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How does the Montney measure up?

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The Deep Basin of the Western Canada Sedimentary Basin contains significant resource potential from numerous zones from the Devonian to Cretaceous. One of the most sought after play's is the Montney Formation. Covering an immense area, stretching from northern British Columbia to Alberta, the Montney boasts an estimated gas in place of 449 Tcf, 14,521 million barrels of NGL and 1,125 million barrel of oil (NEB, 2017).

The Lower Triassic Montney Formation typically ranges from 100m to 300m in thickness, and thins to zero at its eastern and northeastern edges. The formation consists of mainly siltstone facies deposited in a gradually dipping shoreface to shelf-type environment. The lack of total organic carbon (TOC) and increased grain size make this more of a tight sand (siltstone) play, however, it is constantly compared to the big shale plays south of the border.

The Integrated Reservoir Solutions (IRS) division of Core Laboratories was there at the beginning of the Montney boom and began a Montney Formation Joint Industry Project (JIP) in 2008. A Phase 2 of the study was launched only 4 years ago and concentrated on the growing liquid-rich potential on the Alberta side of the play. Ten years later and 63 wells in the study, we are still learning the intricacies of the play and that maybe the 'Montney' is not so monotonous!

The IRS division has a global advantage when looking at these types of unconventional plays, having conducted in excess of 100 regional studies performed throughout the world. These include the Eagleford, Marcellus, Permian, Niobrara, Central Atlantic Margins – West Africa, Kenya – East African Reservoirs and Seals, Mozambique Basins, Indonesia – Regional Evaluations of Gas Shales, Bangladesh Petroleum Geology, just to name a few. Each of these studies contains a vast amount of information from simple porosity-permeability-saturation numbers to geomechanical data, to detailed geological assessments and completion-production analyses.

The most asked question IRS gets from operating companies, is how does my formation stack up against some of the more well known and successful plays out there? This presentation will address just that – firstly by addressing what makes a successful play? And secondly, how does the Montney Formation measure up in terms of reservoir rock quality? Is the Montney as good as we say it is or is it 'doomed to fall short' (Alberta Oil Magazine, 2016)?

References

National Energy Board, British Columbia Oil and Gas Commission, British Columbia Ministry of Natural Gas Development, Alberta Energy Regulator, 2013. The ultimate potential for unconventional petroleum from the Montney Formation of British Columbia and Alberta; National Energy Board, Briefing Note; BC Ministry of Natural Gas Development, Oil and Gas Report 2013-1.

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