

## **PIPELINE ARTICLE**

The federal Environmental Protection Agency established the Unregulated Contaminant Monitoring Rule (UCMR) as part of the federal Safe Drinking Water Act (SDWA). The ultimate goal of the program is to protect the health and safety of US citizens by determining the amount and proliferation of potentially hazardous chemicals in the nation's water supply. On a regular basis, the EPA identifies up to twenty-five potentially hazardous compounds and establishes a testing methodology for each compound. Water purveyors then have three years to take samples from their distribution systems and sources and submit the results to the EPA. Once all the results are in, the EPA can determine the safety factor of a particular compound. If the compound is determined to be safe, no further action is taken. However, if levels are determined to be hazardous, the EPA establishes a MCL (Maximum Contaminant Level) and acceptable removal methods. Any purveyor with amounts of the contaminant at or above the MCL must then install the removal technology or discontinue use of the source.

In 2013, the District conducted its UCMR3 testing which included six perfluorinated compounds (PFC). Perfluorinated compounds have been used ubiquitously throughout US manufacturing from non-stick Teflon pots and pans; water- or stain-resistant fabrics for adult and children's clothing; fire retardant for furniture and carpeting; non-stick food wrappers and containers; and firefighting foam. Since data has shown a potential link to certain health risks, PFCs were banned for most uses in 2002. Currently, there are no MCLs set for any PFC compound; however, the EPA has set a Health Advisory level for PFOS (Perfluorooctanesulfonic Acid) and PFOA (Perfluorooctanoic Acid) or PFOS+PFOA at 70 parts per trillion or 0.07µg/L. To be clear, this is an "advisory" level not a "regulatory" level. To date, the EPA has not set a regulatory level for any PFC compound. For perspective, one part per billion is equivalent to 1 inch in 16,000 miles; one part per trillion is equivalent to 1 inch in 16,000,000 miles, or one grain of sugar in an Olympic size swimming pool, or 1 inch in 22.3 trips from the earth to the moon and back.

As part of the District's UCMR3 testing in 2013, the District tested well sources in Aquifers A (shallow), C (sea level), and E (deep) as well as various locations in the distribution system. All results for all PFC compounds tested down to the UCMR3 levels in parts per billion or 0.04µg/L for PFOS and 0.02µg/L for PFOA resulted in ND or Non-Detect. These match the results of 98% of nationwide water purveyors following the same protocol.

Unfortunately, this was not the case for UCMR3 test results for a number of the JBLM potable wells where results for PFOA and PFOS exceeded the Health Advisory limits. The suspected primary source of the PFOS and PFOA is from decades of use of firefighting foam at the training site on the east side of the McChord AFB runway. The Air Force discontinued the use of PFC-based foam in the early 1990s.

Upon learning of the results from the JBLM sample data, the District conducted two rounds of tests from source wells nearest JBLM, only this time, testing down to parts per trillion or 0.0025µg/L for PFOS and 0.0032µg/L for PFOA. The first-round samples were from two sources closest to JBLM, one in the A aquifer (shallow) and one from the E aquifer (deep). The E well data showed ND for both PFOS and PFOA. The A aquifer data showed ND for PFOA and 0.0465µg/L for PFOS. The second round of tests were taken from three A aquifer wells, one C aquifer well, and a repeat E aquifer well. The E well once again resulted in Non-Detect for both PFOS and PFOA. The C aquifer well results were ND for PFOA and 0.0027µg/L for PFOS. The three A wells results were PFOS 0.038µg/L, 0.012µg/L, and 0.042µg/L; PFOA 0.0080µg/L, 0.0054µg/L, and 0.0050µg/L respectively.

The latest test results clearly show the levels of PFOA, PFOS, or PFOS+PFOA do not come close to the EPA's 70 parts per trillion Health Advisory limits and, under both WSDOH (Washington State Department of Health) and EPA standards, the water remains safe to consume. It is widely held by WSDOH experts that if the UCMR3 had mandated testing down to parts per trillion, similar results to the District's new data would be prolific nationwide.

Lakewood Water will continue to test and monitor its system for PFCs while working closely with EPA, WSDOH, and JBLM. Keep in mind, the extent and proliferation of PFC compounds in ground water was not even a matter for consideration until the mandatory 2012 UCMR3 investigatory sampling regimen. Should the EPA establish an MCL and contaminant rule for PFCs, the District will closely adhere to all regulations and treatment methods mandated by the rule, because the District's number one priority remains the health, safety, and confidence of all its customers.