

F00474

NOAA FORM 76-35A

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

DESCRIPTIVE REPORT

Type of Survey **Hydrographic/Side Scan Sonar**

Registry No. **F00474**

LOCALITY

State Maryland

General Locality Chesapeake Bay

Sub-locality Magothy River Entrance

2001-2002

CHIEF OF PARTY
Lawrence T. Krepp, LT, NOAA

LIBRARY & ARCHIVES

DATE

NOAA FORM 77-28
(11-72)

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

REGISTRY NUMBER:

HYDROGRAPHIC TITLE SHEET

F00474

INSTRUCTIONS: The Hydrographic Sheet should be accompanied by this form, filled in as completely as possible, when the sheet is forwarded to the Office.

State: **Maryland**

General Locality: **Chesapeake Bay, ~~Maryland~~**

Sub-Locality: **Magothy River Entrance**

Scale: **1:10,000** Date of Survey: **04/23/01 and 03/18/02**

Instructions Dated: **03/26/99** Project Number: **OPR-E346-BH**

Vessel: **NOAA S/V Bay Hydrographer**

Chief of Party: **Lieutenant Lawrence T. Krepp, NOAA**

Surveyed by: **Bay Hydrographer Personnel**

Soundings by: **Knudson 320M Marine Echosounder**
Odom Echotrac DF3200 MK II Echosounder

Graphic record scaled by: **Bay Hydrographer Personnel**

Graphic record checked by: **Bay Hydrographer Personnel**

Protracted by: **N/A** Automated Plot: **HP-750C (*field*)**
Hewlett Packard Design Jet 2500CP (office)

Verification by: **Atlantic Hydrographic Branch *Personnel***

Soundings in: **Feet at MLLW**

Remarks: ***Red notes in Descriptive Report were made during office processing.***

- 1) All Times are UTC.***
- 2) This is a basic Hydrographic Survey.***
- 3) Projection is UTM Zone 18.***

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DESCRIPTIVE REPORT
to accompany
HYDROGRAPHIC SURVEY F00474

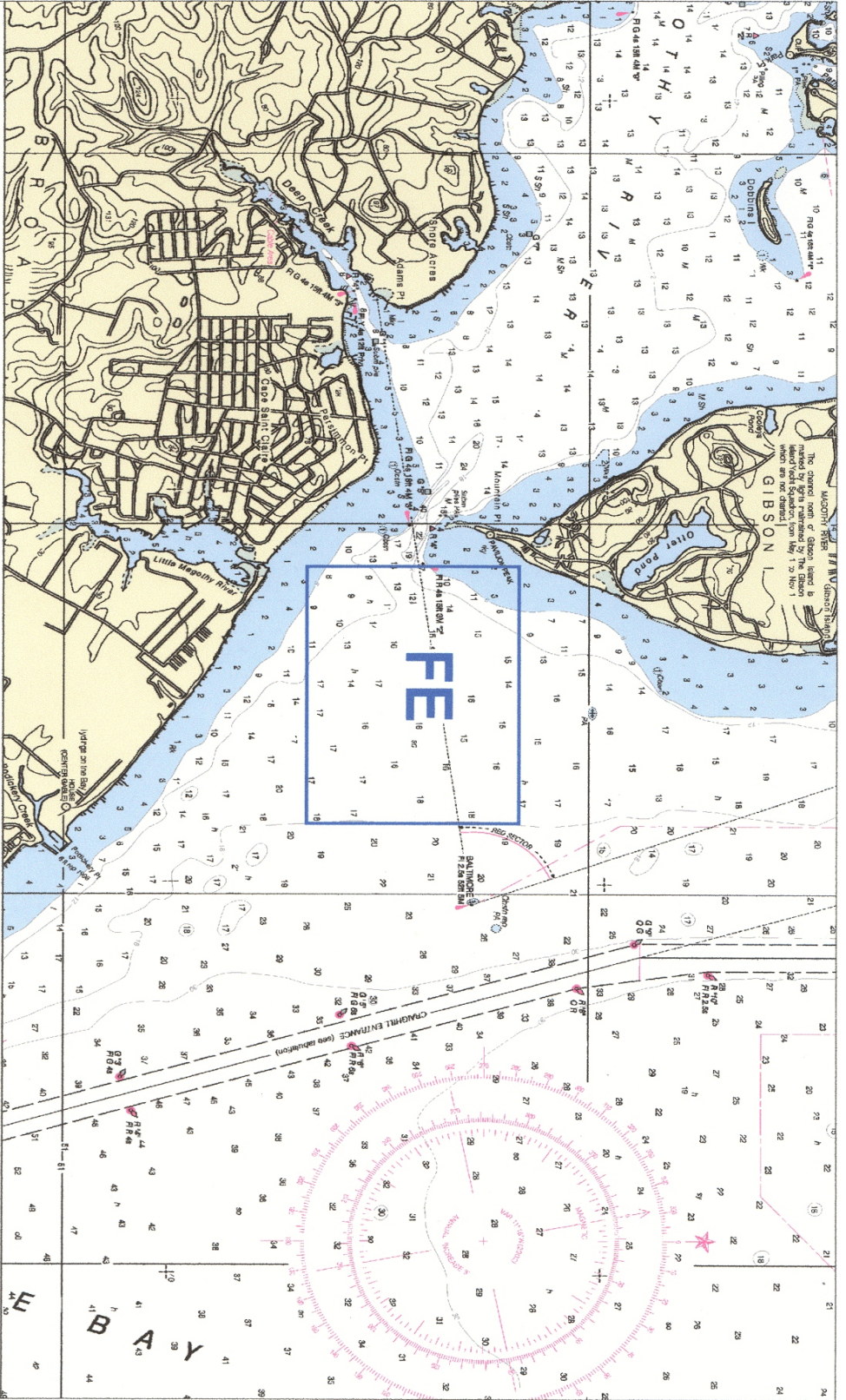
Scale of Survey: 1:10,000
Year of Survey: 2001-2002
NOAA S/V Bay Hydrographer
LT Lawrence T. Krepp, Officer in Charge

A. AREA SURVEYED

This hydrographic survey was conducted in accordance with Hydrographic Survey Letter Instructions for project OPR-E346-BH, Northern Chesapeake Bay, Maryland dated March 26, 1999 as amended by change No. 3 March 26, 1999.


The area surveyed for F00474 covers the Magothy River Entrance. This survey creates a seamless data set between surveys H11026 and H10622.

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



This chartlet has NOT corrected through the latest Notice to Mariners. NOT FOR NAVIGATION.

Chartlet 1 of 1

	<p style="text-align: center;">NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION NATIONAL OCEAN SERVICE</p>	<p>Project: OPR-E3#6-BH Survey: FE00474 State: Maryland Locality: Upper Chesapeake Bay Sub-locality: Magothy River Entrance Survey Scale: 1:10,000</p>	<p>Sounding Units: Feet Sounding Datum: MLLW Horizontal Datum: WGS 84 Projection: UTM 18 Central Meridian: 075° 00 00 Scale Factor: 0.9996</p>	<p style="text-align: center;">BAY HYDROGRAPHER LT Krepp Officer in Charge April 23, 2001 to March 18, 2002</p>
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B. DATA ACQUISITION AND PROCESSING *See Also The Evaluation Report*

EQUIPMENT

All Data were acquired by NOAA S/V BAY HYDROGRAPHER.

BAY HYDROGRAPHER is a 56 foot vessel drafting 5 feet. BAY HYDROGRAPHER acquired side scan sonar (SSS), and sound velocity data. Positioning was determined with a Trimble DSM212L integrated differential GPS receiver. Attitude was determined with a TSS DMS-05 attitude sensor. Side scan sonar data were acquired with an Edgetech 272-T towed side scan sonar and a Klein 5500 High Speed High Resolution Side Scan Sonar. Velocity casts were conducted with a SeaBird SeaCat CTD instrument.

No unusual vessel configurations or problems were encountered. Refer to the Data Acquisition and Processing Report (DAPR)* for detailed equipment and vessel configuration information

QUALITY CONTROL

Side Scan Sonar Quality Control

A confidence check was made by observing the outer ranges of the side scan sonar images. A good check consisted of distinguishing contacts across the entire range of the side scan trace. No unusual problems were encountered.

** Data filed with original field records.*

Shallow Water Multibeam Quality Control

Shallow Water Multibeam was not needed during the course of this survey. Zero contacts were found during data collection and processing of survey F00474.

Crosslines

Crosslines were not completed for this survey.

Junctions

F00474 junctions with H10622, a Magothy River survey completed in 1995, and H11026, a survey completed in 2002. Agreement between F00474 and the surveys noted above is acceptable. The majority of compared soundings fell within 1 foot of each other.

CORRECTIONS TO ECHO SOUNDING

All methods or instruments were used as described in the project DAPR *. A table detailing all sound velocity casts is located in Separate III.*

** Data filed with original field records.*

C. VERTICAL AND HORIZONTAL CONTROL

VERTICAL CONTROL

The tidal datum for this project is Mean Lower Low Water (MLLW). The operating tide station at Tolchester, MD (857-3364) served as control for datum determination.

Tidal zoning for this survey is consistent with the Letter Instructions. The zone data applicable for this survey is as follows.

STATION	CORRECTOR (min)	RATIO	REFERENCE
NCB94	-60	x0.84	857-3364

A Request for Approved Tides letter was sent to N/OPS1 on January 28, 2003 (Appendix IV). Verified tides from the N/OPS1 CO-OPS website were downloaded on November 7, 2002 and applied to all sounding data. * *Approved tides and zones were reapplied to the survey in CARIS during office processing.*

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 were Annapolis and Cape Henlopen. Horizontal control stations were not used for this survey.

In addition to performance checks, horizontal dilution of precision (HDOP) and the positional dilution of precision (PDOP) were monitored daily within Hypack. Neither value exceeded 4.00, and adequate satellite coverage was maintained throughout the survey period.

D. RESULTS AND RECOMMENDATIONS *See Also The Evaluation Report*

CHART COMPARISON

There are three charts affected by this survey:

12273, 53rd edition, April 13, 2002, 1:80,000

12278, 72nd edition, April 20, 2002, 1:40,000

12282, 33rd edition, June 13, 2002, 1:25,000

General Agreement with Charted soundings

Sounding data agreed well with charted depths. *Concur*

Shoaling Trends

Significant shoaling was not noticed during the course of this survey. *Concur*

Deepening Trends

Significant deepening was not noticed during the course of this survey. *Concur*

AWOIS Item Investigations

There are no AWOIS items located within the survey limits. *Concur*

Charted Features

There are no new charted features in the surveyed area. *Concur*

Charting Recommendations

The Hydrographer recommends charting present survey soundings within the survey area.
Concur

ADDITIONAL RESULTS

Aids to Navigation and Other Detached Positions

Aids to navigation were not positioned during this survey. There were no aids to navigation surveyed that did not appear on the chart or in the Light List. *Concur*

Submarine Cables and Pipelines

No submarine cables or pipelines were identified within the survey limits. *Concur*

E. APPROVAL SHEET

**OPR-E346-BH
Chesapeake Bay
Maryland**

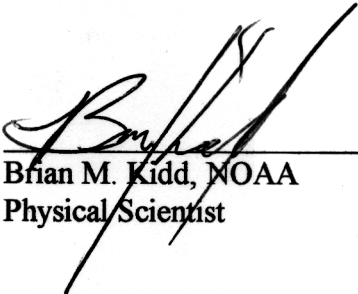
**Magothy River Entrance
Survey Registry No. FE00474**

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

This survey is adequate to supersede all prior surveys in common areas, and for application to the relevant NOS nautical charts.

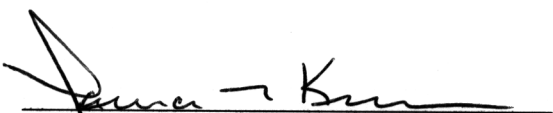
Respectfully,

Submitted:



Brian M. Kidd, NOAA
Physical Scientist

Approved and Forwarded:



LT. Lawrence T. Krepp, NOAA
Officer in Charge



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

TIDE NOTE FOR HYDROGRAPHIC SURVEY

DATE: February 10, 2003

HYDROGRAPHIC BRANCH: Atlantic
HYDROGRAPHIC PROJECT: OPR-E346-BH-2001
HYDROGRAPHIC SHEET: FE00474

LOCALITY: Magothy River, MD
TIME PERIOD: April 23, 2001 - March 18, 2002

TIDE STATION USED: 857-3364 Tolchester, MD
Lat. 39° 12.8'N Lon. 76° 14.7'W
PLANE OF REFERENCE (MEAN LOWER LOW WATER): 0.000 meters
HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE: 0.433 meters

REMARKS: RECOMMENDED ZONING
Use zone(s) identified as: NCB94

Refer to attachments for zoning information.

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

Thomas V. Mero 2/19/03

CHIEF, REQUIREMENTS AND DEVELOPMENT DIVISION

**ATLANTIC HYDROGRAPHIC BRANCH
EVALUATION REPORT FOR F00474 (2001-2002)**

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 7.1
I/RAS B, version 5.01
MapInfo, version 6.5
CARIS HIPS/SIPS 2000
PYDRO, version 3.7.0

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

D. RESULTS AND RECOMMENDATIONS

COMPARISON WITH CHART 12282 (33rd Edition, Jun 13/02)

Hydrography

The charted hydrography originates with the prior surveys and requires no further consideration. The hydrographer makes adequate chart comparisons in section D. of the Descriptive Report.

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

COMPARISON WITH PRIOR SURVEYS

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.

ADEQUACY OF SURVEY

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

JUNCTIONS

H11026 (2002) to the east

H10622 (1995) to the west

A standard junction was effected between the present survey and survey H11026.

A standard junction could not be made with survey H10622. The smooth sheet for junctional survey H10622 is archived at NOS Headquarters, Silver Spring, Maryland. In this case the note ADJOINS has been shown on the present survey smooth sheet. Any adjustments to the depth curves in the junctional area should be made on the chart during compilation.

There are no contemporary surveys to the north or south. Present survey depths are in harmony with the charted hydrography to the north and to the south.

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. The following NOS Chart was used for compilation of the present survey:

12282 (33rd Edition, Jun 13/02)
Corrected through NM June 1/02
Corrected through LNM May 14/02

F00474

Robert Snow

Robert Snow

Cartographic Technician
Verification of Field Data
Evaluation and Analysis

APPROVAL SHEET

F00474

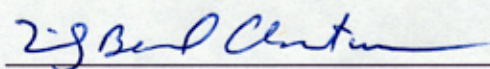
The completed survey has been inspected with regard to survey coverage, delineation of depth curves, development of critical depths, cartographic symbolization, and verification or disproval of charted data. The digital data have been completed and all revisions and additions made to the smooth sheet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



J. Corey Allen
ECO Intern
Atlantic Hydrographic Branch

Date: 7/22/03

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: 

Emily B. Christman
Commander, NOAA
Chief, Atlantic Hydrographic Branch

Date: 9/2/2003

SRP/AW01SV 9/9/03 SJV

76° 26'00"

76° 25'30"

76° 25'00"

76° 24'30"

76° 24'00"

39° 03'30"

39° 03'30"

39° 03'00"

39° 03'00"

ADJOINS H10622 (1995)

JOINS H11026 (2002)

FO0474

MARYLAND
CHESAPEAKE BAY
MAGOTHY RIVER ENTRANCE

SCALE: 1:10,000

APR. 2001 - MAR. 2002

NORTH AMERICAN DATUM OF 1983

SOUNDINGS IN FEET AT MLLW

SHEET 1 OF 1

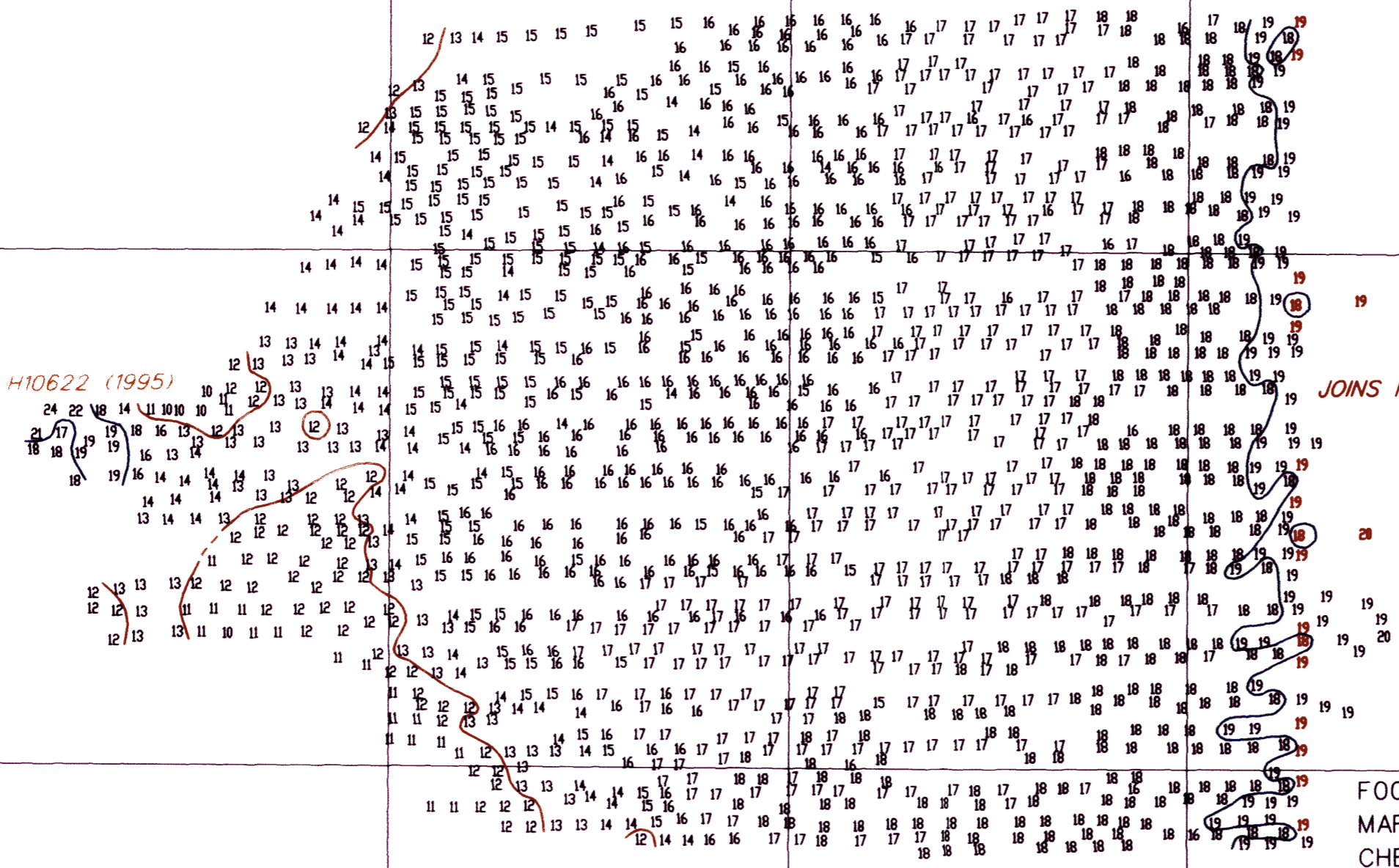
76° 26'00"

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76° 25'00"

76° 24'30"

76° 24'00"



MARINE CHART BRANCH
RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. F00474

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
1228Z	7/14/03	<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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