

Independent Complementary Inorganic and Organic Soil Geochemical Techniques for Mapping Reservoirs and Subsurface Structures

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PetroPathSM Services aid in the detection of hydrocarbon accumulations. These services include two independent, yet complementary methods: Enzyme LeachSM -- a discriminating extraction based on chemical elements and volatile compounds bound to amorphous oxides, SGHSM -- a heavy hydrocarbon [C5 through C17] analysis. Both of these tests are performed on surface soils and marine sediments, and a multitude of analyses are measured in the parts-per-billion to parts-per-trillion range. Soil and sediment samples are collected in an unobtrusive manner, simplifying access and environmental concerns. Hydrocarbon targets are indicated through a host of elements and compounds that are distributed into enrichment and depletion patterns above and around the margins of oil and gas reservoirs. Distinctive surface geochemical enrichment and depletion patterns have been found over and around the Bromhead oil field, southeastern Saskatchewan, and the Clearville oil field, southern Ontario. Determining a large number of organic and inorganic parameters makes PetroPathSM robust. Interpretations made from Enzyme LeachSM and SGHSM surveys can be used to detect hydrocarbon accumulations, validate seismic anomalies, and ultimately define or confirm drill targets.