

5395

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DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

R. S. Patton, Director

State: Texas

DESCRIPTIVE REPORT

~~Topographic~~ ^{PHOTO} } Sheet No. 5395
~~Hydrographic~~

LOCALITY

COPANO BAY

~~Arenosa Bay~~

~~N. E. and S. E. Shore of~~

Mission Bay and Fish Point
Copano Bay

1935

CHIEF OF PARTY

T. M. Price, Jr., Ensign

U. S. GOVERNMENT PRINTING OFFICE: 1923

5395

applied to chart no. 1117 May, 1940 g.H.S.
Applied to Chart 1285 May, 1940 V.B.L.
Applied to Ch. 892 7/15/52 by Norfolk Office
Checked with 892 SC July, 1969 JCR

DEPARTMENT OF COMMERCE
U.S. COAST AND GEODETIC SURVEY

REG. NO. 5395

PHOTO
TOPOGRAPHIC TITLE SHEET

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

Field No. 21

REGISTER NO. 5395

Dir 1286-2

State Texas

General locality ARANSAS BAY

Mission Bay and Fish Point

Locality N.-E.-AND-S.-E.-SHORE-OF-COPANO-BAY-

Scale 1/20,000 Date of Photos Survey March 19, 1934

Compilation January-February 1935

Vessel Army Air Corps Five lens Type T-3A No. 31-76

Chief of party T. M. Price, Jr.

Surveyed by See data sheet in descriptive report

Inked by C. H. Rulfs

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 Nos. R-15 to R-28
and P-1 to P-11 incl.

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

- NOTES ON COMPILATION -

SHEET NO. 21 (REG. NO. 5395)

PHOTOS: R-15 to R-28
P-1 to P-11

DATE OF PHOTOGRAPHS: R-flight March 19, 1934 TIME:
P-flight March 19, 1934 R-flight 2:37 to 2:47 P.M.
P-flight 2:01 to 2:10 P. M

	BY	DATE
SCALE FACTOR (0.97)	(sgd) Ben Benson (P flight) V. L. Riehl (R flight)	Oct. 16, 1934 Oct. 27, 1934
PROJECTION	(sgd) T. M. Price, Jr.	11/ 7/34
PROJECTION CHECKED	(sgd) J. L. Smith by J. L. P.	11/ 8/34
CONTROL PLOTTED	(sgd) J. E. Reynolds	11/14/34
CONTROL CHECKED	(sgd) V. L. Riehl	11/14/34
TOPOGRAPHY TRANSFERRED	(sgd)	
TOPOGRAPHY CHECKED	(sgd)	
SMOOTH RADIAL LINE PLOT	(sgd) R-flight J. L. Smith P-flight C. H. Rulfs	1/ 2/35 1/10/35
RADIAL LINE PLOT CHECKED	(sgd) C. H. Rulfs	
DETAIL INKED	(sgd) C. H. Rulfs	2/27/35
AREA OF DETAIL INKED	/34	SQ. STATUTE MILES
LENGTH OF SHORE LINE OVER 200 m.	36.6	STATUTE MILES
LENGTH OF SHORE LINE UNDER 200 m.	6.2	STATUTE MILES
LENGTH OF SHORE LINE OF SMALL INLAND LAKES	33.1	STATUTE MILES
GENERAL LOCATION	Aransas Bay	
LOCATION	N. E. and S. E. Shore of Copano Bay.	

DATUM STATION: Linna, 1934 Latitude: 28°-08'-42.399" (meters) ✓
Longitude: 97°-07'-41.580" + 1305.2 ✓
(positions from field computations) + 1134.6 ✓

- COMPILERS REPORT -

- for -

- PHOTO TOPOGRAPHIC SHEET FIELD NO. 21 (REG. NO. 5395) -

1. GENERAL INFORMATION

This sheet was compiled from photographs taken by the U. S. Army Air Corps, using a five lens T-3A camera # 31-76. The photographs used were Flight R, Nos. 15 to 29 and Flight P, Nos. 1 to 11. The flight for the R pictures was made on March 19, 1934 from 2:37 P. M. to 2:47 P. M. covering the north side of Copano Bay from Aransas River to Cavasso Creek. The flight for the P pictures was made on March 19, 1934 from 2:01 to 2:10 P.M. and covered the South side of Copano Bay from the ~~Rockport~~ ^{Copano Bay} causeway to the head of Port Bay. The tide in Copano Bay has only a small predictable range which would not affect interpretation of the photos except possibly for the reefs, however large tidal changes are caused by the wind and therefore the height of the water can be told only by inspection of the ground and comparison of the pictures. It was found that at the time the pictures were taken the tide was low.

2. CONTROL

(a) Sources

Triangulation by Lieut. E. O. Heaton, 1934

Triangulation by Lieut. F. S. Gallen, 1931

Former C. & G. S. stations when recoverable were incorporated in the above schemes of triangulation. The field parties geographic positions were used for the 1934 triangulation. The difference between the unadjusted and final adjusted positions would be ~~in~~ ^{un}plottable at the scale of this compilation. All control is on the N. A. 1927 datum.

(b) Errors

The station Lap, 1934 as located in the field could not be made to fit the radial plot. The station was relocated by the field party but this time was off in the opposite direction. As the station was in a place that lacked sufficient detail for proper location of the station and the plot was carried from one good fix to another holding the other control and giving good intersections with out the use of this station, the definite location of this station was not attempted any farther.

(c) Remarks

The hydrographic and topographic stations (shown by black circles) were located on the ground and the point selected on the photographs by the field inspection party with out reference ties and located by the radial plot. The exception to this is the station "center of draw". The radial plot position of this station was checked by setting an instrument up at the west end of the bridge, turning the angle from a triangulation station to the center line of the causeway, then taping the distance to the

2. CONTROL (CONT'D.)

(c) (Cont'd.)

center of the draw. This was then laid off graphically on the sheet and closely checked the radial plot location, however the instrument location was held to because the radial plot intersection was slim.

3. COMPILATION

(a) Method

The usual radial line method of plotting from five lens photographs was used in the compilation of this sheet. The plots on both flights were carried continuously through the sheet from sheet # 20 to sheet # 22 by joining the sheets directly together. This increased the strength of the plot and assured good junctions. All overlapping flights had enough common points to insure proper connection.

(b) Adjustment of plot

The R flight was not very strongly controlled but by the method used as described above it was found to be sufficiently controlled for a good plot.

Photograph no. R-20 was found to be tilted over 3° so it was not used in the plot or to trace from. The remainder of R-flight was found to be distarted considerably from either tilt or difference in scale, while this did not affect the radial plot to any extent, it made the tracing of detail difficult. The plot required no unusual adjustment, and final intersections obtained were good except where detail was indistinct.

(c) General Description of Topography and Interpretation.

The field inspection report covering this section is filed with the descriptive report for sheet Reg. No. 5369 and in addition to these notes the following notes are made as the compiler made the field inspection in this territory.

(1) Live-oak Peninsula

The topography of this territory is covered sufficiently well in the Field Inspection report with the exception of these features. The land around Salt lake is flat grass covered and water will stand, after a rain, in some places. East of Salt lake are found a number of lakes. The tree and brush covered portion of the peninsula is rolling, being composed of many sand dunes which geologists say indicate the former position of the Gulf Coast. Especially is this noticable around stations Oak and Causeway. The rolling topography would not be noticable from the air or water. The trees consist of Live-oak, mesquite, and

The new Hydrographic Survey of this area has not been received in the office up to the date of printing of this compilation, 8/9/35. Shoal areas and low water line on this compilation are approximate only and should be so considered in using the new Hydrographic Survey.

B. G. Jones.

3. COMPILATION (CONT'D.)

(c) (cont'd.)

(1) (cont'd.)

other forms which go to make up the type generally known by the name chaparral. This has been shown by the general tree and bush symbol.

(2) North Side of Copano Bay

The trees and brush in this section ~~is~~^{are} also covered by the term chaparral. The growth is thick around Mission Bay and thins out ~~xx~~ toward the north eastward until it plays out almost entirely around Copano creek. There is no cultivation or agriculture development at present in this area, with the exception of possibly some cattle grazing.

(3) The interpretation of the shell islands, reefs and general shoal areas was difficult and only those which showed very definitely on the photographs were indicated. Mission Bay is filled with many small islands and shoal areas as ~~xx~~ indicated on the sheet.

The large shallow water areas which on the photographs were rather indefinite in outline and extent covered with water but which showed as distinctly shallower than adjacent waters, were outlined with a dash line. Definite ~~shell~~ reefs which would probably be bare or nearly bare at low water were outlined with dots. This was done because in some cases these reefs were near small islands and a dashed outline might have been confused as a number of small islands. The dotted outline cannot be taken as representing the ~~low water line~~ necessarily. *Correct*

From the photographs it is very difficult to determine the exact nature of the reefs and islands even with an adequate field inspection because of their number and their changing nature. The reefs and island shown on this compilation are as could be best determined by the use of the photographs and ~~the~~ the hydrographic survey will undoubtedly disclose differences. Since it is impossible, because of their changing nature, to represent these reefs in any way that will be true for any length of time, no attempt will be made to change this sheet in this respect to conform with the hydrographic survey. *See opposite page.*

The paved highway from Rockport which crosses the causeway is the only road on this sheet that is paved and of any importance. The remainder of the roads are dirt or shell roads--the more used being indicated by a double dash line and poor roads and trails ~~xx~~ by a single dash line.

(d) Bridges

There are a few small bridges and culverts on the roads in the vicinity of Salt Lake but they are of no importance. The only bridge of any importance is the Copano Bay causeway over the entrance of Copano Bay. This is a timber trestle with concrete ~~xx~~ superstructure about 8,955 ft. long and near its middle is a single leaf bascule draw span which has a clear width between piers of 42' and vertical clearance of 13' at M. L. W. and 11 ft. at H. W. This data was furnished by U. S.

3. COMPILATION (CONT'D.)

(d) (cont'd.)

Engineers office at Galveston and verified by the field inspection party.

(e) Information from other sources

All information was obtained from photographs, or notes written by the field inspection, with the exception of the clearances on the Bascule bridge as stated above and certain names as shown below.

(f) Conflicting names

Liveoak used to name peninsula on charts 1285 and 1117.

Live Oak used to name the ridge on this peninsula by U. S. G. S. Quadrangle Aransas Pass and by a county property map of this area.

Live-oak given as the proper spelling by dictionary (Funk & Wagnalls, Standard desk) for the name of the tree from which the locality name was taken, and this spelling is recommended.

See approved name list at back.
Preston, & Ocean view

This ^{are} is shown as a town on chart 1117. Both the name and town symbol should be removed,

Copano

This is shown as a town on chart 1117. The town symbol should be removed but the name should remain as it represents a locality known by that name.

(g) List of New Names

(1) Salt Lake.

Taken from the property map of Aransas county prepared by Fred M. Percival. This lake is not shown on U. S. C. & G.S. charts. It is shown by U. S. G. S. State of Texas map but is not named. This name has general usage.

(2) Lone Tree Point

This name was obtained from several authorities in Rockport and it has general usage.

(3) Live-oak Point

Same source as (2)

(h) Junctions with adjoining sheets

This sheet is joined on the west by sheet no 5370 (Field no. 20); on the south east by sheet no. 5369 (Field no. 19), and sheet no. 5397 (Field no. 23); and on the east by sheet no. 5396 (Field no. 22). All junctions were satisfactory.

4. COMPARISON WITH OTHER SURVEYS

Surveys of this region were made by U. S. C. & G. S. in about 1891 (chart no. 1285).

(a) General Comparison to Chart no. 1285

(1) There is a large inland lake near Hannibal Point which was not shown on chart #1285.

(2) Mission River has changed its course so that it does not run through the lake on the north side of the bay but connects directly to Mission Bay. The islands at the entrance to Mission Bay have changed considerably.

(3) Live-oak Point is now definitely a part of the mainland instead of almost an island.

(4) Lap Reef is now two small islands instead of one large one. Other reefs seem to be nearly the same but are all subject to frequent changes.

(5) The pier shown at Lat. 28°-09', Long. 97°-07.4' is no longer in existence.

(6) There are ~~x~~ piers in the vicinity of station Oak and one near the south west end of the causeway not previously shown.

(7) The small island formerly shown at Lat. 28°-05.2' Long. 97°-04' has connected to the mainland.

(8) The roads in general have been changed and should be made to conform to this sheet, *and the Copano Bay Causeway should be added.*

(b) Detailed Comparison to Chart 1285

Arensas Bay

	Latitude ° '		Longitude ° '	Change old to new. (meters)*
Near	28 06	On	97 02	+ 60
On	28 06	Near	97 02	- 30
Near	28 07	On	97 02	+ 27
On	28 07	Near	97 02	+ 94

Copano Bay South Side

Near	28 07	On	97 03	+ 20	North
Near	28 07	On	97 03	- 20	South
On	28 06	Near	97 03	0	
Near	28 06	On	97 03	- 40	
Near	28 05	On	97 04	+ 40	
Near	28 05	On	97 05	- 52	
Near	28 05	On	97 06	- 20	
On	28 04	Near	97 07	- 27	

4. COMPARISON WITH OTHER SURVEYS (CONT'D.)

(b) (cont'd.)

Copano Bay North Side					
	Latitude		Longitude		Change old to new. (meters)*
	o ' "		o ' "		
Near	28 07	On	97 10	-	45
Near	28 09	On	97 08		0
Near	28 09	On	97 07	+	16
Near	28 10	On	97 06	+	38
Near	28 10	On	97 05		0
Near	28 11	On	97 04	-	30

Mission Bay

Near	28 08	On	97 10	-	145	
Near	28 09	On	97 11	+	125	South
Near	28 09	On	97 11	+	445	North
On	28 09	Near	97 11	+	115	
On	28 10	Near	97 10	+	705	
Near	28 10	On	97 10	+	560	
Near	28 10	On	97 09	-	210	
On	28 10	Near	97 09	-	160	
On	28 09	Near	97 09	-	93	

The large difference in Mission Bay seemed to be caused by nature on the N. side at the river entrance but on the east and west sides it appears that the old surveys may not have had adequate control.

+ = accumulation - = recession

All measurements made along the parallels and meridians and not normal to the shore necessarily.

5. LANDMARKS

There is a landmark on chart # 1285, as follows:

E. Chy. (Copano Ruins) 28°-08.75'
97°-07.65'

It is recommended that this landmark be removed from the chart as the chimney has partly fallen down and is no longer prominent.

~~Aside from this there are no objects that are recommended for landmarks.~~ There are no objects sufficiently prominent for landmarks.

6. RECOVERABLE OBJECTS

The following objects are among the points selected by the field party for hydrographic and topographic stations, and their positions were determined by the radial plot of this sheet. The field inspection party has submitted description of these objects on Form 524

Center of Bridge (d)	28°-07.2'	97°-01.2'
Peak of House (d)	28°-09.40'	97°-11.6'

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 charting and of 8 meters for other data. It is understood that the widths of roads, etc. have been slightly expanded in order that the detail may be kept clear and from photographing as a solid line in the photo-lithographic process.

To the best of my knowledge, this sheet is complete in all detail of importance for charting purposes, within the accuracy stated above, and no additional surveys are required.

Submitted by (sgd) Carl H. Rulfs
Carl H. Rulfs
by J. H. Price

The accuracy of location given above is rather high for work on this scale. A better estimate is an accuracy of location of .3 to .5 mm on the scale of the sheet for intersected points and 3 to 8 mm for other detail.

B. G. Jones

DEPARTMENT OF COMMERCE
U.S. COAST AND GEODETIC SURVEY

LANDMARKS FOR CHARTS

Corpus Christi, Texas

February 28 _____, 193 5

DIRECTOR, U.S. COAST AND GEODETIC SURVEY:

The following determined objects ~~should be deleted~~

Sheet Field # 21
Reg. No. 5395

T. M. Price, Jr.

Chief of Party.

[illegible]

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-5395

Date. July 1, 1935

GEOGRAPHIC NAMES

Chart No. 1117 & 1285

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

Status	Name on Survey	Name on Chart	New Names in local use	Names assigned by Field	Location
✓	<u>Mission River</u>				
✓	<u>Mission Bay</u>				
✓	<u>Shellbank Reef</u>				
✓	<u>Copano</u>				
✓	<u>Copano Reef</u>				
✓	<u>Lap Reef</u>				
✓	<u>Jordan Pass</u>				
✓	<u>Smith Channel</u>				
✓	<u>Fish Point</u>				
✓	<u>Lone Tree Point</u>				
✓	<u>Hannibal Point</u>				
✓	<u>Salt Lake</u>				
-	<u>Copano Bay Causeway</u>				
✓	<u>Liveoak Peninsula</u>				
✓	<u>Liveoak Point</u>				
✓	<u>Grass Island Reefs</u>				
✓	<u>Copano Bay</u>				

APPROVED NAMES
UNDERLINED IN SURV.
[Signature]

(M-136)

REVIEW OF AIR PHOTO COMPILATION T-5395

Comparison with Graphic Control Surveys.

There are no graphic control surveys in this area.

Comparison with Previous Topographic Surveys.

T-827 (1861) 1:20,000. T-827 covers Mission Bay and the western end of Copano Bay.

Although Mission Bay is bounded by a bluff, the position of shore line and bluff, vary from the location according to the compilation by amounts varying up to 400 meters. Mission River, now flowing directly into Mission Bay, formerly flowed into the smaller bay now shown with a separate outlet just west of the mouth of Mission River.

Examination of the photographs proves the compilation to be correct.

The compilation is accepted as adequate to supersede T-827 in all points of detail within the area common to the two surveys.

T-838 (1861) 1:20,000. T-838 covers Copano Bay from Mission Bay to its entrance to Aransas Bay.

Except for a bluff shown on T-838 around Salt Lake the two surveys are in agreement within 50 meters. Stereoscopic examination of the photographs does not justify the addition of the bluff as it appears to be not more than a few feet high.

Except for a few bluffs, the existence of which is not disproved by the photographs, the compilation is adequate to supersede T-838 in all points of detail within the area common to the two surveys.

Comparison with Recent Hydrographic Surveys.

Hydrographic surveys in this area are under way but have not as yet been received in this office.

Comparison with Chart 1285.

A very complete and detailed comparison with chart 1285 is given on page 7 of the Descriptive Report for the compilation.

Landmarks and Aids to Navigation.

One landmark is charted in this area and it is recommended for removal. No landmarks are submitted for addition.

No aids to navigation are charted in this area and none are shown on the compilation.

General.

Diagonals checked 0.2 mm. across 6 minutes of longitude by three minutes of latitude. As this is a skew projection, this difference may be due to differential expansion of the celluloid.

Approximately one-half mile of bluff was added just east of Salt Lake. This was shown on the old topographic survey, was noted by the field inspection party, and was apparent upon stereoscopic examination of the photographs.

Respectfully submitted,

Ralph M. Berry

Ralph M. Berry.

B. G. Jones

August 8, 1935.

Approved
K.T. Adams

REVIEW OF AIR PHOTO COMPILATION NO. 5395

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

See page 2
Compiled by: 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, compass, and~~ 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. The hydrographic survey may not be advanced far enough when this sheet is submitted to make this comparison completely. Disagreements in reefs will be impractical to change as noted in 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, ~~reefs, shoals, and~~
~~reefs~~, and legends pertaining to them is satisfactory. (Par.
36, 37, 38, 39, 40, 41)
No low water line obtained. Representation of shoals and
reefs explained in report.
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)
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
One deletion
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)
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~~
~~Hydrographic Survey 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.
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;

T. M. Price, Jr.
Chief of Party

19. Remarks after review in office:

Reviewed in office by: *Ralph M. Berry* *B. G. Jones*

Examined and approved:

K. T. Adams
Asst Chief, Section of Field Records
Division of Charts
L. O. Silliman
Chief, Division of Charts

F. S. Borden
Chief, Section of Field Work
G. H. Anderson
Chief, Division of Hydrography
and Topography.