

7074a&b

Diag. Cht. No. 1222-2

Form 504

U. S. COAST AND GEODETIC SURVEY

DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey TOPOGRAPHIC

Field No. PBS-C&D-49 Office No. T-7074 a&b

LOCALITY

State Virginia

General locality Lower Chesapeake Bay

Locality Vicinity of Cape Charles

194 9

CHIEF OF PARTY

R. H. Tryon, Jr.

LIBRARY & ARCHIVES

DATE May 18, 1950

B-1870-1 (1)

7074a&b

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

TOPOGRAPHIC TITLE SHEET

Each Topographic and Graphic Control Sheet, and each Air Photographic Drawing should be accompanied by this form, completed so far as practicable, when forwarded to the Washington office.

Registry No. T-7074 a & b
Field No. PBS-C&D-49
Scale 1/10000
State Virginia General locality Lower Chesapeake Bay
Northhampton County
Specific locality Vicinity of Cape Charles
Butlers Bluff - Kiptopeke - Fisherman Island
Dates: Survey began 21 October 49 Completed 3 December 49
Photography _____, Supplemented by ground surveys to _____
Project No. CS-326 Instructions dated 26 July 1948
Vessel } or PARKER, BOWEN, STIRNI Chief of party Raymond H. Tryon, Jr.
Party }
Field work by J.E. Waugh & P.A. Stark Office work by P. A. Stark
Final inking by P. A. Stark
Ground elevations } in feet above { M. H. W.
Treetop elevations } or { _____
Contours } by { Planetable } Interval _____ ft.
Approximate contours } { Multiplex }
Form lines } { _____ }

REMARKS Sheet is primarily a graphic control for use of hydrographic survey.

Shoreline was located only at plane table setups.

DESCRIPTIVE REPORT

TO ACCOMPANY

Graphic Control Survey T-7074 a & b (Field No. PBS C&D 49)

Chief of Party: Raymond H. Tryon, Jr. Scale: 1:10,000

Ships PARKER, BOWEN, STIRNI

A. PROJECT

Project CS-326; Instructions from the Director; dated 26 July 1948, reference 222/MEK, S-2-PK-BO-ST; addressed to the Commanding Officer, Ships PARKER, BOWEN, STIRNI.

B. SURVEY LIMITS AND DATES

This is primarily a graphic control survey made for control of the inshore hydrographic survey of the West and Southwest sides of Fisherman Island; on the West side of Cape Charles, Virginia from Wise Point north to the vicinity of Butlers Bluff, and the shoal on the southeast end of Inner Middle Ground, all areas in the Lower Chesapeake Bay.

adequate for
shoreline
of
survey.

The survey was conducted between 21 October 1949 and 3 December 1949. It is in that area shown on Topographic Sheets T-8181 and 8183 (scale 1/20000) 1942.

Officers and crew members of the Ships PARKER, BOWEN, STIRNI accomplished the survey.

C. CONTROL

Sheet C is controlled by a triangulation station (QUARANTINE 1906, 1914, 1929, 1934, 1941, 1942) from the scheme of J. B. M. 1906 and C. D. Meaney 1941, three observation towers (██████████), the geographic positions of which are classified as confidential and were furnished this party by the Supervisor, Southeastern District. An azimuth line from Station QUARANTINE to CAPE CHARLES NEW LIGHTHOUSE (VA.) 1887, 1896, 1932 was plotted on the sheet by computing the geographic position of a point on the azimuth line. In addition the geographic position of four additional towers were computed from data furnished this party by Headquarters, Harbor Defenses of Chesapeake Bay. This information is classified as secret and the location of the towers are not shown on this sheet. A three point fix over a recoverable topographic station (KIPTOPEKE NORTH TOWER - 1942) was taken with the theodolite. The computed geographic position was plotted on the sheet and was used for control of a traverse run on the north end of the sheet.

Sheet D is controlled by one triangulation station (CHEAPSIDE (USE) 1939) from the scheme of K. B. Jeffers and Kiptopeke North Tower 1942 (see preceeding paragraph). In addition an azimuth line from CHEAPSIDE to OLD PLANTATION FLATS LIGHTHOUSE 2, 1939 and an azimuth line from Kiptopeke North Tower to OLD PLANTATION FLATS LIGHTHOUSE 2, 1939 were plotted on the sheet by computing the geographic position of a point on each line.

Six recoverable topographic stations that fall within the limits of this survey were recovered. New cards are submitted for all stations searched for.

D. SURVEY METHODS

The graphic control ^{survey} was accomplished by standard methods. All signals on Fisherman Island were located by cuts either from triangulation stations or three point plane table fixes. Shore line when accessible was rodded in by stadia at the plane table set ups.

^{T-7074a} There are two traverses on (Sheet C.) One of 2058 meters from Wise Tower A to Kiptopeke North Tower closed 2.1 meters in distance. Adjustment of signals and shoreline was made in the field. The other traverse was 549 meters from Kiptopeke North Tower to a set up point west south west of signal Bluff and return. There was no closing error on this traverse.

^{T-7074b} This set up point was transferred by dm's and dp's to (Sheet B) as Kiptopeke North Tower is on the margin of the sheet. One traverse of 5843.5 meters from CHEAPSIDE (USE) to the above point was run by usual stadia and alidade methods. Due to an error in the calibration of the rods it was necessary to rerun this traverse. On the second running the closing error was 10.0 meters in azimuth. This error was adjusted and the signals and shore line located from the adjusted plane table positions.

E. AUXILIARY SURVEY METHODS

A blue print of the new ferry terminal at Butlers Bluff (Virginia Ferry Corporation) was obtained from the field office of the contractor at the site of the job. It is submitted with this sheet. *Mailed to W.O. from Norfolk Processing office -*

The pier reduced to scale is shown on the sheet. With respect to the pier dimensions and orientation, the blue print was verified in the field. Four corners of the pier (points a, b, d, e) were located by stadia from a set up at point "f". Additional taping of other dimensions served further to confirm the accuracy of the pier dimensions indicated on the blue print. Construction work is still in progress. However, the outer steel sheathing has been driven and the outline of the pier should not change.

BP 46153
1948
K 64-1950

An azimuth line was drawn on the sheet along the south face of the pier ($242^{\circ} 01'$). The datum used in the blue print is not known. A damaged declinoire and the lack of time prevented further investigation. Based on the assumption that the bearings indicated on the blue print are magnetic and that variation of $6^{\circ} 20'$ exists in this vicinity (Chart 1222, 1946, 12th Ed.), it was found that the blue print azimuth of the south edge of the pier and that of the sheet differ by $00^{\circ} 22'$.

The ends of the breakwaters were cut in from shore. The south breakwater consists of five (instead of the four shown on the blue print) old concrete ships moored in the positions indicated on the sheet. The north breakwater consists of four concrete ships as shown. The ships are resting on bottom. The curve shown in these breakwaters was determined by sextant fixes using topographic signals as control. A fix was taken at the bow and stern of each vessel. The beam of the vessels (all similar) was measured by steel tape (54 ft.). As these vessels have not yet settled well; some shifting may be expected. At some future date the hulls of these vessels will be pumped full of sand for greater stability.

F. There are no form lines or contours shown on these sheets.

T-8181, T-8183 and (1942)
G. Existing topographic surveys are from a radial line air-photo plot controlled by field identification of the existing triangulation on photographs. Film positives "blown up" to a 1:10,000 scale were furnished this party. The present survey relocated 5 of the recoverable topographic stations established when the field work was accomplished in 1942. Topographic station Horn 1942 was checked in the field by rodding in from one of the plane table set ups. Topographic station Tomato 1942 was destroyed when the approach roadway to the Ferry Terminal was built.

The section of shore line rodded in at each planetable set up provide the only shore line comparison between this and former surveys. Numerous changes were found. The entire shape of northwest, west and southwest sides of Fisherman Island has been altered. The beach along the southwest end of Wise Point is building to the west. Near the north end of *(T-70746)* ~~Sheet C~~ and throughout ~~Sheet D~~ the shore line is in fair agreement. The installation of the break water and Ferry Slip at Butlers Bluff is expected to have a definite effect on the shore line in the vicinity.

shown on T-8183 (1942)
The pier on Wise Point has been destroyed. Numerous old piling are in evidence in this area. The pier on the north end of Fisherman Island appears to be a different one than that shown on Sheet T-8183. There is a row of old piling four meters southeast of and parallel to the pier shown on the graphic

control sheet. The large pier on the west side of Fisherman Island is displaced 22 meters laterally to the NNW from the position shown on sheet T-8183.

Sunken wreck

This pier shown on T-70749

Item No. 14 of the preliminary review dated 14 July 1948 and the small pier on the west side of Fisherman Island are no longer in evidence. The beach has built out in this area and is bare at low water.

✓
AL(2)
See PG. H-7791
of Review.
(Also see pg. 5 TPL
of Dec. Rpt. H-7791)

Stranded wreck

Item No. 13 of the preliminary review dated 14 July 1948 southwest of Wise Point is not visible although the topographer was informed that the military "ducks" from Fort Custis have been recently snagged on parts of this wreck when they were operating in this area.

AL(3)
See PG. H-7791
of Review.
(Also see pg. 5 TPL
of Dec. Rpt. H-7791)

H. This survey is considered complete as a graphic control survey. Revision topographic surveys should be accomplished on Fisherman Island. All discrepancies are discussed in this report. A comparison with chart 1222 was not made. Form 567, Landmarks for Charts, has been submitted. A copy of Form 567 is attached.

I. The graphic control was accomplished by standard methods except as noted in this report.

J. This survey does not make a junction with contemporary control sheets. It is in the area covered in part by topographic sheets T-8181 & 8183 (Scale 1/20,000) 1942. They were compiled from nine lens photographs in 1942. The necessary field inspection was made in the summer of 1942.

K. No field investigation of Geographic Names was accomplished in the field.

L. The following stations in the area where the hydrographic survey was not completed, were marked temporarily and described briefly. (SHE, SID, ZOO, VIM, SAM, RAG, NAT, PAL, OAK, NIP, MAN, LAY, KEY, BLUFF) A copy of these descriptions are filed on the Ship BOWEN for reference when field work is resumed on this project.

P. A. Stark
P. A. Stark
D.O., USC&GS

Approved and forwarded:

Raymond H. Tryon, Jr.
Raymond H. Tryon, Jr.
LCDR, USC&GS
Comdg. Ships PARKER, BOWEN, STIRNI

TO BE CHARTED
TO BE DELETED

Norfolk, Virginia

17 January 1950

I recommend that the following objects which have ~~(never been)~~ been inspected from seaward to determine their value as landmarks, be ~~deleted on~~ *(deleted from)* the charts indicated.

The positions given have been checked after listing by T.M. Krall, D.C., CACS

[illegible]

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 sheets. Information under each column heading should be given.

T-7074a & b

CONFIDENTIAL SHEET

The following triangulation stations are classified and are shown on the Graphic Control Sheet only by their topographic names:

<u>Topographic Name</u>	<u>Triangulation Station</u>
Wise A	Wise, F.C. Tower A (USE)
Wise B	Wise, F.C. Tower B (USE)
Wise C	Wise, F.C. Tower C (USE)

DIVISION OF CHARTS

REVIEW SECTION - NAUTICAL CHART BRANCH

REVIEW OF TOPOGRAPHIC SURVEY

REGISTRY NO. T-7074a & b

FIELD NO. PBS-C & D, 1949

Virginia, Lower Chesapeake Bay, Vicinity of Cape Charles
Surveyed in October - December, 1949 Scale 1:10,000
Instructions dated July 26, 1949

Plane Table Survey

Aluminum Mounted

Chief of Party - R. H. Tryon, Jr.
Surveyed by - J. E. Waugh and P. A. Stark
Inked by - P. A. Stark
Reviewed by - I. M. Zeskind, 23 January 1951
Inspected by - R. H. Carstens

1. Adjoining Surveys

The present topographic survey makes an adequate junction with T-8181 (1942) on the north. On the south in the vicinity of Wise Point and Fisherman Island, there are differences of as much as 150 meters in the shoreline at the junction with T-8183 (1942) as described below in paragraph 2B.

2. Comparison with Prior Surveys

- A. T-509 (1852), 1:20,000
T-1203 (1869-70-88), 1:20,000
T-2675 (1905), 1:20,000
T-2757 (1906), 1:6,000
T-2757a (1907), 1:6,000
T-3191 (1910-11), 1:20,000

These prior surveys have been superseded by T-8181 and T-8183 of 1942. Further consideration in the present review is deemed unnecessary.

- B. T-8181 (1942), 1:20,000
T-8183 (1942), 1:20,000

The present survey lies entirely within the area covered by these prior surveys. Minor accretions of 10-20 meters has occurred in that portion of the shoreline which lies north of Wise Point, except in the vicinity of the newly

constructed ferry pier in lat. $37^{\circ} 10.1'$, long. $75^{\circ} 59.1'$, where the shoreline has accreted as much as 40 meters.

The east shore of the northern end of Fisherman Island in the vicinity of the long pier has eroded as much as 70 meters and the west shore of Fisherman Island has accreted about 150 meters in the vicinity of lat. $37^{\circ} 05.75'$, long. $75^{\circ} 58.9'$. The present pier on the west side of Fisherman Island lies 22 meters southeastward of the pier shown on T-8183 and is about 4 meters shorter in length. The present pier on the east side of the northern top of Fisherman Island is shorter than the one shown on T-8183. The topography indicates on page 3, Descriptive Report T-7074a and b, that the latter pier has probably been rebuilt.

The shoreline and piers on the present survey supersede the shoreline and piers within the common area on T-8181 and T-8183.

3. Comparison with Chart 1222 (Latest print date 10/23/50)

The charted shoreline originates principally with the previously discussed surveys, supplemented by topographic information shown on U. S. Engineers survey of 1938 (Bp. 32397). The Virginia Ferry Corporation Survey of 1948 (Bp. 46153) and Bp. 42375 of 1947. Surveys T-8181 and T-8183 of 1942, however, have not been applied to the chart.

The present survey is adequate to supersede the prior surveys within the common area.

4. Condition of Survey

- a. The survey was neatly inked and conforms to the requirements of the Topographic Manual.
- b. The Descriptive Report covers all matters of importance.

5. Compliance with Project Instructions


The present survey adequately complies with the Project Instructions.

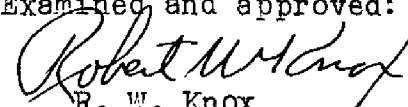
6. Additional Field Work Recommended

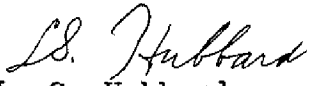
No additional field work is recommended for that portion of the shoreline of the present survey which lies north of Wise Point. Air-photographs are to be taken by the Division of Photogrammetry during 1951 covering the vic-


nity of Wise Point and Fisherman Island where the junctional differences mentioned in paragraph 1 above, occur.

Examined and approved:


H. R. Edmonston
Chief, Nautical Chart Branch


R. W. Knox
Chief, Division of Charts


L. S. Hubbard
Chief, Section of Hydrography


W. M. Scaife
Chief, Division of Coastal Surveys

GEOGRAPHIC NAMES

Survey No.

GEOGRAPHIC NAMES										
Survey No.										
Name on Survey										
	On Chart No.	On previous survey No.	On U. S. quadrangle Maps	From local information	On local Maps	P. O. Guide or Map	Rand McNally Atlas	U. S. Light List		
A	B	C	D	E	F	G	H	K		
<u>Virginia</u>									U.S.G.B.	1
<u>Chesapeake Bay</u>									..	2
										3
<u>Cape Charles</u>										4
<u>Wise Pt.</u>										5
<u>Fisherman I.</u>									U.S.G.B.	6
<u>Butlers Bluff</u>										7
<u>Picketts Harbor</u>				(settlement)						8
<u>Kiptopeke</u>									U.S.G.B.	9
										10
										11
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										27

M 234

Names underlined in
red are approved
1-15-ST. L. Heck

No check on this position.

Abbreviations used: d. = described; m. = marked; n. = not; r. = recovered; l. = lost; p. = probably. (Examples: n. d. = not described; p. l. = probably lost.)

T-7074^{a & b}

Record of Application to Charts

[illegible]

M-2168-1

A basic hydrographic or topographic survey supersedes all information of like nature on the uncorrected chart. Give reasons for deviations, if any, from recommendations made under "Comparison with Charts" in the Review.