

2018 WATER QUALITY REPORT FOR KEYSTONE WATER SUPPLY

This report contains important information regarding the water quality in our water system. The source of our water is groundwater. Our water quality testing shows the following results:

CONTAMINANT	MCL - (MCLG)	Compliance		Date	Violation Yes/No	Source
		Type	Value & (Range)			
Lead (ppb)	AL=15 (0)	90th	12.80 (ND - 23) 1 sample(s) exceeded AL	2018	No	Corrosion of household plumbing systems; erosion of natural deposits
Copper (ppm)	AL=1.3 (1.3)	90th	0.188 (0.0223 - 0.195)	2018	No	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives
950 - DISTRIBUTION SYSTEM						
Chlorine (ppm)	MRDL=4.0 (MRDLG=4.0)	RAA	1.8 (ND - 2.1)	12/31/2018	No	Water additive used to control microbes
Nitrite [as N] (ppm)	1 (1)	SGL	1.830 (ND - 1.830)	2018	Yes	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
01 - FINISHED WATER SAMPLE TAP, #1						
Gross Alpha, inc (pCi/L)	15 (0)	SGL	2.7	04/27/2015	No	Erosion of natural deposits
Sodium (ppm)	N/A (N/A)	SGL	150	10/25/2018	No	Erosion of natural deposits; Added to water during treatment process
Nitrate [as N] (ppm)	10 (10)	SGL	1.600 (ND - 1.600)	2018	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Nitrite [as N] (ppm)	1 (1)	SGL	0.400 (ND - 0.400)	2018	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
02 - FINISHED WATER SAMPLE TAP, #2						
Gross Alpha, inc (pCi/L)	15 (0)	SGL	6.2	04/27/2015	No	Erosion of natural deposits
Sodium (ppm)	N/A (N/A)	SGL	149	10/25/2018	No	Erosion of natural deposits; Added to water during treatment process
Nitrite [as N] (ppm)	1 (1)	SGL	0.430 (ND - 0.430)	2018	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits

Note: Contaminants with dates indicate results from the most recent testing done in accordance with regulations.

DEFINITIONS

- Maximum Contaminant Level (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 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.
- ppb -- parts per billion.
- ppm -- parts per million.
- pCi/L – picocuries per liter

- N/A – Not applicable
- ND -- Not detected
- RAA – Running Annual Average
- Treatment Technique (TT) – A required process intended to reduce the level of a contaminant in drinking water.
- Action Level (AL) – The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
- 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.
- Maximum Residual Disinfectant Level (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.
- SGL – Single Sample Result
- RTCR – Revised Total Coliform Rule
- NTU – Nephelometric Turbidity Units

GENERAL INFORMATION

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 posed a health risk. More information about contaminants or potential health effects can be obtained by calling the Environmental Protection Agency’s Safe Drinking Water Hotline (800-426-4791).

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 guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline (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. KEYSTONE WATER SUPPLY 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>.

CONTAMINANT VIOLATIONS

Violation Type	Contaminant	Begin date	End Date
Our water system violated a drinking water standard for Nitrite (as N). Infants below the age of six months who drink water containing nitrite in excess of the MCL could become seriously ill and, if untreated, may die. Symptoms include shortness of breath and blue-baby syndrome.			
MCL (Chem-Rad), Single Sample	Nitrite (as N)	09/01/2018	09/30/2018

ADDITIONAL HEALTH INFORMATION

Infants and young children are typically more vulnerable to lead in drinking water than the general population. It is possible that lead levels at your home may be higher than at other homes in the community as a result of materials used in your home's plumbing. If you are concerned about elevated lead levels in your home's water, you may wish to have your water tested and flush your tap for 30 seconds to 2 minutes before using tap water. Additional information is available from the Safe Drinking Water Hotline (800-426-4791).

OTHER VIOLATIONS

In September 2018 we failed to monitor for Nitrogen-Ammonia (as N). Adverse health effects, if any, are not known. Monitoring procedures have been corrected to avoid future violations.

In December 2018 we had a Lead Consumer Notice (Pb/Cu) violation for Lead & Copper Rule.

ANNUAL DRINKING WATER QUALITY REPORT
KEYSTONE WATER WORKS, KEYSTONE, IOWA

The following information is to inform the people of Keystone about the water and service the city has delivered to you over the past. The water supply obtains its water from the dolomite and sandstone of the Cambrian-Ordovician aquifer. The Cambrian-Ordovician aquifer was determined to have low susceptibility to contamination because the characteristics of the aquifer and overlying materials provide natural protection from contaminants at the land surface. The Cambrian-Ordovician well will have low susceptibility to surface contaminants such as leaking underground storage tanks, contaminant spills and excess fertilizer application. A detailed evaluation of your source water was completed by the Iowa Department of Natural Resources and is available from the Water Operator at 319.721.7316.

In the table you will find terms and abbreviations you might not be familiar with. To help you better understand these terms, I've provided the following definitions.

- Maximum Contaminant Level (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 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
- NA – not applicable
- ND – not detected
- Parts per million (PPM) or Milligrams per liter (mg/l) one part per million corresponds to one minute in two years or a single penny in \$10,000.
- Parts per billion (ppb) or Micrograms per liter, one part per billion corresponds to one minute in 2,000 years or a single penny in \$10,000,000.
- Pico curies per liter (pCi/L) is a measure of radioactivity in water
- Action Level (AL) the concentration of a contaminant, which, if exceeded, triggers treatment or other requirements a water system must follow.
- LRAA – Locational Running Annual Average
- Treatment Technique (TT) – A required process intended to reduce the level of a contaminant in drinking water.
- 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.
- Maximum Residual Disinfectant Level (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.
- TCR – Total Coliform Rule

All sources of drinking water are subject to potential contamination by constituents that are naturally occurring or are man-made. These constituents can be microbes, organic or inorganic chemicals and radioactive materials. All 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 the water poses a health risk. More information can be obtained by call the Environmental Protection Agency Safe Drinking Water Hotline at 1-800-426-4791.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immune-compromised persons, such as cancer patients undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders some elderly people and infants can be particularly at risk from infections. These people should seek advice about drinking water from health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by cryptosporidiums and other microbiological contaminants are available from the Safe Drinking Water Hotline at 1-800-426-4791.

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. KEYSTONE WATER SUPPLY 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>.