

## **Biography – Brock Johnson, P. Eng.**

Brock Johnson is the Lead Production Engineer for Nexen Inc.'s Coal Bed Methane Division Operations Group. Brock began his career with Nexen in February of 2002 and has since transitioned through Engineering roles in Heavy Oil Reservoir, Heavy Oil Production, Enhanced Oil Production, and Coal Bed Methane (CBM) Production. These roles took him across Alberta from Calgary, to Lloydminster, and eventually to Leduc. In the fall of 2008 he accepted his current role of Lead Production Engineer for the CBM Operations group based in Leduc. Brock graduated from the University of Alberta in 2001 with a B.Sc. in Mechanical Engineering. From 2004 - 2006, Brock held roles on the Lloydminster and District Heavy Oil Section of the Petroleum Society Board of Directors as Social Coordinator, Vice Chairman and Chairman.

## **Abstract – Production Challenges with Methane Extraction from Alberta's Mannville Coal**

The extraction of Coal Bed Methane (CBM) gas from Alberta's Mannville Coal Resource requires extensive de-watering of the coal via artificial lift techniques. The Mannville coals are relatively deep with very low permeability, requiring unique well designs to access enough coal reservoir to sustain economic production rates and long term reserves. These well designs, along with unforeseen coal fine production challenges, drastically limit the forms of artificial lift that can be utilized economically.

This presentation will discuss the Mannville Coal Resource across Alberta and the recovery mechanism of Mannville CBM vs. conventional oil or gas. The focus will then shift to Nexen Inc.'s Doris field near Fort Assiniboine, Alberta, the unique production challenges Nexen has encountered, and the shift in artificial lift methodology it has undertaken to achieve economic CBM production in the Mannville Coal.