

Unconventional Oil and Gas Potential of Yukon Territory

Brad J. Hayes, Petrel Robertson Consulting Ltd., Calgary, Alberta
bhayes@petrelrob.com

Summary

Unconventional hydrocarbon reservoirs – coals, “tight” sands and carbonates, and shales – are assuming ever-increasing importance in North America. Our industry has used advances in drilling and completions technologies to access hydrocarbons far down the resource triangle – resources that were not even known to exist 20 years ago.

Little is known about the unconventional hydrocarbon potential of Yukon, as there has been a limited amount of petroleum industry activity, and a focus on conventional exploration. The success of shale gas drilling in northeast B.C. and recent land sale activity in the Mackenzie Plain area of Northwest Territories has built industry interest in stepping further afield to investigate unconventional plays in Yukon.

We have completed the first systematic characterization of unconventional hydrocarbon resources in Yukon. Eight prospective basins are investigated, using stratigraphic, geochemical, and conventional play assessment information generated to guide conventional exploration. Because their geological histories are so varied, the basins offer a wide range of prospectivity for coals, tight reservoirs, and shales. Further work, primarily drilling and focused sampling and testing, is recommended for plays with the highest potential.

Considering current gas market conditions and distance from facilities and markets, Yukon is truly a frontier jurisdiction. However, a number of plays offer liquids potential, which is critical to economic success. As well, opportunities exist to acquire large land positions in highly prospective plays – opportunities that are becoming very scarce in more developed basins of North America.

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