

Coalbed Methane in the WCSB: Frontier Exploration in a Mature Basin

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ABSTRACT

Since 2000, coalbed methane (CBM), or natural gas from coal (NGC), has gained an increasingly high profile within the unconventional gas resource spectrum in the WCSB.

Most Canadian operators still rely primarily on the U.S. coalbed methane experience over the past 15 years in an attempt to remove some of the uncertainty associated with CBM in western Canada. In particular, the anecdotal approach is commonly applied to support both pessimistic or optimistic viewpoints. Optimists reference the more successful U.S. analogs such as the San Juan Basin and the Powder River Basin with the hope that similar plays will emerge north of the border. Pessimists suggest that due to the 'unique' geological characteristics of the aforementioned U.S. basins, there are no direct analogues in the WCSB and therefore NGC prospectivity may be minimal.

Since inception in 2000, Trident Exploration has viewed the CBM 'problem' in the WCSB in the context of high risk frontier exploration. Substantial post-mortem analysis of the early U.S. CBM experience revealed that coalbed methane was not commonly viewed as a geological problem; rather, it was seen as primarily a drilling and completion problem. More recently, it is accepted that geologic controls have a major impact on CBM productivity.

Early entrants into frontier plays are not always the most successful, usually due to the steepness of the learning curve and the upfront capital load. Hindsight has taught us that geological controls on any play type or group of play types in any basin worldwide must be understood early in the evolution of the basin to ensure the longevity of the early players.

It remains Trident's view that the understanding of the key drivers of CBM productivity in the WCSB, mainly gas content and permeability, lies within the rigorous application of substantial exploration-oriented methodologies that would commonly be applied in conventional frontier-style exploration worldwide. The creation and execution of a systematic, basin-wide portfolio approach to CBM exploration in western Canada has been the cornerstone of Trident's activity to date. Over 150 Trident-operated wells have been drilled to date to evaluate a wide range of geologically defined CBM play types.