

## UNIT WELL #7

Drilled in 1939, Well 7 has a pumping capacity of 2200 gallons per minute; however, the pump typically delivers 1750 gallons per minute through the use of a variable frequency drive. The well primarily serves the Village of Maple Bluff and Sherman Avenue neighborhoods between Northport Drive and the Yahara River. In 2022, Well 7 pumped 584 million gallons of water. The 5-year average is 550 million gallons pumped annually.

Unless otherwise noted, data contained in this report, which is updated annually, are from 2022.

### *Bacteria*

In 2022, five samples were collected from Well 7 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 water travels through water mains and premise plumbing.

### *Hardness and Other Minerals*

Like all groundwater, water from Well 7 contains calcium and magnesium that contributes to its hardness (377 mg/L [ppm] or 22 grains per gallon). Other naturally occurring constituents that are present in water from Well 7 can be found in the [Inorganics Table](#).

### *Iron and Manganese*

Water pumped from Well 7 contains a high level of iron and an intermediate level of manganese, minerals that can discolor the water. A filter was installed in 2015 to reduce the amount of these nuisance chemicals. Daily tests confirm the operation of the filter and monthly split samples are submitted to a certified drinking water laboratory for analysis. Filtered samples typically measure less than 0.02 mg/L iron and below 1 µg/L manganese in 2022 compared to 0.45 mg/L iron and 29 µg/L manganese in the unfiltered groundwater.

### *Chromium*

Tests have not found hexavalent chromium at Well 7. Because chromium is known to be present in the aquifer, it is believed that the chemical environment in the Mt. Simon aquifer does not allow the release of chromium into groundwater. More information, including complete test results, can be found on the [chromium](#) page.

### *Lead*

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

## ***Radionuclides***

In 2022, water from Well 7 was tested for radium. Combined radium (226+228) measured 2.6 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. Quarterly samples are collected at Well 7 due to the presence of [tetrachloroethylene](#) (PCE) recently found there. A trace amount of [cis 1,2-dichloroethylene](#) was also detected in one sample in 2022. Four disinfection by-products (DBP) were also detected in water pumped from the well. 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 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)**

Three types of [PFAS](#) were found at Well 7 in 2022. The combined PFAS level is **estimated at 2.7 ng/L or parts per trillion**. In 2022, the Wisconsin Department of Natural Resources adopted drinking water standards for PFOA & PFOS set at 70 ppt. In March 2023, the US Environmental Protection Agency proposed drinking water standards for six PFAS. Our website, [madisonwater.org](#), has more detailed information about PFAS in 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.