

UNIT WELL #31

Drilled in 2014, Unit Well 31 has a pumping capacity of 2,200 gallons per minute; however, the pump typically delivers 1,350 gallons per minute through the use of a variable frequency drive. It operates year-round serving Madison's East and Southeast sides including residential, commercial and industrial properties from the border with the Village of McFarland extending northward to approximately Pflaum Road. In 2023, Well 31 pumped 308 million gallons of water compared to its 5-year average of 277 million gallons.

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

Bacteria

In 2023, four quarterly samples were collected from Well 31 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 water to protect against bacteria and viruses that may be present in groundwater and to provide protection as the water travels through water mains and premise plumbing.

Hardness and Other Minerals

Like all groundwater, water from Well 31 contains calcium and magnesium that contributes to its hardness (350 mg/L [ppm] or 20 grains per gallon). Other naturally occurring constituents that are present in water from Well 31 can be found in the [Inorganics Table](#).

Iron and Manganese

Although Well 31 has an intermediate level of iron and manganese in the source water, the facility was constructed with an iron-manganese filter to remove these nuisance minerals. Daily tests confirm the operation of the filter and monthly split samples are submitted to a certified drinking water laboratory for analysis. Iron and manganese levels in filtered water are routinely below the laboratory's detection limit.

Lead

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

Chromium

Tests have not found significant amounts of hexavalent chromium at Well 31. It is believed that the chemical environment in the Mt. Simon aquifer does not allow the release of chromium into groundwater. More information is found on the [chromium](#) page.

Radionuclides

In 2020, water from Well 31 was tested for radium-226, radium-228, and other gross measures of radiation. Combined radium (226+228) ranged from 0.9 to 1.4 picocuries per liter (pCi/L) compared to 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 one disinfection by-products (DBP), no other volatile organic compound (VOC) was detected at Well 31 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.

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 31. 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.