7087

Diag'd. on Diag. Ch. No. 78-2

Form 504

U. S. COAST AND GEODETIC SURVEY

DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey Hydrographic

Field No. Gi-1145 Office No. H-7087

LOCALITY

State Virginia

General locality James River

Locality Vicinity of Hog Island

1945-'47

CHIEF OF PARTY

Ronald R. Moore & W. F. Malnate

LIBRARY & ARCHIVES

DATE

8-1870-1 (1)

7087

Form 537
(Ed. Nov. 1941)

REG. NO. H7087

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-7087

Field No. GI-1145

State VVIRGINIA

General locality James River

Locality Vicinity of Hog Island

Scale 1-10,000 Date of survey Dec. 1945 - Jan. 1946

Instructions dated October 11, 1940

Vessel GILBERT

Chief of party Ronald R. Moore, James D. Thurmond and Wm. F. Malnate, Comdg.

Surveyed by Ship's Officers

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

Protracted by B.M.Jones

Soundings penciled by B.M. Jones

Soundings in ~~fathoms~~ feet at MLW MLLW

REMARKS: This is an incomplete survey which was processed in the Hydrographic Section of the Southeastern District, Norfolk, Va.

U. S. GOVERNMENT PRINTING OFFICE 428075

H-7087

H7087

DESCRIPTIVE REPORT

to accompany

HYDROGRAPHIC SURVEY

Field No. GI - 1145

U.S.C.&G.S.S. GILBERT

Ronald R. Moore, Comdg.
James D. Thurmond, Comdg.
William F. Malnate, Comdg.

Project CS MT-255

Scale 1:10,000

A. ----- This survey is a part of Project No. CS MT-255. It was executed under Instructions from the Director to the Commanding Officer, Ship GILBERT dated October 11, 1940, and Supplemental Instructions for resuming operations on this project dated Sept. 28, 1945.

B. ----- The survey is of the James River, Virginia, the southern limit of the work being in the vicinity of Deepwater Shoals Light House, Lat. 37° 09' N, Long. 76° 38.2' W, the northern limit being the northern shore of the James River as it makes a bend to the westward, Lat. 37° 13' N, and 76° 38' W.

The sheet joins the hydrographic surveys H-7025 (1945) executed by the Ship GILBERT, March and April 1945.

C. ----- The field work was accomplished with Motor Launch 374, a 26-foot diesel powered launch, loaned to the U.S.C. & G.S. Ship GILBERT by the Army Mine Service, Fort Monroe, Virginia and fitted out for surveying purposes, including the installation of an 808A Submarine Signal Co. Depth Recorder No. 53 by the ship's personnel. This instrument was used for all soundings, giving a continuous profile of the bottom.

D. ----- A portable tide gage, No. H-299 was established at the Homewood Beacon Light, in Lat. 37° 11' 37.5" N, and Long. 76° 40' 44.8" W. This gage performed excellently and was used for reducing all soundings.

A portable tide gage, No. H-159 was re-established at Fort Eustis Dock in Lat. 37° 08' 20" N, and Long. 76° 38' 02" and performed excellently, but was not used for reducing the soundings.

F. ----- The triangulation control for this sheet was accomplished by H. E. Finnegan, Chief of Party, in 1938.

The topographic stations were located by air photographic methods in 1942.

G. ----- The shoreline and topographic detail on this sheet was transferred from sheets No. T-8059, T-8071, T-8058, and T-8070. (1942)

The low water is not defined as the survey is not completed.

H. ----- All depths, except those noted, were taken with a type 808A Depth Recorder. The echo soundings were corrected for bar checks taken to the deepest depths sounded for any day. The recorder was operated with the middle reed vibrating. The speed was checked against time signals as sent out by radio station WWV, Bureau of Standards, Washington, D. C. The speed was found to be in error less than 0.4 of 1 percent.

A list of the corrections used is attached to this report in addition to the original bar check curves from which they were computed.

I. ----- The horizontal control was by sextant angles on the triangulation and topographic points, as described in paragraph F above. A list of signals used is included in this report.

J. ----- The survey is incomplete, and additional work will have to be done.

K. ----- No crosslines have been run on the work, and this will have to be accomplished when work is resumed.

L. ----- No prior surveys of recent date were available for comparison.

The junction with H-7025 executed in 1945 by the Ship GILBERT is in close agreement.

H7087

M. ----- Comparison with U.S.C. & G.S. Chart No. 529, printed 44 - 8/25.

The survey is in close agreement as far as the work has progressed.

N. ----- Dangers and Shoals.

There are no changes on shoals, that are not already charted.

O. ----- Coast Pilot.

The description of this area in the present Coast Pilot is adequate.

P. ----- The Floating Aids to Navigation in this area have not been located.

Q. ----- The landmarks as reported by the field inspection party and indicated on the compilations were found to be adequate.

R. ----- The Geographic Names as reported by the field inspection party was found to be adequate.

H7087

TIDAL NOTE

A portable tide gage was maintained at the Homewood Beacon Light. Mean Low Water corresponds to a reading of 1.8 feet on the staff, reference letter 36-tmo dated 15 January 1946 from the Director of the U. S. C. & G. Survey, Washington, D. C.

H7087

STATISTICS for HYDROGRAPHIC SURVEY H-

Field No. GI-1145

USC&GSS GILBERT Launch M-374

Vol. No.	Day Letter	Number of Soundings	Number of Positions	Statute Miles of Soundings	Date
1	a	C.P.	87	13.9	12/12/45
1	b	C.P.	88	15.0	12/13/45
1 & 2	c	C.P.	137	22.3	1/3/46
2	d	C.P.	195	32.6	1/4/46
3	e	C.P.	200	37.2	1/10/46
3	f	C.P.	64	10.3	1/11/46
	Total		771	131.3	

Area: 6.5 square miles

BAR CORRECTIONS FOR SHEET H- H7087

USC&GSS GILBERT Launch 374

"a" day - 12 Dec. 1945

From	To	Corr.
0	7	0.8
7	9	0.6
9	13	0.4
13	17	0.2
17	35	0.0

"b" day - 13 Dec. 1945

From	To	Corr.
0	6	0.6
6	7	0.4
7	9	0.2
9	13	0.0
13	28	-0.2
28	31	-0.4
31	34	-0.6
34	35	-0.8

"c" day - 3 Jan. 1946

0	8	0.2
8	11	0.0
11	14	-0.2
14	17	-0.4
17	20	-0.6
20	23	-0.8
23	26	-1.0
26	29	-1.2
29	32	-1.4
32	34	-1.6
34	37	-1.8
37	40	-2.0
40	43	-2.2
43	47	-2.4
47	50	-2.6

"d" day - 4 Jan. 1946

0	6	0.8
6	8	0.6
8	9	0.4
9	10	0.2
10	11	0.0
11	13	-0.2
13	14	-0.4
14	16	-0.6
16	19	-0.8
19	22	-1.0
22	24	-1.2
24	27	-1.4
27	30	-1.6
30	33	-1.8
33	36	-2.0
36	40	-2.2
40	43	-2.4
43	50	-2.6

"e" day - 10 Jan. 1946

0	12	0.0
12	14	-0.2
14	16	-0.4
16	18	-0.6
18	19	-0.8
19	21	-1.0
21	23	-1.2
23	25	-1.4
25	27	-1.6
27	30	-1.8
30	34	-2.0
34	41	-2.2
41	50	-2.4

"f" day - 11 Jan. 1946

0	12	0.0
12	14	-0.2
14	16	-0.4
16	18	-0.6
18	19	-0.8
19	35	-1.0
35		-1.2

"B" and "C" correction readings Scale corr. = +1.0 in addition to highest on "A" scale for each day.

[redacted]

H7087

CORRECTIONS for Settlement and Squat

Tests were made July 24, 1945 on a sister launch which was outfitted as launch 374 was and the results of that test were used for reductions of soundings in this area for squat.

RPM	SQUAT
0	0.0
600	.02 feet
800	.12 feet
1000	.17 feet
1500	+ .24 feet

1500 RPM was considered as full speed for the launch.

SIGNALS USED

USC&GSS GILBERT
James River

Project HT 255
Sheet No. GI-1145

TRIANGULATION STATIONS

NEAR - Tower, near Triangulation station CRAWFORD 1932
SLIDE - SLIDE 1938
GROVE - GROVE Ecc. 1938
TOWER - TOWER, E. end of College Creek, 1938
BEND - BEND 1938
WOOD - HOMEWOOD LIGHT 1938
HOG - HOG No. 2 (USE 1930) 1938
USE - HOG No. 3 (USE 1930) 1938
DEEP - DEEP WATER SHOALS L. H. 1938
TREE - TREE HILL SHOAL LIGHT

TOPOGRAPHIC STATIONS

Sheet T-8059

DOT	PAD	RAG	WAD
MAN	PIT	SAD	YET
	QUO	TAN	ZAG

Sheet T- 8058

NAN

Sheet T-8071

GAB	LAX	PAL
GIN	NIT	RED
HID		

Sheet T-8070

BAN	NED	YAM
MAL	OIL	ZOO

APPROVAL SHEET

H-7089 (1945-47)

The records and boat sheet for survey GI-1145 are herewith approved.

The survey is in no way complete, and the records are only forwarded to the Norfolk Processing Office until such time as work can be resumed on this project.

W. F. Malnate,
Lieut. Comdr., C&GS
Chief of Party

A D D E N D U M

to accompany

HYDROGRAPHIC SURVEY H-7087 (Field No. Gi-1145)

This is an incomplete survey and is being forwarded to the Washington Office for verification and possible chart application in accordance with instructions contained in the Director's Letter dated 16 July, 1945, reference 839-bdh.

This work was processed in the Hydrographic Section of the Southeastern District, Norfolk, Va.

Respectfully submitted

Isadore M. Zeskind
Cartographic Engineer

Norfolk, Va.
July 18, 1946

Approved & Forwarded

George L. Anderson
Supervisor SE District

Hydrographic Surveys (Chart Division)

HYDROGRAPHIC SURVEY NO. H7087

Records accompanying survey:

Boat sheets 1...; sounding vols. ....3; wire drag vols. .....;

bomb vols. .....; graphic recorder rolls 6...;

special reports, etc. .....

.....

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

Number of positions on sheet		770
Number of positions checked		26
Number of positions revised		1
Number of soundings revised (refers to depth only)		2
Number of soundings erroneously spaced		8
Number of signals erroneously plotted or transferred		1
Topographic details	Time	16
Junctions	Time	0
Verification of soundings from graphic record	Time	6

Verification by Francis J. Ortiz .....Total time 64 hrs. Date 9/18/44

Reviewed by..... Time ..... Date .....

M-2232-1

Form 712
DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY
Rev. June 1937

TIDE NOTE FOR HYDROGRAPHIC SHEET

August 12, 1946

~~Division of Hydrography and Topography:~~

Division of Charts: H. W. MURRAY

Plane of reference approved in
3 volumes of sounding records for

HYDROGRAPHIC SHEET 7087

Locality Hog Island, James River, Va.

Chief of Party: W. F. Malnate in 1945 - 1946.
Plane of reference is mean low water, reading
1.9 ft. on tide staff at Homewood Light
6.7 ft. below B. M. 1

Height of mean high water above plane of reference is 2.1 feet.

Condition of records satisfactory except as noted below:

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

U. S. GOVERNMENT PRINTING OFFICE 154227

NAUTICAL CHARTS BRANCH

SURVEY NO. H7087

Record of Application to Charts

DATE	CHART	CARTOGRAPHER	REMARKS
8/7/46	529	J.B. Richardson	(Before) After Verification and Review Partial application
4/10/47	78	McALINDEN	Before (After) Verification and Review EXAMINED ~~No corrections pending completion of survey~~ Necessary changes made. J.M.A.
			Before After Verification and Review
12/3/48	529	Goodrich	~~Before~~ After Verification and Review critical shp. only
9/27/51	529	Mc Alinden	~~Before~~ After Verification and Review completely applied to reconstruction including add'l. work.
3/26/71	insert 529	BB Dugan	Before After Verification and Review Applied to insets of College Creek, chrt. 525
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review

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.

Form 537
(Ed. Nov. 1941)

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-7087

Field No. Gi-1145

State Virginia

General locality James River

Locality Vicinity of Hog Island ~~Fort Eustis Dock - Hog Island~~

Scale L:10000 Date of survey 12/17/46 - 9/18/47

Instructions dated 11 October 1940 Supp. 17 November 1942 : 13 September 1944

Vessel COWIE

Chief of party Ronald R. Moore

Surveyed by RRM, RCR, CAS

Soundings taken by fathometer, graphic recorder, hand lead, wire Pole

Protracted by M.B.S.

Soundings penciled by M.B.S.

Soundings in fathoms feet at MLW MLLW

REMARKS:

REG. NO. H7087

U. S. GOVERNMENT PRINTING OFFICE 428975

DESCRIPTIVE REPORT

Hydrographic Sheet | Office No. H 7087 (1945-47)

Scale 1:10000 | Ship COWIE | Ronald R. Moore, Comdg.

A. This survey was made under Instructions for Project No. CS-255 dated 11 October 1940, and supplemental instructions dated 17 Nov. 1942 and 13 September 1944.

This survey was started by the Ship GILBERT in 1945-6 at which time the area between longitudes 76°-38' and 76°-39.4 was covered, although many splits and other development in that area was done by this party. Field work commenced on 17 December 1946 and completed on 18 Sept. 1947, however much of this period was spent on other projects.

B. The area is that part of the James River from latitude 37°-08' northwards to a line from Hog Point to Triangulation Station Archershape at the western side of the entrance to College Creek. This survey includes Lawnes Creek, Skiffes Creek, and College Creek.

This survey joins Sheet H-7025 (1945) on its southern and southeastern limits.

C. This survey was made by Launch 102 and the 25 foot skiff. An 808 type recording fathometer was used in Launch 102, and also in the skiff until 27 January 1947 when a Bludworth depth recorder was installed. A sounding pole was used to supplement the fathometer and in the shoal area adjacent to the shoreline.

D. A tide staff was installed at the Fort Eustis dock on 4 December 1946 and read by an observer on the 4th, 5th, and 10th of December while sounding in the creeks.

A portable automatic tide gage was maintained at the former station at Fort Eustis Dock from 15 January to 12 April 1947. Mean Low Water corresponds to a height of 2.7 feet on staff.

A portable automatic tide gage was installed at Homewood, Hog Island on 21 August 1947 and maintained until 18 September 1947. Mean Low Water corresponds with a height of 2.3 feet on the staff.

E. The smooth sheet was plotted by the Norfolk Processing Office.

F. The control for this survey was based on triangulation executed by various chiefs of party from 1869 to 1938.

Topographic stations were located by photo compilation (1942) method and are from Topographic Sheets T-8070, T-8071, T-8069, T-8059. In the interval between the photo inspection and the time of the survey some of the stations located have disappeared, and others will soon be lost due to shore erosion.

Supplemental stations as necessary were located by sextant fixes or sextant cuts from triangulation stations.

It should be pointed out that during the course of this survey, Tree Hill Shoal Beacon was moved, (June 1947) there are therefore two locations shown, one topographic (TREE) and one hydrographic (HILL). φ 37°12.19' λ 76°38.87' (present location) ← φ 37°12.22' λ 76°38.84' (destroyed)

G. The shoreline is from the topographic sheets noted above. The shoreline is in good agreement with the topographic sheets except around the mouth of Skiffes Creek where the U.S. Army Quartermasters Dept. has done considerable dredging and construction, and along the shoreline north of Skiffes Creek where erosion has taken place.

H. Soundings were taken with recording fathometers of the 808 and Bludworth types, supplemented by pole soundings on the inshore work.

Bar checks were taken before and after each days work and at times in the middle of the day, except on days when very little work was done. From these checks, curves were drawn for the correction of soundings.

I. Sounding lines were controlled by three point fixes taken on objects located as in F above at intervals averaging 1½ minutes. In the creeks, no positions were taken, but the times noted when abeam of the various signal sites, the launch being kept in mid-stream. The boat sheet should be consulted for this work.

J. This survey is complete and adequate to supersede all prior surveys by this Bureau in this area for charting. (See Review, par. 6b.)

There are no* holidays or excessive differences. * Review, par. 3

In general the spacing of sounding lines is approximately 100 meters. On the flats of less than 6 feet the spacing is 200 meters. Where excessive differences were found on lines adjacent to the channel, intermediate lines were run. In many areas adjacent to the shoreline, fallen trees and stumps made it impossible to determine the low water line. From the Homewood Beacon to the north end of Hog Island, the area is foul, there being numerous rows of piling of former docks, some which show above high water and others cannot be seen at low water.

The areas inside the fish trap lines are filled with traps, some in use, some complete without nets, and others abandoned, and old stakes broken off at or about the water constitute a constant menace throughout this area. The fish trap areas are delineated on Chart No. 529.

K. The percentage of crosslines is approximately 10%. The crossings are generally in good agreement in so far as predicted tides were used for the plotting of soundings.

L. No previous surveys with which to compare. The junction with Sheet H-7025, Scale 1:10000 made in 1945 is satisfactory.

M. Comparison with Chart No. ~~429~~ 529 print date 6/30/47:
In general, the present survey is in good agreement with the chart in so far as predicted tides were used for the reduction of soundings.

Considerable changes have been made in the area around Skiffes Creek. Docks have been constructed and a channel dredged from deep water to the entrance of the creek.

A 12 foot channel has also been dredged just south of the Fort Eustis Dock to the inner end of the dock where additional docks have been built. This channel is marked by two lighted beacons and a day mark.

N. A shell bank with least depth of 1½ feet was found in Latitude 37°-10'.61 Longitude 76°-37'.42. This was previously reported.

A sounding of 10 feet was found in Latitude 37°-10'.34 Longitude 76°-38.35. This sounding was shown on boat sheet from previous work of Ship GILBERT in 1945-6 as 8 feet, however sounding lines in the present survey show depths of about 9 feet greater in that area and it is thought that the reducer used by the GILBERT might have been in error. This is a small shoal and lines were run using ranges over successive poles of a fish trap. The sounding of 10 feet (reduced) just after Pos. 36k was the least found. However, if the sounding obtained by the GILBERT reduces to a less depth it is recommended that it be retained (Both 9- and 10-ft. sdgs. good and show on smooth sheet)

On the spoil bank northeast of Tree Hill Shoal Beacon in Latitude 37°-12.45 Longitude 76°-38.60 a depth of 2 feet was obtained where the sounding shown by the GILBERT was 1 foot. Here again correct reducers did make soundings agree. At other places on same bank, pole soundings of 3 feet were found where the GILBERT had 2 feet. (Disagreements were minor; shoalest sdgs. were plotted)

P. Fixed Aids to Navigation are.
Deepwater Shoal Light House
Homewood Beacon
Fort Eustis Lighted Beacon 2
Fort Eustis Daymark 3
Fort Eustis Lighted Beacon 5

The last three have just been established.

Q. The floating aids to navigation are:

NAME	Lat. Long.	Depth	Pos. No.
James River Buoy 25	37°-09.2 76°-38.6	19'	1 t skiff
James River Lighted Buoy 27	37°-10.11 76°-38.03	29'	13 r Skiff
James River Buoy 28	37°-10.09 76°-37.94	31'	12 r Skiff
James River Buoy 30	37°-10.77 76°-37.87	26'	11 r Skiff
James River Lighted Buoy 32	37°-11.52 76°-38.11	20'	10 r Skiff

	Lat. Long.	Depth	Pos. No.
James River Buoy 31	37°-11.50 ✓ 76°-38.22	24' ✓	9 r Skiff
James River Buoy 34	37°-11.98 ✓ 76°-38.58	26' ✓	8 r "
James River Buoy 36	37°-12.48 ✓ 76°-39.21	29' ✓	7 r "
James River Buoy 37	37°-12.69 ✓ 76°-39.75	26' ✓	6 r "
James River Lighted Buoy 38	37°-12.78 ✓ 76°-39.70	18' ✓	5 r "
James River Buoy 40	37°-12.85 ✓ 76°-40.35	23' ✓	4 r "
Hog Is.Junction Lighted Bell Buoy	37°-12.49 ✓ 76° -41.26	31' ✓	2 r "
James River Lighted Buoy 39	37°-12.76 ✓ 76°-40.32	25' ✓	3 r "
Upper Entrance Buoy 4	37°-12.25 ✓ 76°-41.0	18' ✓	1 r "
Turning Pt.Bell Buoy 2	37°-11.45 ✓ 76°-39.63	16' ✓	15 r "
Hog Is. Flats S.E. Side Buoy	37°-10.17 ✓ 76°-38.27	17' ✓	14 r "

Respectfully submitted
Ronald R Rowe
Lt Comdr USCGR

TIDAL NOTE

A tide staff was established at the dock at Fort Eustis in the same place as one formerly used and read by an observer on December 17, 18 and 19, 1946.

A portable automatic tide gage was installed in former well on the dock on 15 January 1947. Mean low water corresponds with height of 2.7 feet on the staff. This gage was operated until 12 April, at which time the party was engaged on other projects.

A portable automatic tide gage was installed at Homewood, Hog Is. on 21 August, 1947 when work was resumed and maintained until 18 September. Mean low water corresponded with a height of 2.3 feet on the staff. This gage was not on the Homewood Beacon, but in the near vicinity.

STATISTICS

VOL.	NO.	DATE	NO. POS.	STATUTE MILES	H.L. & POLE SOUNDINGS		DAY BOAT
1		17 December 1946	29	3.8	12	a	Skiff
1		18 December 1946	40	5.4	14	b	Skiff
1		19 December 1946	51	6.0	18	c	Skiff
1		16 January 1947	114	13.0	96	d	Skiff
1	& 2	17 January 1947	113	16.0	15	e	Skiff
2		27 January 1947	93	10.0	62	f	Skiff
2	& 3	28 January 1947	188	21.5	270	g	Skiff
3		29 January 1947	162	18.3	98	h	Skiff
3		30 January 1947	84	9.7	147	j	Skiff
3	& 4	27 March 1947	90	9.3	39	k	Skiff
4		3 April 1947	86	9.8	46	l	Skiff
5		26 August 1947	225	37.3	--	a	Launch 102
5		27 August 1947	83	14.3	--	b	Launch 102
5	& 6	3 September 1947	109	18.1	--	c	Launch 102
6		4 September 1947	207	30.6	1	d	Launch 102
4		4 September 1947	137	13.3	825	m	Skiff
4	& 7	5 September 1947	106	9.9	638	n	Skiff
6		5 September 1947	62	8.0	1	e	Launch 102
7		10 September 1947	82	7.1	437	p	Skiff
8		10 September 1947	179	24.4	--	f	Launch 102
7		11 September 1947	77	7.1	423	q	Skiff
8		11 September 1947	149	21.4	--	g	Launch 102
7		12 September 1947	15	---	15	r	Skiff
9		12 September 1947	68	9.3	--	h	Launch 102
7	& 10	16 September 1947	47	4.7	74	s	Skiff
9		16 September 1947	98	14.5	--	j	Launch 102
9		17 September 1947	96	10.8	--	k	Launch 102
10		18 September 1947	5	---	5	t	Skiff
	TOTALS	--------	2795	353.6	3236		

Total Area --- 8.5 Sq. Stat. Miles.

LIST OF STATION
SHEET H-7087 (Field No. Gi-1145)

Triangulation Stations

HOUSE NEAR ENTRANCE TO COLLEGE CREEK WEST CHIMNEY (1938)
BEND (1938)
TOWER E. OF COLLEGE CREEK, FLAGPOLE (1938,42)
GROVE, Ecc. (1932-42)
SLIDE (1938-42)
PTS #2 USGS
TOWER NEAR CRAWFORD FLAGPOLE (1938-42)
DEMON (1938-42)
HOG 3 USE, (1930-42) USE
HOG 2, USE (1930)
HOMEWOOD LIGHT (1938-42)
DEEPWATER SHOALS LT. HO. (1870-1942)

Topographic Stations

T-8070

CAD	244	RAP	250	BAN	256	LAX	263
BAT	243	NED	251	TAR	258		
ABE	242	MAL	252	NIT	259		
NIP	240	ZOO	253	GAB	260		
PIN	243	YAM	254	RED	261		
RET	241	OIL	255	NIG	262		

T-8071

PAR	613	TIP	103	JEF	94
COL	614	GAS	102	TWIN	(Cut Book)
POST	616	TREE		SIS	(See also Vol. 6, pg. 9)
REK	615	LIN	101		
HID	Cut Book	LAD	99		
PEP	106	RAT	96		
ZED	105	NAN	95		

T-8059

ZAG	92	SAD		PAD	87
YET	91	RAG		MAN	
WAD		QUO		DOT	80
TAN	88	PIT		ROT	Vol. 5 page 62

Hydrographic Stations

FAG	Vol 4 of p 1	LAS	Vol. 11 p 43
PAL	Cut Book	MUT	Vol. 6 p. 12,18,19,20,22
GIN	" "	PIL	Vol. 10 p 63
SIG	" "	HUT	Vol. 7 p 15
DED	" "	HIT	Vol. 10 p 63
MAY	" "	PIPE	Vol 5 p 54
		HILL	Cut Book

A D D E N D U M

HYDROGRAPHIC SURVEY H-7087 (Add) Field No. 1145

Discrepancies

Lat. 37°09.5' - Long. 76°38.5' Positions 70k to 76k (blue) this line crosses work done by the GILBERT in 1946, with soundings 2 to 3 feet deeper than the earlier hydrography, however, the agreement with 1947 work is very good. (1946 work was in error because of variable initial. Corrections applied and adequate agreement obtained).

Lat. 37°09.5'~~45'~~ Long. 76°37.0' Positions 19s to 30s (green). This is a crossline run in Sept. 1947 with soundings generally shoaler (1 to 1½ ft) than previous work, which was done in Jan. 1947. However, the crossings in the vicinity of 58g and 60g (blue) taken the previous day are in good agreement. The Officer-in-Charge attributes this to the *erosion of the spoils bank to the northward, and possibly to a heavier growth of bottom grass during September. A contributing factor is that this crossline was run on a windy day in choppy water. * Concur, see par. 2, Review.

Dredging Operations -

Lat. 37°09.9' - Long. 76°37.0' Dredging operations were being carried on in the approach channel and turning basin, leading to Skiffes Creek, during the period this hydrography was being done. This resulted in considerable disagreement in the soundings. U.S.E.D. surveys of a more recent date are enclosed, for this channel and for the channel south of Fort Eustis Dock. Bp. 42797-98 & 43175 | see par. 2, Review

Four trestles, of a permanent nature, have been constructed to transport dredged material to the spoils bank.

These were taken to be temporary structures by the field party, but recent information from the U.S.E.D. indicate, that they are considered permanent. U.S.E.D. sketches of these trestles are included. | Bp. 43504 (1948)

Respectfully submitted,

Hugh L. Proffitt

Hugh L. Proffitt
Cartographer

Norfolk, Va.
January 8, 1948

Approved & Forwarded

George L. Anderson

George L. Anderson, Sup. S.E. District

Form 712
DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY
Rev. June 1937

839

TIDE NOTE FOR HYDROGRAPHIC SHEET

~~Division of Hydrography and Topography~~ 4 February 1948

Division of Charts: H. W. MURRAY

Plane of reference approved in
10 volumes of sounding records for

HYDROGRAPHIC SHEET 7087 (additional work)

Locality - James River, Va.

Chief of Party: R. R. Moore in 1946 - 1947
Plane of reference is mean low water, reading
2.3 ft. on tide staff at Homewood Light, Hog Island
6.2 ft. below B. M. HOG 2 (USE)

2.7 feet on tide staff at Fort Eustis
7.8 feet below Bench Mark 1 (1944)

Height of mean high water above plane of reference is

2.1 feet at Homewood Light, Hog Island
2.4 feet at Fort Eustis.

Condition of records satisfactory except as noted below:

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

U. S. GOVERNMENT PRINTING OFFICE 164237

GEOGRAPHIC NAMES

Survey No.
H7087
Additional work

Name on Survey	A On Chart No.	B On previous survey No.	C On U. S. quadrangle Maps	D From local information	E On local Maps	F P. O. Guide or Map	G Rand McNally Atlas	H U. S. Light List	K	
Virginia			(for title)						USGB	1
James River			"	"					"	2
										3
Lawnes Creek									USGB	4
Lawnes Point									"	5
Skiffes Creek									"	6
Hog Island									"	7
Hog Point									"	8
Homewood		(location of tide staff)								9
Tribell Shoal Channel										10
College Creek										11
										12
										13
				Names underlined in red are approved. 10/26/48 L.Heck						14
										15
										16
										17
										18
										19
										20
										21
										22
										23
										24
										25
										26
										27

M 234

Hydrographic Surveys (Chart Division)

HYDROGRAPHIC SURVEY NO. H7087 Additional work

Records accompanying survey:

Boat sheets ..1..; sounding vols. ....10....; wire drag vols. ....0....;

bomb vols. 0.....; graphic recorder rolls ....22....;

special reports, etc. 4 Boat Sheet Tracings.....

.....

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

Number of positions on sheet		2795
Number of positions checked		151
Number of positions revised		2
Number of soundings revised (refers to depth only)		9
Number of soundings erroneously spaced		11
Number of signals erroneously plotted or transferred		
Topographic details	Time	8
Junctions	Time	28
Verification of soundings from graphic record	Time	30

Verification by L. Lubbers Jr. Total time 176 Date 8/18/48

Reviewed by J. A. Wilmore Time 38 Date 10/20/48

M-2232-1

DIVISION OF CHARTS

REVIEW SECTION - NAUTICAL CHART BRANCH

REVIEW OF HYDROGRAPHIC SURVEY REGISTRY NO. H-7087

FIELD NO. GI-1145

Virginia, James River, Vicinity of Hog Island
Surveyed in December 1945 - September 1947 Scale 1:10,000
Project No. CS-255

Soundings:

808 Depth Recorder
Bludworth Depth Recorder
Pole

Control:

Sextant fixes on shore signals

Chief of Party - W. F. Malnate; R. R. Moore
Surveyed by - R. R. Moore; R. C. Rowse; C. A. Schoene; J. D. Thurmond
Protracted by - B. M. Jones; M. B. Smith
Soundings plotted by - B. M. Jones; M. B. Smith
Verified and inked by - F. Ortiz; L. Lubbers, Jr.
Reviewed by - T. A. Dinsmore, October 20, 1948
Inspected by - R. H. Carstens

1. The shoreline and signals are from the unreviewed manuscripts of air photographic surveys T-8059, T-8069, T-8070 and T-8071 of 1942. The fixes for supplementary hydrographic signals are recorded in the sounding volumes of the present survey.

   The shoreline revisions that appear in broken red line in the vicinity of Skiffes Creek show the result of natural or artificial changes and are from present survey information.

2. Sounding Line Crossings

   Depths at crossings are generally in good agreement.

   The disagreement of crossline depths (1 to 1½ ft. in depths of 1 to 6 ft.) occurring in lat. 37° 09.45', long. 76° 37.0' is adequately discussed in the Processing Office notes. These differences are considered to have resulted from erosion of the spoil bank immediately northward.

The Processing Office also mentions the disagreement of soundings resulting from dredging operations in the approach channel leading to Skiffes Creek. Soundings falling in this channel from hydrography executed prior to the dredging operations were superseded by deeper channel depths obtained subsequently.

3. Depth Curves and Bottom Configuration

The usual depth curves were adequately delineated except at the mouth of Skiffes Creek where hydrography was prevented by moored boats and barges. The low-water line could not be determined in some inshore areas because of stumps, fallen trees and other obstructions.

The bottom, although generally smooth, is lumpy in places. Irregular shoals and depressions are scattered prominently throughout the area. The two shoals, marked by the beacon (subsequently removed), in lat. 37° 12.19', long. 76° 38.87' and the light in lat. 37° 08.92', long. 76° 38.23', are important because of their contiguity to the mid-river channel. The depths of the bottom along the axis of the mid-river channel varies from 24 feet at lat. 37° 12.75', long. 76° 40.50', to 92 feet at lat. 37° 08.96', long. 76° 38.35'.

4. Junctions with Contemporary Surveys

An adequate junction is effected with H-7025 (1945) on the southeast. The junction with H-7174 (1948) on the south will be considered in the review of that survey. No contemporary survey is registered on the west. Charted information here is in harmony with present depths except in midstream where present depths of 33 feet are 8 feet shoaler than a charted depth of 41 feet.

5. Comparison with Prior Surveys

H-530(1855)1:20,000; H-1179b(1873)1:20,000; H-3097(1910) 1:20,000

H-530 is a reconnaissance survey. Soundings are widely-spaced and afford only a general delineation of the bottom features.

H-1179b is the most complete of the three old surveys. A comparison with the present survey indicates very few bottom changes during the 74 years intervening between the two surveys. The most noticeable change is the dredged channel leading from deep water to Skiffes Creek and the resultant spoil bank immediately southward. Minor changes of 1-2 feet have occurred in inshore areas off the east and north shore of the river. Shoreline changes in the vicinity of Skiffes Creek have resulted from waterfront construction, dredging and shoreline erosion. Although prior channel depths agree generally with present depths, some differences, however, are

noted. In lat. 37° 12.45', long. 76° 41.50', and lat. 37° 12.11', long. 76° 38.80', prior depths of 43 feet and 63 feet are now superseded by maximum depths of 33 feet and 59 feet, respectively.

H-3097 consists of cross-channel lines at one-mile intervals and small areas of hydrography in the vicinities of Tree Hill Beacon and Deepwater Shoals Lighthouse. No appreciable differences are noted between the depths on the prior and the present survey except in lat. 37° 12.45', long. 76° 41.50', where a mid-channel depth of 41 feet (charted) is now superseded by a maximum depth of 33 feet.

The 4-ft. sounding (charted) falling in present depths of 6 feet at lat. 37° 12.50', long. 76° 38.20', is actually 4½ ft. in the sounding records of H-1179b. Inasmuch as 5 ft. depths nearby on the present survey are adequate, the 4 should be disregarded.

Except for a few bottom characteristics, which have been retained, the present survey is adequate to supersede the prior surveys.

6. Comparison with Chart 529 (Latest print date 10/20/47)

a. Hydrography

Charted hydrography originates with the previously discussed surveys, supplemented by critical soundings from the present survey prior to verification and review. Changes of 1-2 ft. have been made to several of these critical soundings during verification.

The 5-ft. sounding (charted) falling in present 7-to 10-ft. depths at lat. 37° 11.05', long. 76° 38.67', should be disregarded in its present charted position. Originating with H-1179b, the sounding is charted about 100 meters eastward from its position on that survey. In its correct position, this prior sounding is in agreement with present depths.

b. Dredged Channels

Present survey depths in Tribell Shoal Channel are in harmony with the charted controlling depth of 23 feet (Corps of Engineers Blueprint 43871, 1948).

Present survey depths in the channel leading to Skiffes Creek are in a few instances 1-2 ft. shoaler than the charted controlling depth of 18 feet (Corps of Engineers Blueprint 43504, 1948). The charted information is subsequent to and supersedes the present survey.

c. Aids to Navigation

The lighted beacon shown on the present survey in lat. 37° 12.19', long. 76° 38.87', has been replaced by a red lighted buoy (H.O. Notice to Mariners No. 10, 1948).

The four charted buoys marking the restricted area northeastward from Deep Water Shoals Light were established subsequent to the present survey (H.O. Notice to Mariners No. 45, 1947).

Except as noted above, all aids on the present survey are in substantial agreement with those charted and adequately mark the features intended.

7. Condition of Survey

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

b. The smooth plotting was good.

c. As previously stated, soundings were not obtained along the dock and in the boat basin at the mouth of Skiffes Creek.

d. The 3-ft. sounding rising from 7-ft. depths in lat. 37° 12.40', long. 76° 38.85' was not investigated by hand lead or pole to determine the nature and extent of this obstruction.

8. Compliance with Project Instructions

The survey adequately complies with the Project Instructions except as noted under paragraph 7c, above.

9. Additional Field Work

Although the survey provides adequate coverage and is considered basic for the area, an investigation of the obstruction marked by the 3-ft. sounding mentioned in par. 7d. would be desirable.

The unsurveyed area noted in paragraph 7c is covered by a Corps of Engineers survey of 1948 (Blueprint 43504).

The area in the vicinity of lat. 37° 09.45', long. 76° 37.0', is apparently decreasing in depth due to erosion of the spoil bank nearby and should be considered for resurvey at some future date.

Examined and approved:

I. E. Rittenburg
Chief, Nautical Chart Branch

Casper M. Durgin
Chief, Division of Charts

K. G. Crosby
Chief, Section of Hydrography

C. K. Green
Chief, Division of Coastal Surveys

NAUTICAL CHARTS BRANCH

SURVEY NO. H7087 Additional work

Record of Application to Charts

DATE	CHART	CARTOGRAPHER	REMARKS
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review

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.