

T-12437-12438-12440  
12442-12562

T-12440

T-12438

T-12437

12562

12442

12442-12562

T-12437-12438-12440

Form 504	
U. S. DEPARTMENT OF COMMERCE COAST AND GEODETIC SURVEY	
DESCRIPTIVE REPORT	
Type of Survey	Shoreline
Field No.	PH 6309
Office No.	T-12437, T-12438 T-12440 T-12442+712562
LOCALITY	
State	North Carolina
General locality	Outer Banks
Locality	Hatteras Island
1963 - 1965	
CHIEF OF PARTY	
J. E. Waugh Division of Photogrammetry, Wash, D. C.	
LIBRARY & ARCHIVES	
DATE	SEP 4 - 1966

DESCRIPTIVE REPORT - DATA RECORD

T- 12438, 12440, 12442, & 12437+12562

PROJECT NO. (II): <b>Ph 6309 21068</b>	
FIELD OFFICE (III): <b>Manteo, N.C.</b>	CHIEF OF PARTY: <b>William M. Reynolds</b>
PHOTOGRAMMETRIC OFFICE (III): <b>Washington, D.C.</b>	OFFICER-IN-CHARGE: <b>J. E. Waugh</b>
INSTRUCTIONS DATED (II) (III): <b>8-8-63 4-6-64 (Reassigned to Wash. Compilation)</b>	
METHOD OF COMPILATION (III): <b>B-8 Stereoplotter</b>	
MANUSCRIPT SCALE (III): <b>1:20,000</b>	STEREOSCOPIC PLOTTING INSTRUMENT SCALE (III):
DATE RECEIVED IN WASHINGTON OFFICE (IV):	DATE REPORTED TO NAUTICAL CHART BRANCH (IV):
APPLIED TO CHART NO.	DATE: DATE REGISTERED (IV):
GEOGRAPHIC DATUM (III): <b>N.A. 1927</b>	VERTICAL DATUM (III): MEAN SEA LEVEL EXCEPT AS FOLLOWS: <i>Elevations shown as (25) refer to mean high water Elevations shown as (S) refer to sounding datum i.e., mean low water or mean lower low water</i>
REFERENCE STATION (III):	
LAT.:	LONG.:
<input type="checkbox"/> ADJUSTED <input type="checkbox"/> UNADJUSTED	
PLANE COORDINATES (IV):	STATE:                      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.	

DESCRIPTIVE REPORT - DATA RECORD

FIELD INSPECTION BY (II): Dale M. Fuller W. M. Reynolds		DATE: Oct.-Nov. 1963
MEAN HIGH WATER LOCATION (III) (STATE DATE AND METHOD OF LOCATION):		
PROJECTION AND GRIDS RULED BY (IV): A. Roundtree		DATE 4-20-64
PROJECTION AND GRIDS CHECKED BY (IV): M. C. Williams		DATE 4-22-64
CONTROL PLOTTED BY (III): M. Webber		DATE 4-27-64
CONTROL CHECKED BY (III): J. Phillips		DATE 4-28-64
RADIAL PLOT OR STEREOSCOPIC CONTROL EXTENSION BY (III):		DATE
STEREOSCOPIC INSTRUMENT COMPILATION (III): R. A. Carter F. Wright	PLANIMETRY	DATE 5-1-64
	<del>CONTROLS</del>	DATE
MANUSCRIPT DELINEATED BY (III): F. Wright, R. A. Carter, J. Phillips		DATE 5-6-64
SCRIBING BY (III):		DATE
PHOTOGRAMMETRIC OFFICE REVIEW BY (III): J. Battley		DATE Feb. 1965
REMARKS:		

DESCRIPTIVE REPORT - DATA RECORD

CAMERA (KIND OR SOURCE) (III):

Single lens - color film

PHOTOGRAPHS (III)

NUMBER	DATE	TIME	SCALE	STAGE OF TIDE
63 SC 7008 thru 7035	5 July 63		1:20,000	
63 SC 7047 thru 7053	5 July 63		1:20,000	
63 SC 7038 thru 7044	5 July 63		1:20,000	
63 WC 2214 - 2221	15 Oct 63		1:20,000	

TIDE (III)

	RATIO OF RANGES	MEAN RANGE	SPRING RANGE
REFERENCE STATION:			
SUBORDINATE STATION:			
SUBORDINATE STATION:			

WASHINGTON OFFICE REVIEW BY (IV): J. Battley

DATE:  
Feb. 1965

PROOF EDIT BY (IV):

DATE:

NUMBER OF TRIANGULATION STATIONS SEARCHED FOR (II): 8

RECOVERED:  
7

IDENTIFIED:  
7

NUMBER OF BM(S) SEARCHED FOR (II):

RECOVERED:  
3

IDENTIFIED:  
1

NUMBER OF RECOVERABLE PHOTO STATIONS ESTABLISHED (III):

NUMBER OF TEMPORARY PHOTO HYDRO STATIONS ESTABLISHED (III): 15

REMARKS:

SUMMARY TO ACCOMPANY DESCRIPTIVE REPORT  
T-12437, 12438, 12440 ~~and~~ 12441 and T12562  
PROJECT 21068

This project consists of four  $7\frac{1}{2}' \times 7\frac{1}{2}'$  1:20,000 scale manuscripts and one  $4' \times 3\frac{3}{4}'$  1:10,000 scale manuscript. All maps were compiled in the Washington Office. ~~This summary covers the four 1:20,000 scale manuscripts.~~

The project covers Hatteras Island on the Outer Banks of North Carolina from the Southern edge of Pea Island, south to Cape Hatteras. The manuscripts were compiled to provide shoreline and horizontal control data for inshore hydrography.

The area is covered by 1:20,000 scale color photography taken in July 1963 with the RC-8 camera.

Field inspection was accomplished in October-November 1963. Field operations encompassed the recovery of horizontal control, shoreline inspection and the location of landmarks, aids to navigation and hydrographic signals.

Instructions were written on August 8, 1963. Compilation was reassigned to the Washington Office on April 4, 1964.

The project area was bridged on the Zeiss C-8 stereoplanigraph. The shoreline for Pamlico Sound on T-12440 was detailed using individually oriented models on the B-8 stereoplotter. All manuscripts were compiled on the B-8 stereoplotter with the color glass bridging plates.

During compilation the pre-set hydrographic signals were visible on the stereo models. As requested, (see enclosed Field correspondence) the field position for these sites were verified photogrammetrically.

Submitted by

*J. P. Battley, Jr.*  
J. P. Battley, Jr.  
Cartographer

FIELD INSPECTION REPORT  
MAPS T-12437 THROUGH T-12442  
PROJECT PH-6309, 21068

2. Aerial Field Inspection.

These maps are located along the Outer Banks of the coast of North Carolina. The land area consists of a narrow stretch of sand which separates the Atlantic Ocean from Pamlico Sound. Most of the land area has been acquired by the National Park Service and is now known as "Cape Hatteras National Seashore Recreational Area". The areas outside the park consist of several small settlements, namely, Rodanthe, Waves, Salvo, Buxton and Frisco. These settlements, in general, are populated by commercial fishermen, oystermen and shrimpers. A good highway was constructed down the islands from Oregon Inlet to Ocracoke and opened to traffic in 1951. Access to the highway was via ferries across Oregon and Hatteras Inlets. A bridge is now under construction across Oregon Inlet and will be officially opened to traffic on 20 November 1963. Since the completion of the highway, the area has become popular as a tourist attraction. The Cape Hatteras area is now dotted with several motels, restaurants and summer cottages. The National Park Service has also provided several sites for camping.

Field inspection is believed complete and was performed on the following 1:20,000 scale color photographs; 63S (C) 7010 through 63S (C) 7034, 63S (C) 7038 through 63S (C) 7044, 63S (C) 7046, 63S (C) 7048 through 63S (C) 7050, 63S (C) 7052 and 63S (C) 7053. The photography was of good quality and no difficulty was encountered in its interpretation in the field. There are several borderline cases in the inshore limits of marsh. These areas were inspected by walking into them and the limits have been generalized on the photographs. The tone changes in these areas were not distinguishable between the edges of the marsh and the beginning of areas covered by a heavy growth of dark grass. Generalization was necessary to comply with project instructions.

No items were deliberately left for field edit.

3. Horizontal Control.

Horizontal control was recovered and identified in accordance with project instructions. Only stations needed to control the bridge were searched for.

The instructions called for one of the lights marking the entrance to Avon Channel to be located by triangulation and identified. This was not complied with. The strip of photographs covering the channel had a large sun spot on most of the prints making positive identification impossible. Most of the aids are small structures which do not show clearly on the 1:20,000 scale photography. In lieu of this, all of the aids were located by theodolite cuts from identifiable points along the main island.

No supplemental control was established.

Item 3, Horizontal Control Cont'd.

One station, Cape Hatteras Coast Guard Lookout Tower 1962 was reported destroyed. This station is located in map T-12442.

4. Vertical Control.

Three tidal bench marks were recovered in map T-12440. They are Cape Hatteras Lighthouse bench marks 1, 3 and 4. One of the marks was identified.

5. Contours and Drainage.

Contours are inapplicable.

Drainage is runoff and is self evident from the photographs.

6. Woodland Cover.

Woodland cover has been classified on the photographs.

7. Shoreline and Alongshore Features.

The mean high water line along the Atlantic Ocean was located by measurement from identifiable photo. points. These distances have been indicated on the photographs.

The shoreline along Pamlico Sound was located by inspection and walking along the beach. It has been indicated by symbol on the photographs.

The low water line was not inspected. There are no bluffs or cliffs. Docks, wharves or piers are visible on the photographs. There are no submarine cables in the area.

The National Park Service has constructed a levee along the entire beach. The levee has been indicated on the photographs and is to be symbolized on the manuscripts.

Three wrecks were identified on the photographs. These wrecks are now out in the edge of the water and not on the beach.

8. Offshore Structures.

One cabin around Clam Shoal was located by theodolite cuts for plotting on the manuscript of map T-12440. Gull Island was not covered by the color photography. The HOUSE shown as a landmark on nautical chart 1232 was relocated by theodolite cuts from the main island. All of the island is marsh and it can be compiled from the panchromatic photography for project Ph-6219, 21061.

9. Landmarks and Aids.

Landmarks for nautical charts are adequately covered by Form 567.

Fixed aids to navigation have been listed on Form 567. See Item 3, PP 2.

10. Boundaries, Monuments and Lines.

All of the area is in Dare County and none of the small villages are incorporated.

Several corners of the National Park boundary have been located on the photographs and it is believed the compiler will have no difficulty placing the boundary on the manuscripts. Where the above boundary parallels the beach, it is 500 feet inshore from the mean high water line.

11. Other Control.

None was established.

12. Other Interior Features.

All roads have been classified in accordance with Photogrammetry Instructions No. 56.

All buildings have been indicated in accordance with Photogrammetry Instructions No. 54.

There are no bridges or cables over navigable waters.

Billy Mitchell Airport has been indicated on the Photographs.

13. Geographic Names.

A field investigation of names was not required. No new names were found during the field inspection.

14. Special Reports and Supplemental Data.

1 blueprint, U.S. Naval Facility, Cape Hatteras, Buxton, N.C.

1 blueprint(2 sections)Cape Hatteras National Seashore.

2 tracings of areas outside National Park.

Letter of Transmittal submitted with this data.

*William M. Reynolds*  
William M. Reynolds  
Chief, Sub-unit Photo.  
Party 6420



# CAPE HATERAS, N.C.

PH - 21068

MAY 6, 1964

63W(c)2221

92490 (0.3, -0.1)

670+80(NPS), 1962  
SSA (-0.3, 1.2)  
SSB (-10.3, 8.6)

SLUE, 1962 SSA (-6.1, 9.7) SSB (-10, 0.8)  
635(c)7008 STRIP#3

STRIP#2 (0.3, -0.8) SS(2.5, -1.8)

TRAVERSE PT. No. 3 (0.6, 0.2) SS1(1.1, -0.9)

STRIP#2, SS1(-0.2, 0.1) SS2(0.9, 0.5)

STRIP#3  
ROYAN, 1962 SS1(0.2, 0.4) SS2(-0.3, 0.0)  
63W(c)2214

## LEGEND

△ CONTROL USED IN ADJUSTMENT

CLOSURE OF BRIDGE TO CONTROL SHOWN IN PARENTHESES

LAT. 75° 22' 30"  
LONG. 35° 30' 00"



ARKIN, 1962 SS1(-5.6, 1.4) SS2(-5.1, +0.5)

KEET, 1962 SS1(15.5, -20.1) SS2(4.4, -1.6)

KINNA, 1962 SS1(2.8, -0.5)

63S(c)7054

63S(c)7047

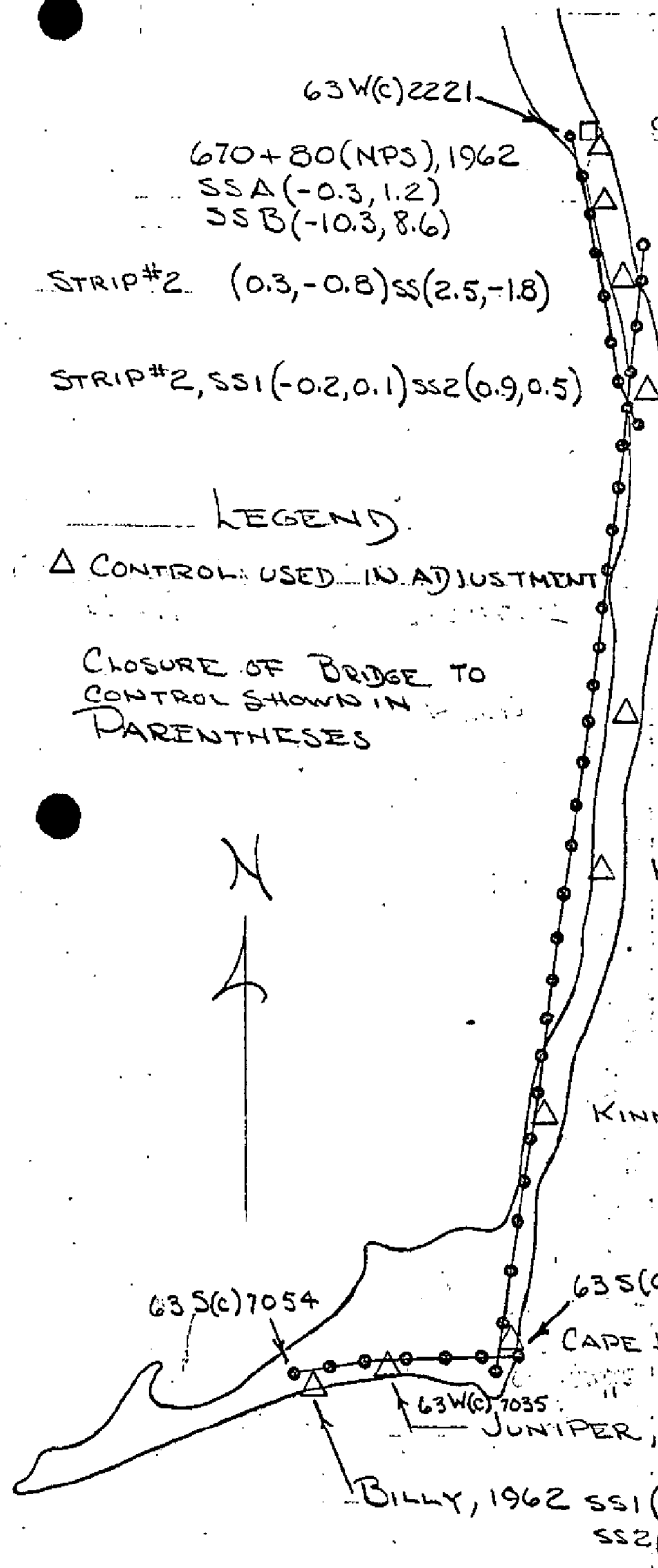
CAPE HATERAS LORAN MAST, 1962 STRIP#2 (-1.4, -0.2) SS(-1.1, -1.4)

63W(c)7035

JUNIPER, 1962 SS1(-5.5, -2.9) SS2(0.1, 0.0)

STRIP#1 (0.0, 0.0) SS(3.3, 0.9)

BILLY, 1962 SS1(-3.5, -0.9) SS2(0.0, -0.1)



6

AEROTRIANGULATION REPORT  
Cape Hatteras, North Carolina  
PH-21068

21. Area Covered

This report covers the area from Cape Hatteras, North Carolina to a point five miles south of Oregon Inlet, North Carolina and includes T-sheets 12437, 12438, 12440, 12442 and 12562.

22. Method

Three horizontal bridges were run, on the Zeiss C-8, stereoplanigraph, to provide pass points for graphic compilation of shoreline. Photography consisted 63-S (c)-7008 through 7035, 7047 through 7054 and 2214 through 2221. The three strips were adjusted by the IBM-650 method. Strip #1 was adjusted using three control stations, with three companion stations, as checks. Strip #2 was adjusted using six control stations with eight stations as checks. Strip #3 was adjusted using three stations and one tie point, with five stations used as checks. All pass points were drilled by PUG methods.

23. Adequacy of Control

Control positions were adequate for bridge adjustment. All control meets National Map Accuracy Standards except Keet, 1962, (SS#1) and Shue, 1962 (SSA). After an intensive investigation, no reason could be determined why Keet, 1962 (SS#1) could not be held and it was dropped from the bridge. Shue, 1962 (SSA) was identified on 1962 photography (PH-21068) and could not be positively identified on the 1963 photography since it was not a permanent object. It was also dropped from the bridge. Strip #3 was tied to Project 21049 (Oregon Inlet, North Carolina) by control and common pass points. All common points at strip junctions were averaged.

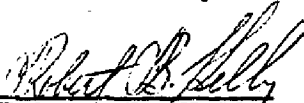
24. Supplemental Data

None

25. Photography

Photography was adequate as to coverage, overlap and definition.

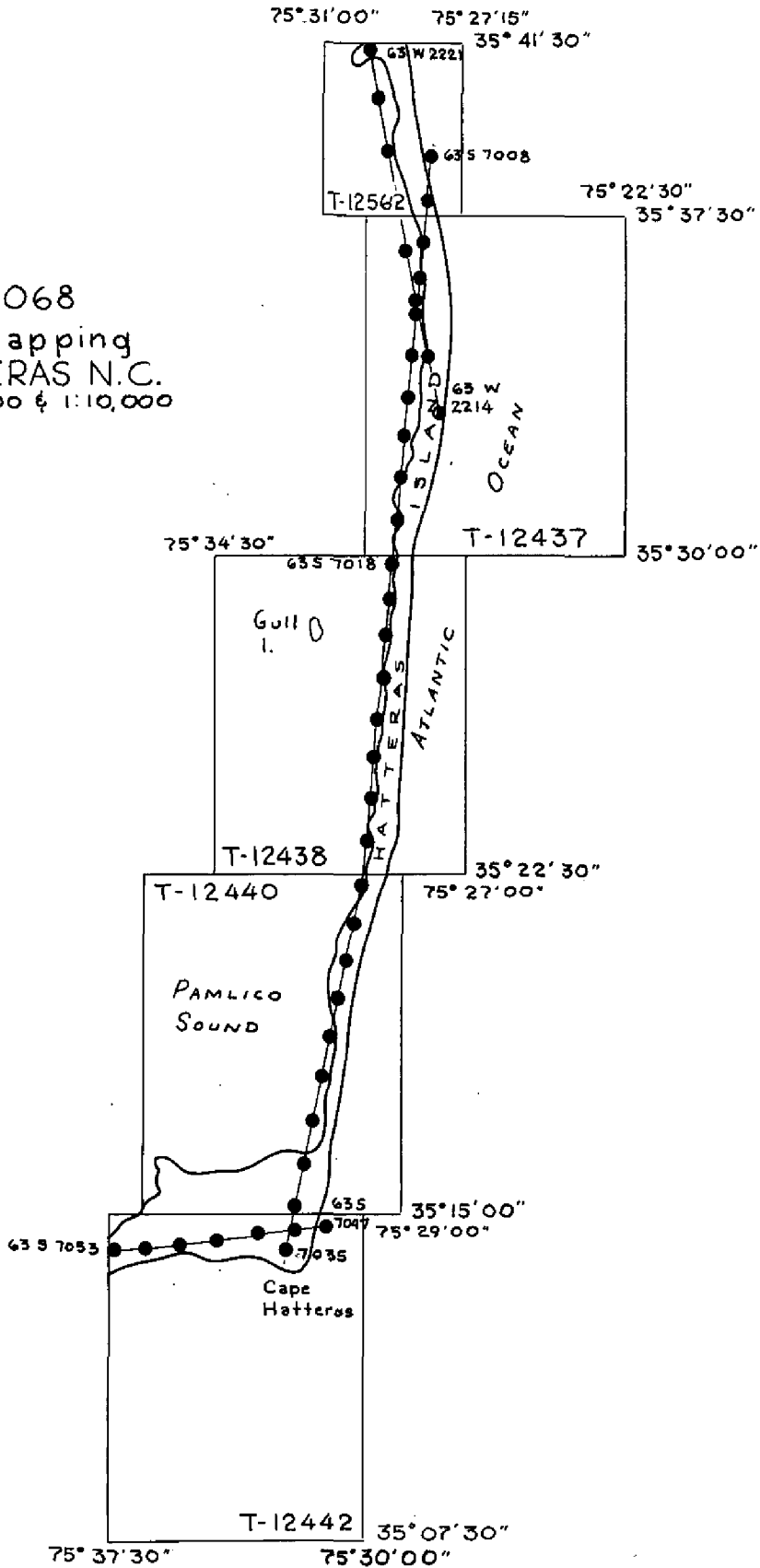
Submitted by:

  
Robert B. Kelly

Approved by:

  
John D. Perrow, Jr.

Project 21068  
 Shoreline Mapping  
 CAPE HATTERAS N.C.  
 SCALE 1:20,000 & 1:10,000  
 APRIL 1964



COMPILATION REPORT  
T-12437, T-12438, T-12440  
& T-12442 + T-12562  
April 1964-November 1964  
Shoreline Mapping

This report discusses the compilation of ~~four of five~~ ~~T-12562~~ sheets covering the Outer Banks of North Carolina from the southern edge of Pea Island, south to Cape Hatteras. (see Layout Sketch)

31. Delineation

The manuscripts were compiled on the B-8 stereoplotter utilizing 1963 color glass plates. Manuscript scale was 1:20,000. ~~T-12562, the remaining manuscript in this project was compiled at 1:10,000 scale and is discussed under a separate report.~~ The color plates were bridged and pass points drilled by the Aero-triangulation Section. The area was field inspected in Oct.-Nov. 1963. The MHWL location and inshore details were defined using this inspection. Field data was denoted on color prints.

32. Control

See item 23 of the Bridge Report. Control was adequate in identification, density and placement.

33. Supplemental Data

U.S.G.S. quadrangles covering the area were obtained from the Geographic Names Section indicating names approved for use and their correct placement.

34. Contours and Drainage

Inapplicable

35. Shoreline and Alongshore Details

The preliminary compilation for T-12440 and 12442 did not include the delineation of the shoreline bordering Pamlico Sound. Hydrography was confined to the ocean side of Hatteras Island and shoreline details were not needed for Pamlico Sound. When the Incomplete Manuscripts were returned from the hydrographic parties, the manuscripts were compiled to the extent of the photographic coverage. The color glass plates used on the B-8 stereoplotter afforded an excellent interpretation of the shoreline, sand dunes, marsh and related features of this island.

### 36. Offshore Details

No unusual problems were encountered.

### 37. Landmarks and Aids

The lights for Avon Channel on T-12440 were located by theodolite cuts. Positions and method of location have been submitted on Form 567's.

### 38. Control for Future Surveys

Fifteen hydrographic signal sites were traversed by the 1963 field party in this area. The towers built for these signals were visible on the photography. With the exception of station LEO, the positions supplied by the field and the photogrammetric position were in agreement. The 50 foot tower for LEO was identified. Holding to photogrammetric bridge points and station ARKIN 1962 nearby, the photogrammetric location fell exactly 300 feet north of the field traverse position. It is believed a 300 foot taping error occurred in the 1963 traverse.

The hydrographer expressed some doubt in the field position of hydro signal DOG. (Field memorandum, from C.O. Explorer dated Nov. 19, 1963.) The stereoplanigraph bridge adjustment was very strong on this project and verified the hydrographers position for this signal.

An attempt was made, as requested in the above mentioned memorandum, to locate hydro signals APE, BAT and COW. Without field identification these signal were too small to identify on the 1:20,000 color photography.

### 39. Junctions

Junctions were made with adjoining sheets. (see Layout Sketch for T-sheet arrangement.)

### 40. Horizontal and Vertical Accuracy

The manuscripts comply with the National Standards of Accuracy.

### 41.-45. None

### 46. Comparison with Existing Maps

A comparison was made with registered topographic surveys T-8712 N&S, T-8713 N&S, T-8714 N&S and T-8718. These surveys were compiled and field edited in 1948 at a scale of 1:10,000.

47. Comparison with Nautical Charts

A comparison was made with Chart 1232, scale 1:80,000, published in its 10th Edition Feb. 17, 1964, revised Nov. 1964

Submitted by:

Frank A. Wright

Frank A. Wright

Approved by:

K. N. Maki

K. N. Maki  
Chief, Compilation Section

~~PRELIMINARY~~ COMPILATION REPORT  
T-12562  
PROJECT 21068  
SCALE 1:10,000  
APRIL 1964

This report discusses the compilation of the northern of five T-sheets covering the Outer Banks of the coast of North Carolina. The project runs from the southern edge of Pea Island south to Cape Hatteras. (See sketch layout)

This manuscript is the only manuscript in this project at a scale of 1:10,000. The four remaining surveys, discussed in a separate report, are 1:20,000. The manuscript was compiled on the B-8 stereoplotter utilizing 1963 color glass plates. The color plates were bridged and drilled by the Aerotriangulation Section.

There was no field inspection for this sheet. The MHWL location and inshore details were defined in agreement with the field inspected MHWL on surveys T-12438, 12440 and T-12442 which fall to the south.

Offshore details such as shoal and shallow lines were not compiled at this time as hydrography is to be confined to the ocean side of the islands.

This manuscript junctions at the north with T-12447, Project 21049 (Ph-6207) dated August 1963. The MHWL on the ocean side did not agree with the shoreline as delineated on T-12447. The shoreline bordering Pamlico Sound was in good agreement and junctioned well. There was a levee running throughout this project approximately parallel to the ocean shore. This feature was not shown on the project junctioning to the north.

Refer to the ~~Preliminary~~ Descriptive Report for surveys T-12438, 12440, and 12442 for the Field Inspection Report, Bridging Report and Notes to Hydrographer covering this project.

Approved by:

*K. N. Maki*

Chief, Compilation Section

Submitted by:

*R. A. Carter*

48. Geographic Names List

T-12437

- Atlantic Ocean
- Aunt Phobes Marsh
- Blackmar Gut
- Clarks Bay
- Davids Point
- Great Island
- Midgett Cove
- Midgett Island
- No Ache
- No Ache Bay
- No Ache Island
- North Drain
- Pamlico Sound
- Pauls Ditch
- Rodanthe
- Salvo
- Uncle Jimmys Landing
- Waves
- Waves Landing

T-12438

- Atlantic Ocean
- Drain Islands
- Gull Island Bay
- Hatteras Island
- Little Kinnakeet
- Pamlico Sound
- Phipps Cove
- Terrapin Point
- The Drain

T-12562

- Atlantic Ocean
- Beach Slue
- Cat Island
- Cedar Hammock
- Goulds Lump
- Hatteras Island
- Hog Island
- Ira Lump
- Jack Shoal
- Loggerhead Hills
- Liza Lumps
- Pamlico Sound
- Round Hammock Bay
- Round Hammock Point
- St. Clair Lump
- Wreck Co.

T-12440

- Askins Creek
- Atlantic Ocean
- Avon
- Back Landing
- Bald Point
- Big Island
- Black Hammock
- Brooks Creek
- Brooks Point
- Buxton
- Buxton Landing
- Buxton Woods
- Cape Creek
- Great Island
- Hatteras Island
- Jeanette Sedge
- King Island
- Kings Point
- Long Point Creek
- Mill Creek
- Pamlico Sound
- Peters Ditch
- Spencer Creek

T-1244<sup>2</sup>~~X~~

- Atlantic Ocean
- Billy Mitchell Airport
- Cape Hatteras
- Cape Hatteras State Park
- Cape Point
- Frisco
- Hatteras Bight
- Hatteras Island
- Pamlico Sound

*Names approved  
6-30-65*

*A. J. Wrought*



49. Notes to Hydrographer

Refer to the Compilation Report, Item 38 for the disposition of hydrographic signals in the area of these manuscripts.

REVIEW REPORT T-12437, 12438, 12440 and 12442<sup>2</sup> & T-12562  
SHORELINE MAPPING  
MARCH 1965

61. General Statement

See summary in the preface to this Descriptive Report.

62. Comparison with Registered Topographic Surveys

A comparison was made with topographic surveys T-8711 N & S dated April 1946; T-8712 N & S dated April 1946, edited July 1948; T-8714 N & S dated 1946, edited July 1948 and T-8718 dated April 1946. All the above surveys are 1:10,000 scale.

For details compiled, the new manuscripts supersede the prior surveys.

63. Comparison with Maps of Other Agencies

A comparison was made with 1:24,000 scale Geological Survey Quadrangles: Cape Hatteras, Buxton, Little Kinna-keet, Rodanthe and Pea Island, North Carolina.

64. Comparison with Contemporary Hydrographic Surveys

1963 Boat Sheet EX-20-2-63-C was compared as the smooth sheet had not been completed.

At Lat. 35°20' to 35°21' the shoreline and the first line of soundings are superimposed.

The field-identified MHWL was delineated from 1963 photography that was well controlled in horizontal position.

It is believed this discrepancy will be resolved on the smooth sheet.

65. Comparison with Nautical Charts

A comparison was made with Chart 1232, scale 1:80,000 published in its 10th Edition Feb. 17, 1964, revised Nov. 1964.

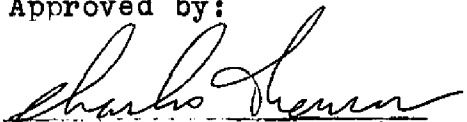
- 2 -

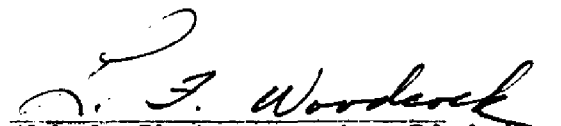
66. Adequacy of Results and Future Surveys

The maps comply in all respects with project instructions.

These maps comply with the National Standards of Accuracy.

Approved by:

  
Chief, Photogrammetric Branch  
*h.c.*

  
Chief, Photogrammetry Division

Reviewed by:

  
J. P. Battley, Jr.

Chief, Nautical Chart  
Division