

## **The Giant Continuous Oil Accumulation in the Bakken Petroleum System, Williston Basin**

**Stephen A. Sonnenberg<sup>1</sup>**

<sup>1</sup>Department of Geology and Geological engineering, Colorado School of Mines, Golden, Colorado ([ssonnenb@mines.edu](mailto:ssonnenb@mines.edu))

### **Abstract**

- A “giant” continuous accumulation is present in the Bakken and Three Forks of the Williston Basin.
- Sophisticated completion technology and geological factors have a large impact on productivity.
- Sweet spots influenced by hydrocarbon generation, pore overpressure, inferred oil saturations and productivity, net pay, facies, natural fractures, etc.
- Optimal completion design depends on area and field maturity:
  - 40-stage completions may not be economic in low-productivity areas.
  - Simpler (cheaper) completions may be preferable for infill wells at late development stage.
- Multistage hydraulic fracturing and horizontal drilling are game changers for tight oil systems.