

Gary D. Baxter  
Mayor – City of Mulberry



**Addressing Seasonal Water Quality Concerns - January 21, 2025**

To Mulberry Water Users,

I want to provide the community with information regarding the brown water issue you may have experienced. Our water treatment operators have identified that the city lake underwent a seasonal turnover, which resulted in elevated manganese levels in the finished water at the Treatment Plant Clearwell.

Seasonal turnover occurs when water layers in a lake or reservoir mix due to changes in temperature. During warmer months, water forms distinct layers, with warmer, lighter water at the surface and cooler, heavier water at the bottom. As temperatures drop, the surface water cools, becomes heavier, and sinks, forcing the bottom water—which may contain sediments such as iron and manganese—to rise. The more abrupt the temperature changes, the faster this turnover happens. This mixing can stir up sediments, leading to temporary changes in water taste, odor, or clarity. A similar process can occur in water storage tanks, such as the clear well (chlorine contact tank) and the elevated or ground tanks in town, especially during rapid temperature shifts or changes in water movement. Our water treatment system is equipped to manage these changes and maintain safe drinking water for our community.

Normally, manganese levels can be managed around 0.20 mg/L at this time of year, which are within the range of standard treatment processes. However, recent measurements have shown levels reaching 0.40 mg/L—100% higher than what typically is encountered. This significant increase accounts for the noticeable rise in brown, off-color water complaints.

To address this, the newly installed aeration system is running at full capacity, and the sodium permanganate feed has been adjusted to its maximum allowable dosage. However, some recent water line leaks have exacerbated the issue by causing pressure fluctuations in the distribution system, which is pulling and redistributing manganese into different parts of the system.

Additionally, there is evidence suggesting the Clearwell may have experienced a turnover as well, as indicated by a reduction in chlorine residuals. While these levels remain within safety standards, the increased chlorine demand reinforces this theory.

The Water Treatment Operators have also observed unusual conditions in the lake water, including a distinct coloration and brownish hue in the center cone of the clarifier, which aligns with the concerns shared in photos.

The Water Treatment Superintendent proactively informed the Arkansas Department of Health (ADH) about the situation and the steps being taken to address it, ensuring the State is kept in the loop directly by the operators rather than through other channels.

Thank you for your understanding as we work diligently to resolve this matter. Please don't hesitate to reach out with any questions or concerns. You can contact Darren Fields, Mulberry Water Treatment Superintendent, at (479) 217-1303.

Warmest regards,

A handwritten signature in blue ink that reads "Gary D. Baxter". The signature is fluid and cursive, with the first letters of the first and last names being capitalized and prominent.

Mayor Gary D. Baxter  
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