

7106

Graphic Control

Diag'd. on Diag. Ch. No. - 78-2

Form 504

U. S. COAST AND GEODETIC SURVEY

DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey Graphic Control
TOPOGRAPHIC

Field No. PBS - A - 48 Office No. T-7106

LOCALITY

State VIRGINIA

General locality CHESAPEAKE BAY

Locality NANDUA CREEK

1948

CHIEF OF PARTY

R.H. TRYON, JR.

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DATE FEB 14 1949

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7106

Graphic Control

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-7106

Field No. PBS-A-48

Scale 1:10,000

State VIRGINIA

General locality Eastern Shore, Chesapeake Bay

Specific locality Nandua Creek

Dates: Survey began 29 October 1948 Completed 6 November 1948

Photography None, Supplemented by ground surveys to ---

Project No. CS-335 Instructions dated 20 September 1948

Vessel } ~~BY~~ PARKER-BOWEN-STIRNI Chief of party R. H. Tryon, Jr.

~~Party~~ } J. E. Waugh

Field work by W. E. Randall Office work by J. E. Waugh and W. E. Randall

Final inking by J. E. Waugh and W. E. Randall

Ground elevations } in feet above { M. H. W.
Treetop elevations } or NONE

Contours } by { Planetable
Approximate contours } Multiplex } Interval ft. NONE
Form lines }

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

Shoreline was located only at planetable setups.

T-7106
Graphic Control

DESCRIPTIVE REPORT

TO ACCOMPANY

~~TOPOGRAPHIC SURVEY~~ ^{Graphic Control} T- 7106
(Field No. PBS-A-48)

1948

Chief of Party - R.H. Tryon, Jr.

Sheet Scale 1:10,000

Ships PARKER, BOWEN & STIRNI

Officer in Charge - - J.E. Waugh

I - PROJECT

Project CS-335. Instructions from the Director, dated 20 September 1948, addressed to Commanding Officer, USC&GS Ships PARKER BOWEN & STIRNI. ✓

II - SURVEY LIMITS AND DATES

This is primarily a graphic control sheet made in conjunction with the hydrographic survey of Nandua Creek, Virginia. For revision purposes a short section of shoreline was located at each planetable setup.

The survey, including Nandua Creek and its tributaries, was conducted between 29 October and 6 November 1948, and joins T-8169, -8170, -8171 and -8172 (Scale 1:10,000) 1942. *The survey has been incorporated in T-8012 (1949)* ✓

Officers and men from the Ship BOWEN accomplished the survey.

III - GENERAL

(a) Description of Coast - The coast is low, flat marsh with sand beach. There are no objects that are useful as guides to navigation. ✓
(See also Coast Pilot notes in Descriptive Report to accompany Hydrographic Survey H-7680 (Field No. H-PBS-1548).)

(b) Landmarks - (See Landmarks for Charts in Descriptive Report to accompany Hydrographic Survey H-7680 (Field No. H-PBS-1548).) ✓

(c) Character of Control - The control data furnished this party included one second-order triangulation station, MASON, 1942, and several recoverable topographic stations established by the field party of W.D. Patterson in 1942. Unfortunately MASON is in a group of trees and is invisible from the water. Four of the recoverable topographic stations were recovered and of these, only three are intervisible. It was impossible to obtain an orientation check on any of these three. Cuts missed the stations by as much as 30 meters. The marked stations consequently were relocated by a scheme of theodolite control.

(c) Continued-

NAN-2, RM, 1914, and PUNGOTEAGUE CREEK BEACON, 1911, (Pungoteague Creek Light) were recovered. Although the Beacon was beyond the limits of the sheet it was visible from NAN-2, RM and the two provided a base from which a scheme could be extended. Two additional marked stations (RAY, 1948, and 5, 1948) and one temporary station (Hart) were established. These with the marked topographic stations recovered provided two quadrilaterals extending far enough up the creek to permit graphic-control location of all necessary additional signals.

Time did not permit building observing stands, etc., to accomplish a scheme of triangulation and the measurements of horizontal angles was made as expeditious as possible. Ten-second repeating theodolites were used, measuring the angles 6D and 6R. Horizon closures were always effected. All angles were measured except those at PUNGOTEAGUE CREEK BEACON which were concluded.

Although triangle closures are within limits, side checks were less than third-order accuracy. The data therefore is submitted with this sheet as "fourth-order control".

To check the recovery of the two base stations the distance between RAY and VIM was measured using a 500-meter section of piano wire and a 30-meter steel tape. The difference in computed and measured length is 0.3 meter. A point tie was effected at station 5, 1948 (FIVE), located also by traverse from MASON. The positions of FIVE determined by theodolite scheme from the NAN-2, RM - PUNGOTEAGUE CREEK BEACON base and by traverse from MASON differ by 5.6 meters in distance. The azimuth difference is 26.6 seconds. No adjustment for these differences was made.

Main scheme stations located by theodolite from the NAN-2, RM - PUNGOTEAGUE CREEK BEACON base included RAY (marked) and Hart (temporary) in the first quadrilateral, and VIM (marked) and 5 (marked) in the second quadrilateral. From these stations the other marked stations were located. Station PEP, 1942, was located by azimuth and distance from Hart. Mill, 1942, and Nandua, 1942, were located by graphic control. The differences in position of the four recovered stations are shown on the list of geographic positions enclosed with the control.

(c) Continued-

The two marked stations of the United States Corps of Engineers (NC-1 and NC-2), used to control their hydrographic survey of Nandua Creek entrance channel (July 1948) were tied to the present survey. NC-1 was located by intersection from stations NAN-2, R.M. and Ray. NC-2 was located by azimuth and distance from NAN-2, R.M.

Standard methods of graphic control were used. All plane-table setups were at control stations, at signals previously located by three cuts, or were located by resection or by solving the three-point problem using previously determined positions. Graphic triangulation was carried eastward to signal Zoo from the base, Hart - FIVE. Long cuts ahead as the scheme progressed insured proper azimuth control at the head of the creek.

(d) Traverse - Stadia control was necessary at the eastern end of Nandua Creek. From signal Use, stadia distances were used to locate Val and War. A setup on Val checked the stadia reading back to Use and orientation on all visible signals was good. Cuts and stadia distances ahead located the remaining signals, Vet, Win, Yet and Zoo and checked the position of War.

(e) Description of auxiliary surveying methods - No auxiliary methods were employed in the graphic control. The location of Art is unique only in that its position is off the sheet. Three cuts locating it are shown on the sheet.

(f) Form lines - No contouring or form lining was done.

(g) Revision - Existing planimetry was by radial-line, air-photo plot controlled in part by marked topographic stations, field identified on the air photos. The present survey relocated three of these stations. (See paragraph c.).

The short sections of shoreline redded in at each planetable setup provide the only shoreline comparison between this and the former surveys. Numerous changes were found in the shoreline in the western part of the creek. These are due in part to the different control used on the two surveys and in part to the severe hurricane in 1944. Changes in shoreline in the more protected eastern end of the creek are due to the use of different control and probably also to a difference in interpretations of the topographic detail.

- See T. 8013 (1949)

(g) Continued-

Evidence of actual change in geographic position of prominent objects and features due to the use of different control may be seen in the case of the barn at latitude 37 37.8, longitude 75 50.8. This barn is on shore, approximately 15 meters from the HWL. On the topographic sheet the NW gable (toward the creek) of the barn is signal Tub.

(h) Adequacy of Survey - This survey is considered complete and adequate. All discrepancies are discussed in this report. A comparison with chart 1223 was not made. Coast Pilot information, land marks for charts, and aids to navigation for this area are discussed in Descriptive Report to accompany Hydrographic Survey H- 7680, (Field No. H-PBS-1548).

- see T-8013
(1949)

(i) Deviation from standard procedure - The graphic control was accomplished by standard methods.

(j) Junction with other surveys - Survey does not make a junction with any contemporary control sheet. It is in the area covered in part by topographic sheets T-8169, 8170, 8171, and 8172. These surveys are on a scale of 1:10,000. They were compiled from nine-lens photographs in 1942. The necessary field inspection was done in the summer of 1942.

(k) Geographic Names - See "Geographic Names" in Descriptive Report to accompany Hydrographic Survey H- 7680 (Field No. H-PBS-1548).

(L) List of Stations -

(1) Control stations plotted on sheet:

Station	Arbitrary Name Assigned	Description
5, 1948	FIVE	Marked Station
Hart		temporary signal
NAN-2, R.M. 1914, r. 1948		marked station
NC-1 (U.S.E.), 1948	ONE	marked station
NC-2 (U.S.E.), 1948		marked station
PEP, 1942		marked station
RAY, 1948		marked station
VIM, 1942, r. 1948		marked station

(2) Stations located by graphic control.

Name	Description
Abe	Temporary signal on point of marsh
Alp	South gable of building
Art	Dead tree, large nest in top
Bat	Temporary signal on shore
Bed	temporary signal on point of marsh
Cab	temporary signal on shore
Car	temporary signal - brush stakes set in water as guide by local crabbers
Daw	Temporary signal on shore
Dip	Temporary signal on shore
Dog	Temporary signal on shore
Ear	Cloth banner on dead tree
Fat	Cloth banner on tree
Fez	Chimney on old house
Foe	Windmill
Gal	Temporary signal on shore
Gas	West chimney on white house
Gin	Small white elevated water tank
Hem	Temporary signal on point
Her	Temporary signal on shore
His	Lone tree
Jap	Chimney on white house
Jar	North chimney on old house
Jaw	Cloth on tree
Job	South gable of boat house
Jug	North chimney of house
Jut	North gable of small white house

(2) Stations located by graphic control. (Continued).

<u>Name</u>	<u>Description</u>
Ked	- Temporary signal on shore
Ken	- Cloth on tree
Key	- North chimney on high house
Kid	- Cloth on tree
Kim	- Cloth banner on tree
Lax	- Double cloth banner on tree
Lay	- Cloth on tree
Lev	- Nandua Creek Daybeacon No. 11
Lep	- Cloth on tree
Man	- Southwest chimney on large white house (524 card, Man)
Mat	- Chimney on red house
Mill	- Northwest gable of 2-story house (524 card, Mill)
Mum	- Temporary signal on point
Nandua	- West gable of dance pavillion on dock (524 card, Nandua)
Nay	- Temporary signal on point of marsh
Nin	- Nandua Creek Daybeacon No.9
Oak	- Temporary signal on point of marsh
Odd	- Temporary signal on edge of marsh
Pad	- Temporary signal on edge of marsh
Pot	- Southeast chimney of four (vent on top) on large white house (524 card, Pot)
Rig	- Temporary signal on shore
Rub	- Cloth banner on westernmost lone cedar tree
Rum	- Northwest gable of shed
Sev	- Nandua Creek Daybeacon No.7
She	- Temporary signal on shore
Sir	- Chimney on northwest gable of large white house
Sow	- Southeast gable of house.
Sty	- Temporary signal on shore
Tax	- Temporary signal on shore.
Ten	- Nandua Creek Daybeacon No.10
Tid	- Temporary signal - tide gage pipe-entire structure removed
Tub	- Northwest gable of barn - on shore
Use	- Temporary signal on shore
Val	- Temporary signal on shore
Vet	- Southeast gable of house
War	- Temporary signal on point of marsh
Win	- Temporary signal on southeast face of small dock
Yet	- Temporary signal on point of marsh
Zoo	- Lone cedar, southern of two.

(m) Photographs - No photographic equipment is assigned to this party.

(n) Changes in shoreline - (See paragraph g).

(o) Character of marshes and high water coverage - Where marsh is shown entirely within the HWL, it is bare or just covered by water at high water and usually is bare. The marsh shown beyond the HWL is usually submerged.

(p) Magnetism - One station (Hart, 1948) was occupied with the declinatoire. The data is shown on the sheet. *(compares favorably with charted value)*

Respectfully submitted

William E. Randall

William E. Randall
Lt. (jg) USC&GS

Approved & Forwarded:

Raymond H. Tryon, Jr.

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

This survey has been compared with H-7680 (1948)
and requires no further consideration by the Hydrographic
Review Section. G.F.J. - 1/26/50