

TP-01085

TP-01085

NOAA FORM 76-35 *

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

DESCRIPTIVE REPORT

Type of Survey Shoreline

Job No. CM-8008 Map No. TP-01085

Classification No. Final Edition No. 1

Field Edited

LOCALITY

State Wisconsin

General Locality Superior Bay

Locality Superior Harbor

1980 TO 1981

REGISTRY IN ARCHIVES

DATE

NOAA FORM 76-36A (3-72)		U. S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMIN.	
DESCRIPTIVE REPORT - DATA RECORD		TYPE OF SURVEY <input checked="" type="checkbox"/> ORIGINAL <input type="checkbox"/> RESURVEY <input type="checkbox"/> REVISED	
PHOTOGRAMMETRIC OFFICE Photogrammetry Division Rockville, MD		SURVEY TP. <u>01085</u> MAP EDITION NO. <u>(1)</u> MAP CLASS <u>Final</u> JOB <u>PH-CM-8008</u>	
OFFICER-IN-CHARGE Walter S. Simmons		LAST PRECEDING MAP EDITION TYPE OF SURVEY <input type="checkbox"/> ORIGINAL <input type="checkbox"/> RESURVEY <input type="checkbox"/> REVISED	
JOB PH. _____ MAP CLASS _____ SURVEY DATES: 19__ TO 19__			
I. INSTRUCTIONS DATED			
1. OFFICE		2. FIELD	
Aerotriangulation - October 16, 1980		Field - April 17, 1981	
II. DATUMS			
1. HORIZONTAL: <input checked="" type="checkbox"/> 1927 NORTH AMERICAN		OTHER (Specify) International Great Lakes Datum, 1955	
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)	
3. MAP PROJECTION Lambert Conformal		4. GRID(S) STATE Wisconsin ZONE North	
5. SCALE 1:5,000		STATE ZONE	
III. HISTORY OF OFFICE OPERATIONS			
OPERATIONS		NAME	DATE
1. AEROTRIANGULATION BY METHOD: Analytic LANDMARKS AND AIDS BY		R. Kelly	Dec 1980
2. CONTROL AND BRIDGE POINTS PLOTTED BY METHOD: Calcomp CHECKED BY		J. Taylor	Jan 1981
3. STEREOSCOPIC INSTRUMENT PLANIMETRY BY COMPILATION CHECKED BY INSTRUMENT: B-8 CONTOURS BY SCALE: 1:5,000 CHECKED BY		J. Schad P. Dempsey NA	Jan 1981 Feb 1981
4. MANUSCRIPT DELINEATION PLANIMETRY BY CHECKED BY METHOD: Graphically Smooth Drafted CONTOURS BY SCALE: 1:5,000 CHECKED BY HYDRO SUPPORT DATA BY		P. Dempsey C. Lewis NA P. Dempsey C. Lewis	Feb 1981 Apr 1981 Mar 1981 Apr 1981
5. OFFICE INSPECTION PRIOR TO FIELD EDIT BY		" "	" "
6. APPLICATION OF FIELD EDIT DATA BY CHECKED BY		J. Schad E. Wright	Aug 1981 " "
7. COMPILATION SECTION REVIEW BY		" "	" "
8. FINAL REVIEW BY		R. Kelly	June 1982
9. DATA FORWARDED TO PHOTOGRAMMETRIC BRANCH BY			
10. DATA EXAMINED IN PHOTOGRAMMETRIC BRANCH BY			
11. MAP REGISTERED - COASTAL SURVEY SECTION BY		R. Kelly (Signed)	

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

COMPILATION SOURCES

TP-01085

1. COMPILATION PHOTOGRAPHY

CAMERA(S) Wild RC-8(E)

Focal Length = 152.71 mm

TIDE STAGE REFERENCE

- ☐ PREDICTED TIDES
☒ REFERENCE STATION RECORDS
☐ TIDE CONTROLLED PHOTOGRAPHY

TYPES OF PHOTOGRAPHY
LEGEND

- (C) COLOR
(P) PANCHROMATIC
(I) INFRARED

TIME REFERENCE

ZONE

Control

☐ STANDARD

MERIDIAN

75th

☒ DAYLIGHT

NUMBER AND TYPE	DATE	TIME	SCALE	STAGE OF TIDE
80-EC-5759-5761	8/31/80		1:15,000	+1.0 feet - Lake Superior Low Water Datum

REMARKS

Lake Superior Low Water Datum = 600.00 feet.

2. SOURCE OF ~~PHOTOGRAPHIC~~ SHORELINE:

Shoreline was compiled from the above listed photographs and represents the the visible line of contact between the water level and land features.

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

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

TP-01082

EAST

TP-01086

SOUTH

NO

Contemporary Survey

WEST

NO

Contemporary Survey

REMARKS

NOAA FORM 76-36C
(3-72)U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEYTP-01085
HISTORY OF FIELD OPERATIONSI. ☐ FIELD INSPECTION OPERATION☒ FIELD EDIT OPERATION

OPERATION	NAME	DATE
1. CHIEF OF FIELD PARTY	CDR Frank P. Rossi	
2. HORIZONTAL CONTROL	E. Steigerwald	7/81
RECOVERED BY		
ESTABLISHED BY		
PRE-MARKED OR IDENTIFIED BY		
3. VERTICAL CONTROL	NA	
RECOVERED BY		
ESTABLISHED BY		
PRE-MARKED OR IDENTIFIED BY		
4. LANDMARKS AND AIDS TO NAVIGATION	E. Steigerwald, L. Neterer	6/81
RECOVERED (Triangulation Stations) BY		
LOCATED (Field Methods) BY		
IDENTIFIED BY		
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	E. Steigerwald, L. Neterer	6/81
CLARIFICATION OF DETAILS BY		
7. BOUNDARIES AND LIMITS	NA	
SURVEYED OR IDENTIFIED BY		

II. SOURCE DATA

1. HORIZONTAL CONTROL IDENTIFIED

2. VERTICAL CONTROL IDENTIFIED

NA

PHOTO NUMBER	STATION NAME	PHOTO NUMBER	STATION DESIGNATION
80EC5760	Superior St. Francis Xavier Cath. Ch. Steeple Petra 1980		

3. PHOTO NUMBERS (Clarification of details)

80EC5760

4. LANDMARKS AND AIDS TO NAVIGATION IDENTIFIED

PHOTO NUMBER	OBJECT NAME	PHOTO NUMBER	OBJECT NAME
80EC5760	Superior Front Channel Range Front Light		

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 Goodey Division)

Master Field Edit Print, Plane Table Print, Photos 80EC5760, Form 76-40's (2),
Field Edit Report.

NOAA FORM 76-36D (3-72)	NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION	U. S. DEPARTMENT OF COMMERCE
RECORD OF SURVEY USE		TP-01085

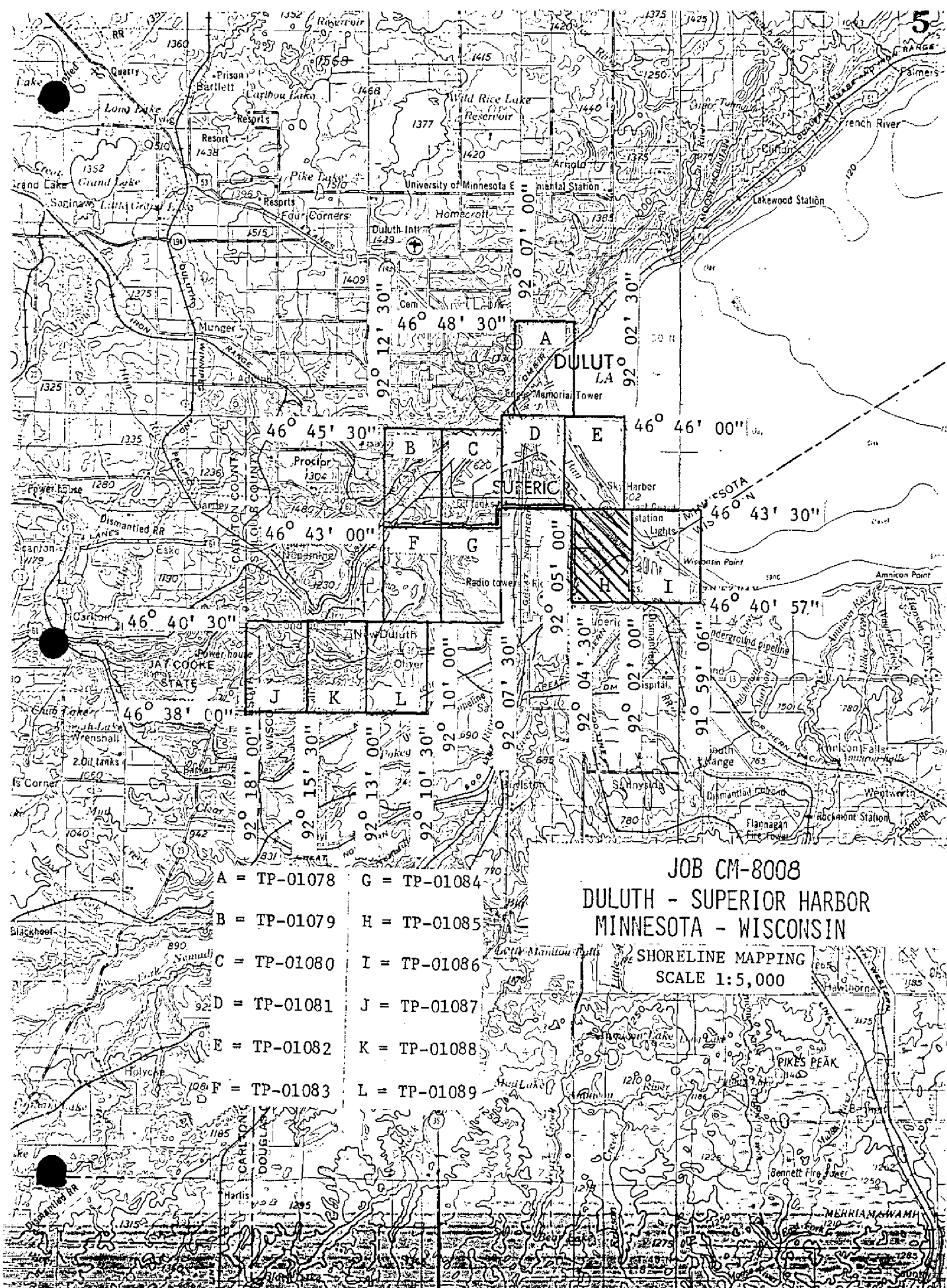
I. MANUSCRIPT COPIES				
COMPILATION STAGES			DATE MANUSCRIPT FORWARDED	
DATA COMPILED	DATE	REMARKS	MARINE CHARTS	HYDRO SUPPORT
Shoreline and alongshore area for hydro support	Mar 1981	Map Class III		Apr 14, 81
Field Edit Applied	Aug 1981	Class I Manuscript Pending Final Review		
Field Edit Unreviewed		Class I Manuscript Pending Final Review		May 1982
Final Review	May 1982	Final Map	Aug 1982	July 1982

II. LANDMARKS AND AIDS TO NAVIGATION			
1. REPORTS TO MARINE CHART DIVISION, NAUTICAL DATA BRANCH			
NUMBER	CHART LETTER NUMBER ASSIGNED	DATE FORWARDED	REMARKS
Pages 3	76-40(S)	Aug 1982	

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. <input checked="" type="checkbox"/> BRIDGING PHOTOGRAPHS; <input checked="" type="checkbox"/> DUPLICATE BRIDGING REPORT; <input checked="" type="checkbox"/> COMPUTER READOUTS. 2. <input checked="" type="checkbox"/> CONTROL STATION IDENTIFICATION CARDS; <input type="checkbox"/> FORM NOS 567 SUBMITTED BY FIELD PARTIES. 3. <input type="checkbox"/> SOURCE DATA (except for Geographic Names Report) AS LISTED IN SECTION II, NOAA FORM 76-36C.	ACCOUNT FOR EXCEPTIONS: ** All indicated data will be forwarded to the Federal Record Center upon completion of the entire project. 4. <input type="checkbox"/> DATA TO FEDERAL RECORDS CENTER. DATE FORWARDED: <u>SEPTEMBER 14, 1982</u>

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	
	DATE OF PHOTOGRAPHY	DATE OF FIELD EDIT	<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
THIRD EDITION	SURVEY NUMBER TP - _____ (3)	JOB NUMBER PH - _____	TYPE OF SURVEY	
	DATE OF PHOTOGRAPHY	DATE OF FIELD EDIT	<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
FOURTH EDITION	SURVEY NUMBER TP - _____ (4)	JOB NUMBER PH - _____	TYPE OF SURVEY	
	DATE OF PHOTOGRAPHY	DATE OF FIELD EDIT	<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



Summary

TP-01085

This map is one of twelve 1:5,000 scale shoreline maps that comprise Job CM-8008. The purpose of this job is to provide contemporary shoreline data for the support of hydrographic operations and to furnish data for nautical chart revision.

This map portrays the shoreline and alongshore detail of Duluth Superior Harbor, Minnesota and Wisconsin.

Field operations were not planned for TP-01078 through TP-01082, TP-01085 and TP-01086 prior to aerotriangulation. It was anticipated that geodetic intersection stations and photo points established in 1972, by the Lake Survey for CM-7313, TP-00680 be used for horizontal control. In May 1981 field operations provided horizontal control for the lower portion of CM-8008 for the aerotriangulation of TP-01083, TP-01084 and TP-01087 through TP-01089.

Natural color photographs were taken August 31, 1980, with the Wild RC-8(E) camera at 1:15,000 scale which were provided to aerotriangulation and compilation.

Aerotriangulation was performed at the Washington Science Center, Rockville, Maryland. The 1:15,000 natural color photographs were bridged using analytic aerotriangulation methods.

Compilation was performed at the Washington Science Center, Rockville, Maryland, by the Coastal Mapping Section. The interior was limited to detail to the first road adjacent to the shoreline. Detail within this area was kept to a minimum.

Field edit was performed in June 1981 by personnel assigned to the Atlantic Marine Center. Refer to the Field Edit Report bound with this Descriptive Report.

Application of field edit was performed at the Washington Science Center, Rockville, Maryland.

Final Review for this map was performed at the Washington Science Center, Rockville, Maryland, in May 1981. This map complies with the National Standards of Map Accuracy.

A chart Maintenance Print was prepared during the final review and forwarded to the Marine Chart Division. Also, a print copy with notes to the hydrographer was forwarded to the Hydrographic Survey Division, which supercedes the Class III print forwarded April 1981. Accompanying the

above forwarded print copies, are 76-40 forms, listings of landmarks and nonfloating aids to navigation.

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

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

FIELD INSPECTION

TP-01085

There was no field inspection prior to compilation. Field accomplished was limited to the photo coverage for aerotriangulation and compilation.

Photogrammetric Plot Report

Duluth-Superior Harbor
Minnesota-Wisconsin

CM-8008
December 1980

21. Area Covered

This report covers seven 1:5,000 scale sheets, TP-01078, TP-01079, TP-01080, TP-01081, TP-01082, TP-01085 and TP-01086 of Duluth-Superior Harbor, Minnesota-Wisconsin.

22. Method

Four strips of 1:15,000 scale photography were bridged by analytic aerotriangulation methods and adjusted to ground on the Wisconsin State Plane Coordinate System, Wisconsin North Zone. These four strips provided horizontal and vertical control for compilation. Aids and landmarks were located during the bridging. Using photo control point 31 South Cover Land Spit (761831) as a terminal control point to adjust strip three, it was determined that there is some field discrepancy in the position of this point. Strip three was again adjusted using photo point 35 South Breakwater Light (762804) as a terminal control point. In this adjustment a position for tie point 761804 was established to be used as a terminal control station in adjusting strip four.

Since 761831 is common to strips three and four, strip four was bridged measuring 761831 to provide a terminal control point position for adjusting strip three.

23. Adequacy of Control

Photo control points position within 1.0 and 2.0 meters provided by Great Lakes Revisory Section, geodetic control and tie points were office identified. Although, control held within the accuracy required by National Standards of Maps at 1:15,000 scale, it did not meet NOS requirements. To meet NOS requirements it will be necessary for a photo field party to establish and photoidentify control or to panel control and refly the project.

24. Supplemental Data

Local shoreline and US Geological Survey quadrangles were used to provide vertical elevations for vertical adjustments of bridges.

25. Photography

RC-8 EC photography was used for the four bridging strips. Photography was adequate as to coverage and definition.

Submitted by,

Robert B. Kelly
Robert B. Kelly

Approved and Forwarded:

Don O. Norman

Don O. Norman
Chief, Aerotriangulation Section

Closures to Control
(in feet)

Strip 1

	X	Y
729870 South Corner Middle Dock	0.0	0.1
733862 Minn. Power & Light Co. Tk.	-0.3	-1.0
735856 West Corner Lakehead Dock	0.1	1.1
738103 Duluth Central High Sch. Cupola Spire	0.0	-0.2

Strip 2

732801 Tie Point	0.0	0.0
797849 West Corner Superior Terminal Dock	0.0	0.0
799801 Tie Point	0.0	0.0

Strip 3

753120 Duluth Enger Memorial Tower	-0.3	-0.1
736110 Duluth Peavey Elevator Co. Stack, 1921	1.2	0.4
759817 Corner Park Dock	-3.0	0.1
806137 Superior St. Francis Xavier Cath. Church Spire, 1952	2.9	0.9
763831 Tie Point	-0.8	-1.3

Strip 4

806137 Superior St. Francis Xavier Cath. Church Spire, 1952	0.0	0.0
761843 End Northern Pacific Ry Wall	0.0	0.0
761804 Tie Point	0.0	0.0

ADDENDUM TO CM-8008
DULUTH-SUPERIOR HARBOR
MINNESOTA-WISCONSIN
APRIL 1981

Strip three was remeasured and adjusted to determine positions for hydrographic points and additional landmarks.

Strip four should not be used, because of inadequacy of control.

CLOSURES TO CONTROL FOR STRIP THREE

	X	Y
753801 DULUTH TV STA. WEBC MAST	-1.7	2.3
736120 DULUTH ENGER MEMORIAL TOWER	1.2	-1.3
736110 DULUTH PEAVEY ELEVATOR CO. STACK, 1321	3.2	-1.0
759817 CORNER PARK DOCK	-4.0	-0.3
806137 SUPERIOR ST. FRANCIS XAVIER CATH. CHURCH SPIRE, 1952	1.3	-0.3
761835 SOUTH BREAKWATER LIGHT	1.3	0.4

DESCRIPTIVE REPORT CONTROL RECORD

MAP NO.	STATION NAME	JOB NO.	GEODETTIC DATUM		AEROTRI- ANGULATION POINT NUMBER	COORDINATES IN FEET		GEOGRAPHIC POSITION		REMARKS
			STATE	ZONE		ϕ LATITUDE	λ LONGITUDE			
TP-01085		CM-8008	N. A.	1927						Rockville MD.
	SUPERIOR ST FRANCIS XAVIER	460921			808137	X=	1,486,460.58	ϕ	46° 42' 12.117"	
	CATH. CHURCH SPIRE (STEEPLE)	1106				Y=	566,984.97	λ	92° 02' 48.974"	
	1952					X=	1,486,886.75	ϕ	46° 42' 46.365"	
	PETRA, 1980 "FIELD"	16599 (426)				Y=	570,444.725	λ	92° 02' 44.140"	
						X=		ϕ		
						Y=		λ		
						X=		ϕ		
						Y=		λ		
						X=		ϕ		
						Y=		λ		
						X=		ϕ		
						Y=		λ		
						X=		ϕ		
						Y=		λ		
						X=		ϕ		
						Y=		λ		
						X=		ϕ		
						Y=		λ		
						X=		ϕ		
						Y=		λ		
						X=		ϕ		
						Y=		λ		
						X=		ϕ		
						Y=		λ		
COMPUTED BY					DATE	COMPUTATION CHECKED BY			DATE	
LISTED BY	J. SCHAD				DATE 1-8-81	LISTING CHECKED BY P. Dempsey			DATE 1-8-81	
HAND PLOTTING BY					DATE	HAND PLOTTING CHECKED BY			DATE	

Compilation Report

TP-01085

31. Delineation

This map manuscript was compiled using the B-8 stereoplotter holding the pass points furnished by the Aerotriangulation Section. Compilation was limited primarily to the first main road back from the shoreline. Detail within this area was kept to a minimum. Refer to Item 46.

32. Control

Refer to the Aerotriangulation Report for the adequacy of the horizontal control.

The vertical control was used in leveling on the B-8 stereoplotter and was obtained from USGS quadrangle maps.

33. Supplemental Data - None34. Contours and Drainage

Contours are not applicable. Drainage was compiled as shown on photography.

35. Shoreline and Alongshore Detail

The shoreline was compiled as shown on the photography using the water level at the time of the photography. The shoreline and along-shore detail was compiled by office interpretation of the photography.

36. Offshore Detail

Rocks, piling, grass in water, and marsh areas were delineated as shown on the photographs.

37. Landmarks and Aids

The position for one aid to navigation was furnished by the Aerotriangulation Section.

The position for one landmark was furnished by the Aerotriangulation Section. One ^{Possible} landmark was located during instrument compilation on the B-8 stereoplotter.

38. Control for Future Surveys

Photo-hydro points were established for use by the hydrographer. Positions were determined by analytical methods and a copy bound with this report.

39. Junctions

Junctions were made to the north with TP-01082, to the east with TP-01086. There are no contemporary surveys to the south or west of this manuscript.

40. through 45. Inapplicable46. Comparison with Existing Maps

During compilation: a continuous comparison was made with TP-00680. This survey was compiled at a scale of 1:15,000 using the format for chart 14975 and is intended as a new base for this chart, but has yet to be applied. Although, some duplication of features exist, the interior detail shown on TP-01085 consists mainly of features that have been constructed or changed since TP-00680 was compiled. This survey is not intended to supercede the interior portion of TP-00680 but should be used only to add those new features compiled,

Comparison was made with USGS quadrangle map,

Superior, Wisc-Minn., 1:24,00 scale, 1954 Edition, photorevised 1969.

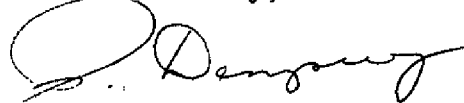
47. Comparison with Nautical Charts

Refer to Item 46. Comparison was made with Nautical Chart 14975, 1:15,000 scale, 26th Edition, April 26, 1980.

Items to be applied to Nautical Charts immediately - None

Items to be carried forward - None

Submitted by,



P. Dempsey

Approved and forwarded:



F. Wright
Chief, Coastal Mapping Section

ADDENDUM TO COMPILATION REPORT

Photogrammetric data previously furnished (during the 1981 field season) for use as possible hydrographic control signal sites in the Duluth-Superior Harbor area should not be used and was not bound with this report.



Robert B. Kelly
June 8, 1982

FIELD EDIT REPORT
TP-01085

51. Method

A 19-foot MonArk outboard boat was used to inspect the entire shoreline from the water. All changes were noted on the master field edit print and photograph 80EC 5760. A plane table survey was used to verify landmarks and fixed aids to navigation.

52. Adequacy of Compilation

Compilation of this manuscript was very good. The scale of the photography, and the fact that it was flown so recently helped make the field edit go smoothly. The biggest discrepancy was in areas which had been compiled as grassy areas, but turned out to be simply shallow water. There were also some minor discrepancies in the shoreline interpretation of areas in ruin, but these were easily resolved by field inspection.

53. Map Accuracy

Refer to Photogrammetric Plot Report, CM-8008 for statement of map accuracy of horizontal control.

54. Recommendations

Photo centers should be shown on all manuscripts. This will make it easier for the field editor to orient the photos, and to determine which photos to use to locate features.

Some chronopaque photos for this manuscript were not sent with the project. All these photos should be supplied.

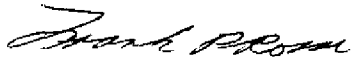
Assistance with field edit by office compilers should be continued.

Office personnel will benefit from the field experience, and can offer valuable expertise to the ships.

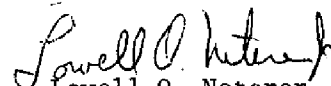
55. Examination of Proof Copy

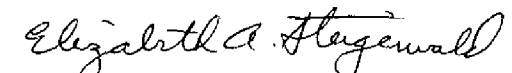
No statement.

Chief of Party


CDR Frank P. Rossi

Respectfully submitted,


Lowell O. Neterer, Jr.


ENS Elizabeth A. Steigerwald

Review Report
Shoreline Survey
TP-01085

61. General Statement

A final review was performed for this shoreline map. No major discrepancies were encountered. For a complete analysis of compilation, refer to the Compilation Report bound with this Descriptive Report.

62. Comparison with Registered Topographic Surveys - None

63. Comparison with Maps of Other Agencies

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

64. Comparison with Contemporary Hydrographic Surveys - None

65. Comparison with Nautical Charts

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

66. Adequacy of Results and Future Surveys

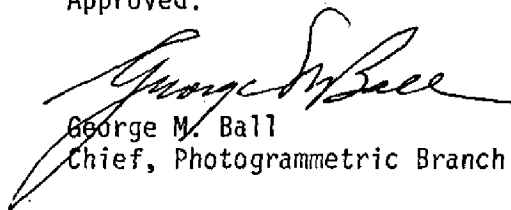
This map complies with photogrammetric instructions for shoreline mapping and meets accuracy required by National Standards of Maps.

Submitted by,

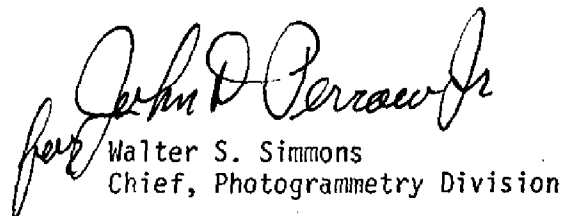


Robert B. Kelly
Final Reviewer

Approved:



George M. Ball
Chief, Photogrammetric Branch



Walter S. Simmons
Chief, Photogrammetry Division

June 3, 1982

GEOGRAPHIC NAMES

FINAL NAME SHEET

CM-8008, (Duluth-Superior Harbor, Minn. - Wis.)

TP 01085

Barkers Island

Burlington Northern (RR)

East End (Ppl)

Hog Island

Lake Superior

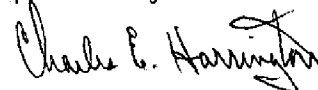
Minnesota Point

Nemadji River

Superior

Superior Bay

Approved by:



Charles E. Harrington
Chief Geographer, OA/C3x5

Information on Dissemination of Project Material

CM-8008

Duluth-Superior Harbor Minnesota & Winconsin

National Archives/Federal Record Center

Plot Report

Computer Printouts

Control Identification Cards (Horizontal)

NOAA Form(s) 76-41 (Descriptive Report Control Record)

Master Field Edit Sheets

Project Diagrams

Listing of Hydrographic Control Points

Listing of Plotted Points

Ratio Photographs

Bureau Archives

Registered Maps

Descriptive Reports

Reproduction Division

8X Reduction Negative of Each Map

Office of Staff Geographer

Geographer Names Standard

Marine Chart Division

Chart Maintenance Print

Information on Dissemination of Project Material

CM-8008

Duluth-Superior Harbor Minnesota & Winconsin

National Archives/Federal Record Center

Aerotriangulation Photographs

Plot Report

Computer Printouts

Control Identification Cards (Horizontal)

NOAA Form(s) 76-41 (Descriptive Report Control Record)

Master Field Edit Sheets

Project Diagrams

Listing of Hydrographic Control Points

Listing of Plotted Points

Ratio Photographs

Bureau Archives

Registered Maps

Descriptive Reports

Reproduction Division

8X Reduction Negative of Each Map

Office of Staff Geographer

Geographer Names Standard

Marine Chart Division

Chart Maintenance Print

SVY	IP-01085	*		* RPT UNIT	CMD, ROCKVILLE MD.	*	PAGE 1 OF 21	*
JOB	CM8008	*		* STATE	MINNESOTA-WISCONSIN	*		*
PRJ	.	*		* LOCALITY	DULUTH SUPERIOR HBR	*	* ORIGINATING ACTIVITY	*
DTM	NA1927	*		* DATE	03/02/81	*	* COMPILATION	*

OBJECTS	INSPECTED FROM SEAWARD	*	E. STEIGERWALD,	L. NETERER	*		* HYDROGRAPHIC PARTY	*
POSITIONS	DETERMINED	*	E. STEIGERWALD,	W. DEWHURST	*		* FIELD REPRESENTATIVE	*
AND/OR	VERIFIED BY	*	PATRICK	DEMPSEY	*		* OFFICE COMPILER	*
FIELD AND	OFFICE	*	N/A		*		* DIGITIZER	*
ACTIVITIES		*	ALFRED BETHEA		*		* DATA PROCESSOR	*

KEY FOR ENTRIES UNDER METHOD AND DATE OF LOCATION

OFFICE

1. OFFICE IDENTIFIED AND LOCATED OBJECTS.
THE NUMBER AND DATE (INCLUDING MONTH, DAY
AND YEAR) OF THE PHOTOGRAPH USED TO
IDENTIFY AND LOCATE THE OBJECT ARE SHOWN.
EXAMPLE 75E(C)6042
8-12-77

* FIELD(CONT,D)

* B. PHOTOGRAMMETRIC FIELD POSITIONS** SHOW
THE METHOD OF LOCATION OR VERIFICATION,
DATE OF FIELD WORK AND NUMBER OF PHOTO-
GRAPH USED TO LOCATE AND IDENTIFY THE
OBJECT.
EXAMPLE P-8-V

FIELD

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1. NEW POSITION DETERMINED OR VERIFIED
   KEY TO SYMBOLS
   F-FIELD
   L-LOCATED
   V-VERIFIED

   P-PHOTOGRAMMETRIC
   VIS-VISUALLY

2. TRIANGULATION STATION RECOVERED
   WHEN A LANDMARK OR AID WHICH IS ALSO A TRI-
   ANGULATION STATION IS RECOVERED, A TRIANG.
   REC. WITH DATE OF RECOVERY IS SHOWN.
   EXAMPLE TRIANG. REC.

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1-TRIANGULATION	5-FIELD IDENTIFIED	*	*	8-12-76
2-TRAVERSE	6-THEODOLITE	*	*	
3-INTERSECTION	7-PLANETABLE	*	*	
4-RESECTION	8-SEXTANT	*	*	
A.FIELD POSITIONS* SHOW THE METHOD OF		*	*	8-12-75
3.POSITION VERIFIED VISUALLY ON PHOTOGRAPH		*	*	
SHOWN BY V-VIS AND DATE.		*	*	
EXAMPLE V-VIS		*	*	

A. FIELD POSITIONS* SHOW THE METHOD OF
LOCATION AND DATE OF FIELD WORK.
EXAMPLE F-2-6-L
8-12-76

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*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.

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NOTE: WHERE THE NAME OF AN AID INCLUDES THE IMMEDIATE GEOGRAPHIC HEADING UNDER WHICH IT IS LISTED, A DASH {-} IS USED TO INDICATE THE GEOGRAPHIC HEADING WHICH IS PART OF THE OFFICIAL NAME.

