

7047

Original

Diagram on Diagram no 77-3

Form 504	
U. S. COAST AND GEODETIC SURVEY DEPARTMENT OF COMMERCE	
<b>DESCRIPTIVE REPORT</b> OF LYDONIA'S WORK ONLY	
Type of Survey	HYDROGRAPHIC
Field No. 313	Office No. H-7047
LOCALITY	
State	MARYLAND
General locality	Chesapeake Bay-Eastern Shore
Locality	Broad Creek and Harris Creek
194 5	
CHIEF OF PARTY	
L.P. Raynor, Comdg. Ship LYDONIA	
LIBRARY & ARCHIVES	
DATE	

7047

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 7047

Field No. 313

State MARYLAND

General locality CHESAPEAKE BAY

Locality BROAD CREEK AND HARRIS CREEKS

Scale 1/10,000 Date of survey July 1944 - Oct. 1945

Instructions dated April 17, 1940 - September 12, 1944

Vessel COWIE

Chief of party Thos. B. Reed

Surveyed by C.R. Reed, J.O. Phillips, A.L. Powell

Soundings taken by ~~fathometer~~, graphic recorder, ~~hand lead, wire and pole~~

Protracted by J.D. Curd

Soundings penciled by JD. Curd

Soundings in ~~fathoms~~ feet at MLW ~~mark~~

REMARKS: Sheet H-7047 consists of work accomplished by the Ships COWIE and LYDONIA. This sheet was processed in the Hydrographic Section of the S.F. District, Norfolk, Va.

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-7047

Field No. 313

State MARYLAND

General locality Chesapeake Bay - Eastern Shore

Locality Broad Creek and Harris Creeks

Scale 1/10,000 Date of survey (July 1944 to Oct 1945) Cowie  
April 1945 (LYDONIA work)

Instructions dated April 17, 1940 to Sept. 12, 1944

Vessel LYDONIA (Launches 79 & 100)

Chief of party L.P. Raynor

Surveyed by P.L. Bernstein, C.R. Reed Ship's Officers (see other title sheet)

Soundings taken by ~~fathometer~~, graphic recorder, ~~hand level, etc.~~

Protracted by J.D. Curd

Soundings penciled by J.D. Curd

Soundings in ~~fathoms~~ feet at MLW ~~MLLW~~

REMARKS: Boat sheets forwarded to Motor Vessel COWIE for completion.

Sheet H-7047 consists of work accomplished by the Ships Cowie and Lydonia. ~~This sheet was processed in the Hydrographic Section of S.E. District, Norfolk, Va.~~

DESCRIPTIVE REPORT TO ACCOMPANY  
Hydrographic Sheet H - 7047 (Field No. 313)  
Broad Creek and Harris Creek, Maryland  
Project CS 250 - 1945 - Scale 1/10,000  
Thos. B. Reed, Comdg. Ship COWIE  
Surveyed by C. R. Reed, J. O. Phillips, A. L. Powell  
and by parties from Ship LYDONIA

A part of the field work on this survey was accomplished by personnel from the Ship LYDONIA and is covered by a separate report previously submitted by that vessel.

A. PROJECT: The authority for this survey is contained in the original instructions for Project CS - 250 dated April 17, 1940, additional instructions dated September 18, 1942, and supplemental instructions dated September 23, 1943 and September 12, 1944.

B. SURVEY LIMITS AND DATES: The survey includes Broad Creek and its tributaries west of  $76^{\circ} 15'$  W Longitude and Harris Creek and its tributaries. Field work began on July 24, 1944 and ended on October 26, 1945. There were several interruptions to the work on this sheet.

The survey joins contemporary surveys Field Sheet No. 513A (H-7032) on the south and No. 613 (Registry H 7001) on the east.

C. VESSELS AND EQUIPMENT: Launch No. 72 and a 25 foot skiff were used with type 808 Portable Depth Recorders No. 65 and 67. Part of the skiff sounding in shoal water was by sounding pole.

The sounding parties operated from the Ship COWIE at anchor on the working grounds.

D. TIDE AND CURRENT STATIONS: A portable automatic tide gage was maintained at Avalon, Maryland for the work in the lower part of Harris Creek. A tide observer read the staff at Deep Neck Point, Maryland for the work in Broad Creek. This station was established by personnel from the Ship LYDONIA. A tide observer read the staff at Rabbit Point, Maryland for the work in upper Harris Creek north and east of Indian Point. This station was later made a portable automatic gage station to obtain the necessary continuous observations.

E. SMOOTH SHEET: The smooth sheet is to be plotted by the Norfolk Processing Office.

F. CONTROL STATIONS: ~~Triangulation~~ and topographic stations were transferred from copies of air photo topographic sheets T 5708, T-5711, T-5723 and T-5724.

Several signals were spotted on the ozalid copies of the air photo topographic sheets listed above and transferred to the boat sheets.

Signal TEE was located by a distance and direction from triangulation station LARRY 1941.

Hydrographic signal BLIND is from survey 513A (field No.) H-7032 and its position was verified by outs.

G. SHORELINE AND TOPOGRAPHY: All shoreline was transferred to the boat sheets from the air photo topographic surveys mentioned in "F" above. The shoreline in the vicinity of signal SOT (Latitude  $38^{\circ} 42.8'$ , Longitude  $76^{\circ} 16.6'$ ) was revised from the hydrographic survey vessel.

The low water line is too near the high water line to permit its delineation by soundings in most places.

H. SOUNDINGS: Part of the sounding was done with a 20 foot pole used in connection with the 25 foot sounding skiff and the remainder was done by Type 808 Depth Recorder from the skiff or from Launch 72. Bar checks were made twice daily to obtain necessary corrections to be applied to soundings. No settlement corrections were required for the vessels used for sounding.

I. CONTROL OF HYDROGRAPHY: Three point sextant fixes on shore objects were used whenever available. In portions of the smaller tributaries where three point fixes were not available the fixes were plotted with relation to shore detail and are indicated by "SBS" or "See boat sheet" in the sounding volume.

J. ADEQUACY OF SURVEY: It is believed that the survey is complete and adequate to supersede prior surveys for charting.

A suspected shoal sounding at Lat.  $38^{\circ} 41.55'$ , Long.  $76^{\circ} 18.38'$  was investigated on "z" day and found to be a stray. (See Review, Par. 7b)

The junction with survey 513A on the south is satisfactory on the boat sheet. The junction with survey 615 on the east was made by the LYDONIA'S hydrographic party. (H-7001)

K. CROSSLINES: About 7 per cent of crosslines was run. The boat sheet agreement for crossings is satisfactory.

L. COMPARISON WITH PRIOR SURVEYS: See "Comparison with Chart" below.

M. COMPARISON WITH CHART: A detailed comparison with the chart has been left until completion of the smooth sheet. The boat sheet was compared with Chart 1225, print date 7/17/44, for the following shoal soundings:

The charted 12 foot sounding at Lat.  $38^{\circ} 41.8'$ , Long.  $76^{\circ} 18.5'$  falls in an area of relatively flat bottom and a minimum sounding of 13 feet was obtained on the boat sheet.

The 6 foot soundings at Lat.  $38^{\circ} 42.2'$ , Long.  $76^{\circ} 19.19'$  and Lat.  $38^{\circ} 44.3'$ , Long.  $76^{\circ} 18.4'$  were verified.

N. DANGERS AND SHOALS: No new shoals were found in this survey.

O. COAST PILOT INFORMATION: Coast Pilot notes will be covered by a special report for the entire area.

P. AIDS TO NAVIGATION: The positions of fixed aids to navigation are as shown on the air photo topographic sheets for the area. The positions of the floating aids (indexed in Vol. 1) should be taken from the smooth sheet.

The bascule bridge over Knapps Narrows has a horizontal clearance of 50 feet and a vertical clearance of 7.2 feet above M.H.W. when closed. These figures appear in the "List of Bridges over the Navigable Waters of the United States" published by the U. S. Engineer Corps. The above clearances were investigated in the field and found to be correct.

Q. LANDMARKS FOR CHARTS: Landmarks will be covered on an area basis.

R. GEOGRAPHIC NAMES: Geographic names as shown by the air photo topographic sheets are adequate.

U. OFFSHORE SIGNALS: The description of signals situated outside the low water line appears on the boat sheets near each such signal. These are usually beacons, duck blinds or ends of wharfs.

V. VELOCITY CORRECTIONS: Velocity corrections were obtained from the bar check curves which are made a part of this report.

Respectfully submitted,

*Clarence R. Reed*

C.R.Reed, Lt. Comdr., USC&GS

Approved and forwarded:

*Thomas B. Reed*

Thos. B. Reed, Lt. Comdr.,  
Comdg. USC&GS COWIE

STATISTICS FOR HYDROGRAPHIC SURVEY H 7047 (Field No. 313)

<u>VOLUME</u>	<u>DAY LETTER</u>	<u>DATE</u>	<u>VESSEL</u>	<u>POSITIONS</u>	<u>STATUTE MILES</u>
1	a	7/24/44	Skiff	89	9.9
1	b	7/25/44	Skiff & 72	133	17.4
1	c	7/27/44	Skiff	64	6.4
2	d	8/ 3/44	Launch 72	203	34.5
2	e	8/ 4/44	Skiff	7	1.6
3	f	9/ 1/44	Launch 72	137	22.0
3 & 4	g	9/ 5/44	Skiff	181	24.9
4	h	9/ 6/44	Skiff	181	20.2
4 & 5	j	9/ 7/44	Skiff	91	10.8
5	k	9/ 8/44	Skiff	183	22.5
5	l	9/13/44	Skiff	76	8.3
6	m	9/14/44	Skiff	78	9.5
6	n	9/19/44	Skiff & 72	87	9.8
6 & 7	p	9/20/44	Skiff	162	18.9
7	q	9/21/44	Skiff	101	12.9
7	r	9/22/44	Skiff	152	26.5
8	s	9/25/44	Skiff	67	12.2
8	t	9/26/44	Skiff	102	17.6
8	u	9/27/44	Skiff	36	5.4
8	v	5/ 8/45	Skiff	93	11.4
9	w	5/ 8/45	Launch 72	64	7.2
9	x	5/ 9/45	Skiff	114	14.9
9	y	5/11/45	Skiff	41	4.1
9	z	7/23/45	Launch 72	5	0.0
10	aa	10/23/45	Skiff	138	16.2
10	ab	10/24/45	Skiff	111	13.1
10 & 11	ac	10/25/45	Skiff	121	12.8
11	ad	10/26/45	Skiff	167	18.4
Totals				2984	388.8

Total area of hydrography: 13.5 square statute miles  
(COWIE only)

TIDE NOTE FOR HYDROGRAPHIC SURVEY H 7047 (Field No. 313)

<u>TIDE STATION</u>	<u>LATITUDE &amp; LONGITUDE</u>		<u>HEIGHT OF MLW ON STAFF</u>
AVALON	38° 42.54'	76° 19.86'	2.3 feet
DEEP NECK POINT	38° 43.90'	76° 14.05'	2.2 feet
* RABBIT POINT	38° 46.48'	76° 16.90'	1.4 feet

AVALON tides are to be used for the reduction of soundings in Harris Creek as far north as a line running 355° true from Indian Point and as far east as a line from Nelson Point to Nelson Island to Broad Creek Beacon. This includes all sounding through " u " day, 9/27/44.

DEEP NECK POINT tides are to be used for the reduction of soundings in Broad Creek or on v, w, x, and y days.

RABBIT POINT tides are to be used for the reduction of soundings in upper Harris Creek or " aa " through " ad " days inclusive.

No time or height factors are required on any of the above stations.

\* This may be the same as signal "SOP"  
 Tide gage location <sup>was</sup> not plotted on smooth sheet.



SUPPLEMENTARY LIST OF STATIONS ON HYDROGRAPHIC SHEET

H - 7047 (Field No. 313)

(to be added to List submitted by Ship LYDONIA)

TRIANGULATION STATIONS:

BOZEMAN M. E. CHURCH SPIRE 1909  
 FOX 1909  
 GRACE 1909  
 HARRISON 1909  
 LAWN 1909  
 PINK 1909

from Topographic Sheet T-5708

ALP	ERL	FOY	HUG	KAY	NIT	TAB
AVE	FIT	FRI	HUM	LAT	NUX	UNIT
BUR	FLY	FUN	INK	LES	OWL	VAL
CEDAR	POP	GUM	ITS	MAW	RAW	WED
EON	FOR	HOG	JET	NEW	SUT	ZEL
						ZOG

from Topographic Sheet T-5711

AHA	GET	LET	NEO	PLY	SIC	STY
ASK	GIG	LUX	NUB	POI	SHB	WAN
DIF	HOE	MOO	OUT	ROY	SKY	WEN
FIN	HON	NAY	PIX	RUE	SOP	

BALL - same as Hydro BALL by LYDONIA

LOW - same as Topo PAT by LYDONIA

BAR = same as CUP (both on LYDONIA list)

Hydrographic Signals indexed in Volume 1

DOC	LIN
DUX	ROT - ( not same as LYDONIA)
CRO	RUBE
FOE	SAM
JAX	TEE - ( distance and direction from triangulation sta. LARRY 1941)

Spotted from Photographic Detail - Sheet T-5708

ARM	COW	EST	GUY	JAS	LAM	TUX
BUT	DUO	FEZ	HOD	JIB	MILT	

Spotted from Photographic Detail - Sheet T-5711

CON	MET	NIX	OIL	PUG	RAG	RIK	SAG
-----	-----	-----	-----	-----	-----	-----	-----

Following stations should be transferred from T-5723 for sounding line through Knapps Narrows:

Center of bridge house  
 Black beacon, Back Creek Cut, No. 1970  
 Red beacon, Hoffman Point, No. 1965  
 Black beacon, Knapps Narrows West Entrance (A new position was determined for this beacon on hydrographic survey H-6958)

A D D E N D U M

to accompany

HYDROGRAPHIC SURVEY NO. H-7047 (Field No. LY-313)

This survey was accomplished by the Ships LYDONIA and COWIE, and was processed in the Hydrographic Section of the South-eastern District, Norfolk, Va.

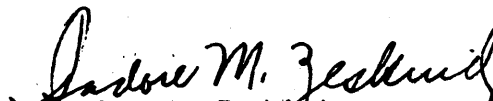
The corrections which were made by this office to the descriptive reports are shown in red.

Hydrographic Signals SIN, PIT and ROT were transferred from the boat sheet to the smooth sheet, as Sheet H-7001 on which these signals were originally plotted was not available at this office at the time H-7047 was plotted. *Checked with Smooth sheet*

Hydrographic Signal BLIND was transferred to the smooth sheet from the boat sheet. It was originally plotted on H-7032, but due to the fact that this sheet was not available at this office at the time H-7047 was plotted, it was necessary to take its location from the boat sheet. *Checked with Smooth sheet*

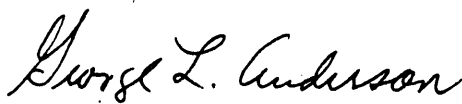
Attention is directed to Hydrographic Signal JAP. This signal is on a duck blind and is called WED by the LYDONIA and JAP by the COWIE. The boat sheets show two separate locations for this signal. However, it is the judgement of this office that the location by the Ship COWIE is most probably correct. This is the location as shown on the smooth sheet and the signal is called JAP throughout the records.

Respectfully submitted,

  
Isadore M. Zeskind  
Cartographic Engineer

Norfolk, Va.  
June 13, 1946

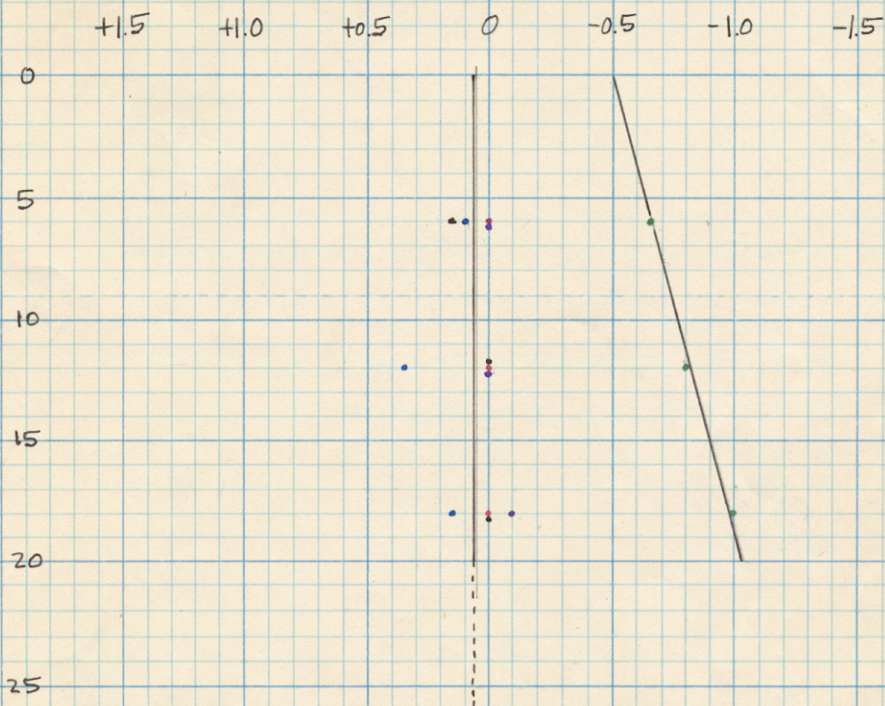
Approved & Forwarded

  
George L. Anderson  
Supervisor S. E. District

## CORRECTIONS TO DEPTH (Graphic Recorder)

SHEET 313 Project CS 250 Ship COWIE

T.B. Reed, Comdg.



Launch 72  
 Corrections for  
 w day - May 8, 1945

-0.6 ft. 0 to 7.5 ft. ✓  
 -0.8 ft. to 15.0 ft. ✓  
 -1.0 ft. to 20.0 ft. ✓

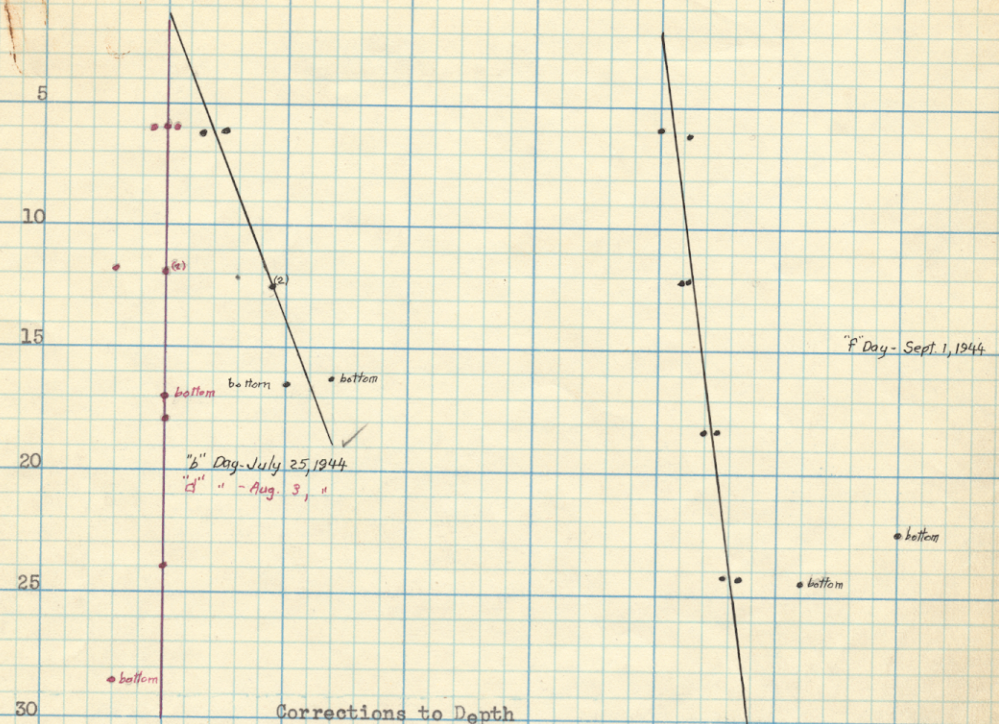
25' skiff  
 Corrections for

aa day - Oct. 23, 1945  
 ab day - Oct. 24, 1945  
 ac day - Oct. 25, 1945  
 ad day - Oct. 26, 1945

0.0 from 0 to 20 ft.

Comp GRR  
 WRR

Corrections to Depth  
 +0.5      0      -0.5      -1.0      +0.5      0      -0.5      ±1.0



Corrections to Depth  
 Feet

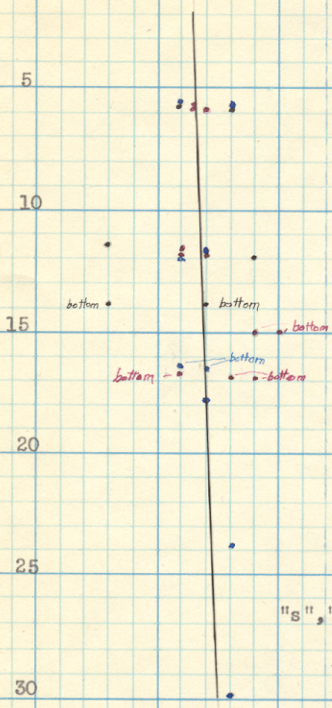
	July 25, 1944 "b" Day	Aug. 3, 1944 "d" Day	Sept. 1, 1944 "f" Day
35	0.0 to 3.5 ✓	to 30 ✓	to 9.0 ✓
	-0.2 4.0 to 8.5 ✓		9.5 to 23.5 ✓
	-0.4 9.0 to 13.5 ✓		24.0 to 30 ✓
	-0.6 14.0 to 19.0 ✓		

GRAPHIC RECORDER CORRECTIONS  
 U. S. Coast and Geodetic Survey  
 Ship (M.V. COWIE) Launch #72  
 Thos. B. Reed, Comdg.  
 These corrections are to be applied  
 to graphic recorder soundings on the  
 dates indicated, on hydrographic  
 survey No. 313 (Field), Choptank  
 River and Harris Creek, east and  
 north of Avalon, Md. Project CS-250

Comp by G. R. F.  
 4/ 1032

Corrections to Depth

+1.0    +0.5    0    -0.5    +1.0    +0.5    0    -0.5



"s" Day - Sept. 25, 1944  
 "t" " - " 26, "  
 "u" " - " 27, "

Corrections to Depth  
 Feet

"s", "t" & "u" Days - Sept. 25, 26, & 27, 1944

+0.4    to 18.0  
 +0.2    18.5 to 30

GRAPHIC RECORDER CORRECTIONS

U. S. Coast and Geodetic Survey  
 Ship: M. V. COMIE (25 Foot Skiff)

Thos. B. Reed, Comdg.

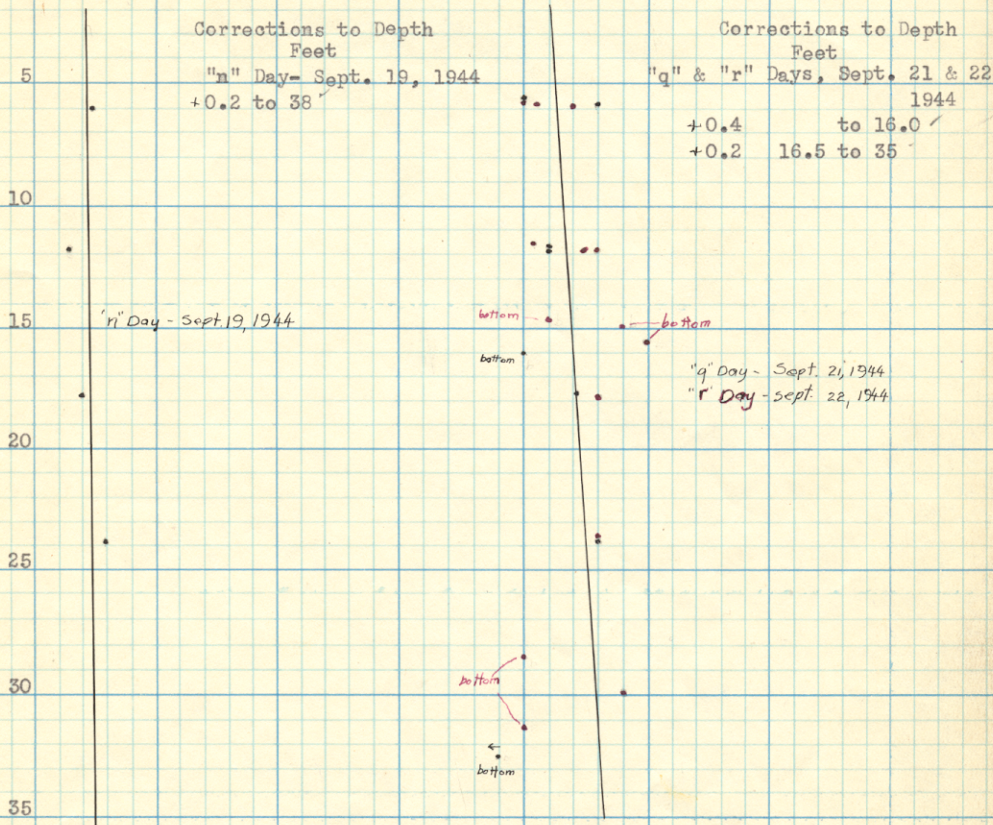
These corrections are to be applied to graphic recorder soundings on the dates indicated, on hydrographic survey No. 313 (Field), Choptank River and Harris Creek, east and north of Annon, Md., Project CS-250.

55

Comp. by SRF

Corrections to Depth

+0.5      0      -0.5      -1.0      +0.5      0      -0.5      -1.0



Note: Portable Depth Recorder No. 67 was used on "n" Day and all days prior to this day. Recorder No. 65 was used on "q" Day and all days subsequent to this day.

GRAPHIC RECORDER CORRECTIONS  
U.S. Coast and Geodetic Survey  
Ship: M. V. COWIE (25 Foot Skiff)  
Thos. B. Reed, Comdg.  
These corrections are to be applied to graphic recorder soundings on the dates indicated, on hydrographic survey No. 313 (Field), Choptank River and Harris Creek, east and north of Avalon, Md., Project CS-250.

Comp by JNF

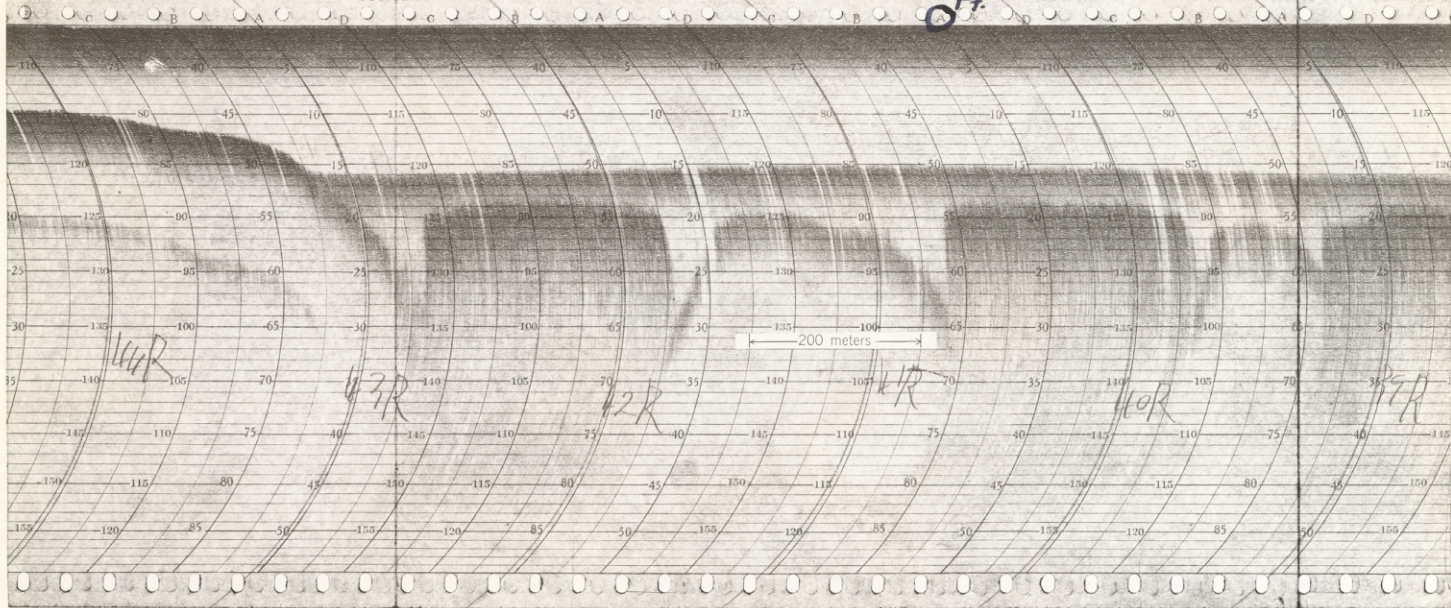
CHART 15U

SUBMARINE SIGNAL CO.

CHART 15U

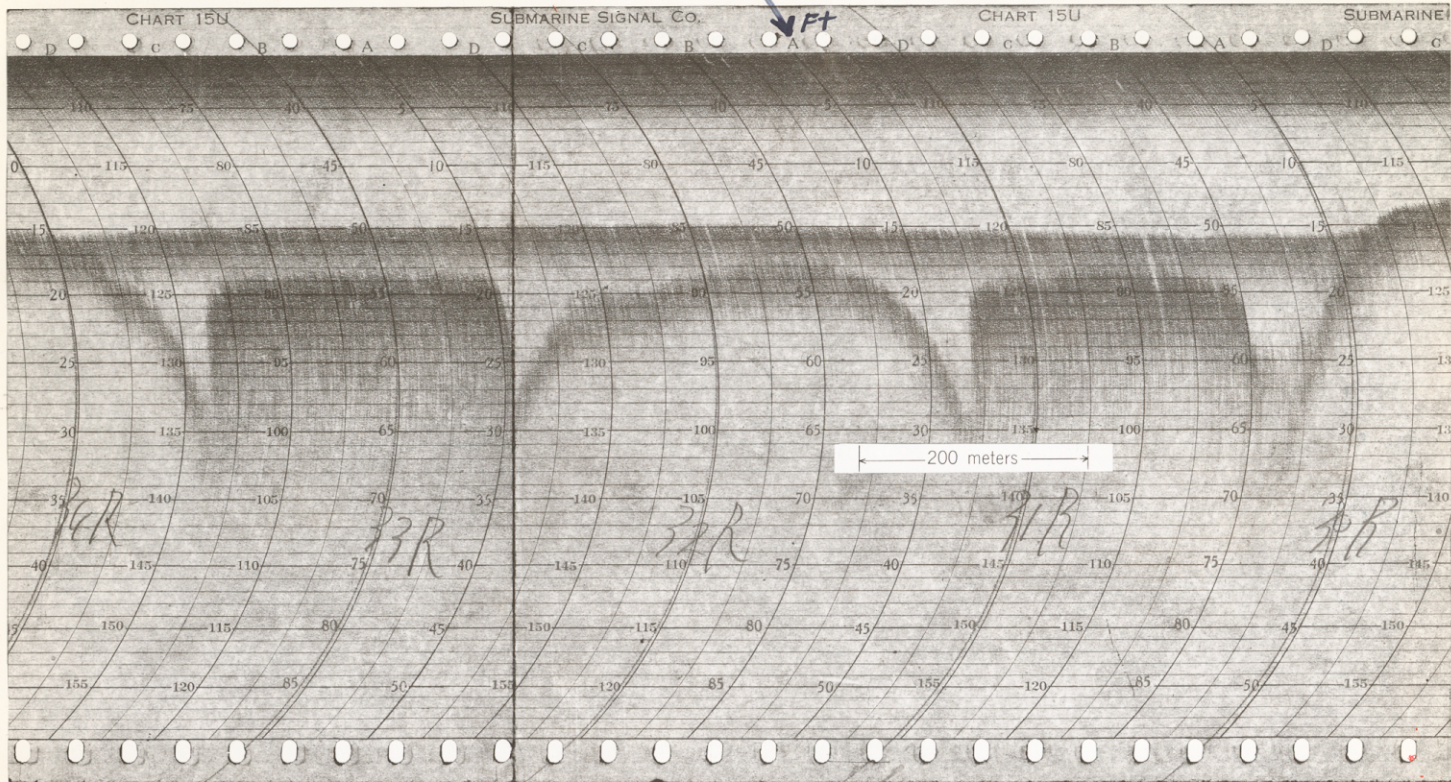
SUBMARINE SIGNAL CO.

CH



Section of an 808-fathogram in lat.  $38^{\circ}42.3'$ , long.  $76^{\circ}17.7'$ ,  
showing sedimentation area.





808-

Section of bathogram in lat.  $38^{\circ}42.3'$ , long.  $76^{\circ}17.6'$ ,  
showing sedimentation area.

SIGNAL LIST SHEET 7313

Triangulation

DEL - DELTA 1909  
AIR - FAIRBANKS 1909  
POP - NED 1909  
RAG - CAULK 1909

T-5711

Air Photographs

ACT DEB HIS NOD \*SOT  
\* ADD DIM HUG OAK SOX  
ADO DIX IDA ODD TAP oPD  
AGO \*DON IKE \*OFF \*TOR  
AMY DOT JAW OHM TOY  
ANN DUD JIM OLD TRY  
\* ANT \*EAT JIM PAD TUB  
APT EGG JOY PAL VAN  
AZO EGO JUT PAT VET  
BAR ELF KED PEG VEX  
BED EMO KEY PET VIA  
BIB ERA KIM PETY VIX  
BIG EVA LAB POL WAG  
BOA FANY LAX PUP WAG  
BONY FIG LEG \*PUS WAS  
\* BROAD FIX LIP QUO WIG  
BUM \*FOX \*LOG REV \*WIN  
BUS PRO LOTY RIG WIT  
COD GAM LUG RIM WOO  
CON GAS MAG RIO YAK  
COO GEM MAL ROSA YAM  
COP GEO \*MIL ROT YEA  
\* COR GOB MUG RUB YET  
\* CRY HABY MUM SAD ZOO  
\* CUP HAT NAT SAGY  
CUR HEP NIG SIR  
CUT HER NIL SIS  
HID NIP SOL

Signals spotted from  
topographic features

AMP DUN HEX NUT RIP  
ART END HOP ORE SLY  
AXE ERG ION ORB SUE  
BAH FEW LOP PAR WEE  
BOB FRY MAR PIE YES  
BON GIB NOR PUT  
CAN GIN NUT RAT

Hydrographic Signals

AIM DAY \*WEL SAX WAR  
BALL \*DUG NOW \*SIN WED  
\* BLIND \*FAN \*PIT TAN WHO  
\* BOX \*JAP \*PEP THY WIZ  
CAR LEO \*ROT USE  
CUE MAX SAL VAL

T-5708

Air Photographs

ACE EBB GAD ICE  
BAG EEL GAG IVY  
CAM FAT HAG JAR  
DAN FED HUB JOB  
KID

Signals Spotted from  
topographic features

DIP HUT NED SIP  
ELM IRK ORA TAX  
FOG KER PRO VIM  
GAL MOP RUM WAX

Hydrographic Signals

JAY LIZ  
KEN MID

T-5723 \*

Air Photographs

BARN GAS ONE TOM  
BUD GUS PIN TOP  
CAB JOE POP WAY  
CAN JUG POT WHY  
DAR KATE RAM ZAG  
EAR LAG ROW ZIG  
FAR MAY SPIRE  
FEN NON TAR

Hydrographic Signals

DOC ROT  
LIN SAM

T-5724 \*

AIR Photographs

ANE BLACK MAN SET  
ARC DOG NAN TEE  
BAT HOW ARD (Bed on H 7032)

Hydrographic Signals

CAT YEL

\* Signals presumably used by M.V. CONIE

a = FROM H-7001

U = " H-7032

APPROVAL SHEET

Boat sheets were inspected daily and sounding records frequently and both are approved.



L.P. Raynor,  
Comdr., USC&GS,  
Chief of Party Comdg. LYDONIA

DESCRIPTIVE REPORT TO ACCOMPANY  
Hydrographic Sheet H-7047  
Field Sheet No. 313, A1945 (LYDONIA'S work only)  
Broad Creek and Harris Creek, Maryland  
L.P. Raynor, Chief of Party,  
Commanding Officer Ship LYDONIA  
Surveyed by P.L. Bernstein, C.R. Reed

Scale 1/10,000

A. PROJECT: The authority for this survey is contained in the Instructions from the Director for Project No. CS-250, dated April 17, 1940, additional instructions dated Sept. 18, 1942, supplemental instructions dated Sept. 23, 1943, and supplemental instructions dated Sept. 12, 1944.

B. SURVEY LIMITS AND DATES: This is a new survey of Broad Creek and its tributaries west of  $76^{\circ} 15'$  W. Longitude and of Harris Creek and its tributaries. Only a part of the Broad Creek work was completed by the Lydonia parties.

Work on the sheet was begun on April 6, and ended on April 12, 1945.

The sheet joins contemporary sheets 513 (field no.) by the M.V. COWIE on the south and F-613 (Registry H7001) by the LYDONIA on the east. H-7032

C. VESSELS AND EQUIPMENT: Launch 79 using Model 808 Fathometer No. 75 and Fish No. 809115 and Launch 100 using Model 808 Fathometer No. 55 and Fish No. 80997 were used for sounding, basing from the Ship LYDONIA anchored west of Choptank River Light.

A sounding pole was used on each launch for soundings in shoal water.

D. TIDE AND CURRENT STATIONS: A portable tide gage at Deep Neck Point was used for this hydrography. Soundings on the boat sheet were reduced from the actual observed tides at this station.

E. SMOOTH SHEET: The smooth sheet will probably be plotted by the Norfolk Processing Office.

F. CONTROL STATIONS: Four triangulation stations from the Maryland Shellfish Survey of 1909 were used. Their positions were taken from topographic sheets T-5708 and T-5711. These are air photographic sheets and furnish the positions for topographic stations. (plotted on 5/5 from 4 P3 in SP #114)

Several signals taken from points identified and pricked on the ozalids are shown in green on the sheet.

Hydrographic signals in blue were located by three point sextant fixes and are indexed in Volume 1.

G. SHORELINE AND TOPOGRAPHY: Shoreline and topography is from sheets ~~T-5708~~ and ~~T-5711~~. In general the shoreline is satisfactory. At Lat.  $38^{\circ} 46.3'$  Long.  $76^{\circ} 15.15'$  the shoreline was shown inshore from the marsh symbol. This marshy point is bare at ordinary high water and should be so shown. \*See Review, Part I

H. SOUNDINGS: Regular 808 Fathometer methods were used with pole soundings on shoal lines as a check on the interpretation of the fathogram.

I. CONTROL OF HYDROGRAPHY: Three point fixes by sextant on shore objects were used wherever possible. Bearings taken with an azimuth circle on a boat compass atop the launch and distances by range finder were used in a few instances on Launch 100.

J. ADEQUACY OF SURVEY: Additional work is required except in the part of Broad Creek north of Latitude  $38^{\circ} 45.75' N$ . The boat sheets <sup>complete</sup> are being turned over to the Motor Vessel COWIE.

The junctions which have been made with adjoining sheets appear satisfactory on the boat sheet.

K. CROSSLINES: About 7% of crosslines were run in the work which was done and crossings are generally in good agreement on the boat sheet.

L. COMPARISON WITH PRIOR SURVEYS: See "Comparison with Chart" below.

M. COMPARISON WITH CHART: In the completed area in Broad Creek north of Latitude  $38^{\circ} 45.75'$  the present survey compares well with Chart 1225. No comparison has been made in the uncompleted portion.

N. DANGERS AND SHOALS: Several shoal soundings appear on the fathogram which may possibly be sunken snags. As there is no indication of these shoal soundings on adjacent lines it is recommended that they be checked by some type of wire drag. The positions of these soundings <sup>are</sup> is shown below:

11 ~~1000~~ ft. at Lat.  $38^{\circ} 44.68'$  Long.  $76^{\circ} 14.93'$  -  
9 ft. at Lat.  $38^{\circ} 44.62'$  Long.  $76^{\circ} 14.94'$  -  
~~14.9~~ ft at Lat.  $38^{\circ} 43.25'$  Long.  $76^{\circ} 15.63'$  (stray)  
6 ft. at Lat.  $38^{\circ} 44.92'$  Long.  $76^{\circ} 15.55'$  -

O. COAST PILOT INFORMATION: No additional Coast Pilot information is necessary.

P. AIDS TO NAVIGATION: A position was obtained at Great Bar Buoy 2, at approximate Latitude  $38^{\circ} 42.62'$ , Longitude  $76^{\circ} 15.55'$ . No other aids appear on this portion of the sheet.

Q. LANDMARKS FOR CHARTS: No new landmarks are recommended.

R. GEOGRAPHIC NAMES: No additional geographic names are recommended.

Statistics, Tidal note and List of Signals are appended.

Respectfully submitted,

*P.L. Bernstein*  
P.L. Bernstein, Lt. Comdr., USC&GS

*C.R. Reed*  
C.R. Reed, Lt. Comdr., USC&GS

Approved and Forwarded:

L.P. Raynor, Comdr., USC&GS,  
Commanding Ship LYDONIA

STATISTICS, SHEET F-313: (LYDONIA work only)

<u>DATE</u>	<u>DAY LETTER</u>	<u>LAUNCH</u>	<u>VOLUME</u>	<u>NO.SNDGS.</u>	<u>NO.POS.</u>	<u>STAT.MI.</u>
4/6/45	a	100	1	131	134	14.3
4/7/45	b	100	1	190	157	16.7
4/7/45	a	79	2	3	199	29.6
4/11/45	b	79	2	2	83	13.3
4/11/45	c	100	3	12	20	2.2
4/12/45	d	100	3	173	174	17.4
4/12/45	c	79	4	14	145	19.9
TOTALS:				525	912	113.4

TOTAL AREA OF HYDROGRAPHY: 5.0 square statute miles

CROSSLINES: 16.2 statute miles or 7% of total mileage.

APPROVAL SHEET FOR HYDROGRAPHIC SURVEY

H 7047 ( Field Number 313)

The boat sheets and accompanying records for hydrographic survey H 7047 have been inspected by me and are approved.



Thos. B. Reed,  
Lt. Comdr., USC&GS,  
Chief of Party



TIDAL NOTE:

SHEET F- 313A (REGISTER NO. H-7047 )

Plane of reference is Mean Low Water.

The portable automatic tide gage at Deep Neck Point, Md., should be used to determine tide reducers for all soundings on the LYDONIA portion of the sheet.

Position of DEEP NECK POINT Tide Gage

Latitude  $38^{\circ} 43.90' N.$

Longitude  $76^{\circ} 14.05' W.$

MLW on STAFF is 2.2 ft.

Time difference on Baltimore -3h 15m

GEOGRAPHIC NAMES

Survey No. **H7047**

Name on Survey	Source										
	A	B	C	D	E	F	G	H	K		
<u>Chesapeake Bay</u>										U.S.G.B.	1
<u>Harris Cr</u>											2
<u>Broad Cr</u>											3
<u>Dogwood Hbr</u>											4
<u>Knapps Narrows</u>										U.S.G.B.	5
<u>Dun Cave</u>											6
<u>Waterhole Cove</u>											7
<u>Briary Cove</u>										U.S.G.B.	8
<u>Cummings Cr</u>										"	9
<u>Balls Cr.</u>											10
<u>Leadenham Cr.</u>											11
<u>Caulk Cove</u>										U.S.G.B.	12
<u>Edgar Cove</u>											13
<u>Northeast Branch</u>											14
<u>Northwest Branch</u>											14
<u>Deep Neck Pt</u>											15
<u>Nelson Pt</u>											16
<u>Nelson I.</u>											17
<u>Change Pt</u>											18
<u>Turkey Neck Pt</u>											19
<u>Indian Pt</u>											20
<u>Little Neck Pt</u>											21
<u>Rabbit Pt</u>											22
<u>Smith Pt</u>											23
<u>Seaths Pt</u>											24
<u>Bald Eagle Pt</u>											25
<u>Tilghman</u>											26
<u>Avalon</u>											27

(location of one tide staff)

Names underlined in red approved  
by Heck on 6/2/47

~~off chart~~ location of one tide staff

GEOGRAPHIC NAMES  
 Survey No. H-7047

#2 Name on Survey

	A	B	C	D	E	F	G	H	K	
	On Chart No.	On previous survey No.	On U. S. quadrangle Maps	From local information	On local Maps	P. O. Guide or Map	Rand McNally Atlas	U. S. Light List		
Mulberry Point										1
Grace Creek										2
										3
										4
										5
										6
										7
										8
										9
										10
										11
										12
										13
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										16
										17
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										21
										22
										23
										24
										25
										26
										27

by L. Heck of G-1-147

Hydrographic Surveys (Chart Division)

HYDROGRAPHIC SURVEY NO. ....H7047

Records accompanying survey:

Boat sheets ..4..; sounding vols. ..15..; wire drag vols. ....;  
 bomb vols. ....; graphic recorder rolls 22. (in 11 envelopes)  
 special reports, etc. .2. sheets Bar checks.....  
 .....

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

Number of positions on sheet		3296.
Number of positions checked		..85..
Number of positions revised		..18..
Number of soundings revised (refers to depth only)		..40..
Number of soundings erroneously spaced		..15..
Number of signals erroneously plotted or transferred		..2..
Topographic details	Time	..36..
Junctions	Time	..18..
Verification of soundings from graphic record	Time	..80..

Verification by *Herbert M. Burgoyne*. Total time *351*.. Date *5/9/47*.

Reviewed by *J. F. Jordan* Time *355*.. Date *6/2/47*.

*H. W. Murray*

## TIDE NOTE FOR HYDROGRAPHIC SHEET

~~Division of Hydrography and Topography:~~

July 3, 1946

Division of Charts: H. W. MURRAY

Plane of reference approved in  
15 volumes of sounding records for

HYDROGRAPHIC SHEET 7047

Locality Choptank River Entrance, Broad and Harris Creeks, Chesapeake Bay,  
Maryland

Chief of Party: T. B. Reed and L. P. Raynor in 1944 and 1945.

Plane of reference is mean low water, reading

2.2 ft. on tide staff at Deep Neck Point

7.8 ft. below B. M. 1

2.3 ft. on tide staff at Avalon

3.9 ft. below B. M. 1

1.4 ft. on tide staff at Rabbit Point, Harris Creek

8.4 feet below B. M. 1

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*

Chief, ~~Division of Tides and Currents.~~



almost level bottom at 16-to 17-ft. depths with sediment superimposed on irregular bottom, 3 to 15 ft. deeper.

- b. The bottom is adequately delineated by the usual depth curves except in the creeks at lat.  $38^{\circ} 46.30'$ , long.  $76^{\circ} 18.54'$ , and at lat.  $38^{\circ} 47.70'$ , long.  $76^{\circ} 16.49'$ , where the controlling depths and the continuity of the 6-ft. curves were not determined.

### 3. Sounding Line Crossings

The agreement of soundings at crosslines is very good.

### 4. Junctions with Adjoining Surveys

The junctions on the east and south with H-7001 (1944-45) and H-7032 (1943-45) show very good agreement of depths. An excessive 180-meter spacing exists between two sounding lines on H-7032 in lat.  $38^{\circ} 41.4'$ , long.  $76^{\circ} 17.0'$ . This was caused by an erroneous plotting of signal BLIND on the boat sheet. The boat sheet plotting did not reveal the excessive line spacing.

No junction is shown with H-5327 (1933) at the west entrance to Knapps Narrows in lat.  $38^{\circ} 43.3'$ , long.  $76^{\circ} 20.5'$ . Recent Corps of Engineers after dredging surveys in this area supersede the 1933 and the present survey.

### 5. Comparison with Prior Surveys

H-201 (1848), H-2622 (1902), H-2630 (1902) on scales of 1:20,000 and H-1049b (1870) scale 1:10,000

The depths on these prior surveys show fair to very good agreement with depths on the present survey. Two notable exceptions are in the large shoal area in the vicinity of lat.  $38^{\circ} 41.7'$ , long.  $76^{\circ} 15.6'$ , where present depths are 1 to 5 ft. shoaler; and in the one mile reach of Harris Creek north of lat.  $38^{\circ} 46.5'$ , long.  $76^{\circ} 16.5'$ , where present depths are 2 ft. shoaler.

Except for bottom characteristics carried forward, these prior surveys are superseded by the present survey.

### 6. Comparison with Chart 1225 (Print date of Nov. 25, 1946)

#### a. Hydrography

Charted hydrography is from the aforementioned prior surveys, from partial application of the present survey before verification, and from after-dredging surveys by the Corps of Engineer. Except for the later dredging surveys, charted hydrography is superseded by the present survey.

No authority could be found for the charted feature which resembles a pier at lat.  $38^{\circ} 43.7'$ , long.  $76^{\circ} 18.0'$ . Since the feature is not shown on the original chart drawing, it may therefore be a smudge on the printing plate.

In Harris Creek at lat.  $38^{\circ} 45.1'$ , long.  $76^{\circ} 18.5'$ , the present survey shows a restricted passage with controlling depths of 10 to 13 feet. The small-scale chart shows this area blocked by the 6-ft. curve.

b. Dredged Channels

The after-dredging survey by the U. S. Engineers (Bps. 40767-68) in 1945 supersedes the present survey in the Knapps Narrows dredged channel (lat.  $38^{\circ} 43.0'$ , long.  $76^{\circ} 19.77'$ ). Hydrography here on the present survey was accomplished in 1944.

c. Aids to Navigation

The aids on the present survey and the charted aids are in substantial agreement and adequately mark the features intended except for the charted buoy at lat.  $38^{\circ} 44.93'$ , long.  $76^{\circ} 18.53'$ . The chart shows this red nun buoy on the west or wrong side of the passage. The present survey shows the buoy correctly on the east side of the passage.

The shoal covered with 6 ft. in the river channel at lat.  $38^{\circ} 45.14'$ , long.  $76^{\circ} 18.52'$ , is unmarked.

7. Condition of the Survey

- a. The Descriptive Report and sounding records are complete and comprehensive.
- b. The smooth plotting was well executed.
- c. The fathograms show innumerable traces which could be due to snags, or to strays caused by high gain control. Many traces are considered to be definite strays and have been disregarded. As a matter of record, the questionable soundings retained are listed below. Additional investigation, however, is not considered warranted at this time.

<u>Sounding</u>	<u>Depths</u>	<u>Lat.</u>	<u>Long.</u>
9 ft.	17 ft.	$38^{\circ} 44.62'$	$76^{\circ} 14.94'$
11 ft.	15 ft.	$38^{\circ} 44.67'$	$76^{\circ} 14.94'$
14 ft.	17 ft.	$38^{\circ} 43.72'$	$76^{\circ} 14.92'$
15 ft.	18 ft.	$38^{\circ} 43.85'$	$76^{\circ} 14.94'$
8 ft.	15 ft.	$38^{\circ} 44.78'$	$76^{\circ} 18.53'$
$5\frac{1}{2}$ ft.	7 ft.	$38^{\circ} 42.23'$	$76^{\circ} 19.11'$
6 ft.	11 ft.	$38^{\circ} 44.92'$	$76^{\circ} 15.56'$



The investigation of the above 6-ft. sounding did not include drift sounding.

8. Compliance with Project Instructions

The survey generally conforms to the project instructions except as noted in par. 2b, 7a and 9 of this review.

9. Additional Field Work Recommended

This is a basic survey; however, development of the following is desirable:

a. Uninvestigated shoals which fall in midchannel areas:

<u>Sounding</u>	<u>Latitude</u>	<u>Longitude</u>
7 ft.	38° 46.07'	76° 17.84'
8 ft.	38° 45.32'	76° 18.54'
6 ft.	38° 45.15'	76° 18.52'
10 ft.	38° 44.84'	76° 18.53'

*not needed on 1:40,000 scale charts*

b. The  $8\frac{1}{2}$ -ft. sounding at lat. 38° 41.54', long. 76° 18.38', is believed to have been on submerged flotsam. Repeated fathogram traces were shown here during a 2-hrs. investigation in the area. The feature could not be detected with the sounding pole. During the first 20-minutes of the investigation, unsuccessful search was made 140 meters northward where two lines, run  $2\frac{1}{2}$  hrs. apart, crossed on the previous day, and showed similar traces at  $8\frac{1}{2}$ -ft. depths. The northerly  $8\frac{1}{2}$  is now considered nonexistent; the southerly  $8\frac{1}{2}$  (plotted) should be further investigated.

c. It appears advisable to run sounding lines in the axes of the two creeks mentioned in preceding paragraph 2b.

d. The two coves in lat. 38° 43.9', long. 76° 16.1', and lat. 38° 44.3', long. 76° 16.2', are unsurveyed. Surveys of these coves or information concerning their navigability is desirable. The notation "shoal" has been added at the entrance to the southerly cove from interpretation of air photograph No. 1482. The photograph indicates deeper water inside the entrance bar.

*I. E. Rittenburg*  
I. E. Rittenburg

Chief, Nautical Chart Branch

*K. G. Crosby*  
K. G. Crosby

Chief, Section of Hydrography

Examined and approved:

*C. M. Durgin*  
C. M. Durgin

Chief, Division of Charts

*C. K. Green*  
C. K. Green

Chief, Division of Coastal Surveys

