

UNIT WELL #8

Drilled in 1945, Well 8 has a pumping capacity of 1800 gallons per minute. It is a seasonal well that normally operates between May and October due to elevated levels of iron and manganese in the water. During summer months, it primarily serves Schenk-Atwood and Emerson East neighborhoods, and Marquette area homes east of the Yahara River. In 2013, Well 8 did not deliver any water to the distribution system. During summer 2014, Well 8 is expected to run from mid-June to early September and pump about one million gallons per day.

In recent years, pumping at Well 8 has been further reduced due to concerns about the long-term potential movement of the groundwater contaminants from the Madison Kipp Corporation plume toward the municipal well. Neither tetrachloroethylene (PCE) nor trichloroethylene (TCE) has been detected at the well. A consultant for Madison Kipp is conducting additional groundwater modeling, at the request of the Water Utility, to understand the risks associated with continued pumping of the well and this potential for drawing contaminated water towards the well.

Unless otherwise noted, data contained in this report, which is updated annually, are from 2013.

Hardness and Other Minerals

Like all groundwater, water from Well 8 contains calcium and magnesium that contributes to its hardness (341 mg/L [ppm] or 20 grains per gallon). Other naturally occurring constituents that are present in water from Well 8 can be found in the [Inorganics Table](#).

Iron and Manganese

Water from Well 8 contains fairly high levels of both iron and manganese, two minerals that can discolor the water. Water that contains iron or manganese above the EPA [secondary standards](#), 0.3 mg/L and 50 µg/L, respectively, may stain laundry and plumbing fixtures.

Instances of colored water are random, infrequent, and temporary; the water usually clears up in 15-30 minutes without additional action. Running a coldwater 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 colored water for drinking or cooking; instead run the water until the color clears.

Previously, the Water Utility had decided to filter water from Well 8 to remove the iron and manganese due to an unacceptable potential for discolored water and staining that these minerals create. However, uncertainty regarding the magnitude and scope of groundwater contamination in the vicinity of Madison Kipp Corporation has delayed design and construction of a potential treatment facility. Water Utility staff continues to work with city, county, and state agencies as the groundwater investigation and cleanup proceeds.

Chromium

Tests have not found hexavalent chromium at Well 8. 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. Currently, the utility performs semi-annual testing for total and hexavalent chromium. 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 2011, water from Well 8 was tested for radium-226, radium-228, and uranium in addition to other gross measures of radiation in the water. Combined radium measured 2.4 picocuries per liter (pCi/L) while uranium tested at 0.4 micrograms per liter ($\mu\text{g/L}$). These levels are below the maximum contaminant level (MCL) of 5 pCi/L combined radium and 30 $\mu\text{g/L}$ uranium.

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. In 2013, [cis 1,2-dichloroethylene](#) was detected at low levels in Well 8. Except for disinfection by-products (DBP), no other volatile organic compound (VOC) that we test for was detected. DBPs detected at the well are formed 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.

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 7:30 a.m. to 4:00 p.m.