

TP-00898

TP-00898

NOAA FORM 76-35

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

## DESCRIPTIVE REPORT

THIS MAP EDITION WILL NOT BE FIELD EDITED

Type of Survey ..... SHORELINE .....

Job No. .... CM-8001 ..... Map No. TP-00898 .....

Classification No. III ..... Edition No. I .....

### LOCALITY

State ..... MICHIGAN .....

General Locality ..... SAGINAW RIVER .....

Locality ... SAGINAW .....

19 TO 1980

### REGISTRY IN ARCHIVES

DATE .....

MAP NOT INSPECTED BY  
QUALITY CONTROL OF PHOTOGRAMMETRY BRANCH  
PRIOR TO REGISTRATION

NOAA FORM 76-36A (3-72)		U. S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMIN.	
<b>DESCRIPTIVE REPORT - DATA RECORD</b>		TYPE OF SURVEY <input checked="" type="checkbox"/> ORIGINAL <input type="checkbox"/> RESURVEY <input type="checkbox"/> REVISED	
PHOTOGRAMMETRIC BRANCH Rockville, Md.		SURVEY TP. 00898 MAP EDITION NO. (1) MAP CLASS III JOB PH. CM-8001	
OFFICER-IN-CHARGE Lawrence Rritz		LAST PRECEDING MAP EDITION TYPE OF SURVEY <input type="checkbox"/> ORIGINAL <input type="checkbox"/> RESURVEY <input type="checkbox"/> REVISED	
JOB PH. CM-8001		JOB PH. _____ MAP CLASS _____ SURVEY DATES: 19__ TO 19__	
<b>I. INSTRUCTIONS DATED</b>			
<b>1. OFFICE</b>		<b>2. FIELD</b>	
OFFICE July 25, 1983 AEROTRIANGULATION Jan 22, 1982		FIELD March 20, 1981	
<b>II. DATUMS</b>			
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 Lambert Conformal Conic		4. GRID(S) STATE Michigan ZONE South	
5. SCALE 1:20,000		STATE ZONE	
<b>III. HISTORY OF OFFICE OPERATIONS</b>			
<b>OPERATIONS</b>		<b>NAME</b>	
<b>DATE</b>			
1. AEROTRIANGULATION METHOD: Analytic LANDMARKS AND AIDS BY		R. Johanson 5/83 R. Johanson 5/83	
2. CONTROL AND BRIDGE POINTS METHOD: Coradomat PLOTTED BY CHECKED BY		B. Thornton 6/83 C. Heazel 8/83	
3. STEREOSCOPIC INSTRUMENT COMPILATION PLANIMETRY BY CHECKED BY INSTRUMENT: Wild B-8 SCALE: 1:20,000 CONTOURS BY CHECKED BY		C. Heazel 8/83 J. McNamara 8/83 N/A N/A	
4. MANUSCRIPT DELINEATION METHOD: Worksheet Delineation SCALE: 1:20,000 PLANIMETRY BY CHECKED BY CONTOURS BY CHECKED BY HYDRO SUPPORT DATA BY CHECKED BY		C. Heazel 8/83 J. McNamara 8/83 N/A N/A N/A N/A	
5. OFFICE INSPECTION PRIOR TO FIELD EDIT BY		N/A	
6. APPLICATION OF FIELD EDIT DATA BY		N/A	
7. COMPILATION SECTION REVIEW BY		N/A	
8. FINAL REVIEW BY		J. Schad 9/83 P. Dempsey 12/83	
9. DATA FORWARDED TO PHOTOGRAMMETRIC BRANCH BY			
10. DATA EXAMINED IN PHOTOGRAMMETRIC BRANCH BY			
11. MAP REGISTERED - COASTAL SURVEY SECTION BY		E. DAUGHERTY NOV 1984	

## COMPILATION SOURCES

TP-00898

## 1. COMPILATION PHOTOGRAPHY

CAMERA(S) RC-10 (Z) Focal Length 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 MERIDIAN 75th <input type="checkbox"/> STANDARD <input checked="" type="checkbox"/> DAYLIGHT	
NUMBER AND TYPE	DATE	TIME	SCALE	STAGE OF TIDE	
80 ZP 7305 thru 7309 80 ZP 7269 thru 7280	6/12/80 6/11/80	0920 1300	1:50,000 1:20,000	2.75 Feet above Lake Huron Low Water Datum	

REMARKS International Great Lakes Datum 1955, Essexville, Michigan water level was 579.55 Feet.

## 2. SOURCE OF MEAN HIGH WATER LINE/Shoreline:

The source of the shoreline was the 1:50,000 scale photographs listed in item 1 above.

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

N/A

## 4. CONTEMPORARY HYDROGRAPHIC SURVEYS (List only those surveys that are sources for photogrammetric survey information.)

SURVEY NUMBER	DATE(S)	SURVEY COPY USED	SURVEY NUMBER	DATE(S)	SURVEY COPY USED

## 5. FINAL JUNCTIONS

NORTH	EAST	SOUTH	WEST
TP-00897	N/A	N/A	N/A
REMARKS			

## HISTORY OF FIELD OPERATIONS.

TP-00898

I. ☒ FIELD INSPECTION OPERATION☐ FIELD EDIT OPERATION.

OPERATION	NAME	DATE
1. CHIEF OF FIELD PARTY	J. E. Dunford	14 Sept '81
2. HORIZONTAL CONTROL	RECOVERED BY C. Middleton	14 Sept '81
	ESTABLISHED BY C. Middleton	14 Sept '81
	PRE-MARKED OR IDENTIFIED BY C. Middleton	14 Sept '81
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	N/A
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 Sub Stations2. VERTICAL CONTROL IDENTIFIED  
None

PHOTO NUMBER	STATION NAME	PHOTO NUMBER	STATION DESIGNATION
80ZP7307	SAGINAW 2, NO 3, 1972 Sub points A & B		

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)

1 CSI NOAA form 76-53, 3 NOAA forms 76-86, 3 NOAA forms 76-170, 2 NOAA forms 76-135, 1 NOAA form 75-76, 2 NOAA forms 75-63, 1 NOAA form 75-82A. These forms are located in a brown covered Field book labeled CM-8001 Saginaw, Michigan.

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

## RECORD OF SURVEY USE

TP-00898

## I. MANUSCRIPT COPIES

COMPILATION STAGES			DATE MANUSCRIPT FORWARDED	
DATA COMPILED	DATE	REMARKS	MARINE CHARTS	HYDRO SUPPORT
Final Class III Map	Sept., 1983	Chart Maintenance Print	OCT 3 1984	

## II. LANDMARKS AND AIDS TO NAVIGATION

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

NUMBER	CHART LETTER NUMBER ASSIGNED	DATE FORWARDED	REMARKS
3 Pgs.		OCT 3 1984	Copy of NOAA Form 76-40, Nonfloating Aids or Landmarks for Charts

2. ☐ REPORT TO MARINE CHART DIVISION, COAST PILOT BRANCH. DATE FORWARDED: \_\_\_\_\_3. ☐ REPORT TO AERONAUTICAL CHART DIVISION, AERONAUTICAL DATA SECTION. DATE FORWARDED: \_\_\_\_\_

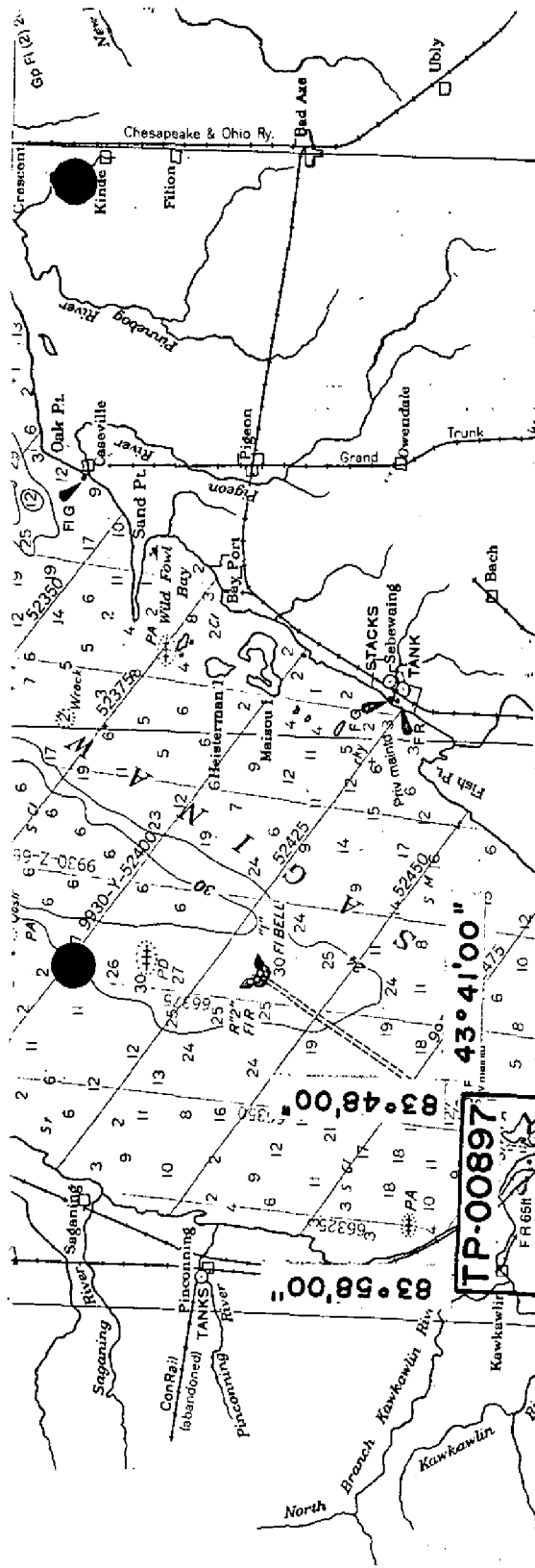
## III. FEDERAL RECORDS CENTER DATA

1. ☐ BRIDGING PHOTOGRAPHS; ☒ DUPLICATE BRIDGING REPORT; ☒ COMPUTER READOUTS.
2. ☒ CONTROL STATION IDENTIFICATION CARDS; ☐ FORM NOS 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	

**SCALE 1:20,000**



TP-00897

TP-00898

43° 41' 00"

43°31'00"

43°21'00"

# H

M

# I



84°00'00"

83.50,00"

43°31'00"

43° 41' 00"

TP-00897

TP-00898

43°21'00"

# H

M

# I



84°00'00"

83.50,00"

SUMMARY TO ACCOMPANY DESCRIPTIVE REPORT  
TP-00898

This map is one of two 1:20,000 scale manuscripts which comprise project CM-8001. The project covers the shoreline area of the Saginaw River from Saginaw Bay to Saginaw, Michigan. This map was not field edited.

The initial purpose of this project was to provide basic specifications for the compilation of data to be used in the maintenance and reconstruction of nautical charts.

A field investigation was performed, prior to compilation, in September 1981. This investigation consisted of the recovery and photoidentification of horizontal control. There was no field inspection performed.

Photo coverage for compilation and aerotriangulation was taken in June 1980 with the Wild RC-10(Z) camera at a scale of 1:50,000 and 1:20,000 panchromatic. The 1:20,000 scale photographs were used to supplement the base compilation.

Aerotriangulation was adequately provided at the Washington Science Center, Rockville, Maryland. The 1:50,000 panchromatic photographs were bridged using analytic aerotriangulation methods.

Compilation was performed at the Washington Science Center, Rockville, Maryland in August 1983. The largest scale chart was used as a guide for selection and limit of interior detail.

Final review was performed at the Washington Science Center, Rockville, Maryland in December 1983. This map complies with the National Standards of Map Accuracy.

A chart maintenance print was prepared during the final review and forwarded to the Marine Chart Branch. Accompanying the above mentioned print was NOAA forms 76-40, listing of landmarks.

The context of this Descriptive Report contains all pertinent reports and listings of data used to compile this final map.

A stable base positive copy of this final map and the Descriptive Report will be registered in the NOS Archives.



## Photogrammetric Plot Report

Saginaw River, Michigan

CM-8001

April 1983

21. Area Covered

This report pertains to the Saginaw River from Saginaw, Michigan to Saginaw Bay. The area is covered by two 1:20,000 scale sheets, TP-00897 and TP-00898.

22. Method

One strip of 1:50,000 scale black and white photographs was bridged by analytical aerotriangulation methods. Control was field identified. Ratio values were determined for the 1:50,000 scale black and white photography. Positions were determined for two fixed aids and eight landmarks. The bridging photographs were adjusted using the Michigan State Plane Coordinate System, South Zone.

The aerotriangulation of this project will meet the horizontal accuracy requirements of the National Ocean Service.

23. Adequacy of Control

The control was adequate.

24. Supplemental Data

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

25. Photography

The photography was adequate.

Submitted by,

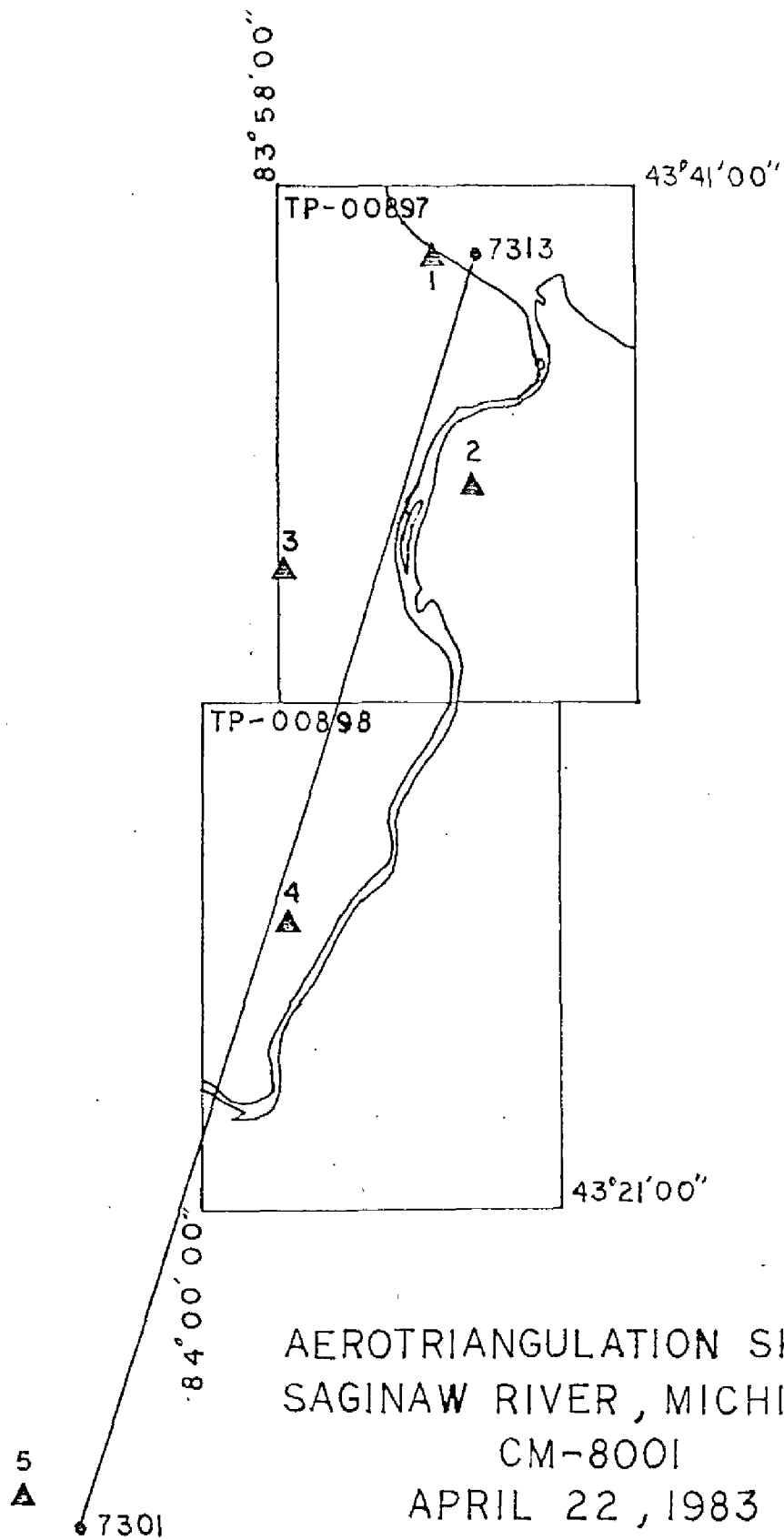


Rick Johanson

Approved and Forwarded:



Don O. Norman  
Chief, Aerotriangulation Unit



AEROTRIANGULATION SKETCH  
SAGINAW RIVER, MICHIGAN

CM-8001

APRIL 22, 1983

BRIDGING / COMPILATION PHOTOGRAPHY

81 ZP 1:50000

## Saginaw River, Michigan

CM-8001

Fit to Control  
(in feet)

## Stations Held in Adjustment

		<u>Point Number</u>	<u>X</u>	<u>Y</u>
1.	Bay City, Water Supply Stack, 1932			
	Sub Pt A	313101	-2.3	2.1
	Sub Pt B	313102	-0.1	-0.6
2.	Bay City, Eastern High School Dome, 1932	311100	5.0	-1.2
	Sub Pt A	311101	-0.3	2.3
	Sub Pt B	311102	-0.1	-0.6
3.	Appold 2, 1960			
	Sub Pt A	310101	-4.9	-5.5
	Sub Pt B	310102	1.0	1.1
4.	Saginaw 2, No. 3, 1972			
	Sub Pt A	307101	-1.5	2.9
	Sub Pt B	307102	0.5	-1.2
5.	Mair, 1932			
	Sub Pt A	301101	1.2	0.4
	Sub Pt B	301102	-1.1	-0.8

Saginaw River, Michigan

CM-8001

April 1983

Ratio values for black and white bridging photography

1:50,000 scale

80 Z(P) 7301-7313

X2.532

## DESCRIPTIVE REPORT CONTROL RECORD

MAP NO.	JOB NO.	GEODETTIC DATUM		ORIGINATING ACTIVITY	
		N A 1927		Compilation	
STATION NAME	SOURCE OF INFORMATION (Index)	AEROTRI- ANGULATION POINT NUMBER	COORDINATES IN FEET STATE Michigan ZONE South	GEOGRAPHIC POSITION φ LATITUDE λ LONGITUDE	REMARKS
Saginaw 2 RM 3, 1972	430833 pg 1016	307100	X= 2,100,334.22 Y= 711,132.72	φ 43° 27' 02.365" λ 83° 57' 19.863"	
Saginaw Sacred Heart Church, 1932	430833 pg 1035	18	X= 2,108,083.87 Y= 702,740.25	φ 43° 25' 39.12" λ 83° 55' 35.36"	
Saginaw Holy Family Catholic Church Belfry, 1932	430833 pg 1034	19	X= 2,101,873.61 Y= 698,653.71	φ 43° 24' 59.047" λ 83° 56' 59.766"	
			X= Y=	φ λ	
			X= Y=	φ λ	
			X= Y=	φ λ	
			X= Y=	φ λ	
			X= Y=	φ λ	
			X= Y=	φ λ	
			X= Y=	φ λ	
			X= Y=	φ λ	
			X= Y=	φ λ	
			X= Y=	φ λ	
			X= Y=	φ λ	
COMPUTED BY		DATE	COMPUTATION CHECKED BY		DATE
LISTED BY C. Heazel		DATE 9/83	LISTING CHECKED BY P. Dempsey		DATE 12/83
HAND PLOTTING BY		DATE	HAND PLOTTING CHECKED BY		DATE

TP-00898  
COMPILATION REPORT  
SEPTEMBER 6, 1983

31. DELINEATION

All detail was compiled from the 1:50,000 scale panchromatic photographs using the Wild B-8 stereoplotter. The 1:20,000 scale panchromatic photographs were used to verify the delineation of the worksheets from the Wild B-8.

32. CONTROL

See the Photogrammetric Plot Report for the adequacy of the horizontal control. Vertical control was taken from USGS quadrangle maps and used in leveling models on the Wild B-8.

33. SUPPLEMENTAL DATA

None

34. CONTOURS AND DRAINAGE

Contours were not applicable.

Drainage was delineated using the Wild B-8 stereoplotter.

35. SHORELINE AND ALONGSHORE DETAIL

The shoreline and alongshore detail was identified by office interpretation of the photographs. Some detail was omitted due to being too small to show at this scale.

No field inspection was made prior to compilation.

36. OFFSHORE DETAIL

Several obstructions and dolphins were located during compilation.

37. LANDMARKS AND AIDS

There were no aids on this map.

Twenty-five landmarks were located on this map. Eight of these were located by the Aerotriangulation Unit and verified during compilation. Two landmarks were triangulation stations.

38. CONTROL FOR FUTURE SURVEYS

None

39. JUNCTIONS

Refer to NOAA form 76-36B.

40-45. N/A

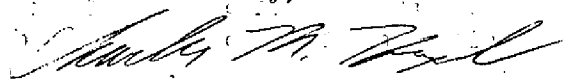
46. COMPARISON WITH EXISTING MAPS

Comparison was made with the following USGS quadrangle maps;  
SAGINAW, MICHIGAN scale 1:24,000, 1967 photorevised 1973  
BAY CITY, MICHIGAN scale 1:24,000, 1967 photorevised 1973

47. COMPARISON WITH EXISTING CHARTS

Comparison was made with Nautical Chart 14867, 21st edition,  
February 5, 1983, scale 1:20,000.

Submitted by;



Charles Heazel

Approved and Forwarded:



Robert Rodkey

Chief, Coastal Mapping Unit

REVIEW REPORT  
SHORELINE SURVEY  
TP-00898

61. GENERAL STATEMENT

A final review was performed for this shoreline map. There were a few shoreline changes noted on this map and indicated on the Chart Maintenance Print. This map is registered as a class III map. For a complete analysis of the compilation refer to the Compilation Report bound with this Descriptive Report.

62. COMPARISON WITH REGISTERED TOPOGRAPHIC SURVEYS

N/A

63. COMPARISON WITH MAPS OF OTHER AGENCIES

Refer to paragraph 46 of the Compilation Report bound with this Descriptive Report.

64. COMPARISON WITH CONTEMPORARY HYDROGRAPHIC SURVEYS

N/A


65. COMPARISON WITH NAUTICAL CHARTS

Refer to paragraph 47 of the Compilation Report bound with this Descriptive Report.

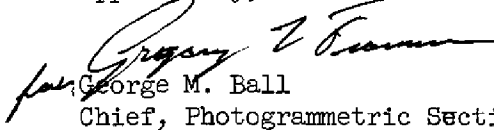
66. ADEQUACY OF RESULTS AND FUTURE SURVEYS

This map complies with photogrammetric instructions for shoreline mapping and meets accuracy requirements of the National Standards of Map Accuracy.

Submitted by;

  
Patrick J. Dempsey

Approved by;

  
George M. Ball  
Chief, Photogrammetric Section

Lawrence W. Fritz  
Chief, Photogrammetry Branch



Dec. 22, 1983

GEOGRAPHIC NAMES

FINAL NAME SHEET

CM-8001 (Saginaw River, Michigan)

TP-00898

Carrollton  
Carrollton Bar  
Cass River  
Chesapeake and Ohio (RY)  
Crow Island (locality)  
Grand Trunk Western(RR)  
Green Point  
Lake Linton  
Objibway Island  
Saginaw  
Saginaw River  
Shiawassee River  
Tittabawassee River  
Zilwaukee

Approved

*Charles E. Harrington*

Charles E. Harrington  
Chief Geographer  
Nautical Chart Division

DISSEMINATION OF PROJECT MATERIAL  
CM-8001  
SAGINAW RIVER, LAKE MICHIGAN, MICHIGAN

NATIONAL ARCHIVES/FEDERAL RECORDS CENTER

Brown Jacket:

- Computer Printouts
- Project Diagram
- Duplicate Photogrammetric Plot Report
- Duplicate NOAA Form 76-40, Nonfloating Aids or  
Landmarks for Charts, 8 pages
- Duplicate NOAA Form 76-41, Descriptive Report Control  
Record, 2 pages
- Duplicate Forms "Map Features of Possible Landmark  
Value", 2 pages
- Field Operations Notebook containing CSI cards(5), field  
photographs(4), aerial photographs(5) annotated with  
subpoint control identification, and miscellaneous  
NOAA field survey observation forms.

BUREAU ARCHIVES

- Registration Copies of Maps
- Descriptive Reports of Maps

REPRODUCTION DIVISION

- 8X Reduction Negatives of Maps

OFFICE OF STAFF GEOGRAPHER

- Geographic Names Standards



RESPONSIBLE PERSONNEL	
TYPE OF ACTION	NAME
OBJECTS INSPECTED FROM SEAWARD	
POSITIONS DETERMINED AND/OR VERIFIED	<i>Patrick J. Dempsey</i>
FORMS ORIGINATED BY QUALITY CONTROL AND REVIEW GROUP AND FINAL REVIEW ACTIVITIES	Patrick J. Dempsey
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*</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>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 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 <b>**PHOTOGRAMMETRIC FIELD POSITIONS</b> 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				ORIGINATING ACTIVITY	
REPORTING UNIT (If field party, ship or office)		STATE	LOCALITY	DATE	DATE		<input type="checkbox"/> HYDROGRAPHIC PARTY <input type="checkbox"/> GEODETIC PARTY <input type="checkbox"/> PHOTO FIELD PARTY <input checked="" type="checkbox"/> COMPILATION ACTIVITY <input type="checkbox"/> FINAL REVIEWER <input type="checkbox"/> QUALITY CONTROL & REVIEW GRP. <input type="checkbox"/> COAST PILOT BRANCH (See reverse for responsible personnel)		
The following objects HAVE <input type="checkbox"/> BEEN INSPECTED FROM SEAWARD TO DETERMINE THEIR VALUE AS LANDMARKS.		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.)	POSITION		LATITUDE	LONGITUDE	OFFICE	Position Quality	CHARTS AFFECTED	
		D.M. Meters	D.P. Meters						
Tank		43°26'	58.85"	83°55'	31.32"	80 Z(P) 7307 6/12/80	Aerotrian-gulation	14863 14867	
Tank		43°27'	00.73"	83°55'	20.90"	80 Z(P) 7307 6/12/80	Aerotrian-gulation	14863 14867	
Tank		43°27'	12.22"	83°56'	05.53"	80 Z(P) 7307 6/12/80	Aerotrian-gulation	14863 14867	
Stack		43°27'	20.80"	83°56'	00.60"	80 Z(P) 7307 6/12/80	Aerotrian-gulation	14863 14867	
Tank		43°27'	40.24"	83°54'	37.63"	80 Z(P) 7307 6/12/80	Aerotrian-gulation	14863 14867	
Tank		43°28'	39.30"	83°55'	20.72"	80 Z(P) 7308 6/12/80	Digitized	14863 14867	
Tower		43°28'	59.01"	83°54'	48.24"	80 Z(P) 7308 6/12/80	Digitized	14863 14867	
Tower		43°28'	56.57"	83°54'	43.11"	80 Z(P) 7308 6/12/80	Digitized	14863 14867	
Tower	North Tower	43°29'	05.65"	83°54'	45.22"	80 Z(P) 7308 6/12/80	Digitized	14863 14867	

RESPONSIBLE PERSONNEL	
TYPE OF ACTION	NAME
OBJECTS INSPECTED FROM SEAWARD	
POSITIONS DETERMINED AND/OR VERIFIED	<i>Charles J. Dempsey</i>
FORMS ORIGINATED BY QUALITY CONTROL AND REVIEW GROUP AND FINAL REVIEW ACTIVITIES	Patrick J. Dempsey
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:</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 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>I. 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.	



RESPONSIBLE PERSONNEL	
TYPE OF ACTION	NAME
OBJECTS INSPECTED FROM SEAWARD	
POSITIONS DETERMINED AND/OR VERIFIED	
FORMS ORIGINATED BY QUALITY CONTROL AND REVIEW GROUP AND FINAL REVIEW ACTIVITIES	<div> <input type="checkbox"/> PHOTO FIELD PARTY  <input type="checkbox"/> HYDROGRAPHIC PARTY  <input type="checkbox"/> GEODETIC PARTY  <input type="checkbox"/> OTHER (Specify) </div>
<div> <div> <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 </div> <div> <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 </div> </div>	
<div> <div> <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 </div> <div> <b>III. POSITION VERIFIED VISUALLY ON PHOTOGRAPH</b>  Enter 'V-Vis.' and date.  EXAMPLE: V-Vis.  8-12-75 </div> </div>	
<div> <div> <b>INSTRUCTIONS FOR ENTRIES UNDER 'METHOD AND DATE OF LOCATION'</b>  (Consult Photogrammetric Instructions No. 64.) </div> <div> <b>OFFICE ACTIVITY REPRESENTATIVE</b>  <input checked="" type="checkbox"/> REVIEWER  <input type="checkbox"/> QUALITY CONTROL AND REVIEW GROUP REPRESENTATIVE </div> </div>	



RWR  
8/81

Sheet 1 of 1

## MAP FEATURES OF POSSIBLE LANDMARK VALUE

MAP NO.	JOB NO.	GEOGRAPHIC AREA	GEODETTIC DATUM	PLANE COOR. (FT)	PHOTO NUMBER	DESCRIPTION	ORIGINATING ACTIVITY	GEOGRAPHIC POSITION	CHARTS AFFECTED
TP-00898	CM-8001	Saginaw River	NA 1927	STATE Michigan ZONE South			Compilation	$\phi$ LATITUDE $\lambda$ LONGITUDE	
Tank				X	80 ZP 7307 6/12/80			$\phi$ 43° 26' 44.31" $\lambda$ 83° 57' 43.78"	14863 14867
Stack Northerly of two				Y					
Stack Southerly of two				X	80 ZP 7307 6/12/80			$\phi$ 43° 27' 04.39" $\lambda$ 83° 55' 07.40"	"
Tank				Y					
Monument				X	80 ZP 7307 6/12/80			$\phi$ 43° 27' 01.37" $\lambda$ 83° 55' 06.99"	"
Tower				Y					
				X	80 ZP 7307 6/12/80			$\phi$ 43° 27' 20.72" $\lambda$ 83° 56' 00.68"	"
				Y					
				X	80 ZP 7306 6/12/80			$\phi$ 43° 25' 17.59" $\lambda$ 83° 56' 56.18"	"
				Y					
				X	80 ZP 7307 6/12/80			$\phi$ 43° 25' 01.01" $\lambda$ 83° 55' 07.45"	"
				Y					
				X				$\phi$ $\lambda$	
				Y					
				X				$\phi$ $\lambda$	
				Y					
				X				$\phi$ $\lambda$	
				Y					
				X				$\phi$ $\lambda$	
				Y					
				X				$\phi$ $\lambda$	
				Y					

POSITIONS FURNISHED ARE PHOTOGRAMMETRIC POSITIONS - MAP FEATURES HAVE NOT BEEN INSPECTED

LISTED BY	DATE	LISTING CHECKED BY	DATE
Charles Heazel	9/7/83	P. Dempsey	12/83

