

3702 & 3703

3702 & 3703

Diag. Cht. No. 78-2

Form 504	
U. S. COAST AND GEODETIC SURVEY	
DEPARTMENT OF COMMERCE	
DESCRIPTIVE REPORT	
Type of Survey	HYDROGRAPHIC
Field No.	Office No. H-3702 & H-3703
LOCALITY	
State	VIRGINIA
General locality	EASTERN SHORE CHESAPEAKE BAY
Locality	FROM NASSAWADDOX CREEK TO
	CHESCONESSEX CREEK
	<u>1914</u>
CHIEF OF PARTY	
	O. W. Ferguson
LIBRARY & ARCHIVES	
DATE	FEBRUARY 10. 1915.

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U.S.SCHR. MATCHLESS.

DEPARTMENT OF COMMERCE.

COAST AND GEODETIC SURVEY.

O. H. Tittmann, Superintendent.

Survey of Eastern Shore Chesapeake Bay from Nassawadox Creek to Chesconessex Creek.

TITLE SHEET

* - - - - *

For Hydrographic Sheets D. & E. ³⁷⁰² ³⁷⁰³

Extending from Nassawadox Creek to Pungoteague Creek,
and from Pungoteague Creek almost to Chesconessex Creek.

between

Sheet X . 3702.		Sheet X . 3703
Latitude 37° 48' to 37° 41'		Latitude 37° 41' to 37° 46'
Longitude 75 48 to 76 01		Longitude 75 45 to 75 59

Scale, 1 : 20,000

From June 23, 1914 to Oct 8, 1914, and from Oct 9, 1914 to Nov 30, 1914.

SCHOONER "MATCHLESS"

O.W.Ferguson, Assistant; C.& G.S.in Command.

(observers)

O. W. Ferguson,	Assistant.
James E. Marsh,	Mate
C. M. Cade,	Deck Officer.
R. P. Eyman,	" "
S. Davis Winship,	" "

DEPARTMENT OF COMMERCE.

COAST AND GEODETIC SURVEY.

O. H. Tittmann, Superintendent.

Survey of Eastern Shore Chesapeake Bay From Nasawaddox Creek to Chesconessex Creek.

DESCRIPTIVE REPORT.
*-----*For Hydrographic Sheet D. & E. ³⁷⁰² ~~3703~~Extending from Nasawaddox Creek to Pungoteague Creek,
and from Pungoteague Creek almost to Chesconessex Creek.

between

Sheet X 3702		Sheet X 3703.
Latitude 37° 28' to 37° 41'		Latitude 37° 41' to 37° 46'
Longitude 75° 48' to 76° 01'		Longitude 75° 45' to 75° 59'

Scale, 1.: 20,000

From June 23, 1914 to Oct 8, 1914, and from Oct 9, 1914 to Nov 30, 1914.

SCHOONER "MATCHLESS"

O. W. Ferguson, Assistant; C. & G. S. in Command

(observers)

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James E. Marsh, Mate.

C. M. Cade, Deck Officer, R. P. Eyman, Deck Officer, and S. Davis Winship, Deck Officer.

H. W. Godsey, C. W.

A. S. Bristow, W. 2cl.

(recorders)

R. P. Eyman, Deck Officer,

S. Davis Winship, Deck Officer

H. W. Godsey, C. W.

A. S. Bristow, W. 2 cl.

(coxswain)

H. H. Thomas, C. B. M. W. H. Buckmaster, S. M. M. and J. C. Godsey, Q. M. 3 cl

(leadsmen)

W. H. Buckmaster, S. M. M. J. C. Godsey, Q. M. 3cl. H. C. Tong, Sea. H. E. Mallett, Sea.

Richard Diggs, Sea and J. C. Diggs, Sea.

(tide observers) The entire Crew.

DESCRIPTION REPORT

HYDROGRAPHIC SHEET ~~D. & E.~~ 3702 + 3703.

Survey of Eastern Shore Chesapeake Bay

from Nasawaddox Creek to Chesconessex Creek.

DESCRIPTIONS

Sheet D extends from just below Nasawaddox Creek to and includes Pungoteague Creek., Sheet E extends from Pungoteague Creek to near Chesconessex Creek, including the important creek of Onancock.

TOWNS

On Nasawaddox Creek are small Landings as Hillmans, Cleaves, Bayford, Salt Works, Stewarts, Jones, and others where produce is loaded on to shallow draught boats and shipped to Cape Charles.

On Occohannock Creek are Concord wharf, Davis wharf, Morleys wharf and Shields wharf, at which steamers stop, making two trips to Baltimore weekly.

On Craddock Creek are but few very small landings and Potato Wharf, at which small boats land, and load for Concord, Occohannock Creek.

On Nandua Creek are Cedar View Wharf, Boggs and Cutlers Wharves. At the first two the Baltimore Steamer stop on their regular trips, twice a week.

On Pungoteague Creek, is the Fish Fertilizer Factory, Harborton, Evans and Boggs wharves where the steamer, twice a week make landings, except at the Factory.

On Sheet E. Onancock Creek is the only additional^{Crack} of importance, The town and wharf of Onancock is the most important, with about 1500 inhabitants. It is a large shipping point, furnish^{ing} all of the ordinary facilities of a town. Finneys and Poplar Cove Wharves are small places where the tri weekly steamer stop.

DESCRIPTION REPORT

HYDROGRAPHIC SHEET D. & E.

Survey of Eastern Shore Chesapeake Bay

from Nasawaddox Creek to Chesconessex Creek.

OCCUPATION

Onancock is a town of various activities, but the main areas of these sheets are devoted to farms and the inhabitants to farming. A large quantity of produce is shipped and both the white and colored population are increasing; The climate and soil is well adapted to raising potatoes; the spring is early, the potatoes are forced by fertilizer, then cultivation is well attended, so there is no production North of this region that can enter the market so early, and the farther South crop has by this time been exhausted or proven a failure. A considerable number of the people are occupied at fishing, crabbing, oystering, and freighting.

PRODUCTS

The products of this region are potatoes both Irish and Sweet, cabbage and other crops of garden trucks, and poultry, but few cattle. The products shipped by the Farmers Exchange from these two Counties of Virginia, Accomac and Northampton, brought on fine^{er} sale over \$3,000,000, *as per returns.*

SHORES

The shores are low rarely rising to 20 feet, main shores are covered with a growth of trees and brush with some grass and much sand, and the shores of the creeks are about half marshy. The shores are shallow and flatty in the creeks as well as on the main shore where three feet may be found $1\frac{1}{2}$ miles out.

DESCRIPTION REPORT

HYDROGRAPHIC SHEET D. & E.

Survey of Eastern Shore Chesapeake Bay

from Nasawaddox Creek to Chesconessex Creek.

CREEKS

The Creeks on this sheet are

Church 2 $\frac{1}{4}$ miles

Nasawaddox 6 Miles, with 3 tributaries

Occohannock, 6 Miles, which has a dozen tributaries that are named.

Craddock, 3 " ,

Nandua, 5.5 " , with 7 tributaries,

Butchers, Creek 1 $\frac{1}{4}$ Miles,

Pungoteague Creek, 5 " , with six tributaries.

Matochank Creek, 1.3 " ,

Onancock Creek, 5.5 " , with six tributaries.

These Creeks vary greatly in width; from 100 m. to 1600 m. and are all shallow with wide flatty bars.

WATER

There are but few artesian wells; one near the head of Nandua Creek, and a few at Onancock, but in general, good water is obtained from wells from eight to twelve feet deep.

BOTTOM

The shallow water and channel courses are generally sandy and hard, with the leads soft mud or clay. In the creeks there is much sand but the bottoms are generally soft. Clams are found in moderate quantities at the mouths of all of these creeks and on the bars.

CONCLUSIONS

January 30th, 1915.

DESCRIPTION REPORT

HYDROGRAPHIC SHEET D. & E.

Survey of Eastern Shore Chesapeake Bay

from Nasawaddox Creek to Chesconessex Creek, Va.

*****-CURRENTS-*****

The range of tides in Mandua Creek is 1.66 feet

and in Onancock Creek 1.75 feet.

The mouths are quite wide and currents in creeks and along shore are moderate only; but from $\frac{1}{2}$ fathoms curve out, the tides sweep swiftly up and down the bay, 1.1 knots an hour. *More or less.*

HARBORS.

These sheets show an exposed region with wide and shallow waters. There are no harbors only those behind the bars at the mouths of the creeks and the creeks them selves, which are difficult to enter, especially with drafts over six feet, ^{and} during times of darkness this difficulty is greatly increased, there being no lights; and the day marks are hard to locate.

Day MARKS & LIGHTS.

Pungoteague Beacon, Onancock Beacon with Watts Island and Tangier Island lights are the only controlling lights in this region.

The Fish factory Navigators, frequently hang lights on stakes in Pungoteague Creek. In entering these Creeks regard must be had to the day marks, for any direct entrance is universally blocked by a wide and shallow bar on these Eastern Shores.

The lower points of outer bars extend from $\frac{1}{4}$ miles to $\frac{3}{4}$ miles below the mouths of the creeks. As the tides passing these mouths are both ebb and flood, it would seem from the fact of these points of outer bars extending always below the mouths, that the ebb current must be the predominating current.

January 30th, 1915.

DESCRIPTION REPORT

HYDROGRAPHIC SHEET D. & E.

Survey of the Eastern Shore Chesapeake

Bay from Nasawaddox Creek to Chessenesssex Creek, Va.

CRAYF

XXXXXXXXXXXXXXXXXXXX

The channel in Nasawaddox Creek only furnishes depth of 4 feet (to 6 ft. at high water) for small boats, as Barges, Batteaux, Bug Eyes and Gasoline Launches, which freight to either Cape Charles or the Occohannock.

The Occohannock, Namdua, Pungoteague and Onancock Creeks are plied from two to three times a week and during potato season, daily by Steamboats carrying 270 tons and drawing 7 feet of water, as well as by many small boats.

SHIPPING

These boats carry passengers and are loaded with Sweet and Irish potatoes, in their season; fertilizers, farm products, poultry, fish and crabs.

NAVIGATION

The difficult ^{places} ~~parts~~ of ~~the~~ Navigation of these sheets, is at the mouth of creeks, owing to rather shallow water and crooked channels; And there is a big cry for dredging to be done to improve these spots.

For entering these Creeks see the Lights and day marks and routes marked out on the boat sheet.

NEW LIGHTS

A new pile Bug Light could be established at great benefit at the mouth of Nasawaddox Creek at the Southern edge of the upper bar.

DESCRIPTION REPORT

HYDROGRAPHIC SHEET D. & E.

Survey of the Eastern Shore Chesapeake

Bay from Nasawaddox Creek to Chesconessex Creek, Va.

- (2) Two Bug Lights at Occohannock Creek at the inner black and red spar buoys, which carry the greatest depth of water.
- (3) Three at Nandua Creek, at black spar at the entrance, 2d, at turning bush where you change course to S.X E. for $1\frac{1}{2}$ miles, entering creek; and 3d, at the end of this reach on point of bar on port hand where course is changed to N.N.E. for wharves.
- (4) In Pungoteague and Onancock Creeks the Captains claim that the government should maintain the Bug Lights. If a light could be placed at latitude $37^{\circ} 43' 20''$ and longitude $76^{\circ} 54' 36''$, about five miles out in front of Onancock Creek entrance to Pocomoke Sound, it would be of great assistance.

A statistical sheet and a list of Objects, giving the latitude and longitude of each, for each sheet, follow, *with also lists of highs and lows.*

Accompanying this report are

- (1) One Cahier list of Objects Sheet D.
 (2) " " " " " " E.
 (3) " " Highs & Lows Nandua Creek
 (4) " " " " " Onancock Creek
 (5) " " Statistics Sheet D.
 (6) " " " " " E.

List of Objects Hydrographic Sheet D.
Nasawaddox to Pungoteague Creek Va.
1914.

Object.	Latitude	Longitude
Perk- ⓪ built around tree	37° 28' 76 m ✓	75° 57' 1065m ✓
Engs. flag ⓪	37 28 178 ✓	75 57 755 ✓
do ⓪	37 28 173 ✓	75 57 247 ✓
Cleave - wharf- ⓪	37 28 646 ✓	75 56 1184 ✓
Lean -⓪ held by tree branches	37 28 525 ✓	75 56 768 ✓
Ult-⓪ flag	37 28 547 ✓	75 56 377 ✓
Window in small shanty ⓪	37 28 852 ✓	75 56 341 ✓
W.Gable wharf Ho. ⓪	37 28 1120 ✓	75 56 194 ✓
Wind mill ⓪	37 28 1095 ✓	75 56 100 ✓
Brush flag ⓪	37 28 1486 ✓	75 55 1455 ✓
Stump exposed stump, soil washed away ⓪.	37 28 1588 ✓	75 55 645 ✓
Riv. white washed tree ⓪	37 29 244 ✓	75 55 287 ✓
Smy-flag on outer end wharf ⓪	37 29 1017 ✓	75 54 1300 ✓
Drink- flag ⓪	37 29 1311 ✓	75 54 965 ✓
Hot- flag ⓪	37 29 1471 ✓	75 54 583 ✓
Res- flag ⓪	37 30 115 ✓	75 53 1444 ✓
Stewarts wharf ⓪	37 30 886 ✓	75 54 456 ✓
S.W. end small white Ho. ⓪ (<i>small</i>)	37 30 1183 ✓	75 54 909 ✓
James- wharf ⓪	37 30 1007 ✓	75 54 966 ✓
Flag- ⓪ (<i>Pine</i>)	37 30 537 ✓	75 54 605 ✓
Hut-chimney on small Ho. ⓪	37 30 392 ✓	75 54 728 ✓
Box- ⓪	37 30 249 ✓	75 54 1234 ✓
Hoe- chimney on house	37 29 1586 ✓	75 55 10 ✓

2.
List of Objects Hydrographic Sheet D.
Nasawaddox to Pungoteague Creek Va.
1914.

Object.	Latitude	Longitude
Center wharf Ho ^o (Dun)	37 29 1350 ✓	75 55 163 ✓
do ^o (Luff)	37 29 1344 ✓	75 55 344 ✓
Sharp- flag ^o	37 29 582 ✓	75 55 498 ✓
Wharf ^o (Mosh)	37 29 612 ✓	75 55 846 ✓
Gable ^o (Sog) S.gable of house.	37 29 397 ✓	75 55 1297 ✓
Prom-prominent house. ^o	37 29 434 ✓	75 55 1456 ✓
Wharf. ^o (Lag)	37 28 1812 ✓	75 56 223 ✓
Wharf- flag ^o (Wuf)	37 28 1454 ✓	75 56 701 ✓
Cedar-flag in tree ^o	37 28 1171 ✓	75 56 966 ✓
W.Chy.-on Ho. ^o (Wich)	37 28 1114 ✓	75 57 55 ✓
Flag ^o	37 28 1054 ✓	75 57 74 ✓
Engineers flag ^o E.F.	37 28 1073	75 57 109
do ^o do	37 28 967 ✓	75 57 393 ✓
W.Chy.-wets chimney ^o (How)	37 28 1026 ✓	75 57 522 ✓
Wharf flag ^o	37 28 961 ✓	75 57 617 ✓
do ^o	37 28 872 ✓	75 57 996 ✓
Pat- ^o flag	37 28 736 ✓	75 57 1159 ✓
Bill (new) flag.	37 28 162 ✓	75 57 1191 ✓
Black XXXXX ^o	37 28 264 ✓	75 58 169 ✓
Red ^o Buoy	37 28 14 ✓	75 58 545 ✓
W.Chimney Ho. ^o (Soe)	37 28 1264 ✓	75 57 954 ✓
Lankford 1914 [△]	37 28 1583.2	75 57 1222.8 ✓
do 1898 [△]	37 28 1464.1 ✓	75 57 1244.0 ✓
N.W.Chimney of Ho. ^o	37 29 10 ✓	75 57 1010 ✓

List of Objects Hydrographic Sheet D.
Nasawaddox to Pungoteague Creek Va.
1914

Object.	Latitude			Longitude		
Thick-whitewashed end of small shanty.	37	29	178 ✓	75	57	1122 ✓
White " " " " "	37	29	1447 ✓	75	57	848 ✓
Jam 1911 Δ	37	30	728.1 ✓	75	57	632.8 ✓
Wash-whitewashed end of small shanty	37	31	68 ✓	75	57	273 ✓
Bat-N.W.chimney whitewashed whitewashed	37	31	514 ✓	75	57	181 ✓
Steep- \odot built around old tree	37	31	1634 ✓	75	56	909 ✓
Sparrow \odot built around old tree	37	32	1183 ✓	75	56	643 ✓
Mar- small shanty \odot	37	32	1502 ✓	75	56	149 ✓
Tine " " \odot	37	32	1788 ✓	75	56	1457 ✓
Nee " " \odot	37	33	163 ✓	75	55	1272 ✓
Dun \odot (Duck blind)	37	33	215 ✓	75	55	926 ✓
Ning - Lightning rod on cupalo.	37	32	1708 ✓	75	55	697 ✓
Mar Ton \odot	37	32	1752 ✓	75	55	43 ✓
Con.- S. Dolphin Concord Wharf	37	33	223 ✓	75	54	946 ✓
Cord - old wharf piles.	37	33	278 ✓	75	54	411 ✓
Marsh- \odot flag	37	33	278 ✓	75	53	1234 ✓
Ster - oyster house.	37	32	1330 ✓	75	52	1465 ✓
Cup - Center of pipe oyster house.	37	32	1398 ✓	75	52	839 ✓
Worm- old wharf.	37	32	1836 ✓	75	52	709 ✓
Fish Ley- old wharf	37	32	1792 ✓	75	52	651 ✓
Fish	37	32	1822 ✓	75	52	83 ✓
Cord wharf outer end. (Old)	37	32	1830 ✓	75	51	730 ✓
Tree- large tree	37	32	266 ✓	75	50	772 ✓

List of Objects Hydrographic Sheet D.
 Nasawaddox to Pungoteague Creek Va.

Object.	Latitude	Longitude
Kish - tree ⊙	37° 33' 285m	75° 50' 1468m
Dar. ⊙	37 33 463	75 50 438
Center Yellow house ⊙	37 33 618	75 50 725
Shield's wharf- S.W.gable	37 33 450	75 50 1350
Wharf ⊙ (Nick)	37 33 373	75 51 375
Long ⊙ flag	37 33 238	75 51 846
Is ⊙ flag in tree.	37 33 416	75 52 423
Wharf. ⊙ Davis wharf	37 33 212	75 52 712
Lazy ⊙ flag	37 33 181	75 52 1021
S. end of house ⊙ (Wag)	37 33 284	75 52 1401
Out. ⊙ house	37 33 671	75 53 480
In. ⊙ flag in tree	37 33 506	75 53 575
Gay Wh. S. Gable ⊙	37 33 1359	75 53 1250
Ho. chimney in house ⊙	37 33 1296	75 54 156
Tel. ⊙ " " ⊙	37 33 1078	75 54 431
Board " " " ⊙	37 33 865	75 54 658
Cove ⊙ flag	37 33 727	75 54 735
Cat ⊙ (Cedar)	37 33 664	75 55 384
Pipe in oyster shanty (Bill)	37 33 732	75 55 345
Marked chimney	37 33 880	75 55 518
Al- ⊙ flag	37 33 824	75 55 950
Old- tree	37 33 976	75 55 1371
Isle ⊙ flag in island	37 33 655	75 56 861
Sandy Point 2 1898 △	37 33 1406.9	75 56 852.9

List of Objects Hydrographic Sheet D.
Nasawaddox to Pungoteague Creek Va.

Object.	1914 Latitude			Longitude		
	o	'	m	o	'	m
C. S. Occohannock R.	37	32	1721	75	56	751
C. S. " "	37	32	1738	75	56	493
C. S. " "	37	33	271	75	55	160
C. S. " "	37	33	377	75	54	1232
Eagle tall stump whitewashed	37	34	255	75	56	611
Hawk O signal	37	34	806	75	56	307
Chim. chimney on N. side shack.	37	34	1425	75	55	1300
Shad - whitewashed trunk of tree.	37	34	1738	75	55	1163
Rack - O flag	37	35	224	75	55	516
Liege (large tree)	37	35	282	75	55	138
Germ. house	37	34	1528	75	54	1268
Man O flag	37	34	1560	75	54	1151
Nee N.E. chimney of house	37	34	966	75	54	601
Fort house O	37	34	844	75	54	133
Heck " O	37	34	798	75	53	1354
New " O	37	34	812	75	53	1028
Potato wharf O	37	34	1092	75	53	627
Kaiser tree O	37	34	1500	75	54	281
Bulge - house O	37	35	158	75	54	631
Sog- S. Gable O	37	35	449	75	54	1000
Der. house	37	35	1145	75	54	1318
Dutch - shanty	37	35	890	75	55	411
Horn - O flag	37	35	908	75	55	905

List of Objects Hydrographic Sheet D.
Nawawaddox to Pungoteague Creek Va.

1914

Object.	Latitude			Longitude		
	o	'	m	o	'	m
Craddock 1898	37	36	59.1 ✓	75	55	768.2 ✓
Aid - O flag	37	36	865 ✓	75	55	218 ✓
Grove O flag	37	37	197 ✓	75	54	1075 ✓
Nan <u>L</u> 1914	37	37	1074.0 ✓	75	54	676.9 ✓
Musk- O flag	37	37	474.	75	54	35.
Rat - O flag	37	36	1696 ✓	75	54	31. ✓
Old O	37	36	1354.	75	53	1443.
Ben O	37	36	916.	75	53	1330.
Cur O	37	36	534.	75	53	467.
Tuck O	37	36	769.	75	52	1195.
Cedar-Outer gable wharf Ho.	37	36	1814.	75	52	854.
Spud - O flag O	37	36	1803.	75	52	320.
Mar O flag O	37	37	491.	75	51	1343.
Lain O flag O	37	37	548.	75	51	906.
Boggs a flag on wharf(Nandua.)	37	37	1092.	75	51	341.
C.S.channel bush O	37	37	1045.	75	51	437.
Cut.O flag Cutlers wharf O	37	37	1123.	75	51	452.
Sun. O flag	37	37	1080.	75	51	1007.
Mos. O	37	37	1152.	75	51	1241.
Dur. O flag	37	37	875.	75	52	201.
Man .O flag	37	37	521.	75	52	796.
Hick . O flag	37	37	521. ✓	75	52	1332. ✓
Lone O flag in tree x&x	37	37	362. ✓	75	52	1450. ✓
(O) flag (Lost)	37	37	1675.	75	52	78.

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 List of Objects Hydrographic Sheet D.
 Nasawaddox to Pungoteague Creek Va,
 1914

Objects.	Latitude	Longitude
Pine. O tree	37 38 102.	75 53 644.
Corn O Oyster Ho. O	37 38 298.	75 53 783.
Shin-Chimney in shanty	37 38 1227.	75 53 1052.
Butch 1898	37 38 1445.0 ✓	75 53 926.1 ✓
Up- chimney in shanty O	37 38 1572 ✓	75 53 872 ✓
Hack - O flag	37 39 464.	75 53 487.
Windmill in Butcher Creek O (Gree)	37 39 27.	75 52 556.
C.S. in Nandua Creek O 17 e	37 38 63.	75 54 413.
C.S. do O 18	37 38 66.	75 54 324.
C.S. do O 19	37 37 1693.	75 54 283.
C.S. do O 20	37 37 1621.	75 54 83.
C.S. do O 21	37 37 1553.	75 54 32.
C.S. do O 22e	37 37 1448.	75 53 1434 ✓
Duck blind	37 37 1449.	75 53 1174.
C.S. do O 23	37 37 1273.	75 53 1384.
C.S. do O 24	37 36 1768.	75 53 951.
C.S. do O 25	37 36 1537.	75 53 952.
C.S. do O 26	37 36 1385.	75 53 558.
C.S. do O 27	37 36 1446.	75 ⁵³ 52 282.
C.S. do O 28 e	37 36 1322.	75 53 327.
Cherry- O flag	37 39 935.	75 52 1220.
Her 1898 <u>L</u>	37 39 1688.8	75 52 571.7.
Bluff - O flag	37 40 338.	75 51 1361.
Hoop - O shanty	37 39 1705.	75 51 753.
Lim - whitewashed tree trunk	37 39 1637.	75 51 213.

List of Objects Hydrographic Sheet D.
Nasawaddox to Pungoteague Creek Va.
1914

Objects.	Latitude	Longitude
Ware O flag	37 ⁰ 40' 445 m.	75 ⁰ 50' 944 m.
Hud O west chy.of house	37 40 326	75 50 541
Yell " " " yellow Ho.	37 40 179	75 50 293
Tank O Watertank	37 39 1807	75 ⁴ 9 1257
Fac- O N. Stack of fish factory.O	37 40 000	75 49 1210
Dol-E.dolphin of Harborton wharf.	37 39 1630	75 49 1006
Mur -W.gable of shanty O	37 39 1473	75 49 412
Boggs-outside gable Boggs wharf. O	37 39 1404	75 48 926
Evans- " " Evans wharf O	37 39 1738	75 49 293
Cus- tall tree O	37 40 138	75 49 834
Nam-chimney of house O	37 40 318	75 49 978
Rum - O flag	37 40 356	75 49 1194
Do-chimney of Ho.	37 40 580	75 49 1202
Fry-Pile of oyster shells at shanty.	37 40 830	75 50 112
Stone O flag	37 40 1064	75 50 648
West O flag	37 40 1162	75 51 126
Fare O flag	37 40 1771	75 51 791
Pole -tall flag pole O	37 41 327 ✓	75 52 271 ✓
Pungoteague Beacon 1911	37 39 15 1476.9	75 53 - 1310.7
Gat- red Beacon	37 40 255	75 53 470
Out -duck blind with O flag	37 40 1139	75 52 853
Light 3 Pung ^o teague creek O	37 40 783	75 52 5

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 List of Objects Hydrographic Sheet D.
 Nasawaddox to Pungoteague Creek Va.
 1914

Object.	Latitude .	Longitude.
Light 2 Pungoteague creek	37 40 723.	75 51 319.
" 1 " "	37 40 745.	75 50 1208.
" 0 " "	37 40 323.	75 49 1348.
C.S. bush " "	37 39 1780.	75 49 1071.
C.S. " "	37 39 1606.	75 49 828.
C.S. " "	37 39 1711.	75 49 515.

Signals in Butchers creek:

Bite	37 39 308.	75 52 1214.
Low	37 39 315.	75 52 715.
Win	37 39 47.	75 52 372.
Hut	37 39 162.	75 52 210.
Fet	37 39 600.	75 52 358.
Guy	37 39 727.	75 52 860.

List of Objects Hydrographic Sheet E.
Pungoteague to Chesconessex Creek Va.
1914

OBJECT .	LATITUDE.	LONGITUDE.
Her. 1898'04 Δ	37° 39' 1683.8 ^m	75° 52' 571.7
Pun. Pungoteague Beacon 1911 Δ	37 39 1476.9	75 53 53 1310.7
* Ware - \odot flag	37 40 1727.	75 51 828
Jim - \odot flag	37 40 1777.	75 51 308
Pole - Flagpole	37 41 312.0	75 52 281.9
Duck - oyster shanty	37 41 1060.	75 51 14
Beak - Oyster shanty	37 41 1624	75 50 1221
Tom - \odot flag	37 41 1549.7	75 52 1256.6
Wood - Woody Island 1914 Δ	37 42 307.	75 52 809.2
Wood - Woody Island 1898 Δ	37 42 312.1	75 52 811.4
Big - \odot flag	37 42 782.8	75 51 122.
Dave - \odot flag	37 42 610	75 50 495
Thick - Thicket 1898-1903 Δ	37 42 1480.7	75 50 377.9
Bell - bell buoy	37 43 1384	75 51 968
Black - black beacon	37 43 894	75 51 48
Spar - channel stake	37 43 482	75 50 700
Stick - " bush	37 43 377	75 50 306
Bush - " "	37 43 529	75 50 12
Bar - " "	37 43 776	75 49 1076
Fid - \odot flag	37 43 225	75 49 653
Chim. - Chimney of house	37 43 422	75 48 1291
Finn - \odot flag on stump	37 43 636	75 48 1111
Cup - Chimney of house	37 42 1811	75 48 774
Pull - " " "	37 42 1752	75 48 446

* Call Fare on sheet D.

List of Objects Hydrographic sheet E.
Pungoteague to Chesconessex Creek Va.

OBJECT.	1914		LONGITUDE.
	LATITUDE.		
One-tall pine tree	37° 43'	607 ^m	75° 48' 297 ^m
Tree - flag in tree	37 43	805	75 48 63
Hook - O flag	37 43	718	75 47 1156
Nig-chimney Of shack	37 43	598	75 47 1227
Coon - " " "	37 43	542	75 47 936
N Pile O flag on small wharf	37 43	500	75 47 757
Lost O flag	37 42	1791	75 46 1409
End O flag on end of small Whf.	37 42	1414	75 46 1266
Doc -Chim.of barrel factory	37 42	1301	75 46 573
Hall - chimney of house	37 42	1161	75 46 649
Mill - windmill	37 42	1081	75 46 580
Von - O flag	37 42	1309	75 46 832
Kluck O flag	37 42	1160	75 46 114
Win - windmill	37 42	1614	75 45 1284
Hin - flag	37 42	1463	75 45 1108
Oak - Whitewashed tree trunk	37 42	1566	75 46 778
Out - Barn	37 43	130	75 46 1042
In - O flag	37 43	318	75 46 1211
Fine - O flag	37 43	580	75 47 317
Cove -outside gable of dock	37 43	846	75 47 741
Pop W.Chimney of white house	37 43	994	75 47 717
Sie - O flag	37 43	1192	75 47 1098
Hut - chimney of shack	37 43	1523	75 47 953
Cedar - O flag	37 43	1691	75 48 274

List of Objects Hydrographic Sheet E.
Pungoteague to Chesconessex Creek Va.
1914

OBJECT .	LATITUDE			LONGITUDE		
	°	'	M	°	'	M
Bat - O flag	37	48	1605	75	48	1251
Crab - flag on N.W.gable of crab factory	37	48	900	75	49	1098
Coke - O flag	37	48	1500	75	50	4
Point - O flag	37	44	7768	75	49	872.9
Watt - Watts Island L.H. Δ 1900	37	46	1742.8	75	53	899.8
Tan. - Tangier Sound L.H. Δ 1900	37	47	528.4	75	58	650.0

List of Objects Hydrographic Sheet E.
Pungoteague to Chesconessex Creek Va.

1914

Channel Stakes

OBJECT.	LATITUDE		LONGITUDE	
	°	'	°	'
Channel stake.	37	43	75	48
		944	1380	
Mid.	37	43	75	48
		1260	596	
Red.	37	43	75	48
		1336	1385	
C.S.	43	1005	48	1188
C.S.	43	444	47	487
C.S.	43	152	47	00
C.S.	42	1814	46	1302
C.S.	42	1413	46	515
C.S.	42	1124	46	349
C.S.	42	1258	46	190
C.S.	42	1427	45	1221
C.S.	42	1324	45	927
C.S.	42	1243	45	758

1. *Nasawaddox to Pungoteague*
Creek, Va.
STATISTICS SHEET, D.

Date 1914	Letter	Vol.	Positions	Soundings	Miles Statute	Vessels
June 23	a	1	138	1324	32.00	Launch
" 24	b	1	135	1260	33.25	"
" 25	c	2	159	1383	41.25	"
" 26	d	2	112	941	28.50	"
" 27	e	3	66	590	16.00	"
" 29	f	3	70	576	19.75	"
July 6	a	1	58	553	7.50	Gig
" 7	b	1	62	242	3.75	"
" 8	c	1	74	746	11.00	"
" 9	d	1	46	471	6.50	"
" 10	e	2	79	1093	12.00	"
" 11	g	3	71	651	18.25	Launch
" 14	h	3 & 4	78	760	20.10	"
" 15	i	4	14	136	2.25	"
" 18	f	2	41	380	5.00	Gig
" 20	h	4	148	1192	28.20	Launch
" 22	g	2	79	731	7.25	Gig
" 23	l	4	39	344	8.60	Launch
" 27	h	3	65	636	7.80	Gig
" 28	i	3	98	1097	14.50	"
" 29	k	3 & 4	111	1536	11.85	"
" 30	l	4	108	1100	11.00	"
" 31	m	4 & 5	63	552	4.50	"
Total	23		1884 ✓	18294 ✓	350.80 ✓	

Date 1914	Letter	Vol.	Positions	Soundings	Miles Statute	Vessels
Brought Forward 23			1884	18294	350.80	
August 6	n	6	78	555	9.40	Gig
" 7	o	6	98	1048	11.80	"
" 10	p	6 & 7	105	1108	13.40	"
" 11	r	7	69	709	7.60	"
" 4	s	7	90	897	8.50	"
" 12	t	8	91	887	10.00	"
" 17	u	8	91	885	8.50	"
" 19	v	8	91	885	8.50	"
" 20	w	9	78	741	13.10	"
" 25	m.	4 & 5	109	957	22.30	Launch
" 27	x	9	48	486	5.50	Gig
" 28	y	9	54	477	5.00	"
" 28	n	5	25	179	4.00	Launch
" 31	o	5	78	713	19.20	"
September 1	k	5	88	810	10.00	"
" 4	r	5 & 6	142	1198	31.80	"
" 11	r	6	132	1050	31.40	"
" 18	t	7	101	839	26.00	"
" 19	u	7	135	872	31.80	"
" 21	w	8	130	1090	33.40	"
" 22	x	8	145	1275	36.25	"
" 23	y	9	146	1256	35.50	"
" 29	z	9	122	845	31.00	"
Total	45		3989	36667	756.25	

STATISTICS SHEET, D

Narawaddox Creek to
Pungoleague " Va.

Date 1914	Letter	Vol.	Positions	Soundings	Miles Statute	Vessels
Brought Forward	45		3989	36667	756.25	
October 1	a'	10	124	985	21.75	Launch
" 2	b'	10	151	1254	36.25	"
" 3	c'	11	55	468	12.75	"
" 5	d'	11	35	285	7.78	"
" 6	e'	11	28	139	4.00	"
" 7	f'	11	14	110	4.00	"
November 18	g'	11	68	468	16.25	"
" 24	s	9	17	160	1.75	Gig.
TOTAL	58		4481	404,86	860.79	

STATISTICAL SHEET E.

Date 1914		Letter	Vol.	Positions	Soundings	Miles Statute	Vessels.
October	13	a	1	150	1134	36.50	Launch
"	15	b	1 & 2	159	1039	37.40	"
"	17	c	2	84	814	17.00	"
"	19	d	2	153	1180	33.00	"
"	20	e	3	151	880	32.50	"
"	21	f	3	153	1028	34.00	"
"	22	g	4	141	945	30.25	"
"	23	h	4	6	58	1.00	"
"	23	i	1	61	422	6.50	Gig
"	24	i	4	62	573	16.75	Launch
"	26	k	4	10	29	2.00	"
"	28	l	5	70	522	15.09	"
"	31	m	45	59	482	11.00	"
November	2	n	5	8	62	1.25	"
"	3	o	5	146	867	34.00	"
"	4	p	6	19	95	3.25	"
"	5	r	6	120	908	22.90	"
"	7	s	6	45	395	11.00	"
"	11	b	1	39	540	6.20	Gig
"	12	t	6 & 7	122	982	27.70	Launch
"	13	u	7	91	703	21.99	"
"	13	c	1	26	292	3.00	Gig
"	14	d	1	39	446	5.25	"
"	Total	31		1913	14396	409.44	

2
 STATISTICS SHEET E.

Pungsteague Creek
 to
Cherconessex " , Va.

Date 1914	Letter	Vol.	Positions	Soundings	Miles Statute	Vessels
Brought Forward	21		1911	14324	409.44	
November 18	W	7	26	215	7.00	Launch
" 18	a	1	67	677	7.75	Gig
" 24	f	2	10	140	1.30	"
" 24	X	7	86	566	19.00	Launch
" 27	g	2	36	280	4.50	Gig
" 28	h	2	18	95	1.75	"
TOTAL	25		2151	163, 69	450.74	

VEC
Mar. 8, 1915
L. P. S.

HYDROGRAPHIC SHEET 3702.

Eastern Shore, Chesapeake Bay, Virginia, by Assistant
O. W. Ferguson in 1914.

	TIDES.		
	Nassawaddox Creek, Staff 2 ft.	Nandua Creek ft.	Onancock ft.
Mean low water, or plane of reference on staff	2.8	2.9	2.8
Lowest tide observed " "	2.9	2.4	1.9
Highest " " " "	5.6	11.4	6.5
Mean range of tide	1.8	1.7	1.8

VEC
Mar. 9, 1915
L. P. S.

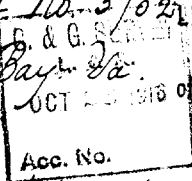
HYDROGRAPHIC SHEET 3703.

Vicinity of Onancock, Chesapeake Bay, Virginia, by
Assistant O. W. Ferguson in 1914.

TIDES.

	Onancock ft.
Mean low water, or plane of reference on staff	2.8
Lowest tide observed " "	1.9
Highest " " " "	6.5
Mean range of tide	1.8

OCT 28 1916

Hydrographic Sheet No. 3702
Chesapeake Bay, Va.Place with descriptive report
of hydrographic sheet No. 3702

Drawing Section.

The positions for the work on this sheet were protracted by the field party but as frequent errors were discovered a large number of positions were verified. These errors were particularly in evidence whenever either of the two signals "Pale" and "Groves" were used in the protracting. This was at first thought to be due to a defective protractor used by the field party in the work but later found not to be the fault as the errors were only in evidence when the two signals "Pale" + "Groves" were used. On further examination it developed the fact, or so it would seem, that the positions for these two signals as now shown on this sheet is not the same as originally plotted and used for the greater part of the work and on examination it can be seen that signal "Pale" was originally plotted about 30^m to the North East and that of signal "Groves" about 30^m to the North West. However no record is made of the fact. Therefore practically all positions where the two signals were used were replotted and in addition positions for beginning and ending of lines and multiples of 10 were verified about 1300 in all. This does not however apply to the small detached sheet of this number which, apparently, originally formed a part of this sheet but had become detached. The signals used being on the large sheet and distortion of the large made it impracticable to check positions with good results. These positions were followed closely from the boat sheet and are thought to be quite correct.

The soundings were pencil plotted by the field party and in the Bay proper where they could be read were found to be quite correct. Some errors were found. In the creeks however the field party

Hyd. Sheet 3702 (2)

attempted to show each and every sounding which by reason of the closeness of the work made it impossible to read the work therefore it was generally discarded and replatted.

Considering the work so far as it applies to lines and soundings it may be taken as good and should be sufficient to develop channels and shoals quite accurately but in some cases there would appear to be a general "mix up" of signals which it does not appear possible for the office to reconcile. For example, Signals "Perk" and "Lankford" at lower limit of this sheet have different positions on this sheet and the joining sheet No. 3657 and the descriptive reports for both sheets give different geographic positions. This is at the entrance to Nasawadax Creek and as other signals cannot be reconciled by the office the Channel and shoal limits can only be approximate. This is quite evident in attempting to reconcile line 54² to 57² Sheet 3657 with this sheet. Line 54-57² Sheet 3657 is water of 8 ft to 18 ft and if applied to this sheet crosses sand flats of 0 ft soundings. This line is evidently misplaced due to the signal mix up and should plot to the north on or near the line of deep water shown on this sheet. By direction of the Chief Draftsman line 54-57² Sheet 3657 is rejected so far as attempting to reconcile it with this sheet.

Records are generally clear although many positions are questioned with apparently little effort by the field party to reconcile. Also many soundings which appear to be one fathom out but which owing to the character of the bottom the office cannot presume to be so therefore they have been platted per records.

Crossings are generally good but a few cases show up bad.

Hyd sheet 3702 (3)

The show line at the north entrance to Nasawadoc Creek shows different on this sheet and the adjoining sheet 3659, and the red line shows it as on Topograph Sheet 3663 which is the same, or nearly so, as on Sheet 3659.

Taken as a whole the work does not appear to be up to the Standard.

John D. Torrey
5/16/16.

Hyd. Sheet No. 3703.

Surveyed by O. W. Ferguson. Protracted & plotted by Field Party. Inked & verified by S. L. Rosenbery.
Soundings in feet.

The territory surveyed was well developed and the work was uniformly good, although there were a few crossings in which there was an error of about three feet. These were indicated on the sheet in pencil. The records were well-kept.

The positions were protracted by the field party and were accepted as correct, although whenever an unusual or unmentioned change of course occurred, the positions were checked. Some of the protracting was carelessly done, but in only three or four places was the error sufficiently great to make a correction necessary.

In order to get all of the soundings on in pencil, they were plotted so small that in many cases they were not legible. Those in Quancock Creek were so minute and close together, that the re-plotting of most of them was necessary. On the eastern half of the sheet, less than half of the soundings could be inked and only about two-thirds on the remainder of the sheet. The work should have been done on a $\frac{1}{10,000}$ scale sheet or else only about half of the soundings should have been plotted. The latter would have saved the man who plotted the work and the man who inked and verified it, considerable time.

In most places, the overlaps with Hyd. Sheets 2500 and 2501 were fairly close, but in deep water there was a difference of from three to eight feet. The only great difference was near position 53 t (lat. $44^{\circ}30''$ - long. $53^{\circ}10''$) where a 39 ft. sounding fell on a 63 ft. one and a 46 ft. sounding fell on a 60 ft. one.

S. L. Rosenbery.

October, 1915.

H. 3702.

The work so far as it applies to lines and soundings appears good and sufficient for charting purposes.

Additional lines are needed in the main channels of the creeks to make a complete survey.

Sheet examined in Div. of Hyd'y & Top'y.