10093

Diagram No. LS-2

NOAA FORM 76-35A

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

DESCRIPTIVE REPORT

Type of Survey Hydrographic

Field No. HFP-20-1-83

Office No. H-10093

LOCALITY

State New York

General Locality Lake Ontario

Locality Point Breeze to Thirtymile Point

1983

CHIEF OF PARTY
LCDR R.W. Jones

LIBRARY & ARCHIVES

DATE August 27, 1986

☆U.S. GOV. PRINTING OFFICE: 1980—766-230

10093

Area T2-944(84)
Chts:
14805 INSET } to sign off on
14800 } Record of Application
14800A

NOAA FORM 77-28 (11-72)

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

REGISTER NO.

H-10093

HYDROGRAPHIC TITLE SHEET

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.
HFP-20-1-83

State New York

General locality Lake Ontario - ~~South Shore~~

Locality ~~Thirtymile Pt. to Point Breeze~~ Point Breeze to Thirtymile Point

Scale 1:20,000 (1:5,000 inset) Date of survey June 7 - Oct.3, 1983

Instructions dated June 17, 1983 Change 1 - June 24,1983 Project No. OPR-V255-HFP-83

Vessel HFPS-HFP4 - Launch 0520 & 0690

Chief of party Ronald W. Jones, LCDR.,NOAA

Surveyed by F.Ohlinger, E.Martin,R.Adams,D.Elliott,L.Williams,D.Bryant, L.Biscorner

Soundings taken by echo sounder, hand lead, pole (All)

Graphic record scaled by FO,EM,RA,DE,LW,DB,LB

Graphic record checked by F. Ohlinger, E. Martin

Protracted by NA Automated plot by ~~(Field PDP8)~~ 1201 (AMC) - Xynetics ~~1200~~

Verification by ~~AMC Verification Section~~ D.V. MASON

Soundings in ~~fathoms~~ feet at ~~MLW~~ ~~MLLW~~ XXXXXXXXXX LWD - IGLD 1955

REMARKS:

NOTES IN RED WERE MADE DURING OFFICE PROCESSING

STANDARDS CK'D 8-27-86
C. Clay

SC 5-2-97 (1.) Awois and JURF ✓ 1/89 SRB

NOAA FORM 77-28 SUPERSEDES FORM C&GS-537.

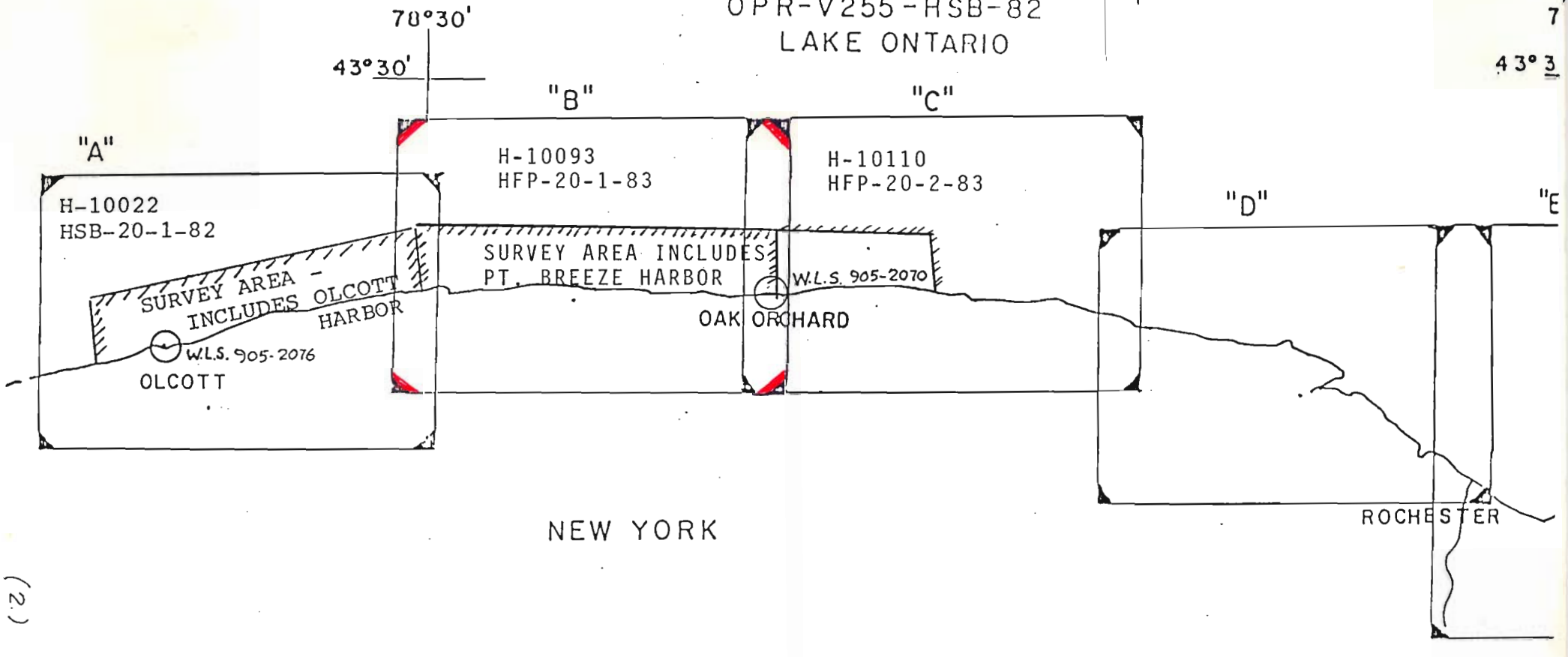
☆ U.S. GPO: 1974-0-768-081/1207

INDEX

FROM CHART 14800

LAKE ONTARIO

OPR-V255-HSB-82
LAKE ONTARIO



(2.)

Descriptive Report to Accompany
Hydrographic Survey H-10093
HFPS-20-1-83

A. PROJECT

This survey was conducted under Project Instructions OPR-V255-HFP-83, dated 17 June 1983 and amended by Change No. 1, 24 June 1983.

B. AREA SURVEYED

The area surveyed was the southern shore of Lake Ontario from Thirtymile Point, NY on the west to just east of Pt. Breeze, NY. The survey extended to the 20 fathom curve or to junction with the offshore surveys.

The area is bounded by the following points:

Latitude	43°22.3"N	Longitude	78°28.3"W
	43°24.4"N		78°28.3"W
	43°24.4"N		78°10.4"W
	43°22.3"N		78°10.4"W

The survey included a 1:5,000 inset of Oak Orchard Creek which was bounded by the following points: (INSETS 1+2 ON THE SMOOTH SHEET)

Latitude	43°20.0"N	Longitude	78°12.1"W
	43°23.0"N		78°12.1"W
	43°23.0"N		78°10.8"W
	43°20.8"N		78°10.8"W

The head of navigation of this creek is a small bridge with clearance for small outboards at Latitude 43°21.3"N. The inset was extended, however, to include the current charted inset and a channel line was run south on the creek to 43°20.4". This data is included with J.D. 250 in the 1:20,000 data. PLOTTED AT 1:20,000 SCALE ON THE SMOOTH SHEET

The 1:20,000 sheet was conducted from J.D. 158 to J.D. 271. The 1:5,000 sheet was conducted from J.D. 201 to J.D. 276.
(Total survey June 7 - Oct.3,1983)

C. SOUNDING VESSELS

All soundings obtained on this survey were obtained from NOAA Launch 0520 (EDP #0520) and Skiff 0690 (EDP #0690). All survey records are annotated with the appropriate vessel numbers.

D. SOUNDING EQUIPMENT AND CORRECTIONS TO ECHO SOUNDINGS

The following Raytheon Fathometer equipment was used during the survey:

J.D. 158-271 Recorder DE719B
Serial # 9221

Some difficulty was encountered with the 719B fathometer. It had a tendency to ride up the paper take up real requiring constant adjustment of the initial and the two calibration lines. This occasionally resulted in deviations from the zero initial setting. These deviations were taken into account when scanning the graphic record.

Further, an apparent shift of calibration lines occurred on the order of 0.1 foot when shifting from scale 1: 0-55 ft to scale 2: 50-105 ft. On examination, it was found that bottom trace did not shift and that the calibration lines were still zeroed when back on scale 1. It was assumed that the bottom trace was unaffected on scales 2 and 3. During operations the initial and calibration lines were adjusted by switching back to scale 1.

Settlement and squat tests on Launch 0520 were run on 2 June 1983 (J.D. 153) at the breakwater in Pt. Breeze. The results of these tests are included in the Appendix of the report. Settlement and squat corrections will be applied via the TC/TI tape during plotting of the smooth sheet at the Atlantic Marine Center and were not applied to the field sheets.

Velocity and instrument corrections were determined by barcheck and TDC casts. TDC casts were taken weekly and barchecks twice daily when possible. An instrument error of no greater than 0.1 between the TDC and barcheck curves was observed, therefore no correction was applied.

Water temperature data was also collected from the Albion Water Treatment Plant whose crib is located at Latitude 43°22.5'N, Longitude 78°12.9'W in 14 feet of water. This data was used to group the TDC data and is presented in graph form to illustrate the occurrence of anomalous water temperatures.

On the 1:5,000 inset one velocity table was generated from barcheck data taken in the creek.

The TDC used to obtain corrections was a Martek Instrument, Model 101-01, Serial #477, which was calibrated for fresh water in May 1983 by AMC Personnel.

The lengths of the line on the bar were checked on J.D. 152, 245, and again on 278. The results of this inspection showed no significant discrepancies.

On J.D. 250, hydrography was conducted in Oak Orchard Creek to Latitude 43°20.4"N. A staff was established three hours prior to

hydrography at a dock at Latitude 43°20.4"N, Longitude 78°13.0"W and observed during hydrography. The water level did not change more than 0.1foot and no correction was observed in the survey area. This data was not included in the Field Water Level Note.

E. SURVEY SHEETS (FIELD SHEETS)

The field sheets were prepared using a PDP8/e computer and a DP-3 complot plotter. Work sheets, semi-smooth sheets, smooth field sheets and overlay sheets are included with this survey. Mainscheme hydrography, crosslines, bottom samples, splits, pre-survey review items and aids to navigation are plotted on the smooth sheets. Prior survey soundings, junction soundings, charted soundings and developments are on the overlay. The projection parameter tape listing for the sheets is included in the appendix of this report. The final smooth sheet and verifications of this survey will be accomplished at the Atlantic Marine Center on the Harris/7 computer and the Xynetics 1201 plotter.

F. CONTROL STATIONS SEE SECTION 2. OF THE EVALUATION REPORT.

Control stations used during this survey were either existing geodetic control stations published by National Geodetic Service (NGS) or were established by Hydrographic Field Party Section's Horizontal Control Group to third order standards. All stations are referenced to the North American 1927 datum. A list of all control stations used during this survey is included in the appendix of this report.

G. HYDROGRAPHIC POSITION CONTROL SEE SECTION 2. OF THE EVALUATION REPORT.

The method used to control this survey was range/azimuth with some "see boat sheet" positions run at the head of Oak Orchard Creek (J.D. 250) and in Green Harbor were control was unavailable. Also positions 1325-1332, 1342 and 1343 were recorded as range/range positions due to a light pole obstructing the sight of the observer. The azimuths to these positions were computed and used to force plot them as range/azimuth to avoid having to break tapes and data.

The equipment used to control this survey was the Del Norte Trisponder RO-3C System. Distance measuring unit (DMU) S/N 192 and Master trisponder S/N 277 were used on Launch 0520 throughout the survey except for J.D. 222 when master transponder S/N 1066 (Code 78) was used. Remote codes 72 (S/N 248), 74 (S/N 927), code 76 (S/N 244) and code 78 (S/N 1063) were used. Azimuth control was obtained with a Wild T-1 #14007.

This equipment was calibrated over a distance of 2397 meters as determined by HP-3810B, S/N 1929 A0041 from station Brighton (586) to a temporary calibration station set near station Breeze 2 (583). Daily system checks were performed by static calibration at the beginning and end of each day when possible. The boat was placed alongside a known point and an antenna offset was applied to the Del Norte readings.

Some problem was encountered with remote unit S/N 1063, code 78. During Oak Orchard Creek operations, the system showed excessive

drift after several hours of operations. The problem was suspected to be in the master unit which was replaced; the new system was calibrated and used on J.D. 222. The drift still occurred and the original system was brought back to service. The drift problem was finally isolated to remote code 78 after hydrography on J.D 227 and 228. This unit was then removed from service. Hydrography on JD 220 was rejected due to lack of a closing system check and other reasons. The system check data for J.D. 222 and 228 was averaged and applied as electronic correctors.

The next baseline calibration on J.D. 241 does not show that a corrector is justified for remote code 78. However, the same system was baselined on J.D. 265 and allowed to run for several hours. During this time the unit drifted 5-meters. It is assumed that this system would have drifted the same amount during calibrations on J.D. 241 had it been allowed to operate several hours. Even though this equipment was rezeroed on J.D. 241, it is felt that the correctors applied on J.D. 222 and 228 are substantiated by the J.D. 265 calibration data as required by AMC Operation Order 79, 25 January 1983.

The HP-3810B distance measuring equipment was used extensively for detached positions and shoreline features. It was calibrated by party personnel prior to the survey and verified mid-season by the horizontal control group.

H. SHORELINE *SEE SECTION 2. OF THE EVALUATION REPORT.*

Shoreline detail for the 1:20,000 survey was obtained from Class III photogrammetric manuscripts dated February 1982 from photographic dated June 1980. Field edit was accomplished in July 1982 on TP-00501 and TP-00502; field edit was accomplished on TP-00503 by party personnel and is presented with the hydrographic data. The field edit reports for TP-00501 and TP-00502 are appended.

No changes to the shoreline were found except for the depiction of numerous piers along the shoreline. During field inspection all such structures with the exception of three which were positioned by hydrographic methods, were found to be temporary or movable structures. All should be deleted except those described in the survey data.

Shoreline detail for the 1:5,000 inset was obtained from a preliminary manuscript compiled for this survey in August 1983 for photographs flown mid-1982. Agreement with the survey data was good with the following exceptions:

1) Some piers and docks are new construction and are located by hydrographic methods. Also the offshore ends of several piers appear shifted as shown by positions 5019-5024. These features are drawn in red.

2) Rocks compiled on the shore of Lake Ontario were found to be well above chart datum and not of charting value.

3) An obstruction compiled near Latitude 43°21'55", Longitude 78°11'35" was found and hydro fixed by HP-3810B several meters inshore

of the photo position. It is plotted in red, position 5025. Nothing was found at the compiled position possibly because of the same shift mentioned above. CONCUR. SEE ALSO SECTION 7.4 OF THE EVALUATION REPORT.

I. CROSSLINES SEE SECTION 3. OF THE EVALUATION REPORT.

Croslines constitute 14.5% of the mainscheme hydrography on 1:20,000 sheet. Crosslines constitute 22% of the 1:5,000 inset. All soundings agree to 2 feet or less.

J. JUNCTIONS SEE SECTION 5. OF THE EVALUATION REPORT.

This survey junctions with the following surveys:

H-10110 TO THE EAST
~~LS-2080 to the north~~
~~LS-2081 to the north~~
H-10022 to the west

Soundings on H-10022 agree to one foot except for the offshore ends where soundings greater than 90 feet are deeper by 3-4 feet than those on H-10093. This appears to be a sound velocity problem as it is gradual to deeper water. It is recommended that velocity data for H-10022 and H-10093 be inspected and the offshore soundings adjusted.

Soundings on LS-2080 and LS-2081 are generally deeper by 10 to 15 feet in deep water. This discrepancy also appears to be sound velocity problem. NOT CONSIDERED A JUNCTIONAL SURVEY.

It is recommended that soundings from H-10093 be accepted because of the grouping of sounding velocity data around the daily water temperatures as noted in Section D. CONCUR.

K. COMPARISON WITH PRIOR SURVEYS SEE SECTION 6. OF THE EVALUATION REPORT.

This survey was previously covered the following surveys:

1. LS-1605 (1932), 1:80,000
2. LS-1606 (1932), 1:80,000
3. ~~LS-619 (1875), 1:10,000~~
4. LS-620 (1875), 1:10,000
5. LS-621 (1875), 1:10,000
6. LS-605 (1875), 1:60,000
   USCOE (1982), 1:1,200 (DRAWING NO. 825-OAK-1/1)

The soundings of LS-1605 and 1606 were originally taken in fathoms. Thirteen of 15 soundings agree to one fathom or less; all agree to two fathoms or less.

The surveys ~~LS-619~~ LS-620, LS-621 and LS-605 lack a geodetic grid which makes comparisons doubtful. However, the contours and trend of the shoreline agree well. Also, the charted soundings that originate with these surveys are adjusted for sounding and geodetic datum changes on the charts and agree well with this survey.

The 1:5,000 inset was compared briefly to the 1982 U.S. Army Corps of Engineers survey 825-AOK, 1:1,200 scale. Despite the lack of a

geodetic grid, the soundings agree well and the shoaling discussed in Section L was apparent at this time.

L. COMPARISON WITH THE CHART SEE SECTION 7. OF THE EVALUATION REPORT.

This survey was compared as the survey progressed with Chart 14805, 20th Edition, blown up to the scale of the survey. The following pre-survey review items were investigated. All depths are uncorrected for water levels.

AWOIS 2214
PSR #1 - Dangerous submerged rock P.D. REPORTED IN LAT. 43°22'26", LON. 78°27'06"
Item was observed while running shoreline and was plainly visible. A visual search was made for other rocks with negative results. Vessel 0520 was positioned alongside and the fix information was adjusted one meter to coincide with the center of the two meter diameter rocks. Least depth by pole is 3.0 feet surrounded by 6.2 feet of water. See position 009, page 6, volume I; also position 44. Recommendation: Retain as charted at the observed position. Delete "P.D." notation. CONCUR. SEE ALSO SECTION 7.a.1) OF THE EVALUATION REPORT.

AWOIS 2216
PSR #2 - Dangerous submerged rock P.D. REPORTED IN LAT. 43°22'36" LON. 78°22'40"
The original USPS observer was contacted. He directed vessel 0520 to the location and positively identified it. Position information was adjusted one meter to coincide with the center of the rock. Least depth by pole was 3.7 feet in 6.2 feet of surrounding water. See position 255, page 42, Volume II. Recommendation: Retain as charted at the observed position. Delete "P.A." notation. CONCUR. SEE ALSO SECTION 7.a.3) OF THE EVALUATION REPORT.

AWOIS 2215
PSR #3 - Dangerous submerged rock, P.D. REPORTED IN LAT. 43°22'30", LON. 78°18'54".
Rock was observed while running shoreline and was plainly visible. Vessel 0520 was positioned alongside and fix information was adjusted one meter. Rock is approximately 3 meters in diameter. Least depth by pole was 1.5 feet in 6.2 feet of water. See position 81, page 35, volume I. Recommendation: Retain as charted at the observed position. Delete "P.D." notation. CONCUR. SEE ALSO SECTION 7.a.2) OF THE EVALUATION REPORT

AWOIS 2213
PSR #4 Obstruction, P.A. ORIGINATES WITH LNM 54/74. REPORTED IN LAT. 43°22'24", LON. 78°18'06"
Local knowledge indicated that the item was a seaplane that capsized while taxing and was salvaged the following day. The Medina Journal Register carried the following story on 19 August 1974. The instructor, Thomas Lyons was contacted in Lockport, NY and verified that the plane, N8179C, was salvaged and is flying in Akron, NY. Recommendation: Delete. CONCUR.

Sea Plane Capsizes

AWOIS 2213

CARLTON — A sea plane operated by a student flipped over in the water off-shore from Green Harbor Marina Saturday afternoon about 3:10, but State Police said the operator and his instructor escaped unharmed.

It was reported that Daniel Snyder, 36, of Zurbrick Rd., Depew, was operating the aircraft when a pontoon hit the water, causing a wing tip to dive into the lake, capsizing the plane.

Neither Snyder or his teacher, Thomas Lyons, 43, of 5766 Stone Rd., Lockport, were reported hurt.

The incident occurred about 300 feet off-shore.

AWOIS 2211

PSR #7 - Stump, P.B. ORIGINATES WITH GL 1542/79. REPORTED IN LAT. 43°21'47", LON. 78°11'33"
The area was searched visually in water 2-3 feet deep and foul with weeds. Bottom was visible at all times, however, and results were negative. The originator Lt/C Richard W. Thompson, USPS, Oak Orchard was contacted 8 September 1983. He re-investigated the area 10 September 1983 and stated that the stump was no longer there and that it had been removed by winter ice. Recommendation: Delete Concur. deleted pbs

Other Charted items:

The least depth over the Lyndonville Water Intake Crib was 10.1 foot as found at Position 1438, page 12, Volume XI. Field reduction to chart datum showed 7 ft. Recommendation: Chart correction depth with crib symbol at the above location. Concur. SEE SECTION 7.a.11) OF THE EVALUATION REPORT. appl'd pbs

A foul with rocks area charted at LAT. 43°22'37.42" LON 78°23'19.47" ~~43°22.3'~~, ~~78°18.2'~~ was found and delineated by position 78-80, page 34, Volume I. Despite the shoreline shift discussed below, it appears that the charted foul area extends further offshore than found. Recommendation: Retain foul area as charted extended to include new areas.

As discussed in Section H, ~~no~~ TWO piers were NOT found as charted at 43°22.2', 78°12.0'. Recommendation: Delete on the chart and on the inset. Concur deleted pbs

On the CHART 1:10,000 inset, a group of three rocks at 43°22'19", 78°11'33" were searched for, but not found. These rocks originate on charts dating before the recent rebuilding of the jetties and the construction of the detached breakwater. This area is now a sloping rock and gravel base for the jetty. See page 57, Volume II (1:5,000, VESNO 0520). Recommendation: Delete. Concur. deleted pbs

On the CHART 1:10,000 inset, a pier at 43°22'15", 78°11'35" was found in ruins. See position 5017, page 8, Volume II (1:5,000, VESNO 0690). Recommendation: Chart as ruins area at position described. SEE SECTION 7.a.9) OF THE EVALUATION REPORT pbs returned

On the 1:10,000 inset, a rock charted at 43°22'16", 78°11'18" was searched for but not found. See page 20, Volume I (1:5,000, VESNO 0690). Recommendation: Retain as charted.

Sounding comparisons with the 1:20,000 sheet were not good for the reasons stated in Section K. However all soundings on the lake on the 1:5,000 inset agreed to one foot. In the creek, construction and dredging have made comparison doubtful.

The shoreline on the 1:5,000 sheet and on the 1:20,000 sheet do not agree well for a number of reasons. The most obvious is distortion in the chart blowups as evidenced by the grids not aligning. Some shifting may be attributed to the North American 1902-2937 datum shift. Further, some discrepancy may be attributed to actual shoreline changes. The survey shoreline should supersede the charted in all cases. Concur

On the 1:5,000 sheet, no differences could be determined between the brown foul with weed area at 43°21'20", 78°11'50" and other foul areas as these were all impenetrable and covered. Recommendation: Retain as charted. CONCUR

The following dangers to navigation were located during the survey:

1) Shoaling at the mouth of the jettied channel, Latitude 43°22'26.4', Longitude 78°11'32.0" to four feet at charted datum. CONCUR

2) Shoaling to the south and east of the east end of the detached breakwater at Latitude 43°22'28.0", Longitude 78°11'28.0" to two feet at chart datum. CONCUR

3) A least depth (POLE SOUNDING) of four feet at chart datum found at Latitude 43°22.8' (47.6), Longitude 78°24.9' (53.6). CONCUR. CHART AS SHOWN ON THE PRESENT SURVEY APP'D

Information about these changes was transmitted immediately to the U.S. Coast Guard 9th District and confirmed by memo with a copy to N/CG222. A copy is included in the Appendix.

N/CG243 was also notified by Coast Pilot reports was. Copies are included in the Appendix.

M. ADEQUACY OF SURVEY

This survey is complete and adequate to warrant its use to supersede prior surveys for charting in the common areas. CONCUR WITH THE EXCEPTIONS NOTED IN THE EVALUATION REPORT.

N. AIDS TO NAVIGATION

All floating and fixed aids to navigation in the survey area were located and comparisons between their charted, Light List (Volume IV, 1983) and surveyed positions and descriptions made. All aids were found to adequately serve the apparent purpose for which they were established.

Landmarks, notably silos, were confirmed by sextant intersection from seaward. The lines of positions are drawn on the smooth sheet. All changes can be found on the attached NOAA Form 76-40.

Cable and bridge clearances were also checked and found to be accurately charted at the northerly of the three bridges, Latitude 43°21'13, Longitude 78°11'35" and at the Lake Ontario Parkway bridge, Latitude 43°21'45", Longitude 78°11'32". Clearances at the other two of the Bridges and at the mouth of Johnson Creek are not charted and are noted on the smooth (FIELD) sheet.

Cable clearances at Green Harbor, Johnson Creek and the Bridges were determined by sextant angles and are located on manuscripts TP-000502 and TP-000503.

O. STATISTICS

On the 1:20,000 sheet:

Number of positions	1499
Lineal nautical miles of mainscheme	225.8
Lineal nautical miles of crossline	32.7
Lineal nautical miles of development	36.2
Total miles of hydrography	294.7
Number of bottom samples	12
Number of TDC casts	7
Number of barchecks	33

On the 1:5,000 sheet:

Number of positions	501
Lineal nautical miles of mainscheme	19.1
Lineal nautical miles of crossline	4.2
Lineal nautical miles of development	7.3
Total linear nautical miles	30.6
Number of barchecks	16
Number of bottom samples	8

One tide gage was installed and maintained during this survey.

P. MISCELLANEOUS

The current aeronautical chart, the Detroit sectional, notes magnetic disturbances in this area and along the lake to the order of 7°. No such note appears on chart 14805 or in the Coast Pilot. Several magnetic bearings were taken on J.D. 207 (page 59, Volume IX) using a Weems and Plath hand bearing compass (1° accuracy). These were reduced and found to agree to the undisturbed magnetic bearing to one degree. The National Geophysical Data Center was contacted; they replied with the rather ambiguous information enclosed in the appendix. The information enclosed in the appendix. The hydrographer recommends no notice appear on 14805 until these anomalies can be confirmed.

Currents less than one knot, variable and wind driven, were observed during operations. Local knowledge indicated that west to east flow is slightly greater than the reverse as would be expected. No consideration is warranted.

Current in Oak Orchard Creek was noticeable at times of high runoff, but was generally slack. All hydrography was run at slack.

A Coast Pilot report was submitted and is included in the appendix.

A geographical names investigation and user evaluation was conducted at local meetings of the U.S. Power Squadron and U.S. Coast Guard Auxillary as well as with local residents. The following changes should be made:

1) "Betty's Fisherman's Haven" at Latitude 42°21'10", Longitude 78°11'40" on the Point Breeze Harbor inset should be changed to "Vic's Three Bridge" to reflect the new name of the same facility.

2) "Fiddler's Elbow" should be added to Latitude 42°21'22", Longitude 78°11'43" to denote the commonly used name of this point of reference. (A Form 9-1343 will be submitted for this geographic name addition.)

The charting proposal by OA/C32x2 was also presented at these meetings with favorable response. A copy of the report to the Chart Planning Group, with recommendations, is included in the appendix.

Extensive shoaling is occurring at the mouth of Oak Orchard Creek every year as ice carries rock and soil to the breakwater and is broken up. As noted in Section L, this constitutes a hazard to navigation. It is recommended that an investigative survey be conducted each spring to determine it's condition and determine if new notices should be published through the U.S. Coast Guard. The U.S. Army Corps of Engineers conducts status surveys late every summer and may be an appropriate vehicle.

Contact Jack LaFountain, Chief, Survey Branch, U.S. Army Corps of Engineers, Buffalo, NY, Phone (716) 876-5454. No dredging of this harbor is planned.

Q. RECOMMENDATIONS:

See Sections H, J, L, P for specific recommendations.

R. AUTOMATED DATA PROCESSING:

Programs used during field data acquisition and field processing of this survey are as follows:

PROGRAM	DESCRIPTION	VERSION DATE
RK201	Grid, signal, lattice plot	04/18/75
RK212	Visual Station Table load	04/01/74
RK216	Range/azimuth non-real time plot	02/05/76
RK300	Utility computations	02/05/76
RK330	Reformat and Data check	05/04/76
RK407	Geodetic Inverse/Direct Comp	09/25/78
RK530	Layer correction for velocity	05/10/76
AM602	Elinore - line oriented editor	05/20/75

S. REFERENCE TO REPORT

Descriptive Report H-10022, 1982, 1:20,000
Descriptive Report LS-2080, 1960, 1:80,000
Descriptive Report LS-2081, 1960, 1:80,000
Control Report for OPR-V255, dated September 1983
Descriptive Report TP-00501, TP-00502, dated July 1982.

Respectfully submitted,

Franklin E. Ohlinger

Franklin E. Ohlinger
Lt(jg) NOAA
OIC, HFP-4.

APPROVAL SHEET
SURVEY H-10093 (HFP-20-1-83)

The hydrographic records transmitted with this report are complete and adequate.

No direct supervision was given by me during field work.

This survey is complete and adequate with no additional field work recommended.

Ronald W. Jones
Lt. Cdr., NOAA
Chief, Hydrographic Field Parties Section

SIGNAL TAPE LISTING
OPR V255-HFP-83
H-10093
HFP-20-1-83

551	6	43	22	29260	078	29	12760	250	0000	000000 Thirtymile Pt. Beacon
552	6	43	22	29506	078	29	10714	139	0000	000000 Thirtymile Pt. Lighthouse
553	6	43	22	29442	078	29	10625	250	0000	000000 Thirtymile Pt. LH Ecc., 1983
571	6	43	22	20561	078	27	21140	250	0000	000000 Willow, 1982
573	6	43	22	23451	078	25	52546	139	0000	000000 Eaton, 1982
575	6	43	22	29866	078	24	47567	139	0000	000000 PK Eddy, 1982
577	6	43	22	33605	078	22	56245	250	0000	000000 Rose, 1982
579	6	43	22	30359	078	22	01006	250	0000	000000 Pearson, 1982
581	6	43	22	18338	078	15	11151	250	0000	000000 Lakeside LSC 1972 #4
583	6	43	22	19252	078	11	30648	139	0000	000000 Breeze LSC 1979
584	6	43	22	28328	078	11	31680	139	0000	000000 Oak Orchard Breakwater Lt. B, 1983
585	6	43	22	28294	078	11	31683	250	0000	000000 Nancy, 1983
586	6	43	22	26088	078	09	43748	250	0000	000000 Brighton, LSC 1972
590	6	43	22	24734	078	18	37870	250	0000	000000 Bayne 2 LSC 1972 #3
591	6	43	22	18458	078	17	18348	250	0000	000000 Mart, 1983
592	6	43	22	20743	078	16	10167	250	0000	000000 PK Devlin, 1983
593	6	43	22	21177	078	16	03760	250	0000	000000 PK Hudson, 1982
594	6	43	22	02724	078	14	58295	139	0000	000000 Lakeside #3 Az Mk
010	6	43	22	15761	078	11	33791	250	0000	000000 Dawn, 1983
015	6	43	21	45191	078	11	33375	139	0000	000000 Lisa, 1983
020	6	43	21	46213	078	11	33325	250	0000	000000 Katy, 1983
025	6	43	21	32421	078	11	32148	250	0000	000000 PK Thum, 1983
030	6	43	22	07169	078	11	30005	139	0000	000000 TP Brown, 1983
035	6	43	21	44956	078	11	35742	139	0000	000000 Beverly, 1983
040	6	43	21	19182	078	11	57864	250	0000	000000 Lindsey, 1983
045	6	43	21	17820	078	11	35205	250	0000	000000 TP Bend, 1983
050	6	43	21	11211	078	11	36946	250	0000	000000 Vics, 1983
055	6	43	21	06774	078	11	35099	250	0000	000000 Elam, 1983

Signals 551,552,583,586 are published NGS - all others were located by HFPS - Field Support Group.

NOAA FORM 76-40
(8-74)

Replaces C&GS Form 567.

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

NONFLOATING AIDS [redacted] FOR CHARTS

ORIGINATING ACTIVITY
- [XX] HYDROGRAPHIC PARTY
- [ ] GEODETIC PARTY
- [ ] PHOTO FIELD PARTY
- [ ] COMPILATION ACTIVITY
- [ ] FINAL REVIEWER
- [ ] QUALITY CONTROL & REVIEW GRP.
- [ ] COAST PILOT BRANCH

(See reverse for responsible personnel)

[ ] TO BE CHARTED
[XX] TO BE REVISED
[ ] TO BE DELETED

REPORTING UNIT (Field Party, Ship or Office)	STATE	LOCALITY	DATE
HFPS-HFP4	New York	Lake Ontario Vicinity Oak Orchard	July 83

The following objects HAVE [XX] HAVE NOT [ ] been inspected from seaward to determine their value as landmarks.

OPR PROJECT NO.	JOB NUMBER	SURVEY NUMBER	DATUM
OPR-V255	----------	H-10093	NA1927

CHARTING NAME	DESCRIPTION (Record reason for deletion of landmark or aid to navigation. Show triangulation station names, where applicable, in parentheses)	POSITION LATITUDE ° ′	LATITUDE ″ D.M. Meters	POSITION LONGITUDE ° ′	LONGITUDE ″ D.P. Meters	METHOD AND DATE OF LOCATION (See instructions on reverse side) OFFICE	FIELD	CHARTS AFFECTED
LIGHT	Oak Orchard Breakwater Lt. A LL# 341.20	43 22	28.244	78 11	28.475		F-3-6-L July 1983	14805
LIGHT	Oak Orchard Breakwater Lt. B LL# 341.10 signal 584	43 22	28.328	78 11	31.680		F-3-6-L July ±982	14805 14800
LIGHT	Oak Orchard Jetty Light 3 LL# 341.40	43 22	28.540	78 11	30.333		F-3-6-L July 1983	14805
LIGHT	Oak Orchard Jetty Light 4 LL# 341.50	43 22	25.560	78 11	33.312		F-3-6-L July 1983	14805
LIGHT	Oak Orchard Breakwater Lt. C LL# 341.30	43 22	28.429	78 11	35.418		F-3-6-L July 1983	14805

48. NC Superseded by L-1328(84).

RESPONSIBLE PERSONNEL		
TYPE OF ACTION	NAME	ORIGINATOR
OBJECTS INSPECTED FROM SEAWARD	LTJG. F. E. Ohlinger, NOAA	☐ PHOTO FIELD PARTY ☐ HYDROGRAPHIC PARTY XX ☐ GEODETIC PARTY ☐ OTHER *(Specify)*
POSITIONS DETERMINED AND/OR VERIFIED	LTJG. F. E. Ohlinger, NOAA	FIELD ACTIVITY REPRESENTATIVE
		OFFICE ACTIVITY REPRESENTATIVE
FORMS ORIGINATED BY QUALITY CONTROL AND REVIEW GROUP AND FINAL REVIEW ACTIVITIES		☐ REVIEWER ☐ QUALITY CONTROL AND REVIEW GROUP REPRESENTATIVE

INSTRUCTIONS FOR ENTRIES UNDER 'METHOD AND DATE OF LOCATION'

(Consult Photogrammetric Instructions No. 64,

OFFICE

I. OFFICE IDENTIFIED AND LOCATED OBJECTS

Enter the number and date (including month, day, and year) of the photograph used to identify and locate the object.

EXAMPLE: 75E(C)6042
8-12-75

FIELD

I. NEW POSITION DETERMINED OR VERIFIED

Enter the applicable data by symbols as follows:

F - Field	P - Photogrammetric
L - Located	Vis - Visually
V - Verified	
1 - Triangulation	5 - Field Identified
2 - Traverse	6 - Theodolite
3 - Intersection	7 - Planetable
4 - Resection	8 - Sextant

A. Field positions* require entry of method of location and date of field work.

EXAMPLE: F-2-6-L
8-12-75

*FIELD POSITIONS are determined by field observations based entirely upon ground survey methods.

FIELD (Cont'd)

B. Photogrammetric field positions** require entry of method of location or verification, date of field work and number of the photograph used to locate or identify the object.

EXAMPLE: P-8-V
8-12-75
74L(C)2982

II. TRIANGULATION STATION RECOVERED

When a landmark or aid which is also a triangulation station is recovered, enter 'Triang. Rec.' with date of recovery.

EXAMPLE: Triang. Rec.
8-12-75

III. POSITION VERIFIED VISUALLY ON PHOTOGRAPH

Enter 'V-Vis.' and date.

EXAMPLE: V-Vis.
8-12-75

**PHOTOGRAMMETRIC FIELD POSITIONS are dependent entirely, or in part, upon control established by photogrammetric methods.

NOAA FORM 76-40
(8-74)

Replaces C&GS Form 567.

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

[redacted] LANDMARKS FOR CHARTS

ORIGINATING ACTIVITY
- [X] HYDROGRAPHIC PARTY
- [ ] GEODETIC PARTY
- [ ] PHOTO FIELD PARTY
- [ ] COMPILATION ACTIVITY
- [ ] FINAL REVIEWER
- [ ] QUALITY CONTROL & REVIEW GRP.
- [ ] COAST PILOT BRANCH

(See reverse for responsible personnel)

- [X] TO BE CHARTED
- [ ] TO BE REVISED
- [ ] TO BE DELETED

REPORTING UNIT (Field Party, Ship or Office): HFPS-HFP4

STATE: New York

LOCALITY: Lake Ontario
Vicinity of Oak Orchard

DATE: July 1983

The following objects HAVE [X] HAVE NOT [ ] been inspected from seaward to determine their value as landmarks.

OPR PROJECT NO.: OPR-V255

JOB NUMBER: ----------

SURVEY NUMBER: H-10093

DATUM: NA1927

CHARTING NAME	DESCRIPTION (Record reason for deletion of landmark or aid to navigation. Show triangulation station names, where applicable, in parentheses)	POSITION LATITUDE ° ′	LATITUDE ″ D.M. Meters	POSITION LONGITUDE ° ′	LONGITUDE ″ D.P. Meters	METHOD AND DATE OF LOCATION (See instructions on reverse side) OFFICE	METHOD AND DATE OF LOCATION FIELD	CHARTS AFFECTED
SILO	Thirty Mile Pt. Silo (Northernmost of two)	43 21	48.0	78 29	30.0	5 TP-00001	F-8-3-L July 1983	14805

49. 7-9414 (82)

RESPONSIBLE PERSONNEL		
TYPE OF ACTION	NAME	ORIGINATOR
OBJECTS INSPECTED FROM SEAWARD	LTJG. F. E. Ohlinger, NOAA	☐ PHOTO FIELD PARTY ☒ HYDROGRAPHIC PARTY XX ☐ GEODETIC PARTY ☐ OTHER *(Specify)*
POSITIONS DETERMINED AND/OR VERIFIED	LTJG. F. E. Ohlinger, NOAA	FIELD ACTIVITY REPRESENTATIVE
		OFFICE ACTIVITY REPRESENTATIVE
FORMS ORIGINATED BY QUALITY CONTROL AND REVIEW GROUP AND FINAL REVIEW ACTIVITIES		☐ REVIEWER ☐ QUALITY CONTROL AND REVIEW GROUP REPRESENTATIVE

INSTRUCTIONS FOR ENTRIES UNDER 'METHOD AND DATE OF LOCATION'

(Consult Photogrammetric Instructions No. 64,

OFFICE

I. OFFICE IDENTIFIED AND LOCATED OBJECTS

Enter the number and date (including month, day, and year) of the photograph used to identify and locate the object.

EXAMPLE: 75E(C)6042
8-12-75

FIELD

I. NEW POSITION DETERMINED OR VERIFIED

Enter the applicable data by symbols as follows:

F - Field	P - Photogrammetric
L - Located	Vis - Visually
V - Verified	
1 - Triangulation	5 - Field identified
2 - Traverse	6 - Theodolite
3 - Intersection	7 - Planetable
4 - Resection	8 - Sextant

A. Field positions* require entry of method of location and date of field work.

EXAMPLE: F-2-6-L
8-12-75

*FIELD POSITIONS are determined by field observations based entirely upon ground survey methods.

FIELD (Cont'd)

B. Photogrammetric field positions** require entry of method of location or verification, date of field work and number of the photograph used to locate or identify the object.

EXAMPLE: P-8-V
8-12-75
74L(C)2982

II. TRIANGULATION STATION RECOVERED

When a landmark or aid which is also a triangulation station is recovered, enter 'Triang. Rec.' with date of recovery.

EXAMPLE: Triang. Rec.
8-12-75

III. POSITION VERIFIED VISUALLY ON PHOTOGRAPH

Enter 'V-Vis.' and date.

EXAMPLE: V-Vis.
8-12-75

**PHOTOGRAMMETRIC FIELD POSITIONS are dependent entirely, or in part, upon control established by photogrammetric methods.

NOAA FORM 76-40
(8-74)

Replaces C&GS Form 567.

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

[redacted] LANDMARKS FOR CHARTS

ORIGINATING ACTIVITY
- [XX] HYDROGRAPHIC PARTY
- [ ] GEODETIC PARTY
- [ ] PHOTO FIELD PARTY
- [ ] COMPILATION ACTIVITY
- [ ] FINAL REVIEWER
- [ ] QUALITY CONTROL & REVIEW GRP.
- [ ] COAST PILOT BRANCH

(See reverse for responsible personnel)

- [ ] TO BE CHARTED
- [ ] TO BE REVISED
- [X] TO BE DELETED

REPORTING UNIT (Field Party, Ship or Office)	STATE	LOCALITY	DATE
HFPS-HFP4	New York	Lake Ontario Vicinity Oak Orchard	Jul 83

The following objects HAVE [XX] HAVE NOT [ ] been inspected from seaward to determine their value as landmarks.

OPR PROJECT NO.	JOB NUMBER	SURVEY NUMBER	DATUM
OPR-V255	----------	H-10093	NA 1927

CHARTING NAME	DESCRIPTION (Record reason for deletion of landmark or aid to navigation. Show triangulation station names, where applicable, in parentheses)	POSITION LATITUDE ° ′	LATITUDE ″ D.M. Meters	POSITION LONGITUDE ° ′	LONGITUDE ″ D.P. Meters	METHOD AND DATE OF LOCATION (See instructions on reverse side) OFFICE	FIELD	CHARTS AFFECTED
R MAST	Not existent (destroyed)	43 21	35.4	78 20	33.45		V-vis July 1983	14805
SILO	Marsh Creek Silo (delete - not of charting value)	43 22	20.5	78 24	39.4		V-vis July 1983	14805

50. L-9446(86)

RESPONSIBLE PERSONNEL		
TYPE OF ACTION	NAME	ORIGINATOR
OBJECTS INSPECTED FROM SEAWARD	LTJG. F. E. Ohlinger, NOAA	☐ PHOTO FIELD PARTY ☒ HYDROGRAPHIC PARTY ☐ GEODETIC PARTY ☐ OTHER *(Specify)*
POSITIONS DETERMINED AND/OR VERIFIED	LTJG. F. E. Ohlinger, NOAA	FIELD ACTIVITY REPRESENTATIVE
		OFFICE ACTIVITY REPRESENTATIVE
FORMS ORIGINATED BY QUALITY CONTROL AND REVIEW GROUP AND FINAL REVIEW ACTIVITIES		☐ REVIEWER ☐ QUALITY CONTROL AND REVIEW GROUP REPRESENTATIVE

INSTRUCTIONS FOR ENTRIES UNDER 'METHOD AND DATE OF LOCATION'

(Consult Photogrammetric Instructions No. 64,

OFFICE

I. OFFICE IDENTIFIED AND LOCATED OBJECTS

Enter the number and date (including month, day, and year) of the photograph used to identify and locate the object.

EXAMPLE: 75E(C)6042
8-12-75

FIELD

I. NEW POSITION DETERMINED OR VERIFIED

Enter the applicable data by symbols as follows:

F - Field	P - Photogrammetric
L - Located	Vis - Visually
V - Verified	
1 - Triangulation	5 - Field identified
2 - Traverse	6 - Theodolite
3 - Intersection	7 - Planetable
4 - Resection	8 - Sextant

A. Field positions* require entry of method of location and date of field work.

EXAMPLE: F-2-6-L
8-12-75

*FIELD POSITIONS are determined by field observations based entirely upon ground survey methods.

FIELD (Cont'd)

B. Photogrammetric field positions** require entry of method of location or verification, date of field work and number of the photograph used to locate or identify the object.

EXAMPLE: P-8-V
8-12-75
74L(C)2982

II. TRIANGULATION STATION RECOVERED

When a landmark or aid which is also a triangulation station is recovered, enter 'Triang. Rec.' with date of recovery.

EXAMPLE: Triang. Rec.
8-12-75

III. POSITION VERIFIED VISUALLY ON PHOTOGRAPH

Enter 'V-Vis.' and date.

EXAMPLE: V-Vis.
8-12-75

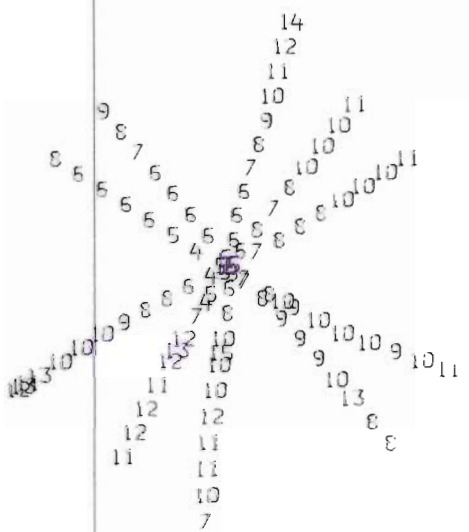
**PHOTOGRAMMETRIC FIELD POSITIONS are dependent entirely, or in part, upon control established by photogrammetric methods.

☆ U.S.GPO:1975-0-665-080/1155

78° 25′ 00″ 78° 24′ 30″

43° 23′ 30″ 43° 23′ 30″

43° 23′ 00″ 43° 23′ 00″



43° 22′ 30″ 43° 22′ 30″

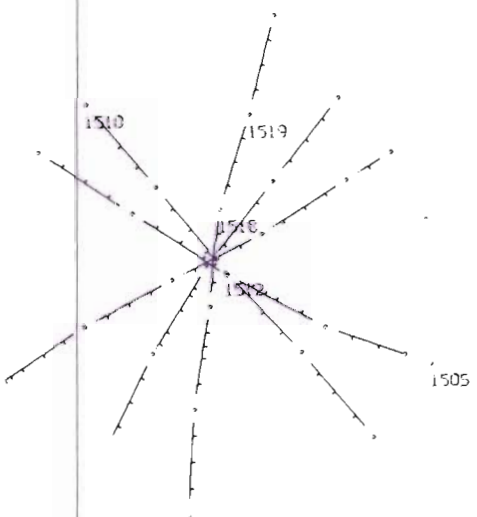
Sounding Overlay To Accompany H - 10093
Scale 1:10,000
Shoal Development

78° 25′ 00″ 78° 24′ 30″

78° 25′ 00″ 78° 24′ 30″

43° 23′ 30″ 43° 23′ 30″

43° 23′ 00″ 43° 23′ 00″



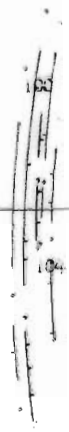
43° 22′ 30″ 43° 22′ 30″

Position Overlay To Accompany H-10093
Scale 1:10,000
Shoal Development

78° 25′ 00″ 78° 24′ 30″

Sounding Overlay To Accompany H - 10093
Scale 1:10,000
Crib Development

78° 13′ 30″ 78° 13′ 00″ 78° 12′ 30″



43° 22′ 30″ 43° 22′ 30″

43° 22′ 00″ 43° 22′ 00″

Position Overlay To Accompany H-10093
Scale 1:10,000
Crib Development

78° 13′ 30″ 78° 13′ 00″ 78° 12′ 30″

HYDROGRAPHIC SURVEY STATISTICS
REGISTRY NO.: H-10093

Number of positions	1787
Number of soundings	7602
Number of control stations	30

	TIME-HOURS	DATE COMPLETED
Preprocessing Examination	29	27 FEB 84
Verification of Field Data	370	9 OCT 85
Quality Control Checks	113	
Evaluation and Analysis	105	29 APR 86
Final Inspection	13	25 APR 86
TOTAL TIME	630	
Marine Center Approval		29 APR 86

Transmittal letter of survey and survey records will be included in the Descriptive Report to identify the records accompanying the survey.

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

WATER LEVEL NOTE FOR HYDROGRAPHIC SHEET

Processing Division: Atlantic Marine Center: MOA231

Hourly heights are approved for

Water Level Station Used: Oak Orchard, New York (905-2070)

Period: June 7, 1983 through October 3, 1983

HYDROGRAPHIC SHEET: H-10093

OPR- V255-HFP-83

Locality: Lake Ontario

Plane of reference: Low Water Datum (IGLD 1955: 242.8 Feet)

Remarks:

Zoning not required, data from other gages on Lake Ontario indicate no unusual water level movement during the survey period.

Philip C. Mann

Chief, Water Levels Section

NOAA FORM 76-155
(11-72)

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

SURVEY NUMBER

H-10093

GEOGRAPHIC NAMES

Name on Survey	A ON CHART NO. 14805	B ON PREVIOUS SURVEY NO.	C ON U.S. QUADRANGLE MAPS	D FROM LOCAL INFORMATION	E TP-00501, 00502, 00503	F P.O. GUIDE OR MAP	G RAND MCNALLY ATLAS	H U.S. LIGHT LIST	K	
FIDDLERS ELBOW					X					1
JOHNSON CREEK	X				X					2
LAKE ONTARIO	X				X					3
LAKESIDE PARK	X				X					4
MARSH CREEK (1)	X				X					5
MARSH CREEK (2)	X				X					6
NEW YORK (title)										7
OAK ORCHARD CREEK	X				X					8
POINT BREEZE	X				X					9
ROCKLEDGE BEACH					X					10
SHADIGEE	X				X					11
SHIPMAN PT					X					12
SUNSET BEACH					X					13
THE BRIDGES	X				X					14
THE MARSH					X					15
TOMS LANDING					X					16
THIRTYMILE POINT (title)										17
										18
					Approved:					19
										20
					Charles E. Harrington					21
					Chief Geographer - N/CG2x5					22
					JAN 17 1986					23
										24
										25

NOAA FORM 76-155 SUPERSEDES C&GS 197

ATLANTIC MARINE CENTER
EVALUATION REPORT

SURVEY NO.: H-10093 FIELD NO.: HFP-20-1-83

New York, Lake Ontario, Thirtymile Point to Point Breeze

SURVEYED: June 7 through October 3, 1983

SCALE: 1:20,000 (mainsheet inset) PROJECT NO.: OPR-V255-HFP-83
1:5,000 (insets)

SOUNDINGS: RAYTHEON DE-719B Fathometer, Sounding Pole and Hand Lead

CONTROL: DEL NORTE (Range/ Range), DEL NORTE and WILD T-1 Theodolite (Range/ Azimuth), and "See Boat Sheet"

Chief of Party.....R. W. Jones

Surveyed by.....F. E. Ohlinger
.....E. L. Martin
.....R. W. Adams
.....D. B. Elliott
.....L. Williams
.....D. M. Bryant
.....L. S. Biscorner

Automated Plot byy.....XYNETICS 1201 Plotter (AMC)

1. INTRODUCTION

a. No unusual problems were encountered during verification.

b. Notes in the Descriptive Report were made in red during office processing

c. Point Breeze Harbor including Oak Orchard Creek is shown as two 1:5,000 scale insets on the smooth sheet. The southern limit of Oak Orchard Creek is shown as a 1:20,000 scale inset on the smooth sheet. The subplan for Green Harbor was drawn on the smooth sheet at an indeterminate scale.

d. The digital records for this survey contain multiple header records identifying four digital files; the main sheet and inset numbers one, two and three.

2. CONTROL AND SHORELINE

a. The control is adequately discussed in sections F., G. and S. of the Descriptive Report. Horizontal control station

KATY, 1983 (Station No. 020) was destroyed after the present survey was completed.

b. The shoreline for the 1:20,000 scale portion of the present survey originates with 1:20,000 scale class III final reviewed photogrammetric shoreline manuscripts TP-00501, TP-00502 and TP-00503 of 1982. Data from field edit notes on the shoreline map labeled "HYDRO MAINTENANCE PRINT" were incorporated into the smooth sheet as appropriate. A copy of the Field Edit Report for TP-00502 is appended to this Descriptive Report.

Shoreline for insets one and two of Point Breeze Harbor originates with a 1:5,000 scale photogrammetric shoreline manuscript TP-01108 of 1984. TP-01108 was received subsequent to the completion of hydrography and has been applied to the present survey. Shoreline on the south side of Fiddlers Elbow in the vicinity of Latitude 43°21'19.5"N, Longitude 78°11'49.5"W was revised during office processing and is shown in red on the present survey. The chart compiler should pay praticular attention to this area during application of the information to the chart.

Photo date of TP-01108 is Oct. 1983 jmw.

Shoreline for the subplan of Green Harbor originates from an enlargement of TP-00502 and is at an approximate scale of 1:2,500.

c. Shoreline changes by the hydrographer are shown in red on the present survey.

3. HYDROGRAPHY

a. Soundings at crossings agree within the criteria stated in sections 4.6.1. and 6.3.4.3. of the HYDROGRAPHIC MANUAL and section 6.6. of the Project Instructions.

b. The standard depth curves and the charted twenty-four (24) foot supplemental depth curve were drawn in their entirety. The zero (0) curve could not be drawn in its entirety due to vessel safety.

c. Development of bottom configuration and determination of least depths is considered well done with the following exceptions:

1) Line spacing in the approaches to Point Breeze Harbor should have been reduced from the standard spacing of 50 meters at 1:5,000 to 25 meters.

2) Lines of hydrography run normal to the depth curves should have been extended closer to the shoreline in the vicinity of the southeast limits of the survey in order to provide a better delineation of the six (6) foot depth curve.

4. CONDITION OF SURVEY

The smooth sheet and accompanying overlays, hydrographic records and reports are adequate and conform to the requirements of the HYDROGRAPHIC MANUAL with the following noted:

a. Descriptive notes entered in the sounding log by the hydrographer were generally very clear and helpful during office processing of the present survey smooth sheet.

b. The hydrographer failed to take bottom samples on shoal features as required by section 8.1 of the Project Instructions and section 4.5.9.2. of the HYDROGRAPHIC MANUAL.

c. The hydrographer failed to locate uncharted piers in the vicinity of Latitude 43°21'17"N, Longitude 78°11'36"W. The hydrographer noted in sounding volume 14 page 41 that on the west side of Oak Orchard Creek there are ten (10) piers between position numbers 5991 and 5992. This does not agree with the Preliminary Map for the Hydrographer nor does the hydrographer show the additional new piers on the final field sheet.

d. The hydrographer failed to locate uncharted piers in the vicinity of Latitude 43°21'10"N, Longitude 78°11'34"W. The hydrographer noted in sounding volume 14 page 39 that on the east side of Oak Orchard Creek there are twelve (12) piers between position numbers 5982 and 5983. This does not agree with the Preliminary Map for the Hydrographer nor does the hydrographer show the additional new piers on the final field sheet.

e. The hydrographer failed to adequately describe the L-shape pier on the Preliminary Map in Latitude 43°21'30"N, Longitude 78°11'33"W. This is shown in red as a straight finger pier on the hydrographer's final field sheet. It is recommended that the pier be charted as shown on the present survey.

f. The uncharted wrecks shown on the Preliminary Map in Latitude 43°21'07.6"N, Longitude 78°11'32.5"W were neither located or verified by the hydrographer. It is recommended that the limits for the wrecks be charted as shown on the present survey.

g. The hydrographer's delineation of a pier in ruins on the field sheet overlay in Latitude 43°22'14"N, Longitude 78°11'35"W does not agree with the foul limits shown on the final field sheet.

h. The search for a charted "rock" in Latitude 43°22'16"N, Longitude 78°11'18"W was inadequate. This position is 40 meters southeast from a charted islet and 75 meters southwest from a charted rock. From the hydrographer's notes in the DR

(page 9, paragraph 7) and sounding volume 12 page 20, it is difficult to ascertain whether the hydrographer was searching for the charted rock or charted islet. See also section 7.a.7) and 7.a.8) of this report.

i. The hydrographer located but failed to discuss in the Descriptive Report an uncharted abandoned crib in Latitude 43°22'15.23"N, Longitude 78°12'00.77"W. It is recommended that this item be charted as a crib (abandoned) in the location shown on the present survey.

5. JUNCTIONS

H-10022 (1982) to the west
H-10110 (1984) to the east

Excellent junctions were effected between the present survey and surveys H-10022 (1982) and H-10110 (1984).

There are no contemporary surveys to the north of the present survey. The charted depths and the present survey depths are in harmony to the north.

6. COMPARISON WITH PRIOR SURVEYS

a. LS-605 (1875) 1:60,000
LS-620 (1875) 1:10,000
LS-621 (1875) 1:10,000
LS-1605 (1932) 1:80,000
LS-1606 (1932) 1:80,000
LS-2080 (1960) 1:80,000

The above prior surveys taken together cover the present survey area in its entirety.

Since large scale prior surveys of 1875 do not have a grid, a precise comparison could not be made with the present survey. These prior surveys should serve only as historical documents of the area.

The differences on prior survey LS-605 (1875) are attributable to survey methods and differences in the sounding datum between the prior and present survey. Selected bottom characteristics were brought forward from this prior survey to supplement the present survey.

The differences on prior surveys LS-620 (1875) and LS-621 (1875) are attributable to sounding and control methods between present and prior surveys and in differences in the sounding datum. Significant cultural changes occurred in the vicinity of Point Breeze Harbor. Selected bottom characteristics were brought forward from these prior surveys to supplement the present survey.

Line spacing of LS-1605 (1932) and LS-1606 (1932) is approximately 150 to 400 meters into the area of the present survey. Differences are attributable to the sparse data and differences in control methods used.

Prior survey LS-2080 (1960) covers the northern offshore edge of the present survey. Soundings are one (1) to twelve (12) feet deeper that the present survey. These differences may be attributable to a combination of control methods, sound velocity corrections and the large scale difference (1:20,000 versus 1:80,000). A resurvey of LS-2080 may be required to ascertain the cause of the differences.

Except as noted above the present survey is considered adequate to supersede the prior surveys in the common area.

b. U.S.C.O.E. (1982) 1:1,200 (Drawing No. 82S-OAK-1/1)

The present survey compared well with a 1982 U. S. Army Corps of Engineers survey (Drawing No. 82S-OAK-1/1) with soundings varying plus or minus (+/-) one (1) foot. The present survey indicates that shoaling has increased at the entrance to Point Breeze Harbor as scattered soundings are one (1) to two (2) feet shoaler than the Corps of Eengineers survey. It is recommended that the present survey be used to supplement the Corps of Engineers survey in the common areas with the exception of the shoal area in the vicinity of the entrance to the harbor.

7. COMPARISON WITH CHART NO. 14805 (20th Ed., Mar. 14/81)

a. Hydrography

The charted hydrography originates with the previously discussed prior surveys which need no further consideration and miscellaneous sources. Specific features discussed in section L., pages 8 through 10 of the Descriptive Report have charting recommendations that require no additional comments except as noted in that report.

In addition to recommendations in section L. of the hydrographer's report the following should be noted:

1) Numerous cultural and natural features were located by the hydrographer during the survey. It is recommended that these features be charted as shown on the present survey providing the scale of the chart allows.

2) AWOIS Item 2214 is a dangerous submerged rock, PD charted as a dangerous rock awash, PD in Latitude 43°22'26.0"N, Longitude 78°27'06.0"W originating from an unknown source. This item was located by the hydrographer in Latitude 43°22'24.3"N, Longitude ~~78°78'27.4~~"W and bares 1 foot above LWD (IGLD 1955: 242.8 ft). It is recommended that the charted

App'd PR

78°27'04"

dangerous rock awash, PD be revised to the position located by the hydrographer and that the charted notation "PD" be deleted from the chart.

3) AWOIS Item 2215 is a dangerous submerged rock, PD charted as a dangerous rock awash, PD in Latitude 43°22'30"N, Longitude 78°18'54"W originating from an unknown source. This item was located by the hydrographer in Latitude 43°22'26.6"N, Longitude 78°18'54.5"W and bares 2 feet above LWD (IGLD 1955: 242.8 ft). It is recommended that the charted dangerous rock awash, PD be revised to the position located by the hydrographer and that the charted notation "PD" be deleted from the chart.

4) AWOIS Item 2216, a dangerous submerged rock PA charted as a dangerous rock awash , PAin Latitude 43°22'36"N, Longitude 78°22'40"W originates from CL977/79 USPS. This item was located by the hydrographer and positively identified by the original USPS observer in Latitude 43°22'35.6"N, Longitude 78°22'42.1"W and is awash at LWD (IGLD 1955). It is recommended that the chart dangerous rock awash, PA be revised to the position located by the hydrographer and that the charted notation "PA" be deleted from the chart.

5) An uncharted obstruction (piles) was located by the hydrographer in Latitude 43°21'55.6"N, Longitude 78°11'34.4"W. This item is described in Sounding Volume 12, page 10 as two (2) steel piles that bare six (6) feet above LWD (IGLD 1955). It is recommended that the obstruction (piles) be charted as shown on the present survey. See also section H. 3), page 6 of the Descriptive report.

6) All charted piles in Oak Orchard Creek located between Latitudes 43°22'16"N and 43°21'50"N were neither located or discussed by the hydrographer. It is recommended that these piles be retained on the chart.

7) The charted islet in Latitude 43°22'17"N, Longitude 78°11'19"W was not located or verified by the hydrographer. The source of this islet was unascertainable at the time of this report. It is recommended that the islet be retained as charted.

8) The charted dangerous rock awash in Latitude 43°22'18.6"N, Longitude 78°10'16.0"W was searched for but not located by the hydrographer. The hydrographer located a rock baring one (1) foot above LWD (IGLD 1955) in Latitude 43°22'17"N, Longitude 78°11'15"W. It is recommended that the rock be charted as a dangerous rock awash at the position shown on the present survey and the charted dangerous rock awash be deleted.

9) The charted pier in Latitude 43°22'14"N, Longitude 78°11'35"W was found to be in ruins by the hydrographer. It is

recommended that the pier be revised as dashed limits with the notation "foul (pier ruins)" and charted as shown on the present survey.

10) The charted dangerous rock awash in Latitude 43°22'22.3"N, Longitude 78°11'24.7"W was located by the hydrographer and bares one (1) foot above LWD (IGLD 1955). It is recommended that this item be charted as shown on the present survey.

11) The charted Lyndonville Water Intake Crib was found by the hydrographer. A pole sounding least depth of seven (7) feet was found in Latitude 43°22'37.42"N, Longitude 78°23'18.47"W. It is recommended that the charted subm crib remain as charted at the above location with the revised note Depth over crib 7 ft unless subsequent information indicates otherwise.

12) The hydrographer located a privately maintained buoy in Latitude 43°22'07.83"N, Longitude 78°11'33.03"W. It is recommended that the charting action for this buoy be deferred to the chart compiler.

13) The hydrographer noted that the entrance to Johnson Creek in Latitude 43°22'21"N, Longitude 78°16'06"W is not navigable due to shoaling across the mouth of the creek.

The present survey is adequate to supersede the charted hydrography except as noted above.

b. Controlling Depths

There are no conflicts with the charted channel controlling depths of Point Breeze Harbor except at the junction of the east and west entrance channels behind the breakwater in the vicinity of Latitude 43°22'27"N, Longitude 78°11'31"W where controlling depths are presently four (4) feet. See also section 6. of this report.

c. Aids to Navigation

There are five (5) fixed and two (2) floating aids to navigation on the present survey. These aids appear adequate to serve their intended purpose.

8. COMPLIANCE WITH INSTRUCTIONS

This survey adequately complies with the Project Instructions except as noted elsewhere in this report.

9. ADDITIONAL FIELD WORK

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

FIELD EDIT REPORT

TP-00502

CM-8000

51. METHODS

The shoreline and alongshore features of this manuscript were field edited as prescribed by the National Ocean Survey Field Edit Instructions and by Project Instructions OPR-V255-HSB-82 dated April 21, 1982.

Shoreline inspection was performed from a skiff run close to shore, seaward inspection of landmarks was performed from a skiff run offshore. Photogrammetric verification of landmarks was performed by light truck.

There were no questions directed to the Field Editor for this sheet. With the exception of landmarks, no hydrographic questions were answered as hydrography is scheduled for this area this year.

The two horizontal control stations plotted on this sheet were recovered, however, 75-82A's were not initiated to avoid duplication as HSB performed support operations in the area in May and June 1982.

52. ADEQUACY OF COMPILATION

The compilation of this sheet is very good. No changes other than classification were necessary. It should be noted that many of the piers compiled on this sheet are classified as rollaway piers which are temporary in nature and likely to change position frequently. It would seem advisable to drop these piers off of the manuscript.

53. MAP ACCURACY

Pending application of field edit it is believed this manuscript will be both complete and accurate. For accuracy of horizontal control see the Photogrammetric Plot Report.

54. RECOMMENDATIONS

None.

55. EXAMINATION OF PROOF COPY

Not required.

Submitted 7/12/82

Approved 7/12/82

C. M[illegible]

Douglas V. Mason
Cartographic Technician
Verification of Field Data

Richard H. Whitfield
Cartographic Technician
Evaluation and Analysis

Robert R. Hill
Senior Cartographic Technician
Verification Check

Inspection Report
H-10093

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 magnetic tape record for this survey. Final control, position, and sounding printouts of the survey have been made. The survey complies with National Ocean Service requirements except as noted in the Evaluation Report. The survey records comply with NOS requirements except where noted in the Evaluation Report.

Inspected

R. D. Sanocki
Chief, Hydrographic Surveys
Processing Section
Hydrographic Surveys Branch

David B. MacFarland, Jr., CDR, NOAA
Chief, Hydrographic Surveys Branch

Approved: 29 April, 1986

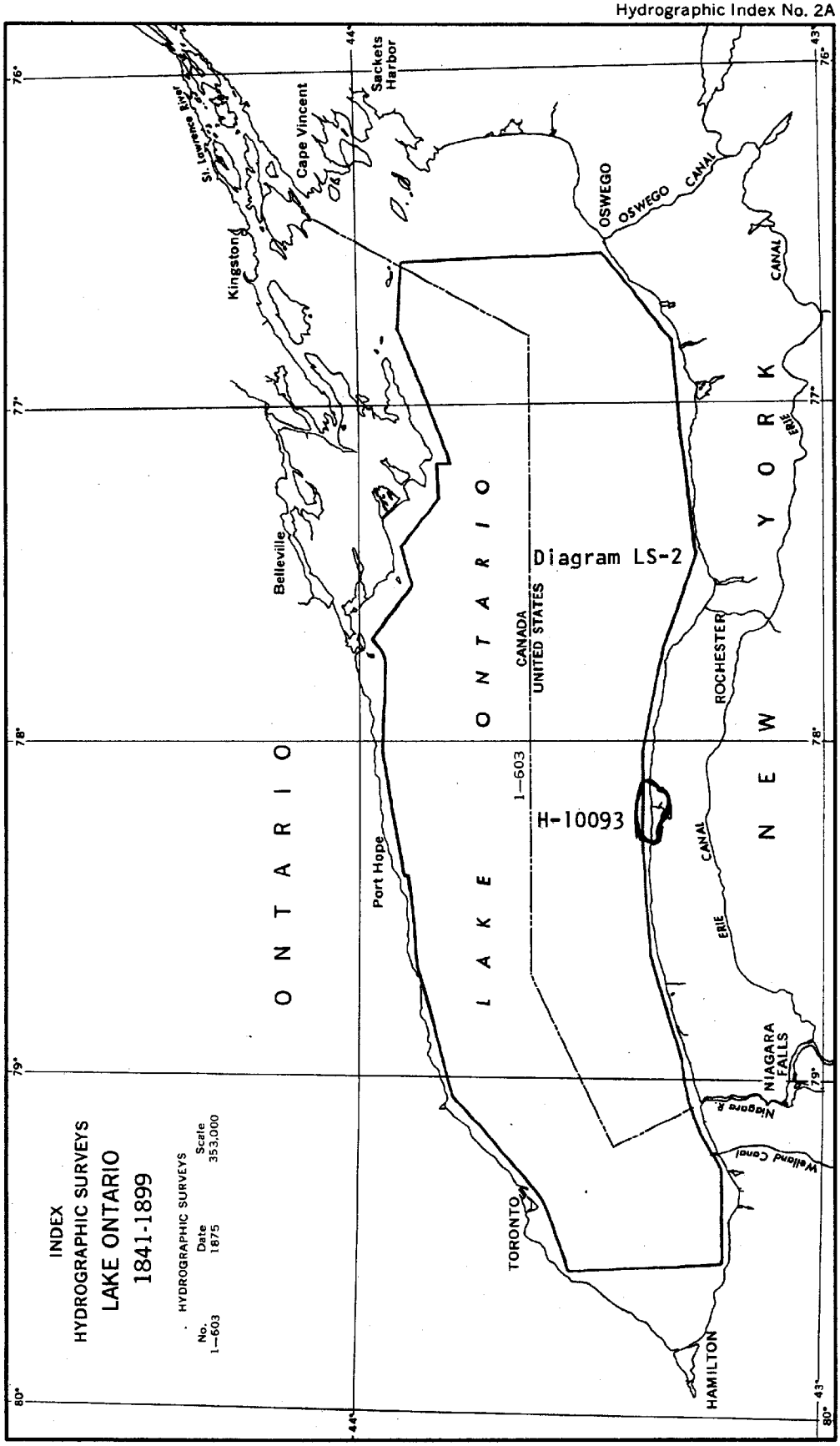
Wesley V. Hull, RADM, NOAA
Director, Atlantic Marine Center

U.S. DEPARTMENT OF COMMERCE

NOAA—NATIONAL OCEAN SURVEY, LAKE SURVEY CENTER

630 Federal Building and U.S. Courthouse, Detroit ,Michigan 48226

Hydrographic Index No. 2A



NOAA FORM 75-96
(10-83)

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

MARINE CHART BRANCH

RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. H-10093

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
~~14800E~~	~~3-4-87~~	~~Russell P Kennedy~~	~~Full Part~~ Before After Marine Center Approval Signed Via
			Drawing No.
14805	7-14-89	[illegible]	Full ~~Part Before~~ After Marine Center Approval Signed Via
			Drawing No. full Application of sndgs
14800	8/5/89	S.H. Olson	Full ~~Part Before~~ After Marine Center Approval Signed Via full application
			Drawing No. of Sndgs thru #14805 & SS
			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
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SUPERSEDES C&GS FORM 8352 WHICH MAY BE USED.