

8445

EWB

Diag. Cht. No. 78-3.

|  |  |
|--|--|
| Form 504<br>U. S. DEPARTMENT OF COMMERCE<br>COAST AND GEODETIC SURVEY<br><br><b>DESCRIPTIVE REPORT</b> |  |
| Type of Survey <u>Hydrographic</u>   |  |
| Field No. <u>CO-1257</u> Office No. <u>H-31445</u>   |  |
| <b>LOCALITY</b>  |  |
| State <u>Virginia</u>  |  |
| General locality <u>Chesapeake Bay</u>   |  |
| Locality <u>Onancock Creek to Butcher</u><br><u>Creek</u>  |  |
| <u>19 57-58</u>  |  |
| <b>CHIEF OF PARTY</b>  |  |
| <u>R. A. Earle and M. E. Wennermark</u>  |  |
| <b>LIBRARY &amp; ARCHIVES</b>  |  |
| DATE <u>March 1, 1960</u>  |  |

8445

DEPARTMENT OF COMMERCE  
U. S. COAST AND GEODETIC SURVEY

HYDROGRAPHIC TITLE SHEET

The Hydrographic Sheet should be accompanied by this form, filled in as completely as possible, when the sheet is forwarded to the Office.

REGISTER No. H-8445

Field No. CO-1257

State VIRGINIA

General locality CHESAPEAKE BAY

Locality ONANCOCK CREEK TO BUTCHER CREEK

Scale 1:10,000 Date of survey 10/4/57 - 12/17/58  
1957-1958

Supplemental Instructions dated 11/17/55, 7/11/56, 10/4/56, 10/21/57, 10/30/57, 12/20/57

Vessel COWIE

Chief of party ROBERT A. EARLE - M. E. WENNERMARK

Surveyed by R. G. DARLING, G. D. UPHAM, R. F. SCHOOLERED, J. P. FORCHER

Soundings taken by fathometer, graphic recorder, hand lead, WIDEX POLE

Fathograms scaled by W. A. HUGHES, S. C. MILLER, W. M. SMITH, C. M. WILLIS

Fathograms checked by G. D. UPHAM, W. A. HUGHES, S. C. MILLER, L. L. PATE, W. M. SMITH

Protracted by R. L. Newsome & A. G. Atwill

Soundings penciled by A. G. Atwill

Soundings in ~~English~~ feet at MLW ~~MLW~~ and are true depths.

REMARKS: The work of smooth plotting this survey was divided between Ship Cowie and the Norfolk Processing Office.

HWB

MMS

NOTES TO ACCOMPANY

DESCRIPTIVE REPORT

HYDROGRAPHIC SURVEY H-8445

(FIELD NO. CO-1257)

PROJECT CS - 287

CHESAPEAKE BAY - EASTERN SHORE - ONANCOCK CR. TO BUTCHER CR.

1957 - 1958 FIELD SEASONS

SCALE 1:10,000

U. S. C & G. S. Ship COWIE - CDR. R. A. YEARLE, CDR. M. E. WENNERMARK, COMDG.

SURVEYED BY: - LCDR. R. C. DARLING, LT. C. D. UPHAM

ENS. R. F. SCHOOLBRED, ENS. J. P. PORCHER

---

PROJECT:

Project CS-287, Supplemental Instructions dated 17 November 1955, 11 July 1956, 4 October 1956, 21 October 1957, 30 October 1957 and 20 December 1957.

SURVEY LIMITS AND DATES:

The locality of the survey is along the eastern shore of Chesapeake Bay. The survey extends from a junction with H-8406(CO-1356) and H-8408(1957) (CO-1157) at Latitude  $37^{\circ} 43.7' N$  on the north to a junction with H-8446(1957-58) (CO-1357) at Latitude  $37^{\circ} 39.5' N$  on the south and from a junction with H-8446(CO-1357) at Longitude  $75^{\circ} 55' W$  on the west to the eastern shore of Chesapeake Bay and the eastern extremities of Onancock, Matchotank, Fungoteague and Butcher Creeks on the east. (See index of sheets appended to this report).

Field work was accomplished during the 1957 and 1958 field seasons between the following dates: 4 October through 17 October 1957 and 5 April through 18 June 1958.

Progress on this survey was hindered considerably during the months of April and May 1958 due to strong winds. Personnel of the Ship COWIE also completed Special Survey 4-58 during the period 10 through 13 June 1958.

VESSELS AND EQUIPMENT:

Launch 178 equipped with 808 fathometer No. 160 SPX calibrated at 820 fm/sec. (Acoustic units mounted inside of the hull) and Skiff 749 using a 16' sounding pole and leadline were used for all sounding on the survey. Launch 178 was used to sound in depths generally greater than 4 feet and Skiff 749 sounded from junctions with the launch work to the shoreline and in shoal and restricted areas in the creeks and their tributaries. Both vessels operated from the ship COWIE.

Launch 178 was operated at about 6 knots while sounding and the sounding speed of Skiff 749 varied with the depths of water. The turning radius was not determined for either vessel. ✓

TIDE AND CURRENT STATIONS:

Portable automatic tide gages were installed at Watts Island (Latitude  $37^{\circ} 47' 54''$ N, Longitude  $75^{\circ} 53' 48''$  W), Onancock, Onancock Creek, (Latitude  $37^{\circ} 42' 43''$ N, Longitude  $75^{\circ} 45' 21''$ W) and Harborton, Pungoteague Creek (Latitude  $37^{\circ} 39' 59''$ N, Longitude  $75^{\circ} 49' 51''$ W) and operated during the periods of field work. No time or range corrections were applied to the tidal data used in the reduction of soundings. ✓

Off smooth sheet

Tidal data from the Watts Island tide station was used to reduce all soundings taken during the 1957 field season (The approach to Onancock Creek north of Latitude  $37^{\circ} 42.7'$ N and the entrance of Onancock Creek to Longitude  $75^{\circ} 49.2'$ W). Data from the Onancock Creek tide station was used to reduce all soundings in Onancock Creek and its tributaries east of Longitude  $75^{\circ} 49.2'$ W. Data from the Pungoteague Creek tide station was used to reduce soundings over the remainder of the survey area. ✓

A current station was occupied in the entrance of Pungoteague Creek (Latitude  $37^{\circ} 40.5'$ , Longitude  $75^{\circ} 52'$ ) in 15' of water. ✓

SMOOTH SHEET:

The smooth sheet projection was machine ruled in the Washington Office. The smooth sheet will be plotted at a later date by ~~either~~ personnel of the Ship COWIE <sup>and</sup> the Norfolk Processing Office. ✓

CONTROL STATIONS:

The following triangulation intersection stations were used:

ONANCOCK CREEK LIGHT, 1953 (Accomac County, Va., E.H.K., 1953) ✓

PUNGOTEAGUE CREEK BEACON, 1911 (Undescribed).

One signal, Try, was located by hydrographic methods (3 point sextant fix with check angles).

The remainder of the control originates <sup>with blackline prints of</sup> ~~from~~ Manuscripts T-11235, T-11236 and T-11237. <sup>of 1953-55-56, where a number of additional stations were located or the locations of stations already on the report</sup>

A list of control stations used on this survey is appended to this report and a copy has been placed in the front of Volume I of the hydrographic records.

M/S were revised (T-11235)

SHORELINE AND TOPOGRAPHY:

The shoreline was transferred from Manuscripts T-11235, T-11236 and T-11237. of 1953-55-56.

A bulkhead (Latitude 37° 42.7'N, Longitude 75° 45.4'W), which had been constructed subsequent to compilation of the shoreline, was located by the hydrographic party. Measurements locating this feature are recorded in the hydrographic records.

In all areas, sounding lines were run as close to the shoreline as practicable. However, due to the small tide range it was not possible to completely define the Mean Low Water line by sounding.

SOUNDINGS:

Soundings were taken with 808 fathometer, sounding pole and standard leadline.

CONTROL OF HYDROGRAPHY:

Hydrography was controlled by three point sextant fixes taken on objects ashore which had been located by triangulation, photogrammetric methods or standard hydrographic methods. In small and narrow tributaries, where signals were not available, hydrography was controlled by referencing positions to identifiable topographic features.

ADEQUACY OF SURVEY:

This survey is complete and adequate to supersede prior surveys for charting.

On the boat sheet junctions with adjoining surveys are satisfactory, no holidays exist and depth curves can be adequately drawn at the junctions. However, it is believed that a more thorough discussion of this should be made after the smooth sheet has been plotted.

CROSSLINES:

Approximately 8% crosslines were run. Depths at crossings on the boat sheet are in satisfactory agreement with maximum differences of 1 to 2 feet at most crossings. These discrepancies are attributed to the differences between actual tides and predicted tides used to reduce boat sheet soundings.

COMPARISON WITH PRIOR SURVEYS AND CHART:

A comparison of the boat sheet with Surveys H-3702(1:20,000, 1914) and H-3703(1:20,000, 1914) and charts 568(8/23/54, 9/2/57, 3/12/58) and 1223(8/22/55, 3/31/58, 7/27/58) indicates a good general agreement. However, the 6-foot curve on the boat sheet at the entrance to Onancock Creek and westward has shifted considerably and does not agree with either charts or prior surveys. Boat sheet soundings also indicate that the

See  
TP2  
Review

See  
P5&6  
Review

Pungoteague Creek entrance channel has shifted to the south and shoaled slightly in some areas. An uncharted 14 foot deep was found in the area of Latitude 37° 41.5'N, Longitude 75° 54.3'W. ✓ See  
P 5  
Review

An uncharted <sup>11</sup>12 foot shoal was found to exist at Latitude 37° 43.6'N, Longitude 75° 54.6'W. (Charted 10 ft on Chart 568 dated 7-11-60). 55

The charted 5 foot sounding at Latitude 37° 40.3'N, Longitude 75° 54.7'N was investigated and could not be found. As present depths in this area are 10 to 11 feet, it is recommended that the 5' sounding be deleted from the chart. See  
Review  
5A-1  
*See 6' sounding in immediate vicinity.* ✓

It is believed that a more thorough comparison should be made following smooth plotting of this survey. ✓

*4 37-40.95 } charted 4' sd, not found (Nov 9')  
2 75-54.38 }*

DANGERS AND SHOALS:

A <sup>75-76c</sup>12 foot shoal at Latitude 37° 43.6'N, Longitude 75° 54.6'W in general depths of 17 to 19 feet was investigated with hand lead and by running a closely knit system of sounding lines. <sup>55</sup>Approximately forty minutes was spent in this investigation and it was determined that this shoal is a hard sand ridge running in a NNW'ly - SSE'ly direction. ✓

COAST PILOT INFORMATION:

No changes or additions were noted within the limits of this survey. ✓

AIDS TO NAVIGATION: (See P 6 C Review)

No fixed aids to navigation were located within the area of this survey by the hydrographic party. ✓

The following floating aids to navigation were located:

| <u>AID</u>                                   | <u>LATITUDE</u>           | <u>LONGITUDE</u>           | <u>DEPTH</u> | <u>POS. NO.</u>       | <u>DATE</u>         |
|--|---------------------------|----------------------------|--------------|-----------------------|---------------------|
| ✓ BWS "163N"                                 | 37° 43.52 <sup>8</sup> 'N | 75° 53.39'W                | 18 ft.       | 34c blue              | 10/17/57            |
| ✓ BWS "164N"                                 | 37° 43.46 <sup>4</sup> 'N | 75° 51.96'W                | 16 ft.       | 35c blue<br>1d blue   | 10/17/57<br>4/5/58  |
| <u>ONANCOCK CREEK</u><br><u>CHANNEL BUOY</u> |                           |                            |              |                       |                     |
| ✓ N "2"                                      | 37° 43.38'N               | 75° 51.07 <sup>5</sup> 'W  | 11 ft.       | 1t purple<br>1a blue  | 5/15/58<br>10/15/57 |
| ✓ C "3"                                      | 37° 43.32'N               | 75° 50.83'W                | 12 ft.       | 2t purple<br>2a blue  | 5/15/58<br>10/15/57 |
| ✓ N "4"                                      | 37° 43.29'N               | 75° 50.57 <sup>7</sup> 'W  | 10 ft.       | 3t purple<br>25a blue | 5/15/58<br>10/15/57 |
| ✓ C "5" <i>Not charted Nov</i>               | 37° 43.33'N               | 75° 50.02 <sup>51</sup> 'W | 5 ft.        | 4t purple             | 5/15/58             |
| ✓ C "5A"                                     | 37° 43.18'N               | 75° 50.30'W                | 15 ft.       | 5t purple<br>41a blue | 5/15/58<br>10/15/57 |
| ✓ N "10"                                     | 37 43.53'N                | 75 48.93'W                 | 13 ft.       | 40x blue              | 4/21/58             |
| ✓ N "30"                                     | 37 42.74                  | 75 45.87                   | 8 ft.        | 18N blue              | 4/24/58             |

| <u>AID</u>                        | <u>LATITUDE</u> | <u>LONGITUDE</u> | <u>DEPTH</u>       | <u>POS. NO.</u>        | <u>DATE</u>       |
|-----------------------------------|-----------------|------------------|--------------------|------------------------|-------------------|
| PUNGOTEAGUE CREEK<br>CHANNEL BUOY |                 |                  |                    |                        |                   |
| ✓ N "2"                           | 37° 39.89'N     | 75° 53.47'W      | 13 ft.             | 3k blue                | 4/20/58           |
| ✓ C "3"                           | 37° 40.25'N     | 75° 53.10'W      | 9 ft.              | 1k blue                | 4/20/58           |
| ✓ N "4"                           | 37° 40.35'N     | 75° 52.68'W      | 19 ft.             | 100q purple<br>2k blue | 5/3/58<br>4/20/58 |
| ✓ C "5"                           | 37° 40.32'N     | 75° 51.29'W      | Approx<br>12 ft.   | 9<br>98q purple        | 5/3/58            |
| ✓ N "6"                           | 37° 40.46'N     | 75° 51.99'W      | Approx<br>15 ft.   | 100<br>99q purple      | 5/3/58            |
| ✓ N "8"                           | 37° 40.38'N     | 75° 50.85'W      | Approx 15<br>7 ft. | 98<br>97q purple       | 5/3/58            |

LANDMARKS FOR CHARTS:

No new landmarks are recommended for charting within the area of this survey. ✓

GEOGRAPHIC NAMES:

✓ Geographic names as shown on Manuscripts T-11235, T-11236 and T-11237 are adequate and no additional names are recommended. ✓

MISCELLANEOUS:

Fathometer corrections were determined from bar checks taken during the progress of field work. (See Fathometer Report, Ship COWIE, 1958 Field Season, 1957 Field Season.) ✓

TABULATION OF APPLICABLE DATA:

DATA

Tide Marigrams, Watts Island  
Tide Marigrams, Onancock Creek  
Tide Marigrams, Pungoteague Creek  
Fathometer Report, Ship COWIE, 1958-1957  
Boat Sheet CO-1257  
Boat Sheet CO-1257A  
Sounding Volumes 1 through 25  
Fathograms, a-day through q-day, Launch 178  
Manuscripts, T-11235, T-11236 and T-11237

DATE FORWARDED TO  
WASHINGTON OFFICE

10/31/57  
5/9/58 and 6/27/58  
5/9/58 and 6/27/58  
11/20/57 & 12/23/58 ✓

APPROVED AND FORWARDED:

*M. E. Wennermark*  
M. E. Wennermark  
CDR., C&GS.  
Comdg. Ship COWIE

Respectfully submitted

*Clinton D. Upham*  
Clinton D. Upham  
LT., C&GS.

STATISTICS FOR

HYDROGRAPHIC SURVEY H - 8445

(FIELD NO. CO - 1257)

1957 - 1958 FIELD SEASONS

U. S. C & G. S. Ship COWIE

PROJECT NO. CS - 287

| <u>VOL. NO.</u> | <u>DAY LETTER</u> | <u>DATE</u> | <u>NO. OF POSITIONS</u> | <u>NAUTICAL MI. SOUNDING</u> |
|-----------------|-------------------|-------------|-------------------------|------------------------------|
| 1 & 2           | a (blue)          | 10/15/57    | 213                     | 28.8                         |
| 2               | b (blue)          | 10/16/57    | 216                     | 34.3                         |
| 3               | c (blue)          | 10/17/57    | 194                     | 26.5                         |
| 4               | d (blue)          | 4/5/58      | 98                      | 12.2                         |
| 4 & 5           | e (blue)          | 4/7/58      | 188                     | 29.1                         |
| 5               | f (blue)          | 4/8/58      | 78                      | 11.8                         |
| 6               | g (blue)          | 4/10/58     | 89                      | 10.2                         |
| 6 & 7           | h (blue)          | 4/18/58     | 197                     | 29.8                         |
| 7 & 8           | j (blue)          | 4/19/58     | 174                     | 25.3                         |
| 8 & 9           | k (blue)          | 4/20/58     | 170                     | 20.6                         |
| 9               | l (blue)          | 4/21/58     | 75                      | 7.6                          |
| 9 & 10          | m (blue)          | 4/22/58     | 66                      | 5.8                          |
| 10              | n (blue)          | 4/24/58     | 55                      | 4.3                          |
| 10              | p (blue)          | 5/7/58      | 24                      | 2.7                          |
| 10 & 11         | q (blue)          | 5/31/58     | 151                     | 17.0                         |
| 12              | a (purple)        | 10/15/57    | 105                     | 12.4                         |
| 12              | b (purple)        | 10/5/57     | 38                      | 3.0                          |
| 12 & 13         | c (purple)        | 10/7/57     | 77                      | 10.2                         |
| 13              | d (purple)        | 10/8/57     | 130                     | 11.5                         |
| 14              | e (purple)        | 10/16/57    | 164                     | 16.9                         |
| 14 & 15         | f (purple)        | 10/17/58    | 113                     | 13.0                         |
| 16              | g (purple)        | 4/10/58     | 60                      | 5.5                          |
| 16              | h (purple)        | 4/18/58     | 126                     | 12.1                         |
| 16 & 17         | j (purple)        | 4/19/58     | 152                     | 13.8                         |
| 17              | k (purple)        | 4/20/58     | 113                     | 9.4                          |
| 17              | l (purple)        | 4/21/58     | 73                      | 5.7                          |
| 18              | m (purple)        | 4/22/58     | 131                     | 17.6                         |
| 18              | n (purple)        | 4/24/58     | 138                     | 13.5                         |
| 19              | p (purple)        | 5/2/58      | 171                     | 20.1                         |
| 19              | q (purple)        | 5/3/58      | 100                     | 10.3                         |
| 20              | r (purple)        | 5/4/58      | 127                     | 9.9                          |
| 20              | s (purple)        | 5/7/58      | 37                      | 4.5                          |
| 20 & 21         | t (purple)        | 5/15/58     | 85                      | 6.8                          |
| 21              | u (purple)        | 5/16/58     | 95                      | 8.7                          |
| 21              | v (purple)        | 5/17/58     | 160                     | 14.9                         |
| 22              | w (purple)        | 5/18/58     | 106                     | 12.0                         |
| 22              | x (purple)        | 5/19/58     | 101                     | 9.0                          |
| 23              | y (purple)        | 5/20/58     | 130                     | 10.9                         |
| 23              | z (purple)        | 5/28/58     | 112                     | 9.4                          |
| 24              | aa (purple)       | 5/30/58     | 112                     | 10.2                         |
| 25              | ab (purple)       | 6/18/58     | 84                      | 9.7                          |
| TOTALS          |                   |             | 4828                    | 547.0                        |

Total area of survey: 18 Sq. Naut. Mi.  
 Blue - Launch 178 - Purple - Skiff 749



HYDROGRAPHIC SURVEY H - 8445

(FIELD NO. CO - 1257)

U. S. C & G. S. Ship CONIE

1957 - 1958 FIELD SEASONS

PROJECT CS - 287

---

TIDE NOTE

Portable automatic tide gages were installed at Watts Island, Latitude  $37^{\circ} 47'54''N$ , Longitude  $75^{\circ} 33'48''W$ , Onancock, Onancock Creek, Latitude  $37^{\circ} 42'43''N$ , Longitude  $75^{\circ} 45'21''W$ , and Harborton, Pungoteague Creek, Latitude  $37^{\circ} 39'59''N$ , Longitude  $75^{\circ} 49'51''W$  and operated during the periods of field work. No time or range corrections were applied to the tidal data used in the reduction of soundings.

Tidal data from the Watts Island tide gage were used to reduce all soundings taken during the 1957 field season (The approach to Onancock Creek north of  $37^{\circ} 42.7'N$  and the entrance to Onancock Creek to Longitude  $75^{\circ} 49.2'W$ ). Mean Low Water corresponded to a staff reading of 1.8 feet.

Tidal data from the Onancock Creek tide gage were used to reduce all soundings in Onancock Creek and its tributaries east of Longitude  $75^{\circ} 49.2'W$ . Mean Low Water corresponded to a staff reading of 1.1 ft.

Tidal data from the Pungoteague Creek tide gage were used to reduce all soundings over the remainder of the survey area. Mean Low Water corresponded to a staff reading of 1.4 ft.

d-day - can Blue

0 - 7.5 0

7.6 - 12.5 +0.2

12.6 - 17.5 +1.1

17.6 - 22.5 -0.2

22.6 - 27.5 -0.2

27.6 - 32.5 -0.5

1957 - 1958 FIELD SEASONS

U. S. C & G. S. Ship COWIE

PROJECT - 287

ABSTRACT OF FATHOMETER CORRECTIONS

LAUNCH 178

| <u>DAY</u>     | <u>FATH. DEPTH<br/>(FT)</u> | <u>FATH. CORR'N<br/>(FT)</u> | <u>PHASE CORR'N<br/>A-B SCALE (FT)</u> | <u>PHASE CORR'N<br/>B-C SCALE (FT)</u> |
|----------------|-----------------------------|------------------------------|--|--|
| a              | 0.0 - 35.0                  | 0.0                          |  |  |
|                | 35.5 - 40.0                 | +0.2                         |  |  |
|                | 40.0 - 45.5                 | + 0.4                        | 0.0                                    | + 0.6                                  |
|                | 46.0 - 55.0                 | + 0.6                        |  |  |
| b              | 0.0 - 12.5                  | 0.0                          |  |  |
|                | 13.0 - 23.0                 | + 0.2                        |  |  |
|                | 23.5 - 25.0                 | + 0.4                        |  |  |
|                | 25.5 - 27.5                 | + 0.6                        |  |  |
|                | 28.0 - 32.5                 | + 0.8                        | 0.0                                    | + 1.0                                  |
| 33.0 - 50.0    | + 1.0                       |                              |  |  |
| c              | 5.5 - 50.0                  | 0.0                          | 0.0                                    | 0.0                                    |
| d<br>thru<br>q | 0.0 - 4.5                   | + 0.4                        |  |  |
|                | 4.6 - 7.5                   | + 0.6                        |  |  |
|                | 7.6 - 11.2                  | + 0.8                        |  |  |
|                | 11.3 - 15.0                 | + 1.0                        |  |  |
|                | 15.1 - 21.8                 | + 0.8                        |  |  |
|                | 21.9 - 25.9                 | + 0.6                        |  |  |
| 26.0 - 29.5    | + 0.4                       |                              |  |  |

*Bar check revision to correctors.  
d day corr. Applied to satisfy junction  
with H-8446 by DJK.*

| <i>depth</i> | <i>Corr-ft</i> |
|--------------|----------------|
| 0-7.5        | 0              |
| 7.6-12.5     | +0.2           |
| 12.6-17.5    | +0.1           |
| 17.6-22.5    | -0.2           |
| 22.6-27.5    | -0.2           |
| 27.6-32.5    | -0.5           |

HYDROGRAPHIC SURVEY H-8445

(FIELD NO. CO-1257)

Ship COWIE

1957 - 1958 FIELD SEASONS

PROJECT CS-287

---

APPROVAL SHEET

The boat sheet was inspected daily and the hydrographic records periodically during the progress of fieldwork. The boat sheet and records are approved.

The survey, which is considered complete and adequate to supersede prior surveys for charting, is herewith approved.

*M. E. Wennermark*

M. E. Wennermark  
CDR., C&GS  
Comdg., Ship COWIE

LIST OF CONTROL STATIONS

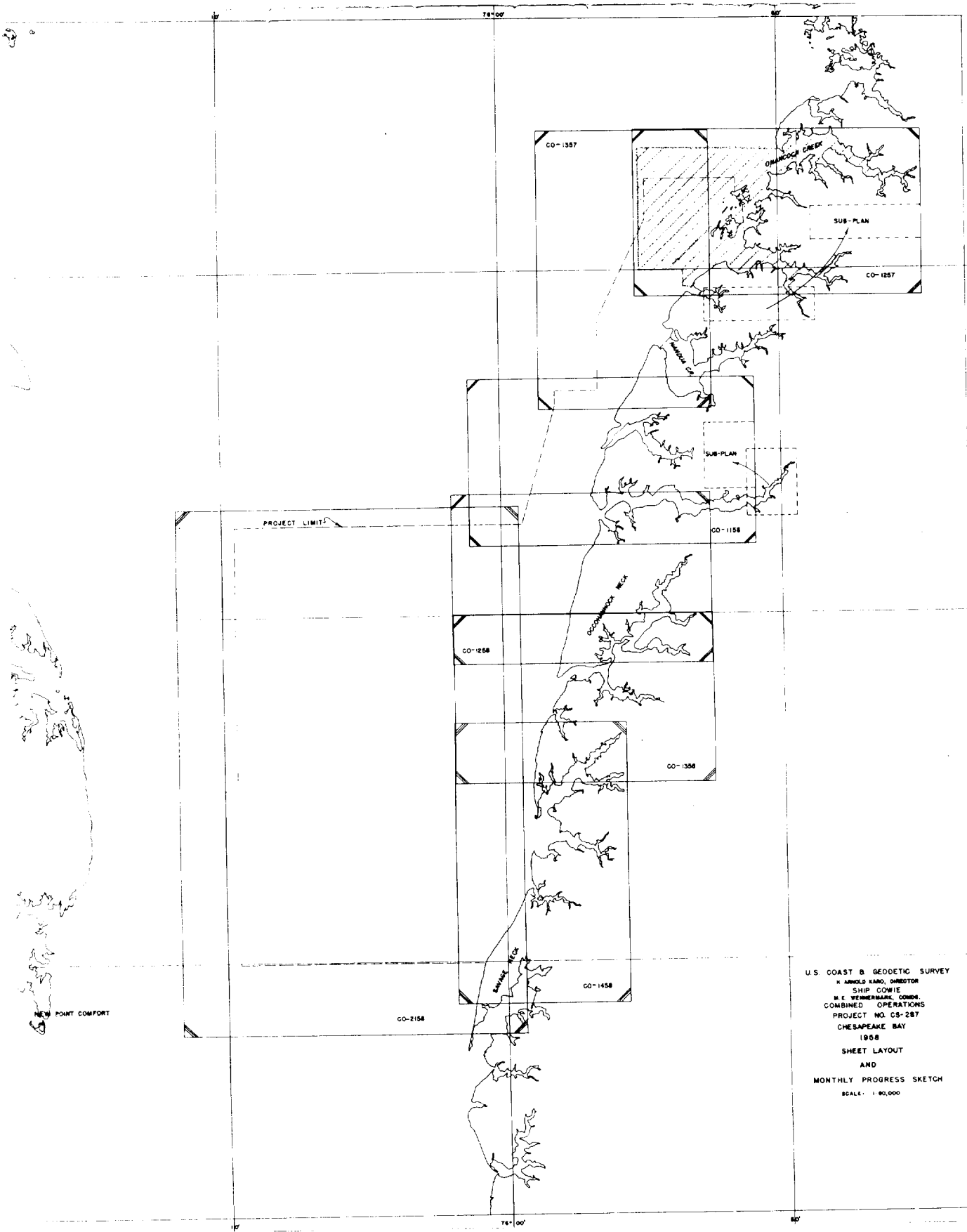
| <u>NAME</u>           | <u>ORIGIN</u> | <u>NAME</u>          | <u>ORIGIN</u> |
|-----------------------|---------------|----------------------|---------------|
| Abe                   | T-11235       | Dip                  | T-11236       |
| Ace                   | T-11235       | Doc                  | T-11235       |
| Act                   | T-11235       | Dog                  | T-11235       |
| Aha                   | T-11235       | Doll                 | T-11237       |
| Aim                   | T-11235       | Don                  | T-11235       |
| Alp                   | T-11237       | Dot(Onancock Cr.     |               |
| Ann                   | T-11235       | Channel Daybeacon    |               |
| Apt                   | T-11237       | 11, 1953)            | T-11235       |
| Art                   | T-11235       | Dud                  | T-11235       |
| Ask                   | T-11235       | Dun                  | T-11237       |
| Avon                  | T-11237       | Ear                  | T-11237       |
| Azo                   | T-11237       | Eat                  | T-11235       |
| Bad                   | T-11235       | Eek(Pungoteague Cr.  |               |
| Bag                   | T-11235       | Channel Daybeacon    |               |
| Bah                   | T-11235       | 14, 1953)            | T-11237       |
| Bat                   | T-11235       | Eel                  | T-11235       |
| Bib                   | T-11235       | Egg                  | T-11235       |
| Bil(Onancock Cr.      |               | Ego                  | T-11235       |
| Channel Day Beacon    |               | Elf                  | T-11235       |
| 22, 1953)             | T-11235       | Elm                  | T-11235       |
| Boa                   | T-11237       | Emo                  | T-11237       |
| Bon                   | T-11235       | End                  | T-11235       |
| But                   | T-11235       | Eon                  | T-11235       |
| Cab                   | T-11236       | Eric                 | T-11237       |
| Cam                   | T-11237       | FAIR, 1953(Marked)   | T-11235       |
| Cane                  | T-11237       | Far                  | T-11235       |
| Car                   | T-11235       | Fat                  | T-11237       |
| Cat                   | T-11235       | Fed                  | T-11235       |
| Chan(Pungoteague Cr.  |               | Fez                  | T-11235       |
| Channel Light 9,1953) | T-11237       | Fig                  | T-11237       |
| CLAM(Marked),1953     | T-11235       | Fog                  | T-11235       |
| Con(Pungoteague Cr.   |               | Fop                  | T-11237       |
| Channel Day Beacon    |               | For                  | T-11237       |
| 11, 1953)             | T-11237       | Gab                  | T-11235       |
| Cue                   | T-11237       | Gad                  | T-11235       |
| Cup                   | T-11235       | Gal                  | T-11235       |
| Dam                   | T-11235       | GALE,1953(Marked)    | T-11235       |
| Day(Onancock Cr.      |               | Gam                  | T-11237       |
| Channel Daybeacon     |               | Geo                  | T-11237       |
| 5, 1957)              | T-11235       | Gig                  | T-11235       |
| Deb                   | T-11235       | Gin                  | T-11235       |
| Ded                   | T-11235       | Got(Pungoteague Cr.  |               |
| Dif                   | T-11237       | Channel Light, 1953) | T-11236       |
| Dim                   | T-11235       |                      |               |

LIST OF CONTROL STATIONS (CONTINUED)

| <u>NAME</u>  | <u>ORIGIN</u> | <u>NAME</u>   | <u>ORIGIN</u> |
|--|---------------|---|---------------|
| Gue (Pungoteague Cr.<br>Channel Daybeacon<br>10, 1953) | T-11237       | Met   | T-11235       |
| Hat  | T-11235       | Moo   | T-11235       |
| Hem  | T-11235       | Nat   | T-11235       |
| His  | T-11235       | Nay   | T-11237       |
| Had  | T-11235       | Nel (Pungoteague Cr.<br>Channel Daybeacon<br>7, 1953) | T-11237       |
| Hoe  | T-11235       | Ned   | T-11235       |
| Hop  | T-11237       | New   | T-11235       |
| How  | T-11237       | Nil (Onancock Cr.<br>Channel Daybeacon<br>18, 1953)   | T-11235       |
| Ice  | T-11235       | Nip   | T-11237       |
| Ida  | T-11237       | Nit   | T-11237       |
| Ink  | T-11237       | Nix   | T-11235       |
| Irk  | T-11237       | Non   | T-11235       |
| Its  | T-11235       | Now   | T-11235       |
| Ivy  | T-11235       | Nux   | T-11237       |
| Jap  | T-11235       | Obi   | T-11235       |
| Jaw  | T-11235       | Odd   | T-11237       |
| Jay  | T-11235       | Off   | T-11235       |
| Jib  | T-11237       | Ola   | T-11235       |
| Jim  | T-11235       | Old   | T-11235       |
| Job  | T-11235       | ONAN ONANCOCK CREEK LIGHT, 1953                       |               |
| Joe  | T-11235       | Orb   | T-11237       |
| Joe  | T-11235       | Pal (Onancock Cr.<br>Channel Daybeacon<br>21, 1953)   | T-11235       |
| Jog  | T-11235       | Par   | T-11235       |
| Jot  | T-11235       | Paw   | T-11235       |
| Joy  | T-11236       | Peg   | T-11235       |
| JUT, 1953 (Marked)                                     | T-11235       | Pep   | T-11235       |
| Keb  | T-11235       | Pet   | T-11237       |
| Ked  | T-11237       | Pie   | T-11237       |
| Keh  | T-11235       | Pier  | T-11235       |
| Key  | T-11235       | Pix   | T-11237       |
| Kid  | T-11237       | Pug   | T-11237       |
| Kim  | T-11235       | PUNG PUNGOTEAGUE CREEK<br>BEACON, 1911                |               |
| Lad  | T-11235       | Quo   | T-11235       |
| Lam  | T-11237       | Rag   | T-11237       |
| Lax  | T-11237       | Ram   | T-11237       |
| Lay  | T-11235       | Rev (Onancock Cr.<br>Channel Daybeacon<br>12-A, 1953) | T-11235       |
| Leo  | T-11235       | Rig   | T-11235       |
| Let  | T-11235       | Roy   | T-11237       |
| Lip  | T-11235       |   |               |
| Lix  | T-11235       |   |               |
| Liz  | T-11237       |   |               |
| Log  | T-11235       |   |               |
| Mag  | T-11237       |   |               |
| Mal  | T-11235       |   |               |
| Male   | T-11236       |   |               |
| Man  | T-11237       |   |               |
| Mar  | T-11235       |   |               |

LIST OF CONTROL STATIONS (CONTINUED)

| <u>NAME</u>            | <u>ORIGIN</u> | <u>NAME</u>       | <u>ORIGIN</u> |
|------------------------|---------------|-------------------|---------------|
| Rue                    | T-11237       | Wee(Onancock Cr.  | ✓             |
| Rye                    | T-11237       | Channel Daybeacon |               |
| Sad                    | T-11235       | 13, 1957)         | T-11235       |
| Sag                    | T-11235       | Wen               | T-11237       |
| Set                    | T-11237       | Who               | T-11235       |
| Sic                    | T-11237       | Why(Onancock Cr.  |               |
| Sis(Onancock Cr.       |               | Channel Daybeacon |               |
| Channel Daybeacon      |               | 16, 1953)         | T-11235       |
| 12, 1953)              | T-11235       | WIND,1953(Marked) | T-11235       |
| Sol                    | T-11235       | Wit               | T-11235       |
| Sop                    | T-11237       | Yak(Onancock Cr.  |               |
| Sub                    | T-11237       | Channel Daybeacon |               |
| Tap                    | T-11237       | 20, 1953)         | T-11235       |
| Tax                    | T-11235       | Yam               | T-11235       |
| Tea(Pungoteague Cr.    |               | Yes               | T-11235       |
| Channel Daybeacon      |               | Yet               | T-11235       |
| 12, 1953)              | T-11237       | Zag               | T-11235       |
| Thy                    | T-11237       | Zak(Onancock Cr.  |               |
| Tom                    | T-11237       | Channel Daybeacon |               |
| Toy                    | T-11237       | 25, 1953)         | T-11235       |
| Try Hydro. Front Vo. 4 |               | Zig               | T-11235       |
| Use                    | T-11235       | Zoo               | T-11237       |
| Vex                    | T-11235       |                   |               |
| Via                    | T-11237       |                   |               |
| Vim                    | T-11237       |                   |               |
| Wad(Onancock Cr.       |               |                   |               |
| Channel Daybeacon      |               |                   |               |
| 14, 1957)              | T-11235       |                   |               |
| War                    | T-11237       |                   |               |
| Was                    | T-11235       |                   |               |



U.S. COAST & GEODETIC SURVEY  
 H. ANGLIS RAND, DIRECTOR  
 SHIP COWIE  
 W. E. VERMILION, COMMANDER  
 COMBINED OPERATIONS  
 PROJECT NO. CS-287  
 CHESAPEAKE BAY  
 1908  
 SHEET LAYOUT  
 AND  
 MONTHLY PROGRESS SKETCH  
 SCALE - 1:80,000



NORFOLK PROCESSING OFFICE  
ADDENDUM  
To Accompany

HYDROGRAPHIC SURVEY H-8445 (Co-1257)

GENERAL

The work of smooth plotting this survey was divided between personnel of Ship Cowie and the Norfolk Processing Office. Cowie personnel accomplished all preliminary work on the smooth sheet and plotted the work of Launch 178, consisting of volumes 1 thru 12. This Office plotted the remaining 13 volumes, penciled the soundings and depth curves, and accomplished the final detail work.

This appears to be an excellent basic survey and no difficulties were experienced with the smooth plot. Soundings are in good agreement at crossings.

Norfolk, Va.  
17 February 1960

Respectfully submitted,

*Hugh L. Proffitt*

Hugh L. Proffitt  
Cartographer

GEOGRAPHIC NAMES

Survey No. H-8445

| Name on Survey                               | Source        |   |   |   |   |   |   |   |   |     | No. |    |
|--|---------------|---|---|---|---|---|---|---|---|-----|-----|----|
|  | A             | B | C | D | E | F | G | H | K | BGN |     |    |
| Butcher Creek                                | x             |   |   |   |   |   |   |   |   | x   |     | 1  |
| Cedar Creek                                  | x             |   |   |   |   |   |   |   |   |     |     | 2  |
| Chesapeake Bay (Title)                       | X             |   |   |   |   |   |   |   |   | X   |     | 3  |
| Finneys Creek                                | x             |   |   |   |   |   |   |   |   |     |     | 4  |
| Finneys Island                               | X             |   |   |   |   |   |   |   |   |     |     | 5  |
| Matchotank Creek                             | x             |   |   |   |   |   |   |   |   |     |     | 6  |
| Parkers Creek                                | x             |   |   |   |   |   |   |   |   |     |     | 7  |
| Puncoteague Creek                            | x             |   |   |   |   |   |   |   |   | x   |     | 8  |
| Onancock Creek                               | x             |   |   |   |   |   |   |   |   |     |     | 9  |
| Sluitkill Neck                               | x             |   |   |   |   |   |   |   |   | x   |     | 10 |
| Taylor Creek                                 | x             |   |   |   |   |   |   |   |   |     |     | 11 |
| Thicket Point                                | x             |   |   |   |   |   |   |   |   |     |     | 12 |
| Underhill Creek                              | x             |   |   |   |   |   |   |   |   | x   |     | 13 |
| Ware Point                                   | x             |   |   |   |   |   |   |   |   |     |     | 14 |
| TIDE STA.                                    |               |   |   |   |   |   |   |   |   |     |     |    |
| Watts Island                                 | x             |   |   |   |   |   |   |   |   | x   |     | 15 |
|  |               |   |   |   |   |   |   |   |   |     |     | 16 |
| Additional names appear on charts 568 & 1223 |               |   |   |   |   |   |   |   |   |     |     | 17 |
|  |               |   |   |   |   |   |   |   |   |     |     | 18 |
| <i>Titlow Creek</i>                          |               |   |   |   |   |   |   |   |   |     |     | 19 |
| <i>Leatherberry Creek</i>                    |               |   |   |   |   |   |   |   |   |     |     | 20 |
| <i>Tarkill Creek</i>                         |               |   |   |   |   |   |   |   |   |     |     | 21 |
| <i>Horse Hole Creek</i>                      |               |   |   |   |   |   |   |   |   |     |     | 22 |
| <i>Buckland Gut</i>                          |               |   |   |   |   |   |   |   |   |     |     | 23 |
| <i>Hancock Gut</i>                           |               |   |   |   |   |   |   |   |   |     |     | 24 |
| <i>Warehouse Prong</i>                       |               |   |   |   |   |   |   |   |   |     |     | 25 |
| <i>Lares Gut</i>                             |               |   |   |   |   |   |   |   |   |     |     | 26 |
| <i>Parkers I. (over)</i>                     | <i>(over)</i> |   |   |   |   |   |   |   |   |     |     | 27 |

*George M. Bull*  
GEOGRAPHIC NAMES SECTION  
16 MARCH 1960

TICKET CR.

JOYNES BRANCH

NORTH BRANCH

POPLAR COVE

OIVANCOCK

HARBORTON

Hydrographic Surveys (Chart Division)

HYDROGRAPHIC SURVEY NO. 8445.....

Records accompanying survey: Smooth sheets .1...;  
 boat sheets .1 (2 parts); sounding vols. .25...; wire drag vols. ....;  
 Descriptive Reports .1...; graphic recorder envelopes .7...;  
 special reports, etc. ....  
 .....

The following statistics will be submitted with the cartographer's report on the sheet:

|   |      |       |
|---|------|-------|
| Number of positions on sheet                            |      | 4845  |
| Number of positions checked                             |      | ...38 |
| Number of positions revised                             |      | ...2  |
| Number of soundings revised<br>(refers to depth only)   |      | ...6* |
| Number of soundings erroneously spaced                  |      | ...7  |
| Number of signals erroneously plotted<br>or transferred |      | ...0  |
| Topographic details                                     | Time | ...5  |
| Junctions   | Time | ...0  |
| Verification of soundings from<br>graphic record        | Time | ...2  |
| Special adjustments                                     | Time | ...0  |

Verification by David Keeler..... Total time 394.. Date Aug. 24, '60  
 Reviewed by Jim Zerkund..... Time 38.. Date 10-28-60  
 \* revision during junction application by DJ Kennon (see H-8446)



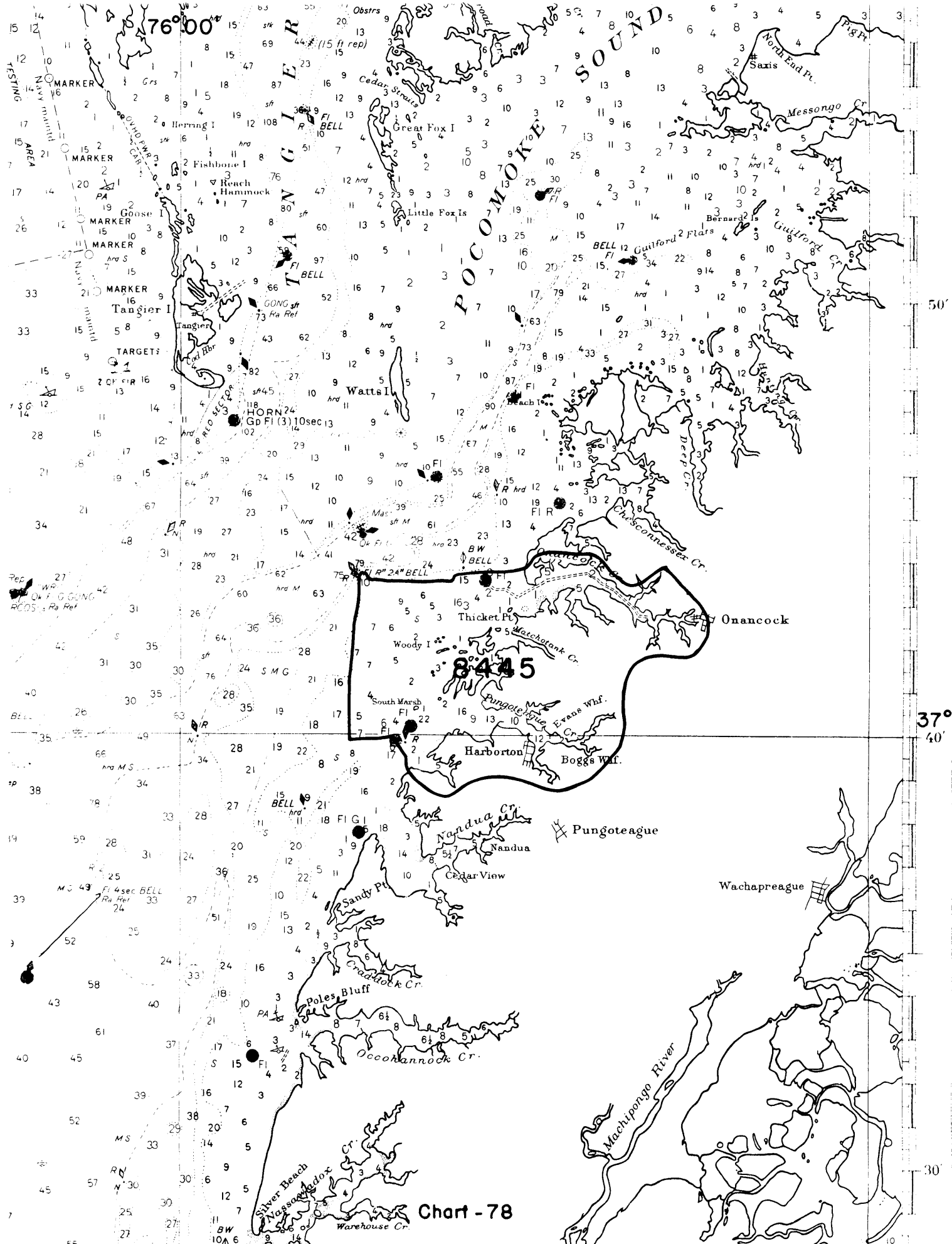


Chart - 78

OFFICE OF CARTOGRAPHY  
REVIEW SECTION -- NAUTICAL CHART DIVISION  
REVIEW OF HYDROGRAPHIC SURVEY

REGISTRY NO. H-8445

FIELD NO. CO-1257

Virginia, Chesapeake Bay, Onancock Creek to Butcher Creek

SURVEYED: Oct. 1957 - June 1958

SCALE: 1:10,000

PROJECT NO. CS-287

SOUNDINGS: 808 Depth Recorder  
Sounding Pole  
Leadline

CONTROL: Sextant fixes  
on shore signals

Chief of Party ----- R. A. Earle; M. E. Wennermark  
Surveyed by ----- R. C. Darling; C. D. Upham  
R. F. Schoolbred; J. P. Porcher  
Protracted by ----- R. L. Newsome; A. G. Atwill  
Soundings plotted by ----- A. G. Atwill  
Verified and inked by ----- H. Keeler  
Reviewed by ----- I. M. Zeskind      DATE 10-27-60  
Inspected by ----- R. H. Carstens

1. Shoreline and Control

The shoreline originates with unreviewed photogrammetric surveys T-11235, T-11236 and T-11237 of 1953-55-56.

The source of the control is given in the Descriptive Report.

2. Sounding Line Crossings

The sounding line crossings are in good agreement.

3. Depth Curves and Bottom Configuration

The usual depth curves supplemented by the 3-ft. depth curve were adequately delineated, except close inshore where because of the small tide range it was not always practicable to develop the low-water line.

This is a survey of the east shore of Chesapeake Bay between Ware Point and Hacks Neck and several tributary Creeks, the largest of which are Pungoteague Creek and Onancock Creek. The bottom is fairly irregular with shoals, flats, deeps and spits contributing to the irregularity.

4. Junctions with Contemporary Surveys

Junctions with H-8406 (1956-57) and H-8408 (1957) on the north and with H-8446 (1957-58) on the west and south will be considered in the reviews of those surveys.

5. Comparison with Contemporary Surveys

- A.    H-252 (1849-51), 1:40,000        H-993 (1869), 1:20,000  
      H-332 (1850-68), 1:20,000        H-1963 (1881), 1:20,000

These surveys together cover the area of the present survey. A comparison between the prior and present surveys reveals in general, the present depths to be 1-3 ft. shoaler than the prior depths. However, in several areas where erosion has occurred the present depths are greater than the prior depths, as for example in the vicinity of Lat. 37°42.0', Long. 75°52.5' where several islets formerly bared at high water are now covered by 1-4 ft. of water. The natural channel at the entrance to Pungoteague Creek has shifted about 100 meters southeastward with the resultant changes in depths. Both accretion and erosion of the shoreline has also occurred, as for example, in the vicinity of Lat. 37°42.4', Long. 75°50.3' where the shoreline has eroded as much as 100 meters. These changes in shoreline and bottom configuration may be attributed to natural and artificial causes, such as dredging operations, the action of the current on the bottom and the depositing of sediment from the tributaries. Some of the changes in depths may also be attributed to the fact that the soundings on the prior surveys were obtained by leadline, whereas the depth recorder was used in conjunction with the leadline and sounding pole to obtain soundings on the present survey. Some of the differences in shoreline may be attributed to the interpretation of the high water line in marshy areas on prior and contemporary topographic surveys.

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

- B.    H-3702 (1914), 1:20,000  
      H-3703 (1914), 1:20,000

These surveys together cover the area of the present survey. A comparison between the prior and present surveys reveals the bottom in general has shoaled from 1-4 ft. in the bay area, and 2-3 ft. in the creeks. In general only minor changes in shoreline are noted. Within the creeks, little change in the location of the natural channels is noted, except in



the vicinity of Lat.  $37^{\circ}40.4'$ , Long.  $75^{\circ}50.8'$  in Pungoteague Creek where the channel has shifted southward about 40 meters. These changes in bottom configuration are attributed to the causes given in paragraph A above.

The 4-ft. and 5-ft. soundings charted in Lat.  $37^{\circ}40.88'$ , Long.  $75^{\circ}54.36'$  and Lat.  $37^{\circ}40.32'$ , Long.  $75^{\circ}54.67'$  from H-3702 (1914), fall on the present survey in areas which have eroded to 7-9 ft. and 10-11 ft. respectively. The prior depths are considered to no longer exist and should, therefore, be deleted from the chart.

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

6. Comparison with Chart 568 (Latest print date 7-11-60)  
1223 (Latest print date 7-25-60)

A. Hydrography

The charted hydrography originates principally with prior surveys H-3702 and H-3703 of 1914 previously discussed which need no further consideration, supplemented by critical depths from the boat sheet (Bp. 55952) and the smooth sheet of the present survey prior to verification and review.

The wreck bearing 4 ft. at MHW located on the present survey in Lat.  $37^{\circ}39.97'$ , Long.  $75^{\circ}49.07'$  has not been charted.

The present survey is adequate to supersede the charted hydrography within the common area.

B. Dredged Channels

Present survey depths in Onancock Creek Channel are in harmony with the charted controlling depths (U.S. Corps of Engineers surveys of 1959, Bps. 58352-53-54). The charted information is subsequent to and supersedes the present survey.

C. Aids to Navigation

The present survey positions of aids to navigation are in substantial agreement with the charted positions and adequately mark the features intended, except as follows:

1. Black can buoy C"3" located on the present survey in Onancock Creek in Lat.  $37^{\circ}43.31'$ , Long.  $75^{\circ}50.82'$  falls about 75 meters south southeast of its charted position. The charted position better marks the northern limits of the dredged channel.

2. Buoy N"4" located on the present survey in Lat.  $37^{\circ}40.33'$ , Long.  $75^{\circ}52.69'$  falls about 240 meters west southwestward from its charted position. In its charted position it better marks the feature intended.

Attention is also directed to the following:

1. The nomenclature of the buoys shown on the present survey was subsequently changed on the chart in accordance with HON to M 24, 1960.

2. Beacon "7" located on the present survey in Lat.  $37^{\circ}43.18'$ , Long.  $75^{\circ}50.20'$  was subsequently replaced by lighted beacon 9 in accordance with HON to M 24, 1960.

3. Beacon No. 12 located on the present survey in Lat.  $37^{\circ}43.67'$ , Long.  $75^{\circ}48.28'$  was subsequently replaced by beacon no. 14 in accordance with HON to M 24, 1960.

4. Black Buoy C"5" located on the present survey in Lat.  $37^{\circ}43.33'$ , Long.  $75^{\circ}50.51'$  should be disregarded. This buoy is located about 10 meters east of Beacon "5". The aid proofs as well as the chart standards of this area do not indicate the stationing of buoy C"5". The buoy was probably temporarily established and was, therefore, not reported in the H.O. Notice to Mariners.

5. Beacon No. 18 charted in Lat.  $37^{\circ}43.57'$ , Long.  $75^{\circ}48.07'$  from chart letter 420 (1956) is designated as Beacon No. 14 on the present survey, where it is located about 20 meters southeast of its charted position. The present survey position of this beacon originates with a black line print of air photographic survey T-11235 of 1953-55-56 where its location was revised by the field party of the present hydrographic survey. The charted position of Beacon No. 18 should be revised to agree with the position shown on the present survey.

6. Beacon No. 19 charted in Lat.  $37^{\circ}43.61'$ , Long.  $75^{\circ}47.98'$  from chart letter 420 (1956) is designated as Beacon No. 13 on the present survey, where it is located about 80 meters westerly of its charted position. The present survey position of this beacon originates with a black line print of air photographic survey T-11235 of 1953-55-56, where its location was revised by the field party of the present hydrographic survey. The charted position of Beacon No. 19 should be revised to agree with the position shown on the present survey.

7. The nomenclature of aids to navigation in Onancock Creek as shown on the present survey was revised subsequent to the present survey to that shown on the charts in accordance with HON to M 24, 1960.

7. Condition of Survey

- a. The Descriptive Report and sounding records are complete and comprehensive.
- b. The smooth plotting was accurately done.
- c. Several unsupported shoal soundings which are inconsistent with adjoining depths were not investigated in the field. These soundings are specifically listed under paragraph 9 below.

8. Compliance with Project Instructions

The survey adequately complies with the Project Instructions, except as noted in paragraphs 7c and 9.

9. Additional Field Work Recommended

The present survey is considered basic for charting. However, 2 unsupported pole soundings which were obtained off the end of piers appear inconsistent with adjoining depths. These soundings are listed below and should be confirmed by additional investigation.

Zero sounding in Lat.  $37^{\circ}39.94'$ , Long.  $75^{\circ}49.06'$   
2-ft. sounding in Lat.  $37^{\circ}43.26'$ , Long.  $75^{\circ}47.47'$

Examined and Approved:

*J. E. Waugh*  
7/25/61  
Chief,  
Nautical Chart Division

*W. Richards*  
Projects Officer  
Operations Division

*J. I. Sarman*  
Assistant Director,  
Office of Cartography

*K. A. Crosby*  
Assistant Director,  
Office of Oceanography



