

TP-00915

TP-00915

NOAA FORM 76-35

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

DESCRIPTIVE REPORT

Type of Survey Shoreline

Job No. CM-7908 Map No. TP-00915...

Classification No. III Edition No. ...1st.*...

* This map edition will not be field edited

LOCALITY

State Michigan

General Locality East Side of Lake Michigan

Locality Portage Lake

19 79 TO 19

REGISTRY IN ARCHIVES

DATE

NOAA FORM 76-36A (3-72)		U. S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMIN.	
DESCRIPTIVE REPORT - DATA RECORD		TYPE OF SURVEY <input checked="" type="checkbox"/> ORIGINAL <input type="checkbox"/> RESURVEY <input type="checkbox"/> REVISED	
PHOTOGRAMMETRIC OFFICE Photogrammetry Division Rockville, MD		SURVEY TP. 00915 MAP EDITION NO. (1) MAP CLASS III JOB PH -CM-7908	
OFFICER-IN-CHARGE Walter S. Simmons		LAST PRECEDING MAP EDITION TYPE OF SURVEY <input type="checkbox"/> ORIGINAL <input type="checkbox"/> RESURVEY <input type="checkbox"/> REVISED	
JOB PH-		MAP CLASS SURVEY DATES: 19__ TO 19__	
I. INSTRUCTIONS DATED			
1. OFFICE		2. FIELD	
Aerotriangulation - Oct. 16, 1981 Office - April 14, 1982		Field Feb. 15, 1980	
II. DATUMS			
1. HORIZONTAL: <input checked="" type="checkbox"/> 1927 NORTH AMERICAN		OTHER (Specify)	
2. VERTICAL: <input type="checkbox"/> MEAN HIGH-WATER <input type="checkbox"/> MEAN LOW-WATER <input type="checkbox"/> MEAN LOWER LOW-WATER <input type="checkbox"/> MEAN SEA LEVEL		OTHER (Specify) Lake Michigan Low Water Datum based on International Great Lake Datum (IGLD) 1955	
3. MAP PROJECTION Lambert Conformal Conic		4. GRID(S) STATE Michigan ZONE Central	
5. SCALE 1:10,000		STATE ZONE	
III. HISTORY OF OFFICE OPERATIONS			
OPERATIONS		NAME	
DATE			
1. AEROTRIANGULATION METHOD: Analytic		BY B. Thornton LANDMARKS AND AIDS BY N/A	
2. CONTROL AND BRIDGE POINTS METHOD: Calcomp 418		PLOTTED BY V. Winchell CHECKED BY B. Baldwin	
3. STEREOSCOPIC INSTRUMENT COMPILATION INSTRUMENT: Wild B-8/CAPS SCALE: 1:10,000		PLANIMETRY BY B. Baldwin CHECKED BY R. Rodkey CONTOURS BY N/A CHECKED BY N/A	
4. MANUSCRIPT DELINEATION METHOD: Smooth Drafting SCALE: 1:10,000		PLANIMETRY BY B. Baldwin CHECKED BY R. Rodkey CONTOURS BY N/A CHECKED BY N/A HYDRO SUPPORT DATA BY N/A CHECKED BY N/A	
5. OFFICE INSPECTION PRIOR TO FIELD EDIT		BY N/A	
6. APPLICATION OF FIELD EDIT DATA		BY Field Edit Canceled CHECKED BY N/A	
7. COMPILATION SECTION REVIEW		BY R. Rodkey	
8. FINAL REVIEW		BY J. Schad	
9. DATA FORWARDED TO PHOTOGRAMMETRIC BRANCH		BY R. Rodkey	
10. DATA EXAMINED IN PHOTOGRAMMETRIC BRANCH		BY J. Schad	
11. MAP REGISTERED - COASTAL SURVEY SECTION		BY H. D. Wote	

NOAA FORM 76-36B
(3-72)U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY

COMPILATION SOURCES

TP-00915

1. COMPILATION PHOTOGRAPHY

CAMERA(S) 152.74 mm Wild RC-10(B) Focal length		TYPES OF PHOTOGRAPHY LEGEND (C) COLOR (P) PANCHROMATIC (I) INFRARED		TIME REFERENCE	
TIDE STAGE REFERENCE <input type="checkbox"/> PREDICTED TIDES <input checked="" type="checkbox"/> REFERENCE STATION RECORDS <input type="checkbox"/> TIDE CONTROLLED PHOTOGRAPHY				ZONE Eastern <input type="checkbox"/> STANDARD	MERIDIAN 60th <input checked="" type="checkbox"/> DAYLIGHT
NUMBER AND TYPE	DATE	TIME	SCALE	STAGE OF TIDE	
79B(C) 1114-17	6/12/79	0915	1:30,000	+3.22 Ft Lake Michigan Low Water Datum Ludington, Michigan Gage	
79B(C) 1476, 77	7/2/79	1155	1:30,000	+3.26 Ft Lake Michigan Low Water Datum Ludington, Michigan Gage	

REMARKS The lake level at time of photography on June 12, 1979 was 580.02 ft. and on July 12, 1979 was 580.06 ft. based on (IGLD) 1955 (Ludington, Mich. Gage)

2. SOURCE OF MEAN HIGH-WATER LINE: the Shoreline is:

The photographs listed above.

3. SOURCE OF MEAN LOW-WATER OR MEAN LOWER LOW-WATER LINE:

N/A

4. CONTEMPORARY HYDROGRAPHIC SURVEYS (List only those surveys that are sources for photogrammetric survey information.)

SURVEY NUMBER	DATE(S)	SURVEY COPY USED	SURVEY NUMBER	DATE(S)	SURVEY COPY USED
-----	-----	NO CONTEMPORARY SURVEYS	-----	-----	-----

5. FINAL JUNCTIONS

NORTH	EAST	SOUTH	WEST
-----	NO CONTEMPORARY SURVEYS	-----	-----

REMARKS

NOAA FORM 76-36C
(3-72)U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY

HISTORY OF FIELD OPERATIONS

TP-00915

I. ☒ FIELD INSPECTION OPERATION☐ FIELD EDIT OPERATION

OPERATION	NAME	DATE
1. CHIEF OF FIELD PARTY	James E. Dunford	8/11/81
2. HORIZONTAL CONTROL	RECOVERED BY ESTABLISHED BY PRE-MARKED OR IDENTIFIED BY	" " "
3. VERTICAL CONTROL	RECOVERED BY ESTABLISHED BY PRE-MARKED OR IDENTIFIED BY	N/A N/A N/A
4. LANDMARKS AND AIDS TO NAVIGATION	RECOVERED (Triangulation Stations) BY LOCATED (Field Methods) BY IDENTIFIED BY	N/A N/A N/A
5. GEOGRAPHIC NAMES INVESTIGATION	TYPE OF INVESTIGATION <input type="checkbox"/> COMPLETE <input type="checkbox"/> SPECIFIC NAMES ONLY <input checked="" type="checkbox"/> NO INVESTIGATION	
6. PHOTO INSPECTION	CLARIFICATION OF DETAILS BY	None
7. BOUNDARIES AND LIMITS	SURVEYED OR IDENTIFIED BY	N/A

II. SOURCE DATA

1. HORIZONTAL CONTROL IDENTIFIED

2. VERTICAL CONTROL IDENTIFIED

None

PHOTO NUMBER	STATION NAME	PHOTO NUMBER	STATION DESIGNATION
79B(C) 1476	Portage Z Azimuth (sub pt A & B)		
79B(C) 1477	Portage Z-01 (sub pt A, B, & C)		

3. PHOTO NUMBERS (Clarification of details)

None

4. LANDMARKS AND AIDS TO NAVIGATION IDENTIFIED

None

PHOTO NUMBER	OBJECT NAME	PHOTO NUMBER	OBJECT NAME

5. GEOGRAPHIC NAMES: ☐ REPORT ☒ NONE6. BOUNDARY AND LIMITS: ☐ REPORT ☒ NONE

7. SUPPLEMENTAL MAPS AND PLANS

None

8. OTHER FIELD RECORDS (Sketch books, etc. DO NOT list data submitted to the Geodesy Division)

2 NOAA Forms 76-53

1 book (field observations abstracts and descriptions)

RECORD OF SURVEY USE

TP-00915

I. MANUSCRIPT COPIES

COMPILATION STAGES			DATE MANUSCRIPT FORWARDED	
DATA COMPILED	DATE	REMARKS	MARINE CHARTS	HYDRO SUPPORT
Final Reviewed Map	Dec 1982	Class III Map (Final)	12/29/82	

II. LANDMARKS AND AIDS TO NAVIGATION

1. REPORTS TO MARINE CHART DIVISION, NAUTICAL DATA BRANCH

NUMBER	CHART LETTER NUMBER ASSIGNED	DATE FORWARDED	REMARKS
form		Dec 1982	Landmarks/Aids for Charting via NOAA Form 76-40

2. ☐ REPORT TO MARINE CHART DIVISION, COAST PILOT BRANCH. DATE FORWARDED: _____3. ☐ REPORT TO AERONAUTICAL CHART DIVISION, AERONAUTICAL DATA SECTION. DATE FORWARDED: _____

III. FEDERAL RECORDS CENTER DATA

1. ☒ BRIDGING PHOTOGRAPHS; ☒ DUPLICATE BRIDGING REPORTS; ☒ COMPUTER READOUTS.
 2. ☒ CONTROL STATION IDENTIFICATION CARDS; ☒ FORM 76-40 SUBMITTED BY FIELD PARTIES.
 3. ☒ SOURCE DATA (except for Geographic Names Report) AS LISTED IN SECTION II, NOAA FORM 76-36C.
 ACCOUNT FOR EXCEPTIONS:

Duplicate copies of NOAA Form 76-40

4. ☐ DATA TO FEDERAL RECORDS CENTER. DATE FORWARDED: DECEMBER 1982

IV. SURVEY EDITIONS (This section shall be completed each time a new map edition is registered)

SECOND EDITION	SURVEY NUMBER TP - _____ (2)	JOB NUMBER PH - _____	TYPE OF SURVEY <input type="checkbox"/> REVISED <input type="checkbox"/> RESURVEY MAP CLASS <input type="checkbox"/> II. <input type="checkbox"/> III. <input type="checkbox"/> IV. <input type="checkbox"/> V. <input type="checkbox"/> FINAL
	DATE OF PHOTOGRAPHY	DATE OF FIELD EDIT	
THIRD EDITION	SURVEY NUMBER TP - _____ (3)	JOB NUMBER PH - _____	TYPE OF SURVEY <input type="checkbox"/> REVISED <input type="checkbox"/> RESURVEY MAP CLASS <input type="checkbox"/> II. <input type="checkbox"/> III. <input type="checkbox"/> IV. <input type="checkbox"/> V. <input type="checkbox"/> FINAL
	DATE OF PHOTOGRAPHY	DATE OF FIELD EDIT	
FOURTH EDITION	SURVEY NUMBER TP - _____ (4)	JOB NUMBER PH - _____	TYPE OF SURVEY <input type="checkbox"/> REVISED <input type="checkbox"/> RESURVEY MAP CLASS <input type="checkbox"/> II. <input type="checkbox"/> III. <input type="checkbox"/> IV. <input type="checkbox"/> V. <input type="checkbox"/> FINAL
	DATE OF PHOTOGRAPHY	DATE OF FIELD EDIT	

CM-7908
MANISTEE, MANISTEE LAKE
& PORTAGE LAKE
LAKE MICHIGAN.
MICHIGAN
SHORELINE MAPPING
SCALE 1:10,000

New St.
1490
1493
1493
1493

44° 23' 30"

86° 17' 30"

TP-00915

44° 20' 00"

86° 22' 30"

44° 16' 00"

TP-00916

44° 12' 00"

Revised 8/10/82 EPJr.

Summary
TP-00915

This map is one of two 1:10,000 scale shoreline maps that comprise Job CM-7908. The purpose of this job is to provide data in nautical charts maintenance and hydrographic surveying. The map portrays the shoreline and alongshore details of Lake Michigan in the vicinity of Portage Lake entrance and Portage Lake.

Field operation consisted of the recovery, establishment, and photoidentification of horizontal control.

Natural color photographs were taken at a scale of 1:30,000 in June and July 1979 with the RC-10(B) camera. The photographs were provided to aerotriangulation and compilation sections.

Aerotriangulation was performed at the Washington Science Center, Rockville, Maryland. The photographs were bridged using analytic aerotriangulation methods.

Compilation was performed in April 1982 at the Washington Science Center, Rockville, Maryland, by the Special Project Section.

Final Review of this map was performed at the Washington Science Center, Rockville, Maryland, December 1982. This map complies with National Standards of Map Accuracy.

The context of the Descriptive Report contains all pertinent reports and listing of data used to compile this final map.

Field Operation
TP-00915

Field operation consist of the recovery and establishment of horizontal control.

Photogrammetric Plot Report

Manistee Lake, Michigan

CM-7908

December 1981

21. Area Covered

The area covered by this project is Manistee Lake and Portage Lake, Lake Michigan. The area is covered by two 1:10,000 scale sheets; TP-00915 and TP-00916.

22. Method

Two strips of 1:30,000 scale photography were bridged by analytical aerotriangulation methods. Control for strip No. 1 (798 1463-1478), consisted of primarily field identified control with several office identified intersected stations for checks. Strip No. 2 was adjusted by using tie points from strip No. 1. Field identified points were used in conjunction with office identified intersection stations for check control. Ratios were determined for compilation.

The Lambert Conformal, central zone, coordinate system was used to adjust the bridging strips. The manuscripts will be plotted using the same coordinate system.

23. Adequacy of Control

Control checked well within map accuracy standards and is sufficient for the job. A copy of the Fit to Control is attached to this report.

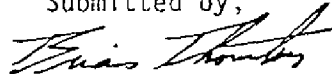
24. Supplemental Data

USGS quadrangles were used to provide vertical control for strip adjustments.

25. Photography

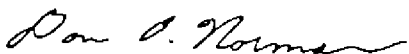
The coverage, overlap, and quality of the 1979-80-photographs were adequate for the job.

Submitted by,



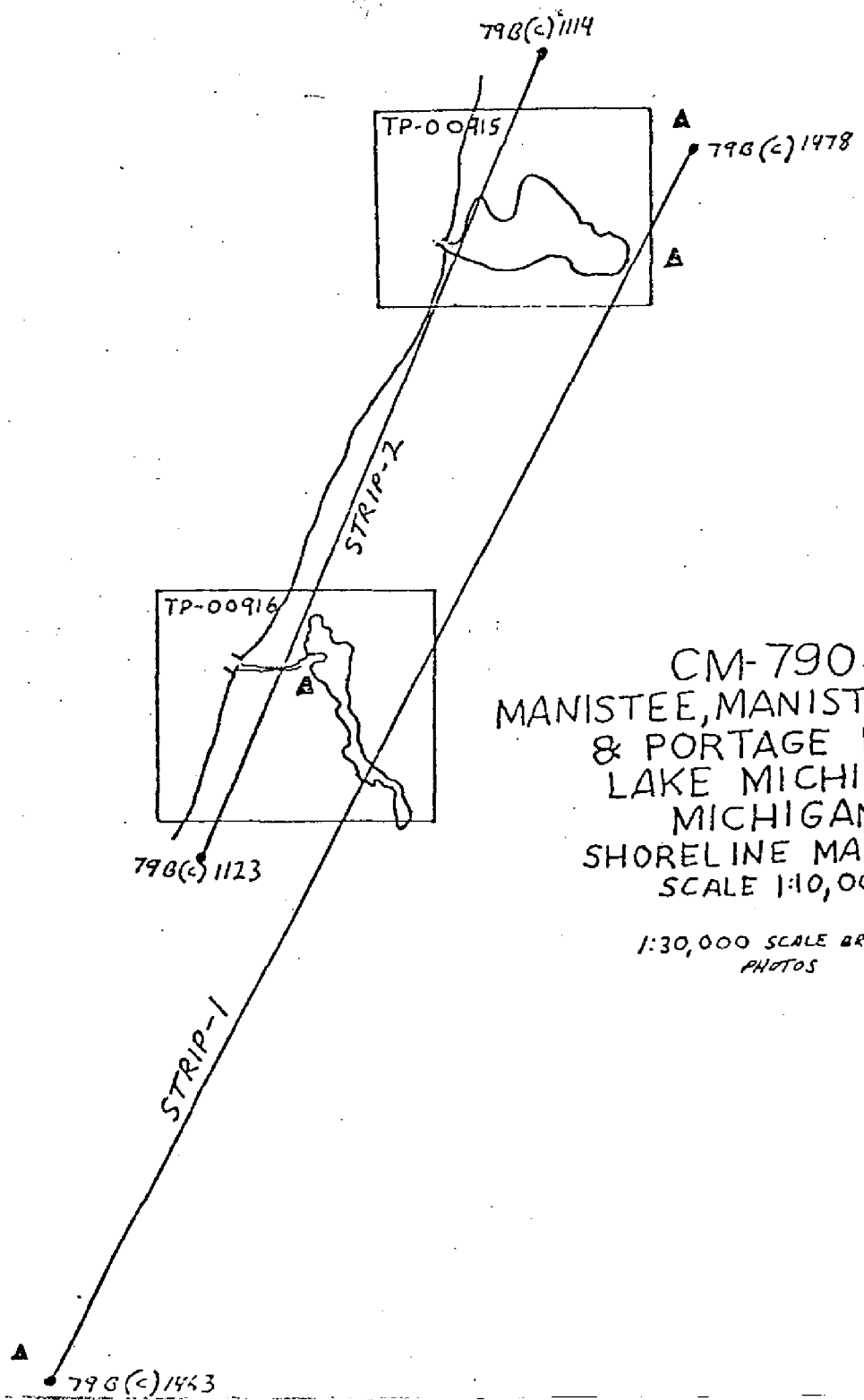
Brian F. Thornton

Approved and Forwarded:



Don Norman

Chief, Aerotriangulation Section



CM-7908
MANISTEE, MANISTEE LAKE
& PORTAGE LAKE
LAKE MICHIGAN
MICHIGAN
SHORELINE MAPPING
SCALE 1:10,000

1:30,000 SCALE BRIDGING
PHOTOS

Adequacy of Control

Lake Michigan

CM-7908

Fit to Control

STRIP-1

<u>Point No.</u>	<u>X-Error</u>	<u>Y-Error</u>
463101	-0.106	-3.105
▲ 463102	-0.058	0.133
471100	-1.542	-1.765
471101	0.313	0.315
▲ 471102	-0.000	-0.883
471103	-1.393	-2.974
▲ 473101	0.100	0.506
473102	0.234	1.365
473100	-0.619	-0.886
▲ 477101	-0.842	0.973
477102	-1.644	3.647
▲ 478101	0.804	-0.723
478102	0.210	-0.225
478103	-2.235	-0.690

Lake Michigan

CM-7908

Fit to Control

STRIP-2

<u>Point No.</u>	<u>X-Error</u>	<u>Y-Error</u>
▲ 478802	-0.632	-0.018
478801	1.081	0.376
477801	-3.881	-1.056
477802	1.411	2.707
476801	-1.817	1.192
476802	1.726	1.507
▲ 476803	1.150	-0.176
475801	-0.019	0.797
475802	-3.022	0.363
474801	-0.202	0.034
▲ 474802	-0.265	0.410
473801	1.187	-1.255
473802	0.569	-1.365
472801	0.476	0.917
472802	0.243	0.295
471100	0.098	-2.408
471101	-0.172	-0.649
471102	1.185	-1.066
471103	0.603	-3.158
▲ 471801	-1.061	-0.615
471802	0.567	0.379
▲ 470801	0.808	0.399
470802	1.159	0.799

11	+44 15	5.27597	- 86 20	59.61300	.00000
12	+44 15	6.50203	- 86 20	48.69506	.00000
13	+44 14	31.46595	- 86 19	19.87896	.00000
14	+44 14	36.40196	- 86 19	31.15597	.00000
15	+44 21	37.46997	- 86 16	4.93998	.00000
16	+44 14	5.56998	- 86 18	46.38997	.00000
17	+44 12	54.90404	- 86 17	2.64804	.00000

POINTS OF POSSIBLE LANDMARK VALUE

121404	+44 13	58.23456	- 86 18	30.71943	791.86500
121405	+44 13	50.45619	- 86 18	23.58437	661.40600
121406	+44 13	20.23306	- 86 17	59.25885	748.33200
470401	+44 12	51.69285	- 86 17	2.57743	736.03800
470402	+44 13	48.35603	- 86 17	31.99499	697.84200
120401	+44 15	39.41302	- 86 19	1.46769	832.69700
121403	+44 15	7.73968	- 86 18	57.48568	783.40100
121407	+44 15	12.52975	- 86 19	1.88864	772.81400
122401	+44 14	7.47890	- 86 19	2.17192	645.04100
116502	+44 21	33.82192	- 86 16	7.26250	593.59700

Compilation Report

CM-7908

TP-00915

31. Delineation

The shoreline and interior planimetric on this map was compiled using the Wild B-8 stereoplotter interfaced with the Data Technology CAP System from 1:30,000 scale color photographs.

The shoreline, which is the lake level elevation (referred to the Low Water Datum) at the time of photography was compiled using the 1:30,000 scale photographs.

32. Control

Refer to the Aerotriangulation Plot Report for the adequacy of the horizontal control.

The vertical control used in leveling the Wild B-8 stereoplotter instrument was obtained from USGS quadrangle maps.

33. Supplemental Data - None

34. Contours and Drainage

Contours are not applicable. Drainage was compiled from office interpretation of 1:30,000 scale photographs.

35. Shoreline and Alongshore Detail

There was no preliminary field inspection prior to compilation.

The shoreline and alongshore detail was compiled by office interpretation of photographs.

36. Offshore Detail

No problems were encountered compiling the offshore detail depicted on the map.

37. Landmarks and Aids

Two fixed aids are delineated on this map. One field aid is a geodetic station which was verified during the aerotriangulation and compilation phases. The second fixed aid was measured during aerotriangulation and verified during the compilation phase.

2

38. Control for Future Surveys - None

39. Junctions

There are no junctions to be made with this map.

40. thru 45. Inapplicable

46. Comparison with Existing Maps

A comparison was made with the following USGS quadrangles:

Bar Lake, Mich., Scale 1:62,500, 1956 Edition

Onkama, Mich., Scale 1:62,500, 1956 Edition

No significant differences were noted. A detailed comparison was not possible due to the small scale of the USGS quadrangles.

47. Comparison with Nautical Charts

A comparison was made with the following charts:

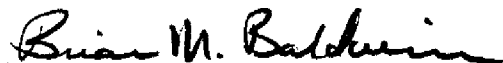
14907, Scale 1:120,000, 19th Edition dated 3/22/80

14939, Scale 1:10,000, 20th Edition dated 7/14/79

Items to be applied to Nautical Charts immediately - None

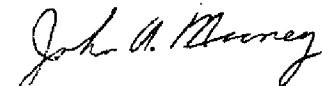
Items to be carried forward - None

Submitted by,



Brian M. Baldwin

Approved and Forwarded:



John A. Mooney, Jr.
Special Projects Section (Rockville)
Photogrammetry Division

Review Report
Shoreline Survey
TP-00915

61. General Statement

Refer to Summary bound with this Descriptive Report.

62. Comparison with Registered Topographic Survey - None

63. Comparison with Maps of Other Agencies

Refer to the Compilation Report paragraph 46, bound with this Descriptive Report.

64. Comparison with Contemporary Hydrographic Surveys - None

65. Comparison with Nautical Charts

Refer to the Compilation Report paragraph 47, bound with this Descriptive Report.

A comparison of the map with chart 14907, March 22, 1980, and chart 14939, July 14, 1979, reveals some difference of details. These differences have been noted on a map copy (Chart Maintenance Print) and forwarded to Marine Chart Branch for use in maintaining nautical charts.

66. Adequacy of Results and Future Surveys

This map complies with the project instructions and meets National Standard of Map Accuracy.

Submitted by,

James E. Schad

Final Reviewer

Approved and Forwarded:

George M. Bae
Chief, Photogrammetric Branch

Lawrence W. Fitz

Chief, Photogrammetry Division

May 25, 1982

GEOGRAPHIC NAMES

FINAL NAME SHEET

CM-7908 (Portage and Manistee Lakes, Michigan)

TP-00915

Crescent Beach

Eagle Point

North Point

Onkama

Portage Lake

Portage Point

Red Park

Wic-a-te-mah Beach

Lake Michigan

Approved by:

Charles E. Harrington

Charles E. Harrington
Chief Geographer, OA/C3x5

Information of Dissemination of Project Material

CM-7908

Lake Michigan, Michigan

National Archive/Federal Record Center

Brown folder:

- Aerotriangulation Bridging Photographs
- Computer Readout
- Control Station Identification Cards
- Field Photographs
- NOAA Form 76-41 (Descriptive Report Control Records)
- Project Diagram
- Plot Report
- 1 Book (field observation, abstract, and descriptions)
- Job Completion Report

Bureau Archives

- Descriptive Report
- Registered Maps

Reproduction Division

- 8x Reduction Negative of each maps

Office of Staff Geographer

- Geographer Names Standard

PHOTOGRAMMETRIC BRANCH
PHOTOGRAMMETRY DIVISION

NATIONAL OCEAN SURVEY NOAA
DEPARTMENT OF COMMERCE USA

* SVY TP-00915 * * RPT UNIT SPS,PB,ROCKVILLE,MD.* * PAGE 1 OF 2
* JOB CM7908 * * STATE MICHIGAN *
* PRJ LAKE MICH * * LOCALITY PORTAGE LAKE * *ORIGINATING ACTIVITY
* DTM N.A. 1927 * * DATE 07/14/82 * * CO PILATION

* POSITIONS DETERMINED * * NO FIELD EDIT PERFORMED. CLASS III MAP * * FIELD REPRESENTATIVE
* AND/OR VERIFIED BY * * BRIAN THURNTON,BRIAN BALDWIN * * OFFICE COMPILER
* FIELD AND OFFICE * * NO OFFLINE DIGITIZING PERFORMED * * DIGITIZER
* ACTIVITIES * * ROBERT RODKEY, JR. * * DATA PROCESSER

KEY FOR ENTRIES UNDER METHOD AND DATE OF LOCATION

* OFFICE * * FIELD(CONT,D)
* 1.OFFICE IDENTIFIED AND LOCATED OBJECTS. * * B.PHOTOGRAMMETRIC FIELD POSITIONS** SHOW
* THE NUMBER AND DATE (INCLUDING MONTH,DAY * * THE METHOD OF LOCATION OR VERIFICATION,
* AND YEAR) OF THE PHOTOGRAPH USED TO * * DATE OF FIELD WORK AND NUMBER OF PHOTO-
* IDENTIFY AND LOCATE THE OBJECT ARE SHOWN. * * GRAPH USED TO LOCATE AND IDENTIFY THE
* EXAMPLE 75E(C)6042 * * OBJECT.
* 8-12-77 * * EXAMPLE P-8-V
* * * * 8-12-77
* * * * 74L(C)2982

FIELD

1.NEW POSITION DETERMINED OR VERIFIED
KEY TO SYMBOLS
F-FIELD
L-LOCATED
V-VERIFIED
1-TRIANGULATION
2-TRAVERSE
3-INTERSECTION
4-RESECTION
5.FIELD IDENTIFIED
6-THEODOLITE
7-PLANETABLE
8-SEXTANT
A.FIELD POSITIONS* SHOW THE METHOD OF
LOCATION AND DATE OF FIELD WORK.
EXAMPLE F-2-6-L
8-12-76

2.TRIANGULATION STATION RECOVERED
WHEN A LANDMARK OR AID WHICH IS ALSO A TRI-
ANGULATION STATION IS RECOVERED, A TRIANG.
REC. WITH DATE OF RECOVERY IS SHOWN.
EXAMPLE TRIANG. REC.
8-12-76

3.POSITION VERIFIED VISUALLY ON PHOTOGRAPH
SHOWN BY 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.

* NOTE: WHERE THE NAME OF AN AID INCLUDES THE IMMEDIATE GEOGRAPHIC HEADING UNDER WHICH IT IS LISTED,
A DASH (-) IS USED TO INDICATE THE GEOGRAPHIC HEADING WHICH IS PART OF THE OFFICIAL NAME.

* * SVY	TP-00915	* * *	* NONFLOATING AIDS FOR CHARTS	* RPT UNIT	SPS,PB,ROCKVILLE,MD.*	PAGE 2 OF 2	* *
* * JOB	CM7908	* * *	* TO BE REVISED	* STATE	MICHIGAN		* *
* * PRJ	LAKE MICH	* * *		* LOCALITY	PORTAGE LAKE	*ORIGINATING ACTIVITY*	* *
* * DIM	N.A. 1927	* * *		* DATE	07/14/82	* COMPILATION	* *

THE FOLLOWING OBJECTS HAVE NOT BEEN INSPECTED FROM SEAWARD TO DETERMINE THEIR VALUE AS LANDMARKS *

[illegible][illegible]

* * *	LT	* * *	NORTH PIERHEAD LIGHT (PORTAGE	* * *	44 21 37.47	1156.6	NOT	*79B(C)1116*	* * *	14907
* * *	LT	* * *	LAKE PIERHEAD LIGHT 1932)	* * *	86 16 04.94	109.4	DGT2D*	06/12/79 *	* * *	14939

[illegible]

* * *

* * *

* * *

* *

* *

THE FOLLOWING LT COULD NOT BE VERIFIED DURING COMPILATION.
 DATES OF COMBINATION QUOTOS ARE JUNE 12 AND JULY 2, 1978

* * * * *

* * THE CHARTED POSITION FURNISHED BY THE MARINE

* * CHARTED POSITION IS SHOWN

* * * * *

* * *	LT	* INNER LIGHT	* 44	21	31.17	962.1	NOT *	* 14939
* * *	LT	* INNER LIGHT	* 44	21	31.17	962.1	NOT *	* 14939

[illegible]
