

5148

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

DESCRIPTIVE REPORT

Topographic

~~Hydrographic~~

Sheet No. 5148

State Georgia & South Carolina

LOCALITY

Georgia & South Carolina Coast

Tybee Roads

Savannah River Entrance

1935

CHIEF OF PARTY

S. B. Grenell

U. S. GOVERNMENT PRINTING OFFICE: 1934

5148

Applied to chart 839 - Nov. 1935 R.H.C.

Applied to chart 440 June 1936 J.H.S.

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.

REGISTER NO. 5148

State Georgia & South Carolina

General locality Tybee Roads

Locality Savannah River Entrance

Scale 1:10,000 Date of photos: 10-11-33 ~~survey~~, 19....

Vessel Aerial Photo Compilation Party No. 18

Chief of Party Lieut. (j.g.) S. B. Grenell

Photos plotted by: R. D. Cross
~~Surveyed by~~

Inked by T. R. Cooper & John Tassapoulos

Heights in feet above to ground to tops of trees

Contour, Approximate contour, Form line interval feet

Instructions dated November 10, 1933, 19....

Remarks: Compilation of aerial photos Nos. 1351 to 1356,

1442 to 1458. F-5148 is made up of F-5148 East Half and F-5148 West Half

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.

REGISTER NO. 5148 (West Half)

State Georgia and South Carolina

General locality Savannah River Carolina East Coast

Locality Savannah River Cockspur Island
photographs

Scale 1:10,000 Date of ~~survey~~ Comp. 10-11-33, 19

Vessel Aerial Photo Compilation Party No. 18

Reviewed and recommended for approval:

Chief of party Lieut. (j.g.) S. B. Grenell

Photographs plotted by:

~~Surveyed by~~ R. D. Cross

Inked by T. R. Cooper

Heights in feet above to ground to tops of trees

Contour, Approximate contour, Form line interval feet

Instructions dated November 10, 1933, 19

Remarks: Compilation of aerial photos Nos. 1351 to 1356;

1442 to 1453

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.

REGISTER NO. 5148 (East Half)

State Georgia

General locality Appling Road at Coast

Locality Savannah River Entrance Island

photos: 10-11-33

Scale 1:10,000 Date of Survey, 19

Vessel Aerial Photo Compilation Party No. 18

Reviewed and recommended for approval:

Chief of party Lieut. (j.g.) S. B. Grenell

Photographs plotted by:

~~Surveyed by~~ R. D. Cross

Inked by John Tassapoulos

Heights in feet above to ground to tops of trees

Contour, Approximate contour, Form line interval feet

Instructions dated November 10, 1933, 19

Remarks Compilation of aerial photos Nos: 1152 to 1158

--NOTES OF 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 personnell 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. 5148 (West Half)

PHOTO NO. <u>1351</u> <u>1442</u>	to PHOTO NO. <u>1356</u> <u>1453</u>	
BY	START	FINISH
ROUGH RADIAL PLOT <u>Warren Fitch</u>	<u>12-20-33</u>	<u>12-20-33</u>
SCALE FACTOR (.940) <u>S. B. Grenell</u>	<u>1-6-34</u>	<u>1-6-34</u>
SCALE FACTOR CHECKED <u>(S.B.G.)</u>		
PROJECTION <u>J. C. Partington</u>	<u>1-26-34</u>	<u>1-26-34</u>
PROJECTION CHECKED <u>F. B. Hickman</u>	<u>1-26-34</u>	<u>1-26-34</u>
CONTROL PLOTTED <u>R. D. Cross</u>	<u>1-27-34</u>	<u>1-27-34</u>
CONTROL CHECKED <u>F. B. Hickman</u>	<u>1-27-34</u>	<u>1-27-34</u>
TOPOGRAPHY TRANSFERRED		
TOPOGRAPHY CHECKED		
SMOOTH RADIAL LINE PLOT <u>R. D. Cross</u>	<u>2-13-34</u>	<u>2-27-34</u>
RADIAL LINE PLOT CHECKED <u>(S.B.G.)</u>		<u>2-27-34</u>
DETAIL INKED <u>T. R. Cooper</u>		
AREA DETAIL INKED <u>10.4</u>	Square Statute Miles	
LENGTH OF SHORE LINE OVER 200m. <u>25.2</u>	Statute Miles	
LENGTH OF SHORE LINE UNDER 200m. <u>22.1</u>	Statute Miles	
GENERAL LOCATION <u>Georg. Savannah River. Chas. East Coast</u>		
LOCATION <u>Savannah River Cockspar Island</u>		
DATUM STATION <u>Quarantine U.S.E.</u>	LATITUDE <u>32°-02'-22.087" (680.3M)</u>	
<u>(S.C.) 1932</u>		
DATUM <u>N. A. 1927</u>	LONGITUDE <u>80°-53'-41.626" (1092.1M)</u>	

REPORT OF COMPILATION:

COMPILATION METHOD:

This sheet was compiled by the standard radial line plot method. Because of the high shrinkage and expansion factors in this type of celluloid all projection lines and control had to be replotted before the radial plot could be run through.

ADJUSTMENT OF PHOTOGRAPHS:

Except for the average amount of tilt, no difficulty was experienced in the adjustment of photographs. In areas more affected by tilt and area around Fort Pulaski where radial points were insufficient, a supplementary system of radial points was put ~~in~~ ⁱⁿ.

INTERPRETATION:

The photographs were very clear and no difficulty was experienced in tracing detail except in representation of some of the intricate lace-like pattern formed in portions of flooded marsh. Gullies and sloughs are indicated definitely where they could be plainly discerned. Otherwise the flooded area are shown with broken marsh symbol.

INFORMATION FROM OTHER SOURCES:

Junctions with adjoining 1:10,000 five lens atlas sheets and other sheets compiled in this office are complete and satisfactory. On the east it joins ~~Atlas~~ sheet T-5148(5) on the north, ~~Atlas~~ sheet T-5144(5), on the west, ~~Atlas~~ sheet T-5147. Junction has been made on the south with 5 lens 1:20,000 sheet #5113.

ACCURACY AND COMPLETENESS:

As nearly as can be determined from the photographs this sheet is complete in every detail. Well defined detail should be located with an error of not more than 4 meters; less well defined detail with an error of not more than 10 meters.

PHOTOGRAPHS:

No.	to	No.	Date	Time	Stage of Tide
1351		1356	10-11-33	10:40 AM	3/5
1441		1452	10-11-33	11:10 AM	4/5

T. R. Cooper
T. R. Cooper,
Draughtsman

Approved:

S. B. Grenell
S. B. Grenell

--NOTES OF 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 personnell 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. 5148 (East Half)

PHOTO NO. 1452 to PHOTO NO. 1458

BY	START	FINISH
ROUGH RADIAL PLOT <u>Warren Fitch</u>	<u>12-21-33</u>	<u>12-21-33</u>
SCALE FACTOR (.940) <u>S. B. Grenell</u>	<u>1-5-34</u>	<u>1-5-34</u>
SCALE FACTOR CHECKED <u>SBD</u>		
PROJECTION <u>J. C. Partington</u>	<u>1-30-34</u>	<u>1-30-34</u>
PROJECTION CHECKED <u>R. D. Cross</u>	<u>1-30-34</u>	<u>1-30-34</u>
CONTROL PLOTTED <u>J. B. Hickman</u>	<u>1-30-34</u>	<u>1-30-34</u>
CONTROL CHECKED <u>T. R. Cooper</u>	<u>1-31-34</u>	<u>1-31-34</u>
TOPOGRAPHY TRANSFERRED		
TOPOGRAPHY CHECKED		
SMOOTH RADIAL LINE PLOT <u>R. D. Cross</u>	<u>2-24-34</u>	<u>2-28-34</u>
RADIAL LINE PLOT CHECKED <u>SBD</u>		<u>2-28-34</u>
DETAIL INKED <u>John Tassopoulos</u>	<u>7-27-34</u>	<u>8-8-34</u>
AREA DETAIL INKED <u>3.4</u>	Square Statute Miles	
LENGTH OF SHORE LINE OVER 200m. <u>4.4</u>	Statute Miles	
LENGTH OF SHORE LINE UNDER 200m. <u>11.2</u>	Statute Miles	
GENERAL LOCATION <u>G. Tybee Roads Coast</u>		
LOCATION <u>Savannah River Entrance</u>		
DATUM STATION <u>Tybee Light House</u>	LATITUDE <u>32°-01'-19.301"</u> (594.5M)	
<u>1851-1932</u>		
DATUM <u>N. A. 1927</u>	LONGITUDE <u>80°-50'-44.985"</u> (1180.5M)	

REPORT OF COMPILATION:

RADIAL LINE PLOT:

The standard radial line plot method was used in making the plot for this compilation. No difficulty was experienced in running this plot.

ADJUSTMENT OF PHOTOGRAPHS:

Except for the average amount of tilt, no difficulty was experienced in the adjustment of photographs. Pictures at the very end of the flight were large due to the airplane apparently losing altitude here.

Radial points were well distributed except in the area designated as Fort Screven and North and South Jettys. The interlacing method was used to determine the end of South Jetty through use of intersected point on the North Jetty which was more defined, with common points on mainland. This location checked perfectly with that plotted on the aluminum mounted compilation of the Hydrographic party under C. A. Egner, proving the accuracy of the interlacing method in comparatively flat-land areas.

Additional points on South Channel shore were furnished by interlacing new common points.

INTERPRETATION:

The photographs were very clear and no difficulty was experienced in tracing the detail.

Abandoned railroad was shown with two rows of dots alternately spaced.

Groins, where indicated by note on the overlay, were put in by Municipality of Tybee Island. Groins indicated north of Lat. 32-01 were handled by the U. S. Engineers. Rapid erosion of the island's beach necessitated the above measure of control.

COMPARISON WITH CONTEMPORARY SURVEYS:

Junctions with adjoining 1:10,000 5-lens ~~Atlas~~ Compilation T-5148 (won the west, and compilation #5113, 1:20,000 5-lens on the south are complete and satisfactory.

Shore line of this compilation was checked with controlled hydrographic sheets of C. A. Egner, 1934, and found in agreement except as noted in inspection report for 5-lens 1:10,000 compilations under paragraph headed Compilation T-5148(E).

COMPARISON WITH OTHER SURVEYS:

The railroad indicated on U. S. C. & G. S. chart 1240 has been lately taken up and should be removed from future charts.

Several new groins are now in place on Savannah Beach in addition to those indicated on chart 1240.

Three new docks on South Channel are not shown on the above mentioned chart.

ACCURACY AND COMPLETENESS:

As nearly as can be determined from the photographs this compilation is complete in every detail; namely: probable error in well defined detail not more than 4 meters; probable error in less well defined detail not more than 10 meters.

PHOTOGRAPHS:

<u>No.</u>	<u>to</u>	<u>No.</u>	<u>Date</u>	<u>Time</u>	<u>Stage of Tide</u>
1452		1458	10-11-33	11:10 AM	4/5

John Tassapoulos
John Tassapoulos,
Draftsman

Approved:

S. B. Grenell
S. B. Grenell

REVIEW OF AIR PHOTO COMPILATION T-5143 (1935)

October 1935.

1. Comparison with Contemporary Graphic Control Surveys.

a. T-6154a (1:10,000) July-August 1934.

Along both sides of the Savannah River from the edge of the compilation to the quarantine station, the compilation shoreline varies 0 to 35 meters from the shoreline on T-6154a. The graphic control shoreline falls outside the compilation shoreline. This apparently is due to different interpretations of the high water line. A study of the photographs develops no reason to change the compilation. Probably the graphic control party rodged along the edge of mud banks where the compilation shows the edge of the marsh. The compilation is accepted as giving the better interpretation of the high water line.

Details appearing on T-6154a that are not shown on the compilation are as follows:

1. Temporary topographic stations.
2. U. S. Engineer dredging ranges.
3. U. S. Engineer grid system (For discussion see descriptive report T-6154 to T-6156).
4. Range Azimuths. All range beacons are shown on the compilation.
5. Magnetic meridian.

b. T-6154b (1:10,000) July-August 1934.

At latitude $32^{\circ} 01.7'$, longitude $80^{\circ} 51.2'$, the compilation shoreline around the point of land varies 0 to 32 meters from the shore line on T-6154b. The graphic control shoreline crosses the compilation shoreline at several points. A study of the photographs shows no evidence of a high water line which would agree with the line on T-6154b. The compilation shoreline is accepted as correct.

From latitude $32^{\circ} 01.0'$, longitude $80^{\circ} 52.5'$, to latitude $32^{\circ} 01.0'$, longitude $80^{\circ} 53.0'$, the compilation shoreline falls from 0 to 60 meters inside the high water line on T-6154b. The graphic control shoreline follows the edge of the compilation low water area. This is a difference in interpretation. From the photographs it would appear that the compilation gives the better location. The compilation has not been changed.

At latitude $32^{\circ} 01.1'$, longitude $80^{\circ} 53.0'$ and at latitude $32^{\circ} 01.4'$, longitude $80^{\circ} 53.1'$, the compilation shoreline falls from 0 to 36 meters inside the shoreline on T-6154b. The error appears to be in the graphic control survey. The shoreline is well defined in the center of the photographs and has been transferred correctly to the compilation.

At latitude $32^{\circ} 02.1'$, longitude $80^{\circ} 54.2'$, the compilation location of the quarantine dock is 10 meters north of the location on T-6154b. The positions of Triangulation station Quarantine Tank Finial, 1932 check, but the compilation position of Topographic Station Quarantine Wharf Light varies with the location of the dock. These two stations are located on T-6154a. Checking between T-6154a and T-6154b shows that the stations on T-6154b are 10 meters further apart than on T-6154a. The cuts on T-6154a give a stronger fix for Topographic station Quarantine Wharf Light than do the cuts on T-6154b. The compilation checks T-6154a. The compilation position for the wharf is accepted as correct. Topographic station Quarantine Wharf Light on T-6154b has been circled in green and a note has been placed on T-6154b referring to this review and T-6154a.

Details that appear on T-6154b and are not shown on the compilation are as follows:

1. Temporary topographic station.
2. U. S. Engineer dredging ranges.
3. U. S. Engineer grid system. (For discussion see descriptive report T-6154 to T-6156.)
4. Range azimuths. All range beacons are shown on the compilation.
5. Magnetic meridian.

2. Comparison with Previous Topographic Surveys.

- a. T-379 (1:10,000) 1852; T-906 (1:20,000) 1863; and T-1349 (1:5,000) 1874.

These surveys were completed before the U. S. Engineers had started improving the channel of the Savannah River. For this reason such extensive changes have taken place that it is unnecessary to list the differences between these surveys and the compilation.

The compilation is complete and adequate to supersede the areas covered on T-379, T-906 and T-1349.

b. T-3821 (1:20,000) 1920.

In general, the shoreline has remained the same. The point of Tybee Island appears to be moving westward. Oyster Bed Island is now connected to Jones Island by a narrow sand spit.

The compilation is complete and adequate to supersede the area covered on T-3821.

3. Comparison with Contemporary Hydrographic Surveys.

H-5550 (1:10,000), 1934; H-5592 (1:10,000) 1934, and H-5599 (1:10,000), 1934.

There are no conflicts between the compilation shoreline and the hydrography.

4. Comparison with Charts.

The compilation area is covered on charts 440 and 1240. The submerged training wall along the sand spit west of Oyster Bed Island and the submerged dike between Turtle Island and Oyster Bed Island are not shown on the compilation. They can not be located on the photographs.

The Central of Georgia R. R. paralleling the South Channel has been abandoned, but the embankment still shows above the marsh.

The sunken rocks and groin (latitude $32^{\circ} 01.6'$, longitude $80^{\circ} 50.8'$) that are shown on the charts are not visible on the photographs. They are not shown on the compilation. (See review of H-5592 (1934), page 3 for discussion of these features.)

The wreck shown on the charts (latitude $32^{\circ} 01.4'$, longitude $80^{\circ} 50.3'$) is not visible on the photographs. It has not been shown on the compilation.

5. Projection.

The projection has been checked in the office with the following results:

- a. The scale along the meridians is 2 meters in 1000 larger than the scale along the parallels.
- b. The meridians are bowed to the left, varying from 0 to 5 mm. from a straight line.
- c. Control is plotted from the projection as inked on the celluloid.

6. Recoverable Stations.

Recoverable stations shown on the compilation have been transferred from T-6154a and b. Those marked (d) are described on Form 524 and filed under T-6154a and b.

The following stations have been transferred to the compilation by *V. R. Sobieralski* and checked by *D. H. Benson*.

<u>Station Name</u>	<u>Transferred from</u>
Tybee Range Front Light (U.S.E.)	T-6154b
Weather Tower	"
Platform on Piling	"

7. Landmarks, Lights and Beacons.

All landmarks, lights and beacons shown on the charts are included on the compilation with the exception of the beacon charted in latitude 32° 02.1', longitude 80° 55.0'. This beacon can not be seen on the photographs, and no accurate position is available at this time.

Respectfully submitted,

V. R. Sobieralski

10-7-35

Frank J. Engle

GEOGRAPHIC NAMES
Date. May 18, 1935
GEORGIA & SOUTH CAROLINA

Survey No. T-5148
Chart No. 440, 1240
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>Jones Island</u>	Same			
	<u>Wright River</u>	"			
	<u>Turtle Island</u>	"			
	<u>Savannah River</u>	"			
	<u>Long Island</u>	"			
	<u> </u>				
	<u>Tybee Knoll Spit</u>	"			
	<u>Tybee Roads</u>	"			
	<u>Tybee River</u>	"			
	<u>Tybee Island</u>	"			
	<u>Oyster Creek</u>	"			
	<u>Lazaretto Creek</u>	"			
	<u>South Channel</u>	"			
	<u>Savannah Beach (Tybee I.)</u>	-----			
	<u>Horseshoe Shoal</u>	Same			
	<u>Cockspur Island</u>	"			
	<u>Ft. Pulaski</u>	"			
	<u>Chimney Creek</u>	"			
	<u>Oyster Bed Island</u>	APPROVED NAMES 1935			
	<u>McQueens Island</u>	APPROVED NAMES 1935			
		<i>[Signature]</i>			

REVIEW OF AIR PHOTO COMPILATION NO. *T-514B*

Chief of Party: *S.B. Grenell*

Compiled by: *T.R. Cooper*
J. Tassopoulos

Project: *F.P. 4 Ga. Party 1B*

Instructions dated: *Nov. 10 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) *None*
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*
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) ✓
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~~ ~~reeks~~, and legends pertaining to them is satisfactory. (Par. 36, 37, 38, 39, 40, 41) ✓
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)
Form 524 submitted by C.A. Egner 1934
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)
Form 567 submitted by C.A. Egner 1934
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) ✓
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;

S. B. Shewell

Chief of Party

19. Remarks after review in office:

Reviewed in office by: *Frank G. Eskine*

Examined and approved:

C. H. Green

Chief, Section of Field Records

L. O. Lollant

Chief, Division of Charts

F. S. Borden

Chief, Section of Field Work

G. H. Wade

Chief, Division of Hydrography and Topography.