Geosmin and MIB Timeline – July 3, 2025

The taste and odor issues that you are continuing to experience are a result of Geosmin and/or MIB, which are naturally occurring compounds found in surface water, such as Lake Martin and Lake Jordan. CEW&SA monitors Geosmin and MIB levels monthly using specific sampling conducted by Auburn University. The compounds have been seasonal, but testing has shown that levels have been continually above the human detection threshold since last year. The June 2024 sample results showed that Geosmin and MIB levels were six times higher than previously recorded in the last ten years of monitoring. The compounds are not toxic or harmful according to ADEM and EPA. Neither are regulated through ADEM or the EPA. Ongoing testing continues to show an absence of harmful bacteria and other pathogens in the water.

CEW&SA was one of the first in this area to experience these taste and odor issues caused by algae. CEW&SA has been working diligently since 2013 to come up with a solution that is both economical and effective. CEW&SA has worked closely with ADEM and other neighboring systems during this process.

Initial research showed that a Powder Activated Carbon (PAC) system could provide some reduction benefits for Geosmin and MIB. A used package unit was located at Mobile Water. Once the system was purchased and installed, the numbers in the lake fell below measurable levels before the system could be fully evaluated. The following year, Geosmin and MIB levels in Lake Martin increased again, starting late summer to early fall. The system showed minor improvements in the removal of the compounds but not enough to get numbers below the human detection threshold.

CEW&SA started a pilot study with Copper Sulfate in December of 2014. Copper Sulfate is commonly fed for algae control and taste and odor per ADEM. The pilot study was concluded in October 2015. ADEM modified CEW&SA's permit to include Copper Sulfate starting in 2016. CEW&SA used Copper Sulfate for several years with minimal T&O complaints. In 2020, CEW&SA received a letter from ADEM stating they were lowering the copper discharge levels. CEW&SA would be unable to meet those new standards and was forced to discontinue the use of the Copper Sulfate.

CEW&SA had to start looking at other, more costly, options. CEW&SA consulting engineers were tasked with a T&O feasibility study in 2020. The results were presented to the Board of Directors in March of 2021. The most economical and effective solution was the **Granular Activated Carbon** (GAC) system at just over $6 million. Other solutions included the addition of Ozone or UV at an approximate cost of about $15 million. CEW&SA began requesting funding assistance from ADEM in 2021 with additional requests in 2022 and 2023. In August of 2021, CEW&SA started a pilot study with GAC. This was studied for approximately two years. This study took longer since the compound numbers fluctuate throughout the year with numbers during the winter nearing zero. The result was the GAC pilot system was effective in removing Geosmin and MIB to levels below the human detection threshold.

In April of 2024, CEW&SA met with ADEM to request funding specifically for a GAC system. ADEM was very responsive to CEW&SA's request, indicating that some funding could become available for CEW&SA by the end of the year. In May of 2024, the CEW&SA Board of Directors approved to proceed with plans on a GAC system. On May 29th, CEW&SA management met with the consulting engineering firm Ardurra in preparation to move forward with plans for a GAC system for submittal to ADEM. The GAC system will help to lower Geosmin and MIB levels, which will help with the taste and odor issues that are currently being experienced. The GAC system will also treat for PFAS if needed in the future.

The plans were completed in March 2025. Since March, CEW&SA has been in constant contact with ADEM, requesting grants to help fund this project. As of July 2025, ADEM informally informed CEW&SA that they would be getting approximately $2M in grants to help fund this project. The lead time for some of the material is approximately 40 weeks. We have decided to bid the material early so the project will not be delayed. Our goal is to have the new GAC system up and functional by this time next year, but many factors will contribute to a successful and on-time project.

Estimated Timeline:

July 2025 – Material Bid

August 2025 – Contractor Bid

November-June 2026 – Project Construction