

Where does your water come from?

The City of Sheffield Lake receives the majority of its drinking water from the City of Avon Lake with a portion of the west side of the city served from the City of Lorain. The Avon Lake and Lorain Water treatment facilities draw their water from Lake Erie.

Source Water Assessment

AVON LAKE

A source water assessment was conducted by the Ohio EPA for the City of Avon Lake water system in 2002. The City uses surface water drawn from an intake in Lake Erie. For the purposes of source water assessments, in Ohio all surface waters are considered to be susceptible to contamination. Due to the vast size and dilution capabilities of Lake Erie, Ohio EPA evaluated Avon Lake's contamination potential based on a Critical Assessment Zone (CAZ) for which it determined there was no direct source of pollution. Ohio EPA further determined that with Avon Lake's source water analysis and emergency operation plan that undetected contamination would be minimized and that no water quality violations have been recorded.

The City of Avon Lake's public water system treats the water to meet drinking water quality standards. Implementing measures to protect Lake Erie and the Black River can further decrease the potential for water quality impacts. More detailed information is provided in the Drinking Water Source Assessment report, which can be obtained by calling Steve Heimlich at 440-933-3229.

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 can pick up substances resulting from the presence of animals or from human activity.

Contaminants in source water come from various places: microbial contaminants such as viruses and bacteria may originate in sewage plants, septic systems, livestock operations and wildlife; salts, metals and other inorganic substances can occur naturally or result from urban storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining or farming; pesticides and herbicides enter the stream from agriculture, urban storm water runoff, and general residential use; while organic chemical contaminants are often by-products of industrial and petroleum production, they are also linked to gas stations, urban storm water runoff and septic systems; and finally, radioactive contaminants can occur naturally or via oil and gas production or 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.

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 can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline at 1-800-426-4791.

LORAIN

Lorain is fortunate to have an abundant, dependable source of water: Lake Erie. The Lorain Water System uses surface water drawn from an intake in Lake Erie. For the purposes of source water assessments, in Ohio all surface waters are considered to be susceptible to contamination. By their nature, surface waters are accessible and can be easily contaminated by chemicals and pathogens. Compared to ground water, contaminants in surface water tend to move swiftly, so an upstream spill may rapidly arrive at the public drinking water intake with little warning or time to prepare.

Although the City of Lorain's surface water intake is located offshore in Lake Erie, the proximity of the Black River increases the susceptibility of the source water to contamination. The City of Lorain's drinking water source protection area contains a moderate number of potential contaminant sources. These include accidental spills, releases associated with commercial shipping and recreational boating, air contaminant deposition, contaminants from industries and agricultural runoff, contaminants associated with oil and gas production and transportation, sediments from river dredging and disposal operations, natural erosional processes, contaminated stormwater runoff from urban areas, municipal and home sewerage treatment system discharges, and combined sewer overflows.

The City of Lorain's Public Water System treats the water to meet drinking water quality standards, but no single treatment technique can address all potential contaminants. Implementing measures to protect Lake Erie and the Black River can further decrease the potential for negative impacts on water quality.

If you would like to review or receive a copy of the Source Water Assessment Plan, please feel free to contact Daniel McGannon at (440) 204-2280.

TABLE OF DETECTED CONTAMINANTS IN 2015

CONTAMINANTS (UNITS)	MCLG	MCL	AVON LAKE & SHEFFIELD LAKE TEST RESULTS		LORAIN WATER SYSTEM TEST RESULTS		VIOLATION	YEAR SAMPLED	TYPICAL SOURCE OF CONTAMINANTS
			LEVEL FOUND	RANGE OF DETECTIONS	LEVEL FOUND	RANGE OF DETECTIONS			
Microbiological Contaminants									
¹ Turbidity (NTU)	NA	TT	0.13	0.03 - 0.13	0.28	0.04 - 0.28	NO	2015	Soil Runoff
Turbidity (% samples meeting standard)	NA	TT	100%	100%	100%	100%	NO	2015	
² Total Organic Carbon (ppm)	NA	TT	1	1 - 1.6	1	1 - 1.8	NO	2015	Naturally present in the environment
Inorganic Contaminants									
³ Barium (ppm)	2	2	0.031	0.027	0.02	NA	NO	2014-15	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Copper (ppm)	1.3	AL=1.3	0.076	NA	NA	NA	NO	2013	Corrosion of household plumbing
90th percent sample result	Zero out of twenty samples was found to have copper levels in excess of the copper action level of 1.3 ppm.								
Lead (ppb)	0	AL=15	3.1	NA	NA	NA	NO	2013	Corrosion of household plumbing
90th percent sample result	Zero out of twenty samples was found to have lead levels in excess of the lead action level of 15 ppb.								
Fluoride (ppm)	4	4	0.92	0.75 - 1.19	1	0.83 - 1.17	NO	2015	Water additive which promotes strong teeth
Nitrate (ppm)	10	10	1	0.11 - 1	NA	NA	NO	2015	Natural deposits, fertilizers, sewage
³Volatile Organic Contaminants									
⁴ Haloacetic Acids (ppb)	NA	60	19.5	17.9 - 19.5	NA	NA	NO	2015	By-product of drinking water disinfection
⁴ Total Trihalomethanes TTHM's (ppb)	NA	80	45.4	40.5 - 45.1	NA	NA	NO	2015	By-product of drinking water disinfection
Residual Disinfectants									
³ Chlorine (ppm)	MRDLG	MRDL	1.19	0.98 - 1.36	NA	NA	NO	2015	Water additive to control microbes

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. Avon Lake 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 thirty seconds to two 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. A list of laboratories certified in the State of Ohio to test for lead may be found at <http://www.epa.state.oh.us/ddagw>, or by calling 614-644-2752. Information on lead in drinking water, testing methods, and steps you take to minimize exposure is available from the Safe Drinking Water Hotline at 800-426-4719 or at <http://www.epa.gov/safewater/lead>.

Avon Lake as the supplier has a current, unconditioned license to operate their water system from the Ohio EPA.

Sheffield Lake has a current, unconditioned license to operate our water system from the Ohio EPA.

Lorain as a backup supplier has a current, unconditioned license to operate their water system from the Ohio EPA.

DEFINITIONS

- AL = Action Level** – The concentration of a contaminant that, if exceeded, triggers a treatment or other requirement that a water system must follow.
- Contaminant** – Any physical, chemical, biological, or radiological substance or matter in water.
- MCL = Maximum Contaminant Level** – The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLG's as feasible using the best available treatment technology.
- MCLG = Maximum Contaminant Level Goal** – The level of contaminant in drinking water below which there is no known or expected risk to health. MCLG's allow for a margin of safety.
- MRDL = Maximum Residual Disinfectant Level**
- MRDLG = Maximum Residual Disinfectant Level Goal**
- NTU = Nephelometric Turbidity Units**
- Parts per billion (ppb) or Micrograms per Liter (ug/L)** are units of measure for concentration of a contaminant. A part per billion corresponds to one second in 31.7 years.
- Parts per million (ppm) or Milligrams per Liter (mg/L)** are units of measure for concentration of a contaminant. A part per million corresponds to one second in a little over 11.5 days.
- TOC = Total Organic Carbon** has no health effects. However, TOC provides a medium when the water is disinfected for the formation of disinfection byproducts. TOC removal early in the treatment plant is required.
- TT = Treatment Technique** – A required process intended to reduce the level of a contaminant in drinking water. For example we add lime to increase the pH of our finished water in order to maintain compliance with the lead and copper rule.
- VOC = Volatile Organic Chemicals**
- WTP = Water Treatment Plant**

¹Turbidity is a measure of the cloudiness of 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 NTU at any time. As reported above the Avon Lake WTP highest recorded turbidity result for 2015 was 0.13 NTU and lowest monthly percentage of samples meeting the turbidity limits was 100.0%.

²The 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. This removal ratio is calculated as the ratio between the actual TOC removal and the TOC rule removal requirements and other parameters. A value of at least one (1) indicates that the water system is in compliance with TOC removal requirements.

³These contaminants level found is the highest compliance value based on a running annual average. This average includes results from 2014 & 2015.

⁴Disinfection byproducts are 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 (TTHM) and Haloacetic Acids (HAAs). USEPA sets standards for controlling the levels of disinfectants and disinfectant byproducts in drinking water, including both TTHMs and HAAs.