Blended Learning Courses at IFP Training

E-learning with personal coaching

Blended learning at IFP Training refers to distance learning with a close and structured follow up of each trainee by an expert coach, including one to one exchange through internet and/or the phone

EXCELLENCE OF KNOWLEDGE TRANSFER

High quality interactive training materials including quizzes and animations
Structured and guided learning path
Individual coaching using a dedicated training platform giving access to self training resources, forums and one to one exchanges
Simultaneous collaborative work using internet and phone through a web conference tool

OPTIMIZED TRAINING TIME

Trainee stays in his job location
4 hours a week learning work on average for the trainee
Course duration 6 to 12 weeks depending on subject
One hour per week personal guidance by the coach

CONTINUOUS ASSESSMENT FEEDBACK

Weekly progress reporting
Trainee dashboard
Individual and global pedagogical synthesis of the course

Blended Learning

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Blended Learning

E-190

ENGLISH: LOG / BLWLI

Well Logging & Basic Log Interpretation

8 WEEKS

E-learning with personal coaching

Well log acquisition and basic interpretation of clean formations

PURPOSE

To provide a practical understanding of basic concepts and methodology of well log acquisition and interpretation for subsurface or reservoir studies

AUDIENCE

Geologists, geophysicists, reservoir engineers interested in well log interpretation

LEARNING OBJECTIVES

- To understand well log acquisition techniques
- To grasp fundamental physics of log measurements
- To perform well-log quality control
- To understand log data from shale and other geological formations
- To perform basic log interpretation to identify and characterize reservoirs

WAYS AND MEANS

Before training starts, 2 hours are dedicated to introduce the training agenda, methods and tools
The exact needs and expectations of each participant are also assessed and discussed (MCQ and phone interview with the tutor)

OBSERVATION

Total duration of the training is 32 hours, spread over an 8-week period

COORDINATOR

Jacques Delalex
Catherine Ulrich (Blended Learning)

AGENDA

BASIC INTERPRETATION CONCEPTS — 8 h

Seals and reservoirs
Definition of main reservoir petrophysical and fluid properties (lithology, porosity, resistivity, saturation)
Fundamental equations for log interpretation in clean formations
Environment of measurement (drilling, borehole, invasion process)

MEASUREMENTS AND APPLICATIONS — 12 h

Mud logging and coring operations
Wireline logging operations
The log: header, calibrations, parameters, repeat section, main log
Logging tool principle, limitation, application, quality control
Caliper, gamma ray and GR spectrometry, spontaneous potential
Resistivity (induction, laterolog) and microresistivity measurements
Porosity and lithology measurements: nuclear (litho-density, neutron) and acoustic logging

BASIC LOG INTERPRETATION — 12 h

Wireline log interpretation in clean formations:
- Identification of shales, common geological formations and reservoirs
- Cross-plot technique with density and neutron
- Identification of fluid contacts
- Hydrocarbon effects on logs
- Determination of lithology and porosity
- Determination of Rw (SP, Ratio, Rwa)
- Determination of water and hydrocarbon saturations
- Case of oil based mud
- Estimation of h.Phi.So

Upon request at distance. Contact: gre.rueil@ifptraining.com

Blended Learning

E-340

ENGLISH: GEP / BLSRC

SRC
Seismic Reservoir Characterization

6 WEEKS

E-learning with personal coaching

PURPOSE

To provide a comprehensive and practical understanding of how seismic data is used to characterize, model, and classify reservoirs

AUDIENCE

Geologists, geophysicists and reservoir engineers

LEARNING OBJECTIVES

- To understand the relationship between physical properties of rocks and geophysics
- To master the main steps of well to seismic calibration
- To grasp the workflow of seismic reservoir characterization
- To perform QC of an AVO-AVA study
- To assess data to be interpreted and related uncertainties
- To interpret major results of petroelastic analysis and modeling, AVO-AVA and Inversion studies
- To understand methodological issues in seismic inversion, attributes classification and reservoir properties prediction

WAYS AND MEANS

Before training starts, 2 hours are dedicated to introduce the training agenda, methods and tools
The exact needs and expectations of each participant are also assessed and discussed (MCQ and phone interview with the tutor)

OBSERVATION

Total duration of the training is 24 hours, spread over a 6-week period

COORDINATOR

Jacques Negron
Catherine Ulrich (Blended Learning)

AGENDA

SEISMIC RESERVOIR CHARACTERIZATION — 1 h
How is it integrated?
Methods used and scale issues

ROCK PHYSICS THEORY — 2.5 h
Basic rock physics
Main parameters having an influence on rock-elastic answer
Saturation effect modeling (Gassmann)
Rock physics model and parameters taken into account
Differences between Gassmann and petroelastic modeling

PHYSICS AND AVO PRINCIPLES — 5 h
Why AVO?
Wave propagation
Data prerequisites, seismic attributes

WELL TO SEISMICS CALIBRATION — 2 h
Objectives, methods
Recommended wavelet extraction techniques
Real case example: Multi-well calibration
Wavelet deconvolution

INTERPRETATION OF AVO ATTRIBUTES — 3 h
Crossplot principles
AVO seismofacies
AVO class
AVO facies volume

INVERSION OF SEISMIC DATA — 4 h
Inversion methodology: fundamentals
Post-stack and pre-stack inversion
Validating and interpreting inversion results

PREDICTION OF RESERVOIR PROPERTIES — 4.5 h
Attribute classification
Techniques of prediction
Validation of characterization results

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Blended Learning

E-396

ENGLISH: GIS / BLWTA

Well Test Analysis

10 WEEKS

E-learning with personal coaching

PURPOSE

To enhance practical experience and skills in well test design and interpretation through an experiential, hands-on training experience

AUDIENCE

Reservoir engineers, engineers and technicians interested or involved in well performance supervision and well test design and interpretation
Reservoir geologists interested by well-test-generated dynamic information for use in geological models

LEARNING OBJECTIVES

- To comprehend the full extent of oil and gas well tests, within the framework of set objectives
- To understand, recognize and analyze pressure behavior linked to a given flow regime
- To apply conventional and advanced methods for setting up a well/reservoir model and deriving results
- To obtain well bore conditions using the derivative approach
- To describe a double-porosity reservoir model
- To assess boundary response within the derivative approach
- To use a software program to interpret well tests in simple reservoirs
- To set up the appropriate gas well test and analyze results

WAYS AND MEANS

Practical applications and exercises using the software programs PIE™ and SAPHIR™

OBSERVATION

40 hours over 10 weeks
PIE™ or SAPHIR™ software licenses not provided

COORDINATOR

Gérard Glotin
May also contact Catherine Ulrich, in charge of Blended Learning

AGENDA

WELL TEST PRINCIPLES AND OBJECTIVES — 8 h
Definitions, objectives, surface tools, downhole tools, metrology
Data input, data results, test sequence, gas tests, diffusivity, methodology, flow regimes, special plots, skin, investigation, productivity

WELL TEST ANALYSIS: METHOD — 8 h
The log scale, conventional method, DD type curve match, BU T/C match, MDH, horner Multirate time, superposition, the derivative (T/C, match, signature catalog)

WELL TEST ANALYSIS: APPLICATIONS — 8 h
Theory review, no flow boundaries classes, closed system, average pressure and productivity index, software presentation and exercises

WELL BORE & RESERVOIR CONDITIONS — 4 h
Well bore conditions, reservoir conditions (homogeneous, 2 Phi), software, exercises

LIMITS AND BOUNDARIES — 4 h
Limits, boundaries, closed system, software, partial penetration, horizontal well, exercises

GAS AND INTERFERENCE TESTS — 4 h
Gas tests, interference tests, software, exercises

TEST DESIGN — 4 h
Test design, complicating factors, reporting, interpretation procedure, test history simulation

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Blended Learning

E-398

ENGLISH: GIS / BLMBAL

Material Balance and Production Mechanisms

7 WEEKS

E-learning with personal coaching

PURPOSE

To enhance practical experience and skills in setting up material balance (oil, gas and condensate gas reservoirs) through an experiential, hands-on training experience, using the software program MBAL™

AUDIENCE

Reservoir engineers, engineers and technicians involved in well performance

LEARNING OBJECTIVES

- To characterize reservoir fluids
- To input main reservoir characteristics, tank and well data in the software program MBAL™
- To adjust reservoir parameters in order to match historical data as well as possible
- To calculate inflow performance for oil and gas reservoirs
- To match fractional flow and forecast field production using MBAL™

OBSERVATION

28 hours over 7 weeks
MBAL™ software license not provided

COORDINATOR

Gérard Glotin
May also contact Catherine Ulrich, in charge of Blended Learning

AGENDA

CHARACTERIZATION OF RESERVOIR FLUIDS — 4 h
Goal & applications of PVT studies, fluid basic characteristics and definitions, main oil and gas properties, correlations, Oil and Gas behavior between the reservoir and the surface

LABORATORY PVT STUDIES — 2 h
Constant composition expansion & constant volume depletion, equation of state

USE OF PVT WITH MBAL™ — 3 h
Introduction, PVT Module, PVT controlled miscibility and water viscosity, PVT validation

PRODUCTION MECHANISMS — 4 h
Material Balance equation, aquifer water influx, oil plus dissolved gas expansion, gas cap Expansion, linear expression of the MBE (Havlena & Odeh), water entry calculation

APPLICATIONS WITH MBAL™ SOFTWARE — 4 h
Tank parameters, aquifer characteristics & relative permeabilities, production history by well or by tank, history matching

FRACTIONAL FLOW — 2 h
Frontal unidirectional displacement, Buckley-Leverett model & welge tangent method Fractional flow matching

GAS RESERVOIRS — 2 h
No water influx, dry gas, gas inflow performance

WELL DEFINITION — 1 h
Inflow for oil

PREDICTION MODULE — 2 h
Productivity index, MBAL™ productivity prediction module

VOLATILE OIL AND CONDENSATE GAS RESERVOIRS — 1 h
General material balance equation, material balance applications

SINGLE-TANK OR MULTI-TANK — 3 h
Case study

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Blended Learning

E-465

ENGLISH: PRO / BLPROSPER

Well Inflow & Outflow Performance

E-learning with personal coaching

32 HOURS

PURPOSE

To deepen knowledge of well lift optimization and master use of the software program Prosper

AUDIENCE

Reservoir or well performance engineers and technicians

LEARNING OBJECTIVES

- To build a PVT model which will be used in a well performance study
- To analyze the link between reservoir characteristics and production
- To understand how wells can produce naturally
- To understand the main artificial lift methods and their use
- To model and understand crucial parameters of well performance
- To identify reasons for poor well performance

WAYS AND MEANS

Multimedia online learning with personal coaching
Before training starts, 2 hours are dedicated to introduce the training agenda, methods and tools
The exact needs and expectations of each participant are also assessed and discussed (MCQ and phone interview with the tutor)
During the training, individual phone contact with the tutor and web conferences with other participants
Use of the software program PROSPER™ (license not provided)

OBSERVATION

Total duration of the training is 32 hours, spread over an 8-week period

COORDINATOR

Denis Perrin
Catherine Ulrich (Blended Learning)

AGENDA

INTRODUCTION — 2.5 h
Well production optimization
PROSPER™ software

CHARACTERIZATION OF RESERVOIR FLUIDS - PVT — 2 h
Goal and application of PVT studies
Main oil and gas properties
PROSPER™ software PVT module

INFLOW PERFORMANCE RELATIONSHIP — 6.5 h
Modeling of flows in a porous medium
Modeling of the reservoir-wellbore interface
IPR calculation in the case of oil and gas reservoirs
Specific case of horizontal and deviated wells

NATURAL FLOWING WELLS — 7 h
Introduction to the specificities of multiphase flows
Choice of the adequate correlation
Modeling outflow performance
Nodal analysis of a reservoir well system

ARTIFICIAL LIFTED WELLS — 4.5 h
Introduction - Using the nodal analysis
Gas Lift system: description and design
Electrical Submersible Pump (ESP): presentation and design
Overview of other artificial lift methods

WELL PERFORMANCE DIAGNOSIS — 2.5 h
Production rate analysis of well flowing naturally
Production rate analysis of well activated with GL or ESP

CONCLUSION / CASE STUDY — 7 h

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