

H10772

NOAA FORM 76-35A

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

DESCRIPTIVE REPORT

Type of Survey Hydrographic/Side-scan sonar

Field No. AHP-5-1-97

Registry No. H10772

LOCALITY

State Rhode Island

General Locality Providence River

Sublocality Pomham Rocks to Fox Point

1997

CHIEF OF PARTY
LT J.A. Illg

LIBRARY & ARCHIVES

DATE AUG 24 1998

HYDROGRAPHIC TITLE SHEET

H-10772

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.

AHP 5-1-97

State Rhode Island

General locality Providence River

Locality Pomham Rocks to Fox Point

Scale 1:5,000

Date of survey August 13, 1997 - August 22, 1997

Instructions dated 8-25-97

Project No. OPR-B310-AHP

Vessel 0517

Chief of party LT James A. Illg

Surveyed by Atlantic Hydrographic Party

Soundings taken by echo sounder, hand lead, pole _____

Graphic record scaled by MJM, MMC

Graphic record checked by MJM, MMC

Protracted by HPS

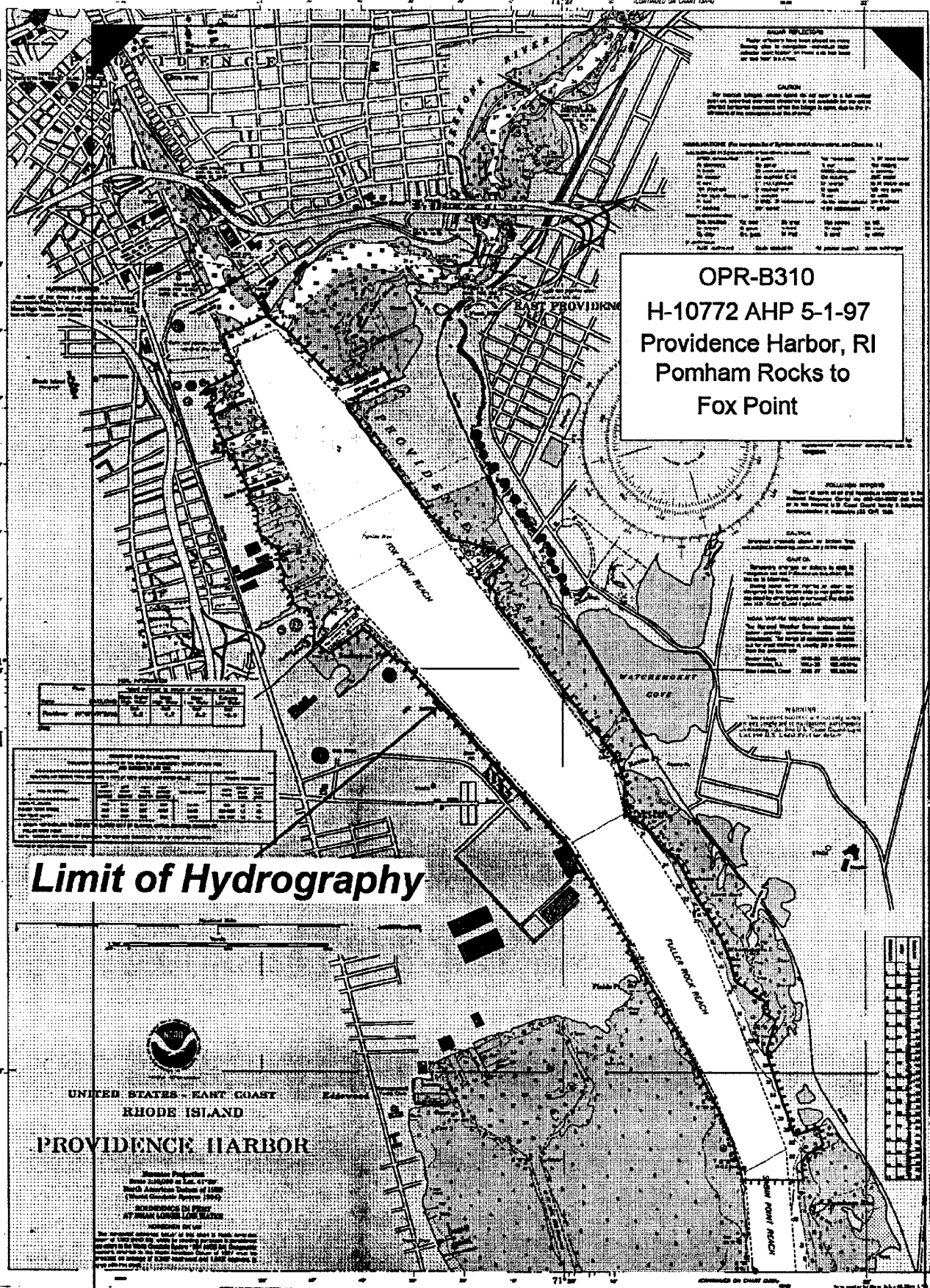
Automated plot by MAPINFO (FIELD)

Verification by Atlantic Hydrographic Branch PERSONNEL

Soundings in (feet) at _____ MLLW _____

REMARKS: NOTES IN RED WERE MADE DURING IN THE DESCRIPTIVE REPORT DURING OFFICE PROCESSING

AWOIS ✓ & SURF ✓ 7/16/98 by MBH



OPR-B310
H-10772 AHP 5-1-97
Providence Harbor, RI
Pomham Rocks to
Fox Point

Limit of Hydrography

UNITED STATES - EAST COAST
RHODE ISLAND
PROVIDENCE HARBOR

Warrenton Project
 Survey conducted in Dec. 31, 1992
 North American Datum of 1983
 (World Geodetic System 1984)

REVISIONS IN PINK
BY BRUSH LOGGING LINE

The "Limit of Hydrography" of this chart is based on data from the 1992 survey. It is not intended to be used for navigation in the area shown. For more information, contact the Hydrographic Office, Washington, D.C. 20315.

13225

CAUTION
 This chart has been compiled from the best available data and is not a substitute for a current chart. It is not to be used for navigation.

Published at Washington, D.C.
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL NAUTICAL SERVICE

(Providence Harbor)
 SOUNDINGS IN FEET - SCALE LINEAR
SOUNDINGS IN FEET

13225

DESCRIPTIVE REPORT TO ACCOMPANY
HYDROGRAPHIC SURVEY H-10772
FIELD NO. AHP-5-1-97
SCALE: 1:5,000
1997
ATLANTIC HYDROGRAPHIC PARTY
CHIEF OF PARTY: LT James A. Illg

A. PROJECT

This survey was conducted in accordance with Hydrographic Project Instructions OPR-B310-AHP, Providence Harbor, Rhode Island, dated July 25, 1997. This survey is designated as Sheet "A" on the sheet layout dated January 10, 1997.

This project was conducted to respond to the requests of the Northeast Marine Pilots and Sound Pilots and to investigate the numerous ruin and shoal areas outside of the USACE maintained channels. The area was last surveyed in 1956 by the Coast and Geodetic Survey.

B. AREA SURVEYED

The area surveyed for H-10772 covers the Providence River, from Providence Harbor south to the north end of Sabin Point Reach Channel.

North - 41°48'⁴58"N
South - 41°46'³⁹45"N
East - 071°22'10"W
West - 071°24'11"W

This survey was conducted from August 13, 1997 (DN 225) to August 22, 1997 (DN 234).

C. SURVEY VESSELS

NOAA launch 0517, a 21-foot MonArk, was the vessel used to collect all survey data. There were no unusual vessel configurations nor problems encountered.

D. AUTOMATED DATA ACQUISITION AND PROCESSING *SEE ALSO THE EVALUATION REPORT*

Coastal Oceanographic's HYPACK software package, version 6.4 was used to collect all hydrographic data for this survey. HPS version 4.03 was used for data processing.

Other computer programs used were:

MapInfo	Ver. 4.0.2
VELOCITY	Ver. 2.0 (12/18/92)
Microsoft Word	Ver. 7.0a

E. SIDE SCAN SONAR EQUIPMENT

Side scan sonar (SSS) operations were conducted using an EG&G model 260 slant-range corrected SSS recorder and an EG&G 272-T dual-channel, single frequency towfish. The towfish was operated on the 100-kHz frequency and was configured with a 20° beam depression. The side scan sonar equipment used for the survey was towfish serial number 016835 and recorder serial number 016671.

F. SOUNDING EQUIPMENT

An Innerspace model 448 depth sounder, serial number 241, was used to collect all soundings.

A standard lead line calibrated in meters, serial number 0517, was used during this survey for comparison readings with the echo sounder.

G. CORRECTIONS TO SOUNDINGS

Soundings were recorded using the Innerspace model 448 depth sounder. It was adjusted for an assumed speed of sound through water of 1500 meters/second. Changes to the gain and/or chart speed were noted on the echogram. Digitized soundings agreed with the analog trace within 0.1 meter.

Corrections for the speed of sound through water were computed from data obtained with Sea-Bird Electronics Inc. SEACAT electronic profiler, serial number 192276-287. Data quality assurance tests were performed in accordance with Field Procedures Manual (FPM) 2.1.3.2. Program VELOCITY was used to compute speed of sound through water corrections. Copies of the velocity tables and cast data are in the "Survey Separates." *FILES WITH THE ORIGINAL FIELD RECORDS*

Correctors for the velocity of sound through water were determined from the cast listed below:

<u>Velocity Table No.</u>	<u>Cast No.</u>	<u>Deepest Depth (m)</u>	<u>Applicable DN</u>	<u>Cast Position</u>	<u>Day</u>
X //	1	11.3/17.0*	225-235	41°45'00"N 071°23'00"W	231

* software extrapolated depth

Correctors were applied to the sounding data prior to plotting.

Weather permitting, lead line comparisons were conducted each day in accordance with FPM 2.1.3.1. No instrument error was detected from these comparisons. The lead line comparison form is in the "Survey Separates." *

A static draft of 0.3 meter was applied to the on-line data. The draft was measured by subtracting the difference from a punch mark on the side of launch 0517, 0.6 meter above the transducer, to the water surface. Settlement and squat measurements were performed on December 20, 1994 (DN 346), at Clear Lake, Texas, using Lietz level S/N 08754. Settlement and squat correctors and the static draft corrector were applied on-line through the offset table. Copies of the field data, the graphs of the settlement and squat correctors vs. speed in meters/second, and the offset table are included in the "Survey Separates." *

The Providence, RI tide station (845-4000) served as control for datum determination. This station is also the reference station for the predicted tides. This survey required one tide zone. No time corrections were necessary for the predicted tides. The height correction was x1.0.

Approved tides were requested from the Ocean and Lake Levels Branch, N/OES231, in a letter dated August 27, 1997. A copy of the letter is appended to this report. *APPROVED TIDES AND ZONING WERE APPLIED DURING OFFICE PROCESSING*

H. CONTROL STATIONS *SEE ALSO THE EVALUATION REPORT*

The horizontal control datum for this project is the North American Datum of 1983. The USCG Differential GPS (DGPS) Beacon at Montauk Point, NY was used to control this survey. The position for the reference station antenna is 41° 04' 01.5636"N, 071° 51' 37.5990"W.

I. HYDROGRAPHIC POSITION CONTROL

DGPS was used as the method of positioning for all hydrographic data on this survey. The USCG Differential GPS beacon at Montauk, New York was used as the reference station in conjunction with beacon receiver serial number X-1086 and antenna serial number MBA-M1039

3

** FILED WITH THE ORIGINAL FIELD RECORDS*

on launch 0517. An Ashtech sensor, serial number 700417A1065 was used as the remote station on vessel 0517. This equipment met the accuracy standards for this 1:5,000 scale survey.

Performance checks were conducted at the beginning (day 224) and end (day 233) of the project by resting the launch alongside "Light 17A 1996" and comparing the launch position with the third order position of the light (41°46'34.95776"N, 071°22'25.23171"W). Results of the performance checks are shown in the table of easting and northing positions below.

<u>Light 17A</u>	<u>Pre-survey Calibration</u>	<u>Post-survey Calibration</u>
10802.9E	10804.4E	10804.3E
6631.8N	6630.6N	6627.8N

Occasionally a good position misplotted on the raw track plot. This problem was attributed to good DGPS data following a period of questionable DGPS data. These positions were reviewed, then edited or rejected as necessary.

J. SHORELINE *SEE ALSO THE EVALUATION REPORT.*

Shoreline shown on the final sounding plot was from the raster image of chart 13225, 32nd edition, February 2, 1991. The MapInfo program was used for plotting. The only shoreline changes noted from the chart were:

- A large fuel pier charted at 41° 48' 15"N, 071° 23' 17"W, was found to be in ruins. Detached position 3569 was taken on the offshore end of the ruins on day 232. The hydrographer recommends that this pier be charted in ruins. *CONCUR. REVISE TO PIER RUINS*
- The shoreline along the east side of the Providence River between 41°48'24.95"N, 071°23'27.35"W and 41° 48' 37.98"N, 071° 23' 39.08"W should be shown further east than currently charted. This area does not show visual evidence of erosion, however a buffer sounding line run along this section confirmed a shoreline discrepancy when compared to the charted shoreline. This change should be shown on future editions of chart 13225. *CONCUR THE SHORELINE IS SHOWN AS DASHED RED ON THE PRESENT SURVEY*

A complete list of all detached positions by day is included in the accordion file. It lists the position of each feature and the AWOIS item number when applicable.

K. CROSSLINES

A total of 33.7 nautical miles of crosslines were run, representing 83% of the main scheme hydrography. Single beam hydrography was run at 25-meter line spacing across the harbor area representing the main scheme hydrography. Two-hundred percent side scan sonar coverage was

performed at 40-meter line spacing parallel to the channel. This was considered the crossline hydrography and the reason why such a large percentage of crosslines were run. Crossline soundings agree to within 1.6 ft (0.5m) of the main scheme soundings.

L. JUNCTIONS

This survey does not junction with any contemporary surveys.

M. COMPARISON WITH PRIOR SURVEYS *SEE ALSO THE EVALUATION REPORT*

The prior surveys covering this project are H-8316, 1:5,000 scale, 1956, and ~~H-8314, 1:10,000 scale, 1956.~~

Sounding comparison between the prior survey and the current survey is good. Current survey soundings agree to within 1 to 2 ft (0.3m to 0.6m) of the prior survey soundings, with most of the current soundings being deeper than the prior survey soundings.

The hydrographer recommends that data from the present survey be used to supersede that of H-8316 ~~and H-8314~~ within their common areas. *Concur*

N. ITEM INVESTIGATION REPORTS

Seven AWOIS items, numbers 9938-9944 were assigned to this survey. Item investigation reports follow in section N.1. - N.7.

N.1. - AWOIS NO: 9938

Item Description: OBSTRUCTION

Source: LNM47/84

AWOIS Position: Lat - 41° 47' 47.36"N, Lon - 71° 23' 15.19"W

Required Investigation: S2, ES, DI, SD

Charts Affected: 13225

INVESTIGATION

Date(s)/DN(s): 8-20 & 8-21-97 / 232&233 (OPR-B310-AHP, H-10772)

Position Numbers: 3450-3460 & 3581-3589

Launch Number: 0517

Investigation Used: ~~200% side scan sonar~~ *EDGE 5000 DDE*

Position Determined By: DGPS

Investigation Summary: Two-hundred percent side scan sonar coverage was performed in the area of the charted obstruction and no significant contacts were found. The area is adjacent to a concrete bulkhead. A discussion with Captain Bruce Fisher of the Northeast Marine Pilots (401-847-9050) indicated no local knowledge of this feature.

CHARTING RECOMMENDATION

The hydrographer recommends removing the obstruction from the chart. *Concur*

DELETE OBSTN FA !!

N.2. - AWOIS NO: 9939

Item Description: DREDGED AREA

Source: CL1276/63

AWOIS Position: Lat - 41° 48' 06.00"N, Lon - 71° 23' 44.00"W

Required Investigation: ES, S2

Charts Affected: 13225

INVESTIGATION

Date(s)/DN(s): 8-19-97 / 231 (OPR-B310-AHP, H-10772)

Position Numbers: 3299-3368

Launch Number: 0517

Investigation Used: 200% side scan sonar

Position Determined By: DGPS

Investigation Summary: Two-hundred percent side scan sonar coverage as well as single beam hydrography at 10-meter line spacing was conducted on both sides of the Texaco fuel pier. Least depths on the east side of the pier range from 36 ft (11m) at the offshore end and gradually rise to 28 ft (8.5m) at the inshore end of the main pier. Least depths on the west side vary from 28-32 ft (8.5m - 9.7m) on the pier face to 21-23 ft (6.4m - 7.0m) at the edge of the slip. ^{15-35'}

4.6 - 10.7 23-33 7.2 10.1

CHARTING RECOMMENDATION

The hydrographer recommends removing the "Rep dredged to 35 ft 1963" note and charting current survey soundings in the area. *Concur.*

Recommended Position: AWOIS position above

N.3. - AWOIS NO: 9940

Item Description: OBSTRUCTION

Source: T11319/57—USC&GS

AWOIS Position: Lat - 41° 48' 29.00"N, Lon - 71° 23' 56.00"W

Required Investigation: S2, ES, DI, VS, SD

Charts Affected: 13225

INVESTIGATION

Date(s)/DN(s): 8-19-97 / 012 (OPR-B310-AHP, H-10772)

Position Numbers: 3283-3298

Launch Number: 0517

Investigation Used: 200% side scan sonar

Position Determined By: DGPS

Investigation Summary: Two-hundred percent side scan sonar coverage as well as single beam hydrography at 10-meter line spacing was conducted over the area of the charted dolphin and nothing was found. A telephone discussion with Mr. David Cohen of Promet Marine (401-467-3730), the owner of the pier since 1975, indicated no local knowledge of the dolphin. Mr. Cohen stated that the area has been dredged within the past 2 years. The bulkhead in the area of the charted dolphin is used to moor 60-90 foot fishing vessels.

CHARTING RECOMMENDATION

The hydrographer recommends removing the dolphin from the chart. *CONCUR*

DELETE DOL 0

N.4. - AWOIS NO: 9941

Item Description: DREDGED AREA

Source: CL721/80

AWOIS Position: Lat - 41° 48' 39.00"N, Lon - 71° 24' 06.00"W

Required Investigation: S2, ES

Charts Affected: 13225

INVESTIGATION

Date(s)/DN(s): 8-19-97 / 231 (OPR-B310-AHP, H-10772)

Position Numbers: 3230-3282

Launch Number: 0517

Investigation Used: 200% side scan sonar

Position Determined By: DGPS

Investigation Summary: Two-hundred percent side scan sonar coverage as well as single beam hydrography at 10-meter line spacing was conducted over the area of this item. Depths along the south side of the the pier ranged from 40 ft (12.2m) at the offshore end and gradually sloping to 29 22 ft (9.8m) at the inshore end. Depths on the north side were from 24 ft (7.3m) on the north edge to 31-37 ft (9.4m - 11.3m) in the center of the slip. A page sized plot of the soundings taken during this investigation is included in the appendices of this report.

CHARTING RECOMMENDATION

The hydrographer recommends removing the "37 ft rep 1979" note from the chart and charting current survey soundings in the area. *Concur*

Recommended Position: AWOIS position above

N.5. - AWOIS NO: 9942

Item Description: SUBMERGED WRECK

Source: Unknown

AWOIS Position: Lat - 41° 48' 52.80"N, Lon - 71° 23' 49.80"W

Required Investigation: S2, ES, DI, SD

Charts Affected: 13225

INVESTIGATION

Date(s)/DN(s): 8-19-97 / 231 (OPR-B310-AHP, H-10772)

Position Numbers: 3025-3098

Launch Number: 0517

Investigation Used: 200% side scan sonar

Position Determined By: DGPS

Investigation Summary: A 150-meter radius 200% side scan sonar coverage investigation was conducted and nothing was found.

CHARTING RECOMMENDATION

The hydrographer recommends removing the submerged wreck PA from the chart. *DO NOT REMOVE*

150 METER RADIUS SSS COVERAGE IS INCOMPLETE. RETAIN AS CHARTED

N.6. - AWOIS NO: 9943

Item Description: DREDGED AREA

Source: CL630/87

AWOIS Position: Lat - 41° 48' 42.00"N, Lon - 71° 23' 39.00"W

Required Investigation: S2, ES

Charts Affected: 13225

INVESTIGATION

Date(s)/DN(s): 8-19-97 / 231 (OPR-B310-AHP, H-10772)

Position Numbers: 3100-3159

Launch Number: 0517

Investigation Used: 200% side scan sonar

Position Determined By: DGPS

Investigation Summary: Two-hundred percent side scan sonar coverage as well as single beam hydrography at 10-meter line spacing was conducted over the area of this item. Depths in the area range from 32-36 ft (9.6m - 11.0m) alongside the pier to 39-45 ft (11.9m - 13.7m) in the center of the slip to 38-40 ft (11.6m - 12.2m) on the north side of the slip.

CHARTING RECOMMENDATION

The hydrographer recommends removing the "40 ft rep 1983" note from the chart and charting current survey soundings in the area. *Concur.*

Recommended Position: AWOIS position above

N.7. - AWOIS NO: 9944

Item Description: DREDGED AREA

Source: CL844/65

AWOIS Position: LAT- 41° 48' 17.00"N, 071° 23' 18.00"W

Required Investigation: S2, ES

Charts Affected: 13225

INVESTIGATION

Date(s)/DN(s): 8-19-97 / 231 (OPR-B310-AHP, H-10772)

Position Numbers: 3160-3229

Launch Number: 0517

Investigation Used: 200% side scan sonar

Position Determined By: DGPS

Investigation Summary: An echo sounder investigation was conducted at 10-meter line spacing across the area of the charted dredged channel. No evidence of the channel was found. The adjacent fuel pier is now in ruins. A page sized plot of this development is included in the appendices to this report.

CHARTING RECOMMENDATION

The hydrographer recommends removing the "14½ FT 1959" note and dashed channel lines from the chart and charting current survey soundings in the area. *CONVD, UNLESS OTHER INFORMATION INDICATES OTHERWISE. PRESENT SURVEY DEPTHS IN THE AREA ARE 8 TO 22 FT.*

Recommended Position: AWOIS position above

O. COMPARISON WITH THE CHART *SEE ALSO THE EVALUATION REPORT*

Comparisons were made with chart 13225, 32nd Edition, February 2, 1991. The majority of the project area is covered by the Corps of Engineers dredge project, and no soundings are charted within that area. On the west side of the Fox Point Reach between the State Pier and the Harbor Junction Wharf, an area of charted ruins, dolphins and piles was delineated with a foul-limit line on day 231, positions 3367-3376. This area should be charted as foul. Sounding agreement between the chart and the current survey in this area is good, within 1.5 ft (0.46 m).
2 .7

The tabulated channel depths listed on chart 11325 were found to be in error. Discussions with NOAA's Marine Chart Division revealed that an updated USACE survey has been submitted. This data was then submitted to the U.S. Coast Guard as Chart Letter 1706 for inclusion in the Local Notice to Mariners 13/97. The updated tabulated depths from this USACE survey agree well with soundings from H-10772, within 0.2 ft ($.06$ m).

Two 1.5 meter diameter orange mooring buoys were located by detached positions on day 232 and are recommended for charting at: *Concur*

PN 3568 Lat. $41^{\circ} 48' 17.54''$ Lon. $71^{\circ} 23' 19.82''$
PN 3570 Lat. $41^{\circ} 48' 10.82''$ Lon. $71^{\circ} 23' 12.76''$

There were no dangers to navigation identified on this survey.

The hydrographer recommends that sounding data from this survey be used to update the chart.

P. ADEQUACY OF SURVEY *SEE ALSO THE EVALUATION REPORTS.*

This survey is complete and adequate to supersede all prior surveys within the common area.

Q. AIDS TO NAVIGATION

There are five aids to navigation charted in the survey area. Four are buoys and one is a light. None of the aids have a published position in the USCG Light List, Volume I, Atlantic Coast, 1997.

Detached positions were taken on three of the buoys and the light. Buoy 37, charted at $41^{\circ}46'45.95''$ N, $071^{\circ}22'24.42''$ W was inadvertently not located, a fact not discovered until the field unit had left the area. The buoy was confirmed as existing by telephone conversation with the Northeast Marine Pilots (401-847-9050). Buoy 37 should remain as charted. All of the aids to navigation serve their intended purpose. The comparison of the surveyed position with the charted location was: *Concur*

Providence River Channel Buoy 39 (Light List #18565)

Survey Position 358 - 41° 46' 56.31"N, 071° 22' 29.76"W
Survey position agrees with the charted position.

Providence River Channel Buoy 40 (Light List #18575)

Survey Position 3576 - 41° 47' 23.45"N, 071° 22' 34.04"W
Survey position agrees with the charted position.

Providence River Channel Buoy 41 (Light List #18570)

Survey Position 3577 - 41° 47' 17.15"N, 071° 22' 44.18"W
Survey position agrees with the charted position.

Providence River Channel Light 42 (Light List #18580)

Survey Position 3575 - 41° 47' 38.50"N, 071° 22' 47.30"W
Survey position agrees with the charted position.

One privately maintained aid to navigation was located by detached position 3562 and is recommended for charting as follows: ~~Change in Light List #18580~~

White can with orange stripe - "Slow No Wake"
Lat. 41° 48' 45.01" N, Lon. 71° 23' 49.32"W

*From
8/24/98*

There were no bridges, ferry routes, or overhead power cables within the survey area. Two pipeline areas, one at 41° 48' 20.0"N, 071° 18' 48.6"W and the other at 41° 48' 49.2"N, 071° 24' 02.0"W should remain as charted.

R. STATISTICS

<u>Description</u>	<u>Quantity</u>
Total Number of Positions	3699
Total Linear Nautical Miles of Hydrography	74.3
Square Nautical Miles of Hydrography	0.6
Days of Production	7
Detached Positions	7
Bottom Samples	15
Tide Stations	1
Velocity Casts	1

S. MISCELLANEOUS *SEE ALSO THE EVALUATION REPORT.*

No anomalous currents or tides were observed during this survey.

Fifteen bottom samples were taken, the characteristics recorded in the hydrographic record, then discarded. No characteristics are charted. Bottom sample positions are plotted on the field sheet and also listed on the Oceanographic Log Sheet-M, NOAA Form 75-44, which is in the "Survey Separates."

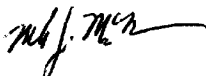
T. RECOMMENDATIONS

No additional field work was identified after field office processing was completed. Specific recommendations are made in sections J., N., O., and Q. of this report.

U. REFERRAL TO REPORTS

<u>Title</u>	<u>Transmittal Information</u>
Coast Pilot for OPR-B310-AHP	Atlantic Hydrographic Branch N/CG244, Norfolk, VA 23510 (1997)
User Evaluation for OPR-B310-AHP	Atlantic Hydrographic Branch N/CG244, Norfolk, VA 23510 (1997)

Submitted by:

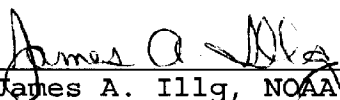


Mark J. McMann
Launch Hydrographer-In-Charge


APPROVAL SHEET
Basic Hydrographic Survey
OPR-B310-AHP
AHP-5-1-97
H-10772
1997

This basic hydrographic survey was completed in accordance with the Project Instructions for OPR-B310-AHP, the Hydrographic Manual, the Hydrographic Survey Guidelines, and the Field Procedures Manual. All reports, records, and survey sheets were reviewed by Mr. Brian A. Link, Assistant Chief, AHP. Project reports were also reviewed by the Chief, AHP. The chief of party did not directly supervise any part of this survey.

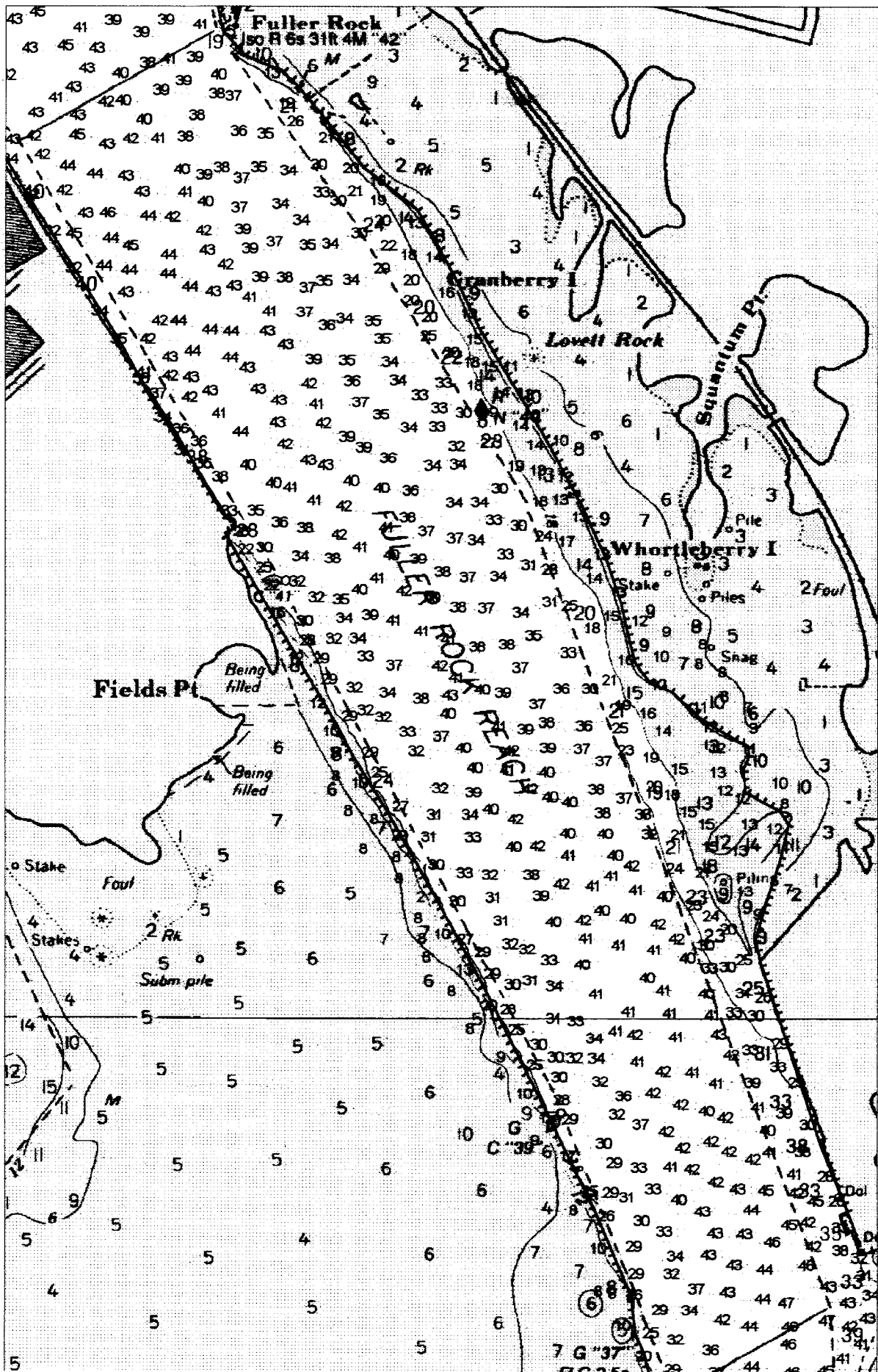
This survey is a complete basic hydrographic survey for the area described in Section B of this report.



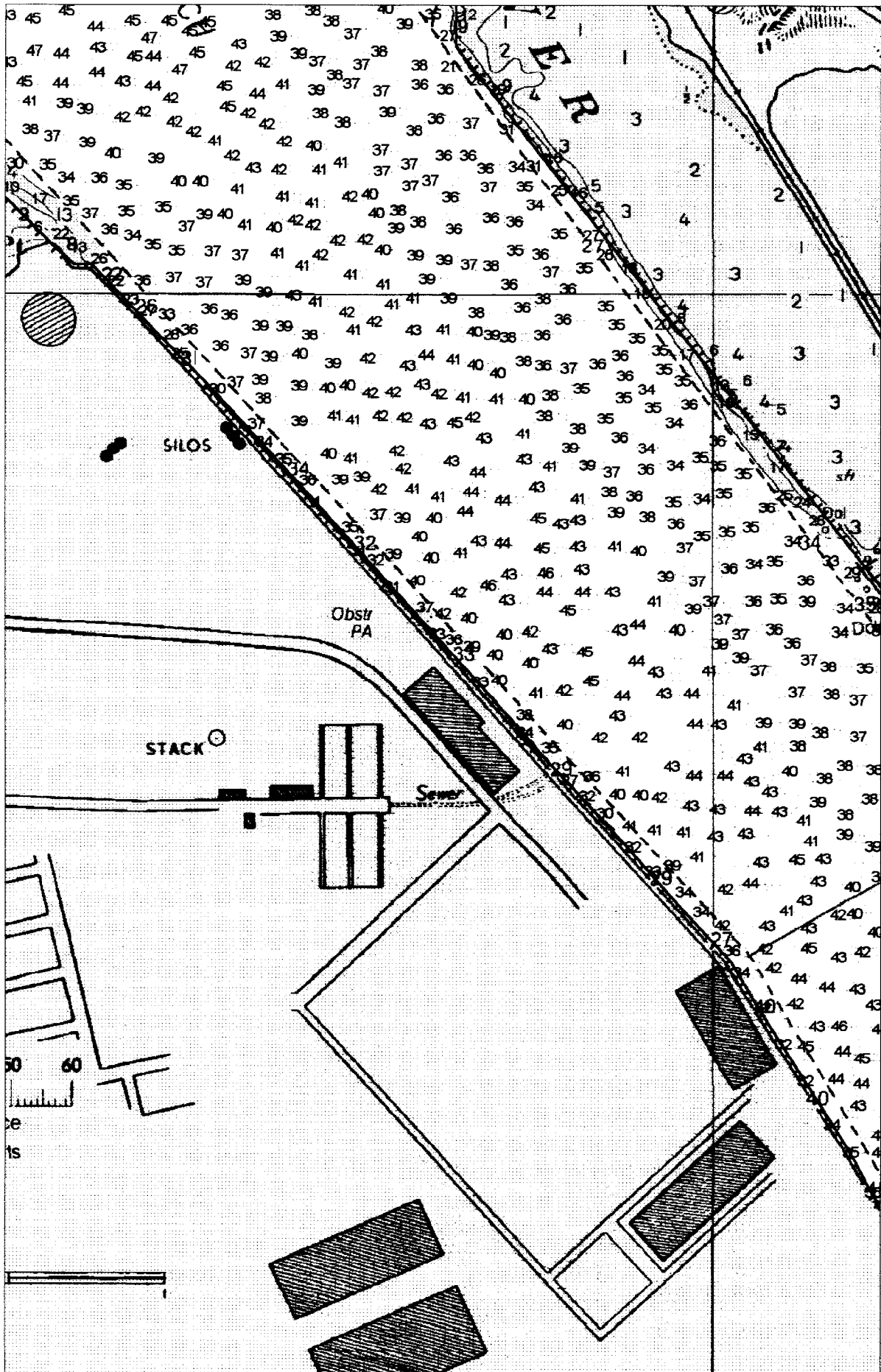
LT James A. Illg, NOAA
Chief, Atlantic Hydrographic Party



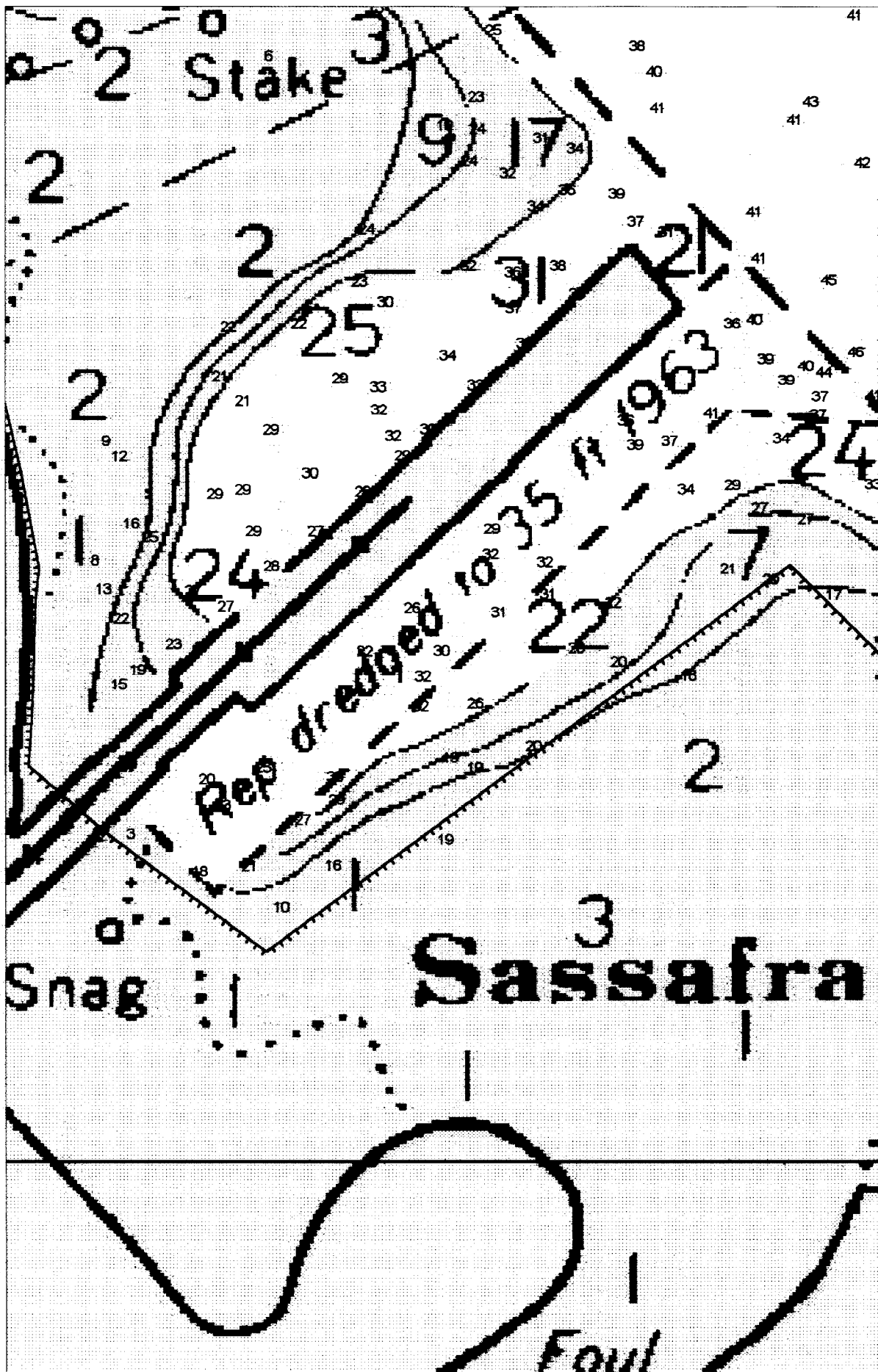
Mark J. McMann
Hydrographer-in-charge of daily operations



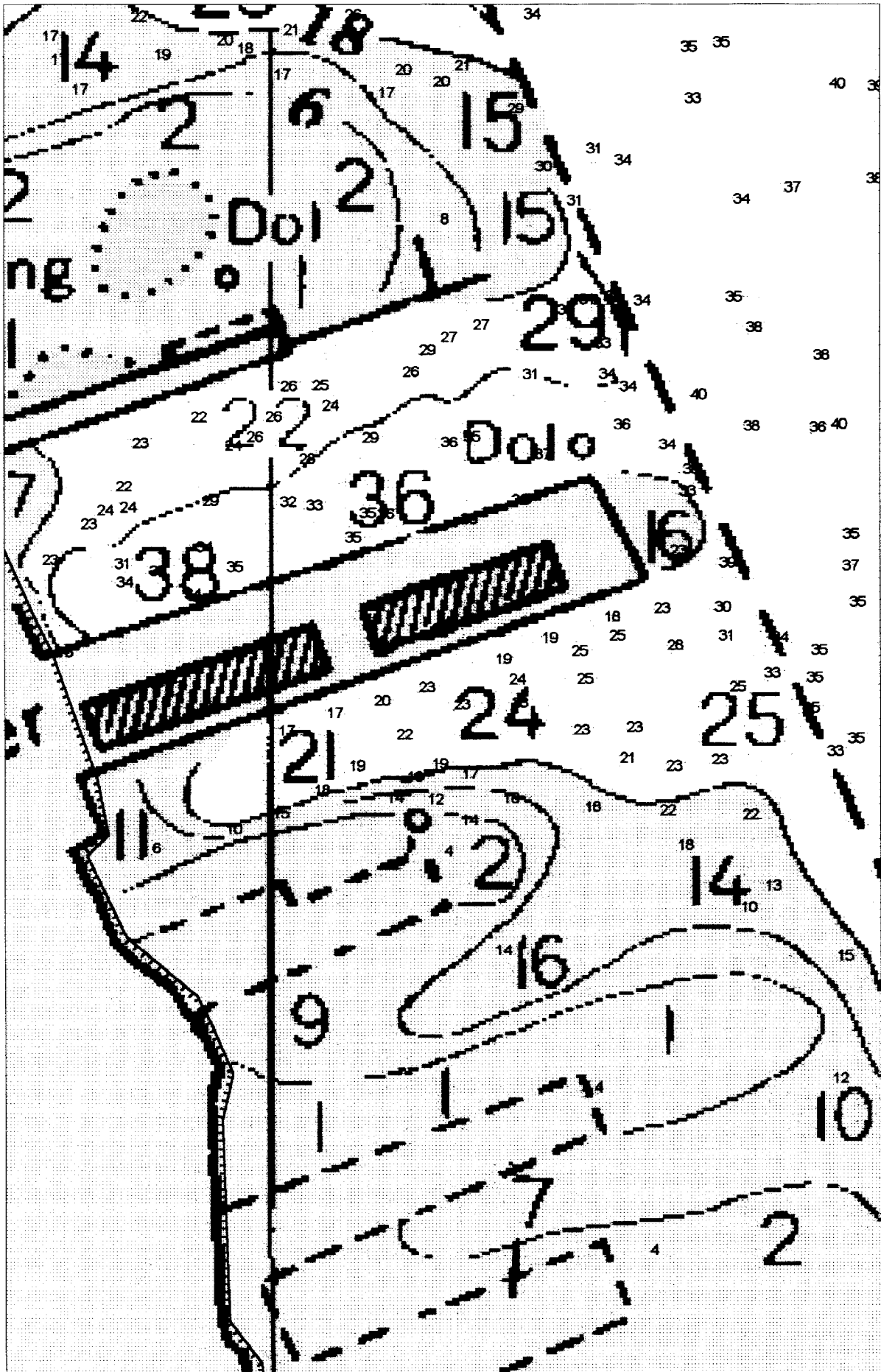
AWOIS 9938



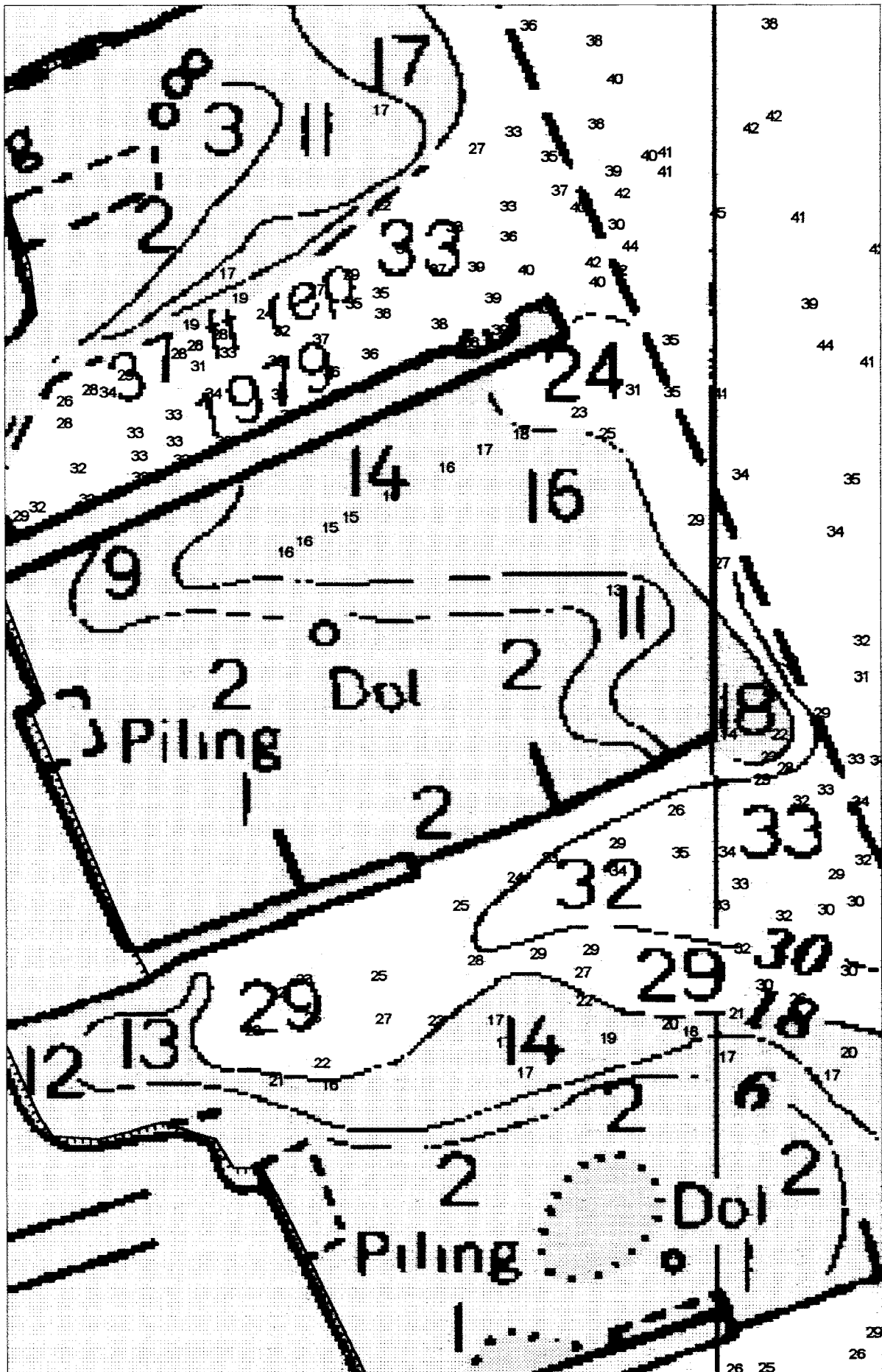
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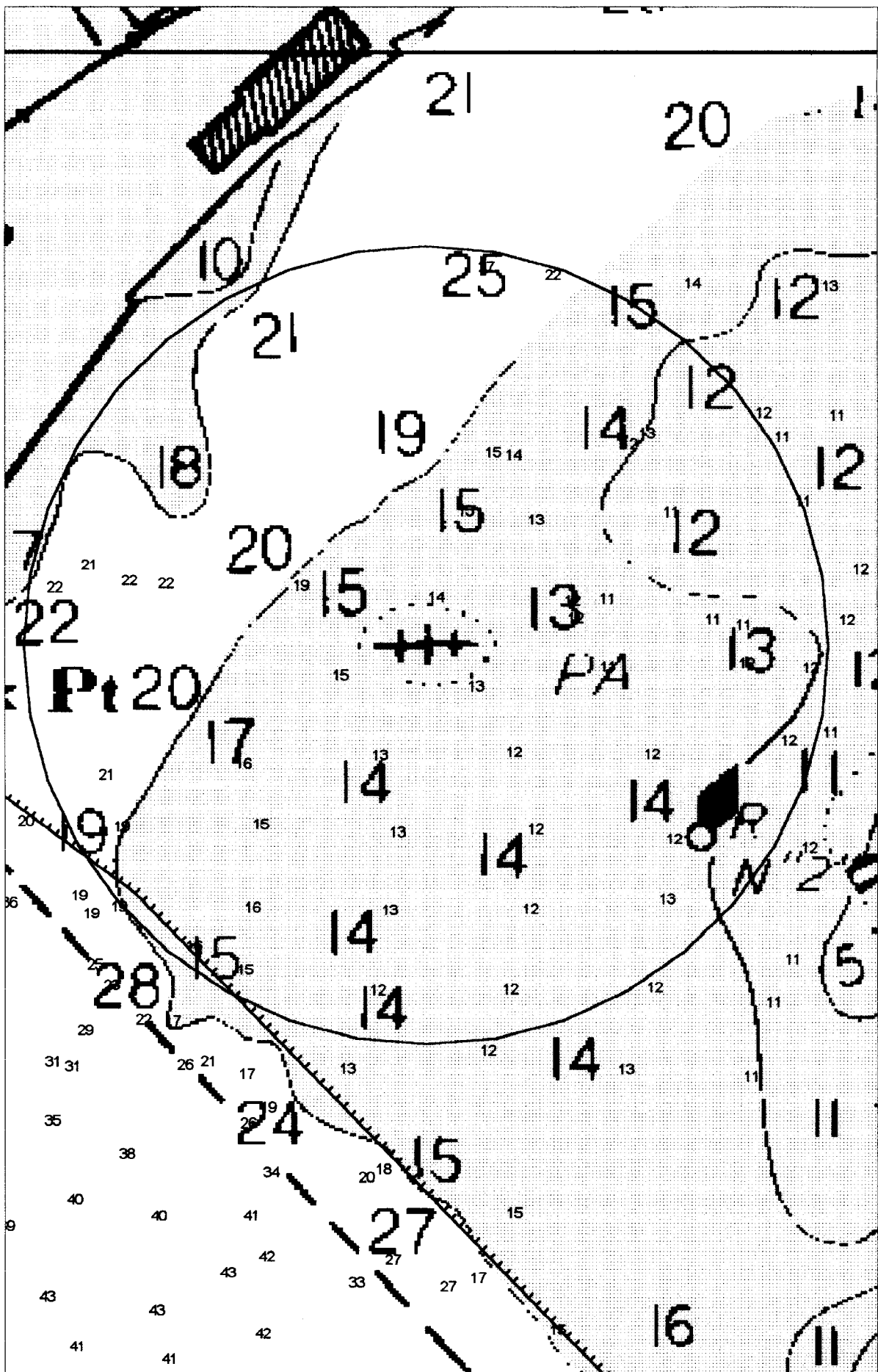
AWO15 9939



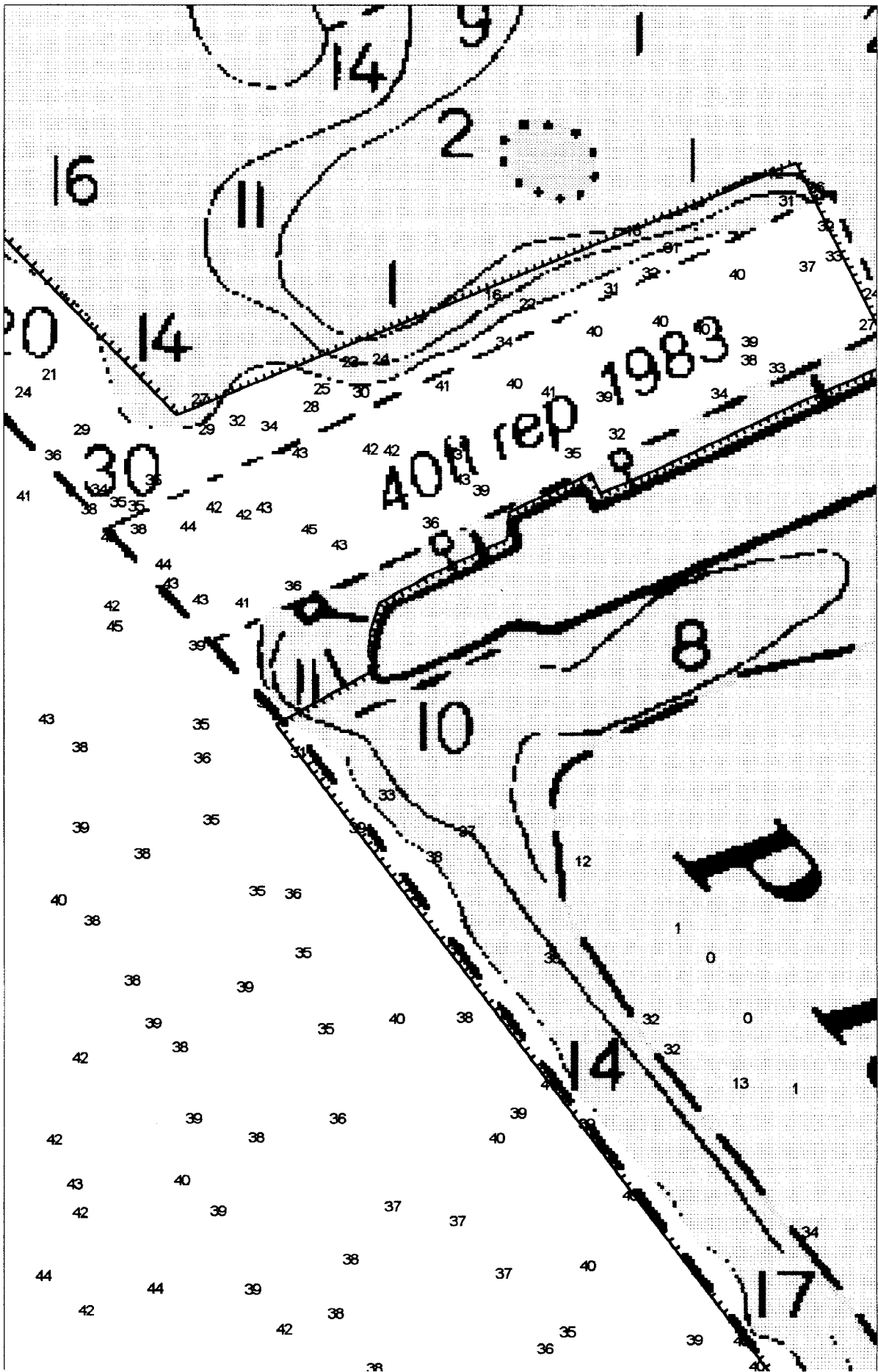
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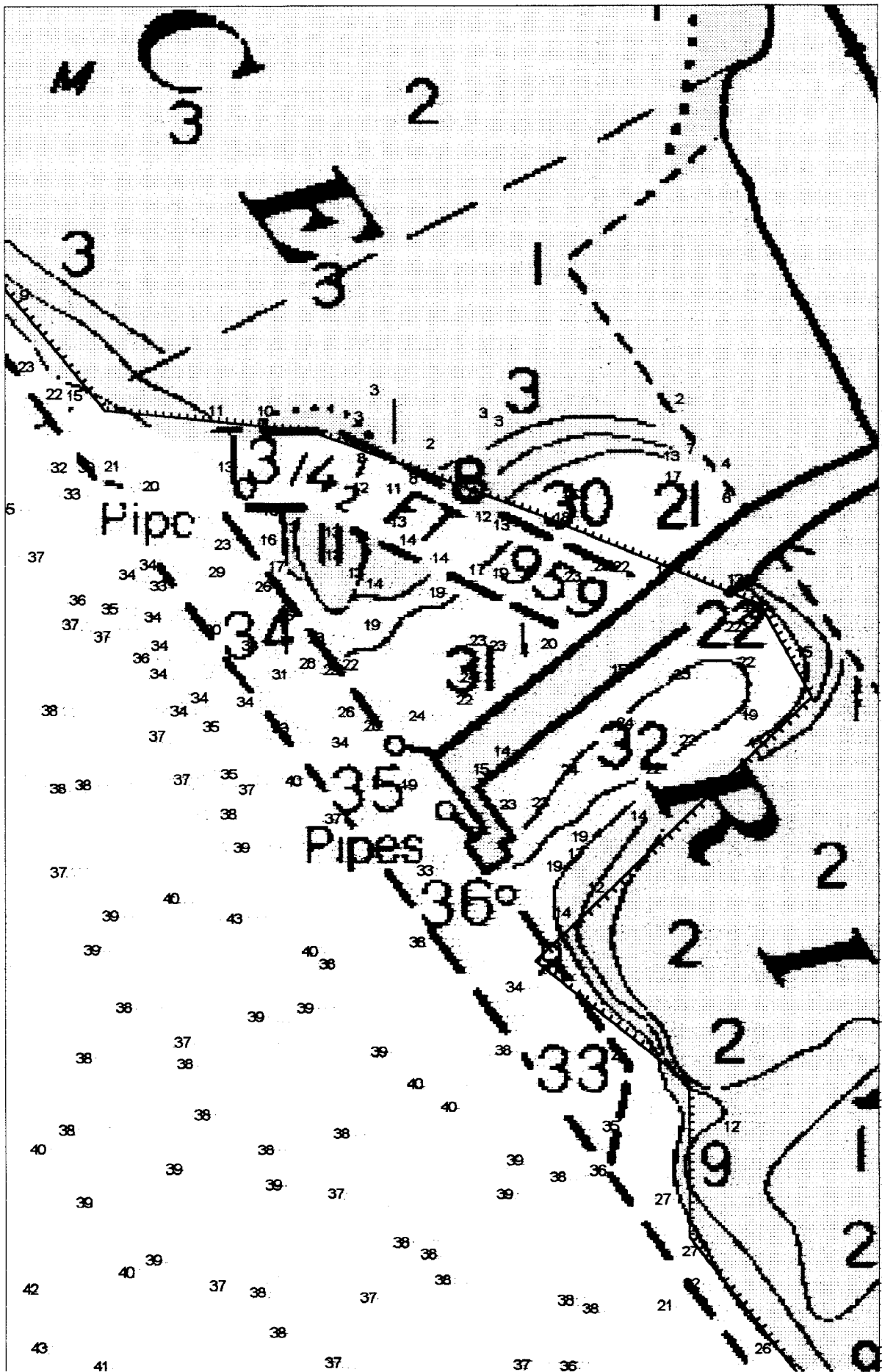
AWOIS 9941



AWOIS 9942



AWOIS 9943



AWOIS 9944



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SERVICE
Office of Ocean and Earth Sciences
Silver Spring, Maryland 20910

TIDE NOTE FOR HYDROGRAPHIC SURVEY

DATE: September 24, 1997

HYDROGRAPHIC BRANCH: Atlantic

HYDROGRAPHIC PROJECT: OPR B310-AHP

HYDROGRAPHIC SHEET: H-10772

LOCALITY: Providence Harbor, R.I. Pomham Rocks to Fox Point

TIME PERIOD: August 13 - August 22, 1997

TIDE STATION USED: 845-4000 Providence, R.I.
Lat. $41^{\circ} 48.4'N$ Lon. $71^{\circ} 24.1'W$

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

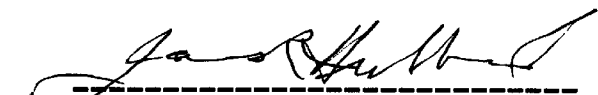
HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE: 1.432 m

REMARKS: RECOMMENDED ZONING

Use zone(s) identified as: 15, 16 & 17

Refer to attachment(s) for zoning information.

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



CHIEF, TIDAL ANALYSIS BRANCH



GEOGRAPHIC NAMES

H-10772

Name on Survey	ON CHART NO. 13224, 13225		ON PREVIOUS SURVEY		ON U.S. QUADRANGLE MAPS		FROM LOCAL INFORMATION		ON LOCAL MAPS		P.O. GUIDE OR MAP GRAND McNALLY ATLAS		U.S. LIGHT LIST	
	A	B	C	D	E	F	G	H	K					
BOLD POINT	X		X											1
COPPS COVE	X		X											2
CRANBERRY ISLAND	X		X											3
EAST PROVIDENCE	X		X											4
EDGEWOOD	X		X											5
FIELDS POINT	X		X											6
FORT HILL	X		X											7
FOX POINT	X		X											8
FOX POINT REACH	X													9
FULLER ROCK	X													10
FULLER ROCK REACH	X													11
GREEN JACKET SHOAL	X		X											12
KETTLE POINT	X		X											13
LOVETT ROCK	X													14
POMHAM ROCKS	X													15
PROVIDENCE RIVER	X		X											16
RHODE ISLAND (title)														17
SABIN POINT REACH	X													18
SASSAFRAS POINT	X		X											19
SQUANTUM POINT	X		X											20
WATCHMOKET COVE	X		X											21
WHORTLEBERRY ISLAND	X													22
														23
														24
														25

Approved

Dennis J. Kurek
Chief Geographer

NOV 13 1997

07/13/98

HYDROGRAPHIC SURVEY STATISTICS
REGISTRY NUMBER: H10772

NUMBER OF CONTROL STATIONS	2
NUMBER OF POSITIONS	3839
NUMBER OF SOUNDINGS	3839

	TIME-HOURS	DATE COMPLETED
PREPROCESSING EXAMINATION	6	06/20/97
VERIFICATION OF FIELD DATA	168.50	01/20/98
EVALUATION AND ANALYSIS	39.50	
FINAL INSPECTION	52	06/05/98
COMPILATION	69	07/14/98
TOTAL TIME	335	
ATLANTIC HYDROGRAPHIC BRANCH APPROVAL		06/03/98

**ATLANTIC HYDROGRAPHIC BRANCH
EVALUATION REPORT FOR H10772 (1997)**

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

D. AUTOMATED DATA ACQUISITION AND PROCESSING

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

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

The smooth sheet was plotted using a Hewlett Packard Design Jet 350C plotter.

H. CONTROL STATIONS

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

To place this survey on the NAD 27 datum move the projection lines 0.362 seconds (11.169 meters or 1.12 mm at the scale of the survey) north in latitude, and 1.802 seconds (41.601 meters or 4.16 mm at the scale of the survey) east in longitude.

J. SHORELINE

Brown shoreline originates with National Ocean Service (NOS) chart 13225 (32nd Edition, February 2, 1991) and is for orientation purposes only.

Revisions of the shoreline by the hydrographer are shown as dashed red lines on the present survey.

M. COMPARISON WITH PRIOR SURVEYS

a. Hydrographic

H-8316 (1956) 1:5,000

Prior survey H-8316 covers the present survey in its

entirety. Present survey soundings show significant differences than prior survey soundings within the charted channel. The present survey is generally deeper than the prior survey. This is due to dredging subsequent to the prior survey. Present survey soundings outside the charted channel are in good agreement with the prior survey with soundings varying plus or minus 1 to 2 feet.

The following should be noted:

1. A charted piling in Latitude 41°47'05.3"N, Longitude 71°22'21.4"W originates with the prior survey. The piling was neither verified nor disproved by the present survey and has been brought forward from the prior survey to supplement the present survey. The piling is shown as submerged on the present survey. It is recommended that the piling be revised to a submerged piling as shown on the present survey

2. Four charted pile symbols and one stake in the vicinity of Latitude 41°48'12"N, Longitude 71°23'47"W originate with the prior survey as the off shore end of pier ruins. These features were neither verified nor disproved by the present survey and have been brought forward from the prior survey to supplement the present survey. These features are shown on the present survey as four submerged piles and one submerged stake. It is recommended that these features be revised to submerged as shown on the present survey.

3. A small section of charted shoal area in the vicinity of Latitude 41°48'19"N, Longitude 71°23'19"W originates with the prior survey. This area was not investigated by the field unit. Present survey depths and charted channel limits indicate that the shoal area no longer exists. It is recommended that the shoal area be deleted from the chart.

4. A charted pipe in Latitude 41°48'18.3"N, Longitude 71°23'20.9"W originates with the prior survey. The pipe was neither verified nor disproved by the present survey and has been brought forward from the prior survey to supplement the present survey. The pipe is shown as submerged on the present survey. It is recommended that the pipe be revised to a submerged pipe as shown on the present survey.

5. A charted platform in Latitude 41°46'47.7"N, Longitude 71°22'12.8"W originates with the prior survey. The platform was neither verified nor disproved by the present survey and has been brought forward from the prior survey to supplement the present survey. It is recommended that the platform be retained as charted.

The present survey is considered adequate to supersede the prior survey within the common area.

O. COMPARISON WITH CHART 13225 (32nd Edition, Feb 2/91)

Hydrography

The charted hydrography originates with the previously discussed prior survey and requires no further consideration. The hydrographer makes an adequate chart comparison in Section O. of the Descriptive Report. The following should be noted:

1. The hydrographer delineated an area as foul with pier ruins, dolphins, and piles in the vicinity of Latitude 41°48'15"N, Longitude 71°23'54"W. It is recommended that the foul limits be charted as shown on the present survey. It is also recommended that the charted pier ruins, dolphins and piles be retained within the foul limits.

2. The following charted features originate with an unknown source and were neither verified nor disproved by the present survey. It is recommended that these features be retained as charted.

<u>FEATURE</u>	<u>LATITUDE</u>	<u>LONGITUDE</u>
platform	41°46'46.6"N	71°22'11.6"W
dol	41°46'50.0"N	71°22'14.3"W
dol	41°46'52.2"N	71°22'15.5"W
pipe	41°48'12.8"N	71°23'15.5"W
pipe	41°48'13.6"N	71°23'16.2"W
pipe	41°48'14.6"N	71°23'17.0"W
pipe	41°48'15.3"N	71°23'17.9"W

Controlling Depths

A conflict exists with the charted controlling depth at the northwest end of Fox Point Reach in the vicinity of Latitude 41°48'48"N, Longitude 71°24'00"W. The present survey shows shoaling of 28 to 30 feet in charted controlling depths of 32.2 to 33.5 feet.

A conflict exists with the charted controlling depth along the left side of Fuller Rock Reach from Latitude 41°47'15"N, south to Latitude 41°46'46"N where the channel joins Sabin Point Reach. The present survey shows depths of 27 to 30 feet with a controlling depth of 30.3 feet in the left outside quarter of the channel.

A conflict exists with the charted controlling depth along the right side of Fuller Rock Reach in the vicinity of Latitude 41°47'15"N, Longitude 71°22'30"N. The present survey shows depths of 29 feet with a controlling depth of 33.6 feet in the right outside quarter of the channel.

Except as noted, the present survey is adequate to supersede the charted hydrography within the common area.

P. ADEQUACY OF SURVEY

This is an adequate hydrographic/side scan sonar survey; no additional work is recommended.

S. MISCELLANEOUS

Chart compilation using the present survey was done by Atlantic Hydrographic Branch personnel in Norfolk, Virginia. Compilation data has been forwarded to Marine Chart Division, Silver Spring, Maryland.

The following chart NOS chart was used for compilation of the present survey: 13225 (32nd Ed., Feb 2/91)

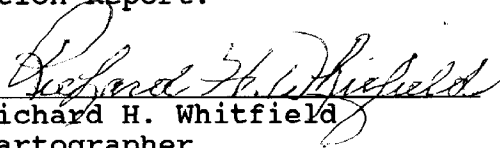
Douglas V. Mason

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


APPROVAL SHEET
H10772

Initial Approvals:

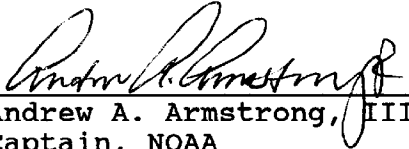
The completed survey has been inspected with regard to survey coverage, delineation of depth curves, development of critical depths, cartographic symbolization, and verification or disapproval of charted data. The digital data have been completed and all revisions and additions made to the smooth sheet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


Richard H. Whitfield Date: JUNE 4, 1998
Cartographer
Atlantic Hydrographic Branch

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


For Andrew L. Beaver, LCDR, NOAA Date: JUNE 4, 1998
Chief, Atlantic Hydrographic Branch

Final Approval:

Approved:  Date: Aug 24, 1998
Andrew A. Armstrong, III
Captain, NOAA
Chief, Hydrographic Surveys Division

MARINE CHART BRANCH
RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. H10772

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
13225	7/1/98	<i>[Signature]</i>	Full Part Before After Marine Center Approval Signed Via Drawing No.
			Full Part Before After Marine Center Approval Signed Via Drawing No.
			Full Part Before After Marine Center Approval Signed Via Drawing No.
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SUPERSEDES C&GS FORM 8352 WHICH MAY BE USED