

September 10, 2013

Jeff Zimmerman
Zimmerman & Associates
13508 Maidstone Lane
Potomac, MD 20854

RE: Beaver Falls Municipal Authority

Atty. Zimmerman,

The Beaver Falls Municipal Authority (BFMA) is public drinking water system that pulls water from the Beaver River in Beaver Falls, PA, which is formed by the confluence of the Mahoning and Shenango Rivers near New Castle, PA. BFMA began experiencing elevated Brominated levels in 2009. These elevated levels caused BFMA to exceed the EPA's Maximum Contaminant Level (MCL) for Total Trihalomethanes (TTHM'S) for the first 3 quarters of 2010. The MCL for TTHM's is a running annual average (RAA) of .08mg/l, which is comprised of an average of the four most recent quarterly samples. The RAA for the first quarter of 2010 was .087mg/l, for the second quarter of 2010 was .097mg/l, and for the third quarter of 2010 was .0857mg/l. Each of these occurrences required BFMA to publically notify all of our 18,000 customers that we were in violation of an EPA drinking water standard. Beginning in September 2010 BFMA began using chloramines as its primary disinfectant over chlorine which had been used by BFMA for over 50 years. The main reason for this change was that chloramines produce lower levels of TTHM's. This change will also enable BFMA reduce TTHM levels in our drinking water and remain in compliance with EPA's drinking water standards. BFMA expended over \$25,000 in capital for this

conversion. Chloramine disinfection has been used for over 80 years but can cause problems to people on dialysis machines if not removed prior to dialysis. Chloramines may also be toxic to fish.

Over the past 4 years there have been at least 3 instances where individuals or companies have been prosecuted for illegally dumping frack water into the Mahoning, Shenango, or Beaver River. Unfortunately in every instance BFMA was not notified until a few days after each episode and are unsure if any of the frack water made it to our intake. While it has been documented many places that frack water has elevated levels of brominated disinfection byproducts, which are precursors to TTHM formation no correlation was traced back to any legal or illegal discharges up stream of our intake.

If you have any questions, please feel free to contact me at (724) 846-2400 Extension 231.

Sincerely,

James Riggio
General Manager