



**FIRST DATA AVAILABLE - August 17, 2011**

**CBM Solutions and Trican Well Service Ltd. are pleased to announce the availability of our Nordegg Geochemical and Reservoir Properties Study 1 (Fox Creek).**

Cores from 9 wells and cuttings from 159 wells have been analyzed to provide a geochemical and rock properties data set for the explorer of the Nordegg Formation in the Fox Creek area of Alberta. The focus of the study is the light hydrocarbon potential of the Nordegg Formation shales. In preparation for upcoming landsales, an early release of a partial data set will be available on August 17, 2011. **The first release** will include maps (TOC, maturity, isopach and structure), 600 Source Rock Analyses (SRA - TOC, maturity and organic matter typing), 600 mineralogical analyses by X-ray diffraction, 20 S1 free hydrocarbon compositional analyses, 114 unconfined porosity, 73 pulse decay permeability under confining stress, 66 mercury porosimetry and initial TOGIP (gas in place) and OOIP (oil in place). **The full and final data set** will include the complete geochemical dataset, downhole organic content and mineralogical profiling in core wells, full TOGIP and OOIP modelling, integrated petrophysical modelling with the dataset, mapping and cross sections and a comprehensive report. A minimum of two samples per well location has been tested. All data included is **NEW** and has been recently generated by CBM Solutions. Samples have been hand-picked by CBM Solutions geologists from archived cuttings and core. Quality assessment has been made on each analysis by CBM Solutions Technical Advisors.

The study includes extensive mapping of the Nordegg Formation and has user defined boundaries of Nordegg top, bottom and sub-units of over 350 wells. A series of maps (isopach, structure, production, TOC distribution, and maturity trends) and 25 cross sections were generated to outline the variation in stratigraphy, define the carbonate boundaries and highlight the trends in the geochemistry.

**Terms:**

Only ten (10) subscriptions will be sold prior to January 1, 2012.  
 Unlimited subscriptions will be available after January 2, 2012.

**Conditions:**

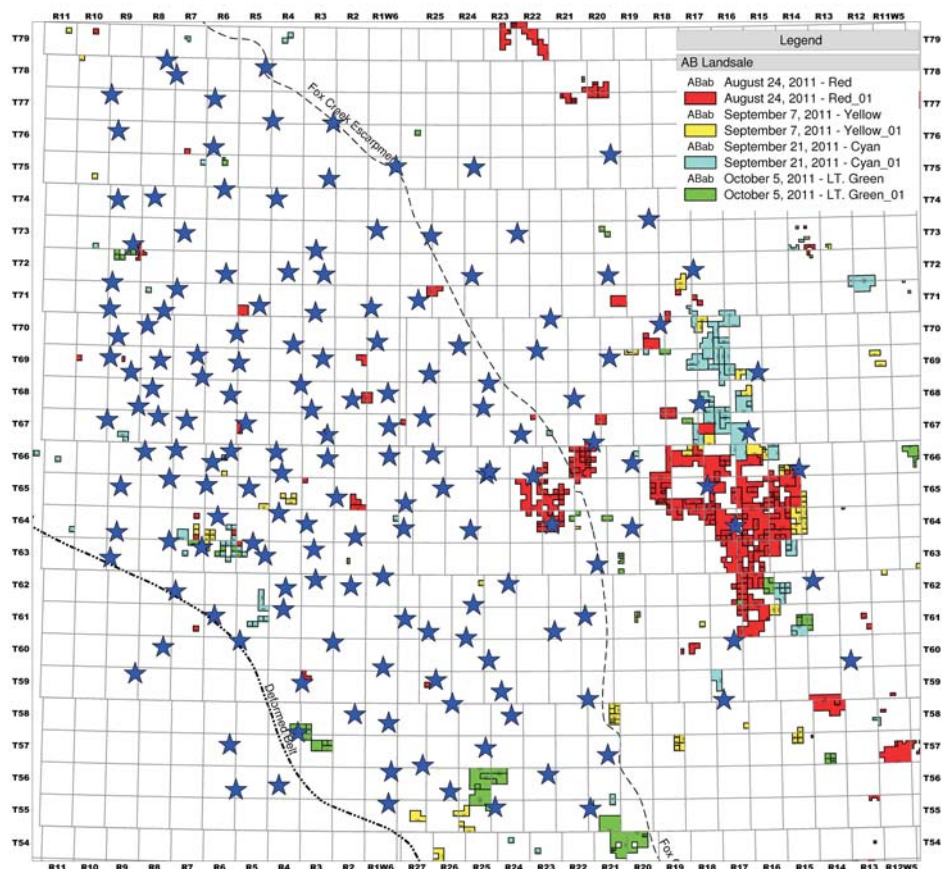
A confidentiality agreement will be required to restrict transfer of data to outside parties. Data remains the property of Trican Well Services Ltd.

**Analyses Include:**

- source rock analysis (SRA)
- S1 - free hydrocarbon compositional analysis
- mineralogy by XRD
- pulse decay permeability
- porosity
- mercury porosimetry
- adsorption isotherms
- TOGIP and OOIP modelling
- petrophysical interpretation
- mapping (includes x-sections, TOC, Tmax)

**For study information and pricing please contact:**

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# NORDEGG GEOCHEMICAL & RESERVOIR PROPERTIES STUDY 1 - Fox Creek

**TRICAN**

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## Deliverables:

[The combined analyses represent a value of over \\$700,000](#)

**SRA analyses: Why? Where is the Nordegg relative to NGL's and the oil window? Do these shales have the potential capability to produce and store light hydrocarbons or dry gas? Where is the total organic carbon distributed?**

SRA analyses provides Tmax (thermal maturity - indicates the level of maturity with respect to the oil window), TOC (Total Organic Carbon) and Kerogen Type ( Type I, II or III kerogen)

**S1 analyses: Why? Can we predict the presence of oil or light hydrocarbons? Can we correlate the maturity with hydrocarbon compositions?**

S1 analysis is a method to analyze the composition of existing free hydrocarbons in the rock. Even with archived core significant quantities of hydrocarbons remain allowing for compositional analysis in the C6-C40 range.

**XRD Analyses: Why? What is the mineralogy of the Nordegg? How is the quartz distributed and what is the relationship to TOC? What is the relationship between the TOC and the bulk mineralogy? Does this provide a high-grading of the landsale blocks?**

XRD analysis and calculated quantitative Rietveld data includes 1) Bulk Mineralogy - indicates the total mineral assemblage; 2) Quantitative Mineralogy - Rietveld analysis is used to determine relative weight percent of each mineral and 3) Mineral Trends - indicates relationships between various minerals and the relationships between organic carbon and various minerals.

**Sorption capacity, TOGIP and OOIP modeling: Why? What are the hydrocarbon resources per section? What variables are important?**

New and unpublished Bustin et. al. adsorption isotherms from the Nordegg Formation core have been integrated into this study to determine gas (TOGIP) and oil (OOIP) capacities. Various runs modeling total gas, including free, sorbed and solution gas and oil saturation variables using CBM Solutions proprietary analytical software are included to evaluate the light hydrocarbon potential. Variables used include ranges in porosity, reservoir temperature & pressure, gas compositions, oil gravity and sorption capacity.

**Pulse Decay Permeability (PDP): Why? What is the true system permeability of the rock?**

PDP is run under multiple net effective stress conditions to determine the true permeability of the rock under reservoir conditions. PDP is run on core plugs and captures the variability within the rock to determine the true permeability for modeling.

**Porosity: Why? What is the storage capacity for free gas and liquids?**

A series of porosity measurements have been made to determine the range of porosity within each core well. Porosity is the key to determining the rock storage capacity and is used to calibrate porosity logs.

**Mercury Porosimetry: Why? What is the pore structure of the rock? How do the pore size distributions change?**

Mercury porosimetry highlights the variability of pore size ranges within the formation and also provides a total porosity value relative to mercury under high pressure.

**Mapping: Why? What is the distribution and thickness of the Nordegg Formation? What are the trends in maturity?**

Mapping of the Nordegg Formation in the Fox Creek area includes 25 cross sections (strike and dip to structure), isopach, structure, TOC distribution and Tmax variation throughout the study area.

## **Final Data**

Final data reporting includes Excel tables of all data and an interpreted report displaying trends in maturity, organic content, mineralogy, TOGIP (total original gas in place) and OOIP (original oil in place).

## **Data Releases:**

First release on August 17, 2011 will include approximately 600 maturity and TOC (SRA) data points, 600 mineralogy by XRD, mercury porosimetry, pulsed decay permeability under confining stress and unconfined porosity. Second release ( final data) on September 30, 2011.