

Courthouse Water System – 2021 Water Quality Report

The Courthouse Water System serves the New Kent County Government campus, New Kent Primary, Middle and High Schools, as well as the Maidstone/Preservation Park development and the Oaks subdivision in New Kent.

SOURCES AND TREATMENT OF DRINKING WATER

The source of the drinking water is groundwater. Well #1A is located off of Courthouse Circle, near the Sheriff's Department, while Well #2 is located on Bassett Farm Road, near the elevated water tank. Water from each well is disinfected with sodium hypochlorite solution.

The Virginia Department of Health conducted a source water assessment of the two wells in 2019. The wells were determined to be of low susceptibility to contamination, using criteria developed by the State in its EPA-approved Source Water Assessment Program. The assessment report consists of maps showing the source water assessment area, an inventory of known land use activities of concern, and documentation of any known contamination within the last 5 years from the date of the assessment.

WATER QUALITY RESULTS

I. Microbiological Contaminants

Contaminant	MCLG	MCL	Number of Samples Indicating Presence of Bacteria	Violation (Y/N)	Month of Sampling	Typical Source of Contamination
Total Coliform Bacteria	0	Presence of bacteria in more than one sample per month	0	No	Jan-Dec	Naturally present in the environment

II. Lead and Copper Contaminants

Contaminant	Units of Measurement	Action level	MCLG	Results of samples for the 90 th Percentile Value	Action Level Exceedance (Y/N)	Month of Sampling	# of Sampling Sites Exceeding Action Level	Typical Source of Contamination
Lead	ppb	15	0	2.19	No	8/2021	0	Corrosion of household plumbing system; Erosion of natural deposits
Copper	ppm	1.3	1.3	0.134	No	8/2021	0	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives

III. Other Chemical and Radiological Contaminants

Contaminant	Units of Measurement	MCLG	MCL	Level Detected	Violation (Y/N)	Range of Detection at Sampling Points	Date of Sample	Typical Source of Contamination
Combined Radium*	pCi/L	0	5	<2.21	No	<1.33-2.21	7/2021	Erosion of natural deposits
Gross Alpha	pCi/L	0	15	0.8	No	0.8-1.8	7/2021	
Gross Beta**	pCi/L	0	50	3.6	No	3.6-3.6	7/2021	Erosion of natural deposits; decay of man-made deposits
Nitrate	ppm	10	10	<0.05	No	N.D.-N.D.	7/2021	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Fluoride†	ppm	4	4	2.46	Yes	2.2-2.46	7/2019	Erosion of natural deposits
Trihalomethanes	ppb	80	80	5.5	No	--	7/2021	By-product of naturally occurring organic matter and chlorine added to the water
Haloacetic Acids	ppb	60	60	<1	No	--	7/2021	

* Since Radium-226 is an alpha emitter, Gross Alpha Activity is used in place of Radium-226 when Radium-226 has not been analyzed.

** The PMCL for beta particles is 4 mrem/year. EPA considers 50 pCi/l to be the level of concern for beta particles.

IV. Unregulated Contaminants

Contaminant	Units of Measurement	Level Detected	Violation (Y/N)	Range of Detection at Sampling Points	Date of Sample	Typical Source of Contamination
Sulfate	ppm	11.5	No	8.9-11.5	7/2019	EPA and State Regulations require us to monitor this contaminant while EPA reconsiders its MCL.

V. Disinfectants

Disinfectant	Units of Measurement	MRDLG	MRDL	Level Detected (Annual Average)	Violation (Y/N)	Range of Detection at Sampling Points	Year	Typical Source
Chlorine	ppm	4	4	0.45	No	0.12-0.68	2021	Water additive used to control microbes

ADDITIONAL HEALTH INFORMATION

Samples collected in July 2019 indicated that the **drinking water from this water system contains sodium at concentrations of 105 mg/l & 98.7 mg/l at Well #1A & Well #2, respectively.** Persons on a restricted sodium intake diet should not drink water containing a sodium concentration exceeding 20 mg/l.

†VIOLATION INFORMATION

The fluoride level exceeded the Secondary Maximum Contaminant Level (SMCL) of 2.0 for which public notification is required, but did not exceed the Primary Maximum Contaminant Level (PMCL) of 4.0 ppm.

The drinking water from the Courthouse Water System has a fluoride concentration of 2.46 milligrams per liter (mg/l) at Well #1A and 2.2 mg/l at Well #2. Refer to Page 15 of the Water Quality Report for more information on the health effects of elevated fluoride in drinking water.