

# 9535

Diac. Cht. No. LS-3.

NOAA FORM 76-35A

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

## DESCRIPTIVE REPORT (HYDROGRAPHIC)

Type of Survey ..... Hydrographic  
Field No. .... LA-10-1-74  
Office No. .... H-9535

### LOCALITY

State ..... Ohio  
General Locality . South Shore, Lake Erie  
Locality .... Moss Point to Chagrin River

1974

CHIEF OF PARTY

T. D. Kuchciak

LIBRARY & ARCHIVES

DATE ..... August 20, 1979

☆ U.S. GOV. PRINTING OFFICE: 1976-669-441

9535

Area 7  
CHARTS

14820  
14825  
14826 applied 8/4/81  
14820 M Appd 2/26/82 (4882)

HYDROGRAPHIC TITLE SHEET

H-9535

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.

LA 10-1-74

State Ohio

General locality South Shore, Lake Erie

Locality Moss Point to Chagrin River

Scale 1:10,000 Date of survey June 20 - July 25, 1974

Instructions dated June 20, 1974 Project No. OPR-300-LA-74

Vessel NOAA Launch LAIDLAY 1264 & Survey Boat 1638

Chief of party Teddy D. Kuchciak

Surveyed by Teddy D. Kuchciak & Ronald R. Bagalay

Soundings taken by echo sounder, hand lead, pole Raytheon 723-D

Graphic record scaled by J. S. Bradford & J. M. Nahas

Graphic record checked by Nahas & Bradford

Protracted by \_\_\_\_\_ Automated plot by AMC Calcomp 618 *XYNETICS 1201 Plotter*

Verification by AMC Verifications Branch

Soundings in ~~XXXXX~~ feet at ~~XXXX~~ ~~XXXX~~ LWD - Lake Erie - 568.6 feet IGLD (1955)

REMARKS: All times are Greenwich Civil Time, unless otherwise noted as Eastern

Standard Time.

*Applied to stobs 2/5/80*  
*[Signature]*

DESCRIPTIVE REPORT  
TO ACCOMPANY  
HYDROGRAPHIC SURVEY H-9535  
(LA 10-1-74)

Scale: 1:10,000 Year: 1974  
Vessel: NOAA Launch 1264 and SB 1638 Chief of Party: Kuchciak

A. PROJECT

Project OPR-300-LA-74 (Moss Point to 8 miles east of Fairport Harbor, Ohio) is a combined total of four surveys. The survey described herein (1st of 4) was accomplished in accordance with Project Instructions, OPR-300-LA-74, dated June 20, 1974.

B. AREA SURVEYED

The survey was made in the inshore waters along the south shore of Lake Erie, extending from Moss Point to Chagrin River. The area surveyed extends from within the 6 - foot depth contour to beyond the 40 - foot depth contour and is bounded by Longitudes  $81^{\circ}32'1$  and  $81^{\circ}26'0$ . The survey was started on June 20, 1974, and was completed July 25, 1974.

C. SOUNDING VESSEL

The NOAA Launch LAIDLAY (1264) and Survey Boat 1638 were used exclusively to accomplish the survey. Regular or deeper sounding operations performed by the LAIDLAY involved Position Numbers 1 - 1445 and 1752 - 1809, inclusive (see P. MISCELLANEOUS.)

D. SOUNDING EQUIPMENT

Sounding equipment used aboard the LAIDLAY (1264) was the Raytheon 723-D, Digital Depth Recorder, SN 1278, during the entire period of this survey. The Digital Depth Recorder operated well for the entire survey.

Sounding equipment used aboard Survey Boat 1638, was the Raytheon 723-D, SN 2042, during the entire period of this survey. The Raytheon recorder and digitizer operated very well for the entire survey.

CORRECTIONS TO ECHO SOUNDINGS

1. Velocity of sound correctors were derived from the Direct Comparison Log, Column P, Corr. (C-N).
2. Deviations of the initial draft setting from the 0-foot line were noted on the fathogram during scanning and were taken into account when the sounding records were corrected.

3. Fathometer instrument error was determined from the Direct Comparison Log, Column Q, Instrument Error (J-P). Instrument error was applied to the analog record during scanning of the digital and analog records. Corrections to the master tape were applied via the corrector tape.
4. Direct Comparison of the Analog Record and the Digital Readings against true bar depths were made only under ideal conditions, at intervals of once or twice a day, and at random locations throughout the work area.

A static draft correction of 2.5 feet was determined for the LAIDLAY (1264) and 1.5 feet for SB 1638 by conventionally approved methods.

5. Settlement and squat tests were made on VESNO 1264 and 1638 on the 19th and 20th of June, 1974. Test procedures were in accordance with recommendations in Section 4.9.4 of the Provisional Hydrographic Manual. (See page 60 for test results).

#### E. HYDROGRAPHIC SHEETS

DCU tapes containing depth and ranging data were generated by the data logger on board Survey Boat 1638. These data were plotted off line, using the Hydroplot System located in the field office trailer after DCU (raw) tapes were merged with azimuth tapes producing Range-azimuth Master Tapes. Corrector tapes, velocity tapes, and signal tapes were generated by Mr. Nahas, at AMC in 1977.

Raw data master tapes from the LAIDLAY (VESNO 1264) were generated and data plotted on the boat sheet in real-time using the on board HYDROPLOT System. Edited Master and Corrector tapes, Velocity tapes, Tide tapes, (water Level Data), and TC/TT tapes were generated in the Field office trailer by Mr. Nahas. Final verification of the smooth plot will be accomplished by the Verification Branch (CAM31), AMC.

#### F. CONTROL STATIONS

Monumented 2nd - order Horizontal Control Stations used in this survey and listed on the survey sheet are (002) WATERGATE LSC, 1974; (020) EASTLAKE LSC, 1974.

Monumented 3rd order Horizontal Control Stations used in this survey are (003) PARKING LSC; 1974; (005) SEMINOLE LSC, 1974; (006) MENTOR HARBOR, Y. C. LSC, 1974; (120) FALL IN LSC, 1974.

*Several topo. stations were also used as electronic control stations.*

## G. HYDROGRAPHIC POSITION CONTROL

A Del Norte SHF electronic positioning system was used in the Range-Range positioning mode to control limits of the survey for the launch LAIDLAY (1264) during hydrographic data acquisition on Sheet LA 10-1-74.

Survey Boat (1638) utilized Range-Azimuth positioning procedures and a DCU (Digital Control Unit) for logging input data. This boat operated in shallow water inside the "Banana" area inherent in normal Range-Range positioning.

### HYDROGRAPHIC POSITION CONTROL LAUNCH LAIDLAY (VESNO 1264) RANGE/RANGE MODE

Julian Day 171

Range 1: "A" (002) WATERGATE LSC  
Range 2: "D" (001) MOSS POINT

Julian Day 189

Range 1: "D" (003) PARKING LSC  
Range 2: "A" (002) WATERGATE LSC

Julian Day 190

Range 1: "D" (107) SEWER LSC  
Range 2: "A" (003) PARKING LSC

Julian Day 194

Range 1: "A" (116) CHAGRIN RIVER R/RA. LT.  
Range 2: "D" (107) SEWER LSC

Julian Day 199

Range 1: "A" (116) CHAGRIN RIVER R/RA. LT.  
Range 2: "D" (107) SEWER LSC

Julian Day 203

Range 1: "D" (115) CHAGRIN RIVER F/RA. LT.  
Range 2: "A" (107) SEWER LSC

Julian Day 203

Range 1: "C" (120) FALL-IN-LSC  
Range 2: "D" (115) CHAGRIN RIVER F/RA. LT.

Julian Day 204

Range 1: "B" (116) CHAGRIN RIVER R/RA. LT.  
Range 2: "A" (107) SEWER LSC

Julian Day 204

Range 1: "C" (120) FALL IN LSC  
Range 2: "B" (116) CHAGRIN RIVER R/RA. LT.

Julian Day 206  
Range 1: "B" (005) SEMINOLE LSC  
Range 2: "C" (120) FALL IN LSC

HYDROGRAPHIC POSITION CONTROL  
SURVEY BOAT 1638  
RANGE/AZIMUTH MODE

Julian Day 180  
Range 1: "A" (003) Parking LSC  
Azimuth: Transit (003) Parking LSC, initial on (106)  
Caisson LSC, initial az. 220°34!5)

Julian Day 189  
Range: "C" (001) MOSS POINT  
Azimuth: Transit (001) MOSS POINT, initial on (003)  
Parking LSC (initial az. 235°33!3)

Julian Day 189  
Range: "C" (100) GATE LSC  
Azimuth: Transit (100) GATE LSC, initial on (003)  
PARKING LSC (initial az. 227°43!0.

Julian Day 190  
Range: "B" (020) EASTLAKE LSC (107)  
Azimuth: Transit (020) EASTLAKE LSC, initial on (107)  
SEWER LSC (initial az. 024°32!5).

Julian Day 191  
Range: "B" (107) SEWER LSC  
Azimuth: Transit (107) SEWER LSC, initial on (020)  
EASTLAKE LSC (initial az. 204°32.3)

Julian Day 193  
Range: "B" (107) SEWER LSC  
Azimuth: Transit (107) SEWER LSC, initial on (120)  
EASTLAKE LSC (initial az. 204°32!3)

Julian Day 194  
Range: "B" (020) EASTLAKE LSC  
Azimuth: Transit (020) EASTLAKE LSC, initial on (109)  
STAIRCASE LSC (initial az. 003°44!8)

HYDROGRAPHIC POSITION CONTROL  
SURVEY BOAT 1638  
RANGE/RANGE MODE

Julian Day 199 (Bottom Sample)  
Range 1: "C" (100) Gate LSC  
Range 2: "B" (001) MOSS POINT

Julian Day 199 (Bottom Sample)  
Range 1: "B" (003) PARKING LSC  
Range 2: "D" (100) GATE LSC

Julian Day 199 (Bottom Sample)  
Range 1: "A" (107) SEWER LSC  
Range 2: "B" (003) PARKING LSC

Julian Day 199 (Bottom Sample)  
Range 1: "D" (115) CHAGRIN RIVER F/RA.IT.  
Range 2: "A" (107) SEWER LSC

#### CALIBRATION FOR LAUNCH 1264 AND SURVEY BOAT 1638

Calibration of the LAIDLAY (VESNO 1264) was accomplished by the use of the sextant method (using RK 561 to compute the Del Norte corrector's). Generally, at least four sets of calibrations were taken in the morning and corrections entered into the HYDROPLOT CONTROLLER before starting hydro-operations. At the end of the day, four more sets of calibrations were taken and meaned. The mean of the two series of calibrations usually checked within +2 meters. All series of calibrations from the same control network were meaned and applied to the corrector tape during the final processing stage.

Calibration of the Del Norte SHF, electronic positioning system on board Survey Boat 1638 was accomplished within the work area of this survey by using 2nd and 3rd order control stations as calibration points.

The T/R would be placed over desired hydrographic control stations and values would be monitored (over a measured base line) and recorded in the hydrographic log (form 275). These values would then be compared to the length of the base line or the inverse distance between control points used, and a + calibration would be applied to the Del Norte Range via the corrector tape during the final field processing stage.

Electronic control, sounding and associated HYDROPLOT equipment aboard the Launch LAIDLAY (1264).

#### Del Norte SHF Electronic Positioning System

|   |        |
|---|--------|
| T/R Master Transponder with Omni 360° x 30° Antenna | SN 246 |
| DMU Trisponder 202A                                 | SN 192 |
| Parallel Buffer, 200-IPIA                           | SN 127 |

### Hydroplot System

|                                    |                     |
|------------------------------------|---------------------|
| D.E.C. Hydroplot Controller        | SN 76005941-0700004 |
| D.E.C. Computer PDP8-E (8K-Memory) | SN PRO 308130       |
| D.E.C. High Speed Reader/Punch     | SN 0211123-0256239  |
| Left-Right Steering Indicator      |                     |
| Teletype ASR-33                    | SN 465065           |
| Teletype ASR-33                    | SN 465202           |
| Complot DP-3/5 Plotter             | SN 5279             |

### Sounding System

Raytheon 723D, Digital Depth Recorder SN 1278

Electronic control equipment comprising the shore stations are as follows:

### Del Norte SHF Electronic Positioning System

|                    |   |        |
|--------------------|---|--------|
| Remote Transponder | A | SN 174 |
| Remote Transponder | B | SN 244 |
| Remote Transponder | C | SN 256 |
| Remote Transponder | D | SN 264 |

Four Directional Antennas were marked A, B, C, and D and were used with corresponding remote transponders.

### H. SHORELINE

Due to extensive beach erosion along the south shore of Lake Erie, it is intended to photogrammetrically update the shoreline depiction in the near future. Shoreline will not be used on this survey, except for approximate shoreline that is from the U. S. Lake Survey Composite, (blue line) labeled Field Sheet 8 and dated 1948. (See RECOMMENDATIONS)

### I. CROSSLINES

Approximately 10% of the hydrography data collected on LA 10-1-74 resulted from crosslines. The crossline agreement was very good and in most instances checked within 1 foot.

### J. JUNCTIONS

Junction with contemporary survey LA 10-2-74, H-9536 accomplished during the 1974 field season is very good. Junction with Field Sheet 7, (1-2337, U. S. Lake Survey Filing System) dated 1973, is not available for inspection.

### K. COMPARISON WITH PRIOR SURVEYS

Comparison with U. S. Lake Survey, Field Sheet 8 Composite of prior surveys (blue line) dated 1948, shows good agreement with differences generally less than 2 feet.



The much greater density of sounding coverage in the 1974 surveys provide a more detailed development of depth contours than do the prior surveys.

No significant features were discovered or developed during this survey.

L. COMPARISON WITH THE CHART

See Verifier's Report

Comparison with NOS Chart 14825 and 14826 (formerly LS 34 & 35), dated December 7, 1974 and February 8, 1975, respectively, scale 1:80,000, shows good agreement. Depths are generally within two feet.

1. On the 180 day (position number 270 - 305) a search for a wreck was done in the area of a 30 foot shoal at approximately Lat. 41/37/30 and Long. 81/32/00. No significant strikes were obtained to validate the possibility of a wreck in the area. It is recommended that this days data not be smooth plotted.

2. A search for a wreck in the area of a 30 foot shoal on Chart 14826 was done at approximately Lat. 41/37/30 and Long. 81/32/00 on the 252 day (position number 1-69). No valid strikes arose to determine any type of navigational hazard in the area. *unable to obtain source of wreck*

3. A crib shown on Chart 14826 at Lat. 41/37/32, Long. 81/30/46 was investigated on the 252 day (position number 70-76) and was found to be located at 41/37/29.3 and 81/30/46.8. (Crib, water intake is marked by a Red and Black horizontal bands; spar, and is a private aid shown in the Great Lakes Light List.) The geographic position was determined from a Range/Range positioning mode, using - Left station, (100) GATE LSC (908 meters) and RIGHT station, (001) MOSS POINT (1847 meters). The least depth over crib was found to be 13 feet. *off 14826* This is one foot shoaler than "depth over crib" on Chart 14826. It is recommended that the position and depth over crib obtained on the 252 day of *concur* 1974 supersede that which is shown on the chart. ✓

4. Two special purpose buoys (W or B) and (W or C) shown on Chart 14825 just north of Cleveland Electric Illumination Company at Lat. 41/40/59, Long. 81/27/29 and Lat. 41/40/24, Long. 81/26/29 respectively were not in at time of survey. These buoys have been dropped from the 1976 Great Lakes Light List; therefore, recommend these buoys be deleted from the chart. *concur* ✓

### M. ADEQUACY OF SURVEY

This survey is complete and adequate to supersede prior surveys for charting.

### N. AIDS TO NAVIGATION

There ~~were no~~ <sup>is one</sup> floating aids to navigation within the area of this survey ~~during the time of survey.~~  
See Section L. part 3 of this report

### O. STATISTICS

#### (S/V LAIDL Y, VESNO 1264)

|                                  |      |
|----------------------------------|------|
| Number of positions              | 1503 |
| Nautical miles of sounding lines | 242  |
| Square nautical miles            | 21   |
| Nautical miles of crosslines     | 23   |
| Number of bottom samples         | 0    |

#### (Survey Boat 1638)

|                                  |      |
|----------------------------------|------|
| Number of positions              | 1025 |
| Nautical miles of sounding lines | 75   |
| Square nautical miles            | 3.5  |
| Nautical miles of crosslines     | 14   |
| Number of bottom samples         | 76   |

#### Totals both vessels

|                          |      |
|--------------------------|------|
| Positions                | 2528 |
| Miles of sounding line   | 317  |
| Square miles             | 24.5 |
| Miles of crosslines      | 37   |
| Number of bottom samples | 76   |

### P. MISCELLANEOUS

- 1) LAIDL Y position numbers on the 206 day (1752-1809) are not consecutive with former days on this survey.
- 2) Survey Boat 1638 position numbers <sup>ARE (2001 - 3025)</sup> ~~(1-1025)~~ are duplicated with LAIDL Y position numbers on this survey.
- 3) Bottom sample position numbers 1-76 are duplicated with Hydrographic position numbers from the LAIDL Y on the 171 Day and Survey Boat 1638 on the 180 Day.
- 4) LA 10-1-74 (H-9535) may at times be improperly referred to as "F.S.8" or "1-2338." This is due to the transition of the U.S. Lake Survey filing system into the National Ocean Survey system.  
<sup>Bottom Samples 1-76 day 199</sup>

- 5) Close inshore hydro was run approximately to the four foot contour rather than the 0 foot contour.
- 6) A portion of this survey (approximately 1.4 miles west of the plotter origin point) has been put on an inset in order to accommodate the smooth sheet size (36 x 60 inches). See Projection and Electronic Control Parameters for exact limits of hydro.

Q. RECOMMENDATIONS

It is recommended that shoreline be obtained as soon as possible by conventional photogrammetric methods and that additional hydro should be collected in some areas between the six-foot contour and zero foot contour.  
*This was the responsibility of the hydrographer at the time of the survey.*

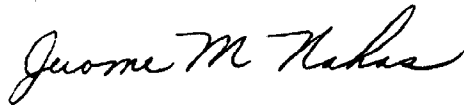
R. AUTOMATED DATA PROCESSING

| Program Name                 | Number | Version  |
|------------------------------|--------|----------|
| Range-Range Real Time        | RK 111 | 8/07/74  |
| Grid Signal & Lattice Plot   | RK 201 | 4/18/75  |
| Range-Range Non Real Time    | RK 211 | 1/15/76  |
| Visual Station Table Load    | RK 212 | 4/01/74  |
| Range-Azimuth non Real Ti    | RK 216 | 2/05/76  |
| Utility Computations         | RK 300 | 2/05/76  |
| Reformat and Data Check      | RK 330 | 5/04/76  |
| Geodetic Inverse/Direct Com. | RK 407 | 10/23/75 |
| H/R Geodetic Calibration     | RK 561 | 2/19/75  |
| Elinore-Line Editor          | AM 606 | 5/20/75  |

S. REFERENCES TO REPORTS

None

Respectively Submitted,



Jerome M. Nahas

VELOCITY TABLE # 1  
LA 10-1-74  
H-9535  
171 DAY thru 203 DAY

000149 0 0000 0001 000 126400 100174  
000247 0 0002  
000345 0 0004  
999999 0 0006

VELOCITY TABLE # 2  
LA 10-1-74  
H-9535  
204 DAY thru 206 DAY

000180 0 0000 0002 000 126400 100174  
000420 0 0002  
999999 0 0004

NOAA LAUNCH LAIDLY 1264  
 VELOCITY CORRECTION TO SOUNDINGS  
 TABLES #1 & #2

|              | 10    | 15     | 20     | 25     | 30     | 35     | 40     | 45                                       |  |
|--------------|-------|--------|--------|--------|--------|--------|--------|--|--|
| 171          | 0.0   | +0.1   | +0.2   | +0.3   | +0.4   |        |        |  |  |
| 189          | -0.1  | 0.0    | +0.2   | +0.3   | +0.4   | +0.6   | +0.5   | RAYTHEON<br>723-D (#1278)<br>TABLE<br>#1 |  |
| 189          | +0.1  | +0.2   | +0.2   | +0.4   | +0.4   | +0.4   | +0.5   |  |  |
| 190          | 0.0   | +0.1   | +0.1   | +0.3   | +0.3   | +0.4   | +0.4   |  |  |
| 190          | -0.1  | 0.0    | +0.1   | +0.3   | +0.3   | +0.4   | +0.5   |  |  |
| 190          | +0.1  | +0.1   | +0.2   | +0.3   | +0.4   | +0.5   | +0.5   |  |  |
| 194          | 0.0   | +0.2   | +0.3   | +0.4   |        |        |        |  |  |
| 194          | 0.0   | 0.0    | +0.1   | +0.2   | +0.3   | +0.4   | +0.3   |  |  |
| 198          | +0.1  | +0.1   | +0.3   | +0.5   | +0.5   | +0.7   | +0.5   |  |  |
| 203          | +0.1  | +0.2   | +0.2   | +0.3   | +0.4   | +0.6   | +0.5   |  |  |
| 204          | (0.0) | (+0.1) | (+0.1) | (+0.1) | (+0.3) | (+0.3) | (+0.3) | TABLE # 2<br>RAYTHEON<br>723-D (#1278)   |  |
| 206          | -0.0  | +0.1   | +0.1   | +0.1   | +0.1   | +0.1   | +0.2   |  |  |
| 206          | 0.0   | +0.1   | +0.1   | +0.2   | +0.2   | +0.3   | -      |  |  |
| MEAN TABLE 1 | 0.0   | +0.1   | +0.2   | +0.3   | +0.4   | +0.5   | +0.5   | DIGITAL                                  |  |
| MEAN TABLE 2 | -0.0  | +0.1   | +0.1   | +0.1   | +0.2   | +0.2   | +0.3   | CORRECTION<br>"P"                        |  |

TABLE # 1  
 TRUE DEPTH - (P) = N

|    |         |        |
|----|---------|--------|
| 10 | -(0.0)  | = 10.0 |
| 15 | -(+0.1) | = 14.9 |
| 20 | -(+0.2) | = 19.8 |
| 25 | -(+0.3) | = 24.7 |
| 30 | -(+0.4) | = 29.6 |
| 35 | -(+0.5) | = 34.5 |
| 40 | -(+0.5) | = 39.5 |

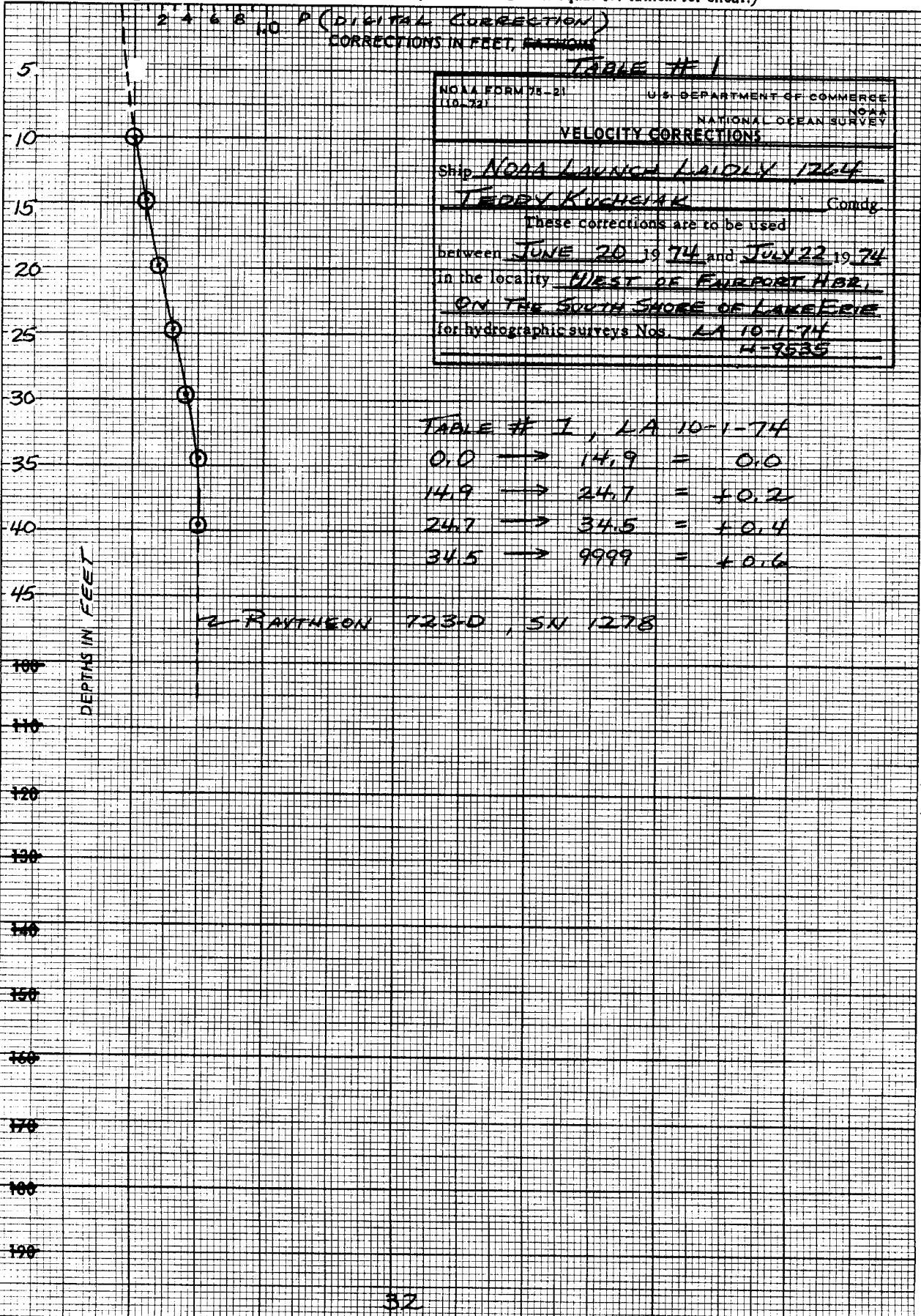
TABLE # 2  
 TRUE DEPTH - (P) = N

|    |         |        |
|----|---------|--------|
| 10 | -(0.0)  | = 10.0 |
| 15 | -(+0.1) | = 14.9 |
| 20 | -(+0.1) | = 19.9 |
| 25 | -(+0.1) | = 24.9 |
| 30 | -(+0.2) | = 29.8 |
| 35 | -(+0.2) | = 34.8 |
| 40 | -(+0.3) | = 39.7 |

N

(Let 1 inch equal 4 fathoms for deep water and 1 inch equal 0.4 fathom for shoal.)

2 4 6 8 10 P (DIGITAL CORRECTION)  
CORRECTIONS IN FEET, FATHOMS



**TABLE # 1**

NOAA FORM 75-21 (10-72) U.S. DEPARTMENT OF COMMERCE  
NOAA NATIONAL OCEAN SURVEY

**VELOCITY CORRECTIONS**

SHIP NOAA LAUNCHA LAIDLY 1264  
TEDDY KUCHEIAK Comdg.

These corrections are to be used  
 between JUNE 20, 1974 and JULY 22, 1974  
 in the locality WEST OF FAIRPORT HBR,  
ON THE SOUTH SHORE OF LAKE ERIE  
 for hydrographic surveys Nos. LA 10-1-74  
4-9535

**TABLE # 1, LA 10-1-74**

0.0 → 14.9 = 0.0  
 14.9 → 24.7 = +0.2  
 24.7 → 34.5 = +0.4  
 34.5 → 9999 = +0.6

RAYNEON 123-D, SN 1278

(For deep water add a 0 to these figures)

DEPTH IN FEET

1240

10 INCHES  
15 A.  
K&E 20 X 20 TO THE INCH  
KEUFFEL & ESSER CO. M

# VELOCITY TABLE #3

LA 10-1-74

H-9535

VESNO 1638

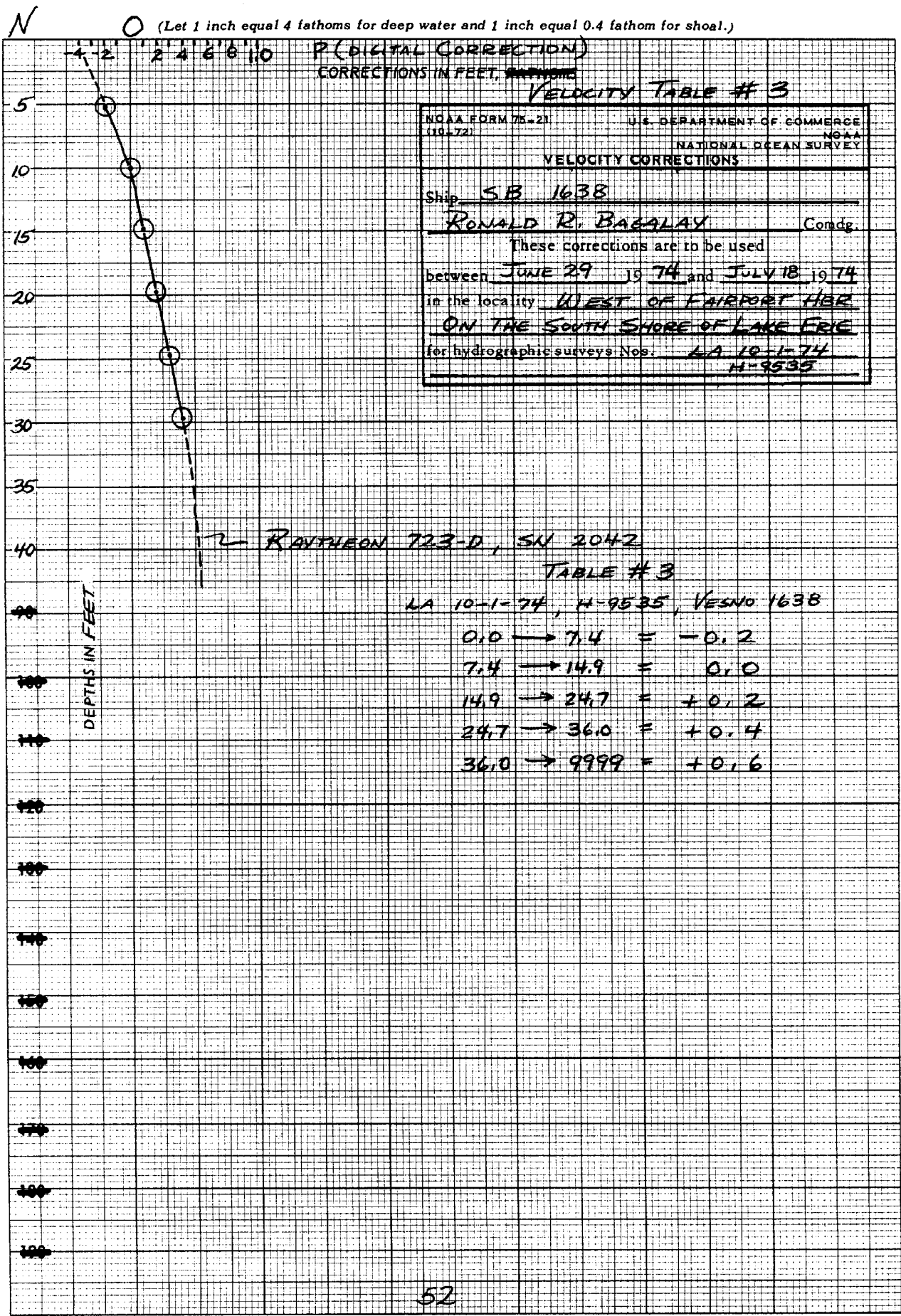
|        |   |      |      |     |        |        |
|--------|---|------|------|-----|--------|--------|
| 000074 | 1 | 0002 | 0003 | 000 | 163800 | 100174 |
| 000149 | 0 | 0000 | 0003 | 000 | 163800 | 100174 |
| 000247 | 0 | 0002 |      |     |        |        |
| 000360 | 0 | 0004 |      |     |        |        |
| 999999 | 0 | 0006 |      |     |        |        |

VESNO 1638  
 VELOCITY CORRECTION TO SOUNDINGS  
 LA 10-1-74, H-9535, TABLE # 3

| JULIAN DAY     | 5    | 10   | 15   | 20   | 25   | 30   |  |  |  |
|----------------|------|------|------|------|------|------|--|--|--|
| 180            | -0.1 | 0.0  | +0.1 | +0.1 |      |      | } TABLE # 3<br>RAYTHEON 723-D<br>SN-2042 |  |  |
| 189            | -0.1 | +0.1 | +0.1 | +0.2 | +0.3 | +0.5 |  |  |  |
| 190            | -0.1 | 0.0  | +0.1 | +0.3 | +0.4 | +0.6 |  |  |  |
| 194            | -0.2 | -0.1 | +0.2 | +0.1 | +0.2 | +0.3 |  |  |  |
| 194            | -0.2 | 0.0  | +0.1 | +0.1 | +0.2 | +0.3 |  |  |  |
| 198            | -0.2 | +0.1 | +0.3 | +0.3 | +0.4 |      |  |  |  |
| 198            | -0.2 | 0.0  | 0.0  | +0.1 | +0.1 | +0.2 |  |  |  |
| MEAN TABLE # 3 | -0.2 | 0.0  | +0.1 | +0.2 | +0.3 | +0.4 | } DIGITAL CORRECTION "P"                 |  |  |

| TRUE DEPTH | - (P)    | = | N    |
|------------|----------|---|------|
| 5          | - (-0.2) | = | 5.2  |
| 10         | - (0.0)  | = | 10.0 |
| 15         | - (+0.1) | = | 14.9 |
| 20         | - (+0.2) | = | 19.8 |
| 25         | - (+0.3) | = | 24.7 |
| 30         | - (+0.4) | = | 29.6 |





(For deep water add a 0 to these figures)

DEPTHS IN FEET

SETTLEMENT & SQUAT  
Launch 1264 & SB 1638

Settlement and squat tests were made on the Launch LAIDL Y (1264) and Survey Boat 1638, on June 19th and 20th, 1974. The tests were conducted inside the Fairport Harbor. The project depth of 25 feet was more than adequate for the tests and the harbor breakwalls provided protection from open lake swells. Test procedures were in accordance with recommendations in section 4.9.4 of the provisional Hydrographic Manual. A leveling instrument was set up on one of the harbor piers and sightings taken on a level rod held on the LAIDL Y at the following speeds: 0, 1000, 1400, 1800, and 2000 rpm and on Survey Boat 1638 at the following speeds: 0, 500, 1000, 1500, 2000, 2500, and 2650 rpm.

LAIDL Y SQUAT TEST, JUNE 1974  
(Conditions not ideal)

| RPM  | Level Rod Reading, Ft. | Corr. FT. | TRA-FT.     |
|------|------------------------|-----------|-------------|
| 0    | 5.45                   | 0         | 2.5 (draft) |
| 1000 | 5.45                   | 0         | 2.5         |
| 1500 | 5.60                   | +0.15     | 2.6         |
| 1800 | 5.35                   | -0.10     | 2.4         |
| 2000 | 5.05                   | -0.40     | 2.1         |

(Conditions ideal) Squat Test, June 20, 1974

|      |      |       |             |
|------|------|-------|-------------|
| 0    | 5.35 | 0     | 2.5 (draft) |
| 1000 | 5.50 | +0.15 | 2.6         |
| 1400 | 5.57 | +0.22 | 2.7         |
| 1800 | 5.27 | -0.08 | 2.4         |
| 2000 | 4.95 | -0.40 | 2.1         |

(See graphs on pages                      of this report)

LAUNCH 1264, LAIDLAY, - SETTLEMENT AND SQUAT CORRECTION (TEST)

June 19, 1974  
 June 20, 1974  
 Mean

(61)

FT.

+4  
 +3  
 +2  
 +1  
 0  
 -1  
 -2  
 -3  
 -4

0 RPM

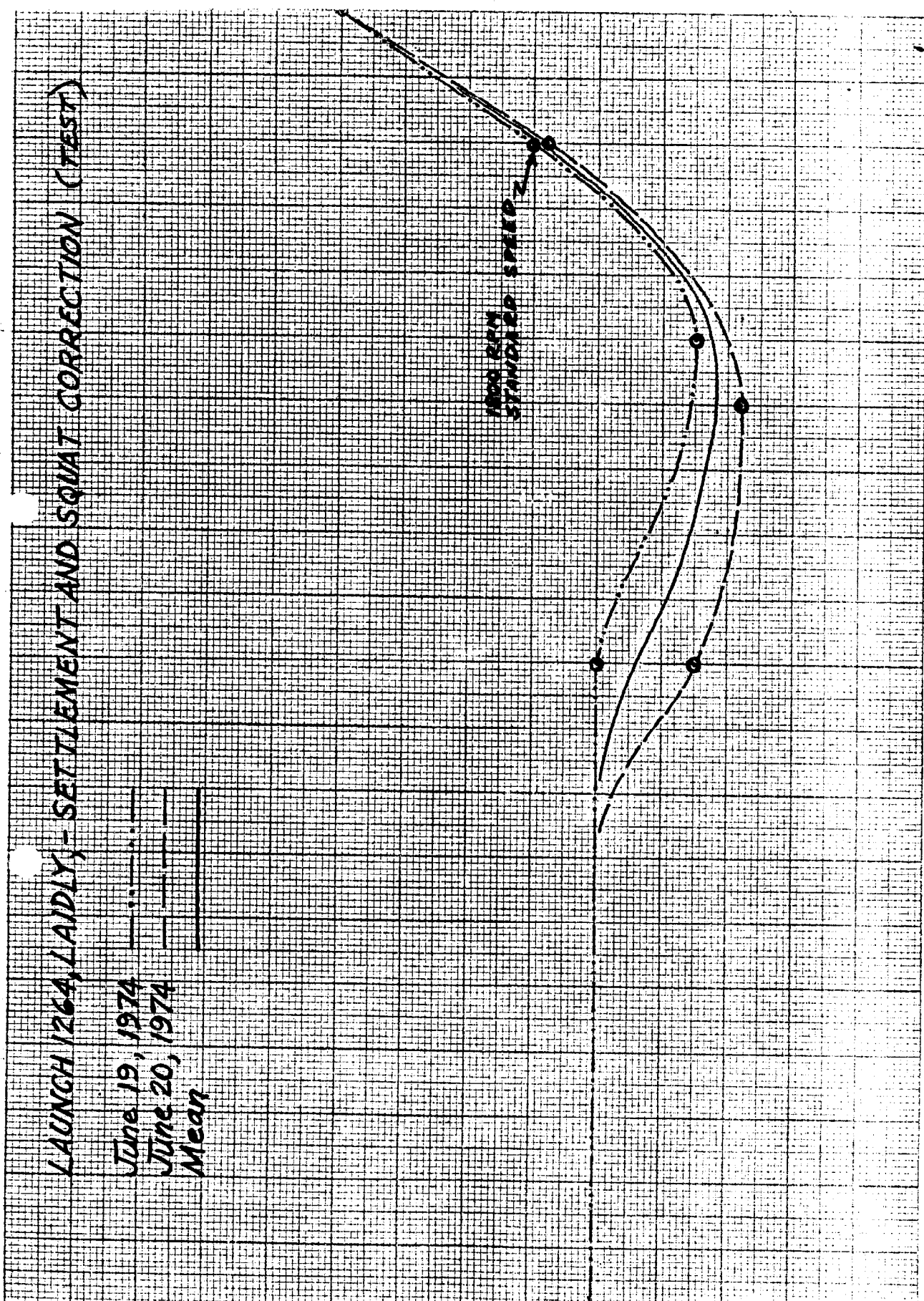
500

1000

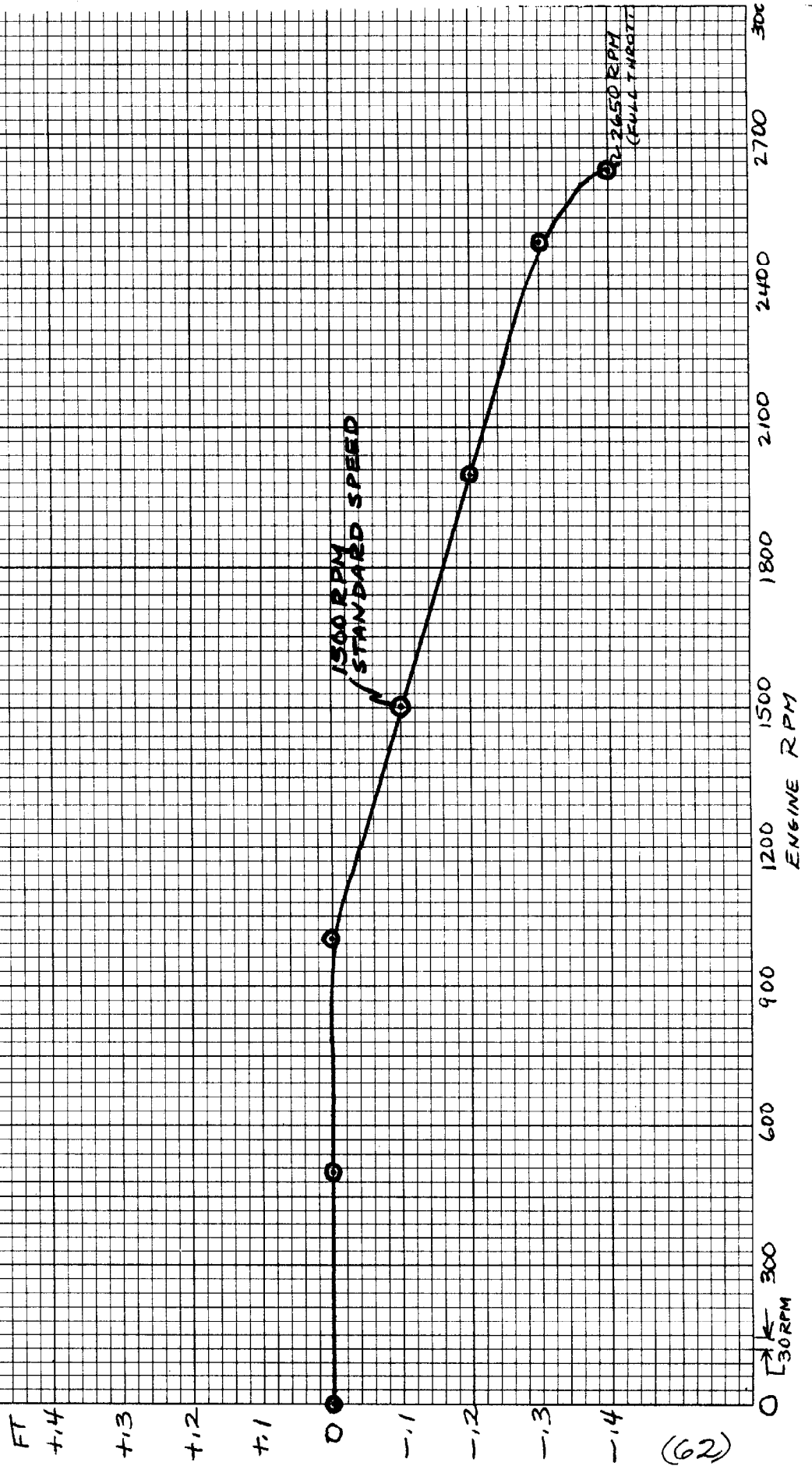
1500

2000

1000 RPM  
 STANDARD SPEED



(LAUNCH) SURVEY BOAT 1638  
SETTLEMENT & SQUAT TEST



001 7 41 36 50966.081 31 48170. 254 0000 000000 Moss Point, 1974 (3rd Order) field pos ✓  
 "2"  
 002 7 41 37 25458.081 30 05218. 250 0068 000000 Watergate LSC, 1974 \*\* ✓  
 \*  
 003 7 41 38 34878.081 28 26131. 250 0011 000000 Parking LSC, 1974\*\* ✓  
 004 7 41 40 27085.081 26 50658. <sup>139</sup>243 0000 000000 Eastlake Light, 1974 (3rd Order) field pos ✓  
 \*  
 005 7 ~~41 42 24859.081 23 21912. 250 0000 000000 Seminole LSC, 1974~~ *Set - station used for electronic control* ✓  
 \*  
 006 7 ~~41 43 39901.081 21 11985. 139 0000 000000 Mentor Hbr. Y. C. LSC, 1974~~ \*\* ✓  
 "2"  
 020 7 41 40 27127.081 26 50747. 250 0000 000000 Eastlake LSC, 1974 ✓  
 100 7 41 37 25431.081 30 07949. 254 0005 000000 Gate LSC, 1974 (3rd Order) ✓  
 102 7 ~~41 37 51378.081 29 21424. 243 0016 000000 Stump LSC, 1974 (3rd Order)~~ ✓  
 103 7 ~~41 38 09816.081 28 55796. 243 0000 000000 Chresthaven LSC, 1974 (3rd Order)~~ ✓  
 104 7 ~~41 38 22000.081 28 38819. 243 0017 000000 Pear Tree LSC, 1974 (3rd Order)~~ ✓  
 105 7 ~~41 38 51453.081 28 06606. 243 0000 000000 Tilted Slab LSC, 1974 (3rd Order)~~ ✓  
 106 7 41 39 13139.081 27 42409. 243 0000 000000 Caisson LSC, 1974 (3rd Order) ✓  
 107 7 41 39 32298.081 27 24167. 254 0000 000000 Sewer LSC, 1974 (3rd Order) ✓  
 108 7 ~~41 39 46529.081 27 08118. 243 0017 000000 High Bluff LSC, 1974 (3rd Order)~~ ✓  
 109 7 41 40 04307.081 26 52753. 243 0000 000000 Staircase LSC, 1974 (3rd Order) ✓  
 115 7 41 40 37003.081 26 15742. 254 0000 000000 Chagrin River F/Ra. Lt. 1974 (3rd Order) *Fixed Rad* ✓  
 116 7 41 40 35181.081 26 13888. 254 0000 000000 Chagrin River R/Ra. Lt. 1974 (3rd Order) *Fixed Rad* ✓  
 117 7 ~~41 40 48740.081 25 54505. 243 0000 000000 Beach LSC, 1974 (3rd Order)~~ ✓  
 \*  
 120 7 41 41 33929.081 24 43038. 250 0000 000000 Fall In LSC, 1974 \*\* ✓

MONUMENTED

- "2" 2nd Order EODM Traverse Station, Cleveland-Buffalo Scheme, QUAD 41 081 1
- \* 3rd Order EODM Traverse Station, Cleveland-Buffalo Scheme, QUAD 41 081 1

→(All Horizontal Control has been field adjusted)  
 (All Horizontal Control labeled "(3rd Order)" was set by the LSC Hydro Party  
 \*\* In NGS File positions listed above are apparently unadjusted

NOAA FORM 76-40  
(8-74)

Replaces C&GS Form 567.

- TO BE CHARTED  
 TO BE REVISED  
 TO BE DELETED

REPORTING UNIT  
(If field party, ship or office)

AMC / HSB

STATE

OHIO

NONFLOATING AIDS OR LANDMARKS FOR CHARTS

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

DATE

MOSS. PT to CHAGRIN  
RIVER, LAKE ERIE

ORIGINATING ACTIVITY

- HYDROGRAPHIC PARTY  
 GEODETIC PARTY  
 PHOTO FIELD PARTY  
 COMPILATION ACTIVITY  
 FINAL REVIEWER  
 QUALITY CONTROL & REVIEW GRP.  
 COAST PILOT BRANCH  
(See reverse for responsible personnel)

OPR PROJECT NO. OPR-300

JOB NUMBER

H-9535

HAVE  HAVE NOT

been inspected from seaward to determine their value as landmarks.

DATUM

NORTH AMERICAN 1927

CHARTING NAME

FR

DESCRIPTION  
(Record reason for deletion of landmark or aid to navigation.  
Show triangulation station names, where applicable, in parentheses.)

CHAGRIN WEST PIER F/R LT.

NOT SHOWN

CHAGRIN RIVER R/R LT.

Occ R

EASTLAKE INTAKE BKW LT.

(MOST SW OF 4)  
STACKS

EASTLAKE CEIC, STACK

(73)

METHOD AND DATE OF LOCATION  
(See instructions on reverse side)

OFFICE

FIELD

CHARTS AFFECTED

14825

14825

14825

14825

POSITION

LATITUDE

D.M. Meters

° /

'

LONGITUDE

D.P. Meters

° /

'

37.003

81/26

15.742

364.11

35.181

81/26

13.888

321.23

27.085

81/26

50.658

1171.77

13.786

81/26

34.808

805.21

414014 812635

APPROVAL SHEET  
SURVEY LA 10-1-74, H-9535

The acquisition of hydrographic data represented on LA 10-1-74 was accomplished under the supervision of Teddy D. Kuchciak.

About 25% of the subsequent data processing was accomplished by J. S. Bradford in the field office trailer located at the AMC dispatching yard. The remaining 75% of the data processing was accomplished by J. M. Nahas.

The hydrographic survey, LA 10-1-74, is considered to be complete and adequate to supersede previous surveys in the same area.

Approved and Forwarded



William R. Daniels  
Chief, Hydrographic Surveys Branch

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

WATER LEVEL NOTE FOR HYDROGRAPHIC SHEET

Processing Division: Atlantic Marine Center: CAM3

Hourly heights are approved for

Water Level Station Used: Fairport Harbor, Ohio (906-3053)

Period: June 20 - July 25, 1974

HYDROGRAPHIC SHEET: H-9535

OPR-300-LA-74

Locality: Lake Erie

Plane of reference: Low Water Datum (IGLD1955 : 568.6 Feet)

Remarks:

Zoning not required. Data from other gages on Lake Erie indicates no unusual water level movement during the survey period.

*Philip C. Morris*  
\_\_\_\_\_  
Chief, Water Level Branch



GEOGRAPHIC NAMES

H-9535

| Name on Survey | Source of Name |                        |                         |                        |               |                   |                     |                 |   |    |
|----------------|----------------|------------------------|-------------------------|------------------------|---------------|-------------------|---------------------|-----------------|---|----|
|                | A              | B                      | C                       | D                      | E             | F                 | G                   | H               | K |    |
|                | ON CHART NO.   | ON PREVIOUS SURVEY NO. | ON U.S. QUADRANGLE MAPS | FROM LOCAL INFORMATION | ON LOCAL MAPS | P.O. GUIDE OR MAP | GRAND McNALLY ATLAS | U.S. LIGHT LIST |   |    |
| CHAGRIN RIVER  |                |                        |                         |                        |               |                   |                     |                 |   | 1  |
| EASTLAKE       |                |                        |                         |                        |               |                   |                     |                 |   | 2  |
| EUCLID         |                |                        |                         |                        |               |                   |                     |                 |   | 3  |
| LAKE ERIE      |                |                        |                         |                        |               |                   |                     |                 |   | 4  |
| MOSS POINT     |                |                        |                         |                        |               |                   |                     |                 |   | 5  |
| TIMBERLAKE     |                |                        |                         |                        |               |                   |                     |                 |   | 6  |
| WILLOWICK      |                |                        |                         |                        |               |                   |                     |                 |   | 7  |
|                |                |                        |                         |                        |               |                   |                     |                 |   | 8  |
|                |                |                        |                         |                        |               |                   |                     |                 |   | 9  |
|                |                |                        |                         |                        |               |                   |                     |                 |   | 10 |
|                |                |                        |                         |                        |               |                   |                     |                 |   | 11 |
|                |                |                        |                         |                        |               |                   |                     |                 |   | 12 |
|                |                |                        |                         |                        |               |                   |                     |                 |   | 13 |
|                |                |                        |                         |                        |               |                   |                     |                 |   | 14 |
|                |                |                        |                         |                        |               |                   |                     |                 |   | 15 |
|                |                |                        |                         |                        |               |                   |                     |                 |   | 16 |
|                |                |                        |                         |                        |               |                   |                     |                 |   | 17 |
|                |                |                        |                         |                        |               |                   |                     |                 |   | 18 |
|                |                |                        |                         |                        |               |                   |                     |                 |   | 19 |
|                |                |                        |                         |                        |               |                   |                     |                 |   | 20 |
|                |                |                        |                         |                        |               |                   |                     |                 |   | 21 |
|                |                |                        |                         |                        |               |                   |                     |                 |   | 22 |
|                |                |                        |                         |                        |               |                   |                     |                 |   | 23 |
|                |                |                        |                         |                        |               |                   |                     |                 |   | 24 |
|                |                |                        |                         |                        |               |                   |                     |                 |   | 25 |

Approved


*Charles E. Hamilton*  
Chief Geographer - 6325

5 Nov 1979

APPROVAL SHEET  
FOR  
SURVEY H-9535

- A. All revisions and additions made on the smooth sheet during verification have been entered in the magnetic tape records for this survey. A new final position printout has/~~has not~~ been made. A new final sounding printout has/~~has not~~ been made.
- B. The verified smooth sheet has been inspected, is complete, and meets the requirements of the Hydrographic Manual. Exceptions are listed in the Verifier's Report.

Date: 8/1/79

Signed:   
Title: Chief, Verification Branch

**HYDROGRAPHIC SURVEY STATISTICS**

RECORDS ACCOMPANYING SURVEY: To be completed when survey is registered.

| RECORD DESCRIPTION |                   | AMOUNT               | RECORD DESCRIPTION   |            | AMOUNT        |                            |
|--------------------|-------------------|----------------------|--|------------|---------------|----------------------------|
| SMOOTH SHEET       |                   | 1                    | BOAT SHEETS & PRELIMINARY OVERLAYS   |            | 960           |                            |
| DESCRIPTIVE REPORT |                   | 1                    | SMOOTH OVERLAYS: POS. ARC EXCESS <sup>1</sup> <sub>2</sub> <sup>2</sup> <sub>2</sub> |            | 3             |                            |
| DESCRIP-TION       | DEPTH RECORDS     | HORIZ. CONT. RECORDS | PRINTOUTS  | TAPE ROLLS | PUNCHED CARDS | ABSTRACTS/SOURCE DOCUMENTS |
| ENVELOPES          |                   |                      |  |            |               | 1- misc. data*             |
| CAHIERS            | 1- with printouts |                      |  |            |               |                            |
| VOLUMES            | 2- Copies         |                      |  |            |               |                            |
| BOXES              |                   |                      | 1- Smooth  |            |               |                            |

T-SHEET PRINTS (List)

SPECIAL REPORTS (List)

1- F.S. 8 Blue-line Sheet

\* - Tides, Cht. mark-ups.

OFFICE PROCESSING ACTIVITIES

The following statistics will be submitted with the cartographer's report on the survey

| PROCESSING ACTIVITY                               | AMOUNTS          |              |            |
|---|------------------|--------------|------------|
|   | PRE-VERIFICATION | VERIFICATION | TOTALS     |
| POSITIONS ON SHEET                                |                  |              | 2604       |
| POSITIONS CHECKED                                 | 75               | 131          |            |
| POSITIONS REVISED                                 |                  | 17           |            |
| SOUNDINGS REVISED                                 |                  | 326          |            |
| SOUNDINGS ERRONEOUSLY SPACED                      |                  | 5            |            |
| SIGNALS (CONTROL) ERRONEOUSLY PLOTTED             |                  | 0            |            |
|   | TIME - HOURS     |              |            |
| CRITIQUE OF FIELD DATA PACKAGE (PRE-VERIFICATION) |                  |              |            |
| VERIFICATION OF CONTROL                           | 3                |              |            |
| VERIFICATION OF POSITIONS                         |                  | 18           |            |
| VERIFICATION OF SOUNDINGS                         |                  | 435          |            |
| COMPILATION OF SMOOTH SHEET                       |                  | 19           |            |
| APPLICATION OF TOPOGRAPHY                         |                  | 5            |            |
| APPLICATION OF PHOTOBATHYMETRY                    |                  | 0            |            |
| JUNCTIONS   |                  | 7            |            |
| COMPARISON WITH PRIOR SURVEYS & CHARTS            |                  | 15           |            |
| VERIFIER'S REPORT                                 |                  | 15           |            |
| OTHER   |                  | 0            |            |
|   |                  |              |            |
| <b>TOTALS</b>                                     | <b>3</b>         | <b>515</b>   | <b>518</b> |

|   |                            |                         |
|---|----------------------------|-------------------------|
| Pre-Verification by<br>M.B. Holloway                              | Beginning Date<br>01/24/78 | Ending Date<br>01/24/78 |
| Verification by<br>S. Kelly, M. Holloway, J. Bradford             | Beginning Date<br>02/10/78 | Ending Date<br>07/17/79 |
| Verification Check by<br>R.G. Roberson                            | Time (Hours)<br>5          | Date<br>07/25/79        |
| Marine Center Inspection by<br>Hydrographic Inspection Team (AMC) | Time (Hours)<br>10         | Date<br>07/26/79        |
| Quality Control Inspection by<br><i>R.G. Roberson</i>             | Time (Hours)<br>45         | Date<br>10/30/79        |
| Requirements Evaluation by<br><i>D.J. Hill</i>                    | Time (Hours)<br>2          | Date<br>12/20/79        |

*Chart 4 11/30/79*

REGISTRY NO. H-9535

The Computer and Excess Sounding Cards for this survey have not been corrected to reflect the changes made to the Computer Card and Excess Card Printouts at this time of the review.

When the cards have been updated to reflect the final results of the survey, the following shall be completed:

CARDS CORRECTED

DATE \_\_\_\_\_ TIME REQUIRED \_\_\_\_\_ INITIALS \_\_\_\_\_

REMARKS:

REGISTRY NO. \_\_\_\_\_

The magnetic tape containing the data for this survey has not been corrected to reflect the changes made during evaluation and review.

When the magnetic tape has been updated to reflect the final results of the survey, the following shall be completed:

MAGNETIC TAPE CORRECTED

DATE \_\_\_\_\_ TIME REQUIRED \_\_\_\_\_ INITIALS \_\_\_\_\_

REMARKS:

ATLANTIC MARINE CENTER  
VERIFIER'S REPORT

REGISTRY NO. H-9535

FIELD NO. LA-10-1-74

Ohio, South Shore Lake Erie, Moss Point to Chagrin River

SURVEYED: June 20 through July 25, 1974

SCALE: 1:10,000

PROJECT NO.: OPR-300

SOUNDINGS: Raytheon 723-D  
Fathometer

CONTROL: Del-Norte  
(Range-Range &  
Range-Azimuth)  
(Del-Norte &  
Theodolite T-2)

Chief of Party ..... T.D. Kuchciak  
Surveyed by ..... T.D. Kuchciak  
..... R.R. Bagalay  
Automated Plot by ..... XYNETICS 1201 Plotter (AMC)  
Verified and Inked by ..... J.S. Bradford  
July 5, 1979

1. Introduction

a. No unusual problems were encountered during verification.

b. The red changes in the Descriptive Report were made by the verifier. The projection parameters have been revised in the Descriptive Report.

2. Control and Shoreline

a. The control was very well described in Sections F. and G. of the Descriptive Report.

b. Shoreline was applied to H-9535 from TP-00944 & TP-00945 1975 class III, final review 1977.

Considering the comment in Section H in the Descriptive Report, by the hydrographer, it would have been desirable to have established the area of change in the shoreline by ground survey methods, i.e. plane table at the time of the survey.

3. Hydrography

a. Depths at crossings are in adequate agreement.

b. The standard depth curves were adequately delineated. The 24-foot supplemental curve was added in order to conform

with Charts #14825 and #14826,

c. The development of the bottom configuration can be considered adequate; however, the development of the shallow water (0 to 6 feet) is considered poor.

#### 4. Condition of Survey

The sounding records, smooth sheet and accompanying overlays, hydrographic records, and the Descriptive Report are adequate and conform to the requirements of the Hydrographic Manual, with these exceptions:

a. The sounding volumes were used primarily as a launch log. The intended use of the sounding volumes is stated under Section 4.8 of the Hydrographic Manual.

b. Charts compared to in the Descriptive Report are dated subsequent to the date of this survey.

c. The raw data for an investigation of a wreck on day 180, pos. 270-305 were not forwarded with the survey. See Descriptive Report Section L, paragraph 1.

d. Only Velocity table 1 was used for Vesno 1264. The raw data for the evening bar check on day 206 wasn't forwarded with the hydrographic records. Only three bar checks were used in constructing Velocity table 2. With the rejection of the evening bar check on day 206, the remaining bar checks used to develop table 2 were incorporated in with Velocity table 1. These two bar checks were in harmony with Velocity table 1, therefore only Velocity table 1 was needed.

e. The formal Water Level Note for H-9535 was not received; however, the approved water level reducers were received from Ocean Division (NOS). It is requested that Quality Control obtain the formal approval note and insert it in the Descriptive Report.  
*Quality Control inserted "Water Level Note"*

#### 5. Junction

Adequate junction was effected with the following contemporary survey:

H-953<sup>6</sup> (1974) to the east

1-2337 (1973) 1:10,000 was not available for junction to the west. It is requested that Quality Control make the junction.

## 6. Comparison with Prior Surveys

|         |        |          |
|---------|--------|----------|
| 1-1815  | (1942) | 1:40,000 |
| 1-1849B | (1947) | 1:10,000 |
| 1-1879  | (1948) | 1:10,000 |
| 1-1880  | (1948) | 1:10,000 |
| 1-1881  | (1948) | 1:10,000 |

These surveys taken together, cover the common area of the present survey. A comparison of the present survey with the prior surveys reveals good agreement. The prior survey soundings are one to five feet shoaler, with occasional depths one to two feet deeper than the present survey. This is attributed to differences in survey methods and natural changes in the bottom configuration.

Two soundings were carried forward from 1-1880 (1948), and one from 1-1879 (1948) to better delineate features.

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

## 7. Comparison With Charts #14825 (18th Edition, December 7, 1974) #14826 (20th Edition, February 8, 1975)

### a. Hydrography

The majority of the charted hydrography originates with the previously discussed prior surveys and other unascertainable sources.

The 30 foot shoal depth charted in latitude  $41^{\circ}37.7'$ , longitude  $81^{\circ}32.3'$  from an undetermined source was not verified by the present survey. The hydrographer indicates in the Descriptive Report of a search for a possible wreck at this location. There is no supporting information in the Descriptive Report to support the possible existence of a wreck. The 30 foot shoal probably originates with a prior survey. The development by the hydrographer on this feature was not included with the survey records and subsequently, verification or disproval of the feature can not be made. It is recommended the 30 foot shoal depth be retained as charted.

A comparison with the Chagrin River, Ohio insert 1:10,000 shows considerable difference between the 0-12 foot curve. Evidence of a charted 3 foot shoal located at latitude  $41^{\circ}40.77'$ , longitude  $81^{\circ}26.15'$  and a charted 6 foot shoal was not noted on the present survey. This area was surveyed with 50 meter line spacing and is considered adequate to supersede prior surveys.

The charted RK in latitude  $41^{\circ}37'18''$ , longitude  $81^{\circ}31'24''$  is apparently a bottom characteristic rather than an isolated sunken rock. The present survey indicates "Blds" in the vicinity and the chart should be revised accordingly.

Except as noted above the present survey is adequate to supersede the charted hydrography in the common area.

b. Aids to Navigations

The two special purpose buoys have been deleted from the 1976 Great Lake Light List and it is recommended that these buoys be removed from chart #14825.

On this survey Chagrin River Front Range Light in latitude  $41^{\circ}40'37.003''$ , longitude  $81^{\circ}26'15.742''$  and Chagrin River Rear Range Light in latitude  $41^{\circ}40'35.181''$ , longitude  $81^{\circ}26'13.888''$  are charted as W Pier Lt, FR 18 ft, private maintained and FR 24 ft. private maintained respectively.

8. Compliance With Instructions

This survey adequately complies with Project Instructions.

9. Additional Field Work

This is an adequate basic survey. No additional field work is recommended.



Inspection Report  
H-9535

Any verification errors regarding procedures and presentation of survey data detected during inspection by the Hydrographic Inspection Team have been corrected before submission for administrative approval. HIT comments regarding quality of field work, compliance with instructions, and adequacy of the survey have been incorporated within the Verifier's Report.

Examined and Approved:  
Hydrographic Inspection Team  
Date: July 26, 1979

ABSENT  
Robert A. Trauschke, CDR, NOAA  
Chief, Processing Division

Carl W. Fisher  
Carl W. Fisher, CDR, NOAA  
Chief, Operations Division

R. D. Sanocki  
R. D. Sanocki  
Technical Assistant  
Processing Division

Maureen R. Kenney  
Maureen Kenney, LT, NOAA  
Chief, Electronic Data  
Processing Branch

Billy J. Stephenson  
Billy J. Stephenson  
Team Leader  
Verification Branch.

Approved/Forwarded

Robert C. Munson  
Robert C. Munson  
RADM, NOAA  
Director, Atlantic Marine Center



**UNITED STATES DEPARTMENT OF COMMERCE**  
**National Oceanic and Atmospheric Administration**  
NATIONAL OCEAN SURVEY  
Rockville, Md. 20852

OA/C352:GKM

October 30, 1979

TO: Glen R. Schaefer *GR*  
Chief, Hydrographic Surveys Division

FROM: *G. K. Myers*  
G. K. Myers  
Chief, Quality Control Branch

SUBJECT: Quality Control Report for H-9535 (1974), Ohio, South Shore  
Lake Erie, Moss Point to Chagrin River

A quality control inspection for H-9535 was accomplished to monitor the survey for obvious deficiencies with respect to data acquisition, delineation of the bottom, determination of least depths, navigational hazards, junctions, sounding line crossings, shoreline transfer, smooth plotting and actions by the verifier, and cartographic presentation of data.

The geographic reference datum for the horizontal location of the present survey is the North American 1927 Datum. The datum for charts in the area is the U.S. Standard Datum.

Printed charts discussed in the Descriptive Report with edition dates subsequent to the date of the present survey were probably compiled by the surveyor at the Lake Survey Center. The later dated chart information therefore reflects in part unverified data pertaining to conditions that existed in the area at the time of the survey.

In general, the survey was found to conform to the National Ocean Survey's standards and requirements except as stated in the Verifier's Report, the HIT Report, and as follows:

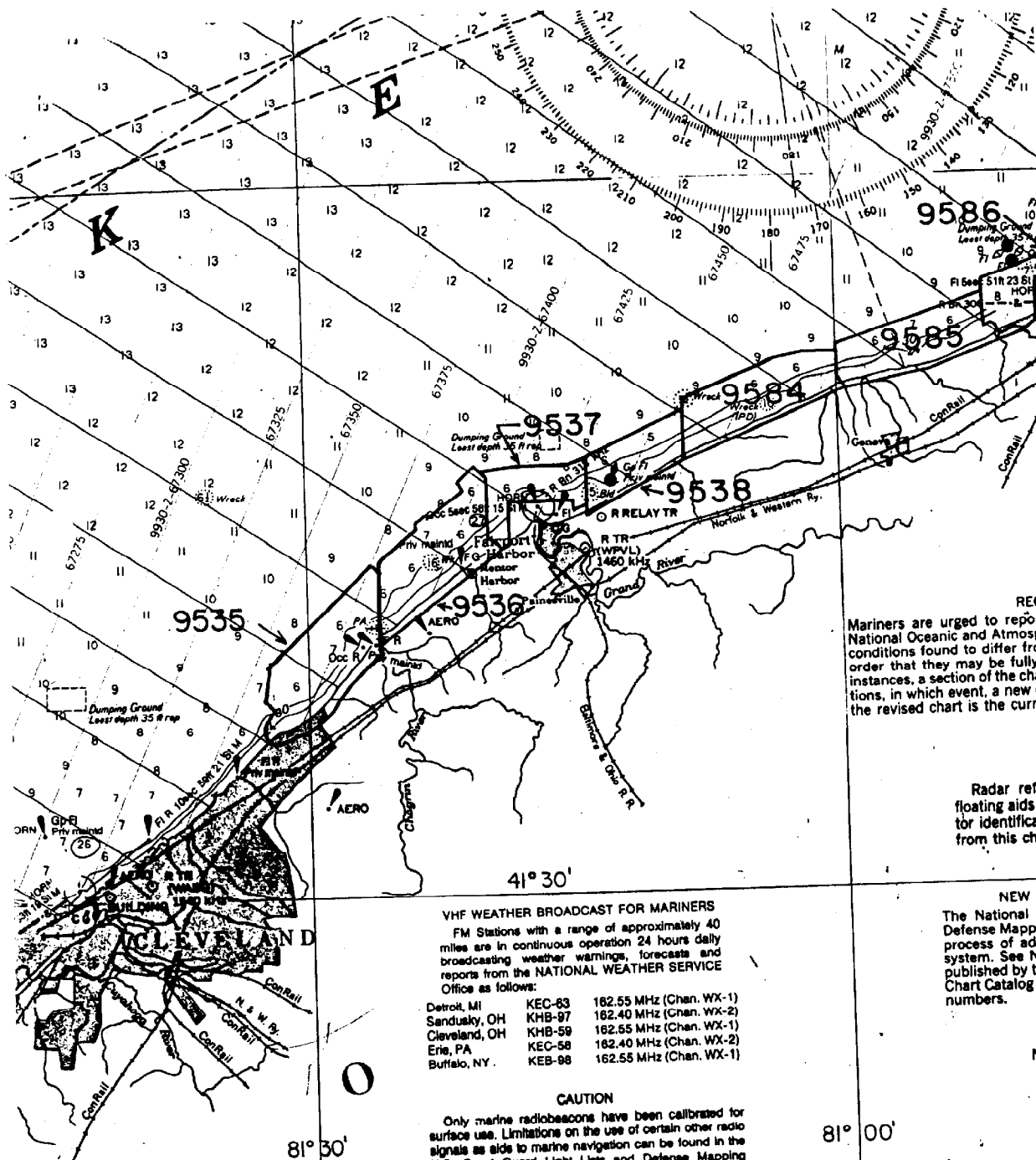
1. Landmarks located on the contemporary topographic surveys that fall in the common area of the present survey were transferred to the smooth sheet during quality control.
2. The final position overlay for the present survey shows position numbers only at the beginning and ending of sounding lines and additional positions at every fifth numbered plot for lines that have greater than five numbered fixes besides those at detached positions. This procedure was used to alleviate excessive hand corrections in areas where machine-printed numbers would be unclear due to overlap. Although this



automated selection of positions contributed to the overall legibility of the position overlay, some overlap occurred in areas of detailed development which precluded a readily identifiable source for the plots. These positions were clarified by hand corrections during quality control.

3. Additional black marks radiating from position dots appear on the final position overlay. This situation apparently results from "pen drag" which should be corrected when observed to occur.
4. Machine-plotted soundings on the smooth sheet are legible, however somewhat faded.
5. Some depth curves on the present survey were not brought into adequate agreement with those shown in the overlapping area on the junctional survey. The necessary revisions were made by the quality evaluator. Where junctional surveys are not available at the time of verification for comparison and determination of the final position of the curves, the curves in the overlapping area should be left in pencil.
6. The sounding line beginning at a start on Fix 2886 which was obtained by range-azimuth means is misplotted on the boat sheet. This anomaly probably occurred due to the presence of an obstruction along the line of sight between the observer and the origin of electronic control. A plot of this position was not correctly considered in a manner to account for the reduced speed of the launch at the beginning of the line during verification. Consequently three soundings along the segment of line in error were in conflict with surrounding hydrography. This deficiency was corrected during quality control.
7. Soundings between positions 691-692 were faulty on the verified smooth sheet because a minus 4.6-foot tide correction was omitted in computing corrected depths.

cc:  
OA/C35  
OA/C351



REQUI  
 Mariners are urged to report  
 National Oceanic and Atmosp  
 conditions found to differ fr  
 order that they may be fully i  
 instances, a section of the cha  
 tions, in which event, a new of  
 the revised chart is the curre

Radar refle  
 floating aids to  
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**VHF WEATHER BROADCAST FOR MARINERS**  
 FM Stations with a range of approximately 40 miles are in continuous operation 24 hours daily broadcasting weather warnings, forecasts and reports from the NATIONAL WEATHER SERVICE Office as follows:

|               |        |                         |
|---------------|--------|-------------------------|
| Detroit, MI   | KEC-83 | 162.55 MHz (Chan. WX-1) |
| Sandusky, OH  | KHB-97 | 162.40 MHz (Chan. WX-2) |
| Cleveland, OH | KHB-59 | 162.65 MHz (Chan. WX-1) |
| Erie, PA      | KEC-58 | 162.40 MHz (Chan. WX-2) |
| Buffalo, NY   | KEB-88 | 162.55 MHz (Chan. WX-1) |

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 published by the  
 Chart Catalog to  
 numbers.

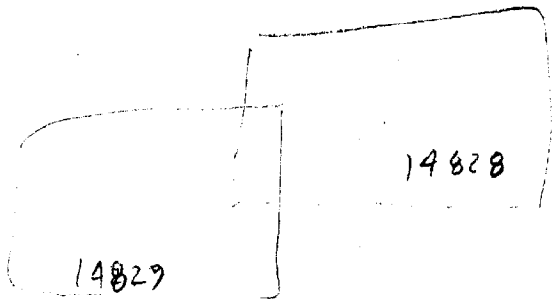
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**CAUTION**  
 Only marine radiobeacons have been calibrated for surface use. Limitations on the use of certain other radio signals as aids to marine navigation can be found in the U.S. Coast Guard Light Lists and Defense Mapping Agency Hydrographic Center Publication 117 (A & B). Radio direction-finder bearings to commercial broadcasting stations are subject to error and should be used with caution.  
 Station positions are shown thus:

○ (Accurate location)    ◐ (Approximate location)  
 Diag Cht. LS-3

**WARNING**  
 The prudent mariner will not rely solely on any single aid to navigation, particularly on floating aids. See U.S. Coast Guard Light List and Great Lakes Pilot for details.

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|              |        |
|--------------|--------|
| <u>14828</u> |        |
| 42°20'       | 41°40' |
| 81°07'       | 79°48' |

|              |        |
|--------------|--------|
| <u>14829</u> |        |
| 41°22'       | 42°03' |
| 80°58'       | 82°17' |

