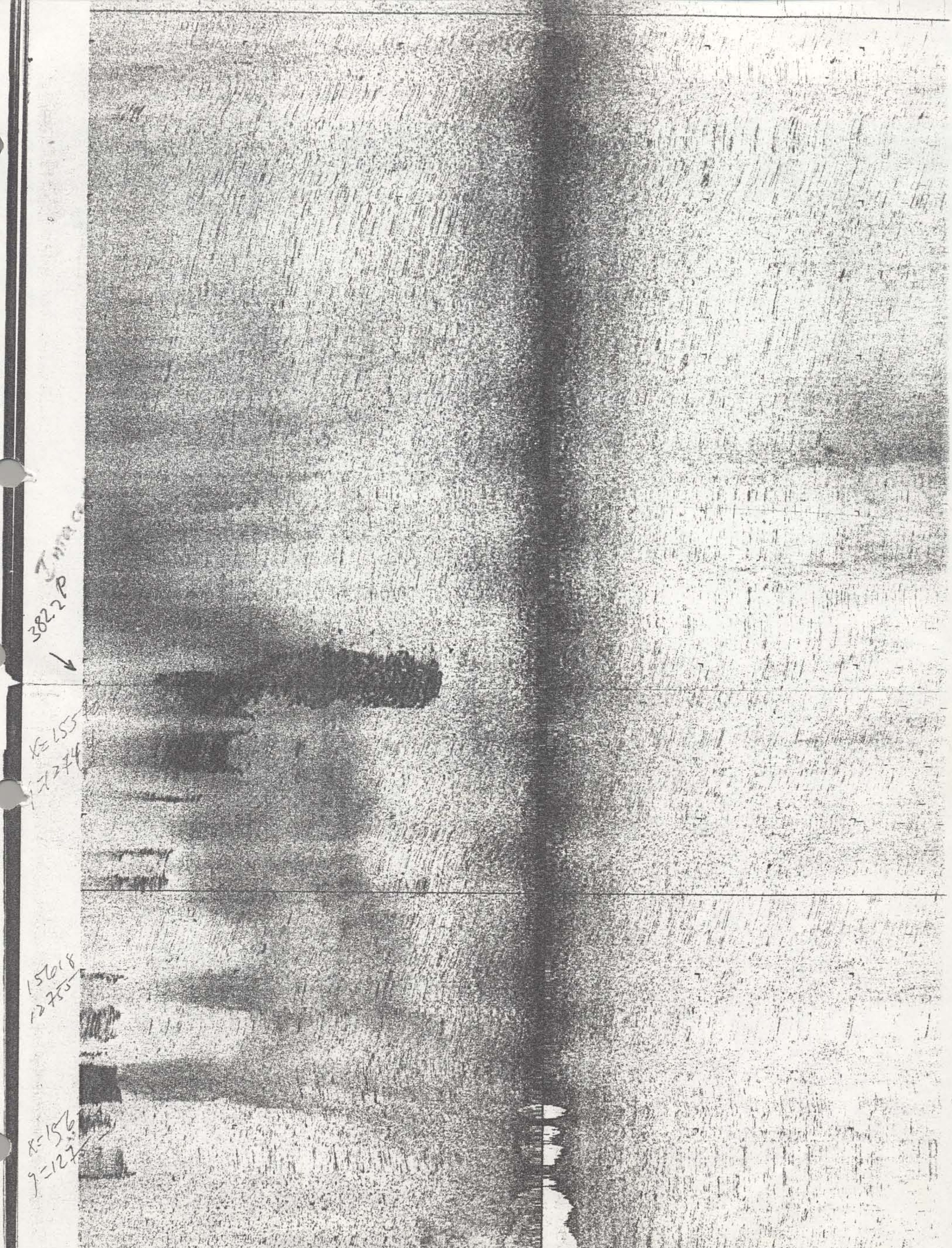

382.2 P
x=156
y=127

CHART # 12326 ITEM # 355.3p

ITEM DESCRIPTION: 0.8 meter high side scan sonar contact in 38 ft of water.

SOURCE: Survey FE - 312 (1988) SS, AWOIS 1634

REFERENCES: 358.4p

INVESTIGATION DATE: 5/03/88 (DAY 124) SSS
5/16/88 (DAY 137) SSS
5/17/88 (DAY 138) SSS
5/24/88 (DAY 145) DIVE

7511

VESSEL: 2931 (1015) DAY 124
2931 (1015) DAY 137
2931 (1015) DAY 138
2932 (1014) DAY 145

OIC: VERLAQUE
VERLAQUE
VERLAQUE
KOCH

DIVER LEAST DEPTH: 53.5 ft uncorrected

POSITION # 4300 (Day 145) TIME: 205852 UTC

CORRECTED LEAST DEPTH: ~~50.1~~ 49.03 ft

Pneumo Corrector Applied -0.4 ft

Predicted Tide Correctors Applied -3.~~0~~4 ft

GEODETIC POSITION:	Latitude	Longitude
Charted:	N/A	N/A
Observed:	40/29/29.91 N	73/55/15.~~66~~73 W

POSITION DETERMINED BY:

Range-Range with position fix for D.P. using Falcon Mini-Ranger.

METHOD OF ITEM INVESTIGATION:

200% side scan sonar coverage, 50 meter line spacing, on day 124. Side scan sonar box development on days 137 & 138. Dive investigation on day 145, see attached dive report.

4/24/98 PJH

CHARTING RECOMMENDATION:

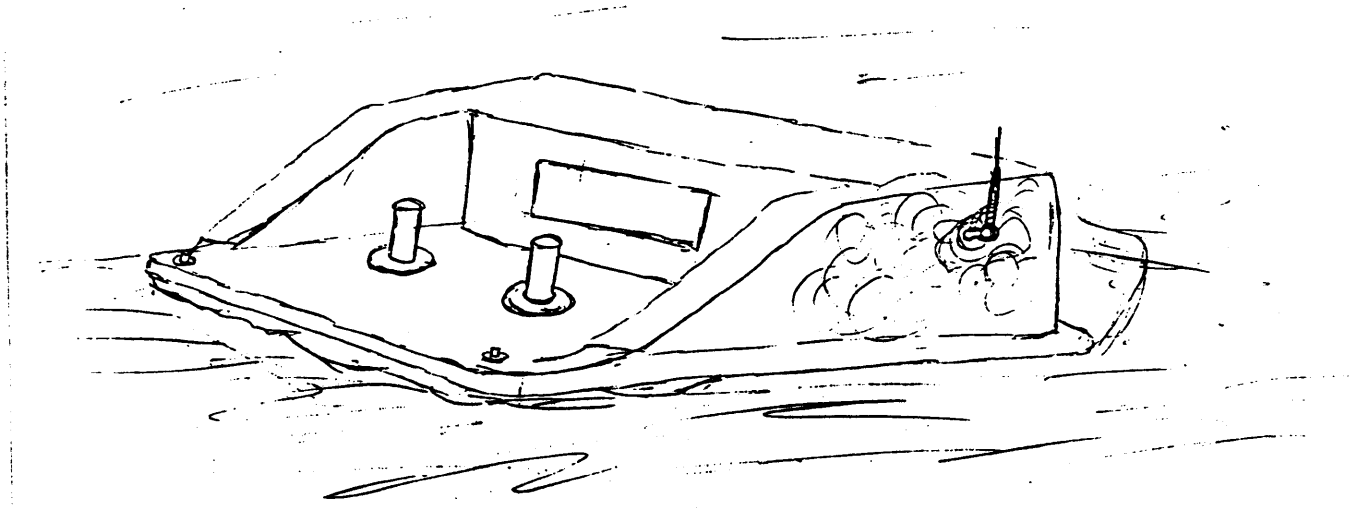
The hydrographer recommends that a ~~50.1~~ 49.0 ft ~~sounding~~ be charted at the above position. Do not concur. Chart as a dangerous sunken wreck with a least depth of 49-ft (49 WK)

355.3P
V=146
Y=12

355.3p

Dive 3 5/24/88

Divers Skarbek and Kalinowski descended marker buoy line into a stiff current to a bottom of silty sand. A 100 ft circle search was then performed, one quarter of the way through the circle the line snagged on a fiberglass section of a boat. At this point the tag line and marker buoy were moved to the center of the boat section and the circle search completed. After a thorough investigation the boat section was identified as the flying bridge of a vessel. The controls were missing, but the seat stanchions, and a VHF or Loran C antenna were still attached. The flying bridge was measured 8 feet wide, 9 feet long, and stood 3 feet off the bottom. The flying bridge appears to still be attached to the rest of the vessel which is covered with sand. Divers then obtained a pneumo least depth (53.4 ft uncorrected) and surfaced.



#15

CHART # 12326 ITEM # 392.0p

ITEM DESCRIPTION: 0.7 meter high side scan sonar contact in 55 ft of water.

SOURCE: Survey FE - 312 (1988) SS, AWOIS 1634

REFERENCES: N/A

INVESTIGATION DATE: 5/03/88 (DAY 124) SSS
5/16/88 (DAY 137) SSS
5/28/88 (DAY 149) DIVE

VESSEL: 2931 (1015) DAY 124
2931 (1015) DAY 137
2931 (1015) DAY 149

#751211

OIC: VERLAQUE
VERLAQUE
VERLAQUE

DIVER LEAST DEPTH: 53.1 ft (pneumo) uncorrected

POSITION # 1132 (Day 149) TIME: 133000 UTC

CORRECTED LEAST DEPTH: ~~51.3~~ 51.0 ft

Pneumo Corrector Applied -0.~~4~~ 5 ft

Predicted Tide Correctors Applied -1.4 ft

GEODETIC POSITION:	Latitude	Longitude
Charted:	N/A	N/A
Observed:	40/29/26.9~~8~~ 6 N	73/55/20.44 W

POSITION DETERMINED BY:

Range-Range with position fix for D.P. using Falcon Mini-Ranger.

METHOD OF ITEM INVESTIGATION:

200% side scan sonar coverage, 50 meter line spacing.

Side scan sonar development on day 137.

Dive investigation on day 149 - see attached report.

CHARTING RECOMMENDATION:

The hydrographer recommends that a 51.~~3~~ 0 ft sounding be charted at the above position. Chart as an obstruction (anchor) with a least depth of 51 ft (51 obstr)

RH 4/24/89

JGW

392.0p

Dive 5/28/88

Divers Verlaque and Skarbek descended marker buoy line to a sand bottom at 55 ft in the middle of Ambrose Channel. They noticed that the anchor weight had been dragged through the sand by a stiff current, so they followed the scour in the sand to the original drop site. At this point they located a Baldt anchor buried in the sand. The anchor was 90% buried with only the bottom of the flukes sticking out of the sand. The anchor measured 8 feet from fluke to fluke. Divers then performed an 80 ft circle search with no other items found. A pneumo depth was taken and divers then surfaced.

CHART # 12326 ITEM # 398.3s

ITEM DESCRIPTION: 1.1 meter high side scan sonar contact in 39 ft of water.

SOURCE: Survey FE - 312 (1988) SS, AWOIS 1634

REFERENCES: 435.2p

INVESTIGATION DATE: 5/03/88 (DAY 124) SSS

VESSEL: 2931 (1015) DAY 124

OIC: VERLAQUE

OBSERVED LEAST DEPTH: N/A ft uncorrected (echo)

POSITION # N/A TIME: N/A UTC

CORRECTED LEAST DEPTH: N/A ft

TRA Correctors Applied Draft = N/A ft

Predicted Tide Correctors Applied N/A ft

GEODETIC POSITION:	Latitude	Longitude
Charted:	N/A	N/A
Observed:	N/A	N/A

POSITION DETERMINED BY:

Range-Range with position fix for D.P. using Falcon Mini-Ranger.

METHOD OF ITEM INVESTIGATION:

200% side scan sonar coverage, 50 meter line spacing.

CHARTING RECOMMENDATION:

The hydrographer recommends that the contact be considered a change in bottom texture (CIBT). Concur

#16

CHART # 12326 ITEM # 425.4p

ITEM DESCRIPTION: 0.9 meter high side scan sonar contact in 38 ft of water.

SOURCE: Survey FE - 312 (1988) SS, AWOIS 1634

REFERENCES: 430.3p

INVESTIGATION DATE: 5/03/88 (DAY 124) SSS
5/17/88 (DAY 138) SSS
5/24/88 (DAY 145) DIVE

#7513

VESSEL: 2931 (1015) DAY 124
2931 (1015) DAY 138
2932 (1014) DAY 145

OIC: VERLAQUE
VERLAQUE
KOCH

DIVER LEAST DEPTH: ~~54.8~~ ft (pneumo) uncorrected

POSITION # 4298 (Daty 145) TIME: 190240 UTC

CORRECTED LEAST DEPTH: 49.~~8~~ 0 ft

Pneumo Corrector Applied -0.4 ft

Predicted Tide Correctors Applied ~~-3.8~~ -4.0 ft

GEODETIC POSITION:	Latitude	Longitude
Charted:	N/A	N/A
Observed:	40/29/23.68 5 N	73/55/07.70 W

POSITION DETERMINED BY:

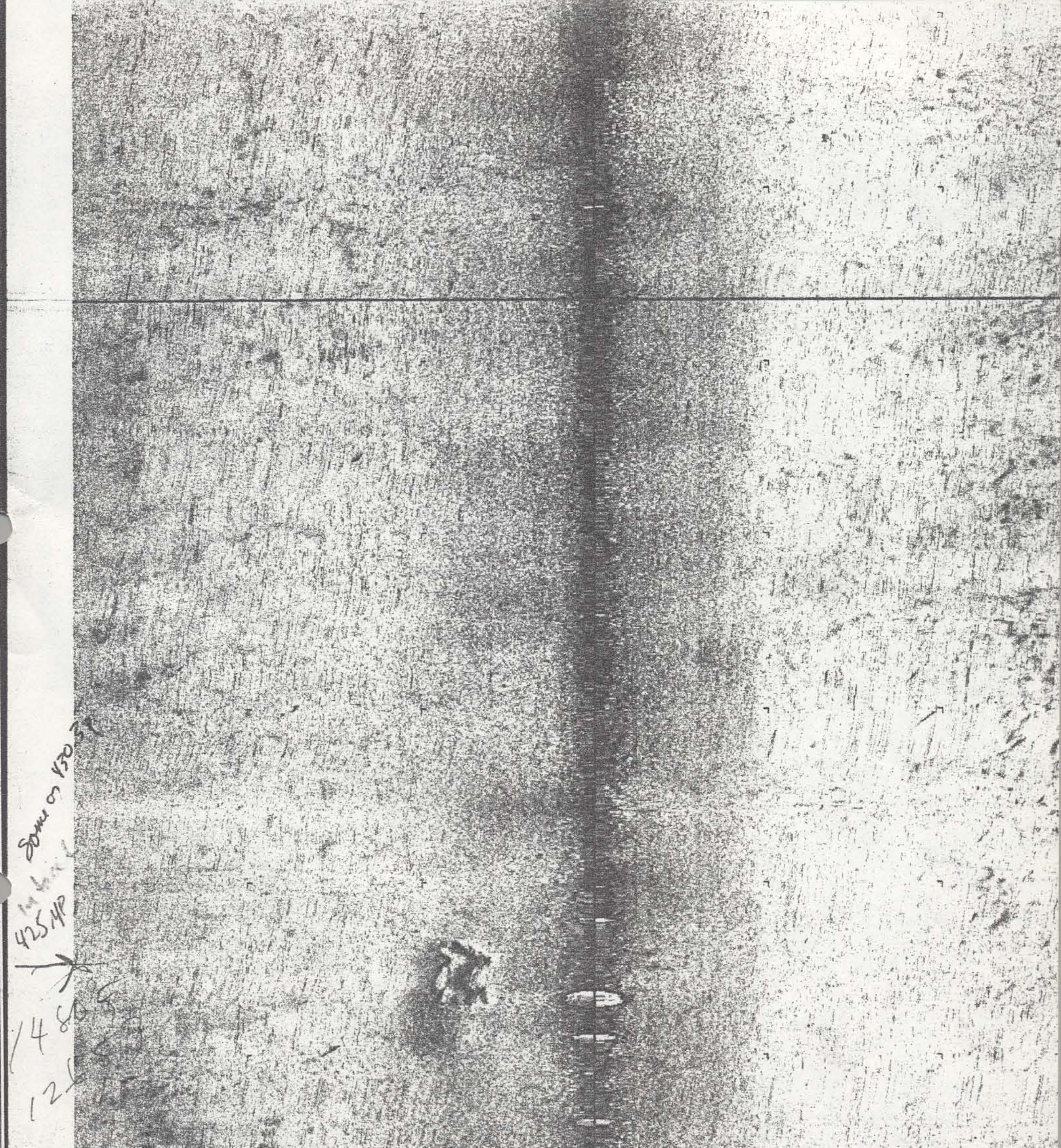
Range-Range with position fix for D.P. using Falcon Mini-Ranger.

METHOD OF ITEM INVESTIGATION:

200% side scan sonar coverage, 50 meter line spacing, run on day 124. Side scan sonar development run on day 138. Dive investigation on day 145 - see attached dive report.

CHARTING RECOMMENDATION:

The hydrographer recommends that a 49.~~8~~ 0 ft sounding be charted at the above position. Chart as an obstruction (wreckage) with a least depth of 49-ft (49 obstr) 4/24/89


Same as 430
425 MP

425.4p

Dive 2 5/24/88

Divers Koch and DeBow descended the marker buoy line onto a rusted and deteriorated wreckage within a scour area. Divers determined the least depth with a pneumo gauge and then measured the wreckage to be 20 ft long and 10 ft wide, visibility was estimated at 20 feet. No significant least depth was observed. Divers made a 50 ft circle search around the perimeter of the wreckage and found no additional debris. The wreck was lying within a 2-3 ft deep scour and protruded 2-3 ft above the surrounding bottom.

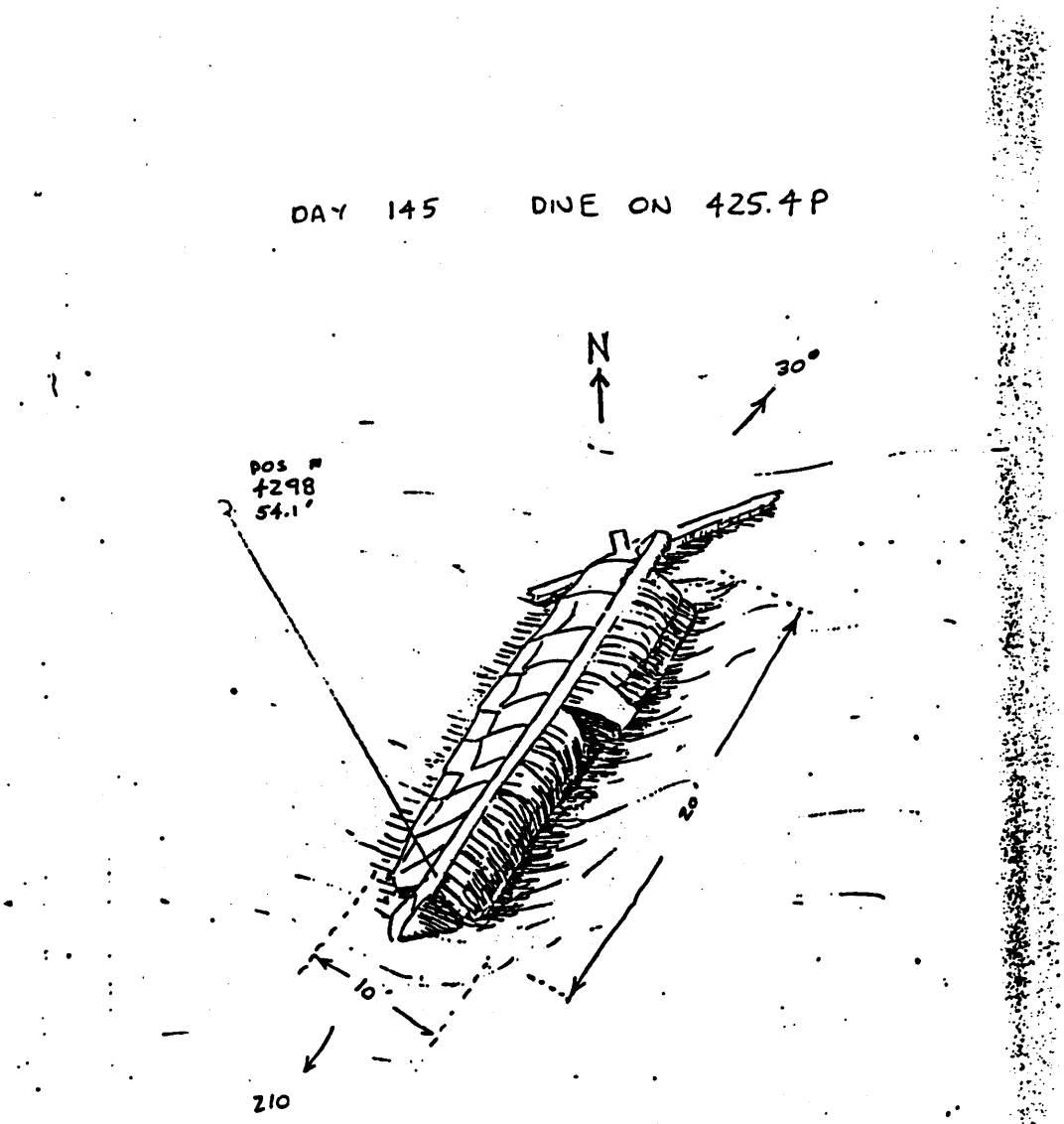


CHART # 12326 ITEM # 116.6s

ITEM DESCRIPTION: Side scan sonar contact in 36 ft of water.

SOURCE: Survey FE - 312 (1988) SS, AWOIS 1634

REFERENCES: 137.2p, 139.4p

INVESTIGATION DATE: 5/02/88 (DAY 123) SSS
5/20/88 (DAY 141) ECHO

VESSEL: 2931 (1015) DAY 123
2932 (1014) DAY 141

OIC: BEAR
VERLAQUE

OBSERVED LEAST DEPTH: N/A ft uncorrected (echo)

POSITION # N/A TIME: N/A UTC

CORRECTED LEAST DEPTH: N/A ft

TRA Correctors Applied Draft = N/A ft

Predicted Tide Correctors Applied N/A ft

GEODETIC POSITION:	Latitude	Longitude
Charted:	N/A	N/A
Observed:	N/A	N/A

POSITION DETERMINED BY:

Range-Range with position fix for D.P. using Falcon Mini-Ranger.

METHOD OF ITEM INVESTIGATION:

200% side scan sonar coverage, 50 meter line spacing, run on day 123. Echosounder development on day 141, no peaks found.

CHARTING RECOMMENDATION:

The hydrographer recommends that no further investigation is necessary (NFIN). Concur

CHART # 12326 ITEM # 161.2p

ITEM DESCRIPTION: Side scan sonar contact in 34 ft of water.

SOURCE: Survey FE - 312 (1988) SS, AWOIS 1634

REFERENCES: 153.2p

INVESTIGATION DATE: 5/02/88 (DAY 123) SSS
5/20/88 (DAY 141) ECHO

VESSEL: 2931 (1015) DAY 123
2932 (1014) DAY 141

OIC: BEAR
VERLAQUE

OBSERVED LEAST DEPTH: N/A ft uncorrected (echo)

POSITION # N/A TIME: N/A UTC

CORRECTED LEAST DEPTH: N/A ft

TRA Correctors Applied Draft = N/A ft

Predicted Tide Correctors Applied N/A ft

GEODETIC POSITION:	Latitude	Longitude
Charted:	N/A	N/A
Observed:	N/A	N/A

POSITION DETERMINED BY:

Range-Range with position fix for D.P. using Falcon Mini-Ranger.

METHOD OF ITEM INVESTIGATION:

200% side scan sonar coverage, 50 meter line spacing, run on day 123. Echosounder development on day 141, no peaks found.

CHARTING RECOMMENDATION:

The hydrographer recommends that no further investigation is necessary (NFIN). Concur

CHART # 12326 ITEM # 213.8p

ITEM DESCRIPTION: Side scan sonar contact in 34 ft of water.

SOURCE: Survey FE - 312 (1988) SS, AWOIS 1634

REFERENCES: N/A

INVESTIGATION DATE: 5/02/88 (DAY 123) SSS
5/03/88 (DAY 124) echo

VESSEL: 2931 (1015) DAY 123
2932 (1014) DAY 124

OIC: BEAR
SKARBEK

OBSERVED LEAST DEPTH: N/A

POSITION # 4085 - 4096 TIME: N/A UTC

CORRECTED LEAST DEPTH: N/A ft

TRA Correctors Applied Draft = N/A ft

Predicted Tide Correctors Applied N/A ft

GEODETIC POSITION:	Latitude	Longitude
Charted:	N/A	N/A
Observed:	N/A	N/A

POSITION DETERMINED BY:

Range-Range with position fix for D.P. using Falcon Mini-Ranger.

METHOD OF ITEM INVESTIGATION:

200% side scan sonar coverage, 50 meter line spacing, run on day 123. Echosounder development run on day 124. No significant peaks found.

CHARTING RECOMMENDATION:

The hydrographer recommends that no further investigation is necessary (NFIN). Concur

CHART # 12326 ITEM # 220.2s

ITEM DESCRIPTION: Side scan sonar contact in 36 ft of water.

SOURCE: Survey FE - 312 (1988) SS, AWOIS 1634

REFERENCES: 202.3p

7514

INVESTIGATION DATE: 5/02/88 (DAY 123) SSS
5/03/88 (DAY 124) echo

VESSEL: 2931 (1015) DAY 123
2932 (1014) DAY 124

OIC: BEAR
SKARBEK

OBSERVED LEAST DEPTH: 35.0 ft uncorrected (echo)

POSITION # 4067+I (Day 124) TIME: 170328 UTC

CORRECTED LEAST DEPTH: ~~36.1~~ 35.0 ft

TRA Correctors Applied Draft = +1.~~8~~ 9 ft

Predicted Tide Correctors Applied -1.~~2~~ 6 ft

Velocity Corrector Applied +0.~~3~~ 4 ft

GEODETIC POSITION:	Latitude	Longitude
Charted:	N/A	N/A
Observed:	40/29/48.85 N	73/55/14.77 W

POSITION DETERMINED BY:

Range-Range with position fix for D.P. using Falcon Mini-Ranger.

METHOD OF ITEM INVESTIGATION:

200% side scan sonar coverage, 50 meter line spacing, run on day 123. Echosounder development, 5 meter line spacing run on day 124, 35 ft peak found in 40 ft of water.

CHARTING RECOMMENDATION:

The hydrographer recommends that the ~~36.1~~ 35.0 ft sounding be chated at the above position. Do Not Concur. Chart as an obstruction with a least depth of 35-ft (35 obstr)

CHART # 12326 ITEM # 220.3s

ITEM DESCRIPTION: Side scan sonar contact in 36 ft of water.

SOURCE: Survey FE - 312 (1988) SS, AWOIS 1634

REFERENCES: 202.2s

INVESTIGATION DATE: 5/02/88 (DAY 123) SSS
5/03/88 (DAY 124) echo

VESSEL: 2931 (1015) DAY 123
2932 (1014) DAY 124

OIC: BEAR
SKARBEK

OBSERVED LEAST DEPTH: 37.0 ft uncorrected (echo)

POSITION # 4067+1 (Day 124) TIME: 170341 UTC

CORRECTED LEAST DEPTH: ~~38.1~~ 37.0 ft

TRA Correctors Applied Draft = +1.8 ft

Predicted Tide Correctors Applied -1.2 ft

Velocity Corrector Applied +0.5 ft

GEODETIC POSITION:	Latitude	Longitude
Charted:	N/A	N/A
Observed:	40/29/48.96 N	73/55/15.73 W

POSITION DETERMINED BY:

Range-Range with position fix for D.P. using Falcon Mini-Ranger.

METHOD OF ITEM INVESTIGATION:

200% side scan sonar coverage, 50 meter line spacing, run on day 123. Echosounder development, 5 meter line spacing run on day 124, 37 ft peak found in 40 ft of water.

CHARTING RECOMMENDATION:

The hydrographer recommends that the ~~38.1~~ 37 ft sounding be charted at the position. Do not Chart. Not shown on the present survey Due to scale of the present survey

CHART # 12326 ITEM # 220.5s

ITEM DESCRIPTION: Side scan sonar contact in 36 ft of water.

SOURCE: Survey FE - 312 (1988) SS, AWOIS 1634

REFERENCES: 202.1s

INVESTIGATION DATE: 5/02/88 (DAY 123) SSS
5/03/88 (DAY 124) echo

VESSEL: 2931 (1015) DAY 123
2932 (1014) DAY 124

OIC: BEAR
SKARBEK

OBSERVED LEAST DEPTH: 37.5 ft uncorrected (echo)

POSITION # 4067+2 (Day 124) TIME: 170401 UTC

CORRECTED LEAST DEPTH: ~~38.6~~ 36.0 ft ✓

TRA Correctors Applied Draft = +1.8 ft ✓

Predicted Tide Correctors Applied -1.2 ft ✓

Velocity Corrector Applied +0.5 ft ✓

GEODETIC POSITION:	Latitude	Longitude
Charted:	N/A	N/A
Observed:	40/29/~~49.00~~ 48.69 N	73/55/17.~~00~~ 60 W

POSITION DETERMINED BY:

Range-Range with position fix for D.P. using Falcon Mini-Ranger.

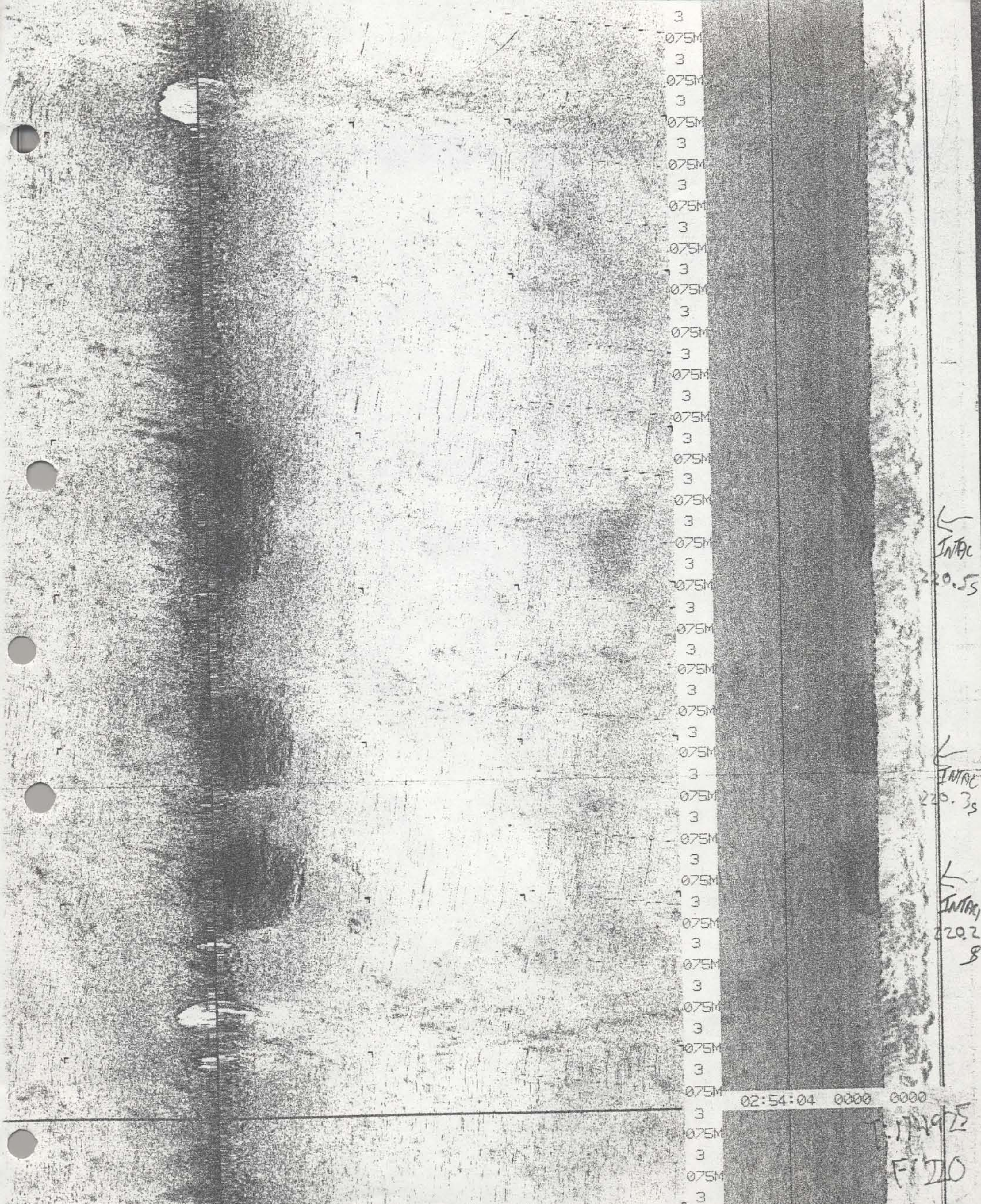
METHOD OF ITEM INVESTIGATION:

200% side scan sonar coverage, 50 meter line spacing, run on day 123. Echosounder development, 5 meter line spacing run on day 124, 37 ft peak found in 40 ft of water.

CHARTING RECOMMENDATION:

The hydrographer recommends that the sounding of ~~38.6~~ 36.0 ft be charted at the above position. Concur

RD
4/24/89



3
075M
02:54:04 0000 0000
INTAC
220.5S
INTAC
220.3S
INTAC
220.2S

CHART # 12326 ITEM # 214.7p

ITEM DESCRIPTION: Side scan sonar contact in 35 ft of water.

SOURCE: Survey FE - 312 (1988) SS, AWOIS 1634

REFERENCES: 228.4p

INVESTIGATION DATE: 5/02/88 (DAY 123) SSS

VESSEL: 2931 (1015) DAY 123

OIC: BEAR

OBSERVED LEAST DEPTH: N/A ft uncorrected (echo)

POSITION # N/A TIME: N/A UTC

CORRECTED LEAST DEPTH: N/A ft

TRA Correctors Applied Draft = N/A ft

Predicted Tide Correctors Applied N/A ft

GEODETIC POSITION:	Latitude	Longitude
Charted:	N/A	N/A
Observed:	N/A	N/A

POSITION DETERMINED BY:

Range-Range with position fix for D.P. using Falcon Mini-Ranger.

METHOD OF ITEM INVESTIGATION:

200% side scan sonar coverage, 50 meter line spacing, run on day 123.

CHARTING RECOMMENDATION:

The hydrographer recommends that the contact be considered a change in bottom texture (CIBT). *Concur*

PCH

CHART # 12326 ITEM # 217.8p

ITEM DESCRIPTION: Side scan sonar contact in 35 ft of water.

SOURCE: Survey FE - 312 (1988) SS, AWOIS 1634

REFERENCES: 224.9p, 237.9s

INVESTIGATION DATE: 5/02/88 (DAY 123) SSS
5/03/88 (DAY 124) ECHO

VESSEL: 2931 (1015) DAY 123
2932 (1014) DAY 124

OIC: BEAR
SKARBEK

OBSERVED LEAST DEPTH: 33.0 ft uncorrected (echo)

POSITION # 4097+2+I (Day 124) TIME: 182416 UTC

CORRECTED LEAST DEPTH: ~~34.9~~ 35.0 ft

TRA Correctors Applied Draft = +1.8 ft

Predicted Tide Correctors Applied -0.4 ft

Velocity Corrector Applied +0.5

GEODETIC POSITION:	Latitude	Longitude
Charted:	N/A	N/A
Observed:	40/29/47.62 N	73/54/48.06 W

POSITION DETERMINED BY:

Range-Range with position fix for D.P. using Falcon Mini-Ranger.

METHOD OF ITEM INVESTIGATION:

200% side scan sonar coverage, 50 meter line spacing, run on day 123. Echosounder development, 5 meter line spacing run on day 124, 33 ft peak found in 37 ft of water.

CHARTING RECOMMENDATION:

The hydrographer recommends that the ~~34.9~~ 35.0 ft sounding be charted at the above position. Concur.

CHART # 12326 ITEM # 247.2p

ITEM DESCRIPTION: Side scan sonar contact in 34 ft of water.

SOURCE: Survey FE - 312 (1988) SS, AWOIS 1634

REFERENCES: 235.7p

INVESTIGATION DATE: 5/02/88 (DAY 123) SSS
5/03/88 (DAY 124) ECHO
5/24/88 (DAY 145) STAR

VESSEL: 2931 (1015) DAY 123
2932 (1014) DAY 124
2931 (1015) DAY 145

OIC: BEAR
SKARBEK
VERLAQUE

OBSERVED LEAST DEPTH: N/A ft uncorrected (echo)

POSITION # N/A TIME: N/A UTC

CORRECTED LEAST DEPTH: N/A ft

TRA Correctors Applied Draft = N/A ft

Predicted Tide Correctors Applied N/A ft

GEODETIC POSITION:	Latitude	Longitude
Charted:	N/A	N/A
Observed:	N/A	N/A

POSITION DETERMINED BY:

Range-Range with position fix for D.P. using Falcon Mini-Ranger.

METHOD OF ITEM INVESTIGATION:

200% side scan sonar coverage, 50 meter line spacing, run on day 123. Echosounder development, 5 meter line spacing run on day 124, no peaks found. Star pattern run on day 145, no peaks.

CHARTING RECOMMENDATION:

The hydrographer recommends that no further investigation is necessary (NFIN). Concur

CHART # 12326 ITEM # 463.1s

ITEM DESCRIPTION: Side scan sonar contact in 36 ft of water.

SOURCE: Survey FE - 312 (1988) SS, AWOIS 1634

REFERENCES: 451.9s, 474.7p

INVESTIGATION DATE: 5/04/88 (DAY 125) SSS
5/24/88 (DAY 145) STAR

VESSEL: 2931 (1015) DAY 125
2931 (1015) DAY 145

OIC: BEAR
VERLAQUE

OBSERVED LEAST DEPTH: N/A ft uncorrected (echo)

POSITION # N/A TIME: N/A UTC

CORRECTED LEAST DEPTH: N/A ft

TRA Correctors Applied Draft = N/A ft

Predicted Tide Correctors Applied N/A ft

GEODETIC POSITION:	Latitude	Longitude
Charted:	N/A	N/A
Observed:	N/A	N/A

POSITION DETERMINED BY:

Range-Range with position fix for D.P. using Falcon Mini-Ranger.

METHOD OF ITEM INVESTIGATION:

200% side scan sonar coverage, 50 meter line spacing, run on day 125. Star pattern run on day 145, no peaks found.

CHARTING RECOMMENDATION:

The hydrographer recommends that no further investigation is necessary (NFIN). Concur

CHART # 12326 ITEM # 478.5s

ITEM DESCRIPTION: Side scan sonar contact in 36 ft of water.

SOURCE: Survey FE - 312 (1988) SS, AWOIS 1634

REFERENCES: 481.6s, 506.6p

INVESTIGATION DATE: 5/04/88 (DAY 125) SSS
5/24/88 (DAY 145) STAR

VESSEL: 2931 (1015) DAY 125
2931 (1015) DAY 145

OIC: BEAR
VERLAQUE

OBSERVED LEAST DEPTH: N/A ft uncorrected (echo)

POSITION # N/A TIME: N/A UTC

CORRECTED LEAST DEPTH: N/A ft

TRA Correctors Applied Draft = N/A ft

Predicted Tide Correctors Applied N/A ft

GEODETIC POSITION:	Latitude	Longitude
Charted:	N/A	N/A
Observed:	N/A	N/A

POSITION DETERMINED BY:

Range-Range with position fix for D.P. using Falcon Mini-Ranger.

METHOD OF ITEM INVESTIGATION:

200% side scan sonar coverage, 50 meter line spacing, run on day 125. Star pattern run on day 145, no peaks found.

CHARTING RECOMMENDATION:

The hydrographer recommends that no further investigation is necessary (NFIN). Concur.

CHART # 12326 ITEM # 481.7p

ITEM DESCRIPTION: Side scan sonar contact in 36 ft of water.

SOURCE: Survey FE - 312 (1988) SS, AWOIS 1634

REFERENCES: 506.5p

INVESTIGATION DATE: 5/04/88 (DAY 125) SSS
5/24/88 (DAY 145) STAR

VESSEL: 2931 (1015) DAY 125
2931 (1015) DAY 145

OIC: BEAR
VERLAQUE

OBSERVED LEAST DEPTH: N/A ft uncorrected (echo)

POSITION # N/A TIME: N/A UTC

CORRECTED LEAST DEPTH: N/A ft

TRA Correctors Applied Draft = N/A ft

Predicted Tide Correctors Applied N/A ft

GEODETIC POSITION:	Latitude	Longitude
Charted:	N/A	N/A
Observed:	N/A	N/A

POSITION DETERMINED BY:

Range-Range with position fix for D.P. using Falcon Mini-Ranger.

METHOD OF ITEM INVESTIGATION:

200% side scan sonar coverage, 50 meter line spacing, run on day 125. Star pattern run on day 145, no peaks found.

CHARTING RECOMMENDATION:

The hydrographer recommends that no further investigation is necessary (NFIN). Concur

RLA

CHART # 12326 ITEM # 502.7s

ITEM DESCRIPTION: Side scan sonar contact in 50 ft of water.

SOURCE: Survey FE - 312 (1988) SS, AWOIS 1634

REFERENCES: 511.5s

INVESTIGATION DATE: 5/05/88 (DAY 126) SSS

VESSEL: 2931 (1015) DAY 126

OIC: VERLAQUE

OBSERVED LEAST DEPTH: N/A ft uncorrected (echo)

POSITION # N/A TIME: N/A UTC

CORRECTED LEAST DEPTH: N/A ft

TRA Correctors Applied Draft = N/A ft

Predicted Tide Correctors Applied N/A ft

GEODETIC POSITION:	Latitude	Longitude
Charted:	N/A	N/A
Observed:	N/A	N/A

POSITION DETERMINED BY:

Range-Range with position fix for D.P. using Falcon Mini-Ranger.

METHOD OF ITEM INVESTIGATION:

200% side scan sonar coverage, 50 meter line spacing, run on day 126.

CHARTING RECOMMENDATION:

The hydrographer recommends that the contact be considered a change in bottom texture (CIBT). Concur

GLS

CHART # 12326 ITEM # 510.9p

ITEM DESCRIPTION: Side scan sonar contact in 45 ft of water.

SOURCE: Survey FE - 312 (1988) SS, AWOIS 1634

REFERENCES: 527.4p

INVESTIGATION DATE: 5/05/88 (DAY 126) SSS
5/17/88 (DAY 138) SSS

VESSEL: 2931 (1015) DAY 126
2931 (1015) DAY 138

OIC: VERLAQUE
VERLAQUE

OBSERVED LEAST DEPTH: N/A ft uncorrected (echo)

POSITION # N/A TIME: N/A UTC

CORRECTED LEAST DEPTH: N/A ft

TRA Correctors Applied Draft = N/A ft

Predicted Tide Correctors Applied N/A ft

GEODETIC POSITION:	Latitude	Longitude
Charted:	N/A	N/A
Observed:	N/A	N/A

POSITION DETERMINED BY:

Range-Range with position fix for D.P. using Falcon Mini-Ranger.

METHOD OF ITEM INVESTIGATION:

200% side scan sonar coverage, 50 meter line spacing, run on day 126. Side scan sonar development run on day 138, no shadow on sonargram, no peak on echogram.

CHARTING RECOMMENDATION:

The hydrographer recommends that the contact be considered a change in bottom texture (CIBT). Concur

PLA

CHART # 12326 ITEM # 528.1p

ITEM DESCRIPTION: Side scan sonar contact in 43 ft of water.

SOURCE: Survey FE - 312 (1988) SS, AWOIS 1634

REFERENCES: 510.4s

INVESTIGATION DATE: 5/05/88 (DAY 126) SSS

VESSEL: 2931 (1015) DAY 126

OIC: VERLAQUE

OBSERVED LEAST DEPTH: N/A ft uncorrected (echo)

POSITION # N/A TIME: N/A UTC

CORRECTED LEAST DEPTH: N/A ft

TRA Correctors Applied Draft = N/A ft

Predicted Tide Correctors Applied N/A ft

GEODETIC POSITION:	Latitude	Longitude
Charted:	N/A	N/A
Observed:	N/A	N/A

POSITION DETERMINED BY:

Range-Range with position fix for D.P. using Falcon Mini-Ranger.

METHOD OF ITEM INVESTIGATION:

200% side scan sonar coverage, 50 meter line spacing, run on day 126.

CHARTING RECOMMENDATION:

The hydrographer recommends that the contact be considered a change in bottom texture (CIBT). Concur

RWS

CHART # 12326 ITEM # 545.7p

ITEM DESCRIPTION: Side scan sonar contact in 50 ft of water.

SOURCE: Survey FE - 312 (1988) SS, AWOIS 1634

REFERENCES: N/A

INVESTIGATION DATE: 5/05/88 (DAY 126) SSS

VESSEL: 2931 (1015) DAY 126

OIC: VERLAQUE

OBSERVED LEAST DEPTH: N/A ft uncorrected (echo)

POSITION # N/A TIME: N/A UTC

CORRECTED LEAST DEPTH: N/A ft

TRA Correctors Applied Draft = N/A ft

Predicted Tide Correctors Applied N/A ft

GEODETIC POSITION:	Latitude	Longitude
Charted:	N/A	N/A
Observed:	N/A	N/A

POSITION DETERMINED BY:

Range-Range with position fix for D.P. using Falcon Mini-Ranger.

METHOD OF ITEM INVESTIGATION:

200% side scan sonar coverage, 50 meter line spacing, run on day 126.

CHARTING RECOMMENDATION:

The hydrographer recommends that the contact be considered a change in bottom texture (CIBT). Concur

RLD

CHART # 12326 ITEM # 585.4p

ITEM DESCRIPTION: Side scan sonar contact in 45 ft of water.

SOURCE: Survey FE - 312 (1988) SS, AWOIS 1634

REFERENCES: 613.7s

INVESTIGATION DATE: 5/11/88 (DAY 132) SSS
5/24/88 (DAY 145) SSS

VESSEL: 2931 (1015) DAY 132
2931 (1015) DAY 145

OIC: VERLAQUE
VERLAQUE

OBSERVED LEAST DEPTH: N/A ft uncorrected (echo)

POSITION # N/A TIME: N/A UTC

CORRECTED LEAST DEPTH: N/A ft

TRA Correctors Applied Draft = N/A ft

Predicted Tide Correctors Applied N/A ft

GEODETIC POSITION:	Latitude	Longitude
Charted:	N/A	N/A
Observed:	N/A	N/A

POSITION DETERMINED BY:

Range-Range with position fix for D.P. using Falcon Mini-Ranger.

METHOD OF ITEM INVESTIGATION:

200% side scan sonar coverage, 50 meter line spacing, run on day 132. Side scan sonar development on day 145, no shadows or peaks found.

CHARTING RECOMMENDATION:

The hydrographer recommends that the contact be considered a change in bottom texture (CIBT). Concur

CHART # 12326 ITEM # 646.1p

ITEM DESCRIPTION: 1.0 meter high side scan sonar contact in 45 ft of water.

SOURCE: Survey FE - 312 (1988) SS, AWOIS 1634

REFERENCES: 637.6p

INVESTIGATION DATE: 5/11/88 (DAY 132) SSS
5/17/88 (DAY 138) SSS

VESSEL: 2931 (1015) DAY 132
2931 (1015) DAY 138

OIC: VERLAQUE
VERLAQUE

OBSERVED LEAST DEPTH: N/A ft uncorrected (echo)

POSITION # N/A TIME: N/A UTC

CORRECTED LEAST DEPTH: N/A ft

TRA Correctors Applied Draft = N/A ft

Predicted Tide Correctors Applied N/A ft

GEODETIC POSITION:	Latitude	Longitude
Charted:	N/A	N/A
Observed:	N/A	N/A

POSITION DETERMINED BY:

Range-Range with position fix for D.P. using Falcon Mini-Ranger.

METHOD OF ITEM INVESTIGATION:

200% side scan sonar coverage, 50 meter line spacing, run on day 132. Side scan sonar development on day 138, no shadows or peaks.

CHARTING RECOMMENDATION:

The hydrographer recommends that no further investigation is necessary (NFIN). Concur

PLA

CHART # 12326 ITEM # 668.1s

ITEM DESCRIPTION: Side scan sonar contact in 35 ft of water.

SOURCE: Survey FE - 312 (1988) SS, AWOIS 1634

REFERENCES: 32.4s

INVESTIGATION DATE: 5/11/88 (DAY 132) SSS

VESSEL: 2931 (1015) DAY 132

OIC: VERLAQUE

OBSERVED LEAST DEPTH: N/A ft uncorrected (echo)

POSITION # N/A TIME: N/A UTC

CORRECTED LEAST DEPTH: N/A ft

TRA Correctors Applied Draft = N/A ft

Predicted Tide Correctors Applied N/A ft

GEODETIC POSITION:	Latitude	Longitude
Charted:	N/A	N/A
Observed:	N/A	N/A

POSITION DETERMINED BY:

Range-Range with position fix for D.P. using Falcon Mini-Ranger.

METHOD OF ITEM INVESTIGATION:

200% side scan sonar coverage, 50 meter line spacing, run on day 132.

CHARTING RECOMMENDATION:

The hydrographer recommends that the contact be considered a change in bottom texture (CIBT). Concur

PLA

CHART # 12326 ITEM # 675.3p

ITEM DESCRIPTION: Side scan sonar contact in 35 ft of water.

SOURCE: Survey FE - 312 (1988) SS, AWOIS 1634

REFERENCES: 681.2s, 698.6s

INVESTIGATION DATE: 5/11/88 (DAY 132) SSS

VESSEL: 2931 (1015) DAY 132

OIC: VERLAQUE

OBSERVED LEAST DEPTH: N/A ft uncorrected (echo)

POSITION # N/A TIME: N/A UTC

CORRECTED LEAST DEPTH: N/A ft

TRA Correctors Applied Draft = N/A ft

Predicted Tide Correctors Applied N/A ft

GEODETIC POSITION:	Latitude	Longitude
Charted:	N/A	N/A
Observed:	N/A	N/A

POSITION DETERMINED BY:

Range-Range with position fix for D.P. using Falcon Mini-Ranger.

METHOD OF ITEM INVESTIGATION:

200% side scan sonar coverage, 50 meter line spacing, run on day 132.

CHARTING RECOMMENDATION:

The hydrographer recommends that the contact be considered a change in bottom texture (CIBT). Concur

PLS

CHART # 12326 ITEM # 8001.0s

ITEM DESCRIPTION: 1.0 meter high side scan sonar contact in 88 ft of water.

SOURCE: Survey FE - 312 (1988) SS, AWOIS 2110

REFERENCES: 8563.5p, 8560+3+I

INVESTIGATION DATE: 5/11/88 (DAY 132) SSS

VESSEL: 2930 DAY 132

OIC: SKARBEK

OBSERVED LEAST DEPTH: N/A ft uncorrected

POSITION # N/A TIME: N/A UTC

CORRECTED LEAST DEPTH: N/A ft

TRA Correctors Applied Draft = N/A ft

Predicted Tide Correctors Applied N/A ft

Velocity Corrector Applied N/A ft

GEODETIC POSITION:	Latitude	Longitude
Charted:	N/A	N/A
Observed:	N/A	N/A

POSITION DETERMINED BY:

Range-Range, using Falcon Mini-Ranger.

METHOD OF ITEM INVESTIGATION:

Side scan sonar investigation on day 132 confirmed that contact 8001.0s is a 3 ft high object in 88 ft of water.

CHARTING RECOMMENDATION:

The hydrographer recommends that no further investigation is necessary (NFIN). Concur

RN

CHART # 12326 ITEM # 8034.4p

ITEM DESCRIPTION: 0.3 meter high side scan sonar contact in 89 ft of water.

SOURCE: Survey FE - 312 (1988) SS, AWOIS 2110

REFERENCES: 8037.1p, 8079.7s

INVESTIGATION DATE: 5/11/88 (DAY 132) SSS

VESSEL: 2930 DAY 132

OIC: SKARBEK

OBSERVED LEAST DEPTH: N/A ft uncorrected

POSITION # N/A TIME: N/A UTC

CORRECTED LEAST DEPTH: N/A ft

TRA Correctors Applied Draft = N/A ft

Predicted Tide Correctors Applied N/A ft

Velocity Corrector Applied N/A ft

GEODETIC POSITION:	Latitude	Longitude
Charted:	N/A	N/A
Observed:	N/A	N/A

POSITION DETERMINED BY:

Range-Range using Falcon Mini-Ranger.

METHOD OF ITEM INVESTIGATION:

200% side scan sonar coverage, 50 meter line spacing.

CHARTING RECOMMENDATION:

The hydrographer recommends that no further investigation is necessary (NFIN): Concur

CHART # 12326 ITEM # 8062.3p

ITEM DESCRIPTION: 1.4 meter high side scan sonar contact in 95 ft of water.

SOURCE: Survey FE - 312 (1988) SS, AWOIS 2110

REFERENCES: 8062.2s

INVESTIGATION DATE: 5/11/88 (DAY 132) SSS

VESSEL: 2930 DAY 132

OIC: SKARBEK

OBSERVED LEAST DEPTH: N/A ft uncorrected

POSITION # N/A TIME: N/A UTC

CORRECTED LEAST DEPTH: N/A ft

TRA Correctors Applied Draft = N/A ft

Predicted Tide Correctors Applied N/A ft

Velocity Corrector Applied N/A ft

GEODETIC POSITION:	Latitude	Longitude
Charted:	N/A	N/A
Observed:	N/A	N/A

POSITION DETERMINED BY:

Range-Range using Falcon Mini-Ranger.

METHOD OF ITEM INVESTIGATION:

200% side scan sonar coverage, 50 meter line spacing.

CHARTING RECOMMENDATION:

The hydrographer recommends that no further investigation is necessary (NFIN). Concur

CHART # 12326 ITEM # 8097.0p

ITEM DESCRIPTION: 1.9 meter high side scan sonar contact in 93 ft of water.

SOURCE: Survey FE - 312 (1988) SS, AWOIS 2110

REFERENCES: 4135.5s, 8109+2+I

INVESTIGATION DATE: 5/12/88 (DAY 133) SSS

VESSEL: 2930 DAY 133

OIC: STAUFFER

OBSERVED LEAST DEPTH: N/A ft uncorrected

POSITION # N/A TIME: N/A UTC

CORRECTED LEAST DEPTH: N/A ft

TRA Correctors Applied Draft = N/A ft

Predicted Tide Correctors Applied N/A ft

Velocity Corrector Applied N/A ft

GEODETIC POSITION:	Latitude	Longitude
Charted:	N/A	N/A
Observed:	N/A	N/A

POSITION DETERMINED BY:

Range-Range using Falcon Mini-Ranger.

METHOD OF ITEM INVESTIGATION:

200% side scan sonar coverage, 50 meter line spacing.

CHARTING RECOMMENDATION:

The hydrographer recommends that no further investigation is necessary (NFIN). Concur

CHART # 12326 ITEM # 8107.4s

ITEM DESCRIPTION: 2.0 meter high side scan sonar contact in 93 ft of water.

SOURCE: Survey FE - 312 (1988) SS, AWOIS 2110

REFERENCES: 4138.2s, 4146.3p

INVESTIGATION DATE: 5/12/88 (DAY 133) SSS

VESSEL: 2930 DAY 133

OIC: STAUFFER

OBSERVED LEAST DEPTH: N/A ft uncorrected

POSITION # N/A TIME: N/A UTC

CORRECTED LEAST DEPTH: N/A ft

TRA Correctors Applied Draft = N/A ft

Predicted Tide Correctors Applied N/A ft

Velocity Corrector Applied N/A ft

GEODETIC POSITION:	Latitude	Longitude
Charted:	N/A	N/A
Observed:	N/A	N/A

POSITION DETERMINED BY:

Range-Range using Falcon Mini-Ranger.

METHOD OF ITEM INVESTIGATION:

200% side scan sonar coverage, 50 meter line spacing.

CHARTING RECOMMENDATION:

The hydrographer recommends that no further investigation is necessary (NFIN). Concur

CHART # 12326 ITEM # 8109.5s

ITEM DESCRIPTION: 1.8 meter high side scan sonar contact in 93 ft of water.

SOURCE: Survey FE - 312 (1988) SS, AWOIS 2110

REFERENCES: 4135.4s

INVESTIGATION DATE: 5/12/88 (DAY 133) SSS

VESSEL: 2930 DAY 133

OIC: STAUFFER

OBSERVED LEAST DEPTH: N/A ft uncorrected

POSITION # N/A TIME: N/A UTC

CORRECTED LEAST DEPTH: N/A ft

TRA Correctors Applied Draft = N/A ft

Predicted Tide Correctors Applied N/A ft

Velocity Corrector Applied N/A ft

GEODETIC POSITION:	Latitude	Longitude
Charted:	N/A	N/A
Observed:	N/A	N/A

POSITION DETERMINED BY:

Range-Range using Falcon Mini-Ranger.

METHOD OF ITEM INVESTIGATION:

200% side scan sonar coverage, 50 meter line spacing.

CHARTING RECOMMENDATION:

The hydrographer recommends that no further investigation is necessary (NFIN). Concur

CHART # 12326 ITEM # 8142.9s

ITEM DESCRIPTION: 1.8 meter high side scan sonar contact in 93 ft of water.

SOURCE: Survey FE - 312 (1988) SS, AWOIS 2110

REFERENCES: 8112.9s, 8160.0p, 9760.8p, 8142+3

INVESTIGATION DATE: 5/12/88 (DAY 133) SSS

VESSEL: 2930 DAY 133

OIC: STAUFFER

OBSERVED LEAST DEPTH: N/A ft uncorrected

POSITION # N/A TIME: N/A UTC

CORRECTED LEAST DEPTH: N/A ft

TRA Correctors Applied Draft = N/A ft

Predicted Tide Correctors Applied N/A ft

Velocity Corrector Applied N/A ft

GEODETIC POSITION:	Latitude	Longitude
Charted:	N/A	N/A
Observed:	N/A	N/A

POSITION DETERMINED BY:

Range-Range using Falcon Mini-Ranger.

METHOD OF ITEM INVESTIGATION:

200% side scan sonar coverage, 50 meter line spacing.

CHARTING RECOMMENDATION:

The hydrographer recommends that no further investigation is necessary (NFIN). Concur

CHART # 12326 ITEM # 8157.7p

ITEM DESCRIPTION: 2.3 meter high side scan sonar contact in 93.5 ft of water.

SOURCE: Survey FE - 312 (1988) SS, AWOIS 2110

REFERENCES: 8110.7s, 4133.5p, 9763.3p, 4150.2p, 1115+2+I

INVESTIGATION DATE: 5/12/88 (DAY 133) SSS
5/27/88 (DAY 148) STAR

VESSEL: 2930 DAY 133
2931 (1015) DAY 148

OIC: STAUFFER
BEAR

OBSERVED LEAST DEPTH: 84.8 ft uncorrected

POSITION # 1115+2+I (day 148) TIME: 145857 UTC

CORRECTED LEAST DEPTH: 88.0 ft ✓

TRA Correctors Applied Draft = +1.8 ft

Predicted Tide Correctors Applied -0.4 ft

Velocity Corrector Applied +1.8 ft

GEODETIC POSITION:	Latitude	Longitude
Charted:	N/A	N/A
Observed:	40/23/54.24 N	73/49/52.08 W

POSITION DETERMINED BY:

Range-Range using Falcon Mini-Ranger.

METHOD OF ITEM INVESTIGATION:

200% side scan sonar coverage, 50 meter line spacing on day 133. Star pattern run on day 148, revealing an 84.8 ft(uncorrected) peak in 93.5 ft of water.

CHARTING RECOMMENDATION:

The hydrographer recommends that an 88.0 ft sounding be charted at the above position. Concur

RBH
4/25/89

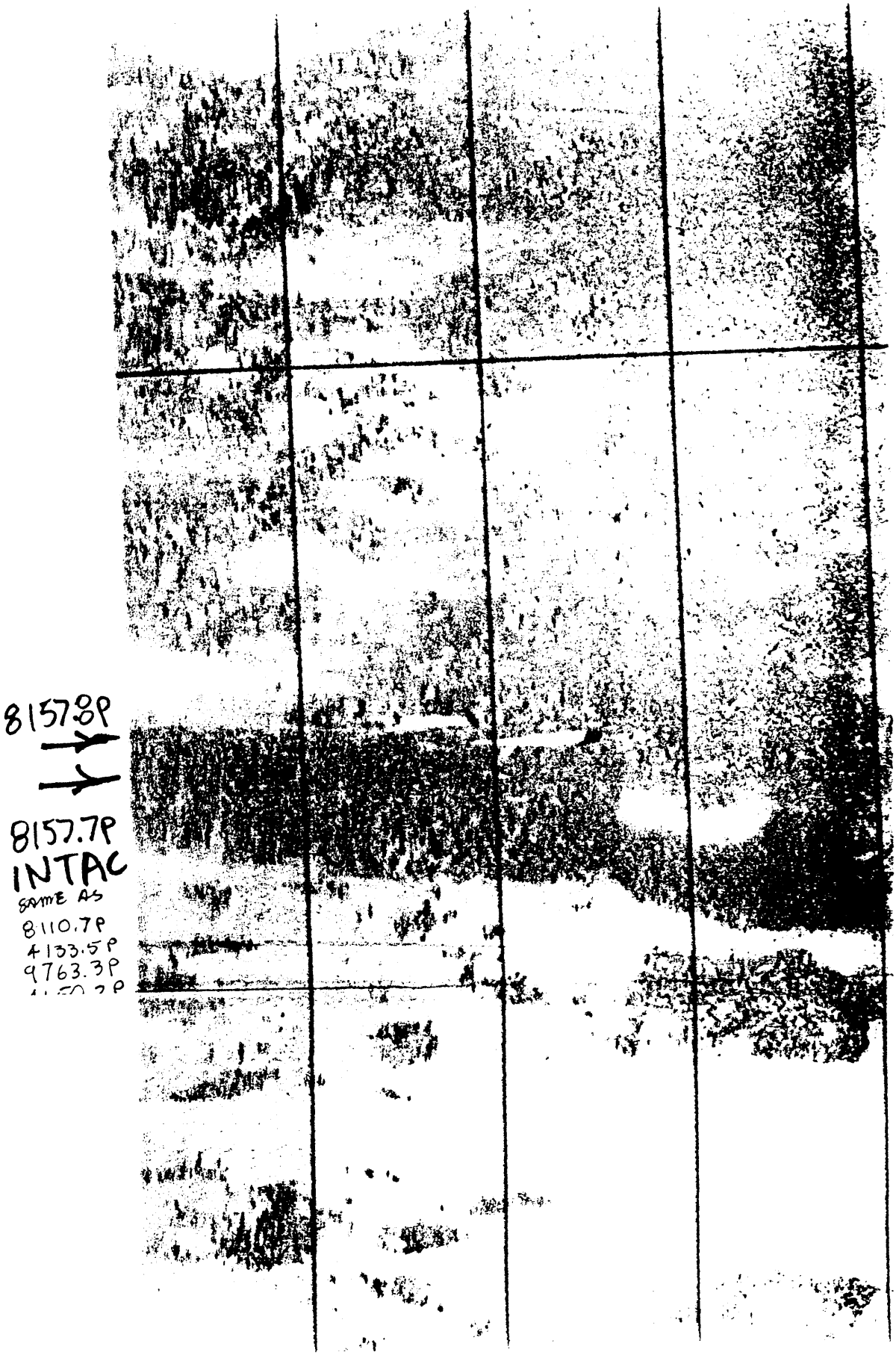

8157.8P
8157.7P
INTAC
SAME AS
8110.7P
4133.5P
9763.3P

CHART # 12326 ITEM # 8159.6s

ITEM DESCRIPTION: 2.3 meter high side scan sonar contact in 100 ft of water.

SOURCE: Survey FE - 312 (1988) SS, AWOIS 2110

REFERENCES: 8187.8s, 8207.7p

INVESTIGATION DATE: 5/12/88 (DAY 133) SSS
5/27/88 (DAY 148) STAR

VESSEL: 2930 DAY 133
2931 (1015) DAY 148

OIC: STAUFFER
BEAR

OBSERVED LEAST DEPTH: 92.5 ft uncorrected

POSITION # 1134+I (Day 148) TIME: 164808 UTC

CORRECTED LEAST DEPTH: ~~95.2~~ 94.0 ft

TRA Correctors Applied Draft = +1.8 ft

Predicted Tide Correctors Applied -1.0 ft

Velocity Corrector Applied +1.9 ft

GEODETIC POSITION:	Latitude	Longitude
Charted:	N/A	N/A
Observed:	40/24/09.~~39~~ 27 N	73/49/49.5~~0~~ 2 W

POSITION DETERMINED BY:

Range-Range using Falcon Mini-Ranger.

METHOD OF ITEM INVESTIGATION:

200% side scan sonar coverage, 50 meter line spacing on day 133. Star pattern run on day 148, revealing a 92.5 ft (uncorrected) peak in 100 ft of water.

CHARTING RECOMMENDATION:

The hydrographer recommends that a ~~95.2~~ 94.0 ft sounding be charted at the above position. Concur

4/25/89

165318
8160

SAME AS
8187.7S
AND 8213.3P
INTAC
8159.7S

8159.6S
INTAC
SEE ALSO
8187.8S
AND
8207.8P

CHART # 12326 ITEM # 8159.7s

ITEM DESCRIPTION: 3.4 meter high side scan sonar contact in 100 ft of water.

SOURCE: Survey FE - 312 (1988) SS, AWOIS 2110

REFERENCES: 8187.7s, 8143.3p

INVESTIGATION DATE: 5/12/88 (DAY 133) SSS

VESSEL: 2930 DAY 133

OIC: STAUFFER

OBSERVED LEAST DEPTH: N/A ft uncorrected

POSITION # N/A TIME: N/A UTC

CORRECTED LEAST DEPTH: N/A ft

TRA Correctors Applied Draft = N/A ft

Predicted Tide Correctors Applied N/A ft

Velocity Corrector Applied N/A ft

GEODETIC POSITION:	Latitude	Longitude
Charted:	N/A	N/A
Observed:	N/A	N/A

POSITION DETERMINED BY:

Range-Range using Falcon Mini-Ranger.

METHOD OF ITEM INVESTIGATION:

200% side scan sonar coverage, 50 meter line spacing.

CHARTING RECOMMENDATION:

The hydrographer recommends that no further investigation is necessary (NFIN). Concur

CHART # 12326 ITEM # 8205.6s

ITEM DESCRIPTION: 0.8 meter high side scan sonar contact in 102 ft of water.

SOURCE: Survey FE - 312 (1988) SS, AWOIS 2110

REFERENCES: 8245.6p

INVESTIGATION DATE: 5/12/88 (DAY 133) SSS

VESSEL: 2930 DAY 133

OIC: STAUFFER

OBSERVED LEAST DEPTH: N/A ft uncorrected

POSITION # N/A TIME: N/A UTC

CORRECTED LEAST DEPTH: N/A ft

TRA Correctors Applied Draft = N/A ft

Predicted Tide Correctors Applied N/A ft

Velocity Corrector Applied N/A ft

GEODETIC POSITION:	Latitude	Longitude
Charted:	N/A	N/A
Observed:	N/A	N/A

POSITION DETERMINED BY:

Range-Range using Falcon Mini-Ranger.

METHOD OF ITEM INVESTIGATION:

200% side scan sonar coverage, 50 meter line spacing.

CHARTING RECOMMENDATION:

The hydrographer recommends that no further investigation is necessary (NFIN). Concur

CHART # 12326 ITEM # 8316.4s

ITEM DESCRIPTION: 2.8 meter high side scan sonar contact in 105 ft of water.

SOURCE: Survey FE - 312 (1988) SS, AWOIS 2110

REFERENCES: 8276.9p, 8280+2I

INVESTIGATION DATE: 5/13/88 (DAY 134) SSS
5/27/88 (DAY 148) STAR

VESSEL: 2930 DAY 134
2931 (1015) DAY 148

OIC: KOCH
BEAR

OBSERVED LEAST DEPTH: 91.3 ft uncorrected

POSITION # 1141 (Day 148) TIME: 174101 UTC

CORRECTED LEAST DEPTH: ~~93.2~~ 92.0 ft

TRA Correctors Applied Draft = +1.8 ft

Predicted Tide Correctors Applied -1.8 ft

Velocity Corrector Applied +1.9 ft

GEODETIC POSITION:	Latitude	Longitude
Charted:	N/A	N/A
Observed:	40/23/22.4~~2~~3 N	73/49/38.~~64~~51 W

POSITION DETERMINED BY:

Range-Range using Falcon Mini-Ranger.

METHOD OF ITEM INVESTIGATION:

200% side scan sonar coverage, 50 meter line spacing on day 133. Star pattern run on day 148, revealing a 91.3 ft peak in 105 ft of water.

CHARTING RECOMMENDATION:

The hydrographer recommends that a ~~93.2~~ 92.0 ft sounding be charted at the above position. Concur

4/25/89

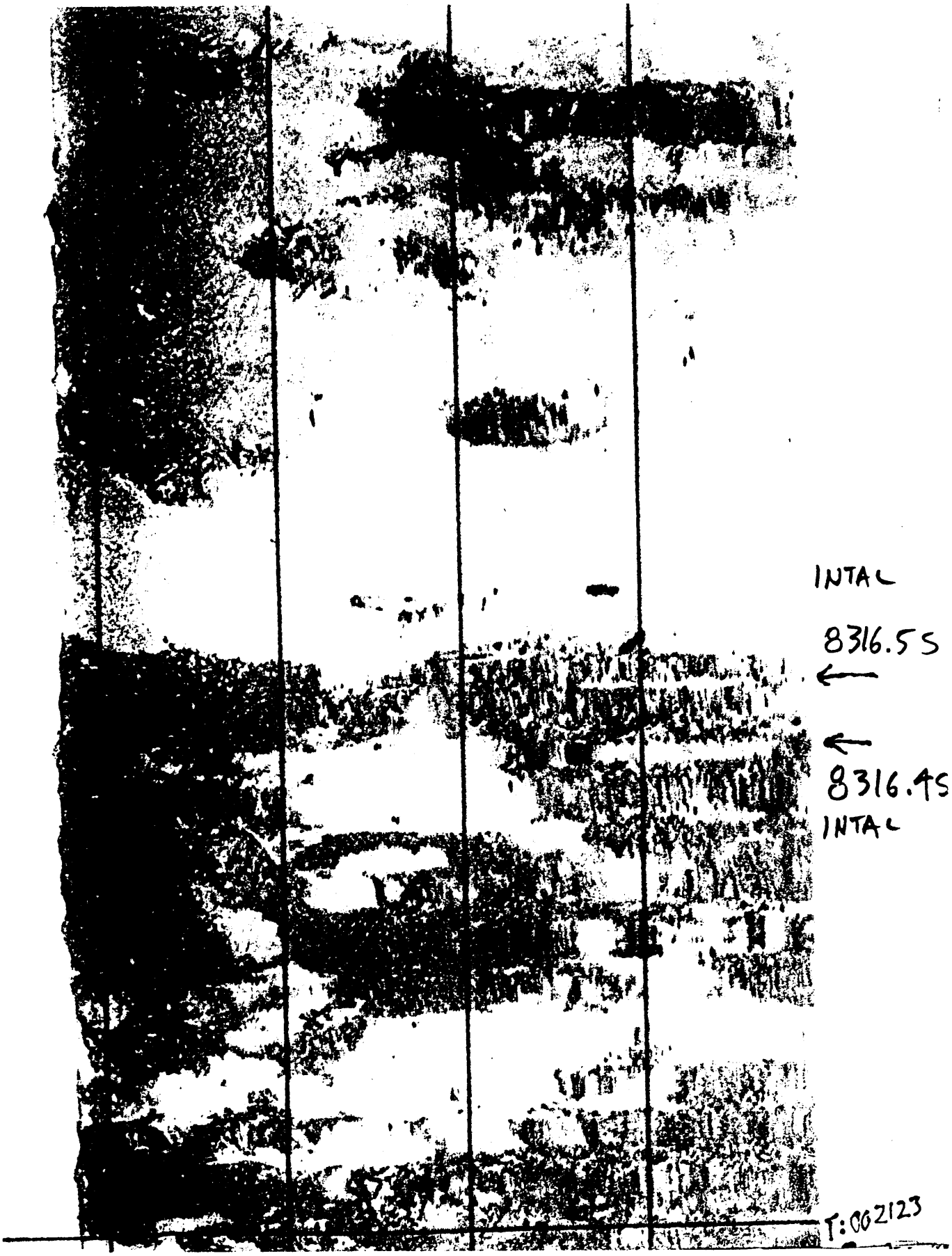

INTAL
8316.5S
8316.4S
INTAL
T:062123

CHART # 12326 ITEM # 8350.7p

ITEM DESCRIPTION: 1.6 meter high side scan sonar contact in 102 ft of water.

SOURCE: Survey FE - 312 (1988) SS, AWOIS 2110

REFERENCES: 4168.4s, 8379+4+I

INVESTIGATION DATE: 5/13/88 (DAY 134) SSS

VESSEL: 2930 DAY 134

OIC: KOCH

OBSERVED LEAST DEPTH: N/A ft uncorrected

POSITION # N/A TIME: N/A UTC

CORRECTED LEAST DEPTH: N/A ft

TRA Correctors Applied Draft = N/A ft

Predicted Tide Correctors Applied N/A ft

Velocity Corrector Applied N/A ft

GEODETIC POSITION:	Latitude	Longitude
Charted:	N/A	N/A
Observed:	N/A	N/A

POSITION DETERMINED BY:

Range-Range using Falcon Mini-Ranger.

METHOD OF ITEM INVESTIGATION:

200% side scan sonar coverage, 50 meter line spacing.

CHARTING RECOMMENDATION:

The hydrographer recommends that no further investigation is necessary (NFIN). Concur

CHART # 12326 ITEM # 8420.0s

ITEM DESCRIPTION: 2.6 meter high side scan sonar contact in 104 ft of water.

SOURCE: Survey FE - 312 (1988) SS, AWOIS 2110

REFERENCES: 8386.1s, 4170.6p

INVESTIGATION DATE: 5/13/88 (DAY 134) SSS

VESSEL: 2930 DAY 134

OIC: KOCH

OBSERVED LEAST DEPTH: N/A ft uncorrected

POSITION # N/A TIME: N/A UTC

CORRECTED LEAST DEPTH: N/A ft

TRA Correctors Applied Draft = N/A ft

Predicted Tide Correctors Applied N/A ft

Velocity Corrector Applied N/A ft

GEODETIC POSITION:	Latitude	Longitude
Charted:	N/A	N/A
Observed:	N/A	N/A

POSITION DETERMINED BY:

Range-Range using Falcon Mini-Ranger.

METHOD OF ITEM INVESTIGATION:

200% side scan sonar coverage, 50 meter line spacing.

CHARTING RECOMMENDATION:

The hydrographer recommends that no further investigation is necessary (NFIN). *Concur*

CHART # 12326 ITEM # 8424.7s

ITEM DESCRIPTION: 1.7 meter high side scan sonar contact in 108 ft of water.

SOURCE: Survey FE - 312 (1988) SS, AWOIS 2110

REFERENCES: 8460.4s, 8464.7s

INVESTIGATION DATE: 5/13/88 (DAY 134) SSS

VESSEL: 2930 DAY 134

OIC: KOCH

OBSERVED LEAST DEPTH: N/A ft uncorrected

POSITION # N/A TIME: N/A UTC

CORRECTED LEAST DEPTH: N/A ft

TRA Correctors Applied Draft = N/A ft

Predicted Tide Correctors Applied N/A ft

Velocity Corrector Applied N/A ft

GEODETIC POSITION:	Latitude	Longitude
Charted:	N/A	N/A
Observed:	N/A	N/A

POSITION DETERMINED BY:

Range-Range using Falcon Mini-Ranger.

METHOD OF ITEM INVESTIGATION:

200% side scan sonar coverage, 50 meter line spacing.

CHARTING RECOMMENDATION:

The hydrographer recommends that no further investigation is necessary (NFIN). Concur

CHART # 12326 ITEM # 8596.2s

ITEM DESCRIPTION: 3.9 meter high side scan sonar contact in 88 ft of water.

SOURCE: Survey FE - 312 (1988) SS, AWOIS 2110

REFERENCES: 8559.7p, 8564.7s

INVESTIGATION DATE: 5/19/88 (DAY 140) SSS
5/24/88 (DAY 145) DIVE

VESSEL: 2930 DAY 140
2932 (1014) DAY 145

OIC: STAUFFER
KOCH

DIVER LEAST DEPTH: 74.1 ft (pneumo) uncorrected

POSITION # 4096 (Day 145) TIME: 150250 UTC

CORRECTED LEAST DEPTH: 72.0 ft

Pneumo Correctors Applied -0.3 ft

Predicted Tide Correctors Applied -1.6 ft

GEODETIC POSITION:	Latitude	Longitude
Charted:	N/A	N/A
Observed:	40/25/34.94 N	73/50/08.34 W

POSITION DETERMINED BY:

Range-Range using Falcon Mini-Ranger.

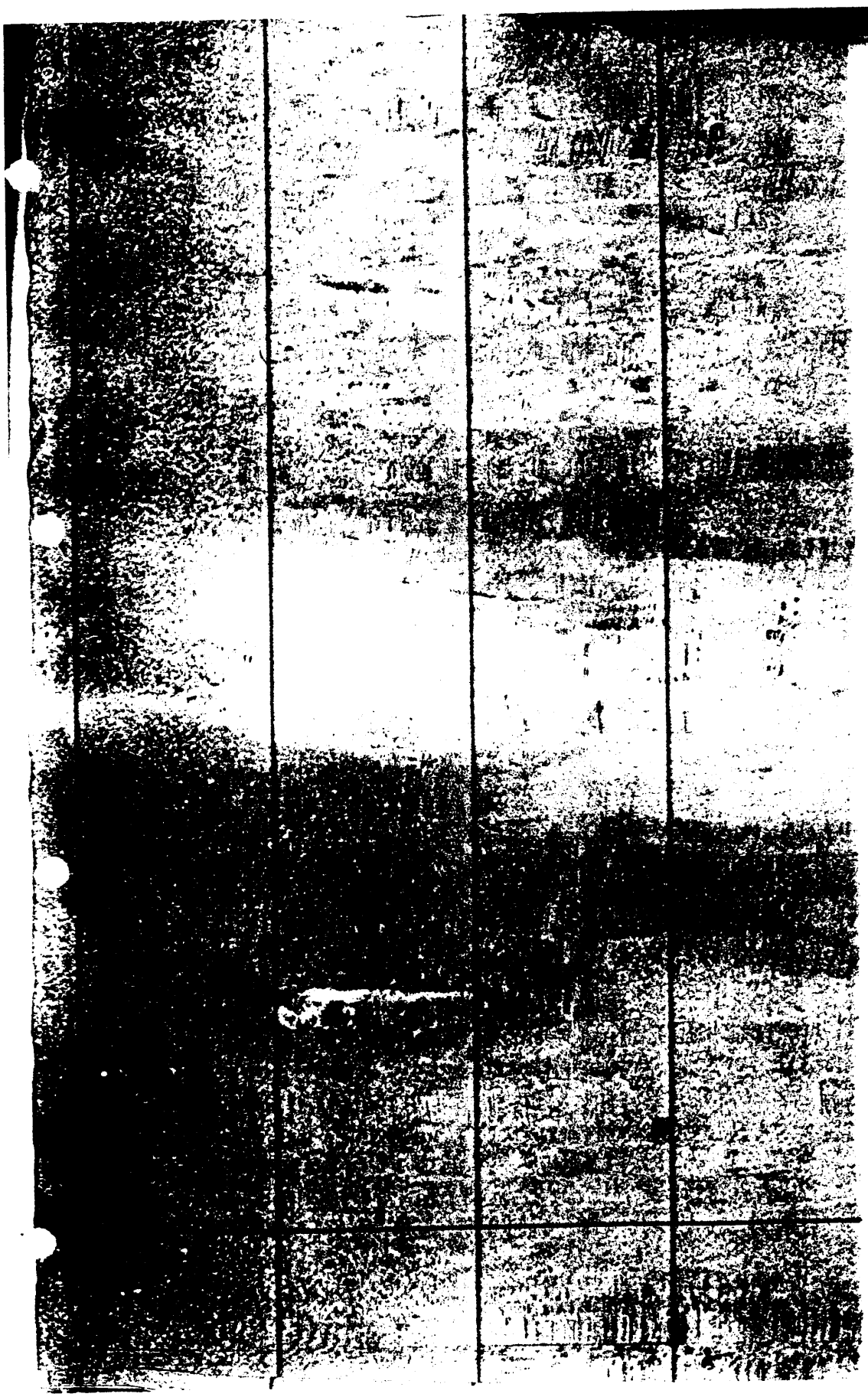
METHOD OF ITEM INVESTIGATION:

200% side scan sonar coverage, 50 meter line spacing on day 140. Dive operations on day 145, see attached dive report.

CHARTING RECOMMENDATION:

The hydrographer recommends that the item be charted as a nonhazardous obstruction over which depth is known, using symbol 27, section O from Chart No. 1. Concur. Chart as an obstruction with a least depth of 72 ft (72 obstr) PLK 4/25/89

GBW



5/28/80
Done ON
DAY 145
SHIPYARD
SCRAP Found!
NFIN - 4 Pl.
SAME AS
8564.7S
&
8559.7P

INTAC
8596.2S

LAY = 71.1

8594
155233

AWOIS 2110

8596.2s

Dive 1 5/24/88

Divers Skarbek and Kalinowski descended the marker buoy line to a silty sand bottom at approximately 90 feet. While preparing to perform a circle search, divers noticed a rope covered with marine growth, they followed it to a pile of compressed shipyard debris. The pile was approximately 10 feet tall and 20 feet wide, and was surrounded by scrap iron and various other unidentifiable metallic debris on the bottom. The pile consisted of old marine hatches, large and small pieces of metal, welding rods, tubing, wire, and appeared to have been compressed into a large block. The pile had several old lobster pot lines wrapped around it, and a lobster pot was found at the base of the pile. Divers then obtained a pneumo depth on the top of the pile (74.0 ft uncorrected).

CHART # 12326 ITEM # 8748.3s

ITEM DESCRIPTION: 2.2 meter high side scan sonar contact in 80 ft of water.

SOURCE: Survey FE - 312 (1988) SS, AWOIS 2110

REFERENCES: 8765.2p, 8782.0p

INVESTIGATION DATE: 5/19/88 (DAY 140) SSS

VESSEL: 2930 DAY 140

OIC: VERLAQUE

OBSERVED LEAST DEPTH: N/A ft uncorrected

POSITION # N/A TIME: N/A UTC

CORRECTED LEAST DEPTH: N/A ft

TRA Correctors Applied Draft = N/A ft

Predicted Tide Correctors Applied N/A ft

Velocity Corrector Applied N/A ft

GEODETIC POSITION:	Latitude	Longitude
Charted:	N/A	N/A
Observed:	N/A	N/A

POSITION DETERMINED BY:

Range-Range using Falcon Mini-Ranger.

METHOD OF ITEM INVESTIGATION:

200% side scan sonar coverage, 50 meter line spacing.

CHARTING RECOMMENDATION:

The hydrographer recommends that no further investigation is necessary (NFIN). *Concur*

CHART # 12326 ITEM # 8751.1s

ITEM DESCRIPTION: 1.9 meter high side scan sonar contact in 75 ft of water.

SOURCE: Survey FE - 312 (1988) SS, AWOIS 2110

REFERENCES: 8761.8s

INVESTIGATION DATE: 5/20/88 (DAY 141) SSS
5/24/88 (DAY 145) STAR

VESSEL: 2930 DAY 141
2932 (1014) DAY 145

OIC: VERLAQUE
KOCH

OBSERVED LEAST DEPTH: N/A ft uncorrected

POSITION # N/A TIME: N/A UTC

CORRECTED LEAST DEPTH: N/A ft

TRA Correctors Applied Draft = N/A ft

Predicted Tide Correctors Applied N/A ft

Velocity Corrector Applied N/A ft

GEODETIC POSITION:	Latitude	Longitude
Charted:	N/A	N/A
Observed:	N/A	N/A

POSITION DETERMINED BY:

Range-Range using Falcon Mini-Ranger.

METHOD OF ITEM INVESTIGATION:

200% side scan sonar coverage, 50 meter line spacing run on day 141. Star pattern run on day 145, no peaks found.

CHARTING RECOMMENDATION:

The hydrographer recommends that no further investigation is necessary (NFIN). Concur

CHART # 12326 ITEM # 9066.7s

ITEM DESCRIPTION: 1.5 meter high side scan sonar contact in 53 ft of water.

SOURCE: Survey FE - 312 (1988) SS, AWOIS 2110

REFERENCES: 9068.7p, 9179.4s

INVESTIGATION DATE: 5/25/88 (DAY 146) SSS

VESSEL: 2930 DAY 146

OIC: VERLAQUE

OBSERVED LEAST DEPTH: N/A ft uncorrected

POSITION # N/A TIME: N/A UTC

CORRECTED LEAST DEPTH: N/A ft

TRA Correctors Applied Draft = N/A ft

Predicted Tide Correctors Applied N/A ft

Velocity Corrector Applied N/A ft

GEODETIC POSITION:	Latitude	Longitude
Charted:	N/A	N/A
Observed:	N/A	N/A

POSITION DETERMINED BY:

Range-Range using Falcon Mini-Ranger.

METHOD OF ITEM INVESTIGATION:

200% side scan sonar coverage, 50 meter line spacing run on day 146.

CHARTING RECOMMENDATION:

The hydrographer recommends that no further investigation is necessary (NFIN). *Concur*

CHART # 12326 ITEM # 9066.9s

ITEM DESCRIPTION: 2.5 meter high side scan sonar contact in 53 ft of water.

SOURCE: Survey FE - 312 (1988) SS, AWOIS 2110

REFERENCES: 9068.6p, 9179.3s

INVESTIGATION DATE: 5/25/88 (DAY 146) SSS

VESSEL: 2930 DAY 146

OIC: VERLAQUE

OBSERVED LEAST DEPTH: N/A ft uncorrected

POSITION # N/A TIME: N/A UTC

CORRECTED LEAST DEPTH: N/A ft

TRA Correctors Applied Draft = N/A ft

Predicted Tide Correctors Applied N/A ft

Velocity Corrector Applied N/A ft

GEODETIC POSITION:	Latitude	Longitude
Charted:	N/A	N/A
Observed:	N/A	N/A

POSITION DETERMINED BY:

Range-Range using Falcon Mini-Ranger.

METHOD OF ITEM INVESTIGATION:

200% side scan sonar coverage, 50 meter line spacing run on day 146.

CHARTING RECOMMENDATION:

The hydrographer recommends that no further investigation is necessary (NFIN). Concur

CHART # 12326 ITEM # 9150.5s

ITEM DESCRIPTION: 2.0 meter high side scan sonar contact in 60 ft of water.

SOURCE: Survey FE - 312 (1988) SS, AWOIS 2110

REFERENCES: 9142.2p

INVESTIGATION DATE: 5/25/88 (DAY 146) SSS

VESSEL: 2930 DAY 146

OIC: DEBOW

OBSERVED LEAST DEPTH: N/A ft uncorrected

POSITION # N/A TIME: N/A UTC

CORRECTED LEAST DEPTH: N/A ft

TRA Correctors Applied Draft = N/A ft

Predicted Tide Correctors Applied N/A ft

Velocity Corrector Applied N/A ft

GEODETIC POSITION:	Latitude	Longitude
Charted:	N/A	N/A
Observed:	N/A	N/A

POSITION DETERMINED BY:

Range-Range using Falcon Mini-Ranger.

METHOD OF ITEM INVESTIGATION:

200% side scan sonar coverage, 50 meter line spacing run on day 146.

CHARTING RECOMMENDATION:

The hydrographer recommends that no further investigation is necessary (NFIN). Concur

CHART # 12326 ITEM # 9536.3p

ITEM DESCRIPTION: 2.4 meter high side scan sonar contact in 118 ft of water.

SOURCE: Survey FE - 312 (1988) SS, AWOIS 2110

REFERENCES: 9532.7p

INVESTIGATION DATE: 5/26/88 (DAY 147) SSS

VESSEL: 2930 DAY 147

OIC: STAUFFER

OBSERVED LEAST DEPTH: N/A ft uncorrected

POSITION # N/A TIME: N/A UTC

CORRECTED LEAST DEPTH: N/A ft

TRA Correctors Applied Draft = N/A ft

Predicted Tide Correctors Applied N/A ft

Velocity Corrector Applied N/A ft

GEODETIC POSITION:	Latitude	Longitude
Charted:	N/A	N/A
Observed:	N/A	N/A

POSITION DETERMINED BY:

Range-Range using Falcon Mini-Ranger.

METHOD OF ITEM INVESTIGATION:

200% side scan sonar coverage, 50 meter line spacing run on day 147.

CHARTING RECOMMENDATION:

The hydrographer recommends that no further investigation is necessary (NFIN). Concur

CHART # 12326 ITEM # 9707.0p

ITEM DESCRIPTION: 2.8 meter high side scan sonar contact in 117 ft of water.

SOURCE: Survey FE - 312 (1988) SS, AWOIS 2110

REFERENCES: 9783.1p, 9873.1s, 9795.6s

INVESTIGATION DATE: 5/27/88 (DAY 148) SSS

VESSEL: 2930 DAY 148

OIC: SKARBEK

OBSERVED LEAST DEPTH: N/A ft uncorrected

POSITION # N/A TIME: N/A UTC

CORRECTED LEAST DEPTH: N/A ft

TRA Correctors Applied Draft = N/A ft

Predicted Tide Correctors Applied N/A ft

Velocity Corrector Applied N/A ft

GEODETIC POSITION:	Latitude	Longitude
Charted:	N/A	N/A
Observed:	N/A	N/A

POSITION DETERMINED BY:

Range-Range using Falcon Mini-Ranger.

METHOD OF ITEM INVESTIGATION:

200% side scan sonar coverage, 50 meter line spacing run on day 148.

CHARTING RECOMMENDATION:

The hydrographer recommends that no further investigation is necessary (NFIN). Concur

CHART # 12326 ITEM # 9707.2p

ITEM DESCRIPTION: 2.7 meter high side scan sonar contact in 117 ft of water.

SOURCE: Survey FE - 312 (1988) SS, AWOIS 2110

REFERENCES: 9783.1p, 9873.1s, 9795.6s

INVESTIGATION DATE: 5/27/88 (DAY 148) SSS

VESSEL: 2930 DAY 148

OIC: SKARBEK

OBSERVED LEAST DEPTH: N/A ft uncorrected

POSITION # N/A TIME: N/A UTC

CORRECTED LEAST DEPTH: N/A ft

TRA Correctors Applied Draft = N/A ft

Predicted Tide Correctors Applied N/A ft

Velocity Corrector Applied N/A ft

GEODETIC POSITION:	Latitude	Longitude
Charted:	N/A	N/A
Observed:	N/A	N/A

POSITION DETERMINED BY:

Range-Range using Falcon Mini-Ranger.

METHOD OF ITEM INVESTIGATION:

200% side scan sonar coverage, 50 meter line spacing run on day 148.

CHARTING RECOMMENDATION:

The hydrographer recommends that no further investigation is necessary (NFIN). Concur

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

TIDE NOTE FOR HYDROGRAPHIC SURVEY

DATE: August 3, 1988

MARINE CENTER: Atlantic

OPR: C121

HYDROGRAPHIC SHEET: FE-312ss (H-10224, WH-20-1-86)

LOCALITY: Approach to N.Y. Harbor, Vicinity of Ambrose Light

TIME PERIOD: April 15 - May 29, 1988

TIDE STATION(S) USED: 853-1680 Sandy Hook, NJ

PLANE OF REFERENCE (MEAN LOWER LOW WATER): 2.27 ft.

HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE: 4.9 ft.

REMARKS: RECOMMENDED ZONING

1. For AWOIS items 1586, 1634, 2110, and periods of hydrography for H-10224 (WH-20-1-86), apply a -0 hr 30 minute time correction and a X0.94 range ratio to all heights.

CHIEF, TIDAL DATUM QUALITY
ASSURANCE SECTION

NOAA FORM 76-155
(11-72)

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

GEOGRAPHIC NAMES

SURVEY NUMBER

FE-312SS

Name on Survey	A ON CHART NO. NOS 12326	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	
AMBROSE LIGHT										1
ATLANTIC OCEAN										2
NEW JERSEY										3
NEW YORK										4
										5
										6
										7
										8
										9
										10
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										12
										13
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										20
										21
										22
										23
										24
										25

NOAA FORM 76-155 SUPERSEDES C&GS 197

08/31/89

HYDROGRAPHIC SURVEY STATISTICS
REGISTRY NUMBER: FE-312SS

NUMBER OF CONTROL STATIONS	4
NUMBER OF POSITIONS	3574
NUMBER OF SOUNDINGS	13747

	TIME-HOURS	DATE COMPLETED
* PREPROCESSING EXAMINATION	115	09/26/88
VERIFICATION OF FIELD DATA	377	05/10/89
QUALITY CONTROL CHECKS	86	
EVALUATION AND ANALYSIS	139	08/29/89
FINAL INSPECTION	25	08/22/89
TOTAL TIME	627	

MARINE CENTER APPROVAL 08/31/89

*Preprocessing time is not considered as part of total survey time.

NOAA FORM 61-29
(12-71)

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

REFERENCE NO.
N/CG244-80-89

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
Rockville, MD 20852

DATE FORWARDED
14 September 1989

NUMBER OF PACKAGES
1 tube, 4 boxes

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-312SS
New York--New Jersey, Atlantic Ocean, Vicinity of Ambrose Light

1 Tube (pkg #1) containing:
- 1 Smooth field sheet for AWOIS 1586
- 6 Smooth field sheets for AWOIS 2110
- 7 Smooth field sheets for AWOIS 1634

1 Box (pkg #2) containing:
- 7 Sounding Volumes
- 1 **Original Descriptive Report**
- 4 Accordian files with fathograms, master tape and corrector printouts for AWOIS 2110 from:
  - (2) VESNO 2930 for JD's: 132, 133, 134, 140, 141, 146, 147, 148, and 149
  - (1) VESNO 2931 for JD's: 147, 148, 149, and 150
  - (1) VESNO 2932 for JD's: 132, 140, 145, 148, and 149

1 Box (pkg #3) containing:
- 3 Accordian files with fathograms, sonargrams master and corrector tape printouts for AWOIS 1634 from
  - (2) VESNO 2931 for JD's: 122, 123, 124, 125, 126, 132, 136, 137, 138, 144, 145, 149, and 150 (Rockaway, DP on shoal)

FROM: (Signature)
Richard H. Whitfield

RECEIVED THE ABOVE
(Name, Division, Date)

D. S. Clark
9/26/89

Return receipted copy to:

Chief, Hydrographic Surveys Branch,
N/CG244
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

LETTER TRANSMITTING DATA

REFERENCE NO.
N/CG244-80-89

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
Rockville, MD 20852

DATE FORWARDED
14 September 1989

NUMBER OF PACKAGES
1 tube, 4 boxes

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.

1 box, (Pkg #3) continued:
(1) VESNO 2932 for JD's: 123, 124, 137, 138, 141, and 145
~~7~~ folders, Supplementals #2, #4, #5, #6, #8, and #9

1 box (pkg #4) containing:
~~3~~ Packing envelopes with sonargrams for AWOIS 2110 from:
VESNO 2932 for JD's: 132, 148, and 149
~~19~~ Packing envelopes with sonargrams for AWOIS 2110 from:
VESNO 2930 for JD's: 132 (2), 133 (3), 133/134 (1), 134 (4), 140 (2), 141 (5), 146 (1), and 146/147 (1)

1 box (pkg #5) containing:
~~9~~ Packing envelops with sonargrams for AWOIS 2110 from:
VESNO 2930 for JD's: 147 (5), 148 (3), and 149 (1)
~~1~~ Cahier with final position printout and control listing
~~1~~ Cahier with final sounding printout
~~1~~ Envelope with original position overlays and excess sounding overlays
~~1~~ Envelope with supplemental data removed from printouts
~~1~~ Envelope with miscellaneous data removed from Descriptive Report
~~1~~ Envelope with corrected velocity tables
~~1~~ Accordian file with fathograms, master and corrector printouts for AWOIS 1586 from:
VESNO 2930 for JD's: 131, 132, and 150

FROM: (Signature)
Richard H. Whitfield

RECEIVED THE ABOVE
(Name, Division, Date)

Return receipted copy to:

Chief, Hydrographic Surveys Branch,
N/CG244
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.GPO:1983-0-864-006/1192

ATLANTIC MARINE CENTER
EVALUATION REPORT

SURVEY NO.: FE-312SS FIELD NO.: WH-20-1-88

New York--New Jersey, Atlantic Ocean, Vicinity of Ambrose Light

SCALE: 1:20,000 PROJECT NO.: OPR-C121-WH-88

SOUNDINGS: RAYTHEON DSF-6000N Fathometer, EG&G Model 260 Side Scan Sonar, and KLEIN Model 521T Side Scan Sonar

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

Chief of Party.....D. R. Seidel

Surveyed by.....T. A. Baxter
.....S. P. DeBow
.....J. A. Koch
.....J. S. Verlaque
.....M. P. Skarbek
.....J. D. Bear
.....P. C. Stauffer

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

1. INTRODUCTION

a. This is primarily a side scan sonar survey. A Raytheon DSF-6000N fathometer was operated concurrently with the side scan sonar. Fathometer development was conducted to search for items and to determine the shoalest soundings. No wire drag was accomplished during this survey.

b. Three (3) 1:20,000 scale and one (1) 1:30,000 scale page size plots were generated during office processing, and are attached to this report. These plots are considered the final plots or smooth sheets for this survey.

c. No unusual problems were encountered during office processing.

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

2. CONTROL AND SHORELINE

a. The control is adequately discussed in sections F., G., and S. of the Descriptive Report.

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

c. Horizontal control used for this survey during data acquisition is based upon the north American Datum of 1927 (NAD27). Office processing of this survey is based on these values. The smooth sheets have been annotated with ticks showing the computed mean shift between the survey datum and the North American Datum of 1983 (NAD83).

To place the 1:20,000 scale plots, sheets 1, 2, and 4, on the NAD27 datum, move the projection lines 0.382 seconds (11.8 meters or 0.59 mm at the scale of the survey) north in latitude, and 1.512 seconds (35.6 meters or 1.78 mm at the scale of the survey) east in longitude.

To place the 1:30,000 scale plot, sheet 3, on the NAD27 datum, move the projection lines 0.386 seconds (11.8 meters or 0.39 mm at the scale of the survey) north in latitude, and 1.512 seconds (35.6 meters or 1.19 mm at the scale of the survey) east in longitude.

d. All geographic positions listed from other sources are on the North American Datum of 1927.

3. HYDROGRAPHY

a. The hydrography collected on this survey for AWOIS item #1568 and the obstruction in the vicinity of Rockaway Inlet (sheets 1 and 4 of 4) is of reconnaissance value only and was not verified. This does not pertain to the depths of the items shown on the smooth plots included in this report.

Crosslines were run during investigations for AWOIS items #1634 and #2110 (sheets 2 and 3 of 4). These soundings are in good agreement and comply with the criteria found in sections 4.6.1. and 6.3.4.3. of the HYDROGRAPHIC MANUAL. See also section I. page 19, of the Descriptive Report for further discussion on these items.

b. Standard depth curves within the areas of hydrography were drawn in their entirety. Additional dashed and brown curves were drawn to better show bottom relief.

c. Development of the bottom configuration and determination of least depths is considered adequate.

4. CONDITION OF SURVEY

The smooth sheets and accompanying overlays, hydrographic records and reports are adequate and conform to the requirements of the HYDROGRAPHIC MANUAL and the PROVISIONAL SIDE SCAN SONAR MANUAL with the following exceptions:

a. Numerous side scan sonar contacts are not plotted on the side scan sonar contact overlays. Even though the contacts had been noted on contact abstracts, all contacts

should be plotted and labeled with appropriate descriptive notes as required by section 3.1.2. of the PROVISIONAL SIDE SCAN SONAR MANUAL.

b. During the evaluation phase of office processing of this survey it was determined that a considerable amount of pertinent data was not included in the hydrographer's report. The material mentioned was included in a "separate" that was sent with the entire survey package. The material being discussed here are the actual dive narratives, associated information sheets, and drawings prepared by the divers. The inclusion of this information in the hydrographers report is crucial to the expedient processing of the survey. In the future, the hydrographer should insure that this material be placed in the hydrographer's report and not sent in a "separate". The inclusion of this material will also reduce the amount of work required to prepare the hydrographer's report and reduce the risk of errors through transcription.

c. The chart enlargements that are prepared for comparison at the scale of the survey would be more useful during comparison if there are a sufficient number of latitude and longitude lines drawn to match with the field sheet or smooth sheet when comparisons are made during office verification.

5. JUNCTIONS

There are no junctional requirements in the Project Instructions; however, as stated in the survey requirements for AWOIS items #1634 and #2110, a junction was effected between the present survey and H-10224 (1986-87).

6. COMPARISON WITH PRIOR SURVEYS

a. Hydrographic

H-5735 (1934) 1:20,000
H-6190 (1936) 1;40,000

The prior surveys listed above are common to the entire present survey. Comparisons between present hydrography shown on sheets 1 and 4 (AWOIS item #1568 and Rockaway Investigation respectively) and prior survey hydrography were not made since all present survey hydrography, except the detached soundings on items located, is considered reconnaissance hydrography. Comparisons between hydrography shown on sheets 2 and 3 (AWOIS items #1634 and #2110 respectively) and prior survey hydrography are adequately discussed in section K. of the Descriptive Report.

The comparison between prior survey H-5735 (1934) and the hydrography run by the field unit and shown on the smooth

plot varies from 7 feet shoaler to 6 feet deeper that the prior survey depths. These may be attributed to deepening of the dredged channel and natural changes.

The present survey is considered adequate to supersede the prior survey in the common areas.

b. Wire Drag

H-8330WD (1956) 1:25,000
FE-101WD (1951) 1:40,000
FE-215WD (1975) 1:20,000

1) There are no conflicts between the present survey depths in the area of AWOIS item # 1634 and the wire drag effective depths shown on prior survey H-8330WD (1956).

2) Prior survey FE-101WD (1951) covers the northwestern part of the search area for AWOIS item #2110. AWOIS item #1586, previously reported in Notice to Mariners No. 8 of 1942, was located by the prior wire drag survey.

There are no conflicts between the present survey depths in the area of AWOIS item #2110 and the wire drag effective depths shown on prior survey FE-101WD (1951).

AWOIS item #1586 is a charted dangerous submerged wreck with a wire drag clearance depth of 66 feet in Latitude 40°25'06.0"N, Longitude 73°45'12.0"W originating with the LNM 8/42 and FE-101WD (1951) as an actual sounding of 71 feet with a clearance depth of 66-ft. The sunken wreck "MOHAWK" was located by the hydrographer in Latitude 40°25'01.10"N, Longitude 73°45'10.99"W with a pneumatic depth gauge least depth of 78 feet. The position of the "MOHAWK" is 152 meters SSE of the charted AWOIS item. It is recommended that the dangerous sunken wreck "MOHAWK" with a least depth of 78 feet (78 Wk) be charted in the position determined by the present survey. The presently charted dangerous sunken wreck with a clearance depth of 66 feet, AWOIS item #1586, should be removed from the chart. See sheet 4 of 4.

3) Prior wire drag survey FE-215WD (1975) is used as limits for the search area of AWOIS item #1634 as stated in the survey requirements of the AWOIS listing. Present survey soundings show there are no conflicts between the present survey depths and the wire drag effective depths from FE-215WD (1975).

7. COMPARISON WITH CHART 12326 (38th Ed., Feb. 22/86)

a. Hydrography

The charted hydrography within the common areas of the present survey originates with the previously discussed

prior surveys and sources not readily ascertainable. The previously discussed prior surveys require no further consideration. Attention is directed to the following:

1) AWOIS item #1634 is a charted sunken wreck, PA in Latitude 40°29'36.0"N, Longitude 73°54'00.0"W originating with Local Notice to Mariners 51 of 1973. Several side scan sonar contacts were located by the hydrographer during the search for this item. Discussions and charting recommendations can be found in section K. pages 22 and 23 of the Descriptive Report.

Additionally, during the search for AWOIS item #1634, two side scan sonar contacts (330.1S and 379.6S) were located and identified as uncharted wreckage by the hydrographer. A dive on the first obstruction (330.1S) found it to be wreckage in a scour approximately 2 feet deep in Latitude 40°29'31.38"N, Longitude 73°54'20.45"W. A pneumatic depth gauge least depth of 39 feet was obtained in present survey depths that range from 37 to 38 feet. The second obstruction (379.6S) was found 88 meters to the southwest in Latitude 40°29'28.57"N, Longitude 73°54'21.20"W. A pneumatic depth gauge least depth of 36 feet was obtained in present survey depths of 38 feet. Prior survey depths range from 39 to 41 feet. The present survey positions are 502 meters and 549 meters, respectively, southwest of the listed position for AWOIS item #1634. It is recommended that a dangerous submerged obstruction (wreckage) with a least depth of 39 feet (39 obstr), and a dangerous submerged obstruction (wreckage) with a least depth of 36 feet (36 obstr) be charted as shown on the present survey. The presently charted dangerous sunken wreck, PA (AWOIS item #1634) be deleted from the chart. See sheet 2 of 4.

2) AWOIS item #2110 is a charted dangerous sunken wreck, PA in Latitude 40°24'36.0"N, Longitude 73°50'00.0"W originating with Local Notice to Mariners 12 of 1982. The item was searched for with negative results. Numerous obstructions were found by the hydrographer in the search area and are adequately discussed in section K., pages 24 and 25 of the Descriptive Report. These obstructions, shown as soundings on the present survey, are considered hydrographic features and not dangers to navigation because of the surrounding depths. It is recommended that these soundings be charted as shown on the present survey. It is also recommended that the charted dangerous sunken wreck, PA (AWOIS item #2110) be deleted from the chart. See sheet 3 of 4.

3) Charted soundings in the dumpsite in the vicinity of Latitude 40°23'35"N, Longitude 73°50'33"W are four (4) to thirty (30) feet deeper than present survey soundings. The shoalest present survey soundings are 39 feet at the above location. It is recommended that the charted soundings in

the dumpsite common to the present survey be revised to reflect the present survey.

4) An uncharted 23-foot sounding was located by the hydrographer in Latitude 40°31'22.49"N, Longitude 73°56'12.52"W. Prior survey depths from H-5735 (1934) range from 27 to 30 feet. Charted soundings in the vicinity are 24 to 28 feet. Because a dive on the shoal sounding was not conducted, the 23-foot depth cannot be considered the least depth. It is recommended that the 23-foot sounding be charted in the position located by the present survey. See sheet 4 of 4.

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

b. Controlling Depths

There are no conflicts with the charted channel controlling depths in the Ambrose Channel.

c. Dangers to Navigation

One Danger to Navigation concerning two items was submitted by the hydrographer to the Commander (OAN), Third Coast Guard District, Building 135-A, Governors Island, New York, NY 10004-5098. A copy of the notice is appended to the Descriptive Report.

d. Aids to Navigation

The hydrographer located four (4) floating aids to navigation in the survey area. These aids appear adequate to serve their intended purposes.

8. COMPLIANCE WITH INSTRUCTIONS

This survey adequately complies with the Project Instructions.

9. ADDITIONAL FIELD WORK

This is a good side scan survey. No additional work is recommended.

for Leroy G. Keene

Reginald L. Keene
Cartographic Technician
Verification of Field Data

Richard H. Whitfield

Richard H. Whitfield
Cartographer
Evaluation and Analysis

Robert R. Hill

Robert R. Hill
Senior Cartographic Technician
Verification Check

INSPECTION REPORT
FE-312SS

The data that make up this Side Scan Sonar survey have been inspected to gain insight into its overall completeness regarding survey coverage, presentation of survey results, and the verification or disproval of charted data. This survey, except as noted in the Evaluation Report, is considered complete and adequate to meet National Ocean Service standards. Processing is considered complete. The survey records comply with NOS requirements except as noted in the Evaluation Report.

Inspected:

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

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

Approved: 31 August 1989

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

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SERVICE
NOAA Ship WHITING
439 W. York St.
Norfolk, VA 23510-1114

June 7, 1988 N/MOAWH:SPD

TO : N/CG222 - Chart Information Section

THRU : N/MOA - Ray E. Moses

FROM : N/MOAWH - Dean R. Seidel

SUBJECT : Dangers to Navigation, OPR-C121-WH, FE-312-(1988)-SS

The following Dangers to Navigation were determined during the course of hydrographic survey operations on OPR-C121-WH, New York Bight, New York and New Jersey, FE-312-(1988)-SS, by the NOAA Ship WHITING.

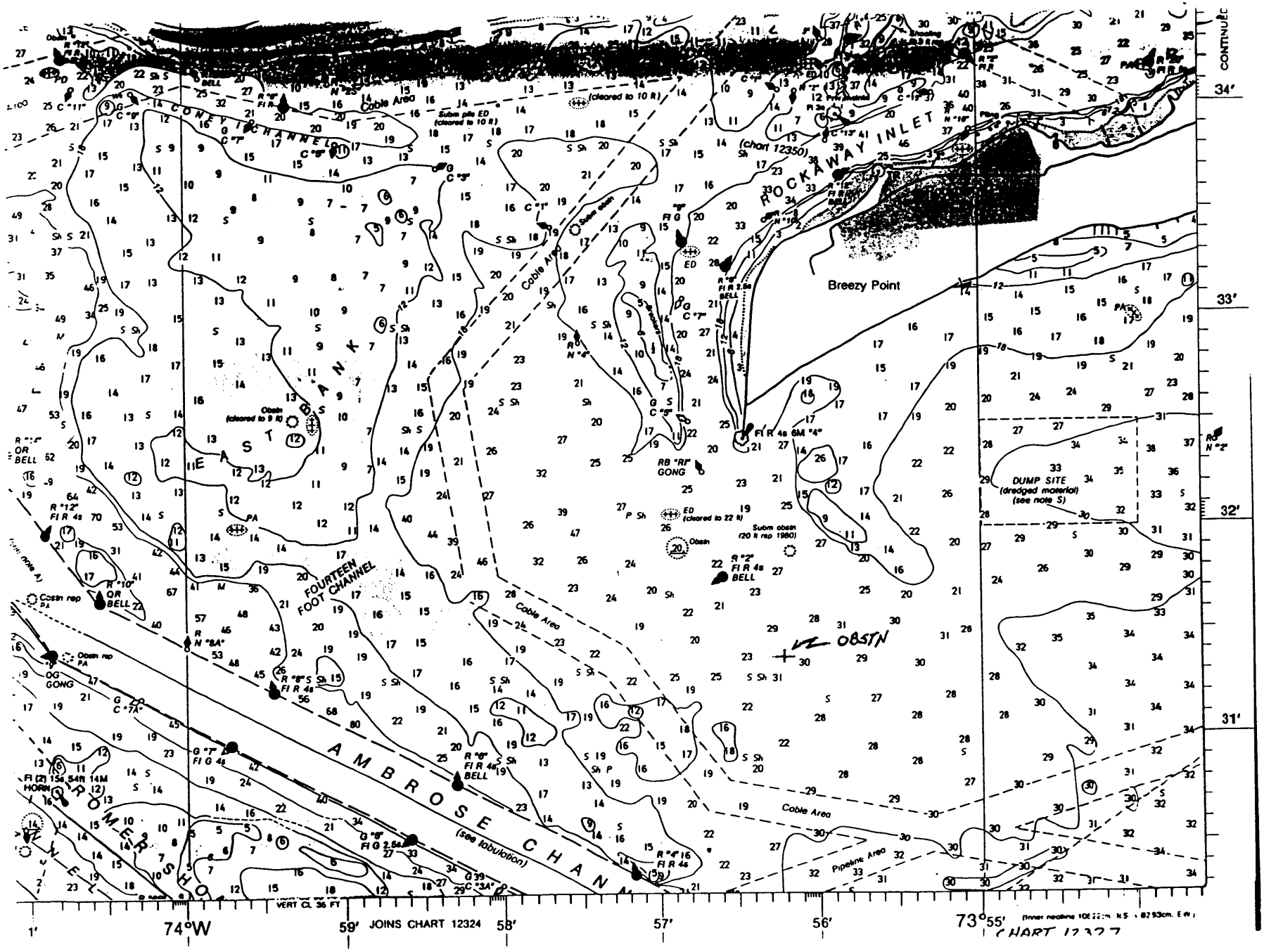
1) An obstruction covered by 24 feet of water, referenced to mean lower low water with predicted tides at Latitude 40° 31' 22.46" N, Longitude 073° 56' 12.66" W. The NOS charts affected are 12300, 12326, and 12327. The obstruction is located 1.05 nautical miles, bearing 170 degrees true, from Rockaway Point Breakwater Light 4, (Light List # 31550) and is outside the present survey area. The position of the obstruction was determined with three point sextant fixes to established third-order horizontal control.

2) The active dredged material dump site 4.5 nautical miles south of Ambrose Light (Light List # 730) is approximately 20 feet shoaler than the presently charted depths on charts 12300 and 12326. A least depth of 38 feet, referenced to mean lower low water with predicted tides applied was observed during mainscheme hydrographic operations at Latitude 40° 23' 24.6" N, Longitude 073° 50' 40.8" W. The shoal was further developed with 25 meter spaced lines running east - west. New York Bight Dumping Ground buoys "NY" (Light List # 750), "KVK" (Light List # 755), and "OM" (Light List # 760) adequately mark the position of the dumping ground.

For additional information contact:

Director
Atlantic Marine Center
439 W. York St.
Norfolk, VA 23510-1114

Attachments: Section of Charts 12326 and 12327
Copy of Notice to Mariners.


CONEY ISLAND CHANNEL
EAST BANK
ROCKAWAY INLET
Breezy Point
DUMP SITE
(dredged material)
(see note S)
FOURTEEN FOOT CHANNEL
AMBROSE CHANNEL
(see tabulation)
ROCKAWAY CHANNEL
OBSTN
Cable Area
Pipeline Area
(chart 12350)
JOINS CHART 12324
CONTINUED
74°W
59'
58'
57'
56'
73°55'
34'
33'
32'
31'

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SERVICE
NOAA Ship WHITING
439 W. York St.
Norfolk, VA 23510-1114

June 7, 1988 N/MOAWH:SPD

Captain of the Port of New York
U.S. Coast Guard Support Center
Governors Island
New York, NY 10004-5098

Dear Sir,

The NOAA Ship WHITING recently completed a hydrographic survey at the Approaches to New York Harbor in the vicinity of Ambrose Light. During the survey the active dredged material dump site 4.5 nautical miles south of Ambrose Light was found to be approximately 20 feet shoaler than the presently charted depths on charts 12300 and 12326. The shoal was developed extensively by the vessel and found to be covered by 38 feet, referenced to mean lower low water with predicted tides applied. New York Bight Dumping Ground buoys "NY" (Light List # 750), "KVK" (Light List # 755), and "OM" (Light List # 760) adequately mark the position of the dumping ground.

Since the controlling depth of Ambrose Channel is 45 feet, the continual dumping of dredged material at this dump site may become the most significant hazard to surface navigation within the Precautionary Area off the entrance to New York Harbor. Barges of dredged material were observed dumping at the site as late as June 1, 1988, prior to the WHITING's departure from the area. A letter (enclosed) has been sent under separate cover for inclusion in the next Notice to Mariners. A section of Chart 12326 showing the limits of the dump site is enclosed.

The data presented above is advance information and subject to final office review.

Sincerely,

CDR Dean R. Seidel
Commanding Officer
NOAA Ship WHITING

cc: N/MOA:Ray E. Moses
Maritime Administration of the Port of
New York and New Jersey, Mr. N. Nick Cretan
Sandy Hook Pilots' Association
Interport Pilot Agency, Inc.

Attachments

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SERVICE
NOAA Ship WHITING
439 W. York St.
Norfolk, VA 23510-1114

June 7, 1988 N/MOAWH:SPD

Commander
Third Coast Guard District
Aids to Navigation Branch
Building 135-A
Governors Island
New York, NY 10004-5098

Dear Sir,

The following hazards to navigation were determined during the course of hydrographic survey operations by the NOAA Ship WHITING. Please include this information in the next Local Notice to Mariners:

1) An obstruction covered by 24 feet of water, referenced to mean lower low water with predicted tides applied at Latitude 40° 31' 22.46" N, Longitude 073° 56' 12.66" W. The NOS charts affected are 12300, 12326, and 12327. The obstruction is located 1.05 nautical miles, bearing 170 degrees true, from Rockaway Point Breakwater Light 4, (Light List # 31550).

2) The active dredged material dump site 4.5 nautical miles south of Ambrose Light (Light List # 730) is approximately 20 feet shoaler than the presently charted depths on charts 12300 and 12326. A least depth of 38 feet, referenced to mean lower low water with predicted tides was observed during mainscheme hydrographic operations at Latitude 40° 23' 24.6" N, Longitude 073° 50' 40.8" W. New York Bight Dumping Ground buoys "NY" (Light List # 750), "KVK" (Light List # 755), and "OM" (Light List # 760) adequately mark the position of the dumping ground.

The above preliminary survey data is advance information and subject to final office review.

Sincerely,

CDR Dean R. Seidel
Commanding Officer
NOAA Ship WHITING

cc: DMAHTC WASHINGTON DC
N/MOA23

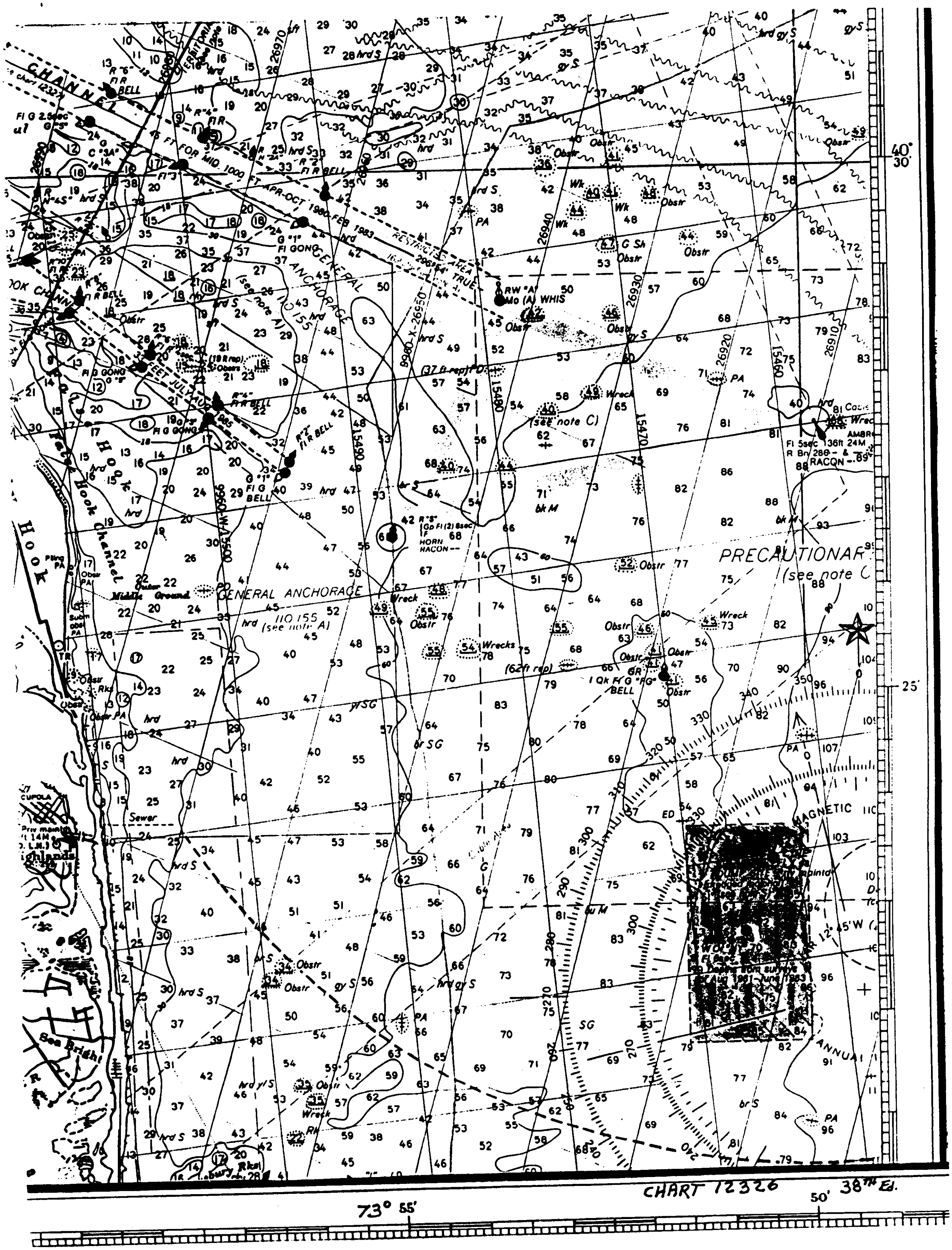


CHART 12326 38TH Ed.

73° 47′ 73° 46′ 73° 45′

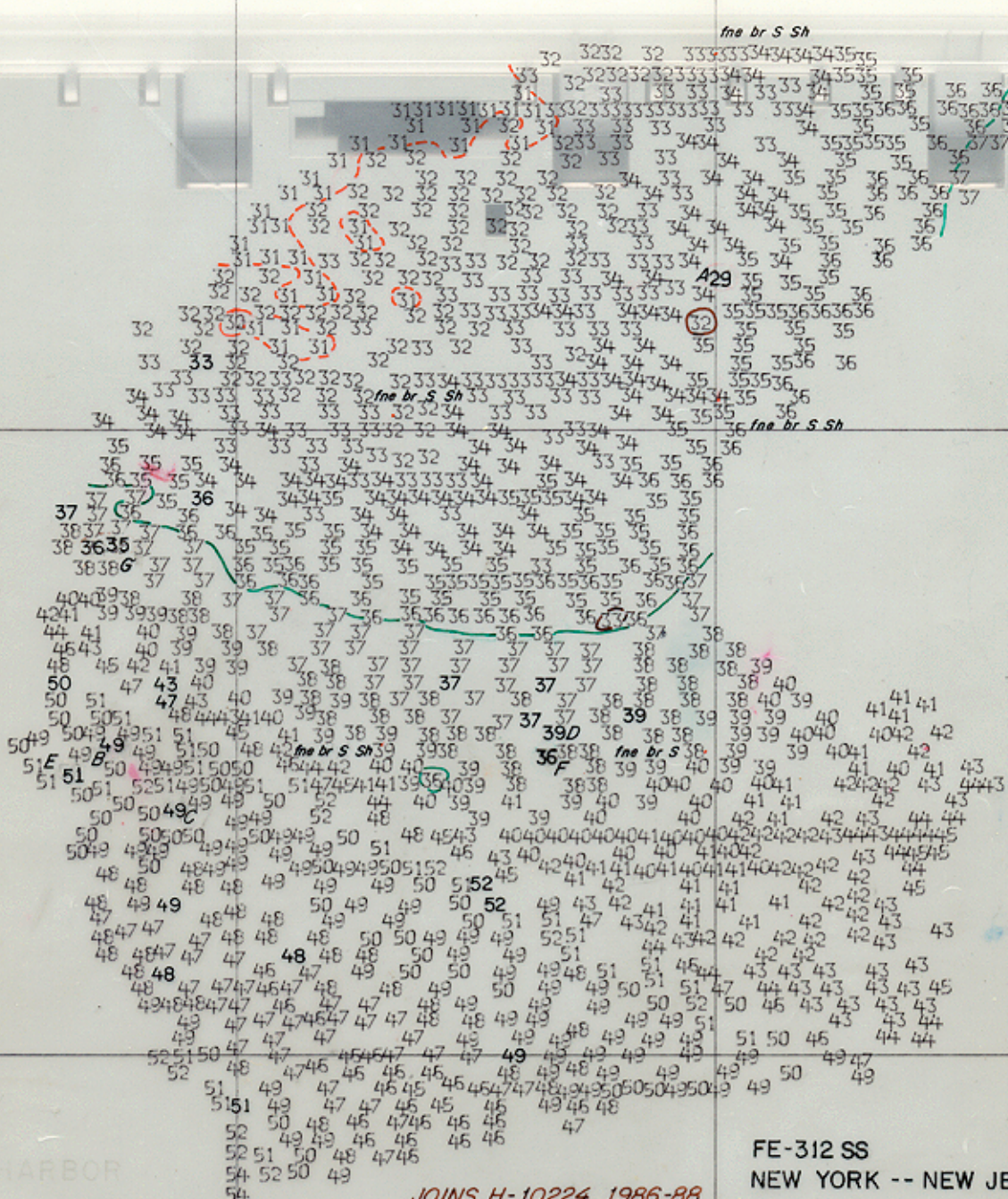
40° 26′

78Wk "MOHAWK" 40° 25′

FE-312 SS
NEW YORK -- NEW JERSEY
ATLANTIC OCEAN
VICINITY OF AMBROSE LIGHT
11,12,30 MAY, 1988
SCALE: 1:20,000
SOUNDINGS IN FEET AT MLLW
SHEET 1 OF 4
AWOIS 1586

73° 46′ 00″
40° 24′ 00″
NAD 83
XYNETICS 1201
check by R.L.K.
5/1/89

40° 24′


73° 55′
73° 54′
40° 30′
40° 29′
40° 28′
fine br S Sh
A
B
C
D
E
F
G
JOINS H-10224 1986-88
A - obstr (pile of rocks and debris)
B - Wk (eight by nine ft)
C - obstr (wreckage ten by twenty ft)
D - obstr (wreckage twenty by forty-five ft)
E - obstr (large anchor)
F - obstr (wreckage thirty-seven by forty-five ft)
G - obstr
FE-312 SS
NEW YORK -- NEW JERSEY
ATLANTIC OCEAN
VICINITY OF AMBROSE LIGHT
MAY 2 TO 29, 1988
SCALE : 1:20,000
SOUNDINGS IN FEET AT MLLW
SHEET 2 OF 4
AWOIS NUMBER 1634
73° 54' 00"
40° 28' 00"
NAD 83
XYNETICS 1201
RLK 5/01/89

73° 52′ 73° 50′ 73° 48′

73° 48′ 00″
40° 25′ 00″
NAD 83
XYNETICS 1201
check by R.L.K.
5/1/89

40° 26′

40° 24′

JOINS H-10224 1986-88

"FG"
BELL

"OM"

"KVK"

"NY"

obstr

br

crs br S

FE-312 SS
NEW YORK -- NEW JERSEY
ATLANTIC OCEAN
VICINITY OF AMBROSE LIGHT
12 MAY TO 29 MAY , 1988
SCALE : 1:30,000
SOUNDINGS IN FEET AT MLLW
SHEET 3 OF 4
AWOIS 2110

73° 58′ 73° 57′ 73° 56′

40° 32′

23

40° 31′

FE-312 SS
NEW YORK — NEW JERSEY
ATLANTIC OCEAN
VICINITY OF AMBROSE LIGHT
2 MAY TO 29 MAY, 1988
SCALE 1:20,000
SOUNDINGS IN FEET AT MLLW
SHEET 4 OF 4
ROCKAWAY

73° 57′ 00″
40° 30′ 00″
NAD 83
XYNETICS 1201
check by R.L.K.
5/1/89

40° 30′

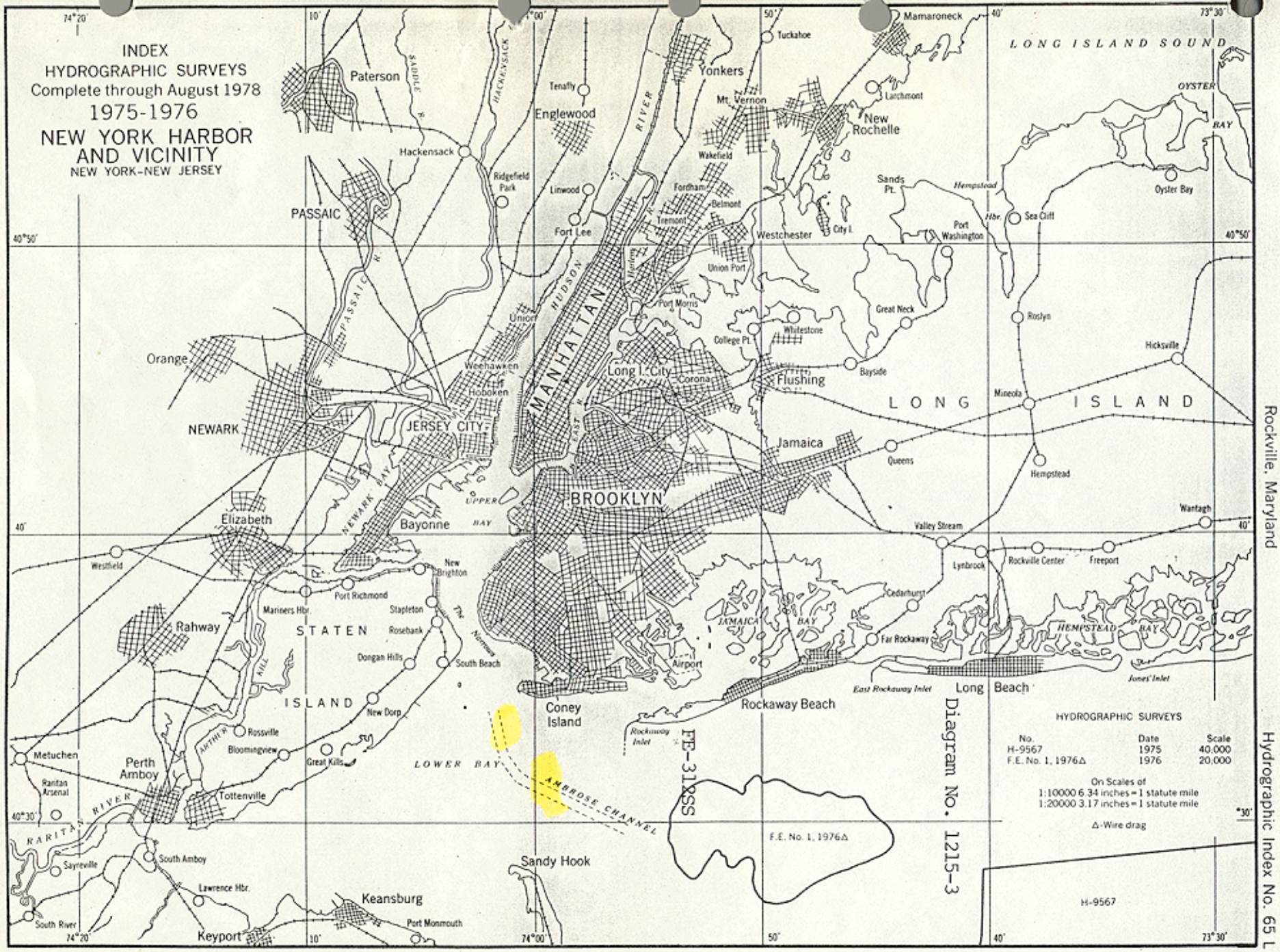


Diagram No. 1215-3

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

Hydrographic Index No. 65 L

NOAA FORM 75-96
(10-83)

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

EXAMINED FOR NM
GDBU
8-28-90 JB

MARINE CHART BRANCH

RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. FE-312SS

PE

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
12324	3/29/90	Elvira B. Covington Jr	Full ~~Part Before~~ After Marine Center Approval Signed Via Full application of
			Drawing No. Soundings from FE-312.
12326	5/8/90	ACMACEN	Full ~~Part Before~~ After Marine Center Approval Signed Via full application of
			Drawing No. soundings from SS.
12327	8-28-90	Teresa Bedell	Full ~~Part Before~~ After Marine Center Approval Signed Via
			Drawing No. 97
12300	11-16-90	John Pierce	Full ~~Part Before~~ After Marine Center Approval Signed Via
			Drawing No. 55
13003	11-16-90	John Pierce	Full ~~Part Before~~ After Marine Center Approval Signed Via
			Drawing No. 62 Exam, no corrections app'd.
13006	11-16-90	John Pierce	Full ~~Part Before~~ After Marine Center Approval Signed Via
			Drawing No. 48 Exam, no corrections app'd.
12402	5-19-92	William Thayer	Full ~~Part Before~~ After Marine Center Approval Signed Via
			Drawing No. 2 APPLIED IN FULL
12324	6-8-94	John Bowlin	Full ~~Part Before~~ After Marine Center Approval Signed Via
			Drawing No. Previously app'd in full to dwg 26 thru cht 12327 dwg #97
			Full Part Before After Marine Center Approval Signed Via
			Drawing No.
			Full Part Before After Marine Center Approval Signed Via
			Drawing No.

SUPERSEDES C&GS FORM 8352 WHICH MAY BE USED.