PRECISION UTILITY LLC

07/26/2023

Memo: Regional Water Authorities- Surface Water Issue – Odor

Precision Utility has received a notice from the Regional Water Authorities that surface water provided through the regional water authorities have received complaints about water taste and odor. The cause of this is linked to algae blooming influenced by temperature.

A notice provided by the Regional Water Authorities will be included with this memo to provide more information on the cause of this issue. The latest update provided stated that they are actively trying to correct this issue, however we should have a contingency plan on standby in case water quality doesn't improve.

The contingency plan for our districts would be running the groundwater wells in place of surface water, until their issues with surface water have been corrected. The main reason that we have not moved forward with this plan already is due to additional water quality issues that may arise from using only well water. These water quality issues may affect color, taste, and odor.

For now, to mitigate this issue, Precision Utility technicians are flushing affected districts to bring in fresher water.

Mr. Bonaventure has been in contact with NHCRWA and CHCRWA Operators. Any updates provided on this issue will be forwarded to all interested parties.

Thank you for your attention to this matter.

On Behalf of Tony Bonaventure, MBA
Manny Vadhar, Controller
Precision Utility, LLC

Please see next page for RWA Notice

PRECISION UTILITY LLC

The Surface Water Supplied by the Authority is Safe to Drink

Recent Taste and Odor Inquiries Regarding Drinking Water

The recent changes in taste and odor of the treated surface water being delivered by the North Harris County Regional Water Authority (the "Authority") to a few districts are believed to be the result of a spike in Geosmin and Methyl-Isoborneol (MIB) which are naturally occurring compounds found in Lake Houston. All recent test results have confirmed that the water being supplied by the City of Houston to the Authority and by the Authority to its customers is indeed safe and meets all State and Federal drinking water requirements.

The Authority purchases treated surface water from the City of Houston's Northeast Water Purification Plant (the "NEWPP"), the raw water source of which is the San Jacinto River and Lake Houston. Seasonal changes such as temperature and rainfall events can influence Geosmin and MIB levels in the water in Lake Houston. Seasonal changes in the lake can impart variations in taste and odor of the treated surface water. The City of Houston continuously monitors the incoming raw water and the finished water leaving the NEWPP to ensure its compliance with all applicable State and Federal drinking water standards.

The Authority is working with the City of Houston to mitigate the variations in taste and odor to the maximum extent possible. Proper disinfection levels are being monitored and maintained. Flushing, where appropriate, is being done to help alleviate the situation. The Authority is continuing to monitor, sample and test the water coming into our system and throughout our transmission and distribution system to ensure that the drinking water being delivered by the Authority is safe to drink.

9419 LAMKIN ROAD HOUSTON TEXAS 77049 | P.O. BOX 1852 CROSBY TEXAS 77532 | 281-456-9825 MAIN 281-456-0329 FAX
2 WATERWOOD PARKWAY HUNTSVILLE TEXAS 77320 | MAIN 936-891-7182
WWW.PRECISIONUTILITY.BIZ | SERVICE@PRECISIONUTILITY.BIZ

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Geosmin and MIB Information Sheet

Geosmin and Methyl-Isoborneol (MIB) are naturally occurring compounds that have a very strong, earthy-musty odors.[1] Geosmin and MIB can be detected by humans at very low levels.

The City of Houston routinely monitors for Geosmin and MIB in the water supply. These compounds are usually present in drinking water, however not at noticeable levels.

Generally, Geosmin & MIB become a taste & odor issue for customers when levels are in the range of 20-30 nanograms (one millionth of a milligram) per liter, but some people who are particularly sensitive may notice it at levels above 10 ng/l [2]. To put it in simpler terms that would equate to one cent in a billion dollars.

What are the Effects of Geosmin and MIB?

Geosmin and MIB produce a musty, earthy smell and taste in drinking water, however both compounds are not harmful at levels present in drinking water.[3]

What Causes Increased Levels of Geosmin and MIB?

Some kinds of algae and bacteria present in lake and river water naturally produce Geosmin and MIB. An increase in this production typically happens during summer into early fall when lake levels are low, rivers are flowing slowly and water temperatures are warm.

What Can be Done About Geosmin and MIB?

Geosmin and MIB cannot be removed from water using normal treatment processes available at the existing NEWPP. The City of Houston adds Powdered Activated Carbon at the NEWPP to help reduce the levels of Geosmin and MIB.

References:

1. Frederick W. Pontius "Water Quality and Treatment – A Handbook of Community Water Supplies, 4th Edition", American Water Works Association 1990. Page 151

2. Diana M.C. Rashash, Robert C. Hoehn, Andrea M. Dietrich, Thomas J. Gizzard, and Bruce C. Parker, "Identification and Control of Odorous Algal Metabolites" American Water Works Association, (AWWA Research Foundation), Denver Colorado 1996. Page 62

3. United States Environmental Protection Agency, "Secondary Drinking Water Standards: Guidance for Nuisance Chemicals" EPA Office of Ground Water and Drinking Water, Washington DC. https://www.epa.gov/dwstandardsregulations/secondary-drinking-water-standards-guidance-nuisance-chemicals#table-of-secondary