

TP-00356

TP-00356

NOAA FORM 76-35 (6-80)	
U.S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION NATIONAL OCEAN SURVEY	
<h1>DESCRIPTIVE REPORT</h1>	
THIS MAP EDITION WILL NOT BE FIELD EDITED	
<i>Map No.</i> TP-00356	<i>Edition No.</i> 1
<i>Job No.</i> CM-8412	
<i>Map Classification</i> CLASS III (FINAL)	
<i>Type of Survey</i> SHORELINE	
<h2>LOCALITY</h2>	
<i>State</i> MICHIGAN	
<i>General Locality</i> SAINT MARYS RIVER	
<i>Locality</i> MUNUSCONG LAKE	
<div style="border: 1px solid black; padding: 5px; display: inline-block;">           19<sup>84</sup> TO 19         </div>	
<h2>REGISTERED IN ARCHIVES</h2>	
<i>DATE</i>	



## DESCRIPTIVE REPORT - DATA RECORD

## TYPE OF SURVEY

- ☒ ORIGINAL  
☐ RESURVEY  
☐ REVISED

SURVEY TP-00356

MAP EDITION NO. (1)

MAP CLASS III (Final)

JOB RM-CM-8412

## PHOTOGRAMMETRIC OFFICE

Coastal Mapping Unit  
Atlantic Marine Center, Norfolk, VA

## OFFICER-IN-CHARGE

A. Y. Bryson, CDR

## 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 October 18, 1984  
Compilation April 5, 1985

## 2. FIELD

Horizontal Control April 19, 1984  
(Premarking)

## II. DATUMS

## 1. HORIZONTAL:

☒ 1927 NORTH AMERICAN

OTHER (Specify)

## 2. VERTICAL:

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

Water level

OTHER (Specify)

International Great Lakes Datum (1955)

## 3. MAP PROJECTION

Transverse Mercator Projection

## 4. GRID(S)

STATE

ZONE

Michigan

East

## 5. SCALE

1:20,000

STATE

ZONE

## III. HISTORY OF OFFICE OPERATIONS

OPERATIONS		NAME	DATE
1. AEROTRIANGULATION	BY	L. Harrod	Jan 1985
METHOD: Analytic	LANDMARKS AND AIDS BY	L. Harrod	Jan 1985
2. CONTROL AND BRIDGE POINTS	PLOTTED BY	W. McLemore	Mar 1985
METHOD: Xynetics 1201	CHECKED BY	W. McLemore	Mar 1985
3. STEREOSCOPIC INSTRUMENT	PLANIMETRY BY	P. Evans	May 1985
COMPILATION	CHECKED BY	F. Mauldin & W. McLemore	May 1985
INSTRUMENT: Wild B-8	CONTOURS BY	N.A.	
SCALE: 1:20,000	CHECKED BY	N.A.	
4. MANUSCRIPT DELINEATION	PLANIMETRY BY	P. Evans	May 1985
	CHECKED BY	F. Mauldin	Jun 1985
METHOD: Smooth Drafted	CONTOURS BY	N.A.	
	CHECKED BY	N.A.	
SCALE: 1:20,000	HYDRO SUPPORT DATA BY	N.A.	
	CHECKED BY	N.A.	
5. OFFICE INSPECTION PRIOR TO <del>REVISION</del> Final Review	BY	F. Mauldin	Jun 1985
6. APPLICATION OF FIELD EDIT DATA	BY	N.A.	
	CHECKED BY	N.A.	
7. COMPILATION SECTION REVIEW Class III	BY	F. Mauldin	Jun 1985
8. FINAL REVIEW Class III	BY	J. Hancock	Jun 1985
9. DATA FORWARDED TO PHOTOGRAMMETRIC BRANCH	BY	J. Hancock	Jul 1985
10. DATA EXAMINED IN PHOTOGRAMMETRIC BRANCH	BY	P. Dempsey	SEP 1985
11. MAP REGISTERED - COASTAL SURVEY SECTION	BY	E. L. DAUGHERTY	SEP 1985





TP-00356  
HISTORY OF FIELD OPERATIONSI. ☒ FIELD INSPECTION OPERATION (Premarking) ☐ FIELD EDIT OPERATION

OPERATION	NAME	DATE
1. CHIEF OF FIELD PARTY	J. Dunford	May 1984
2. HORIZONTAL CONTROL	RECOVERED BY N.A. ESTABLISHED BY R. James PRE-MARKED OR IDENTIFIED BY R. James	April 1984 April 1984
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 <input type="checkbox"/> SPECIFIC NAMES ONLY BY <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

Premarked (paneled)

## 2. VERTICAL CONTROL IDENTIFIED

N.A.

PHOTO NUMBER	STATION NAME	PHOTO NUMBER	STATION DESIGNATION
842(P)3700	DIKE 387, 1984 (paneled direct)		

## 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

N.A.

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

1 Form 76-53 CSI Card  
Project Field Report

TP-00356  
RECORD OF SURVEY USE

## I. MANUSCRIPT COPIES

COMPILATION STAGES			DATE MANUSCRIPT FORWARDED	
DATA COMPILED	DATE	REMARKS	MARINE CHARTS	HYDRO SUPPORT
Compilation Complete	June 1985	Class III Manuscript	None	None
Final Review, Class III	June 1985	Final Class III Map	8-9-85	8-9-85

## II. LANDMARKS AND AIDS TO NAVIGATION

## 1. REPORTS TO MARINE CHART DIVISION, NAUTICAL DATA BRANCH

NUMBER (pages)	CHART LETTER NUMBER ASSIGNED	DATE FORWARDED	REMARKS
1		8-9-85	Nonfloating Aids for Charts

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

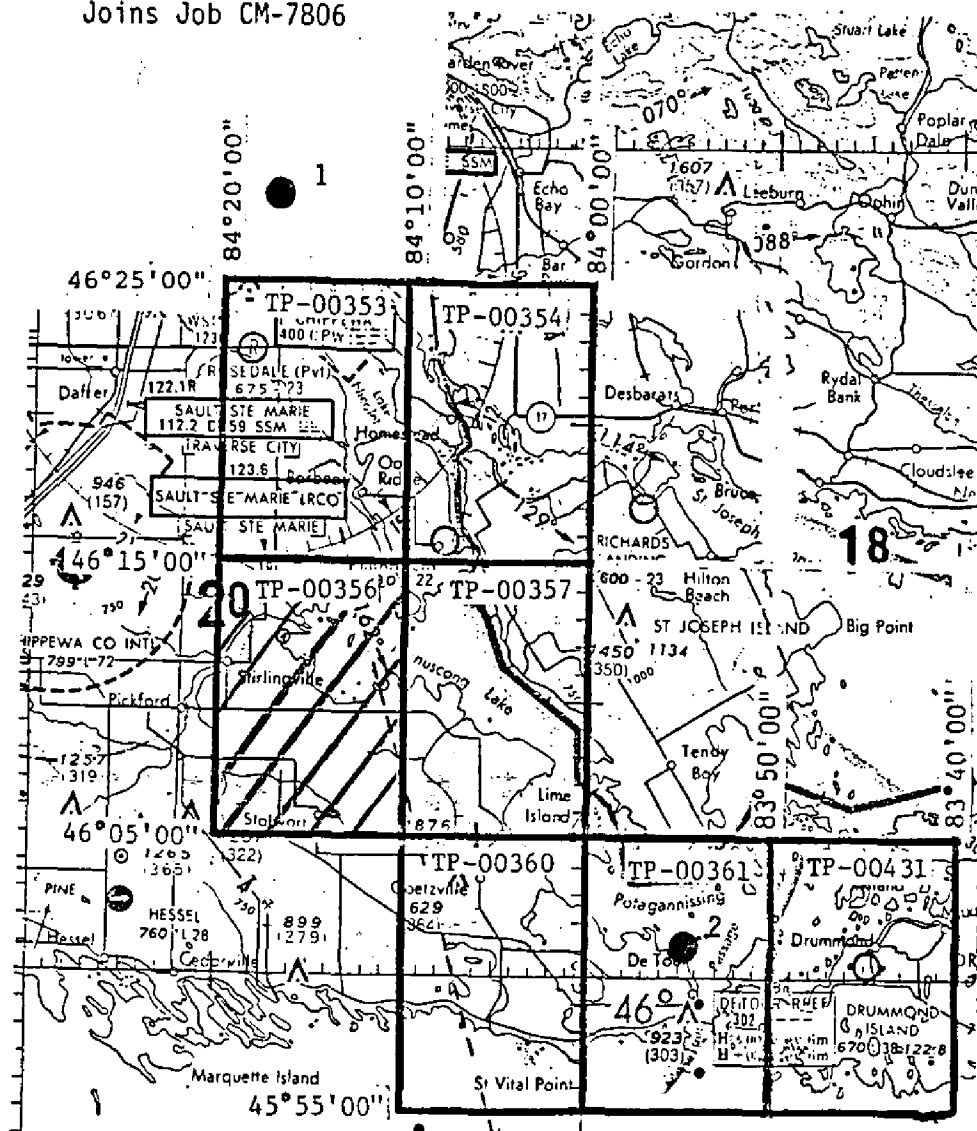
1. ☒ BRIDGING PHOTOGRAPHS; ☒ DUPLICATE BRIDGING REPORT; ☒ COMPUTER READOUTS.  
2. ☒ CONTROL STATION IDENTIFICATION CARDS; ☐ FORM NOS 76-40 ~~76-40~~ SUBMITTED BY FIELD PARTIES.  
3. ☒ SOURCE DATA (except for Geographic Names Report) AS LISTED IN SECTION II, NOAA FORM 76-36C.  
ACCOUNT FOR EXCEPTIONS:

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 - _____	<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 - _____	<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 - _____	<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	

Joins Job CM-7806



● = Water Level Gage Site

- 1 - Frechette Point
- 2 - Detour Village

JOB CM-8412  
SAINT MARYS RIVER  
SUGAR ISLAND TO POTAGANNISSING BAY  
MICHIGAN  
SHORELINE MAPPING  
SCALE 1:20,000

SUMMARY TO ACCOMPANY  
DESCRIPTIVE REPORT

TP-00356

This 1:20,000 scale final Class III shoreline map is one of 7 maps (TP-00353, TP-00354, TP-00356, TP-00357, TP-00360, TP-00361, and TP-00431) that comprise project CM-8412, Sugar Island to Potagannissing Bay, St. Marys River, Michigan. This project junctions with a previous project, CM-7806, which features the northern region of St. Marys River.

This map portrays the shoreline at the southern end of West Neebish Channel and features the western region of Munuscong Lake.

The purpose of this map is to provide current charting information for nautical chart maintenance and to furnish shoreline support data for hydrographic survey operations.

Field work prior to photography was adequately provided in May 1984. This involved the recovery, establishment and identification (premarking) of horizontal control necessary for aerotriangulation. There was no field inspection performed.

Photo coverage was adequately provided by 1:40,000 scale panchromatic photography taken May 16, 1984 with the Wild RC-10(Z) camera. At the time of photography, a water level reading of 579.53 was recorded at the DeTour Village, Michigan gage. This established the shoreline datum for the map based on the 1955 International Great Lakes Datum.

Analytic aerotriangulation was adequately provided by the Washington Science Center in January 1985. Included in the bridge are two supplemental horizontal control substations previously photoidentified for adjoining project CM-7806. Aerotriangulation activity also included determining ratio values for the photographs and locating some of the visible navigational aids.

Compilation was performed at the Coastal Mapping Unit, Atlantic Marine Center in June 1985. Delineation of map detail was accomplished using stereo instrument methods based upon interpretation of the mapping photographs.

Final review was performed at the Atlantic Marine Center in June 1985. A Chart Maintenance Print was prepared and forwarded to the Marine Chart Branch. Also, a Notes to Hydrographer Print was prepared for future hydrographic activity.

This Descriptive Report contains all pertinent information used to compile this final Class III Map. The original base manuscript and related data were forwarded to the Washington Science Center for final registration.

## FIELD INSPECTION

TP-00356

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.



PHOTOGRAMMETRIC PLOT REPORT  
CM-8412  
Saint Marys River, Michigan  
January 1985

21. Area Covered

The area covered by this report is in the vicinity of the Saint Marys River from Sugar Island Southeastward to Potagannissing Bay, Michigan. It is covered by seven 1:20,000-scale manuscripts; TP-00353, TP-00354, TP-00356, TP-00357, TP-00360, TP-00361, and TP-00431.

22. Method

Eight strips of 1:40,000-scale photographs were bridged by analytic aerotriangulation methods and adjusted to ground on the Michigan State Plane Coordinage System, Michigan East Zone, using our Analytic Strip Adjustment program. Pabeled control was provided. Aids and landmarks were located on bridging photographs. Ratio values were determined for the 1:40,000-scale bridging photographs. A magnetic tape for plotting points and for ruling the base manuscripts were prepared. The Traverse Mercator projection was used.

23. Adequacy of Control

The horizontal control provided, proved to be adequate, was sparse in some areas. Tie points were used to supplement these areas. DIKE 387, 1984 Horizontal Panel No. 4 would not fit with the tie points and control points of the adjacent strip. The lack of fit is -19.86 feet in X and 6.51 feet in Y. It was not used in the adjustment. All positions established by aerotriangulation methods meet the National Standards of Map Accuracy.

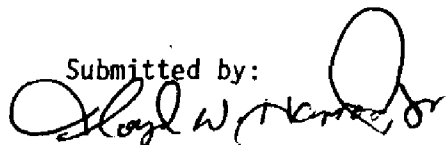
24. Supplemental Data

Vertical control was taken from USGS quads.

25. Photography

The coverage and quality of the photographs proved adequate for the project in most cases. The end lap in model 3810-3811 in strip 7 was computed to be about 51 percent, which is below the desired amount. This made it difficult to select and read pass points in some areas.

Submitted by:

  
Lloyd W. Harrod, Jr.

Approved and Forwarded:

  
Don O. Norman  
Chief, Aerotriangulation Unit

Saint Marys River  
Michigan  
CM-8412

Fit to Control -X and Y in Feet

<u>STRIP 1</u>				<u>PT. NO.</u>	<u>X</u>	<u>Y</u>
2	Home	CHS(9598)	1981 Horizontal Panel No. 2	(774100)	-1.2	7.5
Δ 2A	"	"	" " Sub. Sta. A	(774101)	-1.6	7.7
Δ 12A	55 USLS - Sugar Island East Base	1878		(773101)	-3.5	3.9
	Tie from Strip 2			(742801)	1.6	0.4
	Tie "	"	"	(744801)	-0.1	-3.9
	Tie "	"	"	(745801)	1.2	-2.8
	Tie "	"	"	(746801)	0.6	-2.2
	Tie "	"	"	(747801)	0.1	-2.8
	Tie "	"	"	(748801)	2.7	-0.6
	Tie "	"	"	(749801)	-0.7	0.3
	Tie "	"	"	(750801)	0.5	-1.1
	Tie "	"	"	(751801)	-0.7	1.0
<u>STRIP 2</u>						
Δ 1	Cass	1943		(739100)	-0.1	-0.6
Δ 3	Ref. Mon.	16, 1911		(747100)	-0.5	3.4
Δ 5	Kolos	1984		(752100)	-0.1	-4.4
Δ 6	Ramp	1984		(755100)	-3.1	-0.1
	Tie from Strip 6			(793803)	2.8	1.6
<u>STRIP 3</u>						
	Tie from Strip 2			(748804)	-1.2	-0.8
	Tie "	"	"	(746804)	1.7	1.0
	Tie "	"	"	(745805)	-0.2	0.9
	Tie "	"	"	(744805)	0.5	-2.4
	Tie "	"	"	(743801)	1.0	-0.9
	Tie "	"	"	(742804)	-2.1	-1.6
	Tie "	"	"	(741805)	-1.0	5.8
	Tie "	"	"	(740801)	1.3	-2.1
<u>STRIP 4</u>						
	Tie from Strip 6			(792903)	0.5	-3.4
	Tie "	"	"	(792802)	1.0	-4.4
	Tie "	"	2	(713802)	-4.2	5.0
	Tie "	"	"	(714801)	-1.1	2.0
	Tie "	"	"	(715801)	1.7	0.9
	Tie "	"	"	(716801)	1.5	0.4
	Tie "	"	"	(717801)	1.2	0.8
	Tie "	"	"	(718802)	1.2	-0.7
	Tie "	"	"	(719801)	-1.8	-0.7

STRIP 5

	Tie from Strip 3	(721801)	-0.5	0.3
	Tie " " "	(722801)	0.4	-0.4
	Tie " " "	(719804)	1.0	-0.6
	Tie " " "	(720801)	-0.9	0.7
4	Dike 387, 1984	(700100)	-19.9	6.5

STRIP 6

Δ 7	McKay 1984	(788100)	-0.6	-0.0
Δ 8	Tour 1980	(793100)	3.8	-0.1
8A	Tour 1980 Sub Pt. A	(793110)	3.8	-0.8
	Tie from Strip 7	(811803)	1.4	1.6
	Tie " " "	(813801)	-1.1	-3.5
	Tie " " "	(815801)	-2.7	-1.0
	Tie " " "	(818801)	-2.4	1.9
	Tie " " "	(818803)	-2.3	2.1

STRIP 7

Δ 11	Clear 388 1984	(809100)	0.3	-0.1
Δ 10	Marina 1984	(813100)	-1.3	0.2
Δ 9	State 1984	(815100)	1.5	0.3
Δ 6	Ramp 1984	(818100)	-0.4	-0.1

STRIP 8

	Tie from Strip 7	(811805)	0.2	0.2
	Tie " " "	(813804)	0.7	-0.2
	Tie " " "	(816804)	-3.2	-1.0
	Tie " " "	(817806)	2.0	-1.2
	Tie " " "	(817807)	1.7	0.1
	Tie " " "	(817808)	-0.7	2.0

Δ Stations held in the strip adjustments

## Saint Marys River, Michigan

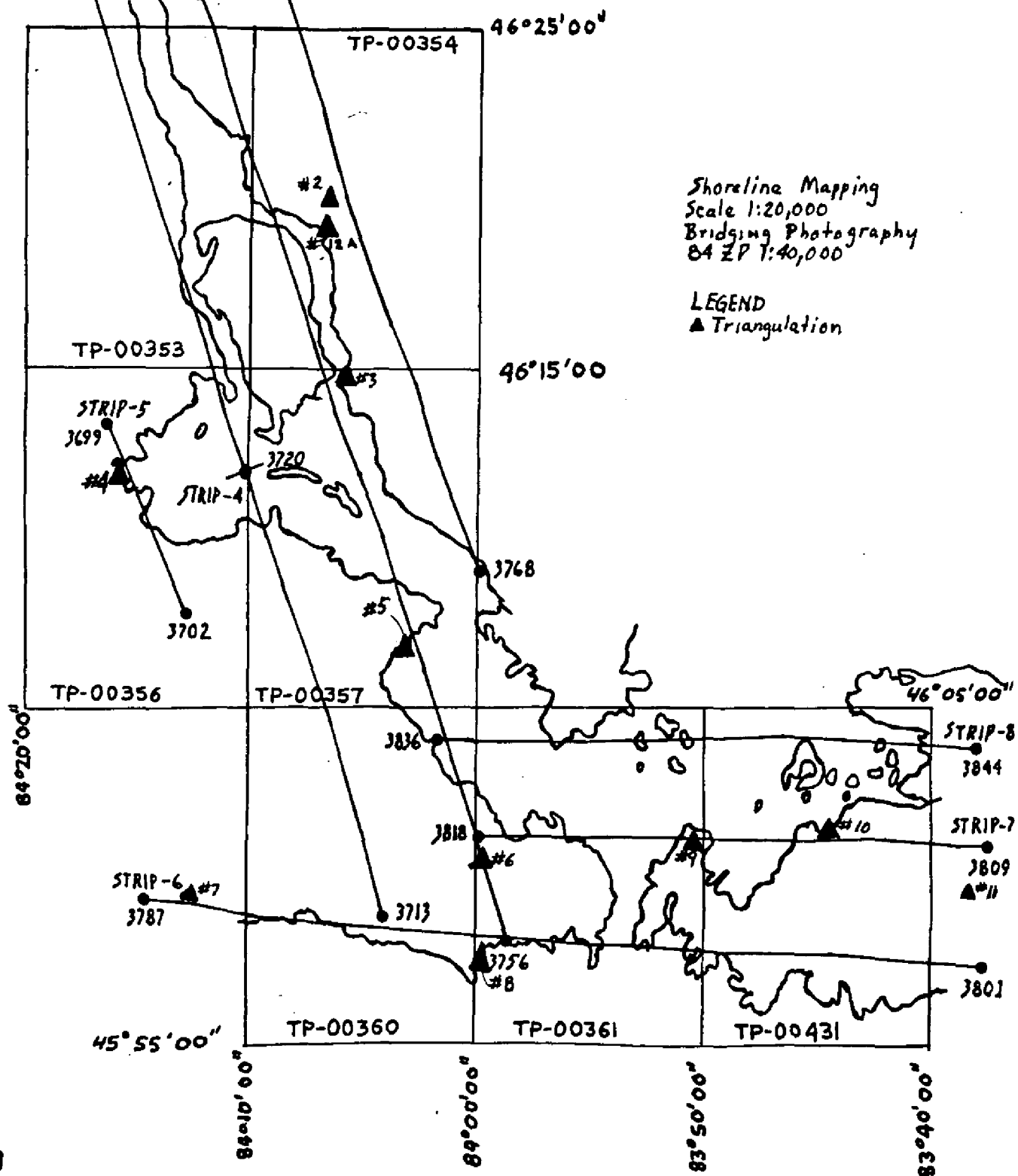
CM-8412

January 1985

Ratio values for 1:40,000 scale, black and white bridging  
photographs.

84 ZP 3768-3777	x2.03
3739-3756	x2.03
3720-3728	x2.03
3713-3720	x2.04
3699-3702	x2.05
3790-3801	x2.04
3811-3818	x2.04
3836-3844	x2.04

SAINT MARYS RIVER  
SUGAR ISLAND TO POTAGANMISSING BAY  
MICHIGAN  
CM-8412







COMPILATION REPORT  
TP-00356

31 - DELINEATION

Delineation was accomplished using stereo instrument compilation methods. Instrument compilation was used to delineate shoreline, alongshore, and interior detail based upon office interpretation of the (1:40,000) scale bridging/compilation black-and-white photographs. All photographs used to compile this map are listed on NOAA form 76-36B. The photography was adequate.

32 - CONTROL

The horizontal control was adequate. Refer to the Photogrammetric Plot Report, dated January, 1985.

33 - SUPPLEMENTAL DATA

None.

34 - CONTOURS AND DRAINAGE

Contours are not applicable to the project. Drainage was compiled by office interpretation of the photographs.

35 - SHORELINE AND ALONGSHORE DETAILS

The shoreline and alongshore details were compiled from office interpretation of the photographs. The shoreline compiled was the visible line of contact between land features and the water surface at the time of photography. Based on the International Great Lakes Datum (1955) the water level taken at DeTour Village, Michigan gage was 579.53 feet.

36 - OFFSHORE DETAILS

Offshore details were compiled by instrument methods as described in item #31.

37 - LANDMARKS AND AIDS

There 0 landmarks and 3 aids within the mapping limits of this manuscript. Among these, 2 aids were located photogrammetrically. Appropriate information was prepared on the 76-40 form and submitted with this map.

38 - CONTROL FOR FUTURE SURVEYS

None.

TP-00356

39 - JUNCTIONS

Refer to the Data Record Form 76-36B, Item 5 of the Descriptive Report.

40 - HORIZONTAL AND VERTICAL ACCURACY

See Item #32.

46 - COMPARISON WITH EXISTING MAPS

A comparison was made with the following U.S. Quadrangles:  
Munuscong, Mich., 1953, photorevised 1976, scale 1:24,000  
Pickford, Mich., 1953, photorevised 1975, scale 1:24,000.

47 - COMPARISON WITH NAUTICAL CHARTS

A comparison was made with the following NOS chart:  
14883, scale 1:40,000, 35th edition, dated December 13, 1980.

ITEMS TO BE APPLIED TO NAUTICAL CHARTS IMMEDIATELY

None.

ITEMS TO BE CARRIED FORWARD

None.

Submitted by:

*James L. Byrd, Jr.*  
P. L. Evans, Jr.  
Cartographic Technician  
21 May 1985

Approved:

*James L. Byrd, Jr.*

James L. Byrd, Jr.  
Chief, Coastal Mapping Unit

JUL 10 1985

## GEOGRAPHIC NAMES

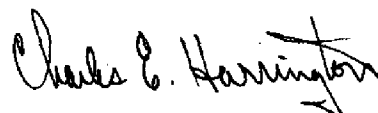
## FINAL NAME CHART

CM-8412 (St. Marys River, Michigan)

TP-00356

Barbeau Point  
Gull Island  
Kemps Point  
Little Munuscong River  
Maple Point  
Moon Island  
Munuscong  
Munuscong Island  
Munuscong Lake  
Munuscong River  
Neebish Island  
Pine Island  
Roach Point  
Sawmill Point  
Steamboat Island

Approved by:



Charles E. Harrington  
Chief Geographer  
Nautical Charting Division

REVIEW REPORT  
TP-00356  
SHORELINE

61 - GENERAL STATEMENT

Refer to the Summary included in this Descriptive Report.

62 - COMPARISON WITH REGISTERED TOPOGRAPHIC SURVEYS

Not applicable.

63 - COMPARISON WITH MAPS OF OTHER AGENCIES

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

Munuscong, Mich., dated 1953, photorevised 1976

Pickford, Mich., dated 1953, photorevised 1975.

64 - COMPARISON WITH CONTEMPORARY HYDROGRAPHIC SURVEYS

No contemporary hydrographic survey was conducted prior to this shoreline mapping project.

65 - COMPARISON WITH NAUTICAL CHARTS

A comparison was made with NOS chart:

14883, scale 1:40,000, 35th edition, dated December 13, 1980.

This most current chart is outdated. In various areas are significant shoreline discrepancies with the map. These discrepancies were addressed on the Chart Maintenance Print.

66 - ADEQUACY OF RESULTS AND FUTURE SURVEYS

This map complies with the Project Instructions, and meets the requirements for National Standards of Map Accuracy.

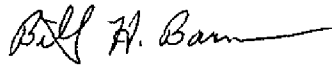
Submitted by:

*Jerry L. Hancock*

Jerry L. Hancock  
Final Reviewer

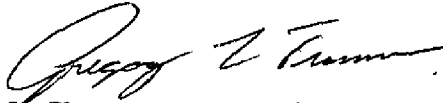
TP-00356

Approved for forwarding:



Billy H. Barnes  
Chief, Photogrammetric Section, AMC

Approved:



Chief, Photogrammetric Operations,  
Rockville



Chief, Photogrammetry Branch,  
Rockville





RESPONSIBLE PERSONNEL	
TYPE OF ACTION	NAME
OBJECTS INSPECTED FROM SEAWARD	
POSITIONS DETERMINED AND/OR VERIFIED	P. L. Evans, Jr.
FORMS ORIGINATED BY QUALITY CONTROL AND REVIEW GROUP AND FINAL REVIEW ACTIVITIES	
INSTRUCTIONS FOR ENTRIES UNDER 'METHOD AND DATE OF LOCATION'	
(Consult Photogrammetric Instructions No. 64.)	
<b>OFFICE</b> <b>I. OFFICE IDENTIFIED AND LOCATED OBJECTS</b> Enter the number and date (including month, day, and year) of the photograph used to identify and locate the object. EXAMPLE: 75E(C)6042 8-12-75	<b>FIELD (Cont'd)</b> <b>B. Photogrammetric field positions*</b> require entry of method of location or verification, date of field work and number of the photograph used to locate or identify the object. EXAMPLE: P-8-V 8-12-75 74L(C)2982
<b>FIELD</b> <b>I. NEW POSITION DETERMINED OR VERIFIED</b> Enter the applicable data by symbols as follows: F - Field                      P - Photogrammetric L - Located                    Vis - Visually V - Verified 1 - Triangulation              5 - Field identified 2 - Traverse                    6 - Theodolite 3 - Intersection                7 - Planetable 4 - Resection                   8 - Sextant  A. Field positions* require entry of method of location and date of field work. EXAMPLE: F-2-6-L 8-12-75	<b>III. POSITION VERIFIED VISUALLY ON PHOTOGRAPH</b> Enter 'V-Vis.' and date. EXAMPLE: V-Vis. 8-12-75  <b>**PHOTOGRAMMETRIC FIELD POSITIONS</b> are dependent entirely, or in part, upon control established by photogrammetric methods.
<b>*FIELD POSITIONS</b> are determined by field observations based entirely upon ground survey methods.	

