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**More Than Just Access to the Arctic: Mackenzie-Liard Valley Hydrocarbon Basins, NWT**

The Mackenzie-Liard Valley area of the Northwest Territories has a series of superimposed sedimentary basins formed over the last billion years, many with established hydrocarbon systems in which stacked reservoirs rocks, trap seals and source rocks have been identified. Post-moratorium exploration is benefiting from new science, technology and exploration techniques including plate tectonics, geochemistry, 3-D seismic, high-resolution aeromagnetics, directional drilling, and borehole image logging.

A thick sequence of unmetamorphosed sedimentary rocks forms a complex, locally thrust-faulted, Proterozoic Basin; analogous basins in Siberia and Australia may provide hints at undiscovered hydrocarbon potential. The overlying Cambrian Salt Basin has discovered gas at the Colville Hills. The Ordovician-Silurian Basin is the reservoir for subcrop oil at East McKay. The Devonian Basin has oil production at Norman Wells, natural gas production at Pointed Mountain-Liard and discoveries of oil and gas in the Great Slave Plain. The Carboniferous Basin has gas production at Fort Liard, while the Cretaceous-Tertiary Basin has discovered gas at Arrowwood.

Mackenzie-Liard has been explored since 1919. While effectively a northern continuation of the Western Canada Sedimentary Basin, it is a different hydrocarbon province in which early hydrocarbon generation requires early trapping and/or remigration into later traps.

An existing pipeline infrastructure (Westcoast [Duke] Gas, Shiha Gas, and Enbridge Oil pipelines), means that in several areas of the Mackenzie-Liard exploration is proceeding in advance of large gas pipeline projects planned to run the length of the Mackenzie corridor.