VAN WERT WATER QUALITY REPORT 2020

In 2020 The City of Van Wert had an unconditioned license to operate a water system & has prepared the following report to provide information to you, the consumer, on the quality of your drinking water. Included within this report, as required by EPA, is general health information, water quality test results, how to participate in decisions concerning your drinking water, and system contacts.

Since 1891, 130 years, the City of Van Wert Water Department has been providing drinking water to the citizens of Van Wert. The quality of our water is achieved by protecting our source water (reservoirs) and by investing in and maintaining a modern water treatment plant. The safety of the water is confirmed through rigorous testing. Last year, we conducted more than 7,150 tests for 78 drinking water contaminants. Our Plant personnel, who are State certified, ran over 22,500 tests for various water quality parameters in 2020. In the event that there are substances we cannot test for at the Plant, samples were sent to private laboratories for analysis.

HOW WE TREAT OUR WATER

Source

The water that the people of Van Wert use and drink comes from Town Creek. This is the name of the stream that flows through the City. East of the reservoirs are two pumping stations that we use to fill the reservoirs when stream flow is great enough to allow the pumps to be operated. The pump stations can pump 48.96 million gallons of water per day when all eight pumps are running. In 2020 these two raw pumping stations operated 190 days, pumping a total of 491,320,000 gallons from town creek into the reservoirs.

Treatment

As the raw water enters the Plant, potassium permanganate is added to remove any bad taste and odors. After taste and odor treatment, the water flows to the clarifiers. The clarifiers are the large white and gray domes that are on the north side of the Plant. As the water enters the clarifiers, lime and ferric chloride are added. These chemicals react with dirt and silt in the water to make them stick together, thus increasing their weight so they will settle to the bottom of the clarifiers. This process of adding chemicals is known as coagulation & sedimentation or clarification. An added benefit is lime softening. The material that settles to the bottom is known as lime sludge. This sludge is pumped to lime lagoons where it is stored. The sludge is conditioned until it is dry enough to be loaded into trucks. The sludge is then hauled to farmers and is utilized to adjust soil pH and increase the calcium content of the soil.

As water travels from the clarifiers, fluoride and carbon dioxide are added. Fluoride is added because it has been proven to decrease cavities. Statistics have shown that communities that fluoridate drinking water have a noticeable decrease in cavities compared to communities that do not. Carbon dioxide lowers the pH of the water and stabilizes it so that invisible particles of lime and other minerals will not stick to the inside of the water mains or interior plumbing.

After recarbonization, the addition carbon dioxide, water is filtered. In the filtration process, water is passed through approximately 30 inches of special filter sand. The filters are among the last lines of defense in water treatment. They ensure that most turbidity particles are removed as well as any larger particles that may be present. From the filters, water flows to a 500,000-gallon clearwell.

The last method of treatment that we utilize to provide safe drinking water is disinfection. Chlorine, the last chemical added, is used to kill bacteria and viruses that may be present in the water. A raw surface water source, like we utilize in Van Wert, may contain bacteria and viruses that can make a person sick, primarily with flu-like symptoms, if consumed without disinfection.

Distribution

Pumps inside the Water Plant transport your drinking water to you through approximately 70 miles of water main. Water that is not immediately used is stored in the water towers for future use. The City has two water towers, one contains 400,000 gallons of water and the other contains 500,000 gallons.

SOURCES OF CONTAMINATION TO DRINKING WATER

EPA mandates the following information for inclusion in this report.

The sources for drinking water; both tap water and bottled water include rivers, lakes, streams, ponds, reservoirs, 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 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 plants, septic systems, agricultural runoff and wildlife; (b) inorganic contaminants, such as salts and metals, which occur naturally or may result from urban storm water runoff, industrial or domestic wastewater discharges, and farming; (c)pesticides and herbicides, which may come from a variety of sources such as agriculture, 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, storm water runoff, and septic systems; and (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 number 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. 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 does possess 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 (1-800-426-4791).

Source Water Assessment and Protection Susceptibility Analysis
For the purposes of source water assessments, all surface waters are considered to be susceptible to contamination. By their nature surface waters are accessible and can be readily contaminated by chemicals and pathogens, with relatively short travel times from source to the intake. Based on the information compiled for our assessment, the City of Van Wert drinking water source protection area is susceptible to agricultural runoff, industrial storm water, gas station runoff, home construction runoff, above ground storage tanks, feed lot runoff, gas line rupture, unsewered areas, cemetery, and wastewater treatment discharges.

It is important to note that this assessment is based on available data, and therefore may not reflect current conditions in all cases. Water quality, land uses and other activities that are potential sources of contamination may change with time.

The Source Water Assessment for the drinking water of Van Wert is available for review at the Van Wert Water Treatment Plant.

WHO NEEDS TO TAKE PRECAUTIONS?

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised people, such as persons with cancer who are undergoing chemotherapy; people who have undergone organ transplants; people with HIV/AIDS or other immune system disorder; some elderly; and infants can be particularly at risk for infection. 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 (1-800-426-4791).

ABOUT YOUR DRINKING WATER

The EPA requires regular sampling to ensure drinking water safety. The City of Van Wert conducted samplings for bacteria and inorganic, radiological, and volatile organic contaminates during 2020. Samples were collected for 78 different contaminants, most of which were not detected in the City of Van Wert's water supply. Several other parameters are closely monitored throughout the day.

Turbidity is a measure of the cloudiness of the water and is an indication of the effectiveness of our filtration system. The turbidity limit set by the EPA is 0.3 NTU in 95% of the daily samples and shall not exceed 1.0 NTU at any time. As reported, the highest recorded turbidity was in June at 0.44 NTU; and the lowest monthly percentage of samples meeting the turbidity limit was .978% in 2020 which results in no violation for turbidity. In February 2013 we started to feed a filter aid into our treatment train to help in the reduction of turbidity passing through the filters. Average turbidity from January 01 to December 31, 2020 is 0.160 NTU.

HOW DO I PARTICIPATE IN DECISIONS CONCERNING MY DRINKING WATER?

Public participation and comments are encouraged at all City Council meetings. The meetings are held on the second and fourth Mondays of each month and begin at 7:30 P.M. Council meetings are held at 515 East Main Street on the second floor in the City Council Chambers.

For more information on your drinking water contact, Donald Lippi, Water Plant Supervisor, at 238-1417, or Jay Fleming, Safety-Service Director, at 238-1237. You can also look up PWS (**P**ublic **W**ater **S**ystem) OH8100611 on the OEPA website

Listed below is information on those contaminants that were found in Van Wert water. The State allows us to monitor for some contaminates less than once per year because the concentrations of these contaminates do not change frequently. Some of our data, though representative, may be more than one year old.

How to read the Water Quality Data Table: EPA establishes the safe drinking water regulations that limit the amount of contaminants allowed in drinking water. The table shows the concentrations of detected substances in comparison to regulatory limits. Substances that were tested for, but not detected, are not included in this table.

Contaminants	Level Found	MCL	MCLG	Range of detection	Violation yes / no	Year Sampled	Major Source of contaminates	Health Effects
Microbiological Contaminants								
Total Organic carbon (TOC) mg/l	1.33 *1	TT	N/A	1.33 – 2.12	No	2020	Naturally present in the environment	*2
Turbidity (NTU)	0.44	TT	N/A	0.06 - 0.44	No	2020	Soil runoff	*3
(% samples meeting standard)	97.84 %	95% ≤ 0.3	95% ≤ 0.10	97.84% - 100 %	No	2020		
Volatile Organic Contaminants								
Stage 2 HAA5's (ppb) Total	37.80	60	N/A	16.4 – 36.7	No	2020	By-product of drinking water chlorination.	
Stage 2 TTHM's (ppb) Total	65.33	80	N/A	22.6 – 108	No	2020	By-product of drinking water chlorination.	*4
Inorganic Contaminants								
Cyanide (ppb)	4	200	200	4	No	2020	Discharge from steel/metal factories; Discharge from plastic and fertilizer factories.	*5
Nitrate (ppm)	4.07 max	10	10	<.50 – 4.07	No	2020	Runoff from fertilizer use; leaching from septic tanks; erosion of natural deposits.	*6
Fluoride (ppm)	1.02	4	4	0.67 – 1.66	No	2020	Natural deposits and additional fluoride added at treatment plant to promote strong teeth.	X
Synthetic Organic Contaminants								
Residual Disinfectants								
Total Chlorine mg/l	1.83	MRDL - 4	MRDLG - 4	1.77 – 1.84	No	2020	Water additive used to control microbes.	
Lead & Copper	**90% of test levels were less than**	**Action Level**	**MCLG**	**Range of detection**	**Violation yes / no**	**Year Sampled**	**Major Source of contaminates**	**Health Effects**
Copper (ppm)	0.094	1.3	1.3	< 0.050 – 0.130	No	2019	Corrosion of household plumbing systems: Erosion of natural deposits. Zero of 30 sample sites over Action Level	0.094

*1 The value reported under "Level Found" for Total Organic Carbon (TOC) is the lowest ratio between percentage of TOC actually removed to the percentage of TOC required to be removed. A value of greater than one indicates that the water system is in compliance with TOC removal requirements. A value of less than one indicates a violation of TOC removal requirements.

*2 TOC has no health effects. However, TOC provides a medium for the formation of disinfection by-products, including THM and HAA5s. Drinking water containing these by-products 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 developing cancer.

*3 Turbidity has no health effects. However, turbidity can interfere with disinfection and provide a medium for microbial growth. Turbidity may indicate the presence of disease-causing organisms. These organisms include bacteria, viruses, and parasites, which can cause symptoms such as nausea, cramps, diarrhea and associated headaches.

*4 Some people who drink water containing Trihalomethane in excess of the MCL over many years may experience problems with liver, kidneys, or central nervous systems, and may have an increased risk of getting cancer.

*5 Some people who drink water containing cyanide well in excess of the MCL over many years could experience nerve damage or problems with their thyroid.

*6 Nitrate in drinking water at levels above 10 ppm is a health risk for infants less than six months of age. Infants below the age of six months who drink the water containing nitrate in excess of the MCL could become seriously ill and, if untreated, may die. Symptoms include shortness of breath & blue baby syndrome. If you are caring for an infant, you should ask advice from your health care provider.

TABLE OF UNREGULATED CONTAMINATES (UCMR4)

The table shows the concentrations of detected substances in comparison to regulatory limits. Substances that were tested for, but not detected, are not included in this table.

Contaminates (ppb)	Sample Year	Average Level Found	Range of detections	Sample location
Haloacetic Acids (HAA5) (ppb)	2020	25.10	3.9 – 1.8	Distribution System (DS1) in four locations
Haloacetic Acids (HAA6Br) (ppb)	2020	9.600	7.0 – 11.8	DS1
Haloacetic Acids (HAA9) (ppb)	2020	33.10	8.1 – 57.1	DS1
Mn (ppb)	2020	1.035	0.49 – 1.8	Water Plant Laboratory (EP001)
Bromide (ppb)	2020	0.025	0.023 – 0.026	EP001
TOC (ppb)	2020	5355	4930 – 6120	EP001
2-methoxyethanol (ppb)	2020	2.992	0.00 – 6.697	EP001

Unregulated contaminants are those for which EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted. In 2018 - 2020 Van Wert Water participated in the fourth round of the Unregulated Contaminant Monitoring Rule (UCMR 4). For a copy of the results please call Donald Lippi at 419-238-1417.

Van Wert Water sampled for Lead at 30 sites in 2019. In the 30 sites sampled no Lead was detected.

“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. Van Wert Water 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 Safe Drinking Water Hotline at http://www.epa.gov/safewater/lead.”

DEFINITIONS OF TERMS USED IN THIS REPORT

Maximum Contaminant Level Goal (MCLG): The level of a contaminant in drinking water, below which there is no known or expected health risk. MCLG's allow for a margin of safety.

Maximum Contaminant Level (MCL): The highest level of contaminant that is allowed in drinking water. MCL's are set as close to MCLG's as feasible, using the best available treatment technology.

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

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

Parts per million (ppm): A unit of measure for concentration of a contaminant. A part per million corresponds to one second in approximately 11.5 days.

Parts per billion (ppb): A unit of measure for concentration of a contaminant. A part per billion corresponds to one second in 31.7 years.

The "<" symbol: A symbol that means less than. A result of <5 means that the lowest level that could be detected is 5, and a level of 5 in that sample can not be detected.

Maximum Residual Disinfectant Level Goal (MRDLG): the level of drinking water disinfectant, below which there is no known or expected risk to health. MRDLG's do not reflect the benefits of the use of disinfectants to control microbial contaminants.

Maximum Residual Disinfectant Level (MRDL): the highest level of a disinfectant allowed in drinking water. There is convincing evidence that the addition of a disinfectant is necessary for the control of microbial contaminants.

Nephelometric Turbidity Unit (NTU): Units of turbidity measurement.

N/A: Not Applicable – doesn't apply – not relevant

Total Trihalomethanes (TTHMs): Chloroform, Bromoform, Bromodichloromethane, and Dibromochloromethane.

Haloacetic Acid (HAA5): Sum of mass concentrations of six Haloacetic Acid species in micrograms/L. HAA5 = Monochloroacetic, Dichloroacetic, Trichloroacetic, Monobromoacetic, and Dibromoacetic Acids.

UCMR4: Unregulated Contaminate Monitoring Rule – fourth round. The U.S. Environmental Protection Agency (EPA) implements UCMR every 5 years to determine what is in drinking water, at what amounts, in order to develop future regulations. UCMR4 required 30 contaminates to be monitored between 2018 – 2020. A separate table is provided w/ UCMR4 analysis results. All UCMR4 data for "Van Wert Water" can be obtained by contacting the Van Wert Water Plant.

Haloacetic Acid (HAA6Br): Sum of mass concentrations of six Haloacetic Acid species in micrograms/L. HAA6Br = (bromochloroacetic acid, bromodichloroacetic acid, dibromoacetic acid, chlorodibromoacetic acid, monobromoacetic acid, tribromoacetic acid)

Haloacetic Acid (HAA9): Sum of mass concentrations of nine Haloacetic Acid species in micrograms/L. HAA9 = Sum of Monochloroacetic Acid (MCAA), Dichloroacetic Acid (DCAA), Trichloroacetic Acid (TCAA), Monobromoacetic Acid (MBAA) and Dibromoacetic Acid (DBAA) and Bromochloroacetic Acid (BCAA), Bromodichloroacetic Acid (BDCAA), Chlorodibromoacetic Acid (CDBAA), and Tribromoacetic Acid (TBAA)