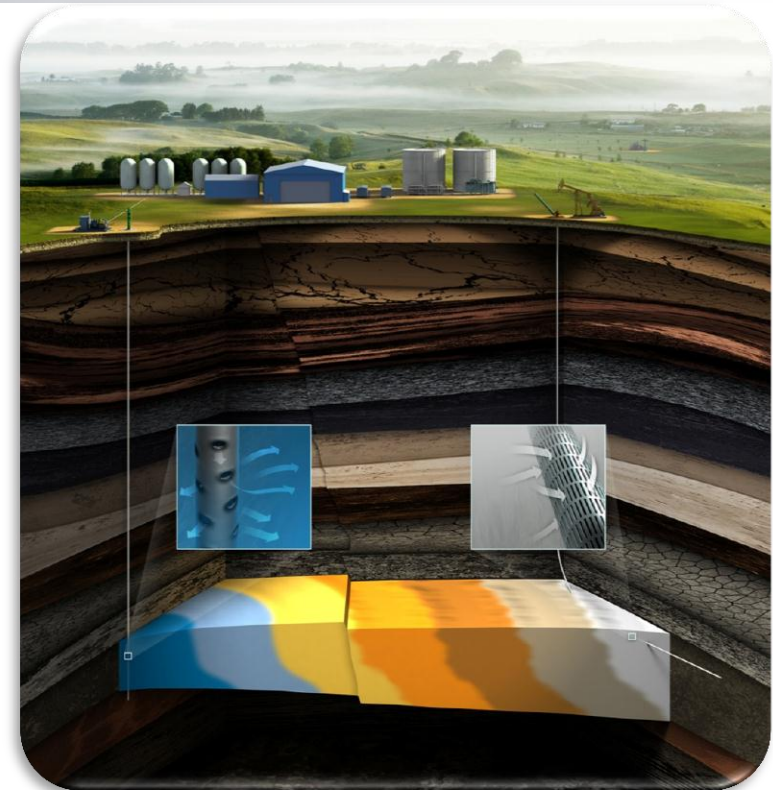
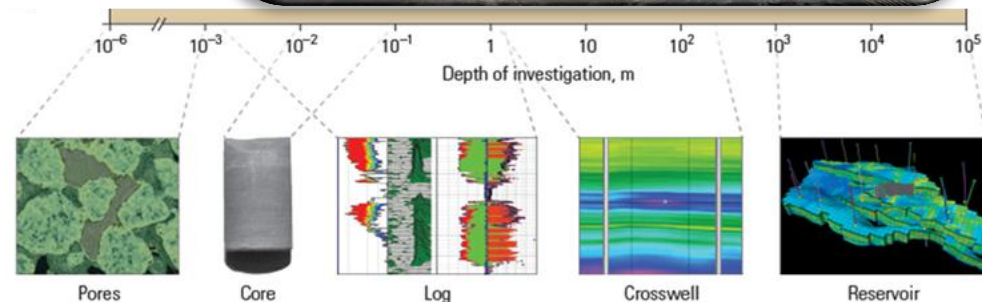
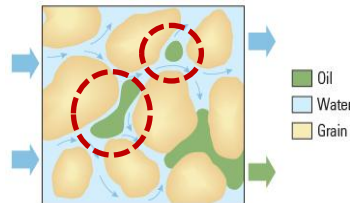


Enhanced Oil Recovery (EOR)

Nikita Chugunov, PhD
 Research Program Manager, Senior Research Scientist
 Enhanced & Unconventional Recovery
 Schlumberger-Doll Research, Cambridge, MA

- The global average recovery factor for a typical oilfield is approximately 35 – 40%.
- EOR includes all methods that use external sources of energy and/or materials to recover oil that cannot be produced economically by conventional recovery mechanisms
- Goal: Mobilize the remaining oil
 - Improve displacement efficiency (reduce oil viscosity, reduce capillary forces or interfacial tension)
 - Improve sweep efficiency (reduce water-oil mobility ratio)
 - Swelling
- Research challenges:
 - Modeling: Multi-scale
 - Monitoring: Multi-physics
 - Analysis & Interpretation: Uncertainty & Big Data



Schlumberger