PWS# WV3301905

2022 ANNUAL DRINKING WATER QUALITY REPORT

Introduction

In compliance with the Safe Drinking Water Act Amendments, the **Charles Town Utility Board** (CTUB) is providing its customers with this annual water quality report. This report explains where your water comes from, what it contains, and how it compares to standards set by regulatory agencies. The information in this report shows the results of our monitoring for the period of January 1, 2022 to December 31, 2022 or earlier if not on a yearly schedule.

Effective, June 15, 2023, CTUB will no longer be mailing this report to customers, however should you wish to obtain a printed copy, please contact our office and we would be happy to provide one. The 2022 Water Quality Report is available for download at www.ctubwv.com/information/reports/water-documents/consumer-confidence-reports/. Reports from previous years can also be viewed at this location. Please call (304) 725-2316 or send an email to info@ctubwv.com to request a printed copy.

If you have any questions concerning this report, you may contact **Kristen M. Stolipher, (304) 725-2316**. If you have further questions, comments or suggestions, please attend any of our regularly schedule board meetings held on the **2nd and 4th Wednesday** of every month at **4:00 p.m.** in the **Charles Town Utility Board office, at 661 South George Street, Charles Town, WV 25414.** Visit www.ctubwv.com for agendas, minutes, informational items, updates and to sign-up for email notifications.

SOURCE WATER ASSESSEMENT

Your drinking water source is surface water from the Shenandoah River.

A Source Water Assessment was conducted in 2003 by the West Virginia Bureau for Public Health (WVBPH). The intake that supplies drinking water to the Charles Town Utility Board has a higher susceptibility to contamination, due to the sensitive nature of surface water supplies and the potential contaminant sources identified within the area.

This does not mean that this intake will become contaminated; only that conditions are such that the surface water could be impacted by a potential contaminant source.

Future contamination may be avoided by implementing protective measures. The source water assessment report is available for review by contacting the WVBPH at (304) 558-2981.

About CTUB

The Charles Town Utility Board was created in 1998 by the City of Charles Town City Council upon the issuance of Combined Waterworks and Sewerage System Revenue Bonds under Article 147 of the Codified Ordinances of the City. The Waterworks and Sewerage System of the City was combined into a single undertaking, the "System". The supervision, management, control and operation of the System is vested in the Charles Town Utility Board.

Our mission is to provide reliable water and sewer services that protect public health and the environment with financial accountability, regional stewardship and superior customer service.

Why must water be treated?

All drinking water contains various amounts and kinds of contaminants. Federal and State regulations establish limits, control and treatment practices to minimize these contaminants and to reduce any subsequent health effects.

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 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 microbial contaminants are available from the Safe Drinking Water Hotline (800) 426-4791.

What is in Your Water?

In order to ensure that tap water is safe to drink, the Environmental Protection Agency (EPA) prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. The Food and Drug Administration (FDA) regulations establish limits of contaminants in bottled water, which must provide the same protection for public health.

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of these contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the **EPA's Safe Drinking Water Hotline (800) 426-4791. For additional information about drinking water regulations, visit www.epa.gov/dwstandardsregulations.**

The sources of drinking water (both tap and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs and wells. As water travels over the surface of land or through the ground, it dissolves naturally-occurring minerals, and, in some cases radioactive material and can pick up substances resulting from the presence of animals or from human activity.

Contaminants that may be present in source water include:

- Microbes (viruses or bacteria) from septic system, agricultural livestock operations, wildlife and wastewater treatment plants.
- Inorganics, such as salts and metals, which can occur naturally or result from stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining or farming.
- Pesticides and herbicides from agriculture, urban runoff and residential uses.
- Organics (like synthetic and volatile organic chemicals) from industrial process and petroleum production, gas stations, urban stormwater runoff, and septic systems.
- Radioactive contaminants, either naturally occurring or the result of oil and gas production or mining activities.

Lead in Drinking Water

WHAT IS THE EPA STANDARD FOR LEAD IN DRINKING WATER?

EPA has established an Action Level for lead in water of 15 parts per billion (ppb). When lead testing is performed as required by EPA, 90 percent of the samples must contain less than 15 ppb. This is referred to as the 90th percentile results being less than 15 ppb.

CTUB has been testing for lead and copper in accordance with EPA's Lead and Copper Rule (LCR) since 1992. **In 2022 the 90th percentile value for lead was non-detect (ND) or <3.14 ppb compared to the EPA action level of 15 ppb.** CTUB currently monitors 30 sites in the system annually. All drinking water contains various amounts and kinds of contaminants. Federal and State regulations establish limits, control and treatment practices to minimize these contaminants and to reduce any subsequent health effects.

WHAT IS THE EPA LEAD AND COPPER RULE REVISION (LCRR)?

Recent EPA Lead and Copper Rule Revisions (LCRR) require all community water system and non-transient non-community water systems to develop a lead service line inventory for all public and private service lines in the distribution system or prove that there are no lead service lines in their jurisdiction by October 16, 2024.

CTUB is working with a consultant to develop this inventory to ensure compliance with the LCRR. Within the next several months, CTUB intends to survey customers in an attempt to obtain critical knowledge of materials and components associated with service lines and home plumbing. This vital information will assist in the compilation of the lead service line inventory. Your participation in the survey is greatly appreciated.

WHAT CAN I DO IN MY HOME TO REDUCE EXPOSURE TO LEAD IN THE DRINKING WATER?

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. CTUB is responsible for providing high-quality drinking water, but cannot control the variety of materials used in plumbing components in home construction. 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 before using water for drinking or cooking. If you are concerned about lead in your 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, at http://www.epa.gov/safewater/lead or you can visit the CTUB website for additional information at www.ctubwv.com/information/reports/water-documents/lead-and-copper/.

WATER QUALITY DATA DEFINITIONS

Maximum Contaminant Level Goal (MCLG): The "Goal" is the level of a contaminant in drinking water below which there is no known or expected risk to human health. MCLGs allow for a margin of safety.

Maximum Contaminant Level (MCL): The "Maximum Allowed" MCL is 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.

Secondary Maximum Contaminant Level (SMCL): Recommended level for a contaminant that is not regulated and has no MCL.

Action Level (AL): The concentration of a contaminant that, if exceeded, triggers treatment or other requirements.

Treatment Technique (TT): A required process intended to reduce levels of a contaminant in drinking water.

Maximum Residual Disinfectant Level (MRDL): 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.

Non-Detects (ND): Lab analysis indicates that the contaminant is not present.

Parts per Million (ppm): Milligrams per liter (mg/l).

Parts per Billion (ppb): Micrograms per liter (µg/l).

Picocuries per Liter (pCi/L): A measure of the radioactivity in water.

Millirems per Year (mrem/yr): Measure of radiation absorbed by the body.

Monitoring Period Average (MPA): An average of sample results obtained during a defined time frame, common examples of monitoring periods are monthly, quarterly and yearly.

Nephelometric Turbidity Unit (NTU): A measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person. Turbidity is not regulated for groundwater systems.

Running Annual Average (RAA): An average of sample results obtained over the most current 12 months and used to determine compliance with MCLs.

Locational Running Annual Average (LRAA): Average of sample analytical results for samples taken at a particular monitoring location during the previous four calendar quarters.

WHAT DO WE TEST FOR?

The Safe Drinking Water Act of 1974 (SDWA), which has been amended most significantly in 1986 and 1996, governs drinking water quality. It sets the limits for contaminants in drinking water. These limits are represented in this report as MCL's or the Maximum Contaminant Levels. Under the SDWA, CTUB is required to test and submit results to the WVBPH for the presence of a number of organisms and chemicals as follows:

- **Bacteriological analysis.** Our system is required to test a minimum of 15 samples per month in accordance with the Total Coliform Rule for microbiological contaminants. Coliform bacteria are usually harmless, but their presence in water can be an indication of disease-causing bacteria. Any exceedance of this sampling requires immediate notification by the Utility.

- **Total Trihalomethanes (TTHM's) and Haloacetic Acids (HAA5).** Our system conducts quarterly monitoring of these chemicals. Both of these form in the water supply as chlorine reacts with organic matter. When ingested in large quantities, these chemicals are suspected carcinogens, so we monitor for them closely. CTUB monitors several locations throughout the system.

- **Corrosion control.** (Zinc Orthophosphate and pH) are monitored in the system. By dosing the drinking water with a minimum of 1.5 ppm zinc orthophosphate and maintaining a minimum pH of 7.3, the potential for corrosion of lead, copper and other metals is significantly reduced. CTUB monitors for these corrosion parameters at multiple locations throughout the system.

Water Quality Testing

The tables on the following pages list all of the drinking water contaminants which were detected during the 2022 calendar year. The presence of these contaminants does not necessarily indicate the water poses a health risk. Unless noted, the data presented in this table is from the testing done January 1-December 31, 2022. The state requires us to monitor for certain contaminants less than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year. Some of the data, though representative of the water quality, is more than one year old.

WATER QUALITY ANALYSIS AND RESULTS

CTUB constantly monitors various components in the water supply to meet all regulatory requirements. The following tables list only those water quality parameters that are regulated and had some level of detection. If you have any questions on CTUB monitoring parameters, call us at (304) 725-2316.

Regulated Contaminants

Microbiological Contaminants

Contaminant	Violation Y/N	Level Detected	Unit of Measure	MCLG	MCL	Likely Source of Contamination
Coliform (TCR)						

Inorganic

Contaminant	Collection Date	Highest Value	Range (low/high)	Unit of Measure	MCL	MCLG	Likely Source of Contamination
BARIUM	4/5/2022	0.0267	0.0267	ppm	2	2	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
FLUORIDE	4/5/2022	0.74	0.74	ppm	4	4	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
NITRATE	3/30/2022	1	1	ppm	10	10	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
NITRATE-NITRITE	3/30/2022	1	1	ppm	10	10	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits

Disinfection Byproducts

Contaminant	Sample Point	Monitoring Period	Highest LRAA	Range (low/high)	Unit of Measure	MCL	MCLG	Likely Source of Contamination
TOTAL HALOACETIC ACIDS (HAA5)	147 WEST HALL DRIVE, TUSCAWILLA HILLS	2022	38	0 - 43	ppb	60	0	By-product of drinking water disinfection
TOTAL HALOACETIC ACIDS (HAA5)	BOUNDARY STREET	2022	44	20 - 60.07	ppb	60	0	By-product of drinking water disinfection
TOTAL HALOACETIC ACIDS (HAA5)	MOOSE LODGE	2022	24	5.47 - 39	ppb	60	0	By-product of drinking water disinfection
TOTAL HALOACETIC ACIDS (HAA5)	NORTH WEST MAIN STREET	2022	34	1.42 - 48	ppb	60	0	By-product of drinking water disinfection
TTHM	147 WEST HALL DRIVE, TUSCAWILLA HILLS	2022	43	14 - 88	ppb	80	0	By-product of drinking water chlorination
TTHM	BOUNDARY STREET	2022	42	13 - 84	ppb	80	0	By-product of drinking water chlorination
TTHM	MOOSE LODGE	2022	44	14 - 95	ppb	80	0	By-product of drinking water chlorination
TTHM	NORTH WEST MAIN STREET	2022	41	14 - 83	ppb	80	0	By-product of drinking water chlorination

Contaminant	Monitoring Period	Violation	MPA	MPA Units	RAA	RAA Units	Likely Source of Contamination
Chlorine/Chloramines Maximum Disinfection Level	2022	N	2	mg/l	1.7	mg/l	Water additive used to control microbes

Lead and Copper

Contaminant	Monitoring Period	90th Percentile	Range (low/high)	Unit	AL	Sites Over AL	Likely Source of Contamination
COPPER, FREE	2022	0.0588	0 - 0.162	ppm	1.3	0	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives
LEAD	2022	3.14	0 - 93.6	ppb	15	1	Corrosion of household plumbing systems; Erosion of natural deposits

Total Organic Carbon Lowest Month for Removal						
Contaminant	Collection Date	Highest Value	Range	Unit	TT	Likely Source of Contamination
CARBON, TOTAL	8/1/2022	3.9	0.8 - 3.9	MG/L	0	Naturally present in the environment

Turbidity							
Contaminant	Violation (Y/N)	Monitoring Period	Highest Value	Unit of Measure	TT Requireme	Facility	Likely Source of Contamination
Turbidity	N	Mar-22	0.28	NTU	In any month, at least 95% of the samples must be less than 0.3 NTU	Charles Town Water Treatment Plant	Soil Runoff

Radiological								
Contaminant	Violation (Y/N)	Collection Date	Highest Value	Range (low/high)	Unit	MCL	MCLG	Likely Source of Contamination
Gross Alpha,Excl. Radon and Uranium	N	3/8/2021	0.224	0.224	pCi/L	15	0	Erosion of natural deposits

Secondary Contaminants (Non-Health based Contaminants- No Federal Maximum Contaminant Level (MCL)					
Contaminant	Collection Date	Highest Value	Range (low/high)	Unit	SMCL
ALKALINITY, TOTAL	1/5/2022	138	51 - 138	MG/L	10000
CALCIUM	3/2/2022	87.2	34 - 87.2	MG/L	n/a
CALCIUM HARDNESS	1/5/2022	196	85 - 196	MG/L	n/a
CARBON, TOTAL	12/1/2022	9.5	0.8 - 9.5	ppm	10000
CHLORIDE	2/24/2020	3.5	3.5	MG/L	250
CONDUCTIVITY @ 25 C UMHOS/CM	7/6/2022	384	3.25 - 384	UMHO/CM	N/A
CRYPTOSPORIDIUM	6/6/2018	1	0 - 1	N/A	N/A
GIARDIA LAMBLIA	8/8/2018	1	0 - 1	N/A	1
HARDNESS, CALCIUM MAGNESIUM	12/29/2021	187	1.1 - 187	MG/L	n/a
HARDNESS, TOTAL (AS CACO3)	1/15/2020	346	75 - 346	MG/L	n/a
ORTHOPHOSPHATE	3/16/2022	3.22	1.2 - 3.22	MG/L	n/a
PH	1/19/2022	7.8	7 - 7.8	SU	8.5
PHOSPHATE, TOTAL	1/18/2018	1.78	1.45 - 1.78	MG/L	n/a
SILICA	3/31/2021	2.045	0.213 - 2.045	MG/L	n/a
SODIUM	4/5/2022	10.4	10.4	MG/L	1000
SULFATE	4/5/2022	15.3	15.3	MG/L	250
TEMPERATURE (CENTIGRADE)	8/31/2022	27.8	3.3 - 27.8	C	n/a

WATER QUALITY RESULT SUMMARY

During the 2022 calendar year, CTUB had the below noted violation of drinking water regulations.

Analyte: Volatile Organic Compounds
Compliance Period: 1/1/2020 to 12/31/2022
Violation Comments: Lab results were submitted within the compliance period for volatile organics; however, the samples that were submitted on April 5, 2022 were rejected. The sample was analyzed and in compliance but rejected due to contracted laboratory error.

CTUB will work to correct this sample submission error in the future and will continue to strive to provide excellent water quality to our customers and strive to meet or exceed the standards set by the EPA and State of West Virginia.

Should you have any questions regarding this report or your drinking water quality please do not hesitate to contact us at info@ctubwv.com or (304) 725-2316.