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Water Quality Test Results – December 2008

MICROBIOLOGY – In December, the Water Utility collected 343 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. All of the samples collected in December showed no evidence of coliform bacteria.

For calendar year 2008, a total of 4692 water samples were collected and tested for coliform bacteria. These routine samples were collected from designated distribution system sample locations (2810), Madison Water Utility facilities (1680) such as wells and water towers, and the City-County Building (202). Two samples, both untreated groundwater from Unit Well 15, tested positive for coliform bacteria; all of the other 4690 samples showed no evidence of coliform bacteria. Following the coliform positive result at Well 15, the well was removed from service, disinfected, and tested again to confirm the absence of coliform bacteria before being returned to service.

IRON & MANGANESE – The utility also collected samples from six 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 that appear to exhibit seasonal variation in the mineral concentrations. The December test results are shown in the table below. The second table summarizes the results for samples collected at all wells in 2008.

	Mn (ppb)	Iron (ppm)
UW 7	26	0.342
UW 11	6.2	0.006
UW 19	44	0.204
UW 23	27	0.062
UW 24	26	0.154
UW 30	13	0.195

	Number of Samples	Manganese, parts per billion (ppb)			Iron, parts per million (ppm)		
		Minimum	Average	Maximum	Minimum	Average	Maximum
UW 6	4	1.4	2.1	3.4	0.009	0.019	0.032
UW 7	9	26	27	28	0.342	0.371	0.402
UW 8	5	48	51	53	0.523	0.576	0.638
UW 9	5	0.9	1.4	1.8	<0.0014	0.006	0.008
UW 10	1	68	68	68	0.607	0.607	0.607
UW 11	12	6.2	13.3	17	0.006	0.016	0.029
UW 12	6	<0.19	0.5	1.2	<0.0014	0.003	0.005
UW 13	3	11	11	12	0.045	0.051	0.057
UW 14	4	<0.19	0.2	0.4	<0.0014	<0.0014	<0.0014
UW 15	3	6.5	6.9	7.2	0.014	0.015	0.016
UW 16	4	<0.19	1.2	4.1	<0.0014	0.004	0.009
UW 17	6	26	29	32	0.078	0.102	0.117
UW 18	4	0.7	1.4	3.1	<0.0014	<0.0014	<0.0014
UW 19	12	40	42	47	0.185	0.200	0.210
UW 20	5	0.8	1.4	3.0	<0.0014	0.003	0.009
UW 23	12	26	29	32	0.059	0.064	0.069
UW 24	12	25	28	32	0.154	0.181	0.200
UW 25	4	8.9	10	12	0.066	0.080	0.089
UW 26	6	2.3	7.4	18	0.002	0.023	0.053
UW 27	6	30	36	44	0.095	0.131	0.256
UW 28	10	18	22	24	0.157	0.192	0.207
UW 29	4	74	113	209	0.140	0.248	0.360
UW 30	12	13	15	20	0.176	0.215	0.339

RESIDENTIAL IRON & MANGANESE – Residential tap samples were collected from eleven homes in the Well 8 service area in December. 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 2-21 parts per billion (ppb) with a median value of 5 ppb. Iron levels ranged from 0.006-0.206 parts per million (ppm) with a median of 0.04 ppm. The Water Utility expects to collect additional samples later this winter and in the spring.

Manganese in Madison's Drinking Water - Journal of Environmental Health

The following is the abstract from December's article published in the Journal of Environmental Health. The article was authored by Dr. Thomas Schlenker, Director of Public Health for

Madison and Dane County, John Hausbeck, and Kirsti Sorsa. The complete article is available through our website, www.madisonwater.org.

ABSTRACT: Public concern over events of manganese discolored drinking water and the potential for adverse health effects from exposure to excess manganese reached a high level in 2005. In response, Public Health Madison Dane County, together with the Madison Water Utility, conceived and implemented a public health/water utility strategy to quantify the extent of the manganese problem, determine the potential for adverse human health effects, and communicate these findings to the community. This strategy included five basic parts: taking an inventory of wells and their manganese levels, correlating manganese concentration with turbidity, determining the prevalence and distribution of excess manganese in Madison households, reviewing the available scientific literature, and effectively communicating our findings to the community. The year-long public health/water utility strategy successfully resolved the crisis of confidence in the safety of Madison's drinking water.

Unregulated Contaminants Monitoring Update

The Water Utility has scheduled the second round of sampling in support of the Unregulated Contaminants Monitoring Regulation, Cycle 2 (UCMR2) for the second week of February. The first round of sampling was completed in mid-August when none of the 25 contaminants were detected at any well or at any representative distribution sample location.

The Safe Drinking Water Act (SDWA) requires that the U.S. Environmental Protection Agency establish criterion for a program to monitor unregulated contaminants and to publish a list of contaminants to be monitored every five year. Unregulated contaminants are substances for which a maximum contaminant level (MCL) has yet to be established. Monitoring for these substances provides occurrence and exposure data that help the regulatory agency determine whether the contaminants should be regulated.

Monitoring for UCMR2 will occur during 2008-2010. All community water systems serving more than 10,000 people are required to monitor. Madison is required to monitor 25 potential contaminants using five analytical methods. The contaminants identified for monitoring include pesticides, pesticide degradates, flame retardants, explosives, and nitrosamines.

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

Pressure Zone 4 Water Supply Project Update

The Citizen Advisory Panel (CAP) for this project was convened on January 22 to review the project scoping document, the proposed public participation plan, and the proposed communication plan. The panel consists of five members who reside within Pressure Zone 4 and

five at-large community members. The CAP is expected to meet again prior to any recommendation by Water Utility staff that the project be formally established.

Project details can be found on the Water Utility website, www.madisonwater.org.

The Water Utility welcomes written comments regarding the project by US mail (119 E Olin Avenue, Madison, WI 53713) or e-mail (water@cityofmadison.com). A public hearing also will be held immediately before an upcoming Water Board meeting - date to be determined - to hear testimony regarding the proposed project.

Finally, volunteers are still welcome for the Citizen Advisory Panel. If you would like to help the Utility formulate the scope, location, and character of the project, please contact the Water Utility at 266-4651 or water@cityofmadison.com at your convenience. Citizen input will help to make this project better.

Unit Well 29 Filter Update

Construction of the iron/manganese filter plant at Unit Well 29 is on-going. The plant will be brought into service later this spring and could be fully operational by May 1. Once operational the plant is expected to treat 1.6 million gallons of water per day and have an annual production of 575 million gallons. The filter is expected to reduce iron levels from 0.4 mg/L to <0.1 mg/L and manganese levels from 180 ug/L to <20 ug/L.

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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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