



Problem Analysis in Production Engineering

ABOUT THE COURSE

It is a well known fact that data, used for analysis of oil and gas well and reservoir performance (pressure and production data, etc.) are not the data registered in short period of time, but are everyday, weekly or monthly data. When they are registered, the response has to be prompt, because even the smallest delay in analyst's reaction inevitably leads to loss of control over the wells' and reservoirs' performance. New registered data is always a new time signal that has to be directed in timely manner to corresponding location for the purpose of analysis. Well history data, and primarily production data, are recorded and stored on daily basis, and include "hidden" information on potential problem causes that have led to oil production decrease. Selection of well candidates for performing certain works (workover and/or stimulation) requires knowing general well working characteristics and a number of specific requirements in well performance, as well as different parameters that allow establishment and development of different correlations. The prioritization of well candidates in which production enhancement is possible (i.e. which production characteristics could be enhanced), includes an

integral approach, which recognizes the reservoir and well characteristics, respectively. Frequency of a problem class occurrence and works, applied to solve the problems, as well as the fact that oil and gas production is basically a time sequence in which certain signals (e.g. oil/water/gas production) or phenomena (paraffin scaling in tubing, inorganic scaling at injection, pump damage, etc.) oscillate in time with typical frequency and phases, allowing establishment of qualitatively new functional relations conditionally called production learning curve.

DESIGNED FOR

Production, reservoir and field personnel involved with gathering and interpreting data. Completion and field personnel actively engaged in well completion and services.

YOU WILL LEARN

- How to organize data, information and knowledge to perform well problem analysis
- To apply problem analysis methodology
- To recognize symptoms and diagnose a problems
- To define the bottleneck in and petroleum system
- How handle wells producing having problems

COURSE OUTLINE

- Formation and near wellbore damage
- Forces, mechanisms and processes that produce various types of damages
- Sources and causes of damages
- Formation and near wellbore damage types
- Location of damages
- Reservoir problems
- Special problems in wellbore and surface surface equipment
- Special problems in artificial lift wells
- Problem analyses in production engineering methodology
- Gather & review data and job history
- Well selection
- Workover planning and types