

# *Olive Hill Water Works* *Water Quality Report 2018*

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The Olive Hill Municipal Water Works treats surface water withdrawn from Tygart Creek and the City Reservoir in Carter County. An assessment of the source water indicates the susceptibility to contamination is moderate. However, bridges and culverts within the protection zones of the Tygart Creek intake are of high concern due to the potential of accidental chemical spills. In the event of a chemical spill upstream of the Tygart Creek intake, the City may draw water from the reservoir while the danger passes. Agricultural activity in this watershed is negligible and, therefore, the contamination by the use of pesticides and herbicides is greatly reduced. The threat posed by major roadways in the protection area in the event of accidental release of contaminants, though it exists, is moderate. The complete Source Water Assessment and Protection Plan is available for review during normal business hours at the City of Olive Hill or Fivco Area Development District 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).

### **Information About Lead:**

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.

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.

**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.**

	Allowable Levels	Highest Single Measurement	Lowest Monthly %	Violation	Likely Source of Turbidity
Turbidity (NTU) TT * Representative samples of filtered water	No more than 1 NTU* Less than 0.3 NTU in 95% of monthly samples	0.12	100	No	Soil runoff

**Regulated Contaminant Test Results Olive Hill Municipal Water Works**

Contaminant [code] (units)	MCL	MCLG	Report Level	Range of Detection	Date of Sample	Violation	Likely Source of Contamination
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**Inorganic Contaminants**

Barium [1010] (ppm)	2	2	0.023	0.023 to 0.023	Apr-18	No	Drilling wastes; metal refineries; erosion of natural deposits
Copper [1022] (ppm) sites exceeding action level 0	AL = 1.3	1.3	0.064 (90 <sup>th</sup> percentile)	0.002 to 0.151	Aug-17	No	Corrosion of household plumbing systems
Fluoride [1025] (ppm)	4	4	0.60	0.6 to 0.6	Apr-18	No	Water additive which promotes strong teeth
Lead [1030] (ppb) sites exceeding action level 0	AL = 15	0	2.2 (90 <sup>th</sup> percentile)	0.9 to 4.5	Aug-17	No	Corrosion of household plumbing systems
Nickel (ppb) (US EPA remanded MCL in February 1995)	N/A	N/A	2	2 to 2	Apr-18	No	N/A
Nitrate [1040] (ppm)	10	10	0.13	0.13 to 0.13	Jan-18	No	Fertilizer runoff; leaching from septic tanks, sewage; erosion of natural deposits

**Disinfectants/Disinfection Byproducts and Precursors**

Total Organic Carbon (ppm) (measured as ppm, but reported as a ratio)	TT*	N/A	0.96 (lowest average)	1.00 to 1.03 (monthly ratios)	2018	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	0.99 (highest average)	0.61 to 1.33	2018	No	Water additive used to control microbes.
HAA (ppb) (Stage 2) [Haloacetic acids]	60	N/A	81 (high site average)	37 to 85.3 (range of individual sites)	2018	YES	Byproduct of drinking water disinfection
TTHM (ppb) (Stage 2) [total trihalomethanes]	80	N/A	59 (high site average)	36.6 to 86.5 (range of individual sites)	2018	No	Byproduct of drinking water disinfection.

Fluoride (added for dental health)	Average	Range of Detection
	0.7	0.61 to 0.94
Sodium (EPA guidance level = 20 mg/L)	7.4	7.38 to 7.38

**Violations 2018-9630550, 2018-9630554, 2019-9630557**

Testing results showed that our system exceeded the standard, or maximum contaminant level (MCL), for haloacetic acids. The standard for haloacetic acids is 0.060 mg/L. It is determined by averaging all samples at each sampling location for the last 12 months. Haloacetic acids averaged at one of our system's locations for:

1/1/2018 through 3/31/2018 was 0.073 mg/L

4/1/2018 through 6/30/2018 was 0.081 mg/L

10/1/2018 through 12/31/2018 was 0.067mg/L

We are working to minimize the formation of haloacetic acids while ensuring we maintain an adequate level of disinfectant. We have taken additional steps to increase flushing of water lines to determine if our efforts have been effective. We are also monitoring water storage tank levels and water flow patterns within the distribution system. Public Notices were distributed for these violations as they occurred.

Some people who drink water containing haloacetic acids in excess of the MCL over many years may have an increased risk of getting cancer.

**Violations 2018-9630551 and 2018-9630555**

Testing results showed that our system did not meet the required removal ratio for disinfection byproduct (DBP) precursors between our source water and filtered water. The Running Annual Average (RAA) of the DBP precursors removal ratio for the 12 month periods ending:

3/31/2018 was 0.94

6/30/2018 was 0.94

These results are below 1.00. This is a treatment technique violation. We have since come back into compliance. Public Notices were distributed for these violations as they occurred.

Total Organic Carbon (TOC) has no health effects. However, total organic carbon provides a medium for the formation of disinfection byproducts. These byproducts include trihalomethanes, or THMs, and haloacetic acids, or HAAs. Drinking water containing these byproducts in excess of the MCL may lead to adverse health effects, liver or kidney problems, or nervous system effects, and may lead to an increased risk of cancer.

**Violation 2018-9630552**

We received a violation for failing to submit our certification documents to the Division of Water when we distributed a Public Notice for violation 2018-9630546. We sent the documents in, but have no proof of delivery. We have since re-submitted the documentation to Division of Water. We are now also sending all documentation for compliance purposes to Division of Water using certified mail so as to have proof of delivery in the future.

**Violation 2018-9630553**

We received a violation for failing to submit our certification documents to the Division of Water when we distributed a Public Notice for violation 2018-9630547. We sent the documents in, but have no proof of delivery. We have since re-submitted the documentation to Division of Water. We are now also sending all documentation for compliance purposes to Division of Water using certified mail so as to have proof of delivery in the future.

**Violation 2019-9630556**

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 7/1/2018-9/30/2018, 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.\**

For the Stage 2 DBPR requirements 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 State in the required time frame is a violation and requires a public notification.

We failed to submit an OEL for the period 7/1/2018-9/30/2018. There is nothing you need to do. The document was submitted to Division of Water as soon as we were aware they had not received it. We are now sending all compliance documents in to Division of Water using certified mail.

For more information, please contact Glen Hedge at 606-286-2618 or 225 Roger Patton Drive, Olive Hill, KY 41164.

*\*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.\**

**This report will not be mailed. If you would like to receive a copy by mail, please contact our office.**