

5390

5390

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 # 71 Sheet No. 5390
State <u>South Carolina</u>	
LOCALITY	
INTRACOASTAL WATERWAY	
BULL BAY	
193 34	
CHIEF OF PARTY	
E. H. Kirsch.	

Applied to chart 837 Nov. 17, 1935 H.E.

Applied to chart 1238 Oct. 17, 1937 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.71.....

REGISTER NO. 5390

State. South Carolina

General locality. ~~Cape Romain - Bull Bay~~ *INTRACOASTAL WATERWAY*

Locality. ~~Owendaw Creek to Belvedere Creek~~ *BULL BAY*

Scale. ~~1/10,000~~ *1/10,000* Photographs - August 25, 1934

Date of survey., 19...
Compilation - March 1, 1935, Feb 16, 1935.

Vessel. Air Photo Compilation Party No. 21

Chief of party. E. H. Kirsch

Surveyed by. See data sheet in descriptive report

Inked by. P. W. Hund

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~~

This compilation was compiled as two sheets and submitted as compilations No T-5389 and T-5390. No T-5389 forms the right half and T-5390 forms the left half of the present sheet T-5390. The reports have been joined and the review at the back discusses the combined compilation T-5390.

Photos No.	Date	Time
654 through 667	August 25, 1934	4:35 P.M.
PROJECTION BY	<u>L. C. Ripley</u> L. C. Ripley	12-8-34
PROJECTION CHECKED BY	<u>E. H. Kirsch</u> E. H. Kirsch	12-8-34
CONTROL PLOTTED BY	<u>M. D. Crook</u> M. D. Crook	12-20-34
CONTROL CHECKED BY	<u>E. J. Anderson</u> E. J. Anderson	12-21-34
CONTROL PLOTTED ON PHOTOS BY	<u>J. F. Richardson</u> J. F. Richardson	October 1934
CONTROL CHECKED ON PHOTOS BY	<u>W. W. King</u> W. W. King	November 1934
TOPOGRAPHY TRANSFERRED BY	<u>P. W. Hund</u> P. W. Hund	2-25-35
TOPOGRAPHY CHECKED BY	<u>R. G. Hickson</u> R. G. Hickson	3-18-35
SMOOTH RADIAL PLOT BY	<u>M. D. Crook</u> M. D. Crook	12-29-34
SMOOTH RADIAL PLOT CHECKED BY	<u>P. W. Hund</u> P. W. Hund	1-3-35
SCALE PLOT BY	<u>T. P. Mitchell</u> T. P. Mitchell	December 1934
DETAIL INKED BY	<u>P. W. Hund</u> P. W. Hund	3-1-35

AREA OF DETAIL INKED: 12.3 Square Statute Miles.

LENGTH OF SHORELINE: None

LENGTH OF STREAMS: 29.4 St. Miles (Less than 200 meters wide)

LENGTH OF COASTLINE: 5.2 Statute miles.

GENERAL INFORMATION

Statistics:

The total area covered by this compilation is 12.3 Sq. St. miles. There is 5.2 St. miles of Coastline and 29.4 St. miles of Streams less than 200 meters wide.

Report:

Nearly all the area lying northwest of the inland water route is high ground - most of which is not under cultivation at present although it shows evidence of having been cleared and planted at one time. That area southeast of the water route is all marsh land with only one or two very small patches of high ground. This whole area has very little or no relief.

Photos:

A single line of flight was made to procure the photographs used in this compilation.

These photographs 654 through 667 were clear and free from tilt although not so close to scale. They were taken August 25, 1934 at 4:35 P.M., two hours and 13 minutes after low tide, with an Army Air Corps type 5-lens camera No. T3A, H U I 33 by the Aero Service Corporation of Philadelphia.

CONTROL

Sources:

The control in this area was established by E. B. Roberts, 1924, C. D. Meaney 1932, B. H. Rigg 1934-35 and the South Carolina State traverse 1934.

G. C. S. "FF" Reg. No. T-6291 b, "GG" Reg. No. T-6292 a
Lt. Rigg, 1935.

Control established by Meaney is adjusted to N. A. 1927 datum. Other control used in this compilation is unadjusted to N. A. 1927 datum.

Errors:

No errors were found in plotting the control of this compilation.

Discrepancies:

No discrepancies appeared in the control used in this area.

COMPILATIONMethod:

The standard radial line method was used as described in the U. S. Coast and Geodetic Survey notes on the Compilation of Planimetric line maps from 5 lens Aerial Photographs.

Adjustment of Plot:

No unusual adjustments were necessary in making the plot or compiling this sheet.

Interpretation:

All topographic symbols were taken from the topographic manual.

All the Inland Water Route from Graham Creek southwestward to the limit of this compilation, with the exception of approximately 850 meters at Lat. $33^{\circ} 00'$, was dredged after these photographs were taken; consequently, the highwater line for this area was taken directly from G. C. S. "FF" Reg. No. *T-6291 b*, B. H. Rigg, 1935. In this same area there are now numerous spoil banks formed by the deposits from dredging and for the reason above mentioned do not appear on the photographs and therefore could not be shown. Also some of the streams which are shown emptying into the canal in this same area are now filled with spoil.

The section of coastline appearing on this compilation is extremely ragged due to the fact that there are numerous oyster beds which jut out into the water and prevent the land from eroding as it does between these oyster beds.

No low water line has been shown in Bull Bay since it was not clearly discernible on the photos. Hydro sheets No. 30, 31, 35 covering this area shows it clearly.

Information from other sources:

Field inspection by Lt. B. H. Rigg, 1935.

Conflicting Names:

There are no conflicting names appearing on this sheet.

COMPARISON WITH OTHER SURVEYSJunctions:

Satisfactory junctions were made with the following:

Sheet No. 70	Reg. No. 5389	on the Northeast
72	5391	Southwest

On the Southeast the compilation covered the land area to the ocean, and on the Northwest it extended to the limit of the photos.

Discrepancies:

The inland water route is shown on this compilation and not on the present Chart No. 1238, since it has just been completed.

Beacons 1A, 8, 6A, 6, and 4 shown on the present chart No. 1238 have now been removed since they were on the old Inland Water Route now no longer in use. The beacons shown on the new Route are located from the G. C. S. "FF" Reg. No. *T-6291 b*, B. H. Rigg, 1935.

The landmark OLD BOILER shown on chart No. 1238 has been changed to a described topo station and renamed "IRON TANK". These changes were made because the tank which is the object is no longer easily seen due to bush growth and the fact that it is just a tank. It is fully described in the report accompanying G.C. Sheet "FF" Reg. No. *T-6291 b*, B.H. Rigg, 1935.

Landmarks:

A full list of landmarks will be submitted by Lt. B. H. Rigg with G. C. S. "FF" Reg. No. *T-6291 b*, and "GC" Reg. No. *T-6292 a*, 1935

RECOMMENDATION FOR FURTHER SURVEYS

The compilation of this sheet is believed to be thorough accurate and complete for charting purposes and that no additional surveys are necessary.

A probable error of not more than .3 mm may be found in detail of importance for charting and not more than .6 mm in detail of lesser importance.

Assisted by:

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

Submitted by:

F. W. Hund
F. W. Hund.

PHOTO NOS	DATE	TIME
667 through 675	August 25, 1934	4:35 P.M.
PROJECTION BY Sc. Fact = $\frac{10,000}{10516}$	<u>L. C. Ripley</u> L. C. Ripley	12-7-34
PROJECTION CHECKED BY	<u>E. H. Kirsch</u> E. H. Kirsch	12-7-34
CONTROL PLOTTED BY	<u>M. D. Crook</u> M. D. Crook	12-20-34
CONTROL CHECKED BY	<u>E. J. Anderson</u> E. J. Anderson	12-20-34
CONTROL PLOTTED ON PHOTOS BY	<u>L. C. Lande</u> L. C. Lande	November 1934
CONTROL CHECKED ON PHOTOS BY	<u>E. J. Anderson</u> E. J. Anderson	November 1934
SMOOTH RADIAL PLOT BY	<u>E. J. Anderson</u> E. J. Anderson	12-22-34
SMOOTH RADIAL PLOT CHECKED BY	<u>P. W. Hund</u> P. W. Hund	2-4-35
SCALE PLOT BY	<u>T. P. Mitchell</u> T. P. Mitchell	November 1934
SCALE PLOT CHECKED BY	<u>L. C. Lande</u> L. C. Lande	November 1934
TOPOGRAPHY TRANSFERRED BY	<u>P. W. Hund</u> P. W. Hund	2-14-35
TOPOGRAPHY CHECKED BY	<u>R. C. Hickson</u> R. C. Hickson	3-18-35
DETAIL INKED BY	<u>P. W. Hund</u> P. W. Hund	2-16-35

AREA OF DETAIL INKED: 7.8 Square Statute miles.

LENGTH OF SHORELINE: None

LENGTH OF STREAMS: 14.4 St. Miles (less than 200 meters wide)

LENGTH OF COASTLINE: 2.9 Statute miles.

GENERAL INFORMATION

Statistics:

The total area covered by this sheet is 7.8 square statute miles. There are 14.4 St. miles of streams less than 200 meters wide and 2.9 St. miles of coastline.

Report:

There is little relief on the area covered by this compilation. A large portion of the highground area is used for farming purposes; the remainder being heavily wooded. The marsh area shown on this sheet is unbroken by any high ground.

Photographs:

Photographs from a single flight were used in the compilation of this sheet. Photos 667 through 675 were taken August 25, 1934 at 4:35 P.M. two hours and 23 minutes after low tide. All photographs were taken with a five lens camera. Army Air Corps type, No. T3A H-U-I 33, operated by the Aero Service Corporation of Philadelphia, Pa.

CONTROL

Sources:

The control used in the smooth radial plot for this compilation was established by Lt. B. H. Rigg and the State of South Carolina.

G.C. Sheets "GG" Reg. No. T-6292a and "JJ" Reg. No. T-6293a, B. H. Rigg 1935. It is unadjusted to N. A. 1927 datum.

by this compilation.

red

COMPILATION

Method:

The standard radial line method was used as described in the U. S. Coast & Geodetic Survey notes on the compilation of planimetric line maps from five lens aerial photographs.

Adjustment of Plot:

No difficulty was found in making the smooth radial plot.

Interpretation:

The photographs of this area were clear, and while there was

* The shoreline of the compilation will be accepted ^{more nearly} as correct _^ here for the reason given.

L.A.M.

some distortion due to tilt and scale fluctuation it was not so great as to cause difficulty in transferring the detail.

The symbols used in compiling this sheet were taken from the topographic manual.

The shoreline of the dredged out of the Inland Waterway appearing on this sheet was taken directly from the G. C. S. "GG" Reg. No. T-6292a, since the dredging was done after the photographs were taken.

The coastline appearing on this sheet is extremely uneven being due largely to numerous oyster beds which jut far out from the edge of the marsh.

Information from other Sources:

Field inspection by Lt. B. H. Rigg, 1935.

Conflicting Names:

There are no conflicting names on this sheet.

COMPARISON WITH OTHER SURVEYS

Junctions:

Satisfactory junctions were made with the following:

Sheet No. 5386 on the East
5388 on the East
5390 on the Southwest.

The compilation is carried to the limit of photographs on the northeast side.

The Inland Water Route is shown on this compilation, and not on the present U. S. C. & G. S. Chart No. 1238. since it has just

(See opp. page)

A portion of the shoreline on Harbor River the south bank, directly south of triangulation station U.S.E.D. MORE about 100 meters does not agree with the topo shoreline, but it follows that appearing on the photographs and agrees with the hydrographic soundings for this area. about 1/4 m. *Must not - sufficient for 1935. It is a local light and buoy list for 1935. according to T-6292a and the local light and buoy list for 1935.*

Landmarks:

Rem 6/10/35

A full list of landmarks and recoverable stations has been submitted by Lt. B. H. Rigg on G. C. S. "GG" Reg. No. T-6292a 1935.

RECOMMENDATION FOR OTHER SURVEYS

The compilation of this sheet is believed to be thorough, accurate, and complete for charting purposes and that no additional surveys are necessary.

A probable error of not more than 3 mm may be found in detail of importance for charting and not over .6mm in detail of lesser importance.

Assisted by:

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

Submitted by:

P. W. Hund
P. W. Hund.

Note A number of the lights shown on the graphic control surveys are designated as ~~less~~ beacons on this compilation. At the time of the graphic control surveys these lights were incomplete but their positions were marked by piles or by the incomplete light structures. See report T62956 page 5. These lights are not yet in operation according to aid proof examined this date 2/17/36

B.G. Jones

REVIEW OF AIR PHOTO COMPILATION NO. T-5390

Comparison with the Graphic Control Surveys.

(a) T-6291b (1934) Scale 1:10,000.

There is a small discrepancy in the high water line of the intracoastal waterway in a position west of Graham Creek; latitude $33^{\circ} 1'$, longitude $79^{\circ} 35.9'$. Another discrepancy in the position of the high water line occurs near Light "63" in the intracoastal waterway. These discrepancies are apparently ~~believed to be~~ due to errors in sketching between rod readings in making the plane table survey and the compilation has not been changed.

(b) T-6292a (1935) Scale 1:10,000.

T-6292a covers the northeastern part of Bull Bay. There is a minor discrepancy in the position of the high water line of Harbor River south of Triangulation station U.S.E. More, 1934. An explanation for this difference is given on page 5 of this Descriptive Report.

See opposite page
A minor difference in delineation of high water line of Awendaw Creek just south of Triangulation station E. Gable Oyster Factory, 1934, is apparently due to incorrect sketching between the rod readings which agree with the compilation.

The following detail was transferred from T-6292a to the compilation in this office:

Awendaw Creek Beacon "1A"
Harbor River Beacon "2C"
2 U. S. Biological Survey Iron Pipes.

Transfers made by *L.A.M.* L. A. McGann. Checked by D. H. Benson.
June 20, 1935.

(c) T-6293a (1934) Scale 1:10,000.

There are no discrepancies between T-6293a and this compilation over the common area.

(d) All detail on T-6291b, T-6292a and T-6293a is shown on the compilation over the respective common areas with the exception of non-recoverable plane table positions and the magnetic declinations.

Descriptive Report T-6295b, page 3, gives a general description and purpose of the U. S. E. stations under "Permanent Hydrographic Stations". *(page 3.)*

Previous Topographic Surveys.(a) T-772 (1857) Scale 1:20,000.

T-772 covers Bull Bay and vicinity. The area common to T-772 and the compilation has undergone large changes since 1857. In the absence of a complete projection on T-772 the amount of change in shoreline can only be estimated. T-772 is superseded by this compilation over the common area.

(b) T-1400a (1875) Scale 1:20,000.

T-1400a covers Bull Bay and vicinity. T-1400a shows groups of high ground areas adjacent to the high water line of the shore of Bull Bay. Only a remnant of these areas exist today in the form of a sand or shell mound shown on this compilation in this area.

A portion of the wooded area on T-1400a, north of Awendaw Creek is now cleared. The main roads are in the same position today as in 1875, with the exception of U. S. Highway No. 701, which has been realigned recently. A number of short private roads have been abandoned.

T-1400a shows a hachure around all high ground areas. From an inspection of the photographs in the office the extent and amount of an incline of the type represented on T-1400a can not be determined. This hachure will not be shown on the compilation. In Awendaw Creek the edge of the marsh lines denote the beginning of high ground. In the marshes of Bull Bay there are no areas of a pronounced elevation above the marsh area. The two sand areas here are shown by "sanding" the area. Except for the hachures along the high ground line T-1400a is superseded by this compilation over the common area.

(c) T-3841 (1921) Scale 1:20,000.

This is a topographic survey on 1:20,000 scale. It covers Bull Bay and vicinity. There is comparatively little change of shoreline in this area of Bull Bay covered by this compilation since 1921.

Comparison with Chart No. 1238.

Harbor River Beacon "2C" has been moved to a new position in Harbor River and its new position is shown on this compilation.

Graham Creek Beacons "4" and "6", Saltpond Creek Beacons "6A" and "8", Belvedere Creek Beacon "1A" have been removed. All are still listed in the Local Light and Buoy List for 1935, except Graham Creek Beacon "4". The Descriptive Report on page 3 is the

source of information for the foregoing statements. The positions of new lights and beacons in the recently constructed intracoastal waterway are shown on this compilation.

Station Tank (d) shown on this compilation in latitude $32^{\circ} 59' 907m$; longitude $79^{\circ} 35' 420m$, appear on the chart as landmark "Old Boiler". This landmark is recommended for deletion in the Descriptive Reports T-5390 and T-6291b, pages 3 and ~~3~~ respectively. *8th reports*

Other changes to be made to this chart as a result of this compilation are discussed above under the Comparison with Graphic Control Surveys and previous topographic surveys.

June 25, 1935.

Leonard A. McGann
Leonard A. McGann,

B. J. Jones

Date. June 13, 1935

Survey No. T-5390

Chart No. 1238

Diagram No. 1238

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

Under investigation. Q

(M-13)

REVIEW OF AIR PHOTO COMPILATION NO. 5390

Chief of Party: E. H. Kirsch

Compiled by: P.W.Hund

Project: HT 162

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)
The positions of new beacons along the recently constructed intracoastal waterway are shown on this compilation.
- ✓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)
- ✓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)~~
- ✓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)

*There is no sand beach area on this compilation**Sam
6/24/35*

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 rocks,~~ and legends pertaining to ~~them~~ ^{it} 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)
Descriptions are filed with the graphic control surveys.
- ✓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)
- ✓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)~~
No bridges on this compilation.
- ✓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;

E. H. Kirsch.
Chief of Party

19. Remarks after review in office:

Reviewed in office by: Leonard A. McKean June 25, 1935.
B. G. Jones

Examined and approved:

E. N. Green.
Chief, Section of Field Records
L. O. Colburn
Chief, Division of Charts

F. S. Borden
Chief, Section of Field Work
G. W. Wade
Chief, Division of Hydrography
and Topography.