

NOAA FORM 76-35A

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



DESCRIPTIVE REPORT

Type of Survey **Field Examination**

Project No. **F00490**

LOCALITY

State **Delaware and New Jersey**

General Locality **Delaware River**

2003

CHIEF OF PARTY
LCDR P. Tod Schattgen

LIBRARY & ARCHIVES

DATE:

TABLE OF CONTENTS

A. AREA SURVEYED 1

B. DATA ACQUISITION AND PROCESSING 3

 EQUIPMENT 3

 QUALITY CONTROL 3

 CORRECTIONS TO ECHO SOUNDING 3

C. VERTICAL AND HORIZONTAL CONTROL 4

 VERTICAL CONTROL 4

 HORIZONTAL CONTROL 4

D. RESULTS AND RECOMMENDATIONS 5

 AWOIS ITEM INVESTIGATIONS 5

 NEW FEATURES 7

 DTONs 9

 MAJOR CHARTING DISCREPANCIES 9

 PYDRO DESCRIPTION 12

E. APPROVAL SHEET 13

APPENDICES 14

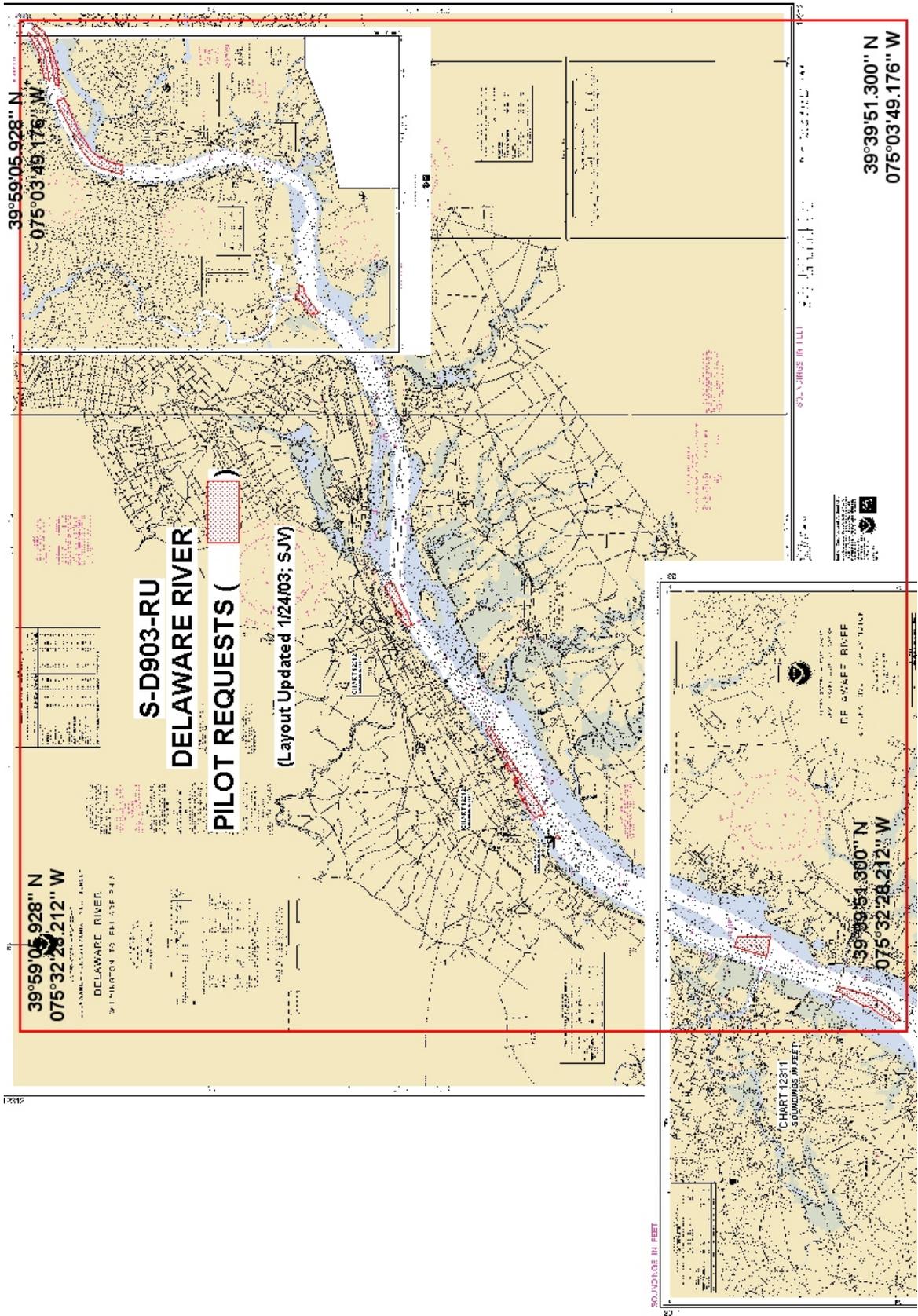
DESCRIPTIVE REPORT
to accompany
FIELD EXAMINATION F00490
Scale: 1:10,000
Year of Survey: 2003
NOAA Ship RUDE
LCDR P Tod Schattgen, Commanding Officer

A. AREA SURVEYED

This field examination was conducted in accordance with Hydrographic Survey Letter Instructions for project F00490, Delaware River, Delaware and New Jersey. The original instructions are dated received March 12, 2003 (appendix B). The initial survey registry number was S-D903-RU-03, which appears on most acquisition logs.

This project is being conducted to provide side scan sonar and/or multibeam data in support of National Ocean Service (NOS) nautical charts, as a response to requests from the Pilots Association, Bay and River Delaware. This project was conducted in accordance with National Ocean Service (NOS) requirements for side scan sonar and multibeam data acquisition and processing.

For complete survey limits, see the chartlet on the following page.



B. DATA ACQUISITION AND PROCESSING EQUIPMENT

See also Evaluation Report.

B.1. EQUIPMENT

No unusual configuration or problems were encountered. Refer to section A of the 2003 field season Data Acquisition and Processing Report (DAPR) * for detailed equipment and vessel configuration information. * *Data filled with Original Field Records.*

B.2. QUALITY CONTROL

B.2.1. Side Scan Sonar Control

Daily confidence checks were made by observing the outer ranges of the side scan sonar images. A good check consisted of distinguishing contacts or sand waves across the entire range of the side scan trace. All degraded returns (as from boat wakes or thermocline) were rejected and the data re-acquired. No unusual problems were encountered.

B.2.2. Shallow Water Multibeam Quality Control

The Reson 8125 SWMB was occasionally projected forward, rather than aft, which is the correct projection. Data collected in this manner switched starboard beams to corresponding port beams, and vice versa (i.e. beam 1 became beam 240, 2 became 239, etc.). This problem was resolved during post processing by using a vessel configuration with the transducer oriented 180 degrees from the original orientation. All data collected in this configuration were recovered using the “ru00_mb_projection prob” vessel configuration file.

During SWMB data acquisition in the Cherry Island region, a hold-off value was used to reduce noise in the water column. As a result, soundings above the hold-off value were not recorded, and the least depth on these objects was not acquired. The RUDE had left the survey area when this problem was discovered.

Also, using 25m line spacing, full bottom coverage was not acquired in this area, and shoals lying outside the SWMB swath were not fully developed. Again, the RUDE had left the survey grounds when this problem was noted. DtoNs in this area were submitted using mainscheme SWMB data. The hydrographer recommends a full bottom investigation of each DtoN in the Cherry Island region. Refer to section B.1. of the 2003 field season Data Acquisition And Processing Report (DAPR) for a detailed discussion of the SWMB system calibrations, data acquisition, and data processing.

B.3. CORRECTIONS TO ECHO SOUNDING

All methods and instruments used were described in section C.1. of the 2003 field season DAPR *. All sound velocity data is submitted with the digital data submission.

** Data filled with Original Field Reports.*

C. VERTICAL AND HORIZONTAL CONTROL

C.1. VERTICAL CONTROL

The tidal datum for this project is the Mean Lower Low Water (MLLW). The operating tide stations at Philadelphia, PA (854-5240), Reedy Point, C&D Canal, DE (855-1910), and Marcus Hook, PA (854-0433) served as control for datum determination. Tidal zoning for this project is consistent with the Letter Instructions (appendix B). A Request for Approved Tides letter was sent to N/OPS1 on October 8, 2003 (appendix D.)

Approved tides were re-applied to Survey in Caris during office processing.

C.2. HORIZONTAL CONTROL

The horizontal datum used for this survey is the North American Datum of 1983 (NAD 83), projected using UTM zone 18.

Sounding positional control was determined using the Global Positioning System (GPS) corrected by U.S. Coast Guard differential GPS (DGPS) beacon stations. The primary DGPS beacon used for this survey was Wildwood, NJ. Sandy Hook, NJ was used as secondary station if the primary site became disabled. No horizontal control stations were established for this survey.

Horizontal Dilution Of Precision (HDOP) was monitored daily. Data were re-acquired if the HDOP value exceeded 2.5. The TSS POS/MV positioning system was also used to monitor the accuracy of the ship's position and orientation. Data were re-acquired if POS M/V's estimated position accuracy exceeded 2 m. Refer to section A.3 of the 2002 field season DAPR * for more details regarding RUDE's POS M/V settings and operation.

** Data filled with Original Field Report.*

D. RESULTS AND RECOMMENDATIONS

D.1 AWOIS Items

One Automated Wreck and Obstruction Information System (AWOIS) item was assigned to RUDE.

D.1a

AWOIS No: 11405

Item Description: Obstruction

Source: OPR-D218-HSB

AWOIS Position: Lat. 39°47'26.500" N, Long. 075°26'59.000" W

.50 *.00*

Required Investigation: SD, S2, SWMB **Radius:** 110 m

Charts Affected: 12312

INVESTIGATION

Contact No: 2003-108/101_1348_2,

Date(s): 2003, DN 108

Least Depth Position Number: DN 2003-108, Line 801-1514, Ping 966, Beam 1

Investigation Used: 200% SSS, SWMB

Surveyed Position: Lat. 39°47'26.240" N, Long. 075°26'57.632" W

.24 *.63*

Position Determined By: Differential GPS

Investigation Summary: The entire search radius was covered with 200% side scan sonar and 100% SWMB during main scheme coverage. The above contacts were found using SSS and SWMB. SWMB and SSS data indicate that the item is a rock with a least depth of 26 ft (8.04 m).

CHARTING RECOMMENDATION

Recommendations: The hydrographer recommends changing the 25ft sounding to a 26ft sounding, but retaining the position of the sounding and danger curve. The 26ft sounding lies within the danger circle. Moving the center of the danger circle and sounding to the surveyed position would place a portion of the danger circle in the channel, and is not recommended.

Concur with clarification. Delete 25 Rk with danger curve in Latitude 39°47' 26.50" N, Longitude 75°26' 59.00" W and Add 26 Rk with danger curve in survey position, Latitude 39°47'26 .24" N, Longitude 75°26' 57.63" W. Charting Delete 25 Rk with danger curve, Add 26 Rk with danger curve.

D.3 New Items

The RUDE found fifteen new features that warrant charting changes. The following table lists the feature's Pydro contact number, the surveyed latitude and longitude, least depth, and charting recommendations. For full contact detail, see the "New Items" page in the Pydro PSS.

Pydro Contact	Surveyed Long	Surveyed Lat	Least Depth, ft	Charting Recommendation
h:/d903/ru00_mb_projection_prob/2003-111/813_1701, Ping 424, Beam 100	39°40'03.864" .86	-075°32'14.018" .02	18 ft	Remove 19ft charted sounding, chart as 18ft wreck. Concur w/ clarification. Chart a 18 ft wreck with a danger curve.
h:/d903/ru00_mb/2003-112/800_2045, Ping 1097, Beam 219	39°43'33.530" .53	-075°29'58.777" .78	14 ft	Close to 14ft rock submitted as DtoN. Chart 14ft sounding at position 39°43'33.066", -75°29'58.354" .07 .35 Do not concur. Chart scale does not permit charting this depth.
h:/d903/ru00_mb/2003-108/806_1732, Ping 3154, Beam 1	39°47'58.903" .90	-075°25'59.238" .24	22 ft	Chart as 22ft sounding. Concur w/ clarification Chart 22 rk w/ danger curve.
h:/d903/ru00_mb/2003-112/803_1741, Ping 189, Beam 197	39°47'52.822" .82	-075°26'03.017" .02	32 ft	Change 34ft charted sounding to 32ft sounding. Concur w/ clarification Chart 32 rk w/ danger curve.
h:/d903/ru00_mb/2003-112/826_1830, Ping 258, Beam 180	39°47'56.164" .16	-075°25'56.396" .40	32 ft	Change 34ft charted sounding to 32ft sounding. Do not concur. Chart scale does not allow charting this rock, include it in the danger curve for the rocks northwest of it.
h:/d903/ru00_mb/2003-108/812_1802, Ping 846, Beam 57	39°47'56.516" .52	-075°26'16.877" .88	24 ft	Change 30 ft to 24ft sounding. Concur w/ clarification Chart 24 rk w/ danger curve.
h:/d903/ru00_mb/2003-113/814_1606, Ping 307, Beam 230	39°50'41.259" .26	-075°20'55.075" .07	29 ft	Move 29ft sounding south and/or change 26ft charted sounding to 25ft sounding. Do not concur Chart 29 Rk w/danger curve.
h:/d903/ru00_mb/2003-113/800_1400, Ping 4412, Beam 76	39°50'56.008" .01	-075°20'08.432" .43	37 ft	Change charted 41ft sounding to 37 ft rk. Concur w/ clarification Chart 37 rk w/ danger curve.
h:/d903/ru00_mb/2003-113/863_1631, Ping 294, Beam 167	39°51'02.588" .59	-075°19'58.804" .80	28 ft	Chart as 28 ft Rk. Concur Chart 28 Rk w/danger curve.
h:/d903/ru00_mb/2003-113/847_1628,	39°50'58.917"	-075°20'07.708"	35 ft	Chart 37ft rock to the south.

Ping 553, Beam 238	.92	.71			Concur w/ clarification, chart 35 Rks w/ danger curve.
h:/d903/ru00_mb/2003-113/862_1635, Ping 299, Beam 170	39°51'00.453" .45	-075°19'57.902" .90	30 ft		Chart as 30 Rk. Do not concur. Chart scale does not allow charting this rock, include it in the danger curve for the rock north of it.
h:/d903/ru00_mb/2003-113/800_1927, Ping 527, Beam 209	39°53'00.166" .17	-075°11'30.575" .57	37 ft		Change 39ft charted sounding to 37ft sounding. Concur w/ clarification. Chart a 37 ft rock with a danger curve.
h:/d903/ru00_mb/2003-114/831_1531, Ping 344, Beam 129	39°58'09.884" .88	-075°06'18.445" .44	16 ft		Chart 16ft sounding, and extend 18ft curve north of sounding. Concur w/ clarification. Chart a 16 ft rock with a danger curve.
h:/d903/ru00_mb_projection_prob/2003-107/821_1427, Ping 259, Beam 162	39°58'25.244" .24	-075°05'42.744" .74	31 ft		Chart as 31ft obstruction. Concur w/clarification. Chart a 31ft Obstn with a danger curve
h:/d903/ru00_mb_projection_prob/2003-108/801_1514, Ping 966, Beam 107	39°47'26.24"	-075°26'57.63"	26 ft		Chart 26 Rk w/ danger curve See also AWOIS Item 11405, p 6 of this report.
h:/d903/ru00_mb/2003-114/810_1511, Ping 536, Beam 170	39°58'37.790" .79	-075°04'26.964" .96	40 ft		Chart as 40 Rk Concur w/ clarification. Chart a 40ft rock with a danger curve.

D.4 Dangers to Navigation

RUDE personnel identified 9 Dangers to Navigation during the course of survey operations. These items were forwarded to the Marine Charting Division via email. Full information on these items can be found in the Pydro PSS under the DTON tab. Also, see Appendix 1.

D.5 Major Charting Discrepancies

New Castle Flats Region

In general, surveyed soundings west of the channel are deeper than charted soundings. Soundings nearest the channel differ from surveyed soundings by as much as 10ft. **Concur**

20ft surveyed soundings (between 039°40'32.144 **.14** ", -75°31'52.032 **.03** " to the north to 039°40'18.473 **.47** ", -75°32'07.507 **.50**" to the south) exist west of the 18ft curve to the south. The hydrographer recommends moving the 18ft curve east of these soundings.

Do not Concur, 18 ft curve is presently charted adequately to delineate the bottom. No changes to chart.

Cherry Island Region

Eight rocks, with depths ranging 13-15ft. were found in this area, and submitted as DtoNs. See Appendix A for more detailed information and the positions of these objects. **Concur w/ clarification. See E & A report section D.4**

Surveyed soundings to the east of the channel, and between buoys RG "CR" and N "4C" are deeper than charted, with differences in soundings as much as ± 9 ft. **Concur**

Extend 18ft curve in northern region of surveyed area south to agree with surveyed soundings (pos. 039°43'31.550 **.55**", -75°29'57.490 **.49**"). **Concur**

AWOIS Search Area

As recommended in section D.1.a, change 26 **25** ft charted sounding (pos. 039°47'26.343 **.34**", -75°26'57.637 **.64**") to 24 **26** ft sounding. Also, numerous, non-dangerous rocks along the bottom in this area may warrant the charting of a "rky" label. **Concur w/ clarification Chart 26 Rk w/ danger curve and no rky label. For more information see AWOIS 11405 on page 6 of this report.**

Marcus Hook Region

10 **11** ft surveyed soundings (pos. 039°48'12.432 **.43**", -75°25'36.661 **.66**") exist east of the 18ft curve in the southern region of this survey area. The hydrographer recommends moving the 12ft and 18ft curves east to agree with surveyed soundings. **Concur.**

18 **17** ft surveyed soundings (pos. 039°48'35.815 **.81**",-75°24'42.065 **.06**") exist east of the 18ft curve in the northern region of this survey area. The hydrographer recommends moving the 18ft curve east to agree with surveyed soundings. **Concur.**

Change ~~38~~ **40** ft sounding (pos. 039°48'41.925 **.92**",-75°24'23.526 **.53**") in northern region of survey area to ~~40~~ **39**ft sounding. **Concur.**

Eddystone Region

Move the 18ft curves south of the dry dock (pos. 039°50'53.492 **.49**",-75°20'38.562 **.56**"), and east of the slipway ruins further east to agree with surveyed soundings. **Concur.**

Change 26ft sounding (pos. 039°50'40.854 **.85**",-75°20'59.718 **.72**") in southern region of surveyed area to 25ft. **Concur.**

Mud Island Region

The hydrographer recommends removing all "Dols" and "Subm Dols" from the eastern region of this survey area. Multibeam and 100% SSS data disprove these features. Replace second "Dols" from the west with a ~~35~~ **34**ft sounding in pos. 039°53'02.683 **.68**", -75°11'15.229 **.23**" **Concur w/ clarification, remove all dols and subm dols except the two dols charted in the vicinity of Latitude 39°53'08.40"N, Longitude 75°11'10.76"W.**

Move the 18ft curve west of GC "1" (pos. 39°52'52.358 **.36**",-75°11'55.176 **.18**") **Do not Concur. No soundings in this area to justify an 18ft contour west of GC"1" buoy at Latitude 39°52'52.364" N, Longitude 75°11'55.18" W on NOS charts 12311 and 12312. Contour is charted west of GC"1" buoy on the present edition of NOS chart 12313. Retain contour as charted.**

On chart 12312, chart 28ft sounding south of Fl R "2" light (pos. 039°53'01.05",-75°11'38.80"), and move ~~40~~ **41**ft sounding south. **Concur w/ clarification. Chart a 28ft sounding south of Fl R "2" light on NOS charts 12312 and 12313.**

Cooper Point Region

Change 36 ~~37~~ ft charted sounding (pos. 039°57'18.142 **.14**",-75°08'00.934 **.93**") north of Ben Franklin bridge to 30ft. Also, large sandwaves exist in this area. The hydrographer suggests adding a "sand waves" label in this vicinity to denote the changing bottom features and depths.

Do not Concur. The above mentioned 36 foot charted sounding has already been removed on the latest edition of NOS chart 12313 and 12312. Further, the 30 ft sounding mentioned above is part of a large group of sand waves and poses no danger. Sand waves label is not needed. Update the area with present survey data.

Remove 17ft sounding and 18ft curve west of Cooper Pt. Chart as 19ft sounding in pos. 039°57'22.173 .17",-75°07'53.952 .95". ***Concur with conditions. Chart a 19 ft dangerous rock in Latitude 39° 57'19.90" N, Longitude 75° 07'53.71"***.

On chart 12312, chart 30ft+ hole (pos. 039°57'28.097 .10",-75°07'44.905 .90") on northwestern side of Cooper Pt, west of exposed wrecks. ***Do not Concur. Chart scale does not permit the charting of this deep feature.***

Also, chart 18ft sounding rock to the west of this hole. ***Concur. Chart 18ft rock with a danger curve in Latitude 39° 57'28.21" N, Longitude 75° 07'46.71" W on charts 12312 and 12313.***

On chart 12313, move the 18ft curve west of the three exposed wrecks (pos. 039°57'28.6",-75°07'41.5") south to agree with surveyed 18ft sounding ***present survey data. Concur.***

Fisher Point Region

34ft soundings exist in the area charted as "35 FT DEC 1998" to the north of the channel. Change the label to "34 FT APR 2003". Also, chart 33 34ft sounding at the southeastern corner of pier north of this area in pos. 039°58'46.572 .57",-75°04'46.067 .07". ***Do not concur. See E&A report Section D.2.***

The hydrographer recommends removing the charted "Pipe" (pos. 039°58'23.424",-75°05'28.006") in the surveyed region south of the channel. SWMB and SSS data acquired over this position disprove the existence of such a feature. ***Concur. Remove charted pipe.***

On chart 12312, in the survey area north of the channel, move the 18ft curve in northern region of the survey area southeast to agree with surveyed 18ft soundings(pos.039°58'56.392 .39",-75°04'21.697 .70"). ***Concur.***

A 16 17ft shoal (pos. 039°58'55.612 .61",-75°04'21.140 .14") exists south of the 18 ft curve in the survey area north of the channel. The hydrographer recommends charting a 16ft sounding encircled by an 18ft curve. ***Concur w/ clarification. 17ft shoal in Latitude 39° 58'55.61"***

N, Longitude 75° 04'21.14" W is in shore and pose no danger. A charted 18ft sounding listed above encompass 17ft sounding with 18ft contour.

On chart 12313, in the region south of the channel, move the 18ft curve to agree with surveyed 18ft soundings. Note scouring southwest of buoy R N "54" (pos. 039°58'31.375 *.37*", -75°04'53.777 *.78*") *Concur.*

D.6 Pydro

The accompanying Pydro PSS file contains detailed information on all referenced features and bathymetry. Pages corresponding to DtoNs, AWOIS items, and new features are denoted by the tabs in the PSS feature tree. The "DtoN" feature tree lists the nine DtoN items submitted by the RUDE, which are found in Appendix 1 of this descriptive report. The "AWOIS" tab corresponds to the AWOIS item investigated by the RUDE and described in section D.1 of this report. The "New Items" tab lists the items found by the RUDE that warrant charting updates, and corresponds to section D.3. The primary features are bathymetry contacts correlating to secondary side scan sonar contacts. The PSS also includes all bathymetry from F00490 exceeded at 15 m.

DANGERS TO NAVIGATION REPORT

Survey Registry Number: N/A

Field Unit: NOAA Ship RUDE
State: Delaware, Pennsylvania, and New Jersey
Locality: Delaware River
Sub-Locality: N/A

Project Number: S-D903-RU
Survey Date(s):

Soundings are reduced to Mean Lower Low Water (MLLW) using Verified Water Levels.
Horizontal datum is NAD 83.

Chart(s) Affected: 12312, 52nd Ed., Jan.18, 2003, 1:40,000

DANGERS TO NAVIGATION

One danger to navigation was discovered during mainscheme hydrography on D903 Delaware River.

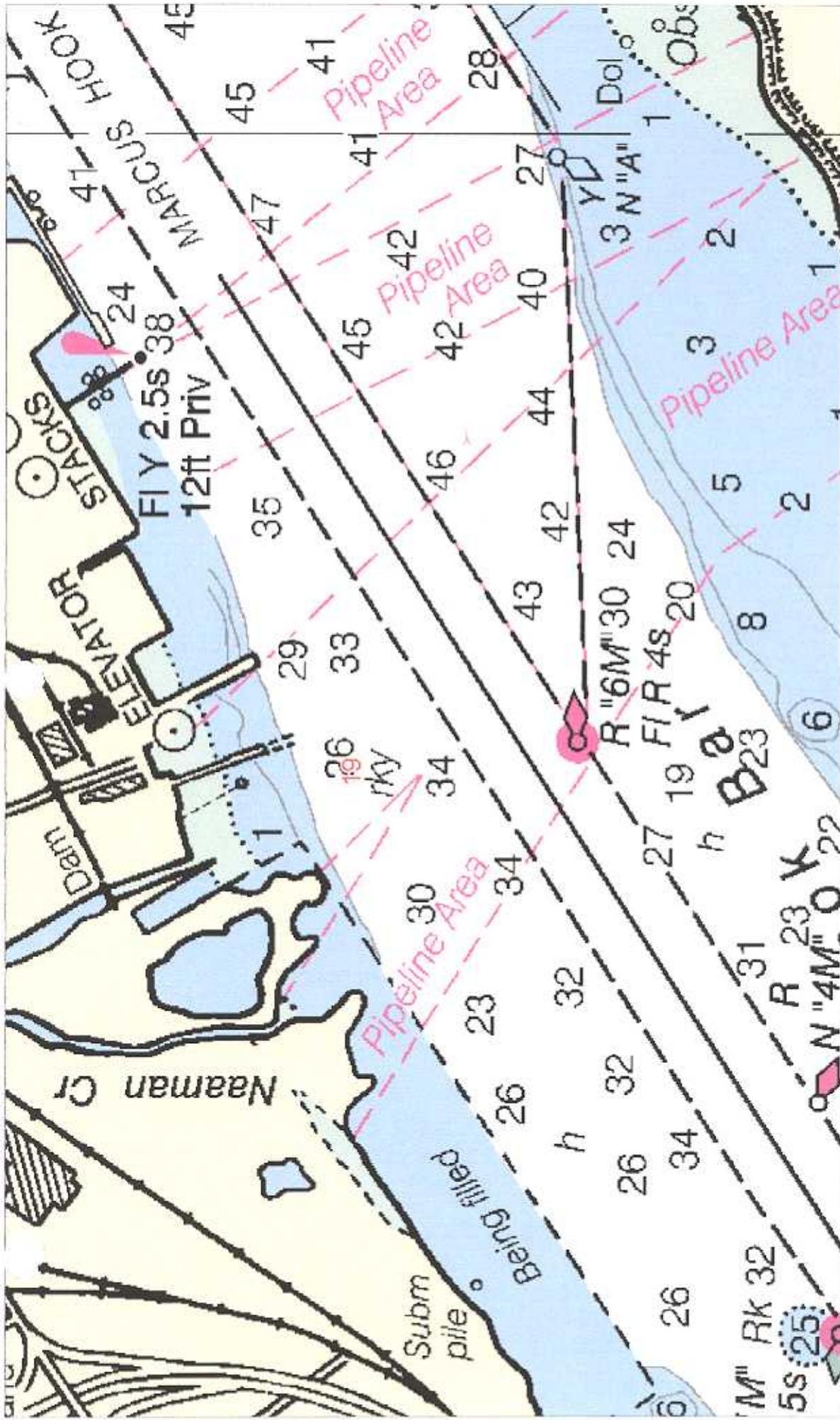
DTON #	LATITUDE	LONGITUDE	DEPTH	Type
1	39° 48' 01.614" N	75° 26' 02.777" W	19	Rock ✓

.78

Questions concerning this report should be directed to the Commanding Officer, NOAA Ship RUDE at (757) 615-6465.

✓
RLK





This chartlet has been corrected through
 Notice to Mariners dated Sept. 15, 2001
NOT FOR NAVIGATION.

Chartlet 1 of 1 DtoN Report 1 (DtoN sounding in red)



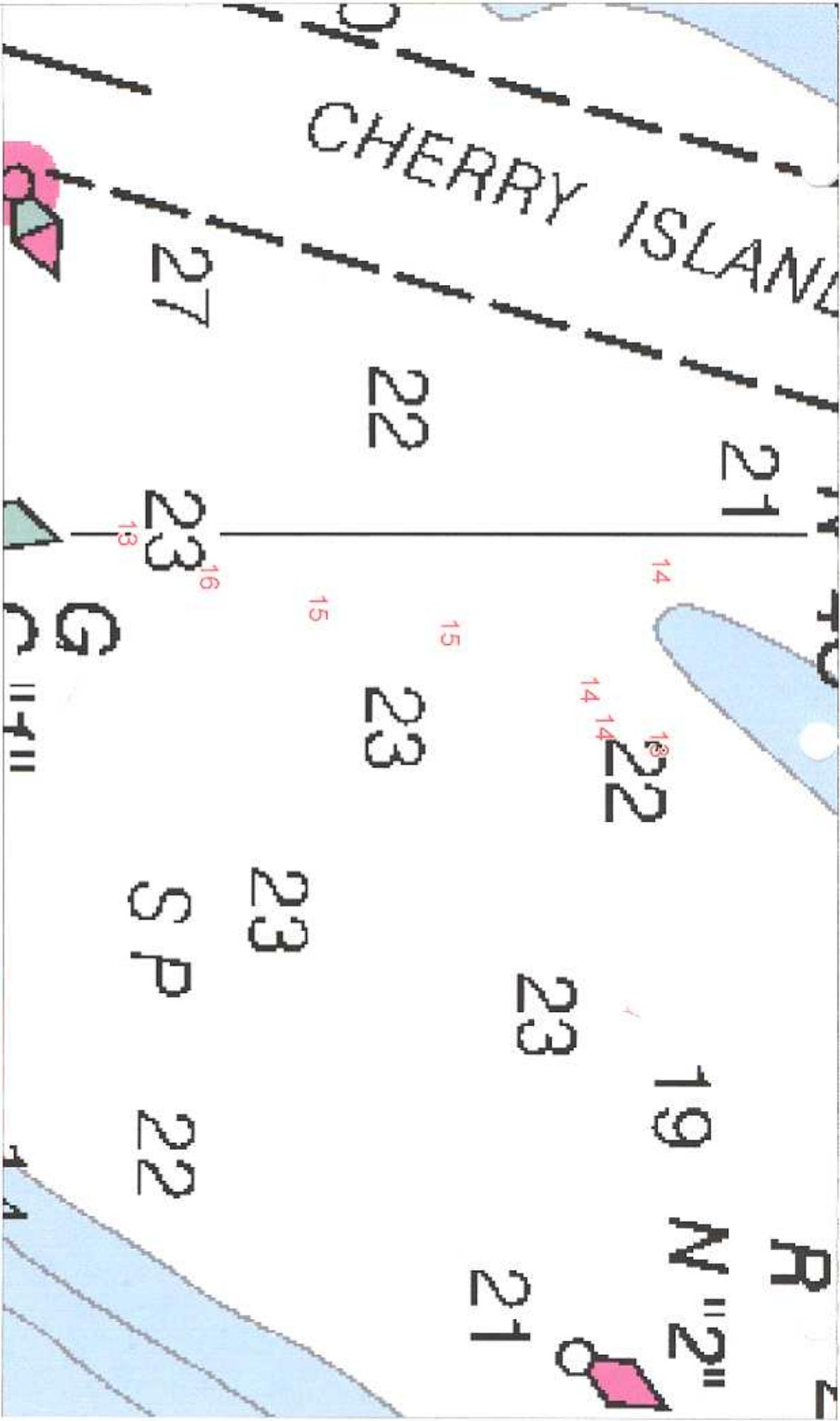
NATIONAL OCEANIC AND
 ATMOSPHERIC ADMINISTRATION
 NATIONAL OCEAN SERVICE

Project: S-D9903-RU
 Survey: N/A
 State: Delaware and New Jersey
 Locality: Delaware River
 Sub-locality: None
 Survey Scale: 1:10,000

Sounding Units: Feet
 Sounding Datum: MLLW
 Horizontal Datum: MAD 83
 Projection: UTM 18
 Central Meridian: 075° 00.00
 Scale Factor: 0.9996

NOAA Ship RUDE
 LCDR P. Tod Schattgen
 Commanding
 April 15 to
 April 28, 2002

RLK



This chartlet has been corrected through
 Notice to Mariners dated Sept. 15, 2001
 NOT FOR NAVIGATION

Chartlet 2 of 2 Dion Report 2 (Dion soundings in red)



NATIONAL OCEANIC AND
 ATMOSPHERIC ADMINISTRATION
 NATIONAL OCEAN SERVICE

Project: S-D903-RU
 Survey: NA
 State: Delaware and New Jersey
 Locality: Delaware River
 Sub-locality: None
 Survey Scale: 1:10,000

Sounding Units: Feet
 Sounding Datum: MLLW
 Horizontal Datum: NAD 83
 Projection: UTM 18
 Central Meridian: 075° 00 00
 Scale Factor: 0.9996

NOAA Ship RUDE
 LCDR P. Tod Schatgen
 Commanding
 April 15 to
 April 28, 2001

DANGERS TO NAVIGATION REPORT

Survey Registry Number: N/A

Field Unit: NOAA Ship RUDE
State: Delaware, Pennsylvania, and New Jersey
Locality: Delaware River
Sub-Locality: N/A

Project Number: S-D903-RU
Survey Date(s): April 15, 2003 to April 28, 2003

Soundings are reduced to Mean Lower Low Water (MLLW) using Verified Water Levels.
Horizontal datum is NAD 83.

Chart(s) Affected: 12311, 41st Ed., Sep.15, 2001, 1:40,000
12312, 51st Ed., Sep.08, 2001, 1:40,000

DANGERS TO NAVIGATION

Six dangers to navigation were discovered during mainscheme hydrography on E604 Hampton Roads.

DTON #	LATITUDE	LONGITUDE	DEPTH	Type
1	39°43'32.33 ⁵ " N	75°29'49.83 ⁹ " W	13	Rock ✓
2	39°43'30.39 ⁵ " N	75°29'50.62 ² " W	14	Rock ✓
3	39°43'29.80 ⁰ " N	75°29'52.43 ⁸ " W	14	Rock ✓
4	39°43'32.40 ³ " N	75°29'58.11 ⁹ " W	14	Rock ✓
5	39°43'24.68 ⁸ " N	75°29'55.16 ⁶ " W	15	Rock ✓
6	39°43'19.77 ⁸ " N	75°29'56.39 ¹ " W	15	Rock ✓
7	39°43'15.80 ⁰ " N	75°29'57.79 ⁶ " W	16	Rock ✓
8	39°43'12.78 ¹ " N	75°29'59.90 ⁷ " W	13	Rock ✓

Questions concerning this report should be directed to the Commanding Officer, NOAA Ship RUDE at (757) 615-6465.

✓
RLK

DtoN #2

Hydra v3.7.0 - SciPySoft (Pro) (Business) Used
 File | Config | Data | Reports | View | Misc | Help

DTon | New Features | AWDIS | Feet

Features

- DTon
- Submitted
 - H k/4903/h00_m/2003-112/800_1706 12245/154
 - H k/4903/h00_m/2003-112/845_2040 432/1
 - H k/4903/h00_m/2003-111/806_1029 776/240
 - H k/4903/h00_m/2003-112/845_2036 223/1
 - H k/4903/h00_m/2003-112/845_2036 764/240
 - H k/4903/h00_m/2003-112/843_2029 1302/105
 - H k/4903/h00_m/2003-112/841_2022 1972/1
 - H k/4903/h00_m/2003-112/841_2022 1154/94
 - Unsubmitted 673/236

Details | Remarks | Recommendations | Office Notes

\$57 **Carried Features from Bathymetry** Status: Retray

Line: h/4903/h00_m/2003-112/845_2036

Time: 2003-11-20 08:13:507 Profile: 1262 Beam: 100

Position: 36.72510864, -075.49739498

In Bathymetry Depth: 4.45 meters (Height): 1.96 m Class: Afloat

(Surrounding Depth): 3.44 meters (Height): 1.96 m

Resolved Report OK DTN Immediate

Office OC Revert Assignments Submitted Right-click

Deployment: 12007-09

Details | Remarks | Recommendations | Office Notes

\$58 **Carried Features from Bathymetry** Status: Retray

Line: h/4903/h00_m/2003-112/846_2040

Time: 2003-11-20 08:25:107 Profile: 776 Beam: 240 Distance: 46.70

Position: 36.72431435, -075.49789935

In Bathymetry Depth: 4.29 meters (Height): 1.50 m Class: Afloat

(Surrounding Depth): 3.36 meters (Height): 1.67 m

Resolved Report OK DTN Immediate

Office OC Revert Assignments Submitted Right-click

Deployment: 1776240

Showing contact 873/236
 Showing Early Features...
 Showing contact 432/1
 Showing contact 776/240
 Showing contact 1302/105
 Showing contact 1972/1
 Showing Early Features...
 Showing contact 223/1
 Showing contact 000/0
 Showing contact 000/0
 Showing Early Features...
 Showing contact 764/240
 Showing contact 000/0
 Showing contact 000/0
 Showing Early Features...
 Showing contact 1262/108
 Showing contact 776/240
 Showing Early Features...

36.72510863, -075.49739498 223.1m 143.0° 100.0% Bathymetry Loaded

DtoN #4

Pybus v3.7.0 - S:\Hydro_Proj\0003\055\0503

File Config Data Reports Window Misc Help

Plot Scale

DTon#s

- Primary
- Submitted
 - K:\0803\nd00_mv\2003-112\080_1706_12045194
 - K:\0803\nd00_mv\2003-112\046_2040_4321
 - 775240
 - K:\0803\nd00_mv\2003-111\080_1028_2231
 - K:\0803\nd00_mv\2003-112\046_2036_764240
 - 1200709
 - 115434
 - 873235
- Unsubmitted

DTon#s

557

Current Features from Bathymetry

Line: K:\0803\nd00_mv\2003-111\080_1028

Title: 2003-11-18-28-53-085 Profile: 220 Beam: 1

Position: 39°43'32.403" -075°29'58.119"

In Beam: Expt: 4.38 meters Top: 1.16 m

(Surrounding Depth): 3.31 meters (Height): 1.80 m

Rakebed Report Cont DTon Available
 Office OC Peak Contour Submerged Topography
 Elevation: 230'

Remarks: Recommendations: Office Note:
 Correlating Features from Imagery

Line: K:\0803\nd00_mv\2003-10\106_1720

Title: 2003-10-20-5:20 Contact: 0002 Point: 1 Seavox: 0.40

Position: 38°25'55.250" -075°48'40.711"

(Surrounding Depth): ? Height: 2.92 m

Rakebed Report Cont DTon Available
 Office OC Peak Contour Submerged Topography
 Elevation: 3002

Remarks: Recommendations: Office Note:
 Correlating Features from Imagery

Line: K:\0803\nd00_mv\2003-10\106_1720

Title: 2003-10-20-5:20 Contact: 0002 Point: 1 Seavox: 0.40

Position: 38°25'55.250" -075°48'40.711"

(Surrounding Depth): ? Height: 2.92 m

Rakebed Report Cont DTon Available
 Office OC Peak Contour Submerged Topography
 Elevation: 3002

Showing contact 0001
 Showing contact 2231
 Showing contact 0002
 Showing contact 0002
 Drawing Early Features
 Showing contact 176240
 Showing contact 1321769
 Showing Early Features
 Showing contact 2231
 Showing contact 0002
 Showing contact 0002
 Drawing Early Features
 Drawing Early Features

Car Feature | Car Paths | Car DGL | Car Feature | Car Paths | Car DGL

Least depth acquired using single beam

chosedb = 6 3x2

Note missing data on the feature, the result of using a hold-out value too deep for the survey area during acquisition however, given that this feature runs down the nadir beam, a least depth was acquired using single beam sonar.

100.0% Grids Searched

100.0% Lines Queried

284.2m 147.5'

38.72593885 -075.48765712

DtoN #6

HydroV3 (A) - 50 Hydro - Proj: VMS1003 - 112843_2029

File | Tools | Reports | Windows | Help | Hdb

DTech | New Features | AWD/S |

Features

- E 01 m/s
- E Primary
- E Submitted
 - E h:/8903/h00_nb/2003-112-800_1706
 - 12245_134
 - E h:/8903/h00_nb/2003-112-846_2040
 - 4327
 - 778_240
 - E h:/8903/h00_nb/2003-111-800_1829
 - 2237
 - E h:/8903/h00_nb/2003-112-845_2036
 - 794_240
 - 1202/109
 - E h:/8903/h00_nb/2003-112-843_2029
 - 1872/1
 - E h:/8903/h00_nb/2003-112-844_2022
 - 1154_54
 - 873_236
- Unsubmitted

Details | Remarks | Recommendations | Office Notes

557 **Current Feature from Ball Symmetry** Status: Primary

Line: h:/8903/h00_nb/2003-112843_2029

Title: 2003-112-2022-07-515 Profile: 1872 Beam: 1

Position: 39.72716059, -075.49899748

In Bath: Depth: 4.94 meters (Height: 1.54 m)

(Surrounding Depth): 5.93 meters

Resolved Report Plot Print Incomplete

Office QC Admin Approval Submitting Topographic

Disables: 1872/1

Showing contact 432/1

Showing contact 778/240

Showing contact 1202/109

Drawing Bath/F features

Drawing Bath/F features

Showing contact 223/1

Showing contact 0002

Showing contact 0002

Drawing Bath/F features

Showing contact 794/240

Showing contact 0001

Showing contact 0001

Drawing Bath/F features

Showing contact 1202/109

Showing contact 778/240

Drawing Bath/F features

Showing contact 1872/1

Drawing Bath/F features

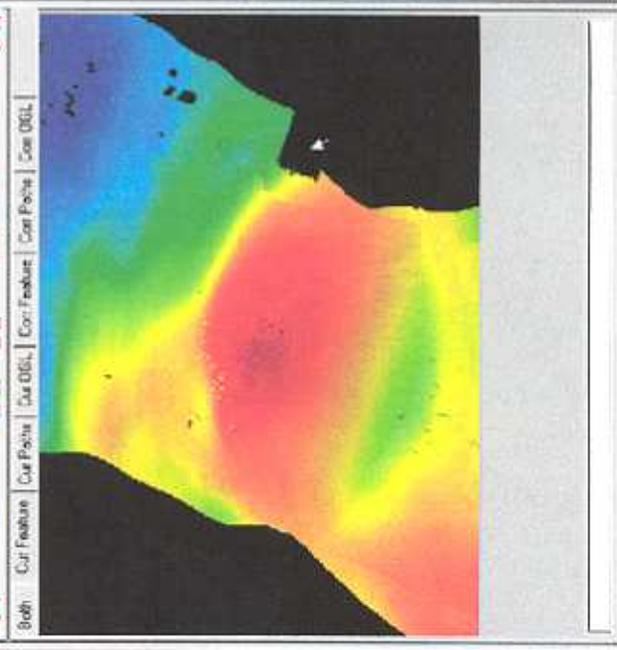
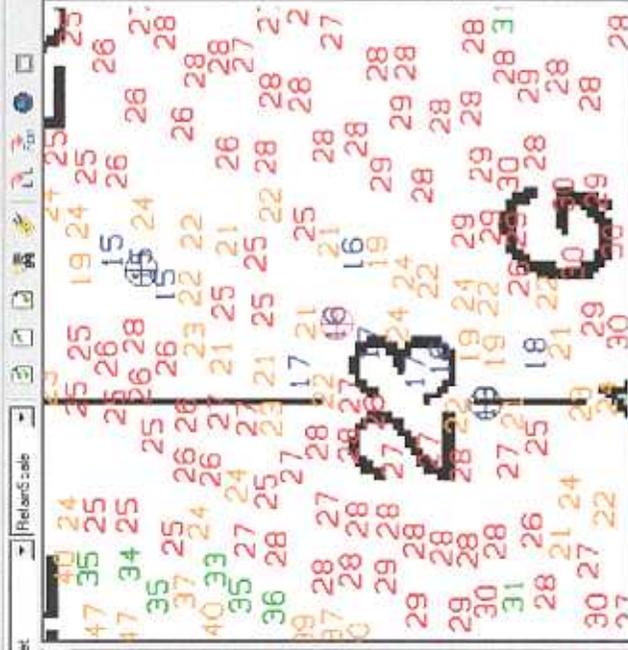
Corresponding 100% SSS

Note missing data on feature, due to survey geometry. Using 25m line spacing, full bottom coverage was not acquired. However, 100% SSS indicates that the feature is no shaller than the least depth acquired using SWMB

DfoN #7

C Tools | New Features | AWDIS

- Features
- D Table
- Primary
- Submitted
- R:\6503\w00_mb\2003-112\900_1706
122457194
- R:\6503\w00_mb\2003-112\946_2040
4327
- 776-240
- R:\6503\w00_mb\2003-111\938_1828
2237
- R:\6503\w00_mb\2003-112\945_2036
764-240
- 1302708
- R:\6503\w00_mb\2003-112\943_2025
187271
- R:\6503\w00_mb\2003-112\941_2022
1154-94
873-236
- Unsubmitted



Details | Remarks | Recommendations | Office Notes

\$57 **Current Features from DfoNometry** Status Primary

Line: h:\6503\w00_mb\2003-112\941_2022

Time: 2003-11-20 2:41:2.695 Profile: 1154 Beam: 94

Position: 58.721165557, -075.439308767

In Bathymetry Depth: 4.98 meters Tides: 1.51 m

(Surrounding Depth): 8.13 meters (Height): 1.15 m

Researched Report OK Available

Office QC Notes Signatures Submitted G (E-works)

Diapline: 1154-94



- Showing contact 1302708
- Showing Early Features
- Showing contact 2237
- Showing contact 0000
- Showing contact 0000
- Showing Early Features
- Showing contact 754-240
- Showing contact 0001
- Showing contact 0001
- Showing Early Features
- Showing contact 1302708
- Showing contact 776-240
- Showing Early Features
- Showing contact 187271
- Showing Early Features
- Showing contact 1154-94
- Showing Early Features

E. Approval Sheet

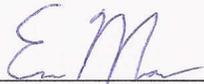
F00490
Delaware River
Delaware and New Jersey

Field operations for this Field Examination were conducted under my daily supervision with frequent checks of progress and adequacy. All field sheets, this Project Report, and accompanying records and data are approved.

This survey is adequate for application to the relevant NOS nautical charts.

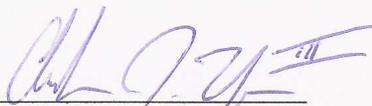
Respectfully,

Submitted:

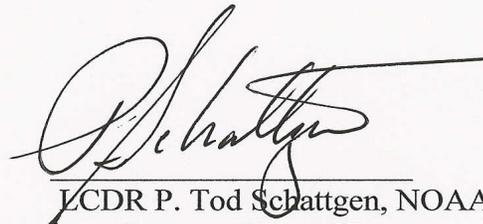


Eric Moore
Senior Survey Technician

Forwarded and Approved:



LTJG Charles J. Yoos, NOAA
Field Operations Officer



LCDR P. Tod Schattgen, NOAA
Commanding Officer



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SERVICE
Silver Spring, Maryland 20910

TIDE NOTE FOR HYDROGRAPHIC SURVEY

DATE: June 23, 2004

HYDROGRAPHIC BRANCH: Atlantic
HYDROGRAPHIC PROJECT: S-D903-RU-2003
HYDROGRAPHIC SHEET: F00490

LOCALITY: Delaware River, DE, PA & NJ
TIME PERIOD: April 15 - 28, 2003

TIDE STATION USED: 854-0433 Marcus Hook, PA
Lat. 39° 48.7'N Lon. 75° 24.7'W
PLANE OF REFERENCE (MEAN LOWER LOW WATER): 0.000 meters
HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE: 1.718 meters

TIDE STATION USED: 854-5240 Philadelphia, PA
Lat. 39° 56.0'N Lon. 75° 8.5'W
PLANE OF REFERENCE (MEAN LOWER LOW WATER): 0.000 meters
HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE: 1.887 meters

REMARKS: RECOMMENDED ZONING
Use zone(s) identified as: DB38, DB39, DB40, DB41, DB42, DB43,
DB44, DB46, DB47, DB49 & DB50.

Refer to attachments for zoning information.

Note 1: Provided time series data are tabulated in metric units
(meters), relative to MLLW and on Greenwich Mean Time on
the new 1983-2001 National Tidal Datum Epoch (NTDE).

For 

CHIEF, REQUIREMENTS AND DEVELOPMENT DIVISION

**ATLANTIC HYDROGRAPHIC BRANCH
EVALUATION REPORT FOR F00490(2003)**

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.

B. DATA ACQUISITION AND PROCESSING

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

Hydrographic Processing System
MicroStation J, version 07.01.04.16
I/RAS B, version 07.01.000.18
MapInfo, version 6.5
CARIS HIPS/SIPS 5.3
PYDRO, version 3.7.1

The smooth sheet was plotted using a Hewlett Packard DesignJet 2500CP plotter.

JUNCTIONS

There are no junctional surveys. Present survey depths are in harmony with the charted hydrography..

C. HORIZONTAL CONTROL

Horizontal control used for this survey during data acquisition is based upon the North American Datum of 1983 (NAD83), UTM Zone 18N. Office processing of this survey is based on these values.

D. COMPARISON WITH Chart  12311 (43rd Edition, Jul /04)
12312 (52nd Edition, Jan /03)
12313 (50th Edition, Jul /04)

Hydrography

The charted hydrography originates with the prior surveys and requires no further consideration. A comparison with prior surveys was not done during office processing in accordance with section 4. of the memorandum titled, "Changes to Hydrographic Survey Processing", dated May 24, 1995. The hydrographer makes adequate chart comparisons in section D. of the Descriptive Report. The following should be noted:

- 1) An uncharted dangerous submerged rock with a least

depth of 19 feet was found by the present survey in Latitude 39°57'20.08"N, Longitude 75°07'53.42"W. It is recommended that a dangerous 19 Rk be charted in the above location.

2) A charted note "35 FT DEC 1998 - MAY 2002 in Latitude 39°58'39.93"N, Longitude 75°04'59.97"W was partially disproved by the present survey. It is recommended that the area be updated with present survey soundings and the limits be redrawn and the note referenced to areas not covered by the present survey in the vicinity of Latitude 39°58'37.88"N, Longitude 75°04'59.97"W.

3) An uncharted dangerous submerged rock with a least depth of 18 feet was found by the present survey in Latitude 39°57'28.21"N, Longitude 75°07'46.71"W. It is recommended that a dangerous 18 Rk be charted in the above location.

4) Eleven rocks were found in the Cherry Island Region in the vicinity of Latitude 39°43'23.75"N, Longitude 75°29'55.31"W, ranging from 13-15ft. Eight of these were submitted as Dangers to Navigation. Five (5) of the eight(8) have been charted on the current edition of NOS Chart 12311, (43rd Edition, Jul /04). It is recommended that minor changes be made to the existing chart in the vicinity of the 18 foot contour. It is further recommended that the Cherry Island Region in the vicinity of Latitude 39°43'23.75"N, Longitude 75°29'55.31"W be charted the same when updating NOS chart 12312 52nd Edition, Jan /03.

5) An uncharted dangerous submerged rock with a least depth of 17 feet was found by the present survey in New Castle Flats in Latitude 39°40'16.10"N, Longitude 75°32'10.53"W. It is recommended that a dangerous 17 Rk be charted in the above location.

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

Dangers to Navigation

One Danger To Navigation Report was submitted to the Marine Chart Division, N/CS3x1, Silver Spring, Maryland. A copy of this report is appended in the Descriptive Report.

CONTROLLING DEPTHS

A. Delaware River Channel (NOS Chart 12313 and 12312)

1.) No conflicts exist between present survey data and the charted 40 FT PROJECT CHANNEL notation in the area centered in Latitude 39°58'14.98"N, Longitude 75°06'39.11"W. No changes to charting are recommended.

2.) No conflicts exist between present survey data and the charted 40 FT PROJECT CHANNEL notation in the area centered in Latitude 39°57'24.55"N, Longitude 75°08'05.39"W. No changes to charting are recommended.

3.) No conflicts exist between present survey data and the charted 40 FT PROJECT CHANNEL notation in the Eagle Point Range Channel in the area centered in Latitude 39°52'58.58"N, Longitude 75°11'21.07"W. No changes to charting are recommended.

4.) Three conflicts exist between present survey data and the tabulated controlling depth of 42.2 feet in the left outside quarter of the Fisher Point Range Channel. A 39 foot depth is located in Latitude 39°58'31.23"N, Longitude 75°05'36.51"W. Another 39 foot depth is located in Latitude 39°58'31.87"N, Longitude 75°05'34.63"W. A 40 foot depth is located in Latitude 39°58'35.33"N, Longitude 75°05'06.57"W. It is recommended that the present survey depths be charted until the tabulation can be corrected or the channel dredged.

5.) A conflict exists between present survey data and the tabulated controlling depth of 41.9 feet in the left outside quarter of the Fisher Channel. A 39 foot depth is located in Latitude 39°58'38.49"N, Longitude 75°04'45.68"W. It is recommended that the present survey depth be charted until the tabulation can be corrected or the channel dredged.

6.) Two conflicts exist between present survey data and the tabulated controlling depth of 41.3 feet in the right outside quarter of the Fisher Point Range Channel. A 39 foot depth is located in Latitude 39°58'28.47"N, Longitude 75°05'30.47"W. A 40 foot depth is located in Latitude 39°58'28.30"N, Longitude 75°05'33.22"W. It is recommended that the present survey depths be charted until the tabulation can be corrected or the channel dredged.

B. Schuylkill River Channel (NOS Chart 12313 and 12312)

1.) No conflicts exist between present survey data and the tabulated controlling depth in Channel 1. No changes to charting are recommended.

2.) A conflict exists between present survey data and the tabulated controlling depth in Channel 2 in the left outside quarter in the vicinity of Latitude 39°53'10.78"N, Longitude 75°11'43.90"W. The present survey depth is 31 feet and the tabulated controlling depth is 32 feet. It is recommended that the present survey depth be charted until the tabulation can be corrected or the channel dredged.

3.) Conflicts exist between present survey data and the charted 29 FT MAR 2002 notation in the area centered in Latitude 39°53'02.69"N, Longitude 75°11'44.38"W on NOS Chart 12312. There is a 27 foot and a 19 foot present survey depth within the channel limits in the vicinity of Latitude 39°53'11.16"N, Longitude 75°11'39.39"W. It is recommended that the notation be changed to 27 FT MAY 2003 and that the 19 ft depth be charted in the present survey location.

C. Deepwater Point Range Channel (NOS Chart 12311)

1.) No conflicts exist between present survey data and the tabulated controlling depths of 38.6 feet in the left outside quarter and 40.9 feet in the left inside quarter of the Deepwater Point Range Channel. No changes to charting are recommended.

D. Cherry Island Range Channel (NOS Chart 12311 and 12312)

1.) No conflicts exist between present survey data and the tabulated controlling depths of 43.3 feet in the left outside quarter, 44.1 feet in the left inside quarter, 43.5 feet in the right inside quarter and 42.5 feet in the right outside quarter of the Cherry Island Range Channel. No changes to charting are recommended.

E. Marcus Hook Range Channel (NOS Chart 12312)

1.) No conflicts exist between present survey data and the tabulated controlling depths of 40.8 feet in the left outside quarter and 41.3 feet in the left inside quarter of the Marcus Hook Range Channel. No changes to charting are recommended.

F. Eddystone Range Channel (NOS Chart 12312)

1.) No conflicts exist between present survey data and the tabulated controlling depth of 41.1 feet in the left outside quarter of the Eddystone Range Channel. No changes to charting are recommended.

MISCELLANEOUS

Chart compilation was done by Atlantic Hydrographic Branch personnel, in Norfolk, Virginia. Compilation data will be forwarded to Marine Chart Division, Silver Spring, Maryland.



<u>12311 (43rd Edition, Jul /04)</u>	<u>1:40,000</u>
<u>12312 (52nd Edition, Jan /03)</u>	<u>1:40,000</u>
<u>12313 (50th Edition, Jul /04)</u>	<u>1:15,000</u>

ADEQUACY OF SURVEY

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

A handwritten signature in blue ink that reads "Reginald L. Keene Sr." with a stylized flourish at the end.

Reginald L. Keene Sr.

Cartographer

Verification of Field Data

Evaluation and Analysis

APPROVAL SHEET
H00490

The completed survey has been inspected with regard to survey coverage, delineation of depth curves, development of critical depths, cartographic symbolization, and verification or disproval of charted data. 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.



Reginald L. Keene Sr.
Cartographer,
Atlantic Hydrographic Branch

Date: 9/21/05

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.



Approved:

P. Tod Schattgan
LT. Commander, NOAA
Chief, Atlantic Hydrographic Branch

Date: 8/20/05

75° 32'00"

75° 31'30"

75° 31'00"



39° 41'00"

39° 40'30"

F00490
 NEW JERSEY — DELAWARE
 DELAWARE RIVER
 NEW CASTLE TO PORT RICHMOND
 SCALE: 1:10,000
 MAY 31, 2003
 NORTH AMERICAN DATUM OF 1983
 SOUNDINGS IN FEET AT MLLW
 SHEET 1 OF 8

39° 40'00"

75° 32'00"

75° 31'30"

75° 31'00"

75° 30'30"

75° 30'00"

75° 29'30"

39° 43'30"

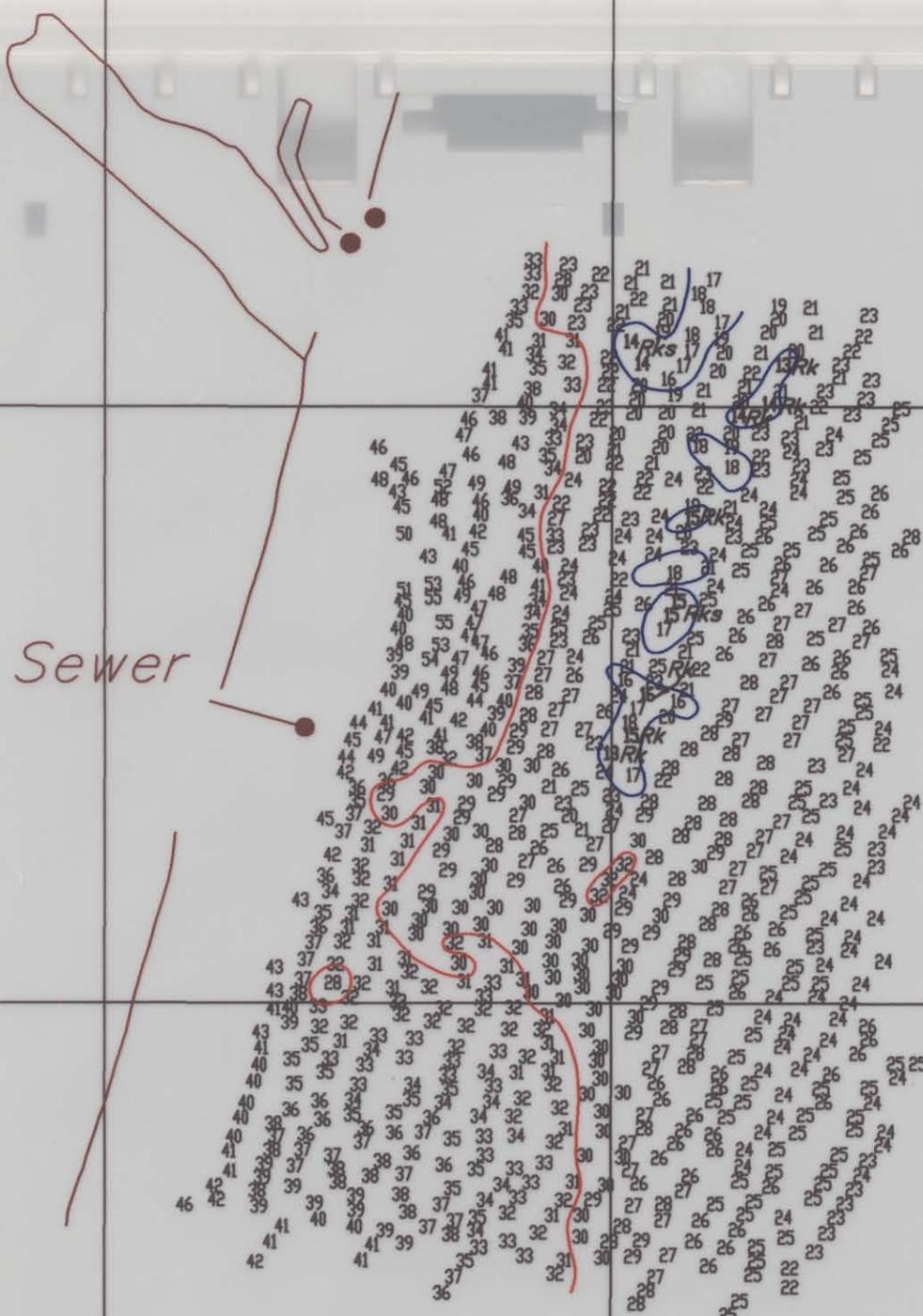
39° 43'00"

39° 42'30"

75° 30'30"

75° 30'00"

75° 29'30"



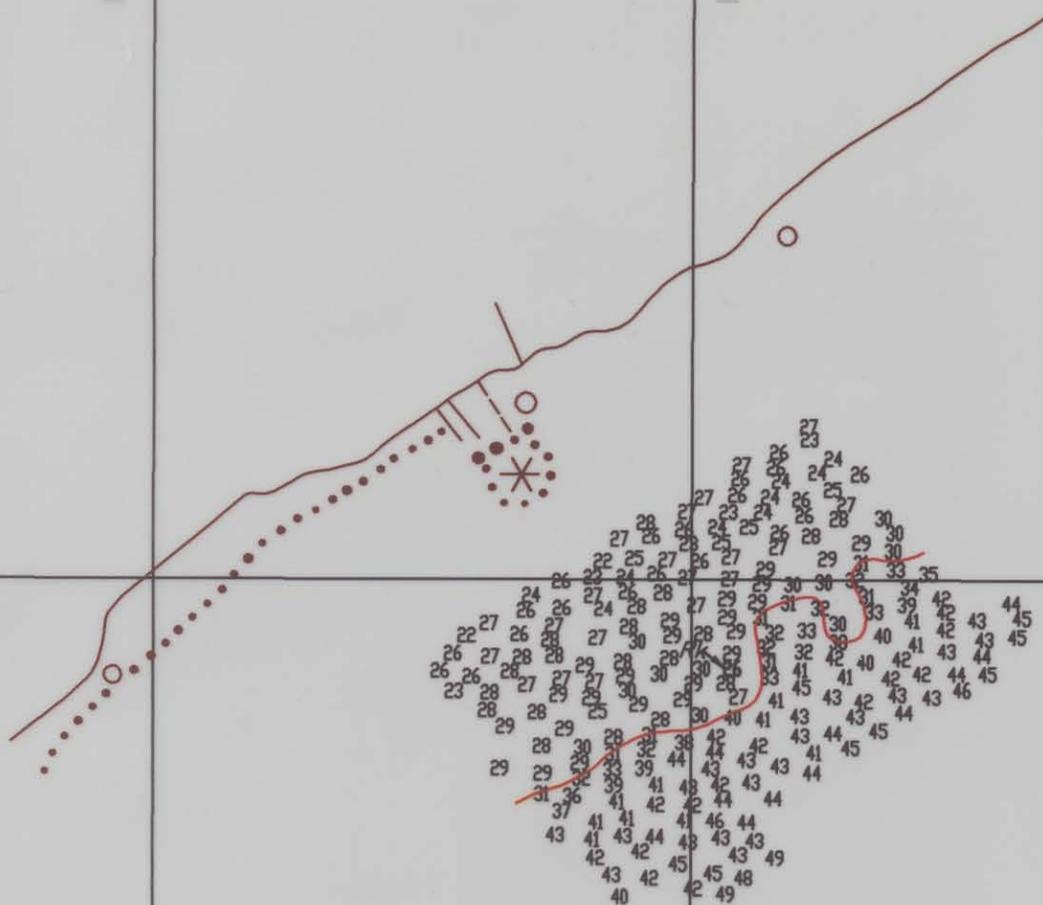
FO0490
 NEW JERSEY -- DELAWARE
 DELAWARE RIVER
 NEW CASTLE TO PORT RICHMOND
 SCALE: 1:10,000
 MAY 31, 2003
 NORTH AMERICAN DATUM OF 1983
 SOUNDINGS IN FEET AT MLLW
 SHEET 2 OF 8

75° 27'30"

75° 27'00"

75° 26'30"

39° 48'00"



39° 47'30"

39° 47'00"

F00490
 NEW JERSEY — DELAWARE
 DELAWARE RIVER
 NEW CASTLE TO PORT RICHMOND
 SCALE: 1:10,000
 MAY 31, 2003
 NORTH AMERICAN DATUM OF 1983
 SOUNDINGS IN FEET AT MLLW
 SHEET 3 OF 8

75° 27'30"

75° 27'00"

75° 26'30"

75° 26'30"

75° 26'00"

75° 25'30"

75° 25'00"

75° 24'30"

75° 24'00"

39° 49'00"

39° 48'30"

75° 26'30"

39° 48'00"

39° 48'00"

75° 26'30"

75° 26'00"

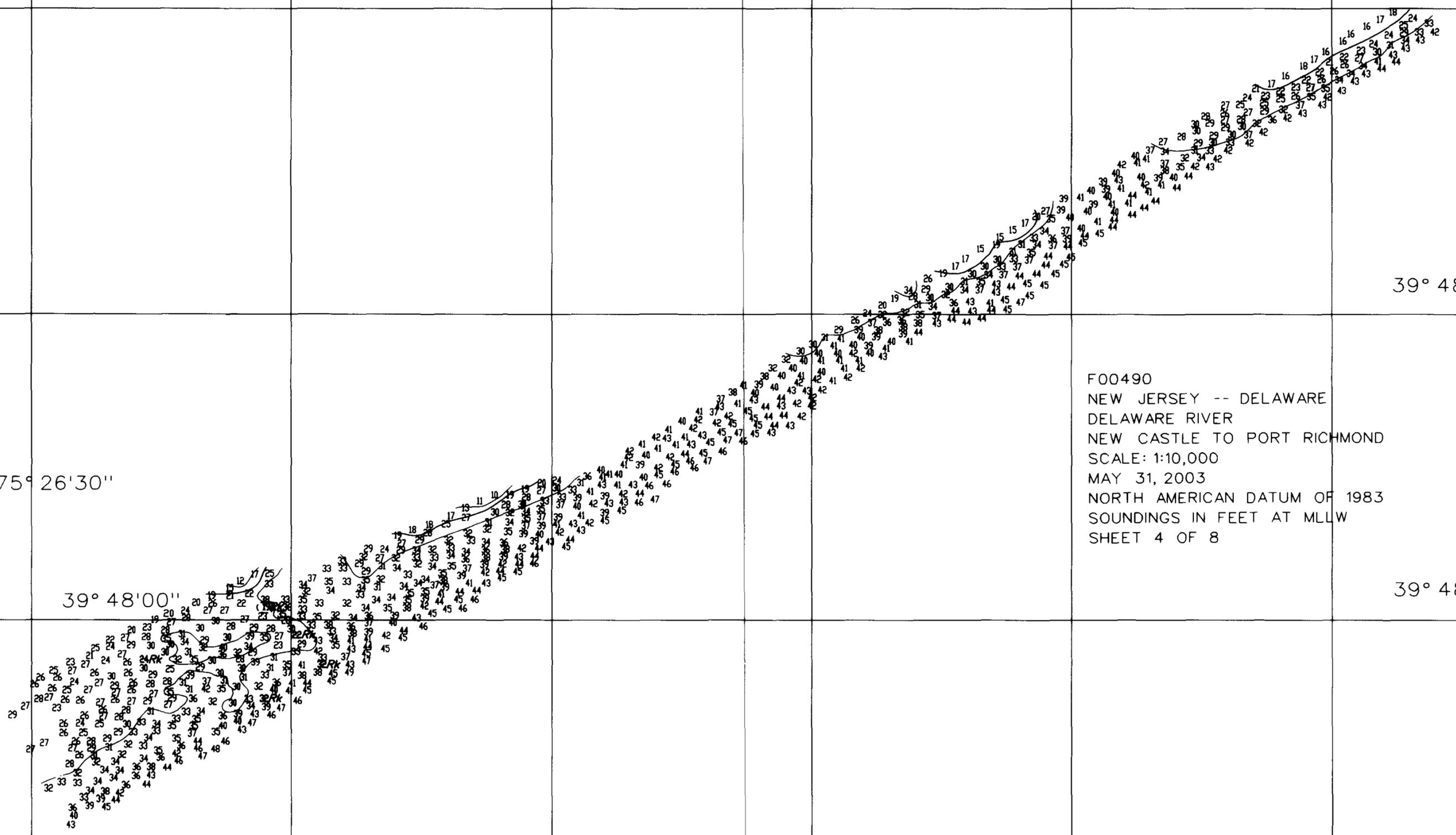
75° 25'30"

75° 25'00"

75° 24'30"

75° 24'00"

F00490
 NEW JERSEY -- DELAWARE
 DELAWARE RIVER
 NEW CASTLE TO PORT RICHMOND
 SCALE: 1:10,000
 MAY 31, 2003
 NORTH AMERICAN DATUM OF 1983
 SOUNDINGS IN FEET AT MLLW
 SHEET 4 OF 8



75° 26'30"

75° 26'00"

75° 25'30"

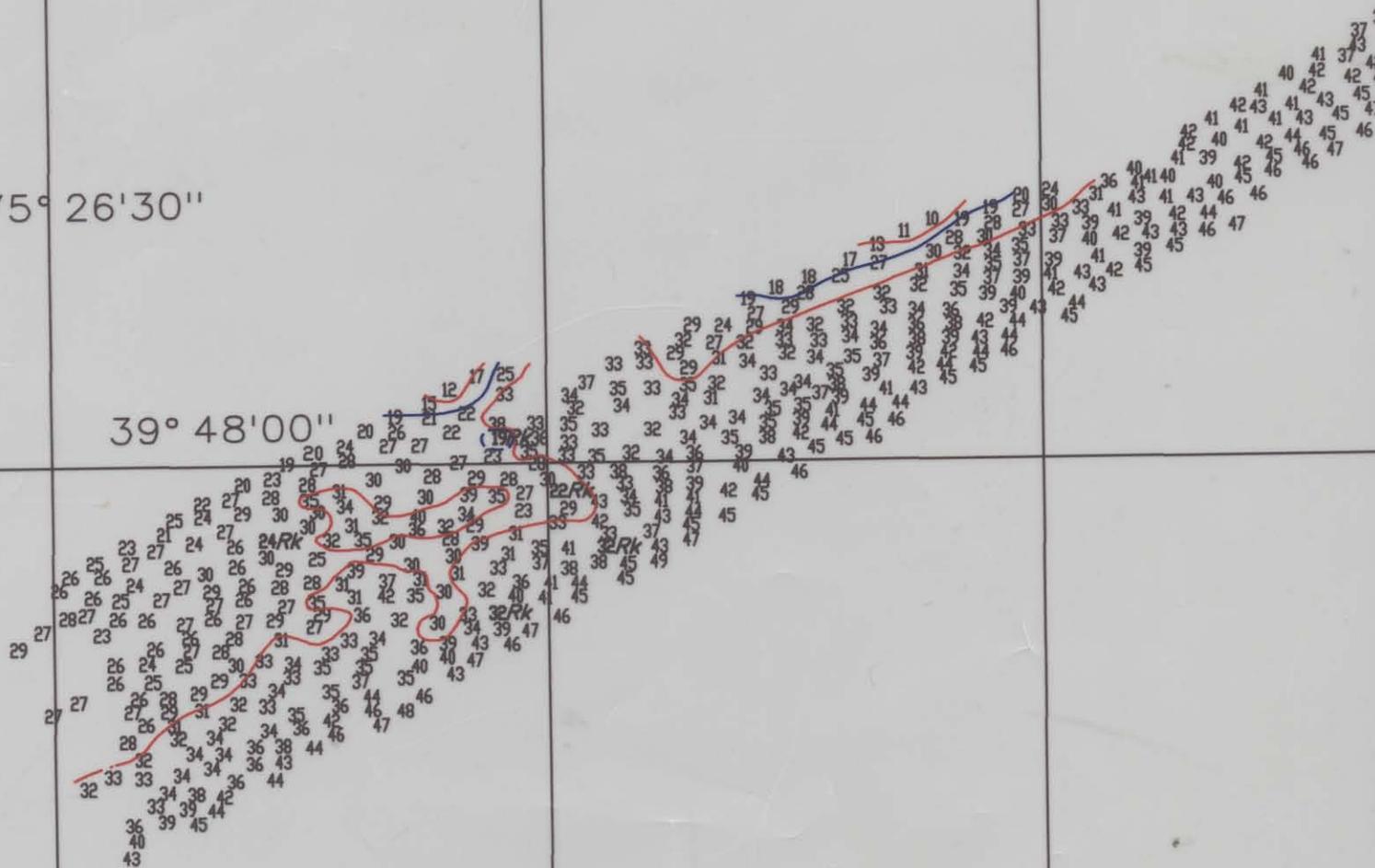
75° 26'30"

39° 48'00"

75° 26'30"

75° 26'00"

75° 25'30"



75° 21'00"

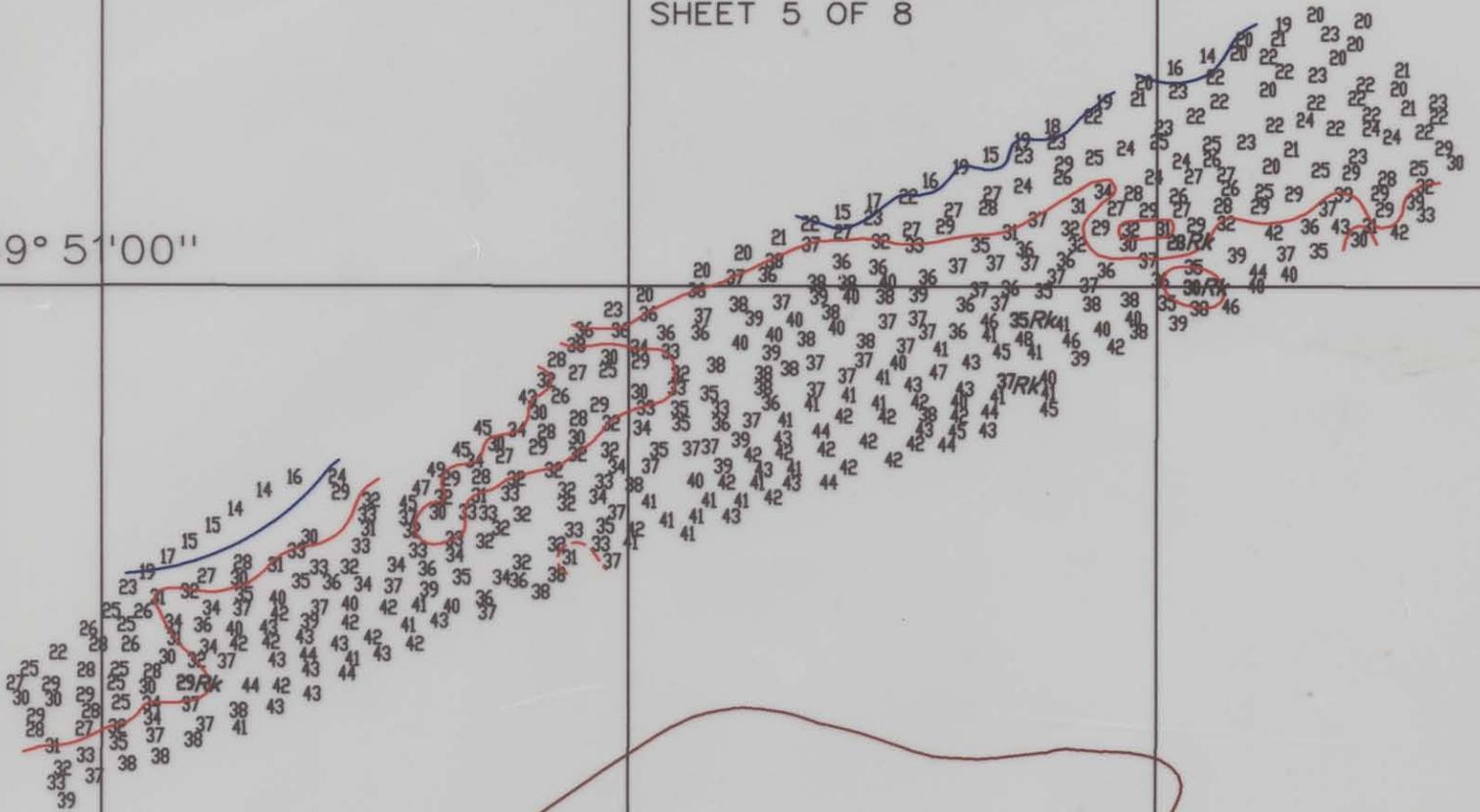
75° 20'30"

75° 20'00"

39° 51'30"

F00490
 NEW JERSEY -- DELAWARE
 DELAWARE RIVER
 NEW CASTLE TO PORT RICHMOND
 SCALE: 1:10,000
 MAY 31, 2003
 NORTH AMERICAN DATUM OF 1983
 SOUNDINGS IN FEET AT MLLW
 SHEET 5 OF 8

39° 51'00"



39° 50'30"

Chester Island

75° 21'00"

75° 20'30"

75° 20'00"

75° 12'00"

75° 11'30"

75° 11'00"

39° 53'30"

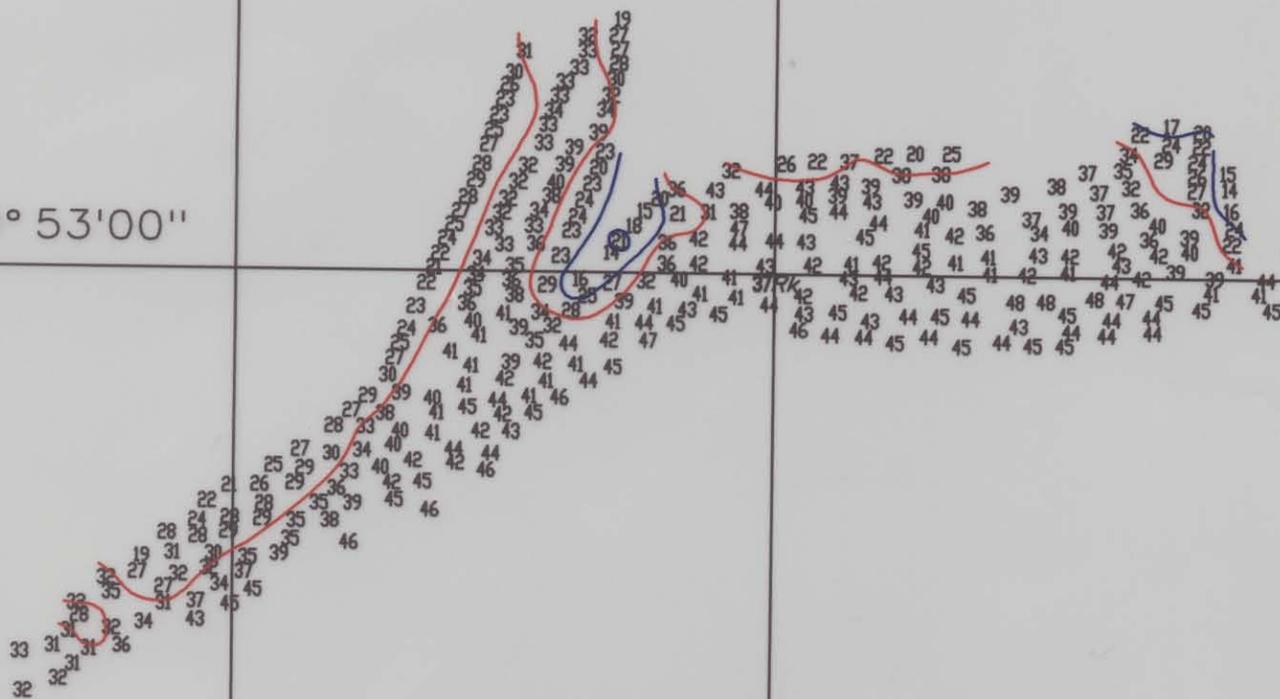
39° 53'30"

39° 53'00"

39° 53'00"

39° 52'30"

39° 52'30"



F00490
 NEW JERSEY — DELAWARE
 DELAWARE RIVER
 NEW CASTLE TO PORT RICHMOND
 SCALE: 1:10,000
 MAY 31, 2003
 NORTH AMERICAN DATUM OF 1983
 SOUNDINGS IN FEET AT MLLW
 SHEET 6 OF 8

75° 12'00"

75° 11'30"

75° 11'00"

75° 08'30"

75° 08'00"

75° 07'30"

75° 07'00"

75° 06'30"

75° 06'00"

39° 58'00"

39° 57'30"

39° 57'30"

39° 57'00"

39° 57'00"

75° 08'30"

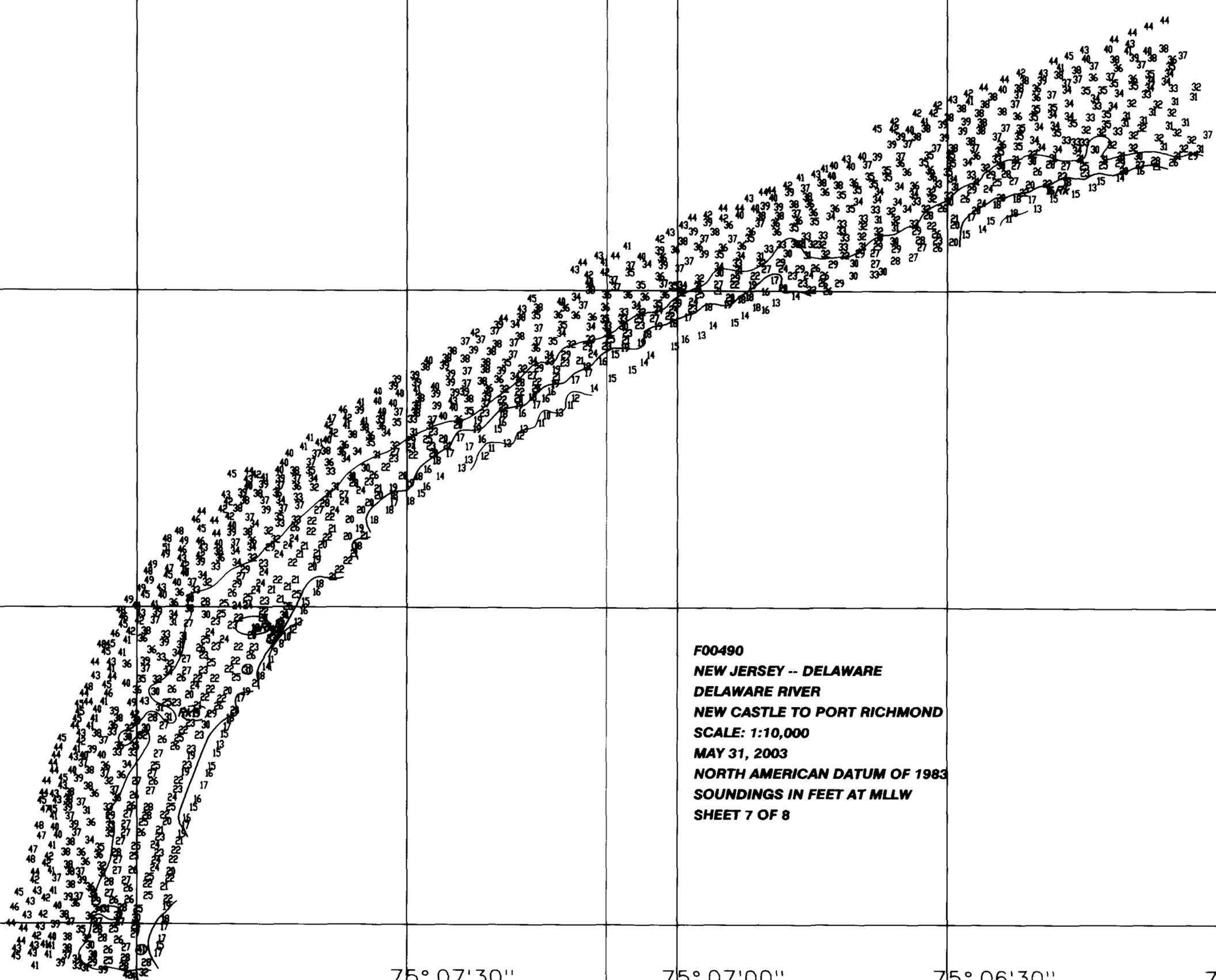
75° 08'00"

75° 07'30"

75° 07'00"

75° 06'30"

75° 06'00"



F00490
NEW JERSEY -- DELAWARE
DELAWARE RIVER
NEW CASTLE TO PORT RICHMOND
SCALE: 1:10,000
MAY 31, 2003
NORTH AMERICAN DATUM OF 1983
SOUNDINGS IN FEET AT MLLW
SHEET 7 OF 8

75° 08'30"

75° 08'00"

75° 07'30"

39° 58'00"

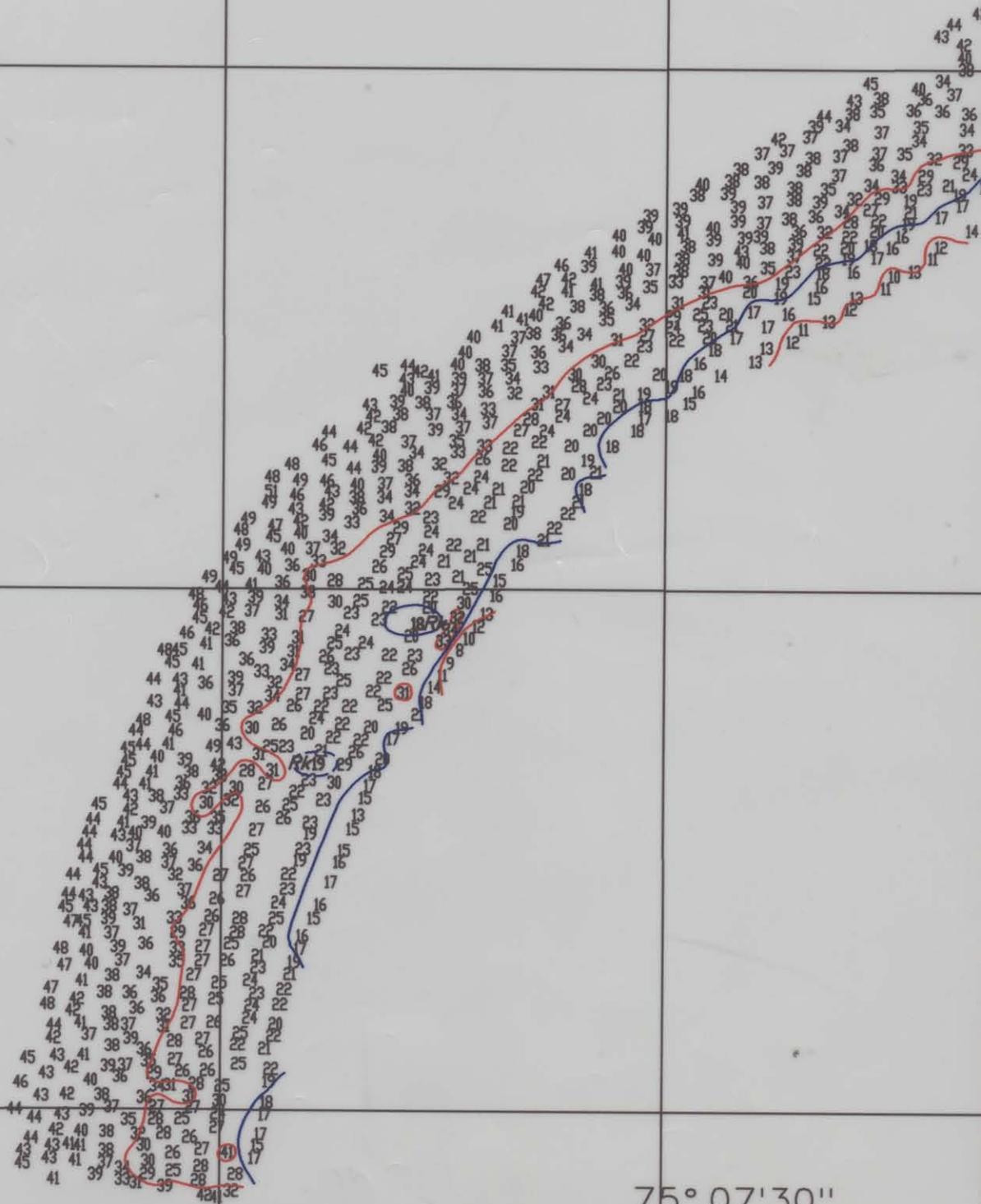
39° 57'30"

39° 57'00"

75° 08'30"

75° 08'00"

75° 07'30"



75° 06'00"

75° 05'30"

75° 05'00"

75° 04'30"

75° 04'00"

75° 03'30"

39° 59'00"

39° 59'00"

39° 58'30"

39° 58'30"

39° 58'00"

39° 58'00"

75° 06'00"

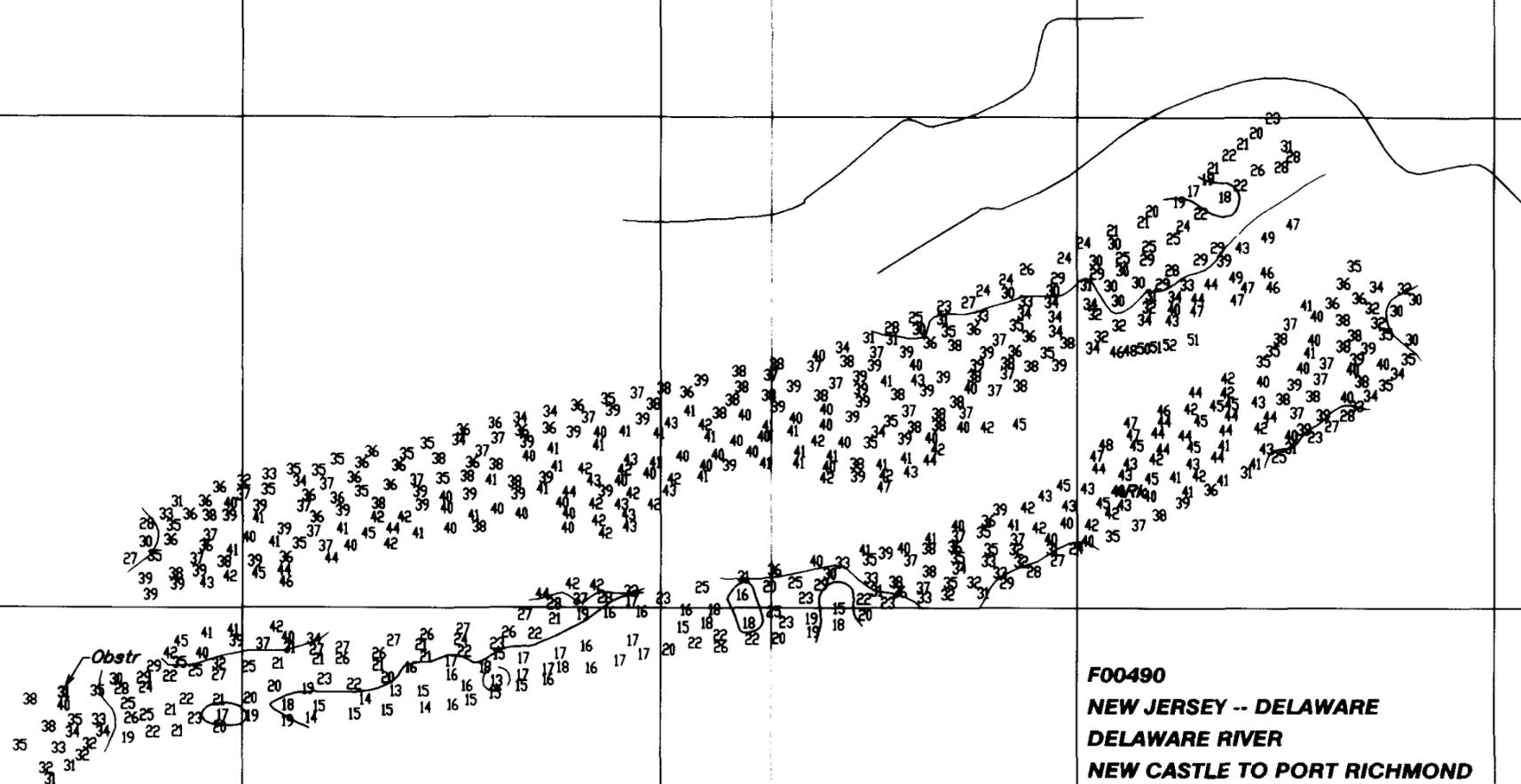
75° 05'30"

75° 05'00"

75° 04'30"

75° 04'00"

75° 03'30"



F00490
NEW JERSEY -- DELAWARE
DELAWARE RIVER
NEW CASTLE TO PORT RICHMOND
SCALE: 1:10,000
MAY 31, 2003
NORTH AMERICAN DATUM OF 1983
SOUNDINGS IN FEET AT MLLW
SHEET 8 OF 8

75° 05'00"

75° 04'30"

75° 04'00"



F00490

NEW JERSEY -- DELAWARE

DELAWARE RIVER

NEW CASTLE TO PORT RICHMOND

SCALE: 1:10,000

MAY 31, 2003

NORTH AMERICAN DATUM OF 1983

SOUNDINGS IN FEET AT MLLW

SHEET 8 OF 8

75° 05'00"

75° 04'30"

75° 04'00"