

# 8276

Diag. Cht. No. 78-3.

<b>Form 504</b> U. S. DEPARTMENT OF COMMERCE COAST AND GEODETIC SURVEY  <b>DESCRIPTIVE REPORT</b>	
<i>Type of Survey</i> <u>Hydrographic</u>	
<i>Field No.</i> <u>CO-1155</u> <i>Office No.</i> <u>H-8276</u>	
<b>LOCALITY</b>	
<i>State</i> <u>Virginia</u>	
<i>General locality</i> <u>Great Wicomico River</u>	
<i>Locality</i> <u>Haynie Point to Crawley Creek</u>	
<u>19 55</u>	
<b>CHIEF OF PARTY</b>	
<u>K. S. Ulm and W. N. Martin</u>	
<b>LIBRARY &amp; ARCHIVES</b>	
<b>DATE</b> <u>November 26, 1958</u>	

USCOMM-DC 5087

8276

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-8276

Field No. CO-1155

State Virginia

General locality Great Wicomico River

Locality Haynie Point to Crawley Creek

Scale 1:10,000 Date of survey 28 April - 18 July 55

Instructions dated 5 February 1953, 25 February 1954, 14 January 1955

Vessel USC&GS Ship COWIE

Chief of party Comdr. Kenneth S. Ulm & W.N. Martin

A.J. Ramey W.N. Martin  
Surveyed by F.A. Pursey Officers of Ship COWIE D.A. Jones

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

Fathograms scaled by Personnel of Ship COWIE

Fathograms checked by Personnel of Ship COWIE & Norfolk District Office

Protracted by W.L. Jonns

Soundings penciled by W.L. Jonns

Soundings in ~~fathoms~~ feet at MLW ~~MLLWX~~ and are true depths

REMARKS:

.....  
.....  
.....  
.....  
.....

782

DESCRIPTIVE REPORT

To Accompany

Hydrographic Survey H-~~8276~~ Field No. CO-1155

Great Wicomico River, Va. Haynie Point to  
Crawley Creek

Ship COWIE

Scale 1:10,000

Kenneth S. Ulm  
Chief of Party

A. PROJECT:

Project CS-1287. Supplemental Instructions dated 5 February 1953, 25 February 1954 and 14 January 1955. ✓

B. SURVEY LIMITS AND DATES:

This survey is of the upper reaches of Great Wicomico River, Virginia and includes the navigable part of the river and its tributaries to the west and north of Haynie Point plus Whays Creek located 1/4 mile northeast of Haynie Point. The survey makes a junction with Hydrographic Sheet Field No. CO-1654 along a line extending Southwest across the river from Haynie Point. Survey CO-1654 was completed by Ship COWIE in 1955. ✓  
*H-8190*  
*H-8180 (1954-55)*

The survey was commenced on 28 April 1955 and concluded on 18 July 1955. ✓

C. VESSEL AND EQUIPMENT:

Launch 102, using 808 fathometers 114-S and 120-S was used part of two days on the survey. The remainder of the survey was completed by skiff 749 using 808 fathometers 114-S, 118-s, 67, and 156-SPX and sounding pole.

D. TIDE AND CURRENT STATIONS:

A portable tide gage was installed and maintained throughout the period of the survey at the Virginia State Highway swing bridge at Glebe Point. Tide gage records and soundings are on Eastern Standard time.

Two current stations were observed by Ship COWIE within the area of the survey. Station No. 7 was located 0.5 mile Northwest of Haynie Point at Latitude  $37^{\circ} 50.256$  Longitude  $76^{\circ} 19.25$  and Station No. 8 located 0.2 mile East of Glebe Point Highway Bridge at Latitude  $37^{\circ} 50.82$  Longitude  $76^{\circ} 21.84$ .

E. SMOOTH SHEET:

The Smooth Sheet will be plotted by the Norfolk Processing Office.

F. CONTROL STATIONS:

See Appendix

G. SHORELINE AND TOPOGRAPHY:

The shoreline for the boat sheet was transferred from *Review* Photogrammetric Manuscripts T-11050 to T-11051.

Because of the small range of tide throughout the area of the survey, it was not practical to define the low water line. In general in the upper reaches of the river and the tributaries the low water line and the high water line are the same.

50.85' 22.7' ✓  
A change in shoreline was noted in vicinity of Balls Creek, Latitude  $37^{\circ} 51'$  Longitude  $76^{\circ} 23'$ . Several hydrographic signals were located by sextant fixes for the control of sounding lines within the creek, and three of these signals plotted outside the HWL as indicated on Manuscript T-11050. The changes to the HWL are shown on the Boat Sheet in red and are in the vicinity of signals TWO, THR, and SIX. The shoreline along Balls Creek consists of intermittent 10 to 15 foot bluffs and a dense growth of tall trees. ✓

The HWL at Haynie Point, Rogue Point and other prominent points is subject to change during severe storms. ✓

#### H. SOUNDINGS:

Soundings taken with 808 fathometer and sounding pole agree satisfactorily, and depth curves can be adequately drawn at the junctions of the survey. ✓

Bar checks were used to determine the fathometer corrections. ✓

#### I. CONTROL OF HYDROGRAPHY:

Soundings lines were controlled by three-point fixes using natural objects or signals erected along the shore line except in the narrow upper reaches of tributaries where boat sheet positions related to identifiable topographic features were used to control the soundings. Satisfactory results were obtained from the signals used. ✓

#### J. ADEQUACY OF SURVEY:

This survey is considered complete and adequate for charting purposes, and it should supersede all prior surveys. Junctions with the adjoining surveys are satisfactory, no holidays exist and depth curves can be adequately drawn at the junctions. ✓

#### K. CROSSLINES:

Crosslines are in good agreement and comprise approximately ten percent of the principal system of lines. ✓

L - M COMPARISON WITH PRIOR SURVEYS AND CHARTS:

A comparison with Chart 534 shows good agreement between old and new surveys. ✓

Item 8 Preliminary Review - The wreck in Latitude 37° 50.28', Longitude 76° 19.55' was investigated but no evidence of a wreck was found. According to information obtained from residents of Mills there was a brick structure in about this vicinity several decades ago, but the structure "sunk" into the sand. Oyster fishermen now use the area for farming oysters and they admitted recovering isolated bricks occasionally during oyster harvesting. It is recommended that the wreck shown on Chart 534 at this point be deleted. ✓

removed from Chart on basis of present survey prior to review  
dwg #16-ck 534  
1223 ✓  
removed 12/17/58

CONCUR HWB.

The piling shown on Chart 534 across the river from the above wreck and directly north of Haynie Point located vicinity of Latitude 37° 50.1', Longitude 76° 19.1' consists of fish stakes only and it is recommended that the piling symbol be deleted. Fish stakes are located at various places within the area of this survey, and are in general temporary. The fishermen pump the stakes into a favorite location, leave them for varying periods of time, and either remove them or relocate them at another location. ✓

removed from Chart on basis of present survey prior to review  
dwg #16-ck 534  
1223 ✓  
CONCUR HWB  
removed 12/17/58

Item No. 9 Preliminary Review - The wreck shown on Chart 534 at Latitude 37° 52.24', Longitude 76° 25.25' was searched for but could not be found. Local residents claimed no knowledge of the existence of this wreck. Recommended deleted.

removed from Chart on basis of present survey prior to review  
dwg #16 ck 534

1223 ✓  
removed 17/17/58  
?

N. DANGERS AND SHOALS:

CONCUR HWB

No new dangers or shoals were located within the limits of the survey. ✓

O. COAST PILOT INFORMATION:

The 1955 Coast Pilot Report is being prepared as a separate report. ✓

P. AIDS TO NAVIGATION:

Form 567, non-floating Aids to Navigation, is being prepared as a separate report.

There are no floating aids to navigation within the limits of this survey.

Q. LANDMARKS FOR CHARTS:

Form 567, Landmarks for Charts is being prepared as a separate report.

No new landmarks are recommended for charting.

R. GEOGRAPHIC NAMES:

Geographic names as shown on the charts in this area are adequate and no additional names are recommended.

U - Y MISCELLANEOUS:

The fathometer corrections were obtained by averaging the bar checks according to the fathometer used.


An abstract of the above corrections is included as part of this report.

Z. TABULATION OF APPLICABLE DATA:


A list of signals is attached to Volume No. 1 of the sounding records.

A tabulation of other data is included as part of this report.

Respectfully submitted,

  
Don A Jones  
Lt. Commander, C&GS

Approved and forwarded:

  
Edmund L. Jones  
Commander, C&GS  
Commanding Officer Ship COWIE

TIDAL NOTE

A portable automatic tide gage was maintained at the Glebe Point Highway Bridge throughout the entire period of this survey. No time difference was applied to the observed Glebe Point tides. The hourly heights were scaled from the marigrams and the tide curves plotted by personnel of the Ship COWIE.



STATISTICS

	<u>Vol. No.</u>	<u>Date</u>	<u>Day Letter</u>	<u>No. Pos.</u>	<u>Stat. Mi.</u>
Launch 102	I	4/28	a (blue)	19	3.1
	I	6/9	b	77	10.3
				<u>96</u>	<u>13.4</u>
Skiff 749	II	5/11	a ( <sup>Red.</sup> <del>green</del> )	37	4.1
	II	5/25	b	212	19.8
	II	6/14	c	35	5.0
	III	6/14	c	63	8.8
	III	6/16	d	217	22.9
	IV	6/16	d	62	6.8
	IV	6/21	e	203	20.4
	V	6/22	f	254	25.9
	V	6/23	g	42	6.6
	VI	6/23	g	115	7.4
	VI	6/27	h	88	7.2
	VI	6/28	j	117	9.1
	VII	6/28	j	99	7.7
	VII	7/12	k	180	11.2
	VII	7/13	l	67	4.8
	VIII	7/13	l	89	4.7
	VIII	7/14	m	104	9.7
VIII	7/18	n	67	4.8	
			<u>2051</u>	<u>186.9</u>	
Launch 102			96	13.4	
Skiff 749			<u>2051</u>	<u>186.9</u>	
TOTALS			2147	200.3	

Area:

6.94 sq. stat. mi.

## FATHOMETER CORRECTIONS

	<u>Scale</u>	<u>Range</u>	<u>Correction</u>
Fathometer No. 114-S (Launch 102)	A	0-30	0.0
	A	30.5-40	<del>+0.2</del>
	A	40.5-50	<del>+0.4</del>
	A	50.5-60	<del>+0.6</del>
	B	37 -44	<del>+2.0</del>
	B	44.5-55	<del>+2.2</del>
	B	55.5-72	<del>+2.0</del>
	B	72.5-75	<del>+2.2</del>
	B	75.5-77	<del>+2.4</del>
	B	77.5-79	<del>+2.6</del>
	B	79.5-Rest	<del>+2.8</del>
	C	68 -72	<del>+6.0</del>
	C	72.5-76	<del>+5.8</del>
	C	76.5-80	<del>+5.6</del>
	C	80.5-84	<del>+5.4</del>
	C	84.5-88	<del>+5.2</del>
	C	88.5-92	<del>+5.0</del>
	C	92.5-96	<del>+4.8</del>
	C	96.5-100	<del>+4.6</del>
	C	100.5-104	<del>+4.4</del>
C	104.5-108	<del>+4.2</del>	
C	108.5-112	<del>+4.0</del>	
C	112.5-116	<del>+3.8</del>	
C	116.5-120	<del>+3.6</del>	
Fathometer No. 120-S (Launch 102)	A	0-40	0.0
Fathometer No. 114-S (Skiff 749)	A	0-14	<del>+0.2</del>
	A	14.5-19	0.0
	A	19.5-25	-0.2
	A	25.5-40	-0.4
Fathometer No. 118-S (Skiff 749)	A	0-6	<del>+0.2</del>
	A	6.5-21	<del>+0.0</del>
	A	21.5-38.5	-0.2
	A	39-42	0.0
Fathometer No. 67 (Skiff 749)	A	0-12	<del>+0.2</del>
	A	12.5-40	0.0
Fathometer No. 156-SPX (Skiff 749)	A	0-7	- <del>+0.0</del>
	A	7.5-20	<del>+0.2</del>
	A	20.5-30	- <del>+0.0</del>

F. CONTROL STATIONS:

<u>Triangulation Stations</u>	<u>Hydrographic Name</u>
Alfred (VFC) 1931	FRED
Ball (VFC) 1931	BALL
Bar (VFC) 1931	BAR
Berry (VFC) 1931	BERR
Betts (VFC) 1931	BETT
Cedar Point (VFC) 1931	CEDA
Cowpen (VFC) 1931	COW
Cox (VFC) 1931	COX
Eagle Point (VFC) 1931	AGLE
Flint (VFC) 1931	FLIN
Glebe (VFC) 1931	GLEBE
Haynie Point Light 1938	HAY
Haynie (VFC) 1931	NIE
Holland (VFC) 1931	LAND
Island Point (VFC) 1931	POIN
Mary (VFC) 1931	MARY
Richardson (VFC) 1931	RICH
Regue Point Light 2, 1955	ROG
Sam (VFC) 1931	SAM
Sandy Point Light 1938	ANDY
South (VFC) 1931	SOUT
Tipers West (VFC) 1931	TIPERS
Wards (VFC) 1931	WARD → <i>Not used</i>

Topographic Sheet CO-1150, Manuscript T-11050

APT	FIG	HUT	OIL	WIN
BIB	FOE	IRK	PIE	YEA
CRY	FRY	JAY	RIG	YET
DOG	FUN	JIM	ROB	
DOT	GAS	JOE LOG	SAM	
DUD	GIN	LUG	SIR	
DUN	GUM	MAL	TOM	
ERA	GUS	MET	VIM	
ERG	HEX	NIT	WIG	
EVA	HUM	NIX	WIN	

Topographic Sheet CO-1155 Manuscript T-11051

ABE	BIG	COW	ELF	GET <sup>GUY</sup>	KED	MAN	OWL	SAD	YAK
ACE	BEA	CUR	END	HER	KEL	MAX	PAD	SAL	YAM
ACT	BOB	CUT	FAR	HID	KEY	MID	PAL	SAX	YES
ADD	BON	DEB	FED	HIS	KID	MOP	PAR	SHE	ZAG
AIM	BUM	DIF	FEW	HUB	KIL	NAT	PEG	TIN	
ALP <sup>ANN</sup>	BUT	DIP	FIX	HUG	LAD	NAY	PET	TRY	
ARM	COB	DIX	FLY	ION	LAM	NIL	QUE	VAL	
ART	CAR	DON	FOG	ITS	LAY	NIP	RAG	VAN	
BAG	CAT	DUE	GLAD	IVY	LEG	OAK	RED	VIE	
BAT	COD	EAR	GAL	JAP	LET	OBI	REV	WAS	
BED	COO	EBB	GAM	JIB	LIP	OFF	RIM	WED	
	COP	EGG	GEM	JOY	MAG	OUT	RIP	WEN	

Signals located by Sextant

FIV	FOU	IGH	ONE	SEV	SIX	THR	TWO
<del>FIR</del>							
Vol. 1	Vol. 1	Vol. 3	Vol. 1	Vol. 3	Vol. 1	Vol. 1	Vol. 1
Pg. 20	Pg. 19	Pg. 7	Pg. 18	Pg. 6	Pg. 20	Pg. 19	Pg. 19

NORFOLK PROCESSING OFFICE  
ADDENDUM  
To Accompany

HYDROGRAPHIC SURVEY H-8276 (Co-1155)

GENERAL

This has resulted in a very good basic survey. How-ever, several time consuming revisions and adjustments were necessary during the processing and smooth plotting to reconcile discrepancies. ✓

SHORELINE CHANGES

The shoreline changes indicated in Balls Creek are extremely minor, and are probably non-existent. The locations of hydrographic stations in the creek are weak, and altho the smooth plot shows smaller changes than the boat sheet it is considered quite possible that the shoreline on the manuscript is more accurate. - Accepted

*hydro shore line - HWS*

CONTROL

The Field Party used the old position of Rogue Pt. Light on the boat sheet. In addition, revised manuscripts showing some changes in the locations of some topo stations were used on the smooth sheet. This condition has caused some slight differences between boat and smooth sheets in the locations of sounding lines and detached objects. ✓

Topo station NIX was not shown on the manuscript and was transferred from the boat sheet. ✓

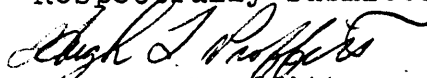
SOUNDINGS

Soundings are in good agreement but it was necessary to do a large amount of re-scanning to accomplish this. The condition may be attributed to the field practice of scanning soundings to the nearest  $\frac{1}{2}$  foot in areas of flat bottom. ✓

Bar check corrections were re-compiled and re-entered on all of "d" and part of "h" days. This was done to bring soundings into agreement with surrounding hydrography as the corrections on these days did not agree with the general grouping. ✓

Norfolk, Va.  
20 Nov. 1958

Respectfully submitted,



Hugh L. Proffitt  
Cartographer.

GEOGRAPHIC NAMES

Survey No. H-8276

Name on Survey	Source of Name										✓
	A	B	C	D	E	F	G	H	K		
Virginia			(for title)							BGN	1
Great Wicomico River			"	"						"	2
Whays Creek ✓											3
Haynie Point ✓											4
Warehouse Creek ✓											5
Horn Harbor ✓											6
Coles Creek ✓											7
Glebe Point ✓											7
Glebe Point Highway Bridge			(tide station)								8
Betts Mill Creek ✓											9
Blackwell Creek ✓											10
Crawley Creek ✓											11
Balls Creek ✓										BGN	12
Tipers Creek ✓											13
Barrett Creek ✓											14
Rogue Point ✓											15
Mila											16
Penny Creek ✓											17
Gougher Creek ✓										BGN	18
Collins Point			Names approved 1-19-59.								19
Any names on current chart 534 may be used if desired.											20
Mila Neck											21
Ferry PT											22
Indian PT											23
Cedar PT											24
Sampsons Wharf											25
Coopers Landing											26
Eagle PT											27

H. Heck

DIVISION OF CHARTS

REVIEW SECTION -- NAUTICAL CHART BRANCH

REVIEW OF HYDROGRAPHIC SURVEY

REGISTRY NO. H-8276

FIELD NO. CO-1155

Virginia - Great Wicomico River - Haynie Point to Crawley Creek

SURVEYED: April - July 1955

SCALE 1:10,000

PROJECT NO. CS-1287

SOUNDINGS: 808  
Pole

CONTROL: Sextant fixes  
on shore signals

Chief of Party ----- Kenneth S. Ulm and W. N. Martin  
Surveyed by ----- A. J. Ramey, W. N. Martin and  
D. A. Jones  
Protracted by ----- W. L. Jonns  
Soundings plotted by ----- W. L. Jonns  
Verified and inked by ----- J. C. Chambers  
Reviewed by ----- H. W. Burgoyne 11 May 1960  
Inspected by ----- R. H. Carstens

1. Shoreline and Control

The shoreline originates with reviewed air photographic surveys T-11050 and T-11051 (1952-54). Additional changes in the shoreline were made by the hydrographer in Balls Creek at lat.  $37^{\circ}50.85'$ , long.  $76^{\circ}22.7'$ .

The sources of control are given in the Descriptive Report.

2. Sounding Line Crossings

Depths are in adequate agreement at crossings.

3. Depth Curves and Bottom Configuration

The standard depth curves are adequately delineated. The 3-foot curve was drawn to better outline the shoal areas in the Great Wicomico River and in the numerous tributaries flowing into the river. Depths drop sharply near shore to a generally smooth river bottom.

4. Junctions with Contemporary Surveys

Present survey depths on the east are in adequate agreement with junctional depths on survey H-8190 (1954-55).

5. Comparison with Prior Surveys

- A. H-1003 (1869), 1:20,000  
H-3012 (1909), 1:20,000

Only minor differences of 1-2 feet were noted between the prior and present surveys in the deeper water in the center of the river. However, considerable erosion and accretion have taken place along the shoreline which resulted in major changes inside the 6 foot curve. For example, the point of land at lat.  $37^{\circ}50.08'$ , long.  $76^{\circ}19.3'$  has accreted approximately 165 meters to the south-east of its location shown on H-3012 (1909).

The charted (chart 534) 6-foot sounding at lat.  $37^{\circ}51.18'$ , long.  $76^{\circ}22.24'$ , originating with H-3012 (1909), falls in depths of 10-11 feet on the present survey. The lead line was probably misread, as a close development of other lines on this prior survey showed depths of 10-11 feet which agrees with present survey depths. The 6-foot sounding is considered nonexistent and should be deleted from the chart.

The present survey is adequate to supersede the sparsely developed smaller scale prior surveys in the common area.

6. Comparison with Chart 534 (Latest print date 5/4/59)

A. Hydrography

The charted hydrography originates with prior surveys, supplemented by critical information from both the boat sheet (BP 53048) and smooth sheet of the present survey prior to verification and review.

Attention is called to the following items:

- (1) Two uncharted visible wrecks appear on T-11051 (1952-54) of lat.  $37^{\circ}51.67'$ , long.  $76^{\circ}22.04'$  and lat.  $37^{\circ}50.32'$ , long.  $76^{\circ}18.96'$ .
- (2) An uncharted visible wreck originating with the present survey is located at lat.  $37^{\circ}50.38'$ , long.  $76^{\circ}21.20'$ .

- (3) The charted sunken wreck at lat.  $37^{\circ}52.53'$ , long.  $76^{\circ}23.35'$ , located in 2 feet of water has appeared on Chart 534 since prior to the year 1910. No presence of the sunken wreck was noted on the present survey. It is recommended that the sunken wreck be removed from the chart.
- (4) The charted 6-foot sounding at lat.  $37^{\circ}51.85'$ , long.  $76^{\circ}23.34'$ , originating with the boat sheet (BP 53048) falls on two 5-foot pole soundings (recorded in the sounded volumes). However, both 5-foot soundings were considered to be recorded in error (7 mistakenly recorded for 11) and therefore were disregarded. Soundings of 8 and 9 feet obtained from adjacent cross lines were accepted as being correct.

The present survey is adequate to supersede the charted information.

B. Aids to Navigation

The present survey positions of aids to navigation are in close agreement with the charted positions 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 done accurately and neatly except for the plotting of sounding lines on certain turns. Adequate allowance was not always made for the slowing down of the boat when approaching the shore, which resulted in the displacement of the 3-foot curve.

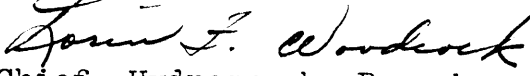
8. Compliance with Project Instructions

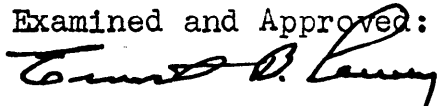
This survey adequately complies with the Project Instructions.


9. Additional Field Work Recommended

This is a good basic survey and no additional field work is recommended.

  
Chief, Nautical Chart Branch

  
Chief, Hydrography Branch

Examined and Approved:  
  
Chief, Division of Charts

  
Chief, Division of Coastal Surveys



Hydrographic Surveys (Chart Division)

HYDROGRAPHIC SURVEY NO. .8276...

Records accompanying survey:

Boat sheets ..1..; sounding vols. ...8..; wire drag vols. ....; bomb vols. ....; graphic recorder rolls 6-Envelopes special reports, etc. .1-Smooth sheet and 1-Descriptive report, .....

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

Number of positions on sheet	.....	2147
Number of positions checked	.....	194
Number of positions revised	.....	0
Number of soundings revised (refers to depth only)	.....	0
Number of soundings erroneously spaced	.....	10
Number of signals erroneously plotted or transferred	.....	0
Topographic details	Time	4
Junctions	Time	8
Verification of soundings from graphic record	Time	2

Verification by *J. B. Chamberlain* ..... Total time .27.3 hrs Date *3/18/60*

Reviewed by *H. W. Burgoyne* ..... Time 40 .... Date *5/11/60*

**TIDE NOTE FOR HYDROGRAPHIC SHEET**

Chart Division: R. H. Carstens

27 February 1959

Plane of reference approved in  
8 volumes of sounding records for

HYDROGRAPHIC SHEET 8276

Locality Great Wicomico River, Va.

Chief of Party: K. S. Ulm & W. N. Martin in 1955

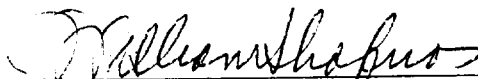
Plane of reference is mean low water, reading

2.3 ft. on tide staff at Glebe Point

28.5 ft. below B.M. 1 (1955)

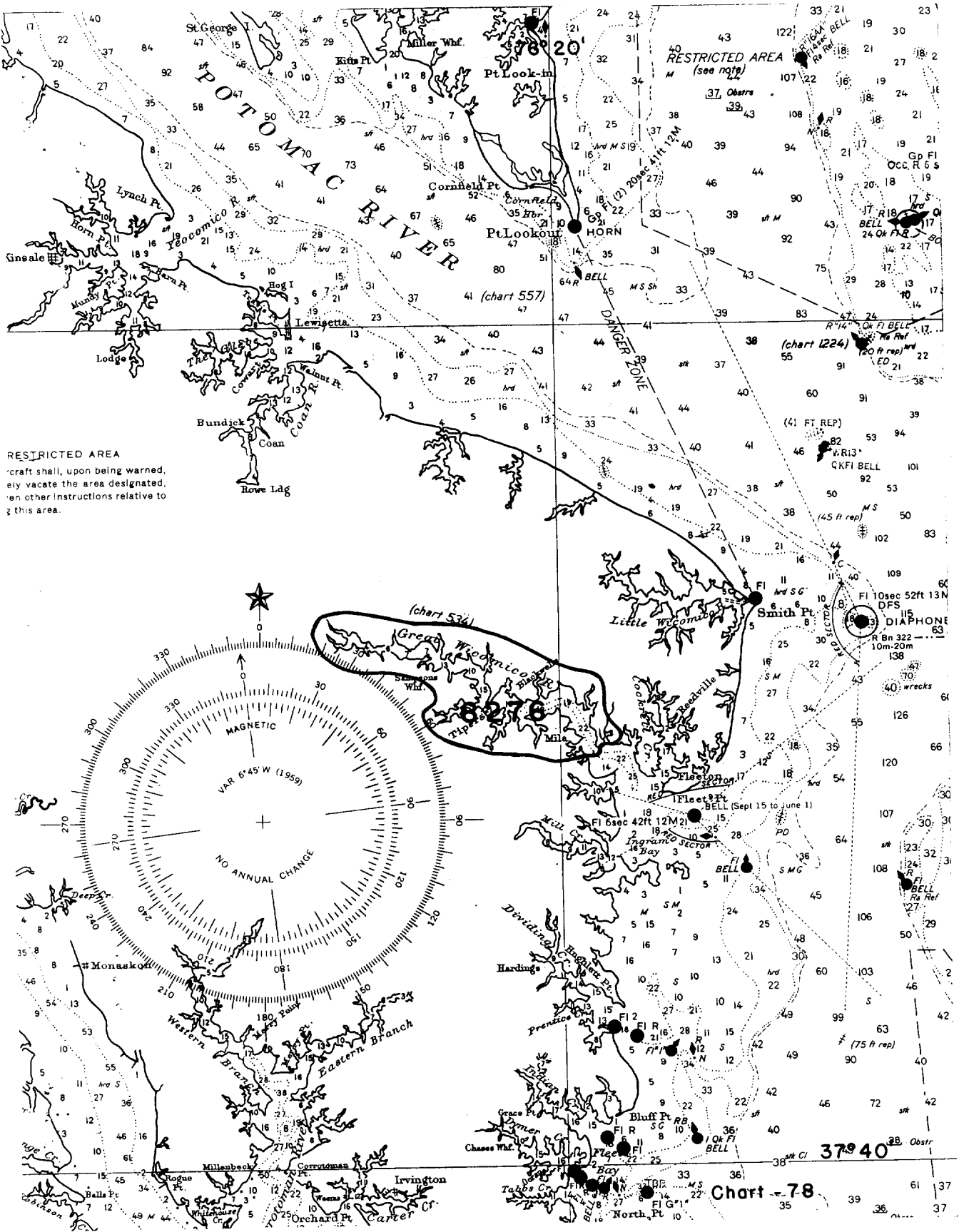
Height of mean high water above plane of reference is 1.2 feet.

Condition of records satisfactory except as noted below:

  
Signature

Chief, Tides Branch

Comm-DC 34330



**RESTRICTED AREA**  
 Craft shall, upon being warned,  
 immediately vacate the area designated,  
 and obey other instructions relative to  
 this area.

Chart - 78

37° 40'

