

TP-00359

TP-00359

NOAA FORM 76-35 (6-80)	
U.S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION NATIONAL OCEAN SURVEY	
<h2 style="text-align: center;">DESCRIPTIVE REPORT</h2>	
THIS MAP EDITION WILL NOT BE FIELD EDITED.	
<b>Map No.</b> TP-00359	<b>Edition No.</b> 1
<b>Job No.</b> CM-8407	
<b>Map Classification</b> CLASS III (FINAL)	
<b>Type of Survey</b> SHORELINE	
<h3 style="text-align: center;">LOCALITY</h3>	
<b>State</b> MINNESOTA	
<b>General Locality</b> LAKE SUPERIOR	
<b>Locality</b> SILVER BAY, TACONITE HARBOR, AND GRAND MARAIS HARBOR	
<div style="border: 1px solid black; padding: 5px; text-align: center;">           19 84 TO 19         </div>	
<h3 style="text-align: center;">REGISTERED IN ARCHIVES</h3>	
<b>DATE</b>	



## DESCRIPTIVE REPORT - DATA RECORD

## TYPE OF SURVEY

- ☒ ORIGINAL  
☐ RESURVEY  
☐ REVISED

SURVEY TP. 00359

MAP EDITION NO. (1)

MAP CLASS III (Final)

JOB ~~DK~~ CM-8407

## PHOTOGRAMMETRIC OFFICE

Coastal Mapping Unit  
Atlantic Marine Center, Norfolk, VA

## OFFICER-IN-CHARGE

A. Y. Bryson, CDR

## LAST PRECEDING MAP EDITION

## TYPE OF SURVEY

- ☐ ORIGINAL  
☐ RESURVEY  
☐ REVISED

JOB PH- \_\_\_\_\_

MAP CLASS \_\_\_\_\_

SURVEY DATES:

19\_\_ TO 19\_\_

## I. INSTRUCTIONS DATED

## 1. OFFICE

Compilation October 28, 1985

## 2. FIELD

Control June 12, 1985

## II. DATUMS

## 1. HORIZONTAL:

☒ 1927 NORTH AMERICAN

OTHER (Specify)

## 2. VERTICAL:

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

OTHER (Specify)

(Water level at time of photography)  
International Great Lakes Datum (1955)

## 3. MAP PROJECTION

Lambert Conformal Conic Projection

## 4. GRID(S)

STATE  
MinnesotaZONE  
North

## 5. SCALE

1:10,000

STATE

ZONE

## III. HISTORY OF OFFICE OPERATIONS

OPERATIONS		NAME	DATE
1. AEROTRIANGULATION	BY	N.A.	
METHOD: None	LANDMARKS AND AIDS BY	N.A.	
2. CONTROL AND BRIDGE POINTS	PLOTTED BY	W. McLemore	Aug. 1985
METHOD: Xynetics	CHECKED BY	W. McLemore	Aug. 1985
3. STEREOSCOPIC INSTRUMENT	PLANIMETRY BY	P. Evans	Sept. 1985
COMPILATION	CHECKED BY	W. McLemore/F. Mauldin	Sept. 1985
INSTRUMENT: Wild B-8	CONTOURS BY	N.A.	
SCALE: 1:10,000	CHECKED BY	N.A.	
4. MANUSCRIPT DELINEATION	PLANIMETRY BY	P. Evans	Oct. 1985
	CHECKED BY	F. Mauldin	Nov. 1985
METHOD: Smooth drafted	CONTOURS BY	N.A.	
	CHECKED BY	N.A.	
SCALE: 1:10,000	HYDRO SUPPORT DATA BY	N.A.	
	CHECKED BY	N.A.	
5. OFFICE INSPECTION PRIOR TO <del>FIELD</del> Final Review	BY	F. Mauldin	Nov. 1985
6. APPLICATION OF FIELD EDIT DATA	BY	N.A.	
	CHECKED BY	N.A.	
7. COMPILATION SECTION REVIEW Class III	BY	F. Mauldin	Nov. 1985
8. FINAL REVIEW Class III (Final)	BY	J. Hancock	Dec. 1985
9. DATA FORWARDED TO PHOTOGRAMMETRIC BRANCH	BY	J. Hancock	Jan. 1986
10. DATA EXAMINED IN PHOTOGRAMMETRIC BRANCH	BY	P. Dempsey	Feb. 1986
11. MAP REGISTERED - COASTAL SURVEY SECTION	BY	E. DAUGHERTY	MAR 86



## COMPILATION SOURCES

## 1. COMPILATION PHOTOGRAPHY

CAMERA(S) Wild RC-10 (Z)

(focal length = 153.15 mm)

~~XXXXXX~~ Water Level Gage☐ PREDICTED TIDES☒ REFERENCE STATION RECORDS \*☐ TIDE CONTROLLED PHOTOGRAPHYTYPES OF PHOTOGRAPHY  
LEGEND

(C) COLOR

(P) PANCHROMATIC

(I) INFRARED

## TIME REFERENCE

ZONE

Central

☒ STANDARD

MERIDIAN

90th

☐ DAYLIGHT

NUMBER AND TYPE	DATE	TIME	SCALE	* <del>XXXXXX</del> Lake Level
Silver Bay 84 Z (C) 3673-3677	May 15, 1984	13:45	1:10,000	600.9 ft.
Taconite Harbor 84 Z(C) 3662-3665	May 15, 1984	13:36	1:10,000	600.9 ft.
Grand Marais Harbor 84 Z(C) 3654-3656	May 15, 1984	13:23	1:10,000	600.9 ft.

REMARKS \*Water level at the time of photography is indicated as recorded from the Grand Marais, Minnesota gage. Low Water Datum for Lake Superior is 600.0 feet.

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

The term "mean high water line" is not applicable. The shoreline is defined as the visible line of contact on the photographs between land and water. Delineation of the shoreline was derived by photointerpretation of the above listed color compilation photographs.

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

This item is not applicable to this project.

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

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

## 5. FINAL JUNCTIONS

NORTH	EAST	SOUTH	WEST
No survey	No survey	No survey	No survey

## REMARKS

The three harbors covered by this map do not junction with each other or any other surveys.

NOAA FORM 76-36C  
(3-72)TP-00359  
(SILVER BAY HARBOR INSET)U. S. DEPARTMENT OF COMMERCE  
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION  
NATIONAL OCEAN SURVEY

## HISTORY OF FIELD OPERATIONS

I. ☒ FIELD INSPECTION OPERATION (Photoidentification) ☐ FIELD EDIT OPERATION

OPERATION	NAME	DATE
1. CHIEF OF FIELD PARTY	J. Dunford	July 1985
2. HORIZONTAL CONTROL	RECOVERED BY J. Dunford ESTABLISHED BY J. Dunford PRE-MARKED OR IDENTIFIED BY J. Dunford	July 1985 July 1985 July 1985
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 None LOCATED (Field Methods) BY None IDENTIFIED BY None	
5. GEOGRAPHIC NAMES INVESTIGATION	TYPE OF INVESTIGATION <input type="checkbox"/> COMPLETE <input type="checkbox"/> SPECIFIC NAMES ONLY <input checked="" type="checkbox"/> NO INVESTIGATION	
6. PHOTO INSPECTION	CLARIFICATION OF DETAILS BY N.A.	
7. BOUNDARIES AND LIMITS	SURVEYED OR IDENTIFIED BY N.A.	

## II. SOURCE DATA

1. HORIZONTAL CONTROL IDENTIFIED		2. VERTICAL CONTROL IDENTIFIED	
Photoidentified			
PHOTO NUMBER	STATION NAME	PHOTO NUMBER	STATION DESIGNATION
84Z(C) 3674-3677	11 Sub Pts derived from SILVER BAY 1982 and BEAVER BAY 1953		

## 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)

11 NOAA Forms 76-53 (CSI)  
20 NOAA Forms 76-19  
6 NOAA Forms 75-63 (Solar)  
11 NOAA Forms 76-135

12 Forms, C&GS 470  
1 NOAA Form 76-156  
2 NOAA Forms 76-52 } Project Data

NOAA FORM 76-36C  
(3-72)TP-00359  
(TACONITE HARBOR INSET)  
**HISTORY OF FIELD OPERATIONS**U. S. DEPARTMENT OF COMMERCE  
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION  
NATIONAL OCEAN SURVEYI. ☒ FIELD INSPECTION OPERATION (Photoidentification) ☐ FIELD EDIT OPERATION

OPERATION	NAME	DATE
1. CHIEF OF FIELD PARTY	J. Dunford	July 1985
2. HORIZONTAL CONTROL	RECOVERED BY J. Dunford ESTABLISHED BY J. Dunford <del>PRE-MARKED OR IDENTIFIED BY</del> J. Dunford	July 1985 July 1985 July 1985
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 None LOCATED (Field Methods) BY None IDENTIFIED BY None	
5. GEOGRAPHIC NAMES INVESTIGATION	TYPE OF INVESTIGATION <input type="checkbox"/> COMPLETE <input type="checkbox"/> SPECIFIC NAMES ONLY <input checked="" type="checkbox"/> NO INVESTIGATION	
6. PHOTO INSPECTION	CLARIFICATION OF DETAILS BY N.A.	
7. BOUNDARIES AND LIMITS	SURVEYED OR IDENTIFIED BY N.A.	

## II. SOURCE DATA

1. HORIZONTAL CONTROL IDENTIFIED

Photoidentified

2. VERTICAL CONTROL IDENTIFIED

PHOTO NUMBER	STATION NAME	PHOTO NUMBER	STATION DESIGNATION
84Z(C) 3662-3665	9 Sub Pts derived from TACONITE, 1982		

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)

9 NOAA Forms 76-53 (CSI)  
14 NOAA Forms 76-19  
11 NOAA Forms 75-63 (Solar)  
6 NOAA Forms 76-86

5 NOAA Forms 76-135  
1 NOAA Form 76-156  
2 NOAA Forms 76-52 } Project Data

NOAA FORM 76-36C  
(3-72)

(TP-00359)

U. S. DEPARTMENT OF COMMERCE  
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION  
NATIONAL OCEAN SURVEY(GRAND MARAIS HARBOR INSET)  
HISTORY OF FIELD OPERATIONSI. ☒ FIELD INSPECTION OPERATION ☐ FIELD EDIT OPERATION  
(Photoidentification)

OPERATION	NAME	DATE
1. CHIEF OF FIELD PARTY	J. Dunford	July 1985
2. HORIZONTAL CONTROL	J. Dunford	July 1985
RECOVERED BY	J. Dunford	July 1985
ESTABLISHED BY	J. Dunford	July 1985
PRE-MARKED OR IDENTIFIED BY	J. Dunford	July 1985
3. VERTICAL CONTROL	N.A.	
RECOVERED BY	N.A.	
ESTABLISHED BY	N.A.	
PRE-MARKED OR IDENTIFIED BY	N.A.	
4. LANDMARKS AND AIDS TO NAVIGATION	None	
RECOVERED (Triangulation Stations) BY	None	
LOCATED (Field Methods) BY	None	
IDENTIFIED BY	None	
5. GEOGRAPHIC NAMES INVESTIGATION	TYPE OF INVESTIGATION	
	<input type="checkbox"/> COMPLETE	
	<input type="checkbox"/> SPECIFIC NAMES ONLY	
	<input checked="" type="checkbox"/> NO INVESTIGATION	
6. PHOTO INSPECTION	CLARIFICATION OF DETAILS BY	N.A.
7. BOUNDARIES AND LIMITS	SURVEYED OR IDENTIFIED BY	N.A.

## II. SOURCE DATA

1. HORIZONTAL CONTROL IDENTIFIED  
Photoidentified

2. VERTICAL CONTROL IDENTIFIED

PHOTO NUMBER	STATION NAME	PHOTO NUMBER	STATION DESIGNATION
84Z(C) 3654-3656	9 Sub Pts derived from MARAI, 1982		

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)

7 NOAA Forms 76-53 (CSI)  
14 NOAA Forms 76-19  
13 NOAA Forms 75-63 (Solar)  
12 NOAA Forms 76-869 NOAA Forms 76-135  
1 NOAA Form 76-156  
2 NOAA Forms 76-52 } Project Data



TP-00359  
RECORD OF SURVEY USE

## I. MANUSCRIPT COPIES

COMPILATION STAGES			DATE MANUSCRIPT FORWARDED	
DATA COMPILED	DATE	REMARKS	MARINE CHARTS	HYDRO SUPPORT
Compilation complete	Nov. 1985	Class III Manuscript	None	None
Final Review, Class III	Dec. 1985	Final Class III Map	1-16-86	

## II. LANDMARKS AND AIDS TO NAVIGATION

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

NUMBER (pages)	CHART LETTER NUMBER ASSIGNED	DATE FORWARDED	REMARKS
3		1-16-86	Landmarks for Charting
3		1-16-86	Aids for Navigation for Charting

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

xx Field Identified Photographs

1. ☐ BRIDGING PHOTOGRAPHS; ☐ DUPLICATE BRIDGING REPORT; ☒ COMPUTER READOUTS.  
2. ☒ CONTROL STATION IDENTIFICATION CARDS; ☐ FORM NOS. 76-45a, 76-45b, 76-45c, 76-45d, 76-45e, 76-45f, 76-45g, 76-45h, 76-45i, 76-45j, 76-45k, 76-45l, 76-45m, 76-45n, 76-45o, 76-45p, 76-45q, 76-45r, 76-45s, 76-45t, 76-45u, 76-45v, 76-45w, 76-45x, 76-45y, 76-45z, 76-46a, 76-46b, 76-46c, 76-46d, 76-46e, 76-46f, 76-46g, 76-46h, 76-46i, 76-46j, 76-46k, 76-46l, 76-46m, 76-46n, 76-46o, 76-46p, 76-46q, 76-46r, 76-46s, 76-46t, 76-46u, 76-46v, 76-46w, 76-46x, 76-46y, 76-46z, 76-47a, 76-47b, 76-47c, 76-47d, 76-47e, 76-47f, 76-47g, 76-47h, 76-47i, 76-47j, 76-47k, 76-47l, 76-47m, 76-47n, 76-47o, 76-47p, 76-47q, 76-47r, 76-47s, 76-47t, 76-47u, 76-47v, 76-47w, 76-47x, 76-47y, 76-47z, 76-48a, 76-48b, 76-48c, 76-48d, 76-48e, 76-48f, 76-48g, 76-48h, 76-48i, 76-48j, 76-48k, 76-48l, 76-48m, 76-48n, 76-48o, 76-48p, 76-48q, 76-48r, 76-48s, 76-48t, 76-48u, 76-48v, 76-48w, 76-48x, 76-48y, 76-48z, 76-49a, 76-49b, 76-49c, 76-49d, 76-49e, 76-49f, 76-49g, 76-49h, 76-49i, 76-49j, 76-49k, 76-49l, 76-49m, 76-49n, 76-49o, 76-49p, 76-49q, 76-49r, 76-49s, 76-49t, 76-49u, 76-49v, 76-49w, 76-49x, 76-49y, 76-49z, 76-50a, 76-50b, 76-50c, 76-50d, 76-50e, 76-50f, 76-50g, 76-50h, 76-50i, 76-50j, 76-50k, 76-50l, 76-50m, 76-50n, 76-50o, 76-50p, 76-50q, 76-50r, 76-50s, 76-50t, 76-50u, 76-50v, 76-50w, 76-50x, 76-50y, 76-50z, 76-51a, 76-51b, 76-51c, 76-51d, 76-51e, 76-51f, 76-51g, 76-51h, 76-51i, 76-51j, 76-51k, 76-51l, 76-51m, 76-51n, 76-51o, 76-51p, 76-51q, 76-51r, 76-51s, 76-51t, 76-51u, 76-51v, 76-51w, 76-51x, 76-51y, 76-51z, 76-52a, 76-52b, 76-52c, 76-52d, 76-52e, 76-52f, 76-52g, 76-52h, 76-52i, 76-52j, 76-52k, 76-52l, 76-52m, 76-52n, 76-52o, 76-52p, 76-52q, 76-52r, 76-52s, 76-52t, 76-52u, 76-52v, 76-52w, 76-52x, 76-52y, 76-52z, 76-53a, 76-53b, 76-53c, 76-53d, 76-53e, 76-53f, 76-53g, 76-53h, 76-53i, 76-53j, 76-53k, 76-53l, 76-53m, 76-53n, 76-53o, 76-53p, 76-53q, 76-53r, 76-53s, 76-53t, 76-53u, 76-53v, 76-53w, 76-53x, 76-53y, 76-53z, 76-54a, 76-54b, 76-54c, 76-54d, 76-54e, 76-54f, 76-54g, 76-54h, 76-54i, 76-54j, 76-54k, 76-54l, 76-54m, 76-54n, 76-54o, 76-54p, 76-54q, 76-54r, 76-54s, 76-54t, 76-54u, 76-54v, 76-54w, 76-54x, 76-54y, 76-54z, 76-55a, 76-55b, 76-55c, 76-55d, 76-55e, 76-55f, 76-55g, 76-55h, 76-55i, 76-55j, 76-55k, 76-55l, 76-55m, 76-55n, 76-55o, 76-55p, 76-55q, 76-55r, 76-55s, 76-55t, 76-55u, 76-55v, 76-55w, 76-55x, 76-55y, 76-55z, 76-56a, 76-56b, 76-56c, 76-56d, 76-56e, 76-56f, 76-56g, 76-56h, 76-56i, 76-56j, 76-56k, 76-56l, 76-56m, 76-56n, 76-56o, 76-56p, 76-56q, 76-56r, 76-56s, 76-56t, 76-56u, 76-56v, 76-56w, 76-56x, 76-56y, 76-56z, 76-57a, 76-57b, 76-57c, 76-57d, 76-57e, 76-57f, 76-57g, 76-57h, 76-57i, 76-57j, 76-57k, 76-57l, 76-57m, 76-57n, 76-57o, 76-57p, 76-57q, 76-57r, 76-57s, 76-57t, 76-57u, 76-57v, 76-57w, 76-57x, 76-57y, 76-57z, 76-58a, 76-58b, 76-58c, 76-58d, 76-58e, 76-58f, 76-58g, 76-58h, 76-58i, 76-58j, 76-58k, 76-58l, 76-58m, 76-58n, 76-58o, 76-58p, 76-58q, 76-58r, 76-58s, 76-58t, 76-58u, 76-58v, 76-58w, 76-58x, 76-58y, 76-58z, 76-59a, 76-59b, 76-59c, 76-59d, 76-59e, 76-59f, 76-59g, 76-59h, 76-59i, 76-59j, 76-59k, 76-59l, 76-59m, 76-59n, 76-59o, 76-59p, 76-59q, 76-59r, 76-59s, 76-59t, 76-59u, 76-59v, 76-59w, 76-59x, 76-59y, 76-59z, 76-60a, 76-60b, 76-60c, 76-60d, 76-60e, 76-60f, 76-60g, 76-60h, 76-60i, 76-60j, 76-60k, 76-60l, 76-60m, 76-60n, 76-60o, 76-60p, 76-60q, 76-60r, 76-60s, 76-60t, 76-60u, 76-60v, 76-60w, 76-60x, 76-60y, 76-60z, 76-61a, 76-61b, 76-61c, 76-61d, 76-61e, 76-61f, 76-61g, 76-61h, 76-61i, 76-61j, 76-61k, 76-61l, 76-61m, 76-61n, 76-61o, 76-61p, 76-61q, 76-61r, 76-61s, 76-61t, 76-61u, 76-61v, 76-61w, 76-61x, 76-61y, 76-61z, 76-62a, 76-62b, 76-62c, 76-62d, 76-62e, 76-62f, 76-62g, 76-62h, 76-62i, 76-62j, 76-62k, 76-62l, 76-62m, 76-62n, 76-62o, 76-62p, 76-62q, 76-62r, 76-62s, 76-62t, 76-62u, 76-62v, 76-62w, 76-62x, 76-62y, 76-62z, 76-63a, 76-63b, 76-63c, 76-63d, 76-63e, 76-63f, 76-63g, 76-63h, 76-63i, 76-63j, 76-63k, 76-63l, 76-63m, 76-63n, 76-63o, 76-63p, 76-63q, 76-63r, 76-63s, 76-63t, 76-63u, 76-63v, 76-63w, 76-63x, 76-63y, 76-63z, 76-64a, 76-64b, 76-64c, 76-64d, 76-64e, 76-64f, 76-64g, 76-64h, 76-64i, 76-64j, 76-64k, 76-64l, 76-64m, 76-64n, 76-64o, 76-64p, 76-64q, 76-64r, 76-64s, 76-64t, 76-64u, 76-64v, 76-64w, 76-64x, 76-64y, 76-64z, 76-65a, 76-65b, 76-65c, 76-65d, 76-65e, 76-65f, 76-65g, 76-65h, 76-65i, 76-65j, 76-65k, 76-65l, 76-65m, 76-65n, 76-65o, 76-65p, 76-65q, 76-65r, 76-65s, 76-65t, 76-65u, 76-65v, 76-65w, 76-65x, 76-65y, 76-65z, 76-66a, 76-66b, 76-66c, 76-66d, 76-66e, 76-66f, 76-66g, 76-66h, 76-66i, 76-66j, 76-66k, 76-66l, 76-66m, 76-66n, 76-66o, 76-66p, 76-66q, 76-66r, 76-66s, 76-66t, 76-66u, 76-66v, 76-66w, 76-66x, 76-66y, 76-66z, 76-67a, 76-67b, 76-67c, 76-67d, 76-67e, 76-67f, 76-67g, 76-67h, 76-67i, 76-67j, 76-67k, 76-67l, 76-67m, 76-67n, 76-67o, 76-67p, 76-67q, 76-67r, 76-67s, 76-67t, 76-67u, 76-67v, 76-67w, 76-67x, 76-67y, 76-67z, 76-68a, 76-68b, 76-68c, 76-68d, 76-68e, 76-68f, 76-68g, 76-68h, 76-68i, 76-68j, 76-68k, 76-68l, 76-68m, 76-68n, 76-68o, 76-68p, 76-68q, 76-68r, 76-68s, 76-68t, 76-68u, 76-68v, 76-68w, 76-68x, 76-68y, 76-68z, 76-69a, 76-69b, 76-69c, 76-69d, 76-69e, 76-69f, 76-69g, 76-69h, 76-69i, 76-69j, 76-69k, 76-69l, 76-69m, 76-69n, 76-69o, 76-69p, 76-69q, 76-69r, 76-69s, 76-69t, 76-69u, 76-69v, 76-69w, 76-69x, 76-69y, 76-69z, 76-70a, 76-70b, 76-70c, 76-70d, 76-70e, 76-70f, 76-70g, 76-70h, 76-70i, 76-70j, 76-70k, 76-70l, 76-70m, 76-70n, 76-70o, 76-70p, 76-70q, 76-70r, 76-70s, 76-70t, 76-70u, 76-70v, 76-70w, 76-70x, 76-70y, 76-70z, 76-71a, 76-71b, 76-71c, 76-71d, 76-71e, 76-71f, 76-71g, 76-71h, 76-71i, 76-71j, 76-71k, 76-71l, 76-71m, 76-71n, 76-71o, 76-71p, 76-71q, 76-71r, 76-71s, 76-71t, 76-71u, 76-71v, 76-71w, 76-71x, 76-71y, 76-71z, 76-72a, 76-72b, 76-72c, 76-72d, 76-72e, 76-72f, 76-72g, 76-72h, 76-72i, 76-72j, 76-72k, 76-72l, 76-72m, 76-72n, 76-72o, 76-72p, 76-72q, 76-72r, 76-72s, 76-72t, 76-72u, 76-72v, 76-72w, 76-72x, 76-72y, 76-72z, 76-73a, 76-73b, 76-73c, 76-73d, 76-73e, 76-73f, 76-73g, 76-73h, 76-73i, 76-73j, 76-73k, 76-73l, 76-73m, 76-73n, 76-73o, 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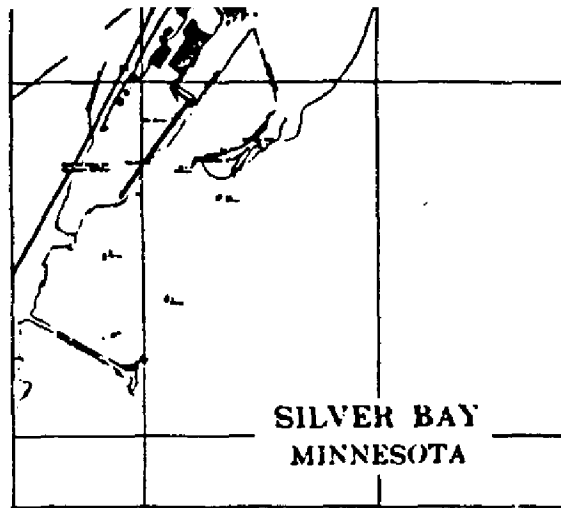


CM-8407

# LAKE SUPERIOR

SILVER BAY , TACONITE HA  
AND GRAND MARAIS HARBOR  
MINNESOTA

SHORELINE MAPPING  
SCALE 1:10,000  
(CHART INSETS)

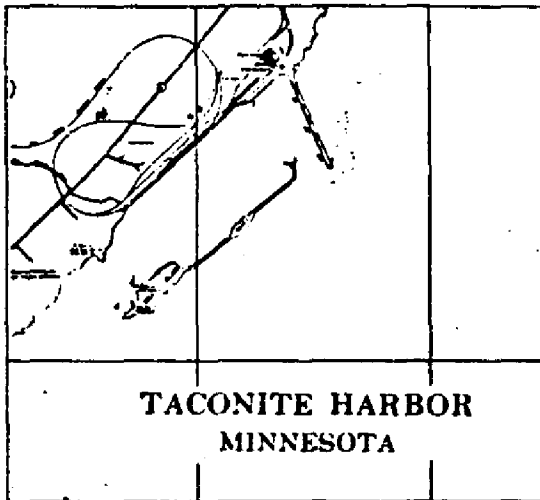


SILVER BAY  
MINNESOTA

91°16'33"

47°15'48"

91°14'12"



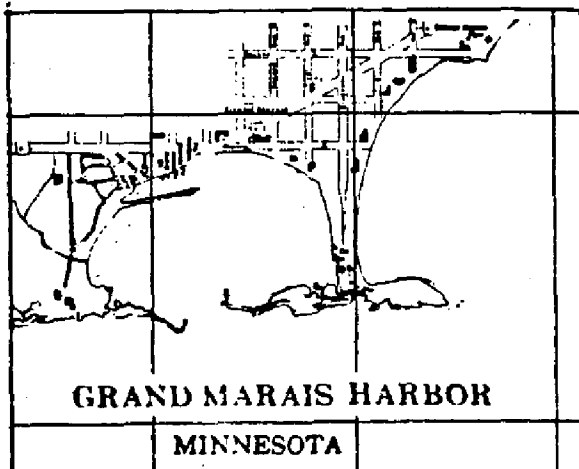
TACONITE HARBOR  
MINNESOTA

90°55'49"

47°32'00"

47°30'36"

90°53'30"



GRAND MARAIS HARBOR  
MINNESOTA

90°20'51"

47°45'10"

47°44'25"

90°19'26"

TP-00359



SUMMARY TO ACCOMPANY  
DESCRIPTIVE REPORT

TP-00359  
CM-8407

This final Class III shoreline manuscript comprises project CM-8407. This single manuscript includes three 1:10,000 scale harbor inset maps covering the shoreline areas of Silver Bay, Taconite Harbor and Grand Marais Harbor, Lake Superior, Minnesota.

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

Photo coverage was adequately provided by natural color photographs. Aerial photographs of the three sites were taken May 15, 1984 at 1:10,000 scale with the Wild RC-10(Z) camera.

Field operations prior to compilation consisted of obtaining aerial photography and the recovery, establishment and photoidentification of horizontal control necessary to effect stereo model orientation of the compilation photographs.

Compilation was accomplished at the Coastal Mapping Unit, Atlantic Marine Center in November 1985. No aerotriangulation activity was performed since sufficient geodetic control was field determined for stereo instrument compilation. Manuscript preparation and the plotting of horizontal control was performed by the compilation unit. Delineation of map detail was based upon interpretation of the 1:10,000 scale photographs.

Final review was performed at the Atlantic Marine Center in December 1985. A Chart Maintenance Print was prepared and forwarded to the Marine Chart Branch. Final 76-40 forms for the landmarks and fixed navigational aids were provided for each map. Also, a Notes to Hydrographer Print was prepared for future hydrographic activity.

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

## FIELD INSPECTION

TP-00359

There was no field inspection prior to compilation. Field work accomplished consisted of aerial photography and the recovery and photoidentification of the horizontal control necessary for the compilation of the project. There was no field inspection of the shoreline performed.

FIELD REPORT  
CM-8407  
SILVER BAY, MN

The project was completed according to Project Instructions dated June 12, 1985. The project consisted of photoidentifying 11 horizontal control points. These points were chosen and pricked on the photographs by the Photogrammetry Branch in Rockville. Some of these points could not be used, so other points were selected as close to these points as possible. All photo points on this project were located by third-order traverse methods.

The field work on this project was completed in one and one-half weeks by one field and two office personnel from AMC.

All data for the project was given to the Compilation Unit at AMC.

Submitted by

*James E. Dunford*  
James E. Dunford, Jr.



FIELD REPORT  
CM-8407  
TACONITE HARBOR, MN

The project was completed according to Project Instructions dated June 12, 1985. The project consisted of photoidentifying 9 horizontal control points. These points were chosen and pricked on the photographs by the Photogrammetry Branch in Rockville. Some of these points could not be used, so other points were selected as close to these as possible. Photo Points 1-7 were located by third-order traverse from Station TACONITE 1982. Photo Points 8-9 were located by Doppler Satellite System. Temporary points were established with the satellite position near the photo points; a traverse was then made between the temporary points and the photo points using a sun azimuth. Station TACONITE was established in 1982 with the Doppler Satellite System by Gary Frederick.

The field work on this project was completed in one week by one field and two office personnel from AMC.

All data for the project was given to the Compilation Unit at AMC.

Submitted by

*James E. Dunford*  
James E. Dunford, Jr.

FIELD REPORT  
CM-8407  
GRAND MARAIS, MN

The project was completed according to Project Instructions dated June 12, 1985. The project consisted of photoidentifying 7 horizontal control points. Photo points were chosen and pricked on the photos by the Photogrammetry Branch in Rockville. Some of these points could not be used, so other points were pricked as close to these points as possible. All photo points were located from Station MARAIS 1982 by spur traverse using sun azimuth. Station MARAIS was established in 1982 with the Doppler Satellite System by Gary Frederick.

The field work on this project was completed in one week by one field and two office personnel from AMC.

All data for the project was give to the Compilation Unit at AMC.

Submitted by

*James E. Dunford*  
James E. Dunford, Jr.

PHOTOGRAMMETRIC PLOT REPORT  
CM-8407  
SILVER BAY, TACONITE HARBOR, GRAND MARAIS HARBOR,  
LAKE SUPERIOR, MINNESOTA  
AUGUST 1985

21. AREA COVERED

This report pertains to the area covered by three 1:10,000 scale harbor maps located along the north shore of Lake Superior, Minnesota. These three maps are contained on one manuscript, TP-00359.

22. METHOD

The densification of horizontal control by aerotriangulation methods was not necessary for this project. Consequently, the Photogrammetric Compilation Section, Atlantic Marine Center prepared three base manuscripts for the plotting of horizontal control and basic compilation. All control was field established and photoidentified on the 1:10,000 scale compilation photos. A 1:10,000 scale manuscript representing each mapping area, was ruled on the Xynetics 1201 plotter using the Minnesota North Zone State Plane Coordinate System. This system is based on the Lambert Conformal Conic Projection.

23. ADEQUACY OF CONTROL

The horizontal control provided adequate coverage for stereo model orientation and will meet National Standards of Map Accuracy.

24. SUPPLEMENTAL DATA

USGS quadrangles will be used to supply vertical control for compilation.

25. PHOTOGRAPHY

Single strip coverage of 1:10,000 scale photographs was adequately provided for each of the three mapping areas.

Submitted by

*William T. McLemore, Jr.*

William T. McLemore  
Coastal Mapping Unit, AMC

Approved and forwarded

*Billy H. Barnes*

Billy H. Barnes  
Chief, Photogrammetric Section, AMC



# DESCRIPTIVE REPORT CONTROL RECORD

MAP NO. (Silver Bay) TP-00359	JOB NO. CM-8407	GEODETTIC DATUM 1927 N.A.		ORIGINATING ACTIVITY Coastal Mapping Unit, AMC, Norfolk, VA	
STATION NAME	SOURCE OF INFORMATION (Index)	AEROTRI- ANGULATION POINT NUMBER	COORDINATES IN FEET STATE Minnesota ZONE North	GEOGRAPHIC POSITION φ LATITUDE λ LONGITUDE	REMARKS
BEAVER BAY, 1953	Quad 470912		X=	φ 47 15 29.98706	
	Sta. 1002		Y=	λ 91 17 20.08899	
Sub Point 1	AMC comp.		X=	φ 47 16 12.0706	
			Y=	λ 91 15 59.5114	
Sub Point 2	AMC comp.		X=	φ 47 16 06.5422	
			Y=	λ 91 16 56.8211	
Sub Point 3	AMC comp.		X=	φ 47 16 23.7050	
			Y=	λ 91 17 21.1481	
Sub Point 4	AMC comp.		X=	φ 47 16 48.5825	
			Y=	λ 91 17 03.1728	
Sub Point 5	AMC comp.		X=	φ 47 16 35.0664	
			Y=	λ 91 16 18.1033	
Sub Point 6	AMC comp.		X=	φ 47 16 57.0401	
			Y=	λ 91 15 46.3433	
Sub Point 7	AMC comp.		X=	φ 47 17 07.3730	
			Y=	λ 91 16 19.4482	
Sub Point 8	AMC comp.		X=	φ 47 17 33.0605	
			Y=	λ 91 16 02.1865	
Sub Point 9	AMC comp.		X=	φ 47 17 11.6383	
			Y=	λ 91 15 27.2075	
COMPUTED BY		DATE	COMPUTATION CHECKED BY		
LISTED BY		DATE	LISTING CHECKED BY		
HAND PLOTTING BY		DATE	HAND PLOTTING CHECKED BY		

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

DATE 10-30-85

## DESCRIPTIVE REPORT CONTROL RECORD

MAP NO. (Silver Bay) TP-00359	JOB NO. CM-8407	GEODEIC DATUM 1927 N.A.		AEROTRI- ANGULATION POINT NUMBER	SOURCE OF INFORMATION (Index)	COORDINATES IN FEET STATE Minnesota ZONE North		GEOGRAPHIC POSITION $\phi$ LATITUDE $\lambda$ LONGITUDE		REMARKS
		X=	Y=			$\phi$	$\lambda$			
Sub Point 10	AMC comp.					X=		$\phi$ 47 17 34.3357		
						Y=		$\lambda$ 91 15 07.7951		
Sub Point 11	AMC comp.					X=		$\phi$ 47 17 55.8615		
						Y=		$\lambda$ 91 15 35.8108		
SILVER BAY, 1982						X=		$\phi$ 47 16 51.3462		
						Y=		$\lambda$ 91 15 26.4449		
						X=		$\phi$		
						Y=		$\lambda$		
						X=		$\phi$		
						Y=		$\lambda$		
						X=		$\phi$		
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U.S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION									
DESCRIPTIVE REPORT CONTROL RECORD									
MAP NO. (Taconite Harbor) TP-00359		JOB NO. CM-8407		GEODETTIC DATUM 1927 N.A.		ORIGINATING ACTIVITY Unit, AMC, Norfolk, VA			
STATION NAME		SOURCE OF INFORMATION (Index)		AEROTRI- ANGULATION POINT NUMBER		COORDINATES IN FEET STATE Minnesota ZONE North		GEOGRAPHIC POSITION φ LATITUDE λ LONGITUDE	
								REMARKS	
TACONITE, 1982						X= φ 47 31 17.4749			
						Y= λ 90 55 23.0814			
Sub Point 1		AMC comp.				X= φ 47 31 08.3102			
						Y= λ 90 55 17.6333			
Sub Point 2		AMC comp.				X= φ 47 31 19.6970			
						Y= λ 90 55 38.1546			
Sub Point 3		AMC comp.				X= φ 47 31 36.3962			
						Y= λ 90 55 52.7309			
Sub Point 4		AMC comp.				X= φ 47 31 43.4570			
						Y= λ 90 54 59.4071			
Sub Point 5		AMC comp.				X= φ 47 31 33.5600			
						Y= λ 90 54 26.1238			
Sub Point 6		AMC comp.				X= φ 47 31 56.4784			
						Y= λ 90 54 36.5755			
Sub Point 7		AMC comp.				X= φ 47 32 00.0392			
						Y= λ 90 55 04.9887			
Sub Point 8		AMC comp.				X= φ 47 30 56.6149			
						Y= λ 90 56 22.7905			
Sub Point 9		AMC comp.				X= φ 47 31 20.1022			
						Y= λ 90 56 35.1718			
COMPUTED BY				DATE		COMPUTATION CHECKED BY		DATE	
LISTED BY W. McLomre, Jr.				DATE 08-15-85		LISTING CHECKED BY F. Mauldin		DATE 10-30-85	
HAND PLOTTING BY				DATE		HAND PLOTTING CHECKED BY		DATE	

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



U.S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION									
DESCRIPTIVE REPORT CONTROL RECORD									
MAP NO. (Grand Marais Harbor) TP-00359	JOB NO. CM-8407	GEODEIC DATUM 1927 N.A.		ORIGINATING ACTIVITY Unit, AMC, Norfolk, VA		COASTAL MAPPING			
STATION NAME	SOURCE OF INFORMATION (Index)	AEROTRI- ANGULATION POINT NUMBER	COORDINATES IN FEET		GEOGRAPHIC POSITION		REMARKS		
			STATE ZONE	MINNESOTA North	$\phi$ LATITUDE	$\lambda$ LONGITUDE			
MARAIS, 1982			X=		$\phi$ 47 44 42.8740				
			Y=		$\lambda$ 90 20 04.11995				
Sub Point 1	AMC comp.		X=		$\phi$ 47 45 12.9617				
			Y=		$\lambda$ 90 19 43.5190				
Sub Point 2A	AMC comp.		X=		$\phi$ 47 45 22.2760				
			Y=		$\lambda$ 90 20 04.1020				
Sub Point 2B	AMC comp.		X=		$\phi$ 47 45 22.2398				
			Y=		$\lambda$ 90 20 09.1602				
Sub Point 3	AMC comp.		X=		$\phi$ 47 44 46.8873				
			Y=		$\lambda$ 90 20 00.4767				
Sub Point 4A	AMC comp.		X=		$\phi$ 47 44 55.0466				
			Y=		$\lambda$ 90 20 23.2481				
Sub Point 4B	AMC comp.		X=		$\phi$ 47 44 58.1097				
			Y=		$\lambda$ 90 20 22.1279				
Sub Point 5	AMC comp.		X=		$\phi$ 47 45 11.4355				
			Y=		$\lambda$ 90 20 28.4835				
Sub Point 6	AMC comp.		X=		$\phi$ 47 44 59.8824				
			Y=		$\lambda$ 90 21 15.1895				
Sub Point 7	AMC comp.		X=		$\phi$ 47 44 47.4313				
			Y=		$\lambda$ 90 20 49.7042				
COMPUTED BY			COMPUTATION CHECKED BY				DATE		
LISTED BY W. McLemore, Jr.			LISTING CHECKED BY F. Mauldin.				DATE 10-29-85		
HAND PLOTTING BY			HAND PLOTTING CHECKED BY				DATE		

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

COMPILATION REPORT  
TP-00359

31 - DELINEATION

Delineation was accomplished using stereo instrument compilation methods. Instrument compilation was used to delineate shoreline, alongshore and interior detail based upon office interpretation of the 1:10,000 scale compilation color photographs. All photographs used to compile this manuscript are listed on NOAA Form 76-36B. The photography was adequate.

32 - CONTROL

No aerotriangulation operations were performed. Sufficient geodetic control was field photoidentified to effect model orientation of the color compilation photographs with an average of 5 identified points per model. All geodetic stations photoidentified were third-order, Class I or better. All control held well in the instrument.

U.S. Geological Survey quadrangles were used to provide vertical control for leveling the stereo models. The density and distribution of quadrangle elevations were adequate.

33 - SUPPLEMENTAL DATA

None.

34 - CONTOURS AND DRAINAGE

Contours are not applicable to this project. Drainage was compiled from office interpretation of the photography.

35 - SHORELINE AND ALONGSHORE DETAILS

The shoreline and alongshore details were compiled from office interpretation of the photographs as described in item #31. The shoreline compiled was the visible line of contact between land features and the water surface at the time of photography. Based on the International Great Lakes Datum (1955), the water level taken at Grand Marais, Minnesota, gage was 600.9 feet. Low Water Datum for Lake Superior is 600.0 feet.

36 - OFFSHORE DETAILS

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

37 - LANDMARKS AND AIDS

There were 8 charted landmarks and 17 charted aids within the mapping limits of this manuscript. Among these, 8 landmarks and 12 aids were either located or verified photogrammetrically. Appropriate information was prepared on the 76-40 form and submitted with 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 U.S. Geological Survey Quadrangles:

Grand Marais, Minn., dated 1960, scale 1:24,000

Good Harbor Bay, Minn., dated 1958, scale 1:24,000

Schroeder, Minn., dated 1955, scale 1:24,000, photorevised 1976

Silver Bay, Minn., dated 1982, scale 1:24,000.

47 - COMPARISON WITH NAUTICAL CHARTS

A comparison was made with the following NOS charts:

14967; 19th edition, dated October 30, 1982, scale 1:120,000 (3-1:10,000 scale insets)

14966; 19th edition, dated January 15, 1983, scale 1:120,000

14961; 6th edition, dated November 10, 1984, scale 1:600,000.

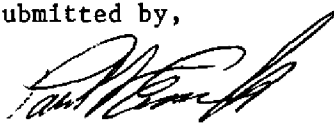
ITEMS TO BE APPLIED TO NAUTICAL CHARTS IMMEDIATELY

None.

ITEMS TO BE CARRIED FORWARD

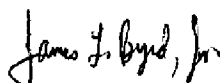
None.

Submitted by,



P. L. Evans, Jr.  
Cartographic Technician  
25 October 1985

Approved,



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

GEOGRAPHIC NAMES

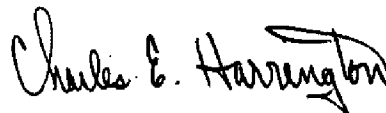
FINAL NAME SHEET

CM-8407 (Grand Marais, Silver Bay, & Taconite Harbor, Minnesota)

TP-00359

Bear Island  
Beaver Island  
East Bay  
Erie Mining Company Railroad (RR)  
~~Grand Marais~~ (Grand Marais)  
Grand Marais Harbor  
Gull Island  
Lake Superior (title)  
Mining Railroad (RR)  
Pellet Island  
Silver Bay  
Silver Bay Harbor  
Taconite Harbor  
Taconite Harbor (locality)  
Two Island River  
White Rock Creek

Approved:



Charles E. Harrington  
Chief Geographer  
Nautical Charting Division  
Charting and Geodetic Services



REVIEW REPORT  
TP-00359  
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:

Grand Marais, Minn., dated 1960

Good Harbor Bay, Minn., dated 1958

Schroeder, Minn., dated 1955, photorevised 1976

Silver Bay, Minn., dated 1982.

64 - COMPARISON WITH CONTEMPORARY HYDROGRAPHIC SURVEYS

Prior to final review, no contemporary hydrographic survey was accomplished in the area common to this map.

Hydrographic support data was prepared and submitted for future hydrographic activity.

65 - COMPARISON WITH NAUTICAL CHARTS

A comparison was made with the following NOS charts:

14967, 19th edition, dated Oct. 30, 1982, 1:120,000 scale (includes 3 1:10,000 scale insets)

14966, 19th edition, dated Jan. 15, 1983, 1:120,000 scale

14961, 6th edition, dated Nov. 10, 1984, 1:600,000 scale

66 - ADEQUACY OF RESULTS AND FUTURE SURVEYS

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

Submitted by,

*Jerry L. Hancock*  
Jerry L. Hancock  
Final Reviewer

Approved for forwarding,

*Billy H. Barnes*  
Billy H. Barnes  
Chief, Photogrammetric Section, AMC

Approved,

*J. A. Mooney*  
Chief, Photogrammetric Section,  
Rockville

*Ronald K. Brewer*  
Chief, Photogrammetry Branch  
Rockville



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



RESPONSIBLE PERSONNEL	
TYPE OF ACTION	NAME
OBJECTS INSPECTED FROM SEAWARD	
POSITIONS DETERMINED AND/OR VERIFIED	P. L. Evans, Lt.
FORMS ORIGINATED BY QUALITY CONTROL AND REVIEW GROUP AND FINAL REVIEW ACTIVITIES	<input type="checkbox"/> PHOTO FIELD PARTY <input type="checkbox"/> HYDROGRAPHIC PARTY <input type="checkbox"/> GEODETIC PARTY <input type="checkbox"/> OTHER (Specify) FIELD ACTIVITY REPRESENTATIVE 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 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-2-6-1 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
*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.	





RESPONSIBLE PERSONNEL	
TYPE OF ACTION	NAME
OBJECTS INSPECTED FROM SEAWARD	
POSITIONS DETERMINED AND/OR VERIFIED	P. Evans, Sept., 1985
FORMS ORIGINATED BY QUALITY CONTROL AND REVIEW GROUP AND FINAL REVIEW	
ACTIVITIES	
INSTRUCTIONS FOR ENTRIES UNDER 'METHOD AND DATE OF LOCATION'	
(Consult Photogrammetric Instructions No. 64)	
<b>OFFICE</b> <b>I. OFFICE IDENTIFIED AND LOCATED OBJECTS</b> Enter the number and date (including month, day, and year) of the photograph used to identify and locate the object. EXAMPLE: 75E(C)6042 8-12-75	<b>FIELD (Cont'd)</b> <b>B. Photogrammetric field positions*</b> require entry of method of location or verification, date of field work and number of the photograph used to locate or identify the object. EXAMPLE: P-8-V 8-12-75 74L(C)2982
<b>FIELD</b> <b>I. NEW POSITION DETERMINED OR VERIFIED</b> Enter the applicable data by symbols as follows: F - Field                      P - Photogrammetric L - Located                    Vis - Visually V - Verified 1 - Triangulation            5 - Field identified 2 - Traverse                6 - Theodolite 3 - Intersection            7 - Planetable 4 - Resection               8 - Sextant  A. Field positions* require entry of method of location and date of field work. EXAMPLE: F-2-6-L 8-12-75	<b>III. POSITION VERIFIED VISUALLY ON PHOTOGRAPH</b> Enter 'V-Vis.' and date. EXAMPLE: V-Vis. 8-12-75  <b>**PHOTOGRAMMETRIC FIELD POSITIONS</b> are dependant entirely, or in part, upon control established by photogrammetric methods.
<b>*FIELD POSITIONS</b> are determined by field observations based entirely upon ground survey methods.	

Replaces C&amp;GS Form 567.

## NON-FLOATING 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!)

<input checked="" type="checkbox"/> TO BE CHARTÉD	REPORTING UNIT (Field Party, Ship or Office)	STATE	LOCALITY	DATE
<input type="checkbox"/> TO BE REVISED	Coastal Mapping Unit	Minnesota	Taconite Harbor	9/24/85
<input type="checkbox"/> TO BE DELETED	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	METHOD AND DATA (See Instructions)
	CM-8407	(Taconite Harbor) TP-00359	1927 N.A. POSITION	

CHARTING NAME	DESCRIPTION (Record reason for deletion of landmark or aid to navigation. Show triangulation station names, where applicable, in parentheses.)	LATITUDE		LONGITUDE		OFFICE
		°	'	°	'	
		D.M. Meters		D.P. Meters		

STACK	NE 1 of 3	47 31	50.87	37.91	84Z(C) 3662 5-15-84
-------	-----------	-------	-------	-------	------------------------

STACK	Center 1 of 3	50.38	47 31	38.63	84Z(C)3662 5-15-84
-------	---------------	-------	-------	-------	-----------------------

STACK	SW 1 of 3	47 31	50.06	90 54	39.34	84Z(C) 3662 5-15-84
-------	-----------	-------	-------	-------	-------	------------------------

S' PIPE	47 31'	28.53'	90 55	44.98'	84Z(C) 3664
					5-15-84

[illegible][illegible][illegible][illegible][illegible][illegible]

RESPONSIBLE PERSONNEL	
TYPE OF ACTION	NAME
OBJECTS INSPECTED FROM SEAWARD	
POSITIONS DETERMINED AND/OR VERIFIED	P. Evans, Sept., 1985
FORMS ORIGINATED BY QUALITY CONTROL AND REVIEW GROUP AND FINAL REVIEW ACTIVITIES	
INSTRUCTIONS FOR ENTRIES UNDER METHOD AND DATE OF LOCATION: (Consult Photogrammetric Instructions No. 64.)	
<b>OFFICE</b> <b>I. OFFICE IDENTIFIED AND LOCATED OBJECTS</b> Enter the number and date (including month, day, and year) of the photograph used to identify and locate the object. EXAMPLE: 75E(C)6042 8-12-75	<b>FIELD (Cont'd)</b> <b>B. Photogrammetric field positions** 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 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 **PHOTOGRAMMETRIC FIELD POSITIONS are dependent entirely, or in part, upon control established by photogrammetric methods.
*FIELD POSITIONS are determined by field observations based entirely upon ground survey methods.	

Replaces C&amp;GS Form 567.

## NONFLOATING AIDS OR LAND MARKS 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)

<input checked="" type="checkbox"/> TO BE CHARTED <input type="checkbox"/> TO BE REVISED <input type="checkbox"/> TO BE DELETED	REPORTING UNIT (If field party, Ship or Office) Coastal Mapping Unit AMC, Norfolk, VA	STATE Minnesota	LOCALITY Grand Marais Harbor	DATE 9/24/85
The following objects HAVE <input type="checkbox"/> HAVE NOT <input checked="" type="checkbox"/> been inspected from seaward to determine their value as landmarks.				
OPR PROJECT NO.	JOB NUMBER CM-8407	SURVEY NUMBER (Grand Marais Harbor) TP-00359	DATUM 1927 N.A.	METHOD AND DATA (See instructions)

[illegible]

RESPONSIBLE PERSONNEL	
TYPE OF ACTION	NAME
OBJECTS INSPECTED FROM SEAWARD	
POSITIONS DETERMINED AND/OR VERIFIED	J. Dunford, July 1985
FORMS ORIGINATED BY QUALITY CONTROL AND REVIEW GROUP AND FINAL REVIEW ACTIVITIES	P. Evans, Sept, 1985
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*</b> require entry of method of location or verification, date of field work and number of the photograph used to locate or identify the object. <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 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 <b>A. Field positions* require entry of method of location and date of field work.</b> <b>EXAMPLE:</b> F-2-6-L 8-12-75	<b>III. POSITION VERIFIED VISUALLY ON PHOTOGRAPH</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>Enter 'V-Vis.' and date.</b> <b>EXAMPLE:</b> V-Vis. 8-12-75
<b>*FIELD POSITIONS</b> are determined by field observations based entirely upon ground survey methods. <b>*PHOTOGRAMMETRIC FIELD POSITIONS</b> 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  
(Field Party, Ship or Office)  
Coastal Mapping Unit  
AMC, Norfolk, VA

STATE

LOCALITY

DATE

9/24/85

Grand Marais Harbor

Minnesota

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

OPR PROJECT NO.

JOB NUMBER

SURVEY NUMBER

DATUM

(Grand Marais Harbor)

1927, N.A.

POSITION

LONGITUDE

OFFICE

FIELD

CHARTS  
AFFECTED

DESCRIPTION

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

° /

D.M. Meters

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D.P. Meters

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F-1-2-6

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5-15-84

July 1985

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RESPONSIBLE PERSONNEL	
TYPE OF ACTION	NAME
OBJECTS INSPECTED FROM SEAWARD	
POSITIONS DETERMINED AND/OR VERIFIED	J. Dunford, July, 1985
FORMS ORIGINATED BY QUALITY CONTROL AND REVIEW GROUP AND FINAL REVIEW ACTIVITIES	P. Evans, Sept., 1985
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>8. Photogrammetric field positions*</b> require entry of method of location or verification, date of field work and number of the photograph used to locate or identify the object. EXAMPLE: P-8-V 8-12-75 74L(C)2982
<b>FIELD</b> <b>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. EXAMPLE: F-2-6-L 8-12-75	<b>II. TRIANGULATION STATION RECOVERED</b> When a landmark or aid which is also a triangulation station is recovered, enter 'Triang. Rec.' with date of recovery. EXAMPLE: Triang. Rec. 8-12-75 <b>III. POSITION VERIFIED VISUALLY ON PHOTOGRAPH</b> Enter 'V-Vis.' and date. EXAMPLE: V-Vis. 8-12-75 **PHOTOGRAMMETRIC FIELD POSITIONS are dependent entirely, or in part, upon control established by photogrammetric methods.
*FIELD POSITIONS are determined by field observations based entirely upon ground survey methods.	

