

## VILLAGE OF MONTGOMERY 2016 WATER QUALITY REPORT

*The Village of Montgomery is pleased to report that the Village Water Treatment Facilities met all federal and state drinking water quality standards in 2016. The following is our 2016 Water Quality Report. Our system vigilantly safeguards its groundwater supply, and we are working hard to continue providing the best drinking water possible. This report is designed to inform you about the water we delivered to you over the 2016 Calendar year. Included are details about where your water comes from, what it contains, and how it compares to standards set by regulatory agencies. Our goal is to provide you with a safe and dependable supply of drinking water. We want you to understand the efforts we make to continually improve the water treatment process and protect our water resources. We want you to be informed about the quality of the water you drink. If upon reading this report you should have any questions, please contact Utility Supervisor Jack Rosenstiel at (630) 896-9241. The Village Board and staff welcome comments from our water consumers. They can be reached via telephone (630-896-8080), at Village Hall located at 200 N. River St., Montgomery II. 60538 where Board Meetings are held at 7pm on the 2<sup>nd</sup> and 4<sup>th</sup> Monday's of each month, and at <http://www.ci.montgomery.il.us>. Este informe contiene informacion muy importante sobre el agua que usted bebe. Traduzcalo o hable con alguien que lo entienda bien.*

### **Source of Drinking Water:**

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and groundwater wells. As water travels over the surface of the land or through the ground, it can dissolve naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

Our raw water supply is obtained from a total of nine groundwater wells located within or near the village limits. We withdraw groundwater from a combination of three different aquifer systems. An aquifer is an underground geological formation that contains water. The three aquifers we pump water from are, from shallowest to deepest, St. Charles Sand and Gravel, Silurian Limestone, and the Ironton-Galesville Sandstone.

After the raw water is withdrawn from the groundwater wells, it is treated using two different methods. Both our Lime Softening and Ion-Exchange Treatment methods use chemical and physical processes to remove impurities, soften, and chlorinate the finished water. Fluoride levels are maintained to help minimize dental problems for water consumers and phosphate is added for corrosion control. The finished drinking water is then pumped into the water distribution system where it is distributed to consumers. The construction of the Lime Softening Treatment Facility was completed in 1990 and our first Ion Exchange Water Treatment Facility was added in 2003. An additional Ion Exchange Water Treatment Facility became operational in 2004. These facilities are a culmination of efforts by the Village's leadership to provide safe, high quality water for everyone that receives Village of Montgomery drinking water.

In an effort to continue to maintain the high-quality drinking water we distribute; the Village is currently completing a number of improvement projects throughout the Water Works System. Please keep in mind these improvement projects will help strengthen our system, so the long-term benefits of these improvements should far outweigh any short-term inconveniences.

### **Contaminants that may be present in source water 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 may 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.

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- ❖ 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.
  - ❖ Radioactive contaminants, which may be naturally occurring or be the result of oil and gas production and mining activities.

Based upon Section 141.153(b) 2 of the CCR rule, community water supplies are required to report a summary of their source water susceptibility determination, which are compiled by the Illinois EPA. Please see page five of this document for the Village of Montgomery Source Water Assessment Availability Report.

Further information on our community water supply's source water assessment is available on the Illinois EPA web site at <http://www.epa.state.il.us/cgi-bin/wp/swap-fact-sheets.pl> or by calling the Groundwater Section of the Illinois EPA at 217-785-4787.

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).

In order to ensure tap water is safe to drink, USEPA 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.

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 Village of Montgomery 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 drinking 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>.

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 and other microbial contaminants are available from the USEPA's Safe Drinking Water Hotline (1-800-426-4791).

## Water Quality Test Results

**Definitions:** The following tables contain scientific terms and measures, some of which may require explanation.

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

**Action Level (AL):** The concentration of a contaminant that triggers treatment or other required actions by the water supply.

**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 in the 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.

**Maximum Contaminant Level (MCL):** 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.

**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 Residual Disinfectant level (MRDL):** The highest level of a drinking water 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 Goal (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

**mrem:** millirems per year (a measure of radiation absorbed by the body)

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

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

**pCi/L:** picocuries per liter; a measure of radioactivity.

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

**na:** not applicable.

### 2016 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	5	0	0	N	Naturally present in the environment

#### Lead and Copper

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. ALGs 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.

<u>Lead &amp; Copper</u>	<u>Date Sampled</u>	<u>MCLG</u>	<u>Action Level (AL)</u>	<u>90<sup>th</sup> Percentile</u>	<u># Sites Over AL</u>	<u>Units</u>	<u>Violation</u>	<u>Likely Source of Contamination</u>
Copper	In 2014	1.3	1.3	0.104	0	ppm	No	Erosion of natural deposits; Leaching from wood preservatives; Corrosion of household plumbing systems
Lead	In 2014	0	15	0	0	ppb	No	Corrosion of household plumbing systems; Erosion of natural deposits.

#### Regulated Contaminants

<u>Disinfectants and Disinfection By-Products</u>	<u>Collection Date</u>	<u>Highest Level Detected</u>	<u>Range of Levels Detected</u>	<u>MCLG</u>	<u>MCL</u>	<u>Units</u>	<u>Violation</u>	<u>Likely Source of Contamination</u>
Chlorine	12/31/2016	0.8	0.6 – 1.0	MRDLG = 4	MRDL = 4	ppm	No	Water additive used to Control microbes.
Haloacetic Acids (HAA5)*	2016	5	4.2 – 4.6	No goal for the total	60	ppb	No	By-product of drinking water disinfection.
Total Trihalomethanes (TTHM)	2016	20	15.6 – 19.5	No goal for the total	80	ppb	No	By-product of drinking water disinfection.

<b><u>Inorganic Contaminants</u></b>	<b><u>Collection Date</u></b>	<b><u>Highest Level Detected</u></b>	<b><u>Range of Levels Detected</u></b>	<b><u>MCLG</u></b>	<b><u>MCL</u></b>	<b><u>Units</u></b>	<b><u>Violation</u></b>	<b><u>Likely Source of Contamination</u></b>
Barium	11/02/2015	.039	.039-.039	2	2	ppm	No	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Fluoride	11/02/2015	1.26	1.26-1.26	4	4.0	ppm	No	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories.
Iron	07/14/2015	0.118	0 - 0.118		1.0	ppm	No	This contaminant is not currently regulated by the USEPA. However, the state regulates erosion of natural deposits.
Nitrate (measured as Nitrogen)	2016	0.469	0 – 0.469	10	10	ppm	No	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits.
*Sodium	07/14/2015	63	43 – 63	*	*	ppm	No	Erosion from naturally occurring deposits; used in water softener regeneration.
<b><u>Radioactive Contaminants</u></b>	<b><u>Collection Date</u></b>	<b><u>Highest Level Detected</u></b>	<b><u>Range of Levels Detected</u></b>	<b><u>MCLG</u></b>	<b><u>MCL</u></b>	<b><u>Units</u></b>	<b><u>Violation</u></b>	<b><u>Likely Source of Contamination</u></b>
Combined Radium 226/228	2016	2	2.16-2.16	0	5	pCi/L	No	Erosion of natural deposits.
Gross alpha excluding radon and uranium	2016	6	5.5-5.5	0	15	pCi/L	No	Erosion of natural deposits.
<b><u>Volatile organic contaminants</u></b>	<b><u>Collection Date</u></b>	<b><u>Highest Level Detected</u></b>	<b><u>Range of Levels Detected</u></b>	<b><u>MCLG</u></b>	<b><u>MCL</u></b>	<b><u>Units</u></b>	<b><u>Violation</u></b>	<b><u>Likely Source of Contamination</u></b>
Vinyl Chloride	2016	1	0 – 1.32	0	2	ppb	No	Leaching from PVC piping; discharge from plastics factories
Xylenes	03/10/2015	0.00058	0 – 0.00058	10	10	ppm	No	Discharge from petroleum factories; discharge from chemical factories
cis-1,2-Dichloroethylene	2016	1	0 – 0.737	70	70	ppb	No	Discharge from industrial chemical factories.

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On October 17, 2016, the Village of Montgomery received notice from the Illinois EPA that our water system had exceeded a treatment technique trigger during the regular coliform monitoring period of September 2016. During that round of sampling, 5 individual samples, nearly 30% of sites sampled that day had positive detects for total coliform. Those samples were taken between September 6 & 7, 2016, and were at locations scattered throughout the utility's network. As required, the Village resampled those sites as well as neighboring sites as part of the required retesting procedures. Those 15 samples all came back with no detects, otherwise considered being clear.

The resampling results combined with an internal evaluation revealed that the positive detects were likely caused by some mishandling either by the courier service or at the third-party laboratory. Regardless, the Village was required per the Revised Total Coliform Rule for public water supplies, to complete a Level 1 Assessment within 30 days. The assessment was completed and sent to the Illinois EPA on November 17, 2016. As a result, the Village took some corrective actions, we began using a different local laboratory, and we have eliminated the courier service to maintain full custody of the samples prior to delivering to the laboratory. Lastly, we have reviewed our sampling protocols and retrained our water operators on properly sampling techniques.

**\*There is not a state or federal MCL for sodium. Monitoring is required to provide information to consumers and health officials that are concerned about sodium intake due to dietary precautions. If you are on a sodium-restricted diet, you should consult a physician about this level of sodium in the water.**

**Note: The state requires monitoring of certain contaminants less than once per year because the concentrations of these contaminants do not change frequently. Therefore, some of this data may be more than one year old.**

## **Village of Montgomery Source Water Assessment**

The Village of Montgomery (Facility Number 0894690) obtains its water from nine active community water supply wells. Wells #3, #4, #8, #10, #11, #12, #13, #14 and #15 supplies an average of 2,400,000 gallons per day (gpd) to 9,063 services or a population of 27,122. To determine Montgomery's susceptibility to groundwater contamination, the Illinois Rural Water Association conducted a well site survey in August, 2002. Based on the information obtained in this document, there are 47 potential sources of groundwater contamination that could pose a hazard to groundwater utilized by Montgomery's community water supply. These include 1 above ground fuel storage tank, 1 machine shop, 1 de-icing storage facility, 1 waste recycling facility, 1 well, 1 store, 1 nursery, 1 auto repair shop, 2 metal foundries, 2 treated wood or lumber yard facilities, 2 printing facilities, 2 construction or demolition companies, 2 offices, 2 restaurants, 3 warehouses for storage of pesticides or fertilizers, 5 warehouses, 8 manufacturing processes of plastics, beverages, tools, electric equipment, etc., and 11 below ground fuel storage tanks. In addition, information provided by the Leaking Underground Storage Tank and Remedial Project Management Sections of the Illinois EPA indicated sites with on-going remediation that might be of concern.

Based upon this information, the Illinois EPA has determined that the Montgomery Community Water Supply's source water is susceptible to contamination. As such, the Illinois EPA has provided 5-year recharge area calculations for the wells. The land use within the recharge areas of the wells was analyzed as part of this susceptibility determination. This land use includes urban residential, commercial, industrial properties, and some open spaces. The Illinois Environmental Protection Act provides minimum protection zones of 400 feet for wells #10, #11, #12, and #13 and 200 feet for wells #3, #4, #8, #14 and #15 of Montgomery's community water supply. These minimum protection zones are regulated by the Illinois EPA. To further reduce the risk to the source water, a maximum protection zone may be established, which is authorized by the Illinois Environmental Protection Act and allows county and municipal officials the opportunity to provide additional potential source prohibitions up to 1,000 feet from their wells.

In response to the IEPA's source water assessment, the Village routinely tests for bacteriological quality on a monthly basis. The Village has minimized its risk of source water contamination by developing well sites that are geographically distributed throughout the community. For emergency preparedness, the Village has performed a water system vulnerability assessment for various emergency situations and has developed an emergency response plan to respond appropriately to system threats. The Village contracts with Backflow Solutions Inc. (BSI) to coordinate a cross connection control program to minimize the risk of cross connections at treatment sites and distribution points which could negate water protection initiatives. For water protection management, the Village is participating with both Kane and Kendall Counties on groundwater assessment projects to help determine possible groundwater protection methods. Potential impacts from non-point sources related to agricultural land uses are also being assessed.



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