Exhibit No. 1

Commission – Exhibit 1
Thomas Aley
Statement at MO PSC Hearing, Joplin, MO – January 19, 2023
File No. WR-2022-0303

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STATEMENT OF THOMAS ALEY AT MISSOURI PUBLIC SERVICE COMMISSION HEARING. JOPLIN, MISSOURI. JANUARY 19, 2023.

I am Thomas Aley and I'm President of the Ozark Underground Laboratory, 1572 Aley Lane, Protem, MO. 65733. I specialize in groundwater tracing with tracer dyes and have conducted major studies at Joplin, at George Washington Carver National Monument, and in Neosho. I am a licensed Missouri Registered Geologist and have conducted groundwater investigations at Missouri American Water Company's planned water supply reservoir 15 miles south of Joplin. These studies were funded by property owners who will be affected by this ill-planned reservoir.

This hearing is on Missouri American's plan to raise water rates by over 25%. My testimony is relevant to this hearing because the planned reservoir will result in major costs to water users in the Joplin area **in addition to** the over 25% increase already proposed. Missouri American has already applied for a federal permit to build the reservoir and their project is well advanced. With the pending reservoir, the 25% plus rate increase is only the tip of the rate increase iceberg for local water users.

Missouri American wants a lake on Baynham Branch that would cover 1,200 acres, be 100 feet deep at the dam and 80 feet deep over Lime Kiln Road, and supply 30 million gallons of water per day during periods when the flow of Shoal Creek is low. Shoal Creek is the main water supply for Joplin.

Much of the streamflow in the Baynham Branch valley sinks into the cavernous limestone bedrock at multiple points in the planned lake bed. This sinking water bypasses the dam and discharges from springs where it cannot be captured by the dam. This rapid groundwater flow through multiple natural conduits dissolved in the limestone has been proven by our three groundwater traces. Leakage rates in Baynham Branch are so great that the stream channel at the planned dam site is routinely dry in the summer even though the surface watershed is 15.7 square miles. A dry channel is clearly not a good site for a dam to store water for dry periods.

The springs fed by the leakage points in the planned lake bed are at the base of a limestone bluff along Shoal Creek. We installed continuous water flow monitoring equipment at the largest of the springs and recorded flow rates for 15 months. The highest measured flow rate at this spring was 45.4 million gallons per day. This occurred during a stormflow period on Baynham Branch when the depth of water in the channel between Lime Kiln Pike and the planned dam average about 8 feet. If the lake were at the level that Missouri American plans, water over this stream channel would be 80 to 100 feet deep. The deeper the water the greater the leakage rates; leakage would be many times the 45 million gallons per day we measured if the reservoir were ever to fill. But it leaks too fast to ever fill.

The leakage points are in the basin, not under the dam. As a result, foundation treatments at the dam will not solve the basin leakage. Missouri American's planned reservoir in Baynham Branch is a mirage based on wishful corporate thinking. Given the massive leakage rates, the lake will never fill and water users will not get the water they need. If constructed, Missouri American will seek another big rate increase for the cost of a failed project plus a profit margin. There clearly is not much incentive in the public utility business for making good water management decisions.

Copies of our reports on Baynham Branch are available at www.proposedjoplinreservoir.com.