

TP 01144

TP 01144

NOAA FORM 76-35 (6-80)	
U.S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION NATIONAL OCEAN SURVEY	
DESCRIPTIVE REPORT	
THIS MAP EDITION WILL NOT BE FIELD EDITED	
Map No. TP-01144	Edition No. 1
Job No. CM-8108	
Map Classification Class III	
Type of Survey Shoreline	
LOCALITY	
State Texas	
General Locality Hog Island	
Locality Baytown to Cedar Bayou	
1982 TO 19	
REGISTERED IN ARCHIVES	
DATE	

NOAA FORM 76-36A (3-72) U. S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMIN.		TYPE OF SURVEY ☒ ORIGINAL ☐ RESURVEY ☐ REVISED	SURVEY TP. <u>01144</u> MAP EDITION NO. (1) MAP CLASS III JOB PH CM-8108
DESCRIPTIVE REPORT - DATA RECORD			
PHOTOGRAMMETRIC OFFICE Rockville Md. OFFICER-IN-CHARGE Ronald Brewer		LAST PRECEDING MAP EDITION TYPE OF SURVEY ☐ ORIGINAL ☐ RESURVEY ☐ REVISED JOB PH- MAP CLASS SURVEY DATES: 19__ TO 19__	
I. INSTRUCTIONS DATED			
1. OFFICE		2. FIELD	
Aerotriangulation 6/26/83 Office 8/9/83		Field 10/30/81	
II. DATUMS			
1. HORIZONTAL: ☒ 1927 NORTH AMERICAN 2. VERTICAL: ☒ MEAN HIGH-WATER ☐ MEAN LOW-WATER ☐ MEAN LOWER LOW-WATER ☐ MEAN SEA LEVEL		OTHER (Specify) OTHER (Specify)	
3. MAP PROJECTION Lambert Conformal Conic Projection		4. GRID(S) STATE Texas ZONE South Central	
5. SCALE 1:10000		STATE ZONE	
III. HISTORY OF OFFICE OPERATIONS			
OPERATIONS	NAME	DATE	
1. AEROTRIANGULATION BY	Thornton	6/83	
METHOD: Analytical LANDMARKS AND AIDS BY	Thornton	6/83	
2. CONTROL AND BRIDGE POINTS PLOTTED BY	Thornton	6/83	
METHOD: Coradomat CHECKED BY	N/A		
3. STEREOSCOPIC INSTRUMENT PLANIMETRY BY	Ted Doyle	7/84	
COMPILATION CHECKED BY	J. Schad	7/84	
INSTRUMENT: Wild B-8, NOSAP	N/A		
SCALE: 1:10000	N/A		
4. MANUSCRIPT DELINEATION PLANIMETRY BY	Ted Doyle	7/84	
CHECKED BY	J. Schad	7/84	
METHOD: Smooth Drafted	N/A		
CHECKED BY	N/A		
SCALE: 1:10000 HYDRO SUPPORT DATA BY	N/A		
CHECKED BY	N/A		
5. OFFICE INSPECTION PRIOR TO FIELD EDIT BY	N/A		
6. APPLICATION OF FIELD EDIT DATA BY	N/A		
CHECKED BY	N/A		
7. COMPILATION SECTION REVIEW BY	J. Schad	11/84	
8. FINAL REVIEW BY	E. Allen	1/85	
9. DATA FORWARDED TO PHOTOGRAMMETRIC BRANCH BY	E. Allen	4/85	
10. DATA EXAMINED IN PHOTOGRAMMETRIC BRANCH BY	J. Schad	5/85	
11. MAP REGISTERED - COASTAL SURVEY SECTION BY	F. DAUGHERTY	MAY 1985	

COMPILATION SOURCES

TP-01144

1. COMPILATION PHOTOGRAPHY

CAMERA(S) RC-8(E) F/L= (152.71 MM.)
WILD RC-10(B) F/L= (152.74 MM.)TYPES OF PHOTOGRAPHY
LEGEND

TIME REFERENCE

TIDE STAGE REFERENCE

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

- ☒ COLOR
(P) PANCHROMATIC
R INFRARED

ZONE

Central

☒ STANDARD

MERIDIAN

90th☐ DAYLIGHT

NUMBER AND TYPE	DATE	TIME	SCALE	STAGE OF TIDE
82 B(C) 9949-9954	11/5/82	0930	1:30000	1.02 FT.
82 B(C) 9960-9962	11/5/82	0940	1:30000	1.02 FT.
82 E(C) 8500-8501	2/16/82	1250	1:30000	4.83 FT.
81 E(R) 5935	11/11/81	1405	1:50000	0.08 FT.

REMARKS

Based on predicted tides- reference station Galveston Bay-substation Morgan Point

2. SOURCE OF MEAN HIGH-WATER LINE:

The photographs listed above

3. SOURCE OF MEAN LOW-WATER LINE:

The infrared photograph listed above.

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	N/A	TP-01146 1:20000	TP-01143

REMARKS

HISTORY OF FIELD OPERATIONS

TP-01144

I. ☒ FIELD OPERATION☐ FIELD EDIT OPERATION

OPERATION	NAME	DATE
1. CHIEF OF FIELD PARTY	R.S. Tibbetts	3/10/82
2. HORIZONTAL CONTROL RECOVERED BY ESTABLISHED BY Pre-Marked or Identified By	N/A N/A N/A	
3. VERTICAL CONTROL RECOVERED BY ESTABLISHED BY PRE-MARKED OR IDENTIFIED BY	N/A N/A N/A	
4. LANDMARKS AND AIDS TO NAVIGATION RECOVERED (Triangulation Stations) BY LOCATED (Field Methods) BY IDENTIFIED BY	N/A N/A N/A	
5. GEOGRAPHIC NAMES INVESTIGATION TYPE OF INVESTIGATION ☐ COMPLETE ☐ SPECIFIC NAMES ONLY ☒ NO INVESTIGATION	N/A	
6. PHOTO INSPECTION CLARIFICATION OF DETAILS BY	N/A	
7. BOUNDARIES AND LIMITS SURVEYED OR IDENTIFIED BY	N/A	

II. SOURCE DATA

1. HORIZONTAL CONTROL IDENTIFIED
N/A2. VERTICAL CONTROL IDENTIFIED
N/A

PHOTO NUMBER	STATION NAME	PHOTO NUMBER	STATION DESIGNATION

3. PHOTO NUMBERS (Clarification of details)

N/A

4. LANDMARKS AND AIDS TO NAVIGATION IDENTIFIED

N/A

PHOTO NUMBER	OBJECT NAME	PHOTO NUMBER	OBJECT NAME

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

7. SUPPLEMENTAL MAPS AND PLANS

N/A

8. OTHER FIELD RECORDS (Sketch books, etc. DO NOT list data submitted to the Geodesy Division)
Aerial field photographs, CSI cards (NOAA form 76-53), ground photographs and NOAA computations and observations form with computation print-outs bound in the Field Project Book CM-8108 Houston Ship Channel

RECORD OF SURVEY USE

TP-01144

I. MANUSCRIPT COPIES

COMPILATION STAGES			DATE MANUSCRIPT FORWARDED	
DATA COMPILED	DATE	REMARKS	MARINE CHARTS	HYDRO SUPPORT
Shoreline Manuscript	10/84	Class III Map		
Final Reviewed Map	May 1985	Class III Map	May 1985	

II. LANDMARKS AND AIDS TO NAVIGATION

1. REPORTS TO MARINE CHART DIVISION, NAUTICAL DATA BRANCH

NUMBER	CHART LETTER NUMBER ASSIGNED	DATE FORWARDED	REMARKS
5Pages	NOAA (76-40)	May 1985	Nonfloating Aids and Landmarks
4Pages	PLM	May 1985	Possible Landmark Features

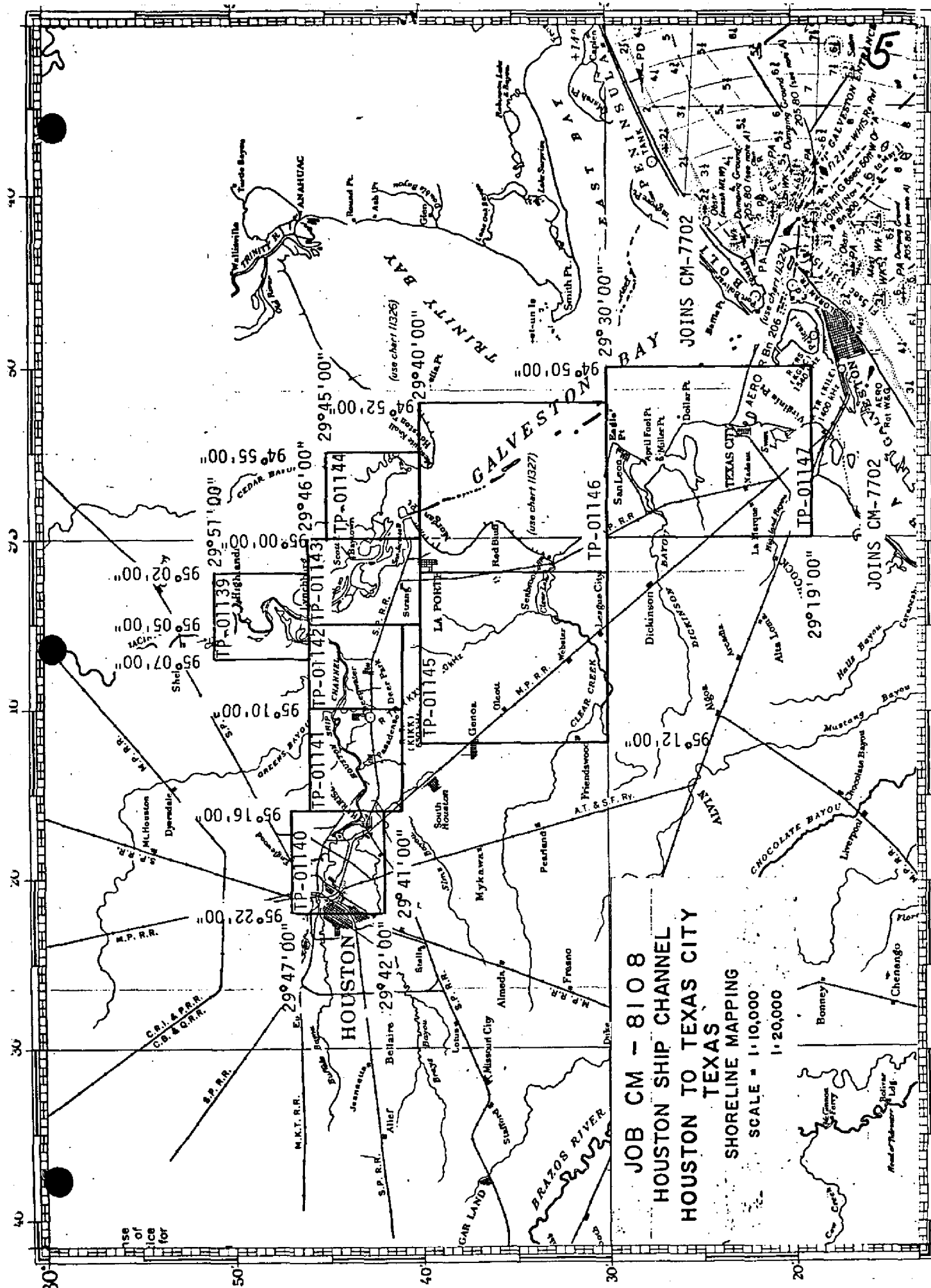
2. ☐ REPORT TO MARINE CHART DIVISION, COAST PILOT BRANCH. DATE FORWARDED: _____
3. ☐ REPORT TO AERONAUTICAL CHART DIVISION, AERONAUTICAL DATA SECTION. DATE FORWARDED: _____

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 ☐ REVISED ☐ RESURVEY	
	DATE OF PHOTOGRAPHY	DATE OF FIELD EDIT	MAP CLASS ☐ II. ☐ III. ☐ IV. ☐ V. ☐ FINAL	
THIRD EDITION	SURVEY NUMBER TP - _____ (3)	JOB NUMBER PH - _____	TYPE OF SURVEY ☐ REVISED ☐ RESURVEY	
	DATE OF PHOTOGRAPHY	DATE OF FIELD EDIT	MAP CLASS ☐ II. ☐ III. ☐ IV. ☐ V. ☐ FINAL	
FOURTH EDITION	SURVEY NUMBER TP - _____ (4)	JOB NUMBER PH - _____	TYPE OF SURVEY ☐ REVISED ☐ RESURVEY	
	DATE OF PHOTOGRAPHY	DATE OF FIELD EDIT	MAP CLASS ☐ II. ☐ III. ☐ IV. ☐ V. ☐ FINAL	



SUMMARY

TP-01144

This 1:10,000 scale final shoreline map is one of nine maps that comprise project CM-8108, Houston Ship Channel, Houston to Texas City, Texas.

The purpose of this survey is to provide data to be used in nautical chart maintenance and new chart construction.

Field operations consisted of aerial photography, and the recovery and establishment of horizontal control necessary for the aerotriangulation of the project.

Natural color photographs were used to complete this segment of survey. The 1:50,000 scale photographs were taken November 11, 1981, and October 15, 1982. The 1:30,000 scale photographs were taken November 5, 1982. The 1981 photographs were exposed with the Wild RC-8(E) camera and the 1982 photographs with the Wild RC-10(B) camera.

Compilation was performed by the Coastal Mapping Unit, Rockville, Maryland. Final review was conducted by personnel of the Coastal Mapping Unit.

FIELD INSPECTION

TP-01144

There was no field inspection prior to compilation. Field work accomplished was limited to the taking of the color photographs and the recovery and establishment of horizontal control necessary for the aerotriangulation.

CM-8108

Photogrammetric Plot Report

Houston Ship Channel, Texas

June 1983

21. Area Covered

This report pertains to two 1:10,000 scale sheets, TP-01139 and TP-01143 of project CM-8108, Houston Ship Channel. The remaining seven sheets in the project will be completed at a later date.

22. Method

Two strips of 1:50,000 scale color photographs were bridged by analytical means, using field identified control. Tie points were "dropped" to the 1:30,000 scale photographs to be used as control to adjust those strips and to ensure a good fit between flight lines. Ratio values were determined for the 1:30,000 scale color photographs. The bridging photographs were adjusted using the Texas, South Central Zone coordinate system. The coordinate system was used to plot the base sheets.

23. Adequacy of Control

The control for this section of the project was adequate for the job and is within the National Standards of Map Accuracy. We also noted excessive film distortion in the film positives based on our fiducial readings. This problem has appeared in the past. A copy of the fit to control is attached to this report.

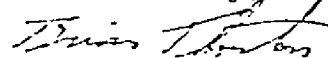
24. Supplemental Data

USGS quadrangles were used to provide vertical control for strip adjustments.

25. Photography

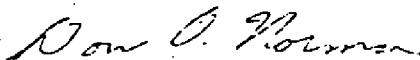
The coverage, overlap, and quality of the 1982B(C) and 1981E(C) photographs were adequate for the job.

Submitted by,



Brian Thornton

Approved and Forwarded:



Don O. Norman
Chief, Aerotriangulation Unit

CM-8108

Photogrammetric Plot Report

Addendum

Houston Ship Channel, Texas

July 1983

Base sheet TP-01144 has been plotted and sent to compilation with sheets TP-01139 and TP-01143. In order to obtain complete coverage of sheet TP-01144, compilation will have to set a model of the 1:50,000 scale photographs and pick points to control an unadjusted model of the 1:30,000 scale photography

JOB CM-8108
HOUSTON SHIP CHANNEL
TEXAS

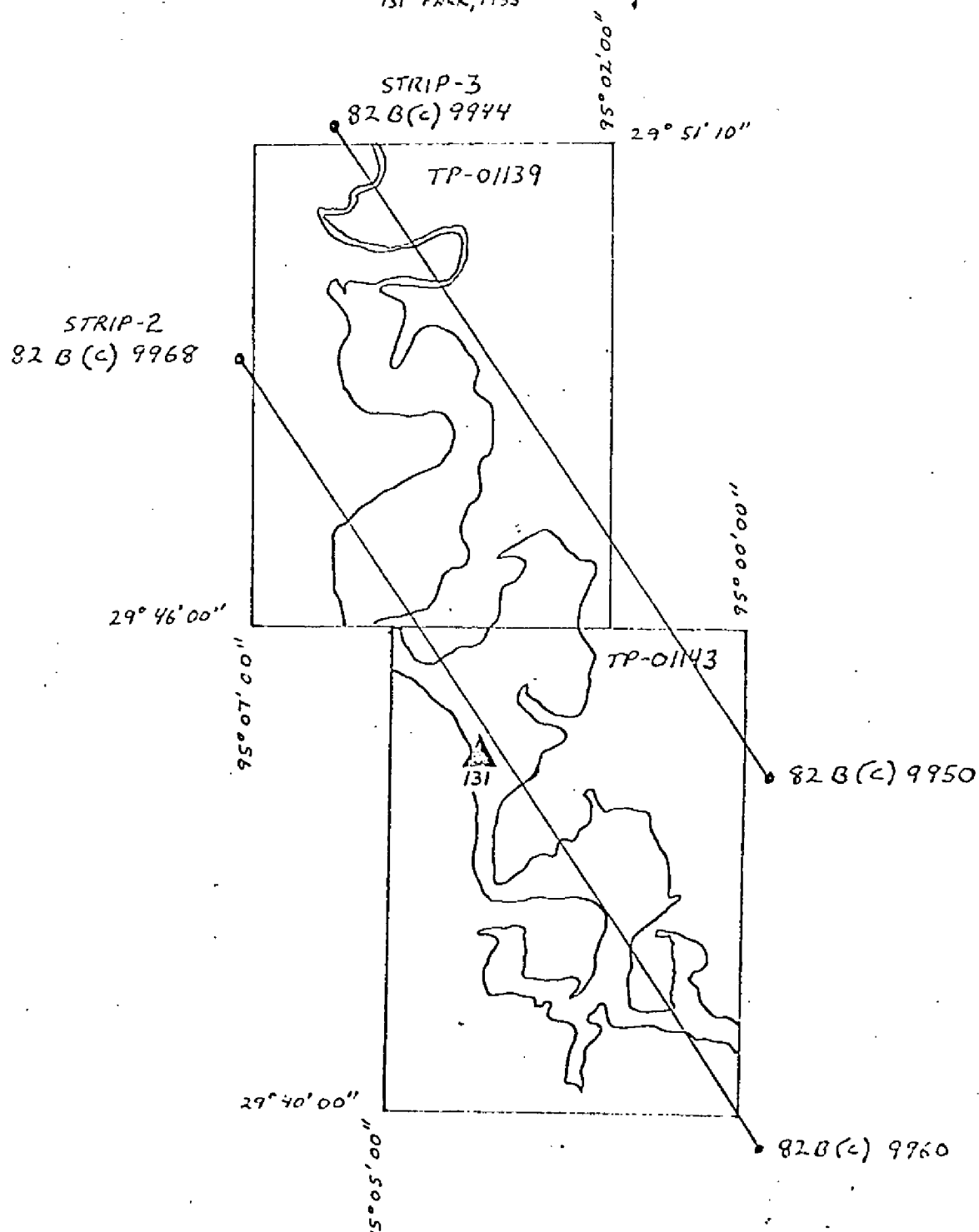
SHORELINE MAPPING

SCALE 1:10,000

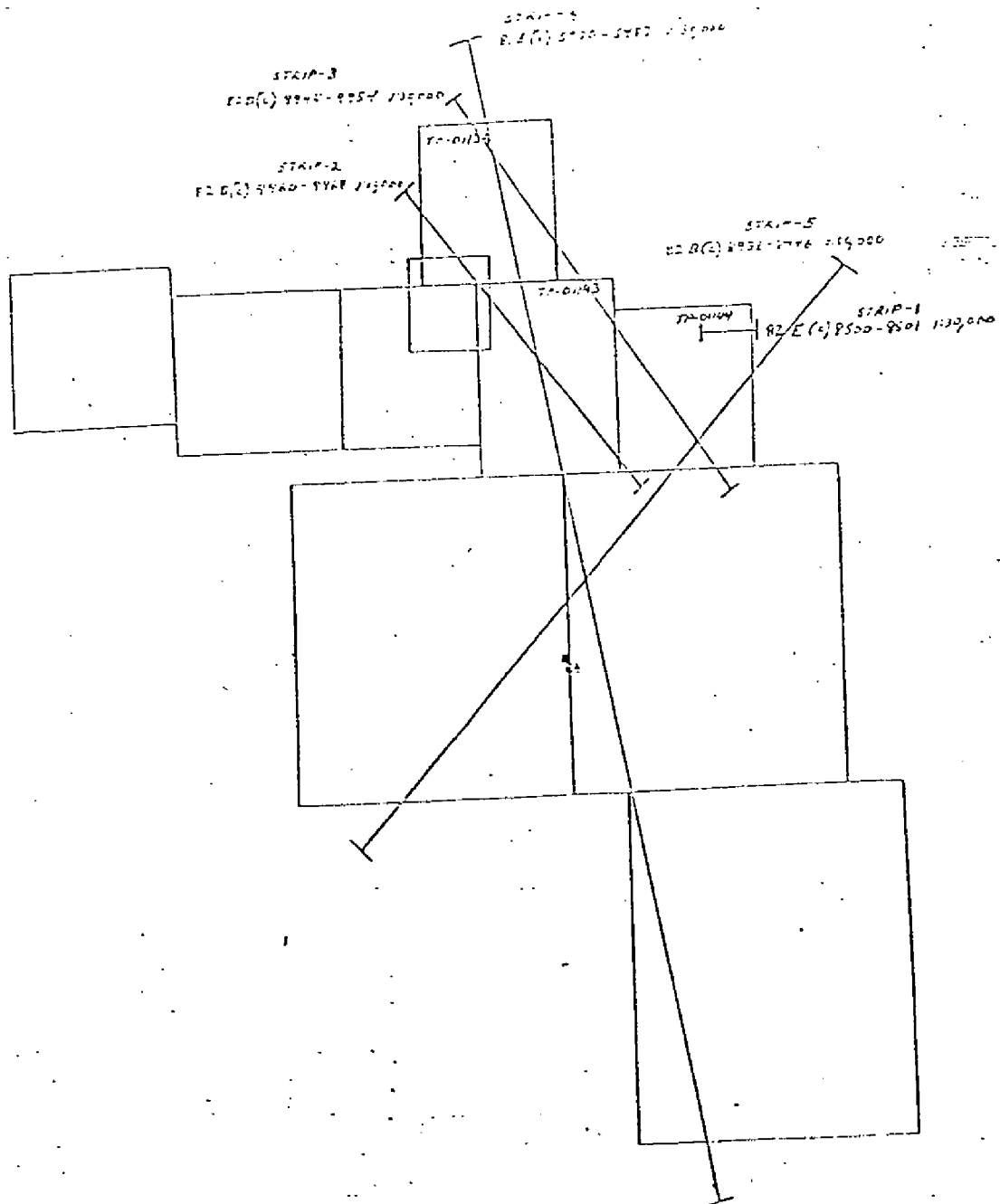
BRIDGING PHOTOGRAPHY 82 B C

▲ TRIANGULATION

131 PARK, 1955



JOB CM-8108
HOUSTON SHIP CHANNEL
TEXAS
SHORELINE MAPPING
BRIDGING PHOTOGRAPHY



Fit to Control
X and Y Values in Feet

Strip #2 1:50,000 scale photography

NAME	POINT NO.	X	Y
Tie from Strip 4	960801	1.7	-0.0
" " " "	960802	-1.4	.4
LA Porte Municipal Water Tank 1963	961141	-7.7	2.1
Tie from Strip 4	961803	-3.1	-2.4
Tie from Strip 4	961804	-2.9	-1.2
La Porte St. Marys Church Cross			
1932	981100	1.2	-0.2
△ Sub point A	981101	1.5	-0.6
Sub point B	981102	1.4	.7
Tie from Strip 4	961801	-1.5	-1.0
Tie from Strip 4	961802	-2.6	-1.4
Houston Ship Channel Range C			
Rear Light 1955	962150	.7	4.1
Houston Ship Channel Range C			
Front Light 1955	962151	.2	3.7
Houston Ship Channel Range F			
Rear Light 1955	962152	4.3	4.6
△ Tie from Strip 4	962801	-3.5	-0.1
Tie from Strip 4	962802	-3.3	-0.9
" " " "	962803	-3.9	1.7
" " " "	962804	-5.8	0.4
" " " "	962805	-6.5	0.5
" " " "	963801	2.1	-1.1
" " " "	963802	2.4	.3
" " " "	964801	5.0	-0.2
" " " "	964802	2.3	-0.9
" " " "	964803	-4.8	-0.8

NAME	POINT NO.	X	Y
Park, 1955 Sub Point A	983101	3.0	4.6
Sub Point B	983102	2.8	2.4
△ Sub Point C	983103	2.7	.8
San Jacinto Battlefield Monument			
1963	965140	.9	.4
Tie from Strip 4	965801	5.0	-2.6
" " " "	965802	4.6	-2.3
" " " "	966803	-2.2	-0.8
" " " "	966804	-3.9	-1.7
" " " "	966801	1.5	-2.1
" " " "	966802	2.6	-.7
Channel View Municipal Water Tank			
1952	967141	1.0	-3.1
Tie from Strip 4	967801	4.0	-1.6
Tie from Strip 4	967802	2.7	-2.0
△ Channel View WC and ID No. 84			
Water Tank	968140	-.8	-.1
Tie from Strip 4	968801	7.2	-1.3
" " " "	968802	7.4	-1.9
" " " "	968803	-0.1	-0.2
" " " "	968804	0.6	-0.4

Strip #3 1:30,000 scale photography

△ Tie from Strip 4	944801	2.3	-.7
△ " " " "	944802	2.4	-.3
△ " " " "	944803	-2.6	2.6
" " " "	944804	-2.6	3.7
" " " "	945801	.6	-.0
" " " "	945802	.6	1.3
Tie from Strip 4	945803	1.2	1.9

NAME	Point No.	X	Y
Highlands Municipal Water Tank	946156	1.0	1.4
Tie from Strip 4	946801	1.7	.8
" " " "	946802	1.2	.5
△ " " " "	947801	.1	.2
△ " " " "	947802	-2.4	.3
" " " "	948801	1.1	.2
Tie from Strip 4	948802	1.5	.7
Baytown Radio Station Krel			
Center Mast of 3	948157	4.0	2.8
△ Tie from Strip 4	949801	1.6	-1.3
" " " "	949802	.1	-1.7
" " " "	950801	-2.7	-3.4
△ Tie from Strip 4	950802	-1.7	-2.8
△ Tie from Strip 5	951801	1.1	2.6
" " " "	951802	3.0	1.4
△ " " " "	952801	2.2	2.0
△ " " " "	952802	2.5	2.6
" " " "	953801	1.1	.2
" " " "	953802	-.1	.0
△ " " " "	954801	-2.9	-1.8
Tie from Strip 5	954802	-3.6	-.6
△ Stations Held in the Strip Adjustments			

<u>NAME</u>	<u>POINT NO.</u>	<u>X</u>	<u>Y</u>
<u>Strip #4</u> 1:50,000 scale photography			
△ Mass, 1933 Sub Point A	970101	-0.7	-0.1
Sub Point B	970102	8.3	2.7
Texas City Municipal Tank 9th			
Ave. & 14th St., North 1960	974100	4.2	2.3
△ Sub Point A	974102	3.2	2.0
Sub Point B	974102	3.1	3.5
△ Hanson, 1933 Sub Point A	978101	-7.5	-2.2
Sub Point B	978102	-11.7	3.2
Tie from Strip 5	941801	1.4	-3.7
" " " "	941802	1.3	-3.6
" " " "	941803	-1.1	.0
" " " "	941804	-1.8	.0
La Porte St. Marys Church Cross			
1932	981100	3.4	-2.4
△ Sub Point A	981101	2.5	-2.0
△ Sub Point B	981102	3.8	2.5
Park, 1955 Sub Point A	983101	-0.6	-0.2
Sub Point B	983102	-0.7	4.7
△ Sub Point C	983103	-0.8	0.5
Sheldon, Southland Paper Mill Inc.			
Stack, 1968			
△ Sub Point A	987101	-2.4	-2.4
Sub Point B	987102	0.2	1.9
△ Sub Point C	987103	1.8	1.8

Strip #5 1:50,000 scale photography

	<u>NAME</u>	<u>POINT NO.</u>	<u>X</u>	<u>Y</u>
	Barrow 2, 1963 Sub Point A	936102	-0.8	-0.9
△	Sub Point B	936103	0.2	0.2
△	Tie from Strip 4	941801	-0.5	1.2
△	" " " "	941802	-0.3	1.0
	La Porte St. Marys Church Cross			
	1932	981100	-8.1	-3.1
△	Sub Point A	981101	0.8	-2.3
	Sub Point B	981102	0.8	4.2
	Tie from Strip 4	941803	1.8	-2.6
	" " " "	941804	2.4	-2.7
△	Whitcomb, 1968 Sub Point A	945101	-0.1	-0.1
	Sub Point B	945102	0.1	1.1
	Sub Point C	945103	2.2	-1.6

CM-8208

Houston Ship Channel, Texas

June 1983

Ratio values for 1:30,000 scale bridging photography.

82B(C) 9944 to 9950 Ratio 2.980

82B(C) 9960 to 9968 Ratio 2.981

Photogrammetric Plot Report

Houston Ship Channel, Texas

CM-8108

January 1984

21. Area Covered

This report pertains to six sheets, three 1:10,000 scale sheets, TP-01140 to TP-01142. Three 1:20,000 scale sheets, TP-01145 to TP-01147. The area covered is the shorelines of Houston Ship Channel, the west shore of Galveston Bay from Morgan Point to Virginia Point and the Clear Lake area.

22. Method

Five strips were bridged by analytical aerotriangulation methods. Strips four and five were bridged on the Wild STK and strips one, six, and seven were bridged on the NOSAP. Strip one is 1:30,000 scale and the other four strips are 1:50,000 scale. Field identified control and tie points were used for the strip adjustment. Ratio values were determined for the bridging photographs as well as 1:50,000 MLLW IR photography. State Plane Coordinates in the Texas, South Central Zone were used for the strip adjustments and for plotting on the Coradomat.

23. Adequacy of Control

The control was adequate for the job and was within the National Standards of Map Accuracy.

24. Supplemental Data

USGS quadrangles was used to provide vertical control for the strip adjustments.

25. Photography

The photography was adequate for the job.

Submitted by,

Rick Johanson

Rick Johanson

Approved and Forwarded:

Don O. Norman

Don O. Norman
Chief, Aerotriangulation Unit

Houston Ship Channel, Texas

CM-8108

January 1984

NOTE TO COMPILER:

RE: Houston Radio Station KNUZ Mast 1952

The published position and the aerotriangulation position for this mast, indicate a large enough discrepancy to show suspect that the mast has been torn down and rebuilt.

The published position (PT. NO. 45) and the Aerotriangulation Position (PT. NO. 487445) were both plotted.

Point 961401 is a water tank that may be of land mark value.

Houston Ship Channel, Texas

CM-8101

Fit to Control
X and Y in Feet

	<u>Name</u>		<u>Point No.</u>	<u>X</u>	<u>Y</u>
	<u>Strip 1</u>				
65	Rice, 1942				
△		Sub Pt A	484101	1.1	-2.1
△		Sub Pt B	484102	-0.8	1.9
50	Fire, 1942				
△		Sub Pt A	489101	0.3	3.6
△		Sub Pt B	489102	-0.4	-0.6
△		Sub Pt C	489103	-0.7	1.1
2	Galena Park Water Tank 2 1968		490108	4.7	5.0
117	Houston Ethyle Gas Corp Water Tower, 1952				
△		Sub Pt A	492101	1.3	0.5
△		Sub Pt B	492102	-0.2	-1.0
1A	Deer Park Shell Refining Co. Tallest Stack 1955		494121	0.4	-0.8
125	San Jacinto Battle Field Monument 1963		965140	0.0	5.9
131	Park, 1955				
△		Sub Pt A	983101	0.8	1.5
		Sub Pt C	983103	-0.4	0.1
	<u>Strip 6</u>				
203	Texas City, Municipal Tank 9th Ave. & 14th Street North, 1960				
△		Sub Pt A	974101	0.4	3.1
△		Sub Pt B	974102	1.9	5.0
213	Nass., 1933				
△		Sub Pt A	970101	4.3	2.4
△		Sub Pt B	970102	4.4	1.4

<u>Name</u>		<u>Point No.</u>	<u>X</u>	<u>Y</u>
△	Tie from Strip 4	963802	-0.2	-1.5
△	" " " "	964801	-1.1	-0.1
△	" " " "	964802	0.4	-2.0
△	" " " "	965801	-1.8	2.4
△	" " " "	965802	1.8	2.0
△	" " " "	966801	0.7	-1.8
△	" " " "	966802	2.6	-1.9
△	" " " "	967801	-2.2	-3.2
△	" " " "	967802	-1.6	-3.1
△	" " " "	968801	-1.7	0.0
△	" " " "	968802	-4.2	-3.1
△	" " " "	969801	-2.5	-1.4
△	Tie from Strip 4	969802	-1.0	1.6

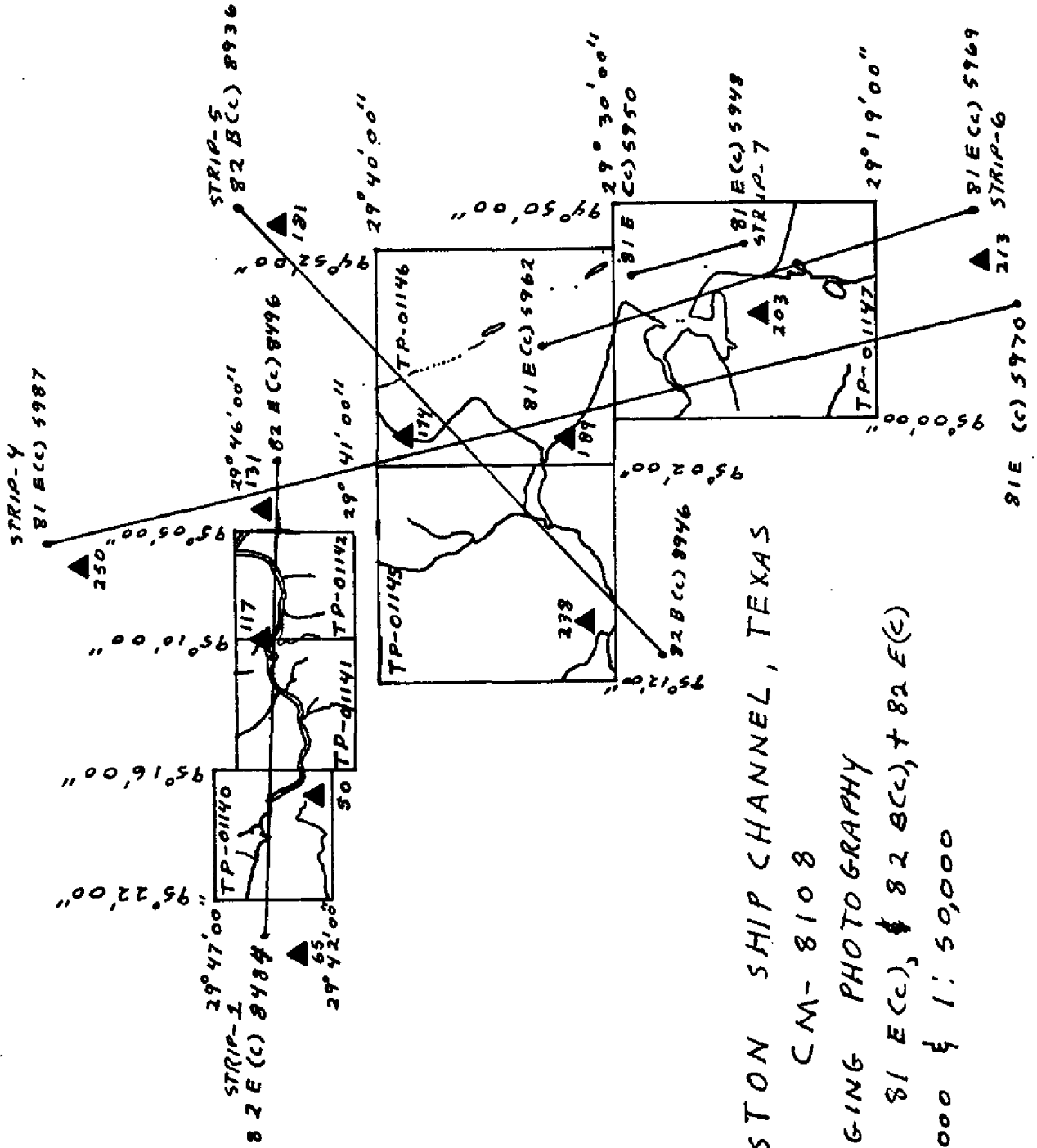
Strip 7

△	Tie from Strip 6	498801	0.1	1.5
△	" " " "	498802	0.2	-1.0
△	" " " "	498803	0.3	-1.0
△	" " " "	498804	-0.6	0.8
△	" " " "	498805	0.2	0.1
△	Tie from Strip 6	498806	-0.2	0.0

<u>NAME</u>	<u>POINT NO.</u>	<u>X</u>	<u>Y</u>
<u>Strip #4</u> 1:50,000 scale photography			
△ Nass, 1933 Sub Point A	970101	-0.7	-0.1
Sub Point B	970102	8.3	2.7
Texas City Municipal Tank 9th			
Ave. & 14th St., North 1960	974100	4.2	2.3
△ Sub Point A	974102	3.2	2.0
Sub Point B	974102	3.1	3.5
△ Hanson, 1933 Sub Point A	978101	-7.5	-2.2
Sub Point B	978102	-11.7	3.2
Tie from Strip 5	941801	1.4	-3.7
" " " "	941802	1.3	-3.6
" " " "	941803	-1.1	.0
" " " "	941804	-1.8	.0
La Porte St. Marys Church Cross			
1932	981100	3.4	-2.4
△ Sub Point A	981101	2.5	-2.0
△ Sub Point B	981102	3.8	2.5
Park, 1955 Sub Point A	983101	-0.6	-0.2
Sub Point B	983102	-0.7	4.7
△ Sub Point C	983103	-0.8	0.5
Sheldon, Southland Paper Mill Inc.			
Stack, 1968			
△ Sub Point A	987101	-2.4	-2.4
Sub Point B	987102	0.2	1.9
△ Sub Point C	987103	1.8	1.8

Strip #5 1:50,000 scale photography

	<u>NAME</u>	<u>POINT NO.</u>	<u>X</u>	<u>Y</u>
	Barrow 2, 1963 Sub Point A	936102	-0.8	-0.9
△	Sub Point B	936103	0.2	0.2
△	Tie from Strip 4	941801	-0.5	1.2
△	" " " "	941802	-0.3	1.0
	La Porte St. Marys Church Cross			
	1932	981100	-8.1	-3.1
△	Sub Point A	981101	0.8	-2.3
	Sub Point B	981102	0.8	4.2
	Tie from Strip 4	941803	1.8	-2.6
	" " " "	941804	2.4	-2.7
△	Whitcomb, 1968 Sub Point A	945101	-0.1	-0.1
	Sub Point B	945102	0.1	1.1
	Sub Point C	945103	2.2	-1.6



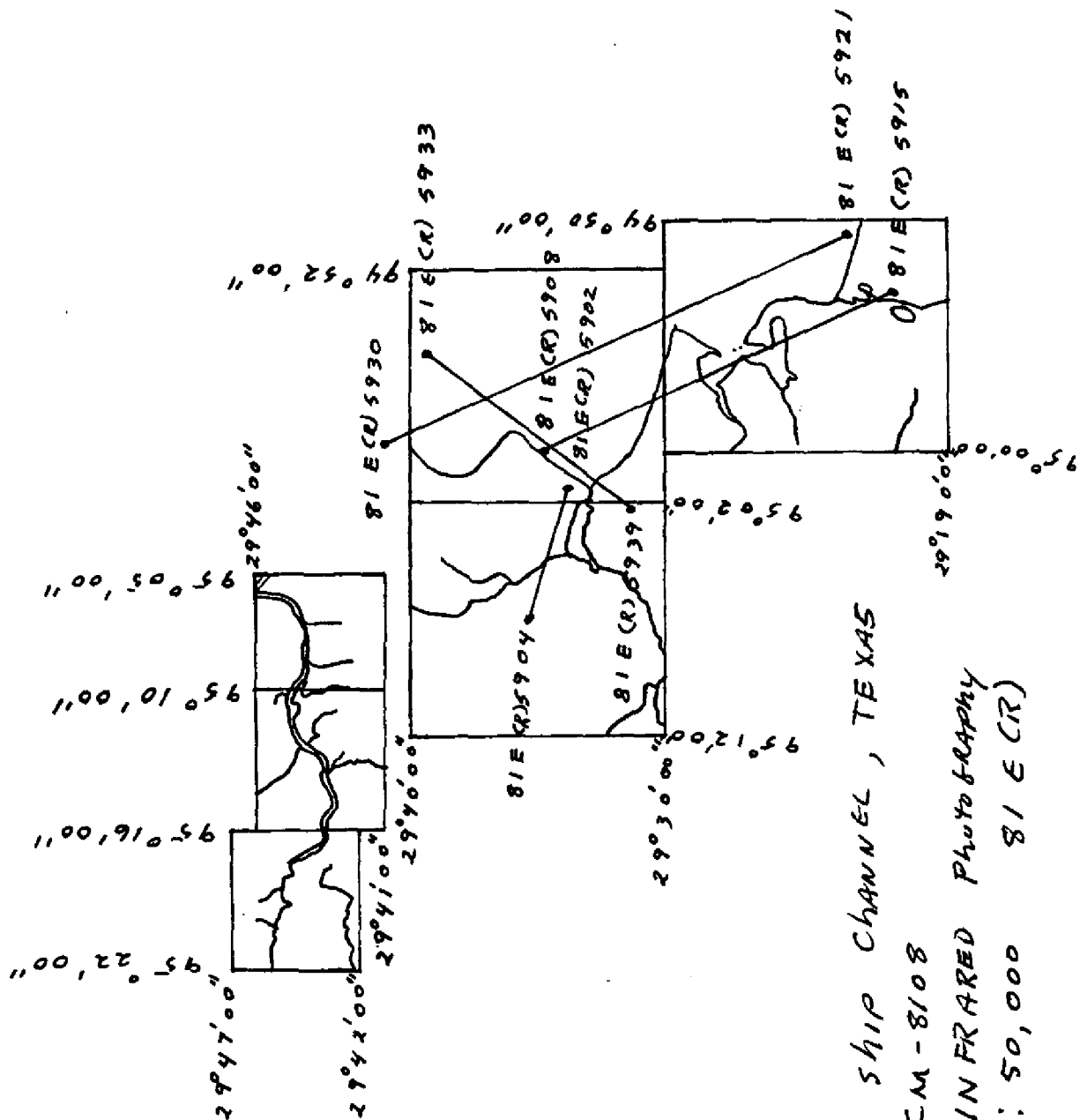
HOUSTON SHIP CHANNEL, TEXAS

CM- 8108

BRIDGING PHOTOGRAPHY

81 E(C), 82 B(C), + 82 E(C)

1:30,000 & 1:50,000



HOUSTON SHIP CHANNEL, TEXAS

CM-8108

M L L W INFRARED PHOTOGRAPHY

1:50,000 81 E(R)

Houston Ship Channel, Texas

CM-8108

January 1984

Ratio values for 1:50,000 scale bridging photography:

81 E(C) 5970-5987	X 2.531
82 B(C) 8936-8946	X 2.492
81 E(C) 5962-5969	X 2.538
81 E(C) 5948-5950	X 2.530

Ratio values for 1:30,000 scale bridging photography:

82 E(C) 8484-8496	X 3.1005
-------------------	----------

Ratio values for 1:50,000 scale MLLW black-and-white infrared photography:

81 E(R) 5902-5904	X 2.526
81 E(R) 5909-5915	X 2.526
81 E(R) 5921-5930	X 2.532
81 E(R) 5933-5939	X 2.528

COMPILATION REPORT
CM-8108
TP-01144

31. Delineation

Delineation was accomplished using the Wild B-8 and the National Ocean Service Analytical Plotter (NOSAP) and is based on office interpretation of the bridged natural color photographs. In order to obtain complete coverage of TP-01144, a 1:50,000 scale model was set on the NOSAP and tie points were identified to control an unadjusted model of the 1:30,000 scale photography. Ratio photographs were used as an aid in interpreting and verifying the compilation of the manuscript.

Mean Lower Low Water was interpreted from ratio print\$ infrared photographs at Atkinson Island.

The projection limits were increased from 94°55'00" to 94°54'45" East and 29°41'00" to 29°42'00" North to complete shoreline limits of Cedar Bayou.

32. Control

Horizontal control furnished by the Aerotriangulation Unit was adequate in controlling the stereomodels. Control for one additional stereomodel of 1:30,000 scale photographs was transferred from the 1:50,000 scale photographs using the NOSAP. Adequate horizontal points were established to control the 1:30,000 scale stereomodel.

Vertical control used in leveling the stereomodels was taken from USGS quadrangles.

33. Supplemental Data - None

34. Contours and Drainage

Contours are not applicable to this manuscript. Drainage was delineated from stereomodels set on the Wild B-8 by office interpretation of the bridging photographs.

35. Shoreline and Alongshore Details

All shoreline and alongshore detail was compiled using the Wild B-8 and one model using the NOSAP stereoplotter.

Mean Lower Low Water was compiled from ratio infrared photographs at Atkinson Island. No field edit will be performed.

36. Offshore Detail

Numerous wells, obstructions, cables, and cable support were identified in Tabbs Bay and Goose Creek. Ruins, trees, and dolphins were in the offshore area of this manuscript.

37. Landmarks and Aids

One landmark and 12 nonfloating aids were located by Aerotriangulation Unit and verified by Compilation Unit. Fifteen landmarks, nine nonfloating aids, and 36 possible landmark features were identified in the Compilation Unit.

38. Contour for Future Surveys - None39. Junctions

See NOAA form 76-36B of the Descriptive Report.

40. Horizontal and Vertical Control

This map meets the National Standards of Map Accuracy and the requirements specified in the project instructions.

41. through 45. - Not Applicable

46. Comparison with Existing Maps

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

Morgans Point, Texas, 1956 (photorevised 1969)

47. Comparison with Existing Charts

Comparison was made with National Ocean Service Charts:

11326, 19th Edition, March 20, 1982, 1:40,000 and 1:80,000 scales
11328, 14th Edition, August 1, 1981, 1:10,000 scale

Submitted by,



Ted Doyle

Approved and Forwarded:


Chief, Coastal Mapping Unit

JAN 28 1985

GEOGRAPHIC NAMES

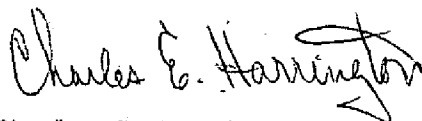
FINAL NAME SHEET

CM-8108 (Houston Ship Channel, Texas)

TP-01144

Ash Lake
Ash Point
Atkinson Island
Barbours Cut
Baytown
Black Duck Bay
Boaz Island
Cedar Bayou
Devils Elbow
Evergreen Point
Galveston Bay
Goose Creek
Goose Lake
Hog Island
Ijams Lake
Marrow Marsh
Morgans Point
Morgans Point (locality)
Negrohead Lake
Spilmans Island
Tabbs Bay

Approved by:



Charles E. Harrington
Chief Geographer
Nautical Charting Division

REVIEW REPORT
SHORELINE SURVEY

TP-01144

61. GENERAL STATEMENT

A final review was performed for this shoreline map. No major discrepancies were encountered. Refer to the summary bound with this Descriptive Report.

62. COMPARISON WITH REGISTERED TOPOGRAPHIC SURVEYS - None.

63. COMPARISON WITH MAPS OF OTHER AGENCIES

Refer to the Compilation Report, 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

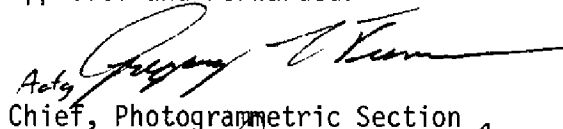
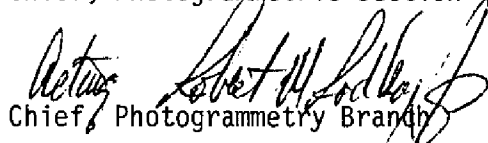
This map complies with the Project Instructions and meets the requirements for National Standards of Map Accuracy.

Submitted by:



Edward Allen
Cartographer

Approved and Forwarded:


Chief, Photogrammetric Section
Chief, Photogrammetry Branch

NOAA FORM 76-40 (8-74) Replaces C&GS Form 567.				U.S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION				ORIGINATING ACTIVITY			
NONFLOATING AIDS OR LANDMARKS FOR CHARTS				LOCALITY				DATE			
REPORTING UNIT (Field Party, Ship or Office)				STATE				DATE			
TO BE CHARTED ☒ TO BE REVISED ☐ TO BE DELETED				Rockville, Md.				Galveston Bay			
TO BE CHARTED ☒ TO BE REVISED ☐ TO BE DELETED				Rockville, Md.				Texas			
The following objects HAVE ☐ HAVE NOT ☒ been inspected from seaward to determine their value as landmarks.				DATUM				NA 1927			
OPR PROJECT NO.				JOB NUMBER				SURVEY NUMBER			
CM-8108				TP-01144							
DESCRIPTION (Record reason for deletion of landmark or aid to navigation. Show triangulation station names, where applicable, in parentheses)				POSITION				METHOD AND DATE OF LOCATION (See instructions on reverse side)			
CHARTING NAME				LATITUDE				LONGITUDE			
				° / ' " D.M. Meters				° / ' " D.P. Meters			
Houston Ship Channel											
-LT. 89				29 40	18.04	94 58	43.76	82B(C) 9960	11/5/82	Manually Digitized	11328
-LT. 90				29 40	21.30	94 58	35.53	82B(C) 9961	11/5/82	Aerotriangulated	11328
-LIGHT		-RANGE A FRONT LIGHT		29 41	21.60	94 59	03.78	82B(C) 9961	11/5/82	Aerotriangulated	11328
-LIGHT		-RANGE A REAR LIGHT		29 41	50.50	94 59	15.07	82B(C) 9960	11/5/82	Aerotriangulated	11328
-LIGHT		-RANGE B FRONT LIGHT		29 40	41.60	94 58	39.90	82B(C) 9960	11/5/82	Aerotriangulated	11328
-LIGHT		-RANGE B REAR LIGHT		29 40	36.13	94 58	35.85	82B(C) 9960	11/5/82	Aerotriangulated	11328
-LT. 1		COUNTY WHARF LIGHT 1		29 40	52.98	94 58	56.35	82B(C) 9961	11/5/82	Aerotriangulated	11328
-LT. 3		COUNTY WHARF LIGHT 3		29 40	51.25	94 58	55.66	82B(C) 9961	11/5/82	Aerotriangulated	11328
-LIGHT		-RANGE D FRONT LIGHT		29 41	14.23	94 58	59.36	82B(C) 9961	11/5/82	Aerotriangulated	11328

RESPONSIBLE PERSONNEL		NAME		ORIGINATOR	
OBJECTS INSPECTED FROM SEAWARD				☐ PHOTO FIELD PARTY ☐ HYDROGRAPHIC PARTY ☐ GEODETIC PARTY ☐ OTHER (Specify)	
POSITIONS DETERMINED AND/OR VERIFIED				FIELD ACTIVITY REPRESENTATIVE	
FORMS ORIGINATED BY QUALITY CONTROL AND REVIEW GROUP AND FINAL REVIEW ACTIVITIES				OFFICE ACTIVITY REPRESENTATIVE	
				☐ REVIEWER ☐ QUALITY CONTROL AND REVIEW GROUP REPRESENTATIVE	
INSTRUCTIONS FOR ENTRIES UNDER METHOD AND DATE OF LOCATION (Consult Photogrammetric Instructions No. 64)					
OFFICE		FIELD (Cont'd)			
FIG 1. OFFICE IDENTIFIED AND LOCATED OBJECTS Enter the number and date (including month, day, and year) of the photograph used to identify and locate the object. EXAMPLE: 75E(C)6042 8-12-75		B. Photogrammetric field positions** requirement entry of method of location or verification, date of field work and number of the photograph used to locate or identify the object. EXAMPLE: P-8-V 8-12-75 74L(C)2982			
FIELD		II. TRIANGULATION STATION RECOVERED When a landmark or aid which is also a triangulation station is recovered, enter 'Triang. Rec.' with date of recovery. EXAMPLE: Triang. Rec. 8-12-75			
I. NEW POSITION DETERMINED OR VERIFIED Enter the applicable data by symbols as follows: F - Field L - Located V - Verified 1 - Triangulation 2 - Traverse 3 - Intersection 4 - Resection		III. POSITION VERIFIED VISUALLY ON PHOTOGRAPH Enter 'V-Vis.' and date. EXAMPLE: V-Vis. 8-12-75			
A. Field positions* require entry of method of location and date of field work. EXAMPLE: F-2-6-L 8-12-75		**PHOTOGRAMMETRIC FIELD POSITIONS are dependent entirely, or in part, upon control established by photogrammetric methods.			

NOAA FORM 76-40 (8-74) Replaces C&GS Form 567.				U.S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION				NONFLOATING AIDS OR LANDMARKS FOR CHARTS				ORIGINATING ACTIVITY					
☐ TO BE CHARTED ☒ TO BE REVISED ☐ TO BE DELETED		REPORTING UNIT (Field Party, Ship or Office)	STATE	LOCALITY	DATE	DATE		DATE		DATE		DATE		DATE			
		Rockville, Md.	Texas	Galveston Bay	11/84												
The following objects HAVE ☐ HAVE NOT ☒ been inspected from seaward to determine their value as landmarks.		JOB NUMBER	SURVEY NUMBER		DATUM		POSITION		LATITUDE		LONGITUDE		METHOD AND DATE OF LOCATION (See instructions on reverse side)		CHARTS AFFECTED		
OPR PROJECT NO.		CM-8108	TP-01144		NA 1927												
CHARTING NAME	DESCRIPTION (Record reason for deletion of landmark or aid to navigation. Show triangulation station names, where applicable, in parentheses)	LATITUDE		LONGITUDE		OFFICE		POSITION Quality		CHARTS AFFECTED							
	Houston Ship Channel																
-LIGHT	-RANGE D REAR LIGHT	29 41	02.23	94 58	42.48	82B(C) 9961 11/5/82	Aerotriang- ulated	11328									
-LIGHT	-RANGE F FRONT LIGHT	29 41	56.47	94 59	46.48	82B(C) 9962 11/5/82	Manually Digitized	11328									
-LIGHT	-RANGE F REAR LIGHT	29 41	55.48	94 59	39.68	82B(C) 9962 11/5/82	Manually Digitized	11328									
	Cedar Bayou Channel																
-LT. 14		29 41	18.08	94 57	54.59	82B(C) 9952 11/5/82	Manually Digitized	11328									
-LT. 23		29 40	40.39	94 56	26.40	82B(C) 9953 11/5/82	Aerotriang- ulated	11328									

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

RESPONSIBLE PERSONNEL	
TYPE OF ACTION	NAME
OBJECTS INSPECTED FROM SEAWARD	ORIGINATOR ☐ PHOTO FIELD PARTY ☐ HYDROGRAPHIC PARTY ☐ GEODETIC PARTY ☐ OTHER (Specify)
POSITIONS DETERMINED AND/OR VERIFIED	FIELD ACTIVITY REPRESENTATIVE
FORMS ORIGINATED BY QUALITY CONTROL AND REVIEW GROUP ACTIVITIES	OFFICE ACTIVITY REPRESENTATIVE ☐ REVIEWER ☐ QUALITY CONTROL AND REVIEW GROUP REPRESENTATIVE
INSTRUCTIONS FOR ENTRIES UNDER 'METHOD AND DATE OF LOCATION' (Consult Photogrammetric Instructions No. 64)	
OFFICE I. OFFICE IDENTIFIED AND LOCATED OBJECTS Enter the number and date (including month, day, and year) of the photograph used to identify and locate the object. EXAMPLE: 75E(C)6042 8-12-75	FIELD (Cont'd) B. Photogrammetric field positions** require entry of method of location or verification, date of field work and number of the photograph used to locate or identify the object. EXAMPLE: P-8-V 8-12-75 74L(C)2982
FIELD I. NEW POSITION DETERMINED OR VERIFIED Enter the applicable data by symbols as follows: F - Field L - Located V - Verified 1 - Triangulation 2 - Traverse 3 - Intersection 4 - Resection 5 - Field identified 6 - Theodolite 7 - Planetable 8 - Sextant A. Field positions* require entry of method of location and date of field work. EXAMPLE: F-2-6-L 8-12-75	II. TRIANGULATION STATION RECOVERED When a landmark or aid which is also a triangulation station is recovered, enter 'Triang. Rec.' with date of recovery. EXAMPLE: Triang. Rec. 8-12-75 III. POSITION VERIFIED VISUALLY ON PHOTOGRAPH Enter 'V-Vis.' and date. EXAMPLE: V-Vis. 8-12-75 **PHOTOGRAMMETRIC FIELD POSITIONS are dependent entirely, or in part, upon control established by photogrammetric methods.

[illegible]

Replaces C&GS Form 567.

☐ TO BE CHARTED
☒ TO BE REVISED
☐ TO BE DELETEDREPORTING UNIT
(Field Party, Ship or Office)

Rockville Md.

STATE

Texas

LOCALITY

Galveston Bay

DATE

Nov. 1984

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION~~NON-NAVIGATIONAL~~ LANDMARKS FOR CHARTS

4 of 5

ORIGINATING ACTIVITY
☐ HYDROGRAPHIC PARTY
☐ GEODETIC PARTY
☐ PHOTO FIELD PARTY
☒ COMPILATION ACTIVITY
☐ FINAL REVIEWER
☐ QUALITY CONTROL & REVIEW GRP.
☐ COAST PILOT BRANCH
(See reverse for responsible personnel)The following objects HAVE ☐ HAVE NOT ☒ been inspected from seaward to determine their value as landmarks.

CHARTING NAME	JOB NUMBER	SURVEY NUMBER	DESCRIPTION (Record reason for deletion of landmark or aid to navigation. Show triangulation station names, where applicable, in parentheses)	DATUM			POSITION			METHOD AND DATE OF LOCATION (See instructions on reverse side)		CHARTS AFFECTED
				LATITUDE		LONGITUDE	D.M. Meters	° /	D.P. Meters	OFFICE	Position Quality	
				° /	° /							
TANK	CM-8108	TP-01144		29 40	37.24	94 59	50.79	82 B(C) 9961 11/5/82	Manually Digitized	11328		
TOWER				29 41	49.13	94 58	23.04	82 B(C) 9952 11/5/82	Manually Digitized	11328		
TOWER				29 41	49.82	94 58	23.36	82 B(C) 9952 11/5/82	Manually Digitized	11328		
TOWER				29 41	55.11	94 58	07.18	82 B(C) 9952 11/5/82	Manually Digitized	11328		
TOWER				29 41	55.74	94 58	07.56	82 B(C) 9952 11/5/82	Manually Digitized	11328		
TOWER				29 41	58.86	94 57	56.90	82 B(C) 9952 11/5/82	Manually Digitized	11328		
TOWER				29 41	59.59	94 57	57.32	82 B(C) 9952 11/5/82	Manually Digitized	11328		
TOWER				29 41	31.83	94 59	11.53	82 B(C) 9961 11/5/82	Manually Digitized	11328		
TOWER				29 41	31.35	94 59	10.48	82 B(C) 9961 11/5/82	Manually Digitized	11328		
TOWER				29 41	25.97	94 59	27.05	82 B(C) 9961 11/5/82	Manually Digitized	11328		

[illegible]

10/83

MAP FEATURES OF POSSIBLE LANDMARK VALUE

MAP NO.	JOB NO.	GEOGRAPHIC AREA	GEODETIC DATUM	ORIGINATING ACTIVITY	CHARTING NAME	DESCRIPTION	PHOTO NO. Date of Photo	PLANE COOR. (FT) STATE ZONE	GEOGRAPHIC POSITION φ LATITUDE λ LONGITUDE	POSITION QUALITY
TP-01144	CM-8108	Galveston Bay	NA 1927	Compilation						
					Tank		82 B(C) 9950 11/5/82	X	φ 29 43 57.87 λ 94 57 35.04	Aerotriang- ulated
					Tower		82 B(C) 9952 11/5/82	X	φ 29 42 04.37 λ 94 57 50.75	Manually Digitized
					Tower		82 B(C) 9952 11/5/82	X	φ 29 42 03.79 λ 94 57 50.17	Manually Digitized
					Tower		82 B(C) 9961 11/5/82	X	φ 29 41 37.84 λ 94 58 55.28	Manually Digitized
					Tower		82 B(C) 9961 11/5/82	X	φ 29 41 37.27 λ 94 58 54.65	Manually Digitized
					Spire		82 B(C) 9951 11/5/82	X	φ 29 42 50.76 λ 94 59 42.53	Manually Digitized
					Tower		82 B(C) 9952 11/5/82	X	φ 29 42 48.64 λ 94 56 44.54	Manually Digitized
					Tower		82 B(C) 9952 11/5/82	X	φ 29 42 55.42 λ 94 56 34.61	Manually Digitized
					Tower		82 B(C) 9952 11/5/82	X	φ 29 42 49.09 λ 94 56 45.00	Manually Digitized
					Tower		82 B(C) 9952 11/5/82	X	φ 29 42 55.96 λ 94 56 35.11	Manually Digitized
					Tower		82 B(C) 9952 11/5/82	X	φ 29 42 50.60 λ 94 56 46.16	Manually Digitized
								X	φ	
								Y	λ	

NOTE: The objects have not been inspected from seaward to determine their value as landmarks.

LISTED BY R. O. Johanson

DATE 11/5/84

LISTING CHECKED BY J. Sched

DATE 11/15/84

10/83

MAP FEATURES OF POSSIBLE LANDMARK VALUE

MAP NO.	JOB NO.	GEOGRAPHIC AREA	GEODETTIC DATUM	ORIGINATING ACTIVITY	POSITION QUALITY
TP-011144	CM-8108	Galveston Bay	NA 1927	Compilation	
CHARTING NAME	DESCRIPTION	PHOTO NO. Date of Photo	PLANE COOR. (FT) STATE ZONE	GEOGRAPHIC POSITION φ LATITUDE λ LONGITUDE	POSITION QUALITY
Cupola		82 B(c) 8500 11/5/82	X Y	φ 29 43 43.03 λ 95 56 31.80	Manually Digitized
Cupola		82 B(c) 8500 11/5/82	X Y	φ 29 43 43.36 λ 95 56 32.88	Manually Digitized
Tank		82 B(c) 8500 11/5/82	X Y	φ 29 44 58.30 λ 95 56 02.91	Manually Digitized
Tower		82 B(c) 9961 11/5/82	X Y	φ 29 40 46.44 λ 94 58 58.61	Manually Digitized
Tower		82 B(c) 9961 11/5/82	X Y	φ 29 42 33.08 λ 94 59 04.48	Manually Digitized
Tower		82 B(c) 8500 11/5/82	X Y	φ 29 44 54.95 λ 94 55 42.29	Manually Digitized
Tower		82 B(c) 8500 11/5/82	X Y	φ 29 44 54.50 λ 94 55 43.74	Manually Digitized
Tower		82 B(c) 8500 11/5/82	X Y	φ 29 44 55.20 λ 94 55 49.86	Manually Digitized
Tower		82 B(c) 8500 11/5/82	X Y	φ 29 44 54.76 λ 94 55 50.30	Manually Digitized
Tank		82 B(c) 9950 11/5/82	X Y	φ 29 44 46.68 λ 94 58 52.45	Manually Digitized
Tower		82 B(c) 9952 11/5/82	X Y	φ 29 42 57.93 λ 94 56 35.60	Manually Digitized
Tower		82 B(c) 9950 11/5/82	X Y	φ 29 43 21.13 λ 94 59 21.56	Manually Digitized

NOTE: The objects have not been inspected from seaward to determine their value as landmarks.

LISTED BY	DATE	LISTING CHECKED BY	DATE

10/83

MAP FEATURES OF POSSIBLE LANDMARK VALUE

MAP NO.	JOB NO.	GEOGRAPHIC AREA	GEODETTIC DATUM	ORIGINATING ACTIVITY			
TP-01144	CM-8108	Galveston Bay	NA 1927	Compilation			
CHARTING NAME	DESCRIPTION	PHOTO NO. Date of Photo	PLANE COOR. (FT) STATE ZONE	GEOGRAPHIC POSITION φ LATITUDE λ LONGITUDE	POSITION QUALITY		
Tower		82 B(C) 9950 11/5/82	X Y	φ29 43 19.87 λ94 59 18.00	Manually Digitized		
Tower		82 B(C) 9950 11/5/82	X Y	φ29 43 19.01 λ94 59 15.42	Manually Digitized		
Tower		82 B(C) 9950 11/5/82	X Y	φ29 43 38.45 λ94 59 28.80	Manually Digitized		
Tower		82 B(C) 9950 11/5/82	X Y	φ29 43 35.44 λ94 59 20.39	Manually Digitized		
Tower		82 B(C) 9950 11/5/82	X Y	φ29 43 49.19 λ94 59 25.60	Manually Digitized		
Tower		82 B(C) 9950 11/5/82	X Y	φ29 43 48.04 λ94 59 20.89	Manually Digitized		
Tower		82 B(C) 9950 11/5/82	X Y	φ29 43 47.12 λ94 59 17.04	Manually Digitized		
Spire		82 B(C) 9950 11/5/82	X Y	φ29 43 56.09 λ94 58 56.80	Manually Digitized		
Tower		82 B(C) 9950 11/5/82	X Y	φ29 44 12.65 λ94 59 01.76	Manually Digitized		
Tower		82 B(C) 9950 11/5/82	X Y	φ29 44 11.00 λ94 58 58.73	Manually Digitized		
Tower		82 B(C) 9951 11/5/82	X Y	φ29 42 49.77 λ94 59 30.81	Manually Digitized		
Tower		82 B(C) 9951 11/5/82	X Y	φ29 42 49.41 λ94 59 24.84	Manually Digitized		

NOTE: The objects have not been inspected from seaward to determine their value as landmarks.

LISTED BY R. O. Johanson

DATE 11/5/84

LISTING CHECKED BY J. Schad

DATE 11/15/84

10/83

[illegible]

NOTE: The objects have not been inspected from seaward to determine their value as landmarks.

LISTED BY	DATE	LISTING CHECKED BY	DATE
R.O. Johanson	11/5/84	J. Schad	11/5/84

