

Annual Drinking Water Quality Report for the Orwell Water Department

We are pleased to present to you this year's Annual Water Quality Report *for the period of January 1st to December 31st, 2016*. This report is designed to inform you about the water quality and services we deliver to you every day. Our constant goal is to provide you with a safe and dependable supply of drinking water. We want you to understand the efforts we make to continually improve the water treatment process and protect our water resources. We are committed to ensuring the quality of your water.

Our water source is comprised of a system of groundwater wells. In order to increase the reliability of our water supply, generators have been installed. This will allow for normal operation of the Water system in the event of an extended power outage.

A Source water assessment inspection has been completed by the Ohio EPA. This inspection establishes the location of our water source in respect to possible man made or natural sources of contamination. A review of the Village of Orwell's water quality record currently available in Ohio EPA's drinking water compliance database did not reveal any evidence of chemical contamination at levels of concern in the aquifer. We are currently developing a source water protection plan to further protect the drinking water supply.

We are pleased to report that our drinking water is safe and meets federal and state requirements. We have a current, unconditional license to operate our water system.

If you have any questions about this report or concerning your water utility, please contact The Orwell Water department at 437-8398. We want our customers to be informed about their water utility. You are also welcome to attend any of our Council meetings held monthly at the Village Hall, call 437-6459 for meeting time.

Terms and abbreviations you might not be familiar with. To help you better understand these terms we've provided the following definitions:

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

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 - one part per billion corresponds to one minute in 2,000 years, or a single penny in \$10,000,000.

Parts per trillion (ppt) or Nanograms per liter (nanograms/l) - one part per trillion = to one minute in 2,000,000 years, or a single penny in \$10,000,000,000.

Picocuries per liter Ci/L - picocuries per liter is a measure of the radioactivity in water.

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

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

Nephelometric Turbidity Unit (NTU) - is a measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

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

Action Level - the concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

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

Maximum Contaminant Level - 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.

Maximum Contaminant Level Goal - The "Goal" (MCLG) is 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.

Village of Orwell tested the water supply for the following items in 2016.

Haloacetic acids, Trihalomethanes, Total Coliform bacteria, Iron, Manganese, chlorine and Nitrate.

A list of test results may be obtained by contacting the water department office at 437-8398.

The Ohio EPA requires the following Lead Educational Paragraph.

“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. The Village of Orwell 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 to 120 seconds before using water for drinking or cooking. If you are concerned about lead in your drinking 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 800-426-4791 or at <http://www.epa.gov/safewater/lead>.”

EPA Susceptibility Analysis of the aquifer (source of drinking water) to contamination was determined by evaluating: 1) available site-specific and regional information (i.e. aquifer material, topography, soils, rate of water recharge, etc.) 2) Pollution potential rating of the drinking water source protection area, 3) available ground water quality data, and 4) potential contaminant sources that were identified within the drinking water source protection area. The results of this evaluation indicate that the aquifer within the protection area has a high susceptibility because of the following reasons.

- A) According to well log information from the facility, a significant thickness of low-permeability protective layer between the aquifer and the ground surface is not present at all well locations.
- B) The depths of aquifer and water table, respectively at 10 feet and as little as one foot below the ground surface, are shallow; indicating a short pathway for potential contamination.
- C) Potential significant contaminant sources exist within the protection area.

A high susceptibility rating of the aquifer does not imply that the wellfield will become contaminated. It only means that the existing/known aquifer conditions are such that ground water within the aquifer could become impacted if the potential contaminant sources are not properly managed.

The sources of drinking water both tap water and bottled water includes 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 can pick up substances resulting from the presence of animals or from human activity. Contaminants that may be present in source water include: (A) Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plant, septic systems, agricultural livestock operation, and wildlife; (B) 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; (C) Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses; (D) 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; (E) 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, EPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. FDA regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

All 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 the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline at 1-800-426-4791.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immune-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).

The EPA requires regular sampling to ensure drinking water safety. The Orwell Water Department conducted sampling for Total Coliform Bacteria, Nitrate, chlorine, Manganese, Iron, Chlorine by-products Haloacetic acids & Trihalomethanes.

In 2016 one Trihalomethane result was above the MCL. As a precaution increased sampling has been done in the first half of 2017. All results have been below the required MCL.

Please call our office at 437-8398 if you have questions. We work around the clock to provide quality water to every tap.

We ask that all our customers help us protect our water sources.

The Ohio EPA requires monitoring for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of our data, though accurate, are more than one year old.

Contaminants (Units)	MCLG	MCL	Level Found	Range of Detections	Violation	Sample Year	Typical Source of Contaminants
Disinfectants and Disinfection By-Products							
Total Chlorine (ppm)	4	4	.52	.38 - .56	No	2016	Added for disinfection
Haloacetic Acid (HAA5) (ppb)	No Goal Set	60	3	0-12.131	No	2016	By-product of drinking water disinfection
Trihalomethanes (ppb)	No Goal Set	80	36	59.7-92	No	2016	By-product of drinking water disinfection
Inorganic Contaminants							
Barium (ppm)	2	2	0.14	N/A	No	2/11/2014	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Chromium (ppb)	100	100	1		No	2/11/2014	Discharge from steel pulp mills; Erosion of natural deposits
Selenium (ppb)	50	50	1	N/A	No	2/11/2014	Discharge from petroleum and metal refineries; Erosion of natural deposits; Discharge from mines
Lead and Copper							
Contaminants (units)	Action Level (AL)	Individual Results over the AL	90% of test levels were less than	Violation	Year Sampled	Typical source of Contaminants	
Lead (ppb)	15 ppb	NA	4	No	8/27/2015	Corrosion of household plumbing systems; Erosion of natural deposits	
	0 out of _10_ samples were found to have lead levels in excess of the lead action level of 15 ppb.						
Copper (ppm)	1.3 ppm	NA	.224	No	8/27/2015	Erosion of natural deposits; Leaching from wood preservatives; Corrosion of household plumbing systems	
	0 out of _10_ samples were found to have copper levels in excess of the copper action level of 1.3 ppm.						