Data collection is rapidly expanding. Incorporating that data into engineering workflows can be confusing, overwhelming, and sometimes misdirected. The diagnostic fracture injection test (DFIT) is used to interpret pressure falloff data, following the injection of fluid at a rate sufficient to create a small-scale hydraulic fracture. DFIT interpretation yields information on in-situ stress, reservoir fluid flow properties, pore pressure and other petrophysical and geomechanical attributes. It has been used by the industry for years, and has played a critical role for engineers in their understanding and development of unconventional reservoirs over the past decade. While the test has been widely accepted by the industry as a standard, there are still a number of questions including how to perform the test operationally, and how to interpret and use the data to optimize well treatment designs and assist in reservoir exploitation.

The purpose of this workshop is to investigate and validate best practices, analysis methods and theories. Additionally, this workshop will identify common issues, both operational and analytical, and determine how to incorporate the data in an existing workflow.
Thank you to BP for graciously providing the meeting facility for this workshop.

TECHNICAL AGENDA

WEDNESDAY, 26 OCTOBER 2016
All technical sessions and lunch are located in Town Hall.

0700-0800 | Registration Check-in and Breakfast
0800-0830 | Setting the Stage

0830-1000 | Session 1: DFIT Job Design and Execution
Session Chairs: John Kalfayan, RDS
Mac Rincon, Oxy
- Presentation 1: Tell Me Again, Why Are We Doing This?
  Mike Smith, NSI Technologies, Inc.
- Presentation 2: Habits of Highly Successful DFITs
  Cecil Shipman, Reservoir Data Systems
- Presentation 3: Suggested Best Practices for DFIT Execution
  Bill Wheaton, Consultant

1000-1030 | Coffee Break

1030-1200 | Session 2: DFIT Analysis - Theories, Concepts, and Concerns
Session Chairs: Larry Britt, NSI Fracturing
Neal Hageman, IPT Energy Services
- Presentation 1: DFIT – The Unconventional Well Test: Design Considerations and the Volume of Investigation
  David Craig, Reservoir Development Consulting
- Presentation 2: Applying a Discrete Fracture Network Simulator to Understand Non-Ideal DFITs and Fracture Closure
  Mark McClure, McClure Geomechanics LLC
- Presentation 3: In DFIT, Do We Need to Reach Radial Flow Regime, and What Do We Really Measure If We Get There?
  Siyavash Motealleh, BP

1200-1300 | Lunch
  Tribute to Ken Nolte

1300-1430 | Session 3: DFIT Analysis - Data signatures
Session Chairs: Robert Hawkes, Trican Well Service Ltd.
Larry Britt, NSI Fracturing
- Presentation 1: A Review of Well Test Pressure Derivative Signatures for Diagnostic Fracture Injection Tests for Shale Wells
  Irene Anderson, Repsol
- Presentation 2: DFIT Data Signatures
  Bob Barree, Barree and Associates
- Presentation 3: Reexamining DFIT Methods for Identifying Fracture Closure
  Dave Cramer, ConocoPhillips

1430-1500 | Coffee Break

1500-1630 | Session 4: DFIT Post-Analysis - Data Utilization
Session Chairs: Lucas Bazan, Bazan Consulting
- Presentation 1: Interpreting DFITs in Unconventional Reservoirs
  Craig Cipolla, Hess
- Presentation 2: Practical Utilization of DFIT Permeability
  Henry Jacot, H-Frac Consulting
- Presentation 3: PTA-based After Closure Analysis Gives Insight to Permeability and SRV Behavior
  Bob Bachman, CGG Services (Canada) Inc.

1630-1700 | Open Discussion
THURSDAY, 27 OCTOBER 2016

0700-0800 | Breakfast

0800-0930 | Session 5: DFIT Post-Analysis - Modelling and Data Integration

Session Chairs: Marisela Sanchez-Nagel, Oilfield Geomechanics
Prue Smith, BP

- **Presentation 1:** Analytical Model Match for Before and After Closure Pressure Falloff Behavior
  Christine Economides, University of Houston

- **Presentation 2:** Integration of DFIT and Geomechanical Analysis for Stress Sensitive Fractures in the Second White Specs of WCSB
  Robert Hawkes, Trican Well Service Ltd.

- **Presentation 3:** Development Decisions Through DFITs
  Kyle Haustveit, Devon

0930-1000 | Coffee Break

1000-1130 | Session 6: Vertical Pilot Wells

Session Chairs: James Rodgerson, Devon
Jeremy Viscomi, PTTC

- **Presentation 1:** The Whole Is More Than the Sum of the Parts: Integrating New Interpretation Techniques for 27 DFITs with Completion and Production Data in Alberta's Colorado Shale Gas
  Kirby Nicholson, Perpetual Energy

- **Presentation 2:** Diagnostics in Vertical Open Hole
  Neil Stegent, Halliburton

- **Presentation 3:** The Utilization of Vertical Data Wells for Horizontal Play Delineation in the Delaware Basin
  Brendon Elliot, Devon

1130-1300 | Working Lunch and Wrap-Up

Session Chairs: Robert Hawkes, Trican Well Service Ltd.
Dave Cramer, ConocoPhillips

This moderated session will provide an opportunity for participants to discuss the common issues raised during the workshop, best practices, and the way forward.
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