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Well Status Report

- Well 26 and Well 29 are currently out of service for repairs.
- Well 28 was brought back into service to help meet water demand on the city's west side while Well 26 is being repaired. Well 28 is expected to remain in service through at least early spring.
- The remaining seasonal wells (6, 8, 17, 23, and 27) are now out of service for the winter. They typically return to service in March or April each year. More information will be posted to this listserv in the spring.

Water Quality Test Results – October & November

MICROBIOLOGY – In October and November, Water Utility staff collected 708 water samples from Water Utility facilities and representative locations within the distribution system. A single sample tested positive for coliform bacteria; however, follow up samples did not confirm the presence of coliform bacteria. Additional samples were collected at the original “unsafe” sample location and other nearby locations to confirm drinking water safety.

IRON & MANGANESE – At least one sample was collected from each of nine wells between October and November and tested for iron and manganese. At elevated levels, these minerals can stain laundry and plumbing fixtures. The accumulation and later re-suspension of iron and manganese in water mains can cause discolored water at the customer tap. Results can be found in the table at the top of the next page.

Monthly samples are also collected from routine distribution sample locations and tested for iron and manganese. These locations, representing the distribution system as a whole and including at least one site from each pressure zone, are tested twice weekly for coliform bacteria. Results for samples collected in October and November are summarized in table two on the next page.

Table 1. Iron and Manganese Results – Well Samples

October	Mn (ppb)	Iron (ppm)	November	Mn (ppb)	Iron (ppm)
Well 6	1.1	<0.01	Well 6	n/s	n/s
Well 7	28	0.38	Well 7	24	0.28
Well 15	11	0.04	Well 15	6.0	0.01
Well 17	27	0.12	Well 17	29	0.11
Well 19	55	0.22	Well 19	68	0.29
Well 23	26	0.06	Well 23	n/s	n/s
Well 24	30	0.23	Well 24	n/s	n/s
Well 26	22	0.01	Well 26	26	0.01
Well 30	13	0.19	Well 30	14	0.20
Standard*	50	0.3	Standard*	50	0.3

* Secondary Maximum Contaminant Level (SMCL) - non-enforceable guideline for aesthetic effects (color, taste, or odor)
 ppb = parts per billion; ppm = parts per million; 1 ppm = 1000 ppb

Table 2. Iron and Manganese Results – Distribution Sample Locations

	Iron, ppm		Manganese, ppb	
	Oct	Nov	Oct	Nov
Median	0.02	0.01	3.7	5.1
Average	0.03	0.04	5.9	8.3
95 th Percentile	0.14	0.09	18	18
Maximum	0.21	0.49	28	88
Standard	0.3	0.3	50	50
Samples Above the Standard	0	1	0	1
Total Samples	29	29	29	29

VOLATILE ORGANIC COMPOUNDS – Samples were collected from five wells in October and each sample was screened for 50+ man-made contaminants that include cleaning solvents and degreasing agents that can be present in drinking water. These five wells (9, 11, 14, 15, & 18) are tested quarterly [four times per year] due to previous detections of tetrachloroethylene (PCE), trichloroethylene (TCE), or both chemicals. Concentrations at each well are below the maximum contaminant level (MCL). Complete test results are available on our [website](#).

Radionuclide Monitoring Update

In July, a sample collected from Well 19 exceeded the MCL for combined radium (226 + 228). The sample measured 5.8 pCi/L compared to an MCL of 5 pCi/L. The high test result triggered additional monitoring to determine if radium levels were consistently above the regulatory limit. Compliance with the MCL for combined radium is determined by the running annual average of four quarterly samples; a violation occurs if the average exceeds 5 pCi/L.

Further tests showed that the combined radium level at Well 19 was 4.1 pCi/L in September and 4.5 pCi/L in October. Another sample was collected in December; however, results have yet to be reported. Eight samples are planned for Well 19 in 2012.

Radionuclides are unstable forms of an atom that give off radiation as they decay into more stable atoms. Radium-226 and radium-228 form from the decay of uranium and thorium in the environment. In the natural environment, radium occurs at very low levels in almost all rock, soil, water, and plants. If high levels of thorium or uranium occur in the native rock (aquifer), radium may also be present at higher levels in groundwater. More information can be found on the websites of the [Water Utility](#), [Wisconsin DNR](#), and [US EPA](#).

Lead & Copper Monitoring Update

Madison drinking water now complies with federal and state drinking water standards for lead and copper. In late December, the utility received the final test results for samples collected during the July to December monitoring period. The 90th percentile lead level was 3.6 parts per billion (ppb) compared to the action level of 15 ppb. Earlier this year, testing showed the 90th percentile lead to be 2.6 ppb. Prior to the initiation of the lead service replacement program the 90th percentile lead level was 16 ppb – just above the action level. Combined with operational changes and improved flushing, the lead service line replacement program has led to lower lead levels at the customer tap.

Based on this year's test results, the Water Utility will be on reduced monitoring. In future years, the utility will be required to collect annual lead and copper samples from 50 homes instead of the current 100 homes. If the 90th percentile lead level remains below 5 ppb, monitoring will be further reduced to sampling at 50 homes once every three years.

The Water Utility is also in the final stages of replacing or abandoning all remaining lead service lines within the City. The last known utility-owned portion of a lead service was replaced in late December. A small number of privately owned lead services remain and staff are either working with property owners to attain compliance or have referred the matter to the city attorney.

Droster Road Pipe Lining Project

Earlier this fall, the Water Utility rehabilitated an existing main using cured-in-place pipe (CIPP) lining technology. The technology allows the installation of a new pipe inside of a deteriorated one, with only minor street excavations for accessing the main. A 1,300-foot section of cast-iron pipe with a history of frequent main breaks (five in 2010 alone) located on Droster Road on the city's east side was renewed with this new process. The pilot project was the first of its kind to use this new trenchless technology in the state of Wisconsin.

The pilot included a thorough testing and performance evaluation of the structural liner being installed. Post-installation tests showed no differences in water quality compared to the pre-installation samples. Additional information is available on our [website](#) and a feature story in a [trade publication](#) highlighting the project.

Well 15 Project Update

An engineering consultant has been hired to design a low-profile air stripper for the removal of tetrachloroethylene (PCE) from Well 15. The well has rising levels of this man-made chemical that are currently below the regulatory limit. In conjunction with this design work, the utility is soliciting proposals for a groundwater investigation at Well 15 to identify potential source(s) of the contaminant and evaluate the feasibility of remediation if a source is identified. The study will be conducted this spring/summer and its outcome will help determine if the utility should proceed with treatment at the well, remediate the contaminant source, or both. An air stripper is expected to be in operation by summer 2013 if that option remains the preferred alternative. More information on this project can be found on our [website](#).

Contact the Water Utility

Do you have questions about your water? Do you have a water quality concern at your home or place of work? Is there other information you would like to see in future drinking water quality updates or on our website? For answers to these and other questions or to provide us feedback, please contact the Water Utility at 266-4654, water@cityofmadison.com, or through our website at <https://www.cityofmadison.com/water/askUs.cfm>.

Subscribe to the Drinking Water Quality Listserv

People who want to receive regular updates on Madison's drinking water quality can subscribe to this e-mail listserv at <https://my.cityofmadison.com/>.

Registration is simple and provides access to dozens of City of Madison e-mail lists including Drinking Water Quality (this one) and Water Main Flushing, as well as departmental messages from Metro Transit, City Parks, Public Health, and Police.

Once registered for “My Account”, click on the check box for “Drinking Water Quality” under the Water Utility heading.

Please contact me if you need assistance.

Sincerely,
Joseph Grande
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Madison Water Utility

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