Best Technology Solutions **BTS**

Essentials of Hydrocarbon Exploration

Training Program

Introduction:

Finding new oil and gas reserves is core business for most oil & gas companies or government petroleum organizations. Geologist working in exploration teams need to have a thorough grasp of the geological processes that are relevant for the formation of oil and gas pools. Also they must have skills in, and awareness of the multitude of tools used in petroleum exploration. This course discusses the essentials of all aspects of petroleum exploration. The course is designed around the workflow of any exploration venture: from the collection of regional data and assessment of plate tectonic setting, to prospect and play analysis. At the end of the course the candidates will have a good general understanding of the basics of oil and gas exploration.

Who Should Attend?

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

Course Objectives:

By the end of this course delegates will learn about:

- Overview of world-wide oil & gas occurrences
- Formation of sedimentary basins
- Play concepts and petroleum systems
- Fundamentals of seismic acquisition, processing & Interpretation
- Key aspects of reservoirs (clastics & carbonates), seals, and source rocks
- Trap formation and structural style
- Hydrocarbon generation & migration

- Oil and gas prospect mapping
- Basin prospectivity assessment
- Volumes, risk & uncertainty, exploration economics

Course Outline:

Basins & Screening Tools

- Introduction
- The exploration work flow & Global distribution of oil & gas
- Testing the geological knowledge
- Basin formation & type
- Basin type and structural style
- Non seismic methods
- Using surface geochemistry
- Interpreting basin stratigraphy
- Stratigraphy and prospectivity

Seismic, Logs, Source & Clastics

- The seismic method
- interpretation of seismic data 1
- Source rocks
- Interpreting source rock data
- Siliciclastic reservoirs
- Interpretation of seismic data 2
- Geology from wireline logs
- Well correlation

Carbonates, Traps & Facies

- Carbonate reservoirs
- Trapping geometries
- interpretation of seismic data
- Seal
- Clay smear potential
- Facies mapping

Kitchen & Prospect

- Burial history reconstruction
- Create burial history
- Generation & migration of hydrocarbons
- Effective drainage area construction
- Kitchen mapping
- Maturity data and kitchen map
- Prospect mapping
- Assess prospect risk & uncertainty

Plays, Prospects, & Volumes

- Plays and petroleum systems
- Play maps
- Volumetrics, risk & uncertainties
- Calculate volumetrics in prospect
- Exploration economics
- Data integration