

Understanding PAHs –Tabulation Isn't Interpretation. A Publicly Available Tool to Determine the Source of PAHs at Your Site.

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On contaminated sites where polycyclic aromatic hydrocarbons (PAHs) are a contaminant of potential concern, environmental professionals are tasked with separating PAHs attributed to a petrogenic source (i.e., the release of a hydrocarbon product) from those that are the result of pyrogenic processes. Examples of pyrogenic sources include wind-blown ash, burned organic material, creosote etc.

As a family of chemicals PAHs have similar physical-chemical properties which means they maintain their relationship to each other when they move in the environment. This characteristic is used in forensic chemistry to identify the source of PAHs on a site.

This presentation will demonstrate a method to determine whether PAHs measured in environmental samples are petrogenic or pyrogenic based on widely accepted forensic practices as well as demonstrating a tool available to environmental professionals to apply this method themselves. The process of selecting lab analysis, preparing data for interpretation, visualizing data, and determining PAH sources will be discussed and demonstrated.

Paul Fuellbrandt

Paul has cultivated an increasing specialization in developing and executing attainable closure plans for contaminated sites over the last 20 years. The motivation for this work is drawn from a desire to return as much land to productive use as possible. To that end, he co-founded Statvis Analytics Inc. to develop user-friendly software tools to understand and communicate environmental data. He also co-founded Precision Liability Inc. to provide a cost-efficient process to eliminate environmental liability for the benefit of his clients and the land.

Court D. Sandau

Dr. Sandau is the principal of Statvis Analytics Inc., Chemistry Matters Inc. and Precision Liability Inc. as well as being an adjunct professor at the Mount Royal University. Dr. Sandau's technical expertise includes analytical and environmental forensic chemistry, environmental fate and transport, toxicology, and risk assessment. He has been studying, measuring, and assessing polycyclic aromatic hydrocarbons (PAHs) in humans and the environment for over 20 years.