8069

Diag. Cht. No. 78-3.

Form 504

U. S. DEPARTMENT OF COMMERCE

COAST AND GEODETIC SURVEY

DESCRIPTIVE REPORT

Type of Survey Hydrographic

Field No. CO-2451 *Office No.* H-8069

LOCALITY

State Maryland - Virginia

General locality Chesapeake Bay

Locality West of Smith Island

1951

CHIEF OF PARTY

John Bowie, Jr.

LIBRARY & ARCHIVES

DATE January 14, 1954

COMM-DC 61300

8069

BS > 5L
Field 6/50/55
H+WB

Form 537
(Ed. June 1946)

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-8069

Field No. Co-2451

State MARYLAND - VIRGINIA

General locality CHESAPEAKE BAY

Locality WEST OF SMITH ISLAND

Scale 1:20,000 Date of survey 27 Sept. to 22 Oct. 1951

Instructions dated 28 February 1949

Vessel SHIP COWIE

Chief of party JOHN BOWIE, JR.

Surveyed by SHIP'S OFFICERS G.C. Mast

Soundings taken by [redacted], graphic recorder, [redacted]

Fathograms scaled by SHIP' PERSONNEL

Fathograms checked by SHIP'S PERSONNEL

Protracted by NANCY WINN & BEN T. LEWIS

Soundings penciled by BEN T. LEWIS

Soundings in [redacted] feet at MLW [redacted] and are true depths

REMARKS:

U. S. GOVERNMENT PRINTING OFFICE 777032

JLS

DESCRIPTIVE REPORT
To Accompany

HYDROGRAPHIC SURVEY H-8069 (Field No. Co-2451)

PROJECT CS-287

CHESAPEAKE BAY, WEST OF SMITH ISLAND

SHIP COWIE SCALE 1:20,000

JOHN BOWIE, JR. COMDG.

A PROJECT

This survey was made in accordance with the Director's letter of instructions dated 28 Feb. 1949, for Project CS-287.

B SURVEY LIMITS & DATES

The area covered by this survey is in Chesapeake Bay, just west of Smith Island. It is bounded on the south by Lat. 37-52.0, on the north by Lat. 38-03.0, on the east by Long. 76-02.0 and on the west by Long. 76-04.2. This survey makes junctions with contemporary survey H-7944 (1951) on the south, H-7943 on the east and H-7781 on the north. Field work was accomplished between 27 Sept. 1951 (1951) and 22 Oct. 1951 (1949). H-7781 (1949) H-7943 (1951)

C VESSELS AND EQUIPMENT

Launch 102 operating from Ship Cowie, was used. An 808-J fathometer was used to obtain soundings.

D TIDE AND CURRENT STATIONS

A portable automatic tide gage was operated at Holland I. Bar L.H. during the period of this survey.

E SMOOTH SHEET

The projection was constructed and the smooth sheet plotted by the Norfolk Processing Office.

F CONTROL STATIONS

See Processing Office list of signals

G SHORELINE & TOPOGRAPHY

Shoreline on the smooth sheet was transferred from air-photo compilations T-8149 & T-8163. Shoreline in the vicinity of triangulation stations Herring, Bone and Goose should be transferred by the Washington Office from smooth sheet H-7944, as the source of the shoreline corrections are no longer available at the Norfolk Office. An explanation of these shoreline corrections may be found in the Addendum to the descriptive report for that survey. See Review

T-8149 (1943)
T-8163 (1943)

H SOUNDINGS

Depths were measured with an 808 type fathometer. Adequate bar checks were taken and the soundings checked very well at crossings, considering the irregular nature of the bottom.

I CONTROL OF HYDROGRAPHY

Sounding lines were controlled by three point sextant fixes on shore objects. Hydrographic signals were cut in using triangulations stations where possible. Intersections on these stations were generally good with the exception of marked topo station South, 1942. (See note in the Addendum concerning this station). (Norfolk Processing office)

J ADEQUACY OF SURVEY

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

K CROSSLINES

Less than one percent of crosslines were run. ~~as this is an incompleted survey.~~

L-M COMPARISON WITH CHART 1224

This survey is in general agreement with the chart, with most of the changes being in small sand-wave areas, the general depths being essentially the same. A least depth of six feet was found in the west entrance to Big Thorofare. The chart shows seven feet (in 1945). No dangers or important new shoals were found, other than those charted. See Review.

LIST OF SIGNALS
H-8069

TRIANGULATION STATIONS

BIG	BIG THOROFARE RIVER, WEST LIGHT NO. 1, 1942
BONE	BONE, 1952
CAL	CALVARY M.E. CHURCH SPIRE, 1942
EWE	EWELL M.E. CHURCH SPIRE, 1942
GOOSE	GOOSE, 1952
HER	HERRING, 1952
BAR	HOLLAND ISLAND BAR L.H., 1897-1934
SKI	SKI, 1952
PIP	SMITH ISLAND LIGHT, 1942
SOL	SOLOMONS LUMP L.H., 1898-1934
BEL	UNION M.E. CHURCH, SOUTH BELFRY, 1942
TAN	TANGIER ISLAND CHURCH SPIRE, 1898

MARKED TOPOGRAPHIC STATIONS

COOK, 1942 - T-8163

TOPOGRAPHIC STATIONS

Kid - T-8149
Nat - T-8149

HYDROGRAPHIC STATIONS

Echo	Vol. 1, pg. 3
Dove	Vol. 1, pg. 3
Jim	Vol. 1, pg. 3
Van	Vol. 1, pg. 3
Cop	Vol. 1, pg. 3
Axe	Vol. 1, pg. 4
Buck	Vol. 1, pg. 4
Lac	Vol. 4, pg. 6 Survey H-7943
Hor	Survey H-7944
Rat	Survey H-7944
Joe	Vol. 1, pg. 4
Sis	Survey H-7944
South	Vol. 1, pg. 4

FLOATING AIDS TO NAVIGATION
H-8069

BUOY	LOCATION	POS. NO.	DEPTH	DATE
Big Thorofare West Appr. Bell Buoy	37-59.85 76-04.39	18b	20'	2 Oct. 1951

FATHOMETER CORRECTIONS
H-8069

A SCALE

0.0 to 12.0	- 0.0
12.1 to 16.0	-0.2
16.1 to 20.0	-0.4
20.1 to 24.0	-0.6
24.1 to 28.0	-0.8
28.1 to end	-1.0

STATISTICS
H-8069

DATE	VOL.	DAY LTR.	NO. POS.	STAT. MI. SDG.
9/27/51	1	a	192	50.6
10/ 2/51	1-2	b	128	31.1
10/ 3/51	2	c	161	39.0
10/ 9/51	3	d	110	28.1
10/12/51	3	e	48	10.6
10/15/51	3-4	f	140	32.0
10/16/51	4	g	136	32.4
10/22/51	4-5	h	194	49.8
	TOTALS		1109	273.6

ADDENDUM FROM NORFOLK PROCESSING OFFICE.
To Accompany

HYDROGRAPHIC SURVEY H-8069 (Field No. Co-2451)

GENERAL

This is an incomplete survey as Ship Cowie was ordered to the York River area before the sheet was finished. With the exception of a few crosslines, the area sounded appears to be adequately developed.

The body of this report was written in the Norfolk Processing Office. Field notes were not submitted by the field party.

The stranded wreck at Lat. 38-02.38 and Long. 76-09.36 was cut in by the field party.

CONTROL

Marked torographic station South, 1942 was plotted using some of the sextant cuts recorded in the volumes, and also utilizing cuts from sounding positions at fix changes, where jumps were occuring in the sounding lines. A great many positions had to be replotted before a reasonably accurate position could be determined for this station. Considering the relative un-importance of this area, it was not considered necessary to recommend that a field party be sent back to locate this station in the conventional manner.

Plotted position of South questionable, however retained as a hydrographic determination. Positioning of some sounding lines also questionable but revisions were not made because of lack of definite position of South and the changes not being of a critical nature.

E.E.T.

Respectfully submitted,.

Hugh L. Proffitt

Hugh L. Proffitt
Cartographer.

Norfolk, Va.
11 January 1954

OFFICE OF CARTOGRAPHY

REVIEW SECTION -- NAUTICAL CHART DIVISION

REVIEW OF HYDROGRAPHIC SURVEY

REGISTRY NO. H-8069 FIELD NO. CO-2451

Maryland, Virginia, Chesapeake Bay, West of Smith Island

SURVEYED: Sept. - Oct. 1951 SCALE: 1:20,000

PROJECT NO. CS-287

SOUNDINGS: 808 Fathometer CONTROL: Sextant fixes on shore signals

Chief of Party ---------- J. Bowie
Surveyed by ---------- G. C. Mast
Protracted by ---------- N. Winn; B. T. Lewis
Soundings plotted by -------- B. T. Lewis
Verified and inked by ------- J. P. Weir; O. Svendsen
Reviewed by ---------- E. E. Thomas DATE 3-21-61
Inspected by ---------- R. H. Carstens

1. Shoreline and Signals

a. The shoreline in black originates with reviewed photogrammetric surveys T-8149, T-8163 of 1942.

The shoreline revisions shown in red are from H-7943 (1951) and H-7944 (1951).

b. The sources of control are given in the Descriptive Report.

2. Sounding Line Crossings

Sounding line crossing exists only at the Entrance to Big Thorofare. These are in adequate agreement.

3. Depth Curves and Bottom Configuration

The usual depth curves are adequately delineated. The bottom is fairly irregular, characterized by sand ridges undulating from 1 to 3 ft.

4. Junctions with Contemporary Surveys

Adequate junctions were effected on the north with H-7781 (1949), and with inshore surveys H-7943 (1951) and H-7944 (1951) to the east.

Junctions with unverified surveys H-8435 (1956) on the west and H-8280 (1955) on the south will be considered in the reviews of those surveys.

5. Comparison with Prior Surveys

a. H-211 (1849), 1:20,000
H-1441 a&b (1879), 1:40,000
H-2500 (1900-01), 1:60,000

These early reconnaissance surveys reveal minor differences which may be regarded as alterations of bottom configuration by natural causes. The present survey is considered adequate to supersede the prior surveys within the common area.

b. H-2616 (1901-02), 1:20,000
H-3361 (1911), 1:40,000

These prior surveys comprise the coverage more comparable to the present survey for the area under consideration. This comparison reveals scattered deepening of 1-2 feet from natural causes.

One area at Lat. 37°52.5', Long. 76°02.2', has shoaled as much as 14 ft. since the 1911 survey (H-3361).

Bottom characteristics in stable areas were brought forward from H-3361 (1911). With the addition of these bottoms characteristics the present survey is considered adequate to supersede the prior surveys in the common area.

6. Comparison with Chart 555 (Latest print date 10-26-59)
568 (Latest print date 7-11-60)

A. Hydrography

The charted hydrography originates principally with the present survey prior to verification and review. No important discrepancies are noted between the survey and charted depths, except as follows:

The 8-ft. sounding at Lat. 37°53.8', Long 76°03.0' is the least offshore depth and is noted for charting.

B. Dredged Channels

The charted controlling depth for the marked channel of Big Thorofare (West) originates with information subsequent to the present survey.

C. Aids to Navigation

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

Big Thorofare West Light No. 2 (1942) charted in Lat. 37°59.95', Long. 76°03.35' was not located on the present survey.

The Navy maintained Markers for the buoy testing area were charted from NM 24, 1958 subsequent to the present survey.

7. Condition of the Survey

a. The sounding records and Descriptive Report are complete and comprehensive.

b. The smooth plotter experienced difficulty in proper adjustment of hydrographic signals. Sounding line positions are considered adequate for the survey of this relatively unimportant area.

8. Compliance with Project Instructions

The survey adequately complies with Project Instructions.

9. Additional Field Work

The survey is considered to be basic for the area covered and no additional work is required.

Examined and Approved:

Chief, Nautical Chart Division — 7/25/61

Projects Officer, Operations Division

Assistant Director, Office of Cartography

Assistant Director Office of Oceanography

GEOGRAPHIC NAMES

Survey No. H-8069

Name on Survey	On Chart No. A	On previous survey No. B	On U. S. quadrangle Maps C	From local information D	On local Maps E	P. O. Guide or Map F	Rand McNally Atlas G	U. S. Light List H	K	
Maryland									B&N	1
Virginia									"	2
Smith Island										3
Big Thoroughfare									B&N.	4
Holland Island Bar Light				(tide station)					4	5
Fog Point										6
										7
				Names approved 1-25-54 K. Heck						8
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										27

M 234

Hydrographic Surveys (Chart Division)

HYDROGRAPHIC SURVEY NO. H-8069....

See H-8435 for 85

Records accompanying survey:

Boat sheets .1...; sounding vols. 5....; wire drag vols. .....;

bomb vols. .....; graphic recorder rolls ..4 Env.

special reports, etc. 1 Descriptive Report; 1 Smooth Sheet;.....

.....

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

Number of positions on sheet		.109..
Number of positions checked		..22..
Number of positions revised		..1...
Number of soundings revised (refers to depth only)		..0...
Number of soundings erroneously spaced		..4...
Number of signals erroneously plotted or transferred		...0..
Topographic details	Time	..4h..
Junctions	Time	..12h..
Verification of soundings from graphic record	Time	..24h..

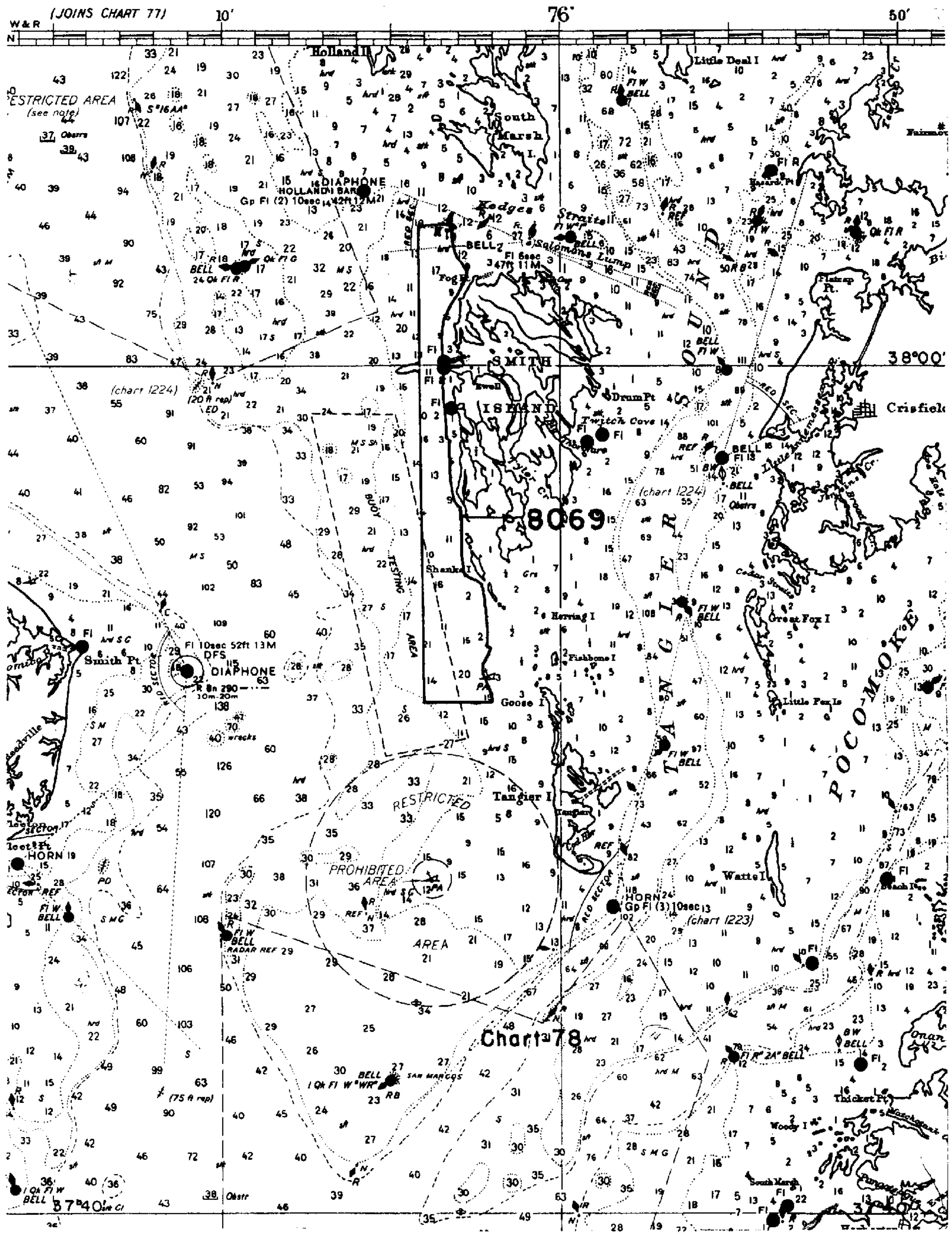
O. Svendsen . . . . . 16 hrs . . . 6-30-55

Verification by...John P. Wis.....Total time ..48h.. Date Jan 16 1961

Reviewed by..E. E. Thomas..... Time ..36*.. Date 3/21/61

* 24 hrs Corrections after verification

M-2232-1


(JOINS CHART 77)
W & R
76°
50'
10'
RESTRICTED AREA
(see note)
Holland I
South Marsh I.
DIAPHONE
HOLLAND BAR
Kedges
Straits
Solomons Lump
Little Deal I
SMITH ISLAND
Drum Pt
Twitch Cove
38°00'
Crisfield
(chart 1224)
8069
TANGIER SOUND
BUOY TESTING AREA
Shanks I
Herring I
Fishbone I
Great Fox I
Little Fox Is
Goose I
POCOMOKE
Smith Pt
DIAPHONE
Tangier I
RESTRICTED
PROHIBITED AREA
AREA
HORN
(chart 1223)
Watts I
Chart 78
SAN MARCOS
Thicket Pt
Woody I
South Marsh
37°40'

RHC

Form 712
DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY
Rev. Apr. 1950

TIDE NOTE FOR HYDROGRAPHIC SHEET

~~Division of Coast and Survey~~ 19 January 1954

Division of Charts: R. H. Carstens

Plane of reference approved in 5 volumes of sounding records for

HYDROGRAPHIC SHEET 8069

Locality Chesapeake Bay, Maryland - Virginia

Chief of Party: J. Bowie, Jr. in 1951
Plane of reference is mean low water, reading
2.6 ft. on tide staff at Holland Island Bar Lighthouse
14.2 ft. below B. M. 3 (1942)

Height of mean high water above plane of reference is 1.4 feet.

Condition of records satisfactory except as noted below:

E. C. McKay
Section of Tides
Chief, Division of Tides and Currents.

U. S. GOVERNMENT PRINTING OFFICE 877933

NAUTICAL CHARTS BRANCH

SURVEY NO. H-8069

Record of Application to Charts

DATE	CHART	CARTOGRAPHER	REMARKS
1/20/54	555	S.G.M.	Before ~~After~~ Verification and Review Completely applied
2/11/54	568	[illegible]	Before ~~After~~ Verification and Review
2/15/54	1224 Remote	GKE	Before ~~After~~ Verification and Review
3-3-54	1224 Tide ovrl	HTL	Before ~~After~~ Verification and Review 3 adgs added
8/18/54	1223	Chas R. Wetherow	Before ~~After~~ Verification and Review remaining adgs applied thru chart 1224 (6th Ed)
8/9/61	568	J. H Eaton	~~Before~~ After Verification and Review Comp App'd.
8/21/61	1223	J. H Eaton	~~Before~~ After Verification and Review Comp App'd thru Cht 568
8-28-61	1224	R. E. Elkins	~~Before~~ After Verification and Review Partly applied Examined Reviewed - no revisions
8-29-61	1224	R. E. Elkins	~~Before~~ After Verification and Review Partly applied area of chart 1223 fully applied
11/13/61	555	J. H Eaton	~~Before~~ After Verification and Review Comp App'd.
1/13/62	1224	J. H Eaton	Comp. App'd. after V & R. Thru dgs Cht 555 & 568 V.R.D
12/12/64	78	O. Svendsen	Part. app. (No corr) EKD ✓ 12-15-64
8/24/70	78	S. Mc. Millan	Fully App'd Thru Cht 1224 #48 After V.&R.

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.