The super shallow coalbed and sandstone reservoirs of the Upper Belly River and Edmonton Group are emerging as one of the most important play types in the Western Canada Sedimentary Basin.

This resource play is characterized by a unique underpressured signature, 'dry' production characteristics and areas of pervasive gas saturation - predominantly biogenic. With sweetspots of stacked coalbeds and sandstones exceeding 10 bcf/section OGIP, the play can be a very lucrative long-life producer. However, this play has been largely by-passed until recently due to poor petrophysical response caused by invasion, variable mineralogy and fresh formation waters.

RPCL has been studying unconventional gas resources for over 10 years. Our approach of using integrated hydrodynamic analysis provides an effective means of delineating water wet areas from gas-saturated 'dry' production fairways.
Unconventional Gas Resources
Belly River, Edmonton and Paskapoo Hydrogeology

This detailed exploration oriented study provides a 77 page technical report including an excellent literature reference, theoretical models, resource analysis and an Ardley coalbed methane supplement. The report includes 114 technical illustrations, 45 enclosures and pressure and fluid chemistry databases. Purchasers are provided a detailed onsite technical workshop following delivery. All RPCL reports are digital products available for upload on most industry GIS mapping platforms.

Study Area
- T. 25-55, R. 15W4M-15W5M
- T. 30-64, R. 20W4M-4W6M (Ardley supplement)*

Zones Analysed
- Paskapoo/Scollard, Horseshoe Canyon, Bearpaw, Dinosaur Park, Oldman

Study Objectives
- Develop a stratigraphic model of the project area.
- Develop a comprehensive database.
- Conduct a regional hydrogeological analysis.
- Examine existing accumulations of gas to determine trap, size and productivity.
- Determine the resource potential for each of the stratigraphic units in the project area.
Paskapoo/Scollard, Horseshoe Canyon Bearpaw, Dinosaur Park, Oldman

Deliverables

• Hydrodynamic and pressure system analysis identifying gas-charged and water bearing play fairways, powered by RPCL’s proprietary HydroStation™ GIS platform.
• Detailed pressure versus elevation graphs for each zone.
• Hydraulic head maps.
• Water chemistry analysis tied to shallow aquifers.
• Six regional and 17 detailed cross-sections.
• Selected pool models detailing hydrodynamics, geology and production profiles.
• Theoretical analysis of pervasive shallow gas accumulations.
• Quantified risked resource mapping of OGIP in bcf/section.
• Ardley Coal Zone coalbed methane supplement.
• Database of over 2,600 pressures and 1,400 fluid analyses correlated into a consistent stratigraphic framework.
• Comprehensive technical report.
• Adobe Acrobat digital master.

Ardley Coal Zone Coalbed Methane Supplement

*Study Area (Ardley supplement)
• T. 30-64, R.20W4M-4W6M

Deliverables

• Structure, depth, percent coal, vitrinite reflectance, net coal isopach, temperature, methanogenesis, dry gas index, percent carbon dioxide, and measured and calculated gas contents maps for the Ardley Coal Zone.
• Water chemistry and hydraulic head maps for Drift and Shallow Bedrock, Paskapoo and Scollard.
• Prospect summary map for the Scollard.
• Schematic diagrams, sections, graphs and charts highlighting key developments and opportunities.
• Comprehensive technical report.

GIS Powered by

HydroStation™
Available Exclusively from Rakhit Petroleum Consulting Ltd.
1. Unconventional Gas Resources - Belly River, Edmonton and Paskapoo Hydrogeology

2. Reservoir Distribution, Hydrodynamics and Gas Resources - Belly River and Edmonton Groups, West-Central Alberta

3. Hydrogeological Evaluation of the Gas Resource Potential of the Uppermost Cretaceous and Tertiary in the Western Irrigation Block


5. Hydrogeology of the Upper Belly River, Edmonton and Scollard/Paskapoo