Formation Damage: Mechanisms, Diagnosis, and Prevention

1.6 CEUs (Continuing Education Units) awarded for this 2-day course.

Instructor

Mukul Sharma, University of Texas, Austin

Intended Audience

This course is intended for production and completion engineers responsible for well maintenance and production performance. Drilling and reservoir engineers interested in minimizing the formation damage impact of drilling, completion, production, injection, and stimulation operations can benefot from this course..

Description

This course provides techniques for testing, diagnosing, and preventing and treating near-wellbore formation damage, including fines migration, inorganic scales, paraffin and asphaltene precipitation, sand production, perforation plugging, clay swelling, water reinjection and invasion of mud solids, cement filtrates, and completion fluids. Damage mechanisms and the methods used to test and diagnose problem wells are emphasized.

Topics Covered

- Clay Mineralogy and Colloid Chemistry
- Formation Damage Caused by Fines Migration
- Clay Swelling
- Damage Caused by Drilling/Completion Fluids
- Damage During Perforating and Cementing
- Filtration Requirements During Waterflooding
- Sand Control Problems
- Formation Damage Caused by In-Situ Emulsification, Water Blocks, and Wettability Alteration
- Asphaltene and Wax Precipitation
- Deposition of Inorganic Precipitates: Scale Formation
- Formation Damage Considerations in Acidizing and Fracturing

About the Instructor

Mukul M. Sharma is a Professor of Petroleum Engineering at the University of Texas at Austin. He has worked, published and consulted extensively on formation damage. He has taught graduate courses related to formation damage and various production problems.