

5568

U. S. COAST & GEODETIC SURVEY  
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Form 504  
Rev. Dec. 1933  
DEPARTMENT OF COMMERCE  
U.S. COAST AND GEODETIC SURVEY  
R. S. PATTON, DIRECTOR

DESCRIPTIVE REPORT

Topographic } Sheet No. 5568  
Hydrographic }

U. S. COAST & GEODETIC SURVEY  
LIBRARY AND ARCHIVES

APR 23 1936

Acc. No. \_\_\_\_\_

State North Carolina

LOCALITY

Alligator River

Alligator and Pungo R. Canal

Lake Mattamuskeet

Eastern Part

1934  
Date of Photographs 1934.

CHIEF OF PARTY

S. B. Grenell

5568

Applied to chart 831 Nov. 7, 1936 H.C.

DEPARTMENT OF COMMERCE  
U. S. COAST AND GEODETIC SURVEY

REG. NO. 1

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. 5568

REGISTER NO. 5568

State North Carolina

General locality Alligator and Punga River Canal

Locality Lake Mattamuskeet Alligator and Punga River Canal  
\* photographs compiled (Eastern Part)

Scale 1:20,000 Date of survey July - December, 1935

Vessel Airphoto Compilation Party # 18

Chief of party S. B. Grenell

Surveyed by aerial photographs

Inked by J. W. Osteen, Jr. and S. B. Grenell

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

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

Instructions dated December 14, 1934

Remarks:

\* Blue Print on Scale 1:19608

NOTES ON COMPILATION

One copy of this form must accompany each chart from beginning to completion. The last draftsman, whose name appears on this form, is responsible for it and all personnel will endeavor to keep these forms up to date and correctly posted. This form is very important inasmuch as the final Descriptive Report of the Chart compiled is based upon the information contained herein.

SHEET NO. 5568

M-83  
PHOTO NO. 44 TO PHOTO NO. 62

	BY	START	FINISH
ROUGH RADIAL PLOT	<u>J. C. Tison, Jr.</u>		<u>6/4/35</u>
SCALE FACTOR (1.02)	<u>J. C. Tison, Jr.</u>		<u>"</u>
SCALE FACTOR CHECKED	<u>S. B. Grenell</u>		<u>"</u>
PROJECTION	<u>Washington Office - machine</u>		
PROJECTION CHECKED	<u>S. B. Grenell</u>		
CONTROL PLOTTED	<u>J. C. Tison, Jr.</u>		<u>7/1/35</u>
CONTROL CHECKED	<u>F. B. Hickman</u>		<u>7/2/35</u>
TOPOGRAPHY TRANSFERRED	<u>- - -</u>		
TOPOGRAPHY CHECKED	<u>- - -</u>		
SMOOTH RADIAL LINE PLOT	<u>J. C. Tison, Jr.</u>	<u>7/15/35</u>	<u>7/29/35</u>
RADIAL LINE PLOT CHECKED	<u>S. B. Grenell</u>		<u>"</u>
DETAIL INKED	<u>J. W. Osteen, Jr.</u>	<u>7/30/35</u>	<u>8/3/35</u>
	<u>S. B. Grenell</u>	<u>completed</u>	<u>1/9/36</u>
		<u>incomplete</u>	<u>8/3/35</u>
AREA DETAIL INKED	<u>45.3</u>	sq. Statute Miles	
LENGTH OF SHORELINE OVER 200 m.	<u>7.6</u>	Statute Miles	
LENGTH OF SHORELINE UNDER 200 m.	<u>38.3</u>	Statute Miles	
GENERAL LOCATION	<u>North Carolina, Alligator and Pungo River Canal.</u>		
LOCATION	<u>Lake Mattamuskeet.</u>		
DATUM STATION	<u>FAIRFIELD</u>	<u>1935</u>	Latitude <u>35 - 33 - 06.38</u> ( <u>196.6</u> )
	<u>N.A. 1927</u>	Datum	Longitude <u>76 15 38.43</u> ( <u>967.9</u> )

REPORT OF COMPILATION:

This compilation was begun by J. W. Osteen, draftsman, and later completed by the Chief of Party after the party complement was reduced. In reviewing this compilation special reference should be made to the General Report for Compilations 5567 to 5573 for general discussion of the topography and notes on radial plots and control. *The general report covering this compilation is attached to the Desc. Report T-5567.*

RADIAL LINE PLOT: By J. C. Tison, Jr., Aid.

"Considerable difficulty was encountered in securing good intersections for points located more than 1/3 the distance out on wing prints. By using successive 'straight' pictures a set of intersections would be obtained which would not check intersections from 'skew' prints.

The control in this area was so distributed that the azimuth of the flight was rigidly held, while only occasional control points were available for holding the "A" and "C" wings. Considerable scale difference in prints and an apparently faulty orientation of some wing prints was believed to cause most of the trouble. By using only radial lines located along the center of wing prints, and by swinging individually those wing prints upon which control points appeared and faulty orientation was apparent, the radial plot was carried through.

All control was held and all points common to adjoining flights checked the location of those points as determined on those flights. All junctions smoothed through without difficulty." *Refer. to pages 5 to 8a, report for compilation T-5550 for a discussion of camera errors in this area and the need for more than the usual amount of ground control. R.A.M.*

ADJUSTMENT OF PHOTOGRAPHS:

The general intensity and distribution of radial points was adequate for controlling the adjustment of detail under normal conditions. However, considerable difficulty was encountered in adjusting the outer-wing sections due to scale distortion in the prints (see discussion in preceding paragraph). The radial point intersections were weak on the outer-wing sections due partly to errors inherent in the photographs and partly to the difficulty in pricking common points in the heavily wooded areas. For this reason no attempt was made to compile detail more than mid-wing distance from the line of flight, except in the two regions near control stations KILKENNY and FAIRFIELD. It was felt that these two stations held the plot sufficiently close in the immediate vicinity to give a compiled accuracy within the required limits. Fortunately, most of the topography in the uncontrolled areas is dense, unbroken swamp, so very little detail of a definite nature has been omitted.

*Triangulation stations in 1935 were established by K.G. Crosby.*

INTERPRETATION OF DETAIL:

The main feature of this area is the ship canal, which crosses the center of the compilation. This feature fell mostly in the "B" prints and was very sharp in detail.

The border of LAKE MATTAMUSKEET, shown in the south west corner of the compilation, was rather dim on the photographs but was put in as accurately as possible. This lake has not appeared to date on any other Coast Survey sheet so it was felt that this small section of the lake should be located if possible.

The cultivated area in the vicinity of FAIRFIELD is very low - reclaimed swamp - and the intensive ditch and drainage canal system has been carefully shown. No buildings have been shown in this section due to the general blurred tone of the prints which would make the location questionable.

All heavily wooded areas in this section are referred to locally as "swamp". (See discussion in General Report). Some areas, however, are slightly higher and dryer than others and have been referred to on the overlay sheet as "semi-swamp". These sections generally have a higher percentage of pine and oak. The general vegetation is a mixture of pine, oak, gum, cypress and various kinds of deciduous undergrowth in such a varying mixture as to make it impossible to delineate actual percentage of growth by symbol distribution.

The main drainage canals in the vicinity of FAIRFIELD are wide and deep and are much used for small boat navigation. There is generally a third-class dirt road along the embankment. All roads in this section are deeply ditched - generally on both sides - but these <sup>ditches</sup> have not been indicated due to the limitations of reproducing fine drafting.

At the time the field inspection was being made, a survey party was laying out a line for a bridge across the ship canal at triangulation station JUNCTION. This bridge has been completed but no inspection has been made as to location or clearance data. This information is probably on file in the Washington Office - submitted by the U.S. Engineers.

*No information in office at this time, Aug. 1, 1936 P.E.*

#### COMPARISON WITH CONTEMPORARY SURVEYS:

Junctions with all adjoining compilations are complete in every detail. There are no existing topographic surveys of this area with which other comparisons could be made. The charted detail of the ship canal checks as closely as could be determined from the 1:80,000 charts.

#### PLACE NAMES:

Alligator River ✓  
Alligator River - Pungo River Canal ✓  
Lake Mattamuskeet ✓

#### SOURCE

Charted  
Charted  
Official name, U. S.  
Biological Survey wild  
foul refuge.  
Post Office  
(no Post Office here)

Fairfield (village) ✓  
Kilkenny (settlement)

Respectfully submitted,

S. B. Grenell,  
Chief of Party.

GEOGRAPHIC NAMES

Survey No. *T-5568.*

Name on Survey	Source											
	A	B	C	D	E	F	G	H	K			
<u>Alligator River -</u>	(231)											1
<u>Pungo River Canal</u>												2
<u>Alligator River.</u>	(231)											3
<u>Lake Mattamuskeet.</u>				✓								4
<u>Fairfield</u>						✓						5
<u>Kilkenny.</u>				✓								6
												7
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Names underlined in red approved  
*G. Egan* on 3/24/36

REVIEW OF AIR PHOTO COMPILATION T 5568 (1934)  
Scale 1:20,000

Comparison with Chart No. 3252

There is a highway bridge across the canal at lat.  $35^{\circ} 35.6'$ , long.  $76^{\circ} 13.8'$  replacing the highway ferry at this point. The bridge is not shown on this compilation for it was not in existence at the time the photographs of this area were taken and its exact location is not known.

The section of canal running in north and south direction between latitudes  $35^{\circ} 34.2'$  and  $35^{\circ} 35'$  at longitude  $76^{\circ} 15.3'$  is shown on this compilation with a single line. This waterway is not wide enough to be shown in double parallel lines on the compilation.

There are no graphic control, no previous topographic, no new hydrographic surveys of this area.

The report for this compilation does not mention the probable errors of plotting. This error is estimated to be about 0.5 mm. for the Alligator and Pungo River Canal, and from 0.8 to 2.0 mm. for Lake Mattemusheet and the Alligator River north of lat.  $35^{\circ} 41'$  which are well out on wing prints without ground control.

April 1, 1936.

*Leonard A. McEwan*  
*V B Jones*

## REVIEW OF AIR PHOTO COMPILATION NO. T-5568.

Chief of Party: S. B. GRENELL

Compiled by: J.W. Osteen, Jr.  
S. B. Grenell

Project: F.P. 76

Party # 18

Instructions dated: 12-14-34

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) *No Changes*
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 ground surveys.*
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)~~  
*No blue prints and maps 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.  
*No contemporary hydro. or topo. surveys*
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) ✓
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." 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 shown.* ✓
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) *None located and described* ✓
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* ✓
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) *See note in Desc. Rept relative to new bridge near Δ Junction.* ✓
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. ✓
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:

18. Examined and approved;

*Jan. 10, 1936*

*J. B. Russell*

Chief of Party

19. Remarks after review in office:

Reviewed in office by: *Leonard A. Mulsant. April 1, 1936.*  
*V. B. Jones*

Examined and approved:

*C. H. Green*

Chief, Section of Field Records

*L. O. Robert*

Chief, Division of Charts

*Fred. L. Peacock*

Chief, Section of Field Work

*G. Wade*

Chief, Division of Hydrography and Topography.