8980

Diag. Cht. Nos. 1110 & 1231-2

Form 504

U. S. COAST AND GEODETIC SURVEY

DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

DES	CRIFITYE REPORT
Type of Surv	TOPOGRAPHIC
	Office No. T-8980
	LOCALITY
State	NORTH CAROLINA
General locali	ty PAMLICO RIVER
Locality	NORTH CREEK
	19451
	CHIEF OF PARTY thy, Chief of Field Party ardwell, Tampa Photogrammetric Office
	LIBRARY & ARCHIVES
DATE	July 14,1953

B-1870-1 /

DATA RECORD

T _8980

Project No. (II): Ph-20 (47) Quadrangle Name (IV): Ransomville, N.C.

Field Office (II): Washington, N. C.

Chief of Party: E. R. McCarthy

Photogrammetric Office (III): Tampa, Florida

Officer-in-Charge: Arthur L. Wardwell

Instructions dated (II) (III): 23 July 1948

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): Inapplicable

Scale Factor (III):

None

Date received in Washington Office (IV)

Date reported to Nautical Chart Branch (IV): 3/21/5/

Applied to Chart No.

Date:

Date registered (IV): 22 Oct 52

Publication Scale (IV): 1:24,060

Publication date (IV): 1951

Geographic Datum (III):

N. A. 1927

Vertical Datum (III): M5L

Mean sea level except as follows: Elevations shown as (25) refer to mean high water Elevations shown as (5) refer to sounding datum i.e., mean low water or mean low

Reference Station (III): SPRING, 1933

Lat.: 35°27° 00"837 (25.8m)

Long.: 76°421 10"267 (258.9m)

Adjusted **MOROGOSTA**

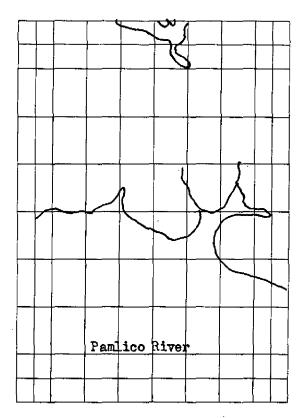
Plane Coordinates (IV): Lambert

State: NC

Zone:

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.



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

All contouring done by:

Matthew A. Stewart Cartographic Survey Aid

DATA RECORD

Field Inspection by (II): M. A. Stewart Date: 3-24-49 Cart. Sur. Aid

6-17-49

Planetable contouring by (II): M. A. Stewart Date: 3-24-49

6-17-499

Completion Surveys by (II): James E. Hundley

Date: 22 May 1951

29 March 1948 Mean High Water Location (III) (State date and method of location): Aerial Photographs

Date: 28 June 1948 Projection and Grids ruled by (IV): W. E. W. (W.O.)

Date: 28 June 1948 Projection and Grids checked by (IV): W. E. W. (W.O.)

Control plotted by (III): R. R. Wagner Date: 11 Oct. 1948

Control checked by (III): B. F. Lampton Date: 20 Oct. 1948

Radial Plot ox Stevensopioc 15 Sept. 1950 M. M. Slavney Controkextension by (III):

Planimetry Stereoscopic Instrument compilation (III): Inapplicable Contours Date:

Date: 24 Nov. 1950 Manuscript delineated by (III): J. C. Richter

Date: 15 Feb. 1951 Photogrammetric Office Review by (III): J. A.Giles

Elevations on Manuscript Date: 24 Nov. 1950 checked by (III): J. C. Richter

Camera (kind or source) (III): U.S.C. & G.S. Nine-lens 81" Focal length

		PHOTOGRAPHS (III)	
Number	Date	Time	Scale	Stage of Tide
22175	29 March 1948	13:30	1:20,000	No Periodic Tide
22176	11	13:32	11	H
22177	U.	13:33	ii ii	
22222	· ·	15:14	II.	11
22238	ii	15:36	ii	ii.
22239	ii .	15:37	ń,	11
22240	ij.	15:37	Ĭ.	ii.
241.29	21 December 1948	12:38	ii ii	II .
24130		12:39	ii.	ú
				*
(22221	29 March 1948	15:13)		
(Center no	t located by radial pl	ot)		

Tide (III)

Reference Station:

Subordinate Station: Subordinate Station: No periodic tide

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

Date: 19 Feb 1952

Final Drafting by (IV):

Drafting verified for reproduction by (IV):

Proof Edit by (IV):

Land Area (Sq. Statute Miles) (III):

Shoreline (More than 200 meters to opposite shore) (III): Shoreline (Less than 200 meters to opposite shore) (III): 13

Control Leveling - Miles (II): 44.2

Number of Triangulation Stations searched for (II):

0 Number of BMs searched for (II):

Number of Recoverable Photo Stations established (III): 3

Number of Temporary Photo Hydro Stations established (III):

Ratio of Mean | Spring Ranges Range Range

Date:

Date:

Date:

Identified: Identified:

Recovered:

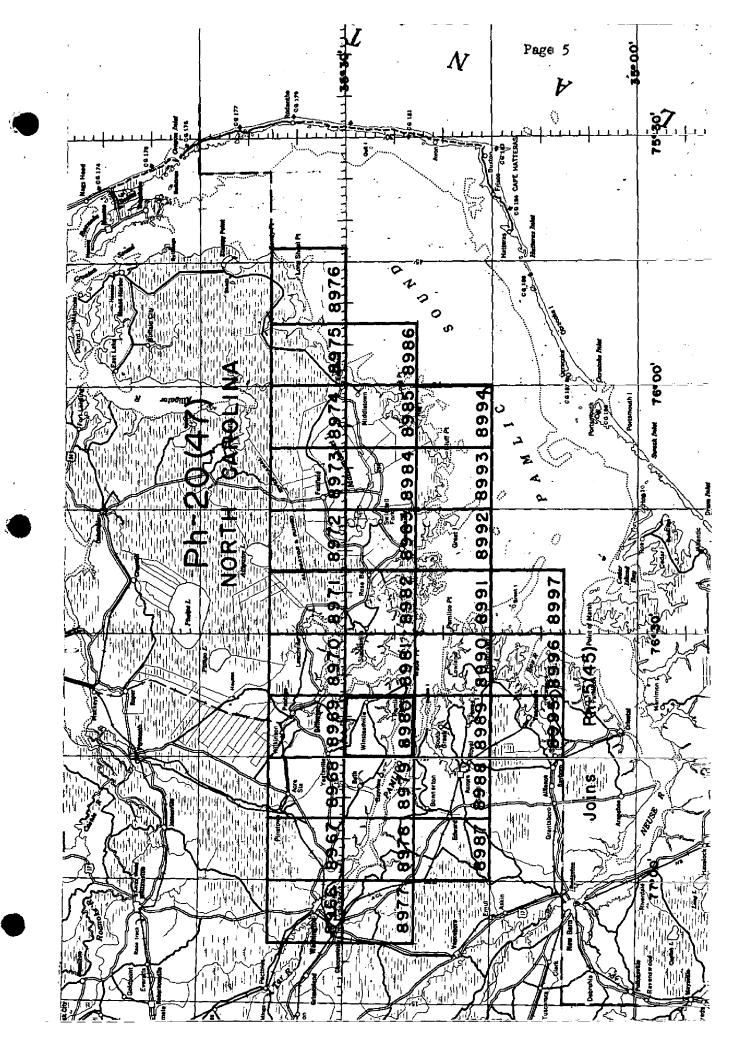
Recovered:

Remarks:

One new Triangulation Station established -

COUSIN 2 1949

* The periodic tide is negliquible EHR (less than 1/4 toot)



SUMMARY TO ACCOMPANY T-8980

Topographic map T-8980 is one of 32 similar maps of project Ph-20(47) and is centrally located in the project. It covers a portion of Pamlico River and Pungo Creek and land area adjacent.

Project Ph-20(47) is a graphic compilation project. The field work preceding compilation included complete field inspection, the recovery of control and the establishment of some additional control.

Map T-8980 was compiled at 1:20,000 scale and covers $7\frac{1}{2}$ ' in latitude by $7\frac{1}{2}$ ' in longitude. The map was field edited. After the addition of hydrographic data and its verification by the Nautical Chart Branch, the map will be forwarded to the U. S. Geological Survey for publication as a standard topographic quadrangle.

Items registered under T-8980 will include a cloth-backed lithographic print of the manuscript at 1:20,000 scale, a cloth-backed color print of the published map at 1:24,000 scale and the descriptive report.

FIELD INSPECTION REPORT Quadrangle T-8980 35-22.5/76-37.5/07.5

E. R. McCarthy, Chief of Party

The field work for this quadrangle was done in accordance with the Director's Instructions, Project Ph-20(47), Field, dated 23 July, 1948, and other instructions, as herein noted. The field work was accomplished by:

Name and Title	Phase	Date	
M. A. Stewart Cart. Sur. Aid.	Levels Contours Field Inspection	3-29-49 3-29-49	3-31-49 6-17-49
H. G. Murphy Cart. Sur. Aid	Horizontal Control Recovery, Shoreline		

This report is written in accordance with Paragraph 784, of the Preliminary edition of the Topographic Manual dated June, 1949.

2. AREAL FIELD INSPECTION

This quadrangle lies north of the Pamlico River, is mostly wooded with scattered farms, and is low and flat close to the river. The land rises to 25' in the north section.

The quality of the photographs was satisfactory. No difficulty was encountered in interpretation.

The bridge over Pungo Creek on the Belhaven-Winsteadville Road is under construction and should be checked during field edit.

The field inspection is believed to be complete, except as noted.

3. HORIZONTAL CONTROL

- (a) Station COUSIN, 2, by Traverse from COUSIN, 1933.
- (e) All stations were searched for and reported on Form 526.

The following stations were lost.

NORTH, 1914 TURN, 1935

4. VERTICAL CONTROL

- (a) There were no bench marks in this quadrangle.
- (b) Fly levels began and closed on Third Order bench marks on Route #264 in Quadrangle T-8969. A closure of 0.53' was adjusted between points 80-1 and 80-11.
 - (e) 80-1 to 80-65.

5. CONTOURS AND DRAINAGE

Contouring was done on 1:20,000 nine-lens photographs. Contour interval was 5'.

Horizontal location of level points was determined by planetable traverse.

Drainage was outlined on the photographs with a stereoscope prior to contouring. During contouring operations this drainage was checked and corrected where necessary. All drainage leads toward the Pamlico River or its arms.

6. WOODLAND COVER

The cover was classified in accordance with Paragraph 5433 of the preliminary edition of the Topographic Manual dated June, 1949.

7. SHORELINE AND ALONGSHORE FEATURES

(a) Mean high-water line is as shown on the photographs.

Apparent shoreline is found chiefly along the streams that branch off from the Pamlico and Pungo Rivers.

(b) The mean low-water line coincides with the mean high-water line, as there is no periodic tide. See remarks section of data record.

8. OFFSHORE FEATURES

A wreck of a small 30' foot wooden barge was found in Ross Creek, a prong of North Creek. It was visited and found to bare 2' above MHWL.

**Field photograph Shows I' above MHW.

9. LANDMARKS & AIDS

There are no land marks or aids to navigation in this quadrangle.

See item 57

10. BOUNDARIES, MONUMENTS AND LINES

For legal descriptions of all boundaries in the project, see "Special Boundary Report", which has been submitted by Mr. Wilber H. Nelson, and supplemental Boundary Report by Mr. A. J. Wraight, which will be submitted. 3oth reports filed in Div. of Photogrammetry.

There are no boundary monuments in this quadrangle.

11. OTHER CONTROL

Recoverable Topographic stations established are:

BAIL, 1949 BEND, 1949 BOATHOUSE, 1949

12. OTHER INTERIOR FEATURES

Inapplicable.

See item 60

13. GEOGRAPHIC NAMES

This will be the subject of a special report, which will be submitted by Mr. A. J. Wraight.

** Filed in Geographic Names Section, Div. of Charts.

14. SPECIAL REPORTS AND SUPPLEMENTAL DATA

Except as noted in items 10 and 13 above, there are no special data for this sheet.

15. SWAMP

Classification of swamp was completed during field inspection, and has been clearly shown on the photographs.

1 August 1949 Submitted by:

Matthew a. Stewart wy JKW Matthew A. Stewart wy JKW Cartographic Survey Aid

Approved: 23 September 1949

E. R. McCarthy Chief of Party

Photogrammetric Plot Report

This report covers the radial plot for maps T-8969 to T-8972 inclusive, T-8980 to T-8983 inclusive, and T-8992 and is filed as part of the descriptive report for T-8992.

STATION	SOURCE OF INFORMATION (INDEX)	DATUM	LATITUDE OR V-COORDINATE LONGITUDE OR ×-COORDINATE	DISTANCE FROM GRID IN FEET, OR PROJECTION LINE IN METERS FORWARD (BACK)	DATUM	N.A. 1927 - DATUM DISTANCE FROM GRID OR PROJECTION LINE IN METERS FORWARD (BACK)	FACTOR DISTANCE FROM GRID ON PROJECTION LINE IN METERS FORWARD (BACK)
DAVIS. 1935	G.Ps.	N.A.	35 29 52.499			1,617.9(231.2)	
	343	1927	76 40 19,038			479.8(1,032.4)	
SPRING. 1933	S.P.		35 27 00.837			25.8(1823.3)	
- 1	218	=	76 42 10.267			258.9(1,254.2)	
COUSTN. 1933	G.Ps.	,	35 25 12,847			395.9(1,453.2)	
	413	=	76 41 47.584	7.0		1,200.4(313.2)	
MC GOWAN 1035	G.Ps.		35 25 34,134			1,051.9(797.1)	
	343	=	76 39 49.861			1,257.8(255.8)	
Se of C 14 of CINISOCI	OFFICE OFFICE		35 22 30.85			950.7(898.4)	
	- 1	=	76 43 11.14			281.2(1,233.5)	
WINSTEAD 1935	G.Ps.	=	35 27 50,794		•	1,565.4(283.7)	
	343		76 38 06.049			152.5(1,360.4)	
Olor C Mrsilo	FIEID		35 25 13,067			402.7(1,446.4)	,
î	POSITION	= -	76 41 47.091			1,188.0(325.7)	
	<u> </u>	-					
	· ·						
				-			
			,				

COMPILATION REPORT T-8980

PHOTOGRAMMETRIC PLOT REPORT.

Submitted with T-8992.

31. DELINEATION.

The graphic method was used.

The photographs were fair. No difficulty was encountered.

32. CONTROL.

Sufficient secondary control was established and placement was such that no difficulty was encountered in securing all additional control necessary.

33. SUPPLEMENTAL DATA.

None.

34. CONTOURS AND DRAINAGE.

No difficulty was encountered in transferring contours. See item 53

No difficulty was encountered in the delineation of drainage.

Reference Item No. 5.

35. SHORELINE AND ALONGSHORE DETAILS.

The shoreline inspection was adequate.

No low-water or shoal lines were shown.

36. OFFSHORE DETAILS.

Reference Item No. 8

37. LANDMARKS AND AIDS.

Light List, Intracoastal Waterway 1950 shows "Cousin Point Light 1".
The Field Editor has been asked to locate it. See item 57

38. CONTROL FOR FUTURE SURVEYS.

Three Forms 524 are being submitted herewith, describing the Recoverable Topographic Stations.

* Filed in Div. of Photogrammetry.

A list of these stations has been noted in Item No. 49.

39. JUNCTIONS.

T-8967 to the north: In agreement.
T-8989 to the south: " "
T-8981 to the east: " "

T-8979 to the west is in agreement with the exception of contours at Lat. 35° 26°. Junction will have to be made by field editor since contour photographs 22222 and 22223 do not agree.

See Junctions " Field Edit Report.

40. HORIZONTAL AND VERTICAL ACCURACY.

No statement.

46. COMPARISON WITH EXISTING MAPS.

There are no existing maps available at this office. See item 62

47. COMPARISON WITH NAUTICAL CHARTS.

Comparison has been made with U. S. C. & G. S. Nautical Chart No. 537, scale 1:40,000 published September 1937 (4th edition) corrected to 26 December 1949 and U. S. C. & G. S. Nautical Chart No. 1231, scale 1:80,000 published November 1938 (8th edition) corrected to 10 May 1948 and found to be in good agreement except that an island has been formed at Chambers Point.

ITEMS TO BE APPLIED TO NAUTICAL CHARTS IMMEDIATELY.

None.

ITEMS TO BE CARRIED FORWARD.

None.

Robert R. Wagner Cartographer Photo Aid

Approved and Forwarded:

Arthur L. Wardwell Chief of Party

49. NOTES TO HYDROGRAPHER.

There follows a list of topographic stations pertinent to the hydrographer:

BAIL, 1949

BEND, 1949

BOAT HOUSE, 1949

50. PHOTOGRAMMETRIC OFFICE REVIEW

T- 8980

1. Projection and grids J.G. 2. Title J.G. 3. Manuscript in	numbers J.G. 4. Manuscript size J.G.
CONTROL STATION	S
5. Horizontal control stations of third-order or higher accuracy	6. Recoverable horizontal stations of less
than third-order accuracy (topographic stations)	•
9. Plotting of sextant fixes J.G. 10. Photogrammetric plot repo	
ALONGSHORE AREA	as ·
(Nautical Chart Dat	a)
12. Shoreline J.G. tachorastaction coccode a Rocksock	elscelococococococococococococococococococo
to navigation J.G. 2012 18. Other alongsho	
shore cultural features J.G.	
Short cultural region of	
PHYSICAL FEATURE	s
20. Water features J.G. 21. Natural ground cover J.G. 22	
24. Contours in general J.G.	
	25. Spot elevations 25. Other physical
featuresI_G	
AULTURAL FRATURE	•
CULTURAL FEATURE	
27. Roads J.G. 28. Buildings J.G. 29. Railroads J.G.	30. Other cultural features
BOUNDARIES	
31. Boundary lines J.G. ZSZ POSTS TONE PIRES	
•	
MISCELLANEOUS	.1 Q.
33. Geographic name 34. Junctions 35. Legibi	ity of the manuscript 36. Discrepancy
overlay J.G. 37. Descriptive Report J.G. 38. Field inspect	
40. Jesse A. Giles Jesse Liles	William A. Rasure William a. Rusun Supervisor, Review Section or Unit
Verions.	Supervisor, Review Section of China
41. Remarks (see attached sheet)	
•	
FIELD COMPLETION ADDITIONS AND CORRECT	TONS TO THE MANUSCRIPT
42. Additions and corrections furnished by the field completion surmanuscript is now complete except as noted under item 43.	vey have been applied to the manuscript. The
Compiler	Supervisor
43. Remarks:	M-2623-12

FIELD EDIT REPORT Project Ph-20(47) Quadrangle T-8980

Harry F. Garber, Chief of Party

51. METHODS

The field edit of this area was accomplished by traversing, via truck, all roads, and walking to other areas in which the reviewer requested information. A general check on the adequacy of the map compilation was made. The shoreline was inspected from a skiff.

Corrections and additions were made by standard surveying methods in conjunction with visual inspection.

All corrections and additions have been noted on the field edit sheet, field photographs 22175, 22176, 22177, 22221, 22222, 22223, and 24130. All work shown on these photographs is properly referenced on the discrepancy print or field edit sheet. All deletions have been noted on the field edit sheet.

The reviewer's questions are answered on the discrepancy print, field edit sheet, photographs, or, in this report.

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

The actual field work was accomplished in five days in May, 1951.

52. ADEQUACY OF COMPILATION

The map compilation, in general, is adequate and will be complete after field edit data has been applied. See item 66

53. MAP ACCURACY

In general, the horizontal accuracy of the map detail is relatively good.

See item 66

Contours were corrected in two areas by planetable methods; the remainder of the corrections, indicated on the field edit sheet, were made by visual inspection. All corrections were made to depict, as near as possible, the true topography of the terrain. Also see item 51

54. RECOMMENDATIONS

None.

55. EXAMINATION OF PROOF COPY

It is believed that Mr. W. C. Rodman, registered land surveyor, of Washington, N. C., is best qualified to examine a proof copy of this work.

56. CONTOURS AND DRAINAGE

Ref. to item 34 - Compilation Report.

Contour corrections have been made, on the field edit sheet throughout the entire area. All corrections were made to improve the topographic expression of the area. The established spot elevations on the photographs were used.

The majority of the drainage in this area is natural. The two drainage ditches are too narrow and too shallow to affect the centours on a map of this scale.

57. AIDS TO NAVIGATION

Ref. to item 37 - Compilation Report.

One aid to navigation, Cousin Point Light, was located by theodolite cuts. Forms 567 and 24A are submitted. The light was plotted on the field edit sheet.

*** A Copy attacked. *** Filed in Div. of Photogrammetry.

58. SHORELINE AND ALONGSHORE DETAILS

Ref. to item 35 - Compilation Report.

Numerous additional buildings and wooden piers have been shown on the field edit sheet, along the shores of Pungo Creek, North Creek, and the north shore of Pamlico River. A slight change in the shoreline was made by the addition of earth fills on both sides of the bridge over Jack Creek.

59. OTHER CONTROL

Ref. to item 11 - Field Inspection Report.

Topographic station "BOAT HOUSE, 1949" was pricked accurately on the photograph. However, the sketch of the pier, on Form 524, was not drawn correctly. The pier is in the shape of an "L" pointing eastward. The sketch on Form 524 has been corrected accordingly.

60. OTHER INTERIOR FEATURES

Ref. to item 12 - Field Inspection Report.

Reclassification of roads was made on the field edit sheet, where necessary.

Numerous additional buildings have been shown on the field edit sheet.

The position of the new road and bridge over Pungo Creek is correct. It is a fixed concrete bridge, with a horizontal clearance of 31.0 feet, and a vertical clearance of 14.0 feet.

The bridge over Jack Creek is a fixed concrete structure with a horizontal clearance of 23.0 feet, and a vertical clearance of 3.7 feet. An earth fill, with rock bulkhead, has been added on both sides of the bridge. These are the only bridges over navigable waters in this area.

JUNCTIONS.

Satisfactory junctions have been made with T-8969 to the north, T-8981 to the east, T-8989 to the south, and T-8979 to the west.

8 June 1951 Submitted by:

James E. Hundley HFH. Cartographer

12 June 1951 Approved by:

Harry F. Garber Commander, USC&GS Chief of Party

PHOTOGRAMMETRIC REVIEW SECTION Form 567 April 1945

F COMMERCE DEPARTMENT

U. S. COAST AND GEODETIC SURVEY

NONFLOATING AIDS CREEKING MERCHER FOR CHARTS

I recommend that the following objects which have (Haterney been inspected from seaward to determine their value as landmarks be charted on (determine their value as landmarks be STRIKE OUT ONE K BEK CHARTED K BEK BEKEEFE BK

The positions given have been checked after listing by

19 51 5 June Washington, North Carolina

Harry F. Garber US C & GS, Chi. Commander, Tampa Photogrammetric Office

Rexford B. Smith Jr.

CHARTS AFFECTED Chief of Party. 537 OFFSHORE CHART INSHORE CHART H HARBOR CHART LOCATION 1821 DATE theodolite T-8986 METHOD OF LOCATION AND SURVEY NO. DATUM 1927 D. P. METERS 282 LONGITUDE POSITION -9 2 D. M. METERS 1457 LATITUDE _ 7 ۰ 3 SIGNAL DESCRIPTION COUSIN POINT LIGHT NORTH CAROLINA CHARTING NAME STATE Ľ.

This form shall be prepared in accordance with Hydrographic Manual, pages 800 to 804. Positions of charted landmarks and nonfloating aids to navigation, if redetermined, shall be reported on this form. The data should be considered for the charts of the area and not by individual field survey sheers. Information under each column heading should be after

16--51096-1 U. S. COVERNMENT PRINTING OFFICE

19

48. GEOGRAPHIC NAME LIST. Ashon Gut. BAILEY CREEK BATH TOWNSHIP BEAUFORT COUNTY BETHANY CHURCH BURBAGE CROSSROADS BURBAGE GUT ✓ CHAMBERS POINT - Cradle Point COCKREIL BEACH COUSIN POINT EAST FORK -EAST POINT FARROW POINT FRYING PAN CREEK CAYLORD Garrett Gut GAYLORD BAY HICKORY POINT ROAD HOLLY GROVE CHURCH LISIAND VIEW SHORES JACK CREEK JACKSON SWAMP JORDAN CREEK w KELLY ROAD LITTLE CREEK Little Ease Creek LITTLE CREEK ROAD LONG POINT MARE POINT MOORES BEACH BOAD NORTH CAROLINA

NORTH CREEK

OID MILL CREEK

NORTH CREEK CHURCH

48. GEOGRAPHIC NAME LIST (CONTINUED)

- PANLICO RIVER
- PANTEGO TOWNSHIP
- PINE CREST
- PUNGO CHEEK
- RANSONVILLE -
- REST. HAVEN -
- RICHLAND TOWNSHIP
 - ROSS CHEEK
 - RUMLEY WARSH

 - SAGE GUT SANDY LANDING
- SIGNEY CHURCH SIDNEY CROSSHOADS
- SPRING GREEN CHURCH
 - ST CLAIR CREEK
 - ST CLAIR CHURCH
 - SULLIVAN POINT
 - TARKILN NECK
 - TARKILN NECK ROAD
 - WARD POINT
 - WHEAT PATCH ROAD
 - WINSTRADVILLE
 - WOODSTOCK ROAD
 - WOODSTOCK SAVANNA.

Names underlined in red Names underlined in red are approved on basis of Wraights report, subject to Wraights report, Subject to Final check by Field Edit.

REVIEW REPORT Topographic Map T-8980 19 February 1952

62. Comparison with Registered Topographic Surveys:

T-1212	1:20,000	1870
T-1273	, 19	1873
T-6406	1:10,000	1935
T-6407	11	11
T-6408	n	17
T-6342	ri	11
T-6413	19	#

There is evidence of some shoreline changes since these surveys were completed. Survey T-8980 is to supersede the above surveys for nautical charting purposes for common areas.

63. Comparison with Maps of Other Agencies:

None

64. Comparison with Contemporary Hydrographic Surveys:

None

65. Comparison with Nautical Charts:

537

1:40,000

1937 corrected 51-6/11

No changes requiring immediate attention. See item 47.

66. Adequacy of Results and Future Surveys:

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

Reviewed by:

verett H. Remey

Approved:

Chief, Review Section F. N.M. Div. of Photogrammetry 7-10-53

Chief, Nautical Chart Branch Division of Charts GA

Chief Div. Photogrammetry

hief, Div. Coastal Surveys

History of Hydrographic Information Quadrangle T-8980 Pamlico River, North Carolina

Hydrography was applied to the manuscript of this quadrangle in accordance with Division of Photogrammetry general specifications dated 18 May 1949.

Soundings, and 6, 12 and 18-foot depth curves at mean low water datum originate with the following:

U.S.C.& G.S. Hydrographic Surveys:

H-5873 (1935) 1:10,000 H-5918 (1935) 1:10,000 H-5919 (1935) 1:10,000 H-5941 (1935) 1:10,000

U.S.C.& G.S. Nautical Charts:

537 1:40,000 latest print date 6-11-51 1:80,000 " " 11-12-51

Hydrography was compiled by K. N. Maki and verified by R. E. Elkins.

K. N. Maki

Div. of Photogrammetry 5 March 1952