WELL TESTING & PRODUCTION OPTIMIZATION OPERATIONS

MAESTRO CONSULTANTS

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TRAINING TITLE

WELL TESTING & PRODUCTION OPTIMIZATION OPERATIONS

VENUE

Dubai, UAE

DURATION

5 Days

DATES

27- 31 October 2019

PRICE

US$4,000 per attendee including training material/handouts, morning/afternoon coffee breaks and Lunch buffet.

TRAINING INTRODUCTION

A production system is the system that transports reservoir fluid from the subsurface to the surface and separates it into oil, gas, and water. From there the oil and gas streams are treated if necessary and prepared for sale or transport from the field. Any water produced will also treated and prepared for disposal or reinjection into the reservoir. The basic elements of a production system are the reservoir, perforations, production packer, production casing, tubing, wellhead, choke, flowline, separator, and tank. This course will provide participants with the knowledge of integrated subsurface surface production optimization. During this course, participants will also learn about nodal analysis and the identification of major pressure losses from the reservoir to separator. The use of specialized software to identify constraints and to propose recommendations to optimize the field will also be covered.

TRAINING OBJECTIVES

By the end of the training course, the participants should be able to:

• Demonstrate knowledge and understanding of the principles of oil and gas production operation

• Select and implement most adequate techniques for production operation and subsequent treatment process

• Relate the gained knowledge in the area of well head operation to real-life cases. DMCT/OL/9/18(Rev3Dt:23/9/18) 2

• Apply troubleshooting to technical difficulties encountered in the field of specialization.

• Understand in detail of sub surface production operation, and reservoir management.

• How to operate safely well testing to meet target performance of each well.

TRAINING AUDIENCE

The program is ideal for personnel involved in upstream production operations, troubleshooting, process engineering, and technical services as well as others providing services to the oil and gas industry, should also find this program beneficial.

TRAINING OUTLINE

Day-1

Basic concepts Oil and gas production and processing

Introduction, Process modules, Scope of natural gas processing

- Processing objectives

- Effect of gas type in field processing

- Location of the gas field

End uses and markets for natural gas, Environmental advantages, Physical behavior of natural gas systems, Physical and thermal properties, Behavior of mixtures, Vaporization by gas pressure, Molecular theory of gases and liquids

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Integrated Production Systems and Production Processes

Production system loops

Well completion and production methods

Production well test

Gathering and processing facilities

The first day will cover an overview of the production system from the reservoir to the surface. The integrated production system will be reviewed. Participants will learn about the different production completions, lifting methods, gathering and separation systems, and production well tests. Processing facilities will also be discussed.

DAY 2

Nodal Analysis

• Main components of pressure drop

• Inflow Performance Relationship (IPR): reservoir, completion

• Subsurface to surface system

• Flow rates in pipes and restrictions

On the second day, participants will learn about nodal analysis, to include the different main components of pressure drops, such as static, friction, and acceleration. Inflow performance relations (IPR), tubing performance curve, subsurface to surface system graphs, wellhead flow, wellhead flow curve, and gas well production behavior will also be covered. The day will end with a discussion on flow rates in pipes and restrictions, as well as flow line curve.

DAY 3

Subsurface Surface Production Operation

• Identification of restrictions and correctives actions

• Performance management

• Advanced optimization applications

• Integrated subsurface surface automation concept

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Subsurface surface production operations will be the focus on the third day. Specific topics that will be covered on this day include integrated operation procedures, best practices, identification of restrictions and corrective actions, and the production optimization using automation technology. The identification of added value to business, available and operated production, performance management, control and follow up systems will also be covered. The day will end with a discussion on

advanced optimization applications, integrated subsurface surface automation concepts, and compression plants deferred reduction case.

DAY 4

Technological Trends and Integrated Information Systems

• Well instrumentation technology

• Oil and gas production applications

• Smart wells and fields

On the last day, participants will learn about the technological trends for integrated

production optimization. The trends discussed will include smart wells, well instrumentation technology, and smart fields. Integrated information systems will also be discussed. The integrated information environment, problems of integration, and production data management will be covered on this day as well.

DAY 5

BASIC INSTRUMENTATION AND CONTROL SYSTEM

Basic Process control and Instrumentation – Process variable, measuring elements,

transmitters, controllers, convertors and control valves.

Process safe guards- Alarms, Trips, shut down valves, Blow down valves, fire and gas

Detectors Mobile Test separators – various process parameters, how to read and understand each parameters, Well testing procedure – Standard procedure for well testing.

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Practical session :-P&ID review to understand Instrumentation and control system.

TRAINING CERTIFICATE

MAESTRO CONSULTANTS Certificate of Completion for delegates who attend and complete the training course

METHODOLOGY

Our courses are highly interactive, typically taking a case study approach that we have found to be an effective method of fostering discussions and transferring knowledge. Participants will learn by active participation during the program through the use of individual exercises, questionnaires, team exercises, training videos and discussions of "real life" issues in their organizations.
The material has been designed to enable delegates to apply all of the material with immediate effect back in the workplace.