



2016 City of Lebanon Drinking Water Quality Report

The Lebanon Public Water System met all Ohio EPA Standards

The City of Lebanon has prepared the following report to provide information to you, the consumer, on the quality of our drinking water. Included within this report is general health information, water quality test results and how to participate in decisions concerning your drinking water and water system contact information. In 2016 your water met all Ohio EPA standards.

The City of Lebanon and Greater Cincinnati Water Works (GCWW) have a current unconditional license to operate our respective water system issued by Ohio Environmental Protection Agency (OEPA). Lebanon and GCWW were in compliance with all state primary drinking water rules in 2016.

Source Water Information

The City of Lebanon purchases its potable water from GCWW. The water supplied by GCWW comes from both the Ohio River, a surface water source, and the Bolton Well Field in the Great Miami Aquifer, a ground water source. The surface water is treated at the Richard Miller Treatment Plant and the ground water is treated at the Bolton Treatment Plant. Before water is delivered to the consumer GCWW and the Lebanon Water Department take many steps to insure your water quality and safety. Our priority is safe drinking water. On average GCWW will perform 600 tests per day throughout the treatment and delivery process followed by additional quality and safety testing by the Lebanon Water Department.

The Miller Treatment Plant uses a combination of pre-settling, final settling; filtration followed by granular activated carbon (GAC) filtration for organics removal. GAC is state of the art technology that serves as a barrier against impurities from the raw water source. Final treatment consists of pH adjustment, chlorine and UV disinfection and the addition of Fluoride for dental health. The Bolton Plant utilizes a lime softening process followed by settling and filtration prior to disinfection and the addition of Fluoride. If you have question about the GCWW treatment process please call (513) 591-7700. You can view GCWW's consumer confidence report at: <http://www.cincinnati-oh.gov/water/about-greater-cincinnati-water-works/water-quality-reports/2016-water-quality-report-updated-march-2017/>

The City of Lebanon also maintains an emergency backup connection with Warren County and Western Water systems. During 2016 **no** water was received from these connections. This report does not contain information on the water quality that may be received from these sources. A copy of their consumer confidence report can be obtained at: <http://www.warrenwater.com/wq-Water Quality>
<http://www.western-h2o.com>

Mandatory language (*in italics*) has been included in this report that was developed by the OEPA to provide general information on drinking water. Questions regarding this language should be directed to the OEPA at (937)285-6357

What are the sources of contamination to drinking water?

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.

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 Federal Environmental Protection Agency's Safe Drinking Water Hotline (1-800-426-4791).

GCWW's Bolton Treatment Plant treats groundwater from the Great Miami Aquifer and provides water to the northwestern area of Hamilton County and parts of Butler and Warren Counties. The OEPA has classified Bolton water as having a high susceptibility to contamination because the Great Miami Aquifer does not have a protective clay layer, the water is shallow, there are potential contamination sources nearby; and there are low levels of nitrate in the aquifer. This does not mean that the aquifer is contaminated; only that it is vulnerable to contamination. Cincinnati recognized the vulnerability of the aquifer over a decade ago and has worked as a member of the Hamilton to New Baltimore Groundwater consortium to develop an award-winning source-water-protection program to protect the aquifer (www.gwconsortium.org). For more information about source water protection or to find out what you can do to help, call (513) 591-7700, e-mail info@gcww.cincinnati-oh.gov or visit: www.myGCWW.org.

Who needs to take special precautions?

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).

About your drinking water

The EPA requires regular sampling to ensure drinking water safety. The City of Lebanon conducted sampling for lead, copper, coliform bacteria, chlorine and disinfection byproducts during 2016. Samples were collected for a total of seventeen (17) different contaminants most of which were not detected in the City of Lebanon water supply. Over 1000 water samples were analyzed and all results were in compliance with drinking water standards. The Ohio EPA requires The City of Lebanon 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.

CodeRED

CodeRED is an automated emergency notification system that allows the City officials to send out pre-recorded messages over the phone to our residents alerting them to certain situations. CodeRED will primarily be utilized to notify citizens of emergency situations such as water boil alerts, utility outages, snow events or other emergency situations. CodeRED has the capability of notifying all of Lebanon's residents within an hour. We strongly recommend that all residents and businesses register their contact information in the CodeRED system. You can sign up for CodeRED alerts by following this link: <http://www.lebanonohio.gov/FAQ.aspx?TID=22>

Table of Detected Contaminants

Listed below is information on contaminants that were found in the Lebanon drinking water in 2016

Lebanon Water Department							
Regulated Contaminant (units)	MCLG	MCL	Highest Level Detected	Range of Detections	Violation	Sample Year	Typical Source of Contaminants
Disinfectants							
Chlorine, Total (ppm)	MRDL=4	MRDLG=4	.86	0.3-1.3	No	2016	Water additive to control Microbes
Residual Disinfectants							
Trihalomethanes, Total (ppb)	0	80	54.8	26.17 - 69.69	No	2016	By-product of drinking water chlorination.
Haloacetic Acids (ppb)	0	60	9.45	2.39 - 12.06	No	2016	By-product of drinking water chlorination.
Lead and Copper							
Contaminants (units)	Action Level (AL)	Individual Results over the AL	90% of test levels were less than	Violation	Sample Year	Typical source of Contaminants	
Lead (ppb)	15 ppb	NA	0.0	No	2016	Corrosion of household plumbing.	
	0 out of 30 samples were found to have lead levels in excess of the lead action level of 15 ppb.						
Copper (ppm)	1.3 ppm	NA	0.0231	No	2016	Corrosion of household plumbing.	
	0 out of 30 samples were found to have copper levels in excess of the copper action level of 1.3 ppm.						
Unregulated Contaminates							
Substance	Average Level Detected, ppb	Range of Detections	Violation	Sample Year	Typical Sources of Contaminants		
Chromium, Total	0.23	0.17 - 0.28	NA	2015	Naturally-occurring element; used in making steel and other alloys. Chromium-3 and -6 forms are used for chrome plating, dyes and pigments, leather tanning, and wood preservation.		
Molybdenum	1.34	0.86 – 2.1	NA	2015	Naturally-occurring elemental found in ores and present in plants, animals and bacteria; commonly used form molybdenum trioxide used as chemical reagent.		
Strontium	217	178 – 264	NA	2015	Naturally occurring element; historically, commercial use of strontium has been in the faceplate glass of cathode-ray tube televisions to block x-rays emissions.		
Vanadium	0.19	0.08 – 0.41	NA	2015			
Chromium-6	0.62	0.53-0.76	NA	2015	Naturally-occurring element; used in making steel and other alloys. Chromium-3 and -6 forms are used for chrome.		
Chlorate	11	ND – 34.9	NA	2015	Agricultural defoliant or desiccant; used in production Agricultural defoliant or desiccant; used in production of chlorine dioxide		
1,4-Dioxane	0.17	0.098 - 0.25	NA	2015	Cyclic aliphatic ether; used as a solvent or solvent stabilizer in manufacture and processing of paper, cotton, textile products, automotive coolant, cosmetics and shampoos.		

Lebanon Water Department

Bromodichloromethane	11.5	4.7 – 17.5	NA	2015	By-product of drinking water chlorination.
Bromoform	11.8	0.9 – 25.6	NA	2015	By-product of drinking water chlorination.
Chloroform	8.7	1.2 – 15.4	NA	2015	By-product of drinking water chlorination.
Dibromochloromethane	17.8	6.9 – 20.9	NA	2015	By-product of drinking water chlorination.
Bromochloroacetic acid	4.3	2.0 – 5.0	NA	2015	By-product of drinking water chlorination.
Dibromoacetic acid	5.3	1.9 – 6.3	NA	2015	By-product of drinking water chlorination.
Dichloroacetic acid	4.3	ND – 7.2	NA	2015	By-product of drinking water chlorination.
Monochloroacetic acid	0.6	ND – 0.6	NA	2015	By-product of drinking water chlorination.
Trichloroacetic acid	1.4	ND – 3.0	NA	2015	By-product of drinking water chlorination.

Greater Cincinnati Water Works, Miller Treatment Plant Water

Regulated Contaminants

Substance	MCLG	MCL	Highest Level Detected	Range of Detections	Violation	Sample Year	Typical Sources of Contaminants
Fluoride (ppm)	4	4	0.90	0.75-1.0	No	2016	Additive to promote strong teeth.
Nitrate (ppm)	10	10	1.05	0.53-1.05	No	2016	Runoff from fertilizer, septic tanks, sewage, erosion from natural deposits.
Turbidity (NTU)	na	*1	.12/*2	0.03-0.12	No	2016	Soil Runoff
Total Organic Carbon	na	TT ₁	2.05	1.83-3.40	No	2016	Naturally present in the environment.
Barium (ppm)	2	2	0.054	na	No	2016	Erosion of natural deposits. Discharge of drilling waste and metal refineries.

*1, TT₁ < 1 NTU Maximum and TT₂ < 0.3 NTU in 95% of samples.

*2, 100% < 0.3 NTU

TT₁, The value reported under "Highest Level Detected" for Total Organic Carbon (TOC) is the lowest ratio between percentages of TOC actually removed to the percentage of TOC required to be removed. A value greater than one (1) indicates that the water system is in compliance with TOC removal requirements. A value of less than one (1) indicates a violation of the TOC removal requirements.

Unregulated Contaminants

Substance	Units	MCLG	Average Level Detected	Range of Detection	Violation	Sample Year
Sulfate	ppm	na	92	48 - 92	na	2016
Chlorate	ppb	na	24	nd – 41	na	2013
Hexavalent Chromium	ppb	na	0.058	0.048 – 0.068	na	2013
1,4-Dioxane	ppb	na	0.326	nd – 0.575	na	2013
Molybdenum	ppb	na	1.6	1.2 – 2.5	na	2013
Strontium	ppb	na	205	190 - 220	na	2013
Vanadium	ppb	na	0.29	nd – 0.56	na	2013

Greater Cincinnati Water Works, Bolton Treatment Plant Water

Regulated Contaminants

Substance	MCLG	MCL	Highest Level Detected	Range of Detections	Violation	Sample Year	Typical Sources of Contaminants
Fluoride (ppm)	4	4	0.89	0.74-1.01	No	2016	Additive to promote strong teeth.
Nitrate (ppm)	10	10	1.51	na	No	2016	Run off from fertilizer, septic tanks, sewage, and erosion from natural deposits.
Turbidity (NTU)	na	*1	nr	nr	No	na	Soil Runoff
Total Organic Carbon	na	TT1	nr	nr	No	na	Naturally present in the environment.
Barium (ppm)	2	2	0.019	na	No	2016	Erosion of natural deposits. Discharge of drilling waste and metal refineries.

*1, TT1 < 1 NTU Maximum and TT2 < 0.3 NTU in 95% of samples.

*2, 100% < 0.3 NTU

TT1, The value reported under "Highest Level Detected" for Total Organic Carbon (TOC) is the lowest ratio between percentages of TOC actually removed to the percentage of TOC required to be removed. A value greater than one (1) indicates that the water system is in compliance with TOC removal requirements. A value of less than one (1) indicates a violation of the TOC removal requirements.

Unregulated Contaminants

Substance	Units	MCLG	Average Level Detected	Range of Detection	Violation	Sample Year
Hexavalent Chromium	ppb	na	0.205	0.200 – 0.210	na	2013
1,4-Dioxane	ppb	na	0.545	0.276 – 0.814	na	2013
Molybdenum	ppb	na	4.2	3.5 – 4.9	na	2013
Strontium	ppb	na	170	160 – 180	na	2013
Vanadium	ppb	na	0.66	0.60 – 0.72	na	2013

Sodium

GCWW tested for sodium in treated water as it leaves the treatment plants and has found 29 mg/l (milligrams per liter) in the Miller plant water and 34 mg/l in the Bolton plant water. There are approximately 4 cups in a liter.

Turbidity

GCWW is required to report on the turbidity as an indication of the effectiveness of their filtration system.

Turbidity is a measure of the cloudiness of water. The turbidity limit set by the EPA is 0.3 NTU in 95% of the daily samples and shall not exceed 1 NTU any time. As reported in the tables above, GCWW's highest recorded turbidity result for 2016 was 0.12 NTU (Miller Water) and the lowest monthly percentage of samples meeting the turbidity limits was 100%.

Lead Education Information

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 Lebanon Water Department 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 at 800-426-4791 or at <http://www.epa.gov/safewater/lead>.

Cryptosporidium Information

GCWW monitored for Cryptosporidium in the Ohio River and in the finished water during 2016. Cryptosporidium was detected in 2 of 24 collected from the source water and in none of the samples collected from the treated water. Cryptosporidium is a microbial pathogen found in surface water throughout the U.S. Although filtration removes

cryptosporidium, the most commonly used filtration methods cannot guarantee 100 percent removal. Our monitoring of source water and/or finished water indicate the presence of these organisms. Current test methods do not enable us to determine if the organisms are dead or if they are capable of causing disease. Symptoms of infection include nausea, diarrhea, and abdominal cramps. Most healthy individuals can overcome the disease within a few weeks. However, immuno-compromised people are at greater risk of developing a life threatening illness. We encourage immuno-compromised individuals to consult their doctor regarding appropriate precautions to avoid infection. Cryptosporidium must be ingested to cause disease, and it may be spread through means other than drinking water.

Revised Total Coliform Rule (RTCR) Information

This Consumer Confidence Report (CCR) reflects changes in drinking water regulatory requirements during 2016. All water systems were required to comply with the Total Coliform Rule from 1989 to March 31, 2016, and begin compliance with a new rule, the Revised Total Coliform Rule, on April 1, 2016. The new rule maintains the purpose to protect public health by ensuring the integrity of the drinking water distribution system and monitoring for the presence of total coliform bacteria, which includes E. coli bacteria. The U.S. EPA anticipates greater public health protection under the new rule, as it requires water systems that are vulnerable to microbial contamination to identify and fix problems. As a result, under the new rule there is no longer a maximum contaminant level violation for multiple total coliform detections. Instead, the new rule requires water systems that exceed a specified frequency of total coliform occurrences to conduct an assessment to determine if any significant deficiencies exist. If found, these must be corrected by the PWS.

Public Notice

"Please share this information with all the other people who drink this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools, and businesses). You can do this by posting this notice in a public place or distributing copies by hand or mail."

How do I participate in decisions concerning my drinking water?

Public participation and comment are encouraged at regular meetings of Lebanon City Council which convenes at Town hall on the second and fourth Tuesday monthly. For more information about your drinking water contact Darren Owens at 513-228-3701

Definitions of some terms contained within this report.

- **AL** (Action Level): The concentration of a contaminant which, if exceeded, triggers treatment or other 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 as close to the MCLGs as feasible using the best available treatment 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.
- **NTU** (Nephelometric Turbidity Unit): Used to measure clarity in drinking water.
- **na** (not applicable)
- **nd** (not detectable): at testing limits.
- **nr** (not regulated)
- **ppm** (Parts per Million) or **mg/L** (Milligrams per Liter): Units of measure for concentration of a contaminant. A part per million corresponds to one second in a little over 11.5 days.
- **ppb** (Parts per Billion) or **µg/L** (Micrograms per Liter): Units of measure for concentration of a contaminant. A part per billion corresponds to one second in 31.7 years.
- **TT** (Treatment Technique): A required process intended to reduce the level of a contaminant in drinking water.
- **The < symbol:** (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.