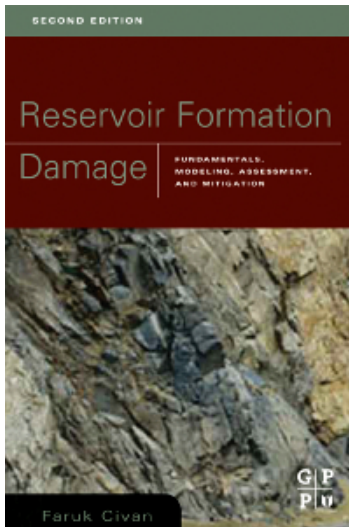


Reservoir Formation Damage, Second Edition

Fundamentals, Modeling, Assessment, and Mitigation

By Faruk Civan, Ph.D., *Mewbourne School of Petroleum and Geological Engineering at the University of Oklahoma, 2007* • ISBN 0-7506-7738-4 • Hardback • 1114Pages •



When a reservoir of oil or gas is discovered under the ground, and reservoir engineers and drilling engineers are employed to tap that reservoir, often, they inadvertently damage it. The very formation of a reservoir can be damaged by unforeseen rock, fluid, and particle interactions and alterations depending upon the reservoir fluid, flow, and stress conditions, for example, the chemicals that the engineers have injected into the reservoir, the drilling mud used in drilling, or even by stress from the drill bit itself. A drill bit can shake loose and destabilize subsurface rocks exposed to chemically incompatible drilling fluids, and even the rapid flow of reservoir fluids (gas, oil, and water) themselves can damage a reservoir formation.

Reservoir Formation Damage is a concise and practical reference for engineers, scientists, and operators engaged in various aspects of formation damage, including testing, evaluation, diagnosis, prediction, and mitigation. No other book on the market addresses this very expensive headache for the oil and gas industry in a comprehensive manner. The chapters of the second edition have been updated and expanded. New material includes a chapter on prevention and remediation, a chapter on evaluating formation damage from a mechanistic point of view (as opposed to mathematical), and a chapter of case histories.

This book has been used as a text in classrooms (university and industry) and is an excellent candidate for classroom adoption. Its primary use, however, is in the field; in the hands of engineers who need to solve the problems of reservoir formation damage every day to maintain productivity and profitability in their wells.

Features:

- A comprehensive single source that provides the latest findings and techniques for understanding, assessing, and mitigating reservoir formation damage.
- The only book in the world to draw from the key disciplines of chemistry, engineering, petrophysics, geology, and mathematical modeling to provide state-of-the-art knowledge and valuable insights into formation damage.
- Provides an understanding of the testing, modeling, and simulation techniques available for formation damage assessment.
- Written by an author whose expertise in petroleum, chemical, and geological engineering make this book unique because of its broad, thorough coverage.

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