

## UNIT WELL #17

Drilled in 1966, Well 17 has a pumping capacity of 2290 gallons per minute; however, the pump typically delivers 1350 gallons per minute through the use of a variable frequency drive. The well operates seasonally from May to October and primarily serves the Downtown and Capitol areas between Blair Street and Bedford Street. During 2021, Well 17 pumped 283 million gallons of water compared to its 5-year average of 293 million gallons annually.

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

### *Bacteria*

In 2021, three quarterly samples were collected from Well 17 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 17 contains calcium and magnesium that contributes to its hardness (333 mg/L [ppm] or 20 grains per gallon). Other naturally occurring constituents that are present in water from Well 17 can be found in the [Inorganics Table](#).

### *Iron and Manganese*

Water from Well 17 contains low levels of iron and an intermediate amount of manganese. At elevated levels these minerals can discolor the water. Water containing iron or manganese above the EPA [secondary standards](#), 0.3 mg/L and 50 µg/L, respectively, may cause staining of laundry or plumbing fixtures.

### *Chromium*

Low levels of naturally occurring chromium, including hexavalent chromium, were detected in water from Well 17 in 2021. The level is well below the drinking water standard of 100 µg/L for total chromium. 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 17 was tested for radium-226, radium-228, and other gross measures of radiation in water. Combined radium (226+228) measured 1.7 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. Three disinfection by-products (DBP) were found at Well 17 in 2021. DBPs form when chlorine interacts with impurities in groundwater. Chlorine is added to disinfect the water and guard against microbial growth in water mains.

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

Periodic testing found a trace amount of [1,4-dioxane](#) (0.1 µg/L) at Well 17 in 2015 but none was detected in 2013, 2018, or 2021. An MCL has not been established for this chemical.

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

Four different [PFAS](#) were found at Well 17 in 2021. The combined PFAS level is estimated at 1.4 ng/L or parts per trillion (ppt). Although there is no state or federal drinking water standard for any PFAS, in 2019 the Wisconsin Department of Health Services (DHS) 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.