

# 5161

447

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

## DESCRIPTIVE REPORT

Air Photo  
Topographic  
Hydrographic

Field 9,

Sheet No. Reg. No. 5161

U. S. COAST & GEODETIC SURVEY  
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JUL 17 1934

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State South Carolina

### LOCALITY

N. OF CHARLESTON HARBOR

COOPER RIVER AND VICINITY -

ENTRANCE TO BACK RIVER

1934

CHIEF OF PARTY

E. H. Kirsch

U. S. GOVERNMENT PRINTING OFFICE: 1934

# 5161

Applied to chart 1239 April, 1937 J.M.A.

SHEET NO. 9  
REG. NO. 5161

PHOTO NOS.  
1275 through 1292

DATE  
October 12, 1933

TIME  
11:45 A.M. 2½ hrs. before H. Tide.

PROJECTION BY

L. C. Ripley 3-7-34  
L. C. Ripley

PROJECTION CHECKED BY

E. H. Kirsch 3-7-34  
E. H. Kirsch

CONTROL PLOTTED BY

W. W. Johnson 3-13-34  
W. W. Johnson

CONTROL CHECKED BY

E. S. Ethridge 3-14-34  
E. S. Ethridge

CONTROL PLOTTED ON PHOTOS BY

J. F. Richardson  
J. F. Richardson

CONTROL CHECKED ON PHOTOS BY

F. H. MoBeth  
F. H. MoBeth

TOPOGRAPHY TRANSFERRED BY

M. D. Crook 5-10-34  
M. D. Crook

TOPOGRAPHY CHECKED BY

M. R. Donaldson  
M. R. Donaldson

SMOOTH RADIAL LINE PLOT BY

M. D. Crook 4-7-34  
M. D. Crook

RADIAL PLOT CHECKED BY

E. H. Kirsch  
E. H. Kirsch

SCALE PLOT BY

L. C. Ripley 3-5-34  
L. C. Ripley

DETAIL INKED BY

M. D. Crook  
M. D. Crook

AREA OF DETAIL INKED: 78.7 Square statute miles.

LENGTH OF SHORELINE: 30.7 st. miles (More than 200 meters from nearest opposite shore)

LENGTH OF COASTLINE: NONE

LENGTH OF STREAMS: 137.4 St. Miles (Rivers and sloughs less than 200 meters wide)

LENGTH OF LAKE SHORELINE: 18.2 St. Miles (Artificial Lakes and Ponds)

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. 9

REGISTER NO. 5161

State South Carolina

General locality N. of Charleston Harbor

Locality Cooper River and Vicinity Entrance to Back River

~~1-21, 209~~ Photographs - October 12, 1933

Scale 1:20,000 Date of ~~survey~~ 1933, 19

9437 Compilation - May 31, 1934

Vessel Air Photo Compilation Party No. 21, Charleston, S. C.

Chief of party E. H. Kirsch

Surveyed by See data sheet in descriptive report.

Inked by M. D. Crook

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

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

Instructions dated November 10, 1933, 19

Remarks: None.



## GENERAL INFORMATION

### Statistics:

The land area covered by this sheet is 78.7 square statute miles. All inland with no outside coastline. The total length of river shoreline more than 200 meters from nearest opposite shore is 30.7 statute miles, and 137.4 statute miles of streams (rivers, creeks, and sloughs) less than 200 meters wide. The total shoreline for artificial lakes and ponds is 18.2 statute miles.

### Report:

The land area covered by this sheet consists of marsh, timbered, grass, and cultivated land which is represented by symbols taken from the topographic manual (Special Publication No. 1144). Most of the timbered land consists of pine and oak with pine predominating, but a few palmettos are to be found along the Cooper River and ~~Black~~ <sup>Back</sup> River sections.

The artificial lakes mentioned above are duck ponds and Goose Creek Reservoir. The Goose Creek Reservoir supplies Charleston with water.

### Photographs:

Only photographs from one flight 1275 to 1292 were used in the compilation of this sheet, but part of the 1100 flight (1147 to 1151) were also used in making the radial plot.

All photographs were taken by the U. S. Army Air Corps' 5-lens Camera, October 12, 1933. The time for the entire flight 1144 to 1318 was given as 10:35 A.M. to 12:15 P.M. Using 1284 as a mean, I find that the photographs used in the compilation of this sheet (1275 to 1292) were taken at approximately 11:45 A.M. which was exactly 2 hours and thirty minutes before high tide on that date.

### CONTROL

#### Source:

Triangulation by: C. D. Meaney - 1933  
G. D. Cowie - 1933  
R. F. A. Studds, 1928  
Lt. B. H. Rigg - 1933-34

Aluminum control sheet "V" Reg. No. <sup>T-6084</sup>, and "U" Reg. No. <sup>T-4815</sup>\*, by Lt. B. H. Rigg, Chief of Party - 1933-34. \*See Review.

All control has been reduced to N. A. 1927 datum.

\* T-4815 is north of the limits of this compilation

Errors:

No errors were found in the plotting of controls.

Discrepancies:

No field inspection was made for triangulation stations, Song, Narrow, Mad, Ram, and 65 S.W. Radio Mast, Airways, 1933, so these stations were not used as control; All other stations were used except where they could not be spotted on the photographs, occasionally stations were spotted wrong, or wrong because of poor mounting, distortion or excessive tilt. If this could not be corrected the station was disregarded.

Stations Disregarded:

Long, Narrow, Mad, Ram, 65 S.W. Radio Mast, Airways 1933 on all photographs - No field inspection.

The following stations were not spotted:

<u>Station</u>	<u>Photograph No.</u>
Blow	1275
Rain	1275, 1283, and 1285
Bell	1275
Bass	1275 and 1279
Babe	1277, and 1278 and 1280
Haul	1277 and 1280
Back	1277 and 1285
Farm	1278
Park	1277 and 1280
Deep R.M. No. 1,	1278, 1281, 1285 and 1286
Goose Creek	1278
More	1280
Noll	1280
64 N.E. Radio, Airways 1933	1281
Bob	1281, and 1283
Miss	1281 and 1283
Bushy	1282
Charleston Airport Bn.	1284
Big	1285
Wind	1285

The following stations could not be made to fall on the photographs given respectively:-

Bank, Line, Scrub,	1275
Park	1276
Bell, Bank, and Bass	1277
Bank, Wind, Park, and Haul	1278
Big, Back, Haul, and Bushy	1279
Blow, Line, and Kil	1280
Goose Creek, Back, Haul,	
Park, and More	1281

Foster, Blow, Rain, Con, Scrub	
Coal, Bell, and Dig	1282
Haul, Scrub, and Blow	1283
Goose Creek, Rain, and Wind	1284
Park and Blow	1285

# COMPILATION

## Method:

The standard radial line method was used as described in the U. S. Coast and Geodetic Survey 1933 Notes on the Compilation of Planimetric Line Maps from 5-lens Aerial Photographs.

## Adjustment of Plot:

No unusual adjustment was necessary as most of the photographs were free from excessive tilt, and reasonably clear.

The inked circle near Charleston Airport Beacon is a field light and was radial plotted onto the celluloid. *Marked "Field Light"*

## Interpretation:

All symbols used were taken from the Topographic Manual (Special Publication No. 144).

In one place, between Lat.  $32^{\circ} 56'$  and  $32^{\circ} 58'$  and Long.  $80^{\circ} 05'$  and  $80^{\circ} 06'$ , the symbol for transmission line was not used. An open strip was left for the right-of-way and labeled transmission line.

At triangulation station TOM a brick levee was shown with a solid line.

The U. S. Coast and Geodetic Survey Chart No. 1239, dated November 15, 1933, shows a single track railroad extending across this sheet from Long.  $80^{\circ} 01'$  to Long.  $80^{\circ} 02'$  and between Lat.  $32^{\circ} 52'$  and  $32^{\circ} 53'$ . This track is no longer in use and has been removed. The photographs show the old right-of-way, but very indistinctly and I have not shown it as it is partially covered by underbrush.

The upper portion of Back River, between Long.  $79^{\circ} 57'$  and  $79^{\circ} 58'$  and from Lat.  $33^{\circ} 00'$  to  $33^{\circ} 01'$ , was compiled from a part of photograph 1277 so far out on the wing that it was not possible to get radial points in this section. However, Lieut. B. H. Rigg supplied a triangulation system dense enough to allow the compilation to be made without having to make any more adjustment than one would using radial points. This was done, and since photograph 1277, the one used for this particular section, was usually clear and true to scale for so far out on the wing, I feel confident the above mentioned section of compilation is correct and within the allowed error mentioned elsewhere in this report.

The value of 3 to 6 meters given on the  
opposite page is high for work on this scale.  
a better estimate is an accuracy of  
dislocation of 5 to 8 meters for intersected  
points and 5 to 15 meters for other  
detail.

B. G. Jones



Information from other Sources:

Field inspection by Lt. B. H. Rigg, Lt. E. H. Kirsch,  
and the compiler.

Conflicting Names:

There are no conflicting names on this sheet. *New names have been submitted on the form for approval.*

COMPARISON WITH OTHER SURVEYS

*Lam. 1398.*

A comparison was made with U. S. Coast and Geodetic Survey Chart No. 1239, and discrepancies found have been covered elsewhere in this report.

Junctions:

Junctions with adjoining sheets are good:

North -	None
East -	None
South -	Sheet No. 19, Reg. No. 5171 ✓
	20, 5172 ✓
	21, 5173 ✓
	24, 5176 ✓
West -	5 <del>5177</del> 5157 ✓

Landmarks:

This sheet has no landmarks visible from any streams but has two radio masts - 65 S.W. Radio Mast, Airways 1933 (Position: Lat.  $32^{\circ} 54' 40.42''$ ; Long.  $80^{\circ} 01' 36.78''$ ) and N.E. 64 Radio Mast, Airways 1933 (Position: Lat.  $32^{\circ} 54' 44.04''$ ; Long.  $80^{\circ} 01' 33.74''$ ) both masts are approximately seventy five feet high. An aviation beacon, Charleston Airport Aviation Beacon, approximately thirty feet high, is located at Position: Lat.  $32^{\circ} 53' 40.982''$ ; Long.  $80^{\circ} 01' 55.687''$ .

RECOMMENDATION FOR FURTHER SURVEYS

The compilation of this sheet is believed to have a probable error of not more than 3 meters in well defined detail of importance for charting and of not more than 6 meters for other data. To the best of my knowledge, and belief, this sheet is complete for charting purposes within the required accuracy and no additional surveys are necessary. *See opposite page*

Assisted by:

*E. H. Kirsch*  
E. H. Kirsch,  
Chief of Party.

Submitted by:

*M. D. Crook*  
M. D. Crook.



REVIEW OF PHOTO TOPOGRAPHIC SURVEY NO. *T-5161*Title (Par. 56) ~~Cooper River and Vicinity~~ *Entrance to Back River.*

Chief of Party E. H. Kirsch

Compiled by M. D. Crook

Project HT-162

Instructions dated November 10, 1933

1. The survey and preparation for it conform to the requirements of the Topographic Manual. (Par. 8; and 16, a, b, c, d, e, g and i.) ✓
2. The character and scope of the compilation satisfy the instructions and the "Notes on the Compilation of Planimetric Line Maps from Five Lens Aerial Photographs". ✓
3. The control and adjustment of the radial plot were adequate. (Par. 12, 29.) ✓
4. There is sufficient control on maps from other sources that were transmitted by the field party for their application to the charts. (Par. 28.) No information taken from outside sources.
5. High water line on marshy ~~and mangrove~~ coast is clear and adequate for chart compilation. (Par. 16a, 43, 44.) ✓
6. 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.) ✓
7. Important details shown on previous surveys and on the chart have been compared with this sheet and a statement has been entered in the report regarding the removal from the chart or change in position of important detail such as rocks, lights, beacons, prominent objects, bridges, docks, and structures along the water front. *(See note on following pages about lights and beacons in this area)* ✓
8. The span, draw and clearance of bridges are shown. (Par. 16c.) ✓  
*No bridges.*
9. The data furnished by the Field Inspection is adequate. ✓

NOTE: Strike out paragraphs, words or phrases not applicable and modify those requiring it. Paragraph numbers refer to those in the Topographic Manual. Use reverse side for extending remarks.



10. The descriptive report covers all details listed in the Manual, so far as they apply to this survey. (Par. 64, 65 and 66.) ✓
11. The descriptive report also contains all additional information required in photo topography as prescribed in the instructions and in the "Notes on the Compilation of Planimetric Line Maps from Five Lens Aerial Photographs". ✓
12. The descriptions of recoverable stations and references to shore line were accomplished on Form 524, and scaling of positions checked. (Par. 29, 30 and 57.) ~~Submitted with A.C. Sheets.~~  
*None Submitted for this compilation. Cam.*
13. A list of landmarks for charts was furnished on Form 567 and scaling of positions checked. (Par. 16d, e, 60.)  
*Submitted with A.C. Sheets*
14. The geographic datum of the sheet is N. A. 1927 and the reference station is correctly noted. (Par. 34.) *as being unadjusted. Cam.*
15. Junctions with contemporary surveys are adequate. ✓
16. Geographic names are shown on the sheet and are covered by the Descriptive Report. (Par. 64, 66k.) ✓
17. The quality of the drafting is good. (Par. 31, 32, 33, 35, 36, 37, 38, 39, 40, 41, 42, 45, 46.) ✓
18. No additional surveying is recommended. ✓

19. Remarks:

*See following page*

20. Examined and approved:

*E. H. Kirsch*

E. H. Kirsch, Chief of Party

21. Remarks after review in office:

Reviewed in office by:

*Leonard A. McSweeney* ✓ *B. G. Jones*

Examined and approved:

*E. K. Green*

Chief, Section of Field Records

*L. O. Colbourn*  
Chief, Division of Charts

*B. Borden*

Chief, Section of Field Work

*G. H. Hude*  
Chief, Division of  
Hydrography and Topography.

Review of Air Photo Compilation T-5161 (1934)

Comparison with other surveys.

1. T-6084 (1934) plane table control survey. All detail on T-6084 in the area covered by this compilation is shown on the compilation except for temporary plane table stations.

2. Comparison with T-4434 and T-4435 (1928) shows only minor changes. The compilation is more detailed and is adequate to supersede these 1928 surveys for the area it covers except for the group of piling at latitude  $32^{\circ} 57.8'$ , longitude ~~80~~<sup>79</sup>  $55.5'$  which do not appear on the photos but which may still exist.

None of the beacons and lights in this area were located by the compiler. The two lights and two beacons shown were identified on the photographs and plotted in this office. The date of location is October 12, 1933. The other aids in this area cannot be seen on the photographs.

*B. G. Jones*





## GEOGRAPHIC NAMES

Survey No. T-5161

Date. Nov 30, 1934

Chart No. 680, 1239

Diagram No. 1239

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

●, Not Approved by the Division of Geographic Names, Department of Interior.

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

[illegible]