Best Technology Solutions **BTS**

Basics of Petrophysics Operations Training Program

Introduction:

No amount of fancy post-processing can really overcome problems caused by data which is bad from the start. Callibration and other wireline and MWD product quality problems discovered at the wellsite can usually be rectified. Once a well has been cased, however, the best a wireline or MWD vendor can offer is discounted charges and/or credit against future work. We will work with the wellsite staff and the wireline and/or MWD vendors to ensure that the log data obtained is the highest quality possible.

This course will help the candidates understand logging measurements, logging operations, tool calibration and environmental corrections. The course will focus on log quality control on tool measurements and handling, data loading and practice application for curve editing. At the end of the course, the candidates will have extensive knowledge of well logging and quality data logs.

Who Should Attend?

Geologists, Geophysicists, Petrophysicists, Stratigraphers , Reservoir, Petroleum, Wellsite Geologists, Petroleum Engineers, Drilling Engineers, Reservoir Engineers, Production Engineers, Operations Engineers, Technologists, Log Analysts, E&P Personnel, Exploration & Development Personnel, Geologists, Reservoir Engineers, Seismic Interpreters, E&P Managers, Data Management and Oil & Gas Personnel

Course Objectives:

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

- Understand basics of open and cased hole logging measurements
- Improve logging operations and tool calibrations

- Acquire knowledge on log quality control on tool measurements (log readings) and data handling
- Understand porosity tools measurements and determination
- Learn and practice curve editing (depth matching, despiking, splicing and multiple run merge)
- Understand data loading and it's relation with log results
- Introduction to core analysis and loading of output parameters
- Practice application on Data-Base creation and loading digital, scanned or digitized data of different format using IP

Course Outline:

Basics of Open and Cased Hole Logging

- Introduction
- Planning (logging programs and objectives)
- Logging Operation (logging speed, sampling rate, log units, scales, log presentations, main log and repeat section, depth match, digital data format, etc)
- Tool Calibration
- Logging Environment

Reservoir Rock Properties

- Porosity
- Saturation
- Permeability

Open - Hole Logging Tools and Measurements: Lithology Tools

- Gamma Ray, Spectral Gamma Ray
- Spontaneous Potential (SP)
- Caliper Logs

Porosity Tools

- Sonic Logs
- Density Logs
- Neutron Logs

Resistivity Tools

- Laterologs
- Induction Logs
- Micro-Spherical Logs (MSFL)

Curve Editing

- Depth Matching, despiking, splicing and multiple run merge
- Correct Curve selected for loading
- Environmental Effect and Corrections
- Curve Mnemonics for different service company
- Digitizing and scanning of old log data

Coring and Core Analysis Data

- Brief Introduction to parameters of core analysis results
- Data loading format of core analysis output parameters

Log Quality Control

- Log data Quality Control and data selection
- LQC on output processing parameters and digital data format (for example the difference between Ss & Swu or Sxo & Sxou)

Cased-Hole Logging Tools and Processing

- Cement Bond (and it's correlation to OH data)
- Thermal Decay Time
- Production Logging
- Casing Collar Log (and it's relation to Perforations)

Geological Tools

- Dipmeter Tools
- Image Tools

Other Tools

- Nuclear Magnetic Resonance
- Modular Dynamics Tester