Training - Unconventional Reservoirs Completion and Stimulation

URCS-EN-P | Face-to-face only | 5 days

This course provides a complete overview of the techniques, achievements, challenges of well completion and stimulation of shale gas wells

Level

Knowledge

Public

Professionals within the petroleum and energy industry, who need a knowledge and understanding of the Oil & Gas unconventional production and development techniques

Objectives

Attendees will be able to implement the following skills:

- Recognize the specificities of the unconventional reservoirs, the techniques and challenges of their development and their production
- Distinguish the completion methods of shale gas wells
- Demonstrate the stimulation techniques of shale gas wells
- Identify the impact of fracturing parameters on well productivity
- Assess and measure the success of these operations

Pedagogical & technical resources

- Interactive animations
- Use of several illustrations: videos, field cases
- Numerous exercises

Assessment of achievements

- Trainees are assessed throughout the training through practical application phases and interactions with the trainer
- A final on-the-spot evaluation may also be carried out at the end of the course and/or at the end of each module using tests designed to verify the learners' understanding and assimilation of the knowledge linked to the training objectives

Prerequisites

No prerequisites are necessary to follow this course

Responsable

IFP Training instructors, with expertise in the field and trained in modern teaching methods adapted to the specific needs of learners from the professional world

Program

DRILLING & CASING PROGRAM FOR DIRECTIONAL & HORIZONTAL WELLS — 0.5 day

Introduction: directional and horizontal drilling, objectives, well geometry...
Directional drilling equipment: downhole motors, rotary steerable system, measuring equipment 'MWD'.
Drilling consideration of deviated and horizontal wells: torque and drag, bucking, hole cleaning...
Casing program for horizontal wells.

COMPLETION DESIGN — 0.5 day

Introduction to well completion and hydraulic fracturing.
Completion design, operations, equipment.
Plug and perf technique.
Ball and sleeve technique.
Actual completion trends: examples.
Technological challenges: new techniques.
Stimulation: fracturing techniques & design (horizontal multistaged hydraulic fracking techniques & operations).

INPUT & FRACTURE DESIGN — 1.75 days

Requirement for fracture design.
Rock mechanics for fracturing design.
In situ stress, fracture orientation and fracture propagation.
Different types of pressures: net pressure, tortuosity, friction.
Fluid leak-off, slurry efficiency, dimensionless fracture conductivity.
Fracture growth analysis.
Hydraulic fracturing models.

FRACTURING FLUIDS, PROPPANTS & FRACTURE CONDUCTIVITY — 1 day

Types of fracturing fluids.
Types of proppants.
Fluid and proppant selection.

EQUIPMENT & PLACEMENT TECHNIQUES — 0.5 day

Surface pumping equipment.
Placement techniques in horizontal wells.
Planning and executing operation.
Flow back techniques: wellhead isolation tool, frac valve.

FRACTURE MAPPING & POST-JOB ANALYSIS — 0.5 day

Mapping: well test, tracer and micro-seismic.
Post-job evaluation.
Environmental considerations of hydraulic fracturing.

KNOWLEDGE ASSESSMENT — 0.25 day

To French entities : IFP Training is referenced to DataDock ; you may contact your OPCO about potential funding.
Please contact our disabled persons referent to check the accessibility of this training program : referent.handicap@ifptraining.com