# Annual Water Quality Report

HUDSON PUBLIC UTILITIES

**Serving the City of Hudson and the Village of North Hudson**

**Hudson Public Utilities** **Summer 2020**

# Water Quality Meets Federal and State Requirements

Hudson Public Utilities is pleased to provide you with this year's Annual Drinking Water Quality Report. This report is designed to inform you about the quality of water and services 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.

Our water is pumped from the Jordan and Mount Simon sandstone aquifers. Because of the naturally occurring iron and manganese in the water from these geological formations, Hudson Public Utilities controls these substances using filtration equipment installed at nine well heads which are located in Hudson and North Hudson. In addition to the nine wells and eight treatment plants, which pumped and treated 723 million gallons of water in 2019, your water supply system contains seven water storage reservoirs totaling 3.50 million gallons, three booster stations, four pressure sustaining valve stations, and 104 miles of water distribution system mains.

**We are pleased to report that your drinking water is safe and meets Federal and State requirements.**

## Questions or Comments

If you have any questions about this report or concerning your Public Utility, please contact:

Hudson Utilities Service Center
1201 Livingstone Rd.
Hudson, WI 54016-1694
Phone number: (715) 386-4760
E-mail address: hudwater@hudsonwi.gov
City of Hudson web site: www.hudsonwi.gov
Hudson Water Utility web site: www.hudsonpublicutilities.com

## Sources of Contamination

All sources of drinking water are subject to potential contamination by constituents that are naturally occurring or are man made. Those constituents can be microbes, organic or inorganic chemicals, or radioactive materials.

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. Contaminants in drinking 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 stormwater 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 residential uses, agriculture, and urban stormwater runoff.
- **Radioactive contaminants,** which can be naturally occurring or be a result of oil and gas production or mining.
- **Organic chemical contaminants,** including synthetic and volatile organic chemicals, which are the by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff and septic systems.

## Getting Involved

We want our valued customers to be informed about their Public Utility. If you want to learn more, please attend any of our regularly scheduled meetings. They are held at 6:00 p.m. on the second Tuesday of every month at the Hudson Utilities Service Center.

## Monitoring Results

In order to ensure tap water is safe to drink, the Environmental Protection Agency (EPA) prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. Federal Drug Administration (FDA) regulations establish limits for contaminants in bottled water that must provide the same protection for public health.

Hudson Public Water Utilities routinely monitors for contamination by constituents in your drinking water according to federal and state laws. The table on the next page shows some results of our monitoring for the period of January 1 to December 31, 2019. The state allows us to monitor for certain contaminants less than once a year because concentrations of the contaminants are not expected to vary significantly from year to year.

## Unsafe Water Sources-Cross Connections/ Back-Flows

Cross connections are defined as any physical connection or arrangement between two water sources, one of which contains potable water from your Drinking Water System and the other from an unknown or questionable source.

A major concern of the Hudson Public Utility is the potential introduction of **unsafe** water into your Drinking Water System. Some common cross connections are garden hoses connected to fertilizer and pesticide sprayers, hoses left lying in buckets of contaminated water or pools of water on chemically treated lawns, hoses in laundry tubs, boilers, and lawn irrigation systems. Water can flow from one source to the other (Back-Flow) depending on the pressure differential between the two sources. The elimination of these practices or the installation of cross connection devices can substantially reduce the potential of **unsafe** water being introduced into your Drinking Water System. Hudson Public Utilities has been conducting cross-connection inspections on residential homes since 2016.

Help protect your Drinking Water and the health of you, your family, and neighbors by eliminating potential Back-Flow situations.

**If you don't want to drink it - don't connect to it.**
If you have any questions, please call the Hudson Public Utilities.

# Detected Contaminants

Your water was tested for many contaminants last year. We are allowed to monitor for some contaminants less frequently than once a year. The following tables list only those contaminants which were detected in your water. If a contaminant was detected last year, it will appear in the following tables without a sample date. If the contaminant was not monitored last year, but was detected within the last 5 years, it will appear in the tables below along with the sample date.

**City of Hudson Public Water Utility 2019** PWS ID # - 65600876

## TEST RESULTS

| Contaminant (units) | MCL | MCLG | Sample Location | Range | Level Found/ Sample Date | Violation | Typical Source of Contaminant |
|---|---|---|---|---|---|---|---|
| ***Microbiological Contaminants*** | | | | | | | |
| Total Coliform Bacteria (TCR – Total Coliform Rule) | No more than one sample per month can be total coliform positive | 0 | N/A | N/A | ND 20 Monthly (Tested Bi-monthly) | NO | Naturally present in the environment |
| ***Inorganic Contaminants*** | | | | | | | |
| Antimony (ppb) | 6 | 6 | Well #10 EP | 0.26 | .026 6/25/18 | NO | Discharge from petroleum refineries; fire retardants; ceramics; electronics; solder |
| Arsenic (ppb) | 10 | N/A | Well #10 EP | 0.65 | 0.65 6/25/18 | NO | Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes |
| Barium (ppm) | 2 | 2 | Well #10 EP | 0.010 | 0.010 6/25/18 | NO | Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits |
| Fluoride (Raw Water) (ppm) | 4 | 4 | Well #10 EP | 0.61 | 0.61 6/25/18 | NO | Erosion of natural deposits; discharge from fertilizer and aluminum factories |
| Nickel (ppb) | 100 | N/A | Well #10 EP | 2.90 | 2.90 6/25/18 | NO | Nickel occurs naturally in soils, ground water and surface waters and is often used in electroplating, stainless steel and alloy products |
| Nitrate (as Nitrogen) (ppm) | 10 | 10 | All Entry Points | 0.00 – 3.10 | 0.59 2/27/19 | NO | Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits |
| Sodium (ppm) | N/A | N/A | Well #10 EP | 2.70 | 2.70 6/25/18 | NO | Erosion of natural deposits |
| Thallium (ppb) | 2 | 0.5 | Well #10 EP | 0.16 | 0.16 6/25/18 | NO | Discharge from petroleum and metal refineries; discharge from mines; erosion of natural deposits |
| ***Radioactive Contaminants*** | | | | | | | |
| Combined Uranium (ug/l) | 30 | 0 | Well #10 EP | 6.2 – 10.6 | 8.0 8/6/19 | NO | Erosion of natural deposits |
| Gross Alpha (Excluding Radon & Uranium) (pCi/l) | 15 | 0 | Well #10 EP | 0.9 – 6.5 | 3.5 8/6/19 | NO | Erosion of natural deposits |
| Gross Alpha (Including Radon & Uranium) (n/a) | N/A | N/A | Well #10 EP | 5.7 – 10.6 | 8.9 8/6/19 | NO | Erosion of natural deposits |
| Radium (226 + 228) (pCi/l) | 5 | 0 | Well #10 EP | 1.2 – 1.7 | 1.4 8/6/19 | NO | Erosion of natural deposits |
| ***Unregulated Contaminants*** 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. EPA required us to participate in this monitoring. DSMST - Distribution System Maximum Residence Time EPTDS - Entry Point to the Distribution System | | | | | | | |
| Sulfate (ppm) | N/A | N/A | Well #10 EP | 15.0 | 15.0 6/25/18 | NO | Discharge from manufacture and use of sulfuric acid |
| 1, 3, 5 - Trimethylbenzene (ppb) | N/A | N/A | Well #10 EP | 0.27 | 0.27 6/25/18 | NO | Occurs naturally in coal tar & petroleum |
| 1, 2, 4 - Trimethylbenzene (ppb) | N/A | N/A | Well #10 EP | 0.38 | 0.38 6/25/18 | NO | Occurs naturally in coal tar & petroleum |
| Chloromethane (ppb) | N/A | N/A | Distri-bution | 0.00 – 0.34 | 0.34 3/19/19 | NO | Occurs naturally. Used mainly in the production of silicones. |

## TEST RESULTS CONTINUED

| Contaminant (units) | MCL | MCLG | Sample Location | Range | Level Found/ Sample Date | Violation | Typical Source of Contaminant |
|---|---|---|---|---|---|---|---|
| ***Disinfection By-Products*** | | | | | | | |
| Total HAA5's (Haloacetic Acids) (ppb) | 60 | 60 | Distribution System | 0.50 – 2.50 | 1.40 12/16/19 | NO | By-product of drinking water chlorination |
| TTHM's (Total Trihalomethane) (ppb) | 80 | 0 | Distribution System | 0.00 – 7.90 | 3.27 12/16/19 | NO | By-product of drinking water chlorination sum of Bromodichloromethane, Bromoform, Chloroform and Dibromochloromethane |
| ***Added Constituents*** | | | | | | | |
| Chlorine (Free) (ppm) | N/A | N/A | Distribution System | 0.00 – 1.22 | 0.68 Average 3 Bi-Weekly | N/A | Additive for oxidation and disinfection |
| Fluoride (Total) (ppm) | 4 | 4 | Distribution System | 0.69 – 0.939 | 0.81 Average 3 Daily | NO | Erosion of natural deposits; additive to promote strong teeth; discharge from fertilizer and aluminum factories |

***Copper & Lead***

| Contaminant (units) | Action Level | MCLG | 90th Percentile Level Found | # of Results | Sample Date (if prior 2013) | Violation | Typical Source of Contaminant |
|---|---|---|---|---|---|---|---|
| Copper (ppm) | AL=1.3 | 1.3 | 0.230 | 0 of 30 results were above the action level | 9/16/19 | NO | Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives |
| Lead (ppb) | AL=15 | 0 | 5.4 | 0 of 30 results were above the action level | 9/16/19 | NO | Corrosion of household plumbing systems; erosion of natural deposits |

Your water has an average pH level of 7.5 (7.0 is neutral between acid and base) and a hardness average of 12.5 grains/gallon or 213ppm.
Hardness is a measure of total calcium carbonate ($CaCO_3$) in the water and a reading greater than 17 grains/gallon or 290ppm is considered hard.

## Definitions

***Non-Detects (ND) -*** laboratory analysis indicates that the constituent is not present.

***N/A - Not Applicable***

***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 (ug/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) -*** 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.

***Maximum Contaminant Level -*** The "Maximum Allowed" (MCL) is the highest level of a contaminant that is allowed in drinking water. MCL's are set as close to the MCLG's 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. MCLG's allow for a margin of safety.

## What do these results mean?

As you can see by the table, **our system had no violations. We're proud that your drinking water meets or exceeds all Federal and State requirements.** We have learned through our monitoring and testing that some constituents have been detected. The EPA has determined that your water **IS SAFE** at these levels.

In our continuing efforts to maintain a safe and dependable water supply, it may be necessary to make improvements in your water system. The costs of these improvements may be reflected in the rate structure. Rate adjustments may be necessary in order to address these improvements.

## Lead

Infants and young children are typically more vulnerable to lead in drinking water than the general population. Infants and children who drink water containing lead in excess of the Action Level could experience delays in their physical or mental development. Children could show slight deficits in attention span and learning disabilities. Adults who drink this water over many years could develop kidney problems or high blood pressure.

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 consuming tap water. Lead in drinking water is rarely the sole cause of lead poisoning, but it can add to a person's total lead exposure. All potential sources of lead in households should be identified and removed, replaced, or reduced. Additional information is available from the Safe Drinking Water Hotline (1-800-426-4791).

## Water and Health

MCL's are set at very stringent levels. To understand the possible health effects described for many regulated constituents, 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.

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 about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline (1-800-426-4791).

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 microbiological contaminants are available from the Safe Drinking Water Hotline (1-800-426-4791).

## Information on Monitoring for Cryptosporidium & Radon

Our water system did not monitor our water for cryptosporidium or radon during 2018. We are not required by State or Federal drinking water regulations to do so. Your water has an average pH level of 7.36, (7.0 is neutral between acid and base) and a hardness average of 12.5 grains/gallon or 213ppm. Hardness is a measure of total calcium carbonate (CaCO3) in the water and a reading greater than 17 grains/gallon or 290ppm is considered hard.

## Source(s) of Water

| Source ID | Source | Depth (in feet) | Status |
|---|---|---|---|
| 3 | Groundwater | 543 | Active |
| 4 | Groundwater | 522 | Active |
| 5 | Groundwater | 504 | Active |
| 6 | Groundwater | 611 | Active |
| 7 | Groundwater | 522 | Active |
| 8 | Groundwater | 365 | Active |
| 9 | Groundwater | 387 | Active |
| 10 | Groundwater | 385 | Active |

To obtain a summary of the source water assessment please call, (715) 386-4760