

# A Field Study of the Montney Shale in British Colombia, Canada: An Organic Shale Development Roadmap for Existing Wells

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## GeoConvention 2012: Vision

### Summary

A logical well and field guideline was formulated in order to provide a roadmap for a Montney organic shale development program.

### Introduction

An assessment field study was conducted on 12 existing wells in the Montney organic shale formation in northeastern British Colombia, Canada. One of the most important issues of organic shale development is to assess the quality of the initial exploratory well program before additional field development costs are incurred. An assessment phase of the existing wells is necessary to reduce uncertainty and increase the data capture quality criteria for future wells. Using initial information from existing wells helps to define a development strategy and identify data capture requirements before full field development.

### Theory and/or Method

An assessment field study was conducted on 12 existing wells in the Montney organic shale formation in northeastern British Colombia, Canada. The purpose of the study was to develop an organized workflow for organic shale evaluation in the Montney formation, based upon 12 existing wells, in order to assess the hydrocarbon productive potential and the exploitation strategy of the field. Each well was examined and classified as potentially productive based upon select criteria, including geologic history, drilling methods and costs, petrophysical evaluation, economics of completion and stimulation, and reservoir production simulation. Well data was publically available and included drilling and mud log reports, sample cutting descriptions, survey data, well logs, and one drill stem test in the Montney.

## Conclusions

A logical well and field guideline was formulated in order to provide a roadmap for a Montney organic shale development program. Economic considerations were very important driving factors in every step of the process, however it was realized early in the study that pertinent information was invaluable. The well logging program and correlation with full core acquisition can be extremely important in the assessment process. Without this preliminary assessment, many of the decisions concerning well placement and spacing, drilling and bit design, mud program, stimulation plans and reservoir production forecasts can be severely compromised.

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### Full Abstract follows:

#### **A Field Study of the Montney Shale in British Columbia, Canada: An Organic Shale Development Roadmap for Existing Wells**

One of the most important issues of organic shale development is to assess the quality of the initial exploratory well program before additional field development costs are incurred. An assessment phase of the existing wells is necessary to reduce uncertainty and increase the data capture quality criteria for future wells. Using initial information from existing wells helps to define a development strategy and identify data capture requirements before full field development.

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A logical well development path was formulated in order to provide a roadmap for a Montney organic shale field development program. Economic considerations were very important driving factors in every step of the process, however it was realized early in the study that pertinent information was invaluable. The well logging program and correlation with full core acquisition can be extremely important in the assessment process. Without this preliminary assessment, many of the decisions concerning well placement and spacing, drilling and bit design, mud program, stimulation plans and reservoir production forecasts can be severely compromised.