

## UNIT WELL #29

Drilled in 2003, Unit Well 29 has a pumping capacity of 2,200 gallons per minute; however, the pump typically delivers 1,100 gallons per minute through the use of a variable frequency drive. Following the installation of an iron-manganese filter in 2009, the well operates year-round and produces about 1.5 million gallons of filtered water daily. Well 29 primarily serves customers east of Stoughton Road north of Commercial Avenue/Interstate 94. It also serves portions of the Rolling Meadows, North Star, and Sprecher East neighborhoods. In 2023, the well pumped 558 million gallons of water compared to its 5-year average of 545 million gallons.

Unless otherwise noted, data contained in this report, which is updated annually, are from 2023.

### ***Bacteria***

In 2023, four samples were collected from Well 29 and tested for coliform bacteria, an indicator group of bacteria used to determine drinking water safety. Each sample was collected and tested prior to any disinfection. None of the samples had coliform bacteria present. The Water Utility chlorinates drinking water to protect against bacteria and viruses that can be present in groundwater and to provide protection as water travels through the water mains and premise plumbing.

### ***Hardness and Other Minerals***

Like all groundwater, water from Well 29 contains calcium and magnesium that contributes to its hardness (340 mg/L [ppm] or 20 grains per gallon). Other naturally occurring constituents that are present in water from Well 29 can be found in the [Inorganics Table](#).

### ***Iron and Manganese***

Water pumped from Well 29 contains elevated levels of both iron and manganese, minerals that can discolor the water. A filter system was installed in 2009 to reduce the concentrations of these nuisance chemicals. Daily iron and manganese tests confirm the operation of the filter and monthly samples are submitted to a certified drinking water laboratory. Filtered samples typically measure below 0.02 mg/L iron and 2 µg/L manganese compared to 0.37 mg/L iron and 61 µg/L manganese in unfiltered groundwater.

### ***Chromium***

Trace amounts (0.1 µg/L) of hexavalent chromium have been found at Well 29. Chromium is known to be present in the aquifer; however, it is believed that the chemical environment in the Mt. Simon aquifer inhibits the release of chromium into groundwater. More information is found on the [chromium](#) page.

## ***Lead***

Madison's groundwater supply does not contain significant amounts of naturally occurring lead.

## ***Radionuclides***

In 2020, water from Well 29 was tested for radium-226, radium-228, and other gross measures of radiation in water. Combined radium (226+228) measured 1.8 picocuries per liter (pCi/L) – well below the maximum contaminant level (MCL) of 5 pCi/L.

Naturally occurring, radioactive elements are found in rock, soil, water, and air. They derive from the creation of our planet and enter our bodies when we drink water, breathe air, and eat foods that contain them. Everyone is exposed to some level of radiation in everyday life. For example, uranium and thorium are found in rock and soil. In time, they decay to other elements including radium, which later decays to radon gas. Radon is the largest contributor to our daily exposure of radiation from the natural world. More information is available from the Agency for Toxic Substances and Disease Registry ([ATSDR](#)).

See [ATSDR](#) for more information on radon.

## ***Human-made Contaminants***

Madison Water Utility annually tests all of its municipal wells for human-made contaminants that may be present in groundwater. Except for three disinfection by-products (DBPs), no other volatile organic compound (VOC) was detected at Well 29 in 2023. DBPs form when chlorine interacts with impurities in groundwater. Chlorine is added to disinfect the water and guard against bacterial growth in water mains. Periodic testing for [synthetic organic chemicals](#) has found trace levels of one pesticide – [atrazine](#) – at Well 29 since 2017.

The [Volatile Organic Compounds](#) table lists the substances that were tested, the results, and how detected levels compare with the maximum contaminant levels (MCL) established by the EPA.

### **Per- and Polyfluoroalkyl Substances (PFAS)**

All Madison wells were tested for [PFAS](#) in 2023; none were detected at Well 29. In 2022, the Wisconsin Department of Natural Resources adopted drinking water standards for PFOA & PFOS set at 70 ppt. In April 2024, the US Environmental Protection Agency published final federal MCLs that were set at 4 ppt. Our website, [madisonwater.org](#), has more detailed information about PFAS in drinking water.

## ***Additional Information***

Information on routine [water quality monitoring](#) activities, including current test results and links to additional resources, is available at [madisonwater.org](#). In addition, you can sign-up to receive periodic updates on Madison drinking water quality or the water main flushing program through the [City of Madison](#) website.

If you have questions about the information in this report or on our website, our staff would be happy to answer them. Please call the Water Quality line at 266-4654 weekdays from 7:45 a.m. to 4:00 p.m.

Click [here](#) to view water quality reports for other Madison municipal wells.