

8447

246

Diag. Cht. No. 78-3.

Form 504 U. S. DEPARTMENT OF COMMERCE COAST AND GEODETIC SURVEY DESCRIPTIVE REPORT	
<i>Type of Survey</i> Hydrographic	
<i>Field No.</i> CO-1158	<i>Office No.</i> H-8447
LOCALITY	
<i>State</i> Virginia	
<i>General locality</i> Chesapeake Bay	
<i>Locality</i> Sandy Point to Occohannock Creek	
<u>1958</u>	
CHIEF OF PARTY	
M. E. Wennermark	
LIBRARY & ARCHIVES	
DATE	March 9, 1960

8447

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-8447

Field No. CO-1158

State VIRGINIA

General locality CHESAPEAKE BAY

Locality SANDY POINT TO OCCOHANNOCK CREEK

Scale 1:10,000 Date of survey 4 June to 13 Sept. 1958

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

Vessel USC&GSS COWIE

Chief of party M. E. WENNERMARK

Surveyed by M. E. WENNERMARK, CLINTON D. UPHAM, JOEL P. PORCHER

Soundings taken by fathometer, ~~graphometer~~ hand lead, ~~XXX~~ POLE

Fathograms scaled by C. M. WILLIS, W. M. SMITH

Fathograms checked by C. D. UPHAM, L. L. PATE

Protracted by A.K. Schugeld

Soundings penciled by A.K. Schugeld

Soundings in ~~XXXXXX~~ feet at MLW ~~XXXXXX~~ are true depths

REMARKS: _____

UPH

NOTES TO ACCOMPANY

DESCRIPTIVE REPORT

HYDROGRAPHIC SURVEY H - 8447

(FIELD NO. CO - 1158)

PROJECT CS - 287

CHESAPEAKE BAY - EASTERN SHORE - SANDY POINT TO OCCOHANNOCK CREEK
1958 FIELD SEASON

SCALE 1:10,000

USC&GS SHIP COWIE

CDR. M. E. WENNERMARK, COMDG.

SURVEYED BY

CDR. M. E. WENNERMARK
LT. C. D. UPHAM
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-8446(CO-1357) at latitude 37° 36.5'N on the north to a junction with CO-2158(incomplete) at latitude 37° 32.2'N on the south and from a junction with H-8407(CO-2156) and H-8448(CO-2158) along a line parallel to and 2-1/2 miles off the eastern shore on the west to the eastern shore of Chesapeake Bay and the eastern extremities of Back, Craddock and Occohannock Creeks on the east.

Field work was accomplished during the 1958 field season between the following dates: 4 June and 13 September 1958. ✓

VESSELS AND EQUIPMENT:

The ship COWIE and launch 178 using 808 fathometers 120-S and 164-SFX respectively (fathometers calibrated at 820 fm/sec.) and skiff 749 using 16 foot sounding pole and standard leadline were used for all sounding on this survey. ✓

The ship COWIE was used to sound in depths generally greater than 15 feet, launch 178 sounded from depths generally greater than 4 feet to junctions with the ship's work 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. ✓

VESSELS AND EQUIPMENT (CONTINUED):

The ship COWIE operated at about 8 knots while sounding. Her turning radius, as operated, was 160 meters. ✓

Launch 178 was operated at about 6 knots while sounding and the sounding speed of skiff 749 varied with the depth of the water. No turning radius was determined for either of these vessels. Both vessels operated from the ship COWIE. ✓

TIDE AND CURRENT STATIONS:

A portable automatic tide gage was installed at Gaskins Point, Occohannock Creek (latitude 37° 33.39'N, longitude 75° 54.92'W) and operated during the period of field work. Tidal data from this station, with no time or range corrections, were used in the reduction of all soundings taken on this survey. ✓

No current stations were occupied in the area of this survey. ✓

SMOOTH SHEET:

The smooth sheet ^{was} will be plotted at a later date by personnel of the Norfolk Processing Office. ✓

CONTROL STATIONS:

The following signals were located by standard hydrographic methods:

Ale	Hot	Wed
Ann	Jap	Win
Ask	Jug	Zip
Can	Mat	Zoo
Cop	Por	Bus
Deb	Pot	Cap
Dix	Red	Doc
Ear	Rox	Wig
Fly	Sad	
Fun	Sue	
Hen	Ter	

The remainder of the control used on this survey originates from unreviewed manuscripts T-11238, T-11240 and T-11241. (1953-55) *or were located in the field on blackline prints* ✓

A list of all control stations used on this survey is appended to this report and a copy has been placed in the front of Volume 1 of the hydrographic records. ✓

SHORELINE AND TOPOGRAPHY:

The shoreline was transferred from ^{unreviewed} manuscripts T-11238, ^{T-11239} T-11240 and T-11241. (1953-55) *Topo HWL vicinity of 37°35.8' N 75°56.5' W was revised by Hydrographer.* ✓

In all areas sounding lines were run as close to the shoreline as practicable. However, due to the small tide range it was impossible to completely define the Mean Low Water Line by sounding. ✓

SOUNDINGS:

Soundings were taken with 808 fathometers, 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 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 adequate, 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 smooth plotting of the survey has been completed. *Review # 4* ✓

CROSSLINES:

Approximately 8% crosslines were run. Depths at crossing 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 the actual tides and predicted tides used to reduce boat sheet soundings. *Differences attributed to chop. Reconciled during verification.* ✓

COMPARISON WITH PRIOR SURVEYS AND CHART:

A comparison of the boat sheet with surveys H-3702 (1:20,000-1914) and H-285 (1:40,000-1851) and chart 1223 (8/22/55, 3/31/58, 7/22/58) indicates a good general agreement. Depth curves are ragged and have numerous projections which are typical of the area and agree with the prior surveys. However, boat sheet soundings indicate that the offshore end of the Occohannock Creek Entrance Channel has shifted to the south and does not agree with either prior surveys or chart. *Charted channel subsequently revised to conform to present survey information.* ✓

* Extensive changes. See review # 5 + 6.

COMPARISON WITH PRIOR SURVEYS AND CHART (CONTINUED): Review # 5 & 6

1123V

The charted 10 foot sounding at latitude 37° 33.95'N, longitude 75° 58.0'W was investigated and could not be found. However, a shoal with a least depth of 10 feet was found to exist approximately ~~200~~ meters SSW of the charted 10 foot sounding. *shoal westward 100m, 250*

The stranded wreck (P.A.) charted at latitude 37° 33.4'N, longitude 75° 57.15'W was investigated by running sounding lines over the area and observing the area at low tide. The wreck could not be found and it is recommended that it be deleted from the chart. *concur 2' shoal here*

* An uncharted 10 foot shoal was found at latitude 37° 35.13'N, longitude 75° 56.94'W.

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

DANGERS AND SHOALS:

An uncharted 10 foot shoal at latitude 37° 33.85'N, longitude 75° 58.1'W, in general depths of 13 to 17 feet, was investigated by running a closely knit system of sounding lines over the area.

* An uncharted 10 foot shoal at latitude 37° 35.13'N, longitude 75° 56.94'W was discovered while running the normal system of sounding lines.

COAST PILOT INFORMATION:

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

AIDS TO NAVIGATION:

Eleven (11) fixed aids to navigation established by the Coast Guard in Ccohannock Creek in July 1958 were located by standard hydrographic methods and reported to the Washington Office on Form 567 dated 18 July 1958. A copy of Form 567 is appended to this report.

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 "152N"	37° 32.6 ⁸ 'N	75° 59.60'W	34 35 ft.	115 A	6/4/58
				117 A	
				120 A	
				161 A	
				162 A	
				170 A	
				122 A	

Same shoal

Same shoal

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-11238, T-11240 and T-11241 are adequate and no additional names are recommended. ✓

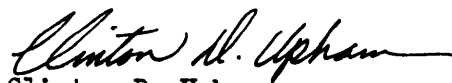
MISCELLANEOUS:

Fathometer corrections were determined from bar checks, pole-fathometer comparisons and leadline-fathometer comparisons made during the progress of field work. (See FATHOMETER REPORT, SHIP COWIE, 1958 FIELD SEASON). ✓

TABULATION OF APPLICABLE DATA:

<u>DATA</u>	<u>DATE FORWARDED TO WASHINGTON OFFICE</u>
Tide marigrams, Occohannock Creek Fathometer Report, Ship COWIE, 1958 Boat Sheet CO - 1158 Boat Sheet CO - 1158A Sounding Volumes 1 through 17 Fathograms, A through C day, Ship COWIE Fathograms, a through f day, Launch 178 Manuscripts T-11238, T-11240 and T-11241	7/17/58 & 10/3/58 12/23/58

Respectfully submitted,


Clinton D. Upham
LT., C&GS.
Comdg. Ship COWIE

STATISTICS FOR

HYDROGRAPHIC SURVEY H - 8447

(FIELD NO. CO - 1158)

PROJECT CS - 287

CHESAPEAKE BAY

USC&GS SHIP COWIE

1958 FIELD SEASON

<u>VOLUME NO.</u>	<u>DAY LETTER</u>	<u>DATE</u>	<u>NO. OF PGS.</u>	<u>NAUT. MI. SDGS.</u>
1 & 2	A (BLUE)	6/4/58	263	51.5
2 & 3	B (BLUE)	6/17/58	187	35.0
3 & 4	C (BLUE)	6/22/58	168	30.1
5	a (blue)	6/19/58	45	5.5
5	b (blue)	6/21/58	108	17.1
5 & 6	c (blue)	6/23/58	213	33.3
6,7,8	d (blue)	6/24/58	258	43.6
8 & 9	e (blue)	6/25/58	221	30.3
9	f (blue)	6/26/58	95	12.5
10	a (purple)	6/21/58	24	3.7
10	b (")	6/23/58	96	13.6
10 & 11	c (")	6/24/58	202	24.9
11	d (")	6/25/58	168	17.4
12	e (")	6/26/58	139	15.1
12	f (")	7/10/58	96	9.3
13	g (")	7/14/58	147	15.5
13 & 14	h (")	7/15/58	146	15.5
14	j (")	7/25/58	125	14.6
14	k (")	7/27/58	118	12.6
15	l (")	7/30/58	147	13.0
15	m (")	8/10/58	108	10.5
16	n (")	8/11/58	141	11.7
16 & 17	p (")	8/12/58	170	14.1
17	q (")	8/13/58	122	12.4
17	r (purple)	9/13/58	68	9.4
Totals			3,575	472.2

Total area of survey: 19.5 square nautical miles

(BLUE) - Ship COWIE (purple) - Skiff 749
 (blue) - Launch 178

TIDE NOTE FOR

HYDROGRAPHIC SURVEY H - 8447

(FIELD NO. CO - 1158)

PROJECT CS - 287

CHESAPEAKE BAY

USC&GS SHIP COWIE

1958 FIELD SEASON

A portable automatic tide gage was installed at Gaskins Point, Occohannock Creek (latitude $37^{\circ} 33.39'N$, longitude $75^{\circ} 54.92'W$) and operated during the period of field work. No time or range corrections were applied to tidal data from this station used in the reduction of soundings. Mean Low Water corresponded to a staff reading of 1.3 feet.

ABSTRACT OF FATHOMETER CORRECTIONS

FOR

HYDROGRAPHIC SURVEY H - 2447

(FIELD NO. CO - 1158)

PROJECT CS - 287

CHESAPEAKE BAY

USC&GS SHIP COWIE

1958 FIELD SEASON

SHIP COWIE *Fatho. No. 120-S*

<u>DAY</u>	<u>FATHOMETER READING (FT)</u>	<u>FATHOMETER CORRECTION (FT)</u>
A THROUGH C	10.0 to 14.4	- 0.2
	14.5 to 19.3	- 0.4
	19.4 to 25.0	- 0.6
	25.1 to 32.1	- 0.8
	32.2 to 40.7	- 1.0
	40.8 to 49.7	- 1.2

LAUNCH 178 *Fatho. No. 160-SPX*

*Unit Mounted in fish
Fish set 2 ft. below surface*

a through f	0.0 to 6.7	± 0.2
	6.8 to 15.8	± 0.4
	15.9 to 45.0	± 0.6

APPROVAL SHEET

HYDROGRAPHIC SURVEY H - 8447

(FIELD NO. CO - 1158)

PROJECT CS - 287

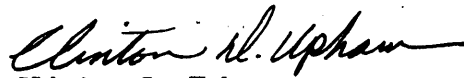
CHESAPEAKE BAY

USC&GS SHIP COWIE

1958 FIELD SEASON

The survey was conducted under the direction of CDR. M. E. Wennermark who reviewed the boat sheet and records as the work progressed. The boat sheet and records are approved.

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



Clinton D. Upham
LT., C&GS.
Comdg. Ship COWIE

LIST OF CONTROL STATIONS

FOR

HYDROGRAPHIC SURVEY H - 8447

(FIELD NO. CO - 1158)

PROJECT CS - 287

CHESAPEAKE BAY

USC&GS SHIP COWIE

1958 FIELD SEASON

<u>NAME</u>	<u>ORIGIN</u>
Ace	T - 11241
Add	T - 11238
Ale	Hydro., page 64, vol. 15
Ann(Occohannock Creek Channel Day Beacon 1-A)	Hydro., front of vol. X5
Art	T - 11240
Ask(Occohannock Creek Channel Light 1)	Hydro., page 40, vol. 13
Azo	T - 11240
Blu	T - 11238
Barn	T - 11238
Bat	T - 11241
Burn	T - 11240
Car <i>Bus (Occ. Cr. Chan Daybeacon 2)</i>	<i>Hydro. pg 40, vol 13</i> T - 11240
Can	T - 11240
Cap	Hydro., page 64, vol. 15
Cat	T - 11240
Chop	T - 11241
CHUM(1953 Marked)	T - 11238
Con	T - 11238
Cop(Occohannock Creek Channel Light 3)	Hydro., page 40, vol. 13
Cow	T - 11241
DART, 1953(Marked)	T - 11238
Deb	Hydro., pages 4,5,7,19, vol. 8
Dike	T - 11240
Dix	Hydro., page 65, vol. 12
Dob	T - 11238
Dog <i>Doc (Occ. Cr. Chan Daybeacon 4)</i>	<i>Hydro pg 41 Vol 13</i> T - 11240
Dub <i>Dud</i>	T - 11240
Ear(Occohannock Creek Channel Light 5)	Hydro., page 41, vol. 13
Fate 1953	T - 11240
Fly	Hydro., page 68, vol. 11
Fox	T - 11238
Fun	Hydro., page 68, vol. 11
Gabe	T - 11238
Gas	T - 11240
Far	T - 11238

*largely
blackline prints*

LIST OF CONTROL STATIONS (CONTINUED)

FOR

HYDROGRAPHIC SURVEY H - 8447

(FIELD NO. CO - 1158)

<u>NAME</u>	<u>ORIGIN</u>
Gem	T - 11238
Gus	T - 11241
Hen (Occohannock Creek Channel Day Beacon 11)	Hydro., page 42, vol. 13
Hod	T - 11240
Hot	Hydro., page 65, vol. 15
Ice	T - 11238
Jap	Hydro., page 68, vol. 11
Jug (Occohannock Creek Channel Day Beacon 7)	Hydro., page 41, vol. 13
Mal	T - 11238
Man	T - 11238
Mast	T - 11241
Mat (Occohannock Creek Channel Day Beacon 10)	Hydro., page 42, vol. 13
Mock	T - 11240
Morley 1953 , 1953-1942	T - 11240
Mug	T - 11241
Nan	T - 11241
Ned	T - 11238
Nix	T - 11238
Oak	T - 11238
Off	T - 11238
Old	T - 11238
Ora	T - 11240
Pal	T - 11238
Pep	T - 11238
Pier	T - 11241
Pier, 1953	T - 11240
Por Pine T-11240	Hydro., page 65, vol. 12
Pot	Hydro., page 64, vol. 15
Rat	T - 11240
Red	Hydro., page 64, vol. 15
Bridge, 1953	T - 11241
Rip	T - 11238
Rox (Occohannock Creek Channel Day Beacon 6)	Hydro., page 41, vol. 13
Rye	T - 11240
Sad	Hydro., page 65, vol. 15
Sol	T - 11240
Sue	Hydro., page 69, vol. 11
Ter	Hydro., page 65, vol. 12
Tub	T - 11240

*largely
blackline print*

LIST OF CONTROL STATIONS (CONTINUED)

FCR

HYDROGRAPHIC SURVEY H - 8447

(FIELD NO. CO - 1158)

Y

<u>NAME</u>	<u>ORIGIN</u>
Val	T - 11240
Wake <i>Wad T 11238</i>	T - 11240
Wax	T - 11238
Wed (Occohannock Creek Channel Day Beacon 9)	Hydro., page 42, vol. 13
Win	Hydro., page 65, vol. 12
Wig	Hydro., page 65, vol. 12
Woo	T - 11240
Zag	T - 11240
Zip	Hydro., page 64, vol. 15
Zoo	Hydro., page 68, vol. 11
<i>WEST, 1942</i>	<i>Triangulation</i>

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

NONFLOATING AIDS OR LANDMARKS FOR CHARTS

TO BE CHARTED }
TO BE DELETED } STRIKE OUT ONE

Ship COWIE,
102 West Olney Road, Norfolk 10, Va. 16 July 1958

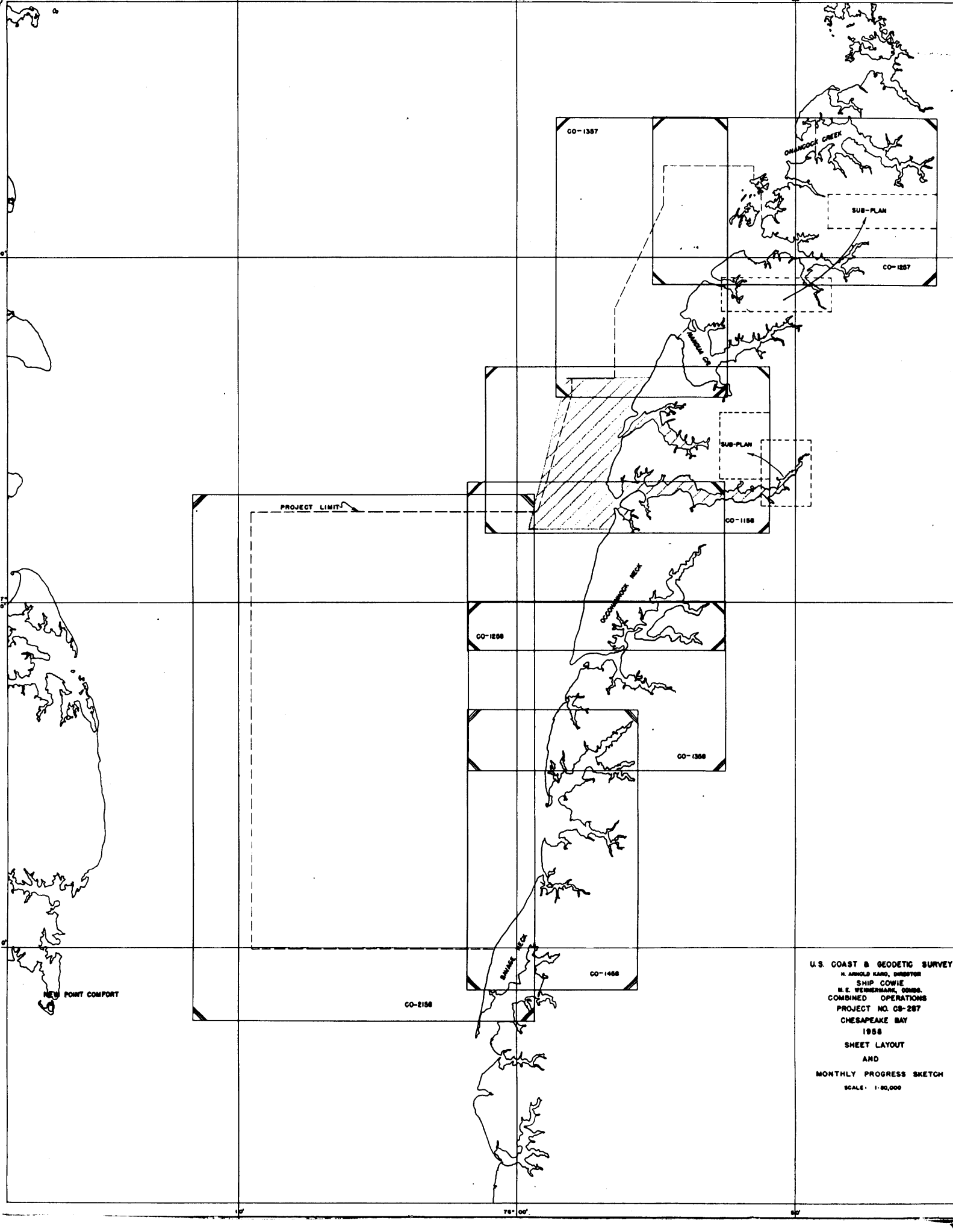
I recommend that the following objects which have ~~(insert)~~ been inspected from seaward to determine their value as landmarks be charted on *(deleted from)* the charts indicated.

The positions given have been checked after listing by Ensign W. A. Hughes

M. E. Wennermark Chief of Party.

STATE	CHARTING NAME	DESCRIPTION	SIGNAL NAME	POSITION			METHOD OF LOCATION AND SURVEY NO.	DATE OF LOCATION	HARBOR CHART	INSHORE CHART	OFFSHORE CHART	CHARTS AFFECTED
				LATITUDE		LONGITUDE						
				° ' "	D. M. METERS	° ' "							D. P. METERS	DATUM
FL W 4 Sec "1"		White light on dolphin with black daymark	H-8507 H-8447 ZIP } Ask }	37 32 ⁽⁶⁸⁴⁾ 1154	⁽⁶⁹⁶⁾ 1154	75 57 ⁽¹³⁸⁾ 1344	⁽¹²⁹⁾ 1344	N.A. 1927	Hydro. Fix Pro-	7/14/58	X	1223
FL G 4 Sec "3"		Green light on dolphin with black daymark	H-8507 H-8447 How } Cop }	37 32 ⁽¹²⁰⁰⁾ 650	⁽¹²⁰⁸⁾ 652	75 57 ⁽¹³⁵⁵⁾ 253	⁽¹²²⁰⁾ 253	"	ject CS-287	"	X	1223
FL W 4 sec "5"		White light on dolphin with black daymark		37 32 ⁽¹⁰⁾ 1840	⁽¹²⁾ 1838	75 56 ⁽¹⁰²³⁾ 450	⁽¹⁰²³⁾ 450	"	"	"	X	1223
"1 A"		Black daymark on piling	Ann	37 32 ⁽⁶⁵⁵⁾ 1184	⁽⁶⁶⁶⁾ 1184	75 57 ⁽⁴⁸⁶⁾ 987	⁽⁴⁸⁸⁾ 985	"	"	"	X	1223
"2"		Red daymark on piling	Bus	37 32 ⁽⁷⁴¹⁾ 1088	⁽⁷⁷⁶⁾ 1074	75 57 ⁽⁶⁴⁶⁾ 827	⁽⁶⁴²⁾ 821	"	"	"	X	1223
"4"		Red daymark on piling	Doc	37 32 ⁽⁷³⁹⁾ 1110	⁽⁷⁴⁶⁾ 1104	75 56 ⁽³⁰⁵⁾ 1148	⁽³⁰⁸⁾ 1165	"	"	"	X	1223
"6"		Red daymark on piling	Rox	37 33 ⁽⁰³⁴⁾ 510	⁽¹³⁴⁵⁾ 505	75 55 ⁽⁴⁶²⁾ 1011	⁽⁴⁶²⁾ 1011	"	"	"	X	1223
"7"		Black daymark on piling	Jug	37 33 ⁽¹³⁵⁸⁾ 492	⁽¹³⁶⁰⁾ 490	75 54 ⁽¹⁰³⁾ 1370	⁽¹⁰³⁾ 1370	"	"	"	X	1223
"9"		Black daymark on piling	Wed	37 33 ⁽¹³⁵⁹⁾ 491	⁽¹³⁵⁹⁾ 491	75 54 ⁽⁶¹⁸⁾ 855	⁽⁶¹⁸⁾ 855	"	"	"	X	1223
"10"		Red daymark on piling	Mat	37 33 ⁽¹⁰²⁵⁾ 824	⁽¹⁰²⁸⁾ 822	75 54 ⁽¹³²²⁾ 151	⁽¹³²⁴⁾ 149	"	"	"	X	1223
"11"		Black daymark on piling	Hen	37 33 ⁽¹⁷⁹¹⁾ 59	⁽¹⁷⁹⁶⁾ 54	75 53 ⁽¹³⁶⁶⁾ 107	⁽¹³⁷¹⁾ 102	"	"	"	X	1223
								Checked: W.A.H.				

This form shall be prepared in accordance with Hydrographic Manual, pages 800 to 804. Positions of charted landmarks and *nonfloating aids* to navigation, if redetermined, shall be reported on this form. The data should be considered for the charts of the area and not by individual field survey sheets. Information under each column heading should be given.

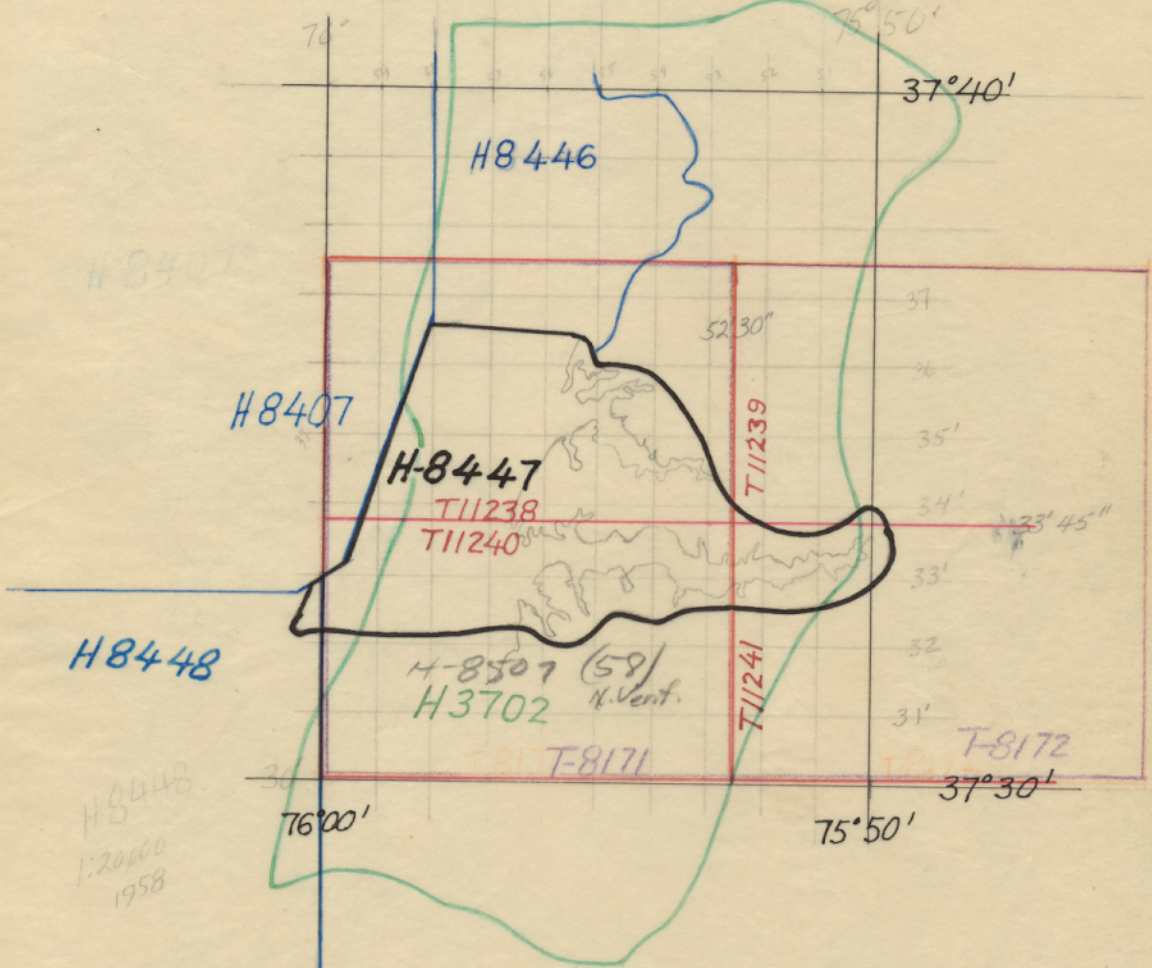


U.S. COAST & GEODETIC SURVEY
 H. ARNOLD KAMR, DIRECTOR
 SHIP COWIE
 H.E. WERNERMAN, COMD.
 COMBINED OPERATIONS
 PROJECT NO. CS-287
 CHESAPEAKE BAY
 1988
 SHEET LAYOUT
 AND
 MONTHLY PROGRESS SKETCH
 SCALE: 1:80,000

CO-1258 to the South
incomplete

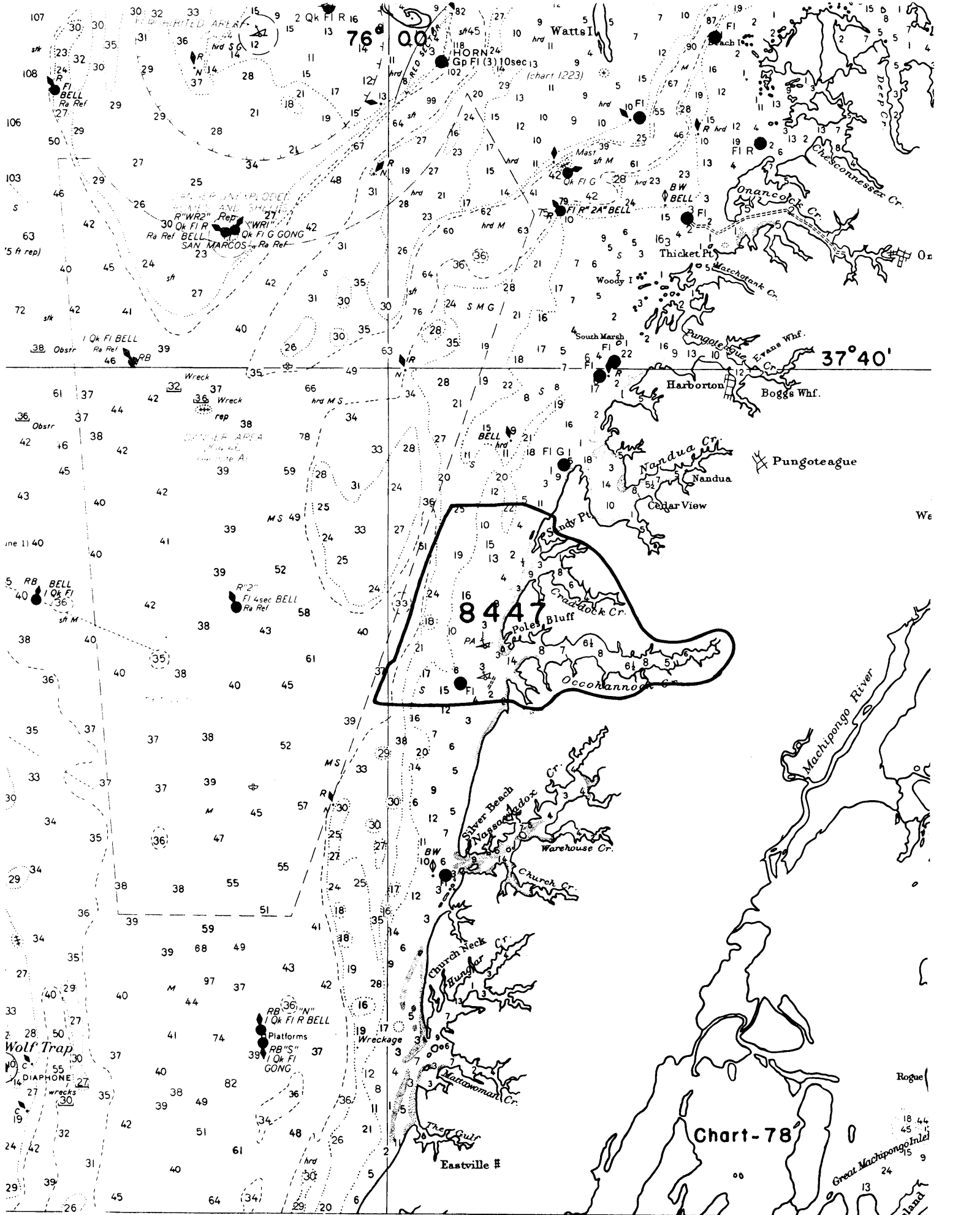
H-8447- (1958) 1:10,000
H-8407 (1956-57) 1:20,000
H-8446 (1957-58) 1:10,000
H-3702 (1914) 1:20,000
H-8448 (1958) 1:20,000

T-11238 (1955) 1:10,000
T-11240 (1955) 1:10,000
T-11241 (1953) 1:10,000
T-11239 (1953) 1:10,000 } advance
manuscripts



T-8171 (1942) 1:20,000
T-8172 (1942) 1:20,000

J. T. Gallahan - Verifier



76

00

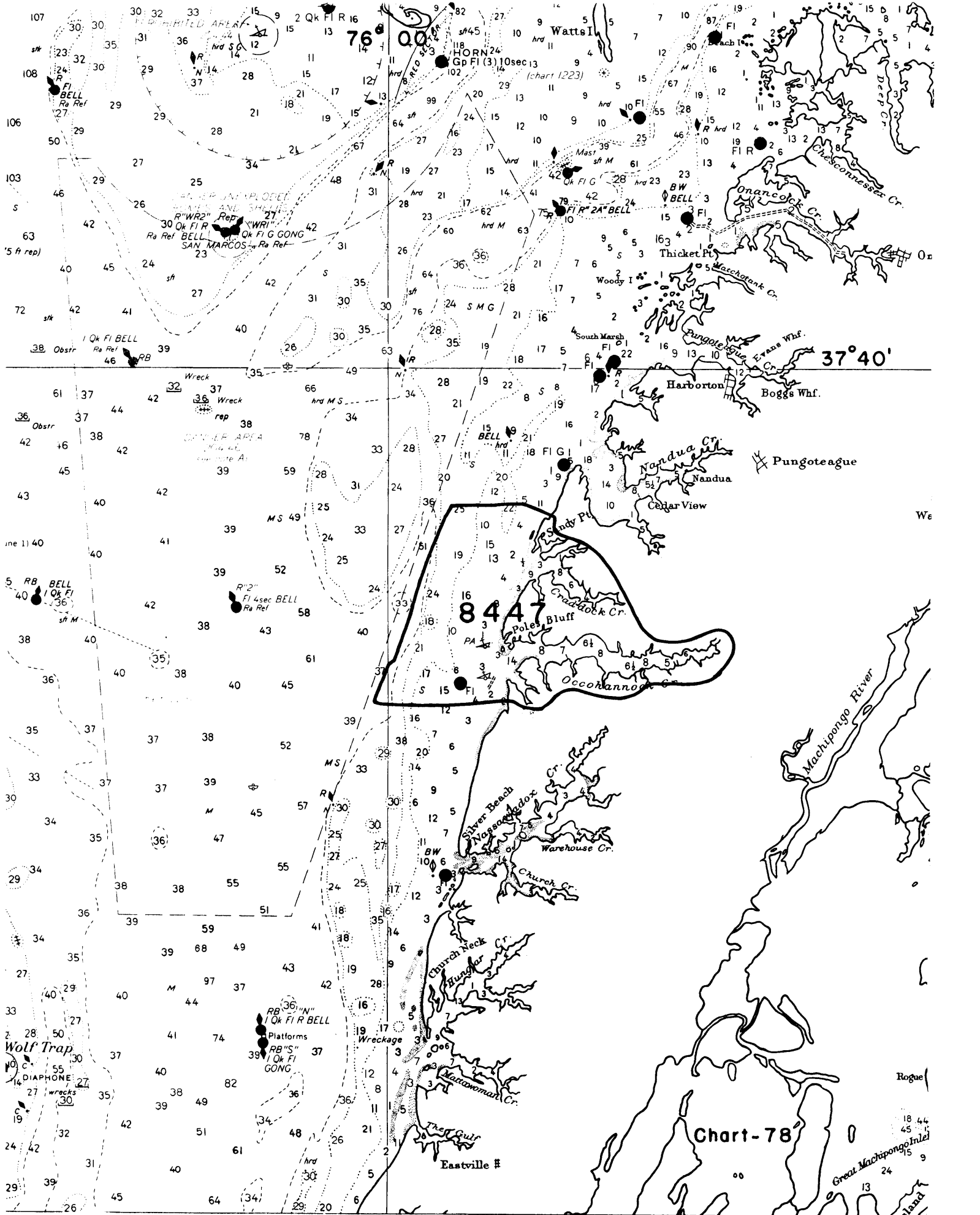
8447

37°40'

Chart-78

Eastville #

Great Machipongo Inlet



NORFOLK PROCESSING OFFICE
ADDENDUM
To Accompany

HYDROGRAPHIC SURVEY H-8447 (Co-1158)

GENERAL

This appears to be an excellent basic survey and no difficulties were experienced during the smooth plot. ✓

Soundings are in generally good agreement considering the irregular character of the bottom, except for the crosslines run by Launch 178 over work accomplished by Ship Cowie. These crosslines average 1 to 2 feet deeper. *Differences attributed to choppy seas - Reconciled during Verification.* ✓

Norfolk, Va.
1 March 1960

Respectfully submitted,



Hugh L. Proffitt
Cartographer

OFFICE OF CARTOGRAPHY

REVIEW SECTION -- NAUTICAL CHART DIVISION

REVIEW OF HYDROGRAPHIC SURVEY

REGISTRY NO. H-8447

FIELD NO. CO-1158

Virginia, Chesapeake Bay, Sandy Point to Occohannock Creek

SURVEYED: June - Sept. 1958

SCALE: 1:10,000

PROJECT NO. CS-287

SOUNDINGS: 808 Depth Recorder
Hand Lead
Pole

CONTROL: Sextant fixes
on shore signals

Chief of Party ----- M. E. Wennermark
Surveyed by ----- M. E. Wennermark; C. D. Upham
J. P. Porcher
Protracted by ----- A. K. Schugeld
Soundings plotted by ----- A. K. Schugeld
Verified and inked by ----- J. T. Gallahan
Reviewed by ----- D. R. Engle
Inspected by ----- R. H. Carstens

DATE Nov. 23, 1960

1. Shoreline and Signals

The shoreline originates with unreviewed air-photographic surveys T-11238, T-11239, T-11240 and T-11241 of 1953-55.

The shoreline in vicinity of Lat. $37^{\circ}35.8'$, Long. $75^{\circ}55.5'$ was revised by the hydrographer.

The pier in ruins Lat. $37^{\circ}33.1'$, Long. $75^{\circ}54.7'$ which is shown on T-11240 and chart 1223 is no longer in existence (noted by hydrographer) and should be deleted. However, there are three piles which are bare at mean high water just offshore of the position of the former pier.

Fish stakes shown on T-11238 at Lat. $37^{\circ}36'$, Long. $75^{\circ}55.6'$ and at Lat. $37^{\circ}34.6'$, Long. $75^{\circ}56.1'$ no longer exist.

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

2. Sounding Line Crossings

Depths at crossings are in good agreement.

3. Depth Curves and Botton Configuration

The usual depth curves are adequately delineated. The 3-ft. curve was added to accentuate the inshore sand ridges and to delineate the creek channels. The 24-ft. curve was added to delineate the offshore sand ridges. The offshore bottom is generally undulating.

4. Junctions with Contemporary Surveys

An adequate junction was effected with H-8407 (1956-57) on the west. The junctions with H-8446 (1957-58) on the north, H-8448 (1958) on the southwest and H-8507 (1958) on the south will be considered in the reviews of those surveys.

5. Comparison with Prior Surveys

H-285 (1851), 1:40,000
H-367 (1853), 1:20,000
H-976a (1868), 1:20,000
H-2500 (1900-01), 1:60,000
H-3702 (1914), 1:20,000

These prior surveys cover the area of the present survey. A comparison reveals radical shoreline changes as well as widespread bottom changes throughout the area between the creek entrances and the 30-ft. curve.

There was no noteworthy change in the shoreline from 1851-1868 except on the north side of Occohannock Creek entrance where the sand peninsula advanced about 200 meters in a southeasterly direction. The 1914 survey indicated a recession of this peninsula of nearly $\frac{1}{2}$ mile in a NNW'ly direction, and the present survey indicates that it has advanced again more than $\frac{1}{2}$ mile in a SSE'ly direction to the vicinity of its former 1868 position.

The peninsula on the north side of Craddock Creek entrance remained stationary until the 1914 survey which indicated an advance of 300 meters SSW'ly, and at that time the low-water line had advanced one mile SSW'ly. The present survey indicates that this peninsula has again receded 300 meters NNE'ly and the low-water line has receded one mile NNE'ly to its former 1868 position.

The high-water line other than that mentioned above and that inside the creek entrances, has generally eroded 10-100 meters.

No noteworthy bottom changes were evident between 1851-1868 except that Occohannock Creek entrance channel had shifted about 100 meters N.W. However, the 1914 survey indicated

radical bottom changes. Occohannock Creek entrance channel shifted 100 meters SE'ly to the vicinity of its former position. There were variable changes in depth due to much shifting of sand shoals and deeps. The closer development on this 1914 survey better revealed the extensiveness of ridges and shoals.

The present survey indicates depth changes of from 1 to 9 feet throughout the area between the creek entrances and the 30-ft. curve because of shifting of sand. Depressions delineated by prior surveys have filled in, and former shoals have eroded as much as 9 feet. The following are examples of such changes:

Latitude	Longitude	Depth on 1914 survey	Present Depth
36°36.3'	75°57.2'	10' - 12'	19'
37°34.8'	75°57.3'	11'	20'
37°32.4'	75°57.8'	6'	10'
37°34.6'	75°56.6'	7' - 9'	2'-3'
37°32.5'	75°57.1'	7' - 8'	2'-4'

Within the creeks only minor depth differences of 1-2 feet are revealed.

The present survey, which completely delineates the bottom within this changeable area, entirely supersedes the prior surveys within the common area.

6. Comparison with Chart 1223 (Latest print date 10-31-1960)

A. Hydrography

Charted hydrography originates with previously discussed surveys supplemented by partial application of the present survey boat sheet information. A comparison of the chart and the present survey reveals differences in depths of 1 to 9 feet and numerous depth curve differences.

The stranded wreck, P.A. (Item 4, Presurvey Review) charted at Lat. 37°33.4', Long. 75°57.15' from H.O. Notice to Mariners No. 2 (1955), should be deleted from the chart. The hydrographer investigated this area by sounding and by observation at low tide and found no evidence of this wreck. General depths of 2-3 feet are found here.

The sunken wreck (Item 5, Presurvey Review) charted at Lat. 37°32.98', Long. 75°52.2' from T-8172 (1943) was verified by T-11241 (1953-55) and was used as a topo signal on this survey. It is bare 4 feet at MHW.

The stranded wreck charted at Lat. $37^{\circ}32.6'$, Long. $75^{\circ}57.2'$ was charted subsequent to date of the present survey from H.O. Notice to Mariners No. 46, 1959.

B. Aids to Navigation

Most of the lights and day beacons marking Occohannock Creek channel have been moved subsequent to the present survey to compensate for the change in the channel and are now charted from information published in H.O. Notice to Mariners No. 17, 1959.

The spar buoy, which was located on the present survey at Lat. $37^{\circ}32.69'$, Long. $75^{\circ}59.61'$ marks the limit of a fish trap area. The smooth sheet position of this buoy is about 350 meters southwest of the charted position.

The aids to navigation, as presently charted, adequately mark the features delineated by the present survey.

7. Condition of Survey

The 5-and 6-foot shoals (leadline soundings) in the vicinity of Lat. $37^{\circ}33.2'$, Long. $75^{\circ}55'$ in Occohannock Creek channel in depths of 8-10 feet, were reported by a note in the sounding volume to have been investigated and verified in the field. However, the hydrographer failed to record any of the usual data concerning this investigation. Except as noted above, the sounding records are complete.

The Descriptive Report covers all matters of importance.

The smooth plotting was generally accurate.

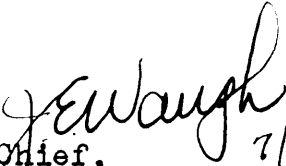
8. Compliance with Project Instructions

The survey adequately complies with Project Instructions.


9. Additional Field Work Recommended


This is an excellent basic survey and no additional field work is required.


Examined and Approved:


Chief,
Nautical Chart Division

7/25/61


Assistant Director,
Office of Cartography


Projects Officer,
Operations Division


Assistant Director,
Office of Oceanography

GEOGRAPHIC NAMES

Survey No. H-8447

Name on Survey	1223										B.G.N.
	A	B	C	D	E	F	G	H	K		
✓ Back Creek	x										1
Chesapeake Bay (Titke)									x		2
✓ Craddock Creek	x										3
✓ Killmon Cove	x								x		4
✓ Occohannock Creek	x										5
✓ Occohannock Neck	x										6
✓ Poles Bluff	x								x		7
✓ Sandv Point	x								x		8
✓ Scarborough Neck	x										9
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George W. Ball
GEOGRAPHIC NAMES SECTION
30 MARCH 1960

Hydrographic Surveys (Chart Division)

HYDROGRAPHIC SURVEY NO. ...8447.

Records accompanying survey: Smooth sheets ..1...;
 boat sheets ..1...; sounding vols. ...17...; wire drag vols.;
 Descriptive Reports ..1...; graphic recorder envelopes ...6...;
 special reports, etc. 10 H.
 T. 11/21

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

Number of positions on sheet	.....	3575
Number of positions checked	.....	140
Number of positions revised	.....	0
Number of soundings revised (refers to depth only)	.....	27
Number of soundings erroneously spaced	.....	0
Number of signals erroneously plotted or transferred	.....	✓
Topographic details	Time	
Junctions	Time	40
Verification of soundings from graphic record	Time	20
Special adjustments	Time	

Verification by *John J. Sullivan* Total time 45.2. Date *Aug 5, 60*

Reviewed by *A. R. Engh* Time 64. Date *Nov 23, 1960*

RHC

TIDE NOTE FOR HYDROGRAPHIC SHEET

~~DIVISION OF COASTAL SURVEY~~

20 April 1960

Division of Charts: R. H. Carstens

Plane of reference approved in
17 volumes of sounding records for

HYDROGRAPHIC SHEET 8447

Locality Chesapeake Bay, Virginia

Chief of Party: M. E. Wennermark in 1958
Plane of reference is mean low water, reading
1.3 ft. on tide staff at Gaskins Point
17.4 ft. below B. M. 1 (1958)

Height of mean high water above plane of reference is 1.7 feet.

Condition of records satisfactory except as noted below:

William Shapiro

Chief, Tides Branch

~~CHIEF, DIVISION OF TIDES AND CURRENTS~~

NAUTICAL CHARTS BRANCH

SURVEY NO. H-8447

Record of Application to Charts

DATE	CHART	CARTOGRAPHER	REMARKS
4-13-60	1223	R.K. de Lander	<i>Part appld (no correction)</i> Before After Verification and Review
12/8/60	1223	E.E. Thomas	Before After Verification and Review
12/30/60	98	J. Heaton	<i>Completely applied</i> Before After Verification and Review
Feb 1961	564	LVE	^{<i>before</i>} Before After Verification and Review
8/27/63	564	<i>Blair</i>	Before <u>After</u> <u>Verification</u> and <u>Review</u> <i>Complete.</i>
			Before After Verification and Review
			Before After Verification and Review
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			Before After Verification and Review

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