Best Technology Solutions **BTS**

Applied Reservoir Petrophysics & Characterization

by Using IP Software training Program

Introduction:

This course will helps the candidates determine the amount of hydrocarbons in their reservoir. It does this by calculating porosity and water saturation using well logging data. It will also provide a tool for Geologists and Reservoir Engineers who want to take control of their analysis and interpretation. The course will make it easy for the candidates to quickly learn about IP software. They will be able to focus on accurate calculations that get the most out of your reservoir. IP software intuitive interface runs on robust algorithms and provides many benefits such as diminished uncertainty in your interpretation, fast results due to the ease of learning IP software and flexibility so that you work the way you want to work.

The course will focus on the main Petrophysical concepts and techniques, along with their subsequent applications in IP and to get you familiar with the IP software and its main skills. It will be taught theoretically and practically on software along with hands-on exercises and tutorials. A variety of data will be used for analyses using the software through a workflow allowing the trainees to complete a deterministic Petrophysical analysis. The comprehensive course documentation has been designed as a useful guide for future reference.

Who Should Attend?

This course is designed for all Geologists, Operations Geologists, Geo-Modelers, Reservoir Engineers, Core Analysts, Geophysicists and Reservoir Engineers who wish to use IP software. While aimed at beginners, the course will also benefit those who have some experience of IP to broaden their practical knowledge of the software

Course Objectives:

By the end of this course, delegates will be able to:

- Be familiar with the IP's user interface and data structure
- Be familiar with shortcuts, alternative approaches and hidden features
- Be proficient with how to get data in/out of IP
- Be able to present data graphically as logs and as X-Y plots
- Be able to edit tools work
- Be able to perform porosity, water saturation and shale volume calculations
- Be familiar with the deterministic interpretation modules and approaches work
- Be able to perform a deterministic Petrophysical interpretation
- Be able to report the parameters and results
- Be able to correlate and understand the multi-well sketches and batching tools

Course Outline:

Introduction and Data Base

- Launching IP and licensing
- Open database & load wells
- Help & IP Support
- Database structure and working folders
- Creating and saving a new well
- Database navigation and browser (with drag & drop functionality)

IP Data Model and View

- Curve headers, names, sets, hierarchy & history
- Well header information and array curves
- Zones & formation tops
- Picture curves & text curves
- Interval / spreadsheet loader

- Real time data link
- Exporting data
- Log plots & generic log plots
- Horizontal log plots
- Displaying zones
- Crossplot, standalone picket plot, pressure gradient plots and multi-curve crossplots
- Histograms & normalization
- Multi-well log plot
- Curve listing & curve statistics
- Toolbars

IP Data Editing and Calculations

- Curve edit and depth as well as baseline shift
- Trend / square curves
- Curve splicing
- Create/edit point, array and lithology curves
- Curve filtering, averaging, rescale & fill gaps
- Array image data
- User and multi-line formula
- Basic log functions
- Temperature gradient
- TVD & batch TVD
- True stratigraphic thickness
- Curve from zones / parameters and integration
- Environmental corrections

IP Parameter Sets

- Parameter sets; print, save and delete
- IP deterministic interpretation
- Basic log analysis
- Shale volume calculation
- Porosity and water saturation

- Cut-offs & summation
- Trending parameters
- Multi-mineral option in porosity and water saturation

Geological IP Multi-Well Workflows

- 3D Petrophysics
- 3D parameter viewer
- Multi-well parameter distribution
- Multi-well change parameter
- Multi-well cut-offs & summations
- Multi-well batch operation