

ATTENTION HAZEN RESIDENTS
ANNUAL DRINKING WATER QUALITY REPORT

Following is Hazen's Amended Annual Drinking Water Quality Report, also called the Consumer Confidence Report or CCR. The EPA and State Health Department requires each water supplier to prepare and make available to the public an annual CCR.

The report will not be mailed to water customers, rather the report is being published in its entirety below. Copies of the CCR are available upon request by stopping in city hall or calling 748-2550.

2019 (Amended) Annual Drinking Water Quality Report

Hazen, North Dakota

We are pleased to present to you this year's *Annual Drinking Water Quality Report (Amended)*. This report is designed to inform you about the safe clean water we deliver to you every day. Our constant 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 are committed to ensuring the quality of your water. On May 21, 2012 we began receiving water from the Southwest Water Authority.

The Oliver Mercer North Dunn (OMND) Water Treatment Plants (WTP) source is surface water obtained from the Missouri River at Renner Bay, about seven miles northeast of the treatment plant on Lake Sakakawea. The quality and condition of this water varies with lake level, spring runoff and other factors. SWA monitors regularly for offensive tastes and odors in the raw water, and reduces the taste and odor issues through the membrane treatment. From the Intake, the raw water is pumped to two raw water storage tanks, which are located at the OMND WTP site. The raw water from the tanks, enters the treatment plant, and runs through the pretreatment filter screens. This helps to reduce any suspended solids or debris from entering the ultrafiltration modules. The ultrafiltration process primarily filters out any virus and bacteria that may be present in the water by maintaining a 4-log removal. The filtrate water coming off the ultrafiltration process goes to the buffer basin. A portion of the filtrate water from the buffer basin goes through the reverse osmosis process, which primarily filters out any inorganics that may be present in the water. The permeate coming off the reverse osmosis process is then blended at a 50/50 or 60/40 ratio with ultrafiltration water within the contact basin. At the same point, we add chloramines to reduce bacteria to a safe level, and provide a residual that protects against contamination. Caustic soda is added for a pH adjuster, and fluoride is provided for dental health. After proper detention time and mixing, the water is then pumped through the distribution system to all our customers, including you.

As part of a nationwide program, the North Dakota Department of Health completed an assessment of the OMND's source water and determined that our water system is moderately susceptible to potential contaminant sources. They also noted that "historically, Southwest Water Authority has effectively treated this source water to meet drinking water standards."

"I'm pleased to report that our drinking water is safe and meets federal and state requirements," said Ryan Tunge, Water/Waste Water Superintendent for the city of Hazen. If you have any questions about this report or concerning your water utility, please contact Ryan Tunge at 701-748-6519. We want our valued customers to be informed about their water utility. If you want to learn more, please attend any of our regularly scheduled meetings. They are held at 5:30 p.m. the first and third Mondays of each month at Hazen City Hall. If you are aware of non-English speaking individuals who need help with the appropriate language translation, please call Ryan at the number listed above.

The city of Hazen would appreciate it if large volume water customers would please post copies of this *Annual Drinking Water Quality Report* in conspicuous locations or distribute them to tenants, residents, patients, students, and/or employees, so individuals who consume the water, but do not receive a water bill, can learn about our water system.

The city of Hazen routinely monitors for contaminants in your drinking water according to Federal and State laws. The tables on pages 2-3-4 show the results of our monitoring for the period of January 1 to December 31, 2019. As authorized and approved by the EPA, the state has reduced monitoring requirements for certain contaminants to less often than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year. Some of our data [e.g., for inorganic contaminants], though representative, is more than one year old.

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 effects can be obtained by calling the EPA's Safe Drinking Water Hotline (800-426-4791).

The sources of drinking water (both tap 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.

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 can be naturally-occurring or result from urban storm water, industrial or domestic wastewater discharges, oil & gas production, mining, or farming.

Pesticides and herbicides, which 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.

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, which limit the amount of certain contaminants in water provided by public water systems. The Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water, which must provide the same protection for public health.

TEST RESULTS FOR THE CITY OF HAZEN

<u>Contaminant</u>	<u>MCLG</u>	<u>MCL</u>	<u>Level Detected</u>	<u>Unit Measurement</u>	<u>Range</u>	<u>Date (year)</u>	<u>Violation Yes/No Other Info</u>	<u>Likely Source of Contamination</u>
Inorganic Contaminants								
Copper	1.3	AL=1.3	0.18 90 th % Value	ppm	NA	2018	NO	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Fluoride	4	4	0.77	ppm	NA	2016	NO	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Lead**	0	AL=15	1.12	ppb	NA	2018	NO	Corrosion of household plumbing systems, erosion of natural deposits
Nitrate-Nitrite	10	10	0.034	ppm	NA	2019	NO	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Arsenic	0	10	1.01	ppm	N/A	2019	NO	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes.
Barium	2	2	.0198	ppm	N/A	2016	NO	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.
Pentachlorophenol	0	1	0.02	Ppb	N/A	2017	NO	

** 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 Hazen is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. **Use water from the cold tap for drinking and cooking. 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>.

Microbial Contaminants

<u>Contaminant</u>	<u>MCLG</u>	<u>MCL</u>	<u>Level Detected</u>	<u>Detection Range</u>	<u>Date (year)</u>	<u>Violation Yes/No Other Info</u>	<u>Likely Source of Contamination</u>
Turbidity (NTU)	N/A	TT=.3	0.04	NA	2019	100% of samples met turbidity limit	Soil runoff

Turbidity is a measure of the cloudiness of the water. It is monitored because it is a good indicator of the effectiveness of our filtration system.

Disinfectants

<u>Contaminant</u>	<u>MRDLG</u>	<u>MRDL</u>	<u>Level Detected</u>	<u>Unit Measurement</u>	<u>Range</u>	<u>Date (year)</u>	<u>Violation Yes/No Other Info</u>	<u>Major Sources in Drinking Water</u>
Chloramines	4	4.0	3.3	ppm	3.00 to 3.55	2019	NO	Water additive used to control microbes

Radioactive Contaminants

<u>Contaminant</u>	<u>MCLG</u>	<u>MCL</u>	<u>Level Detected</u>	<u>Unit Measurement</u>	<u>Range</u>	<u>Date (year)</u>	<u>Violation Yes/No Other Info</u>	<u>Likely Source of Contamination</u>
Radium- Combined (226,228)	0	5	0.691	pCi/L	NA	2018	NO	Some people who drink water containing radium 226 or 228 in excess of the MCL over many years may have an increased risk of getting cancer. The likely source of Radium is erosion of natural deposits.
Uranium, Combined	0	30	ND	ppb	NA	2018	NO	Some people who drink water containing uranium in excess of the MCL over many years may have an increased risk of getting cancer and kidney toxicity. The likely source of Uranium is erosion of natural deposits.
Gross Alpha, Including RA, Excluding RN & U	15	15	ND	pCi/L	NA	2018	NO	The likely source of Gross Alpha is erosion of natural deposits.

Stage 2 Disinfection Byproducts (TTHM/HAA5)

<u>Contaminant</u>	<u>MCL</u>	<u>High Comp</u>	<u>Unit Measurement</u>	<u>Range</u>	<u>Date (year)</u>	<u>Violation Yes/No Other Info</u>
HAA5	60	12	ppb	NA	2019	NO
TTHM	80	7	ppb	NA	2019	NO

Unregulated Contaminants

<u>Contaminant</u>	<u>Level Detected</u>	<u>Unit Measurement</u>	<u>Range</u>	<u>Date (year)</u>
Alkalinity, Total	71.4	ppm	N/A	2016
Bicarbonate as HC03	87	ppm	NA	2016
Bromide	44	ppm	37-44	2017
Calcium	21	ppm	N/A	2016
Chloride	6.9	ppm	N/A	2016
Conductivity @ 25 C (umho/cm)	341	ppm	N/A	2016
Hardness, Total (as CaCo3)	96	ppm	N/A	2016
Magnesium	9	ppm	N/A	2016
pH	7.63	pH	N/A	2016
Potassium	1.8	ppm	N/A	2016
Sodium	30.8	ppm	N/A	2016
Sodium Adsorption Ration	1.42	obsvns	N/A	2016
TDS	199	ppm	N/A	2016
Zinc	0.00709	ppm	N/A	2016

Total Organic Carbon Removal (OMND)

<u>Contaminant</u>	<u>MCL</u>	<u>MCLG</u>	<u>Detect In Your Water</u>	<u>Units</u>	<u>Range</u>	<u>Sample Date</u>	<u>Violation</u>	<u>Typical Source</u>
Alkalinity, Source	NA	NA	155	mg/l	147.00 to 155.00	2019	No	Natural erosion, certain plant activities, certain industrial wastewater discharges
Carbon, Total Organic (TOC) - Finished	NA	TT	2.5	ppm	1.67 to 2.50	2019	No	Naturally present in the environment

Carbon, Total Organic (TOC)- Source	NA	TT	4.15	ppm	3.33 to 4.15	2019	No	Naturally present in the environment
Unregulated Contaminants (OMND)								
Bicarbonate as HCO ₃	NA	NA	188	ppm	179-188	2019	No	N/A

The EPA requires testing for certain unregulated contaminants, but has not established enforceable drinking water standards for them. They are monitored to determine whether or not future regulation is warranted. To obtain information about these tests you may contact Ken Knight, Water Treatment Plant Operator (701-225-9149) or Sandy Burwick SWA CFO! Office Administrator at 1-888-425-0241 or e-mail us at swa@swwater.com.

Definitions of terms used in the previous tables:

Not Applicable (NA)

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 (µg/l) - one part per billion corresponds to one minute in 2,000 years, or a single penny in \$10,000,000.

Picocuries per liter (pCi/l) - picocuries per liter is a measure of the radioactivity in water.

Action Level (AL) - the concentration of a contaminant, which if exceeded, triggers treatment or other requirements, which a water system must follow.

Treatment Technique (TT) - A treatment technique is a required process intended to reduce the level of a contaminant in drinking water.

Maximum Contaminant Level - The "Maximum Allowed" (*MCL*) is 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 - The "Goal" (*MCLG*) is 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 Goal: - (MRDLG) The level of 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 disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

EPA requires monitoring of over 80 drinking water contaminants. Those contaminants listed in the table above are the only contaminants detected in your drinking water.

MCL's are set at very stringent levels. To understand the possible health effects described for many regulated contaminants, a person would have to drink 2 liters of water every day at the MCL level for a lifetime to have a one-in-a-million chance of having the described health effect.

Unregulated contaminants are those for which the EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist the EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted.

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 and Prevention (CDC) guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbiological contaminants are available from the Safe Drinking Water Hotline (1-800-426-4791).

Our public water system, in cooperation with the North Dakota Department of Health, has completed the delineation and contaminant/land use inventory elements of the North Dakota Source Water Protection Program. Based on the information from these elements, the North Dakota Department of Health has determined that our source water is moderately susceptible to potential contaminants.

In our continuing efforts to maintain a safe and dependable water supply that will benefit all of our customers, it may be necessary to make improvements in your water system. These improvements sometimes require rate structure adjustments.

This report is a yearly update on the quality of water that your city's water system provides. The city of Hazen works diligently to provide top quality water to every tap. We ask that all our customers help us protect our water resources, which are the heart of our community, our way of life, and our children's future. Please call our office if you have questions about our city's water system.