

Training Title:

SUBSURFACE PRODUCTION OPERATIONS

Training Venue and Dates

REF OP021	Subsurface Production Operations	5	22-26 April, 2024	\$6,500	Rome, Italy
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In any of the 5-star hotel. Exact venue will be informed soon.

Training Fees

- \$6,500 per participant for Public Training including Course Materials/Handouts, Tea/Coffee, Refreshments & International Buffet Lunch.

Training Certificate

Define Management Consultancy & Training Certificate of course completion will be issued to all attendees.

TRAINING DESCRIPTION

This course covers the production subsurface operations. It provides information and concentrate on the proper selection, operation and maintenance of subsurface operation. The course gives structure geology review and covers rock properties, fluid properties and well analysis tools.

GOAL

To enhance the participants' knowledge, skills, and attitudes necessary to understand production subsurface operations

TRAINING OBJECTIVES

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

- To improve understanding and awareness of rocky & fluid properties and well analysis tools.
- Be familiar with geology structure.
- Be familiar with rock properties.
- Understand fluid properties.
- Understand and employ well analysis tools
- To improve understanding and awareness of rocky & fluid properties and well analysis tools.
- Subsurface production operations
- Inflow and outflow performances completion systems & tubing selection, design & installation
- Perforation methods, formation damage, matrix acidizing & hydraulic fracturing
- Well production problems such as toxic material production, inorganic scale formation, corrosion etc.
- Artificial lift selection, ESP systems selections & performance calculations & design gas lift systems.
- Hydraulic pumping oil wells, progress cavity pumping design gas lift systems & evaluation & installation of downhole plunger equipment well head & plunger surface equipment.

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WHO SHOULD ATTEND?

For all engineers working in oil and gas fields: Reservoir Engineers, Production Technology Engineers, Production Operation Engineers, and Production Managers.

TRAINING METHODOLOGY

A highly interactive combination of lectures and discussion sessions will be managed to maximize the amount and quality of information and knowledge transfer. The sessions will start by raising the most relevant questions and motivate everybody to find the right answers. The delegates will also be encouraged to raise their own questions and to share in the development of the right answers using their own analysis and experiences.

- 30% Lectures
- 30% Workshops and work presentation
- 20% Group Work & Practical Exercises
- 20% Videos & General Discussion

COURSE OUTLINE

1st Day

- Introduction.
- Structure geology review.
 - Structure.
 - Faulting.
 - Types & formation of structure.
 - Rock properties
 - Porosity and permeability
- Inflow & out flow performance relationship.
- Drive mechanism types:
- Water drive, gas cap & gas dissolved.

2nd Day

- ❖ Well completion types
- Casing & tubing types
- Completion equipment and design practices
- Packers types and applications
- Down hole completion
- Seating nipples
- Sliding sleeves
- Blast joints and flow couplings
- Subsurface safety valve (SSVS)

3rd Day

Perforations:

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- Under balance and over balance
- Stimulations
- Hydraulic fracturing
- Equations and calculations
- Fracturing fluids and additives
- Water base and oil base fluid
- Applications
- Oil well performance curves.
- Gas well performance curves.
- Injection well performance curves.

4th Day

Production problems and its solutions

- Corrosion, paraffin, foams
- Asphaltene, scales.....
- Inhibitors avoiding these problems.
- Artificial lift methods
- Objectives
- Decreasing BHP and increase rate
- Popular lift types
- Choice of artificial lift

5th Day

- Gas lift advantages and disadvantages
- Gas lift valves applications
- Beam pumping
- Description surface beam
- Down hole pump chamber
- Up stroke and down stroke
- Electrical submersible pumps (ESP)
- Surface and subsurface equipment
- Design electrical motor and multistage pumps
- Advantages and disadvantages

- ❖ Progressive cavity pump (PCP)
Heavy oil using
Descriptions and applications
- ❖ Hydraulic jet pump
Descriptions and applications

Note:

Pre & Post Tests will be conducted

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Case Studies, Group Exercises, Group Discussions, Last Day Review & Assessments will be carried out.

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