

UNIT WELL #27

Drilled in 1989, Unit Well 27 has a pumping capacity of 1775 gallons per minute; however, the pump typically delivers 1550 gallons per minute through the use of a variable frequency drive. It primarily serves neighborhoods south and east of the UW campus including homes in Dudgeon-Monroe, Greenbush, Vilas, South Campus, and State-Langdon neighborhoods. In 2021, Well 27 pumped 290 million gallons compared to its 5-year average of 193 million gallons annually.

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 27 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 tap 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 27 contains calcium and magnesium that contributes to its hardness (362 mg/L [ppm] or 21 grains per gallon). Other naturally occurring constituents that are present in water from Well 27 can be found in the [Inorganics Table](#).

Iron and Manganese

Water from Well 27 contains intermediate levels of both iron and manganese, two minerals that at elevated levels can discolor the water. The EPA [secondary standards](#) for iron and manganese are 0.3 mg/L and 50 µg/L, respectively. Water containing iron or manganese above these levels may cause staining of laundry or plumbing fixtures.

Instances of discolored water are random, infrequent, and temporary; the water usually clears up in 15-30 minutes without additional action. Running a lower level cold-water tap at full force for a few minutes usually flushes out the minerals that cause the discoloration. If the color persists, call the Water Utility at 266-4654. You should not use discolored water for drinking or cooking; rather run the water until it clears.

Chromium

Tests have not found hexavalent chromium at Well 27. 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 2021, water from Well 27 was tested four times for radium-226, radium-228, and other gross measures of radiation. Combined radium (226+228) ranged between 2.7 and 4.7 picocuries per liter (pCi/L), which is 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 one disinfection by-product (DBP), no other volatile organic compound (VOC) was detected at Well 27 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)

Eight different [PFAS](#) were found at Well 27 in 2021. The combined PFAS level is estimated at 4.6 ng/L or parts per trillion (ppt). 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. Our website, [madisonwater.org](#), has more 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.