PHOTOGRAMMETRY BRANCH
COASTAL MAPPING PROGRAM
PROJECT CM-8706
COMPLETION REPORT
TEXAS
CUBA ISLAND TO MULLET ISLAND
TP-01437 THRU TP-01440
AND
TP-01452 THRU TP-01455

AGENCY VAULT - ORINGINAL REPORT

PHOTOGRAMMETRY BRANCH
COASTAL MAPPING PROGRAM

PROJECT CM-8706
COMPLETION REPORT
TEXAS
CUBA ISLAND TO MULLET ISLAND
TP-01437, TP-01438, TP-01439, TP-01440
TP-01452, TP-01453, TP-01454, TP-01455

1987

UNITED STATES DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SERVICE
OFFICE OF CHARTING AND GEODETIC SERVICES
NAUTICAL CHARTING DIVISION

Agency Vault - Original Report

PHOTOGRAMMETRY BRANCH
COASTAL MAPPING PROGRAM

PROJECT CM-8706
COMPLETION REPORT
TEXAS
CUBA ISLAND TO MULLET ISLAND
TP-01437, TP-01438, TP-01439, TP-01440
TP-01452, TP-01453, TP-01454, TP-01455

Clearance and Approval

This report summarizes the photogrammetric operations related to project completion and is submitted for approval. The maps, associated project data, and this report meet the requirements and standards of the Photogrammetry Branch Coastal Mapping Program. Clearance for project registration is requested.

Submitted by,

Final Reviewer

Field Photogrammetry Section

APPROVED:

Section Chief — 3/26/90 Date
Chief, Field Photogrammetry Section

Branch Chief — 6/5/90 Date
Chief, Photogrammetry Branch
Nautical Charting Division, Office of Geodetic Charting Services

COMPLETION REPORT

COASTAL MAPPING PROGRAM PROJECT CM-8706

CUBA ISLAND TO MULLET ISLAND

TEXAS

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COASTAL MAPPING PROGRAM PROJECT CM-8706
PROJECT SUMMARY

INTRODUCTION

Project CM-8706 Cuba Island to Mullet Island, Texas consists of eight maps TP-01437 thru TP-01440 and TP-01452 thru TP-01455 at 1:20,000 scale. All maps are based on the North American Datum 1983 (NAD 83) depicted by the Lambert Conformal Conic Projection (full line) and offset tick for the NAD 27.

This project extends from Mullet Island latitude 26 28 00 longitude 97 13 00 northwest to Cuba Island latitude 27 08 00 longitude 97 35 00 including the shoreline of the Intracoastal Waterway and adjacent waterways.

PLANNING

This project was planned in support of the Nautical Charting Program. It was determined that the eight 1:20,000 maps were needed to meet the project requirements.

Planning included the selection of 12 horizontal control stations to control 6 strips of color photography: 4 strips of color photography at 1:60,000 scale, 2 strips color photography at 1:30,000 scale.

There are 6 strips of black and white infrared tide coordinated photography at 1:50,000 scale. All the photographs were needed to meet the requirements for completing this photogrammetric survey.

FIELD OPERATION

Refer to the Premarking Reports included in Appendices A and B of this Completion Report.

The cameras used for the acquisition of the photography to meet the requirements for this project were:

Wild RC-10Z (focal length 153.15 millimeters), serial number Z-1391
Wild RC-10B (focal length 152.74 millimeters), serial number B-1777

AEROTRIANGULATION

Refer to the Aerotriangulation Report included in Appendix C of this Completion Report.

COMPILATION

Refer to the office instructions which are included in Appendix D of this Completion Report.

Compilation was accomplished at the Atlantic Marine Center from March 1989 through April 1989.

The Wild B-8 stereo instruments B8-2109 and B8-2125 were used to compile the maps by analog methods.

Ratioed infrared MLLW tide coordinated photography was used to graphically compile the MLLW line on the Gulf of Mexico.

Refer to the Map Compilation Source page included in Appendix E for the number, type data, and scale of the photographs used for each map.

The maps and descriptive notes were smooth drafted. The project indexes and formats were applied with wax-back stickup.

The selection of Geographic Names came from U.S.G.S. quadrangles and NOS Nautical Charts. They were submitted to the Chief Geographer of the Nautical Charting Division and were approved.

FINAL REVIEW

The final review of this project began in January 1990 and was completed in March 1990.

The almost exclusive use of the approximate mean high water line in the Laguna Madre area prevented a junction between the apparent mean high water line on Project CM-8605 north of this project. The junction between maps TP-01437 (CM-8706) and TP-01435 (CM-8605) was where this occurred.

Included with the appendices is the approved listing of discrete point data for application in the nautical charting program.

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

A comparison was made between the maps and the following National Ocean Service Charts.

CHART	EDITION	SCALE	DATE
11300	28th	1:460,732	September 3, 1988
11301	17th	1:80,000	June 13, 1987
11304	11th	1:80,000	June 18, 1988
11306	14th	1:40,000	June 13, 1987

Differences were noted on Chart Maintenance Prints.

DISSEMINATION OF PROJECT DATA AND PRODUCTS

National Archives/Federal Records Center:
Copy of the Project Completion Report
Brown jacket contents, e.g. field data, Aerotriangulation

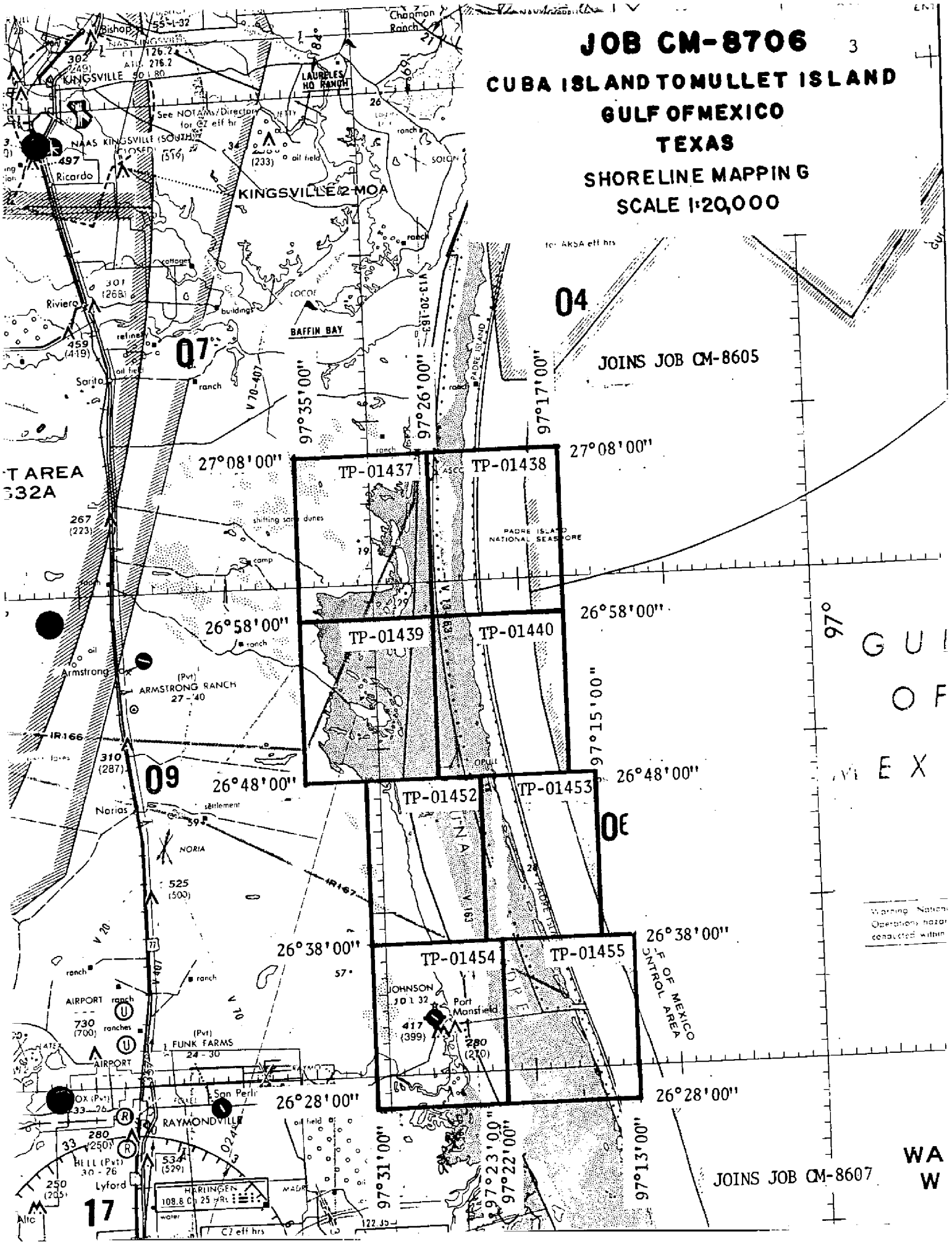
Agency Archives:
The original Project Completion Report
Registration copy of each map

Photogrammetric Electronic Data Library
Not applicable

Reproduction Branch Aeronautical Charting Division
8X reduction negative of each map

Mapping and Charting Branch
Abbreviated copy of the Project Completion Report
Chart Maintenance Prints

Hydrographic Surveys Branch
Notes to Hydrographer Prints
Copies of Cartographic Features of Charting Interest Forms


JOB CM-8706
3
CUBA ISLAND TO MULLET ISLAND
GULF OF MEXICO
TEXAS
SHORELINE MAPPING
SCALE 1:20,000
JOINS JOB CM-8605
JOINS JOB CM-8607
TP-01437
TP-01438
TP-01439
TP-01440
TP-01452
TP-01453
TP-01454
TP-01455
27°08'00"
26°58'00"
26°48'00"
26°38'00"
26°28'00"
97°35'00"
97°26'00"
97°17'00"
97°15'00"
97°31'00"
97°23'00"
97°22'00"
97°13'00"
97°
04
07
09
17
KINGSVILLE
KINGSVILLE 2 MOA
BAFFIN BAY
PADRE ISLAND NATIONAL SEASHORE
ARMSTRONG RANCH
Armstrong
Norias
NORIA
JOHNSON
Port Mansfield
FUNK FARMS
RAYMONDVILLE
San Perlin
Lyford
HARLINGEN
Riviera
Sarita
Ricardo
Bishop
Chapman Ranch
LAURELES HQ RANCH
NAAS KINGSVILLE (SOUTH)
AIRPORT
GULF OF MEXICO CONTROL AREA
CZ eff hrs

PROJECT GEODETIC CONTROL LISTING

PROJECT: CM-8706

GEODETIC DATUM: North American Datum of 1983

The following permanent geodetic control was recovered or established during photogrammetric operations. Data pertaining to stations is resident in the National Geodetic Survey Division (NGSD) Horizontal Control Databank.

Refer to Nautical Charting Division Standard Digital Data Exchange Format documentation for quality codes (QC) criteria.

STATION NAME	QUAD #	GEODETIC COORDINATES (°-'-") LATITUDE	LONGITUDE	QC	DAY/YEAR
140 USE 1950	270972	27 15 11.832	97 25 50.568	3	001/1950
CON 1913	270932	27 05 34.225	97 27 26.577	3	001/1913
MARCH 1950	260974	26 56 43.766	97 33 49.083	3	001/1950
PEERLESS 1939	260971	26 59 02.765	97 23 19.487	3	001/1939
MOSQUITO 2 1913	260971	26 48 14.367	97 29 31.249	3	001/1939
BLANCO 1949 RM 1	260971	26 44 20.740	97 20 05.454	3	001/1949
PORTALS 3 1939	260971	26 38 35.285	97 26 55.743	3	001/1939
DESERT 1939	260971	26 37 19.267	97 19 12.889	3	001/1939
HARENA 1939	260971	26 31 16.317	97 16 10.215	3	001/1939
NEGRO 1949	260972	26 27 27.007	97 14 48.736	3	001/1949
SKIN 2 1939	260972	26 26 48.132	97 24 43.669	3	001/1939
METEOR 1939	260971	26 49 34.850	97 21 41.510	3	001/1939
BLANCO 1949	260971	26 44 20.214	97 20 05.843	3	001/1949

Remarks:
All geodetic survey operations were performed by OCGS personnel in September 1987.

Listing approved by: Lowell O. Neterer Jr. March 15, 1990
Final Reviewer, L.O. Neterer, Jr. Date

APPENDICES

APPENDIX A

PROJECT FIELD INSTRUCTIONS

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SERVICE
OFFICE OF CHARTING AND GEODETIC SERVICES
ROCKVILLE, MARYLAND 20852

July 23, 1987 N/CG2313:JDM

Chief, Photogrammetry Branch
Atlantic Marine Center

PROJECT INSTRUCTIONS: FIELD - Job CM-8706, Gulf of Mexico, Intracoastal Waterway, Cuba Island to Mullet Island, Texas, Shoreline Mapping

1.0. PURPOSE

These instructions provide specifications and a schedule for: (1) placing targets on horizontal control stations in advance of aerial photography and (2) furnishing field support to obtain tide-coordinated infrared aerial photography.

2.0. AREA

The area to be mapped is located in South Texas, along the Gulf of Mexico, from Cuba Island to Mullet Island. Shoreline mapping at 1:20,000 scale will cover the shoreline of the coast, intracoastal waterway, and adjacent sounds. This project is in support of future hydrographic operations.

3.0. PHOTOGRAPHY

3.1. Aerotriangulation photography at 1:60,000 and 1:30,000 scales and supplemental bridging and compilation photography at 1:30,000 scale will be obtained using color film. Also, 1:60,000-scale black-and-white infrared photography, that is tide coordinated, will be obtained at mean high and mean lower low water.

3.2. If target configuration and placement necessitate it, target identification photography may be obtained at 1:15,000 scale and may be flown at less than optimum photographic conditions.

4.0. ASSIGNMENT

You are assigned all field operations required to: (1) place targets on horizontal control stations and (2) provide ground support needed to obtain tide-coordinated photography. The Chief, Air Photo Mission 1, will be responsible for scheduling photography at the required times, based on tide staff observations furnished by radio.

5.0. HORIZONTAL CONTROL

5.1. The horizontal datum for this project is NAD 83.

5.2. Horizontal control requirements for aerotriangulation have been furnished as part of the field data.

5.3. Limit recovery of horizontal control stations to those needed to meet aerotriangulation requirements. Prepare and submit recovery notes for each station for which a search was made.

5.4. New control stations, where needed, shall be established by triangulation, trilateration, traverse, satellite positioning, or a combination of the four methods, in accordance with Third-Order, Class I specifications provided in Standards and Specifications for Geodetic Control Networks, dated September 1984.

5.5. New stations will be monumented if they are required for future work in the area needing geodetic control.

5.6. Notify N/CG2313 if recovery of existing control does not meet aerotriangulation requirements. An alternative will be selected, if possible, to avoid establishing new control.

6.0. PREMARKING OF CONTROL

6.1. As soon as possible after all control stations have been paneled, the field party will forward to N/CG2313 a chart section, quad, or any graphic depicting the station location, panel array used, and the panel number. This will assist in the film quality review and target identification and will help expedite the results to the field unit.

6.1.1. Wing panels will be used with all targets in accordance with established specifications but may be modified to conform with local terrain conditions.

6.2. Aerotriangulation Control

6.2.1. Panel each station selected to meet horizontal control requirements in accordance with specifications given on the attached sheet for 1:60,000- or 1:30,000-scale photography.

6.2.2. Use panel array No. 1 for targets with a normal background; it may be modified, as necessary, to conform with local terrain conditions. Any deviations from given panel and spacing dimensions should be indicated on the large-scale sketch on NOAA Form 76-53, Control Station Identification Card.

6.2.3. Panel array No. 3 shall be used in areas where the background offers poor contrast to the center panel, such as on sandy terrain.

6.2.4. The distance given for dimension "C" may be increased, but not decreased.

6.2.5. Panel substitute stations wherever shadows or relief displacement will obscure the specified control stations. Monumented stations (reference marks, azimuth marks) are preferred substitute stations.

6.2.6. Substitute stations will be positioned to the specifications stated in Photogrammetric Instruction No. 22, Revised September 30, 1965, section 4.02.2.

6.2.7. In cases where the target might be subject to vandalism, select two photoidentifiable objects. Observe directions and distances to them from the home station and record with sketch and description on separate NOAA form 76-53.

7.0. CONTROL STATION IDENTIFICATION CARD

Prepare and submit a NOAA form 76-53 for each paneled station. Observe Photogrammetric Instruction No. 22, Revised September 30, 1965, except as follows:

a. Record distances and directions in the usual manner to the center of the station panel of all targets used as substitutes for horizontal control stations.

b. In the space provided for the sketch of Substitute Station A, make a large-scale sketch of the immediate vicinity showing the array used.

c. In the space provided for a sketch of Substitute Station B, make a smaller scale sketch that shows the relationship of the target to the surrounding terrain. Include one or more salient features to assist office personnel in locating the target on the photographs.

d. Indicate on suitable chart bases the approximate locations of all targets placed.

8.0. TIDE OBSERVATIONS AND RECORDS FOR TIDE-COORDINATED PHOTOGRAPHY

8.1. Tide-coordinated photography will be flown when the stage of tide is mean high water ±.3 foot and mean lower low water ±.3 foot.

8.2. The tide station at Bob Hall Pier, Corpus Christi, Texas (877-5870), will be in operation during the field phase of the project. Tidal datums and predictions for Corpus Christi and time differences over the project area will be furnished.

8.3. Periods when the tides are predicted to be in range for mean lower low water and for mean high water occur throughout the months of September, October, and November.

8.4. Staff readings at Corpus Christi are required at 15-minute intervals during all tide-coordinated photographic flights. Use NOAA Form 77-53, Tides, to record staff observations.

8.5. The tide station at Port Mansfield, Texas (877-8490), will be in operation during the field phase of the project. This inside staff will be monitored to ensure that no abnormal meteorological conditions are occurring during the black-and-white infrared photography of the area.

9.0. LEVELING

Make a level connection to the tide staff from at least two tidal bench marks. Use NOAA Form 76-77, Leveling Record--Tide Station, to record leveling data.

10.0. SCHEDULE

All stations shall be premarked and ready for photography by October 5, 1987. If premarking is not completed by this date, inform N/CG2313 so this information can be relayed to the air photo mission.

11.0. REPORT

A field operations report covering all pertinent field work performed is required upon completion of the field phase of this project.

12.0. RECORDS

All field records will be sent through N/MOA2222 for review prior to being forwarded to N/CG2313.

13.0. MODIFICATIONS OF INSTRUCTIONS

If changes in procedures and methods seem advisable, please make appropriate recommendations to this office.

14.0. COSTS

All costs incurred on this assignment shall be charged to Task 8K6C01.

15.0. RECEIPT

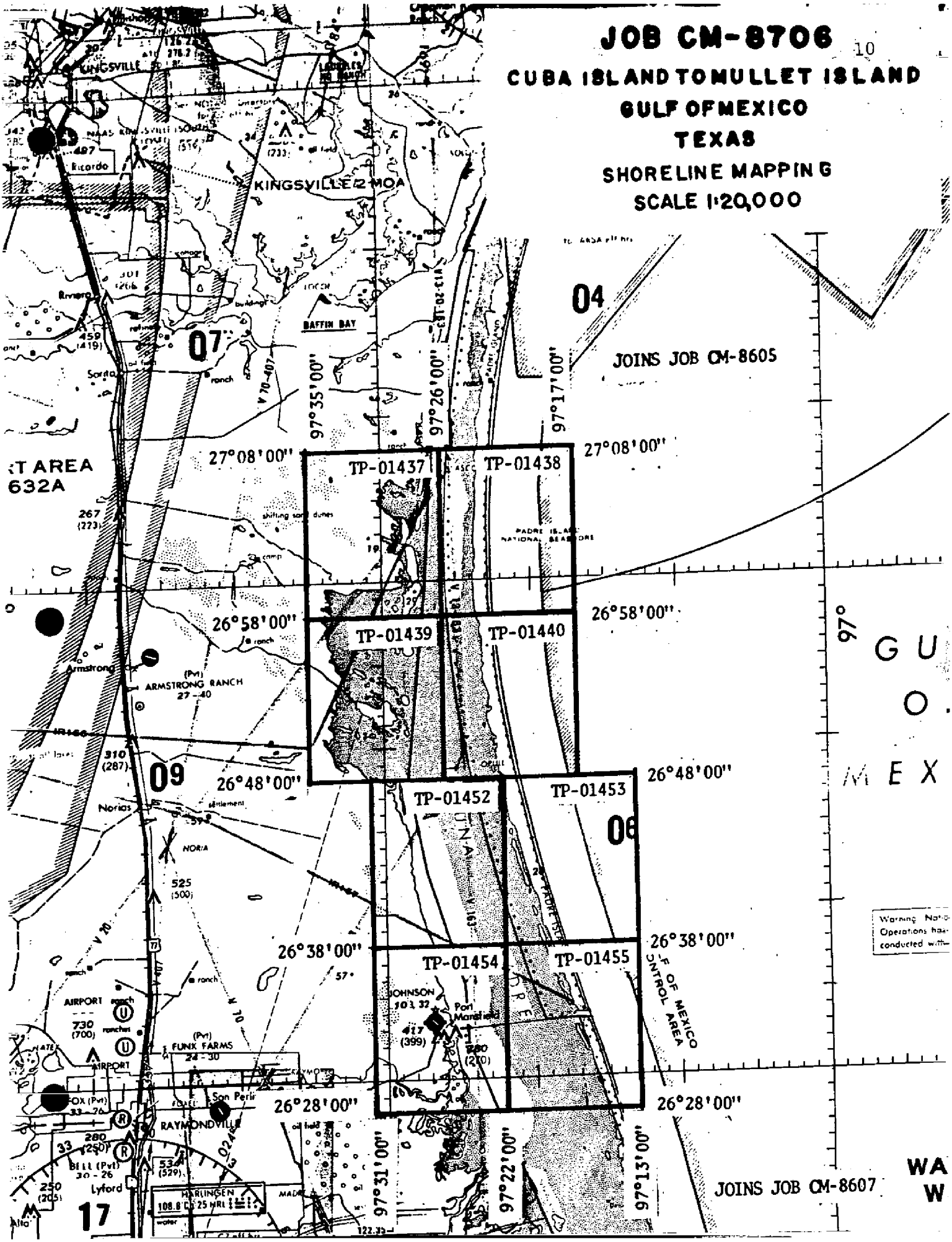
Acknowledge receipt of these instructions.

Ray E. Moses
Director
Atlantic Marine Center

for Fred Janzen
Christian Andreasen
Chief, Nautical Charting Division
Charting and Geodetic Services

JOB CM-8706

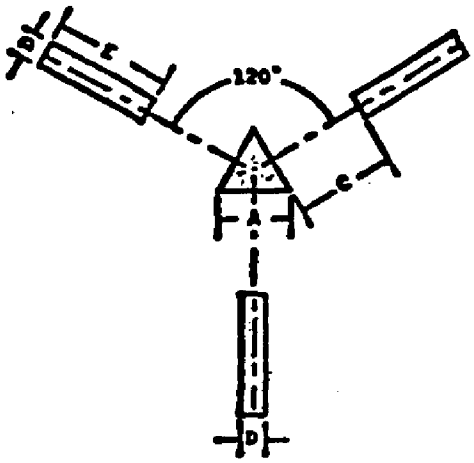
CUBA ISLAND TO MULLET ISLAND
GULF OF MEXICO
TEXAS
SHORELINE MAPPING
SCALE 1:20,000



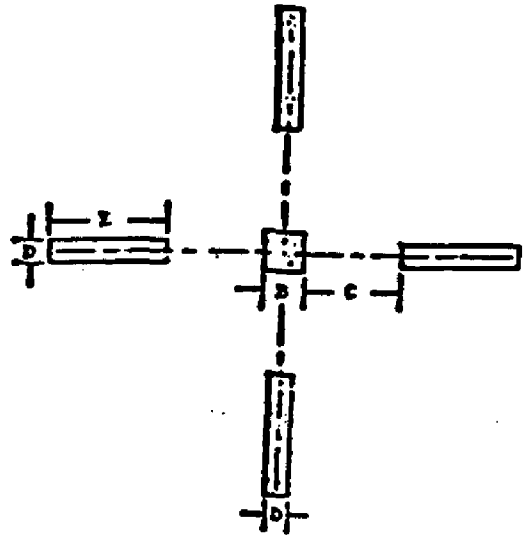
SPECIFICATIONS FOR PREMARKING CONTROL STATIONS

Revised November 23, 1976

ARRAY NO. 1



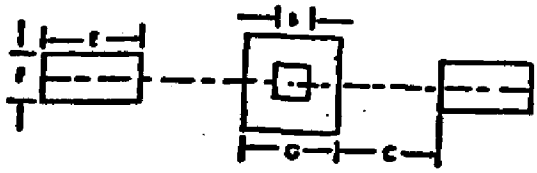
ARRAY NO. 2



NOTE:

1. The dimensions and centering of center panel over station or substitute station are critical.
2. Panel array No. 1 is preferred but No. 2 is acceptable.
3. Array No. 3 - for contrast in very light colored areas. The border surrounding center panel and the recognition panels shall be black.
4. Chief of party will select array that makes best application of field conditions and is authorized to adjust or omit one of the recognition panels if terrain is not suitable for placement of entire array.

ARRAY NO. 3



Photography Scale	PANEL AND SPACING DIMENSIONS (IN METERS) A	B	C	D	E	F	G
1:10:000	0.5	0.3	1.3	0.2	0.9	0.9	1.5
1:20,000	1.1	0.7	2.6	0.4	1.8	0.9	1.9
1:30,000	1.6	1.0	3.9	0.5	2.7	0.9	2.2
1:40,000	2.2	1.3	5.2	0.7	3.6	0.9	2.5
1:50,000	3.2	2.0	7.8	1.1	5.4	1.8	3.8
1:60,000	3.8	2.3	9.1	1.3	6.3	1.8	4.1
1:70,000	4.4	2.6	10.4	1.4	7.2	1.8	4.4
1:80,000	5.0	3.0	11.7	1.5	8.0	1.8	4.8
1:100,000	6.4	4.0	18.2	2.2	10.8	3.6	7.6

APPENDIX B

FIELD OPERATION REPORT

NATIONAL OCEAN SERVICE

ATLANTIC MARINE CENTER

COASTAL SURVEYS

PROJECT REPORT

CM-8706

CUBA ISLAND TO MULLET ISLAND, TEXAS

1.0 PURPOSE:

IN SUPPORT OF THE INSTRUCTIONS FOR PROJECT CM-8706, GULF OF MEXICO, CUBA ISLAND TO MULLET ISLAND, TEXAS, SHORELINE MAPPING DATED JULY 23, 1987, PLACE TARGETS ON HORIZONTAL CONTROL STATIONS IN ADVANCE OF BRIDGING AND COMPILATION AERIAL PHOTOGRAPHY.

2.0 AREA:

THE PROJECT COVERED CUBA ISLAND TO MULLET ISLAND, TEXAS.

3.0 PARTICIPATION:

PERSONNEL:

PARTY CHIEF: J.E. DUNFORD

ASSISTANTS: P.B. WALBOLT, J.E. KOSTER, C.M. SAUNDERS, D.R. MILLER, A.L. GRIMES

EQUIPMENT:

4	4X4 CARRYALL TRUCKS	
1	18 FT. MONARCH SURVEY LAUNCH	
1	16 FT. STARCRAFT SURVEY LAUNCH	
2	4WD QUADRUNNERS	
3	MX 1502 SATELLITE RECEIVERS	SN. 669,742,549
1	WILD T-2 THEODELITE	SN. 86328
1	EDM HP 3810B	SN. 404
4	MX 350 RADIOS	

4.0 FIELD ACTIVITY:

4.1 FIELD METHODS:

SHORT TRAVERSES USING SOLAR AZIMUTHS AND MEASURED DISTANCES WERE USED TO ESTABLISH SUBSTITUTE POINTS WHERE NEEDED. DESCRIPTIONS AND RECOVERY NOTES WERE SUBMITTED FOR ALL STATIONS USED.

4.2 CONTROL:

THE HORIZONTAL DATUM FOR THIS PROJECT WAS BASED ON THE NAD OF 1983.

4.3 DISCUSSION OF RESULTS:

TWELVE PANELS WERE PUT IN PLACE FOR AERIAL PHOTOGRAPHY. ALL PANELS EXCEPT NO. 5 AND 7 WERE PLACED DIRECTLY OVER THE HORIZONTAL STATION AS NOTED ON THE C.S.I. FORM. PANEL NO. 5 WAS PLACED OVER A TEMPORARY POINT THAT WAS POSITIONED FROM STATION METEOR BY REVERSE SOLAR AZIMUTH AND DISTANCE. TWO PANELS WERE PUT DOWN AT CIRCLE NO. 7. A BLACK 1:60,000 SCALE PANEL WAS PLACED OVER BLANCO RM 1 WHICH WAS POSITIONED BY COMPUTING DATA FROM THE BOX SCORE OF THE DESCRIPTION. A WHITE 1:30,000 SCALE PANEL WAS PLACED OVER A TEMPORARY POINT WHICH WAS POSITIONED BY SOLAR AZIMUTH AND DISTANCE FROM STATION BLANCO. TWO PANELS WERE PUT DOWN AT CIRCLE NO. 10. A BLACK 1:60,000 SCALE PANEL WAS PLACED DIRECTLY OVER STATION HARENA. A WHITE 1:30,000 SCALE PANEL WAS PLACED OVER A TEMPORARY POINT. THIS WAS AN EXTRA PANEL IN CASE THE BLACK PANEL COULD NOT BE SEEN. THIS PANEL DOES NOT HAVE A POSITION ON IT.

THE TIDE STATION 877-5870 AT BOB HALL PIER IN CORPUS CHRISTI WAS MONITERED AT THE TIME OF TIDE COORDINATED PHOTOGRAPHY. A LEVEL TIE FROM THREE BENCH MARKS WAS MADE TO THE GAGE. A DIFFERENCE OF 0.3 FT. WAS NOTED IN THE COMPUTATIONS OF THE MHHW FROM THE ELEVATIONS OF THE BENCH MARKS. THIS WAS DISCUSSED WITH MR. J. McNAMARA.

ALL PANELS WERE IN PLACE AT THE TIME PHOTOGRAPHY WAS FLOWN.

5.0 SCHEDULE:

THE FIELD PARTY DEPARTED NORFOLK, VA. TO BEGIN FIELD WORK ON SEPTEMBER 12, 1987. THIS PROJECT AND PROJECT CM-8605 WAS COMPLETED EXCEPT FOR THE LOW WATER PHOTOGRAPHY, ON OCTOBER 14, 1987.

6.0 STATISTICS:

NUMBER OF STATIONS PANELED	12
NUMBER OF STATIONS RECOVERED	12

7.0 RECORDS:

ALL ORIGINAL FIELD DATA WITH THE EXCEPTION OF THE DESCRIPTIONS, RECOVERY NOTES AND LEVEL DATA ARE BEING FORWARDED TO ROCKVILLE N/CG 2314. THE LEVEL DATA WILL BE FORWARDED AT A LATER DATE. THE ORIGINAL DESCRIPTIONS AND RECOVERY NOTES WILL BE PROCESSED IN THE MTEN FORMAT TO GO INTO THE NATIONAL GEODETIC SURVEY DATA BASE. A COPY OF ALL FIELD DATA WILL BE KEPT IN THE COASTAL SURVEYS SECTION, MOA 2222.

APPROVED BY:
Billy H. Barnes for
J.D. SHEA

CHIEF SURVEY SECTION

SUBMITTED BY:
James E. Dunford
J.E. DUNFORD

NOV. 16, 1987

PANEL	STATION	LATITUDE	LONGITUDE
1	140 USE	27-15-11.832	97-25-50.568
2	CON	27-05-34.225	97-27-26.577
3	MARSH	26-56-43.766	97-33-49.083
4	PEERLESS	26-59-02.765	97-23-19.487
5	METEOR TP	26-49-20.510	97-21-40.149
6	MOSQUITO 2	26-48-14.367	97-29-31.249
7	BLANCO 1949 RM 1	26-44-20.740	97-20-05.454
7B	BLANCO 1949 TP	26-44-02.620	97-20-06.791
8	PORTALIS 3	26-38-35.285	97-26-55.743
9	DESERT	26-37-19.267	97-19-12.889
10	HARENA	26-31-16.317	97-16-10.215
11	NERGO	26-27-27.007	97-14-48.736
12	SKIN 2	26-26-48.132	97-24-43.669
	METEOR	26-49-34.850	97-21-41.510
	BLANCO 1949	26-44-20.214	97-20-05.843

APPENDIX C

AEROTRIANGULATION REPORT

AEROTRIANGULATION REPORT
CM-8706
CUBA ISLAND TO MULLET ISLAND, TEXAS
JUNE, 1988

AREA COVERED

The area covered by this report is from Cuba Island on the north to Mullet Island on the south. This area is covered by eight 1:20000 scale manuscripts: TP-01437 thru TP-01440 and TP-01452 thru TP-01455.

METHOD

Four strips of 1:60000 scale and two strip of 1:30000 scale color photographs were measured and adjusted to ground using the I.D.P.F.

Ratio values were determined for the color bridging photographs and the black and white infrared mean high water, mean lower low water and mid range photography.

Ten fixed aids to navigation and eight landmarks were positioned during aerotriangulation.

A ballpoint pen worksheet and a final base manuscript were plotted on the Kongsberg flatbed plotter using the Texas state plane coordinate system, south zone. This is a Lambert conformal conic projection. The datum is 1983. The ten mm cross ticks on the final base manuscript represent NAD27 intersections.

ADEQUACY OF CONTROL

The horizontal control was adequate. This projects meets NOS requirements for map manuscripts.

Blanco RM 1, 1949 was paneled with a black triangle with no "legs." This image could not be identified during the normal bridging process.

SUPPLEMENTAL DATA

Nautical charts were used to help locate the fixed aids and landmarks. U.S.G.S. quadrangles were used to obtain the vertical control needed for the GIANT adjustment.

PHOTOGRAPHY

The photography was adequate.

The project photography did not have complete coverage in the southern part of the area. Three black and white infrared and two 1:30000 scale color photographs from project CM-8607 were used to cover the hiatus.

Submitted by,

James H. Taylor

James H. Taylor

Approved and Forwarded

Don O. Norman

Don O. Norman
Chief, Aerotriangulation Unit

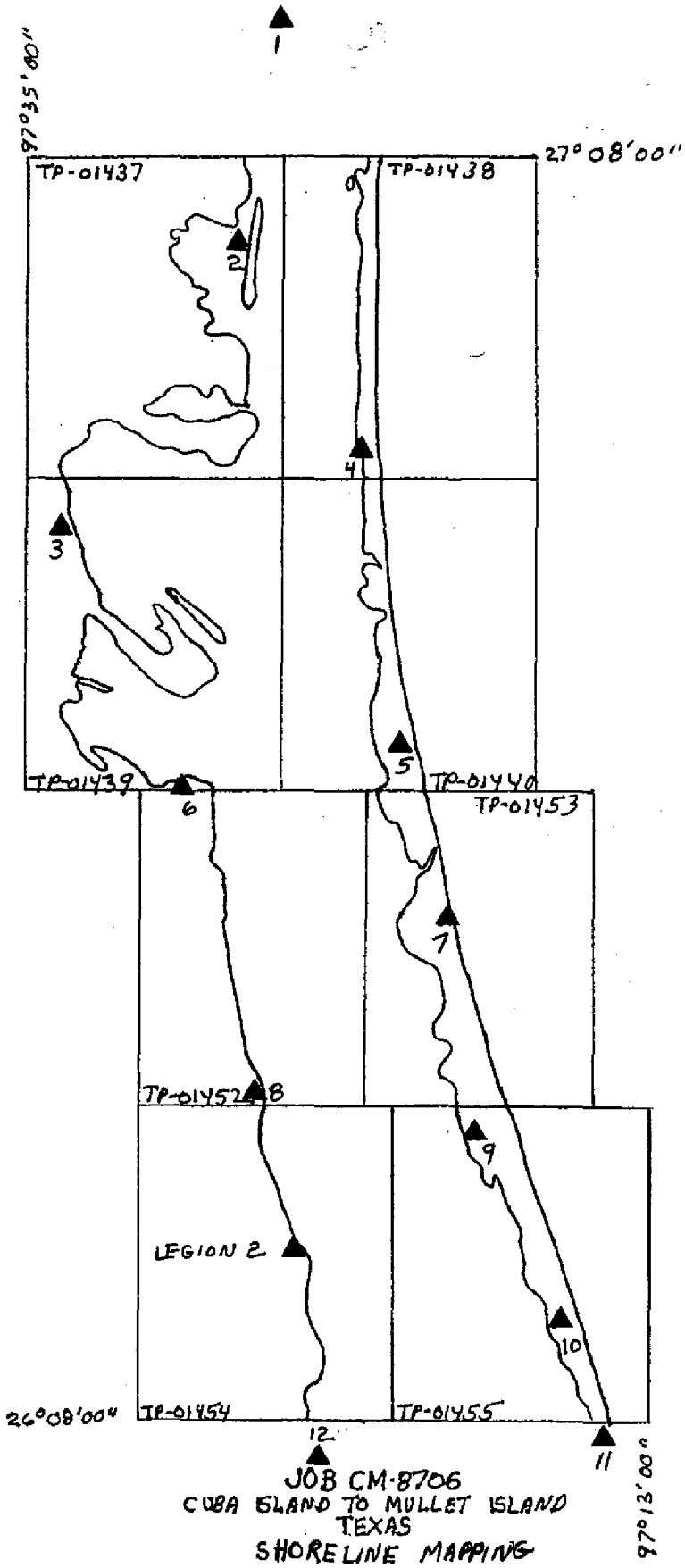
CM-8706
RATIO VALUES

COLOR BRIDGING PHOTOGRAPHS		RATIO
87 B NC	7266 thru 7274	2.91
	7281 thru 7293	2.95
	7296 thru 7305	2.95
	7441 thru 7460	1.47
	8146 thru 8147	1.47

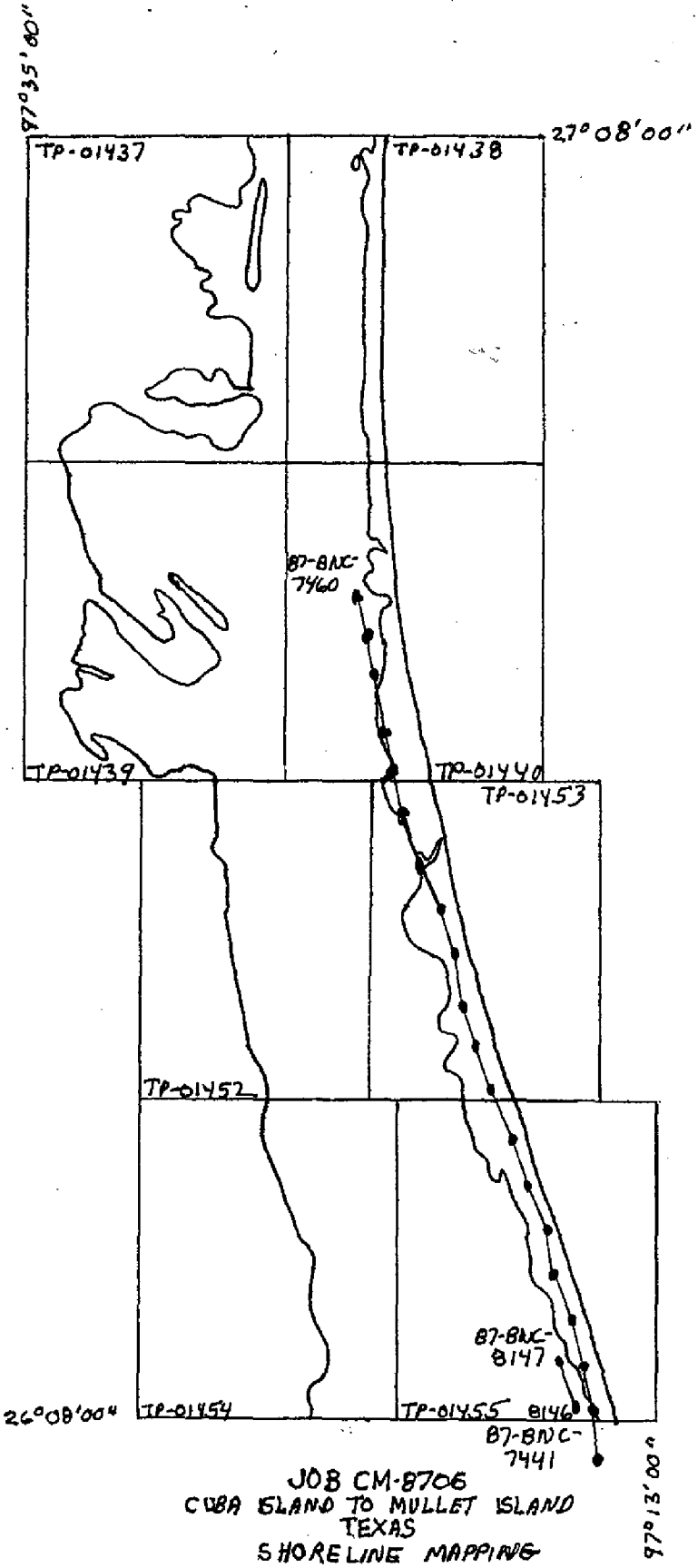
INFRARED PHOTOGRAPHS		RATIO
87 Z R	2811 thru 2822	2.48
	2828 thru 2834	2.46
	3191 thru 3207	2.47
	3212 thru 3223	2.47
	3287 thru 3304	2.48
	3441 thru 3443	2.47

CM-8706
FIT TO CONTROL
GIANT ADJUSTMENT

Station name	AERO NO.	X ft.	Y ft.
MARSH,1949	270100	-0.4	+0.1
140 USE, 1950	281100	+0.1	-1.1
CON, 1913	284100	+0.2	+1.8
PEERLESS, 1939	287100	-0.6	-0.2
SKIN 2, 1939	296100	+0.4	+0.5
PORTALIS 3, 1939	300100	-1.4	+0.1
MOSQUITO 2, 1913	304100	-0.5	-0.3
NEGRO, 1949	441100	-0.6	+0.7
HARENA, 1939	444100	+0.3	-0.2
DESERT, 1939	449100	+1.2	-0.6
BLANCO, 1949 sub point	453102	-0.1	0.0
METEOR, 1939 sub point	457101	+1.1	-0.7
LEGION 2, 1969	299100	-2.3	-1.4

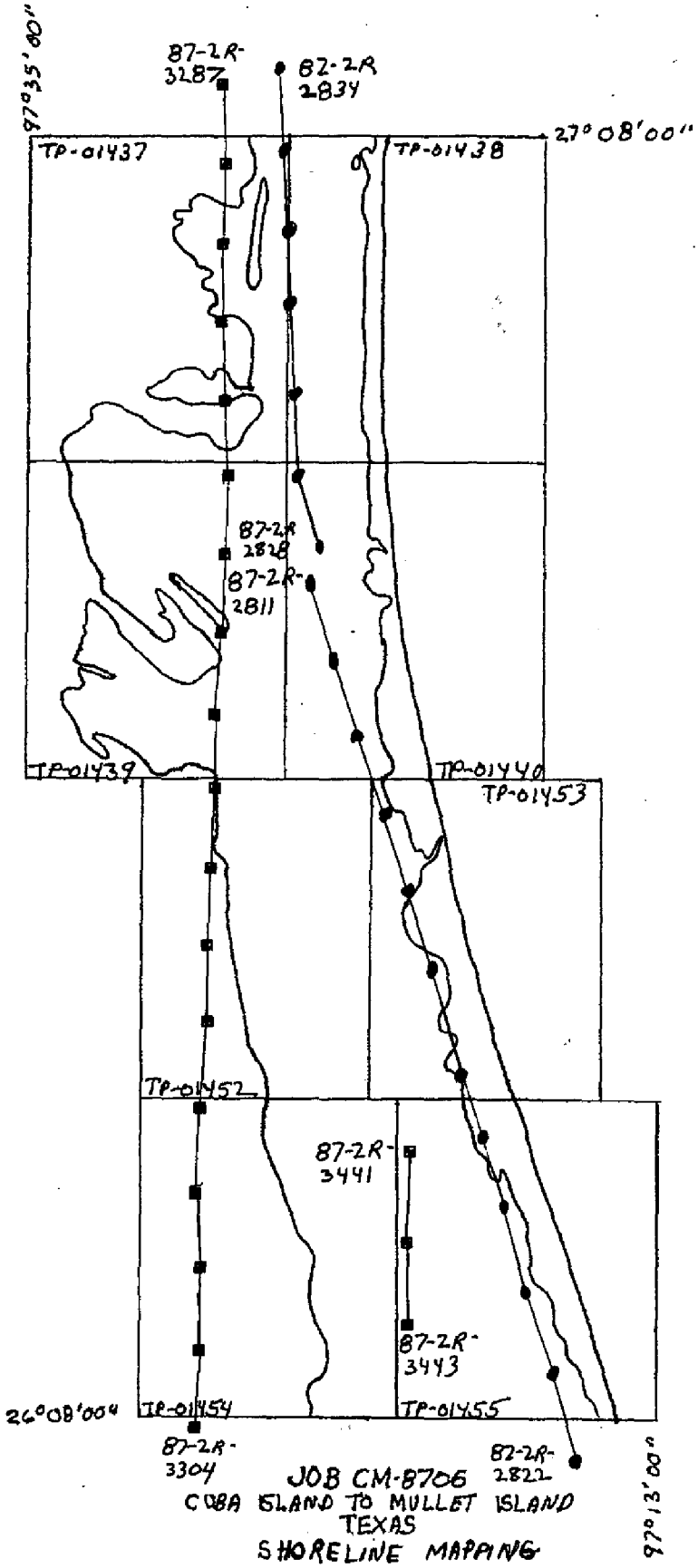


JOB CM-8706
CUBA ISLAND TO MULLET ISLAND
TEXAS
SHORELINE MAPPING
1:20,000
CONTROL

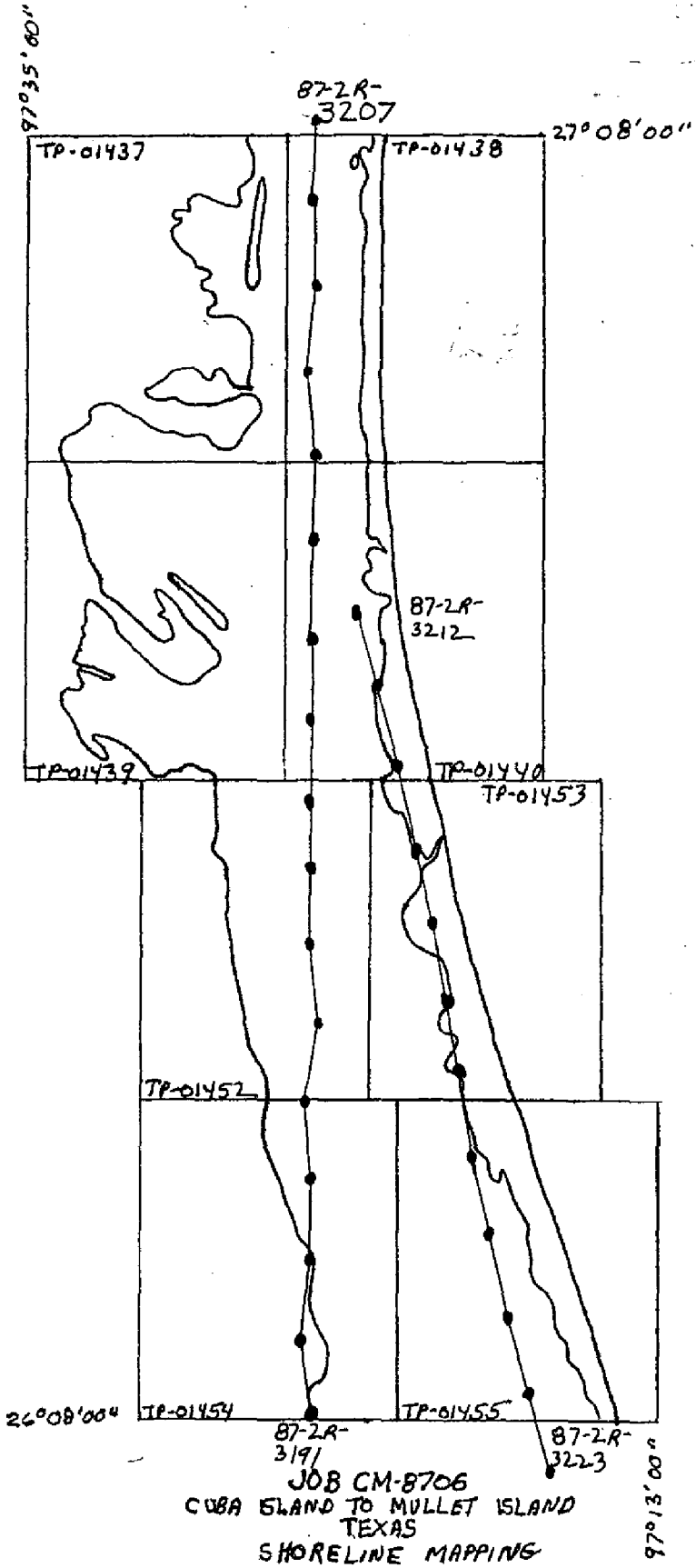


JOB CM-8706
CUBA ISLAND TO MULLET ISLAND
TEXAS
SHORELINE MAPPING
1:20,000

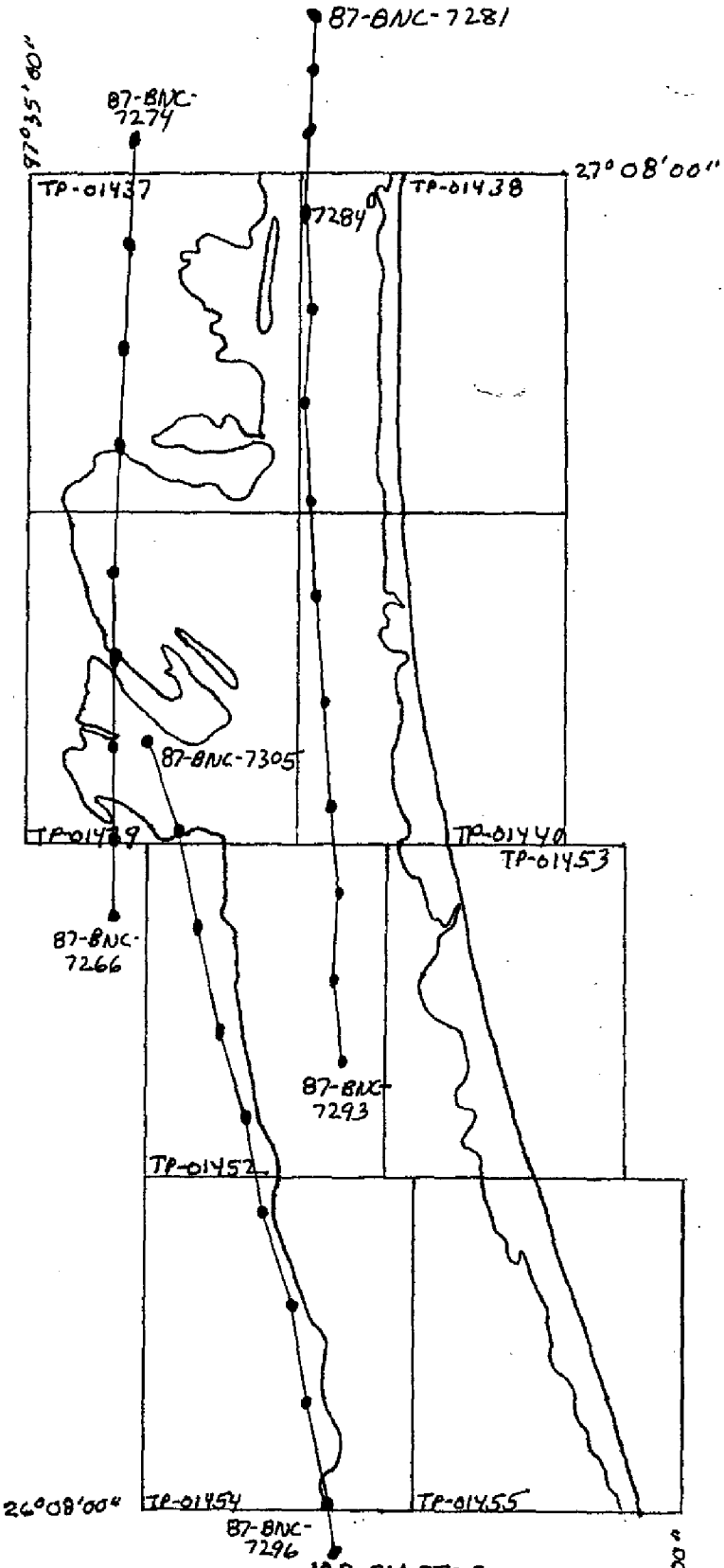
1:30,000 SCALE COLOR PHOTOS



JOB CM-8706
COBA ISLAND TO MULLET ISLAND
TEXAS
SHORELINE MAPPING
1:20,000
● = 1:50,000 MHW PHOTOS.
■ = 1:50,000 MIDRANGE PHOTOS



JOB CM-8706
CUBA ISLAND TO MULLET ISLAND
TEXAS
SHORELINE MAPPING
1:20,000
1:50,000 MLLW PHOTOS



JOB CM-8706
COBA ISLAND TO MULLET ISLAND
TEXAS
SHORELINE MAPPING
1:20,000
1:60,000 SCALE COLOR PHOTOS.

APPENDIX D

PROJECT OFFICE INSTRUCTIONS

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SERVICE
OFFICE OF CHARTING AND GEODETIC SERVICES
ROCKVILLE, MARYLAND 20852

Chief, Photogrammetry Branch
Atlantic Marine Center

PROJECT INSTRUCTIONS: OFFICE - Job CM-8706, Cuba Island to Mullet Island, Texas, Shoreline Mapping

1.0. PURPOSE

1.1. These instructions provide basic specifications for the production of data to be used in the nautical charting program. Compilation shall be based on aerotriangulation that has met the requirements of National Standards of Map Accuracy and on an office interpretation of aerial photographs.

1.2. Unless otherwise specified in these instructions, compilation, processing, and dissemination of all data shall be in accordance with the C&GS Topographic Manual, Part II, and applicable amending NOS Photogrammetric Instructions.

2.0. GENERAL

2.1. Scope. Eight 1:20,000-scale maps will be produced; TP-01437 trough TP-01440 and TP-01452 through TP-01455. Coverage will include the outer coastline and the shore areas of the Intercoastal Waterway and adjacent bays. All data collection and processing will be based on NAD 83. Supplemental data sets associated with each map will be prepared for use by charting and hydrographic activities.

2.2. Field Operations. Field work generally consisted of aerial photography, tidal observations, and the recovery, establishment, and identification (premarking) of geodetic control necessary for aerotriangulation. There was no field inspection of the shoreline.

2.3. Photography. General information is indicated below.

Type	Scale	Camera	Date
Color	1:60,000	Wild RC-10 (B)	9/30/87
Color	1:30,000	Wild RC-10 (B)	10/1/87
Infrared	1:50,000	Wild RC-10 (Z)	10/3/87

Infrared	1:50,000	Wild RC-10 (Z)	11/10/87
Infrared	1:50,000	Wild RC-10 (Z)	11/16/87

The black-and-white infrared photography was tide coordinated.

2.4. Aerotriangulation. Six strips of color photographs were bridged using analytical aerotriangulation methods; four strips of 1:60,00,000-scale photography and two strips of 1:30,000 scale. Geodetic control used was premarked. Elevations from USGS quadrangles were used as vertical control. Common points between strips were established to augment the datum tie. The amount of aerotriangulated control proved adequate and meets National Standards of Map Accuracy and NOS accuracy requirements. Aerotriangulated control is based on NAD 83.

2.5. Charts Affected. Charts 11301, 11303 SC, 11304, and 11306 PF, depict areas common to this survey. Charts 11301 and 11304 are 1:80,000 scale, the others are 1:40,000 scale.

2.6. Datums. The horizontal datum requirement is NAD 83. The vertical datums and planes of reference for symbolization are MHW and MLLW. The symbolization of rocks, reefs, ledges, and wrecks shall be referred to MLLW; all other coastal features will be referred to MHW.

2.7. Tide Data. Tide levels at the times of infrared photography have been determined based on the following:

a. Reference station record data for two staffs (1) Port Mansfield, Texas (877-8490), and (2) Padre Island, Texas (877-9750); these data were provided by N/OMA123 and include hourly heights on the dates of photography.

b. Field observation records for the staff at Corpus Christi, Texas (877-5870).

2.8. Miscellaneous.

2.8.1. Copies of final maps will be provided to support hydrographic planning operations; refer to section 5.13 of these instructions.

2.8.2. This project will adjoin CM-8605 and CM-8607. Maps from project CM-8605 are available, the map production phase of CM-8607 will be scheduled subsequent to this survey.

3.0. ASSIGNMENT

You are assigned all office operations necessary to effect shoreline mapping and the preparation of the data sets required in support of nautical charting and hydrographic activities.

4.0. DATA FURNISHED

a. Nautical charts and USGS quadrangles
b. Control and project diagrams
c. Tide data
d. Horizontal control data and records
e. Bridged color photographs (film positives)
f. Contact prints (color and infrared)
g. Ratio photographs (infrared)
h. Aerotriangulation Report
i. Computer listings
j. Base manuscripts
k. Field data

5.0. COMPILATION

5.1. Limits. Standard shoreline maps are required. The offshore limit of compilation is directly related to the extension, density, and placement of horizontal control provided.

5.2. Delineation

5.2.1. Delineation will be accomplished using stereo and graphic compilation methods. Shoreline and coastal structures, offshore detail, and interior features shall be based on interpretation of the bridged color photographs. Graphic compilation using enlargement prints of the infrared photographs is required to develop the approximate MLLW line. Compile sufficient coastal detail and/or common image points from the bridged photographs to control graphic compilation.

5.2.2. Where selectivity is required because of density of detail, features that have landmark significance are of interest to a mariner are always retained. When features are too small or too numerous to show to scale, no attempt should be made to show all. Instead, a representative pattern of the symbol or area outline is to be shown, augmented by an explanatory note. Small features, especially when dangerous to navigation, may be slightly exaggerated in size, closely resembling their true shape; e.g., bare rock, islet.

5.2.3. Final manuscripts, based on NAD 83, will depict the Lambert Conformal Conic Projection (full line); NAD 27 offset ticks are required. Refer to Photogrammetry memorandum instruction, "Implementation of the NAD 83 in the Coastal Mapping Program," dated October 2, 1987.

5.3. Cartographic Comparison. A comparison with the most recently published charts shall be made during all compilation phases. This effort (1) is particularly important to ensure charted open-water features shown as bare or uncovering are

investigated and (2) will complement the interpretation of detail and/or the identification of conflicts. Questionable differences between map detail and the charts shall be noted and reported on map copies prepared in support of charting and hydrography, e.g., Chart Maintenance Print, Notes to Hydrographer Print.

5.4. Geodetic Control. Refer to Photogrammetry memorandum instruction, "Listing and Plotting of Control Stations on Shoreline Manuscripts," dated July 23, 1968, and "Labeling Triangulation Stations Field Positions on NOS Maps and in NOS Descriptive Reports," dated November 3, 1978.

5.5. Navigational Aids

5.5.1. Locate or confirm aerotriangulated and geodetic positions of visible charted landmarks, fixed aids to navigation, and/or cartographic features that have possible landmark value using analytical and/or analog methods.

5.5.2. Refer to Photogrammetric Instruction No. 78 for symbolization and labeling. Map features of possible landmark value are to be symbolized the same as charted landmarks, however, label with upper and lower case letters, e.g., Tank (Possible Landmark).

5.5.3. Prepare a listing of the charted landmarks and/or fixed aids identified. The listing shall also contain features of possible landmark value. The listing shall outline:

a. Map identifier
b. Map scale
c. Feature description
d. Carto code
e. Geographic position
f. NCD quality code
g. Date of photogrammetric source
h. Horizontal datum

Refer to Nautical Charting Division Standard Digital Data Exchange Format (NCD SDDEF), Version 1 documentation dated April 1, 1985, for clarification of NCD quality and carto codes. Carto code "993" shall be assigned to cartographic features of possible landmark value. Geodetic positions shall be reported to three decimal places; positional data determined using approved photogrammetric methods as described in NCD SDDEF, Appendix D, shall be reported to two decimal places.

5.5.4. The medium for reporting information concerning charted navigational aids investigated and not compiled will be the Chart Maintenance Print.

5.6. Roads and Streets. The requirements for the selection of roads outlined in Photogrammetric Instruction No. 56, Revision 1, are modified, the minimum requirement is (1) to show the first road, street, or highway paralleling the shoreline or coastal areas subject to inundation and (2) all those providing access to the shore area or between this paralleling feature and the shoreline. Requirements for symbolization are outlined in Photogrammetric Instruction No. 56, Amendment 1.

5.7. Bridges and Cable Crossings. Procedures are outlined in Photogrammetric Instruction No. 27, Revision 1.

5.8. Rocks, Reefs, and Ledges. Symbolization shall be in accordance with the eighth edition (November 1984) of Nautical Chart Symbols and Abbreviations, Chart No. 1, Section 0, Dangers. Refer to section 2.6.

5.9. Drafting. Manuscripts will be drafted in accordance with Photogrammetric Instructions No. 55, Revision 2. When drafting small features or related symbols, the minimum length/size shall be .7 mm.

5.10. Geographic and Object Names

5.10.1. Requirements for names, including their placement, are outlined in Photogrammetric Instruction No. 63.

5.10.2. Obtain final geographic names list using the procedures outlined in Photogrammetric Instruction No. 63, section 2.03.1, last paragraph.

5.11. Reports. Refer to sections 1.2 and 7.2. Include a brief statement in paragraph 49 (Notes to Reviewer) of the Compilation Report when selectivity of detail is required. Information required for inclusion in the Project Completion Report will be provided by N/CG2321.

5.12. Chart Maintenance Print. Prepare a stable base copy of each reviewed map and label Chart Maintenance Print. General requirements are specified in Photogrammetric Instruction No. 69 for completing this print. When preparing this print, keep in mind the objective is to provide comprehensive information about the adequacy, reliability, and completeness of map detail, as well as differences noted between the map and chart(s). Examples are (1) the inability to satisfactorily interpret photographic detail and (2) a difference between the chart(s) and map in the

representation of a feature. This effort cannot be emphasized too strongly, because proper evaluation and usage of map detail will depend on this information. Include a statement regarding features not located in section 5.5.4.

5.13. Support Data. Supplemental survey data required to support charting and hydrographic activities are indicated below. Coordinate the distribution of these data with N/CG2321. Refer to sections 2.1, 2.8.1, 5.3, 5.5.3, and 5.12.

Types of Data	Distribution
Chart Maintenance Prints Listings of navigational aids	N/CG2222
* Notes to Hydrographer Prints Listings of navigational aids	N/CG241

* These prints will be stable base map copies; the same information that is reported on each of the corresponding Chart Maintenance Prints shall be included.

5.14. Communication. Forward a copy of each transmittal letter to N/CG2314 and N/CG2321.

6.0. SCHEDULE

Schedule project completion by September 31, 1989. If this schedule cannot be met, inform N/CG2321 immediately.

7.0. MODIFICATIONS OF INSTRUCTIONS

7.1. If changes in procedures and/or methods seem advisable, please make appropriate recommendations to this office.

7.2. Departures from basic specifications, as necessitated by unique characteristics and special requirements for these mapping projects, shall be contained in supplementary instructions or described in the text of the Job Completion Report and each applicable Descriptive Report; e.g., feature symbolization.

8.0. COSTS

All costs incurred on this assignment shall be charged to Task 8K6C01.

9.0. RECEIPT

Acknowledge receipt of these instructions.

Ray E. Moses
Director
Atlantic Marine Center

Christian Andreasen
Chief, Nautical Charting Division
Charting and Geodetic Services

APPENDIX E

MAP COMPILATION SOURCE PAGES

DESCRIPTIVE DATA

CM- 8706

TP-01437

MAP SCALE - 1:20,000

PHOTOGRAPHY

YEAR/TYPE/NUMBERS	DATE	TIME	SCALE	
87B(CN)7270-7271	09/30/87	12:21	1:60,000	Diurnal
87B(CN)7284-7287	09/30/87	12:37	1:60,000	-0.1 ft at MLLW
87Z(R)3289, 3291	11/10/87	14:32	1:50,000	+0.1 ft at MLLW
87Z(R)3204, 3206	11/10/87	12:29	1:50,000	+0.1 ft at MLLW
				Mean Tide Range = Diurnal

COMPILER - ROBERT R. KRAVITZ DATE - MARCH 29, 1989

REVIEWER - CHARLES E. BLOOD DATE - APRIL 18, 1989

COMPILATION REMARKS:

All times are referenced to Central Standard time.

The infrared photography was tide coordinated, based on reference station records for the staff at Port Mansfield and Padre Island and on field observation records for the staff at Corpus Christi. The water level in Laguna Madre is subject to meteorological conditions and is considered non-tidal.

An approximate mean high water line symbol was used in Laguna Madre because there was no clear division between the mud flats and what appeared to be the mean high water line.

DESCRIPTIVE DATA

CM- 8706

TP-01438

MAP SCALE - 1:20,000

PHOTOGRAPHY

YEAR/TYPE/NUMBERS	DATE	TIME	SCALE	
87B(CN)7284-7287 87Z(R)3204, 3206	09/30/87 11/10/87	12:37 12:29	1:60,000 1:50,000	Diurnal -0.1 ft at MLLW Mean Tide Range = Diurnal

COMPILER - ROBERT R. KRAVITZ DATE - MARCH 14, 1989

REVIEWER - FAY T. MAULDIN Fay T Mauldin DATE - MARCH 17, 1989

COMPILATION REMARKS:

All times are referenced to Central Standard time.

The infrared photography was tide coordinated, based on reference station records for the staff at Port Mansfield and Padre Island and on field observation records for the staff at Corpus Christi. The water level in Laguna Madre is subject to meteorological conditions and is considered non-tidal.

An approximate mean high water line symbol was used in Laguna Madre because there was no clear division between the mud flats and what appeared to be the mean high water line.

DESCRIPTIVE DATA

CM- 8706

TP-01439

MAP SCALE - 1:20,000

PHOTOGRAPHY

YEAR/TYPE/NUMBERS	DATE	TIME	SCALE	
87B(CN)7266-7270	09/30/87	12:21	1:50,000	Diurnal
87B(CN)7287-7290	09/30/87	12:37	1:50,000	Diurnal
87Z(R)3202, 3204	11/10/87	12:28	1:50,000	-0.1 ft at MLLW
87Z(R)3293, 3295	11/10/87	14:32	1:50,000	+0.1 ft at MLLW
				Mean Tide Range = Diurnal

COMPILER - DAVID R. MILLER DATE - APRIL 3, 1989

REVIEWER - CHARLES E. BLOOD DATE - APRIL 7, 1989

COMPILATION REMARKS:

All times are referenced to Central Standard time.

The infrared photography was tide coordinated, based on reference station records for the staff at Port Mansfield and Padre Island and on field observation records for the staff at Corpus Christi. The water level in Laguna Madre is subject to meteorological conditions and is considered non-tidal.

An approximate mean high water line symbol was used in Laguna Madre because there was no clear division between the mud flats and what appeared to be the mean high water line.

DESCRIPTIVE DATA

CM- 8706

TP-01440

MAP SCALE - 1:20,000

PHOTOGRAPHY

YEAR/TYPE/NUMBERS	DATE	TIME	SCALE	
87B(CN)7287-7290	09/30/87	12:40	1:60,000	Diurnal
87B(CN)7456-7457	10/01/87	09:28	1:30,000	Diurnal
87Z(R)3212, 3214	11/10/87	12:45	1:50,000	At MLLW
87Z(R)3200, 3202	11/10/87	12:30	1:50,000	-0.1 ft at MLLW
				Mean Tide Range = Diurnal

COMPILER - PAUL L. EVANS, JR DATE - MARCH 16, 1989

REVIEWER - FAY T. MAULDIN Fay T Mauldin DATE - MARCH 17, 1989

COMPILATION REMARKS:

All times are referenced to Central Standard time.

The infrared photography was tide coordinated, based on reference station records for the staff at Port Mansfield and Padre Island and on field observation records for the staff at Corpus Christi. The water level in Laguna Madre is subject to meteorological conditions and is considered non-tidal.

An approximate mean high water line symbol was used in Laguna Madre because there was no clear division between the mud flats and what appeared to be the mean high water line.

DESCRIPTIVE DATA

CM- 8706

TP-01452

MAP SCALE - 1:20,000

PHOTOGRAPHY

YEAR/TYPE/NUMBERS	DATE	TIME	SCALE	
87B(CN)7300-7304	09/30/87	19:05	1:60,000	Diurnal
87Z(R)3196, 3198	11/10/87	18:29	1:50,000	+0.1 ft at MLLW
87Z(R)3297	11/10/87	20:31	1:50,000	+0.1 ft at MLLW
				Mean Tide Range = Diurnal

COMPILER - PAUL L. EVANS, JR — DATE - MARCH 31, 1989

REVIEWER - CHARLES E. BLOOD — DATE - APRIL 6, 1989

COMPILATION REMARKS:

All times are referenced to Central Standard time.

The infrared photography was tide coordinated, based on reference station records for the staff at Port Mansfield and Padre Island and on field observation records for the staff at Corpus Christi. The water level in Laguna Madre is subject to meteorological conditions and is considered non-tidal.

An approximate mean high water line symbol was used in Laguna Madre because there was no clear division between the mud flats and what appeared to be the mean high water line.

DESCRIPTIVE DATA

CM-8706

TP-01453

MAP SCALE - 1:20,000

PHOTOGRAPHY

YEAR/TYPE/NUMBERS	DATE	TIME	SCALE	
87B(CN)7449-7456	10/01/87	09:27	1:30,000	Diurnal
87Z(R)3214,3216,3218	11/10/87	12:50	1:50,000	At MLLW
				Mean Tide Range = Diurnal

COMPILER - DAVID R. MILLER DATE - MARCH 2, 1989

REVIEWER - FAY T. MAULDIN Fay T Mauldin DATE - MARCH 13, 1989

COMPILATION REMARKS:

All times are referenced to Central Standard time.

The infrared photography was tide coordinated, based on reference station records for the staff at Port Mansfield and Padre Island and on field observation records for the staff at Corpus Christi. The water level in Laguna Madre is subject to meteorological conditions and is considered non-tidal.

An approximate mean high water line symbol was used in Laguna Madre because there was no clear division between the mud flats and what appeared to be the mean high water line.

DESCRIPTIVE DATA

CM- 8706

TP-01454

MAP SCALE - 1:20,000

PHOTOGRAPHY

YEAR/TYPE/NUMBERS	DATE	TIME	SCALE	
87B(CN)7297-7300	09/30/87	12:27	1:60,000	Diurnal
87Z(R)3192, 3194	11/10/87	12:29	1:50,000	+0.1 ft at MLLW
87Z(R)3443, 3442	11/16/87	13:12	1:50,000	+0.2 ft at MLLW
				Mean Tide Range = Diurnal

COMPILER - ALBERT L. GRIMES DATE - MARCH 23, 1989

REVIEWER - CHARLES E. BLOOD Charles E. Blood DATE - MARCH 29, 1989

COMPILATION REMARKS:

All times are referenced to Central Standard time.

The infrared photography was tide coordinated, based on reference station records for the staff at Port Mansfield and Padre Island and on field observation records for the staff at Corpus Christi. The water level in Laguna Madre is subject to meteorological conditions and is considered non-tidal.

An approximate mean high water line symbol was used in Laguna Madre because there was no clear division between the mud flats and what appeared to be the mean high water line.

DESCRIPTIVE DATA

CM- 8706

TP-01455

MAP SCALE - 1:20,000

PHOTOGRAPHY

YEAR/TYPE/NUMBERS	DATE	TIME	SCALE	
87B(CN)7442-7449	10/01/87	09:27	1:30,000	Diurnal
87Z(R)3218,3220,3222	11/10/87	12:50	1:50,000	+0.1 ft at MLLW
87Z(R)2817-2822	10/03/87	11:08	1:50,000	+0.2 ft at MLLW
87Z(R)3441-3443	11/16/87	13:12	1:50,000	+0.2 ft at MHW
				Mean Tide Range = Diurnal

COMPILER - DAVID R. MILLER DATE - MARCH 22, 1989

Charles E. Blood

REVIEWER - CHARLES E. BLOOD DATE - MARCH 30, 1989

COMPILATION REMARKS:

All times are referenced to Central Standard time.

The infrared photography was tide coordinated, based on reference station records for the staff at Port Mansfield and Padre Island and on field observation records for the staff at Corpus Christi. The water level in Laguna Madre is subject to meteorological conditions and is considered non-tidal.

An approximate mean high water line symbol was used in Laguna Madre because there was no clear division between the mud flats and what appeared to be the mean high water line.

APPENDIX F

APPROVED GEOGRAPHIC NAMES

GEOGRAPHIC NAMES

FINAL NAME SHEET

CM-8706 (Cuba Island to Mullet Island, TX)

TP-01437

Calabazas Islands

Intracoastal Waterway

Land Cut

Madre, Laguna

Potrero Cortado

Potrero de Las Canelas

Potrero de Los Caballos

Potrero Farias

Potrero Grande

Potrero Lopeno

Approved:

Charles E. Harrington

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

GEOGRAPHIC NAMES

FINAL NAME SHEET

CM-8706 (Cuba Island to Mullet Island, TX)

TP-01438

Cuba Island

Hole, The

Madre, Laguna

Mexico, Gulf of

Padre Island

Approved:

Charles E. Harrington

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

GEOGRAPHIC NAMES

FINAL NAME SHEET

CM-8706 (Cuba Island to Mullet Island, TX)

TP-01439

Banderia Point

El Toro

Intracoastal Waterway

Land Cut

Madre, Laguna

Mesquite Rincon

Rincon de San Jose

Southeast Point

Tres Marias Islands

Approved:

Charles E. Harrington

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

MAY 18 1989

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GEOGRAPHIC NAMES

FINAL NAME SHEET

CM-8706 (Cuba Island to Mullet Island, TX)

TP-01440

Madre, Laguna

Mexico, Gulf of

Padre Island

Approved:

Charles E. Harrington

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

GEOGRAPHIC NAMES

FINAL NAME SHEET

CM-8706 (Cuba Island to Mullet Island, TX)

TP-01452

Madre, Laguna

Padre Island

Red Fish Bay

Rincon de San Jose

Approved:

Charles E. Harrington

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

MAY 18 1989

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GEOGRAPHIC NAMES

FINAL NAME SHEET

CM-8706 (Cuba Island to Mullet Island, TX)

TP-01453

Madre, Laguna

Mexico, Gulf of

Padre Island

Approved:

Charles E. Harrington

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

GEOGRAPHIC NAMES

FINAL NAME SHEET

CM-8706 (Cuba Island to Mullet Island, TX)

TP-01454

Chubby Island

El Sauz Island

Four Mile Slough

Green Hill

Madre, Laguna

Mullet Island

Port Mansfield

Red Fish Bay

Approved:

Charles E. Harrington

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

GEOGRAPHIC NAMES

FINAL NAME SHEET

CM-8706 (Cuba Island to Mullet Island, TX)

TP-01455

Madre, Laguna

Mexico, Gulf of

Padre Island

Port Mansfield Channel

Approved:

Charles E. Harrington

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

APPENDIX G

CARTOGRAPHIC FEATURES OF CHARTING INTEREST

CARTOGRAPHIC FEATURES OF CHARTING INTEREST Page 1 of 2

COASTAL MAPPING PROJECT: CM-8706 Cuba Island to Mullet Island, Texas

NOS NAUTICAL CHARTS AFFECTED: 11300, 11301, 11304, and 11306

GEODETIC DATUM: North American Datum of 1983 (NAD 83)

The following charted cartographic features and newly identified cartographic features of possible landmark value have been identified and measured during photogrammetric operations. Refer to Nautical Charting Division Standard Digital Data Exchange Format documentation for quality code (QC) criteria and clarification of cartographic codes (CC). Please note that cartographic code 993 is a photogrammetric source code for cartographic features of possible landmark value.

FEATURE DESCRIPTION	NCD CC #	GEOGRAPHIC POSITION (°-'-") LATITUDE	LONGITUDE	NCD QC	DATE OF LOCATION
CORPUS CHRISTI-PORT ISABEL					
LAND CUT LIGHT 1	200	27 06 46.330	97 26 28.724	4	09/30/87
LAND CUT LIGHT 2	200	27 05 53.80	97 26 35.80	7	09/30/87
BAFFIN BAY					
LAND CUT LIGHT 76	200	27 07 24.935	97 26 30.125	4	09/30/87
LIGHT 20	200	26 50 11.100	97 28 05.500	7	09/30/87
LIGHT 21	200	26 49 27.755	97 28 06.507	4	09/30/87
LIGHT 223	200	26 48 05.670	97 28 14.636	4	09/30/87
LIGHT 229	200	26 47 07.500	97 28 01.300	7	09/30/87
PORT MANSFIELD CHANNEL					
LIGHT 5	200	26 33 47.801	97 16 36.292	4	10/01/87
LIGHT 6	200	26 33 50.792	97 16 34.189	4	10/01/87
LIGHT 7		26 33 46.238	97 17 28.400	4	10/01/87
LIGHT 8		26 33 48.604	97 17 28.512	4	10/01/87
DAYBEACON 10	224	26 33 48.000	97 17 59.900	7	10/01/87
DAYBEACON 11	767	26 33 44.000	97 18 30.600	7	10/01/87
DAYBEACON 12	224	26 33 46.100	97 18 53.900	7	10/01/87
RANGE REAR LIGHT	209	26 33 28.50	97 25 58.80	7	09/30/87
PORT MANSFIELD ENTRANCE					
NORTH SIDE DREDGING RANGE FRONT DAYBEACON	208	26 33 49.458	97 17 07.200	4	10/01/87
NORTH SIDE DREDGING RANGE REAR DAYBEACON	209	26 33 48.637	97 17 29.173	4	10/01/87
SOUTH SIDE DREDGING RANGE FRONT DAYBEACON	208	26 33 46.972	97 17 07.083	4	10/01/87
SOUTH SIDE DREDGING RANGE REAR DAYBEACON	209	26 33 46.181	97 17 29.033	4	10/01/87
TANK	086	26 59 03.506	97 26 53.939	4	09/30/87
TANK	086	26 33 31.00	97 25 41.80	7	09/30/87

CARTOGRAPHIC FEATURES OF CHARTING INTEREST

COASTAL MAPPING PROJECT: CM-8706 Cuba Island to Mullet Island, Texas

NOS NAUTICAL CHARTS AFFECTED: 11300, 11301, 11304, and 11306

GEODETIC DATUM: North American Datum of 1983 (NAD 83)

The following charted cartographic features and newly identified cartographic features of possible landmark value have been identified and measured during photogrammetric operations. Refer to Nautical Charting Division Standard Digital Data Exchange Format documentation for quality code (QC) criteria and clarification of cartographic codes (CC). Please note that cartographic code 993 is a photogrammetric source code for cartographic features of possible landmark value.

FEATURE DESCRIPTION	NCD CC #	GEOGRAPHIC POSITION (-'-") LATITUDE	LONGITUDE	NCD QC	DATE OF LOCATION
TANK	086	26 33 18.651	97 25 35.092	4	09/30/87
TOWER	993	26 32 21.50	97 26 02.30	7	09/30/87

Listing approved by: Lowell O. Weiss Jr. FINAL REVIEWER March 15, 1990 DATE

APPENDIX H

MEMORANDUM

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SERVICE
OFFICE OF CHARTING AND GEODETIC SERVICES
ROCKVILLE, MARYLAND 20852

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March 19, 1988 N/CG232:GF

MEMORANDUM FOR THE RECORD

FROM: N/CG232 - Gregory L. Fromm

SUBJECT: Tide Information, CM-8605, CM-8607, and CM-8706

Tide levels at the times of the infrared photography for each of the subject projects were determined by N/CG2313 based on data for the three tide staff indicated below. Data used consisted tide observations records provided by photogrammetric field operations and reference station records provided by the Tidal Datum Quality Assurance Section (N/OMA123).

Tide Station

877-8490 - Dr. Leal's Pier, Port Mansfield, TX
877-9750 - Jetties Restaurant, South Padre Island, TX
877-5870 - Bob Hall Pier, Corpus Christi, TX

Field observation and level record volumes for each of the three tide stations will accompany the project specified below through the map compilation pipeline and be will be archived accordingly.

CM-8605 - Tide station 877-5870, Corpus Christi, TX
(2 NOAA forms 76-77, 1 NOAA form 77-53)

CM-8607 - Tide station 877-9750, South Padre Island, TX
(1 NOAA form 76-77, 1 NOAA form 77-53)

CM-8706 - Tide station 877-8490, Port Mansfield, TX
(1 NOAA for 76-77, 2 NOAA forms 77-53)

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SERVICE
OFFICE OF CHARTING AND GEODETIC SERVICES
ROCKVILLE, MARYLAND 20852

February 18, 1988 N/CG2313:JDM

MEMORANDUM FOR: The Record

FROM: James D. McNamara
Acting Chief,
Coastal Planning Unit, NCD

SUBJECT: Review and wrap-up Job CM-8706, Gulf of Mexico and Intracoastal Waterway, Cuba Island to Mullet Island, Texas

This coastal mapping project was scheduled for the fall 1987. The Atlantic Marine Center (AMC) photo field party placed the photo panels for this project after setting the panels for the project to the north (CM-8605), Corpus Christi to Cuba Island. The panels were to be in place by October 5, 1987, according to the schedule set in the Field Instructions.

This project was planned in support of a scheduled Hydrographic Survey, OPR - K220. Two shoreline maps in this area are required for that survey.

Twelve horizontal control stations were paneled for this project. Two stations on the north and 2 stations to the south were in common with the adjacent projects. The outer barrier island was targeted with 1:30,000 scale targets for the bridging photography. These islands are quite narrow and would be difficult to bridge at smaller scales. The remaining stations on the mainland were targeted with 1:60,000 scale panels.

The bridging photography was secured on September 30 and October 1, 1987. The review of the bridging photography was hindered by poor target sketches on the quad and CSI cards from the field unit. Target identification photography was required to resolve the placement and depictions of the targets that were located on South Padre Island.

The project required two tide stations to be occupied to secure tide-coordinated black and white infrared photography (B&W IR). The outside lines were to be coordinated on the station at Bob Hall Pier. MHW and MLLW were to be secured. The inside lines were to be secured on the staff at Port Mansfield. Laguna Madre is considered non-tidal due to the extremely small range of tide in this inside area. Only the mean water level B&W IR was secured.

The tide station at Bob Hall Pier was not occupied during the taking of the MLLW photography due to poor communication. The station at Port Mansfield, also was not occupied during the photographic run for the mean water level B&W IR. The staff at Bob Hall pier was occupied for the MHW lines, and it was in suitable range. The hourly heights for the Port Mansfield gage were obtained from the Tides and Water Level Unit. A check of the photographic times versus the tide indicated these mean water level lines were within the suitable range. The hourly heights for the Bob Hall Pier gage were also secured from that Unit. A further check of this data indicated the gage was clogged and the data is invalid. The prototype tide gage data is being analyzed and should be available shortly.

The compilation photography was secured at 1:30,000 scale with color negative film. Lines 30-2 and 30-4 have a problem of an obstruction in the corner. This obstruction on the flat obliterated some imagery in a corner of the film. This, however, should not be a severe problem.

The data set for this shoreline mapping project will consist of the following data: the color bridging photography, the color compilation photography, and the B&W IR photography at MHW and MLLW, the B&W IR photography at Mean Water Level, the project field report, the NAD 27 offset data, and the tide records from the field and the tide data from the Tides and Water Level Unit.