1265

5476

Form 504
Rev. Dec. 1933

DEPARTMENT OF COMMERCE
U.S. COAST AND GEODETIC SURVEY
R. S. PATTON, DIRECTOR

DESCRIPTIVE REPORT

Topographic
~~*Hydrographic*~~ } *Sheet No.* T-5476

State Florida

LOCALITY

Santa Rosa Sound

Vicinity of Range Point

1934

CHIEF OF PARTY

M. H. Reese

U.S. GOVERNMENT PRINTING OFFICE: 1934

Applied to Chart 871 - July 12, 1946 - M. M. R.

Form 537a
Ed. Nov. 1929

DEPARTMENT OF COMMERCE
U.S. COAST AND GEODETIC SURVEY

REG. NO.

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. 5

REGISTER NO. T-5476 T5476

State Florida

General locality Santa Rosa Sound

Locality ~~Longitude 87°05'00" Range Point to Longitude 86°57'30"~~ Vicinity of Range Point

Scale 1:10,869 Date of ~~survey~~ photographs Oct. 31 June 26 & July 1 1934.

~~Vessel~~ Air Photo Compilation Party No. 24, Pensacola, Fla.

Chief of party M. H. Reese.

Surveyed by See data sheet in the descriptive report.

Inked by H. C. Moore.

Heights in feet above ~~mean high water~~ to ground to tops of trees

Contour, Approximate contour, Form line interval ~~not~~ feet

Instructions dated June 7, 1934

Remarks: Compiled on scale of 1:10,869 and enlarged and printed on scale of 1:10,000 by Photo Lithography. Scale factor 0.92.

- STATISTICS -

on

SHEET, FIELD NO. 5 , REG. NO. T-5476

PHOTOS, NO. ~~C43~~ 1 X U.S.N.A.S. C 46 to ~~C48~~ 6 U.S.N.A.S. C 48

58 TO NO. ~~77~~ 67

DATE OF PHOTOGRAPHS ~~10/31/34~~ ~~7/11/34~~ 7/11/34 TIME ~~2:00 P.M.~~ ~~9:00 A.M.~~ 9:00 A.M.

	BY	DATE FROM	TO
ROUGH RADIAL PLOT	E. P. Hernandez, Jr.	9/26/34	
SCALE FACTOR (0.92)	E. P. Hernandez, Jr.	9/27/34	
SCALE FACTOR CHECKED	M. H. Reese	9/27/34	
PROJECTION	E. P. Hernandez, Jr.	9/28/34	
PROJECTION CHECKED	H. C. Smith	9/28/34	
CONTROL PLOTTED	S. S. Gill	10/2/34	
CONTROL CHECKED	H. C. Smith	10/2/34	
TOPOGRAPHY TRANSFERRED			
TOPOGRAPHY CHECKED			
SMOOTH RADIAL LINE PLOT	H. C. Smith	10/5/34-10/6/34	
RADIAL LINE PLOT CHECKED	E. P. Hernandez, Jr.	10/11/34	
DETAIL INKED	H. C. Moore	10/11/34-11/7/34	
PRELIMINARY REVIEW OF SHEET	E. P. Hernandez, Jr.	11/19/34	
" " " "	~~E. A. Donadieu~~	11/19/34	

AREA OF DETAIL INKED ~~14.2~~ 11.0 sq. Statute Miles (Land Area)

Total Area of Sheet 30.0 " " "

AREA OF DETAIL INKED _____ sq. Statute Miles (Shoals in Water Area)

LENGTH OF SHORELINE (more than 200 m. from ~~nearest~~ opposite shore)

16 ~~55.05~~ Statute Miles

LENGTH OF SHORELINE (rivers and sloughs less than 200 m. wide)

2 Statute Miles

GENERAL LOCATION Santa Rosa Sound

LOCATION ~~Range Point~~ Longitude 87°05'00" to Longitude 86°57'30"

DATUM North American 1927 (Unadjusted)

STATION ~~Rosa 1934~~ ~~March 2-1910-34~~

~~40.087" (1234.4~~

~~30-22-40.175 (1237.1m.~~

Latitude ~~30°26'-38.144" (989.8 m.~~

Longitude ~~87-02'-55.392" (1478.9m.~~

~~87-03-19.233 (613.6 m.~~

~~19.148" (511.1~~

Ref. Station Agassiz 2, 1910

Lat 30° 21' - 55.306" (1703.0 m)

Long 86 - 57 - 49.044" (1309.6 m)

I connect this sheet conformed with sheet

COMPILER'S REPORT

FOR

PHOTO TOPOGRAPHIC SHEET NO. T-5476

FIELD NO. 5

I. GENERAL INFORMATION:

Instructions dated June 7, 1934.

Data used in the compilation of this sheet were obtained from sketches and field notes on the photographs, and from members of the field inspection party.

The main land area of the sheet is composed of sand ridges covered with pine, scrub oak, magnolia, and a few clumps of palmetto. There are numerous dry sloughs that drain the low areas after hard rains. Also a few marshy spots. The low areas are mostly covered with grass and pine.

The tide in this area rises approximately 1.2 feet. The difference between the high and low water lines is small, excepting on occasional sand spits along the northern shore. The high water line, as determined by the field inspection party, was used in tracing the shore line.

This sheet was compiled from photographs taken by the Aero Service Corporation with a five-lens camera #H.U.I.-33. Photographs numbered 58 to 77 lie between Latitude 30°25' and Latitude 30°23'. Additional single lens photographs were taken by the U. S. Naval Air Station of the area between Latitude 30°25' and 30°26', Longitude 86°59' and 86°57'30".

II. CONTROL:

(A) Sources.

The following sources of control were used in the compilation of this sheet:

(a) Triangulation by G. H. R., 1910.
(b) " " G. L. Anderson, 1934.
(c) " " M. H. Reese, 1934.
(d) Transit traverse by G. B. Grunwell, 1933, Geological Survey.

The geographic positions as established by G.H.R. and G. B. Grunwell were corrected to the North American 1927 Datum. Using first order triangulation station COVE-3 1930, as this was the only station adjacent to this sheet common to the

two schemes, a conversion factor was obtained whereby the geographic positions of these stations on the North American Datum were corrected to the North American 1927 Datum.
See Memorandum.

This factor was found to be -9.7 meters in forward latitude, +9.7 meters in backward latitude, +14.7 meters in forward longitude, and -14.7 meters in backward longitude. These corrections were applied to the following triangulation stations;

Marsh 2	1910-1934
Ranch 2	1910-1934
Two Points 2	1910-1934
U.S.G.S. TT70G	1933-1934
U.S.G.S. TT71G	1933-1934

The following stations were plotted on the North American 1927 Datum and required no correction:

Rosa	1934
Hollow	1934
Sand Cove	1934
Roge	1934

The geographic position of Station CLAM 1934, as established by M. H. Reese 1934, was plotted according to North American 1927 Datum, and a correction factor of + .2 meters in forward latitude, -.2 meters in backward latitude, + 5.1 meters in backward longitude, and -5.1 meters in forward longitude, was applied to tie in with the triangulation as based on Station COVE 3.
See attached memo

No other stations were used for control on this sheet.

(B) Errors.

The control uwed for this sheet was found adequate for the radial line plot, and no errors were found, although slight adjustments had to be made in plotting stations on the celluloid due to shrinkage.

(C) Discrepancies.

There were no discrepancies in the geographic positions of the control stations.

III. COMPILATION:

(A) Method.

The usual radial line method of compilation from five-lens and single-lens photographs was used for this sheet.

Due to the fact that the area between Latitude 30°25' and 30°26' - Longitude 86°57'30" had to be traced from the extreme portions of the wing prints of the five-lens photos, a single-lens flight made by the U. S. Naval Air Station was used to check this portion of the sheet.

(B) Adjustment of plot.

Prints 57A, odd-numbered wing prints from 61A to 79A, and 72E, were mounted over water, with no way to check with "B" prints for accuracy.

Even-numbered wing prints 66A to 78A, 68E, 70E, 74E, 76E, 78E, had very little detail with which to check the accuracy of the mountings.

Photographs 58, 60, 62, 64, and 66 had excessive tilt.

(C) Interpretation.

Only graphic symbols as approved by the Board of Surveys and Maps (1932) were used in the compilation of this sheet, except for the symbol (§) used to denote brush.

A single broken line denotes sand trail. The full double line denotes paved highway, the width of which has been slightly exaggerated.

Geological Survey stations have been indicated by a 2.5 mm. circle.

(D) Information from other sources.

None.

(E) Conflicting names.

None.

IV. COMPARISON WITH OTHER SURVEYS:

The junctions of this sheet with sheets to the East (T-5480 and T-5478) and to the West (T-5474) are satisfactory.

V. LANDMARKS:

The list of landmarks in this area is submitted by Lieut. I. E. Rittenburg.

VI. RECOMMENDATIONS FOR FURTHER SURVEYS:

To the best of my knowledge, this sheet is complete in all detail of importance for charting purposes, and no additional survey is required.

Henry C. Moore

Submitted by: Henry C. Moore,
Draftsman.

Approved by: M. H. Reese,
Chief of Party.

This compilation is considered correct within 0.3 to 0.5 m.m. for intersected points and 0.3 to 0.8 m.m. for other detail

F.G.E.

GEOGRAPHIC NAMES

Survey No. T5476

Name on Survey	On Chart No. 490+1265 (A)	On previous survey No. (B)	On U. S. quadrangle Maps (C)	From local information (D)	On local Maps (E)	P. O. Guide or Map (F)	Rand McNally Atlas (G)	U. S. Light List (H)	K	
SANTA ROSA SOUND										1
SANTA ROSA ISLAND										2
GULF of MEXICO										3
EAST BAY	Names of features in T 5475									4
						0398				5
										6
										7
										8
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MEMORANDUM TO ACCOMPANY SHEET NO. 5.

The U. S. Geological Survey ran a transit traverse along Florida Highways Nos. 53 and 10 during the latter part of 1933. This traverse was tied in to several triangulation stations along the northern shore of Santa Rosa Sound, and the checks were accurate enough for photo control. The traverse stations were reduced to the 1927 North American Datum and were used for control in making the radial line plot.

The following recoverable topographic stations are submitted on form 524:

USGS TT 70 G.

USGS TT 71 G.

M. H. Reese.

MEMORANDUM TO ACCOMPANY SHEET NO. T-5476.

The shore line shown on this compilation has been checked against the G.C.S. sheet of Lieut. Rittenburg. The shore line of Pensacola Bay was transferred to the aluminum sheet and the topographer was instructed to check the shore line at each plane table set-up and at each topographic signal located. Practically no errors were found in the shore line by the plane table party.

The shore line on the Santa Rosa Sound side of the sheet was checked against the G.C.S. sheet and the smooth plotted hydrographic sheet of Lieut. Rittenburg. This sheet was originally compiled on triangulation data based on field computations of the first order arc. After the first order arc was adjusted, considerable differences existed between the field datum and the adjusted datum. Therefore, it was necessary to change this projection from the field datum to the adjusted datum. The manner and amount this projection was changed are listed below:

STATION	N.A. 1927 FINAL POSITION (UNADJUSTED)		CORR'N	N.A. 1927 FIELD
Clam	30 22 58.946	1815.2	-3.1	1818.3
	87 01 25.380	677.6	-6.9	684.5
Creek 3	30 22 26.272	809.1	-3.0	812.1
	87 05 13.556	362.0	-7.0	369.0
Marsh 2	30 22 40.087	1234.4	-3.1	1237.5
	87 03 19.148	511.2	-7.1	518.3
Ranch 2	30 23 12.787	393.8	-3.1	396.9
	86 59 32.472	866.9	-6.7	873.6
Rosa (Adjusted)	30 23 32.037	986.5	-3.3	989.8
	87 02 55.137	1471.9	-7.0	1478.9
Roge	30 26 04.504	138.7	-3.5	142.2
	86 57 41.927	1118.8	-6.6	1125.4
Hollow	30 23 58.111	1789.4	-3.4	1792.8
	87 01 41.380	1104.6	-6.0	1110.6
Sand Cove	30 24 54.061	1664.7	-3.4	1668.1
	86 59 13.370	356.8	-6.8	363.6

(Average Correction: Lat. -3.3; Long. -6.6)

There exists a discrepancy of about five meters between the two computations of the stations established in Santa Rosa Sound. (See the attached memorandum for a detailed statement concerning this discrepancy.) In view of the fact that the stations shown on this sheet were plotted from the data as obtained from the

BANK 2 - PENSACOLA L.H. ECC. line, we have not changed their positions, as I am not certain which is the correct one. Further investigation may require re-plotting of this section of the sheet, but the shore line checks the hydrographic work and the topographic work as done by Mr. Rittenburg.

M. H. Reese,
Chief of Party, C. & G. Survey.

TRIANGULATION - SANTA ROSA SOUND

The triangulation established by this party in Santa Rosa Sound was started from the base line BANK-2 1934 - PENSACOLA L. H. ECC. 1934. The computations were carried forward going eastward from the azimuth distance and geographic positions of these two stations. A tie was effected on an old line, RANCH-2 1910 - RED 1919.

Due to the fact that adjusted positions of triangulation were not available when this work was originally computed, the computations were based on the field computations of the first order arc. After the adjustment was made, it was discovered that there was a considerable difference between the adjusted datum and the field datum of the first order arc. It was therefore necessary to change the projection on the air photo compilation sheets.

The compilations in this section were based on datum factors obtained from Station COVE 3 and BEACH 3, which were the only common stations between the old datum and the 1927 datum. Applying these factors to all old stations that were recovered, it was discovered that the geographic positions of RANCH 2, BLACK 2, MARSH 2, and TOP did not agree with the positions as obtained from the computations.

Due to the large difference between these two datums, the Office issued instructions to effect a tie to the scheme of triangulation done by Lieut. Commdr. Peacock in 1930. It was necessary to extend the triangulation of this party from RANCH 2 - RED to a common line of Lieut. Commdr. Peacock's triangulation, which was AGASSIZ-2 1910 - CAMP 1930.

To tie in this triangulation in Santa Rosa Sound more securely, a tie was made to Lieut. Commdr. Peacock's triangulation from the first order line MARY 1934 - BEACH-3 1930-34. A quadrilateral was observed from this base line, making a tie to TUCK 3 - BEACH 3, which is a common line to the Santa Rosa Sound triangulation. From TUCK 3 - BEACH 3 the triangulation executed by Lieut. Commdr. Peacock was recomputed on the 1927 Datum, the computations being carried westward from the BEACH 3 - TUCK 3 line until a connection was made with the triangulation executed by this party, which was CAMP 1930 - AGASSIZ-2 1910.

The computations of the RANCH 2 - RED line, as obtained from the MARY 3 - BEACH 3 line, differ considerably from the computations obtained from the BANK 2 - PENSACOLA L.H. ECC. line. The side checks and closures of the triangles in both instances were well within the limits of required accuracy. The computations have been checked and re-checked, and the existing differences were not found.

The geographic positions of Lieut. Commdr. Peacock's triangulation were computed from the MARY - BEACH 3 line going westward. The work of this party was recomputed, using the values obtained from the MARY - BEACH 3 connection as far westward as the TANK PENSACOLA BEACH - DUMP line, as the Tank at Pensacola Beach had been located by the first order party. The difference between the two locations was +2.2 meters in longitude and +0.6 meter in latitude. The value of PENSACOLA TANK as obtained from the

computations carried from the BANK 2 - PENSACOLA L.H. ECC. line is -0.9 meter in longitude and 0.0 meter in latitude. It can be seen that the difference in the two schemes at this particular point is not very large, but the position of RANCH 2 as obtained from the BANK 2 - PENSACOLA L.H. ECC. line and the position as obtained from BEACH - MARY line differ by the following amount; 1.6 meters in latitude and 5.2 meters in longitude. It is not understood why these two positions should differ by this amount, as the common checks of the lines are very good as obtained from both base lines, which is an indication that the angles observed are correct within the required limits. The triangles were computed through from MARY - BEACH 3 to BANK 2 - PENSACOLA L.H. ECC., and there was a logarithm difference of 60. This difference has been somewhat constant throughout the scheme.

The logarithm of the distance from BANK 2 - PENSACOLA L.H. ECC. is 4.057 777 (adjusted). The value obtained from MARY - BEACH 3 computation is 4.057 837. The azimuths check very good between the two sets of computations, there being a difference of 3.2" on the DUMP - PENSACOLA BEACH TANK line. The azimuth difference, as obtained from the two sets of computations on the RANCH 2 - RED line, is 3.1". It can therefore be seen that there could hardly be a twist in the azimuth, as the difference of 3" remains constant from the RANCH 2 - RED line to the DUMP - TANK PENSACOLA BEACH line, which was the last line computed going westward.

The two sets of computations are being submitted for the Office's inspection, as the question as to where the error exists cannot be settled in the field. It is presumed that the adjustment will probably prove where the error is. I am satisfied that the observations are within their required limits of accuracy for the types of triangulation. The triangulation in Santa Rosa Sound is was executed with the view of calling it third-order accuracy, but the common checks of the sides are of second order accurary, and except in one or two cases the triangle closures come within second order accuracy.

M. H. Reese,
Chief of Party, C. & G. S.

REVIEW OF AIR PHOTO COMPILATION T-5476

Comparison with Contemporary Graphic Control Surveys.

T-6250a, 1:10,000 (1934); T-6320a, 1:20,000 (1935)

A few small changes have been made in the compilation shoreline which is now in agreement with the graphic control survey.

All information and detail shown on the above graphic control surveys is shown on the compilation except temporary topographic signals and magnetic meridians.

Comparison with Contemporary Hydrographic Surveys.

H-5033 (1930), 1:20,000; H-5667 (1935), 1:10,000; H-5834a (1935), 1:20,000.

The shoreline shown on H-5033 does not agree exactly with the compilation but H-5033 was completed in 1930 and the compilation in 1935 which undoubtedly accounts for the slight difference. The shoreline shown on H-5667 and H-5834a was taken from the compilation and agrees with the soundings.

Comparison with Former Surveys.

T-797 (1860), 1:20,000; T-1192 (1870), 1:20,000; T-1193(1870), 1:20,000; T-2160 (1894), 1:10,000; T-4241 (1927), 1:20,000.

The portion of the above surveys covered by the compilation show only minor time changes. The compilation is complete and adequate to supersede the portions of the above surveys which it covers.

Comparison with Chart 1265.

This compilation shows numerous corrections to topographic detail on chart 1265 none of which require discussion.

General

The limits of woods and meadow land are only generally defined and could have been made more definite by better drafting of vegetation symbols.

L. C. Landy

REVIEW OF AIR PHOTO COMPILATION NO.

Chief of Party: M. H. Reese Compiled by: H. C. Moore

Project: Florida Compilation Instructions dated: June 7, 1934

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)
Low water line has not been indicated. No bridges over surveyed streams. Roads and important trails have been indicated.
(e) None; (g) Yes; (i) Yes.

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)

There are no changes in this sheet.

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)
No additional plane table, sextant, or theodolite surveys have been used. Supplemental flight by U.S.N.A.S. was made as mentioned in descriptive report.

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. were submitted.

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.

No other surveys have been made with which we can check this sheet. See Memorandum.

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)

This has been done.

7. ✓ High water line on marshy and ~~mangrove~~ sandy coast is clear and adequate for chart compilation. (Par. 16a, 43, and 44)

Yes. The high water line was drawn on field photographs by field inspection party and this was used for tracing.

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." M-87

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)

None of the above things have been shown on this sheet.

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 other than triangulation stations, See memo.

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)

~~There are no landmarks of value to navigation in this area.~~
Landmarks submitted by Lt. I. E. Rittenborg.

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)

There are no bridges of importance 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)

No new names were obtained. (Field Completion Field Order)

13. The geographic datum of the compilation is N.A. 1927 Unadjusted and the reference station is correctly noted. Field Adjusted

14. Junctions with adjoining compilations have been examined and are in agreement. (Par. 66j)

Junctions with sheets to the East and West are satisfactory.

15. The drafting is ~~satisfactory~~ Fair and particular attention has been given the following: Yes.

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. Yes.

4. Closely spaced lines are drawn sharp and clear for printing. Yes.

5. Topographic symbols for similar features are of uniform weight. Yes.

6. All drawing has been retouched where partially rubbed off. Yes.

7. Buildings are drawn with clear straight lines and square corners where such is the case on the ground. Yes.

(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;

M. H. Reese
Chief of Party

19. Remarks after review in office:

Reviewed in office by: L. C. Landy
Frank G. Erskine

Examined and approved:

C. H. Green
Chief, Section of Field Records

Fred. L. Peacock
Chief, Section of Field Work

L. O. Colbert
Chief, Division of Charts

Chief, Division of Hydrography and Topography.