

6729

6729

Form 504
Rev. April 1935
DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

DESCRIPTIVE REPORT

~~Topographic~~ } Sheet No. 401 (Field)
Hydrographic }

U. S. COAST & GEODETIC SURVEY
LIBRARY AND ARCHIVES

APR 14 1942

Acc. No. _____

State Virginia

LOCALITY

James River

Entrance to Nansemond River

Scale 1:10,000

1934

CHIEF OF PARTY
H. C. Warwick
H. F. Garbar

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

HYDROGRAPHIC TITLE SHEET

REG. NO. H6729

The Hydrographic Sheet should be accompanied by this form, filled in as completely as possible, when the sheet is forwarded to the Office.

Field No. 401

REGISTER NO. H6729

State Virginia

General locality James River, Va.

Locality Entrance to Nansemond River

Scale 1:10,000 Date of survey Nov. 1941-Jan. 1942

Vessel M.V. GILBERT

Chief of Party H. C. Warwick, H. F. Garber

Surveyed by H. F. Garber, J. E. Waugh

Protracted by L. G. Taylor

Soundings penciled by L. G. Taylor

Soundings in ~~feet~~ feet

Plane of reference Mean low water

Subdivision of wire dragged areas by

Inked by J. K. Hartsock

Verified by J. K. Hartsock

Instructions dated Oct. 11, 1940-Amended Oct. 16, 1940 19

Remarks:

DESCRIPTIVE REPORT

to accompany

HYDROGRAPHIC SHEET 401

James River, Va.

M. V. GILBERT
Project HT - 255

H. C. Warwick, Chief of Party
Scale 1:10,000

November 1941 - January 1942

AUTHORITY:

The work executed on this sheet was done in accordance with Instructions dated October 11, 1940 and amended instructions dated October 16, 1940, Project H. T. 255.

LIMITS:

The area surveyed lies south of Newport News, Va., principally the approaches to Nansemond River and Chuckatuck Creek and the adjacent flats. The sheet makes a juncture with H - 6596¹⁹⁴⁰ on the northeast corner. There is no contemporary survey along the extreme eastern limit or part of the northern limit. The sheet makes a juncture with Sheet H - 5968¹⁹³⁴ at the entrances to Nansemond River and Chuckatuck Creek.

CONTROL:

The control is on the 1927 N. A. datum. The signals used were second and third order triangulation stations and topographic stations transferred from graphic control sheets.

SURVEY METHODS:

The greatest part of the work was done by a chartered launch drawing 2½ feet, equipped with an 808-A depth recorder. A limited amount of hand lead sounding was done with the launch and a dinghy. Standard hydrographic survey methods were used.

DEPTH RECORDER:

See special report on operation of depth recorder and determination of corrections, *Acc. No. S-1999*

DISCREPANCIES:

A questionable 3' depth was recorded between 90n - 91n at Lat. 36° 56'.05, Long. 76° 25'.35. An extensive investigation of this area was run on "p" day and no shoal indication discovered. It is recommended that the 3' sounding be rejected as a stray. *3 ft. sounding rejected, as stray*

DISCREPANCIED: (CONT'D)

In general the cross lines agreed very closely, with a maximum variation in a few lines of 2 feet. Extensive oystering, both planting and harvesting, was done during the time of the survey which would account in part for the discrepancies shown by the cross lines. The oyster beds were from one-half to one foot in depth.

The soundings on "n" day appeared shoal on the boat sheet and a large part of the day was rerun. However as there was an extremely low tide that day and the fathometer corrections were plus, the reduced soundings agreed with adjacent lines on the smooth sheet.

See Review Par. (10)

COMPARISON WITH CHARTS:

The 3' depth shown on chart 529 at Lat. $36^{\circ} 54'.7$, Long. $76^{\circ} 27'.56$ * is indicated on the sheet by a 4' depth approximately 100 meters south. The current in this vicinity might easily account for this shifting.

Disregard 3ft

At Lat. $36^{\circ} 55'.23$, long. $76^{\circ} 25.80$ a $9\frac{1}{2}$ foot shoal was developed which does not appear on chart 529 or chart 400.

now charted

At Lat. $36^{\circ} 53'.45$, long. $76^{\circ} 28'.3$ a 5' depth is recorded which is close to the existing channel and is not shown on chart 529.

now charted

There is no evidence of a 5' shoal shown on chart 529 and 400 at Lat. $36^{\circ} 56'.20$, long. $76^{\circ} 25.70$. This area was covered by closely spaced sounding lines. This spot falls among 9 and 10 foot soundings on the present survey.

5ft retained Review Par 5(c)

Considerable investigation was done in area Lat. $36^{\circ} 54'.36$, long. $76^{\circ} 23'.30$ where a wreck is indicated on chart 400. No evidence was found of the wreck. The controlling depth was 12 feet. It is recommended that the wreck be deleted from the chart.

See Review Par. 62(8)

On chart 400 at lat. $36^{\circ} 53'.77$, long. $76^{\circ} 23.35$ a pontoon is shown. This feature was investigated by both the hydrographic and the topographic parties, but no evidence was found of its existence. It was reported that a party from the GILBERT saw the pontoon in the fall of 1940 but has since disappeared. Between H.W.L. & L.W.L. on T-4492 (1930)

deleted on chart

At Lat. $36^{\circ} 55'.7$, long. $76^{\circ} 27'.1$ a two foot sounding shown on chart 529 falls among 5 foot soundings on the present survey.

* Disregard 2ft and 3ft soundings on H-1213 (1874)

The 5 foot and 6 foot shoals shown on chart 529 at Lat. $36^{\circ} 55'.15$ * long. $76^{\circ} 25'.10$ and Lat. $36^{\circ} 55'.15$, Long. $76^{\circ} 25.45$ respectively were developed on the present survey with least depths of 6 feet and $7\frac{1}{2}$ feet. These deeper depths may be accounted for by oystering operations.

Disregard 5ft & 6ft shoals

* Numerous prior shoals are deeper on the present survey. Oyster dredging operations are considered reason for deepening.

COMPARISON WITH PREVIOUS SURVEYS:

Except as noted under comparison with charts, the depths agree fairly well with Sheets H - 4078⁽¹⁹¹²⁾ and H - 4084⁽¹⁹¹⁹⁾. The low water line from Pig Point eastward is shown considerably closer inshore on the present survey than on sheet H - 4084. The juncture with sheet H- 6596^{(1940) 1950^{pad.}} showed ~~the depths slightly shaller on the present survey.~~ The juncture with sheet H - 5968⁽¹⁹³²⁾ was satisfactory.

CHANNELS:

The dredged channel leading to the wharf at Pig Point has a controlling depth of eleven feet. It was impossible to sound around the wharf on account of construction operations. The controlling depth of the channel into Chuckatuck Creek is ^{four} five feet. However tugs drawing nine feet use this channel at high water by forging through a foot or more of soft mud. *No dredged channel is charted.* 83
← See Review Par 6(b)
← See Review Par 2.

The five foot sounding 170 meters NE of HalfPone^{Shoal} Light is a danger on the edge of the Nansmond River Channel. ✓

BREAKWATER:

The breakwater just northeast of the Pig Point Wharf was located by the hydrographic party, as the construction had barely begun at the time of the topographic survey. ✓

FATHOGRAMS:

The fathograms were scaled at night by officer personnel and entered in the record book. "a" day fathogram was checked and found to be correct. The remainder of the rolls were not verified, in Wash. Office. ✓

FLOATING AIDS TO NAVIGATION:

The floating aids to Navigation were located by sextant fixes. Buoy "S₅" in Batten Bay as shown on Chart 529 was not in evidence during the survey. ✓

GEOGRAPHIC NAMES:

For list of Geographic names see descriptive report for topographic sheets A, B and C (field letters) of this area.
T-6870 (1941), T-6871 (1942)

Respectfully submitted,

Harry F. Garber
Harry F. Garber,
Lieutenant,
C. & G. Survey

H6729

APPROVAL OF CHIEF OF PARTY

Sheet 401 and accompanying records have been inspected and approved by me.

Harry F. Garber

Harry F. Garber, Lieutenant, C&GS,
M. V. GILBERT

H6729

STATISTICS
To Accompany
Field Sheet No. 401
Launch Work

6	Date 1941-42	Day Letter	Vol.	Stat. Mi. so. lines	No. of Positions	No. of Soundings	
						Fath.	H. L.
	Nov. 25	a	1	24.5	141	1040	
	26	b	1&2	22.7	172	1143	
	27	c	2	24.3	137	1000	
	28	d	2&3	24.3	130	927	
	Dec. 1	e	3	23.0	115	876	
	4	f	3&4	17.0	85	613	
	5	g	4	22.5	136	966	
	8	h	4&5	16.0	113	746	
	9	J	5	21.7	151	958	
	10	k	5	8.0	81	460	
	11	l	6	2.5	18	133	
	15	m	6	19.3	129	848	
	16	n	6&7	30.0	159	1179	
	17	p	7	6.3	65	365	
	18	q	7	10.3	78	515	
	19	r	7&8	12.7	112	772	
	30	s	8	11.8	58	439	
	Jan. 1	t	8	7.2	54	386	
	2	u	8	2.0	15	108	
	5	v	8&9	12.8	101	530	
	6	w	9	16.4	116	800	
	9	x	9	18.6	103	687	
	12	y	9&10	10.6	66	458	
	13	z	10	32.0	156	1186	
	14	aa	10	16.2	98	647	
	15	bb	11	13.8	115	513	35
	Dec 3	(a)skiff	12	10.2	71	469	469
		Totals		436.7	2775	18,295	504

GEOGRAPHIC NAMES
 Survey No. **H6729**

Name on Survey	Source										
	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		
<u>Barrel Point</u>											1
<u>Candy Island</u>											2
<u>Chuckatuck Creek</u>											3
<u>James River</u>											4
<u>Nansemond River</u>											5
<u>Pig Point</u>											6
<u>Pike Point</u>											7
<u>Ragged Island</u>											8
<u>Ragged Island Creek</u>											9
<u>Batten Bay</u>											10
<u>North Creek</u>											11
<u>Wills John Shoal</u>											12
<u>Blink Horn Cr.</u>											13
											14
											15
<u>Newport News</u>											16
											17
											18
											19
											20
											21
											22
											23
											24
											25
											26
											27

Remarks

Decisions

1		369764
2		"
3		369764 U.S.G.B.
4		" U.S.G.B.
5		369764
6		"
7		"
8		"
9		"
10		369764
11		368764
12	See ch. 529 for location	369764
13		"
14		
15		
16	Location of tide staff	369764
17		
18		
19		
20		
21		
22		
23		
24		
25		
26		
27		

Names underlined in red approved
by L. Heck on 6/29/42

Surveys Section (Chart Division)

HYDROGRAPHIC SURVEY NO. **H6729**

Records accompanying survey:

Boat sheets 978.; sounding vols. (12).; wire drag vols.; bomb vols.; graphic recorder rolls ~~24~~ 17 22 envelopes special reports, etc. 1. Cahier containing reports on Depth Recorder, .. ^(not in cahiers) Tide Reducer Curves, and Depth Recorder Corrections. ~~3 overlay tracings~~ filed with sheets ~~(transfer of sheets)~~

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

Number of positions on sheet	2775
Number of positions checked	.168.
Number of positions revised	..11.
Number of soundings recorded	18,799
Number of soundings revised (refers to depth only)	.35.
Number of soundings erroneously spaced	.25.
Number of signals erroneously plotted or transferred	...0.
Topographic details	Time 2..hrs.
Junctions	Time .8...
Verification of soundings from graphic record	Time .62..

Verification by *J. H. Hartsock* Total time 333. Date 2/19/43.

Review by *J. F. Jordan* Time .462. Date 2/23/43.

MEMORANDUM

IMMEDIATE ATTENTION

SURVEY
 DESCRIPTIVE REPORT
~~PHOTOSTAT OF~~

No. H **H6729**
~~No. H~~

received April 14, 1942
 registered April 15, 1942
 verified
 reviewed
 approved

This is forwarded in order that your attention may be directed to the matters as indicated below. Please initial in column 3 as an acknowledgement that your attention has been thus directed. The complete original records are available if desired. If you cannot give this your immediate attention, please initial, note, and forward to the next section marked, calling for the records at your convenience.

ROUTE		Initial	Attention called to
20			
22			
24			
✓ 25	Pg 3		
26			
30			
40			
62			
63			
82			
✓ 83	Pg 283	<i>Mr. C. ...</i>	<i>... in ...</i>
88			
90			

RETURN TO

82	R. W. Knox
----	------------

598
712

TIDE NOTE FOR HYDROGRAPHIC SHEET

April 16, 1942

~~Division of Hydrography and Topography:~~

✓ Division of Charts: Attention: Mr. H. R. Edmonston.

Plane of reference approved in
12 volumes of sounding records for

HYDROGRAPHIC SHEET 6729

Locality Entrance to Mansemond River, James River, Virginia.

Chief of Party: H. C. Warwick in 1941-1942
Plane of reference is mean low water reading
1.8 ft. on tide staff at Newport News
30.9 ft. below B. M. 3

Height of mean high water above plane of reference is 2.6 feet.

Condition of records satisfactory except as noted below:



Chief, Division of Tides and Currents.

DIVISION OF CHARTS

SURVEYS BRANCH

REVIEW OF HYDROGRAPHIC SURVEY

REGISTRY NO. 6729

Field No. 401

Virginia, James River, Entrance to Nansemond River
Surveyed November 1941 to January 1942; Scale 1:10,000
Instructions dated October 11 and 16, 1940

Soundings:

808A Fathometer;
Hand Lead

Control:

Three-point Fix on Shore Signals

Chief of Party - H. C. Warwick; H. F. Garber
Surveyed by - H. F. Garber; J. E. Waugh
Protracted by - L. G. Taylor
Soundings plotted by - L. G. Taylor
Verified and inked by - J. K. Hartsock
Reviewed by - G. F. Jordan
Inspected by - H. R. Edmonston

1. Shoreline and Signals

The control is from previously established triangulation stations and contemporary surveys T-6870 (1941) and T-6871 (1942).

The shoreline shown is from these topographic surveys. Additional shoreline is to be taken from planimetric drawings not yet available. The breakwater at Lat. $36^{\circ}54.4'$; Long. $76^{\circ}26.6'$ was located by the hydrographic party.

2. Sounding Line Crossings

The sounding line crossings are generally satisfactory. A few discrepancies of 2 feet in depths are considered due to a combination of oystering, operation of the fathometer and plotting soundings in whole foot units. Such a discrepancy exists at Lat. $36^{\circ}55.85'$; Long. $76^{\circ}29.5'$ where 3- and 5-ft. soundings conflict - actually a 1.5-ft. discrepancy. These soundings are adjacent to the approach to Chuckatuck Creek, where the descriptive report had noted a controlling depth of 5 feet.

A note on the boat sheet says one hundred oyster boats operate over a single large oyster bed day after day. Discrepancies in depths would arise from these operations.

Considerable experimentation with the operation of the 808A fathometer is reported in the separate report S-1999. This reviewer notes in paragraph (10) that there is a wide range in the bar check corrections.

3. Depth Curves

The depth curves are generally satisfactory. An irregular 18-ft. curve has been smoothed out at Lat. $36^{\circ}56.2'$; Long. $76^{\circ}25.2'$ by revising the bar check correction applied to the soundings.

The correction for "S" day was originally much larger than usual, amounting to 10% in 20 feet. The revision was substantiated by adjacent lines of other days and by the overlapping survey.

A point in the 12-ft. curve at Lat. $36^{\circ}55.65'$; Long. $76^{\circ}26.1'$ is due to a line of soundings which are 1 foot shoaler than the adjacent lines of other days. This "N" day line is discussed in Par. (10).

4. Junctions with Contemporary Surveys

The junction on the northeast with H-6596 (1940) is satisfactory. Surveys on the north have not been received.

Satisfactory junction is also made with H-5968 (1934) in Nansemond River and at the mouth of Chuckatuck Creek.

5. Comparison with Prior Surveys

H-447 (1854); H-529 (1854); H-1179a (1871); H-1188 (1873); H-1213 (1874); H-3039 (1909); H-3045 (1910); H-4078 (1918); H-4084 (1919)

All of the above are standard surveys with the exception of the reconnaissance survey H-3045. The general agreement is satisfactory, except for the disappearance or shoaling of oyster beds, shoaling in the channel of Nansemond River, and as noted in the following paragraphs.

- a. A 6-ft. uncharted sounding has been carried forward from H-1213 (1874) at Lat. $36^{\circ}54.3'$; Long. $76^{\circ}27.4'$. This sounding falls outside

The present survey was partially applied to both charts before verification and the following corrections are to be noted:

1. The 5- and 7-ft. soundings charted on 529 at Lat. $36^{\circ}53.45'$; Long. $76^{\circ}28.3'$ were replotted 40 meters SSW. The present charted positions exaggerate the projection of the shoal into the channel.
2. The 15-ft. sounding charted on 529 at Lat. $36^{\circ}55'$; Long. $76^{\circ}27'$ was replotted 70 meters northeast, falling in the point of the 18-ft. curve on the present survey.
3. The fact that there are extensive oyster beds in the area of this survey is not indicated on the chart. Blueprint 35580 indicates extensive oyster operations.
4. The submerged wreck previously charted and removed from the chart as a result of the present survey is noted in the descriptive report which recommends its deletion. The records indicate that fathometer lines were the only method of investigation. The original location shown on a section of chart 400 in chart letter 383 (1928) by the Corps of Engineers falls on the edge of a 30-meter gap on the present development at Lat. $36^{\circ}54.39'$; Long. $76^{\circ}23.30'$. This wreck of the power boat "Hampton" was reported as being covered with 6 feet. This position falls in a large flat area of 11- and 12-ft. depths. It seems improbable that the power boat has broken up or drifted since 1928. Adequate drift sounding or wire drag should be used to disprove its existence. It is recommended that the 6-ft. sounding with "wreck" notation be replaced on the chart.

b. Controlling Depths

The controlling depth of the channel into Pig Point is charted as 10 feet. A small definite shoal indicated on the fathogram shows 9-1/2 feet on the present survey at Lat. $36^{\circ}54.6'$; Long. $76^{\circ}26.97'$.

29
36
204

c. Aids to Navigation

1. Red spar buoy No. 2 at Lat. $36^{\circ}54.4'$; Long. $76^{\circ}27.5'$ has been changed to a can buoy since this survey.
2. Black spar buoy No. 7 at Lat. $36^{\circ}55.95'$; Long. $76^{\circ}29.45'$ was found to be a black can buoy with reflector on the present survey.
3. No evidence of the black spar buoy No. 5 was found on the present survey at Lat. $36^{\circ}56.1'$; Long. $76^{\circ}29.3'$.
4. The charted buoys marking the outer end of the dredged channel at Lat. $36^{\circ}54.6'$; Long. $76^{\circ}27.0'$ were placed since this survey.

7. Condition of Survey

The sounding records, descriptive report and smooth plotting are satisfactory.

A separate comprehensive report on the operation of the fathometer is filed in cahier S-1999.

8. Compliance with Instructions for the Project

Satisfactory.

9. Additional Field Work Recommended

- a. The 5-ft. sounding noted in Par. 5(c) does not appear to be a shoal on the prior survey and should be thoroughly investigated.
- b. The 6-ft. sounding noted in Par. 5(a) should be investigated. Although the 1909 survey and the present survey show no comparable depths, there is no record of dredging at this position.
- c. The wreck noted in Par. 6a(3) should be adequately investigated.

10. Operation of 808A Fathometer

The chiefs of party should be commended on submitting the separate detailed report, cahier S-1999, on the operation of the recording fathometer.

The accuracy of the bar checks is questioned in this report. This reviewer believes that some discrepancies on the smooth sheet arise from the inaccuracies of these bar check corrections. The separate report notes that the speed of the fathometer was maintained constantly, except for specified days. The wide variance in the bar check corrections, the curves for which are included in the separate report, and the large amount of some corrections are not understandable. After December first, noted in the separate report, the corrections at 18 feet varied from 0.4 to 1.8ft., the latter a 10% correction.

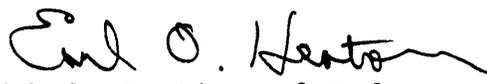
The bar check correction for "S" day has been revised as noted in this review, Par. (3). On "N" day the speed of the fathometer was adjusted to agree with the bar check, allowing the fathometer to run 6% slow, with the result that "N" day soundings appear 1/2 to 1 foot shoal in relation to adjacent soundings and crosslines. One place of discrepancy is noted in this review, Par. (2). The large point in the 6-ft. curve at Lat. 36°55.9'; Long. 76°28.2' and the point in the 12-ft. curve at Lat. 36°55.65'; Long. 76°26.1' are considered to be due to shoaler soundings on "N" day. This would seem to substantiate the belief that the speed of the fathometer was improperly adjusted to an inaccurate bar check on that day.

The maximum range from fresh to high salinity water is considered to involve a 5% correction, and there would seem to be no reason for making unrecorded large changes in gain control in this shoal area.

11. Superseded Surveys

H- 447 (1854) in part	H-3039 (1909) in part
H- 529 (1854) " "	H-3045 (1910) " "
H-1179a (1871) " "	H-4078 (1918) " "
H-1188 (1873) " "	H-4084 (1919) " "
H-1213 (1874) " "	


Chief, Surveys Branch


Chief, Section of Hydrography

Examined and approved:


Chief, Division of Charts


Chief, Division of
Coastal Surveys

Partially applied to Ch. 400 - May 1942. JKS
Applied to Ch. 78 July 24, 1942 J.R.

Partially applied to Ch. 529 before verification Aug 5 1942 HFA
applied to Ch. 529 6/21/43 JHE
" " Ch. 1222 6/22/43 JHE
" " Ch. 400 6/28/43 JHE
" " " 78 (after review) 8/12/44 JFW