

# **An Updated Prediction on the Performance and Economic Viability of Future Gas Wells in the Western Canadian Sedimentary Basin**

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## **ABSTRACT**

The Western Canadian Sedimentary Basin (WCSB) is dominantly a gas-bearing basin, particularly in the western and northern regions. With the major fluctuations in gas prices over the few years, it has become increasingly difficult to determine the economics of exploring for and developing natural gas reserves within the basin. Each geographic area and stratigraphic unit within the WCSB has its own economic criteria from the relatively inexpensive low reserve, low deliverability shallow gas of southeastern Alberta to the high reserve, high deliverability of Western Alberta and Northeastern British Columbia. To compare which plays are economically more attractive, a detailed analysis has been done to statistically compare the risk factors, the ultimate reserves and deliverability for each gas-bearing horizon in each geographic region within the basin. In addition a full cycle economic model has been constructed in order to determine the future economic viability of each prospect. To predict how future wells will perform, the statistical database has been based on the most recent drilling; however, success rates, reserves and deliverability trends through time have also been charted.

The model subdivides a basin such as the WCSB into geologically relevant geographic areas and related gas-bearing horizons. Statistical success rates, ultimate reserves and deliverabilities are determined for each gas-bearing interval. Data from the last five years has been utilized to predict the risked and unrisked resource and deliverability distribution for future wells within each geographic area. An economic model using all pertinent costs compares gas plays, prospects and acquisition opportunities across the basin.