MAESTRO CONSULTANTS

RESERVOIR MANAGEMENT FOR UNCONVENTIONAL RESERVOIRS

COURSE OUTLINE 2020

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TRAINING TITLE

RESERVOIR MANAGEMENT FOR UNCONVENTIONAL RESERVOIRS

VENUE

Dubai, UAE

DURATION

5 Days

DATES

16 - 20 February 2020

PRICE

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

TRAINING INTRODUCTION

The principles of sound reservoir management are presented with emphasis on practical applications. Actual case histories are used to study both successes and failures. An interdisciplinary synergistic approach to efficient gas reservoir management is detailed with the goal of optimized profitability. The significance of each component and the importance of timing and cost/benefit analysis are emphasized.

Reservoir management models for optimum field development and field operating plans are analyzed. The interdisciplinary reservoir management approach shows how each technology or function contributes to the plan and how checks and balances are developed

TRAINING OBJECTIVES

- ✓ Optimize production from gas reservoir
- ✓ Apply the principles of sound reservoir management
- ✓ Use the interdisciplinary synergistic approach to efficient reservoir management
- ✓ Include each reservoir management component and the importance of timing and cost/benefit analysis

TRAINING AUDIENCE

Reservoir, production and operations engineers; geologists; geophysicists; managers; experienced technicians; and service company personnel responsible for improving the performance of gas reservoirs

COURSE OUTLINE

Day 1

- Gas properties:
  - Real gas behavior equations of state
  - Phase behavior of different types of gas
  - Flash calculations
  - Classification of gas reservoirs,
  - Gas condensate sampling
  - Understanding laboratory reports
- Reservoir Gas Flow
  - Flow Regime Characteristics
    - Steady-State Flow
    - Unsteady-State Flow
    - Pseudosteady-State Flow
  - Flow Equations
    - Steady-State Flow
    - Pseudosteady-State Flow
    - Unsteady-State Flow
    - Noncircular Reservoirs

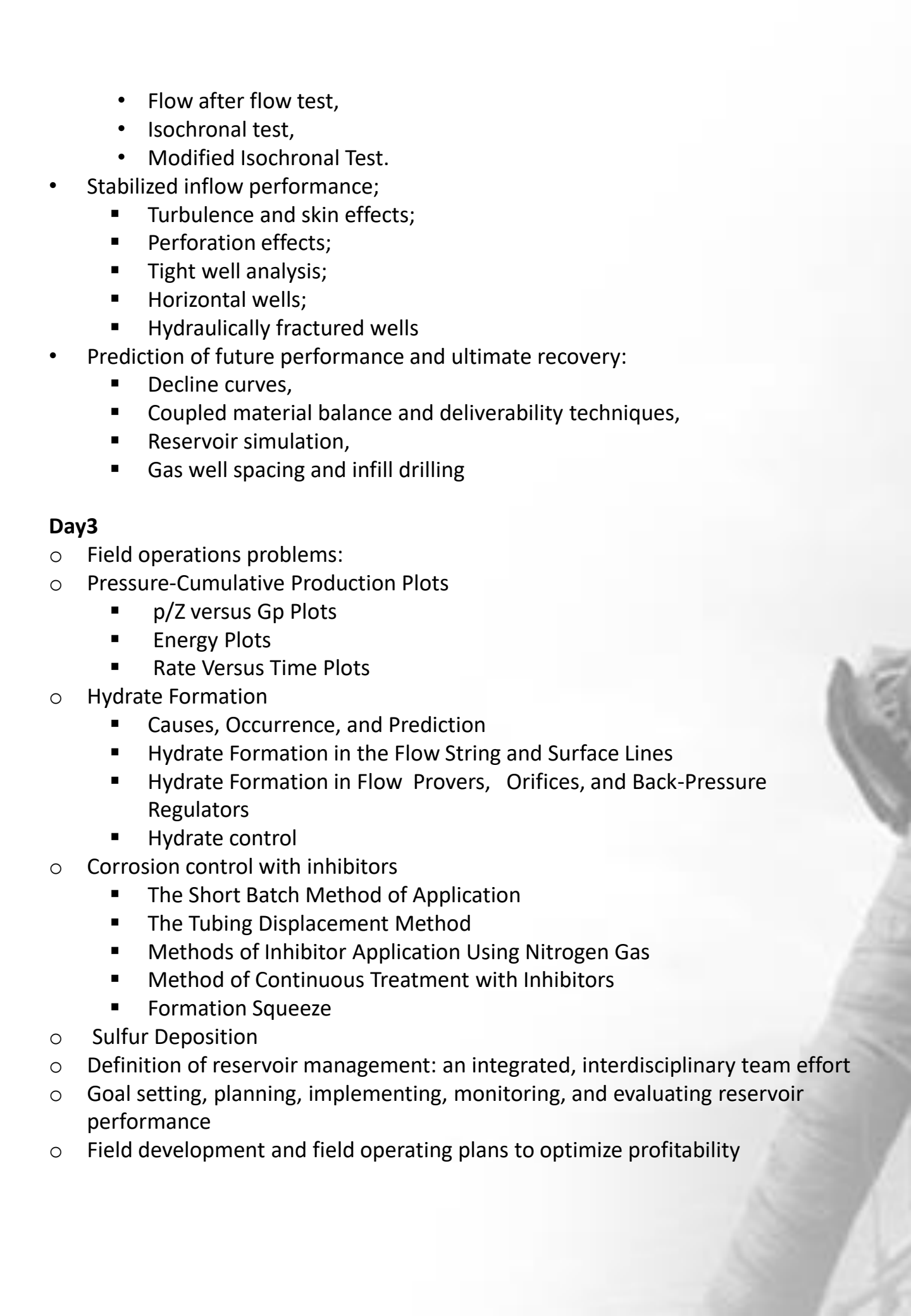
Day 2

- Reserve calculations:
  - P/Z plots,
  - Energy plots,
  - Water influx,
  - Abnormal pressure effects;
  - Diagnostic testing based on production data
- Gas Reservoir Performance:
  - Gas well testing

    - Flow after flow test,
    - Isochronal test,
    - Modified Isochronal Test.
- Stabilized inflow performance;
    - Turbulence and skin effects;
    - Perforation effects;
    - Tight well analysis;
    - Horizontal wells;
    - Hydraulically fractured wells
- Prediction of future performance and ultimate recovery:
    - Decline curves,
    - Coupled material balance and deliverability techniques,
    - Reservoir simulation,
    - Gas well spacing and infill drilling

Day3

- Field operations problems:
- Pressure-Cumulative Production Plots
    - p/Z versus Gp Plots
    - Energy Plots
    - Rate Versus Time Plots
- Hydrate Formation
    - Causes, Occurrence, and Prediction
    - Hydrate Formation in the Flow String and Surface Lines
    - Hydrate Formation in Flow Provers, Orifices, and Back-Pressure Regulators
    - Hydrate control
- Corrosion control with inhibitors
    - The Short Batch Method of Application
    - The Tubing Displacement Method
    - Methods of Inhibitor Application Using Nitrogen Gas
    - Method of Continuous Treatment with Inhibitors
    - Formation Squeeze
- Sulfur Deposition
- Definition of reservoir management: an integrated, interdisciplinary team effort
- Goal setting, planning, implementing, monitoring, and evaluating reservoir performance
- Field development and field operating plans to optimize profitability



Day 4

- Efficient monitoring of reservoir performance
- Minimizing drilling of unnecessary wells
- Wellbore and surface systems
- Well testing and automated production systems
- Economic impact of operating plans
- Identifying and acquiring critical data, data acquisition, and analysis

Day 5

- Maximizing economic recovery and minimizing capital investment, risk and operating expenses
- Timing of field implementation of reservoir management plan
- Case histories and analysis
- Importance of reservoir characterization and drilling and operating plans
- Primary recovery, pressure maintenance, and secondary and tertiary recovery
- Responsibilities for team members

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.