

**2013 Regulated Contaminants Detected**

**Coliform Bacteria**

Maximum Contaminant Level Goal	Total Coliform Maximum Contaminant Level	Highest No. of Positive	Fecal Coliform or E. Coli Maximum Contaminant Level	Total no. of Positive E. Coli or Fecal Coliform Samples	Violation		Likely Source of Contamination
0	1 positive monthly sample	1		0	N		Naturally present in the environment.
Lead and Copper	MCLG	Action Level (AL)	90 <sup>th</sup> Percentile	# Sites Over AL	Units	Violation	Likely Source of Contamination
Copper	1.3	1.3	.02	0	ppm	N	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead	0	15	2.8	0	ppb	N	Corrosion of household plumbing systems; erosion of natural deposits.

The next several tables summarize contaminants detected in your drinking water supply.

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.
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.
ND	Sample Results were below analytical detectable levels.
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
NTU	Nephelometric Turbidity Units
pCi/L	picocuries per liter ( a measure of radioactivity)
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	2013	1.0	0.4-1.0	MRDLG=4	MRDL=4	ppm	N	Water additive used to control microbes
Haloacetic Acids (HAA5)	2013	19	3.2-21.5	No goal for the total	60	ppb	N	By-product of drinking water chlorination
Not all sample results have been used for calculating the Highest Level Detected because some results may be part of an evaluation to determine where compliance sampling should occur in the future.								
Total Trihalomethanes (TTHm)	2013	75	18.016-68.84	No goal for the total	80	ppb	N	By-product of drinking water chlorination
Not all sample results have been used for calculating the Highest Level Detected because some results may be part of an evaluation to determine where compliance sampling should occur in the future.								
Inorganic Contaminants	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
Arsenic	2013	2	1.6-1.6	0	10	ppb	N	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes.
Barium	2013	0.023	0.023 - 0.023	2	2	ppm	N	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.
Fluoride	2013	1.0	0.849-1.2	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)	2013	4	0.05-7.5	10	10	ppm	N	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.
Selenium	2013	6	5.8-5.8	50	50	Ppb	N	Discharge from petroleum and metal refineries; Erosion of natural deposits; Discharge from mines.
Sodium	2013	24	24-24			ppm	N	Erosion form naturally occurring deposits: Used in water softener regeneration.
Zinc	2013	0.027	0.027-0.027	5	5	Ppm	N	This contaminant is not currently regulated by the USEPA. However, the state regulates. Naturally occurring; discharge from metal.

Radioactive Contaminants								Likely Source of Contamination
Combined Radium 226/228	2013	1.007	1.007-1.007	0	5	pCi/L	N	Erosion of natural deposits.
Gross alpha excluding radon and uranium	2013	1.52	1.52-1.52	0	15	pCi/L	N	Erosion of natural deposits.
Uranium	2013	0.148	0.148-0.148	0	30	Ug/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
<b>Lowest Monthly % Meeting Limit</b>	0.3 NTU	100%	N	Soil Runoff
<b>Highest Single Measurement</b>	1 NTU	0.236 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.

### Unregulated Contaminant Monitoring Rule (UCMR3)<sup>1</sup>

Substance (units)	Year Sampled	Amount Detected (average)	Range of Detections (lowest)	Typical Source
Chromium	2013	.79	.58 - 1.0	Naturally occurring element; used in making steel and other alloys; used for chrome plating, dyes, and pigments, leather tanning, and wood preservation
Cobalt	2013	.013	0 - .52	Naturally-occurring element found in the earth's crust and at low concentrations in seawater, and in some surface and ground water; cobaltous chloride was formerly used in medicine and as a germicide
Molybdenum	2013	.115	0 - .48	Naturally-occurring element found in ores and present in plants, animals, and bacteria; commonly used form molybdenum trioxide used as a chemical reagent.
Strontium	2013	192.5	80 - 300	Naturally-occurring element; historically, commercial use of strontium has been in the faceplate glass of cathode-ray tube televisions to block x-ray emissions.
Vanadium	2013	.84	.45 - 1.4	Naturally-occurring elemental metal; used as vanadium pentoxide which is a chemical intermediate and a catalyst.

<sup>1</sup>Unregulated contaminants are those for which EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted. A maximum contaminant level (MCL) for these substances has not been established by either state or federal regulations, nor has mandatory health effects language.



## Annual Drinking Water Quality Report 2013 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 2012 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/wp/swap-fact-sheets.pl?rm=show\\_facility\\_detail&facility\\_number=1090350&cws=y](http://www.epa.state.il.us/cgi-bin/wp/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 Sage Drinking Water Hotline or at <http://www.epa.gov/safewater/lead>.

### What We're Doing to Improve Water Quality

The City of Macomb Water Treatment Plant has undergone 5 million dollars in upgrades since 2010. 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. An additional \$1 million are planned in the

next 48 months. During 2012 the North Randolph Street Water Tower was completely reconditioned at a cost of \$316,650. The South Campbell Street Water Tower is planned to be reconditioned in 2014. The anticipated cost of this project is \$1.2 million dollars.

### 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.