



2016 Litchfield Water System Annual Drinking Water Report

City of Litchfield Water Department is delivering to water customers our Drinking Water Quality Report for January 1- December 31, 2016, a requirement of the 1996 reauthorization of the Safe Drinking Water Act. This legislation, passed by Congress and signed by President Clinton, requires public water systems across the country to report to their customers information about the safety and quality of the water provided. In this report, you will find water quality monitoring data required by the Environmental Protection Agency (EPA) and the State of Minnesota. Additional information from the EPA is provided. We welcome this opportunity to convey information about your drinking water and water distribution system; we believe our customers deserve nothing less than a rigorous and comprehensive evaluation of the quality of the water they drink and a heightened awareness of the need to protect precious water resources.

Litchfield's Water Sources

Like most small - and medium-sized cities in the United States, Litchfield obtains its water from a groundwater source. The earth and rock formations that hold water beneath the earth's surface are known as aquifers. Our water is drawn from four wells, ranging in depth from 132 to 165 feet, drilled into the Quaternary Buried Artesian aquifer. Groundwater sources such as ours are able to avoid contamination from microorganisms like Cryptosporidium and Giardia. The Minnesota Department of Health has made a determination as to how vulnerable our systems' source(s) of water may be to future contamination incidents. If you wish to obtain the entire source water assessment regarding your drinking water, please call 651-201-4700 or 1-800-818-9318 (and press 5) during normal business hours. Also, you can view it on line at www.health.state.mn.us/divs/eh/water/swp/swa.

If you have questions or comments regarding this report or water issues, we welcome your call, Water Supervisor Herb Watry or Mike Geers, at (320) 693-7201.

ASSOCIATION MEMBERSHIPS:
AWWA: AMERICAN WATER WORKS
MRWA: MINNESOTA RURAL WATER

Monitoring Report Summary

No contaminants were detected at levels that violated federal drinking water standards. However, some contaminants were detected in trace amounts that were below legal limits. The table that follows shows the contaminants that were detected in trace amounts last year. (Some contaminants are sampled less frequently than once a year; as a result, not all contaminants were sampled for in 2016. If any of these contaminants were detected the last time they were sampled for, they are included in the table along with the date that the detection occurred.)

According to the EPA, 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 (800) 426-4791.

Substances Detected in the Litchfield Water Supply					
Level Found	Average	Typical Source of Contaminant			
Contaminant (units)	MCLG	MCL	Range	Result*	
Arsenic (ppb) (07/12/2012)	0	10	N/A	.34	Erosion of natural deposits; Runoff from orchards; glass and electronics production waste.
Barium (ppm) (07/12/2012)	2	2	N/A	.31	Discharge of drilling wastes and metal refineries. Erosion of natural deposits
Fluoride (ppm)	4.0	4.0	.57-.69	.83	State of Minnesota requires all municipal water systems to add fluoride to the drinking water to promote strong teeth; Erosion of natural deposits; Discharge from fertilizer and aluminum factories.
Haloacetic Acids (HAA5) (ppb)					
	0	60.0	N/A	14.2	By-product of drinking water disinfection.
Nitrate (as Nitrogen) (ppm)					
	10.4	10.4	N/A	.62	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.
TTHM (Total trihalomethanes) (ppb)					
	0	80	N/A	47.4	By-product of drinking water disinfection

*This is the value used to determine compliance with federal standards. It sometimes is the highest value detected and sometimes is an average of all the detected values. If it is an average, it may contain sampling results from the previous year.

Contaminant (units)	MRDLG	MRDL	****	*****	Typical Source of Contaminant
Chlorine (ppm)	4	4	.01-1.46	.63	Water additive used to control microbes.

**** Highest and Lowest Monthly Average. ***** Highest Quarterly Average

Contaminant (units)	MCLG	AL	90% Level	# sites over AL	Typical Source of Contaminant
Copper (ppm) (08/05/2015)	1.3	1.3	.91	0 out of 20	Corrosion of household plumbing systems; Erosion of natural deposits.
Lead (ppb) (08/05/2015)	0	15	1.3	0 out of 20	Corrosion of household plumbing systems. Erosion of natural deposits.

Key: **MCL:** Maximum contaminant level (the highest amount allowed in drinking water. Set as close to MCLGs as feasible using the best available treatment technology.)

MCLG: Maximum contaminant level goal (level below which there is no known or expected risk to health, allows for a margin of safety.) **MRDL:** Maximum Residual Disinfectant Level. **MRDLG:** Maximum Residual Disinfectant Level Goal. **AL:** Action Level-the concentration which, if exceeded, triggers treatment or other requirement system must follow. **PPM:** parts per million. **PPB:** parts per billion. **ND:** Not detected. **N/A:** Not Applicable (does not apply). **90th Percentile Level:** This is the value obtained after disregarding 10 percent of the samples taken that had the highest levels. (For example, in a situation in which 10 samples were taken, the 90th percentile level is determined by disregarding the highest result, which represents 10 percent of the samples.) Note: In situations in which only 5 samples are taken, the average of the two with the highest levels is taken to determine the 90th percentile level

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. City of Litchfield 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 with 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 <http://www.epa.gov/safewater/lead>

Monitoring may have been done for additional contaminants that do not have MCLs established for them and are not required to be monitored under the Safe Drinking Water Act. Results may be available by calling 651-201-4700 or 1-800-818-9318 during normal business hours.

Water Testing

Three different groups test Litchfield's water: The MN Dept. of Health, Litchfield Water Department employees, and Independent Labs. The water is tested for both regulated and unregulated substances. Levels of regulated substances are enforced through Maximum Contaminant Levels (MCLs) established by Congress. Unregulated substances do not have established MCLs, but may have recommended maximums set by the Safe Drinking Water Act or are assessed using state standards known as Health Risk Limits. Be assured the Litchfield Water Department will take corrective action and notify customers immediately if a health issue related to regulated or unregulated substances ever arises.

USGS WELL RESEARCH

The USGS (UNITED STATES Geological Survey) selected the City of Litchfield as a site to do some water well Data collection. The drilling team and Data team selected two locations in our well head area. Drilling a set of 6 wells at each location at various depths. The Data team collected data for approximately two years. The team was looking for what **impacts** the water in each well and how fast that happens. The team completed their collection of data and presented their findings to the City in June of 2017.

The DNR and MDH has showed interest in collecting additional data from these wells, so there will be more data for the city to use concerning water wells in our well field.

Compliance with National Primary Drinking Water Regulations

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: *Microbial contaminants*, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.

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.

Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses.

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.

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, the U.S. Environmental Protection Agency (EPA) prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration regulations establish limits for contaminants in bottled water which must provide the same protection for public health. Drinking water, including bottled water, may 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 800-426-4791.

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 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 are available from the Safe Drinking Water Hotline at 800-426-4791.

Water Treatment

Seldom does water come straight from the ground or from a surface water source needing no treatment to improve its quality. Litchfield Water Department processes source water in the following ways so that the water will be safe and pleasurable to drink and use for household and industrial tasks:

Iron and Manganese Removal.

These harmless minerals are common in Minnesota ground water, and our wells are typical of the state. Iron concentrations greater than 0.3 parts per million (ppm) can leave rust-colored stains on laundry, porcelain, and fixtures. Levels of manganese greater than 0.05 ppm can tint the water, cause black spots in ice cubes, and cause the water to have a bitter, metallic taste. These minerals are removed from the water by a process known as oxidation and filtration so customers will not be troubled by their nuisance characteristics.

Disinfection. Any possible disease-causing organisms are eliminated using chlorine.

Fluoridation. Fluoride is added to the water at state mandated levels. Fluoride has been proven to reduce tooth decay, especially in children.

Minnesota State Statute 144.145 or go to www.revisor.leg.state.mn.us/statuses/?id=144.145

Corrosion Control. A corrosion inhibitor is added to the water that provides a protective coating to the inside of your pipes. This minimizes the amount of lead and copper that can be leached into the water from your plumbing.

Water Treatment Results

*Water with hardness of 150 to 300 ppm is considered "hard."
 Water with hardness greater than 300 ppm is considered "very hard."

Parameter	Before treatment	Average After treatment	Ideal
pH	7.4-7.7	7.6	6.5-8.5
Iron (ppm)	2.4-3.4	0.02	<0.3
Manganese (ppm)	0.18	0.095	<0.05
Fluoride (ppm)	0.20	0.56-.78	0.7 -0.9
Hardness (ppm)	320	320 *	

Questions?

Call the Experts. EPA Safe Drinking Water Hotline (800) 426-4791

Minnesota Department of Health (651) 201-4700 or 1-800-818-9318 www.health.state.mn.us/divs/eh/water/swp/swa

City of Litchfield Water Department (320) 693-7201

Spanish: Información importante. Si no la entiende, haga que alguien se la traduzca ahora.

