Petroleum Exploration

High-Resolution Gas Chromatography / Mass Spectroscopy in the C12-C44 Carbon Range

PAN/PNA Analysis

Highly sensitive quantitative determination of 16 different Polyaromatic Hydrocarbons by selective-ion monitoring HR-GC/MS analysis. Analysis includes the full list of 16 priority compounds typically listed by the United States Environmental Protection Agency (EPA).

Analysis of n-alkane Distribution

Highly sensitive Hydrocarbon scan in the C12-C44 range by HR-GC/MS. Hydrocarbon ratios are used for depositional environment and maturity estimation of petroleum deposits. The fingerprints from the Gas Chromatograph / Mass Spectrometer analysis are developed for the following hydrocarbon classes in the C12-C44 Carbon Number range with sensitivity enhancements in the high molecular weight range.

Spatiotemporal Geochemical Hydrocarbon (SGH) Petroleum Exploration Geochemistry

A semi-qualitative analysis of each sample for 162 specific "non-gaseous" hydrocarbons in the C5-C17 range. This highly developed deep penetrating geochemistry is a nano-technology that has been refined and used for over 15 years. This technique utilizes natural materials of soil, sediment, till lake-bottom or ocean-bottom sediments as well as other sample matrices. The combined results from a geochemical survey or grid, using a recommended minimum of 50 sample locations, provides a spatial pattern and signature that is able to vector to and identify blind petroleum deposits such as for wet gas, oil plays and coal deposits. With the exception of gas plays, the spatial patterns produce are tied to redox conditions in the overburden and the hydrocarbon chemical signature identifies the petroleum based play if present. Included in the price for analysis is a data interpretation and generation of a formal geochemical report in excess of 30 pages in length. Several Petroleum based case studies are available for review. Please contact us to discuss whether your exploration survey is compatible with this exploration technique. This SGH geochemistry has also recently been successful at discovering unconventional plays.