

## UNIT WELL #11

Drilled in 1956, Unit Well 11 has a pumping capacity of 2090 gallons per minute. It operates year-round and serves Madison's East side including the Emerson East, Eken Park, Marquette, Schenk-Atwood-Starkweather-Yahara, Hawthorne, and Worthington Park neighborhoods and homes in Burke Heights, Hiestand, Rolling Meadows, and Eastmorland. In 2022, the well delivered 600 million gallons of water compared to its 5-year average of 562 million gallons annually.

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

### *Bacteria*

In 2022, a total of seven samples were collected from Well 11 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 were found to have 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 the water mains and premise plumbing.

### *Hardness and Other Minerals*

Like all groundwater, water from Unit Well 11 contains calcium and magnesium that contributes to its hardness (430 mg/L [ppm] or 25 grains per gallon). Other naturally occurring constituents that are present in water from Well 11 can be found in the [Inorganics Table](#).

### *Iron and Manganese*

Water from Well 11 contains low levels of iron and manganese. Both minerals are well below the US EPA [secondary standards](#), which are 0.3 mg/L for iron and 50 µg/L for manganese.

### *Chromium*

Low levels of naturally occurring chromium, including hexavalent chromium, have been found at Well 11. The level is well below the existing drinking water standard of 100 µg/L for total chromium. More information can be found on the [chromium](#) page.

### *Sodium*

The level of [sodium](#) in Well 11 water exceeds the EPA guideline which recommends drinking water not to exceed 20 mg/L sodium. These guidelines are intended for higher risk populations including individuals with high blood pressure or on severe sodium restricted diets. In 2022, sodium at Well 11 measured 27 mg/L. Road salt application likely contributes to elevated sodium levels at some Madison wells.

## ***Lead***

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

## ***Radionuclides***

In 2020, water from Well 11 was tested for radium-226, radium-228, and other gross measures of radiation in water. Combined radium (226+228) measured 1.3 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. In 2022, quarterly samples were collected at Well 11 due to the routine detection of [tetrachloroethylene](#), [cis 1,2-dichloroethylene](#), and trichlorofluoromethane. A small amount of two disinfection by-products (DBP) were also detected in water from Well 11.

Finally, annual testing showed the continued presence of a small amount (0.3 µg/L) of [1,4-dioxane](#); an MCL has yet to be established. 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.

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

Eight different [PFAS](#) were detected at Well 11 in 2022. The combined PFAS level is **estimated at 14 ng/L or parts per trillion (ppt)**. 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 (EPA) proposed standards for six PFAS contaminants in drinking water. 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.