

TP-00441A  
B  
C

TP-00441A  
B  
C

NOAA FORM 76-35 (6-80)	
U.S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION NATIONAL OCEAN SURVEY	
DESCRIPTIVE REPORT	
Map No. TP-00441A, TP-00441B, and TP-00441C	Edition No. 1
Job No. CM-7705	
Map Classification Class III Final	
Type of Survey Shoreline	
LOCALITY	
State Michigan	
General Locality Lake Superior	
Locality Keweenaw Bay, Baraga, and L'ANSE	
19 77 TO 19 -	
REGISTERED IN ARCHIVES	
DATE	

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NOAA FORM 76-36A (3-72)		U. S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMIN.		TYPE OF SURVEY		SURVEY TP. 00441A	
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>PHX</del> CM-7705	
PHOTOGRAMMETRIC OFFICE				LAST PRECEDING MAP EDITION			
Coastal Mapping Unit, Norfolk, VA				TYPE OF SURVEY		JOB PH. _____	
OFFICER-IN-CHARGE				<input type="checkbox"/> ORIGINAL		MAP CLASS _____	
A. Y. Bryson, CDR				<input type="checkbox"/> RESURVEY		SURVEY DATES:	
				<input type="checkbox"/> REVISED		19__ TO 19__	
I. INSTRUCTIONS DATED							
1. OFFICE				2. FIELD			
Aerotriangulation August 28, 1978				Photography March 30, 1977			
Compilation January 18, 1979				Control April 11, 1977			
Change No. 2 November 1, 1979				Change No. 1 June 16, 1978			
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). Lake Superior Low Water Datum.			
3. MAP PROJECTION				4. GRID(S)			
Lambert Conformal Conic				STATE Michigan		ZONE North	
5. SCALE 1:30,000				STATE		ZONE	
III. HISTORY OF OFFICE OPERATIONS							
OPERATIONS				NAME		DATE	
1. AEROTRIANGULATION BY				B. Thornton		Oct. 1979	
METHOD: Analytic LANDMARKS AND AIDS BY				D. Norman		Oct. 1979	
2. CONTROL AND BRIDGE POINTS PLOTTED BY				B. Thornton		Oct. 1979	
METHOD: Coradomat CHECKED BY				D. Norman		Oct. 1979	
3. STEREOSCOPIC INSTRUMENT PLANIMETRY BY				F. Margiotta		June 1980	
COMPILATION CHECKED BY				D. Butler		June 1980	
INSTRUMENT: Wild B-8				N.A.			
SCALE: 1:30,000				N.A.			
4. MANUSCRIPT DELINEATION PLANIMETRY BY				F. Margiotta		July 1980	
CHECKED BY				R. Kravitz		July 1980	
METHOD: Smooth drafted				N.A.			
CHECKED BY				N.A.			
SCALE: 1:30,000 HYDRO SUPPORT DATA BY				F. Margiotta		July 1980	
CHECKED BY				R. Kravitz		July 1980	
5. OFFICE INSPECTION PRIOR TO FIELD EDIT BY				R. Kravitz		July 1980	
6. APPLICATION OF FIELD EDIT DATA BY				M. Mozgala		August 1982	
CHECKED BY				C. Blood		Nov. 1982	
7. COMPILATION SECTION REVIEW BY				C. Blood		Nov. 1982	
8. FINAL REVIEW BY				L. O. Neterer, Jr.		Feb. 1984	
9. DATA FORWARDED TO PHOTOGRAMMETRIC BRANCH BY				L. O. Neterer, Jr.		Feb. 1984	
10. DATA EXAMINED IN PHOTOGRAMMETRIC BRANCH BY				P. Hawkins		Aug. 1984	
11. MAP REGISTERED - COASTAL SURVEY SECTION BY				E. DAUGHERTY		NOV, 1984	

TP-00441A  
COMPILATION SOURCES

## 1. COMPILATION PHOTOGRAPHY

CAMERA(S) Wild RC-10 "Y" (88.72mm)		TYPES OF PHOTOGRAPHY LEGEND		TIME REFERENCE	
TIDE STAGE REFERENCE <input type="checkbox"/> PREDICTED TIDES N.A. <input type="checkbox"/> REFERENCE STATION RECORDS N.A. <input type="checkbox"/> TIDE CONTROLLED PHOTOGRAPHY N.A.		(C) COLOR (P) PANCHROMATIC (I) INFRARED		ZONE Central	<input checked="" type="checkbox"/> STANDARD
				MERIDIAN 90th	<input type="checkbox"/> DAYLIGHT
NUMBER AND TYPE	DATE	TIME	SCALE	STAGE OF TIDE	
78 Y(P) 4471 - 4476	June 18, 1978	14:38	1:50,000	N.A.	
78 Y(P) 4483 - 4489	June 18, 1978	14:51	1:50,000	N.A.	

REMARKS Lake level at time of photography was 600.56 feet, Lake Superior Low Water Datum, Marquette gage.

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

Mean high water line is not applicable. The "shoreline" was delineated from the above listed photographs and is defined as that line visible on the photographs which marks the contact between land and water.

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

Not applicable.

## 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-00440	No survey	No survey	No survey

REMARKS

TP-00441A

## HISTORY OF FIELD OPERATIONS

I. ☒ FIELD INSPECTION OPERATION☐ FIELD EDIT OPERATION

OPERATION	NAME	DATE
1. CHIEF OF FIELD PARTY	R. Tibbetts	Aug. 1979
2. HORIZONTAL CONTROL	RECOVERED BY L. Davis and R. Tibbetts	Aug. 1979
	ESTABLISHED BY L. Davis	Aug. 1979
	PRE-MARKED OR IDENTIFIED BY L. Davis and R. Tibbetts	Aug. 1979
3. VERTICAL CONTROL	RECOVERED BY None	
	ESTABLISHED BY None	
	PRE-MARKED OR IDENTIFIED BY None	
4. LANDMARKS AND AIDS TO NAVIGATION	RECOVERED (Triangulation Stations) BY R. Tibbetts	
	LOCATED (Field Methods) BY None	
	IDENTIFIED BY R. Tibbetts	
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 None	
7. BOUNDARIES AND LIMITS	SURVEYED OR IDENTIFIED BY N.A.	

## II. SOURCE DATA

1. HORIZONTAL CONTROL IDENTIFIED		2. VERTICAL CONTROL IDENTIFIED	
PHOTO NUMBER	STATION NAME	PHOTO NUMBER	STATION DESIGNATION
78Y(P) 4473	PEQUAMING 2, 1972		
78Y(P) 4472	BAY NO. 4, 1979		
78Y(P) 4474	BAY NO. 2, 1979		
78Y(P) 4464	KEWEENAW POINT, NORTH BASE, 1871		
78Y(P) 4485	KEWEENAW SOUTH BASE, 1871		
78Y(P) 4475	L'ANCE MUNICIPAL WATER TANK, 1956		

## 3. PHOTO NUMBERS (Clarification of details)

None

## 4. LANDMARKS AND AIDS TO NAVIGATION IDENTIFIED

PHOTO NUMBER	OBJECT NAME	PHOTO NUMBER	OBJECT NAME
78Y(P) 4475	L'ANCE MUNICIPAL WATER TANK, 1956		

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)

7 forms 76-53, 2 forms 76-86, 1 form 76-67, 5 forms 76-184, 7 forms 75-63,  
2 forms 738, 1 form 76-102A, 2 forms 76-109.

TP-00441A

## HISTORY OF FIELD OPERATIONS

I. ☐ FIELD INSPECTION OPERATION☒ FIELD EDIT OPERATION

OPERATION	NAME	DATE
1. CHIEF OF FIELD PARTY	L. O. Neterer, Jr.	May 1981
2. HORIZONTAL CONTROL	RECOVERED BY None ESTABLISHED BY None PRE-MARKED OR IDENTIFIED BY N.A.	
3. VERTICAL CONTROL	RECOVERED BY N.A. ESTABLISHED BY N.A. PRE-MARKED OR IDENTIFIED BY L. O. Neterer, Jr.	May 1981
4. LANDMARKS AND AIDS TO NAVIGATION	RECOVERED (Triangulation Stations) BY L. O. Neterer, Jr. LOCATED (Field Methods) BY IDENTIFIED BY	May 1981
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 L. O. Neterer, Jr.	May 1981
7. BOUNDARIES AND LIMITS	SURVEYED OR IDENTIFIED BY	

## II. SOURCE DATA

1. HORIZONTAL CONTROL IDENTIFIED		2. VERTICAL CONTROL IDENTIFIED	
PHOTO NUMBER	STATION NAME	PHOTO NUMBER	STATION DESIGNATION

## 3. PHOTO NUMBERS (Clarification of details)

78 Y(P) 4475

## 4. LANDMARKS AND AIDS TO NAVIGATION IDENTIFIED

Visually verified and noted on Master Field Edit Print

PHOTO NUMBER	OBJECT NAME	PHOTO NUMBER	OBJECT NAME

5. GEOGRAPHIC NAMES: ☐ REPORT ☒ NONE6. BOUNDARY AND LIMITS: ☐ REPORT ☒ NONE

## 7. SUPPLEMENTAL MAPS AND PLANS

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

1 Each Master Field Edit Print  
13 Each photographs by Field Editor.

TP-00441A  
RECORD OF SURVEY USE

## I. MANUSCRIPT COPIES

COMPILATION STAGES			DATE MANUSCRIPT FORWARDED	
DATA COMPILED	DATE	REMARKS	MARINE CHARTS	HYDRO SUPPORT
Compilation complete pending field edit	July 1980	Class III manuscript. SUPERSEDED		
Partial field edit applied-Compilation complete	August 1982	Class III manuscript SUPERSEDED		
Final Reviewed	Feb. 1984	Final Class III Map		

## II. LANDMARKS AND AIDS TO NAVIGATION

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

PAGES <del>MANUSCRIPT</del>	CHART LETTER NUMBER ASSIGNED	DATE FORWARDED	REMARKS
1			Landmarks to be charted.

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

## III. FEDERAL RECORDS CENTER DATA

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

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

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

SECOND EDITION	SURVEY NUMBER TP - _____ (2)	JOB NUMBER PH - _____	TYPE OF SURVEY <input type="checkbox"/> REVISED <input type="checkbox"/> RESURVEY  MAP CLASS <input type="checkbox"/> II. <input type="checkbox"/> III. <input type="checkbox"/> IV. <input type="checkbox"/> V. <input type="checkbox"/> FINAL
	DATE OF PHOTOGRAPHY	DATE OF FIELD EDIT	
THIRD EDITION	SURVEY NUMBER TP - _____ (3)	JOB NUMBER PH - _____	TYPE OF SURVEY <input type="checkbox"/> REVISED <input type="checkbox"/> RESURVEY  MAP CLASS <input type="checkbox"/> II. <input type="checkbox"/> III. <input type="checkbox"/> IV. <input type="checkbox"/> V. <input type="checkbox"/> FINAL
	DATE OF PHOTOGRAPHY	DATE OF FIELD EDIT	
FOURTH EDITION	SURVEY NUMBER TP - _____ (4)	JOB NUMBER PH - _____	TYPE OF SURVEY <input type="checkbox"/> REVISED <input type="checkbox"/> RESURVEY  MAP CLASS <input type="checkbox"/> II. <input type="checkbox"/> III. <input type="checkbox"/> IV. <input type="checkbox"/> V. <input type="checkbox"/> FINAL
	DATE OF PHOTOGRAPHY	DATE OF FIELD EDIT	

JOB CM-7705

KEWEENAW WATERWAY, MICH.

KEWEENAW BAY, MICH.

MARQUETTE, MICH.

ASHLAND, WISC.

SHORELINE MAPPING

SCALES: 1:15,000-1:30,000

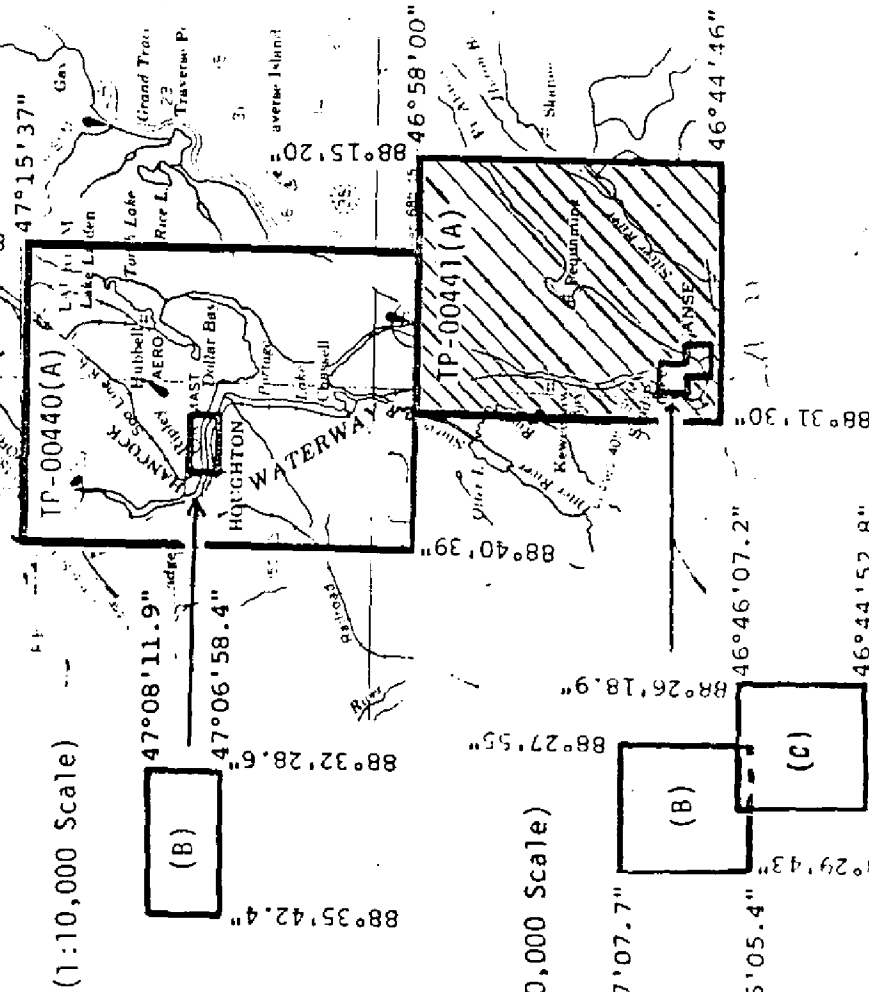
INSETS AT 1:10,000

REVISED

2/7/84 GZJ

# KEWEENAW BAY AND WATERWAY

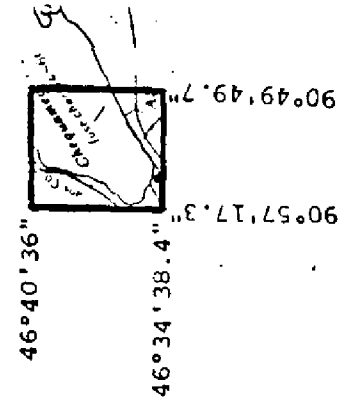
(1:30,000 Scale)



## ASHLAND

(1:15,000 Scale)

TP-00439



(1:10,000 Scale)

TP-00439

TP-00438

(1:10,000 Scale)

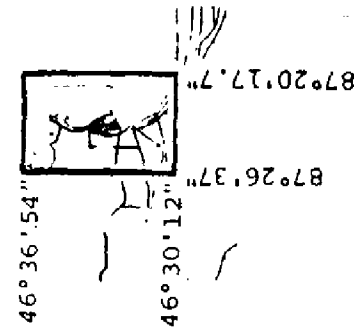
TP-00439

TP-00438

## MARQUETTE

(1:15,000 Scale)

TP-00442





SUMMARY TO ACCOMPANY  
DESCRIPTIVE REPORTS

TP-00441A, TP-00441B, and TP-00441C

These three maps TP-00441A, 1:30,000 scale and its insets TP-00441B, 1:10,000 scale, and TP-00441C, 1:10,000 scale are part of project CM-7705, Keweenaw Waterway, Keweenaw Bay, Marquette Harbor, Michigan and Ashland, Wisconsin which consist of four maps and three insets.

This project is divided into three different geographic areas. Part I, Ashland Harbor, Chequamegon Bay, Lake Superior, Wisconsin, longitude 90°49'49.7" west to 90°57'17.3", latitude 46°34'38.4" north to 46°40'36". Part II, L'Anse, Michigan, latitude 46°44'46" to the north entrance of the Keweenaw Waterway, Michigan, latitude 47°15'37". Part III, Marquette Bay, Lake Superior, Michigan, latitude 46°30'12" north to latitude 46°36'54".

Field work prior to compilation which was accomplished in July 1978 involved the identification of horizontal control by Photoidentification methods to meet aerotriangulation requirements.

Photographs taken in May 1977 using the "E" camera with a focal length of 152.71 millimeters with panchromatic film at 1:20,000 scale and June 1978 with the "Y" camera with a focal length of 88.72 millimeters at 1:50,000 scale were provided to aerotriangulation for bridging.

Analytic aerotriangulation was performed at the Washington Science Center in October 1979.

Compilation was done at the Atlantic Marine Center with TP-00441A being compiled in July 1980 and TP-00441B and TP-00441C being compiled in April 1981.

Field edit accomplished during May 1981 consisted of a visual examination to check for completeness, to answer questions and to clarify details.

Field edit was applied as partial during September 1982 on TP-00441B, and TP-00441C and during November 1982 on TP-00441A at the Atlantic Marine Center. The map was kept as Class III since the edit was incomplete and no field checks for accuracy were made.

Final review was performed at the Atlantic Marine Center in February 1984. These three maps are to be registered together as one, as Final Class III Maps.

The original base manuscript and relevant data were forwarded to the Washington Science Center for final registration.

## FIELD INSPECTION

TP-00441A, TP-00441B, AND TP-00441C

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

## Photogrammetric Plot Report

Keweenaw, Michigan

CM-7705

October 11, 1979

21. Area Covered

The area covered by this report extends from L'Anse Bay up to Lake Superior near Calumet. This area is covered by two 1:30,000 scale sheets; TP-00440 and TP-00441, including three insets which are at a scale of 1:10,000.

22. Method

Three strips of 1:50,000 scale black and white photography were bridged by analytic aerotriangulation methods. The strips of bridging photography were controlled by field identified control. Tie points were used in all strips to insure an adequate junction of all strips during the strip adjustments. Ratio photos of compilation photography was ordered.

23. Adequacy of Control

This office has often experienced problems in adjusting strips to ground control points in the Great Lakes area. Usually the problems are in the order of 10 to 15 feet and are well within the National Map Accuracy Standards but in this Great Lakes area our strip adjustments are not as good as in other areas.

In the Keweenaw part of this project, CM-7705, we were not able to resolve the control problem but fortunately we were able to omit the problem area.

Originally, strip 1 contained 14 photos with five control station. The north terminal for this strip was Calumet, 1939. In the strip adjustment, the two sub points for Calumet differed by 24 feet. When using sub point #1 of Calumet, the next control station in the strip, Torch Lake, 1935 was off by about 16 feet. If sub point #2 of Calumet was held, Torch Lake was off by 33 feet. Note that in mensuration, the image of Calumet sub point #1 could not be positively identified, but the image of sub point #2 could be positively identified.

This office requested additional control identification by a field party. Two sub points were identified for Section Corner (Glo Mich. GS) 1934. These sub points would not fit in the adjustment. They were both off by at least 1200 feet.

The control discrepancy could not be resolved. It was decided to delete the 3 photos at the north end of the strip that covered Calumet and Section Corner. This left sufficient photo coverage for shoreline compilation. The remainder of strip #1 and the other two strips in this Keweenaw area fit quite well with the ground control.

24. Supplemental Data

USGS quadrangles were used to provide vertical control for the adjustment.

25. Photography

The coverage, overlap, and quality of the photography was adequate for the job.

Submitted by,

*Brian Thornton*

Brian Thornton

Approved and Forwarded by:

*Don O. Norman*

Don O. Norman  
Chief, Aerotriangulation Section

KEWEENAW BAY, MICHIGAN  
CM-7705FIT TO CONTROL  
X AND Y VALUES IN FEET

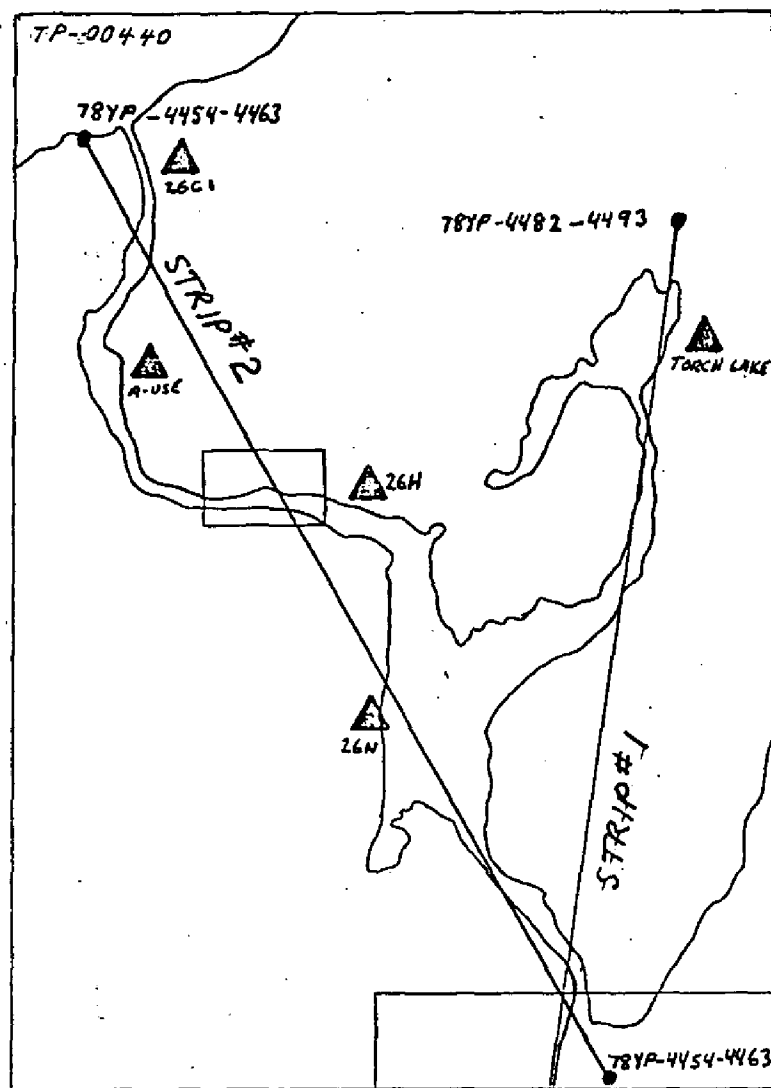
<u>NAME</u>		<u>POINT NO.</u>	<u>X ERROR</u>	<u>Y ERROR</u>
<u>STRIP 1</u>				
Lanse Muni. W.T., 1956		482100	1.118	-0.772
	Sub Pt A	482101	-2.695	-4.495
	Sub Pt B	482102	0.000	0.000
Keweenaw Pt. South Base USLS				
	Sub Pt A	485101	-2.198	3.744
	Sub Pt B	485102	-1.133	4.353
Keweenaw Pt. North Base USLS, 1871				
	Sub Pt	487101	0.000	0.000
Torch Lake, 1935				
	Sub Pt A	493101	0.001	0.004
	Sub Pt B	493102	0.579	-0.290
<u>STRIP 2</u>				
26 C1, 1934				
	Sub Pt A	454101	-2.347	2.532
	Sub Pt B	454102	3.273	1.302
A-USE, 1934				
	Sub Pt A	456101	-1.905	3.048
	Sub Pt B	456102	-3.055	-3.388
26 H, 1934				
	Sub Pt A	458101	-1.369	1.904
26 N (MGS), 1934				
	Sub Pt A	459101	1.744	0.682
	Sub Pt B	459102	2.235	-1.665
Keweenaw Pt. North Base USLS, 1871				
	Sub Pt	487101	-0.592	-0.501
<u>STRIP 3</u>				
Bay No. 4, 1979				
	Sub Pt A	472101	-0.107	-1.545
	Sub Pt B	472102	-0.079	0.311

<u>NAME</u>		<u>POINT NO.</u>	<u>X ERROR</u>	<u>Y ERROR</u>
Pequaming 2, 1972				
	Sub Pt A	473101	-0.079	-1.079
	Sub Pt B	473102	1.308	-4.944
Bay 2, 1979				
	Sub Pt A	474101	-0.004	1.301
	Sub Pt B	474102	-1.176	0.568
L'Anse Muni. W.T., 1956				
	Sub Pt A	482101	0.162	-0.534
	Sub Pt B	482102	-1.054	0.136

The control for this project is adequate for the job and is within the National Standards of Map Accuracy.

47 15 37

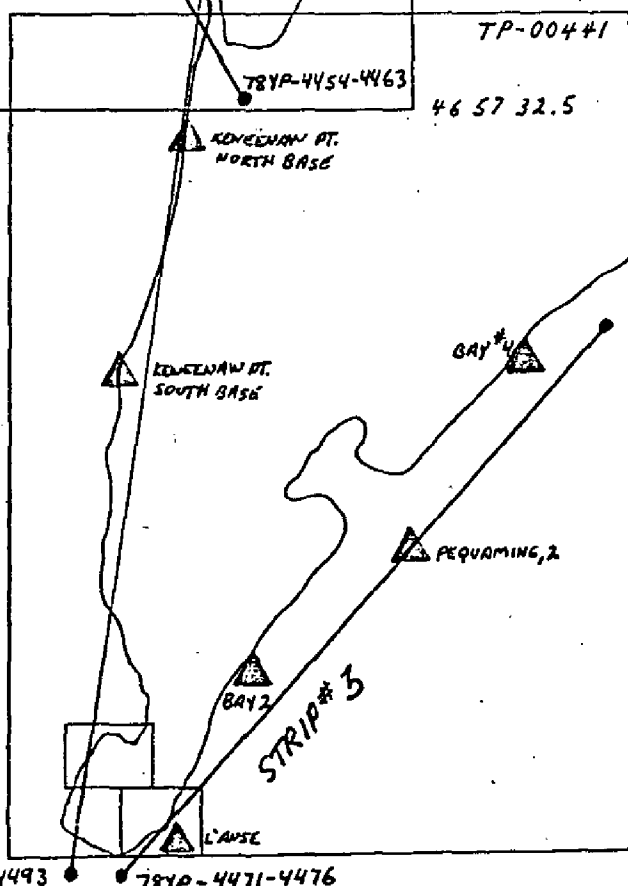
13A, B, C



AEROTRIANGULATION SKETCH  
CM-7705  
KEWEENAW BAY AND  
WATERWAY  
MICHIGAN  
OCTOBER 15, 1979

1:50,000 SCALE BRIDGING  
PHOTOS

88 40 39



88 15 20

46 59 09

78YP-4471-4476

46 44 46

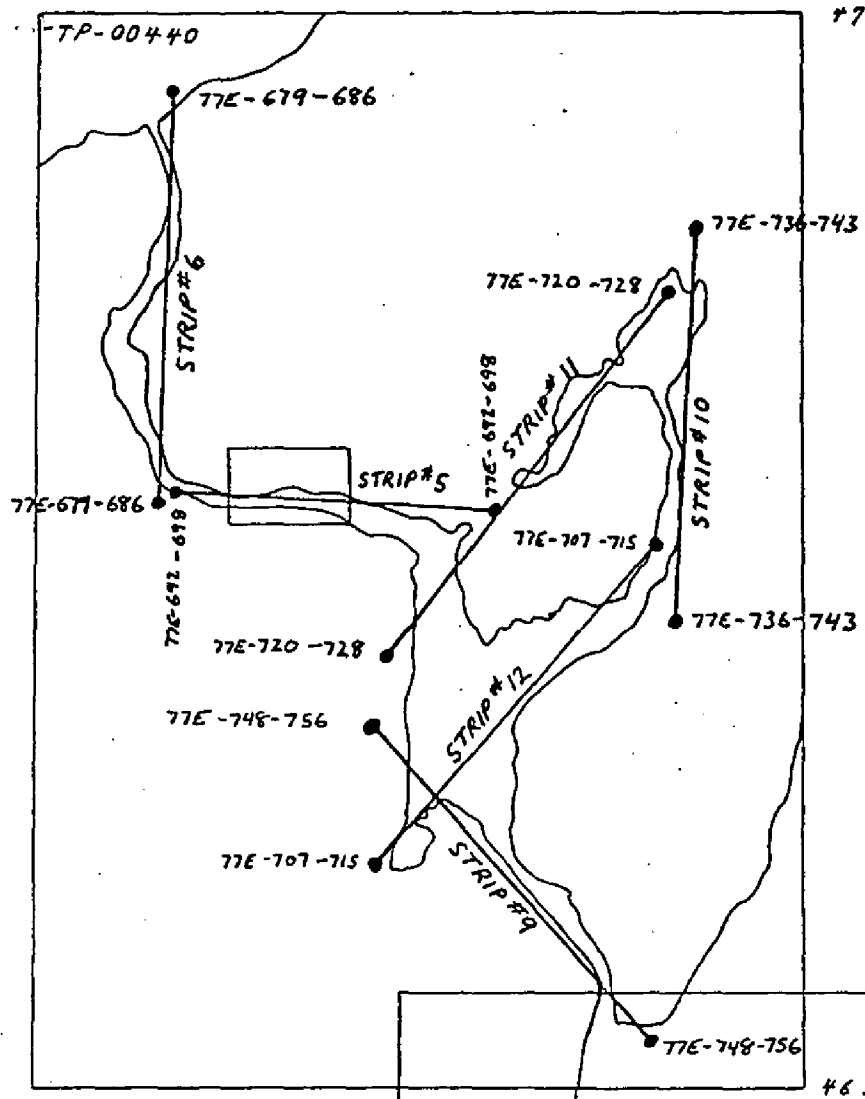
TP-00440

7 15 37

14A, B, C

AEROTRIANGULATION SKETCH  
CM-7705  
KEWEENAW BAY AND  
WATERWAY  
MICHIGAN  
OCTOBER 15, 1979

1:20,000 SCALE PHOTOS



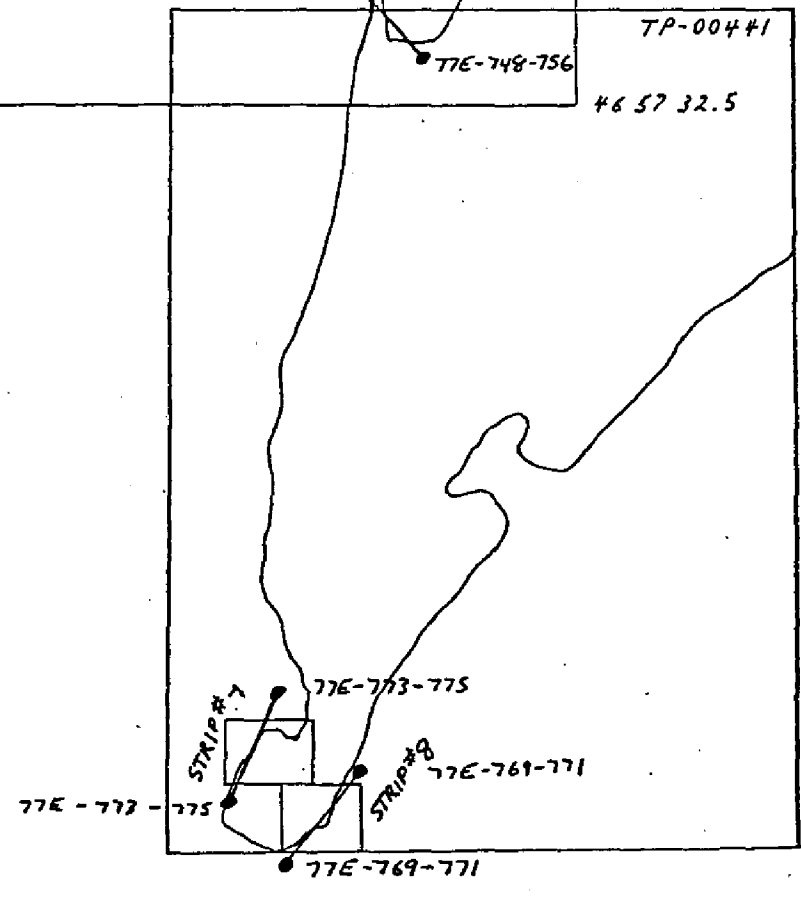
88 15 20

46 59 09

TP-00441

46 57 32.5

88 40 39



46 44 46



## DESCRIPTIVE REPORT CONTROL RECORD

MAP NO.		JOB NO.		GEODETIC DATUM		ORIGINATING ACTIVITY	
TP-00441A		CM-7705		N.A. 1927		Coastal Mapping Div., AMC	
STATION NAME	SOURCE OF INFORMATION (Index)	AEROTRI- ANGULATION POINT NUMBER	COORDINATES IN FEET STATE Michigan ZONE North		GEOGRAPHIC POSITION φ LATITUDE λ LONGITUDE		REMARKS
26 U (MGS), 1934	460881 Page 1023	55	X=	φ 46° 55' 19.808"			
			Y=	λ 88° 29' 02.550"			
26 V (MGS), 1934	460881 Page 1024	57	X=	φ 46° 54' 02.703"			
			Y=	λ 88° 28' 37.456"			
26 W (MGS), 1934	460881 Page 1025	58	X=	φ 46° 53' 51.780"			
			Y=	λ 88° 28' 38.974"			
26 X (MGS), 1934	460881 Page 1026	59	X=	φ 46° 53' 17.729"			
			Y=	λ 88° 28' 48.800"			
BARAGA MICHIGAN CONSERVATION DEPT. RADIO TOWER, 1956	460884 Page 1010	62	X=	φ 46° 47' 46.674"			
			Y=	λ 88° 30' 25.645"			
KEWEENAW POINT NORTH BASE (USLS), 1871	460881 Page 1007	487100	X=	φ 46° 56' 47.944"			
			Y=	λ 88° 26' 58.865"			
L'ANSE STATE HWY. PATROL RADIO TOWER, 1956	460881 Page 1019	64	X=	φ 46° 44' 54.98"			
			Y=	λ 88° 26' 17.14"			
KEWEENAW POINT SOUTH BASE (USLS), 1871	460881 Page 1008	485100	X=	φ 46° 52' 17.693"			
			Y=	λ 88° 29' 16.161"			
KEWEENAW POINT SOUTH BASE LATITUDE STA. (USLS), 1873	460881 Page 1008		X=	φ 46° 52' 17.685"			
			Y=	λ 88° 29' 15.797"			
PEQUAMING 2, 1972	460881 Page 1010		X=	φ 46° 50' 07.24720"			
			Y=	λ 88° 21' 12.79530			
COMPUTED BY L. Williams		DATE 12/4/79	COMPUTATION CHECKED BY J. Moler			DATE 12/4/79	
LISTED BY L. Williams		DATE 12/4/79	LISTING CHECKED BY J. Moler			DATE 12/3/79	
HAND PLOTTING BY		DATE	HAND PLOTTING CHECKED BY			DATE	

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

## DESCRIPTIVE REPORT CONTROL RECORD

MAP NO.	JOB NO.	GEODETIC DATUM	ORIGINATING ACTIVITY		
TP-00441A	CM-7705	N.A. 1927	Coastal Mapping Div., AMC		
STATION NAME	SOURCE OF INFORMATION (Index)	AEROTRIANGULATION POINT NUMBER	COORDINATES IN FEET STATE MICHIGAN ZONE NORTH	GEOGRAPHIC POSITION φ LATITUDE λ LONGITUDE	REMARKS
L'ANSE, MUNICIPAL WATER TANK, 1956	460881 Page 1018	482100 63	x=	φ 46°45'17.99"	
			y=	λ 88°27'25.45"	
TOM (MGS), 1934	460881 Page 1014		x=	φ 46°53'08.579"	
			y=	λ 88°28'49.812"	
BENDERY (USLS), 1865	460881 Page 1029		x=	φ 46°45'30.20"	
			y=	λ 88°27'20.03"	
PEQUAMING, FORD CO., LUMBER MILL, SHORT WATER TANK, 1939	460881 Page 1020		x=	φ 46°51'09.336"	
			y=	λ 88°24'06.611"	
PEQUAMING, FORD CO. LUMBER MILL, TALL WATER TANK, 1939	460881 Page 1021		x=	φ 46°51'08.408"	
			y=	λ 88°24'06.847"	
QUADUAMING (USLS), 1871	460881 Page 1013		x=	φ 46°52'20.164"	
			y=	λ 88°22'21.193"	
KEWEENAW WATERWAY LIGHTHOUSE, 1939	460881 Page 1017		x=	φ 46°58'07.986"	
			y=	λ 88°25'51.561"	
26T (MGS), 1934	460881 Page 1022		x=	φ 46°57'46.379"	
			y=	λ 88°29'50.548"	
KEWEENAW POINT MIDDLE BASE (USLS), 1871	460881 Page 1031		x=	φ 46°54'31.59"	
			y=	λ 88°28'10.73"	
AU VILLAGE (USLS), 1865	460881 Page 1028		x=	φ 46°51'05.30"	
			y=	λ 88°24'12.56"	
COMPUTED BY J. Williams		DATE 12/4/79	COMPUTATION CHECKED BY J. Moler		DATE 12/4/79
LISTED BY J. Williams		DATE 12/3/79	LISTING CHECKED BY J. Moler		DATE 12/3/79
HAND PLOTTING BY J. Williams		DATE 12/3/79	HAND PLOTTING CHECKED BY J. Moler		DATE 12/3/79

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



## COMPILATION REPORT

TP-00441A

31 - DELINEATION

Delineation was by the Wild B-8 stereoplotting instrument using June 1978, 1:50,000 scale photography. Photo coverage was adequate.

32 - CONTROL

Refer to the Photogrammetric Plot Report dated October 11, 1979.

33 - SUPPLEMENTAL DATA

None.

34 - CONTOURS AND DRAINAGE

Contours are not applicable. Drainage was delineated from office interpretation of the photographs.

35 - SHORELINE AND ALONGSHORE DETAILS

All details were delineated from office interpretation of the photographs.

36 - OFFSHORE DETAILS

No unusual problems.

37 - LANDMARKS AND AIDS

Appropriate copies of 76-40 forms are submitted with this Descriptive Report.

38 - CONTROL FOR FUTURE SURVEYS

None.

39 - JUNCTIONS

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

40 - HORIZONTAL AND VERTICAL ACCURACY

Refer to the Photogrammetric Plot Report dated October 11, 1979.

TP-00441A

46 - COMPARISON WITH EXISTING MAPS

A comparison was made with U.S. Geological Survey Quadrangles: Keweenaw Bay, Michigan, 1954, scale 1:62,500; and Herman, Michigan, 1955, scale 1:62,500.

47 - COMPARISON WITH NAUTICAL CHARTS

A comparison was made with NOS Chart: 14971, 17th edition, dated June 9, 1979, scale 1:30,000.

ITEMS TO BE APPLIED TO NAUTICAL CHARTS IMMEDIATELY

None.

ITEMS TO BE CARRIED FORWARD

None.

Submitted by,

*F. Margiotta*  
F. Margiotta

Cartographic Technician  
July 1980

Approved,

*James L. Byrd, Jr.*  
James L. Byrd, Jr.

Chief, Coastal Mapping Unit

CM-7705  
KEWEENAW WATERWAY  
FIELD EDIT REPORT  
TP-00441 A

51. METHOD

A visual inspection was made of the shoreline where ever it was accessible by car or by foot. Some areas were private property and were so posted with locked gates, and no attempt was made to get to the shoreline.

Notes were made on the Master Field Edit Print, photograph 78 YP 4475 and thirteen horizontal photographs taken by the field editor for clarification of the compilation.

52. ADEQUACY OF COMPILATION

The compilation was very good.

53. MAP ACCURACY

The horizontal placement of the compiled detail was very good. No statement about the vertical accuracy

54. RECOMMENDATIONS

Field experience by the office compiler would help with photo interpretation in the office.

Photographs taken in the field by the field editor give and added dimension to field edit application.

55. EXAMINATION OF PROOF COPY

No statement.

Field Editor



Lowell O. Neterer  
June 18, 1981

## REVIEW REPORT

TP-00441A, TP-00441B AND TP-00441C

61. GENERAL STATEMENT

See Summary included with this report.

62. COMPARISON WITH REGISTERED TOPOGRAPHIC SURVEYS

Not applicable.

63. COMPARISON WITH MAPS OF OTHER AGENCIES

A comparison was made with U.S.G.S. Quadrangles: Keweenaw Bay, Michigan, dated 1954; and Herman, Michigan, dated 1955. Both are 1:62,5000 scale.

64. COMPARISON WITH CONTEMPORARY HYDROGRAPHIC SURVEYS

There is no contemporary hydrographic survey within the limits of this Final Class III map.

65. COMPARISON WITH NAUTICAL CHARTS

A comparison was made with NOS Chart: 14971, 17th edition, dated June 9, 1979, scale 1:30,000.

66. ADEQUACY OF RESULTS AND FUTURE SURVEYS

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

Submitted by,

*Lowell O. Neterer, Jr.*

Lowell O. Neterer, Jr.  
Final Reviewer

Approved for forwarding,

*Billy H. Barnes*

Billy H. Barnes  
Chief, Photogrammetric Section, AMC

Approved,

*Gregory L. Pearson*

Chief, Photogrammetric Section, Rockville

*Ronald K. Brewer*

Chief, Photogrammetry Branch  
Rockville

February 6, 1984

GEOGRAPHIC NAMES  
FINAL NAMES SHEET  
PH-7707 (Keweenaw Waterway, Michigan)  
TP-00441

Abbaye Peninsula

Arnheim

Assinins

Baraga

Echo Harbor

Falls River

Huron Bay

Kelsey Creek

Keweenaw Bay

Keweenaw Bay (locality)

Lake Superior

L'Anse

L'Anse Bay

Linden Creek

Little Carp Creek

Little Silver Creek

Pequaming

Pequaming Bay

Pequaming Point

Rock Beach Point

Sand Bay

Sand Point

Silver River

Soo Line (RR)

Zeba

Approved by:

*Charles E. Harrington*

Charles E. Harrington  
Chief Geographer  
Nautical Charting Division



DISSEMINATION OF PROJECT MATERIAL

CM-7705

NATIONAL ARCHIVES/FEDERAL RECORDS CENTER

JOB COMPLETION REPORT

Box:

NOAA Forms 76-40's  
76-41's  
Computer Readouts  
5 Field Editor Reports  
1 Envelope 76-40's Field Copies  
Field Notebooks 76-52  
76-109  
2 Bound Notebooks containing Field Data  
1 Bound Notebook containing Forms 76-109  
Field Identified Contact Photos  
Field Data  
1 U.P. Generating Co. Plan  
1 Project Diagram (TP-00442)  
1 Envelope with Control Photos  
1 Project Diagram

BUREAU ARCHIVES

Registered Copy of Each Map  
Descriptive Report of Each Map

REPRODUCTION DIVISION

8x Reduction Negative of Each Map

OFFICE OF STAFF GEOGRAPHER

Geographic Names Standard

NOAA FORM 76-40 (8-74)										U.S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION										ORIGINATING ACTIVITY
Replaces C&GS Form 567.										NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION										
REPORTING UNIT (Field Party, Ship or Office) Coastal Mapping Unit, AMC, Norfolk, VA										LOCALITY Lake Superior										DATE Aug. 1982
STATE Michigan																				
JOB NUMBER CM-7705										SURVEY NUMBER TP-00441A										
OPR PROJECT NO.										DATUM N.A. 1927										
The following objects HAVE <input type="checkbox"/> BEEN INSPECTED FROM SEAWARD TO DETERMINE THEIR VALUE AS LANDMARKS.																				
CHARTING NAME										DESCRIPTION										
TANK										TANK										
BARN										BARN										
STACKS										STACKS										
STACKS										STACKS										
STATUE										STATUE										
TANK										TANK										
TANK										TANK										
TANK										TANK										14971
BARN										BARN										"
STACKS										STACKS										"
STACKS										STACKS										"
STATUE										STATUE										"
TANK										TANK										"
TANK										TANK										"

RESPONSIBLE PERSONNEL	
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	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' <i>(Consult Photogrammetric Instructions No. 64.)</i>	
<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 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>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>
<b>*FIELD POSITIONS are determined by field observations based entirely upon ground survey methods.</b>	

NOAA FORM 76-36A (3-72)		U. S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMIN.		TYPE OF SURVEY		SURVEY: TP. 00441B	
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>SM</del> -CM-7705	
PHOTOGRAMMETRIC OFFICE				LAST PRECEDING MAP EDITION			
Coastal Mapping Division, Norfolk, VA				TYPE OF SURVEY		JOB PH. _____	
OFFICER-IN-CHARGE				<input type="checkbox"/> ORIGINAL		MAP CLASS _____	
A. Y. Bryson, CDR				<input type="checkbox"/> RESURVEY		SURVEY DATES:	
				<input type="checkbox"/> REVISED		19__ TO 19__	
I. INSTRUCTIONS DATED							
1. OFFICE				2. FIELD			
Aerotriangulation August 28, 1978				Photography March 30, 1977			
Compilation January 18, 1979				Control April 11, 1978			
Change No. 2 November 11, 1979				Change No. 1 June 16, 1978			
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) Lake Superior Low Water Datum			
3. MAP PROJECTION				4. GRID(S)			
Lambert Conformal Conic				STATE Michigan		ZONE North	
5. SCALE 1:10,000				STATE		ZONE	
III. HISTORY OF OFFICE OPERATIONS							
OPERATIONS				NAME		DATE	
1. AEROTRIANGULATION BY				B. Thornton		Oct. 1979	
METHOD: Analytic LANDMARKS AND AIDS BY				D. Norman		Oct. 1979	
2. CONTROL AND BRIDGE POINTS PLOTTED BY				B. Thornton		Oct. 1979	
METHOD: Coradomat CHECKED BY				D. Norman		Oct. 1979	
3. STEREOSCOPIC INSTRUMENT PLANIMETRY BY				D. Butler		Feb. 1980	
COMPILATION CHECKED BY				J. Roderick		Feb. 1980	
INSTRUMENT: Wild B-8				CONTOURS BY		N.A.	
SCALE: 1:10,000				CHECKED BY		N.A.	
4. MANUSCRIPT DELINEATION PLANIMETRY BY				D. Butler		March 1980	
CHECKED BY				L. O. Neterer, Jr.		April 1981	
METHOD: Smooth drafted				CONTOURS BY		N.A.	
CHECKED BY				N.A.			
SCALE: 1:10,000 HYDRO SUPPORT DATA BY				D. Butler		March 1980	
CHECKED BY				L. O. Neterer, Jr.		April 1981	
5. OFFICE INSPECTION PRIOR TO FIELD EDIT BY				L. O. Neterer, Jr.		April 1981	
6. APPLICATION OF FIELD EDIT DATA BY				M. Mozgala		Aug. 1982	
CHECKED BY				I. Perkinson		Sept. 1982	
7. COMPILATION SECTION REVIEW BY				L. O. Neterer, Jr.		Feb. 1984	
8. FINAL REVIEW BY				L. O. Neterer, Jr.		Feb. 1984	
9. DATA FORWARDED TO PHOTOGRAMMETRIC BRANCH BY				L. O. Neterer, Jr.		Feb. 1984	
10. DATA EXAMINED IN PHOTOGRAMMETRIC BRANCH BY				P. Hawkins		Aug. 1984	
11. MAP REGISTERED - COASTAL SURVEY SECTION BY							

TP-00441B  
COMPILATION SOURCES

## 1. COMPILATION PHOTOGRAPHY

CAMERA(S) Wild RC-8 "E" (152.71mm)		TYPES OF PHOTOGRAPHY LEGEND		TIME REFERENCE	
TIDE STAGE REFERENCE <input type="checkbox"/> PREDICTED TIDES N.A. <input type="checkbox"/> REFERENCE STATION RECORDS N.A. <input type="checkbox"/> TIDE CONTROLLED PHOTOGRAPHY N.A.		(C) COLOR (P) PANCHROMATIC (I) INFRARED		ZONE Central	<input checked="" type="checkbox"/> STANDARD
				MERIDIAN 90th	<input type="checkbox"/> DAYLIGHT
NUMBER AND TYPE	DATE	TIME	SCALE	STAGE OF TIDE	
77 E(P) 0773 - 0775	May 25, 1977	16:27	1:20,000	N.A.	

REMARKS Lake level at time of photography was 600.17 ft., Lake Superior Low Water Datum, Marquette gage.

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

Mean high water line is not applicable. The "shoreline" was delineated from the above listed photographs, and is defined as that line visible on the photographs which marks the contact between land and water.

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

Not applicable.

## 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

REMARKS This inset lies within the southwest corner of TP-00441A and joins it on all four sides.

## HISTORY OF FIELD OPERATIONS

I. ☒ FIELD INSPECTION OPERATION☐ FIELD EDIT OPERATION

OPERATION	NAME	DATE
1. CHIEF OF FIELD PARTY	R. Tibbetts	Aug. 1979
2. HORIZONTAL CONTROL RECOVERED BY ESTABLISHED BY PRE-MARKED OR IDENTIFIED BY	None None None	
3. VERTICAL CONTROL RECOVERED BY ESTABLISHED BY PRE-MARKED OR IDENTIFIED BY	None None None	
4. LANDMARKS AND AIDS TO NAVIGATION RECOVERED (Triangulation Stations) BY LOCATED (Field Methods) BY IDENTIFIED BY	None None None	
5. GEOGRAPHIC NAMES INVESTIGATION TYPE OF INVESTIGATION <input type="checkbox"/> COMPLETE <input type="checkbox"/> SPECIFIC NAMES ONLY <input checked="" type="checkbox"/> NO INVESTIGATION BY		
6. PHOTO INSPECTION CLARIFICATION OF DETAILS BY	None	
7. BOUNDARIES AND LIMITS SURVEYED OR IDENTIFIED BY	N.A.	

## II. SOURCE DATA

1. HORIZONTAL CONTROL IDENTIFIED

N.A.

2. VERTICAL CONTROL IDENTIFIED

PHOTO NUMBER	STATION NAME	PHOTO NUMBER	STATION DESIGNATION

3. PHOTO NUMBERS (Clarification of details)

None

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)

None

TP-00441B

## HISTORY OF FIELD OPERATIONS

1. ☐ FIELD INSPECTION OPERATION☒ FIELD EDIT OPERATION

OPERATION	NAME	DATE
1. CHIEF OF FIELD PARTY	L. O. Neterer, Jr.	May 1981
2. HORIZONTAL CONTROL	RECOVERED BY ESTABLISHED BY PRE-MARKED OR IDENTIFIED BY	None None None
3. VERTICAL CONTROL	RECOVERED BY ESTABLISHED BY PRE-MARKED OR IDENTIFIED BY	N.A. N.A. N.A.
4. LANDMARKS AND AIDS TO NAVIGATION	RECOVERED (Triangulation Stations) BY LOCATED (Field Methods) BY IDENTIFIED BY	None
5. GEOGRAPHIC NAMES INVESTIGATION	TYPE OF INVESTIGATION <input type="checkbox"/> COMPLETE <input type="checkbox"/> SPECIFIC NAMES ONLY <input type="checkbox"/> NO INVESTIGATION	
6. PHOTO INSPECTION	CLARIFICATION OF DETAILS BY	L. O. Neterer, Jr.
7. BOUNDARIES AND LIMITS	SURVEYED OR IDENTIFIED BY	May 1981

## II. SOURCE DATA

1. HORIZONTAL CONTROL IDENTIFIED

None

2. VERTICAL CONTROL IDENTIFIED

PHOTO NUMBER	STATION NAME	PHOTO NUMBER	STATION DESIGNATION

3. PHOTO NUMBERS (Clarification of details)

None

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 each Master Field Edit Ozalid

1 each Field Edit Report

1 each field sketch

4 each photographs (by field editor)

TP-00441B  
RECORD OF SURVEY USE

## I. MANUSCRIPT COPIES

COMPILATION STAGES			DATE MANUSCRIPT FORWARDED	
DATA COMPILED	DATE	REMARKS	MARINE CHARTS	HYDRO SUPPORT
Compilation complete, pending field edit	March 1980	Class III Manuscript		
Partial field edit applied	August 1982	Class III Manuscript		
Final Reviewed	Feb. 1984	Final Class III Map		

## II. LANDMARKS AND AIDS TO NAVIGATION

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

PAGES <del>NUMBER</del>	CHART LETTER NUMBER ASSIGNED	DATE FORWARDED	REMARKS
1			Aids to be charted
1			Landmarks to be charted

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

## III. FEDERAL RECORDS CENTER DATA

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

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

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

SECOND EDITION	SURVEY NUMBER TP - _____ (2)	JOB NUMBER PH - _____	TYPE OF SURVEY <input type="checkbox"/> REVISED <input type="checkbox"/> RESURVEY MAP CLASS <input type="checkbox"/> II. <input type="checkbox"/> III. <input type="checkbox"/> IV. <input type="checkbox"/> V. <input type="checkbox"/> FINAL
	DATE OF PHOTOGRAPHY	DATE OF FIELD EDIT	
THIRD EDITION	SURVEY NUMBER TP - _____ (3)	JOB NUMBER PH - _____	TYPE OF SURVEY <input type="checkbox"/> REVISED <input type="checkbox"/> RESURVEY MAP CLASS <input type="checkbox"/> II. <input type="checkbox"/> III. <input type="checkbox"/> IV. <input type="checkbox"/> V. <input type="checkbox"/> FINAL
	DATE OF PHOTOGRAPHY	DATE OF FIELD EDIT	
FOURTH EDITION	SURVEY NUMBER TP - _____ (4)	JOB NUMBER PH - _____	TYPE OF SURVEY <input type="checkbox"/> REVISED <input type="checkbox"/> RESURVEY MAP CLASS <input type="checkbox"/> II. <input type="checkbox"/> III. <input type="checkbox"/> IV. <input type="checkbox"/> V. <input type="checkbox"/> FINAL
	DATE OF PHOTOGRAPHY	DATE OF FIELD EDIT	



JOB CM-7705

KEWEENAW WATERWAY, MICH.

KEWEENAW BAY, MICH.

MARQUETTE, MICH.

ASHLAND, WISC.

SHORELINE MAPPING

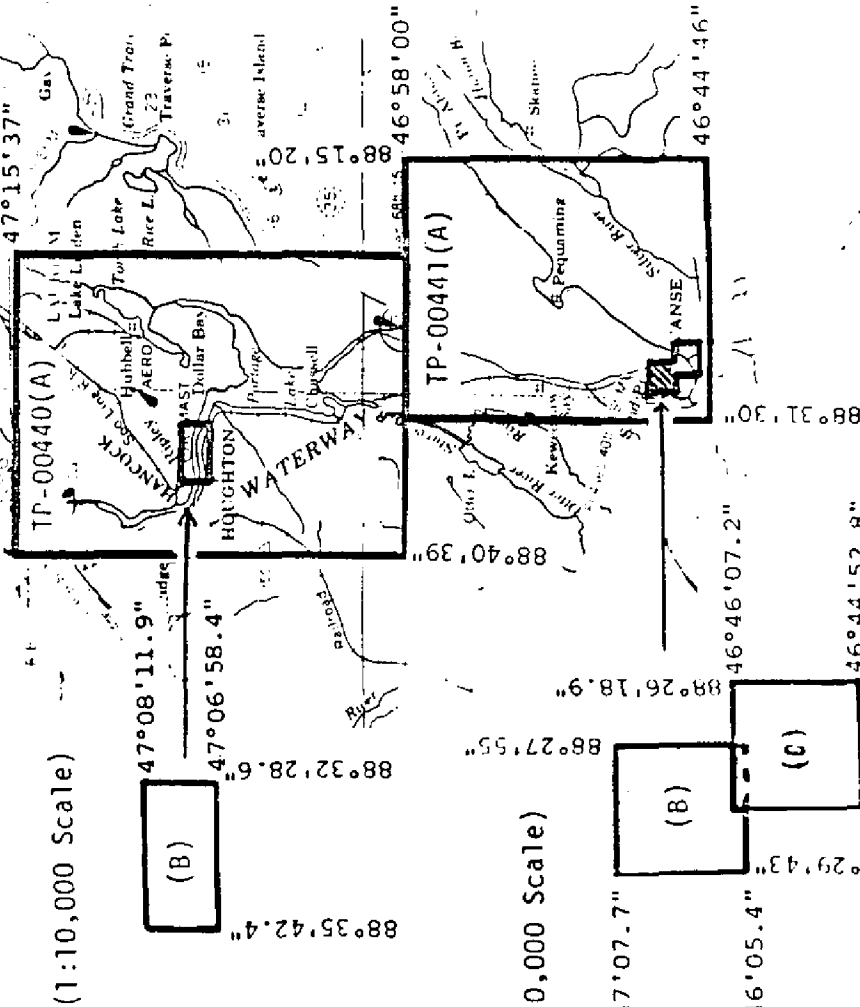
SCALES: 1:15,000-1:30,000

INSETS AT 1:10,000

REVISED 2/7/84 GXX

# KEWEENAW BAY AND WATERWAY

(1:30,000 Scale)



(1:10,000 Scale)

(B)

(1:10,000 Scale)

46°47'07.7"

46°46'05.4"

(B)

(C)

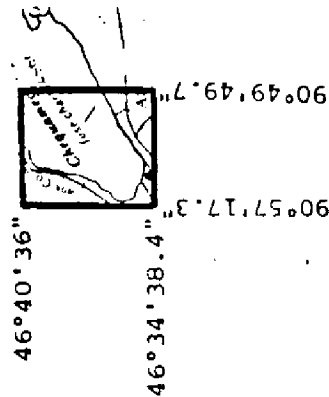
(1:10,000 Scale)

88°28'18.6"

## ASHLAND

(1:15,000 Scale)

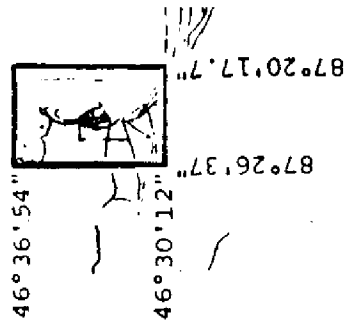
TP-00439



## MARQUETTE

(1:15,000 Scale)

TP-00442



## DESCRIPTIVE REPORT CONTROL RECORD

MAP NO.	JOB NO.	STATION NAME	SOURCE OF INFORMATION (Index)	AEROTRI- ANGULATION POINT NUMBER	GEODETIC DATUM		ORIGINATING ACTIVITY	
					COORDINATES IN FEET STATE _____ ZONE _____	N.A. 1927	GEOGRAPHIC POSITION $\phi$ LATITUDE $\lambda$ LONGITUDE	Coastal Mapping Div., AMC
NONE					$x=$	$\phi$		
					$y=$	$\lambda$		
					$x=$	$\phi$		
					$y=$	$\lambda$		
					$x=$	$\phi$		
					$y=$	$\lambda$		
					$x=$	$\phi$		
					$y=$	$\lambda$		
					$x=$	$\phi$		
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					$x=$	$\phi$		
					$y=$	$\lambda$		
					$x=$	$\phi$		
					$y=$	$\lambda$		
					$x=$	$\phi$		
					$y=$	$\lambda$		
COMPUTED BY					COMPUTATION CHECKED BY			DATE
LISTED BY					LISTING CHECKED BY			DATE
HAND PLOTTING BY					HAND PLOTTING CHECKED BY			DATE

## COMPILATION REPORT

TP-00441B

31 - DELINEATION

Delineation was by the Wild B-8 stereoplotting instrument using 1:20,000 scale, May 1977, panchromatic photography. Quality and coverage was adequate.

32 - CONTROL

Refer to the Photogrammetric Plot Report dated October 11, 1979.

33 - SUPPLEMENTAL DATA

None.

34 - CONTOURS AND DRAINAGE

Contours are not applicable to the project. Drainage was delineated using the Wild B-8 stereoplotter and by office stereoscopic interpretation of the ratioed photographs.

35 - SHORELINE AND ALONGSHORE DETAILS

Alongshore details were delineated using the Wild B-8 stereoplotter and by office inspection of the ratioed photographs.

36 - OFFSHORE DETAILS

There were no offshore details.

37 - LANDMARKS AND AIDS

Appropriate copies of 76-40 forms are submitted with this Descriptive Report.

38 - CONTROL FOR FUTURE SURVEYS

None.

39 - JUNCTIONS

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

40 - HORIZONTAL AND VERTICAL ACCURACY

Refer to the Photogrammetric Plot Report dated October 11, 1979.

46 - COMPARISON WITH EXISTING MAPS

A comparison was made with U.S. Geological Survey Quadrangle:  
Keweenaw Bay, Michigan, 1954, scale 1:62,500.

47 - COMPARISON WITH NAUTICAL CHARTS

A comparison was made with NOS Chart: 14971, 17th edition, dated  
June 9, 1979, Baraga Inset, scale 1:10,000.

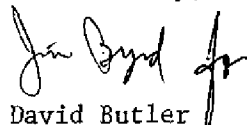
ITEMS TO BE APPLIED TO NAUTICAL CHARTS IMMEDIATELY

None.

ITEMS TO BE CARRIED FORWARD

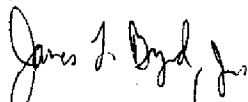
None.

Submitted by,



David Butler  
Cartographic Technician  
March 25, 1980

Approved,



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

CM-7705  
KEWEENAW WATERWAY  
FIELD EDIT REPORT  
TP-00441 B

51. METHOD

A visual inspection of the shoreline was made by automobile and or by foot. Sand Point was inaccessible because of signs stating Private Property, No Trespassing.

Notes were made on the Master Field Edit Ozalid, a field sketch and four horizontal photographs taken by the field editor for clarification of the compilation.

52. ADEQUACY OF COMPILATION

The compilation was very good.

53. MAP ACCURACY

The horizontal placement of the compiled detail was very good. No statement about the vertical accuracy.

54. RECOMMENDATIONS

Field experience by the office compiler would help with photo interpretation in the office.

Photographs taken by the field editor gives the office compiler an added dimension to field edit application.

55. EXAMINATION OF PROOF COPY

No statement.

Field Editor



Lowell O. Neterer, Jr.  
June 18, 1981





TYPE OF ACTION		RESPONSIBLE PERSONNEL		ORIGINATOR	
NAME		NAME		ORIGINATOR	
OBJECTS INSPECTED FROM SEAWARD		B. Link		<input type="checkbox"/> PHOTO FIELD PARTY <input checked="" type="checkbox"/> HYDROGRAPHIC PARTY <input type="checkbox"/> GEODETIC PARTY <input type="checkbox"/> OTHER (Specify)	
POSITIONS DETERMINED AND/OR VERIFIED		B. Link		FIELD ACTIVITY REPRESENTATIVE	
FORMS ORIGINATED BY QUALITY CONTROL AND REVIEW GROUP AND FINAL REVIEW ACTIVITIES		M. Mozgala		OFFICE ACTIVITY REPRESENTATIVE	
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 P - Photogrammetric Vis - Visually 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.		

Replaces C&amp;GS Form 567.

## NONFLOATING AIDS OR LANDMARKS FOR CHARTS

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

## ORIGINATING ACTIVITY

- ☐ HYDROGRAPHIC PARTY  
☐ GEODETIC PARTY  
☐ PHOTO FIELD PARTY  
☒ COMPILATION ACTIVITY  
☐ FINAL REVIEWER  
☐ QUALITY CONTROL & REVIEW GRP.  
☐ COAST PILOT BRANCH  
(See reverse for responsible personnel)

☒ TO BE CHARTED  
☐ TO BE REVISED  
☐ TO BE DELETED

REPORTING UNIT  
(If field party, ship or office)  
Coastal Mapping Unit,  
AMC, Norfolk, VA

STATE  
Michigan

LOCALITY

Lake Superior

DATE

May 1981

The following objects HAVE ☒ HAVE NOT ☐ been inspected from seaward to determine their value as landmarks.

OPR PROJECT NO.

JOB NUMBER

SURVEY NUMBER

DATUM

CM-7705

TP-00441B

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)

## POSITION

LATITUDE

LONGITUDE

OFFICE

FIELD

CHARTS  
AFFECTED

SPIRE

Southwest Corner Hwy. 38

46 46

44.0

88 29

30.4

77 E(P) 774  
5-25-77

14971

SPIRE

Southeast Corner on Hwy. 38

46 46

45.3  
1398

88 29

36.2  
769

"

"

"

CHIMNEY

46 46

39.99  
1235

88 29

38.60  
819

"

"

"



RESPONSIBLE PERSONNEL	
TYPE OF ACTION	NAME
OBJECTS INSPECTED FROM SEAWARD	L. O. Neterer, Jr.
POSITIONS DETERMINED AND/OR VERIFIED	L. O. Neterer, Jr.
FORMS ORIGINATED BY QUALITY CONTROL AND REVIEW GROUP AND FINAL REVIEW ACTIVITIES	M. Mozgala
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. <b>EXAMPLE:</b> 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> <b>EXAMPLE:</b> 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 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. <b>EXAMPLE:</b> F-2-6-L 8-12-75	<b>III. TRIANGULATION STATION RECOVERED</b> When a landmark or aid which is also a triangulation station is recovered, enter 'Triang. Rec.' with date of recovery. <b>EXAMPLE:</b> Triang. Rec. 8-12-75 <b>II. POSITION VERIFIED VISUALLY ON PHOTOGRAPH</b> Enter 'V-Vis.' and date. <b>EXAMPLE:</b> 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 76-36A (3-72)		U. S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMIN.		TYPE OF SURVEY		SURVEY TP. 00441C	
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 PH. CM-7705	
PHOTOGRAMMETRIC OFFICE				LAST PRECEDING MAP EDITION			
Coastal Mapping Division, Norfolk, VA				TYPE OF SURVEY		JOB PH. _____	
OFFICER-IN-CHARGE				<input type="checkbox"/> ORIGINAL		MAP CLASS _____	
A. Y. Bryson, CDR				<input type="checkbox"/> RESURVEY		SURVEY DATES:	
				<input type="checkbox"/> REVISED		19__ TO 19__	
I. INSTRUCTIONS DATED							
1. OFFICE				2. FIELD			
Aerotriangulation August 28, 1978				Photography March 30, 1977			
Compilation January 18, 1979				Control April 11, 1978			
Change No. 2 November 1, 1979				Change No. 1 June 16, 1978			
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), Lake Superior Low Water Datum.			
3. MAP PROJECTION				4. GRID(S)			
Lambert Conformal Conic				STATE		ZONE	
5. SCALE				Michigan		North	
1:10,000				STATE		ZONE	
III. HISTORY OF OFFICE OPERATIONS							
OPERATIONS				NAME		DATE	
1. AEROTRIANGULATION BY				B. Thornton		Oct. 1979	
METHOD: Analytic LANDMARKS AND AIDS BY				D. Norman		Oct. 1979	
2. CONTROL AND BRIDGE POINTS PLOTTED BY				B. Thornton		Oct. 1979	
METHOD: Coradomat CHECKED BY				D. Norman		Oct. 1979	
3. STEREOSCOPIC INSTRUMENT PLANIMETRY BY				D. Butler		Feb. 1980	
COMPILATION CHECKED BY				J. Roderick		Feb. 1980	
INSTRUMENT: Wild B-8				N.A.			
SCALE: 1:10,000				N.A.			
4. MANUSCRIPT DELINEATION PLANIMETRY BY				D. Butler		March 1980	
CHECKED BY				L. O. Neterer, Jr.		April 1981	
METHOD: Smooth drafted				N.A.			
SCALE: 1:10,000				N.A.			
HYDRO SUPPORT DATA BY				D. Butler		March 1980	
CHECKED BY				L. O. Neterer, Jr.		April 1981	
5. OFFICE INSPECTION PRIOR TO FIELD EDIT BY				L. O. Neterer, Jr.		April 1981	
6. APPLICATION OF FIELD EDIT DATA BY				M. Mozgala		August 1982	
CHECKED BY				I. Perkinson		Sept. 1982	
7. COMPILATION SECTION REVIEW BY				I. Perkinson		Sept. 1982	
8. FINAL REVIEW BY				L. O. Neterer, Jr.		Feb. 1984	
9. DATA FORWARDED TO PHOTOGRAMMETRIC BRANCH BY				L. O. Neterer, Jr.		Feb. 1984	
10. DATA EXAMINED IN PHOTOGRAMMETRIC BRANCH BY				P. Hawkins		Aug. 1984	
11. MAP REGISTERED - COASTAL SURVEY SECTION BY							

TP-00441C  
COMPILATION SOURCES

## 1. COMPILATION PHOTOGRAPHY

CAMERA(S) Wild RC-8 "E"		TYPES OF PHOTOGRAPHY LEGEND		TIME REFERENCE	
TIDE STAGE REFERENCE <input type="checkbox"/> PREDICTED TIDES N.A. <input type="checkbox"/> REFERENCE STATION RECORDS N.A. <input type="checkbox"/> TIDE CONTROLLED PHOTOGRAPHY N.A.		(C) COLOR (P) PANCHROMATIC (I) INFRARED		ZONE Central <input checked="" type="checkbox"/> STANDARD MERIDIAN 90th <input type="checkbox"/> DAYLIGHT	

NUMBER AND TYPE	DATE	TIME	SCALE	STAGE OF TIDE
77 E(C) 0769 - 0771	May 25, 1977	16:20	1:20,000	N.A.

REMARKS Lake level at time of photography was 600.17 ft., Lake Superior Low Water Datum, Marquette gage.

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

Mean high water line is not applicable. The "shoreline" was delineated from the above listed photographs and is defined as that line visible on the photographs which marks the contact between land and water.

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

Not applicable.

## 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

REMARKS This inset map lies within the southwest corner of TP-00441A and joins it on all four sides.

## HISTORY OF FIELD OPERATIONS

I. ☒ FIELD INSPECTION OPERATION☐ FIELD EDIT OPERATION

OPERATION	NAME	DATE
1. CHIEF OF FIELD PARTY	R. Tibbetts	July 1978
2. HORIZONTAL CONTROL	RECOVERED BY R. Tibbetts ESTABLISHED BY None PRE-MARKED OR IDENTIFIED BY R. Tibbetts	July 1978  July 1978
3. VERTICAL CONTROL	RECOVERED BY None ESTABLISHED BY None PRE-MARKED OR IDENTIFIED BY None	  
4. LANDMARKS AND AIDS TO NAVIGATION	RECOVERED (Triangulation Stations) BY R. Tibbetts LOCATED (Field Methods) BY None IDENTIFIED BY R. Tibbetts	July 1978  July 1978
5. GEOGRAPHIC NAMES INVESTIGATION	TYPE OF INVESTIGATION <input type="checkbox"/> COMPLETE <input type="checkbox"/> SPECIFIC NAMES ONLY <input type="checkbox"/> NO INVESTIGATION	BY
6. PHOTO INSPECTION	CLARIFICATION OF DETAILS BY None	
7. BOUNDARIES AND LIMITS	SURVEYED OR IDENTIFIED BY N.A.	

## II. SOURCE DATA

1. HORIZONTAL CONTROL IDENTIFIED

2. VERTICAL CONTROL IDENTIFIED

None

PHOTO NUMBER	STATION NAME	PHOTO NUMBER	STATION DESIGNATION
78Y(P) 4475	L'ANSE MUNICIPAL WATER TANK, 1952		

3. PHOTO NUMBERS (Clarification of details)

None

4. LANDMARKS AND AIDS TO NAVIGATION IDENTIFIED

PHOTO NUMBER	OBJECT NAME	PHOTO NUMBER	OBJECT NAME
78Y(P) 4475	TANK		

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 Form 76-53, 1 Form 76-67.

## HISTORY OF FIELD OPERATIONS

I. ☐ FIELD INSPECTION OPERATION☒ FIELD EDIT OPERATION

OPERATION	NAME	DATE
1. CHIEF OF FIELD PARTY	L. O. Neterer, Jr.	May 1981
2. HORIZONTAL CONTROL	RECOVERED BY None ESTABLISHED BY None PRE-MARKED OR IDENTIFIED BY L. O. Neterer, Jr.	May 1981
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 L. O. Neterer, Jr. LOCATED (Field Methods) BY L. O. Neterer, Jr. IDENTIFIED BY	May 1981 May 1981
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 L. O. Neterer, Jr.	May 1981
7. BOUNDARIES AND LIMITS	SURVEYED OR IDENTIFIED BY N.A.	

## II. SOURCE DATA

1. HORIZONTAL CONTROL IDENTIFIED

2. VERTICAL CONTROL IDENTIFIED

PHOTO NUMBER	STATION NAME	PHOTO NUMBER	STATION DESIGNATION

3. PHOTO NUMBERS (Clarification of details)

77E, 770 and 77E, 771

4. LANDMARKS AND AIDS TO NAVIGATION IDENTIFIED

Visually verified and noted on Master Field Edit Report

PHOTO NUMBER	OBJECT NAME	PHOTO NUMBER	OBJECT NAME

5. GEOGRAPHIC NAMES: ☐ REPORT ☒ NONE6. BOUNDARY AND LIMITS: ☐ REPORT ☒ NONE

7. SUPPLEMENTAL MAPS AND PLANS

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

- 1 each Master Field Edit Print
- 1 each photograph (by field editor)
- 1 Field Report

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

TP-00441C

## RECORD OF SURVEY USE

## I. MANUSCRIPT COPIES

COMPILATION STAGES			DATE MANUSCRIPT FORWARDED	
DATA COMPILED	DATE	REMARKS	MARINE CHARTS	HYDRO SUPPORT
Compilation complete, pending field edit	March 1980	Class III manuscript SUPERSEDED		
Partial field edit applied	August 1982	Class III manuscript SUPERSEDED		
Final Reviewed	Feb. 1984	Final Class III map		

## II. LANDMARKS AND AIDS TO NAVIGATION

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

PAGES NUMBER	CHART LETTER NUMBER ASSIGNED	DATE FORWARDED	REMARKS
11			Landmarks to be charted.

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

## III. FEDERAL RECORDS CENTER DATA

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

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

SECOND EDITION	SURVEY NUMBER TP - _____ (2)	JOB NUMBER PH - _____	TYPE OF SURVEY <input type="checkbox"/> REVISED <input type="checkbox"/> RESURVEY  MAP CLASS <input type="checkbox"/> II. <input type="checkbox"/> III. <input type="checkbox"/> IV. <input type="checkbox"/> V. <input type="checkbox"/> FINAL
	DATE OF PHOTOGRAPHY	DATE OF FIELD EDIT	
THIRD EDITION	SURVEY NUMBER TP - _____ (3)	JOB NUMBER PH - _____	TYPE OF SURVEY <input type="checkbox"/> REVISED <input type="checkbox"/> RESURVEY  MAP CLASS <input type="checkbox"/> II. <input type="checkbox"/> III. <input type="checkbox"/> IV. <input type="checkbox"/> V. <input type="checkbox"/> FINAL
	DATE OF PHOTOGRAPHY	DATE OF FIELD EDIT	
FOURTH EDITION	SURVEY NUMBER TP - _____ (4)	JOB NUMBER PH - _____	TYPE OF SURVEY <input type="checkbox"/> REVISED <input type="checkbox"/> RESURVEY  MAP CLASS <input type="checkbox"/> II. <input type="checkbox"/> III. <input type="checkbox"/> IV. <input type="checkbox"/> V. <input type="checkbox"/> FINAL
	DATE OF PHOTOGRAPHY	DATE OF FIELD EDIT	

JOB CM-7705

KEWEENAW WATERWAY, MICH.

KEWEENAW BAY, MICH.

MARQUETTE, MICH.

ASHLAND, WISC.

SHORELINE MAPPING

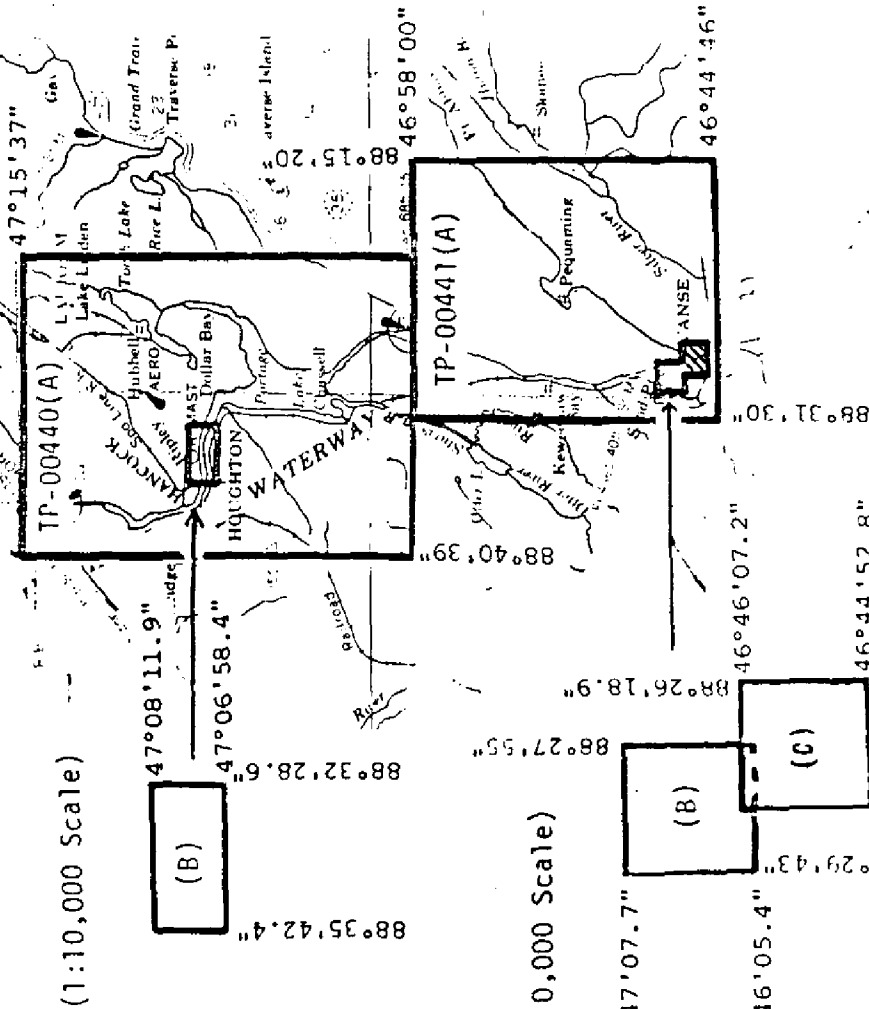
SCALES: 1:15,000-1:30,000

INSETS AT 1:10,000

REVISED 2/7/84  $\alpha\lambda\lambda$

# KEWEENAW BAY AND WATERWAY

(1:30,000 Scale)



(1:10,000 Scale)

(B)

47°08'11.9"

47°06'58.4"

47°05'28.6"

47°04'00.0"

47°02'31.4"

47°01'02.8"

46°59'34.2"

46°58'05.6"

46°56'37.0"

46°55'08.4"

46°53'39.8"

46°52'11.2"

46°50'42.6"

46°49'14.0"

46°47'45.4"

46°46'16.8"

46°44'48.2"

46°43'19.6"

46°41'51.0"

46°40'22.4"

46°38'53.8"

46°37'25.2"

46°35'56.6"

46°34'28.0"

46°33'00.0"

46°31'31.4"

46°30'02.8"

46°28'34.2"

46°27'05.6"

46°25'37.0"

46°24'08.4"

46°22'39.8"

46°21'11.2"

46°19'42.6"

46°18'14.0"

46°16'45.4"

46°15'16.8"

46°13'48.2"

46°12'19.6"

46°10'51.0"

46°09'22.4"

46°07'53.8"

46°06'25.2"

46°04'56.6"

46°03'28.0"

46°02'00.0"

46°00'31.4"

45°59'02.8"

45°57'34.2"

45°56'05.6"

45°54'37.0"

45°53'08.4"

45°51'39.8"

45°50'11.2"

45°48'42.6"

45°47'14.0"

45°45'45.4"

45°44'16.8"

45°42'48.2"

45°41'19.6"

45°39'51.0"

45°38'22.4"

45°36'53.8"

45°35'25.2"

45°33'56.6"

45°32'28.0"

45°31'00.0"

45°29'31.4"

45°28'02.8"

45°26'34.2"

45°25'05.6"

45°23'37.0"

45°22'08.4"

45°20'39.8"

45°19'11.2"

45°17'42.6"

45°16'14.0"

45°14'45.4"

45°13'16.8"

45°11'48.2"

45°10'19.6"

45°08'51.0"

45°07'22.4"

45°05'53.8"

45°04'25.2"

45°02'56.6"

45°01'28.0"

44°59'59.4"

44°58'30.8"

44°57'02.2"

44°55'33.6"

44°54'05.0"

44°52'36.4"

44°51'07.8"

44°49'39.2"

44°48'10.6"

44°46'42.0"

44°45'13.4"

44°43'44.8"

44°42'16.2"

44°40'47.6"

44°39'19.0"

44°37'50.4"

44°36'21.8"

44°34'53.2"

44°33'24.6"

44°31'56.0"

44°30'27.4"

44°28'58.8"

44°27'30.2"

44°26'01.6"

44°24'33.0"

44°23'04.4"

44°21'35.8"

44°20'07.2"

44°18'38.6"

44°17'10.0"

44°15'41.4"

44°14'12.8"

44°12'44.2"

44°11'15.6"

44°09'47.0"

44°08'18.4"

44°06'49.8"

44°05'21.2"

44°03'52.6"

44°02'24.0"

44°00'55.4"

43°59'26.8"

43°57'58.2"

43°56'29.6"

43°55'01.0"

43°53'32.4"

43°52'03.8"

43°50'35.2"

43°49'06.6"

43°47'38.0"

43°46'09.4"

43°44'40.8"

43°43'12.2"

43°41'43.6"

43°40'15.0"

43°38'46.4"

43°37'17.8"

43°35'49.2"

43°34'20.6"

43°32'52.0"

43°31'23.4"

43°29'54.8"

43°28'26.2"

43°26'57.6"

43°25'29.0"

43°24'00.4"

43°22'31.8"

43°21'03.2"

43°19'34.6"

43°18'06.0"

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43°12'11.6"

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43°09'14.4"

43°07'45.8"

43°06'17.2"

43°04'48.6"

43°03'20.0"

43°01'51.4"

42°59'22.8"

42°57'54.2"

42°56'25.6"

42°54'57.0"

42°53'28.4"

42°52'00.0"

42°50'31.6"

42°49'03.2"

42°47'34.8"

42°46'06.4"

42°44'38.0"

42°43'09.6"

42°41'41.2"

42°40'12.8"

42°38'44.4"

42°37'16.0"

42°35'47.6"

42°34'19.2"

42°32'50.8"

42°31'22.4"

42°29'54.0"

42°28'25.6"

42°26'57.2"

42°25'28.8"

42°24'00.4"

42°22'32.0"

42°21'03.6"

42°19'35.2"

42°18'06.8"

42°16'38.4"

42°15'10.0"

42°13'41.6"

42°12'13.2"

42°10'44.8"

42°09'16.4"

42°07'48.0"

42°06'19.6"

42°04'51.2"

42°03'22.8"

42°01'54.4"

42°00'26.0"

41°58'57.6"

41°57'29.2"

41°56'00.8"

41°54'32.4"

41°53'04.0"

41°51'35.6"

41°50'07.2"

41°48'38.8"

41°47'10.4"

41°45'42.0"

41°44'13.6"

41°42'45.2"

41°41'16.8"

41°39'48.4"

41°38'20.0"

41°36'51.6"

41°35'23.2"

41°33'54.8"

41°32'26.4"

41°30'58.0"

41°29'29.6"

41°28'01.2"

41°26'32.8"

41°25'04.4"

41°23'36.0"

41°22'07.6"

41°20'39.2"

41°19'10.8"

41°17'42.4"

41°16'14.0"

41°14'45.6"

41°13'17.2"

41°11'48.8"

41°10'20.4"

41°08'52.0"

41°07'23.6"

41°05'55.2"

41°04'26.8"

41°02'58.4"

41°01'30.0"

40°59'51.6"

40°58'23.2"

40°56'54.8"

40°55'26.4"

40°53'58.0"

40°52'29.6"

40°51'01.2"

40°49'32.8"

40°48'04.4"

40°46'36.0"

40°45'07.6"

40°43'39.2"

40°42'10.8"

40°40'42.4"

40°39'14.0"

40°37'45.6"

40°36'17.2"

40°34'48.8"

40°33'20.4"

40°31'52.0"

40°30'23.6"

40°28'55.2"

40°27'26.8"

40°25'58.4"

40°24'30.0"

40°23'01.6"

40°21'33.2"

40°20'04.8"

40°18'36.4"

40°17'08.0"

40°15'39.6"

40°14'11.2"

40°12'42.8"

40°11'14.4"

40°09'46.0"

40°08'17.6"

40°06'49.2"

40°05'20.8"

40°03'52.4"

40°02'24.0"

40°00'55.6"

39°59'27.2"

39°57'58.8"

39°56'30.4"

39°55'02.0"

39°53'33.6"

39°52'05.2"

39°50'36.8"

39°49'08.4"

39°47'40.0"

39°46'11.6"

39°44'43.2"

39°43'14.8"

39°41'46.4"

39°40'18.0"

39°38'49.6"

39°37'21.2"

39°35'52.8"

39°34'24.4"

39°32'56.0"

39°31'27.6"

39°29'59.2"

39°28'30.8"

39°27'02.4"

39°25'34.0"

39°24'05.6"

39°22'37.2"

39°21'08.8"

39°19'40.4"

39°18'12.0"

39°16'43.6"

39°15'15.2"

39°13'46.8"

39°12'18.4"

39°10'50.0"

39°09'21.6"

39°07'53.2"

39°06'24.8"

39°04'56.4"

39°03'28.0"

39°02'00.0"

39°00'32.0"

38°59'04.0"

38°57'36.0"

38°56'08.0"

38°54'40.0"

38°53'12.0"

38°51'44.0"

38°50'16.0"

38°48'48.0"

38°47'20.0"

38°45'52.0"

38°44'24.0"

38°42'56.0"

38°41'28.0"

38°39'60.0"

38°37'32.0"

38°36'04.0"

38°34'36.0"

38°33'08.0"

38°31'40.0"

38°30'12.0"

38°28'44.0"

38°27'16.0"

38°25'48.0"

38°24'20.0"

38°22'52.0"

38°21'24.0"

38°19'56.0"

38°18'28.0"

38°17'00.0"

38°15'32.0"

38°14'04.0"

38°12'36.0"

38°11'08.0"

38°09'40.0"

38°08'12.0"

38°06'44.0"

38°05'16.0"

38°03'48.0"

38°02'20.0"

38°00'52.0"

37°59'24.0"

37°57'56.0"

37°56'28.0"

37°55'00.0"

37°53'32.0"

37°52'04.0"

37°50'36.0"

37°49'08.0"

37°47'40.0"

37°46'12.0"

37°44'44.0"

37°43'16.0"

37°41'48.0"

37°40'20.0"

37°38'52.0"

37°37'24.0"

37°35'56.0"

37°34'28.0"

37°33'00.0"

37°31'32.0"

37°30'04.0"

37°28'36.0"

37°27'08.0"

37°25'40.0"

37°24'12.0"

37°22'44.0"

37°21'16.0"

37°19'48.0"

37°18'20.0"

37°16'52.0"

37°15'24.0"

37°13'56.0"

37°12'28.0"

37°11'00.0"

37°09'32.0"

37°08'04.0"

37°06'36.0"

37°05'08.0"

37°03'40.0"

37°02'12.0"

37°00'44.0"

36°59'16.0"

36°57'48.0"

36°56'20.0"

36°54'52.0"

36°53'24.0"

36°51'56.0"

36°50'28.0"

36°49'00.0"

36°47'32.0"





## COMPILATION REPORT

TP-00441C

31 - DELINEATION

Delineation was by the Wild B-8 stereoplotting instrument using 1:20,000 scale, May 1977 panchromatic photography. Coverage and quality was adequate.

32 - CONTROL

Refer to the Photogrammetric Plot Report dated October 11, 1979.

33 - SUPPLEMENTAL DATA

None.

34 - CONTOURS AND DRAINAGE

Contours are not applicable to the project. Drainage was delineated using the Wild B-8 stereoplotter and by office stereoscopic interpretation of the ratioed photographs.

35 - SHORELINE AND ALONGSHORE DETAILS

Alongshore details were delineated using the Wild B-8 stereoplotter and by office inspection of the ratioed photographs.

36 - OFFSHORE DETAILS

There were no offshore details.

37 - LANDMARKS AND AIDS

Appropriate copies of 76-40 forms are submitted with this Descriptive Report.

38 - CONTROL FOR FUTURE SURVEYS

None.

39 - JUNCTIONS

Refer to the Data Record Form 76-36B, item 5, of this Descriptive Report concerning junctions.

TP-00441C

40 - HORIZONTAL AND VERTICAL ACCURACY

Refer to the Photogrammetric Plot Report dated October 11, 1979.

46 - COMPARISON WITH EXISTING MAPS

A comparison was made with U.S. Geological Survey Quadrangle:  
Keweenaw Bay, Michigan, 1954, scale 1:62,500.

47 - COMPARISON WITH NAUTICAL CHARTS

A comparison was made with NOS Chart: 14971, 17th edition, dated  
June 9, 1979, L'Anse Inset, 1:10,000.

ITEMS TO BE APPLIED TO NAUTICAL CHARTS IMMEDIATELY

None.

ITEMS TO BE CARRIED FORWARD

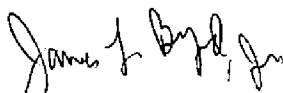
None.

Submitted by,



David Butler  
Cartographic Technician  
March 18, 1980

Approved,



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

CM-7705  
KEWEENAW WATERWAY  
FIELD EDIT REPORT

00441 C

51. METHOD

A visual inspection of the shoreline was made by foot and automobile. Notes were made on the Master Field Edit Print, photograph 77EP 770 and 771 and one horizontal picture taken by the field editor for clarification of the compilation.

52. ADEQUACY OF COMPILATION

The compilation was very good.

53. MAP ACCURACY

The horizontal placement of the compiled detail was very good. No statement about the vertical accuracy.

54. RECOMMENDATIONS

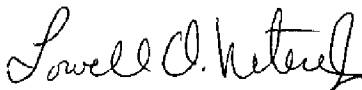
Field experience by the office compiler would be a good aid in photo interpretation.

Photographs taken by the field editor are a good aid for field edit application.

55. EXAMINATION OF PROOF COPY

No statement.

Field Editor



Lowell O. Neterer, Jr.  
May 26, 1981

Replaces C&amp;GS Form 567.

## NONFLOATING AIDS OR LANDMARKS FOR CHARTS

**U.S. DEPARTMENT OF COMMERCE  
BUREAU OF ECONOMIC ANALYSIS  
OFFICE OF AIRCRAFT ADMINISTRATION**

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

**ORIGINATING ACTIVITY**

- ☐ HYDROGRAPHIC PARTY  
☐ GEODETIC PARTY  
☐ PHOTO FIELD PARTY  
☒ COMPILATION ACTIVITY  
☐ FINAL REVIEWER  
☐ QUALITY CONTROL & REVIEW GRP.  
☐ COAST PILOT BRANCH

(See reverse for responsible personnel.)

DATE \_\_\_\_\_

May 1981

**LOCALITY**

Lake Superior

STATE

Michigan

REPORTING UNIT  
Field Party, Ship or Office)

Coastal Mapping Unit

AMC, Norfolk, VA

The following objects HAVE ☒ HAVE NOT ☐ been inspected from seaward to determine their value as landmarks.

**OPR PROJECT NO.**

**JOB NUMBER**

**SURVEY NUMBER**

DATUM

CM-7705 TP-00441C

N.A. 1927

**POSITION**

DESCRIPTION

(Record reason for deletion of landmark or aid to navigation. Show triangulation station names, where applicable, in parentheses.)

NONE

LONGITUDE

D.P. Meters	1	11
D.M. Meters	0	11

[illegible]

D.P. Meters	1	11
D.M. Meters	0	11

LATLAT

**METHOD AND DATE OF LOCATION**  
(See instructions on reverse side)

FIELD

OFFICE

CHARTS  
AFFECTED

RESPONSIBLE PERSONNEL	
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	FIELD ACTIVITY REPRESENTATIVE
FORMS ORIGINATED BY QUALITY CONTROL AND REVIEW GROUP AND FINAL REVIEW ACTIVITIES	<input type="checkbox"/> OFFICE ACTIVITY REPRESENTATIVE <input type="checkbox"/> REVIEWER <input type="checkbox"/> QUALITY CONTROL AND REVIEW GROUP REPRESENTATIVE
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 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>III. 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>II. 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.	

Replaces C&amp;GS Form 567.

## FROM LOCKING YOUR DOOR LANDMARKS FOR CHARTS

[illegible]

RESPONSIBLE PERSONNEL	
TYPE OF ACTION	NAME
OBJECTS INSPECTED FROM SEAWARD	L. O. Neterer, Jr.
POSITIONS DETERMINED AND/OR VERIFIED	L. O. Neterer, Jr.
FORMS ORIGINATED BY QUALITY CONTROL AND REVIEW GROUP AND FINAL REVIEW	M. Mozgala
ACTIVITIES	
INSTRUCTIONS FOR ENTRIES UNDER 'METHOD AND DATE OF LOCATION'	
(Consult Photogrammetric Instructions No. 64.)	
<b>OFFICE</b> <b>I. OFFICE IDENTIFIED AND LOCATED OBJECTS</b> Enter the number and date (including month, day, and year) of the photograph used to identify and locate the object. EXAMPLE: 75E(C)6042 8-12-75	<b>FIELD (Cont'd)</b> <b>B. Photogrammetric field positions** 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 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>III. 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>
<b>*FIELD POSITIONS are determined by field observations based entirely upon ground survey methods.</b>	

