



# ITO HOS 2008

Heavy Oil: Integrating The Pieces

Conference & Exhibition  
October 20-23, 2008  
Stampede Park Roundup Centre  
Calgary, AB, Canada

## ITO HOS 2008

### Tutorial 01: Heavy Oil Wellbore Completions and Designs

This tutorial will encompass heavy oil wellbore designs and systems for thermal and solvent based completions. The discussion will focus on completion technology and challenges, in response to the reservoir requirements, and the varying degree of heavy oil recovery methods. Key topics will include casing and liner system design, sand control, thermal completion equipment, reservoir monitoring and control, distribution and control methods, and wellbore repair. A key focus for the session will be the inherent challenges with heavy oil reservoirs, and best practices from years of completions experience.

#### Industry Overview

- Canadian plays
- Global plays

#### Heavy Oil Reservoir Overview

- Heavy Oil Characteristics
- Different terminology in regards to SAGD, CSS, Fire Flood, etc.

#### Casing & Cementing System Design

- Reservoir requirements
- Cementing Systems

#### Liner Design

- Reservoir Requirements
- Mechanical & Structural Consideration
- Strain/Load Concerns
- Best Practices and Lessons Learned
- Liner Accessories

#### Sand Control

- Typical Reservoir Characteristics
- Sand Control Options

#### Thermal Completion Equipment

- Operating Parameters
- Conveyance considerations
- Seal Options and Industry Terminology

#### Reservoir Monitoring and Control

- What are we trying to measure?
- What does the information tell us?
- Monitoring Options

#### Distribution and Control Methods

- Methodology
- Current Technology

#### Wellbore Repair

- Failure Modes and Causes
- Remedial/Repair Options

International Thermal Operations and Heavy Oil Symposium (ITO HOS) - CHOA Annual Business Conference



PETROLEUM SOCIETY



# ITOHOS<sup>2008</sup>

## Heavy Oil: Integrating The Pieces

Conference & Exhibition  
October 20-23, 2008  
Stampede Park Roundup Centre  
Calgary, AB, Canada

### Heavy Oil Wellbore Designs

- SAGD Completions
- CSS Completions
- Solvent Based Completions

### Instructors

**Nathan Kathol**, P.Eng. is the Engineering Manager for Schlumberger Completions Heavy Oil Tech Hub, which resides in Calgary, and is focused on solution-based technologies that can be adapted or developed for the Western Canadian heavy oil market. He has over 10 years experience in the development completion tools and monobore liner hanger system development. He leads a team that focuses on high temperature solutions for steam injection and production. The solutions encompass completions, reservoir monitoring and control, liner systems, inflow control devices and sand control.

**Craig Skeates** is the Project Manager for Schlumberger Completions Heavy Oil Tech Hub, which resides in Calgary, and is focused on solution based technologies, implementation and adaptation of these technologies for the Western Canadian heavy oil market and thermal heavy oil reservoirs around the world. He has over 10 years experience in wireline, completion tools and sandface completion. He focuses on high temperature solutions for steam injection and production, providing solutions and recommendations for completion programs that will meet the industries requirements.

**Trevor Bouchard** is a member of the technical sales team for the Schlumberger Reservoir Monitoring and Control group focusing on Distributed High Temperature Fiber Optic monitoring applications in Western Canada. He has over 15 years of oil and gas industry experience and has been involved in thermal heavy oil applications for the Schlumberger RMC team since 2005, offering application-specific solutions utilizing real-time permanent monitoring across the sand face.

**Gunnar De Bruijn**, P.Eng. is a Technical Manager for Schlumberger's Cementing Services in Calgary. His experience has been across Canada, cementing heavy oil, SAGD, foothills, shallow gas, arctic, offshore and deep water wells, including world record extended reach wells. Gunnar is instrumental in adapting Schlumberger cementing technology to the Canadian market. He is a member of SPE and the Petroleum Society, and he also actively participates in API Subcommittee 10, developing and reviewing API and ISO cementing standards.

**Thane Russell**, P.Eng. is CEO of Absolute Completion Technologies, a Schlumberger partner, and provides technical advice to customers worldwide on sand control. Absolute's proprietary sand control solutions are successfully used by operators in more than 30 countries. Thane received a Bachelor of Engineering degree from the Thayer School of Engineering, Dartmouth College in 1985. Prior to joining Absolute in 2000, Thane worked in a variety of Operations, Drilling, and Completions Engineering positions with Texaco, Esso, Canadian Hunter and Stellarton.

International Thermal Operations and Heavy Oil Symposium (ITOHOS) - CHOA Annual Business Conference



PETROLEUM SOCIETY