NOAA FORM 76-35 (3-76)
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION NATIONAL OCEAN SURVEY
<u> </u>
DESCRIPTIVE REPORT
DESCRIPTIVE REPORT
THIS MAP EDITION WILL NOT BE FIELD EDITED.
Map No. Edition No.
TP-00917 1
Job No.
CM-7909
Map Classification
CLASS III (FINAL) Type of Survey
SHORELINE
LOCALITY
State
MICHIGAN
General Locality
LAKE MICHIGAN
Locality
ST. JOSEPH AND BENTON HARBOR
1070 TO 10
1979 TO 19
DEGISTRY IV ARGULVES
REGISTRY IN ARCHIVES
DATE
2016

\*U.S. GOVERNMENT PRINTING OFFICE:1976-669-248

NOAA FORM 76-36A (3-72) NATIONA	U. S. DEPARTMENT OF COMMERCE L OCEANIC AND ATMOSPHERIC ADMIN.	TYPE OF SURVEY	SURVEY TP-00917
		☑ ORIGINAL	MAP EDITION NO. (1)
DESCRIPTIVE RE	PORT - DATA RECORD	☐ RESURVEY	MAP CLASS III (FINAL)
		REVISED	лов <b>кж</b> х СМ-7909
PHOTOGRAMMETRIC OFFICE		LAST PRECEED	ING MAP EDITION
	, Atlantic Marine Center	TYPE OF SURVEY	JOB PH
Norfolk, VA		ORIGINAL	MAP CLASS
OFFICER-IN-CHARGE	!	RESURVEY	SURVEY DATES:
A. Y. Bryson, C	DR	REVISED	19TO 19
I. INSTRUCTIONS DATED		<u> </u>	<u> </u>
1.	OFFICE	2.	FIELD
Aerotriangulation Office	January 22, 1982 November 30, 1982	Horizontal Contro (Photoidentificat	• •
II. DATUMS		OTHER (Specify)	
1. HORIZONTAL:	X 1927 NORTH AMERICAN	(aposity)	
	MEAN HIGH-WATER	OTHER (Specify)	
	MEAN LOW-WATER		it Lakes Datum (1955)
2. VERTICAL:	MEAN LOWER LOW-WATER	Lake Michigan Low	Water Datum
2	MEAN SEA LEVEL		
3. MAP PROJECTION			GRID(S)
Lambert Conformal		Michigan	South
5. SCALE 1:10,000		STATE	ZONE
III. HISTORY OF OFFICE OPER	RATIONS		
	ERATIONS	NAME	DATE
1. AEROTRIANGULATION	ВУ	B. Thornton	May 1982
метнор: Analytic	LANDMARKS AND AIDS BY	D. Norman	May 1982
2. CONTROL AND BRIDGE POP METHOD: Coradomat	== :=	B. Thornton	May 1982
METHOD: COTAGONIAL	CHECKED BY	D. Norman	May 1982
3. STEREOSCOPIC INSTRUMEN COMPILATION		P. Evans R. Kravitz	Nov. 1982
INSTRUMENT: Wild B-	CHECKED BY CONTOURS BY	NA Kravitz	Nov. 1982
SCALE: 1:10,000	CHECKED BY	NA	
4. MANUSCRIPT DELINEATION	<del></del>	P. Evans	Dec. 1982
	CHECKED BY	F. Mauldin	Apříl 1983
метнов: Smooth dra	ofted CONTOURS BY	NA	
method billoch die	CHECKED BY	NA	
scale: 1:10,000	HYDRO SUPPORT DATA BY	P. Evans	Dec. 1982
	CHECKED BY TO XXBLXXXXXXXXXXIII Reviews	F. Mauldin	<u> </u>
3. OFFICE INSPECTION PRIOR	BY TEULINMANDERY	F. Mauldin NA	April 1983
6. APPLICATION OF FIELD E		NA NA	
7. COMPILATION SECTION RE		F. Mauldin	April 1983
8. FINAL REVIEW	ВҮ	J. Hancock	May 1983
9. DATA FORWARDED TO PHO	· · · · · · · · · · · · · · · · · · ·	J. Hancock	May 1983
10. DATA EXAMINED IN PHOTO		G. Fromm	June 1983
11. MAP REGISTERED - COASTA	AL SURVEY SECTION BY	R. Komopan	man 1989

NOAA FORM 76-36B (3-72)		TP-0	7909 00917				ATMOSPHER	ENT OF COMMERCI IC ADMINISTRATION IAL OCEAN SURVE
			PILATIO		KCE2	<del></del>		
. COMPILATION PHOTOC						<del></del>		
AMERA(S) Wild RC-1	10(B) (B =	152.74 m	n) TYPE	S OF PH LEG	OTOGRAPHY END	1	TIME RE	FERENCE
KXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	Water Lev	rel Gage	(C) CO			ZONE	/	Xstandari
REFERENCE STATION TIDE CONTROLLED P				RARED	ATIC	MERIC	stern' 75th	DAYL1GH1
NUMBER AND TYP	PE .	DATE	TIME	=	SCALE		STAGE	о <del>г жык</del> Lake I
79 в(С) 1076-1079	6,	/11/79	14:24		1:30,000	579	9.89 feet	*
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ater levels at tolland Michigan  SOURCE OF MEAN HIG  The term "mean was determined on the photogr	water leve H-WATER LINE high wate from the	el gage. er" is not above lis	applic	cable 79 pho	to this p	roject.	The sh	oreline åsathåt line
S. SOURCE OF MEAN LOV		AN LOWER LO	DW-WATER	LINE:				
	<u>.</u>		····				,	
4. CONTEMPORARY HYD	ROGRAPHIC SUI	RVEYS (List o	nly those s	urveys th	at åre sources	for photogra	mmetric surve	y information.)
SURVEY NUMBER DA	TE(S)	SURVEY COF	Y USED	SURVE	YNUMBER	DATE(S)	SUR	VEY COPY USED
EINAL HINGTIONS	<del></del>			<u> </u>		<u> </u>		
NORTH	EAST			SOUTH	· · · · · · · · · · · · · · · · · · ·		WEST	
No survey	N	o survey		No	survey	<u></u>	No su	rvey
This is a one survey in the	sheet proj area.	ect and d	oes not	junc	tion with	any kn	own cont	emporary

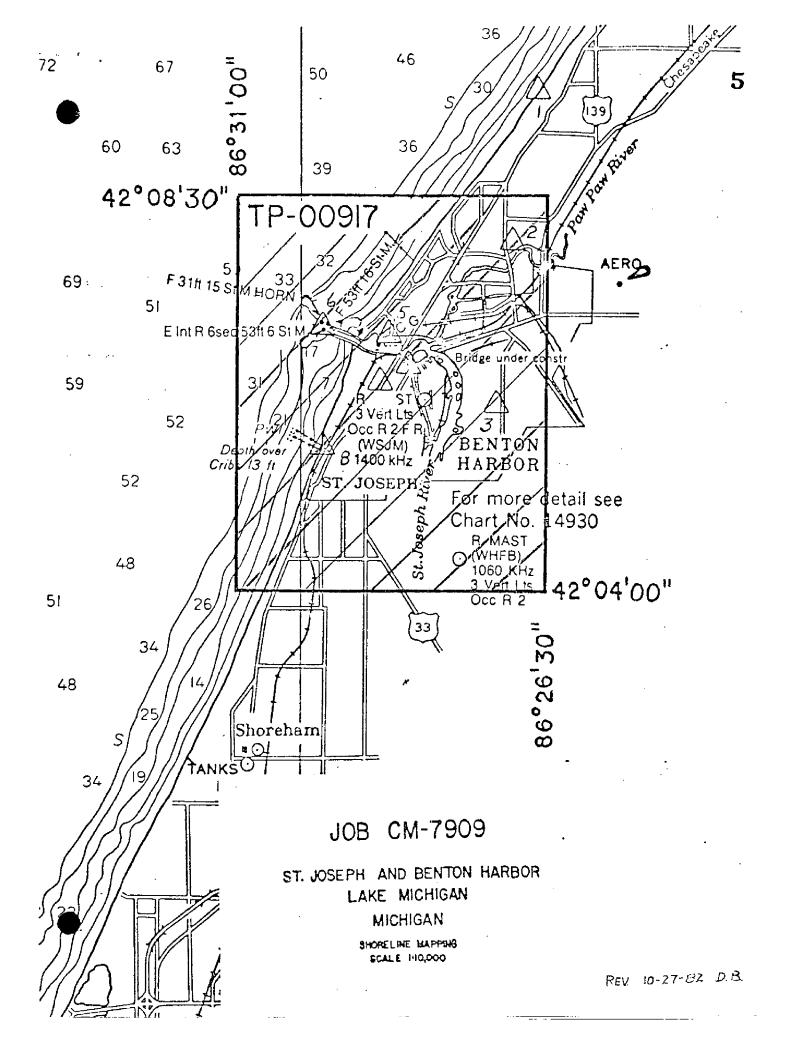
NOAA FORM 76-36B

NOAA FORM 76-36 (3-72)		CM-7909 . TP-00917 HISTORY OF FIELD		ANIC AND ATMOSPHER	MENT OF COMMER IC ADMINISTRATI NAL OCEAN SURV
I. X FIELD INSP	ECTION OPERATION	FIEL	D EDIT OPERATION	<del></del>	
	OPERATION			NAME	DATE
1. CHIEF OF FIEL	D PARTY				- 1
			James E. Dur		July 1981
2. HORIZONTAL C	CONTROL	RECOVERED BY	None	11014	July 1981
z. HOMIZON AL		RKED OR IDENTIFIED BY	<del></del>	nford	July 1981
		RECOVERED BY		11010	
. VERTICAL CO	NTROL	ESTABLISHED BY	None		
	PRE-MAS	RED OR IDENTIFIED BY	None		
	RECOVERED (	Triangulation Stations) BY	James E. Dur	nford	July 1981
. LANDMARKS A	ND LOC	ATED (Field Methods) BY	None		
AIDS TO NAVIG		IDENTIFIED BY	James E. Dur	nford	July 1981
		OF INVESTIGATION			
5. GEOGRAPHIC 1 INVESTIGATION		OMPLETE BY			
INVESTIGATIO	ه ليا ۱	PECIFIC NAMES ONLY			
		NVESTIGATION	127		<del></del>
5. PHOTO INSPEC		CATION OF DETAILS BY	None		
. BOUNDARIES A I. SOURCE DATA		YED OR IDENTIFIED BY	None		
	CONTROL IDENTIFIED		2. VERTICAL CO	NTROL IDENTIFIED	·
			Nor	10	
PHOTO NUMBER	STATIO	N NAME	PHOTO NUMBER	STATION DE	SIGNATION
9B(C)1077, 1078 9B(C)1079 9B(C)1074	St. Joseph Light (Sub Pts. A & B) Henley, 1932 (Su Stephensville, 1 & B)	b Pts. A & B)			
. PHOTO NUMBE	RS (Clarification of details)	. <u>.                                   </u>	<u> </u>	<u> </u>	<del>-</del>
None	•				
4. LANDMARKS A	ND AIDS TO NAVIGATION	IDENTIFIED			
PHOTO NUMBER	08JEC	TNAME	PHOTO NUMBER	OBJECT	NAME
5. GEOGRAPHIC N		X) NONE	6. BOUNDARY AN	D LIMITS: REPO	ORT X NONE
None	L MAPS AND PLANS				
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NOAA FORM 76-3 (3-72)	6D		909 NATIONAL OCEANIC A 0917 RD OF SURVEY USE	U. S. DEPARTMEN AND ATMOSPHERIC	NT OF COMMERCI ADMINISTRATIO
I. MANUSCRIPT					
		MPILATION STAGE	T	<del></del>	PT FORWARDED
Compilation	COMPILED Complete	April 1983	Class III Manuscript	None	None
Final Revi	ew, Class III	May 1983	Final Class III Map No field edit performed	Sept 20-83	Sept. 20-8
	:				
	AND AIDS TO NAVIGA	·· <del>·····</del>			
-	TO MARINE CHART D		DATA BRANCH	<del></del>	
	HART LETTER	DATE FORWARDED	REM	ARKS	
2	84383	Sept 20, 83	Landmarks for Charts		
1		11	Navigational Aids for (	harts	······
	<del></del>				·
				<u> </u>	
2. REPOR	TO MARINE CHART	DIVISION COAST	PILOT BRANCH. DATE FORWARDED:		
_ =			AERONAUTICAL DATA SECTION. D.		
1. X BRIDG 2. X CONT 3. SOURG ACCO	CE DATA (except for G UNT FOR EXCEPTION	X DUPLICATE FIGATION CARDS; reographic Names Re	BRIDGING REPORT; COMPUTE FORM NOS SEN SUBMITTED BY PORT) AS LISTED IN SECTION II, NOAA	FIELD PARTIES.	76–40
4 🔲 DATA	TO FEDERAL RECO	RDS CENTER, DAT	E FORWARDED: MARCH	1984	-

	ATA TO FEDERAL RECORDS		
IV. SURVET	SURVEY NUMBER	JOB NUMBER	TYPE OF SURVEY
SECOND	TP(2)	РН	REVISED RESURVEY
EDITION	DATE OF PHOTOGRAPHY	DATE OF FIELD EDIT	MAP CLASS
			□II. □III. □IV. □V. □FINAL
	SURVEY NUMBER	JOB NUMBER	TYPE OF SURVEY
THIRD	TP(3)	PH	REVISED RESURVEY
EDITION	DATE OF PHOTOGRAPHY	DATE OF PIELD EDIT	MAP CLASS
_			□II. □IV. □V. □FINAL
	SURVEY NUMBER	JOB NUMBER	TYPE OF SURVEY
FOURTH	TP(4)	PH	REVISED RESURVEY
EDITION	DATE OF PHOTOGRAPHY	DATE OF FIELD EDIT	MAP CLASS
25///0//			□II. □III. □IV. □V. □FINAL

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# SUMMARY TO ACCOMPANY DESCRIPTIVE REPORT

CM-7909 TP-00917

This 1:10,000 scale final Class III shoreline map comprises project CM-7909, St. Joseph and Benton Harbor, Lake Michigan, Michigan.

The purpose of this project was to provide current charting information for nautical chart maintenance. No contemporary hydrographic activity was scheduled in conjunction with this mapping project; however, a "Notes to Hydrographer" print was prepared to assist in future surveys.

This final Class III map portrays a portion of Lake Michigan featuring the St. Joseph River and the shoreline along the port cities of St. Joseph and Benton Harbor, Michigan.

Photo coverage was adequately provided by one strip of natural color photography. These photographs were taken June 11, 1979, and exposed with the RC-10(B) camera at 1:30,000 scale.

Field work prior to compilation was accomplished in July 1981; this involved the establishment of horizontal control by field photo-identification methods specified to meet aerotriangulation requirements.

Analytic aerotriangulation was adequately provided by the Washington Science Center in May 1982. Aerotriangulation activity also included ruling the base manuscript, determining ratio values for the photographs and locating various navigational aids.

Compilation based on photo interpretation was performed by the Coastal Mapping Unit at the Atlantic Marine Center in April 1983.

There was no field edit accomplished for this map.

Final review was performed at the Atlantic Marine Center in May 1983. A Chart Maintenance Print was prepared and forwarded to the Marine Chart Branch. Also a "Notes to Hydrographer" print was prepared for potential hydrographic activity.

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

# FIELD INSPECTION

TP-00917

CM-7909

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



CM-7909 St. Joseph and Benton Harbor Lake Michigan, Michigan

The Project was completed according to Project Instructions from 0A/C3 - Roger Lanier, Dated 2/15/81.

Three horizontal control stations were photoidentified in the areas indicated on the control requirement diagram. Two substitute stations were established by 3rd order traverse for each station.

Field work was accomplished during this period 7/16/81 to 7/26/81, including driving time to Project from Norfolk.

All records and data sent to C-3415.

James E. Dunford

# Photogrammetric Plot Report

# St. Joseph & Benton Harbor, Michigan

CM-7909 May 1982

# 21. Area Covered

The area covered by this project is St. Joseph & Benton Harbor, Michigan. The area is covered by one 1:10,000 scale sheet, TP-00917.

# 22. Method

One strip of 1:30,000 scale photographs were bridged by analytical aerotriangulation methods. Control was field identified with additional office identified intersection stations used for check control. Ratios were determined for compilation.

The Michigan South, Lambert Conformal coordinate system was used to adjust the bridging strip. The manuscript will be plotted using the same coordinate system.

# 23. Adequacy of Control

Control checked well within NOS standards of map accuracy and is more than sufficient for the job. A copy of the Fit to Control is attached to this report.

# 24. Supplemental Data

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

25. The coverage, overlap, and quality of the 1979B(C) photographs was adequate for the job.

Submitted by

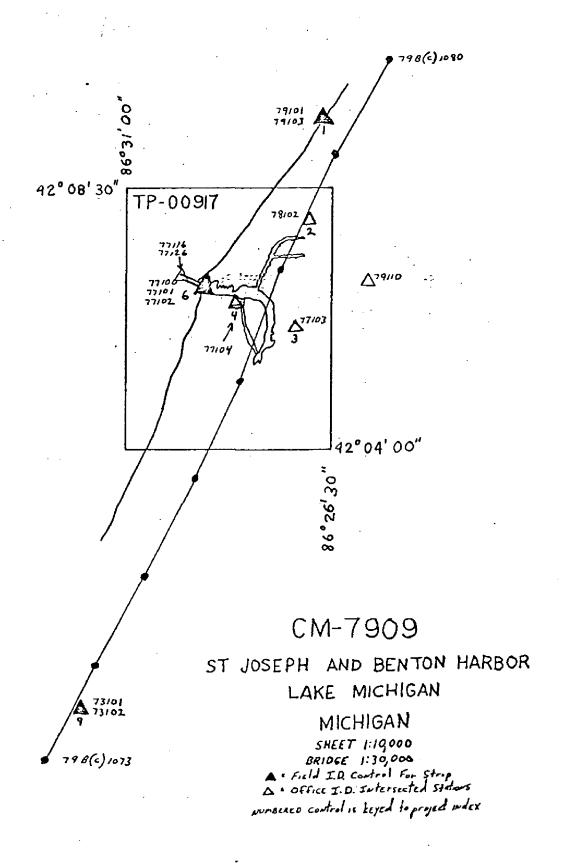
Brian Thornton

Approved and Forwarded:

Don O. Norman

Don O. Norman

Chief, Aerotriangulation Section



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St. Joseph & Benton Harbor, Michigan
CM-7909

# Fit to Control

		Point #	X-Error	<u>Y-Error</u>
Α	Stephensville, 1932 Sub Pt. A	73101	-0.001	-0.001
	" " B	73102	-2.112	-0.902
	St. Joseph Lt. House, 1932	77100	-1.816	-0.624
A	Sub Pt. A. C. Sub Pt.	77101	0.007	0.004
	" "В	77102	-1.798	3,393
	Benton Harbor High School	•		
	Stack, 32	77103	-1.333	-0.928
	St. Joseph Catholic Church			
	Steeple, 32	77104	-0.567	-2.450
	St. Joseph Pierhead Front Range			
	Lt., 32	77116	-3.127	-0.635
	St. Joseph South Pierhead			
	Lt., 32	77126	0.238	0.727
	Benton Harbor, Baker Vawter Co.			
	Stack, 32	78102	-0.925	-2.239
	Ross Field Airport Beacon, 1969	79110	1.125	-2.503
A	Henley, 1932 Sub Pt. A	79101	0.066	1.073
A	n n B	79103	-0.072	-1.076

# St. <u>J</u>oseph & Benton Harbor, Michigan CM-7909

Ratio value for 1:30,000 scale "B" camera color photographs 79B(C) 1072 to 1080  $\times$  3.056

NOAA FORM 76-41				0.5	DEPARTMENT OF COMMERCE
(6–75)		DESCRIPTIV	DESCRIPTIVE REPORT CONTROL RECORD	_	NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
	N BOLL		DOUGHT OF THE COORD		
TP-00917	CM-7909		NA 1927	Coastal Mapping	ing Unit, Atlantic
		AFROTRIA	COORDINATES IN FEET	GEOGRAPHIC POSITION	A TOT TON
STATION NAME	SOURCE OF	ANGULATION	STATE MICHIGAN	♦ LATITUDE	REMARKS
	(Index)	NUMBER	zong South	γ rongirude	
	QUAD 420862	9	x=1,413,635,22	φ42o06'58.76"	
FRONT RANGE LIGHT, 1932	STA 1027	77116	<i>y</i> = 232,139,46	λ 86°29'40.42"	
	QUAD 420862	7710	s X	\$42°06'57.81"	
ST JOSEPH LIGHTHOUSE, 1932	STA 1025	9B	=ħ	λ 86°29'36.45"	
ST JOSEPH SOUTH	QUAD 420862	7712	<i>-</i> χ	\$ 42°06'54.84"	
FIERHEAD LIGHI, 1932	51A 1028		y=	λ 86°29'39.35"	
BENTON HARBOR BAKER	OUAD 420862	2	χ=	\$ 42°07'37.155"	
VAWTER CO STACK, 1932	STA 1020	78102	y=	λ 86°27'15.541" ~	
ST JOSEPH WHITCOMB	QUAD 420862	5B	x*77402 by computer is	\$ 42°06'38.593"	
HOTEL SPIRE ON DOME, 1932	STA 1029	×70 <i>†//</i>	## 100 listed for 5Bosi- ## shown here because it λ	λ 86°28'54.100"	
ST JOSEPH CATHOLIC CHURCH	QUAD 420862	V7	x= marthe Ouad M820869.	\$ 42006'30.546" <	
STEEPLE, 1932	STA 1022	77104	y=	λ 86°28'39.738"	
BENTON HARBOR	QUAD 420862	3	-χ	\$ 42°06'08.50"	
HIGH SCHOOL STACK, 1932	STA 1018	77	<i>y=</i>	λ 86027'26.54"	
, I	QUAD 420862		χ=	\$ 42°05'45.678"	
ST JOE, 1932	STA 1011	8	y=	λ 86029'38.768" ~	
ST JOSEPH CONGRECATIONAL	QUAD 420862		χ=	\$ 42°06'18.839" <	
	STA 1023	7	<i>y</i> =	λ 86°28'59.509"	
60 60 60 60 60 60 60 60 60 60 60 60 60 6			-χ	ф	
			η. A	Υ.	
COMPUTED BY		DATE	COMPUTATION CHECKED BY		DATE
LISTED BY D T Rysone In		DATE 11///82		7.10in	DATE 2/7/83
1			HAND PLOTTING CHECKED BY		
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					3

#### COMPILATION REPORT

TP-00917 CM-7909

#### 31. DELINEATION

All delineation was by office interpretation of the 1:30,000 scale, 1979, color photographs using the Wild B-8 stereoplotting instrument. Refer to form 76-36B for a listing of the compilation photographs. The photography was adequate except for sun glare present in the southwest corner of each photograph: This sun reflection hindered the stereo viewing of the lake side shoreline, thus requiring monoscopic delineation of that feature.

The 1:30,000 scale compilation photographs were ratioed by a factor of 3.056 in order to review all delineation.

# 32. CONTROL

Horizontal control was adequate. Refer to the Photogrammetric Plot Report, dated May 1982.

#### 33. SUPPLEMENTAL DATA

None

# 34. CONTOURS AND DRAINAGE

Contours are not applicable to this 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 mapping photographs as indicated in item #31. There appears to be numerous dead trees along the shoreline of the St. Joseph River; a description indicating these areas was compiled accordingly.

#### 36, OFFSHORE DETAILS

Offshore details were compiled from office interpretation of the photographs. No unusual problems were encountered: TP-00917 CM-7909

#### 37. LANDMARKS AND AIDS

Appropriate 76-40 forms were submitted for the 17 charted landmarks and 3 navigational aids common to this map.

# 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

See Item #32.

#### 46. COMPARISON WITH EXISTING MAPS

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

Benton Harbor, Michigan, 1970; photorevised 1980 Stevensville, Michigan, 1970 Benton Heights, Michigan, 1970

#### 47. COMPARISON WITH NAUTICAL CHARTS

A comparison was made with the following National Ocean Survey Charts:

14930, 1:10,000 scale, 20th edition, dated July 8, 1978 14905, 1:120,000 scale, 22nd edition, dated November 7, 1981

# ITEMS TO BE APPLIED TO NAUTICAL CHARTS IMMEDIATELY

None

#### ITEMS TO BE CARRIED FORWARD

None

Faul L. Evans, Jr. Cartographic Technician

Date: February 10, 1983

TP-00917 CM-7909

Approved,

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

#### REVIEW REPORT TP-00917 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:

Benton Harbor, Michigan, dated 1970, photorevised 1980 Benton Heights, Michigan, dated 1970 Stevensville, Michigan, dated 1970

#### 64. COMPARISON WITH CONTEMPORARY HYDROGRAPHIC SURVEYS:

No contemporary hydrographic survey was conducted in the area common to this map.

A copy of the final Class III map was prepared and submitted as "Notes to Hydrographer" in the event of future hydrographic activity.

#### 65. COMPARISON WITH NAUTICAL CHARTS:

A comparison was made with the following NOS charts:

14930, 20th edition, July 8, 1978, 1:10,000 scale 14905, 22nd edition, November 7, 1981, 1:120,000 scale

A "Chart Maintenance Print" was prepared and forwarded to the Marine Charts Branch.

# 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, Juny 1. Harwock Berry L. Hancock

Final Reviewer

Approved for forwarding,

Billy H. Barnes

Chief, Photogrammetric Section, AMC

REVIEW REPORT TP-00917 SHORELINE

Approved, Jewy Joac Zawrence W. Fing Chief, Photogrammetric Section, Rockville Chief, Photogrammetry Branch

# GEOGRAPHIC NAMES

# FINAL NAME SHEET

CM-7909 (Lake Michigan, St. Joseph and Benton Harbor, Mich.)

# TP-00917

Benton Harbor (locale)

Chesapeake and Ohio (RY)

Conrail (RR)

Fair Plain (locale)

Hickory Creek

Higman Park (locale)

Lake Michigan

Morrison Channel

0x Creek

Paw Paw River

Radio Island

St. Joseph

St. Joseph River

Approved by:

Charles E. Harrington Chief Geographer

Nautical Charting Division

# DISSEMINATION OF PROJECT MATERIAL CM-7909

ST. JOESPH AND BENTON HARBOR, LAKE MICHIGAN, MICHIGAN

# NATIONAL ARCHIVES/FEDERAL RECORD CENTER

Brown Jacket

Field Notebook: Containing CSI Cards and Field

Observations

Bridging Photographs Computer Printout

Project Completion Report

BUREAU ARCHIVES

Registration Copy of Map Descriptive Report of Map

REPRODUCTION DIVISION

8X Reduction Negative of Map

OFFICE OF STAFF GEOGRAPHER

Geographic Names Standard

Page 1 of 3

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	ARTY	TIVITY Lareview Gr NCH	tible personnel,		CHARTS	AFFECTED		14930 14905	14930 14905	14930 14905	14930 14905	14930 14905	14930 14905	14930 14905	14930 14905	14930 14905	
1 of 3	ORIGINATING ACTIVITY  HYDROGRAPHIC PARTY  GEODETIC PARTY  BHOTO FIRT DEARTY	TOOMPLEATION ACTIVITY TOOMPLEATION ACTIVITY TO QUALITY CONTROL & REVIEW GRP COAST PILOT BRANCH	(See reverse for responsible personnel)	MOLET 20 - 30 B	on reverse side)		FIELD										
г	U.S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION KS FOR CHARTS	DATE Nov. 4,		MOITANO - NO STAN CONT OU	(See instructions on reverse side)		OFFICE	79 B(C) 1078 6/11/79	79 B(C) 1078 6/11/79	79 B(C) 1078 6/11/79	79 B(C) 1077 6/11/79	79 B(C) 1077 6/11/79	79 B(C) 1077 6/11/79	79 B(C) 1077 6/11/79	79 B(C) 1077 6/11/79	79 B(C) 1077 -6/11/79	
	U.S. DEPARTA C AND ATMOSPHER	h and Benton	tive as landmarks.			LONGITUDE	/ D.P. Meters	27 14.29	27 15.541	27 32,34	28 47.30	29 08,14 187	28	28 35.60	28 39.738	28 <u>56.93</u>	
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	#	state enter Michigan	X been inspected from seaward to determine their volue as landmarks	SURVEY NUMBER	TP-00917		or aid to navigation. applicable, in parenthese		ter Co. Stack,	*	9 9 9 9 9 9 9		tel Spire on		Church Steeple,		tion
		reporting unit (Field Perr, Ship or Office) Coastal Mapping Uniter Alante, VA	HAVE HAVE NOT X		CM-7909	DESCRIPTION	(Record reeson for deletion of landmark or aid to navigation. Show triangulation station names, where applicable, in parentheses		Benton Harbor Baker Vawter 1932)	. ,		At Coast Guard Sta.	<del>(St. Joseph Whiteomb Hotel</del> Dome, 1932).		Joseph Catholic Ch		*Aerotriangulation position
	т 567.		ects H				Record ret Show trian	-	(Benton 1932)			At	(St. Joseph Dome, 1932)		(St. J 1932)		*Aerot
	Replaces C&GS Form 567	X TO BE CHARTED TO BE REVISED TO BE DELETED	The following objects	OPR PROJECT NO.			CHARTING	TANK*	STACK	TANK*	TANK*	RTR	CUP *	RTR*	SPIRE	SPIRE	

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The code character of metricolar	around survey methods.	vations based entirely upon ground survey methods
by photogrammetric methods	The Hit of the Contract of the	*FIF DOC TIONS OF LOADS
RIC FIELD		8-12-75
0-12-/5	field work.	location and date
EXAMPLE: V-Vis.	require entry of method of	A Field positions* requ
ŧ	Sextant	4 - Resection 8 -
III. POSITION VERIFIED VISUALLY ON PHOTOGRAPH	Planetable	tion
	Theodolite	2 - Traverse 6 -
8-12-75	Field identified	ation
		V - Verified
angulation station is recovered, enter 'Triang.	Photogrammetric	≼ <b>Т</b> О
dmark or aid which is also a	a by symbols as follows:	applicable of
II. TRIANGULATION STATION RECOVERED	OR VERIFIED	I. NEW POSITION DETERMINED OR VERIFIED
74L(C)2982		
8-12-75		8-12-75
EXAMPLE: P-8-V	Clie colecti	EXAMPLE: 75E(C)6042
	hotograph used to	
entry of method of location or verification,	e (including month,	Enter the number and date (including month,
B. Photogrammetric field positions** require	CATED OBJECTS	1. OFFICE IDENTIFIED AND LOCATED OBJECTS
c Instructions No. 64,	(Consult Photogrammetric Instructions No. 64,	
ETHOD AND DATE OF LOCATION'	INSTRUCTIONS FOR ENTRIES UNDER METHOD AND DATE O	
REPRESENTATIVE		ACTIVITIES
QUALITY CONTROL AND REVIEW GROUP		ž :
	T. D. DVGIIS, J.	FORMS ORIGINATED BY QUALITY CONTROL
OFFICE ACTIVITY REPRESENTATIVE	D I Brono I	
FIELD ACTIVITY REPRESENTATIVE		PERCENTIONS OF TERMINAD AND JOB VERSIEND
OTHER (Specify)		
GEODETIC PARTY		CBJECTS INSPECTED FROM SEAFARD
HYDROGRAPHIC PARTY		
[ ] PHOTO FIELI		
ORIGINATOR	NAME	TYPE OF ACTION
ERSONNEL	RESPONSIBLE PERSONNEL	

NOAA FORM 76-40 (8-74)

SUPERSEDES NOAA FORM 76-40 (2-71) WHICH IS OBSOLETE, AND EXISTING STOCK SHOULD BE DESTROYED UPON RECEIPT OF REVISION.

☆ U.S.GPO:1975-0-665-080/1155

Page 2 of 3

	ORIGINATING ACTIVITY HYDROGRAPHIC PARTY GEODETIC PARTY	PHOTO FIELD PARTY	V COMPILATION ACTIVITY	FINAL REVIEWER  QUALITY CONTROL & REVIEW GRP.  COAST PILOT BRANCH	(See reverse for responsible personnel)				AFFECTED		14930 14905	14930 14905	14930 14905	14930 14905	14930 14905	14930 14905	14930 14905	14930 14905		
rage 2 of 3		][	DATE	Nov. 4,			METHOD AND DATE OF LOCATION	(See instructions on reverse side)	- u	OTTICE	79 B(C) 1077 6/11/79	79 B(C) 1077 6/11/79	79 B(C) 1077 6/11/79	79 B(C) 1077 6/11/79	· · · · · · · · · · · · · · · · · · ·	-				
ra	U.S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION KS FOR CHARTS		1	ph and Benton	ir value as landmarks.			NO	LONGITUDE	O / D.P. Meters	86 28 50.57	86 28	86 28 490	86 27	86 27 26,540	86 29 04.83	86 28 00.69	86 27 58.07		
	NATIONAL OCEANIC		LOCALITY	St. Joseph Harbor	용	DATUM	NA 1927	POSITION	LATITUDE	D.M. Meters	42 06	42 06 31.74	42 06 538	42 06	42 06 28.500	42 05 42.33	42 04 44,24	42 06 1189		
	HIG AIDS OR LAND		STATE	aiter Michigan	pected from	URVEY NUMBER	TP_00917	11-00-11	4 4	or aid to navigation. applicable, in parentheses)			,		Stack,				ltion	
	) SOLVE SWIT ACCUMENT		REPORTING UNIT	Coastal Mapping Uniter Northolk, WA	HAVE HAVE NOT X	JOB NUMBER	7909	CIT-1505	DESCRIPTION	(Record reason for deteiton of landmark of aid to navigation. Show triangulation station names, where applicable, in parentheses)	,				(Benton Harbor High School 1932)				*Aerotriangulation position	
	NOAA FORM 76-40 (8-74)	Replaces C&GS Form 567	X TO BE CHARTED	TO BE REVISED TO BE DELETED	The following objects	OPR PROJECT NO.			SNITONIC	_	SPIRE*	TR*	R · MAST	TANK*	STACK (Bent 1932)	SPIRE	RTR	TR	*Ae	



	RESPONSIBLE PERSONNEL	PERSONNEL	
TYPE OF ACTION	NAME	ER .	ORIGINATOR
	:		PHOTO FIELD PARTY
OB ISONE INCOSOTED SOURCE STANDERS			HYDROGRAPHIC PARTY
COLUMN TECT ED TROM SECTION			GEODETIC PARTY
			OTHER (Specify)
תמומוטמע מכל מאה לייינייניינייניינייניינייניינייניינייניי			FIELD ACTIVITY REPRESENTATIVE
	P. L. Evans, Jr.		OFFICE ACTIVITY REPRESENTATIVE
FORMS ORIGINATED BY QUALITY CONTROL	- 1		REVIEWER
AND REVIEW GROUP AND FINAL REVIEW ACTIVITIES			QUALITY CONTROL AND REVIEW GROUP REPRESENTATIVE
N.	INSTRUCTIONS FOR ENTRIES UNDER METHOD AND DATE O	METHOD AND DATE OF LOCATION	
	A A STATE OF THE PROPERTY OF T	Terror of the state of the stat	
OFFICE IDENTIFIED AND LOCATED OBJECTS	TED OBJECTS	<pre>FIELD (Cont'd) B. Photogrammetric fie</pre>	ld positions** require
Enter the number and date (including month,	(including month,	entry of method of	entry of method of location or verification,
identify and locate the object. EXAMPLE: 75E(C)6042 8-12-75	ject.		sed to locate or identify the object. P-8-V 8-12-75
FIELD		/41(6)/290	
nter the applicable	VERIFIED by symbols as follows:		also a
F - Field P - Ph L - Located Vis - V - Verified	- Photogrammetric is - Visually	angulation station is recovery. Rec.' with date of recovery. FXAMPIF: Triang Rec.	station is recovered, enter 'Triang. date of recovery. Triann Rec
ation 5 -	Field identified Theodolite	8-12-75	
- intersection 7 -	Planetable	III. POSITION VERIFIED VIS	VERIFIED VISUALLY ON PHOTOGRAPH
4 - Resection 8 - Se	Sextant	Enter 'V+Vis.' and date. EXAMPLE: V-Vis.	te.
sitions* requ	ire entry of method of fleld work.	8-12-75	
EXAMPLE: F-2-6-L 8-12-75	· .	**PHOTOGRAMMETRIC FIELD POSITIONS are dependent	SITIONS are dependent
*FIEID POSITIONS are determined by field obser-	d by field obser-	by photogrammetric methods.	ds.
vations based entirely upon ground survey methods.	round survey methods.		

NOAA FORM 76-40 (8-74)

SUPERSEDES NOAA FORM 76-40 (2-71) WHICH IS OBSOLETE, AND EXISTING STOCK SHOULD BE DESTROYED UPON RECEIPT OF REVISION.

Page 3 of 3

Applied   Appl					•					TEE JOE J		
### Control of the co	NOAA FORM 76- (8-74) Replaces C&GS	-40 Form 567.	NONFLOATIN	IG AIDS F(	OR CHARTS	ET ET ET	TORAL OCE.	ANIC AND J	S. DEPARTM Atmospher	IC ADMINISTRATION	ORIGINATING A HYDROGRAPHIC B GEODETIC PARTY DHOTO FIFTO BAR	ACTIVITY ARTY
ects HAVE   HAVE   MOT   See inspected from seconded to determine their value os landmarks.    Annual   CM-700   TP-00917   Metro   Postition	X TO BE CHAF TO BE REVI: TO BE DELE		The UNIT Office of Mapping of the VA	<u> </u>	rare lichigan		LOCALITY St. Jos Harbor				COMPLETION ACT	FIVITY LAREVIEW GREINCH
CR-7909   TP-00917	The following	ects HAVE	HAVE NOT	been inspec	ted from sea	ward to de:	termine thei	r vafue os	landmarks.		(See reverse for respon:	sible personnel)
CM-7909   TP-00017   CM-7909   TP-00017   CAPTIOLE   CONGTIUDE	OPR PROJECT	Bor	BER	SURVEY NUM		' ₹	1927			METHOD AND DAT	E OF LOCATION	
St. Joseph North Pierhead Light   42 06   20.7   10.7		CM- )	6062	TP-0091	7		POSITI	NO		(See Instructions	on reverse side)	CHARTS
Sheed reason for the design of the new genton.   Sheed reason grade the new grade that the new genton.   Sheed reason grade the new grade that the new			DESCRIPTIO	z		LATIT	UDE	LONGI	rude			AFFECTED
St. Joseph North Pierhead Light, 42 06  (St. Joseph Plathead Frant Range Light, 42 06  (St. Joseph North Pier Inner Light  (St. Joseph South Pierhead Light, 1932)42 06  (St. Joseph South Pierhead Light, 1932)43 06  (St. Joseph South Pierhead Light, 1932)43 06  (St. Joseph South Pierhead Light, 1932)43 06  (St. Joseph South Pierhead Light, 193	CHARTING NAME	(Record reason for de Show triangulations	eletion of landmari	k or ald to navine applicable, in	igation. perenthoses)	/ 0	// D.M. Meters	/	// D.P. Meters	OFFICE	FIELD	
St. Joseph North Pier Inner Light 42 06 57.81 86 29 6/11/79  St. Joseph South Pierhead Light 1932)42 06 6/11/79  *Aerotriangulation position **Aerotriangulation position**  **Aerotriangulation position po	LIGHT*	St. Joseph N (St. Joseph	North Pierho	ead Light	I — —	90	58:76	55	40.42			14930 14905
St. Joseph South Pierhead Light, 1932)42 06       54.84 (86.29)       79 B(C) 1077         (St. Joseph South Pierhead Light, 1932)42 06       6/11/79         *Aerotriangulation position       6/11/79	LIGHT*	i  -	North Pier Lighthouse	Inner Lig		90	57.81	5	36.45			14930 14905
position	LIGHT*	ایا	South Pierho	ead Light head Ligh	i i	90	54.84	53	39.35			14930 14905
*Aerotriangulation position					,							
		*Aerotriangu	ulation pos	ition								
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tion 7- n 8- itions* requ and date of F-2-6-L 8-12-75 are determinatirely upon	I. NEW POSITION DETERMINED OR VERIFIED Enter the applicable data by symbols F - Field P - Photogrammet L - Located Vis - Visually V - Verified 1 - Triangulation 5 - Field identi 2 - Traverse 6 - Theodolite	. — TI	INSTRU	FORMS ORIGINATED BY QUALITY CONTROL AND REVIEW GROUP AND FINAL REVIEW ACTIVITIES	FOSTI IONS DETERMINED AND/OR VERIFIED	OBJECTS INSPECTED FROM SEAWARD	TYPE OF ACTION	
III. POSITION VERIFIED VERTER TO STAND VERIFIED VERTER STAND VERTER ST	s as follows: tric Rec.' with EXAMPLE:	FIELD (Cont'd)  B. Photogram entry of date of f graph use EXAMPLE:	INSTRUCTIONS FOR ENTRIES UNDER 'METHOD AND DATE OF LOCATION' (Consult Photogrammetric Instructions No. 64,		P. L. Evans, Jr.		ZAM	RESPONSIBLE PERSONNEL
POSITION VERIFIED VISUALLY ON PHOTOGRAPH Enter 'V-Vis.' and date. EXAMPLE: V-Vis. 8-12-75 TOGRAMMETRIC FIELD POSITIONS are dependent irely, or in part, upon control established photogrammetric methods:	ION STATION RECOVERED  dmark or aid which is also a tri- station is recovered, enter 'Triang. date of recovery.  Triang. Rec. 8-12-75	Cont'd) 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.  EXAMPLE: P-8-V 8-12-75 74L(C)2982		REPRESENTATIVE	FIELD ACTIVITY REPRESENTATIVE	PHOTO FIELD PARTY  HYDROGRAPHIC PARTY  GEODETIC PARTY  OTHER (Specify)	ORIGINATOR	

NOAA FORM 76-40 (8-74)

SUPERSEDES NOAA FORM 78-40 (2-71) WHICH IS OBSOLETE, AND EXISTING STOCK SHOULD BE DESTROYED UPON RECEIPT OF REVISION.

☆ U.S.GPO:1975-0-665-080/1156

FORM C&GS-8352 (3-25-53)

#### NAUTICAL CHART DIVISION

#### 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.

In "Remarks" column cross out words that do not apply.
 Give reasons for deviations, if any, from recommendations made under "Comparison with Charts" in the Review.

CHART	DATE	CARTOGRAPHER	REMARKS
			Full Part Before After Verification Review Inspection Signed Via
			Drawing No.
			Full Part Before After Verification Review Inspection Signed Via
			Drawing No.
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