Montney operators have created enormous value in the past decade, but competition for energy markets is fierce and capital investment is scarce. US unconventionals, in particular, pose an existential threat to our competitive position. This workshop will explore how we can continue to thrive in this challenging and ever-changing industry. Through the sharing of case studies, new technologies, informative panel sessions, and peer-to-peer networking, this dynamic event is a collaborative way to learn, grow, and move our industry forward.
Committee Members

WORKSHOP CO-CHAIRS

Rob Zinselmeyer
ARC Resources

Michael Dembicki
Seven Generations Energy

WORKSHOP PROGRAM COMMITTEE

John Aoun
Seven Generations Energy

Ian Cameron
BluMalibu Consulting

Sabrina Cheng
Shell

Scott Craig
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Reveal Energy Services

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Birchcliff Energy

Jerry Tkachyk
Encana Corporation

Kris Watson
NCS Multistage

Jared Wynveen
McDaniel & Associates

General Information

Accessibility
Our events and functions are accessible to all attendees with wheelchairs. If you require special arrangements, please contact our staff at the registration desk.

Alcohol Policy
SPE recognizes the legitimate serving of alcoholic beverages in the process of conducting business and social activities. We also recognize that the use and consumption of alcohol carries with it the requirement for all attendees to consume those beverages responsibly.

Commercialism
In remaining consistent with workshop objectives and SPE guidelines, commercialism in presentations will not be permitted. Company logos should be used only to indicate the affiliation of the presenter(s).

Continuing Education Units
Attendees will receive 1.6 CEUs. One CEU equals 8 contact hours of participation. CEUs will be awarded through SPE Professional Development for participation and completion of SPE workshop. A permanent record of a participant’s involvement and awarding of CEUs will be maintained by SPE.

Documentation
The workshop FTP site will contain released copies of the workshop presentations if speakers give permission to release their presentation.

Electronic Devices
As a courtesy to the speakers and your fellow registrants, please turn off all electronic devices during presentations.
Name Badges
Please wear your badge at all times. It is a courtesy to your fellow registrants, speakers, and sponsors.

Photography and Recording Policy
Unauthorized video/audio recording is expressly prohibited in the session room(s) or poster area, whether by video, still or digital camera, mobile phone, or any other means or form of reproduction. Any person attending may be photographed, and by your attendance, you give permission to use your image in possible future marketing publications including print and online.

Workshop Format
Workshops maximize the exchange of ideas among attendees and presenters through brief technical presentations followed by extended Q&A periods. Focused topics attract an informed audience eager to discuss issues critical to advancing both technology and best practices. Many of the presentations are in the form of case studies, highlighting engineering achievements and lessons learned. In order to stimulate frank discussion, no proceedings are published and members of the press are not invited to attend.
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## Schedule Overview

### Tuesday, 29 October

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<tr>
<td>0800–0810</td>
<td><strong>Breakfast</strong></td>
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<td>0810–0930</td>
<td><strong>Opening Remarks</strong></td>
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<tr>
<td>0930–1000</td>
<td><strong>Coffee Break</strong> sponsored by: PAINTED PONY, PULSE SEISMIC</td>
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<tr>
<td>1000–1130</td>
<td><strong>Session 2: Optimizing Drilling and Completions – Staying Competitive in the North American Energy Landscape – PART 1</strong></td>
<td>ARC RESOURCES LTD.</td>
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<tr>
<td>1130–1230</td>
<td>Networking Lunch sponsored by: ARC RESOURCES LTD.</td>
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<tr>
<td>1430–1500</td>
<td><strong>Coffee Break</strong> sponsored by: PAINTED PONY, PULSE SEISMIC</td>
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<tr>
<td>1500–1700</td>
<td><strong>Session 4: Fracture-Driven Well Interactions and Parent-Child Effects</strong></td>
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<td>1700–1900</td>
<td>Networking Reception</td>
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### Wednesday, 30 October

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<td>0700–0800</td>
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<td>0800–0930</td>
<td><strong>Session 5: Panel: Midstream Ownership – Friend, Foe, or Folly</strong></td>
<td>PANTED PONY, PULSE SEISMIC</td>
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<tr>
<td>0930–1000</td>
<td><strong>Coffee Break</strong> sponsored by: PAINTED PONY, PULSE SEISMIC</td>
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<tr>
<td>1000–1200</td>
<td><strong>Session 6: Integrated Team Case Studies, Unconventional Well Forecasting and Modelling</strong></td>
<td>AR Resources Ltd.</td>
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<tr>
<td>1200–1300</td>
<td>Networking Lunch sponsored by: ARC RESOURCES LTD.</td>
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<tr>
<td>1300–1430</td>
<td><strong>Session 7: New Tech, EOR and New Diagnostics</strong></td>
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<tr>
<td>1430–1500</td>
<td><strong>Coffee Break</strong> sponsored by: PAINTED PONY, PULSE SEISMIC</td>
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<tr>
<td>1500–1630</td>
<td><strong>Session 8: Production and Water Optimization Practices</strong></td>
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## In Lieu of Speaker and Committee Gifts...

On behalf of Invited Speakers and the Workshop Committee, SPE Canada is pleased to make a donation of $700 to support Roots 2 Stem. This non-profit organization provides in-school and extra-curricular Engineering programs for youth. For more information about Roots 2 Stem, visit: [http://roots2stem.ca/](http://roots2stem.ca/)
DAY 1: Tuesday, 29 October

0810–0930
Opening Keynote Panel: From the Macro Down to the Barrel
Moderator(s): Mike Davies, Reveal Energy Services
Kiran Somanchi, Birchcliff Energy

As technical people working in the Montney, most of our focus has been on drilling performance, completion improvements, and overall cost reduction in all aspects. But what other trends are occurring that need to be on our radar screens? Our opening panel will be bringing many perspectives, including the funding side, the importance of ESG, consulting trends and an overview of the North American market as a whole.

Panelists:
Rob Cook, ARC Financial
Patrick Bryden, Scotia Bank
Lance Mortlock, EY
Chris Carlsen, Birchcliff Energy

1000–1130
Session 2: Optimizing Drilling and Completions – Staying Competitive in the North American Energy Landscape – PART 1
Session Chairpersons: Ian Cameron, BluMalibu Consulting
Jerry Tkachyk, Encana Corporation

Exploitation design is a product of interlinked decisions on well design, completion design, well spacing and cost structure. How are Montney operators pursuing the right balance of resource recovery and profitability?

• Presentation 1: Application of Diagnostics to Enable Extended Stage Lengths in the Montney
Justin Kitchen, ARC Resources

• Presentation 2: Economic Driven Frac Spacing Optimization
Sabrina Cheng and Felix Todea, Shell

• Presentation 3: Realized Marginal Productivity with Extended Reach Horizontals
Dave Morin, NuVista Energy

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DAY 1: Tuesday, 29 October

1230–1430


Session Chairpersons: Sabrina Cheng, Shell Rob Zinselmeyer, ARC Resources

- Presentation 1: Fairfield Hydraulic Fracture Diagnostics through Distributed Acoustic and Temperature Sensing
  Jimmy Zhang, Encana Corporation and Carson Laing, Optasense Inc.

- Presentation 2: Accelerating Field Development in Stacked Pay
  Theo van der Werken and Mason MacKay, Birchcliff Energy

  Tyler Schlosser, McDaniel & Associates

- Presentation 4: Automated Bit Dull Grading, Analysis, and Analytics System
  Brandon Friess, Seven Generations Energy

1500–1700

Session 4: Fracture-Driven Well Interactions and Parent-Child Effects

Session Chairpersons: Scott Craig, Hammerhead Resources Ryan Keenan, PETRONAS Canada

As Montney producers continue to face challenging market conditions, the necessity persists for delivering capital efficient programs through the development of core acreage and multi-pad drilling. With increasing well densities, the relevance of understanding parent-child effects and other fracture-driven well interactions remains sovereign. New developments and insights are continually being developed to address a problem that will only become more prevalent with time.

- Presentation 1: Optimization of Child-Well Completion Designs in the Presence of Parent Well Pressure Depletion, and Its Effect on Stimulation Efficiency
  Dmitry Deryushkin, Subsurface Dynamics

- Presentation 2: Parent-Well Pressure Sink Mitigation through Integrated Modeling, to Minimize Fracture-Driven Interactions & Workovers Related to Frac-Hits
  Kevin Joslin, Computer Modeling Group
DAY 1: Tuesday, 29 October

• Presentation 3: Multigeneration Section Development in the Permian Basin Farhan Alimahomed, Schlumberger


1700-1900 Networking Reception

Did you Know...
The SPE Canadian Educational Foundation (SPECEF) provides scholarships annually to post-secondary students who have indicated a desire to make a career in the Energy Industry. SPECEF also supports science fairs and other programs that encourage middle and high school students to consider the Energy Industry as a career choice.

To date (since 1999), well over $300,000 in scholarships and funding has been granted. The governance structure of SPECEF provides the flexibility to create new programs, scholarships and energy educational initiatives that will benefit members of SPE in Canada. For more information about SPECEF, to give a tax deductible donation, or to apply for a scholarship, please visit: www.spe.org/canada

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0800–0930
**Session 5: Operator Panel – Midstream Ownership – Friend, Foe, or Folly**
*Session Chairpersons: Jared Wynveen, McDaniel & Associates  
Kris Watson, NCS Multistage*

This panel discussion will bring awareness to the different midstream ownership strategies that are being used by operators of varying size in the Montney (and other formations). Each panelist will discuss their views on key factors that should be considered when assessing the benefits of ownership vs. contractual arrangements with midstream companies. Further, a representative from the financial community will provide perspective on how the outside market actually views the respective ownership strategies.

**Panelists:**
- Matt Ockenden, SVP, North River Midstream
- Jeremy Kwasnecha, VP, Midstream and Marketing, Velvet Energy
- Dan Van Kessel, VP of BD, Pipestone Energy Corp.
- Jake Thompson, Manager, Development Engineering, Black Swan Energy
- Aaron Bilkoski, Research Analyst, TD Securities

1000–1200
**Session 6: Integrated Team Case Studies, Unconventional Well Forecasting and Modelling**
*Session Chairpersons: Jennifer Gee, Painted Pony Energy  
Morgan Kwan, RS Energy Group*

Developing an asset has evolved into a heavily embedded multidisciplinary team approach. This integrated team development strategy incorporates geological, geophysical, reservoir engineering, rock mechanics and more. As operators trend to bigger completions and tighter well spacing, an integrated team approach that applies geophysics to non-geophysical challenges becomes imperative especially when trying to minimize offsetting well impacts. This session highlights an integrated team study, looks at pairing 3D frac modelling with reservoir modelling and how to use a field-wide EOS to perform multi-phase well forecasting.

- **Presentation 1: Integrating to Innovate – PONY’s Approach to Bridging Geoscience and Engineering in Full Field Development**
  Jennifer Gee and Chelsea Squires, Painted Pony Energy

- **Presentation 2: Numerical Modelling and Completion Design Optimization of Montney MFHWs**
  Dave Sorkilmo, ARC Resources
DAY 2: Wednesday, 30 October

1300–1430
Session 7: New Tech, EOR and New Diagnostics

Session Chairpersons: Mark Dzikowski, Sinopec Canada
                    Peter Liang, NuVista Energy
                    Brad Makowecski, Crew Energy

Investigating how EOR and new technologies can help provide additional value within the Montney.

- **Presentation 1:** Analysis of Water Tracer Flow Profiles in the Wapiti Montney
  Cole Mombourquette, Core Laboratories and Aimee Barnett, Sinopec

- **Presentation 2:** Can The Montney Huff-n-Puff like the Eagle Ford Shale?
  Morgan Kwan, RS Energy Group

- **Presentation 3:** How We Can All Win: A Case of Study of Collaboration across a Basin
  David Lerohl, Reveal Energy Services

- **Presentation 4:** Coping with Fluid Complexity in the Montney
  Mathias Carlsen, Whitson

- **Presentation 4:** Optimizing Unconventional Reservoir Development through Integrated Multi-Disciplinary Modelling
  Majid M. Faskhoodi, Schlumberger and Rob Zinselmeyer, ARC Resources
Successful unconventional well production requires a fracture stimulation that involves large volumes of water and an artificial lift plan to produce the well. This session provides a discussion of water sourcing/usage and artificial lift production practices in the Montney.

**Presentation 1:** A Tale of Two Trials: Flowing While Frac’ing and Start Without Testers
Jaclyn Kinley and Allison Yuen, Shell

**Presentation 2:** Water Optimization – Partnering for the Future
Rob Dawson, Tervita

**Presentation 3:** Challenges and Learnings in Artificial Lift Systems for High LGR Montney Wells
Elizabeth Chmelyk, Seven Generations Energy
The Society of Petroleum Engineers (SPE) is a not-for-profit organization. Income from this event will be invested back into SPE to support many other Society programs. When you attend an SPE event, you help provide even more opportunities for industry professionals to enhance their technical and professional competence. Professional awards, scholarships, the Distinguished Lecturer program, OnePetro, JPT and the Competency Management Tool are just a few examples of programs that are supported by SPE.

### SPE Canada Upcoming Events

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<td>SPE Thermal Well Integrity and Design Symposium</td>
<td>Banff, Alberta</td>
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<tr>
<td>18–19 Mar 2020</td>
<td>SPE Canada Heavy Oil Conference and Exhibition</td>
<td>Calgary, Alberta</td>
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<tr>
<td>18–19 Mar 2020</td>
<td>SPE Canada Unconventional Resources Conference and Exhibition</td>
<td>Calgary, Alberta</td>
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<td>14 April 2020</td>
<td>SPE/CHOA Slugging it Out Conference</td>
<td>Calgary, Alberta</td>
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<tr>
<td>20–21 May 2020</td>
<td>SPE Workshop: Subsurface Data Analytics</td>
<td>Location: TBD</td>
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<tr>
<td>June 2020</td>
<td>SPE Workshop: Applications of Intelligent Wells in Canada</td>
<td>Location: TBD</td>
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**SPE Canada Upcoming Training Courses**

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<td>18 Nov 2019</td>
<td>Flow-Control-Devices for Thermal Recovery Operations</td>
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<td>18 Nov 2019</td>
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<tr>
<td>18–22 Nov 2019</td>
<td>Evaluation of Canadian Oil and Gas Properties</td>
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<tr>
<td>23–27 March 2020</td>
<td>Evaluation of Canadian Oil and Gas Properties</td>
<td>Calgary, Alberta</td>
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<tr>
<td>27–30 Apr 2020</td>
<td>Unconventional Resource Assessment and Valuation</td>
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Notes:

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