



Consumer Confidence Report for Testing Year 2012

The City of Union has prepared the following report to provide information to you, the consumer, on the quality of our drinking water for testing year 2012. This report has been prepared as part of state and federal requirements to inform the consumer as mandated by the Safe Drinking Water Act. We welcome the opportunity to inform residents and business owners of our high water quality.

Source water information. The 1996 amendments to the Safe Drinking Water Act established the federal Source Water Protection and Assessment Program, which required that a “source water assessment” be completed for all public water systems by May 2003. Source water assessments are nearly identical to wellhead protection plans, requiring a delineation of the protection area and a potential contaminant source inventory.

However, a source water assessment additionally requires a susceptibility analysis. To fulfill the requirements of the federal Source Water Assessment and Protection Program, Ohio EPA completed a study of Union's source of drinking water to determine its susceptibility. According to this study, the aquifer that supplies water to Union has a high susceptibility to contamination. This determination is based primarily on the lack of a protective layer of clay overlying the aquifer and the shallow depth (less than 15 feet below ground surface) of the aquifer. Nitrates have historically been detected in the treated water at concentrations well below the federal and state drinking water standards of 10 mg/L.

The termination of farming practices in the vicinity of the wellfield has caused the nitrates to be substantially reduced below concentrations of concern. EPA notes that Union has worked very hard to develop and implement a comprehensive wellhead/source water protection plan to help prevent contamination from entering the aquifer. The protection plan contains an education component, source control strategies, an emergency response plan, and groundwater monitoring strategies.

Union receives its drinking water from the Great Miami Buried Valley Aquifer using four groundwater production wells. Wells 2 and 3 pump directly to Union's Iron Removal Water Treatment Facility where the water is aerated to oxidize and precipitate iron. Iron is then removed by anthracite (activated carbon) and sand filtration. Chlorine is injected to provide for disinfection, and fluoride is added for dental benefits.

The treated water is pumped to Union's two water towers, which together have a total water-storage capacity of 1 million gallons. From these towers, water is distributed throughout Union to 2,609 service connections via approximately 36 miles of pipe varying in diameter from 4 inches to 20 inches. Union pumped 191 million gallons of treated water in 2012. Union has a waterline connection with the City of Englewood, which can be opened if a water-related emergency should ever occur (for Englewood's report call 836-5106).

What are possible sources of contamination to drinking water? Drinking water, including bottled water, may reasonably be expected to contain at least some small amount of contaminants. The presence of contaminants

does not necessarily indicate that the water poses a health risk. More information about the contaminants and potential health effects can be obtained by calling EPA's Safe Drinking Water Hotline at 1-800-426-4791. As water travels through the ground on its way to the aquifer, it dissolves naturally occurring minerals and also can pick up substances resulting from the presence of animals/human activities.

Contaminants can include:

- Viruses and bacteria that may come from septic tanks, wastewater treatment plants, livestock, and wildlife.
- Salts and metals that can be natural or result from stormwater runoff, wastewater discharges, and farming.
- Pesticides and herbicides that can come from a variety of sources such as agriculture, stormwater runoff, and residential uses.
- Organic chemicals that originate from agriculture, industrial processes, petroleum production, gas stations, stormwater runoff, and septic systems.
- Radioactive substances that can be naturally occurring or the result of oil and gas production and mining activities.
- Lead, if present, which 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 City of Union 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. A list of laboratories certified in the State of Ohio to test for lead may be found by calling 614-644-2752. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline Web site at <http://www.epa.gov/safewater/lead>.

Precautions: In order to ensure tap water is safe to drink, EPA prescribes regulations that limit the amount of certain contaminants in the water provided by public water systems. Food and Drug Administration regulations limit contaminants in bottled water. Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons, such as persons with cancer who are undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune-system disorders, some elderly persons, and infants can be particularly at risk from infection. These people should seek advice about drinking water from their healthcare providers. EPA and Centers for Disease Control guidelines on appropriate means to lessen the risk of infection by cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline at 1-800-426-4791.

About your drinking water: The City of Union provides safe and aesthetically pleasing drinking water to its residents, businesses, and visitors. The underground water supply is of high quality, and Union has worked hard to protect this valuable water resource. In order to supply you with the safest possible water product, Union chlorinates the water to control viruses and bacteria. Fluoride is also added to enhance dental protection. The levels of these two additives are monitored daily to ensure proper dosages are maintained. Iron is an abundant and widespread mineral found in the rocks and soils of Ohio. Iron is not a health risk but rather an aesthetic issue because of the discoloration it can cause in water. At high-enough concentrations, iron can affect the taste of water and other beverages. Iron also can stain laundry, plumbing fixtures, and porcelain. Manganese, while less abundant, can cause similar problems and leave a bitter taste in the water. Manganese also can leave visible black specks in ice cubes. To minimize effects of these naturally occurring minerals, Union operates a water treatment facility to reduce the iron and manganese concentrations that come out of the tap. Ohio EPA requires regular sampling to ensure drinking water safety. Water samples were collected to test for contaminants. Ohio EPA requires Union to monitor for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. Therefore, some data, although accurate, is more than a year old

but in keeping with EPA requirements. Listed in this publication is information on those substances that were found in Union's drinking water.

For more information and to participate in decisions concerning your drinking water: Public participation and comments are encouraged at regular Union City Council meetings. These meetings are held the second and fourth Monday of each month at 7:30 p.m. in City Hall, 118 North Main St. Please contact City of Union offices at 836-8624 for more information.

Definitions of some terms contained within this report:

- **Maximum Contaminant Level Goal (MCLG):** 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.
- **Maximum Contaminant Level (MCL):** The highest level of contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.
- **Parts per Million (P.P.M.) 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.
- **Parts per Billion (P.P.B.) or Micrograms per Liter (µg/L)** are units of measure for concentration of a contaminant. A part per billion corresponds to one second in 31.7 years.
- **Action Level (AL):** The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.
- **The "<" Symbol:** The symbol that means "less than."

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CONTAMINANTS (UNITS)	MCLG	MCL	LEVEL FOUND	RANGE OF DETECTIONS	VIOLATION	SAMPLE YEAR	TYPICAL SOURCE OF CONTAMINANTS
BACTERIOLOGICAL							
Total Coliform Bacteria	0	1*	0	0 – 1	No	2012	Naturally present in the environment.
INORGANIC CONTAMINANTS							
Nitrite P.P.M.	1	1	< 0.1	< 0.1	No	2012	Runoff from fertilizer use.
Nitrate P.P.M	10	10	0.517	< 0.1 – 0.517	No	2012	Runoff from fertilizer use.
Fluoride P.P.M.	4.0	4.0	0.89	0.2 – 0.89	No	2012	Natural geology and supplement.
Copper P.P.M.	1.3	A.L. - 1.3	0.229	0.036 - 0.457	No	2010	Corrosion of house-hold plumbing.
Lead P.P.B.	0	A.L. - 15	3.98	< 2.0 – 4.40	No	2010	Corrosion of house-hold plumbing.
Arsenic - P.P.M.	0.0	0.01	< 0 .003	0.0 - < 0.003	No	2012	Geological material and industrial activities.
Cyanide P.P.M.	0.2	0.2	< 0.01	0.0 - < 0.01	No	2012	Geological material and industrial activities.
Inorganics P.P.B.	2.0 - 2000.0	2.0 - 2000.0	199.0	< 1.0-199.0	No	2012	Geological material and industrial activities.
VOLATILE ORGANIC CONTAMINANTS							
VOC P.P.B.	0	5.0	< 0.5 - < 1.5	< 0.5 - < 1.5	No	2012	Synthetic chemicals (man-made).
SYNTHETIC ORGANIC CONTAMINANTS INCLUDING PESTICIDES AND HERBICIDES							
Alachor P.P.B.	0.0	2.0	< 0.2	0.0 - < 0.2	No	2011	Runoff from herbicide used on row crops.
Atrazine P.P.B.	3.0	3.0	< 0.3	0.0 - < 0.3	No	2011	Runoff from herbicide used on row crops.
Metolachlor P.P.B.	0	0	< 0.5	0.0 - < 0.05	No	2002	Unregulated.
Metribuzin P.P.B.	0	0	< 0.2	0.0 - < 0.2	No	1999	Unregulated.
Simazine P.P.B.	4.0	4.0	< 0.3	0.0 - < 0.4	No	2011	Herbicide Runoff.
S.O.C. 2, 4-0 P.P.B.	0.0 - 700.0	0.2 - 700.0	< 0.1 - < 9.0	< 0.1 - < 9.0	No	2001	Synthetic chemicals (man-made).
S.O.C.'s P.P.B. 14 Chemicals	0.0 - 700.0	0.0 - 700.0	< 0.02 - < 70.0	< 0.02 - < 70.0	No	2004	Synthetic chemicals (man-made).
RADIOLOGICAL CONTAMINANTS							
Gross Alpha A/Ci/L	0	15	< 3.0	0.0 - < 3.0	No	2009	Erosion of natural deposits.
Radium - 228.P/Ci/L	0	20	< 1.0	0.0 - < 1.0	No	2009	Erosion of natural deposits.
Pcl/L = Picocuries per liter - a measure of radioactivity.							

REGULATED IN THE DISTRIBUTION SYSTEM							
Haloacetic Acids 5-P.P.B.	N/A	60 ^d	< 1.0 - 3.02	3.017 – 4.41	No	2012	By-products of chlorination.
Trihalometanes P.P.B.	0	80 ^d	2.15 – 8.29	14.3 – 25.91	No	2012	By-products of chlorination.
UNREGULATED COMPOUNDS							
Bromodichloro-methane P.P.B.	N/A	N/A	8.02	3.93 – 8.02	No	2012	By-products of drinking water chlorination.
Bromoform P.P.B.	N/A	N/A	2.43	2.15 – 2.43	No	2012	By-products of drinking water chlorination.
Chloroform P. P. B.	N/A	N/A	8.29	2.68 – 8.29	No	2012	By-products of drinking water chlorination.
Dibromochloromethane P.P. B.	N/A	N/A	7.45	5.26 – 7.45	No	2012	By-products of drinking water chlorination.

* MCL: presence of coliform bacteria in greater than or equal to 5 percent of monthly samples.

**Copper and lead results were within compliance for sample analysis. 20 samples are taken for copper compliance and 20 samples are taken for lead compliance.

2012

1. Total water samples taken for year, 1088
2. Total water samples taken for iron, 45
3. Total water samples taken for total coliform and e-coli were all negative. Total samples: 104
4. Highest running annual average.

Water Storage Capacity in the City of Union: 1,000,000 gallons