SHELBY WATER TREATMENT PLANT
CITY OF SHELBY
DRINKING WATER CONSUMER CONFIDENCE REPORT 2020

OVERVIEW

The Shelby Water Treatment Plant is proud to present our Water Quality Report to provide information to you, the consumer, on the quality of our drinking water for the year 2020. Included within this report is information regarding where your water comes from, water quality test results, how to participate in decisions concerning your drinking water, water system contacts, and general health information. The City of Shelby is committed to providing you with the safest, most reliable water supply possible, and protecting our water resources. We are proud to report that the drinking water provided by the Shelby Water Treatment Plant met all Ohio EPA standards for the year 2020. The standards were met by performing routine chemical and bacteriological testing of Shelby's drinking water at the water treatment plant and throughout the water distribution system. In 2020 the City of Shelby had a current and unconditioned license to operate our public water system.

WHERE DOES MY WATER COME FROM?

The Shelby Water Treatment Plant obtains its raw water from two different sources. Reservoir #2 is located at the end of Mack Avenue, between Mack Avenue and Mickey Road, on the south end of town, and is filled with water pumped from the Black Fork River. Reservoir #3 is located at the end of Broadway Street, on London West Road, and is filled with water from the Marsh Run Creek. Reservoir #2 holds about 250 million gallons of raw water and Reservoir #3 holds about 388 million gallons of raw water.
With the two reservoirs, there is approximately a one year supply of raw water.
The Shelby Water Treatment Plant treats on average 1.25 million gallons per day, which is pumped into the water distribution system.

WHAT ARE THE SOURCES OF CONTAMINATION TO DRINKING WATER?

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

Contaminants that may be present in source water include these: [A] microbial contaminants such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations 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 agricultural, 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 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.

Drinking water and bottle water may reasonably be expected to contain at least small amounts of some contaminants. The presence of some contaminants does not necessarily pose a health risk. You can call the Environmental Protection Agency's Safe Drinking Water Hotline at 1-800-426-4791 for more information.

SPECIAL HEALTH INFORMATION

Some people may be more vulnerable than the general population to the contaminants in drinking water. Immuno-comprised persons such as persons with cancer who are undergoing chemotherapy, have undergone organ transplants, some elderly, infants, with HIV/AIDS or other immune system disorders 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 Hotline at 1-800-426-4791.

ABOUT YOUR DRINKING WATER

The EPA requires regular sampling to ensure drinking water safety. The Shelby Water Treatment Plant conducted sampling for contaminants [bacteria; inorganic; radiological; synthetic organic; volatile organic] during the year 2020. Samples were collected for over 40 different contaminants, most of which were not detected in the City of Shelby's water supply. The Ohio EPA requires us to monitor for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of our data, though accurate, is more than one year old. In 2016, we sampled for radiologicals and the results were below the MCL.

SUSCEPTIBILITY ANALYSIS

The City of Shelby public water system uses surface water drawn from the Black Fork River and Marsh Run Creek. Surface waters are by their nature susceptible to contamination and numerous potential contamination sources along their banks make them more so. The protection areas around the Black Fork River and Marsh Run Creek include a moderate number of potential contamination sources including; agricultural runoff, silage, above ground storage tanks, pesticide/fertilizer, confined animal feedlot, farm machinery repair, junk yards, petroleum storage, industrial storm water, lagoons, home construction, electrical substations, auto repair, landfill runoff, pasture and other commercial sources. As a result, the source water supplied to the City of Shelby's public water system is considered to have a high susceptibility to contamination.

The Shelby Water Treatment Plant treats this source water to meet drinking water quality standards but no single treatment technique can address all potential contaminants. Implementing measures to protect the Black Fork River, Marsh Run Creek and the local aquifer can further decrease the potential for water quality impacts. The Water Capital Improvement charge on your monthly bill is used to fund the upgrades to the City of Shelby public water system that are necessary to keep up with new technology and government regulations.

HARMFUL ALGAE BLOOM

In 2016, the EPA set new regulations for algae toxins monitoring for surface water plants. The raw water from the reservoir is tested for microcystins and cyanobacteria according to the monitoring schedule. The HAB season runs from 5/1 to 10/31 and the off season is from 11/1 to 4/30 each year. From 1/1/20 to 4/30/20, paired bi-weekly microcystin and cyanobacteria samples of the raw water were tested and all results were below the threshold limits. From 5/1/20 to 10/31/20, bi-weekly microcystin samples of the raw water were tested and all samples fell below the threshold limits. On opposite weeks of the microcystin testing, bi-weekly cyanobacteria screening samples of the raw water were tested. There were no detects found in any algal samples for 2020.

In 2020 the Shelby Water Plant used sonication (ultrasonic sound waves), and multiple different algaecides to minimize Harmful Algal Blooms. Products used were: Sonic Solutions SolarRafts - ultrasonic sound wave producing units, Green Clean Pro - a sodium carbonate peroxhydrate based granule, Copper Sulfate - a copper based crystal, and Earth Tec - a liquid based copper product.

INFORMATION ABOUT LEAD IN 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. The Shelby Water Treatment Plant is responsible for providing safe, 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 the 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: 1-800-426-4791 or at http://www.epa.gov/safewater/lead.

TABLE OF DETECTED CONTAMINANTS

Contaminants (Units)	MCLG	MCL	Level Found	Range of Detections	Violation	Sample Year	Typical Source of Contaminants
Disinfectant and Disinfectant By-Products							
Total Chlorine (ppm)	MRDLG = 4	MRDL = 4	1.44	1.28 - 1.7	No	2020	Water additive used to control microbes
Haloacetic Acids (HAA5) (ppb)	N/A	60	23.15	14.1 - 24.6	No	2020	By-product of drinking water disinfection
Total Trihalomethanes (TTHM) (ppb)	N/A	80	56.85	34.7 - 66.2	No	2020	By-product of drinking water disinfection
Inorganic Contaminants							
Fluoride (ppm)	4	4	1.09	.61 - 1.15	No	2020	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
Barium (ppm)	2	2	0.011	0.011	No	2020	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Nitrate (ppm)	10	10	1.67	0 - 1.67	No	2020	Run off from fertilizer use, Leaching from septic tanks, sewage; Erosion of natural deposits
MICROBIOLOGICAL							
Turbidity (NTU)	N/A	TT	0.09	.03 - .41	No	2020	Soil runoff
Turbidity (% Meeting Standard)	N/A	TT	99%	99% - 100%	No	2020	
Total Organic Carbon (TOC)	N/A	TT	2.69	1.73 - 3.87	No	2020	Naturally present in the environment
Radiologicals							
Gross Alpha (pCi/L)	0	15	1.7	1.7	No	2016	Erosion of natural deposits

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	N/A	< 2	No	2020	Corrosion of household plumbing systems; erosion of natural deposits
	_0_ samples were found to have lead levels in excess of the lead actiMn level of 15 ppb.					
Copper (ppm)	1.3 ppm	N/A	0.042	No	2020	Erosions of natural deposits; leaching from wood preservatives; Corrosions of household plumbing systems
	_0_ samples were found to have copper levels in excess of the copper action level of 1.3 ppm.					

DEFINITIONS OF SOME TERMS USED IN THIS REPORT

TURBIDITY	A measurement of the cloudiness of water and is a good indicator of the effectiveness of our filtration system. The turbidity limit set by the EPA is 0.30 NTU in 95% of the samples analyzed each month, and shall not exceed 1.0 NTU at any time. As reported, the highest recorded turbidity result was 0.41 NTU and the lowest monthly percentage of samples meeting the turbidity limit was 99% - resulting in no violations.
NTU	Nephelometric Turbidity Unit: A measure of the clarity of water.
MCL	Maximum Contaminant Level: The highest level of a contaminant that is allowed in drinking water.
MCLG	Maximum Contaminant Level Goal: 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.
MRDL	Maximum Residual Disinfectant Level: 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.
MRDLG	Maximum Residual Disinfectant Level Goal: The level of 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.
AL	Action Level: The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
TT	Treatment Technique: A required process intended to reduce the level of a contaminant in drinking water.
BDL	Below Detection Levels.
RAA	Running Annual Average.
TOC	Total Organic Carbon: The value reported under "Level Found" for Total Organic Carbon (TOC) is the lowest ratio between percent of TOC actually removed to the percentage of TOC required to be removed. A value of greater than one (1) indicates that the water is in compliiance with TOC removal requirements. A value of less than one (1) indicates a violation of the TOC removal requirements.
DBP	Disinfection byproducts: The result of providing continuous disinfection of your drinking water and form when disinfectants combine with organic matter naturally occurring in the source water. Disinfection byproducts are grouped into two categories, Total Trihalomethanes (THHM) and Haloacetic Acids (HAA5). The USEPA sets standards for controlling the levels of disinfectants and disinfection byproducts in drinking water, including both THHMs and HAA5s.
MG/L-PPM	Parts per million: One part per million corresponds to one penny in one million.
UG/L-PPB	Parts per billion: One part per billion corresponds to one penny in one billion.
<	Symbol for less than.
N/A	Not applicable

PUBLIC PARTICIPATION, QUESTIONS AND INFORMATION

Concerns and comments about your drinking water are encouraged by public participation at the regular Shelby City Council meetings. Shelby City Council meets on the first and third Mondays of each month at 7:00 PM at the Shelby Justice Center located at 29 Mack Avenue. The public is also encouraged to attend the Utilities and Streets Committee meetings that are held on the Thursday prior to the 2nd monthly evening Council meeting. The Utilities and Streets Committee meeting is held in the Water Street meeting room between the hours of 3:30pm - 4:30pm, enter through the 5 Water Street entrance.

If you have any questions or would like further information about this Drinking Water Consumer Confidence Report, Shelby's Source Water Assessment Report, or the Shelby Water Treatment Plant, please use the following contacts:

Bob Niedermier (Water Plant Superintendent)
Shelby Water Plant 419-342-2171
E-mail: BobNiedermier@shelbycity.oh.gov

Safe Drinking Water Hotline: 1-800-426-4791
Ohio EPA 614-644-2752
Division of Drinking and Ground Water