PetroSkills

Production Logging in High Angle/Horizontal Well Fundamentals

MODULE

About the Skill Module

The goal of production logging is to obtain an accurate interpretation of downhole tool measurements of temperature, pressure, fluid holdups, and fluid velocities to determine flow rates of each phase. These measurements provide the only way to know for sure what is happening downhole. This skill module focuses on interpretation of multiple-phase flow in high-angle to horizontal wells. Basic flow regime principles are reviewed and the effects on flow regime due to increasing well deviation are discussed. Because high-angle flow tends to be stratified in most cases, array logging tools that make multiple measurements across the wellbore profile are introduced. Two basic approaches for calculating multiple-phase flow rates in high-angle wells are presented.

Target Audience

Petroleum engineers, production operations staff, reservoir engineers, facilities staff, drilling and completion engineers, geologists, field supervisors and managers, field technicians, service company engineers and managers, and petrophysicists who need to be able to interpret production logs or understand the production log interpretations done by others.

You Will Learn

- How increasing wellbore deviation increases slip velocity and heavier phase fluid holdup as well deviation increases to 90°
- Why center-weighted production logging measurements are not suitable for calculating fluid holdup and flow rates in high-angle to horizontal wells
- How gas holdup optical probes, water holdup resistance probes, and multiple-phase holdup capacitance probes work
- How array mini-spinners work
- How to calculate two-phase flow rates from a single-pass logging program using multiple holdup and spinner array measurements

Product Details

Categories: Upstream

Disciplines: Production and Completions Engineering

Levels: <u>Foundation</u>

Product Type: Individual Skill Module

Format: On-Demand

Duration: 8 hours (approx.)

$795.00