

5364

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Form 504
Ed. June, 1928

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

R. S. PATTON, Director

State: TEXAS

DESCRIPTIVE REPORT

PHOTO
Topographic

~~Hydrographic~~

} Sheet No. 5364

LOCALITY

~~SAN ANTONIO BAY~~

Espíritu Santo Bay

~~FIRST CHAIN OF ISLANDS TO PASS CAVALLO~~

1934-3

CHIEF OF PARTY

T. M. PRICE JR., ENSIGN

U. S. GOVERNMENT PRINTING OFFICE: 1921

5364

applied to chart 1284 Feb. 1938 J.G.L.
applied to chart ¹¹¹⁷1285 May 1940 g.H.S.
map 1940 B.B.C.

DEPARTMENT OF COMMERCE
U.S. COAST AND GEODETIC SURVEY

REG. NO. 5364

TOPOGRAPHIC TITLE SHEET
PHOTO

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. (14)

REGISTER NO. 5364

State TEXAS

General locality -SAN ANTONIO BAY- ESPIRITU SANTO Bay

Locality FIRST CHAIN OF ISLANDS TO PASS CAVALLLO

Scale 1/20,000 Date of survey Nov. 23, 1933; Jan. 8, 1934;
Mar. 10, 1934

Compilation: Sept.-Dec., 1934.

Vessel U.S. Army Air Corps. Camera: 5-Lens, type T-3A, # 31-76

Chief of party Ensign T. M. Price Jr.

Surveyed by See data sheet in Descriptive Report.

Inked by W. Mack Crook

Heights in feet above.....to ground to tops of trees

Contour, Approximate contour, Form line interval.....feet

Instructions dated November 7, 1933

Remarks: Compilation of aerial photographs D-3 to D-13, incl.,

E-12 to E-30, incl., F-1 to F-6, incl., G-4 to G-20, incl., 5-Lens.

Sheet reduced to scale and printed by photo-lithographic process.

- NOTES ON COMPILATION -

SHEET NO. 14

PHOTOS: Five-Lens D-B to D-13 incl., E-12 to E-30 incl., F-1 to F-6 incl., G-4 to G-20 incl.

DATE OF PHOTOS: Nov. 23, 1933	Time: (D flight) 3:12 - 3:17 P.M.; (E flight) 3:32 - 3:45 P.M.
Jan. 8, 1934	2:13 - 2:29 P.M. (F flight)
Mar. 10, 1934	9:57 - 10:29 A.M. (G flight)

	BY	DATE
SCALE FACTOR (1.01) (sgd)	<u>L. H. Ruffa</u> <u>C. H. Rulfs</u>	8/28/34
PROJECTION (sgd)	<u>Ben Benson</u> <u>Ben Benson</u>	9/5 /34
PROJECTION CHECKED (sgd)	<u>V. L. Riehl</u> <u>V. L. Riehl</u>	9/6 /34
CONTROL PLOTTED (sgd)	<u>W. Mack Crook</u> & <u>V. L. Riehl</u> <u>W. Mack Crook</u> & <u>V. L. Riehl</u>	9/7 /34
CONTROL CHECKED (sgd)	<u>V. L. Riehl</u> & <u>W. Mack Crook</u> <u>V. L. Riehl</u> & <u>W. Mack Crook</u>	9/7 /34

TOPOGRAPHY TRANSFERED

TOPOGRAPHY CHECKED

SMOOTH RADIAL LINE PLOT (sgd) W. Mack Crook 10/25/34

RADIAL LINE PLOT CHECKED (sgd)

DETAIL INKED (sgd) W. Mack Crook 12/27/34

AREA OF DETAIL INKED 8865 sq. statute miles.

LENGTH OF SHORE LINE OVER 200 m. 90 statute miles.

LENGTH OF SHORE LINE UNDER 200 m. 96 statute miles.

GENERAL LOCATION SAN ANTONIO BAY, TEXAS

LOCATION: FIRST CHAIN OF ISLANDS TO PASS CAVALLO

DATUM STATION: <u>FAR 1934</u>	LATITUDE : 28°-19'- 42.139"	METERS 1297.2	(Unadjusted)
	LONGITUDE: 96°-29'- 07.220"	196.7	
	(position from field computations)		

COMPILER'S REPORT
for
PHOTO TOPOGRAPHIC SHEET NO. 14 (REG. NO. 5364)

1. GENERAL INFORMATION

This sheet was compiled from photographs taken by the U. S. Army Air Corps using a five lens camera Type T-3A #31-76. The photographs used were 5-lens #D-8 to D-13 incl.; #E-12 to E-30 incl.; F-1 to F-6 incl.; G-4 to G-20 incl. The photographs of the D flight were taken Nov. 23, 1933, 3:12 to 3:17 P. M.; E-flight taken Nov. 23, 1933, 3:32 to 3:45 P. M.; F-flight taken Jan. 8, 1934, 2:13 to 2:29 P. M. ; G-flight, March 10, 1934, 9:57 to 10:29 A. M. The tide at the time of taking the photos was approximately low for D and E flights, and $\frac{1}{2}$ high for G-flight.

2. CONTROL

(a) Sources

Triangulation by E. O. H., 1934

(b) Errors

Station Lela was incorrectly located on the photographs but subsequently relocated correctly. (see next paragraph)

(c) Remarks

A short traverse and one azimuth location from Station Lela to a point definitely distinguishable on the photographs was necessary. Triangulation previous to 1934 of the C & G flights, where-ever the marks could be recovered was incorporated and relocated by the 1934 scheme of triangulation. Two permanent marks established in 1927-28 by the U. S. Engineers were relocated in this way also.

3. COMPILATION

(a) Method

The usual radial line method of plotting from 5-lens photographs was used in the compilation of this sheet.

(b) Adjustment of Plot

The G flight has a scale factor of 0.97 whereas the D, E. and F flights have a scale factor 1.01. A scale of 1.01 was selected for this sheet not only because 3 out of 4 of the flights had this scale, but also because it was necessary to use in the plot certain adjoining sheets, for their control, which had the scale factor of 1.01. A sheet covering Pass Cavallo had been prepared previous to the decision to use a plane table sheet. This sheet was joined for making the plot of the D flight and connection to the G flight. Sheet Reg.No. 5351 was joined and the plot of the E flight carried them to a junction with the C and D flights. A special projection to make use of control which fell to the S. W. of this sheet (#5364) was prepared and

junctions between the F flight and E flight ~~was~~ made. In this way, although the control plottable on this sheet (5364) is comparatively scarce, a strange plot was finally effected. The G flight plot was difficult, but sufficient photographs were fixed to make it possible to carry through the intersections and hold also to the intersections of common points obtained from the more strongly controlled E. flight. Photographs No. 11, 12, 13, of the D flight are tilted over 3 degrees. The sun reflection on the C wing of the D flight makes it difficult to use, however it is well overlapped on this sheet with the B and E flights. The plot indicated station Lela to be wrongly located. Subsequent examinations in the field showed its location incorrect on the photographs. A new location by means of a reference tie checked the plot.

(c) General Descriptions of Topography and Interpretation.

For interpretation of this sheet the following notes are given in addition to the General Report of San Antonio & Adjoining Bays by the Field Inspection Party, filed with Descriptive Report Reg. #5363.

The Gulf coast of Matagorda Island within the limits of this sheet consists of a wide sand beach sloping gradually upward to meet sand dunes. These dunes vary in height from about 15 ft. at the western limit of the sheet to about 5 to 10 ft. at the eastern limit. They are for the most part grass covered and are interspersed with occasional ponds. These dunes merge toward the center of the island into a prairie. Low spots in the prairie extend the length of the island, within the limits of this sheet, and are intermittently filled with water. They appear dark on photographs. The bayshore side of the island is marshy except at the eastern limit of this sheet near Matagorda Lighthouse, in which area the relatively high prairie extends to the bay. The M. H. W. line of the many inland lakes on Matagorda Island which separate the high land from the Espiritu Santo Bay, from Long. 96°-31' to the western limit of the sheet, was very indistinct on the photographs due to the blending of colors of the mud, sand flats and the water. The storm high water line, in contrast, was visible as a clear and distinct line of white sand separating the low marshy ground from the higher prairie. To show these features on this topographic sheet, a full line was used for the M. H. W. line while the storm high water line was marked with a double or triple row of dots indicating the change in elevation (a change of 2 or 3 ft.). Usually grass is indicated on the higher ground whereas widely spaced sanding dots indicate the low flats, without vegetation except in the marsh areas. } 75045

An auto and wagon trail, shown by a dash line, runs the full length of the island, from Matagorda Lighthouse southwest. It is on the high prairie between the sandunes and the intermittent water areas. Its exact position is subject to change from year to year. Extending across the island, near Long. 96°-26' in a north west-south east direction, is a zig-zag line marking the site of trenches dug during the civil war. The few ranch houses found on Matagorda Island are shown slightly exaggerated in size. } 75045

The wooden landing pier of the Matagorda Lighthouse is shown at } 75045.
Lat. $28^{\circ}-20.7'$, Long. $96^{\circ}-26.3'$.

North and east of Steamboat Pass extend a group of long narrow islands parallel to shore of the mainland and about $\frac{1}{2}$ mile from it. The water between the islands and the mainland is very shallow. The islands are all low and marshy with only occasional higher spots of sand and grass.

The bay shore of the mainland is in general very low and marshy. It is of such a character that a slight rise in the water level of the bay would move the water line inland several hundred meters. Higher ground appears as isolated mounds of sand covered with grass and brush. Inland, the number of these mounds increase rapidly and merge together to form a comparatively smooth prairie. Occasional trees (mesquite and huisache, about 15' in height) are found near the eastern limit of this sheet, and scattered brush. The trees and brush becomes heavier towards the western limit until a thick grove of trees is encountered near Lat. $28^{\circ}-22'$ and Long. $96^{\circ}-38'$. All of the above types of growth were shown with the "general" tree and brush symbol.

The washes indicated in the vicinity of Lat. $28^{\circ}-21'$, Long. $96^{\circ}-39'$ are caused by the flow from the drainage ditch, the end of which appears on this sheet at Lat. $28^{\circ}-21.5'$, Long. $96^{\circ}-39.5'$.

Two more drainage ditches (shown with light solid line) appear on this sheet, each several miles long, and merge before emptying into the bay. These ditches drain low areas inland, and are about four feet deep and ten feet wide at the top with low spoil banks ~~levees~~ on each side.

A road right-of-way, cleared, about 30 feet wide, and bounded by a fence on each side, extends southwest to the bay shore from where it passes out of the limit of this sheet at Lat. $28^{\circ}-23.5'$, Long. $96^{\circ}-35.5'$. It is shown with a dash line.

About $\frac{1}{2}$ mile length of the shell highway between Seadrift and Port O'Connor, Texas, appears within the limits of this sheet at Lat. $28^{\circ}-25.5'$, Long. $96^{\circ}-31'$. This road is shown as a full double line. Paralleling it is shown a line of long dashes marking the site of an abandoned railroad. All that now (of the latter) remains is an embankment 2 or 3 feet high.

An auto and wagon trail is shown as a dash line extending along } 75045 in
the mainland shore from the eastern limit of the sheet to Long. } part.
 $96^{\circ}-32'$. The trail extends several miles further along the shore to the road right-of-way, but its exact position over that distance is not visible on the photographs as it merely winds through the sand between the grass spots.

(d) Bridges

No bridges over navigable waters appear within the limits of this sheet. A runway for cars and pedestrians crosses an intermittent } 75045
pond at about Lat. $28^{\circ}-20.4'$, Long. $96^{\circ}-25.5'$ to enable Matagorda Lighthouse occupants to communicate with the Matagorda Lighthouse landing pier in all weather.

(e) Information from Other Sources

The only sources of information were those furnished by the photographs and the notes written in the photographs in the field by the field inspection party, and information as to the nature of the runway and of the zig-zag ditch (former trench) near Matagorda Lighthouse which was furnished by the Lighthouse Service and by the U. S. Coast Guard Station near there. T5045

In several places that were difficult for the field inspection party to reach, it was impossible to tell from the photographs whether islands or shoals were above or below M. H. W. In these cases the hydrography by E. O. H. 1934 and 1935 was referred to and the condition as indicated by the soundings, accepted. These places are at (1) Lat. $28^{\circ}-23.4'$, Long. $96^{\circ}-25.9'$ to Lat. $28^{\circ}-23.0'$, Long. $96^{\circ}-26.3'$. (2) Lat. $28^{\circ}-18.9'$, Long. $96^{\circ}-37.4'$. T5045

(f) Conflicting Names

There are ^{two} ~~no~~ names on this sheet conflicting with names shown on the U. S. C. & G. S. charts of this area. The U. S. E. Intracoastal Water Way Survey 1927-28 gives Pringle for Pringe Lake and Vandaveer for Vanderveer Island. It is believed that the names ^{Vandaveer is} are mis-spelled on these blueprints and the spelling as given on C. & G. S. charts is recommended. However the spelling of Pringle is in accord with local custom and is therefore recommended. Salvia Bayou is recommended to replace the name M. Henry.

Longitude	Change old to new (meters)*			
	gulf shore	Mat. I bayshore	bayshore of Dewberry & Long I.	shore of mainland
0 " "				
96°-25-30	- 320			
96-26-00	- 170			
96-27-00	+ 180			
96-27-30	+ 310	- 20		
96-30-00	+ 370	- 12	+ 20	+ 5
96-32-30	+ 175	+ 10	- 40	+ 85
96-35-00	+ 215	0	-200	+ 20
96-37-30				- 70

75045
75045
75045
75045

* + Accumulation; - recession.

The above differences were measured along the line of the meridian and not necessarily normal to the shoreline.

At Steamboat Pass, about Lat. 28°-19', Long. 96°-37', the S. W. end of Long Island, shown as one continuous island of chart 1284, has broken up into several small islands, and extended westward almost 400 meters farther, while the northern tip of the large island just south of Steamboat Pass as shown on chart 1284, has disintegrated, leaving the former tip as several islands and shoals in Steamboat Pass.

All of Long Island has moved N. W. from 100 to 200 meters from the position shown on chart #1284 without appreciable change in appearance. The M. H. W. of the mainland, however, has changed but little. This has therefore made the body water between narrower because the width of Long Island has not changed appreciably. It is believed that this effect is more apt to be caused by lack of control on the old survey than the result of natural changes. The Epiritu Santo bayshore side of Dewberry Island has remained just about the same, but the island has narrowed slightly due to the recession of the N. W. shore.

The Esp. Santo Bayshore of Matagorda Island has not changed appreciably.

The islands comprising The First Chain of Islands have moved west about 200 meters from their position on chart #1284, and have changed shapes.

The area shown on chart #1284, about Lat. 28°-17', Long. 96°-35', as marsh is made up of many small lakes and rivers, separated by grassy marsh, in such a manner as to connect the inland waters of Matagorda Island (such as Contee Lake and Pringe Lake) with the water of Epiritu Santo Bay more directly than is indicated by chart #1284. Contee Lake and the large lake lying about $\frac{1}{2}$ mile S. W. of it are both larger than formerly, and open into each other, into Pringe Lake, and into the smaller lakes shown near Lat. 28°-16', Long. 96°-35' on chart #1284.

The Matagorda Lighthouse pier, about Lat. 28°-20.7', Long. 96°-26.3', was not shown on chart #1284.

The road on the N. E. end of Matagorda Island on chart #1284 and 1285 is now only a trail but it usually can be driven over. Chart 1285 should have Coast Guard Station moved to its new location (see plane table sheet field letter "V"), and should have

added a spoil bank on the south side of ~~First Chain of Islands~~ ^{the cut thru the First Chain of Islands.}
~~Gut~~ (see Sheet Reg. No. 5363). These two features are shown correctly on chart 1284.

5. LANDMARKS

No landmarks are recommended for this sheet. The landmarks in this vicinity are included in the plane table sheet "V". 71403F15045
No day beacons in this area were located by triangulation or could they be located by radial plot. The hydrographic party of Lt. E. O. Heaton will locate these by sextant and will be shown on the hydrographic sheets but not on this compilation.

6. RECOVERABLE OBJECTS

There were no recoverable objects recommended for H. & T. Stations within the limits of this sheet.

7. RECOMMENDATION FOR FURTHER SURVEYS

The compilation of this sheet is believed to have the probable

of roads, size of houses, etc., may be slightly exaggerated in order that the detail may be kept clear and to photograph distinctly

Survey No. T-5364

Date. June 7, 1935

GEOGRAPHIC NAMES

Chart No. 1117 & 1284

TEXAS

Diagram No..

Approved by the Division of Geographic Names, Department of Interior. *

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

Under investigation. Q

[illegible]

REVIEW OF AIR PHOTO COMPILATION T 5364

Comparison with Graphic Control Surveys

There are no graphic control surveys in this area.

Comparison with Previous Topographic Surveys

T 644 (1857), 1:20,000

T 644 covers the area from the eastern border of the compilation to the middle of Dewberry Island.

The shoreline is in agreement within 50 meters in most places and varies to a maximum of 100 meters.

The compilation is adequate to supersede T 644 in all points of detail within the area common to the two surveys.

T 766 (1859), 1:20,000

T 766 covers the area of Espiritu Santo Bay from the middle of Dewberry Island westward to San Antonio Bay (beyond First Chain of Islands).

The shoreline is in agreement within 50 meters in most places. The largest island in the group called "First Chain of Islands" varies in size and shape up to 100 meters.

The compilation is adequate to supersede T 766 in all points of detail within the area common to the two surveys.

Comparison with Contemporary Hydrographic Surveys

H 5877 (1934-1935), 1:20,000

H 5877 covers the entire area of the compilation except the Gulf Coast.

High water line is in practical agreement. Temporary signals and beacons were not transferred to the compilation. There is no conflict between the compilation and H 5877.

The latest hydrographic survey covering the Gulf Coast is a 1:40,000 scale survey made in 1875. No comparison was made with this survey.

Comparison with charts 1284 and 1285

A complete and detailed comparison with charts 1284 and 1285 is given on pages 6, 7 and 8 of the descriptive report for the compilation.

Landmarks and Aids to Navigation

There are no landmarks recommended for this area. No aids to navigation in this area were located by triangulation or by the radial plot. Those aids to navigation located by hydrographic fixes are shown on the hydrographic surveys of this area but were not transferred to the compilation.

Accuracy

A statement of the accuracy of this compilation better than that given on page 8 of the descriptive report for the compilation would be 5 meters for ^{to 8} ~~well defined detail of importance for charting,~~ ^{intersected points and} and ^{5 to 15} ~~10~~ meters for other detail.

Respectfully submitted,

Ralph M. Berry

Ralph M. Berry

January 17, 1936.

B.G. Jones

REVIEW OF AIR PHOTO COMPILATION NO. 5364

Chief of Party: T. M. Price, Jr.

Compiled by: See page 2
of descriptive
report

Party #20

Project: 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)
Day beacons not plotted as described in report.
- ✓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)
Only such methods as is usual in substituting nearby point for the control station on the photograph.
- ✓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.
Comparison to partly finished boat sheet only.
- ✓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 large adjustment necessary.
- ✓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 rocks~~, and legends pertaining to them is satisfactory. (Par. 36, 37, 38, 39, 40, 41)
Dashed lines indicate shoals of indefinite depth and extent. Dotted outline approx. low water as could be judged from the appearance of the photographs alone.
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)
no recoverable objects selected
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)
No landmarks. Day beacons not shown as described in the report.
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 navigation is given in the descriptive report. (Par. 16c)
No bridges.
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 ~~substantiated~~ ~~XXXXXXXXXXXXXXXXXXXX~~ is given in the descriptive report, together with reasons for recommendations made. (Par. 64, and 66k)
13. The geographic datum of the compilation is NA 1927 and the reference station is correctly noted.
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 Longitude 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: Changes in the sand and shell islands and shoals are frequent and natural forces may have caused changes in these features between the time the photographs were taken and the present time (hydrographic survey)

18. Examined and approved;

J. M. Price, Jr.
T. M. Price, Jr.
Chief of Party

19. Remarks after review in office: See pages 1 and 2 immediately preceding for detailed report on office verification.

Reviewed in office by: Ralph M. Berry

B. G. Jones

Examined and approved:

C. F. Green
Chief, Section of Field Records
L. O. Polk
Chief, Division of Charts

J. B. Borden
Chief, Section of Field Work
G. H. Hinde
Chief, Division of Hydrography and Topography.