

TP-01399

TP-01399

NOAA FORM 76-35 (6-80)	
U.S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION NATIONAL OCEAN SURVEY	
DESCRIPTIVE REPORT	
Map No. TP-01399	Edition No. 1
Job No. CM 8511	
Map Classification III	
Type of Survey SHORELINE	
LOCALITY	
State MICHIGAN	
General Locality LAKE SUPERIOR	
Locality PENDILLS BAY	
1986 TO 1986	
REGISTERED 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 Branch, Rockville, MD		SURVEY TP. <u>01399</u> MAP EDITION NO. <u>(1)</u> MAP CLASS <u>III</u> JOB <u>AK CM-8511</u>	
OFFICER-IN-CHARGE Cdr. A. Y. Bryson		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 April 20, 1987 Office July 27, 1987		Field January 27, 1986	
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 Lake Datum (1955)	
3. MAP PROJECTION Transverse Mercator Projection		4. GRID(S) STATE ZONE Michigan East	
5. SCALE 1:20,000		STATE ZONE	
III. HISTORY OF OFFICE OPERATIONS			
OPERATIONS		NAME	DATE
1. AEROTRIANGULATION BY METHOD: Analytical LANDMARKS AND AIDS BY		J. Taylor N/A	May 1987
2. CONTROL AND BRIDGE POINTS PLOTTED BY METHOD: Kongsberg Flatbed Plotter CHECKED BY		J. Taylor N/A	May 1987
3. STEREOSCOPIC INSTRUMENT PLANIMETRY BY COMPILATION CHECKED BY INSTRUMENT: Wild B-8 CONTOURS BY SCALE: 1:20,000 CHECKED BY		D. Graham J. Schad N/A N/A	July 1987 July 1987
4. MANUSCRIPT DELINEATION PLANIMETRY BY CHECKED BY METHOD: Smooth Drafting CONTOURS BY CHECKED BY SCALE: 1:20,000 HYDRO SUPPORT DATA BY CHECKED BY		D. Graham J. Schad N/A N/A N/A N/A	Aug. 1987 Aug. 1987
5. OFFICE INSPECTION PRIOR TO FIELD EDIT BY		N/A	
6. APPLICATION OF FIELD EDIT DATA BY		N/A	
7. COMPILATION SECTION REVIEW BY		J. Schad	Oct. 1987
8. FINAL REVIEW BY		J. Schad	Nov. 9, 1987
9. DATA FORWARDED TO PHOTOGRAMMETRIC BRANCH BY		J. Schad	Nov. 10, 1987
10. DATA EXAMINED IN PHOTOGRAMMETRIC BRANCH BY		P. Dempsey	Dec. 1987
11. MAP REGISTERED - COASTAL SURVEY SECTION BY		J. RIKAN	APR 28, 1988

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

COMPILATION SOURCES

TP-01399

1. COMPILATION PHOTOGRAPHY

CAMERA(S) Wild RC-8 (E) F/L 152.71mm		TYPES OF PHOTOGRAPHY LEGEND		TIME REFERENCE	
TIDE STAGE REFERENCE		(C) COLOR		ZONE Eastern	
<input type="checkbox"/> PREDICTED TIDES		(P) PANCHROMATIC		<input checked="" type="checkbox"/> STANDARD	
<input checked="" type="checkbox"/> REFERENCE STATION RECORDS		(I) INFRARED		MERIDIAN 75th	
<input type="checkbox"/> TIDE CONTROLLED PHOTOGRAPHY				<input type="checkbox"/> DAYLIGHT	
NUMBER AND TYPE	DATE	TIME	SCALE	STAGE OF TIDE	
86 (E) 6199-6203	6/02/86	14:55	1:50,000	Water level at the time of photography was 601.7 ft. based on gage at Marquette, Michigan (Sta.#9018)	

REMARKS Plane of reference (Low Water Datum) for Lake Superior is 600.0 ft. The shoreline datum is lake level at time of photography.

2. SOURCE OF ~~MEAN HIGH-WATER LINE~~ SHORELINE:

The photographs listed above.

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

N/A

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

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

5. FINAL JUNCTIONS

NORTH	EAST	SOUTH	WEST
N/A	CM 7806 TP-00204	N/A	TP-01398

REMARKS

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

HISTORY OF FIELD OPERATIONS

TP-01399

I. ☒ FIELD INSPECTION OPERATION☐ FIELD EDIT OPERATION

OPERATION	NAME	DATE
1. CHIEF OF FIELD PARTY	J. E. Dunford	June 1986
2. HORIZONTAL CONTROL	RECOVERED BY J. E. Dunford	5/16/86
	ESTABLISHED BY J. E. Dunford	5/16/86
	PRE-MARKED OR IDENTIFIED BY J. E. Dunford	5/16/86
3. VERTICAL CONTROL	RECOVERED BY N/A	
	ESTABLISHED BY N/A	
	PRE-MARKED OR IDENTIFIED BY N/A	
4. LANDMARKS AND AIDS TO NAVIGATION	RECOVERED (Triangulation Stations) BY N/A	
	LOCATED (Field Methods) BY N/A	
	IDENTIFIED BY N/A	
5. GEOGRAPHIC NAMES INVESTIGATION	TYPE OF INVESTIGATION <input type="checkbox"/> COMPLETE <input type="checkbox"/> SPECIFIC NAMES ONLY <input checked="" type="checkbox"/> NO INVESTIGATION	
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
86EC 6202	PEN 1986		

3. PHOTO NUMBERS (Clarification of details)

N/A

4. LANDMARKS AND AIDS TO NAVIGATION IDENTIFIED

NONE

PHOTO NUMBER	OBJECT NAME	PHOTO NUMBER	OBJECT NAME

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

7. SUPPLEMENTAL MAPS AND PLANS

One Field Work Brown Binder

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

RECORD OF SURVEY USE

TP-01399

I. MANUSCRIPT COPIES

COMPILATION STAGES			DATE MANUSCRIPT FORWARDED	
DATA COMPILED	DATE	REMARKS	MARINE CHARTS	HYDRO SUPPORT
Final Reviewed Class III Map	Dec. 1987	Chart Maintenance Print		
Final Reviewed Class III Map	Dec. 1987	Notes to Hydrographer Print		

II. LANDMARKS AND AIDS TO NAVIGATION

1. REPORTS TO MARINE CHART DIVISION, NAUTICAL DATA BRANCH

NUMBER	CHART LETTER NUMBER ASSIGNED	DATE FORWARDED	REMARKS
			Listing of Landmarks and Aids to Navigation (NONE)

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	



(St. Marie River du Au Sable Pond)

100

[illegible]

JOB CM-8511
CRISP POINT TO NADOWAY POINT
LAKE SUPERIOR
MICHIGAN
SHORELINE MAPPING
SCALE 1"=20,000'
1:2,000

LEGEND

11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

7-30,000
 8-30,000
 9-30,000
 10-30,000
 11-30,000
 12-30,000
 13-30,000
 14-30,000
 15-30,000
 16-30,000
 17-30,000
 18-30,000
 19-30,000
 20-30,000
 21-30,000
 22-30,000
 23-30,000
 24-30,000
 25-30,000
 26-30,000
 27-30,000
 28-30,000
 29-30,000
 30-30,000
 31-30,000
 32-30,000
 33-30,000
 34-30,000
 35-30,000
 36-30,000
 37-30,000
 38-30,000
 39-30,000
 40-30,000
 41-30,000
 42-30,000
 43-30,000
 44-30,000
 45-30,000
 46-30,000
 47-30,000
 48-30,000
 49-30,000
 50-30,000
 51-30,000
 52-30,000
 53-30,000
 54-30,000
 55-30,000
 56-30,000
 57-30,000
 58-30,000
 59-30,000
 60-30,000
 61-30,000
 62-30,000
 63-30,000
 64-30,000
 65-30,000
 66-30,000
 67-30,000
 68-30,000
 69-30,000
 70-30,000
 71-30,000
 72-30,000
 73-30,000
 74-30,000
 75-30,000
 76-30,000
 77-30,000
 78-30,000
 79-30,000
 80-30,000
 81-30,000
 82-30,000
 83-30,000
 84-30,000
 85-30,000
 86-30,000
 87-30,000
 88-30,000
 89-30,000
 90-30,000
 91-30,000
 92-30,000
 93-30,000
 94-30,000
 95-30,000
 96-30,000
 97-30,000
 98-30,000
 99-30,000
 100-30,000
 101-30,000
 102-30,000
 103-30,000
 104-30,000
 105-30,000
 106-30,000
 107-30,000
 108-30,000
 109-30,000
 110-30,000
 111-30,000
 112-30,000
 113-30,000
 114-30,000
 115-30,000
 116-30,000
 117-30,000
 118-30,000
 119-30,000
 120-30,000
 121-30,000
 122-30,000
 123-30,000
 124-30,000
 125-30,000
 126-30,000
 127-30,000
 128-30,000
 129-30,000
 130-30,000
 131-30,000
 132-30,000
 133-30,000
 134-30,000
 135-30,000
 136-30,000
 137-30,000
 138-30,000
 139-30,000
 140-30,000
 141-30,000
 142-30,000
 143-30,000
 144-30,000
 145-30,000
 146-30,000
 147-30,000
 148-30,000
 149-30,000
 150-30,000
 151-30,000
 152-30,000
 153-30,000
 154-30,000
 155-30,000
 156-30,000
 157-30,000
 158-30,000
 159-30,000
 160-30,000
 161-30,000
 162-30,000
 163-30,000
 164-30,000
 165-30,000
 166-30,000
 167-30,000
 168-30,000
 169-30,000
 170-30,000
 171-30,000
 172-30,000
 173-30,000
 174-30,000
 175-30,000
 176-30,000
 177-30,000
 178-30,000
 179-30,000
 180-30,000
 181-30,000
 182-30,000
 183-30,000
 184-30,000
 185-30,000
 186-30,000
 187-30,000
 188-30,000
 189-30,000
 190-30,000
 191-30,000
 192-30,000
 193-30,000
 194-30,000
 195-30,000
 196-30,000
 197-30,000
 198-30,000
 199-30,000
 200-30,000
 201-30,000
 202-30,000
 203-30,000
 204-30,000
 205-30,000
 206-30,000
 207-30,000
 208-30,000
 209-30,000
 210-30,000
 211-30,000
 212-30,000
 213-30,000
 214-30,000
 215-30,000
 216-30,000
 217-30,000
 218-30,000
 219-30,000
 220-30,000
 221-30,000
 222-30,000
 223-30,000
 224-30,000
 225-30,000
 226-30,000
 227-30,000
 228-30,000
 229-30,000
 230-30,000
 231-30,000
 232-30,000
 233-30,000
 234-30,000
 235-30,000
 236-30,000
 237-30,000
 238-30,000
 239-30,000
 240-30,000
 241-30,000
 242-30,000
 243-30,000
 244-30,000
 245-30,000
 246-30,000
 247-30,000
 248-30,000
 249-30,000
 250-30,000
 251-30,000
 252-30,000
 253-30,000
 254-30,000
 255-30,000
 256-30,000
 257-30,000
 258-30,000
 259-30,000
 260-30,000
 261-30,000
 262-30,000
 263-30,000
 264-30,000
 265-30,000
 266-30,000
 267-30,000
 268-30,000
 269-30,000
 270-30,000
 271-30,000
 272-30,000
 273-30,000
 274-30,000
 275-30,000
 276-30,000
 277-30,000
 278-30,000
 279-30,000
 280-30,000
 281-30,000
 282-30,000
 283-30,000
 284-30,000
 285-30,000
 28

WHITE STAR POINT HARBOUR

4
 5
 6
 7
 8
 9
 10
 11
 12
 13
 14
 15
 16
 17
 18
 19
 20
 21
 22
 23
 24
 25
 26
 27
 28
 29
 30
 31
 32
 33
 34
 35
 36
 37
 38
 39
 40
 41
 42
 43
 44
 45
 46
 47
 48
 49
 50
 51
 52
 53
 54
 55
 56
 57
 58
 59
 60
 61
 62
 63
 64
 65
 66
 67
 68
 69
 70
 71
 72
 73
 74
 75
 76
 77
 78
 79
 80
 81
 82
 83
 84
 85
 86
 87
 88
 89
 90
 91
 92
 93
 94
 95
 96
 97
 98
 99
 100
 101
 102
 103
 104
 105
 106
 107
 108
 109
 110
 111
 112
 113
 114
 115
 116
 117
 118
 119
 120
 121
 122
 123
 124
 125
 126
 127
 128
 129
 130
 131
 132
 133
 134
 135
 136
 137
 138
 139
 140
 141
 142
 143
 144
 145
 146
 147
 148
 149
 150
 151
 152
 153
 154
 155
 156
 157
 158
 159
 160
 161
 162
 163
 164
 165
 166
 167
 168
 169
 170
 171
 172
 173
 174
 175
 176
 177
 178
 179
 180
 181
 182
 183
 184
 185
 186
 187
 188
 189
 190
 191
 192
 193
 194
 195
 196
 197
 198
 199
 200
 201
 202
 203
 204
 205
 206
 207
 208
 209
 210
 211
 212
 213
 214
 215
 216
 217
 218
 219
 220
 221
 222
 223
 224
 225
 226
 227
 228
 229
 230
 231
 232
 233
 234
 235
 236
 237
 238
 239
 240
 241
 242
 243
 244
 245
 246
 247
 248
 249
 250
 251
 252
 253
 254
 255
 256
 257
 258
 259
 260
 261
 262
 263
 264
 265
 266
 267
 268
 269
 270
 271
 272
 273
 274
 275
 276
 277
 278
 279
 280
 281
 282
 283
 284
 285
 286
 287
 288
 289
 290
 291
 292
 293
 294
 295
 296
 297
 298
 299
 300
 301
 302
 303
 304
 305
 306
 307
 308
 309
 310
 311
 312
 313
 314
 315
 316
 317
 318
 319
 320
 321
 322
 323
 324
 325
 326
 327
 328
 329
 330
 331
 332
 333
 334
 335
 336
 337
 338
 339
 340
 341
 342
 343
 344
 345
 346
 347
 348
 349
 350
 351
 352
 353
 354
 355
 356
 357
 358
 359
 360
 361
 362
 363
 364
 365
 366
 367
 368
 369
 370
 371
 372
 373
 374
 375
 376
 377
 378
 379
 380
 381
 382
 383
 384
 385
 386
 387
 388
 389
 390
 391
 392
 393
 394
 395
 396
 397
 398
 399
 400
 401
 402
 403
 404
 405
 406
 407
 408
 409
 410
 411
 412
 413
 414
 415
 416
 417
 418
 419
 420
 421
 422
 423
 424
 425
 426
 427
 428
 429
 430
 431
 432
 433
 434
 435
 436
 437
 438
 439
 440
 441
 442
 443
 444
 445
 446
 447
 448
 449
 450
 451
 452
 453
 454
 455
 456
 457
 458
 459
 460
 461
 462
 463
 464
 465
 466
 467
 468
 469
 470
 471
 472
 473
 474
 475
 476
 477
 478
 479
 480
 481
 482
 483
 484
 485
 486
 487
 488
 489
 490
 491
 492
 493
 494
 495
 496
 497
 498
 499
 500
 501
 502
 503
 504
 505
 506
 507
 508
 509
 510
 511
 512
 513
 514
 515
 516
 517
 518
 519
 520
 521
 522
 523
 524
 525
 526
 527
 528

—

10

6.400000

11

10

10

100

10

Q. 100

1. *Introduction*

SUMMARY TO ACCOMPANY
DESCRIPTIVE REPORT
TP-01399

Project CM-8511 consisted of the production of Class III shoreline maps. Five 1:20,000-scale and one 1:5,000-scale maps were compiled. The area compiled extends from Crisp Point to Nadoway Point, Michigan.

The purpose of this map, TP-01399, 1:20,000 scale, is to provide contemporary shoreline data for maintenance of the nautical charting program.

Field operations consisted of aerial photography and the recovery, establishment, and identification (premarking) of horizontal control necessary for aerotriangulation. Twelve horizontal control stations were paneled for use in aerotriangulation. Field operations for project CM-8511 commenced in May 1986 and concluded in June 1986.

Natural color photographs 1:50,000 scale and 1:15,000 scale were taken in June 1986 with the Wild RC-8C(E) camera. Supplemental natural color photographs at 1:30,000 scale were not used for compilation.

Three strips of 1:50,000-scale color photographs were bridged using analytical aerotriangulation methods. One 1:50,000-scale model and one 1:15,000-scale model were bridged using the NOSAP (IDPF system).

Horizontal control stations used in the adjustment were premarked panels. Elevations from U.S.G.S quadrangles were used as vertical control. The amount of aerotriangulated control proved adequate and meets National Standards of Map Accuracy.

Compilation was performed by the Special Project Unit, Rockville Office. This map delineation was based on office interpretation of the natural color photographs using the Wild B-8 stereoplotter and the ratio color photographs. All line work was smooth drafted.

Final review was performed by the Special Project Unit, Rockville office. This map compiles with the project instructions and meets the requirement for the National Standard of Map Accuracy.

The Descriptive Report contains all the information pertinent to the completion of this map.

FIELD INSPECTION
TP-01399

There was no field inspection prior to compilation. Field work accomplished consisted of aerial photography and the recovery, establishment and identification (premarking) of horizontal control necessary for aerotriangulation.

AEROTRIANGULATION REPORT
CM-8511
CRISP POINT TO NADOWAY POINT, MICHIGAN
MAY 1987

21. AREA COVERED

The area covered by this report is from Crisp Point to Nadoway Point in Lake Superior, Michigan. This area is covered by five 1:20,000-scale manuscripts and one 1:5,000-scale inset that is part of TP-01396. The manuscripts are TP-01395, TP-01396, TP-01397, TP-01398, and TP-01399.

22. METHOD

Three strips of 1:50,000-scale color photographs were bridged and adjusted to the ground using analytic aerotriangulation methods. The measurements were made with the Wild STK comparator. One 1:50,000-scale model and one 1:15,000-scale model of color photographs were bridged and adjusted to the ground with the IDPF system. Tie points were used to supplement control.

Ratio values were determined for the color bridging photographs. No black-and-white infrared photography was secured for this project.

No aids to navigation or landmarks were located during aerotriangulation.

The manuscripts were plotted on the Kongsburg flatbed plotter in the Michigan State Plane Coordinate System, East Zone. This is a Transverse Mercator projection. The data is NAD 27.

23. ADEQUACY OF CONTROL

The horizontal control provided for this project was adequate. Twelve control stations were provided and used in the adjustment. This project meets NOS requirements for map manuscripts.

24. SUPPLEMENTAL DATA

Nautical charts were used to try to locate objects on the color bridging photography. USGS quads were used to obtain elevations to level the strips.

25. PHOTOGRAPHY

The coverage, overlap, and quality of the photographs proved adequate for this project. Some control station panels were difficult to measure due to poor image quality of the photographs.

Submitted by,

James H. Taylor
James H. Taylor

Approved and Forwarded:

Don O. Norman

Don O. Norman
Chief, Aerotriangulation Unit

FIT TO CONTROL
CM-8511
▲ CONTROL HELD
■ TIE POINT HELD

STATION NAMES	POINT NUMBER	VALUES IN FEET	
		X	Y
<u>STRIP 15-1</u>			
Whitefish Point Hbr N. Brkwtr Lt., 1981	▲ 861110	0.2	0.0
Whitefish Point Hbr In Brkwtr Lt., 1981	▲ 220110	-2.0	-0.8
White, 1965 Sub Station #5	▲ 220101	0.2	-0.3
Whitefish Point Hbr. S. Brkwtr. Lt., 1981	▲ 861100	1.7	0.2
Whitefish Point Lighthouse, 1965	220120	0.6	1.6
Whitefish Point Red Receiving Twr., 1965	220130	0.5	-1.9
<u>STRIP 50-1</u>			
Pris	▲ 227100	0.3	-0.5
Vermillion, 1965	▲ 230100	1.6	1.4
Betsy, 1965 Sub Station #3	▲ 230111	-1.8	-1.5
Tie From Strip 50-4	219801	3.1	1.9
Tie From Strip 50-4	219802	1.9	2.6
Tie From Strip 50-4	219803	-1.3	2.7
Andrus, 1965 Sub Station #4	▲ 218101	0.0	0.6
<u>STRIP 50-2</u>			
Menekaunce Pt., 1965 Sub Station #9	▲ 204101	0.8	1.4
Tie From Strip 50-3	■ 193801	-1.0	-1.8
Tie From Strip 50-3	■ 193802	0.4	0.8
Tie From Strip 50-3	■ 193803	-0.7	0.2
Tie From Strip 50-3	■ 193804	0.7	-0.6
<u>STRIP 50-3</u>			
Pt. Iroquis L.H. Sub Point #12	▲ 198101	1.1	1.6
Sub Station #11 TP	▲ 200101	-3.8	-1.6
Pen, 1986	▲ 202100	0.6	-0.1
Tie From Strip 50-2	193801	1.0	1.7
Tie From Strip 50-2	193802	-0.3	-0.7
Tie From Strip 50-2	193803	0.7	-0.1
Tie From Strip 50-2	193804	-0.7	0.5

2

Tie From Strip 50-4	206801	-2.0	3.8
Tie From Strip 50-4	206802	-2.2	5.1
Tie From Strip 50-4	206803	-3.6	5.3
Sub Station #8 TP	▲ 213101	-1.5	-0.5

STRIP 50-4

Tie From Strip 50-3	206801	2.0	-3.8
Tie From Strip 50-3	206802	2.2	-5.1
Tie From Strip 50-3	206803	3.6	-5.3
Sub Station #8 TP	▲ 213101	-0.2	0.9
Tahqumenon, 1965, Az. Mk.			
Sub Station #7	▲ 215101	1.9	-1.4
Prison, 1965 Sub Station #6	▲ 217101	-1.7	1.1
Andrus, 1965 Sub Station #4	▲ 218101	0.9	2.3
Tie From Strip 50-1	219801	-3.1	-1.9
Tie From Strip 50-2	■ 219802	-1.9	-2.6
Tie From Strip 50-3	219803	1.3	-2.7
White, 1965 Sub Station #5	▲ 220101	1.5	-1.5
Whitefish Point Hrb In			
Brkwtr Lt., 1981	▲ 220110	-0.5	1.1

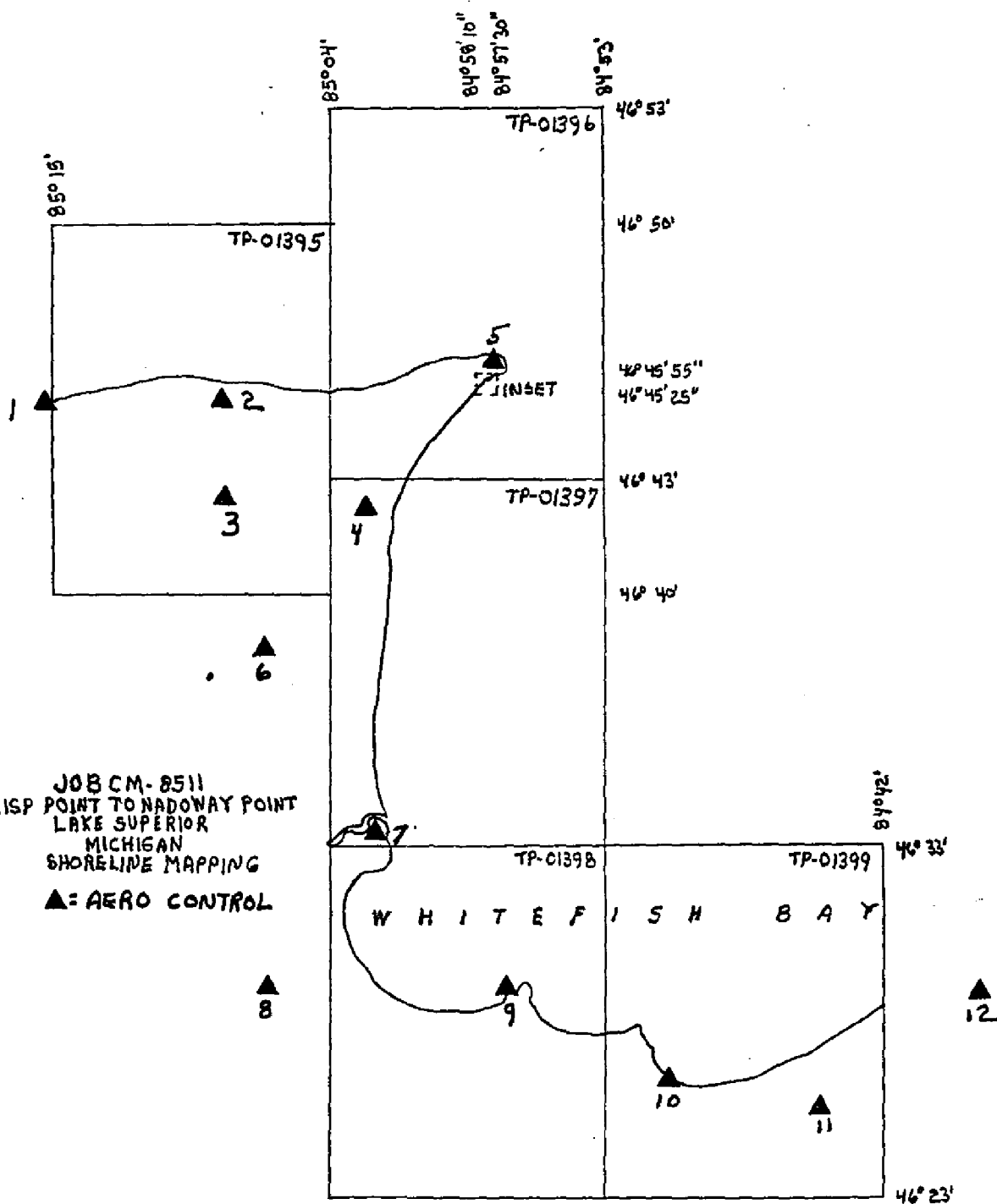
COLOR BRIDGING RATIO VALUE
CM-8511

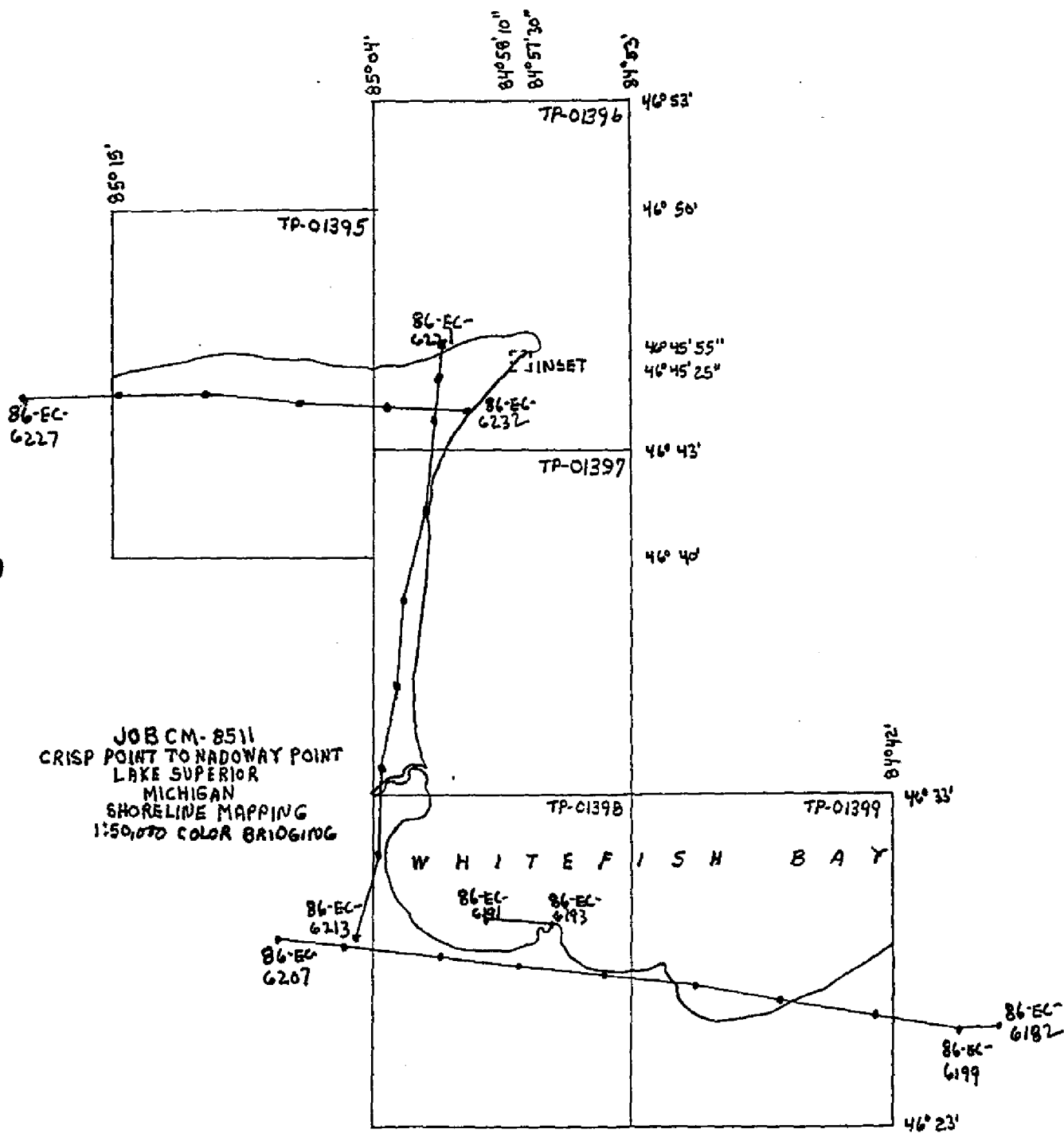
86-EC-6191 and 6193	Ratio <u>2.580</u>
86-EC-6200 thru 6205	Ratio <u>2.568</u>
86-EC-6213 thru 6221	Ratio <u>2.581</u>
86-EC-6228 thru 6231	Ratio <u>2.583</u>
86-EC-6861 and 6862	Ratio <u>2.980</u>

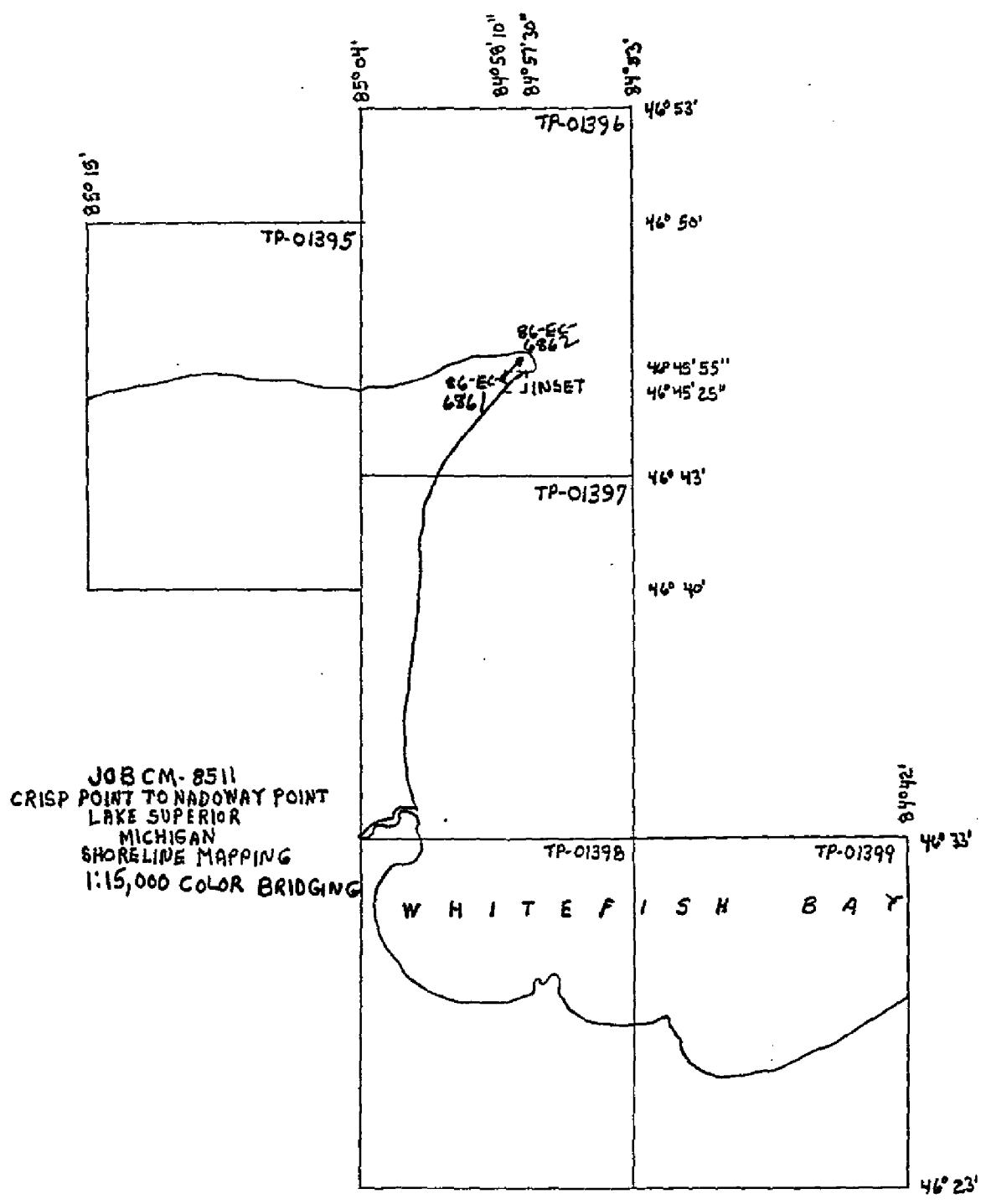
KEY TO NUMBERED STATIONS
CM-8511

STATION NAME	PANEL NO.	AERO NO.
Pris	1	227100
Vermillion, 1965	2	230100
Betsy, 1965 Sub Station #3	3	230111
Andrus, 1965 Sub Station #4	4	218101
White, 1965 Sub Station #5	5	220101
Prison, 1965 Sub Station #6	6	217101
Tahquamenon, 1965 Az. Mk.		
Sub Station #7	7	215101
Sub Station #8 TP	8	213101
Menekaunce Pt. 1965		
Sub Station #9	9	204101
Pen, 1986	10	202100
Sub Station #11 TP	11	200101
Pt. Iroquis Lt. Ho.		
Sub Point #12	12	198101

JOB CM-8511
 CRISP POINT TO NADOWAY POINT
 LAKE SUPERIOR
 MICHIGAN
 SHORELINE MAPPING
 ▲ = AERO CONTROL







COMPILATION REPORT
TP-01399

31. DELINEATION

Delineation of detail was accomplished using a Wild B-8 stereoplotter.

32. CONTROL

Horizontal control furnished by the Aerotriangulation Unit was adequate for controlling the stereomodels. Refer to the Photogrammetric Plot Report bound with this Descriptive Report for additional information.

Vertical control was achieved by using a combination of elevations provided by the Aerotriangulation Unit, USGS quadrangles, and the land/water interface.

33. SUPPLEMENTAL DATA

None

34. CONTOURS AND DRAINAGE

The compilation of contours was not a requirement of this project. Drainage was compiled based on office interpretation of the bridging/compilation photographs.

35. SHORELINE AND ALONGSHORE DETAILS

The visible line of contact between land features and the water was compiled as the shoreline. The water level at the time of photography was 601.7 feet. Shoreline delineation was compiled as described in item 31 of this report.

36. OFFSHORE DETAIL

Offshore detail consisted of a rock and a islet. Offshore detail was compiled by instrument methods as described in item 31 of this report.

37. LANDMARKS AND AIDS

There are no landmarks and aids within the limits of this map.

38. CONTROL FOR FUTURE SURVEYS

None

39. JUNCTIONS

Refer to item 5 of NOAA Form 76-36B, which is bound with this Descriptive Report, for information on map junctions.

40. HORIZONTAL AND VERTICAL ACCURACY

This map meets the National Standards of Map Accuracy. For additional information, refer to the Aerotriangulation Report bound with this Descriptive Report.

41.through 45. - Not Applicable

46. COMPARISON WITH EXISTING MAPS

A comparison has been made with the following 1:24,000-scale, U.S. Geological Survey quadrangles:

Dollar Settlement, Michigan 1951, Photorevised 1976

Pendills Lake, Michigan 1951, Photorevised 1976

McNeary Lake, Michigan 1951, Photorevised 1975

47. COMPARISON WITH NAUTICAL CHARTS

A comparison has been made with the following National Ocean Service nautical chart:

14962, 17th Edition (October 12, 1985), scale 1:120,000.

14884, 34th Edition (November 29, 1986), scale 1:40,000.

A Chart Maintenance Print indicating the results of the comparison was forwarded to the Marine Chart Branch, Rockville, Maryland. Refer to the print for items to be immediately applied and carried forward.

Submitted by,

Douglas Graham
Douglas Graham
Cartographer

Approved and Forwarded:

John A. Mooney
John A. Mooney
Chief, Special Projects Unit

GEOGRAPHIC NAMES

FINAL NAME SHEET

CM-8511 (Crisp Point to Nadoway Point, Lake Superior, MI)

TP-01399

Dollar Settlement

Grant Creek

Halfaday Creek

Pendills Bay

Pendills Creek

Pendills Lake

Salt Point

Whitefish Bay

Approved:



Charles E. Harrington
Chief Geographer
Nautical Charting Division

FINAL REVIEW REPORT
TP-01399

61. GENERAL STATEMENT

Refer to the Summary bound with this Descriptive Report.

62. COMPARISON WITH REGISTERED TOPOGRAPHIC SURVEYS-None

63. COMPARISON WITH MAPS OF OTHER AGENCIES

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

Dollar Settlement, Michigan 1951, Photorevised 1976
Pendills Lake, Michigan 1951, Photorevised 1976
McNeary Lake, Michigan 1951, Photorevised 1975

64. COMPARISON WITH CONTEMPORARY HYDROGRAPHIC SURVEYS-None

65. COMPARISON WITH NAUTICAL CHARTS

14962, Scale 1:120,000, 17th Edition, dated October 12, 1985.
14884, Scale 1:40,000, 34th Edition, dated November 29, 1986.

66. ADEQUACY OF RESULTS AND FUTURE SURVEYS

This map meets the National Standards of Map Accuracy and requirements specified in the Project Instructions.

Submitted by,

James E. Schad

James E. Schad
Unit Reviewer

Approved for Forwarding:

John A. Menz

Chief, Special Projects Unit

Approved:

Jay O. Rohorn, Jr.

Chief, Photogrammetric Production Section

A. Y. Burton

Chief, Photogrammetry Branch

