



# PFAS Forensics: Let Us Identify the Source



## Forensic PFAS Markers Help Source Identification

**The prevalence of over 9,000 per- and polyfluoroalkyl substances (PFAS) in the environment complicates source identification and environmental liability. These synthetic compounds have been manufactured since the 1940s and are used in a variety of industrial, commercial, and consumer products and processes often with unique PFAS chemical signatures.**

The numerous sources of PFAS include metal plating, textiles, leather and apparel, plastics, paper and packaging, cleaning products, pesticides, and personal care products. As a result of its widespread uses and pervasive presence, many of our PFAS investigations have required the use of forensics or chemical signatures to identify sources and fate and transport scenarios.

### We Understand Signatures

Chemical signatures from PFAS mixtures can provide forensic markers to determine the source of a PFAS release. Unique chemical compositions for paper and food packaging differ from those for textile and leather, which vary from AFFF, metal plating, and wastewater treatment plants and landfills. With a proprietary analyte comparison mapping tool, TRC can help determine the source of PFAS and chemical trends across large spatial areas.

PFAS signatures, however, cannot be evaluated in isolation. TRC uses a multiple lines of evidence approach and provides careful consideration to differentiate complex mixtures of PFAS and

distinguish sources of PFAS in environmental media. TRC considers the following:

- Chemical signatures/fingerprints
- Hydrogeologic data, site operational history, timing of releases and other site data
- Unique fate and transport properties of PFAS
- Transformation products of precursor PFAS
- Mixing, dilution and comingled plumes
- Diagnostic ratios that can help distinguish legacy AFFF from modern fluorotelomer AFFF sources, for example

TRC has nationally recognized PFAS experts who understand the various targeted and non-targeted PFAS analyses as well as the laboratory procedures that greatly impact the final reported data. TRC's experts help you determine the following:

- Appropriate PFAS analysis for a given site
- Specific PFAS to select for signature evaluation
- Impact of differences in laboratory methodologies from standard operating procedures
- Effect of PFAS transformation on chemical concentrations/fingerprints
- Effect of PFAS sorption to solids on chemical concentrations/fingerprints

Let TRC help you navigate PFAS sources, fate and transport, and transformation at your site through thoughtful analyses and expert interpretation to minimize your potential liability.

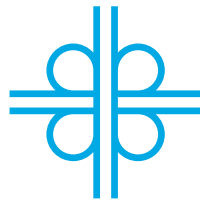
## About TRC

Groundbreaker. Game changer. Innovator. TRC is a global firm providing environmentally focused and digitally powered solutions that address local needs. For more than 50 years, we have set the bar for clients who require consulting, construction, engineering and management services, combining science with the latest technology to devise solutions that stand the test of time.

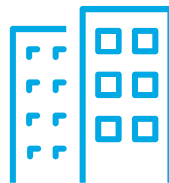
TRC's nearly 6,000 professionals serve a broad range of public and private clients, guiding complex projects from conception to completion to help solve the toughest challenges. We break through barriers for our clients and help them follow through for sustainable results.



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