

RESERVOIR ENGINEERING FOR GEOLOGISTS

GEO007

COURSE DESCRIPTION

The basic purpose of every individual in a producing company is the same: to find and produce oil and gas in an efficient manner to the economic benefit of the company. A reservoir engineer cannot predict the production performance of an oil reservoir with any degree of certainty without a knowledge of the physical characteristics - the geology - of that reservoir.

Neither can the geologist describe the physical characteristics of a reservoir and be sure of his work without considering the producing characteristics as evidenced by production and pressure data. This course is an attempt to bridge that particular chasm, being an introductory description of the field and techniques of petroleum reservoir engineering.

COURSE GOAL

To enhance the participants' knowledge, skills and abilities necessary for complete understanding of the characteristics of oil and gas reservoirs from fluid and rock characteristics, through development plan, production, recovery, and reserve estimation.

COURSE OBJECTIVES

By the end of this course, participant will be able to:

- Identify properties of Reservoir Rocks
- Identify properties of Reservoir fluid
- Understand reservoir fluid flow
- Employ reservoir production evaluation techniques.
- Understand well testing and sampling.
- Understand reservoir exploitation and recovery enhancement
- Understand reservoir economics

WHO SHOULD ATTEND

- Geologists
- Geophysicists
- Production Engineers

COURSE DURATION

5 Working Days

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COURSE OUTLINES

1. Reservoir Rock Properties

- Porosity
- Fluid saturations
- Permeability.

2. Reservoir Fluid Properties

- Fluid types
- Reservoir oil
- Reservoir gas.

3. Reservoir Fluid Flow

- Darcy's law
- Reservoir drive mechanisms

4. Reservoir Production Evaluation Techniques

- Volumetric calculations
- Material balance
- Decline curves
- Deliverability.

5. Well Testing and Sampling

- Well stabilization and conditioning
- Pressure measurements
- Well completion techniques.

6. Reservoir Exploitation and Recovery Enhancement

- Secondary and tertiary recovery
- Reservoir simulation.

7. Economics

- Reserve classification
- Product pricing
- Economic components.

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