**Training Title**

# PRODUCTION OPERATIONS AND HEAVY OIL ARTIFICIAL LIFT (SRP) OPTIMIZATION

**Training Duration**

**5 days**

**Training Venue and Dates**

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| REF PE018 | Production operations and heavy oil artificial lift (SRP) optimization | 5 | 29 Jul – 02 Aug 2024 | $6,500 | London, UK |

**In any of the 4 or 5-star hotels. The exact venue will be informed once finalized.**

**Training Fees**

- **$6,500 per participant for Public Training includes Materials/Handouts, tea/coffee breaks, refreshments & Lunch.**

**Training Certificate**

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

**TRAINING OVERVIEW**

**TRAINING DESCRIPTION**

**In the realm of heavy oil production, optimizing Sucker Rod Pump (SRP) systems is crucial for maximizing efficiency and profitability. Heavy oil's high viscosity presents challenges, but effective SRP optimization can enhance production rates and overcome operational hurdles. This introduction explores key strategies, technologies, and benefits of SRP optimization in heavy oil fields, aiming to improve production efficiency and operational success.**

**TRAINING OBJECTIVES**

**The objective of optimizing SRP (Sucker Rod Pump) systems in heavy oil production is to maximize production efficiency and profitability by addressing the challenges posed by high viscosity fluids and complex reservoir conditions. This involves:**

**1. Enhancing production rates: Improving the efficiency of SRP systems to extract more oil from heavy oil reservoirs.**
**2. Minimizing operational costs: Reducing downtime and maintenance through effective optimization strategies.**
**3. Mitigating reservoir challenges: Addressing issues like sand production, fluid viscosity variations, and pump wear.**
**4. Implementing advanced technologies: Utilizing innovative tools and techniques to achieve higher reliability and performance.**

**By achieving these objectives, operators can optimize their production operations, increase profitability, and extend the economic life of heavy oil assets.**



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## WHO SHOULD ATTEND?

- **Production Engineers: Professionals responsible for optimizing production rates and improving operational efficiency in heavy oil reservoirs.**
- **Reservoir Engineers: Those involved in reservoir management, characterization, and modeling for heavy oil production.**
- **Facility Managers: Individuals overseeing the design, installation, and maintenance of production facilities in heavy oil fields.**
- **Project Managers: Professionals leading heavy oil production projects who need a comprehensive understanding of artificial lift systems.**
- **Petroleum Engineers: Engineers involved in the planning, design, and implementation of artificial lift systems.**
- **Health, Safety, and Environmental (HSE) Personnel: Experts responsible for ensuring regulatory compliance and sustainable practices in heavy oil production.**
- **Technicians and Field Operators: Personnel involved in the day-to-day operations and maintenance of artificial lift systems.**
- **Anyone seeking to enhance their knowledge and expertise in heavy oil production and artificial lift systems, whether they are newcomers to the field or experienced professionals looking to broaden their skill set.**

## 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. 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.**

**Very useful Course Materials will be given.**

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

## DAILY OUTLINE



**Day One: Understanding Inflow and Outflow Dynamics in Heavy Oil Production**

- **Examining Heavy Oil Reservoir Performance: A Comprehensive Overview of Wellbore and Reservoir Dynamics**
- **Analysis of Pressure Loss in the Wellbore**
- **Evaluating Well Productivity and the Role of Productivity Index**
- **Exploring Inflow and Outflow Relationships in Heavy Oil Reservoirs**



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**Day Two: Artificial Lift Technology and Its Application**

- **Overview of Various Artificial Lift Technologies: Including Sucker Rod Pump Design, Hydraulic Pump Design, Jet Pump, Gas Lift, and Electric Submersible Pump (ESP)**
- **Application of Artificial Lift Technology and Recognizing Its Limitations**
- **Methods for Screening and Selecting the Appropriate Artificial Lift System**

**Day Three: Sucker Rod Pumping Strategies for Heavy Oil**

- **Understanding the Core Principles of Sucker Rod Pumping**
- **Analyzing the Limitations and Advantages of Sucker Rod Pumping Systems**
- **Exploring the Components and Design Considerations of Sucker Rod Pumps**
- **Troubleshooting Common Issues in Sucker Rod Pump Systems**

**Day Four: Progressing Cavity Pump (PCP) Systems for Cold Heavy Oil Production**

- **Delving into the Concept of Progressing Cavity Pump (PCP) Systems**
- **Assessing the Limitations and Advantages of PCP Systems**
- **Best Practices for the Installation and Maintenance of PCP Pumps**
- **Troubleshooting Techniques for PCP Pumps**
- **Exploring Innovative Technologies in PCP Pumping**

**Day Five: Electric Submersible Pump (ESP) Systems**

- **Understanding the Fundamentals of Electric Submersible Pump (ESP) Systems**
- **Analyzing ESP Equipment and Accessories**
- **ESP System Design: Including Pump Performance Curves, Pump Intake Curves, Typical Problems, Installation Best Practices, and Troubleshooting**
- **Principles for Proper Sizing of ESP Systems, Covering Pump, Motor, and Cable**
- **Emphasizing the Significance of Matching Well Productivity with Pump Performance**

**NOTE:**
**Pre & Post Tests will be conducted.**
**Case Studies, Group Exercises, Group Discussions, Last Day Review & Assessments will be carried out.**

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