

Radium and Groundwater

- Radium in groundwater is naturally occurring. Groundwater moves slowly through pores and cracks in layers of rock beneath the ground called aquifers. As water moves through those rocks, minerals and elements, such as radium, can be dissolved out and enter the groundwater.
- The National Academy of Sciences has concluded that long term exposure to elevated levels may result in an increased risk of certain cancers, specifically bone cancer.
 - When establishing the Maximum Contaminant Level (MCL) for drinking water, the NAS considered the exposure risk from other sources of radiation, such as food and air. This analysis is what determined the MCL of 5 pico-Curies per Liter for combined radium.
- All community public water systems in North Carolina are required to sample and notify customers if the radium is above the MCL of 5 pCi/L.
 - Also, community water systems monitor for radioactive indicator parameters. If the indicators are discovered, we are required to increase monitoring.
 - Aqua's systems are community public water systems and are required to comply and sample in accordance with the Environmental Protection Agency (EPA) and North Carolina Department of Environmental Quality (NCDEQ) rules. Private wells owned by private well owners are not required to test.
 - An October 2018 article in the Raleigh News Observer encourages private well owners to sample for radium due to geologic conditions that exist throughout North Carolina.
 - In addition, all compliance sample results are provided annually on your Consumer Confidence Report (CCR) to all customers. Your CCR can also be found here:
 - <https://www.aquaamerica.com/customer-service-center/water-quality.aspx>
- When Aqua sampling detects elevated levels of radium in a public water system, the following actions are taken:
 - Additional sampling. This helps us determine if this is anomaly or a change in hydro-geologic conditions.
 - Filtration, as required, based on sampling results.