WELL TESTING FUNDAMENTALS & SOFTWARE APPLICATION

DRPT222

Drilling, Reservoir & Petroleum Training

COURSE TITLE

WELL TESTING FUNDAMENTALS & SOFTWARE APPLICATION

COURSE DATE/ VENUE

26 – 30 October 2020

London, UK

COURSE REFERENCE

DRPT222

COURSE DURATION

05 Days

DISCIPLINE

Drilling, Reservoir & Petroleum Training

COURSE INTRODUCTION

Learn the fundamentals of pressure transient analysis and understanding of the software application SAPHIR.

COURSE OBJECTIVE

Upon successful completion of this course, the delegates will be able to:

- ✓ Design well tests and specify equipment requirements
- ✓ Set up and analyse well tests for oil and gas wells using traditional and modern well testing analysis techniques
- ✓ Perform QC analysis of pressure data; identify and discard “bad” data
- ✓ Identify various wellbore and reservoir characteristics and choose the appropriate model for analysis
- ✓ Use software to design your test and also make a complete analysis.
- ✓ Test and evaluate the well.
- ✓ Optimize well production.

- ✓ How to accurate reading & recording well head pressure and accurately measure well performance & Best production phase Procedures and Practices.
- ✓ Learn about the different tools of measurement production parameters.
- ✓ Understand the production methods and measured production parameters
- ✓ Well head and X- Mass Tree monitoring, testing & maintenance
- ✓ Learn the different types of production testing
- ✓ Recognize the safety procedure in oil & gas producing wells
- ✓ Types of Production facilities and equipment.
- ✓ Well testing operations. Monitoring and evaluation.

COURSE AUDIENCE

Engineers who are part of the Reservoir Engineering department

COURSE CONTENT

DAY 1

Types of Test Analysis

- Steady state, semi-steady state, and transient well performance
- Basic concepts for test analysis
- Drawdown and build-up testing
- Semi-log analysis and estimating average reservoir pressure

On day one of this course participants will learn about the need for testing and the states of well performance. The basic concepts for test analysis will also be discussed on this day. Some concepts that will be covered include modelling radial flow and characterizing damage and stimulation. Several types of testing will also be discussed, including drawdown testing and build-up testing. This day will also include a discussion on semi-log analysis and estimating average reservoir pressure.

DAY 2

Diagnostic and Derivative Analysis

- Diagnostic and derivative analysis
- Wellbore storage and type curve matching
- Sealing faults and stratigraphic pinch outs
- Late time boundary and depletion effects

Participants will learn about diagnostic and derivative plots analysis on this day. A discussion of wellbore storage and type curve matching will also be included. Participants will be introduced to recognizing sealing faults and stratigraphic pinch outs, along with late time boundary and depletion effects on well tests plots.

DAY 3

Types of Well Testing and Production facilities and equipment

- Interpretation of well test data
- Analysis of post-fracture tests
- Variable rate analysis methods
- Horizontal well testing
- Multi-well testing
- Production facilities and equipment.
- How to perform a successful well test job
- Well testing operations -Monitoring and evaluation
- Recognize the safety procedure in oil & gas producing wells

This day will focus on teaching participants about the interpretation methodology of various types of well testing. The types include post-fracture tests, variable rate analysis, horizontal well testing, and multi-well testing. Participants will also learn about the interpretation of well test data in naturally fractured reservoirs.

DAY 4

Analysis Gas and Gas Condensate Reservoirs

- Modifications for gas wells and multiphase flow
- Well test analysis in gas and gas condensate reservoirs
- Pseudo-pressure and type curve analysis techniques
- Phase redistribution
- Interference tests and reservoir limit tests
- Well test design and step-by-step procedure

On day four of this course, participants will learn about well test analysis in gas and gas condensate reservoirs. They will learn about modifications for gas wells and multiphase flow. Participants will learn about pseudo-pressure and type curve analysis techniques. They will also be able to design a good well test and the select the optimum parameters during this course.

DAY 5

Design and Diagnostic and Derivative Analysis using software (Saphir - PanSys)

- PDD Test: Saphir G4 Interpretation
- PBU Test: Saphir G4 Interpretation
- KAPPA Workstation Saphir G5
- Saphir Numerical Well Testing
- Saphir Well Test Designing
- Saphir Quality Control.
- Saphir Static Fluids Gradient
- Weatherford PanSys Workflow.

The last day of the course will include two important software in well testing. Participants will learn how to use the software to get the required plots and how to make a complete analysis on them. They also will use the both programs to make a successful well test design whether in the field or in the office.

COURSE CERTIFICATE

TRAINIT ACADEMY will award an internationally recognized certificate(s) for each delegate on completion of training.

COURSE FEES

$6,150 per Delegate. This rate includes participant's manual, Hand-Outs, buffet lunch, coffee/tea on arrival, morning & afternoon of each day.

COURSE METHODOLOGY

The training course will be highly participatory and the course leader will present, guide and facilitate learning, using a range of methods including formal presentation, discussions, sector-specific case studies and exercises. Above all, the course leader will make extensive use of real-life case examples in which he has been personally involved. You will also be encouraged to raise your own questions and to share in the development of the right answers using your own analysis and experiences. Tests of multiple-choice type will be made available on daily basis to examine the effectiveness of delivering the course.

- 30% Lectures
- 30% Workshops and work presentation
- 20% Case studies & Practical Exercises
- 10% Role Play
- 10% Videos, Software or Simulators (as applicable) & General Discussions