

## Ultimate Potential for Unconventional Gas in the Horn River Basin

Warren Walsh\*

British Columbia Ministry of Energy, Victoria, British Columbia.

Warren.Walsh@gov.bc.ca

and

Michael F. Johnson

James A. Davidson

Peter A. Budgell

National Energy Board, Calgary, Alberta.

### Summary

Estimates of the original gas in place (OGIP) for shale gas plays require an understanding of the reservoir and reservoir conditions. However, with regionally pervasive gas resources, both the reservoir characteristics and its pressure/temperature conditions may change dramatically throughout a basin, requiring that either small play areas be delineated and assessed separately or an arbitrary cell or grid be used in the calculation. Furthermore, for completeness, a volumetric calculation of free gas and adsorbed gas are required. For the shales of the Horn River Basin, tops data and logs were used to create a series of spatial grids including but not limited to depth to reservoir, gross isopach, and net to gross ratio. The OGIP was then stochastically modeled via Monte Carlo simulations using distributions for net to gross ratio, average porosity, water saturation, pressure, and temperature gradient. Adsorbed gas was also modeled using grid based averages for TOC and distributions for pressure gradient and Langmuir volume. This talk will report on the data acquisition, mapping, and modeling used in the recent joint National Energy Board and BC Ministry of Energy report on the Ultimate Potential for Unconventional Gas in the Horn River Basin.