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Chart Q

No. 13

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PRELIMINARY CHART OF

JAMES RIVER

VIRGINIA

FROM RICHMOND TO CITY POINT

INCLUDING THE APPOMATTOX RIVER FROM PETERSBURG TO THE JUNCTION

From a Trigonometrical Survey

under the direction of A.D.BACHE Superintendent of the

SURVEY OF THE COAST OF THE UNITED STATES

Triangulation by J.FARLEY and W.P.TOWNSBRIDGE Lieut.U.S.Engs.Assists.

Topography by J.SEIB and S.A.WAINWRIGHT Sub-Assists.

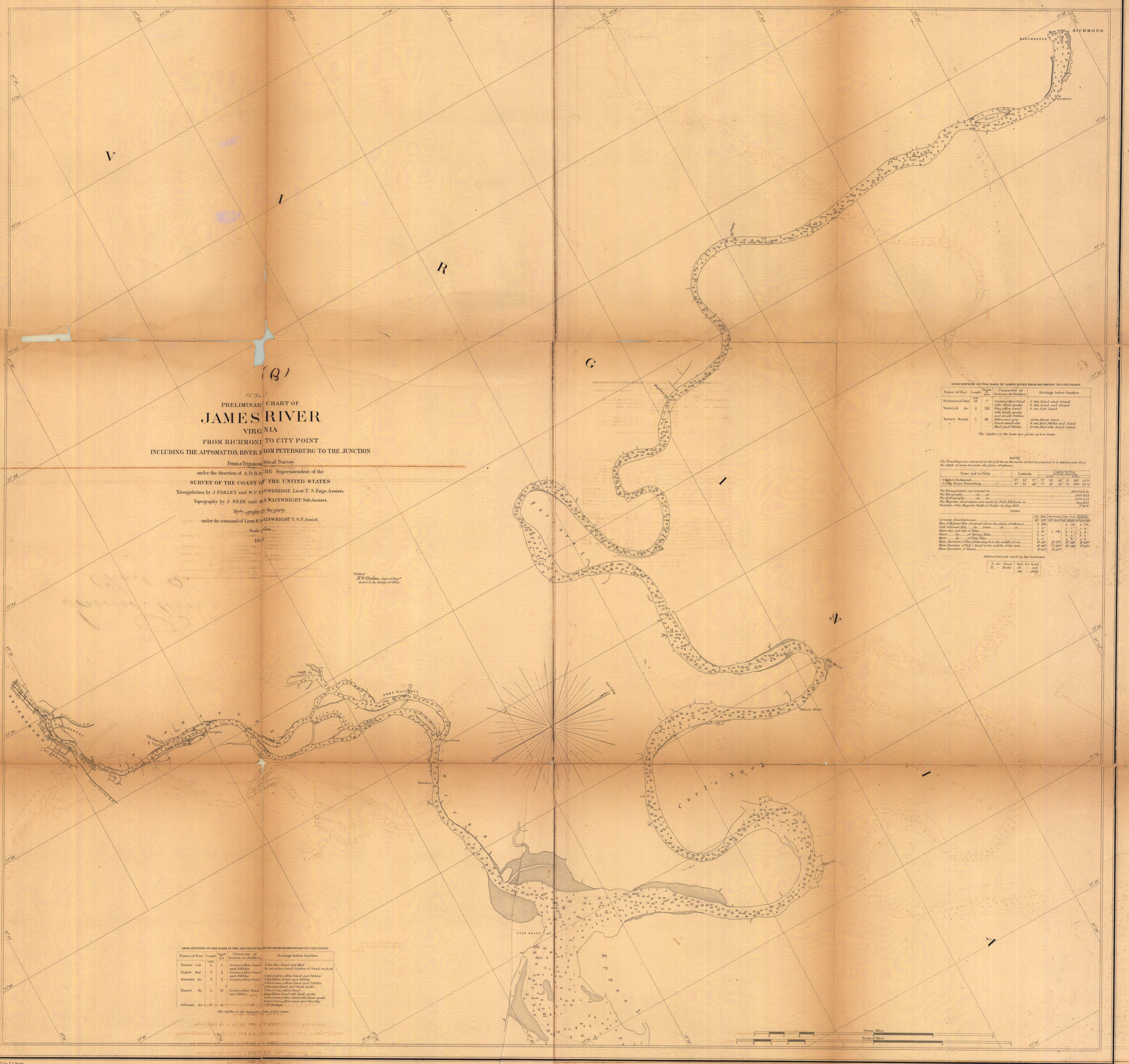
Hydrography by the party

under the command of Lieut.R.WAINWRIGHT U.S.N.Assist.

Scale $\frac{1}{40000}$

1852

Verified
H.H.Bonham, Capt. of Engrs
Assist.C.S. In charge of Office.



DESCRIPTION OF THE BARS IN JAMES RIVER FROM RICHMOND TO CITY POINT

Name of Bar	Length	Depth on Bar	Character of Bottom on Surface	Borings below Surface
	miles			
Richmond Bar	1/8	7	Coarse yellow Sand with black specks	3 feet Sand and Gravel 6 feet Sand and Gravel 4 feet Soft Sand
Warwick do	1/4	12½	Fine yellow Sand with black specks and small Pebbles	
Trent's Reach	1/2	8½	Yellow and grey Sand mixed with Mud and Pebbles	14 feet Hard Sand 6 feet Mud Pebbles and Sand 20 feet Mud with Sand mixed

The depths on the bars are given at low water.

NOTE

The Soundings are expressed in feet to 15 feet on the Bar as the dotted line beyond it is in fathoms and show the depth at mean low water—the plane of reference.

Name and Locality	Latitude			Longitude West from Greenwich, observed		
				In 1852		
Capitol, Richmond	37°	32'	17"	77°	25'	46"
County House, Petersburg	37°	13'	46"	77°	23'	56"

The Triangulation was executed in	1852 53 & 54
The Topography do do in	1852 & 53
The Hydrography do do in	1852 & 53
The Magnetic observations were made by Prof. A.D. Bache in	Aug. 1852
Variation of the Magnetic Needle at Rodgers in Aug. 1852	1° 26' W

TIDES

	City Point	Petersburg	Curls Neck	Richmond
Corrected Establishment	11h 32m	11h 30m	11h 32m	11h 33m
Rise of Highest Tide observed above the plane of reference	3. 8 ft.		4. 4 ft.	4. 7 ft.
Fall of Lowest Tide do below do do	1. 8 "		1. 1 "	1. 9 "
Mean rise and fall of Tides	1. 5 "	1. 6 ft.	1. 1 "	1. 9 "
Mean do of Spring Tides	3. 0 "		3. 4 "	3. 4 "
Mean do of Neap Tides	1. 5 "		1. 8 "	1. 3 "
Mean Duration of Rise } Reckoning from the middle of one	5h 14m	5h 17m	5h 3m	5h 13m
Mean Duration of Fall } Stand to the middle of the next	6h 54m	7h 33m	6h 54m	7h 34m
Mean Duration of Stand	0h 34m	1h 16m		

Abbreviations used in the bottoms

S. for Sand	hrd. for hard		
R. - Rocks	sft. - soft		
stk. - sticky			

DESCRIPTION OF THE BARS IN THE APPOMATTOX RIVER FROM PETERSBURG TO CITY POINT

Name of Bar	Length	Depth on Bar	Character of Bottom on Surface	Borings below Surface
	miles			
Stein's Cut	1/4	3	Coarse yellow Sand and Pebbles	3 feet Fine Sand and Mud In one place found 4 inches of Sand on Rock
Page's Bar	3/4	2	Coarse yellow Sand and Pebbles	4 feet Coarse yellow Sand and Pebbles
Rowlett's do	3/4	2	Coarse yellow Sand	2 feet Yellow Sand and Pebbles 4 feet Coarse yellow Sand and Pebbles
Haxe's do	1/4	3½	Coarse yellow Sand and Pebbles	6 feet Coarse yellow Sand and Pebbles 6 feet Grey Sand and black specks 2 feet Coarse yellow Sand
Gilliam's do	1/4	4		4 feet Yellow Sand with black specks 4 feet Coarse yellow Sand with black specks 6 feet Coarse yellow Sand and blue Clay Rock Bottom

The depths on the bars are given at low water.

Engd. by W.E.Martin

Engd. by R.Longyear & Asp. F.W.Benner