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SUPPLEMENTAL T

U.S. COAST & GEODETIC SURVEY
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DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

R. S. Patton, Director

State: Texas

DESCRIPTIVE REPORT

Photo
Topographic
~~Hydrographic~~

Sheet No. 5368

LOCALITY

Corpus Christi Bay

Mustang Island

1934

CHIEF OF PARTY

T. M. Price Jr., Ensign

U. S. GOVERNMENT PRINTING OFFICE: 1923

5368

SUPPLEMENTAL T

Total Vols. for Sheet
Consecutive Vol. No.

Applied to drawing of Chart #1286. Dec. 1935. S.B. Maize
" " " " " 1117 May, 1940. J.H.S.
Applied to Chart 523 Mar. 1945. K.R.D.

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

PHOTO
TOPOGRAPHIC TITLE SHEET

REG. NO. 5368

The Topographic Sheet should be accompanied by this form,
filled in as completely as possible, when the sheet is for-
warded to the Office.

Field No. 18

REGISTER NO. 5368

State Texas

General locality Corpus Christi Bay

Locality Mustang Island

Scale 1:20,000 Date of survey photographs, March 10, 1934
19
compilation, September 1934

~~Vessel~~ Army Air Corps Camera Five lens, type T-3a, No. AC-31-76

Chief of party T. M. Price Jr.

Surveyed by See data sheet in descriptive report

Inked by R. J. Moore

Heights in feet above _____ to ground to tops of trees

Contour, Approximate contour, Form line interval _____ feet

Instructions dated Nov. 7, 1933, 19 _____

Remarks: Compilation of aerial photographs, H. flight, #31 to
#48 incl. Sheet reduced to scale and printed by photo-lithographic
process.

-NOTES ON COMPILATION-

SHEET NO. FIELD 18 (Reg. No. 5368)

PHOTOS: No. "H"-31 to "H"-54.⁴⁸

DATE OF PHOTOGRAPHS: March 10, 1934

TIME: 10:30 to 10:45 A. M.

	BY	DATE
SCALE FACTOR (0.970)	(sgd) <u>R. J. Moore</u>	7/28/34
PROJECTION	(sgd) <u>T. M. Price Jr.</u>	8/9/34
PROJECTION CHECKED	(sgd) <u>J. L. Smith</u>	8/10/34
CONTROL PLOTTED	(sgd) <u>Dan Allen</u>	8/15/34
CONTROL CHECKED	(sgd) <u>R. J. Moore</u>	8/16/34
TOPOGRAPHY TRANSFERRED	(sgd) <u>R. J. Moore</u>	8/30/34
	(sgd) <u>W. H. Burwell</u>	9/29/34
	(sgd) <u>W. H. Burwell</u>	9/29/34

COMPILER'S REPORT
for
PHOTO TOPOGRAPHIC SHEET FIELD NO. 18 (Register No. 5368)

1. GENERAL INFORMATION

This sheet was compiled from photographs taken by the U. S. Army Air Corps using Fairchild T-3A camera # 31-76. The photographs used are # 31 to # 48 "H" flight. The flight was made March 10, 1934 from 10:29 to 10:47 A. M.

The predictable tidal range in Corpus Christi Bay is too small to affect the interpretation of aerial photographs of this scale, however winds cause considerable difference in the position of the water line particularly on the sand flats that are extensive on the Corpus Christi Bay shore of Mustang Island. It is believed that the water on this side of Mustang Island was slightly below mean high when these photographs were taken. The shore line on the Gulf Coast was transferred to this sheet from 1:20,000 plane table sheets, field letters "S" and "T", made by the party of Lt. E. O. Heaton, 1934, and checked as far as possible during the tracing from the photographs. The tide on the Gulf Coast was predicted as being half high when the photographs were taken.

2. CONTROL

(a) Sources

Triangulation of 1912

Triangulation of 1931 by Lieut. F. L. Gallen.

Triangulation of 1934 by Lieut. E. O. Heaton.

Plane table graphic location (1934) of three hydrographic stations, from 1:20,000 plane table sheet, field letters "S" and "T", by Lt. E. O. Heaton. (7.4813) (7.4812)

This control is adjusted to 1927 N.A. Datum.

The field parties geographic positions were used for 1934 triangulation. The difference between the unadjusted and final adjusted positions would be unplotable at the scale of this compilation.

(b) Errors

No errors in the control were found by the radial plot.

(c) Remarks

Three hydrographic stations (of these "Yuca" is the only one recoverable and shown) which were located by plane table, Lt. E. O. Heaton 1934, were located in the field on photographs to use as supplemental control. These agreed with the radial plot on the best photographs on which they were located. Perfect agreement was not obtained on less distinct photos because of the difficulty of location. An attempt was made to identify on the photos, and use as control, channel beacon # 4 and # 7, but this location did not agree with the radial plot and the difficulty was undoubtedly due to their improper location on the photographs, since these beacons appear only on outer edge of the wing prints, hence badly blurred, and no other source of error could be found.

3. COMPILATION

(a) Method

The usual radial line method of plotting from 5 lens photographs was used in the compilation of this sheet. There was no departure from standard practice.

(b) Adjustment of Plot

The photographs covered by this sheet, with the exception of Nos. 37 and 39, appear to be free from excessive tilt and scale fluctuation and the radial plot required no unusual adjustments. Photographs Nos. 37 and 39 were tilted approximately 3 degrees.

(c) General Description of Topography and Interpretation.

In addition to the General Report of Corpus Christi Bay and vicinity by the field inspection party (filed with Descriptive Report Register No. 5365) the following notes are submitted to act as a guide in the interpretation of this sheet since the compiler also assisted in the field inspection of this area.

The coast line along the Gulf of Mexico consists of a sand beach well over 125 meters wide, rising gradually to the base of grass covered sand dunes 3 to 5 feet above sea level, which dunes in turn extend to a height of from 15 to 30 feet above sea level. The hatchures shown on this coast line represents the Gulf shore limit of the sand dunes and this symbol was used to accent the steep bluff-like side of the high dunes on the seaward side. The position of the inshore limit of the large dunes and the position of small dunes was generalized by use of the sand dune symbol because their outline is difficult to positively identify from the photographs.

The shoreline along Corpus Christi Bay side between the latitude 27°-43'-10" and 27°-49'-30" presented somewhat of a problem because of its flatness and the nature of the tides. From Shamrock Island south it has been observed in the field that the shoal areas are exposed at low tide i.e. the shoal area at Shamrock Point and the large area labeled "Mud Flats" and "Sand Flats". At extremely high tides caused by winds from the north large areas are covered that are normally dry. It was considered of sufficient importance to indicate the line of demarcation between the area covered by these wind high tides and the area always dry. A light secondary high water line was therefore used. The heavier outside shoreline marks what is generally regarded as the mean high water line. The various little islands shown are all above even extreme high tides. The growth on Shamrock Island includes in addition to the grass and weeds, several groups of Oleander trees, salt cedars and mesquite. This is the only important brush growth in the area covered by this sheet and the "general tree" symbol was used to denote this growth. The brush is not over 8 to 10 feet in height.

3. COMPILATION (Cont'd)

(c) General Description of Topography and Interpretation (Cont'd)

As previously noted the Sand and Mud Flats are exposed at low tides. The growths on all of the islands consists of grass and weeds with occasionally some salt cedars and a few Yuca plants on the island on which hydro station "Yuca" is located. Hydro station "Yuca" is the most prominent of the Yuca plants and is visible for a considerable distance off shore. The terrain inland from the high water line of the bay shore is comparatively low until it reaches close to the chain of sand dunes paralleling the Gulf coast line, except that occasional sand dunes occur as noted on the cover sheet. Beginning with latitude 27° 43'-00" and longitude 97°-09'-30" and proceeding northeast along Mustang Island the growth of grass increases in density. The northern half of the island (except in the areas noted as sand flats on the cover sheet) has the appearance of being suitable for grazing. In fact some cattle graze in the vicinity of the small ranch house shown on this chart. Southwest from the above mentioned latitudes and longitude Mustang Island gives the appearance of a desert, the sand being totally devoid of vegetation and numerous dunes extending in an easterly and westerly direction across the central portion of the island. The marsh symbol is used to denote comparatively flat low areas where rain water remains for a time and upon drying up leaves an area covered by a dense short grass only. The grass lands frequently have tall weed growths and sometimes low brush thickets.

The shoreline from the northeast end of Shamrock Island up to and including the spoil banks of the Corpus Christi ship channel is rather difficult of positive delineation because of the flat terrain and variable tides. However the area inland from the heavy mean high water line shown is on most occasions exposed and appears to be an integral part of Mustang Island. The dotted low water line on the bay side from latitude 27°-47'-00" to 27° 49'-30" was transferred from a boat sheet of the party of Lt. E. O. Heaton as representing the approximate location of the low water.

About latitude 27°-48' is an abandoned pipe line ditch, from 2 to 4 feet deep. Between the east end of this ditch and the triangulation station "Knoll" is a water hole containing sheet piling on three sides. At latitude 27°-48'-15" and longitude 97°-04'-50" is a small ranch house.

The shoal area north of the north spoil bank of the Corpus Christi Ship Channel consists of a sand and mud bottom, and at very low tides a considerable portion of this area is exposed.

(d) Bridges

There are no bridges in the area covered by this sheet.

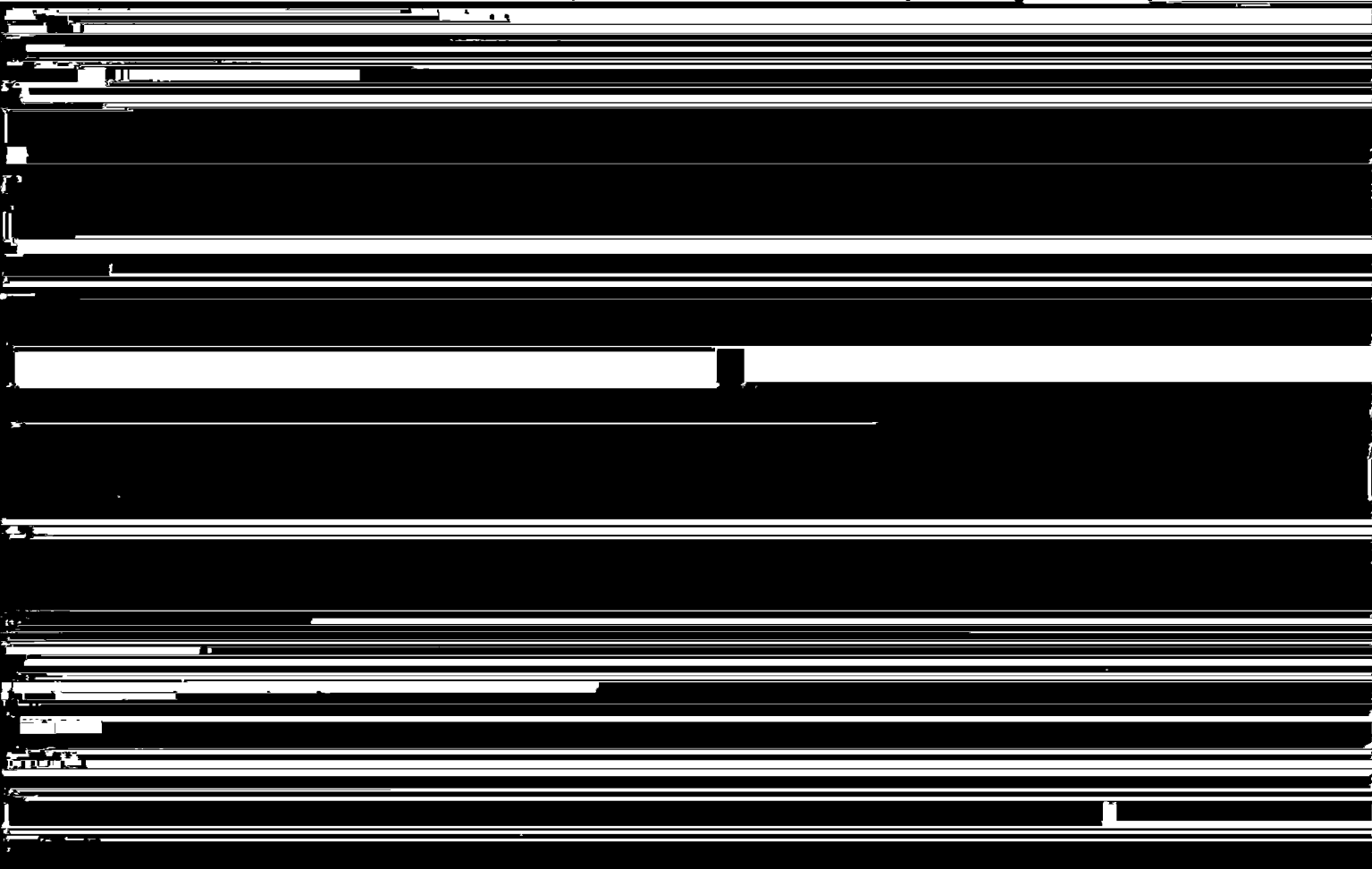
3. COMPILATION (Cont'd)

(e) Information from other Sources

The Gulf of Mexico coast line (mean high and mean low water line) was transferred from 1:20,000 plane table Field Sheets "S" and "T" of the party of Lieut. E. O. Heaton. The low water line on Corpus Christi Bay side from the N.E. end of Shamrock Island to the south spoil banks of the Corpus Christi Channel and from the north spoil banks north to the sheet limit was transferred from the approximate low water line indicated on a boat sheet of the party of Lt. E. O. Heaton. All the above transferred data was made by tracing directly on to this sheet from the original source in small enough proportionate intervals to correctly adjust scale difference. Except for the Gulf coast low water line and the low water line on the bay shore North of latitude $27^{\circ}46'30''$ which was transferred from plane table sheets and boat sheets respectively, the low water sand symbol shown on this sheet indicates the boundary of shoal areas as could be determined from shadings on the photographs only and is not intended to represent the exact low water line. The shading on the photographs taken for this line coincided with the position of the low water line indicated on the boat sheets for this area wherever a comparison could be made. -4872
T4873

(f) Conflicting Names

It is recommended that the name "Turtle Cove" appearing on existing charts be deleted and that Corpus Christi Channel be inserted as shown on Cover Sheet. At latitude $27^{\circ}50'$ and longitude $97^{\circ}06'$ there was formerly a cove known as Turtle Cove. The Corpus Christi --Aransas Pass channel has been dredged and spoil banks have been built up in the locality so that it is in reality no longer a cove,



4. COMPARISON WITH OTHER SURVEYS

This sheet is joined by sheet Field No. 19 (Register No. 5369) on the North; by Sheet Field No. 17^{Reg. No. 5367} on the Northwest; by 1:10,000 plane table sheet "Aransas Pass" Field Letter "U" of Lieut. E. O. Heaton on the northeast, and by 1:10,000 plane table sheet "Corpus Christi Pass" Field Letter "W" of Lieut. E. O. Heaton on the south-
west. Junctions with these adjoining sheets are satisfactory.

5. LANDMARKS

The only landmarks within the limits of this sheet are permanent aids to navigation namely: Corpus Christi Channel Beacons Nos. 2, 3, 4, 5, 6, 7, 8. These were located by triangulation and submitted on form # 567. It is noted that on existing charts most of these beacons are not plotted in the position shown to be correct by the triangulation survey, and the above beacons should be plotted on current charts in the position shown on the submitted landmark form.

6. RECOVERABLE OBJECTS

The recoverable hydrographic and topographic stations shown on this sheet ("Yuca", "Yuca Plant", "Sop") were on plane table sheets Field Letters "S" and "T" party of Lieut. E. O. Heaton 1934, and described by that party. "Yuca is the only one of these located on the photographs. (See paragraph 2 c.)

7. RECOMMENDATIONS FOR FURTHER SURVEYS

The compilation of this sheet is believed to have the probable error of 5 meters in well defined detail of importance for chart

REVIEW OF AIR PHOTO COMPILATION NO. 5368

Chief of Party: T. M. Price Jr.

Compiled by: see page 2
of Descriptive Report

Project: Party # 20
Corpus Christi, Texas

Instructions dated: Nov. 7, 1933

1. The charts of this area have been examined and topographic information necessary to bring the charts up to date is shown on this compilation. (Par. 16a, b,c,d,e,g and i; 26; and 64)
2. Change in position, or non-existence of wharfs, lights, and other topographic detail of particular importance to navigation which affect the chart, is discussed in the descriptive report. (Par. 26; and 66 g,n)
3. Ground surveys by plane table, ~~sextant, or theodolite~~ have been used to supplement the photographic plot where necessary to obtain complete information, and all such surveys are discussed in the descriptive report. (Par. 65; and 66 d,e)
4. Blue-prints and maps from other sources which were transmitted by the field party contain sufficient control for their application to the charts. (Par. 28)
None Transmitted
5. Differences between this compilation and contemporary plane table and hydrographic surveys have been examined and rectified in the field before forwarding the compilations to the office and are discussed in the descriptive report.
6. The control and adjustment of the photo plot are discussed in the descriptive report. Unusual or large adjustments are discussed in detail and limits of the area affected are stated. (Par. 12b; 44; and 66 c,h,i)
No unusual or large adjustments
7. High water line on marshy ~~and mangrove~~ coast is clear and adequate for chart compilation. (Par. 16a, 43, and 44)

NOTE: Strike out paragraphs, words or phrases not applicable and modify those requiring it. Paragraph numbers refer to those in the Topographic Manual. Refer also to the pamphlet "Notes on the Compilation of Planimetric Line Maps from Five Lens Air Photographs."

8. The representation of low water lines, reefs, ~~coral-reefs-and~~
~~reefs~~, and legends pertaining to them is satisfactory. (Par.
36, 37, 38, 39, 40, 41) As described in report, certain low water
was transferred plane table sheets. In some instances shoal areas
were indicated by a dotted outline which does not represent the
low water line necessarily.
9. Recoverable objects have been located and described on Form 524
in accordance with circular 30, 1933, circular letter of March 3,
1933, and circular 31, 1934. (Par. 29, 30, and 57)
Hydrographic stations shown were transferred from plane table
sheet of party of E. O. Henton and any recoverable objects will
be described by that party.
10. A list of landmarks was furnished on Form 567 and instructions
in the Director's letter of July 16, 1934, Landmarks for Charts,
complied with. (Par. 16d, e; and 60)
11. All bridges shown on the compilation are accompanied by a note
stating whether fixed or draw, clearance, and width of draw if
a draw bridge. Additional information of importance to naviga-
tion is given in the descriptive report. (Par. 16c)
No bridges on this sheet
12. Geographic names are shown on the overlay tracing. The accepted
local usage of new names has been determined and they are listed
in the report, together with a general statement as to source of
information and a specific statement when advisable. Complete
discussion of place names differing from the charts and from the
U. S. G. S. Quadrangles is given in the descriptive report,
together with reasons for recommendations made. (Par. 64, and 66k)
13. The geographic datum of the compilation is N.A., 1927 and the
reference station is correctly noted. *(unadjusted)*
14. Junctions with adjoining compilations have been examined and are
in agreement. (Par. 66j)
15. The drafting is satisfactory and particular attention has been
given the following:
 1. Standard symbols authorized by the Board of
Surveys and Maps have been used throughout
except as noted in the report.
 2. The degrees and minutes of Latitude and Longi-
tude are correctly marked.

3. All station points are exactly marked by fine black dots.
4. Closely spaced lines are drawn sharp and clear for printing.
5. Topographic symbols for similar features are of uniform weight.
6. All drawing has been retouched where partially rubbed off.
7. Buildings are drawn with clear straight lines and square corners where such is the case on the ground.

(Par. 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 48)

16. No additional surveying is recommended at this time.

17. Remarks:

18. Examined and approved;

J. H. Pritchard
Chief of Party

19. Remarks after review in office:

See page 4. Review.

Reviewed in office by:

Frank G. Eschme

Feb. 26, 1935

Examined and approved:

B. G. Jones

C. K. Green

Chief, Section of Field Records

L. O. Solbut

Chief, Division of Charts

B. B. Borden

Chief, Section of Field Work

Stude

Chief, Division of Hydrography

Additional Review Notes T-5368

The contemporary hydrographic surveys in this area have not been received by the office at this time.

Described stations SOP and YUCA are filed under T-4873. Station YUCCA PLANT is filed under T-4872.

Comparison with T-4872 and T-4873:

These plane table surveys give only the outer shore-line of Mustang Island, and since they were used to control the compilation the agreement is excellent. All detail on these surveys falling within the limits of the compilation is shown on the compilation except a few signals located for hydrographic control.

A better estimate of the accuracy of this compilation would be 10 meters for well defined detail and 16 meters for other data. (See paragraph 7, page 8, of the report.)

February 26, 1935.

Frank G. Eskine
✓ B. G. Jones

DEPARTMENT OF COMMERCE
U.S. COAST AND GEODETIC SURVEY

LANDMARKS FOR CHARTS

Corpus Christi, Texas

November 1, 1934

DIRECTOR, U.S. COAST AND GEODETIC SURVEY:

The following determined objects are prominent, can be readily distinguished from seaward from the description given below, and should be charted:

AIDS TO NAVIGATION

Sheet Fld. No. 18
Register No. 5368

T. M. Price Jr.

Chief of Party.

DESCRIPTION	POSITION					METHOD OF DETERMINATION	CHARTS AFFECTED
	LATITUDE		LONGITUDE		DATUM N.A.		
	° ' "	D. M. METERS	° ' "	D. P. METERS			
C. C. Chan. Bn. #3 (TW)	27--50	165.8	97--06	344.4	1927	Triang.	#1286
C. C. Chan. Bn. #2 (FR)	27--49	1721.9	97--07	907.8	"	"	"
C. C. Chan. Bn. #5 (TW)	27--49	1559.0	97--07	873.3	"	"	"
C. C. Chan. Bn. #4 (FR)	27--49	1260.3	97--08	1470.8	"	"	"
C. C. Chan. Bn. #7 (TW)	27--49	1096.5	97--08	1486.8	"	"	"
The above beacons were located Jan. - Feb. 1934							
Checked By <u>P. B. ...</u>							

A list of objects carefully selected because of their value as landmarks as determined from seaward, together with individual descriptions, must be furnished in a special report on this form, and a copy of such report must be attached by the Chief of Party to his descriptive report.

The selection, determination, and description of these points are an important factor in the value of the chart. Landmarks selected at appropriate intervals can be clearly charted. However, when none is outstanding, a group of two or three objects may by their interrelationship provide positive identification. A group so selected should be indicated.

The description of each object should be short, but such as will clearly identify it; for example, a standpipe, elevated tank, gas tank, church spire, tall stack, red chimney, radio mast, etc. Assign numerals to landmarks to indicate: (1) Offshore, (2) inshore, (3) harbor, 1, 2, 3 would be a mark useful on all charts. Generally, flagstaves and like objects are not sufficiently permanent to chart.

Survey No. T-5368

Date. April 3, 1935

Chart No. 1286

Diagram No. 1286

Referred to the Division of Geographic Names, Department of Interior. R

Under investigation. Q

[illegible]

Descriptive Report T 5368 Supplemental

Connections to junction with T 5569 and other
minor connections entered in red on supplemental

