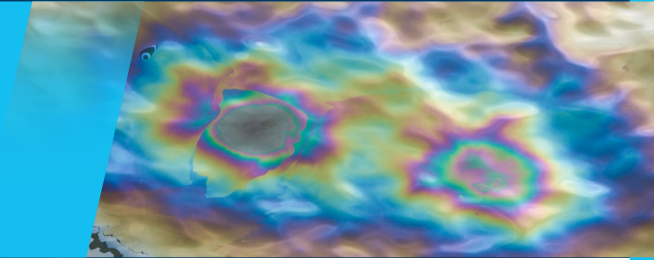


# PETROLEUM HYDROCARBON ENVIRONMENTAL FORENSICS



*When did the release occur? Who is responsible for the release?  
What is the source? What are the contaminants?*

Similar to looking for fingerprints at a crime scene, petroleum forensics analyses can be used to identify contaminant releases. By looking at the overall chemical makeup, as well as performing more in-depth biomarker analysis, our analytical suite can aid in investigations and provide scientifically sound data to support your case.

## Tier 1 – General Identification

**C3-C36 Whole Oil Fingerprint.** General identification of refined petroleum or crude oil types present and general weathering attributes within a product sample.

**C8-C40 Petroleum Fingerprint.** General identification of types of refined petroleum or crude oils present and general weathering attributes within a water or soil sample.

## Tier 2 for gasoline – In-depth Information

**C3-C12 Quantitative Petroleum Characterization (PIANO).** Detailed characterization of gasoline range petroleum types – gasoline, refinery feedstocks, aviation fuel, or condensate - data that are essential for gasoline source and age investigations. This analysis includes in-depth samples diagnostics related to environmental effects and refining properties.

**Oxygenated Blending Agents.** Quantifies oxygenated additives in gasoline - data that may aid in age constraining and source investigations of unleaded gasoline.

**EDB and Organic Lead.** Quantifies the five alkyl lead compounds added to gasoline as well as the lead scavenger, EDB - data that may aid in age constraining and source investigations of leaded gasoline.

## Tier 2 for heavier hydrocarbons – In-depth Information

**C8-C40 Full Scan Semi-Quantitative Characterization.** Provides fuel type characterization of crude oil and petroleum products heavier than gasoline by looking at the distribution of specific biomarkers. Used to compare diesel, fuel oils, lube oil, crude oil, etc. from different locations.

**Parent and Alkylated PAHs.** Provides a full panel of forensics grade PAH data to identify creosote, MGP residues, urban runoff, and other pyrogenic products. Useful for risk assessment.

## Tier 3 – Isotopic Fingerprinting

**Compound Specific Isotope Analysis.** Provides isotopic fingerprints of specific compounds within petroleum product, soil, or water samples – data that can further aid in source investigations.

*For over 30 years, Microbial Insights has been dedicated to the development of analyses and advanced sampling tools that facilitate intelligent site design and management decisions in the environmental remediation industry. Moving forward, we will continue to be on the leading edge of research and development – always exploring innovative technologies and new applications.*