Annual Drinking Water Quality Report for the Year 2021

North Spring Behavioral Health Center

INTRODUCTION

This Annual Drinking Water Quality Report for calendar year 2021 is designed to inform you about your drinking water quality. Our goal is to provide you with a safe and dependable supply of drinking water, and we want you to understand the efforts we make to protect your water supply. The quality of your drinking water must meet state and federal requirements administered by the Virginia Department of Health (VDH).

If you have questions about this report, or if you want additional information about any aspect of your drinking water or want to know how to participate in decisions that may affect the quality of your drinking water, please contact:

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GENERAL INFORMATION

The sources of drinking water include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive materials and can pick up substances resulting from the presence of animals or from human activity. Water from surface sources is treated to make it safe to drink while groundwater may or may not have any treatment.

Contaminants that may be present in source water include:

- Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife
- Inorganic contaminants, such as salts and metals, which can be naturally-occurring or result from urban storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming
- Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses
- Organic chemical contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff, and septic systems
- Radioactive contaminants, which can be naturally-occurring or be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, U. S. Environmental Protection Agency (EPA) prescribes regulations which limit the amount of certain contaminants in water provided by public water systems.

All drinking water, including bottled drinking water, may reasonably be expected to contain at least small amounts of some contaminants. The

presence of contaminants does not necessarily indicate that water poses a health risk. More information can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline (800-426-4791).

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by cryptosporidium and other microbiological contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

SOURCES AND TREATMENT OF YOUR DRINKING WATER

Your drinking water is from a groundwater well that has been determined to be Groundwater under the Direct Influence of Surface Water (GUDI). The well is located on the North Spring Behavioral Healthcare property. Your drinking water is treated with a membrane filtration unit and disinfected with sodium hypochlorite (chlorine).

VDH conducted a source water assessment of our system during 2002. The source was determined to be of high susceptibility to contamination using the criteria developed by the state in its 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. The report is available by contacting Inboden Environmental Services, Inc. at the phone number listed elsewhere in this drinking water quality report.

DEFINITIONS

Contaminants in your drinking water are routinely monitored according to Federal and State regulations. We are allowed to monitor some contaminants less than once per year. Where that is the case, the most recent results are reported. In the tables and elsewhere in this report you will find many terms and abbreviations you might not be familiar with. The following definitions are provided to help you better understand these terms:

Unit Descriptions	
Term	**Definition**
ppm	ppm: parts per million, or milligrams per liter (mg/L)
ppb	ppb: parts per billion, or micrograms per liter (µg/L)
pCi/L	pCi/L: picocuries per liter (a measure of radioactivity)
% positive samples/month	% positive samples/month: Percent of samples taken monthly that were positive
NA	NA: not applicable
ND	ND: Not detected
NR	NR: Monitoring not required, but recommended.
positive samples	positive samples/yr: The number of positive samples taken that year

Important Drinking Water Definitions	
Term	**Definition**
MCLG	MCLG: Maximum Contaminant Level Goal: The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.
MCL	MCL: Maximum Contaminant Level: The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.
TT	TT: Treatment Technique: A required process intended to reduce the level of a contaminant in drinking water.
AL	AL: Action Level: The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
Variances and Exemptions	Variances and Exemptions: State or EPA permission not to meet an MCL or a treatment technique under certain conditions.
MRDLG	MRDLG: Maximum residual disinfection level goal. The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.
MRDL	MRDL: Maximum residual disinfectant level. The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.
MNR	MNR: Monitored Not Regulated
MPL	MPL: State Assigned Maximum Permissible Level

WATER QUALITY RESULTS

We constantly monitor for various contaminants in the water supply to meet all regulatory requirements. The tables list only those contaminants that had some level of detection. Many other contaminants have been analyzed but were not present or were below the detection limits of the lab equipment.

MCL's are set at very stringent levels by the U.S. Environmental Protection Agency. In developing the standards EPA assumes that the average adult drinks 2 liters of water each day throughout a 70-year life span. EPA generally sets MCLs at levels that will result in no adverse health effects for some contaminants or a one-in-ten-thousand to one-in-a-million chance of having the described health effect for other contaminants.

Microbiological Contaminants –

We are pleased to announce that the North Spring Behavioral Healthcare did not have any detection of total coliform or E. Coli in the treated water for the 2021 calendar year. All monthly samples complied with EPA standards.

Lead and Copper Contaminants – North Spring Behavioral Healthcare monitors for lead and copper contaminants in your drinking water every three years to ensure our drinking water meets all State and Federal standards.

Contaminant	Units of Measurement	Action level	MCLG	Results of samples for the 90th Percentile Value	Action Level Exceedance?	Sampling Year	# of Sampling Sites Exceeding Action level	Typical Source of Contamination
Lead	ppb	15	0	1.57	No	2020	0	Corrosion of household plumbing systems. Erosion of natural deposits.
Copper	ppm	1.3	1.3	0.469	No	2020	0	Corrosion of household plumbing systems. Erosion of natural deposits.

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. North Spring Behavioral Healthcare is responsible for providing high quality drinking water but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes or until it becomes cold or reaches a steady temperature before using water for drinking or cooking. If you are concerned about lead in our water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at http://www.epa.gov/safewater/lead.

Turbidity - Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of water quality. High turbidity can hinder the effectiveness of disinfectants.

Contaminant	Units of Measurement	MCLG	MCL	Level Detected	Violation (Y/N)	Date of Sample	Typical Source of Contamination
Turbidity	NTU	NA	TT,1 NTU Max	0.292	N	2021	Soil runoff
			TT, ≤ 0.3 NTU 95% of the time	100%	N		

Other Chemical and Radiological Contaminants

Contaminant	Units of Measurement	MCLG	MCL	Level Detected	Violation	Sampling Year	Typical Source of Contamination
Combined Radium (226/228)	pCi/L	0	5	0.1	No	2018	Erosion of natural deposits
Gross Alpha	pCi/L	0	15	2.8	No	2018	Erosion of natural deposits
Gross Beta	pCi/L	0	50	3.7	No	2018	Erosion of natural deposits
Barium	ppm	2	2	0.084	No	2021	Erosion of natural deposits.
Nitrate + Nitrite	ppm	10	10	2.71	No	2021	Runoff from fertilizer use; leaching from septic tanks; sewage; erosion of natural deposits

Secondary Contaminant(s):

Contaminant	Units of Measurement	MCLG	MCL	Level Detected	Violation	Sampling Year	Typical Source of Contamination
Sodium	ppm	N/A	N/A	19.4	No	2021	Erosion of natural deposits

Disinfection and Disinfection Byproducts

Contaminant	Units of Measurement	MCLG	MCL	Level Detected*	Violation	Range of Detection at Sampling Points	Sampling Year	Typical Source of Contamination
Free Chlorine	ppm	MRDLG=4	MRDL=4	1.7	No	1.26-2.2	2021	Water additive used to control microbes.
TTHM	ppb	N/A	80	6.5	No	N/A	2021	By-product of drinking water disinfection.
HAA5	ppb	N/A	60	1	No	N/A	2021	By-product of drinking water disinfection.

* The level detected for free chlorine is based on a quarterly running annual average.

VIOLATION INFORMATION

State Health Officials have advised us of the following alleged violations at our waterworks in accordance with the Virginia Waterworks Regulations and our Waterworks Operation Permit Conditions.

We failed to meet the Groundwater Under the Direct Influence of Surface Water (GUDI) treatment techniques by not properly conducting the required tests to verify water filtration treatment performance from February 2021 through November 2021. The system has been repaired and has met, and is continuing to meet, this requirement since November 2021.

A Class 4 licensed waterworks operator was not in daily attendance at the waterworks as required during 2021. Waterworks using a treatment process require an individual that has been verified to have adequate knowledge and skill to produce safe water under all conditions and maintain safe water in the waterworks piping distribution system. IES, North Spring BHC & VDH are working together to come up with a solution to this violation. We will provide you an update once it has been resolved.

Because of these alleged violations, we cannot be sure of the quality of our drinking water during 2021.

This Drinking Water Quality Report was prepared by:

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Assistance for this Water Quality report was provided by the Virginia Department of Health, Office of Drinking Water, Culpeper Field Office.