

## **Northern Ohio Rural Water Drinking Water Consumer Confidence Report 2009**

We are pleased to provide you with this year's Annual Water Quality Report. The purpose of this report is to keep you informed about the excellent water and services we have delivered to you over the past year. Our goal is, and always has been, to provide to you a safe and dependable supply of drinking water. We have a current, unconditioned license to operate our water system.

Northern Ohio Rural Water purchases drinking water for its Main District from three different surface water sources, two from Lake Erie and one from New London reservoir.

For the purpose 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 readily contaminated by chemicals and pathogens, with relatively short travel time from source to intake.

**City of Elyria** - Although the City of Elyria's surface water intakes are located offshore in Lake Erie, the proximity of Beaver Creek and Martin's Run increases the susceptibility of the source water to contamination. The City of Elyria's drinking water source protection area is susceptible to contamination from municipal wastewater treatment discharges, air contamination deposition, runoff from residential, agricultural and urban areas, oil and gas production and transportation, leaking underground storage tanks and accidental releases and spills from rail and vehicular traffic as well as from commercial shipping and recreational boating.

The City of Elyria's public water system treats the water to meet drinking water quality standards, but no single treatment technique can address all potential contaminants. The potential for water quality impacts can be further decreased by implementing measures to protect Lake Erie, Beaver Creek, and Martin Run. More detailed information is provided in the City of Elyria's Drinking Water Source Assessment report, which can be obtained by calling Elyria Water Works, 440-324-7669.

**City of Lorain** - 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 the river dredging and disposal operations, natural erosional processes, contaminated storm water runoff from urban areas, municipal and home sewage 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. More detailed information is provided in the City of Lorain's Drinking Water Source Assessment report, which can be obtained by calling Lorain Water Purification Plant, 440-204-2280.

**The Village of New London** - The Village of New London's public water system uses surface water drawn from an intake on Buck Creek. The Village's drinking water source protection area contains potential contaminant sources such as agricultural runoff, pasture, above ground storage tanks, industrial storm water, gas line rupture, marina boat docks, unsewered areas, cemeteries, oil and gas wells, roadways and railways.

The Village of New London's public water system treats the water to meet drinking water quality standards, but no single treatment technique can address all potential contaminants. The potential for water quality impacts can be further decreased by implementing measures to protect Buck Creek. More detailed information is provided in the Village of New London's Drinking Water Source Assessment report, which can be obtained by calling the Village of New London, 419-929-4091.

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 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 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 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, USEPA 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.

Northern Ohio Rural Water, the City of Elyria, the City of Lorain and the Village of New London routinely monitor for contaminants in your drinking water according to Federal and State laws. These tables show the results of our monitoring for contaminants listed for 2009. (See the following table)

As you can see by the table, NORW did not incur any water quality standard violations in 2009. We are proud that your drinking water meets or exceeds all Federal and State requirements. However, we have detected minor levels of certain contaminants through our monitoring and testing procedures. These have been reviewed by the EPA and have been determined not to pose a health risk.

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence does not necessarily indicate that the water poses a health risk. 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. Northern Ohio Rural 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 the Safe Drinking Water Hotline or at [www.epa.gov/safewater/lead](http://www.epa.gov/safewater/lead). 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).

Under the Stage 2 Disinfectants/Disinfection Byproducts Rule (D/DBPR), our public water system was required by USEPA to conduct an evaluation of our distribution system. This is known as an Initial Distribution System Evaluation (IDSE), and is intended to identify locations in our distribution system with elevated disinfection byproduct concentrations. The locations selected for the IDSE may be used for compliance monitoring under Stage 2 D/DBPR, beginning in 2012. Disinfection 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 (HAA5). USEPA sets standards for controlling the levels of disinfectants and disinfectant byproducts in drinking water, including both TTHMs and HAA5s.

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 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).

If you have any questions about this report or your water utility, please contact Bryan Puder at (419) 668-7213. We want our valued customers to be informed about their water utility. If you would like to learn more, please attend any regularly scheduled meeting. These meetings are held on the third Thursday of the month at the NORW office located at 2205 U.S. Highway 20 E., Norwalk, Ohio.

**2009  
NORTHERN OHIO RURAL WATER  
MAIN DISTRICT**

**TABLE OF DETECTED CONTAMINANTS**

CONTAMINANTS	YEAR TESTED	UNITS	MCL	MCLG	LEVEL FOUND	RANGE OF DETECTION	TYPICAL SOURCE OF CONTAMINANTS	VIOLATION N/Y	
<b><u>Volatile Organic</u></b>									
TTHM's (Total Trihalomethanes)	2009	ppb	80	0	49.2	30.0-72.6		N	
HAA5 (Haloacetic Acids)	2009	ppb	60	0	24.8	12.5-44.3	By-product of drinking water chlorination	N	
IDSE TTHM	2009	ppb	NA	NA	NA	15.0-53.1		N	
IDSE HAA5	2009	ppb	NA	NA	NA	12.8-24.9		N	
<b><u>Inorganic</u></b>									
<sup>1</sup> Copper	90%	2009	ppb	AL=1350	0	152	3.3-344	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives	N

CONTAMINANTS	YEAR TESTED	UNITS	MRDL	MRDLG	LEVEL FOUND	RANGE OF DETECTION	TYPICAL SOURCE OF CONTAMINANTS	VIOLATION N/Y
TOTAL CHLORINE	2009	ppm	4	4	1.32	0.6-2.2	Water additive used to control microbes	N

**ELYRIA WATER WORKS  
TABLE OF DETECTED CONTAMINANTS**

CONTAMINANTS	YEAR TESTED	UNITS	MCL	MCLG	LEVEL FOUND	RANGE OF DETECTION	TYPICAL SOURCE OF CONTAMINANTS	VIOLATION N/Y
<b><u>Inorganic</u></b>								
Barium	2009	ppm	2	2	0.018	0.018	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits	N
Fluoride	2009	ppm	4	4	1.1	.81-1.07	Additive which promotes strong teeth	N
Nitrate	2009	ppm	10	10	1.5	.18-1.50	Runoff from fertilizer	N
<b><u>Microbiological</u></b>								
<sup>2</sup> Turbidity	2009	NTU	100%<0.3	0	1.9	.01-1.9	Soil runoff	Y
TOC	2009	none	N/A	TT	1	1.0-1.2	Naturally present in the environment	N
removal>1								
<b><u>Radiologicals</u></b>								
Gross Alpha	2009	pCi/l	15		3	3	Erosion of natural deposits	N

**LORAIN WATER DEPARTMENT  
TABLE OF DETECTED CONTAMINANTS**

CONTAMINANTS	YEAR TESTED	UNITS	MCL	MCLG	LEVEL FOUND	RANGE OF DETECTION	TYPICAL SOURCE OF CONTAMINANTS	VIOLATION N/Y
<b><u>Inorganic</u></b>								
Barium	2009	ppm	2	2	0.02	N/A	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.	N
Fluoride	2009	ppm	4	4	1.1	.82-1.25	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories.	N
Nitrate	2009	ppm	10	10	2.63	.14-2.63	Runoff from fertilizer use and erosion of natural deposits.	N
Selenium	2008	ppb	50	50	5.3	N/A	Discharge from petroleum and metal refineries; erosion of natural deposits; discharge from mines.	N
<b><u>Microbiological</u></b>								
Turbidity (NTU)	2009		TT	N/A	0.04	.04-.61	Soil runoff	N
Turbidity	2009		TT	N/A	97.98%	97.98%-100%	(% meeting standard)	
TOC	2009		TT	N/A	1.1	1.0-1.7	Naturally present in the environment.	N

**VILLAGE OF NEW LONDON**  
**TABLE OF DETECTED CONTAMINANTS**

CONTAMINANTS	YEAR TESTED	UNITS	MCL	MCLG	LEVEL FOUND	RANGE OF DETECTION	TYPICAL SOURCE OF CONTAMINANTS	VIOLATION N/Y
<b><u>Inorganic</u></b>								
Barium	2009	ppm	2	2	0.0322	N/A	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits	N
Fluoride	2009	ppm	4	4	0.956	.686-1.09	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories	N
Nitrate	2009	ppm	10	10	0.21	<0.10-0.21	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits	N
<b><u>Microbiological</u></b>								
Turbidity	2009		TT	N/A	<u>0.190</u> 100%		Soil runoff	N
TOC	2009		TT	N/A	1.0	1.0-1.26	Naturally present in the environment	N

**FOOTNOTES**

<sup>1</sup>Copper: Zero out of thirty samples was found to have copper levels in excess of the AL of 1300 ppb.

<sup>2</sup>The City of Elyria water system had an acute turbidity treatment technique violation during the month of March 2009. 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 that can cause symptoms such as nausea, cramps, diarrhea and associated headaches. The City of Elyria has taken the following steps to correct this violation and prevent future violations from occurring: the equipment malfunction was repaired and safeguards were installed in the system to correct this problem. Extensive sampling in the distribution system was done to ensure that bacteria was not present during the time period.

**DEFINITIONS**

AL	Action Level: The concentration of a contaminant which, if exceeded, triggers treatment or the requirements which a water system must follow.
MCL	Maximum Contaminant Level: The highest level of contaminant that is allowed in drinking water. MCLs are set close to MCLGs as feasible using the best available technology.
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 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 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 contamination.
N/A	Not applicable
NTU	Nephelometric Turbidity Unit: A measure of the clarity of water. Turbidity in excess of 5 is just noticeable to the average person.
pCi/l	picoCuries per liter, a measure of radioactivity in water
ppb or ug/l	Parts Per Billion/micrograms per liter: One part per billion corresponds to about one minute in 2,000 years, or exactly a single penny in \$10,000,000.
ppm or mg/l	Parts Per Million/milligrams per liter: One part per million corresponds to about one minute in two years or exactly a single penny in \$10,000.
TOC (Total Organic Carbon)	Removal>1
TT	Treatment Technique: A required process intended to reduce the level of a contaminant in drinking water.
"<"	The "<" symbol: A symbol that means less than. A result of <.5 means that the lowest level that could be detected was .5 and the contaminant in that sample was not detected.

The state requires Northern Ohio Rural Water to monitor for some contaminants less often than once per year because the concentrations do not change frequently.