6295a

Form 504
Rev. Dec. 1933

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

DESCRIPTIVE REPORT

Topographic / ~~*Hydrographic*~~ } *Sheet No.* NN

State South Carolina

LOCALITY

S. outh Santee River, ~~Four Mile Creek Cut~~

Cedar Island to Four Mile Creek Cut

193 5

CHIEF OF PARTY

Lt. [illegible]

U.S. GOVERNMENT PRINTING OFFICE: 1934

6295a

Form 537a
Ed. Nov., 1929

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

U.S

MAY 21 1935

REG. NO.

Acc. 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. NN

REGISTER NO. T6295a

State South Carolina

General locality South Santee River

Locality Cedar Island to Four Mile Creek Cut

Scale 1:10,000 Date of survey December, 1934

Vessel Party No. 19

Chief of party Benjamin H. Rigg

Surveyed by Addison S. Hall

Inked by Addison S. Hall

Heights in feet above to ground to tops of trees

Contour, Approximate contour, Form line interval feet

Instructions dated October 10, 1933

Remarks: Geographic Names had been inked on the sheet before it was discovered that they should have been left in pencil

OUTLINE

1. INSTRUCTIONS.
2. PURPOSE OF SURVEY.
    - A. Hydrographic Control
    - B. Establishment and Recovery of Permanent Stations.
    - C. Location of Aids to Navigation
    - D. Location of Topographic Detail.
3. LIMITS OF SHEET
4. DESCRIPTION OF TERRITORY
5. CONTROL
6. SURVEYING METHODS USED
7. PERMANENT STATIONS.
    - A. U.S.E.D. Reference Marks.
    - B. Other Permanent Stations.
8. AIDS TO NAVIGATION.
9. LANDMARKS AND NAMES.
10. TOPOGRAPHIC FEATURES LOCATED FOR USE IN AIR-PHOTO COMPILATION.

DESCRIPTIVE REPORT TO ACCOMPANY
ALUMINUM MOUNTED CONTROL SHEET NN

INSTRUCTIONS

The survey was carried out under instructions dated October 10, 1933, also Director's letters 22Mg 1990 (19), 26 - AHH 293, and circular letter No. 30.

PURPOSE OF SURVEY

The purpose of the survey was to establish control for hydrography along the lower ~~North~~ South Santee River and Inlet, ~~including the North Santee Bay~~; to establish permanent stations, including U.S.E.D. Reference Marks; and to locate Aids to Navigation.

LIMITS OF SHEET

The topography on sheet NN includes the Intracoastal Waterway from the norhtern end of the Four Mile Creek Canal (Lat. 33° 10.3', Long. 79° 18') southwestward to Lat. 33° 08', Long.79° 20' on the Alligator Creek Cut south of the South Santee River. It includes the South Santee River from just north of Brown Island, Lat. 33° 09.3', long. 79° 20.2' southeastward to its entrance to the ocean, and the ocean beach each side of the inlet from Lat. 33° 02.2' Long. 79° 15.5' westward to Lat. 33° 06' Long. 79° 18.5'.

DESCRIPTION OF TERRITORY

The territory included on sheet NN is very similar to that on the adjoining sheet PP. The Intracoastal Waterway is cut through abandoned rice fields covered with scattered trees, bushes, and cane grass ten feet high. The S. Santee River flows through the rice fields until it is turned sharply to the southwestward by the high ground of a barrier island. The river is consequently flowing almost parallel to the ocean at its inlet. The northeastward side of the inlet is a long, low sandy point covered only with grass. The southeastward side of the inlet is wooded with tall pines and scrubby deciduous trees. Sand bars practically close the inlet to navigation.

CONTROL

The following triangulation stations were used for control on sheet NN.

Crow	1934
Delta	"
Walker	"
Black	"

The following permanent hydrographic and topographic stations were established by means of the theodolite as additional control stations

Brant
Cedar
Teal
Brown

For a discussion of the additional control stations see paragraph 5, "Control", in the descriptive report for sheet PP.

SURVEYING METHODS USED

Towers still standing on triangulation stations BLACK, CROW, and DELTA were used to good advantage in taking cuts to hydrographic signals. Practically all of the signals along the river were located by cuts from triangulation stations. The remainder were located from set-ups on or near hydrographic stations.

The Four Mile Creek Canal was located by topography because the canal had not been dredged at the time when the air photos were taken. This work was done by locating stations at the bends in the canal by graphic triangulation, and rodding in the canal from set-ups on these stations.

A steel wire traverse was run from triangulation station DELTA to signal ICE on the front beach, and then northeastward to station BLO which was also located by a similar traverse on sheet PP. A discrepancy of two meters was adjusted. The intersection of taped distances with cuts from triangulation stations DELTA was used in locating the signals along the front beach, which also served as turning points for the traverse.

A short steel wire traverse was run from signal ELF (located by cuts from triangulation stations DELTA and BLACK and from station OBO) southwestward to signal ION which fell just off the sheet. This traverse was tied in to station BLACK. An adjustment of three meters was made. Signal ION which fell off the sheet was located by means of an azimuth from BLACK and a taped distance from TOM.

PERMANENT STATIONS

A. U.S.E.D. Stations. -- The U. S. Army Engineers have referenced the turning points of their traverse along the Intracoastal Waterway with pairs of 3/4" pipes, placed on the line bisecting the angle of bend of the traverse. For a discussion of these reference marks see the descriptive report on sheet PP.

The following pairs of reference marks were located on sheet NN:

U.S.E.D.	B.M.'S	A & B	Sta.	1119+38.71 N
"	"	"	"	1107+42.34 N
"	"	"	"	1091+78.22 N
"	"	"	"	1076+64.37 N
"	"	"	"	1060+75.95 N
"	"	"	"	1025+04.05 N

Scaled geographic positions of these reference marks, together with descriptions on form 524, accompany the sheet. These stations are designated on the sheet with the letter "D".

B. Other Permanent H. & T. Stations -- For a discussion of other permanent stations established, see par. 5, Control, in this report. The following stations were located on sheet NN, permanently marked, and designated on the control sheets with the letter D.

Teal
Cedar
Brant
Brown

Computed geographic position, together with descriptions of these stations on form 524, accompany the sheet.

AIDS TO NAVIGATION

For a discussion of the aids to navigation along the Intracoastal Waterway in this region see the descriptive report on sheet PP. A list, on form No. 567, of the beacons located on sheet NN, showing type and color of beacon, its stage of completion, and its geographic position, accompanies the sheet.

LANDMARKS AND NAMES

No landmarks of charting importance fell within the limits of sheet NN.

All names on the present chart pertaining to the area covered by sheet NN are correct. No new names should be added.

TOPOGRAPHIC FEATURES LOCATED FOR USE IN AIR PHOTO COMPILATION

All of the Four Mile Creek Canal was located on the control sheet as this canal had not been dredged at the time the photographs were taken. The high water line was rodded in on both sides of the South Santee Inlet, to the limits of the sheet. Portions of the marsh line at the river's edge was also rodded in as a check on the compilation. In all cases, rod readings were shown on the control sheet by dots in breaks in the shore line. The shoreline along the ocean beaches and the Four Mile Creek Canal was taken by the compilers from the control sheet. No discrepancies of over three meters occurred between the Air Photo Compilation and the control sheet, in the marsh line along the river. 10.7 statute miles of shoreline were located on sheet NN.

Respectfully submitted,

Addison S. Hall,
Surveyor

Forwarded by,

Lt. Benjamin H. Bigg,
Chief of Party.

Review of Graphic Control Survey No T-6295a.

This survey was examined in connection with the review of air photo compilation No T-5383 and the projection was found to be in error. The 33° 10′ parallel is out of position from 2½ to 3 meters. No other errors or discrepancies were noted. See T-5383 for complete topographic detail.

The correct position of the 33° 10′ projection line was drawn in green. When scaling positions from the 33° 10′ parallel use the green line.

Leonard A. McGann.
June 12, 1935.

6295b

Form 504
Rev. Dec. 1933

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

DESCRIPTIVE REPORT

Topographic / ~~*Hydrographic*~~ } *Sheet No.* PP

State South Carolina

LOCALITY

North & Vicinity
N. Santee River, ~~Bull Creek, &~~

~~Intracoastal Waterway~~

Little Crow Island to Santee Point

193 5

CHIEF OF PARTY

Lt. Comdr. Ralph Kegg

U.S. GOVERNMENT PRINTING OFFICE: 1934

Form 537a
Ed. Nov., 1929

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

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. PP

REGISTER NO. T6295b

State South Carolina

General locality N. Santee River & Vicinity

Locality Little Crow Island to Santee Point ~~Dusk Creek and Inlet to Intracoastal Waterway~~

Scale 1:10,000 Date of survey December, 1934

Vessel Party No. 19

Chief of party Benjamin H. Rigg

Surveyed by Addison S. Hall

Inked by Addison S. Hall

Heights in feet above to ground to tops of trees

Contour, Approximate contour, Form line interval feet

Instructions dated October 10, 1933

Remarks: Geographic Names had been inked on the sheet before it was discovered that they should have been left in pencil.

OUTLINE

1. INSTRUCTIONS.
2. PURPOSE OF SURVEY.
   - A. Hydrographic Control.
   - B. Establishment and Recovery of Permanent Stations.
   - C. Location of Aids to Navigation.
   - D. Location of Topographic Detail.
3. LIMITS OF SHEET.
4. DESCRIPTION OF TERRITORY.
5. CONTROL.
6. SURVEYING METHODS USED.
7. PERMANENT STATIONS.
   - A. U.S.E.D. Reference Marks.
   - B. Other Permanent Stations.
8. AIDS TO NAVIGATION.
9. LANDMARKS AND NAMES.
10. TOPOGRAPHIC FEATURES LOCATED FOR USE IN AIR-PHOTO COMPILATION.

DESCRIPTIVE REPORT TO ACCOMPANY
ALUMINUM MOUNTED CONTROL SHEET PP

INSTRUCTIONS

The survey was carried out under instructions dated October 10, 1933, also Director's letters 22 Mg 1990 (19), 26 - AHH 293, and circular letter No. 30.

PURPOSE OF SURVEY

The purpose of the survey was to establish control for hydrography along the lower North Santee River and Inlet, including the North Santee Bay; to establish permanent stations including U.S.E.D. Reference Marks; and to locate Aids to Navigation.

LIMITS OF SHEET

The topography covered by Sheet PP includes the North SanteeRiver and Bay from Lat 33° 10.2', Long 79° 18.0' southeastward to its entrance to the ocean (Lat. 33° 08.0', Long. 79° 14.4'). It includes the ocean beach from Lat. 33° 08.0', Long. 79° 14' westward to Lat. 33° 07.5', Long. 79°15.3', and the Intracoastal Waterway from Minim Creek (Lat 33° 11.6', Long. 79° 16.3') westward to Four Mile Creek Cut (Lat.33° 10.0', Long. 79° 18.0').

DESCRIPTION OF TERRITORY

The territory covered by sheet PP consists mainly of abandoned rice fields partly covered with bushes and trees, through which the North Santee River winds to the ocean. The banks of the river are lined with cane grass 10 feet high. The islands bordering the ocean beach are wooded with tall pine trees and scrubby oaks. Bay Point on the northeastern side of North Santee Inlet is a prominent point of high ground covered with tall pines.

Along the Intracoastal Waterway scattered trees are found along the banks.

North Santee Bay is a large shallow body of water barely covering the mud flats at low tide. Red clay deposits make work along the banks of the North Santee River difficult except at high tide.

The entire territory is owned by various gun clubs and is a fine duck preserve.

CONTROL

The following third order main scheme triangulation stations were used for control on sheet PP.

Bay Point	(Crosby 1934)
Crow	" "
Cane	" "
Cat	" "

Because of the difficulty encountered in seeing over the tall cane grass, bushes, and trees, additional control was necessary before the hydrographic signals could be located by graphic triangulation.

This additional control consisted of a system of permanently marked hydrographic stations cut in as intersection stations by means of the theodolite. Stations CT-105 and G 55 of the South Carolina State P.W.A. Traverse, as well as triangulation stations established by C. D. Meaney in 1932 and K. G. Crosby in 1934, were used in establishing this system of auxiliary control stations.

Although the observing on these stations was of third order accuracy, it was considered best to mark them as recoverable hydrographic stations because of the hybrid nature of the original control and the numerous inverse computations necessary to tie the new stations in to the existing scheme.

The following auxiliary control stations were used on sheet PP:

Hawk
*Bat
Minim

*Not permanently marked because of poor ground conditions.

SURVEYING METHODS USED

Observing platforms built on stations Bay Point, Cane, Crow, and Cat by Crosby in 1934 were of great aid in obtaining hydrographic signal locations. Care was taken to build the hydrographic signals of sufficient height to clear

the cane grass and bushes, so that most of the signals could be located by three or more cuts taken directly from control stations.

Signals which could not be located in this way were located by cuts and checked by stadia readings from set ups on or near signals previously located.

A steel wire traverse was run along the ocean beach from station Fluto westward to signal Blo, which is also located on sheet NN. The intersection of taped distances with cuts from signal Dog was used in locating turning points on the traverse. The high water line was run in, in conjunction with the taping of the traverse. A closing error of 2.5 m. in this traverse was adjusted.

PERMANENT HYDROGRAPHIC STATIONS

A. U.S.E.D. Reference Marks. -- The U. S. Army Engineers have referenced the turning points of their traverse along the Intracoastal Waterway from Winyah Bay to Charleston with pairs of 3/4" galv. iron pipes. These pipes are placed on the line bisecting the angle of bend of the traverse. The pipes of a pair are usually 100 feet apart, and the pipe nearer the canal is usually 100 feet from the transit hub. The U. S. Engineers plan to eventually reference the turning points of their traverse with concrete monuments, and the purpose of the pairs of pipes is to preserve the turning points until the permanent monuments can be put in.

Wherever possible, these pairs of pipes have been located in the field, on the graphic control sheets. In all cases the pipe nearer the waterway has been designated with the letter A, and the pipe farther from the waterway with the letter B. The pipes have been described on form 524 as reference marks for the particular traverse station at which they occur.
The name on the card,"U.S.E.D. Station" R.M.A.", refers to the pipe nearer the canal, and the description applies to this pipe only, unless otherwise stated. The geographic position of the pipe farther from the canal, however,

is included on the card.

The Winyah Bay-Charleston traverse was run in two sections starting in opposite directions from a point about equi distant from the two ends. ~~The~~ The letter N or S following the station number indicates whether the station was on the north section or the south section of the traverse.

The following pairs of pipes were located on sheet PP. Scaled geographic positions of these pipes, together with descriptions on form 524, accompany the sheet: These stations are designated on the sheet by the letter "D".

U.S.E.D.	R.M.'s	A & B.	Sta.	1190+41.43N
"	"	"	"	1180+61.35N
"	"	"	"	1164+11.64N
"	"	"	"	1153+38.39N

B. Other Permanent Hydrographic Stations -- For a discussion of permanent hydrographic stations established see paragraph 5, "Control", of this report. Only two fell on sheet PP.

Stations MINIM and HAWK were permanently marked, and designated on the control sheets with the letter D. Computed geographic positions together with descriptions of these stations, on form 524, accompanythe sheet.

AIDS TO NAVIGATION

At the time of the original survey in December, 1934, the existing aids to navigation were located, and many of the beacons were later used as hydrographic signals. In the first months of 1935 the U.S. Lighthouse Service removed these beacons and substituted others along the newly dredged channels. These graphic control sheets were taken into the field after this was done, and the new structures located on the sheets. Where the old structures had been used as hydrographic signals, their position was left on the sheet, with a note giving the date of their removal. The old structures not used as signals have been removed from the sheet. Where structures cut in by triangulation have been removed, recovery notes to that effect on form No. 526 have been sent in.

Because of a lack of funds, the Lighthouse Service has not as yet (April, 1935) been able to complete all of the lighted structures between Winyah Bay and Charleston. The most necessary lights have been finished and are now in operation. Other structures have been built but not lighted, but the majority of the lighted beacons at bends in the dredged canal have not been built. Their location has been marked by single piles bearing the number of the future lighted beacon, and these piles have been located on the graphic control sheets. All day beacons have been built. The position, number, and description of every aid to navigation along the waterway from Minim Creek just south of Winyah Bay, to Charleston has been obtained in the field by the Coast Survey, although at the present time they are not all completely built. The Lighthouse Service plans to finish them just as soon as funds are available, probably before the end of the summer.

A list on form 567 of the beacons located on sheet PP, showing type and color of beacon, its stage of completion, and its geographical position, accompanies the sheet.

LANDMARKS AND NAMES

No landmarks of charting importance fell within the limits of sheet PP. All names on the present charts pertaining to this area are correct. No new names need be added.

TOPOGRAPHIC FEATURES LOCATED FOR USE IN AIR-PHOTO COMPILATION

Most of the marsh line along the Intracoastal Waterway was run in, together with the high water line on the sandy beach at the North Santee Inlet. No discrepancies of more than three meters occurred between the topographic sheet and the compilation, except along the changeable sandy beach at the North Santee Inlet, where the topographic location of the high water line was applied to the compilation from the Graphic Control Sheet.

Ten statute miles of shoreline were run in.

Respectfully submitted,

Addison S. Hall,

Surveyor

Forwarded by,

Lt. Benjamin H. Rigg,

Chief of Party.