## 7946

Diag. Cht. No. 78-2

Form 504

U. S. COAST AND GEODETIC SURVEY

DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey HYDROGRAPHIC

Field No. CO-2351 Office No. H-7946

**LOCALITY** 

State MARYLAND-VIRGINIA

General locality CHESAPEAKE BAY

Locality POCOMOKE SOUND AND POCOMOKE RIVER

19#/.51

CHIEF OF PARTY

Comdr. John Bowie, Jr.

LIBRARY & ARCHIVES FEB 18 1952

DATE

B-1870-1 (1)

es-287

#### 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-7946

Field No. Co-2351

State	MARYLAND - Virginia
	Chesapeake Bay  EASTERN POCOMOKE SOUND AND POCOMOKE RIVER
	· · · · · · · · · · · · · · · · · · ·
	Date of survey 28 May to 19June 1951
Instructions dated	28 Feb. 1949
Vessel	SHIP COWIE
Chief of party	JOHN BOWIE, JR.
Sarveyed by	G.C. MAST & B.A. TAYLOR
Soundings taken by XX	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
Fathograms scaled by	Ship's Personnel
Fathograms checked by	G.C. Mast & E.A. Taylor
Protracted by	W.F. Jonns
Soundings penciled by	W.F. Jonns
Soundings in Katha	XX feet at MLW MKXXX and are true depths
Remarks: This s	urvey was smooth plotted in the Hydrographic Section
of the Norfolk P	ocessing Office.

U. S. GOVERNMENT PRINTING OFFICE 777032

#### DESCRIPTIVE REPORT

#### TO ACCOMPANY

HYDROGRAPHIC SURVEY H-7946, FIELD NO. CO-2351

PROJECT CS-287

POCOMOKE RIVER AND POCOMOKE SOUND, MD.

SHIP COWIE SCALE 1:20,000

John Bowie, Jr., Comdg.

#### A - PROJECT:

Project CS-287 (1949); Original Instructions dated 28 February 1949. Supplemental Instructions dated 24 August 1950. Letter from Director, referenced 22/MEK, dated 27 April 1951.

#### B - SURVEY LIMITS AND DATES:

The area covered by this survey is the portion of the Pocomoke River south of the highway bridge at Pocomoke City, Md. (Lat. 38-04.6'N; Long. 75-34.3'W) and the eastern portion of Pocomoke Sound to a junction with hydrographic Sheet H\_7945, Field No. CO-2251 on an approximate line between Tulls Point and North End Point. Field work was accomplished during the period 28 May - 19 June 1951 inclusive.

#### C - VESSELS AND EQUIPMENT:

Thirty foot launch No. 102 and 25' skiff No. 737 were used. Launch #102 was based at Rehobeth, Md. from 27 May - 31 May, then both boats were based at Shelltown, Md. during the remainder of the time they were used on the survey.

#### C - VESSELS AND EQUIPMENT: (CONT.)

Launch #102, with 808 model portable fathometer No. 63, was used for sounding in the channel and river. Skiff #737, powered by two outboard motors and utilizing pole or leadline for sounding, was used for the remaining area.

#### D - TIDE AND CURRENT STATIONS:

Tide reducers were taken from three stations located at Pocomoke City, Md. (Lat. 38-04.8 N; Long. 75-34.25 W), Rehobeth, Md. (lat. 38-02.37 N; Long 75-39.75 W) and Shelltown, Md. (Lat. 37-58.8 N; Long. 75-38.32W). The reducers for the northern part of the river North of Lat. 38-03.35 N, were taken from the Pocomoke City gage. The gage at Rehobeth was used for the central part of the river between Latitudes 38-03.35 N; and 38-00.44 N; Long. 75-37.73 W. The reducers for the remainder of the river south of Lat. 38-00.44 N; Long. 75-37.73 w and the portion of the sound covered by this survey were taken from the Shelltown gage.

No current stations were observed within the area of the survey.

#### E - SMOOTH SHEET:

This information to be supplied by the processing office. (Shoreline applied from T-8152, T 8153, T-8159 & T-8160 of 1942)

#### F - CONTROL STATIONS:

The following triangulation stations were recovered and used:

Butler	1936-42	Pitts	1934-36
Holden	1936-42	Scot 2	1936
Matthews	1934	Shad	1936
Olds 2	1936	Will	1907

#### F - CONTROL STATIONS: (CONT.)

Air Photographic station Creek 1942 was also recovered and descr. of this station not available it's position determined by sextant angles.

Hydrographic stations were located by three point sextant fixes and check angles or by three or more sextant cuts.

(See volume I, page 2, for index to signal location).

#### G - SHORELINE AND TOPOGRAPHY:

Shoreline on the boatsheet, was taken from Sheet Nos. T-8151, T-8153, of 1942.

T-8159 and T-8160, There is no noticeable change, and no adjustment will be necessary on the smooth sheet. The low water line was not defined by soundings, a line of soundings were run at high water in the sound parallel to and as close as possible to the shoreline. Due to the small range of tide and the protected shoreline, the high and low water line is the same over most of the area including all of the river.

#### H - SOUNDINGS:

Depths were measured with the 808 model recording fathometer, handlead and pole. Bar checks were taken as necessary.

Overlap between handlead, pole and fathometer soundings are satisfactory and no adjustment is necessary.

Sounding lines were spaced 200 meters in featureless areas and 100 meters or less in the river and channels.

#### I - CONTROL OF HYDROGRAPHY:

The hydrography in the Pocomoke River north of Lat. 37-58.6 N, was controlled by using nine-lens photograph No. 08676 to identify land features.

#### I - CONTROL OF HYDROGRAPHY: (CONT.)

As signals for sextant fixes were not available in the upper reaches of the river, sounding lines were run until the launch was abean of some feature that could be identified on the photograph, then the position was pricked on the photograph and transferred to the boat sheet later. Positions 1-a to 40-a is a line of soundings in the center of river between Rehobeth and Pocomoke City, Md.; positions 41-a to 96-a is a line of soundings one-half the distance between the centerline of river and the west bank between Pocomoke City and Lat. 38-00.4 N, positions 97-a to 149-a is a line of soundings onehalf the distance between the centerline of the river and the east bank between Lat. 38-00.4 N and Posomoke City, Md. Positions 150-a to 165-a is a line of soundings along the centerline of the river between Rehobeth, Md. and Lat. 38-00.4 N. Positions 1-b to 6-b is the development of a 7.6 foot shoal between positions 164-a to 165-a, (Lat. 38-00.5 N). Positions 6-b to 17-b is a line of soundings along the centerline of river between Lat. 38-00.4 N. and Lat. 37-58.6 N. Positions 18-b to 30-b is a line of soundings between the above latitudes one-half the distance between the centerline of river and east bank.. Positions 31-b to 43-b is a line of soundings along the same stretch of river one-half the distance between centerline of river and west bank.

Three-point fixes taken upon shore signals in the usual manner were used to control the remainder of the survey.

#### J - ADEQUACY OF SURVEY:

The survey is complete and adequate for charting purposes,

See Review,
and to supersede all prior surveys. No holidays exist. Depth curves

(H-7945, not received this date 10/16/52)
can be adequately drawn at the junctions.

#### K - CROSSLINES:

Crosslines are in good agreement, they are estimated at 5 percent.

#### L-M - COMPARISON WITH PRIOR SURVEY AND CHART:

A comparison with Chart 1224 shows::

- 1. The entrance channel to Pocomoke River has shoaled from a 6½ charted depth of 7 feet to a least depth of 5.8 feet.
- 2. A charted depth of 14 feet in the river has shoaled to a feet at Lat. 38-00.54N; Long. 75-37.84W. 7ft. falls between sounding lines on H-1022a(1869), 14ft. depth is about 50 meters north.
- 3. In general the charted depths in the sound are about one foot shoaler then determined by the present survey.
- 4. The charted depth of 2 feet in Lat. 37-57.03N; Long. 73-42.7W, 2 ft. carried forward in hard bettem area. has now secured out to a least depth of 4 feet.
- 5. Outside of the channel and river the area is too shoal for general navigation and is used mostly by shallow draft vessels engaged in the fishing industry.
- 6. Oyster house shown on chart in Lat. 37-58.2 N; Long. 75-42.0 W no longer exists, and should be removed from chart.
- 7. Piers shown on chart in Lat. 37-58.8 N; Long. 75-43.2 W. do not exist, and should be removed from chart.

#### N - DANGERS AND SHOALS:

No new dangers or shoals were found except the two shoals - see Review, par. 5

#### O - COAST PILOT INFORMATION:

This subject is covered in a separate report by the Commanding Officer, Ship COWIE.

#### P - AIDS TO NAVIGATION:

All the aids to navigation in the area of this survey are along the entrance channel to Pocomoke River, and are fixed aids.

They were located by three point sextant fixes and check angles, and check the charted positions. The locations are recorded in Vol. I, page 69 - 71, positions 73-b to 83-b. (also page 3 of Vol. I)

#### see Review, paragraph 1

#### Q - LANDMARKS FOR CHARTS:

There are no landmarks for charts recommended within the area of this survey.

#### R - GEOGRAPHIC NAMES: 454

Geographic names shown on Chart 1224 for this area are adesee geographic
name list in
rear of report
quate and no additional names are recommended.

Respectfully submitted,

G. C. Mast, Comdr. USC&GS.

Approved and forwarded:

Comdr. USC&GS., Comdg. Ship COWIE.

#### TIDE NOTE

Three portable automatic gages were used for obtaining the tide reducers for this survey. Height of M L W above the zero of the staff for each gage was determined by the Washington office. No time or height corrections were applied to the observed tides used in computing the reducers. Hourly heights were scaled from the marigrams by personnel of the Ship COWIE.

1 - Gage at Pocomoke City, Md.:

Lat. 38-04.6 N; Long. 75-39-75 W:

Height of M L W is 2.4 feet above zero of tide staff.

Tide reducers were taken from this gage for soundings in the river between Pocomoke City and Lat. 38-03.35 N. Positions covered; 19-a to 62-a and 130-a to 149-a.

2 - Gage at Rehobeth, Md.:

Lat. 38-02.37' N; Long. 75-39.75 W.:

Height of M L W is 1.8 feet above zero of tide staff.

Tide reducers were taken from this gage for the soundings in the river between Lat. 38-03.35 N; and Lat. 38-00.44 N; Long. 75-37.73 W. Positions covered; 1-a to 19-a, 62-a to 130-a; 150-a to 165-a.

3 - Gage at Shelltown, Md.

Lat. 37-58.8 N.; Long. 75-38.32.W.:

Height of M L W is 2.0 above zero of tide staff.

Tide reducers were taken from this gage for the river south of Lat. 38-00.44' N.; Long. 75-37.73' W. and the portion of the sound covered by this survey.

### FATHOMETER CORRECTIONS HYDROGRAPHIC SURVEY H-7946, FIELD NO. 00-2351

a day (808 Fathometer	No. 63
0 ft. to 12.0 ft.	≠ 0.8 ft.
12.1 ft. to 14.0 ft.	/ 0.6 ft.
14.1 ft. to 16.0 ft.	/ 0.4 ft.
16.1 ft. to 18.0 ft.	/ 0.2 ft.
18-1 ft. and ower.	0-0 ft.

#### 

#### STATISTICS

#### FOR HYDROGRAPHIC SURVEY H-7946, FIELD NO CO-2351

SHIP COWIE

PROJECT CS-287

#### LAUNCH 102

•	VOL. NO.	DAY	DATE	POS.	STAT. MI.	BAR CHECK
	I	a	5/28	165	34.2	<b>2</b> <sup>5</sup>
	I-II	Ъ	5/31	118	30•8	2
	TOTALS:			<b>28</b> 3	<b>65₀</b> 0	4
			SKIFF	NO. 737		
	II	a	6/11	105	28.3	
	III	ъ	6/12	112	33.1	
III	-IV	G	6/13	83	17.9	
	IV	đ	6/14	112	29.3	
	IV-V	•	6/15	69	14.6	
	٧	f	6/18	41	8.9	
	<u> </u>	g	6/19	112	20.2	
	TOTALS:			634	152.3	
	GRAND TO	ALS:		91 <i>7</i>	217.3	4

AREA: 11.8 Sq. Stat. Miles

#### LIST OF SIGNALS H-7946

#### TRIANGULATION STATIONS

HOLD	HOLDEN (V.F.C.)(VA.), 1936-42
BUT	BUTLER 2, (V.F.C.) (VA.) 1936-42
PITTS	PITTS (VA.), 1934-36
MAT	MATTHEWS (VA.), 1934
SCOT	SCOT 2, (V.F.C.) (MD), 1986-42
SHAD	SHAD (V.F.C.) (VA.),1936-42
OLDS	OLDS 2, (V.F.C.) (MD.),1936
MILL	WILL, (M.S.F.C.)(MD.), 1907-42
SAX	SAXIS CHURCH SPIRE, 1942

#### HYDROGRAPHIC SIGNALS

Ace Bn. 3 Bull *Creek Fair Fan Green Gut Mop Nest Pet Pine Rum	Vol. 1 " 1 " 1 " 1 " 1 " 1 " 1 " 1 " 1 " 1 "	*The sextant location of marked topo station  CREEK, 1942 was used. There is a slight disagree- ment in the two locations.  No topo location for Creek 1942 was found, this station has no descriptive card and is not shown on TERGO.
	1	

#### ADDENDUM To Accompany

HYDROGRAPHIC SURVEY H-7946 (Field No. Co-2351)

This survey was smooth plotted in the Hydrographic Section of the Norfolk Processing Office.

(source of shoreline listed in Paragraph "E")

Respectfully submitted,

Hugh L. Proffitt

Cartographer.

Norfolk, Va. 11 Feb. 1952

Approved & Forwarded:

Earl O. Heaton

Supervisor, SE Dist.

# DEPARTMENT OF COMMERCE U. S. COAST AND GEODETIC SURVEY

# 

TO BE CHARTED ANTERIOR NAMES

STRIKE OUT ONE

Feb., 19.52

Earl O.

Heaton

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

Norfolk, Va

The positions given have been checked after listing by A. Kaupa

FL R 1 Bn. Bn. Bn Bn. Bn Bn Bn Bn. CHARTING NAME FL B 6 7 STATE N Maryland Pecomoke Pocomoke River Daybeacon 3 3 4 4 8 ጽ River DESCRIPTION Virginia 8 8 8 \* 4 ጜ 3 \* 7 ロ N ထ Pet NAME 37-58 37-57 37-57 37-57 37-57 37-58 37-57 37-57 37-57 <del>37-57</del> 37-57 37-57 37-57 LATITUDE 1614 1548 1505 1203 1168 1223 1807 1730 1521 D. M. METERS 694 62**3** Ľ POSITION 75-41 75-41 75-42 75-41 75-39 75-40 75-42 75039 75-40 75-39 75-42 75-40 75-42 LONGITUDE D. P. METERS 1267 1006 1184 1170 258 869 219 325 362 **5**4 97 48 78 DATUM 1927 3 3 3 3 3 3 # \* 8 8 3 METHOD
OF
LOCATION
AND
SURVEY
No. sextant Captain 8 8 \$ 3 3 3 2 3 1 3 3 OF LOCATION 5/51 3 3 3 3 8 . 4 HARBOR CHART × × H H INSHORE CHART OFFSHORE CHART of Party. CHARTS AFFECTED 1224 \$ 3 3 4 8 \* 3

advidual field survey sheets aids to navigation, if redetermined, shall be reported on this form. This form shall be prepared in accordance with Hydrographic Manual, pages 800 to 804. nformation under each column heading should be given The data should be considered for the charts of the area and not by Positions of charted landmarks and U. S. GOVERNMENT PRINTING OFFICE: 1949 O - 853418 nonfloating

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#### TIDE NOTE FOR HYDROGRAPHIC SHEET

#### XDIVALS SOIK SIXIBUOKS AFABRIKA ZOIX ESBOCKEBIKA

12 March 1952

Division of Charts: R. H. Carstens

Plane of reference approved in 5 volumes of sounding records for

HYDROGRAPHIC SHEET 7946

Locality Pocomoke Sound, Chesapeake Bay

Chief of Party: J. Bowie, Jr. in 1951
Plane of reference is mean low water, reading

1.8 ft. on tide staff at Rehobeth

4.9 ft. below B. M. 1 (1951)

2.4 ft. on tide staff at Pocomoke City

6.3 ft. below B. M. 1 (1951)

2.0 ft. on tide staff at Shelltown

5.1 ft. below B. M. 1 (1951)

Height of mean high water above plane of reference is as follows:

Rehobeth = 1.9 feet Pocomoke City = 1.4 feet

Shelltown = 2.4 feet

Condition of records satisfactory except as noted below:

E.C.McKay Section

Chief, Division of Tides and Currents.

U. S. GOVERNMENT PRINTING OFFICE 756675

	GEOGRAPHIC NAMES Survey No. H-7946			deign of	ighton		200	o Guide of	and McHolly	J.S. John J.S.	7
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	Name on Survey	A S	₩. Q.	, 40. \ Q	D Wags	E E	5`	G	ъ. Н	S' / K /	
	Maryland									B.6-74	1
	Vivainia								pia	ų	2
	POCOMOKE SON	bn									3
		VEY									4
	Tulls Point									B.6%	5
	ρ	int									6
	Marumsco	Cre	ok								7
	Fair Island	Ca	nal								8
j	Holdens C	ree	<u> </u>								9
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#### Hydrographic Surveys (Chart Division)

#### HYDROGRAPHIC SURVEY NO. 4-7.946...

#### Records accompanying survey: Boat sheets ..l..; sounding vols. ... 5.; wire drag vols. ....: bomb vols. ....; graphic recorder rolls 1. Env. .: special reports, etc.1 Smooth Sheet; 1 Descriptive Report; 1.9-lens photo#08676 The following statistics will be submitted with the cartographer's report on the sheet: 916 Number of positions on sheet Number of positions checked Number of positions revised Number of soundings revised (refers to depth only) Number of soundings erroneously spaced Number of signals erroneously plotted or transferred Topographic details Time Junctions Time Verification of soundings from graphic record Time Verification by July 1. A. Total time 1.9.9. Date Sept 10, 1752 Reviewed by.... A. J. Hoffman .... Time 31 hrs. Date 10/23/52

#### DIVISION OF CHARTS

#### REVIEW SECTION - NAUTICAL CHART BRANCH

#### REVIEW OF HYDROGRAPHIC SURVEY

#### REGISTRY NO. H-7946

FIELD NO. CO-2351

Maryland-Virginia, Chesapeake Bay, Pocomoke Sound and Pocomoke River

Project No. CS-287

Surveyed in May - June 1951

Scale 1:20,000

Soundings:

Control:

808 Fathometer Handlead Sounding Pole

Sextant fixes on shore signals Estimated distances from shore

Chief of Party - J. Bowie, Jr.
Surveyed by - G. C. Mast and E. A. Taylor
Protracted by - W. F. Jonns
Soundings plotted by - W. F. Jonns
Verified and inked by - C. F. Kupiec
Reviewed by - A. J. Hoffman, 23 October 1952
Inspected by - R. H. Carstens

#### 1. Shoreline and Signals

The source of the shoreline and signals is given in the Descriptive Report.

The location of the fixed aids along Fair Island Canal were redetermined during the present survey and are in substantial agreement with the positions shown on T-8160 (1942), with the following exceptions: light No. 15 and daybeacon No. 16 are now located about 55 meters southwest of the positions shown on T-8160.

#### 2. Sounding Line Crossings

Depths at crossings are in very good agreement.

#### 3. Depth Curves and Bottom Configuration

The usual depth curves are adequately delineated. The 3, 24 and 36-ft. curves have been added to emphasize bottom relief.

The bottom over most of the area is smooth except for channel deeps at the bends of the river.

#### 4. Junctions with Contemporary Surveys

The project survey on the west, H-7945 (1951), has not yet been received in this office. There is no adjoining contemporary survey on the north.

#### 5. Comparison with Prior Surveys

H-1022 (1869) 1:5,000 H-2899 (1807) 1:20,000 H-1023 (1869) 1:5,000

A comparison between depths of these prior surveys and the present survey reveals only minor differences of about one foot in Pocomoke Sound, as for example in lat. 37° 56.94', long. 75° 39.80' where prior depths of 3-ft. (charted) fall in present depths of 4-ft. Shoaling has occurred in the old natural channel east of Williams Point, as for example in lat. 37° 57.60', long. 75° 39.33' where prior 7 ft. depths (charted) have shoaled to 3 ft.

Shoaling of parts of the river bottom north of lat. 37° 58' is revealed in numerous areas: as for example in lat. 37° 58.80', long. 75° 37.95' where present depths of 7-11 ft. fall in prior depths of 13-ft. (charted), and in lat. 38° 00.54', long. 75° 37.84' where present depths of 7-ft. fall in prior depths of 14-ft. (charted).

North of lat. 38° 00.4° the position of the river shown on the 1869 surveys is as much as 650 meters north of its present survey position and is apparently in error because of the weak control available on the prior surveys.

Several soundings from H-2899 have been retained in Pocomoke Sound to supplement present depths. With these additions the present survey is adequate to supersede the prior surveys within the common area.

#### 6. Comparison with Chart 1224 (Print date 8/4/52)

#### a. Hydrography

Charted hydrography originates entirely with the previously discussed surveys which need no further consideration.

The present survey supersedes the charted information.

#### b. Aids to Navigation

All fixed aids to navigation located on the present survey are in substantial agreement with the charted aids and adequately mark the features intended.

#### c. Dredged Channels

The charted controlling depth in the marked channel is from advance information of the present survey and is in adequate agreement with smooth sheet values.

#### 7. Condition of Survey

- The sounding records and Descriptive Report are complete and comprehensive.
- The smooth plotting was very well done.

#### Compliance with Project Instructions 8.

The survey adequately complies with the Project Instructions.

#### Additional Field Work Recommended

This is an excellent hasic survey and no additional field work is recommended.

Chief. Nautical Chart Branch Chief. Division of Charts

L. S. Hubbard Chief, Section of Hydrography

amined and approved:

Chief, Division of Coastal Surveys

#### NAUTICAL CHARTS BRANCH

#### SURVEY NO. H-7946

#### Record of Application to Charts

CHART	CARTOGRAPHER	REMARKS
Reconstr. 1224	SHE	Refore After Verification and Review
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		Before After Verification and Review
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	568	1224 SE 568 SIE

M-2168-1

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