



New Field & Stimulation Technology Developments

“Ten More Reasons for HF”

- 1. Deliverability: ride price wave(s), avoid bottlenecks in critical delivery times.**
- 2. Reservoir Management: better long-term drainage of typical layered reality.**
- 3. Reduce CapEx: fewer &/or cheaper wells for a given production rate or cum.**
- 4. Reduce OpEx: less work-over (e.g. CHGravel-Packs &/or depositional issues)**
- 5. Reduce Facility Costs: less (solids &/or phase) segregation requirements etc**
- 6. Reduce Water-Cut: most controversial aspect, requiring most rationalization**
- 7. Pressure Maintenance & Control: e.g. flexibly switching producers/injectors**
- 8. Waste Disposal: e.g., (cutting) solids and unwanted fluids effective disposal**
- 9. Rapid Response on conformance, shut-off, isolation & other trouble-shooting**
- 10. Reservoir Evaluation: very precise in oil reservoirs, less so in gas reservoirs**

Such items don't include potential benefit in drilling (where “fear of fracturing” often dominates over more risky blow-out scenarios), e.g. with floating mudline, nor the reality that near-wellbore fracturing occurs in most drilling operations.

ONLY by incorporating fracturing, as a natural part of all wells, can industry act to truly optimize operations: technical & financial benefits will be enormous