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6924

Form 504	
U. S. COAST AND GEODETIC SURVEY	
DEPARTMENT OF COMMERCE	
DESCRIPTIVE REPORT	
Type of Survey	Topographic
Field No. A & B 1943	Office No. T6924
LOCALITY	
State	NORTH CAROLINA
General locality	Ocracoke Inlet
Locality	Ocracoke & Portsmouth Islands
194 2 - 43.	
CHIEF OF PARTY	
Raymond H. Tryon Jr.	
LIBRARY & ARCHIVES	
DATE SEP 7 1943	

applied to chart 1231. Oct. 15/43 - N. P. B.

applied to chart 418

Oct 21, 1943

Fam.

" " " 1232

Apr. 1944

N. P. B.

51

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

REG. NO. T6924 a

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. A - 1943

REGISTER NO.

T6924 a

State NORTH CAROLINA

General Locality OCRACOKE INLET

Locality Ocracoke and Portsmouth Islands

Scale 1:10,000 Date of survey Dec. 1942 - Feb., 1943

Vessel Launch ELSTE III

Chief of party R. H. Tryon

Surveyed by R. H. Tryon

Inked by R. H. Tryon

Heights in feet above MHW to ground to tops of trees

Contour Approximate contour Form line indicated

Instructions dated November 2, 1942

Remarks:

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

REG. NO.

T6924b

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. B 1943

REGISTER NO.

T6924b

State NORTH CAROLINA

General Locality OCRACOKE ISLAND

Locality OCRACOKE VILLAGE

Scale 1:10,000 Date of survey Feb. - March, 1943

Vessel Launch ELSIE III

Chief of party R. H. Tryon

Surveyed by R. H. Tryon

Inked by R. H. Tryon

~~Height in feet above ground to tops of trees~~

~~Contours, Approximate contour, Form line interval~~

Instructions dated November 2, 1942

Remarks: _____

DESCRIPTIVE REPORT TO ACCOMPANY

TOPOGRAPHIC SURVEYS

Field Nos. A & B, 1943

OCRACOKE & PORTSMOUTH ISLANDS, NORTH CAROLINA

INSTRUCTIONS:

The work was carried out under the Director's Instructions dated November 2, 1942. ✓

CONTROL:

A sufficient number of triangulation stations as listed in the lithographed copies of the geographic positions on the N.A. 1927 datum were recovered to adequately control the survey. These positions are from surveys from 1851 to 1935. Triangulation station "Coke, 1927" was recovered and reduced to the N.A. 1927 datum by the method outlined in paragraph 2 of the Instructions. Triangulation station "Tri, 1927" was not recovered. ✓

The recovery of triangulation stations "Beacon No. 2, 1933" and "Swash, 1935" was checked by plane table cuts from Ocracoke Lighthouse, Beacon Island 2, and Ocracoke northeast base before the positions were used as control points. ✓

SURVEY METHODS:

The topographic signals were located by the standard methods outlined in the manual. ✓

One traverse was run from Ocracoke Lighthouse via Ocracoke Coast Guard Station Cupola to triangulation station "Ocracoke, 1933". The closure was less than a meter and was unadjusted. ✓

The seaside shoreline of Ocracoke Island was rodged in from flag set-ups, the positions of which were determined by cuts from the set-ups on the channel side of the island. ✓

GENERAL DESCRIPTION:

The area covered by the survey includes the extreme northeast end of Portsmouth Island, the two sand islands in Ocracoke Inlet, and the southwestern end of Ocracoke Island as far north as Gap Point. ✓

The northeast end of Portsmouth Island, east of the village, consists of low sand flats frequently covered by from two to eight inches of water, the amount depending on the direction of the wind. The water enters the flats from the north by means of a wide opening between Ocracoke northeast base and the sand dune on which signal "Sid" is located, and from the northeast ✓

by two small breaks in the storm water bulkhead. This bulkhead is from one to two and a half feet higher than the normal high water line. ✓

A lone sand dune about 15 feet high in Latitude $38^{\circ}03.15'$; Longitude $76^{\circ}03.19'$ on which is built a permanent timber signal, serves as an excellent landmark.

○ Ran

The two sand islands in the inlet are nondescript and devoid of vegetation except for very scarce grass close to signal "Poi". ✓

The grass-covered dunes at the lower end of Ocracoke Island are distinctive features and are recommended for charting. The largest dune on which is located signal "Lock", is grassy with a few scrub cedars at the northern end and is from six to eight feet in elevation. The dunes gradually increase in height to an elevation of twelve to fourteen feet near signal "Pt.". ✓

The high water line between these dunes and north of signal "Lock" is very indefinite. This condition is due to the fact that supernormal high tides caused by the wind cause the water to flow in over the sand flats from points north and east of the village of Ocracoke, around the village and out into Teaches Hole Channel through these openings, between the dunes. This sheet of water from several inches to a foot in depth completely cuts off the village from the outside sea coast. ✓

COMPARISON WITH PREVIOUS SURVEY:

Comparison was made with a photostat of Topographic Survey No. T 4352 surveyed in 1927. Due to distortions in the photostat, an exact comparison could not be made. ✓

The shoreline of the portion of Portsmouth Island shown on the present survey has changed considerably. The grass-covered dune in Latitude $38^{\circ}04.3'$, Longitude $76^{\circ}02.9'$ is in approximately the same place but has changed shape due to natural erosion. Proceeding to the southeast along the sand beach, the shore line has receded as much as 230 meters. At the extreme east end of the island, the two surveys coincide, and proceeding southward, the new survey shows an emergence of the shore as much as 100 meters for a distance of about 800 meters. Turning southwest, the shoreline again recedes for distances varying from 140 meters to 80 meters at the end of the present survey. The dune shown on the 1927 survey (signal Ran on the 1943 survey) is about 20 meters west of the present position. The position of this dune is now held by a permanent wooden target signal. ✓

The two sand islands shown on the present survey between Portsmouth and Ocracoke Islands did not exist prior to the 1933 hurricane which was so instrumental in changing the topography in this vicinity. ✓

The southwestern tip of Ocracoke Island is greatly changed. For a distance of over a half mile on both the channel and sea sides, the shore has been eroded. The tank shown on the 1927 survey in Latitude $35^{\circ}04.33'$, Longitude $76^{\circ}00.18'$ would now be about 100 meters outside the high water line in an area always covered by breakers. There was no trace found of this tank from observations on shore at low water. It was not possible to examine the spot from a boat due to the dangerous breakers in this area. The position of the tank is now charted as an obstruction. It is recommended that this symbol be continued on the chart. The writers personal belief is that the tank has broken up and is completely sanded over, though no concrete evidence could be found to substantiate this belief.

Remove from
chart.

From local information it was learned that the sand island on which signal "Poi" is built was joined to the main island of Ocracoke by the hurricane of 1933 and subsequent to that time was separated by a break through from the channel side.

The sea side of Ocracoke Island on the present survey shows an agreement with the old survey about a mile and a half north-east of the end for the last 400 meters of the present survey.

The channel side of the island shows some erosion, about 140 meters at the extreme southwest end near signal "Pt", none at a point near signal "Sin", 50 meters opposite signal "Lock," and a fair agreement at signal "Gus".

The portion of the photostat from Latitude $35^{\circ}06.2'$ northward to Gap Point is badly distorted, making the comparison difficult. Dredging operations have changed the shoreline from the northerly of two docks opposite the lighthouse to the entrance to Silver Lake. These same operations have changed the shoreline of the south and west portions of Silver Lake.

The area immediately north of Silver Lake was somewhat changed during the construction of the Section Base. The two surveys are in agreement again at Gap Point.

GEOGRAPHIC NAMES:

No new geographic names are recommended for the area surveyed.

STATISTICS:

Statute miles of shoreline - - - - 14.8
Area, Sq. statute miles - - - - - 3.0

Respectfully submitted,

Raymond H. Tryon Jr.
H. & G. Engineer

T6924

Remarks

Decisions

1		U.S.G.B.
2		350760
3		351758
4		350760
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GEOGRAPHIC NAMES

Survey No.

16924

GEOGRAPHIC NAMES											
Survey No. 16924											
Name on Survey											
	A	B	C	D	E	F	G	H	K		
<u>North Carolina</u>											1
<u>Ocracoke Inlet</u>											2
<u>Ocracoke Island</u>											3
<u>Portsmouth Island</u>											4
<u>Ocracoke Village</u>											5
<u>Gap Point</u>											6
<u>Silver Lake</u>											7
<u>Pamlico Sound</u>											8
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Names underlined in red approved

by L. Heck on 10/14/43

M 234

Names underlined in red approved
by L. Heck on 10/14/43

T6924 ab

FORM M-238

MEMORANDUM

IMMEDIATE ATTENTION

SURVEY
DESCRIPTIVE REPORT
PHOTOSTAT OF

No. H

No. T

T6924 ab

received
registered
verified
reviewed
approved

This is forwarded in order that your attention may be directed to the matters as indicated below. Please initial in column 3 as an acknowledgement that your attention has been thus directed. The complete original records are available if desired. If you cannot give this your immediate attention, please initial, note, and forward to the next section marked, calling for the records at your convenience.

ROUTE		Initial	Attention called to
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RETURN TO

82	
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V. Ruck

DIVISION OF CHARTS

REVIEW SECTION - SURVEYS BRANCH

REVIEW OF TOPOGRAPHIC SURVEY

REGISTRY NO. 6924

Field No. A-43

B-43

North Carolina; Ocracoke Inlet;
Ocracoke and Portsmouth Islands
Surveyed December 1942 - February 1943
Scale 1:10,000
Instructions dated November 2, 1942
Project C.S. 299

Plane Table Survey

Aluminum Mounted

Chief of Party - R. H. Tryon, Jr.
Surveyed and inked by - R. H. Tryon, Jr.
Reviewed by - J. A. McCormick, October 12, 1943
Inspected by - H. R. Edmonston

1. Adjoining Surveys

Junction of the "a" side of the sheet with the "b" side is satisfactory. There are no contemporary topographic surveys in the vicinity but a planimetric map of the area is to be compiled from recent photographs.

2. Previous Surveys

T- 376 (1852), 1:20,000; T- 622 (1858), 1:10,000;
H-1364 (1877), 1:20,000; T-2739 (1905), 1:20,000;
T-3662 (1916), 1:40,000; T-4352 (1927), 1:10,000

In 1852, the tip of Ocracoke Island was about a mile northeast of its present position but the last mile of its extent was a narrow hooked sand barrier which must have covered at extreme high tides. The eastern end of Portsmouth Island was only about 300 meters farther east than at present but a large sand island almost joined it and extended another mile to the east. By 1858, Ocracoke Island had widened considerably at its lower end and the sand island off Portsmouth Island had joined its larger neighbor. A smaller sand island had formed midway between Portsmouth and Ocracoke.

In 1877, Ocracoke Island had built out about 1/2 mile in a southwesterly direction and the eastern end of Portsmouth Island had receded almost to its present position. There were no islands between.

In 1905, the lower end of Ocracoke had again narrowed to a width of little over 100 meters. Portsmouth Island was about as in 1877 but a large sand island (named Bird Island) had formed in the middle of the entrance. By 1916, Ocracoke had widened again and Bird Island had been joined by a smaller island between it and Ocracoke.

In 1927, the end of Portsmouth Island was about as today in longitude but the north shore was about 200 meters farther north. Ocracoke Island had built out another 1/2 mile and its tip was about 300 meters west of the present position. Bird Island and the smaller island had disappeared.

3. Comparison with Chart 1231 (Print of May 20, 1943)
Chart 1232 (Print of July 13, 1943)

Topography charted in this area is basically from T-4352 (1927), discussed in the preceding paragraph. Revisions were made from Chart Letter 218 of 1942, a memorandum from the Photogrammetry Section of the Division of Charts.

Charted positions of some of the aids in this area are only approximate. The present survey and the contemporary hydrographic surveys have accurate positions for the aids.

Comparison of declinoire observations with the charted value of the compass variation indicates normal magnetic conditions.

4. Compliance with Project Instructions

Satisfactory.

5. Additional Field Work Recommended

None.

6. Superseded Surveys

T- 376 in part
T- 622 " "
H-1364 " "
T-2739 " "
T-3662 " "
T-4352 " "

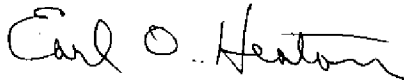
Examined and approved:



Chief, Surveys Branch



Chief, Division of Charts



Chief, Section of Hydrography



Chief, Division of
Coastal Surveys