

TP-01099

TP-01099

NOAA FORM 76-35 (6-80) U.S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION NATIONAL OCEAN SURVEY	
<h1>DESCRIPTIVE REPORT</h1>	
<i>Map No.</i> TP-01099	<i>Edition No.</i> 1
<i>Job No.</i> CM-8500	
<i>Map Classification</i> III	
<i>Type of Survey</i> SHORELINE	
LOCALITY	
<i>State</i> MICHIGAN	
<i>General Locality</i> LAKE SUPERIOR	
<i>Locality</i> THONEYS POINT	
<div style="border: 1px solid black; padding: 5px; text-align: center;"> 1935 TO 19 </div>	
REGISTERED IN ARCHIVES	
DATE	

DESCRIPTIVE REPORT - DATA RECORD

TYPE OF SURVEY

☒ ORIGINAL☐ RESURVEY☐ REVISED

SURVEY CTP. 01099

MAP EDITION NO. (1)

MAP CLASS III

JOB ~~XPM~~ CM-8500PHOTOGRAMMETRIC OFFICE
PHOTOGRAMMETRY BRANCH
ROCKVILLE, MD.

OFFICER-IN-CHARGE

CAPT. A.Y.BRYSON

LAST PRECEDING MAP EDITION

TYPE OF SURVEY

☐ ORIGINAL☐ RESURVEY☐ REVISED

JOB PH. _____

MAP CLASS _____

SURVEY DATES:

19__ TO 19__

I. INSTRUCTIONS DATED

1. OFFICE

Aerotriangulation April 20, 1987

Office September 21, 1987

2. FIELD

Field March 8, 1985

II. DATUMS

1. HORIZONTAL:

☒ 1927 NORTH AMERICAN

OTHER (Specify)

2. VERTICAL:

☐ MEAN HIGH-WATER☐ MEAN LOW-WATER☐ MEAN LOWER LOW-WATER☐ MEAN SEA LEVEL

OTHER (Specify)

International Great Lakes Datum (1955)

3. MAP PROJECTION

Transverse Mercator Projection

4. GRID(S)

STATE

Michigan

ZONE

West

5. SCALE

1:20,000

STATE

ZONE

III. HISTORY OF OFFICE OPERATIONS

OPERATIONS		NAME	DATE
1. AEROTRIANGULATION METHOD: Analytical	BY	J. Taylor	Aug. 1987
	LANDMARKS AND AIDS BY	J. Taylor	Aug. 1987
2. CONTROL AND BRIDGE POINTS METHOD: Kongsburg Flatbed Plotter	PLOTTED BY	J. Taylor	Aug. 1987
	CHECKED BY	N/A	
3. STEREOSCOPIC INSTRUMENT COMPILATION INSTRUMENT: Wild B-8 SCALE: 1:20,000	PLANIMETRY BY	D. Graham	Jan. 1988
	CHECKED BY	J. Schad	Jan. 1988
	CONTOURS BY	N/A	
	CHECKED BY	N/A	
4. MANUSCRIPT DELINEATION METHOD: Smooth Drafting SCALE: 1:20,000	PLANIMETRY BY	D. Graham	Feb. 1988
	CHECKED BY	J. Schad	March 1988
	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	N/A	
	CHECKED BY	N/A	
7. COMPILATION SECTION REVIEW	BY	J. Schad	March 1988
8. FINAL REVIEW	BY	J. Schad	March 1988
9. DATA FORWARDED TO PHOTOGRAMMETRIC BRANCH	BY	J. Schad	Feb. 1989
10. DATA EXAMINED IN PHOTOGRAMMETRIC BRANCH	BY	P. Dempsey	Feb. 1989
11. MAP REGISTERED - COASTAL SURVEY SECTION	BY		

NOAA FORM 76-36B (3-72)		U. S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION NATIONAL OCEAN SURVEY			
COMPILATION SOURCES				TP01099	
1. COMPILATION PHOTOGRAPHY					
CAMERA(S) Wild RC-8(E) F/L 152.71		TYPES OF PHOTOGRAPHY LEGEND (C) COLOR (P) PANCHROMATIC (I) INFRARED		TIME REFERENCE ZONE Eastern MERIDIAN 75 th	
TIDE STAGE REFERENCE <input type="checkbox"/> PREDICTED TIDES <input checked="" type="checkbox"/> REFERENCE STATION RECORDS <input type="checkbox"/> TIDE CONTROLLED PHOTOGRAPHY				<input checked="" type="checkbox"/> STANDARD <input type="checkbox"/> DAYLIGHT	
NUMBER AND TYPE	DATE	TIME	SCALE	STAGE OF TIDE	
85E(c) 7922-7927	6/2/85	10:02	1:50,000	The water level at the time of photography was 601.4 ft. based on gage at Marquette, Michigan (Sta. 9018).	
REMARKS Plane of reference (Low Water Datum) for Lake Superior is 600.0 ft. The shoreline datum is lake level at time of photography.					
2. SOURCE OF MEAN HIGH WATER LINE: XXXXXXXXXX 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 N/A	EAST N/A	SOUTH CM-7705, TP-00442	WEST TP-01098		
REMARKS					

HISTORY OF FIELD OPERATIONS

TP-01099

I. ☒ FIELD INSPECTION OPERATION

☐ FIELD EDIT OPERATION

OPERATION	NAME	DATE
1. CHIEF OF FIELD PARTY	J. Shea	May 1985
2. HORIZONTAL CONTROL	RECOVERED BY J. Shea	June 1985
	ESTABLISHED BY J. Shea	June 1985
	PRE-MARKED OR IDENTIFIED BY J. Shea	June 1985
3. VERTICAL CONTROL	RECOVERED BY N/A	
	ESTABLISHED BY N/A	
	PRE-MARKED OR IDENTIFIED BY N/A	
4. LANDMARKS AND AIDS TO NAVIGATION	RECOVERED (Triangulation Stations) BY N/A	
	LOCATED (Field Methods) BY N/A	
	IDENTIFIED BY N/A	
5. GEOGRAPHIC NAMES INVESTIGATION	TYPE OF INVESTIGATION <input type="checkbox"/> COMPLETE BY <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 None

PHOTO NUMBER	STATION NAME	PHOTO NUMBER	STATION DESIGNATION
85E(c)7925	HARLOW, 1985		
85E(c)7923	LOMA, 1955		

3. PHOTO NUMBERS (Clarification of details)

N/A

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

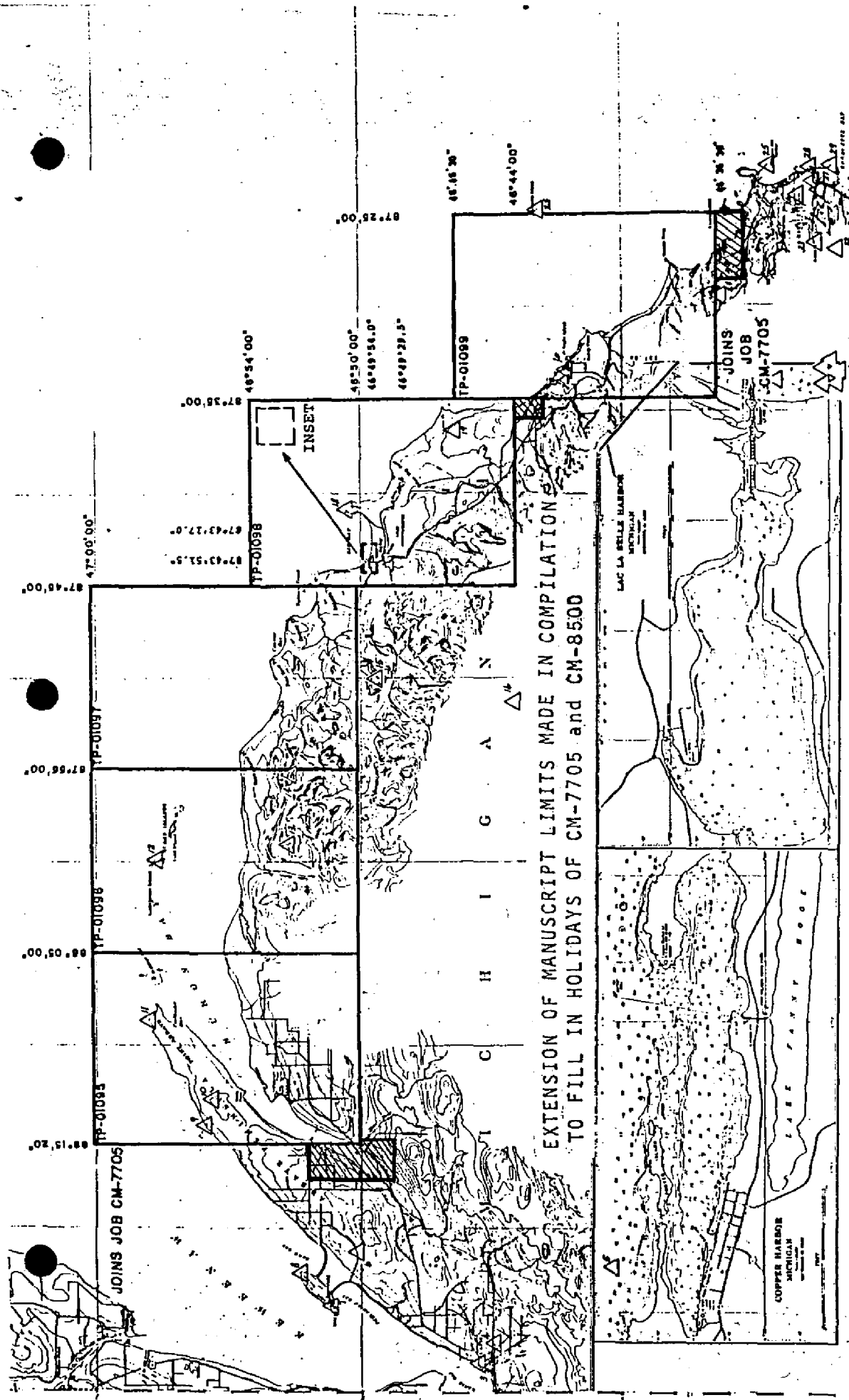
7. SUPPLEMENTAL MAPS AND PLANS

None

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

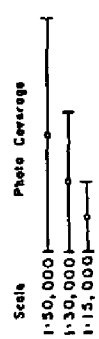
One Field Work Brown Binder.

NOAA FORM 76-36D (3-72)		U. S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION	
RECORD OF SURVEY USE		TP-01099	
I. MANUSCRIPT COPIES			
COMPILATION STAGES			DATE MANUSCRIPT FORWARDED
DATA COMPILED	DATE	REMARKS	MARINE CHARTS HYDRO SUPPORT
Final Reviewed Class III Map		Chart Maintenance Print	
Final Reviewed Class III Map		Notes to Hydrographer Print	
II. LANDMARKS AND AIDS TO NAVIGATION			
1. REPORTS TO MARINE CHART DIVISION, NAUTICAL DATA BRANCH			
NUMBER	CHART LETTER NUMBER ASSIGNED	DATE FORWARDED	REMARKS
None			
2. <input type="checkbox"/> REPORT TO MARINE CHART DIVISION, COAST PILOT BRANCH. DATE FORWARDED: _____ 3. <input type="checkbox"/> REPORT TO AERONAUTICAL CHART DIVISION, AERONAUTICAL DATA SECTION. DATE FORWARDED: _____			
III. FEDERAL RECORDS CENTER DATA			
1. <input checked="" type="checkbox"/> BRIDGING PHOTOGRAPHS; <input checked="" type="checkbox"/> DUPLICATE BRIDGING REPORT; <input type="checkbox"/> COMPUTER READOUTS. 2. <input checked="" type="checkbox"/> CONTROL STATION IDENTIFICATION CARDS; <input type="checkbox"/> FORM NOS 567 SUBMITTED BY FIELD PARTIES. 3. <input checked="" type="checkbox"/> SOURCE DATA (except for Geographic Names Report) AS LISTED IN SECTION II, NOAA FORM 76-36C. ACCOUNT FOR EXCEPTIONS: 4. <input type="checkbox"/> DATA TO FEDERAL RECORDS CENTER. DATE FORWARDED: _____			
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	



JOB CM-8500
POINT ABBAYE TO THONEYS POINT
LAKE SUPERIOR
MICHIGAN
SHORELINE MAPPING
 SCALE = 1:20,000
 1" = 5,000'

LEGEND:
 - 1:50,000 Color (Bridging)
 - 1:50,000 Color (Supplemental)



Graphic Scale = 1:160,000

Revised 10-31-84, One Sheet, TP-0100 M444. EPJ
 Revised 4-14-87, Limits TP-01099, JDM
 Revised 9-21-87, TP-01100 Changed to INSET, Limits of INSET Revised
 TP-01100 Canceled, JDM

SUMMARY TO ACCOMPANY
DESCRIPTIVE REPORT
TP-01099

Project CM-8500 consisted of the production of Class III shoreline maps. Five 1:20,000-scale and one 1:5,000-scale maps were compiled. The area compiled extends from Point Abbaye to Thoneys Point, Michigan.

The purpose of this map, TP-01099, 1:20,000 scale, is to provide contemporary shoreline data for maintenance of the nautical charting program.

Field operations consisted of aerial photography and the recovery, establishment, and identification (premarking) of horizontal control necessary for aerotriangulation. Thirteen horizontal control stations were paneled for use in aerotriangulation. Field operations for project CM-8500 commenced in May 1985 and concluded in June 1985.

Natural color photographs 1:50,000 scale and 1:15,000 scale were taken in June 1985 with the Wild RC-8(E) camera.

Five strips of 1:50,000-scale color photographs and one strip of 1:15,000-scale color photographs were bridged and adjusted to the ground using the IDPF system.

Horizontal control stations used in the adjustment were premarked panels. Elevations from U.S.G.S. quadrangles were used as vertical control. The amount of aerotriangulated control proved adequate and meets National Standards of Map Accuracy.

Compilation was performed by the Special Project Unit, Rockville Office. This map delineation was based on office interpretation of the natural color photographs using the Wild B-8 stereoplotter and the ratio color photographs. All line work was smooth drafted. An extension to map limits was necessary to fill in a holiday joining project CM-7705-TP-00442.

Final review was performed by the Special Project Unit, Rockville office. This map complies with the project instructions and meets the requirement for the National Standard of Map Accuracy.

The Descriptive Report contains all the information pertinent to the completion of this map.

FIELD INSPECTION
TP-01099

There was no field inspection prior to compilation. Field work accomplished consisted of aerial photography and the recovery, establishment and identification (premarking) of horizontal control necessary for aerotriangulation.

AEROTRIANGULATION REPORT
CM-8500
POINT ABBAYE TO THONEY'S POINT, MICHIGAN
AUGUST 1987

21. AREA COVERED

The area covered by this report is from Point Abbaye to Thoney's Point on Lake Superior, Michigan. This area is covered by five 1:20,000-scale manuscripts, TP-01095, TP-01096, TP-01097, TP-01098, TP-01099, and one 1:5,000-scale manuscript, TP-01100.

22. METHOD

Five strips of 1:50,000-scale color photographs and one strip of 1:15,000-scale color photographs were bridged and adjusted to the ground using the IDPF system. Tie points were used to supplement the ground control. All strips were drilled out and the drilled points were measured so this project may be compiled by analog or analytic methods using the IDPF system.

Ratio values were determined for the color bridging photographs.

No black-and-white infrared photographs were secured for this project.

Two aids to navigation and one landmark were located and positioned during aerotriangulation.

A liquid ink manuscript and a ballpoint pen worksheet manuscript of each TP were plotted on the Kongsburg flatbed plotter using the Michigan State Plane Coordinate System, West Zone. This is a Transverse Mercator Projection. The data is the NAD 27.

23. ADEQUACY OF CONTROL

The horizontal control provided for this project was adequate. Eleven control stations were provided and used in the adjustment.

The photo images of the panels for 926100 and 992110 were very poor. The light background creates a poor contrast with the white panel.

This project meets NOS requirements for map manuscripts.

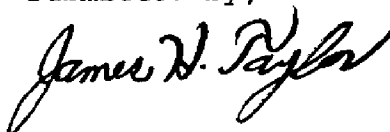
24. SUPPLEMENTAL DATA

Nautical charts were used to locate objects on the color bridging photographs. USGS quads were used to obtain elevations to furnish vertical control for the strip adjustments.

25. PHOTOGRAPHY

The coverage, overlap, and quality of the photographs proved adequate for this project.

Submitted by,



James H. Taylor

Approved and Forwarded:



Don O. Norman
Chief, Aerotriangulation Unit

FIT TO CONTROL
BLOCK ADJUSTMENT
CM-8500

▲ = CONTROL HELD

<u>STATION NAME</u>	<u>AERO NO.</u>	<u>X FT.</u>	<u>Y FT.</u>
CLUB, 1985	▲143100	-0.5	+0.4
HURON, 1955	▲144100	+1.7	-0.1
NANK, 1985	▲148100	-1.5	-0.4
AURA, 1985	▲151100	+1.0	+0.5
ABBAYE, 1985	▲907100	+0.1	+0.3
NUMBER TEN	▲912101	-0.3	-0.4
LOMA, 1955	▲923100	+0.5	-2.1
HARLOW, 1985	▲926100	-0.2	+1.2
DANDREA, 1985	▲990100	-0.9	-0.3
STORT 2, 1985	992110	+0.1	-1.1
STORT 2, 1985 SUB POINT	▲995101	0.0	-0.1

TIES BETWEEN 151 AND 504

TIE 1	1.3	0.6
TIE 8	4.8	2.4
TIE 6	1.1	5.8
TIE 5	2.1	1.0

COLOR BRIDGING RATIOS
CM-8500

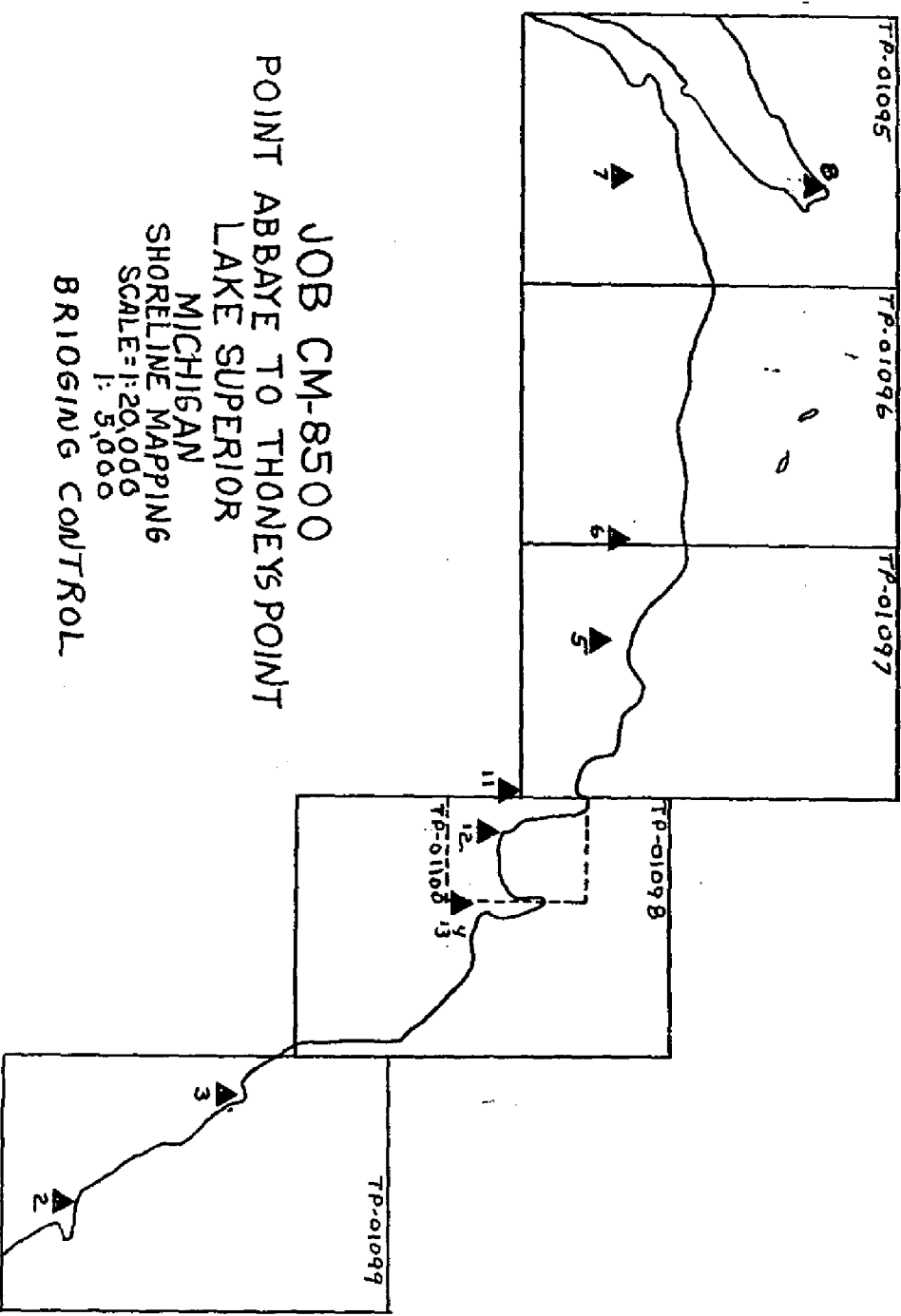
85-EC-7990 thru 7995	Ratio <u>3.020</u>
85-EC-7901 thru 7903	Ratio <u>2.500</u>
85-EC-8143 thru 8151	Ratio <u>2.505</u>
85-EC-7907 thru 7913	Ratio <u>2.500</u>
85-EC-7916 thru 7926	Ratio <u>2.502</u>
85-EC-7932 thru 7935	Ratio <u>2.501</u>

KEY TO NUMBERED STATIONS
CM-8500

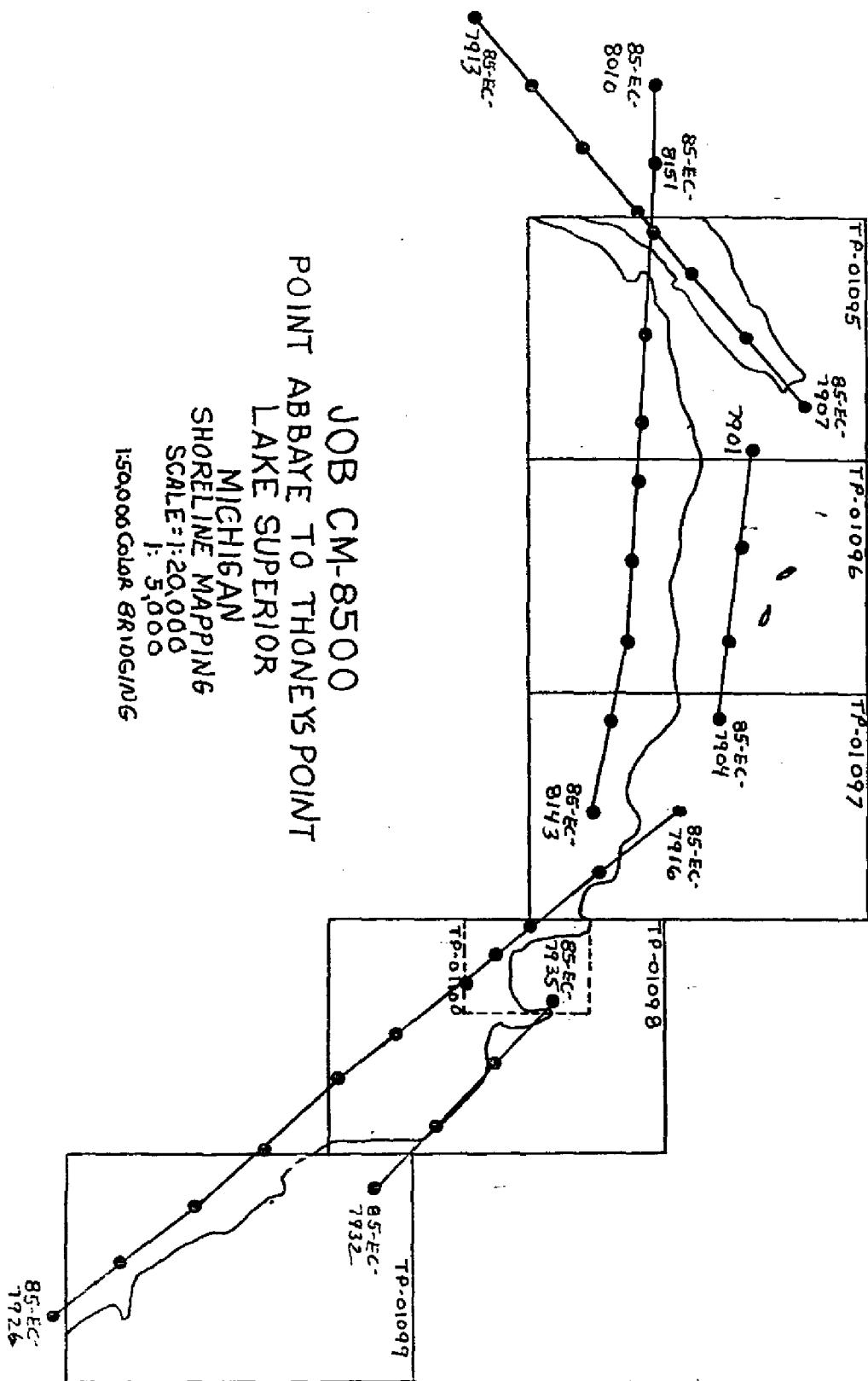
<u>STATION NAME</u>	<u>PANEL NO.</u>	<u>AERO NO.</u>
MESNARD, 1955 (Not used)	1	
HARLOW, 1985	2	926100
LOMA, 1955	3	923100
STORT 2, 1985 SUB STATION		
(Same as Panel 13)	4	995101
CLUB, 1985	5	143100
HURON, 1955	6	144100
NANK, 1985	7	148100
ABBAYE, 1985	8	907100
AURA, 1985	9	151100
NUMBER TEN	10	912101
DANDREA, 1985	11	990100
STORT 2, 1985	12	992110
STORT 2, 1985 SUB STATION		
(Same as Panel 4)	13	995101

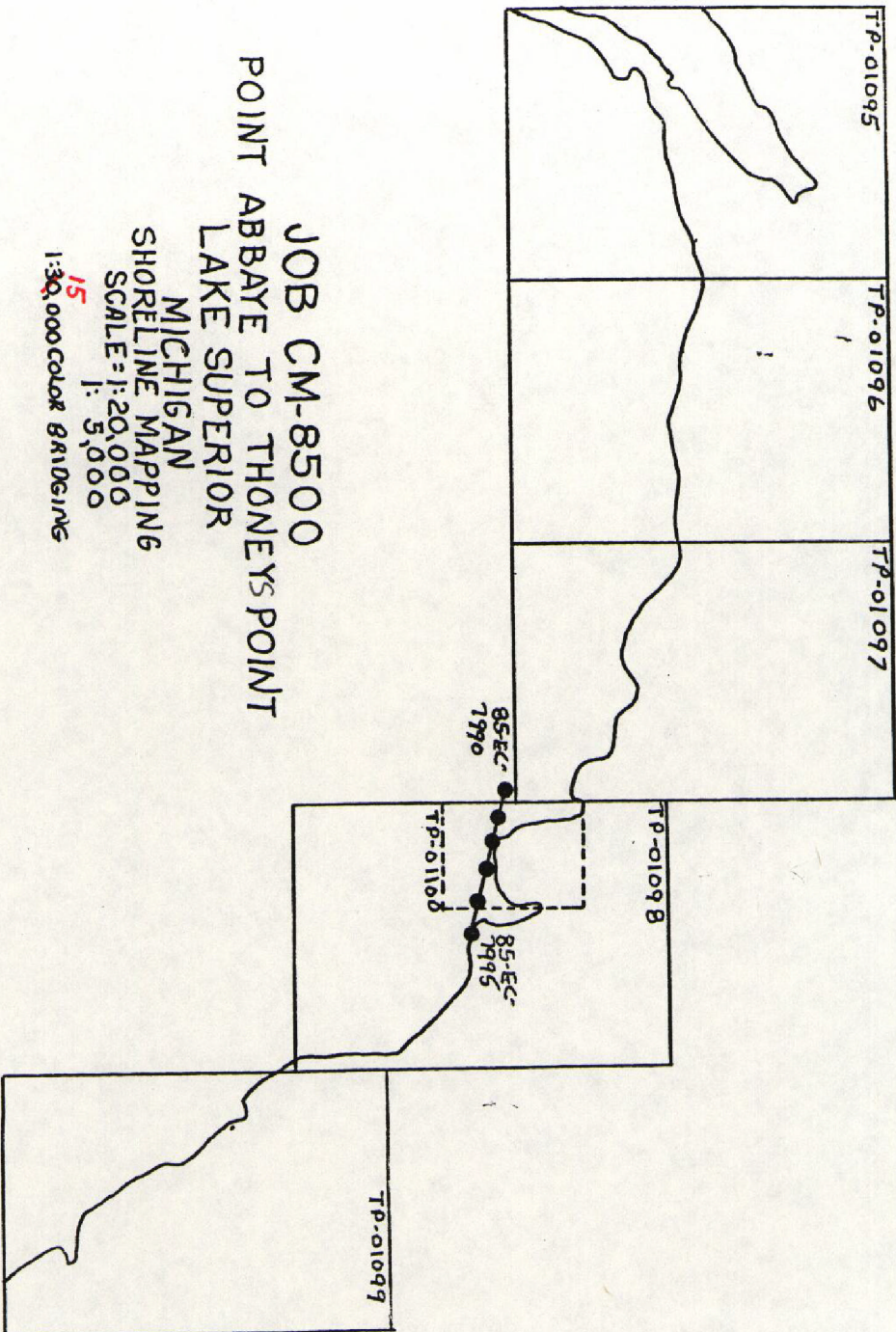
▲
10

▲
9



▲
1





DESCRIPTIVE REPORT CONTROL RECORD

MAP NO.	JOB NO.	GEODETIC DATUM	ORIGINATING ACTIVITY		
TP-01099	CM-8500	NAD 1927	Special Projects Rockville, Md.		
STATION NAME	SOURCE OF INFORMATION (Index)	AEROTRI-ANGULATION POINT NUMBER	COORDINATES IN FEET STATE Michigan ZONE West	GEOGRAPHIC POSITION ϕ LATITUDE λ LONGITUDE	REMARKS
HARLOW, 1985	Field Binder	926100	X= 817,316.847 Y= 1,872,619.564	ϕ 46° 37' 49.472" λ 87° 29' 12.940"	Geodetic Doppler Satellite Position
LOMA, 1955	Quad 460874 Sta 1014	923100	X= 799,610.67 Y= 1,899,542.20	ϕ 46° 42' 17.911" λ 87° 33' 20.758"	
			X=	ϕ	
			Y=	λ	
			X=	ϕ	
			Y=	λ	
			X=	ϕ	
			Y=	λ	
			X=	ϕ	
			Y=	λ	
			X=	ϕ	
			Y=	λ	
			X=	ϕ	
			Y=	λ	
			X=	ϕ	
			Y=	λ	
			X=	ϕ	
			Y=	λ	
			X=	ϕ	
			Y=	λ	
COMPUTED BY			COMPUTATION CHECKED BY		DATE
LISTED BY LLOYD W. Harrod Jr.			LISTING CHECKED BY		DATE
HAND PLOTTING BY			HAND PLOTTING CHECKED BY		DATE

SUPERSEDES NOAA FORM 76-41, 2-71 EDITION WHICH IS OBSOLETE.

COMPILATION REPORT
TP-01099

31. DELINEATION

Delineation of detail was accomplished using a Wild B-8 stereoplotter.

32. CONTROL

Horizontal control furnished by the Aerotriangulation Unit was adequate for controlling the stereomodels. Refer to the Aerotriangulation Report bound with this Descriptive Report for additional information.

Vertical control was achieved by using a combination of elevations provided by the Aerotriangulation Unit, U.S.G.S. quadrangles, and the land/water interface.

33. SUPPLEMENTAL DATA

None

34. CONTOURS AND DRAINAGE

The compilation of contours was not a requirement of this project. Drainage was compiled based on office interpretation of the bridging/compilation photographs.

35. SHORELINE AND ALONGSHORE DETAILS

The visible line of contact between land features and the water was compiled as the shoreline. The water level at the time of photography was 601.4 feet. Shoreline delineation was compiled as described in item 31 of this report.

Alongshore detail consisted of a breakwater and piers.

36. OFFSHORE DETAIL

Offshore detail consisted of rocks. Offshore detail was compiled by instrument methods as described in item 31 of this report.

37. LANDMARKS AND AIDS

There are no designed landmarks or aids to navigation within the limits of this map.

38. CONTROL FOR FUTURE SURVEYS

None

39. JUNCTIONS

Refer to item 5 of NOAA Form 76-36B, bound with this Descriptive Report, for information on map junctions.

40. HORIZONTAL AND VERTICAL ACCURACY

This map meets the National Standards of Map Accuracy. For additional information, refer to the Aerotriangulation Report bound with this Descriptive Report.

41. EXTENSION OF MANUSCRIPT LIMITS

An extension was made on this manuscript to fill a holiday on TP-00442 of project CM-7705. The extension was made from latitude 46° 36' 30" to 46° 35' 30", and from longitude 87° 25' 00" to 87° 29' 00".

42. through 45. - Not applicable.

46. COMPARISON WITH EXISTING MAPS

Comparisons were made with the following 1:24,000 scale U.S. Geological Survey quadrangles:

Marquette, Michigan, 1954, Photorevised 1975
Marquette N W, Michigan, 1953
Buckroe, Michigan, Provisional Edition 1985

47. COMPARISON WITH NAUTICAL CHARTS

A comparison was made with the following National Ocean Service nautical chart:

14963, 17th Edition (Feb. 1, 1986), scale 1:120,000.

Submitted by,

Douglas Graham
Douglas Graham
Cartographer

Approved and Forwarded:

John A. Mooney
John A. Mooney
Chief, Special Projects Unit

GEOGRAPHIC NAMES

FINAL NAME SHEET

CM-8500 (Lake Superior, Michigan)

TP-01099

Big Garlic River

Buckroe

Freeman Landing

Garlic Island

Granite Point

Harlow Creek

Harlow Lake

Larus Island

Little Garlic River

Little Presque Isle

Saux Head Lake

Saux Head Point

Sawmill Creek

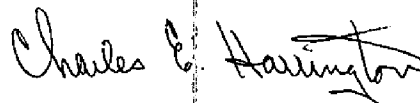
Superior, Lake

Thoneys Point

Wetmore Landing

Wetmore Pond

Approved:



Charles E. Harrington
Chief Geographer
Nautical Charting Division

FINAL REVIEW REPORT
TP-01099

61. GENERAL STATEMENT

Refer to the Summary bound with this Descriptive Report.

62. COMPARISON WITH REGISTERED TOPOGRAPHIC SURVEYS - None

63. COMPARISON WITH MAPS OF OTHER AGENCIES

A comparison was made with the following 1:24,000 scale U.S. Geological Survey quadrangles:

Marquette, Michigan, 1954, Photorevised 1975
Marquette N W, Michigan, 1953
Buckroe, Michigan, Provisional Edition 1985

64. COMPARISON WITH CONTEMPORARY HYDROGRAPHIC SURVEYS - None

65. COMPARISON WITH NAUTICAL CHARTS

14963, Scale 1:120,000, 17th Edition, dated Feb. 1, 1986.

66. ADEQUACY OF RESULTS AND FUTURE SURVEYS

This map meets the National Standards of Map Accuracy and requirements specified in the Project Instructions.

Submitted by,

James E. Schad

James E. Schad
Unit Reviewer

Approved for forwarding:

John A. Mearns

Chief, Special Projects Unit

Approved:

Chief, Photogrammetric Production Section

A. Y. Bryan

Chief, Photogrammetry Branch

RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO.

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.

[illegible]