

**Rattlesnake Ridge Water District  
2019 Water Quality Report**

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Meetings: Rattlesnake Ridge Office / First Tuesday Month

Rattlesnake Ridge Water District withdraws surface water from the Grayson Lake where it is processed at our water treatment plant. During the treatment process particulate matter is settled and oxidation is used to remove contaminants after which the water is filtered and disinfected with chlorine to further protect public health. As part of a multi barrier approach to safeguard the public, land uses within the watershed have been assessed to better understand their potential impact to water quality and to assign a susceptibility rating. A susceptibility analysis uses a weighted rating system which evaluates the toxicity, distance and likelihood of release of contaminants to adversely affect water quality. The rating for the District is moderate however, there are a few areas of concern. The single area of high concern is the permitted sewage treatment facility at Grayson Lake State Park. Agricultural activity in the watershed is limited; therefore, reducing the impact of runoff containing pesticide and herbicide. Roadways within the protection area poses a risk of contamination due to accidental release. Activities and land use within the watershed can pose potential risk to your drinking water. Under certain circumstances contaminants could be released that would pose challenges to water treatment or even get into your drinking water. These activities, and how they are conducted, are of interest to the entire community because they potentially affect your health and the cost of treating your water. The complete source water assessment plan may be reviewed at our office.

Drinking water, including bottled 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 about contaminants and potential health effects may be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline (800-426-4791).

The sources of drinking water (both tap water and bottled 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 material, and may pick up substances resulting from the presence of animals or from human activity. Contaminants that may be present in source water include: Microbial contaminants, such as viruses and bacteria, (sewage plants, septic systems, livestock operations, or wildlife). Inorganic contaminants, such as salts and metals, (naturally occurring or from stormwater runoff, wastewater discharges, oil and gas production, mining, or farming). Pesticides and herbicides, (stormwater runoff, agriculture or residential uses). Organic chemical contaminants, including synthetic and volatile organic chemicals, (by-products of industrial processes and petroleum production, or from gas stations, stormwater runoff, or septic systems). Radioactive contaminants, (naturally occurring or from oil and gas production or mining activities). In order to ensure that tap water is safe to drink, EPA prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. FDA regulations establish limits for contaminants in bottled water to provide the same protection for public health.

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

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. Your local public water system 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 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 or at <http://www.epa.gov/safewater/lead>.

**Some or all of these definitions may be found in this report:**

Maximum Contaminant Level (MCL) - 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.

Maximum Contaminant Level Goal (MCLG) - 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.

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.

Maximum Residual Disinfectant Level Goal (MRDLG) - 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.

Below Detection Levels (BDL) - laboratory analysis indicates that the contaminant is not present.

Not Applicable (N/A) - does not apply.

Parts per million (ppm) - or milligrams per liter, (mg/l). One part per million corresponds to one minute in two years or a single penny in \$10,000.

Parts per billion (ppb) - or micrograms per liter, (µg/L). One part per billion corresponds to one minute in 2,000 years, or a single penny in \$10,000,000.

Parts per trillion (ppt) - one part per trillion corresponds to one minute in 2,000,000 years, or a single penny in \$10,000,000,000.

Parts per quadrillion (ppq) - one part per quadrillion corresponds to one minute in 2,000,000,000 years or one penny in \$10,000,000,000,000.

Picocuries per liter (pCi/L) - a measure of the radioactivity in water.

Millirems per year (mrem/yr) - measure of radiation absorbed by the body.

Million Fibers per Liter (MFL) - a measure of the presence of asbestos fibers that are longer than 10 micrometers.

Nephelometric Turbidity Unit (NTU) - a measure of the clarity of water. Turbidity has no health effects. However, turbidity can provide a medium for microbial growth. Turbidity is monitored because it is a good indicator of the effectiveness of the filtration system.

Variances & Exemptions (V&E) - State or EPA permission not to meet an MCL or a treatment technique under certain conditions.

Action Level (AL) - the concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system shall follow.

Treatment Technique (TT) - a required process intended to reduce the level of a contaminant in drinking water.

Spanish (Español) Este informe contiene información muy importante sobre la calidad de su agua beber. Tradúzcalo o hable con alguien que lo entienda bien.

**To understand the possible health effects described for many regulated contaminants, a person would have to drink 2 liters of water every day at the MCL level for a lifetime to have a one-in-a-million chance of having the described health effect.**

The data presented in this report are from the most recent testing done in accordance with administrative regulations in 401 KAR Chapter 8. As authorized and approved by EPA, the State has reduced monitoring requirements for certain contaminants to less often than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year. Some of the data in this table, though representative, may be more than one year old. **Copies of this report are available upon request by contacting our office during business hours.**

**Regulated Contaminant Test Results**

Contaminant [code] (units)	MCL	MCLG	Report Level	Range of Detection	Date of Sample	Violation	Likely Source of Contamination
<b>Inorganic Contaminants</b>							
Barium [1010] (ppm)	2	2	0.02	0.02 to 0.02	Apr-19	No	Drilling wastes; metal refineries; erosion of natural deposits
Fluoride [1025] (ppm)	4	4	0.61	0.61 to 0.61	Apr-19	No	Water additive which promotes strong teeth
Nickel (ppb) (US EPA remanded MCL in February 1995.)	N/A	N/A	1	1 to 1	Apr-19	No	N/A
Nitrate [1040] (ppm)	10	10	0.24	0.24 to 0.24	Apr-19	No	Fertilizer runoff; leaching from septic tanks, sewage; erosion of natural deposits

**Disinfection Byproduct Precursor**

Total Organic Carbon (ppm) (measured as ppm, but reported as a ratio)	TT*	N/A	0.98 (lowest average)	0.52 to 1.30 (monthly ratios)	2019	YES	Naturally present in environment.
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\*Monthly ratio is the % TOC removal achieved to the % TOC removal required. Annual average must be 1.00 or greater for compliance.

Chlorine (ppm)	MRDL = 4	MRDLG = 4	1.52 (highest average)	0.45 to 2.2	2019	No	Water additive used to control microbes.
HAA (ppb) (Stage 2) [Haloacetic acids]	60	N/A	59 (high site average)	13.5 to 117 (range of individual sites)	2019	No	Byproduct of drinking water disinfection
HAA (ppb) (Stage 2) [Haloacetic acids] (Annual Sample)	60	N/A	48 (high site average)	5.8 to 72.7 (range of individual sites)	2019	No	Byproduct of drinking water disinfection

**Household Plumbing Contaminants**

Copper [1022] (ppm) sites exceeding action level 0	AL = 1.3	1.3	0.061 (90 <sup>th</sup> percentile)	0.003 to 0.233	Sep-19	No	Corrosion of household plumbing systems
Lead [1030] (ppb) sites exceeding action level 0	AL = 15	0	0 (90 <sup>th</sup> percentile)	0 to 1	Sep-19	No	Corrosion of household plumbing systems

**Other Constituents**

Turbidity (NTU) TT * Representative samples	Allowable Levels	Highest Single Measurement	Lowest Monthly %	Violation	Likely Source of Turbidity
Turbidity is a measure of the clarity of the water and not a contaminant.	No more than 1 NTU* Less than 0.3 NTU in 95% of monthly samples	0.09	100	No	Soil runoff

Unregulated Contaminants (UCMR 4)	Average	Range (ppb)	Date	<b>UCMR4 Public Notice See Below</b>
Manganese	1.400	1 to 1.8	Aug-19	
HAA5	48.443	13.96 to 90.3	Nov-19	
HAA6Br	6.334	2.26 to 10.36	Nov-19	
HAA9	54.697	18.76 to 96.6	Nov-19	

Your drinking water has been sampled for a series of unregulated contaminants. Unregulated contaminants are those that EPA has not established drinking water standards. There are no MCLs and therefore no violations if found. The purpose of monitoring for these contaminants is to help EPA determine where the contaminants occur and whether they should have a standard. As our customers, you have a right to know that these data are available. If you are interested in examining the results, please contact our office during normal business hours.

**Violation: Operational Evaluation Level Report**

The violation was for failing to submit the 3rd QTR OEL within the 90-days of the end of the quarter. We completed and mailed the OEL for the compliance period on 10/16/19 however it was not received by the Division of Water. After being notified of the violation on we immediately emailed a copy of the OEL to DOW on March 24, 2020. Public health was not compromised because of this violation. We have since been returned to compliance.

**Violation: Treatment Technique**

We are required to remove specific disinfection by-product (DBP) precursors between source water and filtered water. The quarterly running annual average removal ratios of Total Organic Carbon (TOC) is required to be 1.00 or greater. The average of the quarterly ratios for the fourth quarter of 2019 (10/1/2019–12/31/2019) was calculated to be 0.98. While performing maintenance at the water plant we had to take a filter out of service which led to a treatment inefficiency with TOC removal. This constituted a treatment technique violation. The maintenance was completed April 2020. We expect to return to compliance by June 30, 2020. Public health was not compromised because of this violation. We have since been returned to compliance.

## **DRINKING WATER PUBLIC NOTICE**

Our water system recently violated a drinking water standard. Although this incident was not an emergency, as our customers, you have a right to know what happened and what we did (are doing) to correct this situation.

*We are required to monitor your drinking water for specific contaminants on a regular basis. Results of regular monitoring are an indicator of whether or not our drinking water meets health standards. During 10/1/19 – 12/31/19, we did not complete all monitoring by failing to report or correctly report testing for Haloacetic Acids and Trihalomethanes (OEL). Therefore, we could not verify the quality of your drinking water to the primacy agency during that time.*

The Stage 2 disinfection by-products rule requires that we monitor for trihalomethanes (THM) and haloacetic acids (HAA). The standard for THM is 0.080 mg/L and the standard for HAA is 0.060 mg/L. A calculation of analytical results is part of an Operational Evaluation Level Report (OEL) to determine the potential of exceeding these standards. The operational evaluation requirements are intended as an indicator of operational performance and to allow systems to identify proactive steps to remain in compliance. Failure to submit an evaluation report to the Kentucky Division of Water (DOW) within 90 days after the end of the quarter results in a violation and public notification.

### **What should I do?**

There is nothing you need to do at this time. You may continue to drink the water. If a situation arises where the water is no longer safe to drink, you will be notified within 24 hours.

### **What is being done?**

The violation was for failing to submit the 3rd QTR OEL within the required time frame. We completed and mailed the OEL for the compliance period on 10/16/19 however it was not received by the Division of Water. After being notified of the violation on we immediately emailed a copy of the OEL to DOW on March 24, 2020. Public health was not compromised because of this violation. We have since been returned to compliance.

For more information, please contact Lester Bowling at 606-474-7570 or PO Box 475 Grayson, KY 41143

Please share this information with all the other people who drink this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools, and businesses). You can do this by posting this notice in a public place or distributing copies by hand or mail.