

TP-00916

TP-00916

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-00916

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 .. Manistee 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.		TYPE OF SURVEY		SURVEY TP. 00916	
DESCRIPTIVE REPORT - DATA RECORD				<input checked="" type="checkbox"/> ORIGINAL		MAP EDITION NO. (1)	
				<input type="checkbox"/> RESURVEY		MAP CLASS III	
				<input type="checkbox"/> REVISED		JOB PH. CM-7908	
PHOTOGRAMMETRIC OFFICE				LAST PRECEDING MAP EDITION			
Photogrammetry Division (Rockville)				TYPE OF SURVEY		JOB PH.	
OFFICER-IN-CHARGE Walter S. Simmons				<input type="checkbox"/> ORIGINAL		MAP CLASS	
				<input type="checkbox"/> RESURVEY		SURVEY DATES:	
				<input type="checkbox"/> REVISED		19__ TO 19__	
I. INSTRUCTIONS DATED							
1. OFFICE				2. FIELD			
Aerotriangulation 10/16/81				Field 2/15/80			
Office 4/14/82							
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 Lakes 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 BY B. Thornton						Dec 1981	
METHOD: Analytic LANDMARKS AND AIDS BY				N/A			
2. CONTROL AND BRIDGE POINTS PLOTTED BY V. Winchell						Jan 1982	
METHOD: Calcomp 418 CHECKED BY B. Baldwin						May 1982	
3. STEREOSCOPIC INSTRUMENT PLANIMETRY BY							
COMPILATION CHECKED BY R. Rodkey						May 1982	
INSTRUMENT: Wild B-8/CAPS				CONTOURS BY N/A			
SCALE: 1:10,000				CHECKED BY N/A			
4. MANUSCRIPT DELINEATION PLANIMETRY BY B. Baldwin						May 1982	
METHOD: Smooth Drafting				CHECKED BY R. Rodkey		May 1982	
SCALE: 1:10,000				CONTOURS 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						July 1982	
CHECKED BY N/A							
7. COMPILATION SECTION REVIEW BY R. Rodkey						June 1982	
8. FINAL REVIEW BY J. Schad						Nov 1982	
9. DATA FORWARDED TO PHOTOGRAMMETRIC BRANCH BY R. Rodkey						Sept 1982	
10. DATA EXAMINED IN PHOTOGRAMMETRIC BRANCH BY J. Schad						Dec 1982	
11. MAP REGISTERED - COASTAL SURVEY SECTION BY H. D. Wolfe							

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

COMPILATION SOURCES

TP-00916

1. COMPILATION PHOTOGRAPHY

CAMERA(S) Wild RC-10(B) Focal Length 152.7 mm		TYPES OF PHOTOGRAPHY LEGEND		TIME REFERENCE	
TIDE STAGE REFERENCE		(C) COLOR (P) PANCHROMATIC (I) INFRARED		ZONE	
<input type="checkbox"/> PREDICTED TIDES <input type="checkbox"/> REFERENCE STATION RECORDS <input type="checkbox"/> TIDE CONTROLLED PHOTOGRAPHY				Eastern	
				MERIDIAN	
				60th	
				<input type="checkbox"/> STANDARD <input checked="" type="checkbox"/> DAYLIGHT	

NUMBER AND TYPE	DATE	TIME	SCALE	STAGE OF TIDE
79B(C) 1121-23	6/12/79	0923	1:30,000	+3.22 ft Lake Michigan Low Water Datum, Ludington, Michigan Gage
79B(C) 1470-72	7/2/79	1153	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

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-00916

I. ☒ FIELD INSPECTION OPERATION☐ FIELD EDIT OPERATION

OPERATION	NAME	DATE
1. CHIEF OF FIELD PARTY	James E. Dunford	8/13/81
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	N/A
7. BOUNDARIES AND LIMITS	SURVEYED OR IDENTIFIED BY	N/A

II. SOURCE DATA

1. HORIZONTAL CONTROL IDENTIFIED

2. VERTICAL CONTROL IDENTIFIED

PHOTO NUMBER	STATION NAME	PHOTO NUMBER	STATION DESIGNATION
79B(C) 1463	Hamlin 1932 (Sub pt A&B)		
79B(C) 1122	Manistee R&R Salt Co Stack (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☒ NONE

6. 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 Form 76-53

1 Book (field observations, abstract and descriptions)

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

RECORD OF SURVEY USE

TP-00916

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
4 pages		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 REPORT; ☒ COMPUTER READOUTS.
 2. ☒ CONTROL STATION IDENTIFICATION CARDS; ☒ NOAA 76-40 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

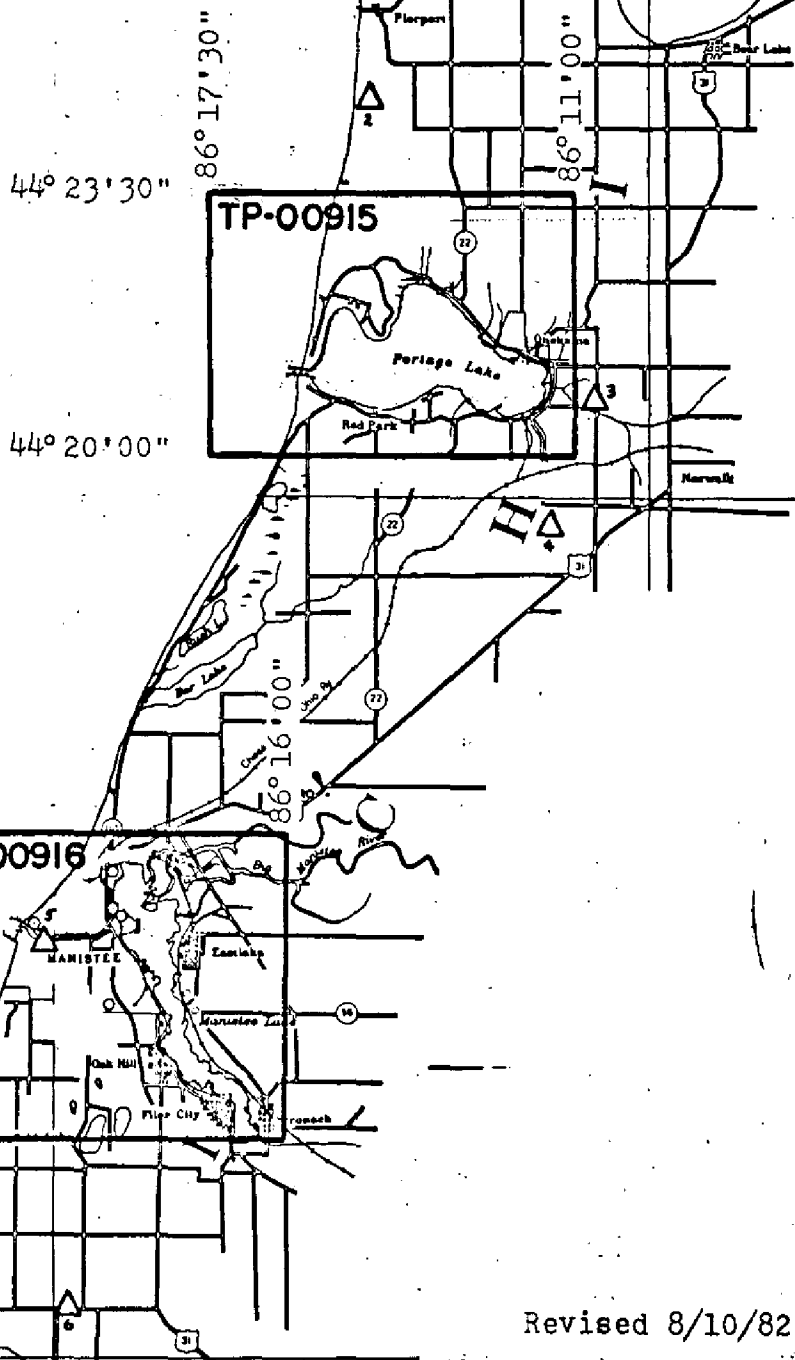
4. ☐ DATA TO FEDERAL RECORDS CENTER. DATE FORWARDED: DECEMBER 1982

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 Sys:
14901
14932
14933
14935



Revised 8/10/82 EPJr.

Summary

TP-00916

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

Compilation was performed in May 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 contain all pertinent reports and listing of data used to compile this final map.

Field Operation

TP-00916

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 (79B 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.

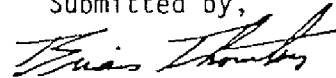
24. Supplemental Data

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

25. Photography

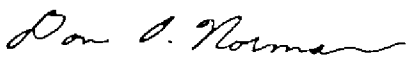
The coverage, overlap, and quality of the 1979-BC-photographs were adequate for the job.

Submitted by,

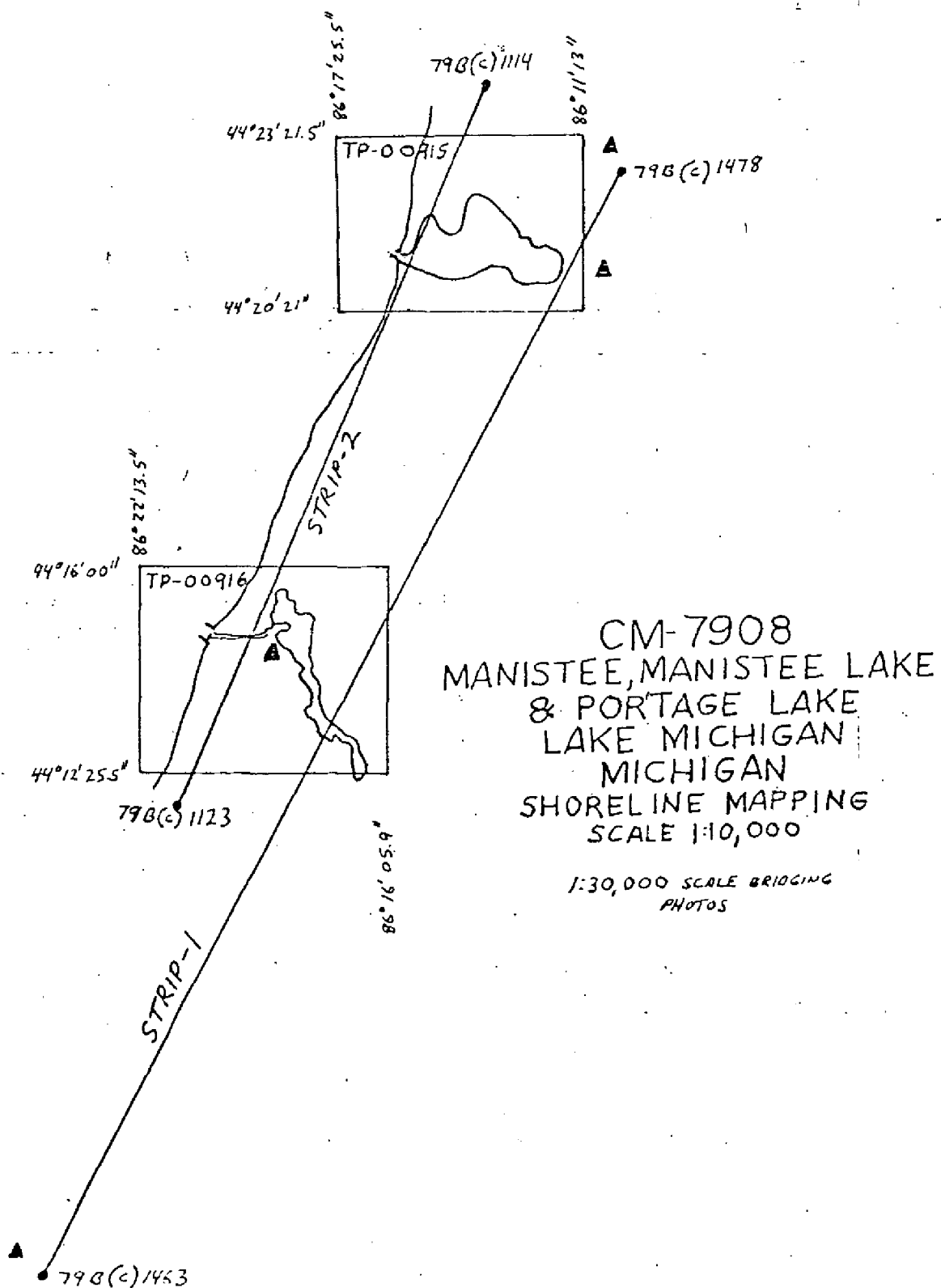


Brian F. Thornton

Approved and Forwarded:



Don Norman
Chief, Aerotriangulation Section



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	1.88884	772.81400
122401	+44	14	7.47890	-	86	19	2.17192	645.04100
116502	+44	21	33.82192	-	86	16	7.26250	593.59700

DESCRIPTIVE REPORT CONTROL RECORD

MAP NO.	STATION NAME	JOB NO.	GEODETTIC DATUM		ORIGINATING ACTIVITY	
			TP-00916	CM7908	N.A. 1927	Compilation - SPS, PS
		COORDINATES IN FEET	GEOGRAPHIC POSITION		REMARKS	
		STATE	ZONE	φ LATITUDE λ LONGITUDE		
Manistee R and R Salt Co. Stack 1932	G.P. Quad 440862 Sta#1017		X= 1,481,958.60 Y= 344,096.02	φ 44-14-35.363	Recovered in '81	
				λ 86-18-36.651	Charted Landmark, Plotted on map	
Manistee Guardian Angel Cath Church Spire 1932	G.P. Quad 440862 Sta#1014		X= 1,478,802.87 Y= 343,778.42	φ 44-14-31.466	Recovered in '81	
				λ 86-19-19.879	Charted Landmark, Plotted on map	
Tamarack 1932	G.P. Quad 440862 Sta#1009		X= 1,475,648.82 Y= 343,156.45	φ 44-14-24.560	Recovered in '81	
				λ 86-20-02.979	Plotted on map	
Manistee First Congreg- ational Church Spire '32	G.P. Quad 440862 Sta#1013		X= 1,477,994.41 Y= 344,298.27	φ 44-14-36.402	Recovered in '81	
				λ 86-19-31.156	Plotted on map	
Manistee Mercy Hospital Cupola 1932	G.P. Quad 440862 Sta#1015		X= 1,481,176.19 Y= 341,097.15	φ 44-14-05.570	No check on pos.	
				λ 86-18-46.390	Not visible on 1979 photos	
Manistee Pierhead Light 1932	G.P. Quad 440862 Sta#1016		X= 1,472,426.97 Y= 347,484.85	φ 44-15-06.502	North Pierhead Light, Plotted on map	
				λ 86-20-48.695	South Breakwater Light, Plotted on map	
Manistee Breakwater Light 1932	G.P. Quad 440862 Sta#1020		X= 1,471,629.42 Y= 347,380.47	φ 44-15-05.276		
				λ 86-20-59.613		
Filer City Fiber Paper Co. Tall Stack 1932	G.P. Quad 440862 Sta#1019		X= 1,488,555.37 Y= 333,760.08	φ 44-12-54.904	Taller of two, Charted Landmark, Plotted on map	
				λ 86-17-02.648		
			X= Y= X= Y=	φ λ φ λ		
COMPUTED BY		COMPUTATION CHECKED BY		DATE	DATE	
LISTED BY		LISTING CHECKED BY		DATE		
HAND PLOTTING BY		HAND PLOTTING CHECKED BY		DATE		

Compilation Report

CM-7908

TP-00916

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 - None34. 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 the photographs. A representative pattern of piers was delineated at latitude 44°15'50", longitude 86°18'45"

36. Offshore Details

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

37. Landmarks and Aids

Three fixed aids to navigation are delineated on the map. Two are geodetic stations which have been verified during the aerotriangulation and compilation phases. One was electronically recorded during

stereographic compilation, the position of which is based on an analytical fit to geodetic and aerotriangulated horizontal control.

Twenty charted landmarks are delineated on the map. Four are geodetic stations which have been verified during the aerotriangulation and compilation phases.

Seven were measured during aerotriangulation and verified during the compilation phase. None were electronically recorded during stereographic compilation, the positions of which are based on an analytical fit to geodetic and aerotriangulated horizontal control.

Two forms listing map features of possible landmark value are bound with the Descriptive Report. These features are photogrammetric positions and have not been field inspected.

38. Control for Future Surveys - None

39. Junctions

There are no junction 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

Manistee, Mich., scale 1:62,500, 1958 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

14938, scale 1:10,000, 20th Edition dated 6/30/79

Items to be applied to Nautical Charts immediately - None

Items to be carried forward - None

Submitted by,

Brian M. Baldwin
Brian M. Baldwin

Approved and Forwarded:

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

Review Report
Shoreline Survey
TP-00916

61. General Statement

Refer to Summary bound with this Descriptive Report.

62. Comparison with Registered Topographic Surveys - 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 maps with charts 14907, March 22, 1980, and chart 14938, June 30, 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 meet National Map Accuracy Standards.

Submitted by,

James Schach

Final Reviewer

Approved and Forwarded:

George J. Bee
Chief, Photogrammetric Branch

Lawrence H. Fritz

Chief, Photogrammetry Division

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

May 25, 1982

GEOGRAPHIC NAMES

FINAL NAME SHEET

CM-7908 (Portage and Manistee Lakes, Michigan)

TP-00916

East Lake (P pl)

Filer City

Highpoint Bayou

Little Manistee River

Manistee

Manistee Lake

Manistee River

Oak Hill (P pl)

Parkdale

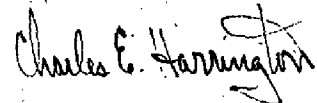
Peters Bayou

Stronach

Tatches Bayou

Lake Michigan

Approved by:



Charles E. Harrington
Chief Geographer, OA/C3x5

Information of Dissemination of Project Material

CM-7908

Lake Michigan, Michigan

NATIONAL ARCHIVE/FEDERAL RECORD CENTER

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)

Bureau Archives

Descriptive Report

Registered Maps

Reproduction Division

8x Reduction Negative of each map

Office of Staff Geographer

Geographer Names Standard

76-4

76-4

76-4

LISTING

PHOTOGRAMMETRIC BRANCH

PHOTOGRAMMETRY DIVISION

NATIONAL OCEAN SURVEY

DEPARTMENT OF COMMERCE

USA

NOAA

PAGE 1 OF 5

782707

SVY TP-00916 *

RPT UNIT SPS.PB.ROCKVILLF.MD.*

STATE MICHIGAN

LOCALITY MANISTEE LAKE

DATE 07/22/82

QOR CM-7908 *

LAKE MICH *

N.A. 1927 *

POSITIONS DETERMINED

AND/OR VERIFIED BY

FIELD AND OFFICE

ACTIVITIES

NO FIELD EDIT PERFORMED.

CLASS III MAP

BRIAN THORNTON, BRIAN BALDWIN

NO OFFLINE DIGITIZING PERFORMED

WILLIAM M MAYNARD

FIELD REPRESENTATIVE

OFFICE COMPILER

DIGITIZER

DATA PROCESSER

KEY FOR ENTRIES UNDER METHOD AND DATE OF LOCATION

FIELD (CONT,D)

OFFICE

1.OFFICE IDENTIFIED AND LOCATED OBJECTS.

THE NUMBER AND DATE (INCLUDING MONTH, DAY

AND YEAR) OF THE PHOTOGRAPH USED TO

IDENTIFY AND LOCATE THE OBJECT ARE SHOWN.

EXAMPLE 75E(C)6042

8-12-77

FIELD

1.NEW POSITION DETERMINED OR VERIFIED

KEY TO SYMBOLS

F-FIELD

L-LOCATED

V-VERIFIED

1-TRIANGULATION

2-TRAVERSE

3-INTERSECTION

4-RESECTION

A.FIELD POSITIONS* SHOW THE METHOD OF

LOCATION AND DATE OF FIELD WORK.

EXAMPLE F-2-6-L

8-12-76

FIELD POSITIONS ARE DETERMINED BY FIELD

OBSERVATIONS BASED ENTIRELY UPON GROUND

SURVEY 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.

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.

[illegible]

76-40	PHOTOGRAMMETRIC BRANCH	NATIONAL OCEAN SURVEY	NOAA	DATE
LISTING	PHOTOGRAMMETRY DIVISION	DEPARTMENT OF COMMERCE	USA	782707
* SVY TP-00916 *	* LANDMARKS FOR CHARTS	* RPT UNIT	* SPS, PB, ROCKVILLE, MD.	* PAGE 3 OF 5
* JOR CM-7908 *	* TO BE REVISED	* STATE	* MICHIGAN	
* PRJ LAKE MICH *		* LOCALITY	* MANISTEE LAKE	* ORIGINATING ACTIVITY *
* OTM N.A. 1927 *		* DATE	* 07/22/82	* COMPILATION *
* THE FOLLOWING OBJECTS HAVE NOT BEEN INSPECTED FROM SEAWARD TO DETERMINE THEIR VALUE AS LANDMARKS *				
* CHARTING *	* RECORD REASON FOR DELETION	* POSITION	* CMD *	* METHOD AND DATE
* NAME *	* PUT TRIANGULATION NAMES IN () *	* LATITUDE	* ALTEK *	* OF LOCATION
		* LONGITUDE	* DGTZD *	* OFFICE
				* FIELD
				* *AFFECTED*
* R TR *		* 00 00 00.00	* 0 NOT *UNVERIFIED*	* 14938
* *		* 00 00 00.00	* 0 DGTZD *	*
* FLAG *		* 44 15 01.18	* 36.4 NOT *798(C)1121*	* DITTO
* POLE *		* 86 20 28.33	* 628.5 DGTZD* 06/12/79 *	*
* TANK *		* 44 15 48.29	* 1490.5 NOT *798(C)1121*	* DITTO
* *		* 86 19 23.98	* 531.9 DGTZD* 06/12/79 *	*
* R MAST *		* 44 15 39.41	* 1216.4 NOT *798(C)1120*	* 14907
* *		* 86 19 01.47	* 32.6 DGTZD* 06/12/79 *	* 14938
* TR F R *		* 44 15 12.51	* 386.1 NOT *798(C)1121*	* DITTO
* *		* 86 19 01.91	* 42.4 DGTZD* 06/12/79 *	*
* TR F R *		* 44 15 07.72	* 238.3 NOT *798(C)1121*	* DITTO
* *		* 86 18 57.50	* 1275.7 DGTZD* 06/12/79 *	*
* R MAST *		* 00 00 00.00	* 0 NOT *UNVERIFIED*	* 14938
* *		* 00 00 00.00	* 0 DGTZD *	*
* SPIRE *	* (MANISTEE FIRST CONGREGATIONAL	* 44 14 36.40	* 1123.5 NOT *798(C)1121*	* DITTO
* *	* CHURCH SPIRE 1932)	* 86 19 31.15	* 691.2 DGTZD* 06/12/79 *	*
* SPIRE *	* (MANISTEE GUARDIAN ANGEL CATH	* 44 14 31.46	* 971.0 NOT *798(C)1121*	* DITTO
* *	* CHURCH SPIRE 1932)	* 86 19 19.87	* 440.9 DGTZD* 06/12/79 *	*
* R MAST *		* 44 14 07.48	* 230.9 NOT *798(C)1121*	* 14907
* (WMT)		* 86 19 02.17	* 48.2 DGTZD* 06/12/79 *	* 14938

76-49	PHOTOGRAMMETRIC BRANCH	NATIONAL OCEAN SURVEY	NOAA	DATA	TAB
LISTING	PHOTOGRAMMETRY DIVISION	DEPARTMENT OF COMMERCE	USA	VERSION	782707
* SVY	TP-00916	* RPT UNIT	SPS, PB, ROCKVILLE, MD.	* PAGE	4 OF 5
* JOR	CM-7908	* STATE	MICHIGAN	* ORIGINATING	ACTIVITY
* PRJ	LAKE MICH	* LOCALITY	MANISTEE LAKE	* COMPILATION	
* DTM	N.A. 1927	* DATE	07/22/82		
* THE FOLLOWING OBJECTS HAVE NOT BEEN INSPECTED FROM SEAWARD TO DETERMINE THEIR VALUE AS LANDMARKS *					
* CHARTING	RECORD REASON FOR DELETION	* POSITION	CMD	* METHOD AND DATE	* CHARTS
* NAME	PUT TRIANGULATION NAMES IN ()	* LATITUDE	OM	* OF LOCATION	* FIELD
		* LONGITUDE	DP	* CGT2D	* OFFICE
* STACK	* (MANISTEE R AND R SALT CO	* 44 14 35.36	1091.4	NOT *798(C)1121*	* 14938
	* STACK 1932)	* 86 18 36.65	813.2	CGT2D* 06/12/79 *	
* TANK		* 44 13 58.23	1797.3	NOT *798(C)1121*	
		* 86 18 30.72	681.8	CGT2D* 06/12/79 *	* DITTO
* R MAST		* 44 13 50.46	1557.5	NOT *798(C)1121*	* DITTO
		* 86 18 23.58	523.3	CGT2D* 06/12/79 *	
* CHY	* EASTERLY OF TWO	* 44 13 56.15	1733.1	NOT *798(C)1471*	* DITTO
	* HARDY SALT CO	* 86 18 10.89	241.7	CGT2D* 06/12/79 *	
* CHY	* WESTERLY OF TWO	* 44 13 55.93	1726.3	NOT *798(C)1471*	* DITTO
	* HARDY SALT CO	* 86 18 11.33	251.4	CGT2D* 06/12/79 *	
* TANK		* 44 13 20.23	624.4	NOT *798(C)1471*	* DITTO
		* 86 17 59.26	1315.4	CGT2D* 06/12/79 *	
* TR		* 44 13 48.36	1492.7	NOT *798(C)1471*	* DITTO
		* 86 17 31.99	710.0	CGT2D* 06/12/79 *	
* STACK	* MARTIN MARIETTA CHEMICALS	* 14 13 29.75	914.3	NOT *798(C)1471*	* DITTO
		* 86 17 28.40	851.4	CGT2D* 06/12/79 *	
* R TR		* 00 00 00.00	.0	NOT *UNVERIFIED*	* DITTO
		* 00 00 00.00	.0	CGT2D*	
* TANK	* FILER CITY	* 44 12 51.69	1595.4	NOT *798(C)1470*	* DITTO
	* PACKAGING CORP OF AMERICA	* 86 17 02.58	57.3	CGT2D* 06/12/79 *	

[illegible]

MAP FEATURES OF POSSIBLE LANDMARK VALUE										RWR 10/81
MAP NO.	JOB NO.	GEOGRAPHIC AREA		GEODETIC DATUM		ORIGINATING ACTIVITY		GEOGRAPHIC POSITION		CHARTS AFFECTED
TP-00916	CM7908	Manistee, Michigan		N.A. 1927		Compilation - SPS, PB		φ LATITUDE λ LONGITUDE		
NOTE: Heights are given in feet.										
DESCRIPTION		PHOTO NO.	PLANE COOR. (FT)		STATE Michigan		ZONE Central (2112)			
		DATE/PHOTO								
Vent on Building	HT=48 (70)	79B(C)1121 6/12/79	X	1,477,400.24	Y	345,520.12	φ	44-14-48.32	λ	86-19-39.73
Stack	HT=54 (95)	79B(C)1121 6/12/79	X	1,480,208.09	Y	346,803.78	φ	44-15-01.67	λ	86-19-01.60
Spire	HT=105 (139)	79B(C)1121 6/12/79	X	1,479,975.74	Y	344,050.57	φ	44-14-34.44	λ	86-19-03.86
Spire	HT=85 (147)	79B(C)1121 6/12/79	X	1,479,701.85	Y	343,390.83	φ	44-14-27.86	λ	86-19-07.40
Tower	HT=50 (123)	79B(C)1121 6/12/79	X	1,474,312.19	Y	339,082.31	φ	44-13-44.01	λ	86-20-19.95
Silo	HT=49 (118)	79B(C)1471 7/2/79	X	1,485,623.80	Y	345,038.85	φ	44-14-45.55	λ	86-17-46.63
Tower	HT=31 (122)	79B(C)1470 7/2/79	X	1,485,170.00	Y	341,604.38	φ	44-14-11.54	λ	86-17-51.72
Transmission Tower	HT=54 (57)	79B(C)1470 7/2/79	X	1,488,864.25	Y	331,406.09	φ	44-12-31.74	λ	86-16-57.63
Transmission Tower	HT=61 (63)	79B(C)1470 7/2/79	X	1,489,949.33	Y	331,399.70	φ	44-12-31.93	λ	86-16-42.74
Transmission Tower	HT=79 (86)	79B(C)1470 7/2/79	X	1,492,299.08	Y	330,877.44	φ	44-12-27.33	λ	86-16-10.32
Transmission Tower	HT=85 (100)	79B(C)1470 7/2/79	X	1,492,670.58	Y	332,120.33	φ	44-12-39.69	λ	86-16-05.63
Transmission Tower	HT= (94)	79B(C)1470 7/2/79	X	1,490,599.00	Y	331,963.12	φ	44-12-37.65	λ	86-16-34.01
POSITIONS FURNISHED ARE PHOTOGRAMMETRIC POSITIONS - MAP FEATURES HAVE NOT BEEN INSPECTED										
LISTED BY		DATE		LISTING CHECKED BY		DATE		DATE		
Brian M. Baldwin		6/7/82		William M. Maynard Robert W. Rodkey, Jr. (typed)		7/20/82 8/10/82				

RWR
10/81

MAP FEATURES OF POSSIBLE LANDMARK VALUE

MAP NO.		JOB NO.	GEOGRAPHIC AREA		GEODETIC DATUM		ORIGINATING ACTIVITY		CHARTS AFFECTED
TP-00916		CM7908	Manistee, Michigan		N.A. 1927		Compilation - SPS, PB		
DESCRIPTION			PHOTO NO.	PLANE COOR. (FT)		GEOGRAPHIC POSITION		14938	
NOTE: Heights are given in feet.			DATE/PHOTO	STATE Michigan	ZONE	φ LATITUDE λ LONGITUDE			
Stack		HT=94 (145)	79B(C)1470 7/2/79	X	1,487,361.07	φ 44-13-31.58 λ 86-17-20.28			
Stack		HT= (124)	79B(C)1470 7/2/79	Y	337,504.26	φ 44-13-30.34 λ 86-17-21.08		ditto	
				X		φ			
				Y		λ			
				X		φ			
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POSITIONS FURNISHED ARE PHOTOGRAMMETRIC POSITIONS - MAP FEATURES HAVE NOT BEEN INSPECTED

LISTED BY	DATE	LISTING CHECKED BY	DATE
Brian M. Baldwin	6/7/82	William M. Maynard Robert W. Rodkey, Jr. (typed)	DATE 7/20/82 8/10/82

