

2013 Annual Water Quality Report

MATTOON - IL0290250

The City of Mattoon is pleased to present this year's Annual Water Quality Report (Consumer Confidence Report) as required by the Safe Drinking Water Act (SDWA). This report is designed to provide details about where your water comes from, what it contains, and how it compares to standards set by regulatory agencies. This chart covers the time period of January 1 to December 31, 2013. This report is intended to provide you with important information about your drinking water and the efforts made by the water system to provide safe drinking water. The source of drinking water used by MATTOON is Surface Water. For more information regarding this report contact: David Basham, Water Supt. at 217.234.2454.

Water Information:

The City of Mattoon's primary source of drinking water is Lake Paradise. In an average year, the City will pump 800 million gallons of water out of Lake Paradise into our water system. We also rely on Lake Mattoon as a secondary source for our water. Mattoon's Water Treatment Plant is located near Lake Paradise and was built in 1999. The plant has a capacity to treat seven million gallons of water each day. Average daily pumpage is 2.2 million gallons per day to approximately 8,018 service connections and an estimated population of 19,787 people. Facilities that purchase water from Mattoon include the Village of Humboldt (0290150).

Water Treatment Process:

Your water is treated in a "treatment train" (a series of processes applied in a sequence) that includes coagulation, flocculation, sedimentation, filtration, and disinfection. Coagulation removes dirt and other particles suspended in the source water by adding chemicals (coagulants) to form tiny sticky particles called "floc," which attract the dirt particles. Flocculation (the formation of larger flocs from smaller flocs) is achieved using gentle, constant mixing. The heavy particles settle naturally out of the water in a sedimentation basin. The clear water then moves to the filtration process where the water passes through sand, gravel, charcoal or other filters that remove even smaller particles. A small amount of chlorine or other disinfection method is used to kill bacteria and other microorganisms (viruses, cysts, etc.) that may be in the water before water is stored and distributed to homes and businesses in the community.

Illinois EPA considers all surface water sources of public water supply to susceptible to potential pollution problems. Hence the reason for mandatory treatment of all public water supplies in Illinois. Mandatory treatment includes coagulation, sedimentation, filtration and disinfection. Primary sources of pollution in Illinois lakes can include agricultural runoff, land disposal (septic systems) and shoreline erosion.

Community Participation:

You are invited to voice your concerns about your drinking water at any Mattoon City Council meeting. We meet the 1st and 3rd Tuesdays of each month beginning at 6:30 p.m. at City Hall, 208 North 19th Street, Mattoon.

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

Cross Connection Control Survey

The purpose of this survey is to determine whether a cross-connection may exist at your home or business. A cross connection is an unprotected or improper connection to a public water distribution system that may cause contamination or pollution to enter the system. We are responsible for enforcing cross-connection control regulations and insuring that no contaminants can, under any flow conditions, enter the distribution system. If you have any of the devices listed below please contact us so that we can discuss the issue, and if needed, survey your connection and assist you in isolating it if that is necessary.

- Boiler/ Radiant heater (water heaters not included)
- Underground lawn sprinkler system
- Pool or hot tub (whirlpool tubs not included)
- Additional source(s) of water on the property
- Decorative pond
- Watering trough

2013 REGULATED CONTAMINANTS DETECTED

Lead & Copper

Lead Information

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 Mattoon 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>.

Water Quality Test Results & Definitions

Maximum Contaminant Level Goal or 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 or MCL: The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

Maximum residual disinfectant level goal or MRDLG: The level of a 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 or 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.

ppb: micrograms per liter or parts per billion or one ounce in 7,350,000 gallons of water.

na: not applicable.

avg: Regulatory compliance with some MCLs are based on running annual average of monthly samples.

ppm: milligrams per liter or parts per million - or one ounce in 7,350 gallons of water

Regulated Contaminants

<u>Contaminants</u>	<u>Collection Date</u>	<u>Highest Level Detected</u>	<u>Range of Levels Detected</u>	<u>MCLG or MRDLG</u>	<u>MCL, TT, or MRDL</u>	<u>Units</u>	<u>Violation</u>	<u>Typical Source</u>
Disinfectants & Disinfectant By-Products								
Chloramine	2013	2	1.9423 - 2.1	MRDLG = 4	MRDL = 4	ppm	No	Water additive used to control microbes
Haloacetic Acids (HAA5)	2013	29	15 - 30	NA	60	ppb	No	By-product of drinking water chlorination
Total Trihalomethanes (TTHM)	2013	58	20 - 64.73	NA	80	ppb	No	By-product of drinking water disinfection
Inorganic Contaminants								
Barium (ppm)	2013	0.013	0.013 - 0.013	2	2	ppm	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Fluoride (ppm)	2013	1	0.988 - 0.988	4	4	ppm	No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
Nitrate [measured as Nitrogen]	2013	7	0.02 - 6.7	10	10	ppm	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Sodium (optional) (ppm)	2013	11	11 - 11	NA	NA	NA	No	Erosion of natural deposits; Leaching
Radioactive Contaminants								
Combined Radium	1/17/2008	0.5	0.5	0	5	pCi/L	No	Erosion of natural deposits
Synthetic Organic Contaminants including pesticides & herbicides								
Simazine	2013	1	0 - 1.2	4	4	ppb	No	Herbicide Run off

<u>Contaminants</u>	-	<u>Your Water</u>	<u>Sample Date</u>	<u>MCLG</u>	<u>AL</u>	-	<u>Exceeds AL</u>	<u>Typical Source</u>
Inorganic Contaminants								
Copper - action level at consumer taps (ppm)		0.051	2011	1.3	1.3		No	Corrosion of household plumbing systems; Erosion of natural deposits

NITRATE INFORMATION: Nitrates in drinking water at levels above 10 ppm is a health risk for infants of less than six months of age. High nitrate levels in drinking water can cause blue baby syndrome. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity. If you are caring for an infant, you should ask advice from your health care provider.

Turbidity

Turbidity								
	Limit (Treatment Technique)	Level Detected					Violation	
Highest single measurement	1 NTU	0.18 NTU	NA	NA	NA	NA	No	Soil runoff
Lowest monthly % meeting limit	0.3 NTU	100%	NA	NA	NA	NA	No	Soil runoff

Information Statement: 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.

Total Organic Carbon

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

Substances That Could be in 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 Environmental Protection Agency's (EPA) 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: microbial contaminants, such as viruses and bacteria, that 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; and 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, EPA prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

Unregulated Contaminant Monitoring Rule (UCMR3)¹

Substance (units)	Year Sampled	Amount Detected (average $\mu\text{g/L}$)	Range of Detections (lowest – highest)	Typical Source
1,1-Dichloroethane	2013	<0.03 $\mu\text{g/L}$	< 0.03	Halogenated alkane, used as a solvent.
1,2,3-trichloropropane	2013	<0.03 $\mu\text{g/L}$	< 0.03	Halogenated alkane; used as an ingredient in paint, varnish remover, solvents and degreasing agents
1,3-butadiene	2013	<0.1 $\mu\text{g/L}$	< 0.1	Alkene; used in rubber manufacturing and occurs as a gas
1,4-Dioxane	2013	<0.07 $\mu\text{g/L}$	< 0.07	Cyclic aliphatic ether; used as a solvent or solvent stabilizer in manufacture and processing of paper, cotton, textile products, automotive coolant, cosmetics, and shampoos, cleaning agent, surface coating, and adhesive agent.
Bromochloromethane	2013	<0.06 $\mu\text{g/L}$	< 0.06	Used as a fire-extinguishing fluid, an explosive suppressant, and as a solvent in the manufacturing of pesticides.
Bromomethane	2013	<0.2 $\mu\text{g/L}$	< 0.2	Halogenated alkane; occurs as a gas, and used as a fumigant on soil before planting, on crops after harvest, on vehicles and buildings, and for other specialized purposes
Chlorate	2013	<20 $\mu\text{g/L}$	<20	Agricultural defoliant or desiccant; disinfection byproduct; and used in production of chlorine dioxide.
Chlorodifluoromethane	2013	<0.08 $\mu\text{g/L}$	<0.08	Chlorofluorocarbon; occurs as a gas, and used as a refrigerant, as a low-temperature solvent, and in fluorocarbon resins, especially tetrafluoroethylene polymers.
Chromium	2013	1.00 $\mu\text{g/L}$	0.284-1.75	Naturally occurring element; used in making steel and other alloys; used for chrome plating, dyes, and pigments, leather tanning, and wood preservation
Chromium 6 (ppb)	2013	1.0 $\mu\text{g/L}$	0.29-1.7	Naturally occurring element; used in making steel and other alloys; used for chrome plating, dyes, and pigments, leather tanning, and wood preservation.
Cobalt	2013	<1 $\mu\text{g/L}$	<1	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	<1 $\mu\text{g/L}$	<1	Naturally-occurring element found in ores and present in plants, animals, and bacteria; commonly used form molybdenum trioxide used as a chemical reagent.
Perfluorobutanesulfonic acid (PFBS)	2013	<0.09 $\mu\text{g/L}$	<0.09	Manmade chemical; used in products to make them stain, grease, heat and water resistant
Perfluoroheptanoic acid (PFHpA)	2013	<0.01 $\mu\text{g/L}$	<0.01	Manmade chemical; used in products to make them stain, grease, heat and water resistant
Perfluorohexanesulfonic acid (PFHxS)	2013	<0.03 $\mu\text{g/L}$	<0.03	Manmade chemical; used in products to make them stain, grease, heat and water resistant
Perfluorononanoic acid (PFNA)	2013	<0.02 $\mu\text{g/L}$	<0.02	Manmade chemical; used in products to make them stain, grease, heat and water resistant
Perfluorooctanesulfonic acid (PFOS)	2013	<0.04 $\mu\text{g/L}$	<0.04	Surfactant or emulsifier; used in fire-fighting foam, circuit board etching acids, alkaline cleaners, floor polish, and as a pesticide active ingredient for insect bait traps; U.S. manufacture of PFOS phased out in 2002; however, PFOS still generated incidentally
Perfluorooctanoic acid (PFOA)	2013	<0.02 $\mu\text{g/L}$	<0.02	Perfluorinated aliphatic carboxylic acid; used for its emulsifier and surfactant properties in or as fluoropolymers (such as Teflon), fire-fighting foams, cleaners, cosmetics, greases and lubricants, paints, polishes, adhesives and photographic films
Strontium	2013	65.67 $\mu\text{g/L}$	47.5-94.0	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	1.63 $\mu\text{g/L}$	1.0-2.9	Naturally-occurring elemental metal; used as vanadium pentoxide which is a chemical intermediate and a catalyst.

¹Unregulated 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.