

9657

Diag. Cht. 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-05-1-76
Office No. ....	H-9657
LOCALITY	
State .....	OHIO
General Locality .....	SOUTH SHORE LAKE ERIE
Locality .....	DUMPING GROUND, NW of CONNEAUT
19 76	
CHIEF OF PARTY William R. Daniels	
LIBRARY & ARCHIVES	
DATE .....	December 29, 1977

☆ U.S. GOV. PRINTING OFFICE: 1976-889-441

14820  
14824  
14825

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✓ = Misc. items filed in the cahier

FORM C&GS-537 (8-66)	U.S. DEPARTMENT OF COMMERCE ENVIRONMENTAL SCIENCE SERVICES ADMINISTRATION COAST AND GEODETIC SURVEY	REGISTER NO.  H-9657
<b>HYDROGRAPHIC TITLE SHEET</b>		FIELD NO. LA 5/1/76

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 Ohio

General locality South Shore Lake Erie, ~~Conneaut Harbor~~  
 (Dumping Grounds)

Locality ~~1/3 of a mile~~ NW of ~~the~~ Conneaut Harbor Entrance

Scale 1:5000 Date of survey Aug. 9, 1976 - Aug. 18, 1976

Instructions dated April 1, 1976 Project No. OPR-300-LA-76

Vessel NOAA Launch LAIDLY 1264

Chief of party Lt. Cdr. William R. Daniels

Surveyed by Jerome M. Nahas

Soundings taken by echo sounder, ~~and lead, etc.~~ Ross 5000

Graphic record scaled by Kayser, Meinert, Ristau, Hart, Reed, Beech

Graphic record checked by Jerome M. Nahas Verification Branch (AMC)

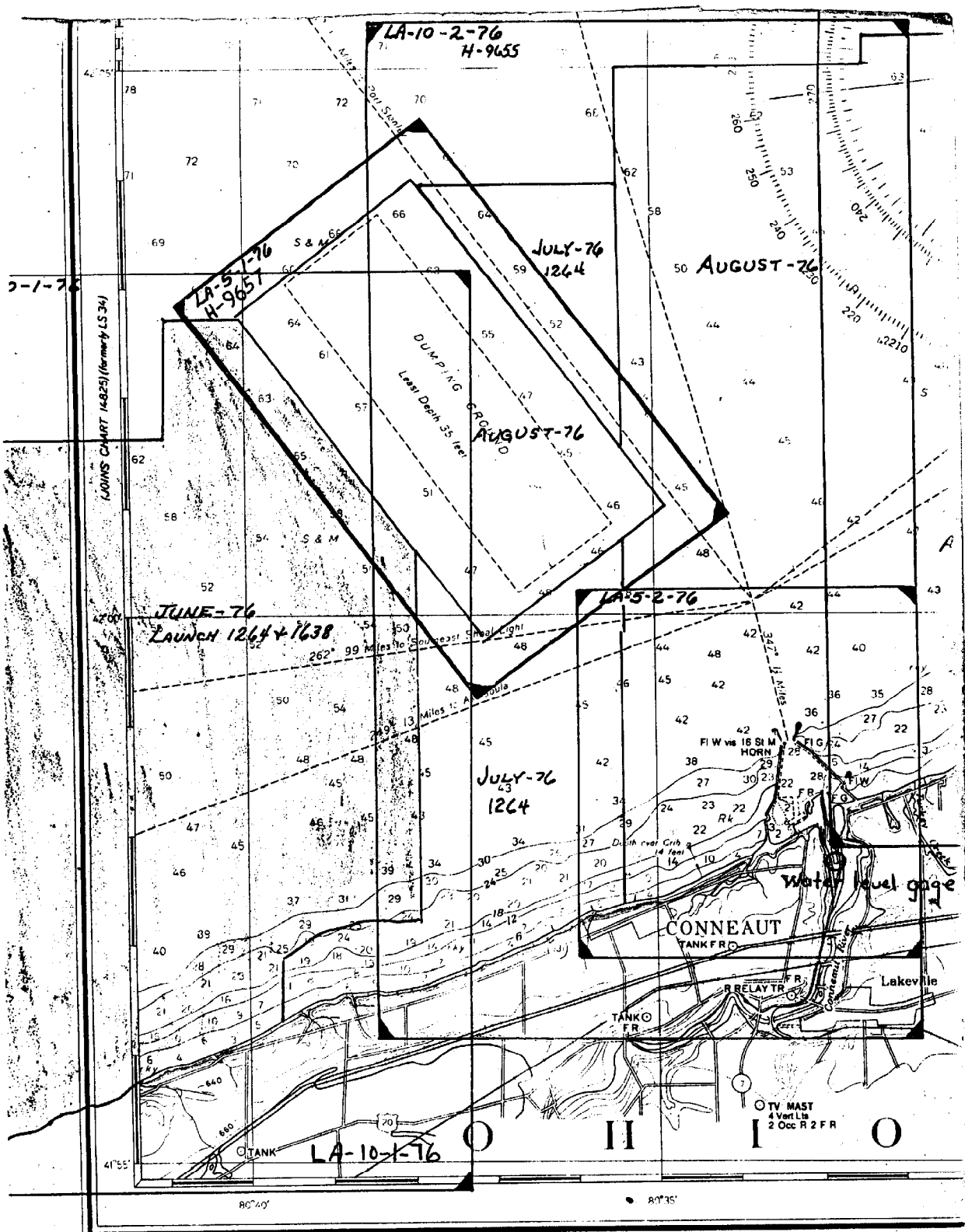
Protracted by NA Automated plot by CAL-COMP-618 (AMC)

Soundings penciled by \_\_\_\_\_ CAL-COMP-618

Soundings in fathoms feet at ~~XIXIX XIXIX~~ LWD, Lake Erie = 568.6 ft. (IGLD, 1955)

REMARKS: Changes and additions in red ink made by verifier  
by at the time of verification.

Applied to stds 7/10/78  
[Signature]



DESCRIPTIVE REPORT

to accompany

HYDROGRAPHIC SURVEY H-9657 (Field #LA 5-1-76)

Scale: 1:5000 (1976)  
Lt. Cdr. William R. Daniels

NOAA Launch 1264 (LAIDL)  
Chief of Party

A. PROJECT

Project OPR-300-LA-76, Lake Erie (3-1/2 miles East of Ashtabula, Ohio, to six miles east of Erie, PA) is a combined total of 15 surveys. The survey described herein (4th of 5 completed surveys) was accomplished in accordance with Project Instructions, OPR-300-LA-76, dated April 1, 1976.

B. AREA SURVEYED

The survey was made in the DUMPING GROUNDS area about <sup>3</sup>~~1/3~~ of a mile NW of the Conneaut Harbor entrance. The hydrography limits were bounded by the following North, East, South, and West corners.

N corner

Lat. 42°03'47"25  
Long. 80°38'13"50

E corner

Lat. 42°00'49"50  
Long. 80°35'19"50

S corner

Lat. 42°00'05"25  
Long. 80°36'45"75

W corner

Lat. 42°03'03"00  
Long. 80°39'39"25

The area surveyed extends from within the 45-foot contour to beyond the 65 foot contour. The survey was started on August 9, 1976 and was completed on August 18, 1976.

C. SOUNDING VESSEL

The NOAA Launch LAIDL (1264) was used to accomplish the survey. Sounding operations performed by the LAIDL involved position numbers 4132 - 6159, inclusive.

D. SOUNDING EQUIPMENT

Sounding equipment used aboard the LAIDL (1264) during the entire period of this survey was the ROSS FINELINE 5000 Serial Number 1087. The Recorder and Digitizer operated well during the entire survey. Although due to a malfunction in the Hydroplot Controller, any given depth outputted through the Controller was rounded in the tenth's digit to 0,

2 or 6. The depth units were logged fine, except on occasion, a plus four-foot discrepancy would be logged. This discrepancy was due to a faulty connection between the Raytheon digitizer box and the Ross power supply. All discrepancies were found and corrected during scanning.

#### 1. Corrections to Echo Soundings

a. Velocity correctors were derived from the direct comparison log, Column P, Corr. (C-N) during the period of this survey.

b. Deviations of the initial draft setting 0-foot were noted on the fathograms during the scanning and were taken into account when the sounding records were emended.

c. Fathometer instrument error was determined from the Direct Comparison Log, Column Q, Instrument Error (J-P). Instrument error was applied to the records during scanning of the digital and analog records. Corrections to the master tapes were applied via the corrector tapes.

d. Direct Comparison of the Analog Records and Digital readings against true bar depths were made only under ideal conditions, and 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 Launch LAIDLAY (1264). Static draft correction was accomplished by conventionally approved methods.

e. Settlement and squat test were made on June 5, 1976. The tests were conducted inside Fairport Harbor. The project depth of 25 feet was more than adequate for the tests and the harbor breakwalls provided adequate protection from lake swells. The test procedures were in accordance with recommendations in Section 4.9.4 of the provisional Hydrographic Manual. A Zeiss leveling instrument was set up on one of the inside concrete harbor piers and sightings were taken on a level rod held vertically and perpendicular to the transducer, and traveling at the respective speeds. (See Page 10 for results of test.)

#### E. HYDROGRAPHIC SHEETS

Raw data master tapes from the S/V LAIDLAY (1264) were generated and data plotted on the boat sheet in real-time using the on-board HYDROPLOT System. Edited Corrector, Velocity, Tide (water level data), and TC/TT tapes were generated in the HYDRO field office trailer located in the dispatching yard at the Atlantic Marine Center. Final verification of the smooth field sheet plot will be accomplished by the Verification Branch (CAM31), AMC.

#### F. CONTROL STATIONS

Monumented Third-Order Horizontal Control Stations used in this survey and listed on the survey sheet are: (041) LUTHER LSC, (043) HARRINGTON LSC, (044) WATER LSC, and (059) STATE LINE. Also, (047) CONN LSC, was a monumented Second-Order Horizontal Control Station used in this survey.

The Horizontal Control used for this field survey was established to

specifications set by the National Geodetic Survey and in compliance with the Hydrographic Manual.

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 5-1-76.

HYDROGRAPHIC POSITION CONTROL  
Launch LAIDLAY (1264) Range/Range Mode

JULIAN DAY 222			
Range 1: "B"	(047)	CONN LSC	
Range 2: "D"	(041)	LUTHER LSC	
DAY 223			
Range 1: "B"	(047)	CONN LSC	
Range 2: "C"	(041)	LUTHER LSC	
DAY 224			
Range 1: "D"	(047)	CONN LSC	
Range 2: "C"	(041)	LUTHER LSC	
DAY 224			
Range 1: "A"	(044)	WATER LSC	
Range 2: "C"	(041)	LUTHER LSC	
DAY 224			
Range 1: "B"	(059)	STATE LINE LSC	
Range 2: "C"	(041)	LUTHER LSC	
DAY 225			
Range 1: "A"	(059)	STATE LINE LSC	
Range 2: "B"	(043)	HARRINGTON LSC	
DAY 230			
Range 1: "A"	(059)	STATE LINE LSC	
Range 2: "C"	(043)	HARRINGTON LSC	
DAY 231			
Range 1: "A"	(059)	STATE LINE LSC	
Range 2: "C"	(043)	HARRINGTON LSC	
DAY 258			
Range 1: "C"	(059)	STATE LINE LSC	
Range 2: "B"	(043)	HARRINGTON LSC	

The following is a list of equipment and serial numbers used on VESNO 1264 during this survey.

POSITION CONTROL

T/R Master Transponder . . . . . (S/N 246)  
Omni 360° x 30° Antenna . . . . . (S/N 412)  
DMU Trisponder 202A w/TSA . . . . . (S/N 192)  
Parallel Buffer, 200-IPLA . . . . . (S/N 127)

HYDROPLOT SYSTEM

DEC Hydroplot Controller . . . . . (S/N 76005941-0700004)  
DEC Computer PDP 8/E . . . . . (S/N PRO 308130)  
DEC High Speed Reader/Punch . . . . . (S/N 040214005)  
Teletype ASR 33 (No. 1) . . . . . (S/N 465065)  
Teletype ASR 33 (No. 2) . . . . . (S/N 5848-19)

SOUNDING SYSTEM

Ross Fineline 5000 Depth Recorder. . . (S/N 1087)

OFFICE PROCESSING HYDROPLOT SYSTEM

DEC Computer PDP 8/E . . . . . (S/N PRO 309104)  
DEC High Speed Reader/Punch . . . . . (S/N 0211123)  
Teletype ASR 33 (No. 1) . . . . . (S/N 458267)  
Teletype ASR 33 (No. 2) . . . . . (S/N 436575 & Spare S/N 465202)  
Complot DP 3/5 Plotter . . . . . (S/N 5279-1)

CALIBRATION FOR LAUNCH LAIDLAY (1264)

Remote transponders with directional antennas along with a transit were set over 2nd and 3rd order hydrographic control stations. Calibration of the Del Norte SHF electronic positioning system was accomplished within the work area of this survey by using 2nd and 3rd order hydro control network as calibration points.

Calibration was accomplished by the use of two or more transits set up over 2nd and 3rd order control stations. On a given command from the survey launch via radio communications, true azimuth cuts or intersection were made on the Master T/R transponder aboard the launch. All azimuths were relayed back to the launch for input into the PDP8/-E system using RK 562, calibration program. Four sets of calibrations were taken and the meaned correctors were entered into the HYDROPLOT Controller and logged before starting hydrographic operations.

At the end of the day, four more sets of calibrations were taken and meaned. The means of the two series of calibrations usually checked to within  $\pm 2$  meters. All series of calibrations from the same control network were meaned and the means were applied to the corrector tapes.



H. SHORELINE

No input.

I. CROSSLINES

Crosslines were run at 10% of the main scheme hydrography. Crosslines are in good agreement with differences generally less than one foot.

J. JUNCTIONS

Junction with contemporary surveys H-9654 and H-9655 accomplished during the 1976 field season is excellent. No other prior surveys junction with this survey.

K. COMPARISON WITH PRIOR SURVEYS

None available. This survey was compared with 1-2038 (1960) during verification.

L. COMPARISON WITH THE CHART

NOS Chart 14824 (formerly LS 33), 19th Edition dated March 1, 1975, scale 1:80,000, shows the least depth of the Dumping Ground area to be 35 feet opposed to 41 feet, the least depth found on the 223 day of this survey. Soundings outside the parameters of the charted Dumping Ground limits show good agreement, with differences generally less than one foot. Least depth obtained at lat.  $42^{\circ}00'17''$ , long.  $80^{\circ}36'49.34''$ .  
Pos. No. 475302  
Lat  $42^{\circ}00'55.93''$   
Long  $80^{\circ}36'49.34''$

M. ADEQUACY OF SURVEY

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

N. AIDS TO NAVIGATION

There are no floating aids to navigation within the area of this survey.

O. STATISTICS

Number of positions . . . . .	2028
Nautical miles of sounding lines. . .	187
Nautical miles of crosslines. . . .	21
Square nautical miles surveyed. . .	12
Number of Bottom Samples . . . . .	10

P. MISCELLANEOUS

In reference to bottom samples taken on LA 5-1-76, samples #7 - #10 were in actuality sample numbers 57, 58 & 93, 94 transferred from LA 10-1-76. These samples, along with bottom samples taken on the 258 day were put in consecutive order, in MASTER TAPE FORMAT, on the 258 day.

Q. RECOMMENDATIONS

No input.

R. AUTOMATED DATA PROCESSING

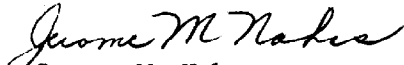
<u>PROGRAM NAME</u>	<u>NUMBER</u>	<u>VERSION</u>
Range/Range Real Time Hydroplot . . . . .	RK111	1/30/76
Grid, Signal & Lattice Plot . . . . .	RK201 . . . .	4/18/75
Range/Range Non-Real Time Plot . . . . .	RK211 . . . .	1/15/76
Utility Computations . . . . .	RK300 . . . .	2/05/76
Reformat and Data Check . . . . .	RK330 . . . .	5/04/76
Geodetic Inverse/Direct Computation . . . . .	RK407 . . . .	10/23/75
H/R Geodetic Calibration (By Azimuth)* . . . .	RK562 . . . .	9/10/74
Elinore - Line Oriented Editor . . . . .	AM602 . . . .	5/20/75
Tape Duplicator . . . . .	RK606 . . . .	8/22/74

\* Although RK562 (H/R GEODETIC CALIBRATION BY AZIMUTH) has been removed from the hydroplot system program inventory listing, it was found advantageous that the Lakes Hydro Party make use of this program due to the necessity to calibrate by azimuth; (because of the heavy haze factor which makes it near impossible to locate station signals.

S. REFERENCE TO REPORTS

No input.

Respectfully submitted,

  
Jerome M. Nahas

## 2. Location of Water Level Gages

The Stevens gages were located at the U. S. Coast Guard Station, Ashtabula Harbor, and at the Pittsburgh and Conneaut Dock Company at the south end of the slip in Conneaut, Ohio.

### LOCATION - Ashtabula Harbor Gage

Latitude - 41°54'10"

Longitude - 80°47'53"

PERIOD - May 13, 1976 - October 4, 1976

206 Days

### LOCATION - Conneaut Gage

Latitude - 41°57'42"

Longitude - 80°32'51"

PERIOD - May 24, 1976 - October 4, 1976

195 Days

On May 13, 1976, replaced State of Ohio Stevens automatic gage located at Ashtabula Harbor (U.S. Coast Guard Station) with AMC/HYDRO SECTION spring driven recorder SN 39740-64, Zero Electric Tape Gage (ZETG) was also installed on May 13, 1976, Common levels determined elevation of ZETG to be 577.974 feet (IGLD, 1955).

On May 24, 1976, installed Stevens Automatic Gage (spring driven) SN 39743-64 at south end of the P & C Dock Company slip. The ZETG was also installed on May 24, 1976. Common levels determined elevation of ZETG to be 580.475.

### WATER LEVEL NOTE

Water level reductions of soundings were based on a mean water level elevation from which a mean state was determined by taking the difference between the average lake elevation and the Low Water Datum (LWD) of Lake Erie (568.6 ft. IGLD, 1955). The average stage was found to be -4.0 feet. This data was then manually formulated into a tide tape format by the use of AM602.

The tide tape generated for the smooth field sheet plot is subject to error and should be regenerated with hourly stage correctors from both the Conneaut and Ashtabula Harbor gages.

The final Water Level hourly and daily elevations of the Conneaut and Ashtabula Harbor gages are available at:

Water Level Gaging Section  
NOAA/National Ocean Survey  
WSC-1, Room 622, C3314  
6001 Executive Boulevard  
Rockville, MD 20852

DIRECT COMPARISON,  
FOR SOUND VELOCITY  
LA 5-1-76 (TABLE # 1) H-9657  
NOAA LAUNCH LAIDLAY (1264)

DAY	10	15	20	25	30	35	40	45	50	55	60			
215	+1.3	+1.3	+1.3	+1.5	+1.5	+1.7	+1.8	+1.9	+1.9	+1.0	+1.0	} Ross 5000 (#1087)		
216	+1.3	+1.4	+1.5	+1.5	+1.6	+1.7	+1.8	+1.9	+1.9					
217	+1.2	+1.2	+1.3	+1.3	+1.5	+1.6	+1.6	+1.8	+1.9					
224	+1.3	+1.4	+1.5	+1.5	+1.5	+1.7	+1.7	+1.8	+1.9	+1.9	+1.9			
232	+1.3	+1.4	+1.5	+1.5	+1.6	+1.8	+1.8	+1.9	+1.9	+1.9	+1.1			
239	+1.5	+1.5	+1.5	+1.5	+1.7	+1.8	+1.9							
$\Sigma$	11.9	2.2	2.6	2.8	3.4	4.3	4.6	4.3	4.5	2.8	3.0			
MEAN	.32	.37	.43	.47	.57	.72	.77	.86	.90	.93	1.00			
I MEAN	+1.3	+1.4	+1.4	+1.5	+1.6	+1.7	+1.8	+1.9	+1.9	+1.9	+1.0			

TABLE 1

TRUE DEPTH	- P = N
10	- (+1.3) = 9.7
15	- (+1.4) = 14.6
20	- (+1.4) = 19.6
25	- (+1.5) = 24.5
30	- (+1.6) = 29.4
35	- (+1.7) = 34.3
40	- (+1.8) = 39.2
45	- (+1.9) = 44.1
50	- (+1.9) = 49.1
55	- (+1.9) = 54.1
60	- (+1.0) = 59.0

N

0.0 +1.0 +2.0

P (DIGITAL)

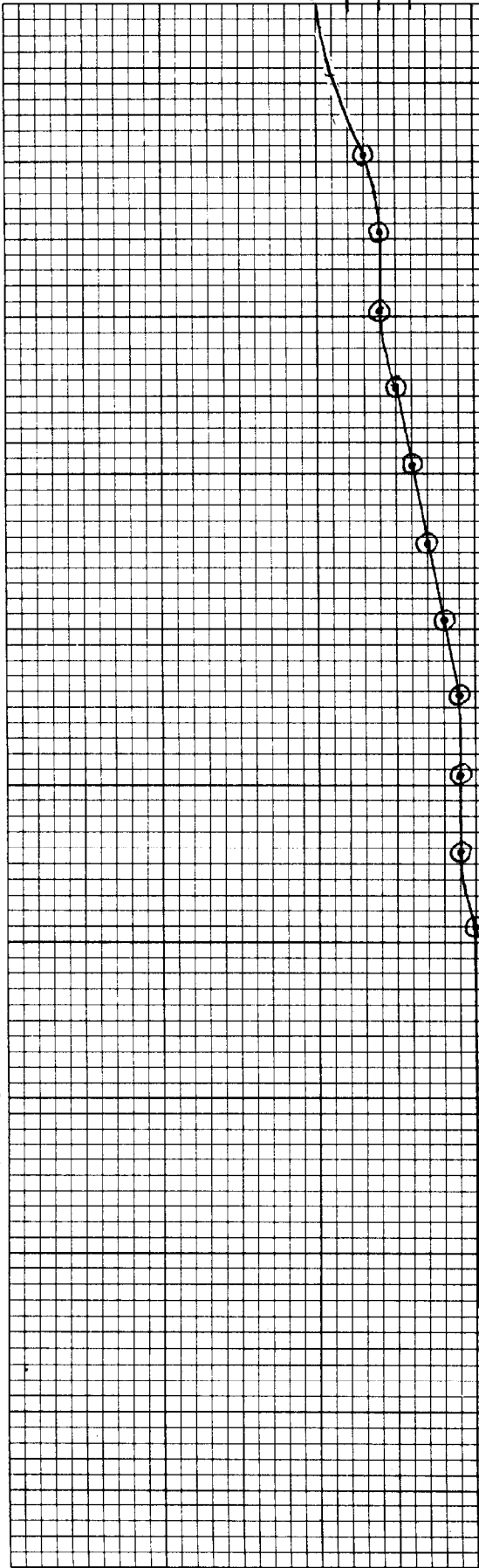
10  
15  
20  
25  
30  
35  
40  
45  
50  
55  
60  
65  
70  
75  
80

TABLE #1 LA 5-1-76

0.0'	→	4.6'	=	+0.0
4.6'	→	9.7'	=	+0.2
9.7'	→	24.5'	=	+0.4
24.5'	→	34.3'	=	+0.6
34.3'	→	44.1'	=	+0.8
44.1'	→	80.0'	=	+1.0
80.0'	→	9999	=	+1.0

EUGENF DIETZGEN CO.  
M/  
N. U. S. A.

NO. 341-10 DIETZGEN GRAPH PAPER  
10 X 10 INCH

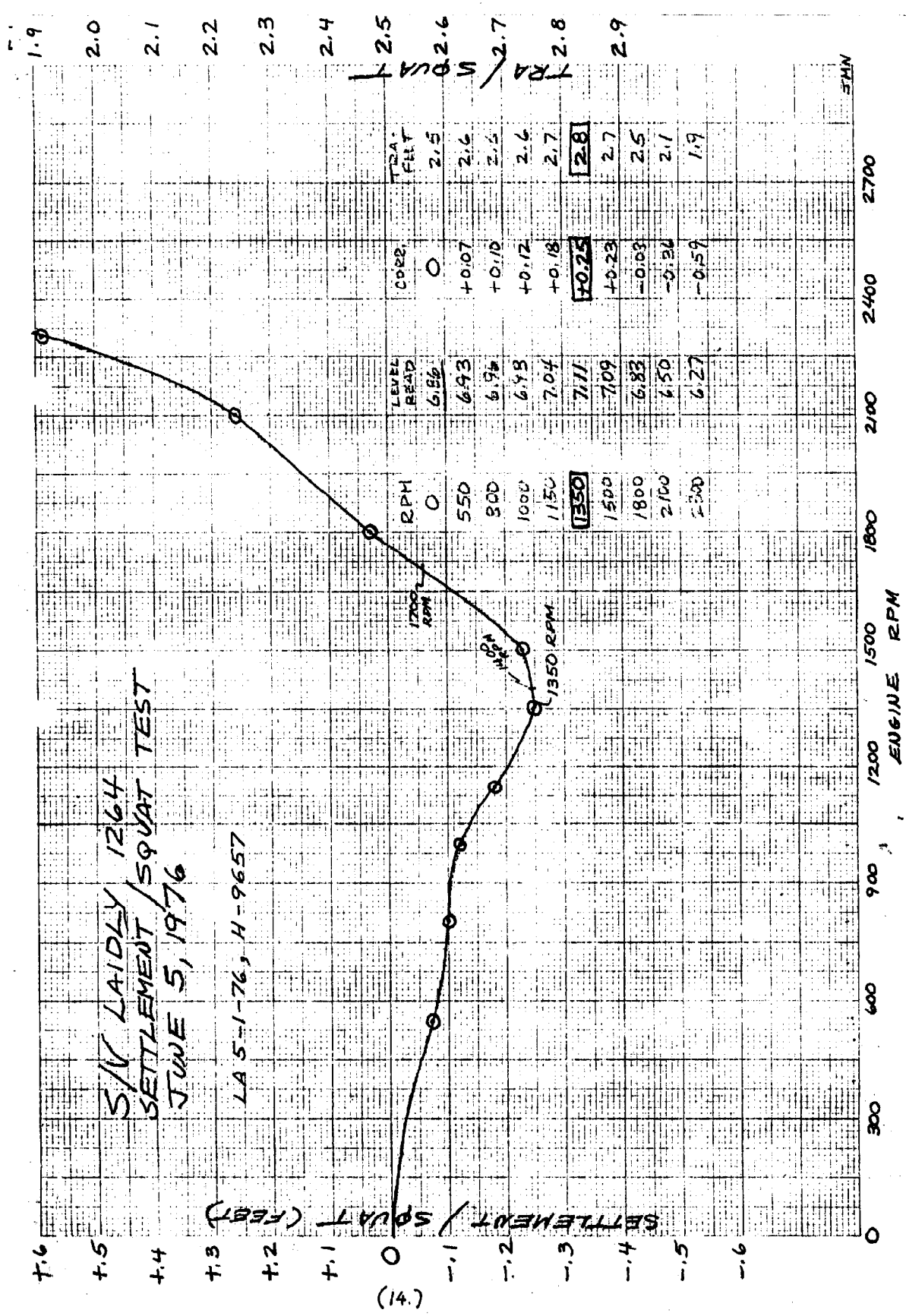


Ross 5000 (#1087)

A settlement and squat abstract for NOAA Launch LAIDLY 1264 is shown below with accompanying graph.

LAIDLY (LAUNCH 1264)  
Settlement/Squat Test  
June 5, 1976

<u>RPM</u>	<u>LEVEL ROD READING, FT.</u>	<u>CORRECTIONS, FT.</u>	<u>TRA-FT.</u>
0	6.86	0	2.5
550	6.93	+0.07	2.6
800	6.96	+0.10	2.6
1000	6.98	+0.12	2.6
1150	7.04	+0.18	2.7
1350	7.11	+0.25	2.8
1500	7.09	+0.23	2.7
1800	6.83	-0.03	2.5
2100	6.50	-0.36	2.1
2300	6.27	-0.59	1.9



Station List

\*\*  
041 7 41 56 33521 080 38 48123 250 0000 000000 Luther LSC, 1974 (3rd Order) Quad 410804  
\*  
043 7 41 57 17026 080 35 48746 250 0000 000000 Harrington LSC, 1974 (3rd Order) Quad 410804  
\*  
044 7 41 57 39226 080 34 24367 250 0000 000000 Water LSC, 1974 (3rd Order) Quad 410804  
047 7 41 58 47501 080 33 29418 250 0024 000000 Conn LSC, 1974 (2nd Order) Quad 410804  
\*  
059 7 41 58 38251 080 31 07745 250 0017 000000 State Line, 1975 (3rd Order) Quad 410804

Third Order, CLASS 11 EODM Positioned Direct From Conn LSC, 1974 \*

Third Order, CLASS 11 EODM Positioned Direct From Ashtabula, LSC, 1974 \*\*

Conn LSC, Second Order EODM Traverse Station (Cleveland to Buffalo Scheme)

Ashtabula LSC, Second Order EODM Traverse Station (Cleveland to Buffalo Scheme)



VELOCITY TABLE #1

LA 5-1-76

H-9657

VESNO 1264

000046 0 0000 0001 000 126400 050176  
000097 0 0002  
000245 0 0004  
000343 0 0006  
000441 0 0008  
000800 0 0010  
999999 0 0010

APPROVAL SHEET

H-9657 (LA-5-1-76)

The acquisition of hydrographic data represented on LA 5/1/76 was accomplished by the supervision of Jerome M. Nahas. The Descriptive Report was also prepared by Mr. Nahas.

About 20% of the subsequent data processing was accomplished in the field by the HYDRO Party Personnel. The remaining 80% of the data processing and check scanning was accomplished by Mr. Nahas at the Atlantic Marine Center in the former LSC Hydro base trailer located in the AMC dispatching yard.

The hydrographic survey, LA 5-1-76, H-9657, is considered to be complete and adequate to supersede previous surveys in the same area.

Approved and forwarded



William R. Daniels, LCDR, NOAA

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: CAM 3

Hourly heights are approved for

Water Level Station Used: Conneaut, Ohio and Ashtabula, Ohio

Period: August 9th thru the 18th, 1976

HYDROGRAPHIC SHEET: H-9657

OPR: -300-LA-76

Locality: Lake Erie

Plane of reference ~~is~~ low water datum (IGLD 1955 ~~is~~ 568.6 feet)

Remarks:

*PM* Don M. Spillman  
Chief, Tides & Water Levels Branch

H-9657 (LA-05-1-76)

Parameters

"B"

FEST=50000  
CLAT=4638460  
CMER=80/37/30  
GRID=15  
PLSCL=5000  
PLAT=42/00/51  
PLON=80/34/45  
VESNO=1264  
YR=76  
ANLIST=0.0

"A"

FEST=50000  
CLAT=4638460  
CMER=80/37/30  
GRID=15  
PLSCL=5000  
PLAT=42/00/27  
PLON=80/35/30  
VESNO=1264  
YR=76  
ANLIST=0.0

APPROVAL SHEET  
FOR  
SURVEY H- 9657

- 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 ~~not~~ been made. A new final sounding printout has ~~not~~ been made.
- B. The verified smooth sheet has been inspected, is complete, and meets the requirements of the Provisional Hydrographic Manual. Exceptions are listed in the Verifier's Report.

Date: 12/9/77

Signed: *Ray J. Pugh*  
for  
Title: Chief, Verification Branch

GEOGRAPHIC NAMES

H-9657

Name on Survey	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	

Lake Erie CONNEMAUT (TITLE ONLY)										1
LAKE ERIE										2
										3
										4
										5
										6
										7
										8
										9
										10
										11
										12
										13
										14
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										16
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										18
										19
										20
										21
										22
										23
										24
										25

APPROVED  
*Chas. E. Harrington*  
 STAFF GEOGRAPHER - C51XZ  
 30 JAN

## HYDROGRAPHIC SURVEY STATISTICS

H-9657

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

RECORD DESCRIPTION		AMOUNT	RECORD DESCRIPTION		AMOUNT	
SMOOTH SHEET		1	BOAT SHEETS & PRELIMINARY OVERLAYS		24	
DESCRIPTIVE REPORT		1	SMOOTH OVERLAYS: POS. ARC, EXCESS		2	
DESCRIP- TION	DEPTH RECORDS	HORIZ. CONT. RECORDS	PRINTOUTS	TAPE ROLLS	PUNCHED CARDS	ABSTRACTS/ SOURCE DOCUMENTS
ENVELOPES	1		1-misc			
CAHIERS	1		1 -fil			
VOLUMES	1					
BOXES			1			

T-SHEET PRINTS (List) 2-junctions strips

SPECIAL REPORTS (List)

## 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			2028
POSITIONS CHECKED		200	
POSITIONS REVISED		5	
SOUNDINGS REVISED		50	
SOUNDINGS ERRONEOUSLY SPACED		0	
SIGNALS (CONTROL) ERRONEOUSLY PLOTTED		0	
	TIME - HOURS		
CRITIQUE OF FIELD DATA PACKAGE (PRE-VERIFICATION)	2		
VERIFICATION OF CONTROL			
VERIFICATION OF POSITIONS		39	
VERIFICATION OF SOUNDINGS		52	
COMPILATION OF SMOOTH SHEET		22	
APPLICATION OF TOPOGRAPHY		0	
APPLICATION OF PHOTOBATHYMETRY		0	
JUNCTIONS		3	
COMPARISON WITH PRIOR SURVEYS & CHARTS		7	
VERIFIER'S REPORT		10	
OTHER			
TOTALS	2	133	135

Pre-Verification by  
F. SaundersBeginning Date  
07/14/77Ending Date  
07/14/77Verification by  
M.. Hickson, K. Ainsley, L. CramBeginning Date  
08/25/77Ending Date  
11/30/77Verification Check by  
B. StephensonTime (Hours)  
3Date  
12/06/77Marine Center Inspection by  
Hydrographic Inspection Team (AMC)Time (Hours)  
5Date  
12/07/77

Quality Control Inspection by

Time (Hours)  
1.5Date  
1-30-78

Requirements Evaluation by

Time (Hours)  
2Date  
5/26/78

Engle 4 hr 5/12/78

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

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. H-9657

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-9657

FIELD NO. LA-5-1-76

Ohio, South Shore Lake Erie, Dumping Grounds Northwest Conneaut Harbor Entrance

SURVEYED: August 9 through August 18, 1976

SCALE: 1:5,000

PROJECT NO.: OPR-300

SOUNDINGS: Ross 5,000 Fineline  
Fathometer

CONTROL: Del-Norte  
(Range-Range)

Chief of Party ..... W. Daniels  
Surveyed by ..... J. Nahas  
..... A. Kayser  
..... B. Meinert  
..... M. Ristau  
..... T. Hart  
..... M. Reed  
..... J. Beech  
Automated Plot by ..... Calcomp Plotter #618 (AMC)  
Verified and Inked by ..... L. Cram *L. Cram*  
November 30, 1977

1. Introduction

a. No unusual problems were encountered during verification.

b. The projection parameters were revised during verification. There were minor wording changes made in red ink in the Descriptive Report by the verifier.

2. Control and Shoreline

a. The control is adequately described in Sections F and G of the Descriptive Report.

b. There is no shoreline on this survey.

3. Hydrography

a. The agreement at crossings on this survey is adequate.

b. The standard depth curves were adequately delineated. Several brown curves have been added to emphasize other bottom features.

c. This survey is adequate to delineate the bottom configuration and the investigation of least depths is considered adequate with the following exception:

It would have been desirable to have run additional lines of hydrography in the areas of some of the shoaler depths.

#### 4. Condition of Survey

The field plotting, survey records, and the Descriptive Report are adequate and conform to the requirements of the Provisional Hydrographic Manual, except as follows:

a. The sounding volumes <sup>was</sup> were incomplete; the cover was not completely filled out, the indexes <sup>was</sup> were not filled out for detached positions, and no stamps were in the sounding volume.

b. There were not enough scale checks or calibration of scale on the fathograms.

c. The development of shoal areas was inadequate as stated in Section ~~7~~a, Hydrography, of this report.

#### 5. Junctions

Adequate junctions were effected with the following surveys:

H-9654 (1976) to the east

H-9655 (1976) to the west, south, and southeast

The curves on these surveys were brought into coincidence and the junctions are complete.

There is no contemporary survey to the north. The soundings on the present survey are in good agreement with the charted hydrography in this area.

#### 6. Comparison With Prior Survey

1-2037 (1960) 1:80,000

1-2038 (1960) 1:80,000

A comparison between the above prior surveys and the present survey reveals only minor differences of one to three feet in the general bottom configuration, with the present survey being somewhat deeper. These differences can be attributed to natural changes and the larger scale of the present survey. (See Q.C. Report-item 1)

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

7. Comparison With Chart 14824 (19th Edition, March 1, 1975)

a. Hydrography

The charted hydrography originates with the previously discussed prior survey and other sources not readily available at the time of comparison. The one significant difference between charted information and the present survey is discussed below:

Least depth 35 ft - this note appears on the chart in the area of the dumping ground and is from a source not readily ascertainable at the time of verification. This item was not addressed by the hydrographer and the least depth found on the present survey is 41 feet. Due to the lack of development of the 41 foot least depth on the present survey it is recommended that the 35 foot least depth note remain as charted. (See OC Report - item 2)

With the exception noted above, the present survey is considered adequate to supersede the charted information.

8. Compliance With Instructions

This survey adequately complies with the Project Instructions dated April 1, 1976.

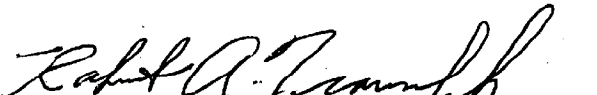
9. Additional Field Work

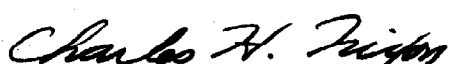
This is a good basic survey. No additional field work is recommended.

Inspection Report  
H- 9657

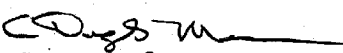
Any verification errors regarding procedures and presentation of survey data detected during inspection by the Hydrographic Inspection Team have been corrected before submission for administrative approval. HIT comments regarding quality of field work, compliance with instructions, and adequacy of the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


Examined and Approved:  
Hydrographic Inspection Team  
Date: *December 8, 1977*

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

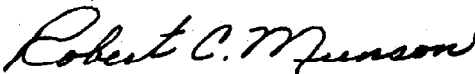
  
Charles H. Nixon, CDR, NOAA  
Chief, Operations Division

ABSENT  
R. D. Sanocki  
Technical Assistant  
Processing Division

  
C. Douglas Mason, LT, NOAA  
Chief, Electronic Data  
Processing Branch

  
Harry R. Smith  
Team Leader  
Verification Branch

Approved/Forwarded

  
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

C352/KWW

January 30, 1978

TO: *A. J. Patrick*  
A. J. Patrick  
Chief, Marine Surveys Division

THRU: Chief, Quality Control Branch

FROM: K. W. Wellman *K. W. Wellman*  
Quality Evaluator

SUBJECT: Quality Control Report for H-9657 (1976), Ohio South Shore,  
Lake Erie, Dumping Ground Northwest of Conneaut

A quality control inspection of H-9657 has been accomplished to evaluate the accuracy and adequacy of the survey with respect to data acquisition, delineation of the bottom, determination of least depths and navigation hazards, decisions and actions by the verifier, and cartographic presentation of data.

Junctional sheets H-9654 (1976) on the east and H-9655 (1976) on the west, south, and southeast are not available for a quality control inspection of the junctions, the adequacy of which will be considered during the course of their quality control inspections.

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

1. Reference section 6 of the Verifier's Report:

Hydrographic survey 1-2037 also covers a portion of the area of the present survey but was not noted in the Verifier's Report. It was therefore compared with the present survey and added to the Verifier's Report during quality control evaluation. The discussion of the comparison in section 6 of the Verifier's Report also applies to survey 1-2037 and is supplemented by the following:

The comparison reveals good general agreement of depths within the common area with scattered depth differences of  $\pm 3$  feet.

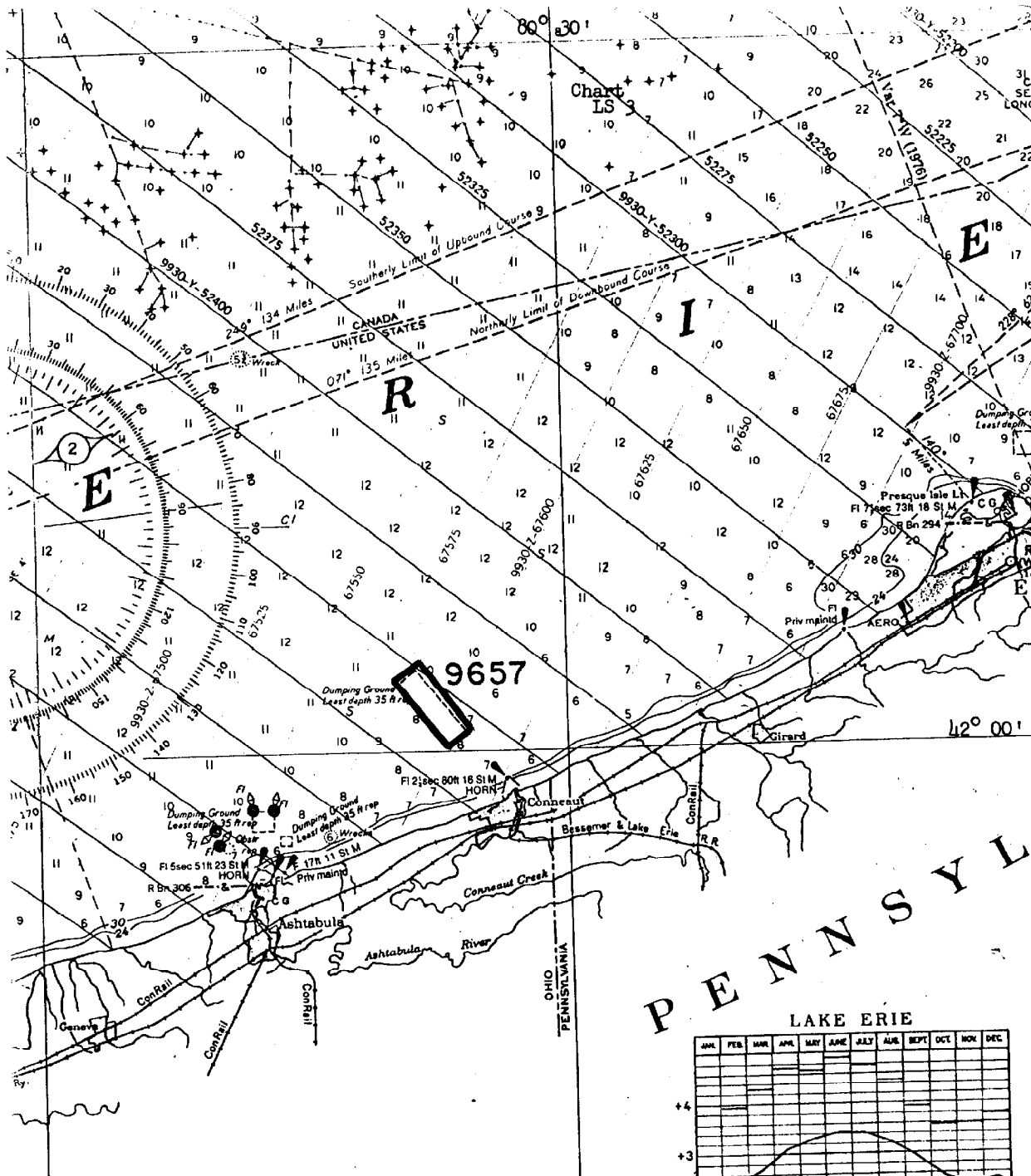
2. Section 7-a of the Verifier's Report is supplemented by the following:



The note "least depth 35 feet" is shown on the office copy of the chart drawing of 1940. The apparent source of this charted note is prior survey 1-1792 (1940) which indicates that the area was "swept to 35 feet." However, no such least depth of 35 feet is shown thereon. The chart should be revised as considered appropriate.

3. The formal Water Level Note was not included in the Descriptive Report during verification. It was therefore necessary to request the Water Level Approval Note during quality control evaluation. (See provisional manual--section 6.6(5).)

cc:  
C35  
C351

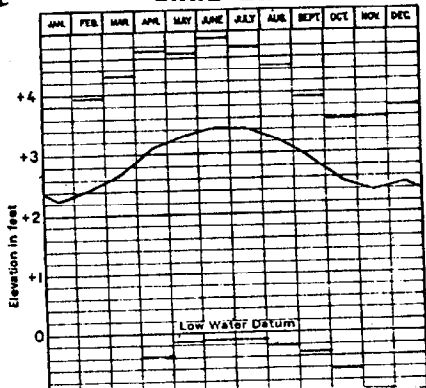


**REQUEST FOR INFORMATION**

Mariners are urged to report promptly to The Director, National Ocean Survey, National Oceanic and Atmospheric Administration, Rockville, Maryland 20852, any conditions found to differ from or to be additional to those shown on this chart in order that they may be fully investigated and proper corrections made. In some instances, a section of the chart should be submitted to illustrate the reported conditions, in which event, a new chart will be issued to replace the used copy, providing the revised chart is the current edition and not an obsolete copy.

# PENNSYLV

## LAKE ERIE



RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. 9657

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
14825	8-2-78	ELEANOR CLARK	<del>Full Part Before</del> After Verification Review Inspection Signed Via Drawing No. 2 EXAM FOR CRITICAL CORR. NONE APPLIED
14820	9-26-78	ELEANOR CLARK	<del>Full Part Before</del> After Verification Review Inspection Signed Via Drawing No. 3 EXAM FOR CRITICAL CORR NONE APPLIED
14824	1/25/80	J. Briggs	<del>Full Part Before</del> After Verification Review Inspection Signed Via Drawing No. 3 (Quality controlled sheet fully applied)
14825	7-23-81	E. Belmont	<del>Full Part Before</del> After Verification Review Inspection Signed Via Drawing No. 2 Applied thru chart 14824
14820	12-21-81	D. Stennard	<del>Full Part Before</del> After Verification Review Inspection Signed Via Drawing No. 5 applied thru charts 14824 & 14825
14828	11-7-79	R. Ross	<del>Full Part Before</del> After Verification Review Inspection Signed Via Drawing No. New Chart.
14820M	4-14-82	Gregory B. Davis	<del>Full Part Before</del> After Verification Review Inspection Signed Via Drawing No. 5 Applied in full thru #14820M
			Full Part Before After Verification Review Inspection Signed Via Drawing No.
			Full Part Before After Verification Review Inspection Signed Via Drawing No.
			Full Part Before After Verification Review Inspection Signed Via Drawing No.