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### **Well Status Report – Seasonal Wells**

Although the City of Madison drinking water system includes twenty-three wells, only sixteen of them operate year-round. The remaining wells operate on a seasonal basis when water demand is higher due to outdoor water use. Seasonal wells enable the Water Utility to meet peak water demand while also ensuring sufficient fire flow during the summer months. Seasonal wells are taken out of service in the fall as water demand drops.

- Normally a seasonal well, Well 27 remained in service all winter due to maintenance at Well 18. The well remains in active use.
- Well 6 was brought into service on April 6<sup>th</sup>, a little earlier than usual, so that the water could be used for unidirectional flushing in the surrounding area.
- Well 29 was brought into service on April 15<sup>th</sup>. The well is on-line and the filter is operating successfully (see the *Well 29 Filter Update* below for more information) .
- Wells 8, 10, 17, and 28 remain out of service.

### **Water Quality Test Results – March 2009**

**MICROBIOLOGY** – In March, Water Utility staff collected 404 water samples from Water Utility facilities and representative sample locations in the distribution system. Samples were tested for coliform bacteria – indicators of potential water contamination. None of the samples collected in March tested positive for coliform bacteria.

**IRON & MANGANESE** – The utility also collected samples from eleven wells and tested the water for manganese and iron. At elevated levels, these minerals can cause yellow, orange, or brown colored water. Monthly water samples are typically collected from operating wells that exceed 0.15 ppm iron or 25 ppb manganese, or exhibit variability in the mineral concentrations. The March test results are shown in the table below.

	Mn (ppb)	Iron (ppm)
UW7	25	0.376
UW13	12	0.050
UW15	6.9	0.018
UW18	1.9	0.057
UW19	44	0.221
UW23	118	0.457

	Mn (ppb)	Iron (ppm)
UW24	27	0.156
UW25	9	0.017
UW 26	54	0.233
UW27	29	0.168
UW30	14	0.2

**RESIDENTIAL IRON & MANGANESE** – Residential tap samples were collected from eight homes in the Well 8 service area in March. These homes were likely receiving water from Well 11 or Well 24 at the time of sampling because Well 8 is out of service for the winter. Manganese levels ranged from 4-19 parts per billion (ppb) with a median value of 9 ppb. Iron levels ranged from 0.03-0.14 parts per million (ppm) with a median of 0.07 ppm. Additional samples will be collected in June.

**VOLATILE ORGANIC COMPOUNDS** – In March, the Utility collected a single sample taken from Well 18. The sample was tested for 40+ volatile organic compounds (VOCs) – man-made contaminants that may be present in groundwater. Well 18 is tested quarterly due to previous detections of volatile organic compounds. The table shows only the contaminants detected, the EPA maximum contaminant level (MCL), and the concentrations that were measured.

VOLATILE ORGANIC COMPOUNDS	MCL	Units	18
Bromodichloromethane*	--	ppb	ND
Bromoform*	--	ppb	[0.19]
Chloroform*	--	ppb	0.66
Dibromochloromethane*	--	ppb	ND
Total Trihalomethanes (TTHM)	80	ppb	0.85
Tetrachloroethylene	5	ppb	3.5
Toluene	1000	ppb	2.2
1,1,1-Trichloroethane	200	ppb	[0.29]
Trichloroethylene	5	ppb	[0.40]

\* Disinfection byproduct

## **Unregulated Contaminants Monitoring Update**

The Water Utility previously reported that water samples were successfully collected from 16 wells and seven representative distribution sample locations to comply with the Unregulated Contaminants Monitoring Regulation, Cycle 2 (UCMR2). Water samples were collected on February 9<sup>th</sup>. None of the 25 potential contaminants, including pesticides, pesticide degradates, explosives, and disinfection byproducts, was detected at any well or distribution sample location.

Wells 6, 18, and 29 were sampled in April. Test results will be posted to this listserv when they become available.

More information on the regulation and the contaminants can be found on the UCMR2 page of the US Environmental Protection Agency website, <http://www.epa.gov/safewater/ucmr/ucmr2/index.html>

## **Well 29 Filter Update**

Water quality issues had been a problem at Well 29 since its start-up in 2005. Elevated levels of naturally occurring iron and manganese led to discolored water observed at customer taps as well as stained laundry and plumbing fixtures.

After nearly seven months of construction, the filter at Well 29 began operating on April 15. It is expected to reduce iron and manganese to levels below the secondary drinking water standards of 0.3 ppm and 50 ppb, respectively. Preliminary test results for samples taken as the filtered drinking water enters the distribution system indicate that the filter is successfully meeting these standards. The results show that iron and manganese levels are consistently below 0.05 ppm and 10 ppb, respectively.

The well is expected to pump year round and deliver about 1.6 million gallons per day to East Side residents. An official dedication is being planned for July 11th when final construction and site landscaping should be complete.

In late March and early April, the Water Utility collected and tested residential tap samples from 64 homes that will consistently receive filtered water from Well 29 after its start-up. Manganese levels ranged from <1 to 16 ppb with a median value of 4 ppb. Iron levels ranged from <0.01 to 0.08 ppm with a median of 0.02 ppm. These homes were receiving their water from Well 15 or Well 25 at the time of sampling. The homeowner or tenant submitted a sample that was taken from the kitchen tap. In the next two weeks, Water Utility staff will collect samples from the exterior hose bibb of about 80 homes to evaluate the filter's impact on drinking water quality in the distribution system. These homes will be sampled again later this year.

## **Public Participation Process Update**

In 2008, the Water Utility Board adopted a formal public participation process that will provide multiple opportunities for public input on proposed projects from inception to construction. The process is currently being used on each of the following capital improvement projects:

- Zone 4 Water Supply Augmentation – additional water supply and enhanced fire flow capacity for southeast Madison
- Arbor Hills Supplemental Fire Flow Supply – enhanced fire flow capacity for south Madison
- Near West Side Water Supply Augmentation – additional water supply for west Madison
- Well 8 Iron and Manganese Mitigation – water quality improvements for the Isthmus and Near East neighborhoods

Complete project descriptions can be found on our website at [www.madisonwater.org](http://www.madisonwater.org). In addition, a Citizen Advisory Panel (CAP) is being formed for each project. Citizens are invited and encouraged to participate. Contact the Utility at 266-4651 or [water@cityofmadison.com](mailto:water@cityofmadison.com) if you would like to get involved.

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People who want to receive regular updates on Madison's drinking water quality can subscribe to this Listserv at:

<http://lavos.wiscnet.net/mailman/listinfo/drinkingwaterquality>

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