

Le-Ax Regional Water District

Drinking Water Consumer Confidence Report

For 2016

Introduction

The **Le-Ax Regional Water District** 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, how to participate in decisions concerning your drinking water and water system contacts. We have a current, unconditioned license to operate our water system.

Source Water Information.

The **Le-Ax Regional Water District** receives its drinking water from a pair of horizontal collector wells located approximately 200 ft. south of the Hocking River in the northwest corner of section 32 of Dover Township, Athens County, State of Ohio. It pulls its water from the Hocking River Aquifer.

The treatment that this water requires is iron and manganese removal, filtration, and softening. We also add Fluoride for strengthening of teeth and Chlorine for disinfection.

SOURCE WATER ASSESSMENT

Ohio E.P.A. completed a study of Le-Ax Water District's source water, to determine its susceptibility. According to this study, the aquifer (water-rich zone) that supplies water to Le-Ax Water District has a high susceptibility to contamination.

This does not mean that the well field will become contaminated, only that the likelihood of contamination is relatively high. This determination is based on the following:

Lack of a protective layer of clay overlaying the aquifer;
Shallow depth (less than 15 feet below ground surface) of the aquifer; and
The presence of significant potential contaminant sources in the protection area

This susceptibility rating means that under current existing conditions, the likelihood of the aquifer becoming contaminated is high. This likelihood can be minimized by implementing appropriate protective measures. More information about the source water assessment or what consumers can do to help protect the aquifer is available by calling Lonny McCulloch or Mike Riley at (740) 593-7502.

Le-Ax Regional Water has developed a Source Water Protection Plan to document the strategies we will implement to protect the aquifer that supplies our drinking water from land-based contamination. Components of the Protection Plan include: contaminant source control strategies, education and outreach strategies, contingency plan update.

What are sources of contamination to drinking water?

The sources of drinking water both tap water and bottled water includes 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 Environmental Protection Agency's Safe Drinking Water Hotline (1-800-426-4791).

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 **Le-Ax Regional Water District** conducted sampling for *{bacteria; total trihalomethanes;}* during **2016** Samples were collected for a total of **500** different contaminants most of which were not detected in the **Le-Ax Regional Water District** water supply. The Ohio EPA requires us 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, are more than one year old.

LEAD:

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. **Le-Ax Regional Water District** 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>.

BACKFLOW PREVENTION INFORMATION:

Reauthorization of the Safe Drinking Water Act places special emphasis on back flow prevention. Both the United States E.P.A. and the Ohio E.P.A. require public water systems to have a back flow prevention program. There are two major areas of concern in an individual residence. The first concern is: **ALTERNATE WATER SOURCE**. An alternate water source is a privately owned water source such as a well, pond, spring or cistern that is plumbed into the customer's home. Any alternate water source must be plumbed separately from the public water supply. A valve isolating the two systems is **NOT** acceptable! The second concern is: **FROST FREE YARD HYDRANT**. To eliminate freezing problems, these hydrants are designed to allow water in the stem to drain back into the ground after the hydrant has been turned off. This draining or weeping effect could allow siphoning to take place from a hose to the public water system's main line, in the event of a water break. LE-AX Water District does not endorse the installation of frost-free hydrants. A better solution is a through the wall hose bib with a vacuum breaker attached. A vacuum breaker is available at most hardware stores at a reasonable price.

Below are typical results encountered from the water tests:

	<u>Your Water</u>	<u>Maximum Allowable</u>
<u>hardness</u>	130 - 160 ppm (7.6-8.8 gpg)	NA
<u>ph</u>	7.2 - 8.0	NA
<u>free chlorine in distribution system</u>	0.2 - 1.2 ppm	0.2 ppm minimum
<u>iron</u>	0.005 - 0.02 ppm	0.30 ppm
<u>manganese</u>	0.001 - 0.01 ppm	0.05 ppm
<u>alkalinity stability</u>	neutral - slightly depositing	NA
<u>fluoride</u>	0.85 - 1.15 ppm	1.30 ppm
<u>sodium</u>	100 - 125 ppm	NA

Listed below is information on those contaminants that were found in the **Le-Ax Regional Water Districts** drinking water.

TABLE OF DETECTED CONTAMINANTS

Contaminants (Units)	MCLG	MCL	Level Found	Range of Detections	Violation	Sample Year	Typical Source of Contaminants
Bacteriological							
Total Coliform 20 per month	0	1	0	n/a	no	2016	Naturally present in the environment
Inorganic Contaminants							
Barium (ppm)	2	2	.043	.043-.043	no	2014	Discharge of drilling waste; discharge from metal refineries; Erosion of natural deposits
Fluoride (ppm)	4	4	0.993	.81-1.28	no	2016	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories.
Nitrate (ppm)	10	10	0.15	.15	no	2016	Runoff from fertilizer use; Leaching from septic tanks, sewers; Erosion of natural deposits
Copper (ppm)	1.3	1.3	.415	0	no	2016	Erosion of natural deposits; Leaching from wood preservatives; Corrosion of household plumbing systems
Lead (ppb)	0	15	0	0	no	2016	Corrosion of household plumbing systems; erosion of natural deposits
Volatile Organic Contaminants							
Total Trihalomethanes (TTHMSs) (ppb)	n/a	80			no	2016	By-product of water chlorination
DS201			39.08	22.1-57.9			
DS202			43.28	32.8-54.6			
DS203			44.48	36.8-66.7			
DS204			29.4	24.1-34.9			
Residual Disinfectants							
Haloacetic Acids (HAA5) (ppb)	n/a	60			no	2016	By-Product of drinking water chlorination
DS201			3.95	0.0-11.8			
DS202			9.13	7.1-13.2			
DS203			9.05	8.6-12.0			
DS204			3.90	0.0-9.2			
Chlorine	4	4	1.19	0.32-1.78		2016	Water additive used to control microbes

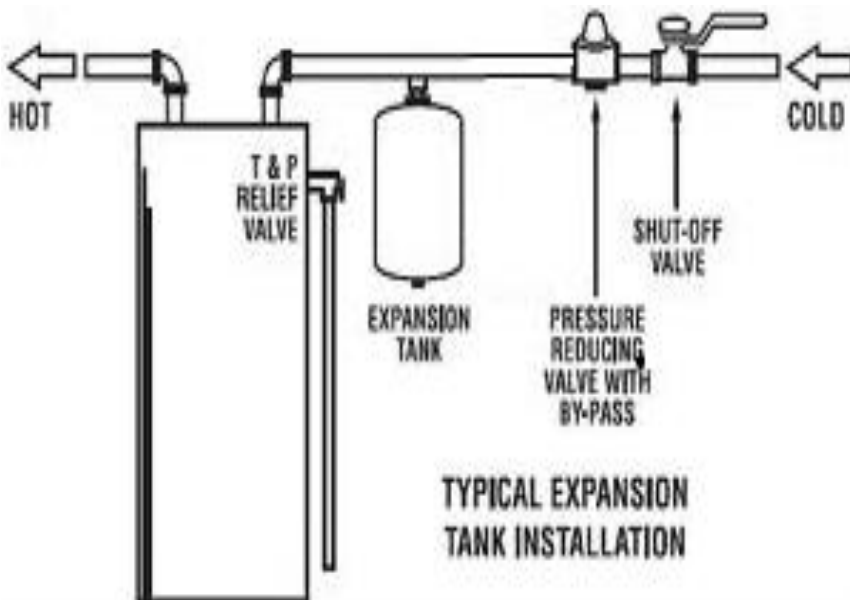
What is water heater thermal expansion and do I need to worry about it?

Thermal expansion refers to the expansion in volume that happens when water is heated. What this means for your water heater is that every time a tank full of water is heated the water may require more space than is available in the tank. The extra water volume creates excess pressure in the plumbing system. This extra pressure can cause damage to the water heater, fixtures, and water piping over time.

So what happens if the pressure is not relieved? . . . Hot water tanks contain a pressure relief valve to protect them from rupturing under such a scenario. The valve opens when the tank pressure reaches the valve set point. After enough water has passed through the valve the pressure in the tank drops and the valve closes again. Sometimes in older hot water tanks the valves might be plugged with scale or corrosion and not function properly. For this reason, a thermal expansion tank is recommended.

A water heater expansion tank is designed to help prevent fluctuations in water pressure. The water heater expansion tank serves as an overflow receptacle by absorbing excess water volume that the water heater creates when heating water. . It is important to note that even with a properly selected and installed thermal expansion tank the plumbing pressure will still increase, but not by enough to cause a failure in the plumbing system.

Expansion tanks are normally installed above the water heater on the cold side before the water comes into the water heater. The extra hot water from the thermal expansion can be stored in the expansion tank and when hot water is demanded it is put back into the water heater. Having an expansion tank helps prevent dripping faucet and running toilets by keeping the extra built up pressure from reaching the fixtures and prematurely damaging them. Water heater expansion tank prices start at around \$40 and the tank is easy to install with a normal 3/4" threaded connection. See illustration below. Contact your local licensed plumber 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 (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.

Parts per Billion (ppb) or Micrograms per Liter ($\mu\text{g/L}$) are units of measure for concentration of a contaminant. A part per billion corresponds to one second in 31.7 years.

Maximum Residual Disinfectant Level Goal (MRDLG): The level of 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 contaminants.

Maximum Residual Disinfectant Level (MRDL): The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

Maximum Residual Disinfectant Level (MRDL): The highest residual disinfectant level allowed.

Maximum Residual Disinfectant Level Goal (MRDLG): The level of residual disinfectant below which there is no known or expected risk to health.

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