

TP-01095

TP-01095

| | |
|---------------------------------------------------------------------------------------------------------|------------------|
| NOAA FORM 76-35 (6-80) | |
| U.S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION NATIONAL OCEAN SURVEY | |
| DESCRIPTIVE REPORT | |
| Map No. TP-01095 | Edition No. 1 |
| Job No. CM-8500 | |
| Map Classification III | |
| Type of Survey SHORELINE | |
| LOCALITY | |
| State MICHIGAN | |
| General Locality LAKE SUPERIOR | |
| Locality POINT ABBAYE | |
| 1985 TO 19 | |
| REGISTERED IN ARCHIVES | |
| DATE | |

| | | | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|----------------------------------------------------------------------------------------------------------|------------------------------|------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| NOAA FORM 76-36B (3-72) | | U. S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION NATIONAL OCEAN SURVEY | | | |
| COMPILATION SOURCES | | | | | TP-01095 |
| 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 | |
| TIDE STAGE REFERENCE <input type="checkbox"/> PREDICTED TIDES <input checked="" type="checkbox"/> REFERENCE STATION RECORDS <input type="checkbox"/> TIDE CONTROLLED PHOTOGRAPHY | | | | ZONE Eastern | <input checked="" type="checkbox"/> STANDARD <input type="checkbox"/> DAYLIGHT |
| | | | | MERIDIAN 75 th | |
| NUMBER AND TYPE | DATE | TIME | SCALE | STAGE OF TIDE | |
| 85 E (c) 7907-7911 | 6/2/85 | 10:30 | 1:50,000 | The water level at the time of photography was 601.4 ft. based on gage at Marquette, Michigan (sta. 9018). | |
| 85 E (c) 8147-8149 | 6/3/85 | 07:49 | 1:50,000 | | |
| 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: 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 TP-01096 | SOUTH N/A | WEST CM-7705 TP-00441A | | |
| 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-01095

1. ☒ 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)8148 | NANK 1985 | | |
| 85E(c)7907 | ABBAYE 1985 | | |

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 ☒ 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)

One Field Work Brown Binder

NOAA FORM 76-36C
(3-72)

RECORD OF SURVEY USE

TP-01095

I. MANUSCRIPT COPIES

| COMPILATION STAGES | | | DATE MANUSCRIPT FORWARDED | |
|----------------------------|------|----------------------------|---------------------------|---------------|
| DATA COMPILED | DATE | REMARKS | MARINE CHARTS | HYDRO SUPPORT |
| Final Review Class III Map | | Chart Maintenance Print | | |
| Final Review Class III Map | | Note 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. ☐ REPORT TO MARINE CHART DIVISION, COAST PILOT BRANCH. DATE FORWARDED: _____3. ☐ REPORT TO AERONAUTICAL CHART DIVISION, AERONAUTICAL DATA SECTION. DATE FORWARDED: _____

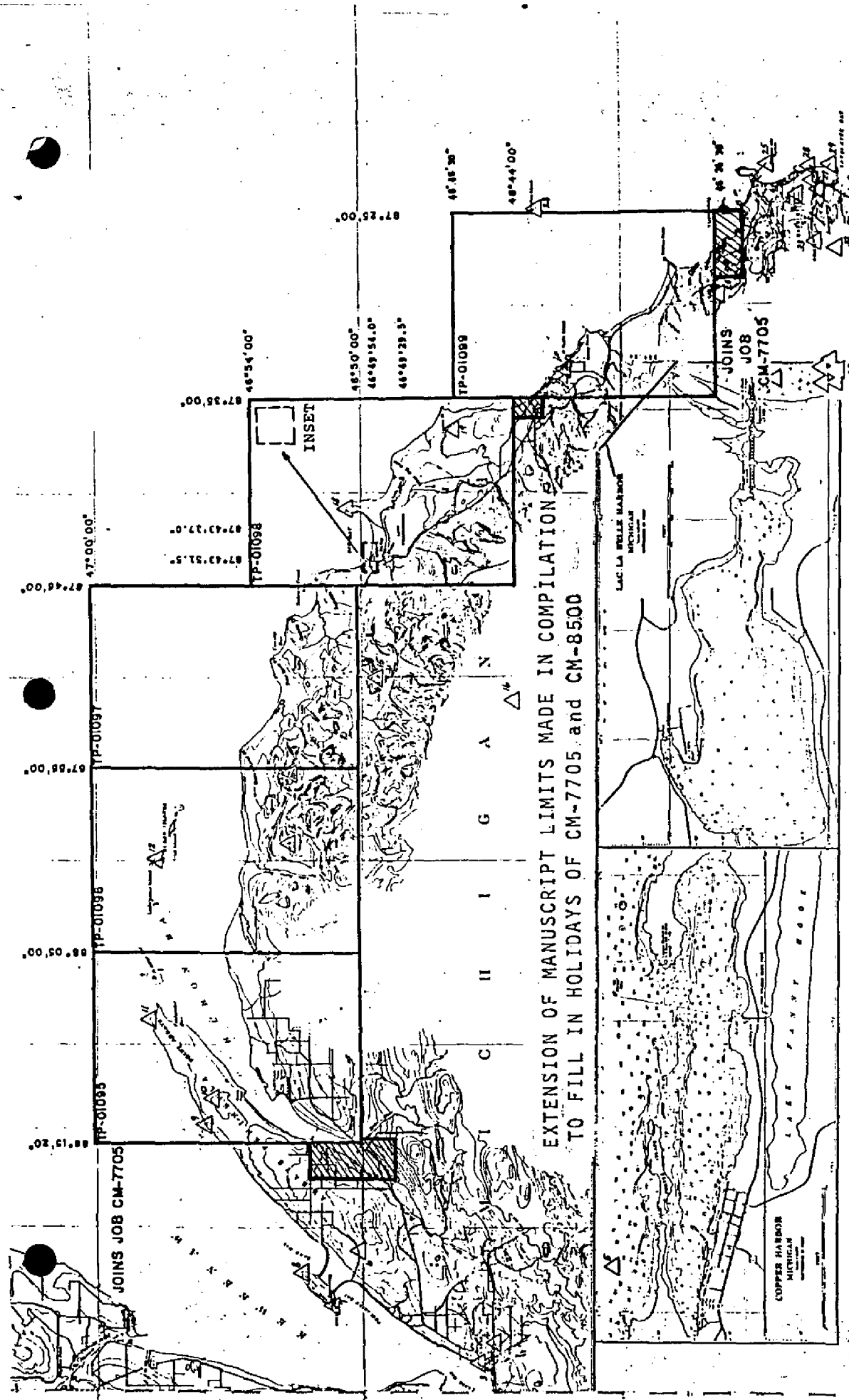
III. FEDERAL RECORDS CENTER DATA

1. ☒ BRIDGING PHOTOGRAPHS; ☒ DUPLICATE BRIDGING REPORT; ☐ COMPUTER READOUTS.
 2. ☒ CONTROL STATION IDENTIFICATION CARDS; ☐ FORM NOS 567 SUBMITTED BY FIELD PARTIES.
 3. ☒ SOURCE DATA (except for Geographic Names Report) AS LISTED IN SECTION II, NOAA FORM 76-36C.
 ACCOUNT FOR EXCEPTIONS:

4. ☐ DATA TO FEDERAL RECORDS CENTER. DATE FORWARDED: _____

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

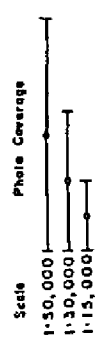
| | | | |
|-------------------|---------------------------------|--------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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 THONEY POINT
LAKE SUPERIOR

MICHIGAN
SHORELINE MAPPING
SCALE 1:20,000
LEGEND

- 1:50,000 Color (Bridging)
- 1:30,000 Color (Supplemental)



Revised 10-31-84, One Sheet, TP-01100 4444. 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-01095

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-01095, 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-00441A.

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-01095

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 POINT, MICHIGAN

AUGUST 1987

21. AREA COVERED

The area covered by this report is from Point Abbaye to Thoneys 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.

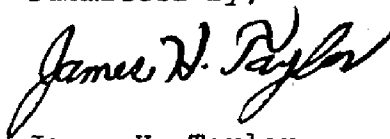
24. SUPPLEMENTAL DATA

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

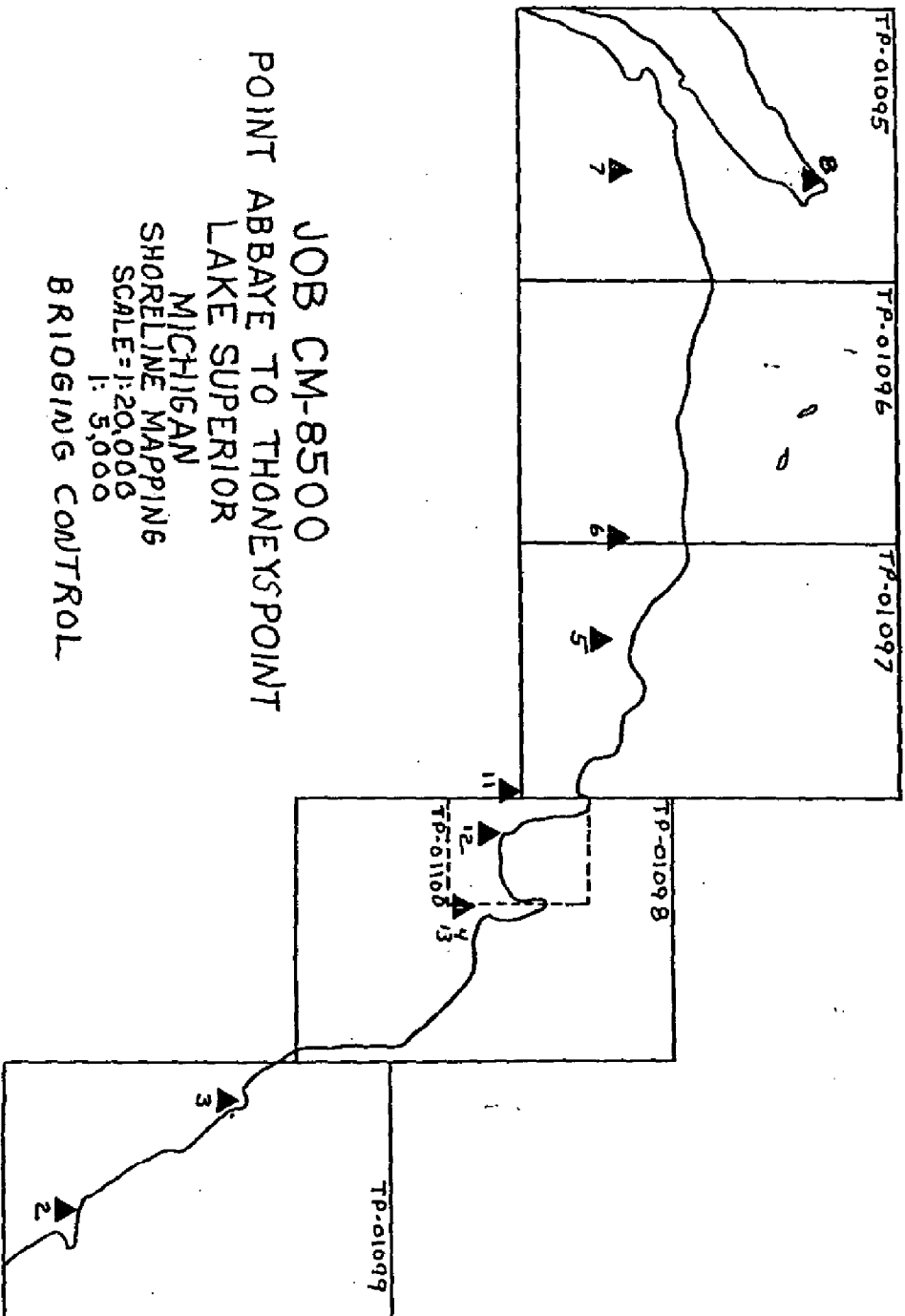
| | | |
|-------|-----|-----|
| TIE 1 | 1.3 | 0.6 |
| TIE 8 | 4.8 | 2.4 |
| TIE 6 | 1.1 | 5.8 |
| TIE 5 | 2.1 | 1.0 |

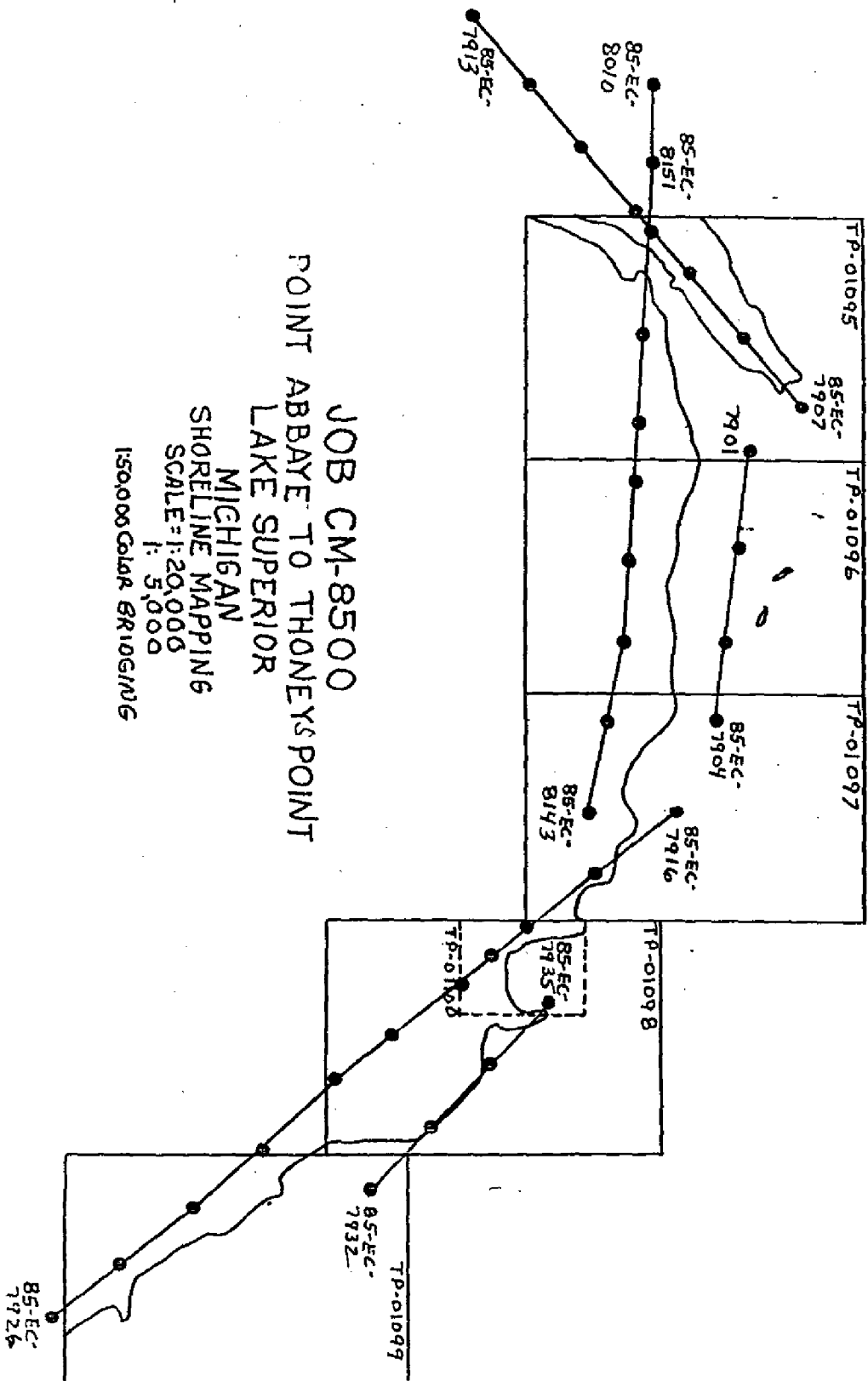
COLOR BRIDGING RATIOS
CM-8500

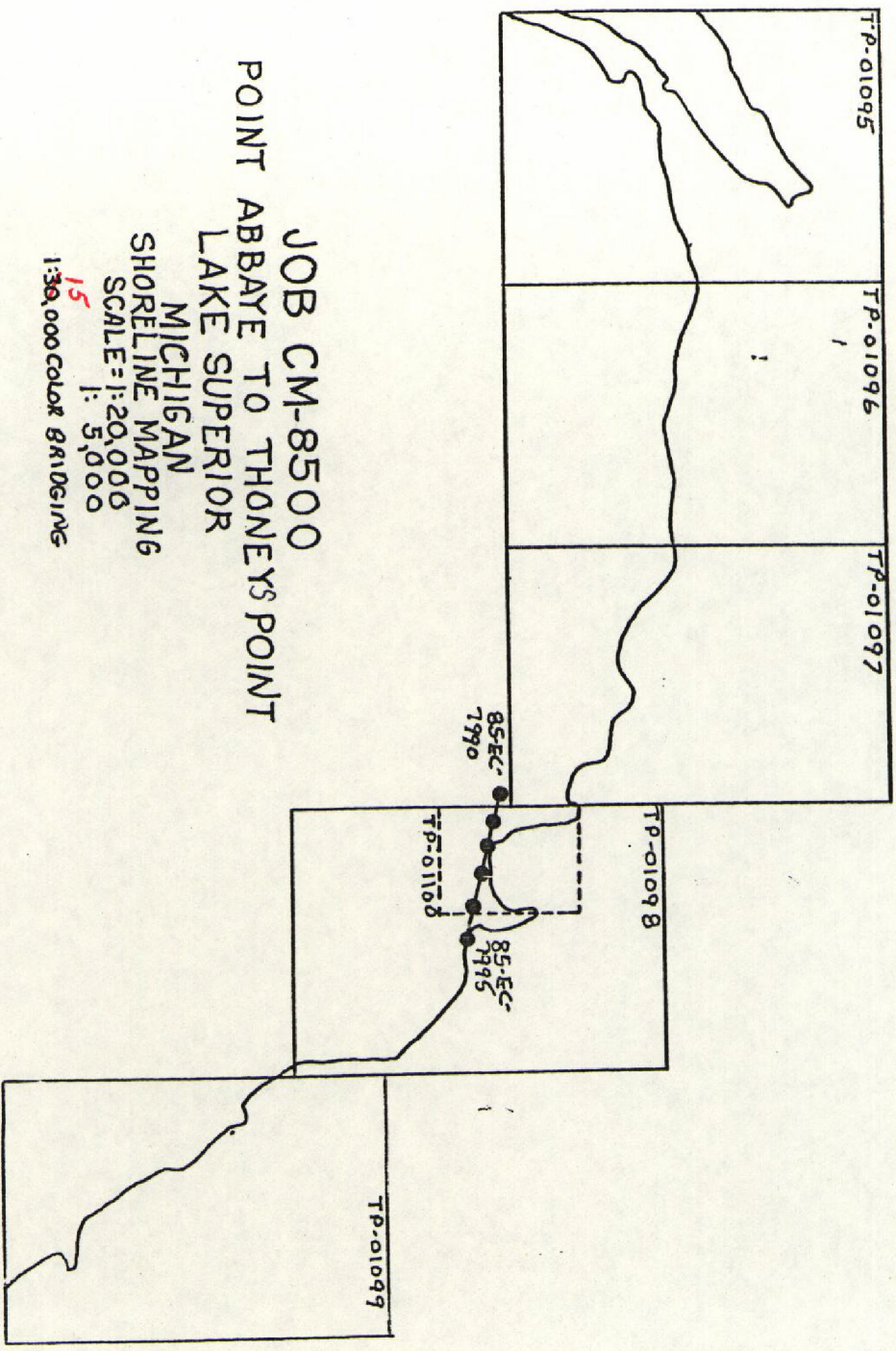
| | |
|----------------------|--------------------|
| 85-EC-7990 thru 7995 | Ratio <u>3.020</u> |
| 85-EC-7901 thru 7903 | Ratio <u>2.500</u> |
| 85-EC-8143 thru 8151 | Ratio <u>2.505</u> |
| 85-EC-7907 thru 7913 | Ratio <u>2.500</u> |
| 85-EC-7916 thru 7926 | Ratio <u>2.502</u> |
| 85-EC-7932 thru 7935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







JOB CM-8500
POINT ABBAYE TO THONEYS POINT
LAKE SUPERIOR

MICHIGAN
SHORELINE MAPPING
SCALE=1:20,000
1: 5,000
1:30,000 COLOR BRIDGING

DESCRIPTIVE REPORT CONTROL RECORD

| MAP NO. TP-01095 | JOB NO. CM-8500 | GEODETTIC DATUM NAD 1927 | | ORIGINATING ACTIVITY Special Project Rockville, Md | | REMARKS |
|-----------------------------------|--------------------|-----------------------------------------------------|--------------------------------------------|---------------------------------------------------------------|-----------------|---------|
| | | COORDINATES (N FEET) STATE Michigan ZONE West | AEROTRI- ANGULATION POINT NUMBER | GEOGRAPHIC POSITION ϕ LATITUDE λ LONGITUDE | | |
| Nank 1985 | Comp | 148100 | X= 647,467.173 | ϕ 46° 52' 37.672" | Panel 7 | |
| | | | Y= 1,960,605.778 | λ 88° 09' 37.179" | | |
| Abbaye 1985 | Comp | 907100 | X= 650,289.615 | ϕ 46° 57' 55.275" | Panel 8 | |
| | | | Y= 1,992,803.313 | λ 88° 08' 52.993" | | |
| | | | 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. | | DATE 1/12/86 | LISTING CHECKED BY D. Norman / J. Schad | | DATE 3/25/86 | |
| | HAND PLOTTING BY | | | DATE | | |

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

COMPILATION REPORT
TP-01095

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.

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 ramps, platform, riprap and piers. Alongshore detail was compiled as described in item 31 of this report.

36. OFFSHORE DETAIL

Offshore detail consisted of Point Abbaye Reef, numerous rocks, and four obstructions. Offshore detail was compiled as described in item 31 of this report.

37. LANDMARKS AND AIDS

No landmarks or aids to navigation were compiled on TP-01095.

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

The manuscript limits were extended in the southwest corner to cover a holiday on the junctioning manuscript (CM-7705, TP-00441A). The manuscript was extended south $00^{\circ} 01' 00''$, from latitude $40^{\circ} 50' 00''$ N to $46^{\circ} 49' 00''$ N, between longitudes $88^{\circ} 15' 00''$ W and $88^{\circ} 17' 00''$ W; and west $00^{\circ} 01' 40''$ from longitude $88^{\circ} 15' 10''$ W, between latitude $46^{\circ} 49' 00''$ N and $46^{\circ} 52' 00''$ N.

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:

Skaneec North, Michigan, Provisional Edition 1984
Skaneec South, Michigan, Provisional Edition 1985
Aura, Michigan, Provisional Edition 1984
Keweenaw Bay NE, Michigan, Provisional Edition 1984
Glover Corner, Michigan, Provisional Edition 1984,

47. COMPARISON WITH NAUTICAL CHARTS

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

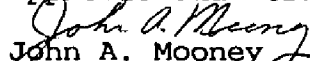
14964, 17th Edition (Aug. 18, 1984), scale 1:120,000.

Submitted by,



Ted Doyle
Cartographer

Approved and Forwarded:



John A. Mooney
Chief, Special Projects Unit

GEOGRAPHIC NAMES

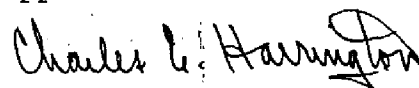
FINAL NAME SHEET

CM-8500 (Lake Superior, Michigan)

TP-01095

| | |
|------------------|-------------------|
| Abbaye Peninsula | Point Abbaye Reef |
| Abbaye, Point | Ravine River |
| Bendry Point | Reeds Bay |
| Finlander Bay | Reeds Point |
| Huron Bay | Skanee |
| Keweenaw Bay | Slate River |
| Lightfoot Bay | Snug Harbor |
| Lightfoot Point | Superior, Lake |

Approved:



Charles E. Harrington
Chief Geographer
Nautical Charting Division

FINAL REVIEW REPORT
TP-01095

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:

Skaneec North, Michigan, Provisional Edition 1984
Skaneec South, Michigan, Provisional Edition 1985
Aura, Michigan, Provisional Edition 1984
Keweenaw Bay NE, Michigan, Provisional Edition 1984
Glover Corner, Michigan, Provisional Edition 1984,

64. COMPARISON WITH CONTEMPORARY HYDROGRAPHIC SURVEYS - None

65. COMPARISON WITH NAUTICAL CHARTS

14964, Scale 1:120,000, 17th Edition, dated August 18, 1984.

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. Mueny
Chief, Special Projects Unit

Approved:

Chief, Photogrammetric Production Section

A. G. Bryson
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]