

THE EAST LANSING—MERIDIAN WATER & SEWER AUTHORITY

2015 Drinking Water Quality Report for The City of East Lansing & Meridian Township

Why you should read this report!



This report presents important information on the quality of your drinking water. It also discusses where the water originates, and how it's made consistently safe, reliable and pleasant, and then provided to your tap every day.

While much of the content of this report is required by regulation, the Authority has included other important information about this critical resource that may be of interest to you. The Authority supports and encour-

ages your understanding about our water quality and is making every effort possible to convey this information in a clear and useful format. Your help is also needed in protecting and preserving this resource, now and for the future.

From a regulatory standpoint, the Michigan Department of Environmental Quality (MDEQ) and US Environmental Protection Agency (EPA) oversee the quality and availability of the drinking water that is produced by the Authority. In calendar year 2015, the drinking water produced by the Authority was in compliance with all State and Federal regulations. There were no violations of water quality standards.

To help ensure the water is always safe and adequate, the Authority employs operations and maintenance staff that maintain proficiency through continuous training and education programs and MDEQ certification. Through this process, the staff stays current

with the best practices and evolving regulations governing your tap water.

We encourage public interest and participation in decisions affecting your drinking water. Regular Authority Board meetings normally occur at 7:30 a.m. on the third Thursday of each month. These meetings are held at the Water Conditioning Plant, 2470 Burcham Drive. The public is welcome. For current information on meeting times and dates call (517) 337-7535.



Hidden Lakes ■ Meridian Township

WHERE DOES OUR WATER COME FROM?

The East Lansing—Meridian Water and Sewer Authority was formed as a joint venture of the City and Township to address the water supply and quality needs for both communities. In 1972, the Water Conditioning Plant was built and it has provided softened water to both systems since then. Each community owns and operates its separate water distribution utility.

Groundwater is pumped to the conditioning plant from 29 wells located within a five mile radius of the facility. Lime is added to the water to remove the excess hardness. Sometimes Soda Ash may be added to reduce hardness even further. Ferric Chloride is used to treat very fine particles. The water then passes through sand filters to remove any cloudiness that was not taken out during the chemical treatment part of the process. Through this method,

the excess hardness is removed and recycled for agricultural soil amendment or other beneficial uses; not disposed of into the sewer or drain as most home softeners do.

Although the source-water is very pure, we add Chloramine to ensure the water is thoroughly disinfected and stays fresh as it is delivered to your home or business. We also add Fluoride for the prevention of tooth decay, especially for children.

In 2015, the Authority processed and pumped almost 2.0 billion gallons of treated water to the two communities.

In the water production process, our operators run numerous routine chemical analyses to ensure the water stays safe and pleasant tasting. Other more sophisticated testing is performed by us through outside labs for a wide range of regulated and un-

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regulated contaminants; to make sure none are present at a high enough concentration to present a health concern.

The table on page 3 lists some constituents that were detected, and shows what the regulatory limits are. No contaminant concentration exceeds these regulatory limits.

FOR TIPS ON HOW TO KEEP FROM GETTING CONTAMINANTS IN THE WATER, SEE PAGE 4.

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Contaminants in groundwater supplies may 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 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 farming, storm water runoff, residential or business.

Organic Chemical Contaminants including synthetic and volatile organics, 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 may be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, EPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. The Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

Information regarding lead in drinking water

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 Authority 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 1-800-426-4791 or at www.epa.gov/drink/info/lead.

Additional information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline: (800-426-4791).

IMPORTANT NOTICE

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 (Center for Disease Control) guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the EPA's Safe Drinking Water Hotline (800-426-4791).

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 EPA's Safe Drinking Water Hotline (800-426-4791).

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.

The governing Board and staff of the East Lansing-Meridian Water and Sewer Authority are committed to providing the residents of the City of East Lansing and Meridian Township with a safe and reliable supply of drinking water.

Our Mission Statement:

"To protect public health and safety and promote the economic well-being of the City of East Lansing and Meridian Township through the provision of a safe, sufficient, reliable, pleasing and economical public water supply"

DEFINITIONS

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 a contaminant which is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

Action Level (AL): The concentration of a contaminant which, if exceeded, triggers treatment or other required adjustments.

Parts per Million (ppm): One part solute in every million parts of solution.

Parts per Billion (ppb): One part solute in every billion parts of solution.

Treatment Technique (TT): A required process intended to reduce the level of a contaminant in drinking water.

Maximum Residual Disinfectant Level (MRDL): the highest level of disinfectant allowed in drinking water for control of microbial contaminants.

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

Water Quality Data and Test Results

Contaminants	Last Tested	Unit	MCL, TT or MRDL	MCLG or MRDLG	Result	Range	Violation No/Yes	Typical Source of Contamination	
Disinfectants and Disinfection By-Products					RAA				
(There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants)									
¹ Chloramines (as Cl ₂) -Plant tap	12/31/15	ppm	4	4	1.46	0.80 - 1.46	No	Water additive for microbial control	
¹ Chloramines (as Cl ₂) -Distribution	12/22/15	ppm	4	4	1.46	0.01 - 1.46	No		
Haloacetic Acids (HAA5)	10/6/15	ppb	60	NA	3	ND - 6	No	By-product of drinking water disinfection	
TTHMs [Total Trihalomethanes]	10/6/15	ppb	80	NA	12.9	10.3 - 15.6	No	By-product of drinking water chlorination	
Total Organic Carbon	12/15/15	ppm	TT	NA	1.08	0.76—1.08	No	Naturally present in environment	
Inorganic Contaminants					Highest Detected Level				
² Fluoride	ELMWSA 12/31/15	ppm	4.0	4.0	0.84	0.01—0.84	No	Erosion of natural deposits, and water additive promoting healthy teeth	
	LBWL 7/16/15	ppm	4.0	4.0	.76	0.62 - 0.76	No		
Sodium (optional)	ELMWSA 9/10/15	ppm	NA	NA	73	22—73	No	Erosion of natural deposits; Leaching	
	LBWL 7/16/15	ppm	NA	NA	56	51 - 56	No		
Barium	ELMWSA 9/10/15	ppm	2	2	.07	ND—.07	No	Discharge from drilling wastes; Discharge from metal refineries; Erosion of natural deposits	
	LBWL 8/3/15	ppm	2	2	.027	.022—.027	No		
Nitrate	9/10/15	ppm	10	10	ND	-	No	Erosion of natural deposits	
Microbiological Contaminants									
³ Turbidity	12/31/15	NTU	0.3 TT	NA	0.08	0.03 - 0.08	No	Soil runoff	
Subject to Action Level		Last Tested	Unit	AL	MCLG	90th Percentile (90% of Samples below this value)	# Samples Above AL	Violation No/Yes	Typical Source of Contamination
Lead and Copper									
Lead	9/22/15	ppb	15	0	0.0	1	No	Corrosion of household plumbing	
Copper	9/22/15	ppb	1300	1300	33	0	No	Corrosion of household plumbing	
Additional Monitoring								KEY to Water Quality Table	
As part of an on-going evaluation program the EPA has required us to monitor some additional contaminants/chemicals. Information collected through the monitoring of these contaminants/chemicals will help to ensure that future decisions on drinking water standards are based on sound science.								AL = Action Level	
								ELMWSA = East Lansing-Meridian Water & Sewer Authority	
								LBWL = Lansing Board of Water and Light	
								MCL = Maximum Contaminant Level	
								MCLG = Maximum Contaminant Level Goal	
								MRDL = Maximum Residual Disinfectant Level	
								MRDLG = Maximum Residual Disinfectant Level Goal	
								NA = Not Applicable	
								ND = Not Detected	
								NR = Not Regulated	
								NTU = Nephelometric Turbidity Unit	
								ppb = parts per billion, or micrograms per liter (µg/l)	
								ppm = parts per million, or milligrams per liter (mg/l)	
								RAA = Running Annual Average	
								TT = Treatment Technique	
¹ MRDL and MRDLG instead of MCL and MCLG.									
² The Authority strives to maintain an optimum Fluoride level of 0.6-0.7 ppm in the distribution system.									
³ 100% of the samples were below the TT value of 0.3. A value less than 95% constitutes a TT violation. The highest single measurement was 0.08. Any measurement in excess of 1.0 is a violation unless otherwise approved by the state.									

East Lansing-Meridian Water & Sewer Authority
2470 Burcham Drive
East Lansing, MI 48823

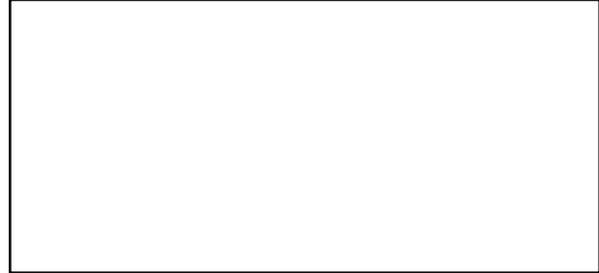
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Visit our website:

www.cityofeastlansing.com/WaterAuthority

This report is available for viewing or download at:

<http://www.cityofeastlansing.com/elmwsa/waterquality>



*For facility information or water quality
inquires, please call the Authority:*

(517) 337-7535

Important Water Quality Information Enclosed!

**You Can Help
Protect the Water
Supply for Our Com-
munities!**

The water source for our communities is groundwater, and it is drawn from deep wells drilled several hundred feet into the Saginaw Sandstone Aquifer. This aquifer is a porous water bearing geologic formation that underlies central Michigan and is capable of yielding an abundant supply of fresh water. Water drawn from the aquifer is replenished or recharged from local surface sources like streams, lakes, wetlands or permeable soils.

Lake Lansing Park North



In 2003, the Authority participated in a source water assessment performed by the MDEQ, to determine the aquifer's susceptibility to contamination. The susceptibility rating is on a six-tiered scale from "very low" to "high" based primarily on geologic sensitivity, water chemistry and contaminant sources. The susceptibility rating of our source is "high", which means ***"substances may easily pass through the soil in groundwater recharge areas and contaminate our drinking water source"***.

For our part, the Authority, the City of East Lansing and Meridian Township are participating in Michigan's Wellhead Protection Program. Wellhead protection is a set of activities and management practices to identify recharge areas and protect the public groundwater supplies from contamination. The City of East Lansing and Meridian Township have had an active State of Michigan approved wellhead protection plan since 2000. The two communities have also been involved in undertaking a program to protect the groundwater in the area by identifying and properly abandoning unused private wells.

Ultimately, the responsibility for protecting this vital resource rests with all of us!

? So, what can "I" do, that will actually make a difference?
At home or at work:

- ◆ Properly recycle or dispose of wastes and don't let them get into the water, especially pharmaceuticals or liquids like solvents, oils or fuels.
- ◆ Treat all land, lawns and flower beds as if they were your garden; use only treatments that are essential and use them prudently and sparingly. Otherwise, they may enter your food or water supply.
- ◆ Report all spills so they can be properly cleaned up before they enter lakes, streams or the groundwater.
- ◆ Identify any abandoned wells so they can be removed and properly sealed.
- ◆ Support community efforts in proper urban planning and development controls so groundwater recharge areas are preserved and protected.

For additional information, contact Clyde Dugan or Mike Mulder at (517) 337-7535.