The Dragun Corporation Presents

PFAS Concerns, Litigation, Remediation, and the Need for Information

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The City of Newbergh, New York, recently filed suit seeking to *halt on-going contamination of the City's water supply by per -and polyfluoralky substances (PFAS) originating at Steward Air National Guard Base and Steward International Airport.*

I doubt it will surprise anyone if this legal trend continues (and accelerates) with respect to PFAS.

PFAS in the News

PFAS have quickly moved from an emerging environmental contaminant that is only recognizable to the environmental and scientific community to one that seems to be the lead story on many radio, television, and print/social media news.

We have been sharing updates regarding PFAS for some time. In February 2017, we wrote, "Some areas, such as near military bases where firefighting chemicals containing PFAS may have been used, could be more likely to have detections of PFAS-related chemicals."

The current focus for many communities is PFAS at former military bases. As we have shared in the past, one of our clients took a very bold step and sued the United States of America and the Department of Defense to take control of a federal cleanup in their community. This type of approach, suing to take control of the issue, may be an option to consider to resolve PFAS sites quicker.

However, the question remains: If PFAS have been found in my community or in my drinking water, what does this mean?

Sources of PFAS

Before considering the potential implications, it is important to know how these chemicals became so pervasive.

PFAS are a group of some 3,000 fluorinated compounds that have been widely used in commerce and, as a result, are prevalent around the globe. The abundance of news stories focus around two specific PFAS compounds: perfluorooctanoate (PFOA) and perfluorooctane sulfonate (PFOS).

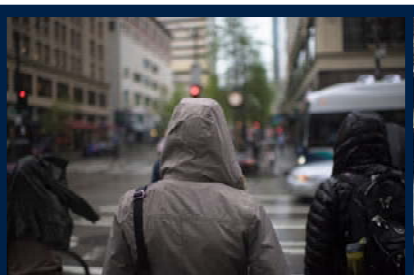
According to the Agency for Toxic Substances and Disease Registry (ATSDR), some of the commercial products that may contain PFAS chemicals include grease-resistant paper, fast-food containers/wrappers, microwave popcorn bags, pizza boxes, candy wrappers, non-stick cookware, stain-resistant coatings used on carpets and upholstery, water-resistant clothing and shoes, cleaning products, personal-care products (shampoo, dental floss), and cosmetics (nail polish, eye makeup).

This does not even touch on the industrial uses, including Aqueous Film-Forming Foam (AFFF) that municipalities, airports, and military bases may still use to fight fires, which saves both lives and millions of dollars in potential fire damage. In this and other respects, fluorinated chemistry has been beneficial.

However, because they were so widely used commercially, we have all likely ingested PFAS compounds. The Centers for Disease Control (CDC) has previously stated that nearly every blood serum sample they have collected has tested positive for PFAS chemicals.

From manufacturing, fire protection, consumer products, human ingestion, and disposal (landfills and publicly-owned treatment works/biosolids), PFAS are widely present.






PFAS In My Water – So What Does It Mean?

With all of this said, if our drinking water is impacted by PFAS chemicals, we all, rightfully so, want answers.

Simply knowing that PFAS have been detected in surface or groundwater is not overly helpful to understanding the potential health and environmental risk. There are insufficient data available such that federal agencies can set meaningful and appropriate human health and environmental standards. Which of the fluorinated compounds may pose a risk, and at what concentration and dose, is not well understood.

The ATSDR says, "The potential for health effects from PFAS in humans is not well understood… In general, animal studies have found that animals exposed to PFAS at high levels resulted in changes in the function of the liver, thyroid, pancreas and hormone levels."

The US EPA has set a Lifetime Health Advisory (LHA) limit of 70 parts per trillion (ppt) for PFOS and PFOA in drinking water. Note that LHAs are non-enforceable. Based on available data, the LHA offers a margin of protection from adverse health effects resulting from exposure to PFOA and PFOS in drinking water throughout a person's lifetime.

In the absence of enforceable federal standards, many states have adopted the LHA of 70 ppt, while other states are establishing their own enforceable limits (many lower than the LHA) as "hard and fast limits." For example, New Jersey and Vermont have a limit of 14 ppt and 20 ppt, respectively, for PFOA. These limits may not be scientifically defensible, but many communities may feel they have no other choice as they struggle with the weight of science versus the weight of public pressure.

Detecting at the *parts per trillion* range would have been something akin to science fiction when I started in the industry in the early 1980s. The fact that we can detect this at this level is a testament to scientific advancements, and it also poses new challenges. What used to be "unseen" and "non-detect" is now visible. I recently read what I thought was a good analogy to put this into perspective. The LHA of 70 ppt is equivalent to less than one drop of water in ten Olympic-sized swimming pools.

While we can detect very trace amounts of PFAS in water samples, the scientific and toxicological data are not "complete" enough to determine if these trace amounts are harmful in the long term.

Investigation Cautions

For those who have, or suspect they may have, a PFAS issue in groundwater, we would caution you the same way we have cautioned our clients for three decades. *Please* make sure you understand the subsurface conditions before making big decisions.

Because of the pervasiveness of PFAS and the low detection limits, there are many challenges with respect to collecting representative samples and avoiding contaminating these samples (i.e., false positives).

Additionally, understanding the subsurface geology, chemical interactions, and groundwater flow is not so simple. We have published numerous papers and conducted many seminars on this topic related to understanding soil and groundwater.

The caution, in a nutshell, is to team with excellent advisors, both technical and legal, when addressing PFAS in groundwater. Assembling the right team may be your single, most important next step.

We are all still left *wanting* for more information and answers related to PFAS. However, the truth is that the scientific community does not have definitive answers yet. We will continue to share scientific and regulatory updates as we learn of them. In the meantime, all eyes are on the courtrooms, such as the City of Newburgh's lawsuit against the United States Air Force et al.

We'll discuss sampling and remediation of PFAS in a future blog, but if you need more information on remediation of PFAS, I would encourage you to contact Dragun's senior environmental engineer, Matthew Schroeder, who is currently involved in a PFAS groundwater remediation project.

If you have questions regarding this or other environmental issues, please feel free to contact Jeff Bolin at 248-932-0228, Ext. 125.

This originally appeared in a blog by Jeff Bolin on August 15, 2018 at www.dragun.com

Dragun Corporation
Environmental Advisors