Best Technology Solutions **BTS**

# Basic Petroleum Geology Operations

## Training Program

## Introduction:

This course will provide the candidates with the fundamentals and language of petroleum geology, exploration, drilling and production. This understanding will enable you to communicate more efficiently and perform your job more effectively. The course introduces the tools and techniques that geologists and geophysicists use to locate gas and oil, that drillers use to drill the wells and that petroleum engineers use to test and complete the wells and produce the gas and oil. Illustrations throughout the course provide practical experience in well log correlation, contouring, interpretation of surface and subsurface, contoured maps, seismic interpretation, well log interpretation, and decline curve analysis. You will learn how to identify the most common rocks and minerals.

This course is for anyone who could benefit by an overall perspective of petroleum geology, exploration, drilling and production to be more productive in their job. It is a non-technical course, anyone can take this course. Primary objectives of the course are to broaden your geological vocabulary, explain selected geological principles and processes, and describe how certain petroleum reservoirs and source rocks are formed.

## 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, Oil & Gas Personnel

## Course Objectives:

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

- Identify the most common rocks and minerals
- Learn the different types of crude oils and natural gasses and their measurements
- About plate tectonics and petroleum
- Know about geological time and history
- Identify the basic processes in the formation and deformation of sedimentary rocks
- Learn the formation of natural gas and crude oil
- Know the occurrence and distribution of crude oil and natural gas
- Understand the essentials of various depositional environments
- Identify the characteristics of petroleum traps
- The use of geological and seismic data in petroleum exploration
- How to drill a well, the language, technique and equipment
- How to test a well and qualitatively interpret well logs
- How to complete a well, the language, techniques and equipment
- Learn the elements of geophysics and exploration
- Know the challenge of offshore exploration, drilling and production
- How to produce crude oil and natural gas, calculate reserves, stimulate wells and improve oil recovery

## Course Outline:

- The nature of crude oil and natural gas
- The basic processes in the formation of rocks and petroleum
- The Earth's crust – where we explore and drill
- The occurrence, distribution and nature of oil and gas
- Minerals and rocks
- Identification of common rocks and minerals
- Geological time

- Deformation of sedimentary rocks
- Plate tectonics
- Sedimentary rock deposition
- Surface and subsurface mapping
- Diagenesis
- Generation, migration and accumulation of petroleum
- Reservoir rocks
- Petroleum traps
- The characteristics of petroleum traps
- Geological exploration
- How to explore for oil and gas
- Structural geology and petroleum
- Seismic exploration
- The use of geological and seismic data in petroleum exploration
- Origin, migration and trapping of petroleum
- Drilling a well
- Drilling problems and techniques
- Logging a well
- How to qualitatively interpret well logs
- Completing a well
- Offshore exploration and production
- Petroleum production