

## Mature Fields - Surface Production Issues

5 days  
Overview

SPRO/MATUREGB

### LEVEL

Knowledge

### PURPOSE

This course aims to provide an overview of field aging effects on production and of the solutions to maintain the production in mature fields.

### LEARNING OBJECTIVES

Upon completion of the course, participants will be able to:  
understand the specificities of mature field developments,  
maintain well productivity,  
compensate production decline,  
adapt surface facilities to field aging.

### WAYS AND MEANS

Highly interactive training by industry-specialist lecturers.  
Numerous applications and illustrations.

### LEARNING ASSESSMENT

Assessment by test at the end of the course.

### PREREQUISITES

No prerequisites for this course.

## Agenda

### INTRODUCTION TO MATURE FIELD DEVELOPMENTS CHALLENGES

0.25 d

### DRIVE MECHANISM & ENHANCED OIL RECOVERY

0.5 d

Concept selection of an EOR technique.  
Validation process of an EOR technique.  
Introduction to chemical EOR techniques.

### RESERVOIR PRESSURE MAINTENANCE TECHNIQUES

0.25 d

### WELL ACTIVATION

0.5 d

Gas lift.  
Use of PCP, beam pump and ESPs.

### WELL PRODUCTIVITY

0.5 d

Identifying a low well productivity.  
Root causes and remediation.

## TROUBLESHOOTING OF MATURE WELLS

0.5 d

Identifying problems of each well and associated remediation.  
Strategy for optimized remediation integration at the level of a field.  
Integrity of mature wells.

## ADAPTATION OF OIL TREATMENT TO PRODUCTION AGING

0.5 d

Evolution of emulsion quality over time.  
Evaluation of separators water handling capacity (design case/current operating conditions).  
Examples of process adaptation to field aging.

## ADAPTATION OF WATER TREATMENT

0.5 d

Evolution of water production over time.  
Adaptation of production water treatment capacities.

## ADAPTATION OF GAS TREATMENT

0.25 d

Evolution of associated gas flowrate over time.  
Evolution of gas quality.  
Gas recompression needs and adaptation of the gas compression package.  
Condensate recovery.

## ENERGY EFFICIENCY IN MATURE FIELD

0.25 d

Equipment performances.  
Process optimization.  
Fuel gas requirements vs. available associated gas.

## EXAMPLES OF MATURE FIELD DEVELOPMENTS

0.5 d

Example of Gabon and Cameroon mature fields developments.

## CORROSION MANAGEMENT IN MATURE FIELD

0.5 d

Corrosion mechanism.  
Integrity of wells and flow line.