

TP-00363

TP-00363

NOAA FORM 76-35  
(6-80)U.S. DEPARTMENT OF COMMERCE  
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION  
NATIONAL OCEAN SURVEY

## DESCRIPTIVE REPORT

Map No.

TP-00363

Edition No.

1

Job No.

CM-7806

Map Classification

CLASS III (FINAL)

Type of Survey

SHORELINE

## LOCALITY

State

MICHIGAN

General Locality

ST. MARYS RIVER

Locality

ST. MARYS FALLS

1982 TO 19

REGISTERED IN ARCHIVES

DATE

NOAA FORM 76-36A (3-72)		U. S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMIN.		TYPE OF SURVEY		SURVEY TP. <u>00363</u>	
DESCRIPTIVE REPORT - DATA RECORD				<input checked="" type="checkbox"/> ORIGINAL		MAP EDITION NO. (1)	
				<input type="checkbox"/> RESURVEY		MAP CLASS III(FINAL)	
				<input type="checkbox"/> REVISED		JOB <del>PM</del> CM-7806	
PHOTOGRAMMETRIC OFFICE Coastal Mapping Unit, Atlantic Marine Center, Norfolk, VA				LAST PRECEDING MAP EDITION			
OFFICER-IN-CHARGE  A. Y. Bryson, CDR				TYPE OF SURVEY		JOB PH. _____	
				<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 June 24, 1983 Compilation (OFFICE) Sept. 12, 1983				Horizontal Control June 4, 1982 (Photoidentification)			
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) International Great Lakes Datum (1955)			
3. MAP PROJECTION				4. GRID(S)			
Transverse Mercator Projection				STATE Michigan		ZONE East	
5. SCALE 1:10,000				STATE		ZONE	
III. HISTORY OF OFFICE OPERATIONS							
OPERATIONS				NAME		DATE	
1. AEROTRIANGULATION BY				R. Johanson		Aug. 1983	
METHOD: <u>Analytic</u> LANDMARKS AND AIDS BY							
2. CONTROL AND BRIDGE POINTS PLOTTED BY				R. Johanson		Aug. 1983	
METHOD: <u>Coradomat</u> CHECKED BY							
3. STEREOSCOPIC INSTRUMENT PLANIMETRY BY				C. Klein		Oct. 1983	
COMPILATION CHECKED BY				F. Mauldin		Oct. 1983	
INSTRUMENT: <u>Wild B-8</u> CONTOURS BY				N.A.			
SCALE: <u>1:10,000</u> CHECKED BY				N.A.			
4. MANUSCRIPT DELINEATION PLANIMETRY BY				C. J. Klein		Nov. 1983	
CHECKED BY				R. Kravitz		Dec. 1983	
METHOD: <u>Smooth drafted</u> CONTOURS BY				N.A.			
CHECKED BY				N.A.			
SCALE: <u>1:10,000</u> HYDRO SUPPORT DATA BY				C. J. Klein		Nov. 1983	
CHECKED BY				R. Kravitz		Dec. 1983	
5. OFFICE INSPECTION PRIOR TO <del>REVIEW</del> FINAL REVIEW BY				R. Kravitz		Dec. 1983	
6. APPLICATION OF FIELD EDIT DATA BY				N.A.			
CHECKED BY				N.A.			
7. COMPILATION SECTION REVIEW BY				R. Kravitz		Dec. 1983	
8. FINAL REVIEW CLASS III BY				J. Hancock		Feb. 1984	
9. DATA FORWARDED TO PHOTOGRAMMETRIC BRANCH BY				J. Hancock		March 1984	
10. DATA EXAMINED IN PHOTOGRAMMETRIC BRANCH BY				Robert Kelly		March 1984	
11. MAP REGISTERED - COASTAL SURVEY SECTION BY				E DAUGHERTY		Nov. 1984	

NOAA FORM 76-36B  
(3-72)

CM-7806

TP-00363

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

## COMPILATION SOURCES

## 1. COMPILATION PHOTOGRAPHY

CAMERA(S) Wild RC-10(Z) (Z=153.15mm)		TYPES OF PHOTOGRAPHY LEGEND		TIME REFERENCE	
TIDE STAGE REFERENCE <input type="checkbox"/> PREDICTED TIDES <input checked="" type="checkbox"/> REFERENCE STATION RECORDS * <input type="checkbox"/> TIDE CONTROLLED PHOTOGRAPHY		(C) COLOR (P) PANCHROMATIC (I) INFRARED		ZONE Eastern	<input checked="" type="checkbox"/> STANDARD
				MERIDIAN 75th	<input type="checkbox"/> DAYLIGHT
NUMBER AND TYPE	DATE	TIME	SCALE	STAGE OF TIDE	
*82 Z(C) 3322 - 3326	June 2, 1982	16:04	1:30,000	600.5 ft. above locks 579.1 ft. below locks	

REMARKS \*Water levels at the time of photography are indicated as they were recorded from the U.S. Slip, Michigan gage (below locks) and the S.W. Pier, Michigan gage (above locks).

## 2. SOURCE OF MEAN HIGH-WATER LINE:

The term "Mean High Water Line" is not applicable. The shoreline is defined as the visible line of contact on the photographs between land and water. Delineation of the shoreline was derived by photo interpretation of the above listed color compilation/bridging photographs.

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

This item is not applicable to the project.

## 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 1:20,000 TP-00205	EAST 1:10,000 TP-00364	SOUTH 1:20,000 TP-00205	WEST 1:20,000 TP-00205
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REMARKS This 1:10,000 scale inset map lies within the limits of TP-00205; there is no detail junction to the north or south with TP-00205.

NOAA FORM 76-36C  
(3-72)CM-7806  
TP-00363  
HISTORY OF FIELD OPERATIONSU. S. DEPARTMENT OF COMMERCE  
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION  
NATIONAL OCEAN SURVEYI. ☒ FIELD INSPECTION OPERATION (PHOTOIDENTIFICATION) ☐ FIELD EDIT OPERATION.

OPERATION	NAME	DATE
1. CHIEF OF FIELD PARTY	J. Dunford	Sept. 1982
2. HORIZONTAL CONTROL	RECOVERED BY N.A. ESTABLISHED BY N.A. PRE-MARKED OR IDENTIFIED BY N.A.	
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 <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

None identified on this map

2. VERTICAL CONTROL IDENTIFIED

N.A.

PHOTO NUMBER	STATION NAME	PHOTO NUMBER	STATION DESIGNATION

3. PHOTO NUMBERS (Clarification of details)

N.A.

4. LANDMARKS AND AIDS TO NAVIGATION IDENTIFIED

N.A.

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)

Project Field Report

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

## RECORD OF SURVEY USE

TP-00363

## I. MANUSCRIPT COPIES

COMPILATION STAGES			DATE MANUSCRIPT FORWARDED	
DATA COMPILED	DATE	REMARKS	MARINE CHARTS	HYDRO SUPPORT
Final reviewed map	Feb. 1984	Final Class III map	3/22/84	3/23/84

## II. LANDMARKS AND AIDS TO NAVIGATION

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

NUMBER pages	CHART LETTER NUMBER ASSIGNED	DATE FORWARDED	REMARKS
5		3/22/84	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; ☐ 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: The original field report will be archived under CM-8412

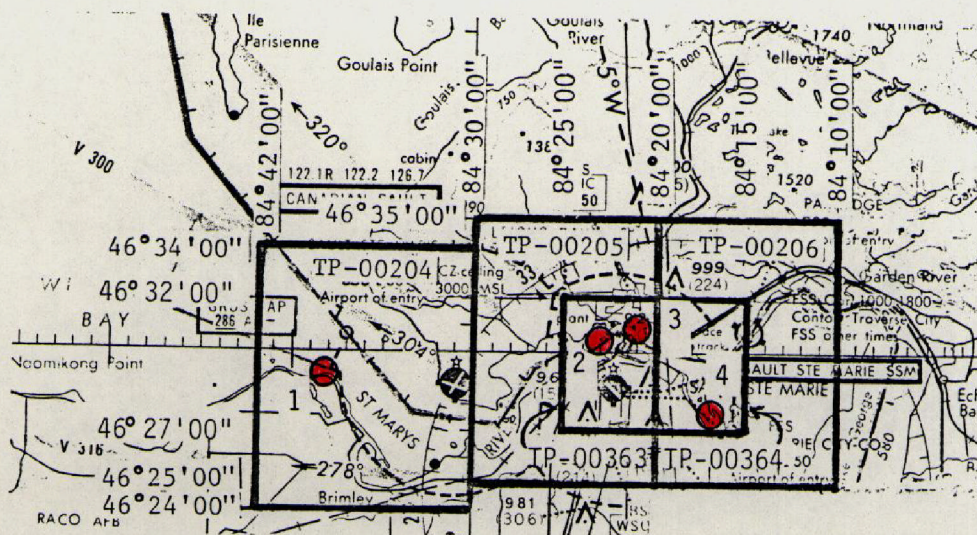
4. ☐ DATA TO FEDERAL RECORDS CENTER. DATE FORWARDED: \_\_\_\_\_

## 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-7806  
 SAINT MARYS RIVER  
 MICHIGAN  
 SHORELINE MAPPING  
 SCALE 1:10,000  
 1:20,000



Joins Job CM-8412

● = Tide Level Gage

- 1 - Point Iroquois
- 2 - S.W. Pier, Sault Ste. Marie
- 3 - U.S. Slip, Sault Ste. Marie
- 4 - Frechette Point

Revised 8-30-83

The following  
 TP-sheets are  
 cancelled:

TP-00207  
 TP-00358  
 TP-00359

Revised 3-12-84

The following  
 TP-sheets are  
 assigned to Job CM-8412:

TP-00353 TP-00356  
 TP-00354 TP-00360  
 TP-00357  
 TP-00361  
 TP-00431

SUMMARY TO ACCOMPANY  
DESCRIPTIVE REPORT

TP-00363

This 1:10,000 scale final Class III inset map portrays a portion of the St. Marys River which forms the outlet for Lake Superior and flows into Lake Huron. This inset map lies within the limits of TP-00205 and depicts a larger scale portrayal of the entrance canals and locks at St. Marys Falls.

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.

Photo coverage was adequately provided by 1:30,000 scale natural color photography taken in June 1982 with the RC 10(2) camera. At the time of photography, a water level reading of 600.5 feet was recorded above the locks at the S.W. Pier, Michigan gage. Below the locks, a reading of 597.1 feet was recorded at the U.S. Slip, Michigan gage. These readings established the shoreline datum for the map based on the 1955 International Great Lakes Datum.

Field work prior to compilation was accomplished in September 1982. This involved the recovery, establishment and photoidentification of horizontal control necessary for aerotriangulation. There was no field inspection performed.

Analytic aerotriangulation was adequately provided by the Washington Science Center. Aerotriangulation activity also included ruling the base manuscript and determining ratio values for the photographs.

Compilation was performed by the Coastal Mapping Unit at the Atlantic Marine Center in December 1983. Delineation of map detail was accomplished using stereo instrument methods based upon interpretation of the mapping photographs. Since no additional field activity was scheduled, the map and accompanying descriptive report were prepared for final review.

Final review was performed at the Atlantic Marine Center in February 1984. A "Chart Maintenance Print" was prepared and forwarded to the Marine Chart Branch. Also, a "Notes to Hydrographer" print was prepared for the proposed hydrographic activity. During final review, it became apparent that various charted landmarks and fixed navigational aids, common to this map, had been recently tied to the N.G.S. horizontal network. Information concerning the status and availability of these features was relayed via the aforementioned prints.

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

## FIELD INSPECTION

TP-00363

There was no field inspection prior to compilation. Field work accomplished was limited to the recovery and photoidentification of the horizontal control necessary for the aerotriangulation of the project.



CM-7806, St. Marys River, Michigan

## Shoreline Mapping

Work on this project was completed in accordance with Project Instructions dated June 4, 1982.

Thirteen (13) horizontal control stations were photoidentified on this project.

The original project diagram called for twelve (12) station sites. Station Number 12 was extremely difficult to reach by truck or boat so stations were located North and South of the original requirements.

Horizontal control for this area consists of N.G.S. Data, International Boundary Control Data, Lake Survey Data, and control established by the Canadian Hydrographic Service (CHS). All of the control is 1927 NAD. Two (2) control stations on this project were near horizontal control stations established by the CHS. This party ran traverses from IBC stations to the CHS stations. A discrepancy of about seven meters was observed between REF MON 22 (IBC) and Canadian Survey Monument 9606 (BEAR).

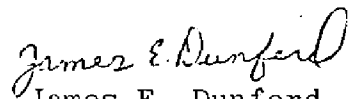
A discrepancy of about three meters was found between REF MON 2 (IBC) and Canadian Survey Control Station M-29-MI-77.

This office will check into this matter and attempt to discover a possible solution to the differences.

All control on this project is based on either published IBC control or published NGS control. If a problem with the aerotriangulation occurs, it is recommended that CAM 513 be contacted to discuss the problem.

Field work on this project was accomplished during the period September 7, 1982 to September 24, 1982.

Submitted by:

  
James E. Dunford, Jr.

PHOTOGRAMMETRIC PLOT REPORT  
SAINT MARYS RIVER, MICHIGAN  
CM-7806

FEBRUARY 1984

21. AREA COVERED

This report pertains to five sheets, two 1:10,000 (TP-00364 and TP-00363), three 1:20,000 scale sheets (TP-00204 to TP-00206). The 1:10,000 scale sheets covered the shoreline of Sault Ste. Marie. The 1:20,000 covered the shoreline from White Fish Bay to Little Lake George and Lake Nicolet.

22. METHOD

Four strips were bridged by analytical aerotriangulation methods. All four strips were bridged on the NOSAP. Field identified control and tie points were used for the strip adjustment. Ratio values were determined for both the 1:50,000 and 1:30,000 scale color photography. State Plane Coordinates in the Michigan East Zone were used for the strip adjustments and for plotting on the Coradomat.

23. ADEQUACY OF CONTROL

The control was adequate for the job and was within the National Standards of Map Accuracy.

24. SUPPLEMENTAL DATA

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

25. PHOTOGRAPHY

This project originally contained 13, 1:20,000 and 2, 1:10,000 manuscripts. Three of the 1:20,000 manuscripts were deleted because of incomplete photo coverage. The remaining seven manuscripts south of latitude 46°25'00" were dropped from the project because of unsatisfactory results with the aerotriangulation of the two main strips in the area. This unit believes the problem may be due to the photography of the RC-10 "C" camera. See the attached memo to Lawrence Fritz, dated October 19, 1983.

October 19, 1983

N/CG2322

TO: N/CG23 - Lawrence W. Fritz  
 FROM: N/CG2322 - Don Norman  
 SUBJECT: St. Marys River, Michigan  
 CH-7806

The following results have appeared in the adjustment of strips during the aerotriangulation of project CH-7806:

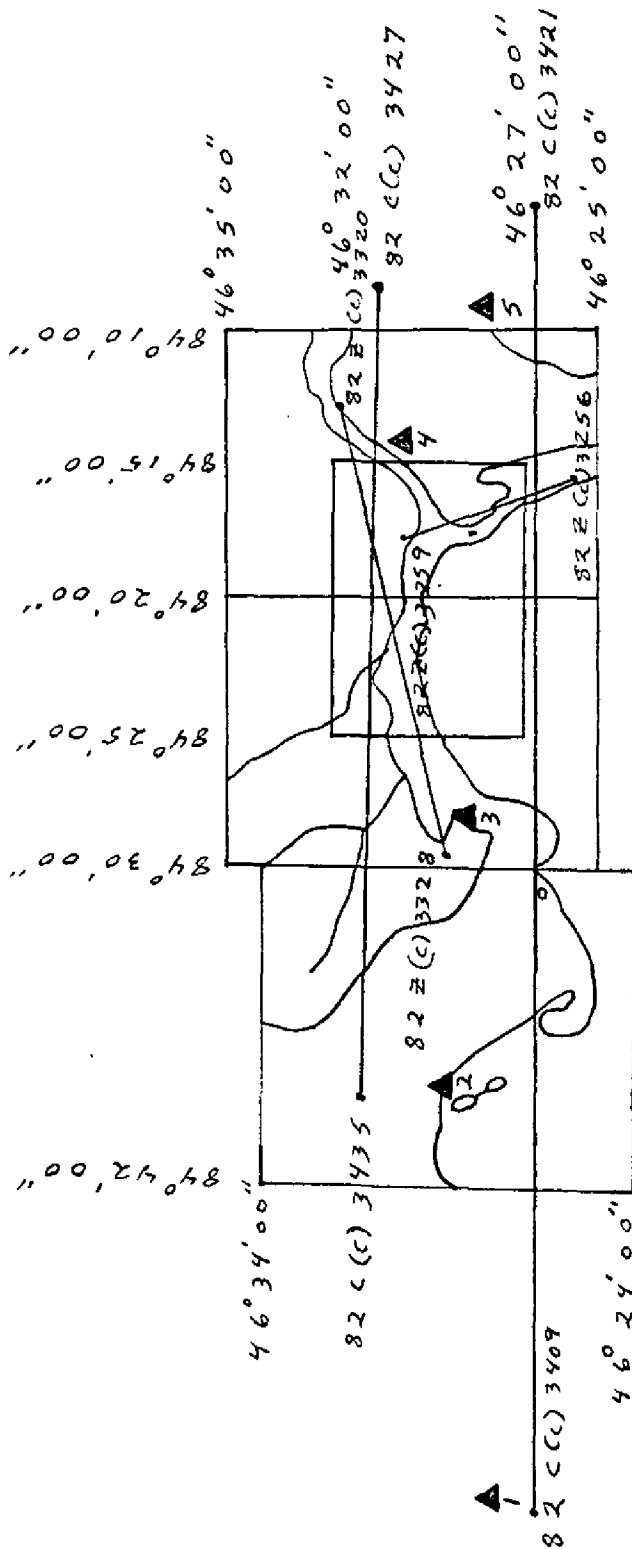
- a. The positions of tie points between overlapping strips differ excessively (14 feet). Visual inspection of the points on the P.U.G. does not reflect this difference.
- b. The positions of "perfect" images that are measured on two strips differ excessively.
- c. The adjustment of four horizontal control stations with a second degree polynomial shows a lack of fit to the control of 10 feet. This is much larger than we have experienced in the past (with good photography).
- d. The positions of companion subpoints differ excessively in their fit to control.
- e. The fiducial analysis shows an excessive lack of fit of the fiducials of the film positives and the original negatives to the flash plates.

I do not believe any landmarks or aids to navigation should be positioned with this photography. I also have considerable reservations about using this photography for mapping.

N/CG2322:DNORMAN:443-8210:apk  
 10/19/83

**FILE COPY**

CODE	SURNAME	DATE	CODE	SURNAME	DAI



SAINT MARYS RIVER, MICHIGAN

CM-7806

BRIDGING PHOTOGRAPHY

82 C(C) & 82 C(C)

1:30,000 & 1:50,000

SAINT MARYS RIVER, MICHIGAN  
CM-7806

FIT TO CONTROL  
X AND Y IN FEET

NAME	POINT NO.	X	Y
<u>STRIP 1</u>			
5, Whipple, 1944			
△ Sub Pt A	427101	0.08	2.60
△ Sub Pt B	427102	-0.95	-1.27
4 Cass 1943			
△ Sub Pt A	429101	0.99	-1.05
△ Sub Pt B	429102	1.21	0.61
3 Pine IBC 1943			
△ Sub Pt A	432101	-2.05	0.70
Sub Pt B	432102	-7.57	3.09
2 Point Iroquois Lighthouse 1943			
△ Sub Pt A	435100	1.42	2.01
△ Sub Pt B	435101	-0.33	-1.68
△ Sub Pt B	435102	-0.38	-0.69
<u>STRIP 2</u>			
1 McNearney RM 1 1965			
△ Sub Pt A	409101	-4.63	8.03
Sub Pt B	409102	-0.84	0.49
2 Point Iroquis Lighthouse 1943			
△ Sub Pt A	435100	0.81	0.04
△ Sub Pt B	435101	2.15	-2.92
Sub Pt B	435102	4.59	-4.97
3 Pines IBC 1943			
△ Sub Pt A	432101	-1.21	0.58
Sub Pt B	432102	-5.44	-3.88
5 Whipple 1944			
△ Sub Pt A	427101	-2.17	2.58
△ Sub Pt B	427102	2.74	-3.12
Point Aux Pins Rear Range Lt. Ontario 1943			
△	416150	-3.14	1.01
Point Aux Pins Front Range Lt Ontario 1943			
△	416151	1.68	1.31

2

<u>NAME</u>	<u>POINT NO.</u>	<u>X</u>	<u>Y</u>
Tie from strip 1	414801	2.00	-7.57
Tie from strip 1	414802	1.90	-7.02
Tie from strip 1	416801	3.46	1.63
Tie from strip 1	416802	4.76	-0.14
Tie from strip 1	418801	5.91	-7.32
Tie from strip 1	418802	4.10	-6.11
Tie from strip 1	420801	1.23	0.61
Tie from strip 1	420802	-0.62	-2.42
Tie from strip 1	421801	-0.51	-4.34
Tie from strip 1	421802	-2.22	5.37
Tie from strip 1	421803	0.50	-2.73

STRIP 3

4 Cass 1943	Sub Pt A	429101	1.29	-1.01
△	Sub Pt B	429102	2.54	0.13

3 Pines IBC 1943	Sub Pt A	432101	-2.36	-0.67
△	Sub Pt B	432102	-4.95	-4.28

△ Tie from strip 1	429801	-2.53	-2.32
△ Tie from strip 1	429802	-1.68	1.61
△ Tie from strip 1	429803	1.36	-0.47
△ Tie from strip 1	429804	-2.13	-0.43
△ Tie from strip 1	430801	-1.49	0.98
△ Tie from strip 1	430802	-1.66	6.02
△ Tie from strip 1	430803	0.04	-2.27
△ Tie from strip 1	430804	-1.09	2.64
△ Tie from strip 1	431801	3.04	1.24
△ Tie from strip 1	431802	3.55	0.20
△ Tie from strip 1	433801	0.38	-0.32

STRIP 4

4 Cass 1943	Sub Pt A	429101	1.80	-0.49
△	Sub Pt B	429102	1.54	-0.07

△ Tie from strip 2	419801	0.94	0.13
△ Tie from strip 2	419802	-0.98	3.12
△ Tie from strip 2	419803	0.98	-1.82
△ Tie from strip 2	419804	-14.08	2.84
△ Tie from strip 1	429805	-0.61	-1.34
△ Tie from strip 1	429806	-0.27	0.46
△ Tie from strip 1	429807	-1.34	2.80
△ Tie from strip 1	429808	-2.82	-1.69

SAINT MARYS RIVER, MICHIGAN  
CM-7806

FEBRUARY 1984

Ratio values for 1:50,000 scale bridging photography:

82-C(C)-3409-3421                      X 2.573

82-C(C)-3427-3435                      X 2.576

Ratio values for 1:30,000 scale bridging photography:

82-Z(C)-3256-3259                      X 2.998

82-Z(C)-3320-3328                      X 2.996



## COMPILATION REPORT

TP00363

31 - DELINEATION

Delineation was accomplished using stereo instrument compilation methods. Shoreline, alongshore and interior detail were based upon office interpretation of the 1:30,000 scale bridging/compilation color photographs. All photographs used to compile this map are listed on NOAA Form 76-36B. The photography was adequate.

32 - CONTROL

At the time of compilation, a Photogrammetric Plot Report was not available. Stereo model solutions were adequate based on the control furnished.

33 - SUPPLEMENTAL DATA

None.

34 - CONTOURS AND DRAINAGE

Contours are not applicable to the project. Drainage was compiled from 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 S.W. Pier, Michigan gage was 600.5 feet, below at the U.S. Slip, Michigan gage was 579.1 feet.

36 - OFFSHORE DETAILS

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

37 - LANDMARKS AND AIDS

There are 21 charted landmarks and 18 charted navigational aids within the mapping limits of this manuscript. Among these, 14 landmarks and 6 aids were either located or verified photogrammetrically. Appropriate information was prepared on the 76-40 forms and submitted with this map.

TP-00363

38 - CONTROL FOR FUTURE SURVEYS

None.

39 - JUNCTIONS

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

40 - HORIZONTAL AND VERTICAL ACCURACY

A comparison was made with the following ~~USS. Geological Survey~~ Quadrangles: Sault Ste. Marie South, dated 1951, scale 1:24,000, photorevised 1975; and, Shallows, dated 1951, scale 1:24,000, photo-revised 1975.

47 - COMPARISON WITH NAUTICAL CHARTS

A comparison was made with the following NOS Charts: 14884, 33rd edition, dated February 26, 1983, scale 1:40,000 (1:20,000 scale inset); and 14962, 16th edition, dated August 15, 1981, scale 1:120,000.

ITEMS TO BE APPLIED TO NAUTICAL CHARTS IMMEDIATELY

None.

ITEMS TO BE CARRIED FORWARD

None.

Submitted by,

*Carl J. Klein*

Carl J. Klein  
Cartographic Technician  
November 16, 1983

Approved,

*James L. Byrd, Jr.*

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

REVIEW REPORT  
SHORELINE

TP-00363

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 U.S.G.S. Quadrangles: Sault Ste. Marie South, Mich.-Ont., dated 1951, photo-revised 1975; and Shallows, Mich.-Ont., dated 1951, photorevised 1975.

The U.S.G.S. quadrangles do not include complete coverage of the Canadian shoreline portrayed on this map; however, a comparison was made with a Canadian Map from the Dept. of Energy, Mines and Resources, Sault Ste. Marie, Canada-USA, 1:250,000 scale, dated 1977.

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 Charts: 14884, 33rd edition, February 26, 1983, scale 1:40,000 (inset 1:20,000); and 14962, 16th edition, August 15, 1981, scale 1:120,000.

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

Approved for forwarding,

*Billy H. Barnes*  
Billy H. Barnes

Chief, Photogrammetric Section, AMC

Approved,

*Gregory L. Freeman*  
Chief, Photogrammetric Section, Rockville

*Gregory L. Freeman*  
Chief, Photogrammetry Branch

Dec. 21, 1983

GEOGRAPHIC NAMES

FINAL NAME SHEET

CM-7806 (Saint Marys River, Michigan)

TP-00363

Ashmun Bay  
Big Point  
Canadian Pacific (RR)  
Edison Sault Electric Company Canal  
Leigh Bay  
Michigan  
North Canal  
Old Vessel Point Ontario  
Saint Marys Falls  
Saint Marys River  
Sault Ste. Marie (Michigan)  
Sault Ste. Marie (Ontario)  
Soo Line (RR)  
Soo Locks  
South Canal  
Whitefish Island

Approved

*Charles E. Harrington*

Charles E. Harrington  
Chief Geographer  
Nautical Chart Division



**UNITED STATES DEPARTMENT OF COMMERCE**  
**National Oceanic and Atmospheric Administration**  
NATIONAL OCEAN SERVICE  
ATLANTIC MARINE CENTER  
MOA 221x1, Coastal Mapping, Final Review  
439 West York St.  
Norfolk, VA 23510

March 15, 1984

SUBJECT: Landmarks and Nonfloating Aids, CM-7806, St. Marys River, Michigan

This cover page accompanies the 76-40 forms and briefly describes the procedure used to process and locate the landmarks and aids for the 5 final Class III maps (TP-00204, TP-00205, TP-00206, TP-00363, TP-00364) of project CM-7806.

The landmarks / aids that were clearly identifiable from the photographs were located by stereo instrument methods based on aerotriangulated horizontal control. Those not located were listed either as "not identifiable", meaning they were indistinguishable from surrounding detail, or as "not visible", meaning there was no apparent photographic image.

It became apparent during final review that several charted landmarks and nonfloating aids, primarily in the vicinity of St. Marys Falls, had been recently incorporated into the NGS horizontal network. This information was not used during compilation. However, reference has been noted on the 76-40 forms for those landmarks / aids currently published in the NGS index for Quads N46084100 thru N46084400 and the printout listing assigned No. G-16789. Attached with this packet is the NGS index and adjusted positions.



NOAA FORM 76-40 (8-74) Replaces C&GS Form 567.				U.S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION				ORIGINATING ACTIVITY							
NONFLOATING AIDS <del>ORIGINATING ACTIVITY</del> FOR CHARTS				LOCALITY				DATE							
REPORTING UNIT (If laid Party, Ship or Office) Coastal Mapping Unit, AMC, Norfolk, VA				STATE Michigan				Sault Ste Marie							
DATE Nov. 1983															
The following objects HAVE <input type="checkbox"/> HAVE NOT <input checked="" type="checkbox"/> been inspected from seaward to determine their value as landmarks.				DATUM N.A. 1927				METHOD AND DATE OF LOCATION (See instructions on reverse side)				CHARTS AFFECTED			
OPR PROJECT NO.				SURVEY NUMBER TP-00363				OFFICE				FIELD			
JOB NUMBER CM-7806				POSITION											
DESCRIPTION (Record reason for deletion of landmark or aid to navigation. Show triangulation station names, where applicable, in parentheses.)				LATITUDE				LONGITUDE							
				° /				° /							
				D.M. Meters				D.P. Meters							
LIGHT				△ (NGS position available) East Center Pierhead Light								NOT IDENTIFIABLE 14884			
LIGHT				△ (NGS position available) Southeast Pierhead Light				46 30 04.8 23.7 84 20				82 Z(C) 3323 6-2-82 14884			
LIGHT				△ (NGS position available) Northeast Pierhead Light								NOT IDENTIFIABLE 14884			
LIGHT				Vidal Shoals Channel Range Rear Light				46 30 22.6 11.4 84 21				82 Z(C) 3323 6-2-82 14884			
LIGHT				Vidal Shoals Channel Range Front Light				46 30 16.1 49.4 84 21				82 Z(C) 3323 6-2-82 14962			
LIGHT				West Center Pierhead Light								NOT IDENTIFIABLE 14884			
LIGHT				Southwest Pier Light								NOT IDENTIFIABLE 14884			
LIGHT				Southwest Pierhead Light								NOT IDENTIFIABLE 14884			
LIGHT				Northwest Pierhead Light (Siren)								NOT IDENTIFIABLE 14884			
LIGHT				Canadian Canal Upper Entrance Range Front Light				46 30 53.2 17.5 84 22				82 Z(C) 3324 6-2-82 14884			
								30 1643 372				14962			

RESPONSIBLE PERSONNEL	
TYPE OF ACTION	NAME
OBJECTS INSPECTED FROM SEAWARD	
POSITIONS DETERMINED AND/OR VERIFIED	C. Klein
FORMS ORIGINATED BY QUALITY CONTROL AND REVIEW GROUP AND FINAL REVIEW ACTIVITIES	C. Klein
INSTRUCTIONS FOR ENTRIES UNDER 'METHOD AND DATE OF LOCATION'	
(Consult Photogrammetric Instructions No. 64.)	
<b>OFFICE</b> <b>1. 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** require</b> 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>1. NEW POSITION DETERMINED OR VERIFIED</b> Enter the applicable data by symbols as follows: F - Field L - Located V - Verified 1 - Triangulation 2 - Traverse 3 - Intersection 4 - Resection P - Photogrammetric Vis - Visually 5 - Field identified 6 - Theodolite 7 - Planetable 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>11. TRIANGULATION STATION RECOVERED</b> When a landmark or aid which is also a triangulation station is recovered, enter 'Triang. Rec.' with date of recovery. EXAMPLE: Triang. Rec. 8-12-75 <b>111. POSITION VERIFIED VISUALLY ON PHOTOGRAPH</b> Enter '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.
*FIELD POSITIONS are determined by field observations based entirely upon ground survey methods.	



NOAA FORM 76-40 (8-74) Replaces C&GS Form 567.				U.S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION				NONFLOATING AIDS TO NAVIGATION FOR CHARTS				ORIGINATING ACTIVITY			
TO BE CHARTED <input checked="" type="checkbox"/> TO BE REVISED <input type="checkbox"/> TO BE DELETED		REPORTING UNIT (Field Party, Ship or Office)	STATE	LOCALITY	DATE	DATE		DATE		DATE		DATE			
		Coastal Mapping Unit, AMC, Norfolk, VA	Michigan	Sault Ste Marie	Nov. 1983										
The following objects HAVE <input type="checkbox"/> HAVE NOT <input checked="" type="checkbox"/> been inspected from seaward to determine their value as landmarks.		JOB NUMBER		SURVEY NUMBER		DATUM		METHOD AND DATE OF LOCATION (See instructions on reverse side)		CHARTS AFFECTED					
OPR PROJECT NO.		JOB NUMBER		SURVEY NUMBER		DATUM		METHOD AND DATE OF LOCATION (See instructions on reverse side)		CHARTS AFFECTED					
CHARTING NAME	DESCRIPTION (Record reason for deletion of landmark or aid to navigation. Show triangulation station names, where applicable, in parentheses.)	LATITUDE		LONGITUDE		POSITION		METHOD AND DATE OF LOCATION (See instructions on reverse side)		CHARTS AFFECTED					
		°	'	°	'	D.M. Meters	D.P. Meters	OFFICE	FIELD						
LIGHT	Canadian Canal Upper Entrance Range Rear Light	46	30	58.2	84	22	08.4	82 Z(C) 3324 6-2-82		14884 14962					
RANGE DAYBEACON	Vidal Shoals Channel Range Daybeacon	46	30	14.1	84	22	01.5	82 Z(C) 3323 6-2-82		14884 14962					
△ LIGHT	Canadian Canal Lower Entrance Range Rear Light							NOT IDENTIFIABLE		14884					
△ LIGHT	Canadian Canal Lower Entrance Range Front Light							NOT IDENTIFIABLE		14884					
LIGHT	* Canadian Canal, N.E.							NOT IDENTIFIABLE		14884					
LIGHT	* Canadian Canal, S.E.							NOT IDENTIFIABLE		14884					
LIGHT	* Canadian Canal, N.W.							NOT IDENTIFIABLE		14884					
LIGHT	* Canadian Canal, S.W.							NOT IDENTIFIABLE		14884					
	*Pierhead lts. approaching the Canadian Canal are neither published in the U.S. nor Canada Light List.														
△	(NGS position available)														

RESPONSIBLE PERSONNEL	
TYPE OF ACTION	NAME
OBJECTS INSPECTED FROM SEAWARD	
POSITIONS DETERMINED AND/OR VERIFIED	C. J. Klein
FORMS ORIGINATED BY QUALITY CONTROL AND REVIEW GROUP AND FINAL REVIEW ACTIVITIES	<input type="checkbox"/> PHOTO FIELD PARTY <input type="checkbox"/> HYDROGRAPHIC PARTY <input type="checkbox"/> GEODETIC PARTY <input type="checkbox"/> OTHER (Specify)
INSTRUCTIONS FOR ENTRIES UNDER 'METHOD AND DATE OF LOCATION'	
(Consult Photogrammetric Instructions No. 64.)	
<b>OFFICE</b> <b>1. 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>8. Photogrammetric field positions** require</b> 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 L - Located V - Verified 1 - Triangulation 2 - Traverse 3 - Intersection 4 - Resection 5 - Field identified 6 - Theodolite 7 - Planetable 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>II. TRIANGULATION STATION RECOVERED</b> When a landmark or aid which is also a triangulation station is recovered, enter 'Triang. Rec.' with date of recovery. EXAMPLE: Triang. Rec. 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 are dependent entirely, or in part, upon control established by photogrammetric methods.</b>
*FIELD POSITIONS are determined by field observations based entirely upon ground survey methods.	

NOAA FORM 76-40 (8-74) Replaces C&GS Form 567.				U.S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION				ORIGINATING ACTIVITY			
<input checked="" type="checkbox"/> TO BE CHARTED <input type="checkbox"/> TO BE REVISED <input type="checkbox"/> TO BE DELETED				REPORTING UNIT (If field party, ship or office) Coastal Mapping Unit, AMC, Norfolk, VA		STATE Michigan		LOCALITY Sault Ste Marie		DATE Nov. 1983	
The following objects HAVE <input type="checkbox"/> HAVE NOT <input checked="" type="checkbox"/> been inspected from seaward to determine their value as landmarks.				JOB NUMBER CM-7806		SURVEY NUMBER TP-00363		DATUM N.A. 1927		METHOD AND DATE OF LOCATION (See instructions on reverse side)	
CHARTING NAME	DESCRIPTION (Record reason for deletion of landmark or aid to navigation. Show triangulation station names, where applicable, in parentheses.)	LATITUDE		LONGITUDE		POSITION		OFFICE		FIELD	
		° / ' "	D.M. Meters	° / ' "	D.P. Meters						
RT SEAWAY SAULT	(Approximate charted position)	46	30.7	84	21.0			NOT IDENTIFIABLE			14884
RELAY TR	(NGS position available) Ontario Bell Relay Tower	46	30	46.1	84	20	181	82 Z(C) 3323 6-2-82			14884
R MAST	USCG Radio Mast (Approximate charted position) (NGS position available)	46	30.0	84	20.4			NOT IDENTIFIABLE			14884
SPIRE	Sault Ste. Marie, St. Marys Spire	46	29	54.0	84	20	28.3 603	82 Z(C) 3323 6-2-82			14884
OBS TR	(NGS position available) Sault Ste. Marie, Obs. Tower Flagpole	46	29	53.4	84	20	25.9 552	82 Z(C) 3323 6-2-82			14884
SPIRE	Central Methodist Church Spire	46	29	51.0	84	20	47.6 1014	82 Z(C) 3323 6-2-82			14884
S'PIPE	Sault Ste Marie Standpipe	46	29	28.7	84	21	30.9 658	82 Z(C) 3323 6-2-82			14884 ~
RADIO MAST	(NGS position available) Sault Ste Marie Radio Tower	46	29	16.5	84	21	45.3 965	82 Z(C) 3324 6-2-82			14884
TANK	(NGS position available) Sault Ste Marie Short Tank	46	29	15.9	84	21	45.9 979	82 Z(C) 3324 6-2-82			14884
R RELAY TR	(NGS position available) Sault Ste Marie Microwave Relay Twr	46	29	08.0	84	21	25.6 547	82 Z(C) 3324 6-2-82			14884

RESPONSIBLE PERSONNEL	
TYPE OF ACTION	NAME
OBJECTS INSPECTED FROM SEAWARD	
POSITIONS DETERMINED AND/OR VERIFIED	C. J. Klein
FORMS ORIGINATED BY QUALITY CONTROL AND REVIEW GROUP AND FINAL REVIEW ACTIVITIES	<input type="checkbox"/> PHOTO FIELD PARTY <input type="checkbox"/> HYDROGRAPHIC PARTY <input type="checkbox"/> GEODETIC PARTY <input type="checkbox"/> OTHER (Specify)
INSTRUCTIONS FOR ENTRIES UNDER 'METHOD AND DATE OF LOCATION'	
<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** require entry of method of location or verification, date of field work and number of the photograph used to locate or identify the object.</b> 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 L - Located V - Verified 1 - Triangulation 2 - Traverse 3 - Intersection 4 - Resection 5 - Field identified 6 - Theodolite 7 - Planetable 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>II. TRIANGULATION STATION RECOVERED</b> When a landmark or aid which is also a triangulation station is recovered, enter 'Triang. Rec.' with date of recovery. EXAMPLE: Triang. Rec. 8-12-75 <b>III. POSITION VERIFIED VISUALLY ON PHOTOGRAPH</b> Enter 'V-Vis.' and date. EXAMPLE: V-Vis. 8-12-75
**FIELD POSITIONS are determined by field observations based entirely upon ground survey methods. **PHOTOGRAMMETRIC FIELD POSITIONS are dependent entirely, or in part, upon control established by photogrammetric methods.	

NOAA FORM 76-40 (8-74) Replaces C&GS Form 567.				U.S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION				ORIGINATING ACTIVITY			
NON-NAVIGATIONAL LANDMARKS FOR CHARTS				LOCALITY				DATE			
REPORTING UNIT (If field party, ship or office) Coastal Mapping Unit, AMC, Norfolk, VA				STATE Michigan				Sault Ste Marie			
The following objects HAVE <input type="checkbox"/> BEEN INSPECTED FROM SEAWARD TO DETERMINE THEIR VALUE AS LANDMARKS.				DATE				Nov. 1983			
OPR PROJECT NO.				JOB NUMBER				SURVEY NUMBER			
CM-7806				TP-00363				N.A. 1927			
CHARTING NAME				DESCRIPTION (Record reason for deletion of landmark or aid to navigation. Show triangulation station names, where applicable, in parentheses)				METHOD AND DATE OF LOCATION (See instructions on reverse side)			
R /MAST				(NGS position available) Sault Ste Marie Cable T.V. Mast				OFFICE 82 Z(C) 3323 6-2-82			
TANK				(NGS position available) * Sault Ste Marie Tall Tank				Beyond 1:30,000 photo limits			
R MAST				*				Beyond 1:30,000 photo limits			
RA SCREEN				(NGS position available) Sault Ste Marie Radar Screen				Beyond 1:30,000 photo limits			
STACK				Domtar Chemical Stack				82 Z(C) 3324 6-2-82			
GAS HOLDER				* (Appears destroyed)				NOT VISIBLE			
STACK				* (Appears destroyed)				NOT VISIBLE			
				*Approximate charted position							

HYDROGRAPHIC PARTY

GEODETIC PARTY

PHOTO FIELD PARTY

COMPILATION ACTIVITY

FINAL REVIEWER

QUALITY CONTROL &amp; REVIEW GRP.

COAST PILOT BRANCH

(See reverse for responsible personnel)

CHARTS

AFFECTED

RESPONSIBLE PERSONNEL	
TYPE OF ACTION	NAME
OBJECTS INSPECTED FROM SEAWARD	
POSITIONS DETERMINED AND/OR VERIFIED	C. J. Klein
FORMS ORIGINATED BY QUALITY CONTROL AND REVIEW GROUP AND FINAL REVIEW ACTIVITIES	<input type="checkbox"/> PHOTO FIELD PARTY <input type="checkbox"/> HYDROGRAPHIC PARTY <input type="checkbox"/> GEODETIC PARTY <input type="checkbox"/> OTHER (Specify)
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** require entry of method of location or verification, date of field work and number of the photograph used to locate or identify the object.</b> 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 L - Located V - Verified 1 - Triangulation 2 - Traverse 3 - Intersection 4 - Resection 5 - Field identified 6 - Theodolite 7 - Planetable 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>II. TRIANGULATION STATION RECOVERED</b> When a landmark or aid which is also a triangulation station is recovered, enter 'Triang. Rec.' with date of recovery. EXAMPLE: Triang. Rec. 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 are dependent entirely, or in part, upon control established by photogrammetric methods.</b>
*FIELD POSITIONS are determined by field observations based entirely upon ground survey methods.	

NOAA FORM 76-40 (8-74)		U.S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION				ORIGINATING ACTIVITY	
Replaces C&GS Form 567.		NONREMOVING VESSEL OR LANDMARKS FOR CHARTS		LOCALITY		DATE	
REPORTING UNIT (If field party, ship or office)		STATE		LOCALITY		DATE	
Coastal Mapping Unit, AMC, Norfolk, VA		Michigan		Sault Ste Marie		Nov. 1983	
The following objects HAVE <input type="checkbox"/> BEEN INSPECTED FROM SEAWARD TO DETERMINE THEIR VALUE AS LANDMARKS.		SURVEY NUMBER		DATUM			
OPR PROJECT NO.		JOB NUMBER		SURVEY NUMBER			
CM-7806		TP-00363					
CHARTING NAME	DESCRIPTION (Record reason for deletion of landmark or aid to navigation. Show triangulation station names, where applicable, in parentheses)	LATITUDE		LONGITUDE		METHOD AND DATE OF LOCATION (See instructions on reverse side)	
		° / ' "	D.M. Meters	° / ' "	D.P. Meters	OFFICE	FIELD
STACK	*Southwest of Two Stacks	46 31	19.9 614	84 22	33.7 718	82 Z(C) 6-2-82	14884
STACK	* Northeast of Two Stacks	46 31	21.9 678	84 22	28.5 608	82 Z(C) 6-2-82	14884
STACK	*Southwest of Two Stacks	46 31	26.9 830	84 22	18.2 388	82 Z(C) 6-2-82	14884
STACK	*Northeast of Two Stacks	46 31	28.5 880	84 22	14.5 310	82 Z(C) 6-2-82	14884
	* Group of 4 prominent stacks are incorrectly charted.						



RESPONSIBLE PERSONNEL		ORIGINATOR	
TYPE OF ACTION	NAME		
OBJECTS INSPECTED FROM SEAWARD		<input type="checkbox"/> PHOTO FIELD PARTY	
		<input type="checkbox"/> HYDROGRAPHIC PARTY	
		<input type="checkbox"/> GEODETIC PARTY	
		<input type="checkbox"/> OTHER (Specify)	
POSITIONS DETERMINED AND/OR VERIFIED	C. J. Klein	FIELD ACTIVITY REPRESENTATIVE	
FORMS ORIGINATED BY QUALITY CONTROL AND REVIEW GROUP AND FINAL REVIEW ACTIVITIES		OFFICE ACTIVITY REPRESENTATIVE	
INSTRUCTIONS FOR ENTRIES UNDER 'METHOD AND DATE OF LOCATION'			
(Consult Photogrammetric Instructions No. 64.)			
<b>OFFICE</b> <b>1. 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>II. TRIANGULATION STATION RECOVERED</b> When a landmark or aid which is also a triangulation station is recovered, enter 'Triang. Rec.' with date of recovery. EXAMPLE: Triang. Rec. 8-12-75  <b>III. POSITION VERIFIED VISUALLY ON PHOTOGRAPH</b> Enter '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.	
*FIELD POSITIONS are determined by field observations based entirely upon ground survey methods.			

### 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]