WATER QUALITY UPDATE

The use of chlorine to disinfect water for the purpose of drinking produces in the finished product low levels of various disinfection by-products (DBPs) with the trihalomethanes (THM) and haloacetic acids (HAA) being the most common. Although a significant portion of TTHM and HAA5 can form during primary disinfection, they can continue to form within the distribution system as a result of continual exposure to disinfectant residuals and extended contact time. TTHM and HAA5 can increase further if precursors contained in pipelines or storage tank sediments come into contact with disinfectant residuals.

What can cause high DBP's

1) **Low system demands-** Low system demands create water aging in pipe lines and storage tank. This results in longer contact with disinfectant residuals.

2) **Sediment in tank-** Organic matter in the sediment can react with disinfectants in the water, resulting in increased concentrations of TTHM and HAA5.

3) **Increased chlorine dose and/or residual (intentional or unintentional)-** An increase in the disinfectant dose (particularly chlorine) can increase TTHM and HAA5 concentrations. The change in disinfectant dose may be intentional or unintentional.

4) **Seasonal changes in water's disinfectant demand-** When source water quality changes (e.g., algal blooms in warmer months). the water's disinfectant demand may change, requiring a change in the primary disinfection dosage rate in order to maintain similar microbial inactivation levels.

What is Rhome doing to lower DBP's

1) **Work with Walnut Creek SUD**- Create an open dialogue with the City's water provider to help improve the disinfection levels and reduce water aging.

2) **Tank Inspection and Cleaning**- TCEQ requires tank inspection annually. Within the inspection it will be determine the amount of sediment within each tank and is cleaning is required.

3) **Disinfectant-** Continue to monitor disinfectant residuals and work with the city engineer to explore alternative disinfectant processes.

4) **Reduce water aging**- Continue to flush dead end line to help reduce water stagnation and aging. Work with the city engineers to help reduce aging within storage tank

5) **Source Water study**- Engineer study to review the City source water and look at future

Location	Contaminant	TCEQ Required Level MCL	Q2 2020 (Apr-June)	Q1 2020 (Jan-Mar)	Q4 2019 (Oct-Dec)	Q3 2019 (Jul-Sep)	Calculated Compliance Value (4 qtr Avg.)	Q2 2019 (Apr-June)
FM 4333 Boster Station	**Trihalomethanes**	80	78.6 ug/L	65.5 ug/L	82.2 ug/L	113.0 ug/L	0.085 mg/L	63.3 ug/L
601 Old Bass RD	**Trihalomethanes**	80	79.1 ug/L	63.8 ug/L	76.5 ug/L	106.0 ug/L	0.081 mg/L	51.5 ug/L
FM 4333 Boster Station	**Halo acetic Acids**	60	42.1 ug/L	26.5 ug/L	35.8 ug/L	54.5 ug/L	0.039 mg/L	29.2 ug/L
601 Old Bass RD	**Halo acetic Acids**	60	44.5 ug/L	25.3 ug/L	35.6 ug/L	56.6 ug/L	0.041 mg/L	35.2 ug/L
	Contaminant	**Required Level pCi/l**	**Q2 2020 (Apr-June)**	**Q1 2020 (Jan-Mar)**	**Q4 2020 (Oct-Dec)**	**Q3 2020 (Jul-Sep)**	**Calculated Compliance Value (4 qtr Avg.)**	**Q2 2020 (Apr-June)**
Well 6 offline	**Radon**							

Trihalomethanes (**THMs**) are the result of a reaction between the chlorine used for disinfecting tap water and natural organic matter in the water

Haloacetic acids (HAAs) are a type of chlorination disinfection by-product (CDBP) that are formed when the chlorine used to disinfect drinking water reacts with naturally occurring organic matter (NOM) in water

ug/L= one microgram per liter, which is about 1 ppb.

Violation letters are required by TCEQ when any maximum contaminant Level or system violations are met. The letters are a notification to the systems water customers of each violation. Within each letter the customer is notified of what the violation is, the chemical results, if there are any health concerns and actions a customer can take.

A complete water system analysis is provided annually to all Rhome water customers. Please visit the City's website for 2019 Customer Confidence Report (CCR).

Thank you for your patience as the City resolved the water quality issues.

Michelle Pittman Di Credico
Mayor