Sucker Rod Pump Application

ABOUT THE COURSE

Sucker rod pumping (SRP) is widely used artificial lift method for oil production. To manage sucker rod pump system, engineers and technicians should be charged with good knowledge of the corresponding principles and applied equipment. Also, having knowledge to optimize and design sucker rod pumping system is the main request for a successful application. To know how to analyze the sucker rod system and identify the operating conditions are the key prerequisites for efficient operation of SRP system. Special attention is directed towards acquiring the practical knowledge to make a troubleshooting diagnoses using qualitative and quantitative interpretation of recorded dynamograms. Detailed explanations of sucker rod mathematical model provide enough knowledge to understand the application of real time pump-off and SCADA systems.

DESIGNED FOR

Production engineers who already have basic knowledge of sucker rod application, as well as technical personnel involved in maintenance, control and monitor of the SRP system.

YOU WILL LEARN

- The principles of sucker road pumping system operation
- To select the best equipment according to well and surface conditions
- How to apply system analysis methodology for designing and sensitivity study of SRP system
- To design SRP system and select the most appropriate operation parameters
- To recognize the problems and to diagnose problem in SRP operation using surface and down-hole dynamo-graph cards

COURSE OUTLINE

- Sucker rod pumping system
- Sucker rod installation
  - Downhole equipment
  - Surface equipment
- Load and stresses in sucker rod system
- System analysis
  - Sucker rod system analysis procedure
  - System analysis example
- Sucker rod pump system modeling
  - Pumping unit kinematics model
  - Wave equations of sucker road system
- Design methods
  - Combined analytic/empric method
  - API design method
  - Design examples
  - Design using our in-house software (Sucker Rod Comprehensive Design, Optimization and Trouble Analysis)

cms prodex

- Sucker rod pump system diagnosis using dynamometer cards
- Qualitative analysis of surface dynamometer cards
- Surface dynamometer cards library
- Quantitative surface dynamometer card interpretation
- Downhole dynamometer cards
- Trouble shooting procedure and analysis

cmsprodex