

UNIT WELL #29

Drilled in 2002, Unit Well 29 has a pumping capacity of 2200 gallons per minute; however, the pump typically delivers 1100 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 1.6 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 2021, the well pumped 552 million gallons of water compared to its 5-year average of 550 million gallons.

Unless otherwise noted, data contained in this report, which is updated annually, are from 2021.

Bacteria

In 2021, four quarterly 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 additional protection as the water travels through 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 (331 mg/L [ppm] or 19 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 filtration 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 less than 0.01 mg/L iron and 2 µg/L manganese compared to 0.3 mg/L iron and 60 µg/L manganese in the 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.

Man-made Contaminants

Madison Water Utility annually tests all of its municipal wells for man-made contaminants that may be present in groundwater. Except for four disinfection by-products (DBPs), no other volatile organic compounds (VOC) were detected at Well 29 in 2021. DBPs form when chlorine interacts with impurities in groundwater. The chlorine is added to disinfect the water and guard against bacterial growth in water mains.

The [Volatile Organic Compounds](#) table shows the list of substances that were tested, the results, and how the 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 2021. No [PFAS](#) were detected in water from Well 29. While there is no state or federal drinking water standard for any PFAS, in 2019, the Wisconsin Department of Health Services recommended a health-based groundwater standard of 20 ppt for two types of PFAS (PFOA & PFOS), and in 2021, the Wisconsin Department of Natural Resources proposed a matching drinking water standard. More information about PFAS in drinking water can be found on our website, madisonwater.org.

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.