

# 4-Day Appalachian Basin Extended Reach, Complex, and Horizontal Well Design and Execution Training

## Agenda

### Day 1: 8:00 am – 4:30 pm

- Introduction
  - Review of Marcellus and Utica Wells design and operational challenges
- Hole Cleaning
- Tripping and Backreaming
  - What is needed to avoid backreaming all the way

### Day 2: 8:00 am – 4:30 pm

- ECD and Surge/Swab
  - Can I swab instability in?
- Torque, Drag Fundamentals
  - T&D of conventional vs horseshoe wells
- Basics of Wellbore Stability
  - How Marcellus wells are failing and how to avoid it

### Day 3: 8:00 am – 4:30 pm

- Drilling efficiency
  - Why my ROP is dropping along the lateral
- Running Casing
  - AirLock placement design considerations
  - Reaming casing design considerations
  - Proper Centralization & modeling techniques

### Day 4: 8:00 am – 4:30 pm

- NE Marcellus/Utica Wells Design Challenges
- Managing Downhole Temperature
- T&D Marcellus/Utica Drilling case studies
  - NRDPPs: Suitable & unsuitable applications
  - Tapered string can solve my torque issues?