

**2017 Regulated Contaminants Detected**

**Lead and Copper**

**Definitions**

**Action Level Goal (ALG): The level of a contaminant in drinking water below which there is no known or expected risk to health. ALG's allow for a margin of safety.**

**Action Level: The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.**

Lead and Copper	Date Sampled	MCLG	Action Level (AL)	90 <sup>th</sup> Percentile	# Sites Over AL	Units	Violation	Likely Source of Contamination
Copper	2017	1.3	1.3	.011	0	ppm	N	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead	2017	0	15	1.3	1	ppb	N	Corrosion of household plumbing systems; erosion of natural deposits.

Here are a few definitions and scientific terms which will help you understand the information in the contaminant detection tables.

Avg	Regulatory compliance with some MCLs is based on running annual average of monthly samples.
Level 1 Assessment	A Level 1 assessment is a study of the water system to identify potential problems and determine (if possible) why total coliform bacteria have been found present in our water system.
Level 2 Assessment	A Level 2 assessment is a very detailed study of the water system to identify potential problems and determine (if possible) why an E. coli MCL violation has occurred and/or why total coliform bacteria have been found in our water system on multiple occasions.
MCL	Maximum Contaminant Level: The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the Maximum Contaminant Level Goal 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.
MRDL	Maximum Residual Disinfectant Level: The highest level of disinfectant allowed in drinking water.
MRDLG	Maximum Residual Disinfectant Level Goal: The level of disinfectant in drinking water below which there is no known or expected risk to health. MRDLGs allow for a margin of safety.
N/A	Not Applicable
Treatment Technique or TT	A required process intended to reduce the level of a contaminant in drinking water.
mrem	Millirems per year (a measure of radiation absorbed by the body)
ppb	parts per billion or micrograms per liter (ug/L) - or one ounce in 7,350,000 gallons of water.
ppm	parts per million or milligrams per liter (mg/L) - or one ounce in 7,350 gallons of water.

Disinfectants & Disinfection Byproducts	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
Chlorine	12/31/17	1	0.7-1.1	MRDLG=4	MRDL=4	ppm	N	Water additive used to control microbes
Haloacetic Acids (HAA5)	2017	25	5.79-24.7	No goal for the total	60	ppb	N	By-product of drinking water chlorination
Total Trihalomethanes (TTHM)	2017	63	24-79	No goal for the total	80	ppb	N	By-product of drinking water chlorination
Inorganic Contaminants	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
Barium	2017	0.015	0.015 - 0.015	2	2	ppm	N	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.
Fluoride	2017	0.7	0.74-0.74	4	4.0	ppm	N	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories.
Nitrate (measured as Nitrogen)	2017	3	0.16-5.2	10	10	ppm	N	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.
Sodium	2017	16	16 - 16			ppm	N	Erosion form naturally occurring deposits: Used in water softener regeneration.
Radioactive Contaminants								Likely Source of Contamination
Combined Radium 226/228	1/20/2016	0.588	0.588-0.588	0	5	pCi/L	N	Erosion of natural deposits.
Gross alpha excluding radon and uranium	1/20/2016	0.548	0.548 - 0.548	0	15	pCi/L	N	Erosion of natural deposits.

Note: Monitoring of raw water for the surface and well water were done, but not required to be included in this report. If you would like additional information on this data please call, or refer to Drinking Water Watch on the internet at [http://163.191.83.31/dww/JSP/WaterSystemDetail.jsp?tinwsys\\_is\\_number=717172&tinwsys\\_st\\_code=IL&wsnumber=IL1090350](http://163.191.83.31/dww/JSP/WaterSystemDetail.jsp?tinwsys_is_number=717172&tinwsys_st_code=IL&wsnumber=IL1090350).

Turbidity is a measurement of the cloudiness of the water caused by suspended particles. We monitor it because it is a good indicator of water quality and the effectiveness of our filtration system and disinfectants.

	Limit (Treatment Technique)	Level Detected	Violation	Likely Source of Contamination
Lowest Monthly % Meeting Limit	0.3 NTU	100%	N	Soil Runoff
Highest Single Measurement	1 NTU	0.424 NTU	N	Soil Runoff

**Total Organic Carbon**

The percentage of Total Organic Carbon (TOC) removal was measured each month and the system met all TOC removal requirements set by IEPA, unless a TOC violation is noted in the violation section.



## Annual Drinking Water Quality Report 2018 Consumer Confidence Report

### Introduction

This year, as in years past, your tap water met all USEPA and state drinking water health standards. Our staff vigilantly safeguards the water supply, and we are able to report that the department had no violation of a contaminant level or any other water quality standard in the previous year. This report summarizes the quality of water that we provided last year, including details about where your water comes from, what it contains, and how it compares to standards set by regulatory agencies. We are committed to providing you with this information because informed customers are our best allies.

### Where Does My Drinking Water Come From?

During 2017 the City of Macomb provided water to our customers from two sources. The majority came from our surface water source at Spring Lake. The remainder was pumped from the groundwater aquifer directly beneath Macomb.

### Treatment Process

The Illinois Environmental Protection Agency (IEPA) considers all surface water sources of community water supplies to be susceptible to potential pollution problems, hence the reason for mandatory treatment for all surface water supplies in Illinois. Mandatory treatment includes coagulation, sedimentation, filtration, and disinfection. After this treatment process the finished drinking water is discharged into a million gallon clear well where it is blended with treated ground water before being pumped to the distribution system. Our ground water source receives reverse osmosis (RO) treatment before being discharged into our clear wells where it is blended with our surface water.

### Source Water Assessment

The source water assessment for our supply has been completed by the Illinois EPA. If you would like a copy of this information please contact the Water Treatment Manager at 309-836-3916, or go to this link on the web ([http://www.epa.state.il.us/cgi-bin/vp/swap-fact-sheets.pl?rm=show\\_facility\\_detail&facility\\_number=1090350&cws=y](http://www.epa.state.il.us/cgi-bin/vp/swap-fact-sheets.pl?rm=show_facility_detail&facility_number=1090350&cws=y)) Information provided by this assessment indicates our water supply is vulnerable to contamination from erosion and runoff.

### What Contaminants May Be Present in Sources of drinking Water?

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 USEPA's Safe Drinking Water Hotline (1-800-426-4791).

### Contaminants that may be present in source water include;

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 can dissolve naturally occurring minerals and radioactive materials, and

pick up substances resulting from the presence of animals or human activity. Possible contaminants consist of:

Microbial Contaminants, such as viruses and bacteria, may come from sewage treatment plants, septic systems, agricultural livestock operations, or wildlife.

Inorganic Contaminants, such as salts and metals, which can be naturally occurring or result from urban storm water runoff, industrial, 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 be 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, USEPA prescribes regulations that 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.

### Health Information

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. USEPA/CDC guidelines on appropriate means to lessen the risk of infection by Cryptosporidium or other microbial contaminants are available from the USEPA's Safe Drinking Water Hotline at (800) 426-4791.

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 City of Macomb 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 or at <http://www.epa.gov/safewater/lead>.

### What We Are Doing to Improve Water Quality

The City of Macomb Water Treatment system performed a Facilities Study during 2017 in order to assess water supply needs. This study sets forth a plan of action to address the needs identified over the course of the coming 10 years.

The City of Macomb Water Treatment Plant undertook 5 million dollars in upgrades from 209-2012. A state of the art Ultra-filtration system from PALL Water Processing has been installed for the surface water treated from Spring Lake. In addition to these upgrades the Reverse Osmosis treatment process which treats well water was upgraded in January 2010. This project received the Illinois Chapter American Public Works Association's Environmental Project of the Year award.

The City of Macomb Water Distribution System has had in excess of \$1.7 million dollars of water main replacements since 2010, and is planning \$1.1 million dollars of replacements in 2018. During 2012 the North Randolph Street Water Tower was completely reconditioned at a cost of \$316,650. The South Campbell Street Water Tower was reconditioned in 2014 and 2015 at a cost of \$1,445,000.

### Contact Information and Opportunities for Public Participation;

If you have any questions about this report or concerning your water system, please call R. Kent Cox, Water Treatment Manager, at 309-836-3916. We want our valued customers to be informed about their water quality. If you would like to learn more, please feel welcome to attend any of our regularly scheduled meetings each Monday evening at City Hall.