

A LDI Training Course

# WELL TEST ANALYSIS

by

**Dr. Taufan Mahaendrajana**

This five-day course is designed to be taught professionals, engineering personnel and supervisors who are involved in Well Test Analysis. This course consists of lecture presentations and doing exercises using computer aided analysis.

## COURSE CONTENT

### Day 1 - Well Test Objectives and Concepts

1. Introduction
2. Basics of Reservoir Models
3. Dimensionless Variables
4. Skin Effect
5. Wellbore Storage
6. Infinite Acting Radial Flow
7. Semi-log Analysis
8. Log-Log Type Curves
9. Reservoir Boundary Response
10. Radius of Investigation
11. Fractured Wells
12. Dual Porosity Behavior
13. Superposition
14. Buildup Tests

### Day 2 - Computer Aided Analysis

- Overview
- Graphical Presentations
- The Derivative Plot
- Diagnostic Plot Evaluation
- Data Preparation
- Nonlinear Regression
- DE superposition/DE convolution
- Interpretation Sequence
- Non-Ideality

### **Day 3 - Gas Well Tests**

- Introduction
- Real Gas Pseudo pressure and Pseudo time
- Calculating Pseudopresures
- Using Pseudo pressure and Normalized Pseudo pressure for Analysis
- Rate Dependent Skin Effect

### **Multiphase Well Tests**

- Introduction
- Perrine's Approach
- Pressure Squared Approach

### **Day 4 - Advanced Topics**

- Horizontal Wells
- Flow Regimes
- Estimating Parameters
- Nonlinear Regression
- Multilayers Well Analysis
- Test without Flow Measurements
- Test with Flow Rate Measurements

### **Day 5 - Designing Well Tests**

- Introduction
- Variable Dependency
- Test Duration
- Flow Rate Consideration
- **Worked Examples**

## **WHO SHOULD ATTEND**

- Reservoir engineers
- Production engineers
- Drilling engineers
- Development geologists
- Petroleum engineers

## YOUR COURSE LEADER

Taufan Marhaendrajana obtained PhD degree from Texas A&M university in 2000, MS degree from Texas A&M University in 1995 and BS degree from Institute Technology Bandung in 1991.

Taufan Marhaendrajana is currently a lecturer of Petroleum Engineering at Institute Technology Bandung, He was a Production Engineer at Conoco Indonesia in 1991. He worked at Schlumberger Product Center, Sugar Land, Texas, USA 1999 - 2002).

He also performs consulting works for oil and gas industries in Indonesia on plan of field development, reserves certification, production optimization, fluid modeling, pressure transient analysis, reservoir simulation, water flood and surfactant & polymer floods.

Taufan Marhaendrajana has published more than fifty technical papers including peer reviewed international/national journals and conference proceedings.

To enroll or get more information, please contact

### **PT. Loka Datamas Indah**

Phone : +62 21 6326911  
Fax : +62 21 6305074  
Email : [Lditrain@indo.net.id](mailto:Lditrain@indo.net.id)  
Web site : [www.Lditraining.com](http://www.Lditraining.com)