Form 504
U. S. COAST AND GEODETIC SURVEY
DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey   Topographic
Field No. Ph-61(49)     Office No. T-9842

LOCALITY

State    North Carolina
General locality    Alligator=Pungo River Canal
Locality    New Lake

1947/51-54

CHIEF OF PARTY
H. F. Garber, Chief of Field Party
J. E. Waugh, Tampa Photogrammetric Office

LIBRARY & ARCHIVES

DATE    April 19, 1957
DATA RECORD

Project No. (II): Ph-61(49) Quadrangle Name (IV):

Field Office (II): Edenton, North Carolina Chief of Party: Harry F. Garber
Photogrammetric Office (III): Tampa, Florida Officer-in-Charge: J. E. Waugh
Instructions dated (II) (III): 15 June 1951 Copy filed in Division of Photogrammetry (IV) Office Files

Method of Compilation (III): Graphic
Manuscript Scale (III): 1:20,000 Stereoscopic Plotting Instrument Scale (III): None
Scale Factor (III): Inapplicable
Date received in Washington Office (IV): MAR 20 1952

Applied to Chart No.
Date: Date registered (IV): 3-25-57

Publication Scale (IV):

Geographic Datum (III): N. A. 1927

Vertical Datum (III): MSL
Mean sea level except as follows:
Elevations shown as (26) refer to mean high water
Elevations shown as (6) refer to sounding datum i.e., mean low water or mean lower low water

Reference Station (III): 271 N.C.G.S. 1934
Lat.: 35° 37' 51.205 (1578.1 m) Long.: 76° 19' 19.700 (195.7 m) Adjusted

Plane Coordinates (IV):

Y = State: N.C. Zone:
X =

Roman numerals indicate whether the item is to be entered by (II) Field Party, (III) Photogrammetric Office, or (IV) Washington Office.
When entering names of personnel on this record give the surname and initials, not initials only.
Inaccessible Area
(Contours approximate)

W.E. Gottschlich,
Carto. Surv. Aid

M.A. Stewart,
Carto. Surv.
Aid

Areas contoured by various personnel
(Show name within area)
(II) (III)
DATA RECORD

Matthew A. Stewart,  
Cartographic Survey Aid  
Warren M. Gottschlich,  
Cartographic Survey Aid  

Field inspection by (II):  
Date: Oct.-Dec., 1951

Planetale contouring by (II):  
Date: July, 1951  
Warren M. Gottschlich,  
Cartographic Survey Aid

Completion Surveys by (II):  
James E. Hundley  
Date: Feb. 1954

Mean High Water Location (III) (State date and method of location):  
Inapplicable

Projection and Grids ruled by (IV):  
J. A. (W.O.)  
Date: 29 Jan. 1952

Projection and Grids checked by (IV):  
H.D.W. (W.O.)  
Date: 5 Feb. 1952

Control plotted by (III):  
R. E. Smith, Jr.  
Date: 2 April 1952

Control checked by (III):  
I. I. Saperstein  
Date: 2 April 1952

Radial Plot control compiled by (III):  
I. I. Saperstein  
Date: 22 May 1952

Stereoscopic Instrument compilation (III):  
Planimetry  
Date:  
Contours

Manuscript delineated by (III):  
C. J. Downing - R. A. Reece  
Date: 24 July 1952  
19 Jan. 1953

Photogrammetric Office Review by (III):  
J. A. Giles  
Date: 21 Jan. 1953

Elevations on Manuscript  
checked by (III):  
J. A. Giles  
Date: 30 Dec. 1952
PHOTOGRAPHS (III)

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<tr>
<th>Number</th>
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<th>Scale</th>
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<td>&quot;</td>
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<td>33210</td>
<td>&quot;</td>
<td>13:05</td>
<td>&quot;</td>
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</tr>
</tbody>
</table>

Tide (III)

No tide

Reference Station: No tidal waters

Subordinate Station:

Washington Office Review by (IV): Everett H. Ramsey

Final Drafting by (IV): F. Johnson

Drafting verified for reproduction by (IV):

Proof Edit by (IV):

Land Area (Sq. Statute Miles) (III): 55 mi.
Shoreline (More than 200 meters to opposite shore) (III): 8.5 mi.
Shoreline (Less than 200 meters to opposite shore) (III): 0
Control Leveling - Miles (II): 5.0
Number of Triangulation Stations searched for (II): 1 Recovered: 1 Identified: 1
Number of BMs searched for (II): 0 Recovered: 0 Identified: 0
Number of Recoverable Photo Stations established (III): 0
Number of Temporary Photo Hydro Stations established (III): 0

Remarks:
Summary to Accompany Topographic Map T-9842

Topographic Map T-9842 is one of eleven similar maps of Project Ph-61 (49). It covers a portion of the New Lake and some land area to the northward, within Tyrrell and Hyde Counties.

Project Ph-61 (49) is a graphic compilation project. Field work in advance of compilation included the establishment of additional control, complete field inspection, the delineation of 5-foot contours directly on the photographs by plane-table methods, and the investigation of civil boundaries and geographic names.

Map T-9842 was compiled at a scale of 1:20,000 using nine-lens photographs taken in 1951. The map was field-edited. With the addition of hydrographic information the map will be published by the Geological Survey as a standard topographic quadrangle map.

Items registered under T-9842 will include a descriptive report, a copy at 1:20,000 scale of the map manuscript and a copy of the published map.
2. **AREAL FIELD INSPECTION**

The salient features are New Lake, Dunbar Canal and the upper reaches of South West Fork. Except for the lake and a narrow strip of cultivated land along its eastern shore, which is served by a secondary road, the entire area is woodland and inaccessible by any mode of transportation except walking. The only buildings are the few scattered dwellings and barns along this road, only three of which are occupied perennially, the remainder being used by hunters during the gunning season.

2. **HORIZONTAL CONTROL**

The only horizontal control in the quadrangle is 271 NCGS, 1934. This station was identified during the field work on Project Ph-20 in 1949, and reidentified for this project. For control reidentified from other projects, see special report on horizontal control which is a part of the report for quadrangle T-9339.

4. **VERTICAL CONTROL**

A fly level line was run into this quadrangle, along the road east of New Lake during the field work on Project Ph-20. These elevations, one of which was established on N.C.G.S. Monument 271, 1934, were used to establish additional Wye level elevations, for contouring. The closure was 0.28 and no adjustment was made. The first and last level point is No. 42-1. In the southern part of the quadrangle, a plane table traverse, based on a third-order bench mark, located on state highway No. 94, was carried into the east central part of the quadrangle.

5. **CONTOURS AND DRAINAGE**

Contouring was done by standard plane table methods, at an interval of five (5) feet, directly on nine-lens photographs, except through the inaccessible areas in the northern part of the quadrangle, where the contours were shown by dashed lines (approximate) in accordance with the Director's letter, dated 29 November 1951, a copy of which is a part of this report.
There is no definite drainage pattern in the northwestern part. The northeastern part drains to South West Fork, thence to Alligator River; the southeast drains toward South West Prong and Alligator River. New Lake drains northeast through Dunbar Canal to South West Fork and southwest through Old State Canal to Pungo River.

6. WOODLAND COVER

The cover was classified in accordance with the Topographic Manual. A considerable amount of the area is marginal, and the line of demarcation between woodland and swamp is a matter of judgment.

7. SHORELINE AND ALONGSHORE FEATURES

The shoreline consists solely of that around New Lake. It has been inspected and delineated on the field photographs.

There are a great many submerged stumps and trees in the water immediately offshore. This foul area has been delineated on the field photographs.

8. OFFSHORE FEATURES

There are no offshore features.

9. LANDMARKS AND AIDS

Inapplicable. None in area.

10. BOUNDARIES, MONUMENTS AND LINES

A special report for the project will be submitted at a later date. Report by James E. Holdley filed under project data, Div. of Photogrammetry.

11. OTHER CONTROL

No other control was established.

12. OTHER INTERIOR FEATURES

Roads and buildings were inspected and classified in accordance with the Topographic Manual. There are no bridges or cables over navigable waters in this quadrangle.
12. GEOGRAPHIC NAMES

This is the subject of a special report for the project by Mr. James C. Cregan, Cartographic Survey Aid, dated October, 1951. Report filed in Geographic Names Section, Div. of Charts.

14. SPECIAL REPORTS AND SUPPLEMENTAL DATA

There are no reports or supplemental data other than that covered in Items 3, 10 and 13.

2 January 1952
Submitted by:

George E. Varnadoe,
Cartographic Engineer

2 January 1952
Approved by:

Harry F. Barber
Commander, USCGS
Chief of Party
DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
WASHINGTON 25

29 November 1951

To: Comdr. Harry F. Garber
U. S. Coast & Geodetic Survey
Box 271
Edenton, North Carolina

Subject: Contours on Project Ph-61

This is in reply to your letter of 23 November asking for information about the extent of contouring required in areas difficult of access in quadrangles T-9838 and T-9842.

It is not desirable to spend much money contouring areas where the cost is great and the value of the contours is small such as the area you outline on the sketch accompanying your letter. You should sketch the contours through these areas using the symbol for approximate contours to delineate the contours on the photographs.

/s/ Robert W. Knox

Acting Director
Technical Assistant to Chief  
Division of Photogrammetry

E. R. Grevat

Reforming Contours - Project Ph-61 - North Carolina

The field record for Project Ph-61 - Albemarle Sound, North Carolina, were examined early in 1952 by Mr. Namavich. As a result of this examination it was decided to reshape some of the contours in the Washington Office. (Ref. letters 73-akl dated 8 February and 22 April 1952, signed Chief, Division of Photogrammetry)

In selecting photographs for contour reshaping, Mr. Namavich's report has been relied upon completely. Only those photographs mentioned in his report, Nos. 33130 thru 33141, 33151, 33152a, 33169 and 33170 were considered for reshaping.

Methods used:

Prior to reshaping the contours, each photograph was examined stereoscopically to determine whether or not the contours followed the shape of the land. This examination was not profitable in that the relief is generally smooth and not conducive to good stereopsis. A few omitted drains were found, however.

In my opinion the contours probably are of satisfactory accuracy, but lack the necessary professional appearance. Wherever practicable this situation was remedied by restretching the contours on acetate overlays that were taped to the appropriate photographs.

Brief notes on the individual photographs follow:

Photographs Nos. 33140 and 33141

The contours appear too stiff and have a jagged pinched appearance. The tension in the contours was relieved by smoothing the contours and by dropping the bottom contour and raising the top contour less than 0.5 mm.

Special notes are added to the overlays wherever verification by the field editor will be required.

Photographs Nos. 33152a, 33169 and 33170

Contours on these photographs were smoothed out and harmonized by sketching contours more nearly parallel,
Photographs Nos. 311.66, 311.67, 311.93 and 311.94

No contour revisions were made. These contours do not have a pleasing appearance, primarily because of poor drafting. I believe that the act of transferring these contours from the photographs to the manuscripts will improve their appearance. Any changes that I could make would be purely from an aesthetic point of view. The accuracy tolerances preclude any meddling without additional field information.

Photographs No. 311.66, 311.67, 311.93 and 311.94

In these photographs, long stretches of the 15' contour are not supported by elevations and in some instances the 15' contour is shown by the approximate contour symbol.

All contours in the project are to be delineated as surveyed, (solid line, not dashed) even though the field party has used the approximate contour symbol.

Early in June the Chief, Division of Photogrammetry, his Technical Assistant, and Mr. Greene visited the field party, and a discussion regarding these contours was held. As a result of this discussion it was concluded that all the contours on the project are to be compiled as surveyed (solid lines, not dashed) even though long stretches are unsupported by field elevations.

During the discussion it was learned that the field party had held back information on the field photographs. Additional evidence and information that was presented during the discussion was accepted as satisfactory reasoning for showing the contours by solid lines.

Suggested Compilation Methods:

The revised contours are to be compiled from the overlays, and not from the photographs. Elevations are to be compiled directly from the photographs.

Each overlay is registered to its respective photograph by common planimetric details. In compiling the contours the overlays should be taped accurately in position on the photographs and details compiled in the usual manner, with the exception that the contours will be traced from the overlays. It is believed that photographic details show through the overlays sufficiently to permit this.

(Initials) R. E. C.

/4/ Harland E. Gravett

16 June 1952
PHOTOGRAMMETRIC FLOT REPORT

This report covers all maps of Project Kn-61(49) and is filed as part of the Descriptive Report for T-9834.
<table>
<thead>
<tr>
<th>STATION</th>
<th>SOURCE OF INFORMATION (INDEX)</th>
<th>DATUM</th>
<th>LATITUDE OR Y-COORDINATE</th>
<th>LONGITUDE OR X-COORDINATE</th>
<th>DISTANCE FROM GRID IN FEET OR PROJECTION LINE IN METERS</th>
<th>DATUM CORRECTION</th>
<th>N.A. 1927-DATUM DISTANCE FROM GRID OR PROJECTION LINE IN METERS</th>
<th>FACTOR DISTANCE FROM GRID OR PROJECTION LINE IN METERS</th>
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<td>271 NCGS, 1934</td>
<td>Alligator Lake Quad 32</td>
<td>N.A. 1927</td>
<td>35</td>
<td>37</td>
<td>51.205</td>
<td>1578.1 (271.1)</td>
<td></td>
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<td></td>
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<td>76</td>
<td>19</td>
<td>19.700</td>
<td>495.7 (1014.0)</td>
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</table>
COMPILATION REPORT T-9842

PHOTOGRAMMETRIC PLOT REPORT.

This report submitted with T-9834.

31. DELINEATION.

Compiled by graphic methods. No unusual methods used.

32. CONTROL.

A sufficient number of well placed pass points were established for cutting in detail points.

33. SUPPLEMENTAL DATA.

None used.

34. CONTOURS AND DRAINAGE.

Pursuant to the recommendation made in a report on "Reshaping Contours" (12 June 1952) by Mr. H. R. Gravat, addressed to the Technical Assistant to the Chief, Division of Photogrammetry, (copy attached), all contours have been "delineated as surveyed (solid line, not dashed)."

Drainage was readily interpreted from the field photographs.

35. SHORELINE AND ALONGSHORE DETAILS.

Shoreline inspection was adequate.

Reference Item 7.

36. OFFSHORE DETAILS.

No statement required.

37. LANDMARKS AND AIDS.

None.
38. **CONTROL FOR FUTURE SURVEYS.**

   Reference Item 11.

39. **JUNCTIONS.**

   Quadrangle T-9841 on the west not compiled.

   Satisfactory junction with T-9838 on the north.

   Satisfactory junction with T-9279 on the east = Proj. Ph-45(49)

   A satisfactory junction with T-8972 on the south, Proj. Ph-20, could not be made since the ozalid print on file in this office does not show the Hyde-Tyrrell County line.

40. **HORIZONTAL AND VERTICAL ACCURACY.**

   No statement required.

46. **COMPARISON WITH EXISTING MAPS.**

   Comparison was made with USGS Topographic Map T-5567 (1934), scale 1:20,000. Agreement was good.

   Comparison was also made with C. of E. Quadrangle COLUMBIA, N. C., scale, 1:125,000, dated 1943. Agreement was satisfactory.

47. **COMPARISON WITH NAUTICAL CHARTS.**

   Comparison was made with USGS Nautical Chart 1231, scale 1:80,000, dated November 1938. Agreement was good.

**ITEMS TO BE APPLIED TO NAUTICAL CHARTS IMMEDIATELY.**

None.

**ITEMS TO BE CARRIED FORWARD.**

None.

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**William A. Rasure**

for Charles J. Dowling, Carto Photo Aid

**APPROVED AND FORWARDED:**

**J. E. Waugh, Chief of Party**
FIELD EDIT REPORT
Project FH-61(49)
Quadrangle T-5842

51. METHODS

The field edit of this area was accomplished by standard surveying methods in conjunction with visual inspection. Actual field work was completed in February 1954.

Field edit data appears on the field edit sheet, discrepancy print, field photograph No. 33205, and in this report.

A legend appears on the field edit sheet which is self-explanatory.

52. ADEQUACY OF COMPIILATION

The map compilation is adequate and will be complete after the field edit revisions have been applied.

53. MAP ACCURACY

The horizontal accuracy of the map detail is relatively good.

The accuracy of the contouring, in general, is good.

54. RECOMMENDATIONS

Recommend that item "55 - Examination of Proof Copy" of this report be discontinued for the following reason: It is believed that the field editor does a more thorough job of checking the accuracy of the map compilation of any area than some uninterested individual.

55. See item "54" of this report.

56. CONTOURS AND DRAINAGE

Refer to item "5 - Field Inspection Report.

A minor contour correction was made on east side of New Lake.

All "feeder" ditches have been deleted on the field edit sheet.

That part of Dunbar Canal passing through high ground (10 ft. contour) has filled in to such an extent that no water from New Lake (at the present level of 9.46 ft.), drains through the canal to Southwest Fork. The main drainage from the lake is by the Old State Canal on southwest side. All areas southeast and east of the high ground (east side of Lake drains southeasterly into New Lake Fork.

Additional drainage ditches, peculiar to this type of terrain, have been shown on the field edit sheet.
Quadrangle T-9842

57. JUNCTIONS

Satisfactory junctions have been made with all adjacent contemporary quadrangles.

Respectfully submitted
30 March 1954

[Signature]
Cartographer

Approved

E. H. Kirsch

E. H. Kirsch, Comdr. USCGS
Officer in Charge

I believe that a strong effort should be made to find one or more residents in the area who are intimately acquainted with the area, and who are interested and qualified, to examine a proof copy for errors.

E. H. Kirsch
PHOTOGRAMMETRIC OFFICE REVIEW  
T- 9842


CONTROL STATIONS

5. Horizontal control stations of third-order or higher accuracy  M.M.S.  6. Recoverable horizontal stations of less than third-order accuracy (topographic stations)  XX  7. Photo hydro stations  XX  8. Bench marks  XX

ALONGSHORE AREAS  
(Nautical Chart Data)

17. Landmarks  XX  18. Other alongshore physical features  J.G.  19. Other alongshore cultural features  J.G.

PHYSICAL FEATURES


CULTURAL FEATURES


BOUNDARIES

31. Boundary lines  J.G.  32. Public land lines  XX

MISCELLANEOUS

40. Jesse A. Giles  William A. Raguse
   Review  Supervisor, Review Section or Unit

41. Remarks (see attached sheet)

FIELD COMPLETION ADDITIONS AND CORRECTIONS TO THE MANUSCRIPT

42. Additions and corrections furnished by the field completion survey have been applied to the manuscript. The manuscript is now complete except as noted under item 43.

43. Remarks:
62. **Comparison with Registered Topographic Surveys:**

   T-5567       1:20,000       1934

   This survey shows more minor ditches, some of which are presently obliterated. There are slight position discrepancies along the shore of New Lake. Map T-9842 is to supersede this prior survey for nautical charting for the area it encompasses.

63. **Comparison with Maps of Other Agencies:**

   Columbia Quadrangle (C. of E. 1:125,000) 1943

   A visual comparison revealed no significant differences.

64. **Comparison with Contemporary Hydrographic Surveys:**

   Inapplicable.

65. **Comparison with Nautical Charts:**

   Existing charts do not cover this area.

66. **Adequacy of Results and Future Surveys:**

   This map meets the National Standards of Map Accuracy and complies with project instructions.

67. **Junctions:**

   Except for differences in swamp limits T-9842 junctions with T-8972. Because a better and more realistic classification of swamp was done in Project Ph-61 than in Project Ph-20, T-9842 was not changed to agree with T-8972. The dismantled railroad shown on T-8972 at longitude 76° 16' was not mapped on T-9842 because it was insignificant or obliterated in 1954.

Reviewed by:

Everett H. Ramey

APPROVED:

Chief, Review Section
Div. of Photogrammetry

Chief, Div. of Photogrammetry
5 April 1955

Chief, Nautical Chart Branch
Div. of Charts

Chief, Div. of Coastal Surveys
48. Geographic Name List.

- Currituck Township ✓
- Dunbar Canal ✓
- Gum Neck Township ✓
- Hyde County ✓
- New Lake ✓
- New Lake Road ✓
- North Carolina ✓
- Old State Canal ✓
- South Fork Township ✓
- Southwest Fork ✓
- Squyars Canal ✓
- Tyrrell County ✓

Names approved 8-17-53

H. Heg
NOTES FOR THE HYDROGRAPHER.

None.