Resources Assessment & Reserves Estimation

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Introduction:

Petroleum reserves data are used by a variety of stakeholders for multiple purposes. The way reserves are estimated and communicated is an integrated activity, cutting across several technical and commercial disciplines.

Therefore, a basic understanding of the reserve estimation process is a fundamental requirement for all disciplines involved in the exploration and exploitation aspects of the oil and gas industry. This course presents the reserve/resource definitions and classification systems that are currently in use and includes recommended evaluation practices.

The course discusses the uncertainties and risks associated with resource estimates generated for a recovery project and it describes how to quantify these uncertainties throughout project life. The course will show how reserve/resource estimates can significantly contribute to an organization's asset evaluation and decision-making process as well as providing an update on the effort to modernize reserves reporting.

This course will include the presentation of various reserve estimating methodologies, to include the difference between resources and reserves. The classifications and definitions of these reserves and resources, along with a guideline for the application of these definitions will be covered. SPE, WPC, AAPG, SEC, and other regulatory authority guidelines will be discussed. It will update G&G and reservoir engineers with the newest and most accurate methods for obtaining the value of a reserve.

Following the completion of this course, all the candidates should be able to manage deterministic and probabilistic methods, with the aim of gaining a thorough understanding of various reserve levels and their equivalence in both systems.

Objectives:

At the end of this seminar participants will:

- Understand the fundamental issues related to the estimation of petroleum reserves and resources
- Be familiar with the current reserves definition and classification systems
- Understand the differences between the various systems
- Apply the relevant system for practical use.
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- Understand the various uses of reserves estimates during the course of the business process including external reserves reporting obligations
- Learn about the classification of resources and reserves
- Learn about petroleum economics
- Learn about before and after tax cash flow
- Learn about deterministic reserves estimation methods
- Learn about statistics, probability, and uncertainty that are associated with reserves

Who should attend?

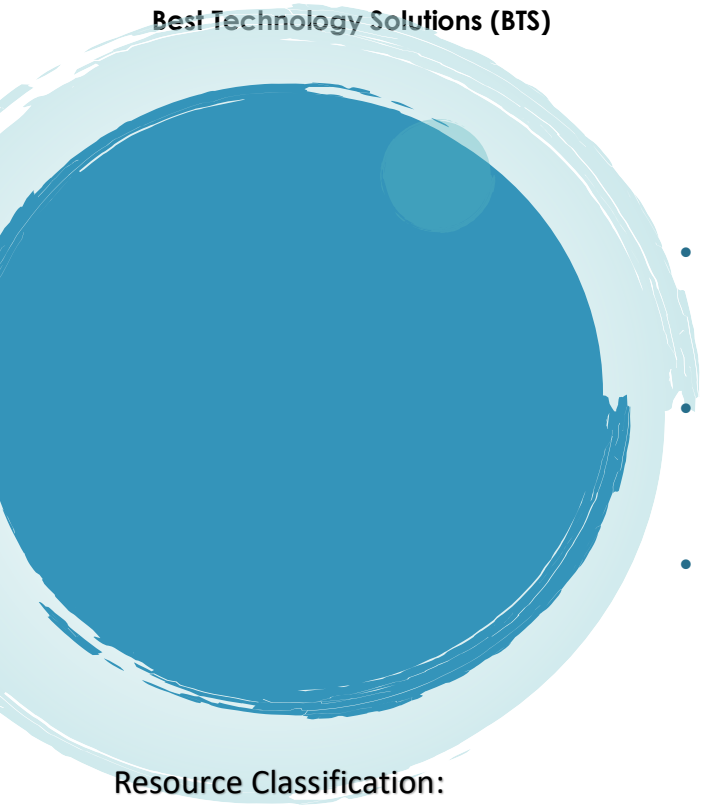
Reservoir Engineers, Senior Reservoir Engineers, Production and Facilities Engineers, Process Engineers, Geoscientists, Young and Senior Operators, Geologists, Geophysicists, anyone who have a need to determine values of reservoir fluid properties and use Equations of State for engineering studies and reservoir simulation,

Field Development Personnel, Asset Management Team members and Business Development Managers, Production staff, and Operation Personnel who are responsible for the Oil and Gas Reservoir development design and implementation, experienced professionals who want to refresh or broaden their understanding of Oil and Gas properties in the purposes of fields development, other professionals who want a better understanding of the subject.

Course Outline:

Introduction & Short Notes:

- Fundamental issues related to petroleum reserves and resources
- Need for classification and categorization
- Short history of reserves definitions and current classification systems
- Efforts to achieve a mutually-acceptable harmonized system
- The SPE Petroleum Resources Management System (PRMS)



- Reserves/resources management (portfolio management, decision gates)
- Non-technical issues (reporting reference point, contract type, e.g. PSC)
- Reserves reporting

Resource Classification:

- Overview of resources classification.
- Classification of resources and reserves.
- Supplementary resources and reserves definitions.

Petroleum Economics:

- Basic petroleum economics.
- Before tax cash flow.
- After tax cash flow.
- Selecting investments.
- Economic limit.

Deterministic Reserves

- Deterministic reserves estimation methods.
- Criteria for analogues.
- Field examples of deterministic reserves estimates.

Statistics, Probability and Uncertainty

- Statistics, probability, uncertainty.
- Expected value and decision trees.

Reserve Estimation

- Simulation and probabilistic reserves estimation.
- Unconventional resources.