

PVT (Pressure-Volume-Temperature) Properties of Reservoir Fluids

19 - 23 March 2017
Abu Dhabi, United Arab Emirates



This course is Designed, Developed, and will be Delivered under
ISO Quality Standards



PVT (Pressure-Volume-Temperature) Properties of Reservoir Fluids

INTRODUCTION

The course is designed to provide an understanding of the reservoir fluid properties and tools that are required for the estimation of hydrocarbon in place and reserves, designing the reservoir depletion process and the surface processing requirements, EOR method selection, identification and quantification of the marketable products and reservoir simulation studies. Following completion of this course, all participants should be able to make decisions on field development planning with increased confidence.

This training course will feature:

- A review of the components of naturally occurring petroleum fluids
- The importance of phase diagrams and the relationships between the five reservoir fluids
- An outline of the most accurate methods for obtaining values of reservoir fluid properties from laboratory data and correlations
- Discussions on sampling procedures and quality control.
- An understanding of Cubic Equations of State (EOS) development and applications
- How to characterise reservoir fluids for EOS tuning

OBJECTIVES

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

- Describe the phase behaviour of reservoir fluids and production mechanisms using phase diagrams
- Explain and define saturated reservoirs, under-saturated reservoirs, bubble point pressure, gas and oil formation volume factors, solution and producing gas-oil ratio

- Determine the properties of natural gas, oil and water required for reservoir engineering calculations
- Use PVT reports to determine oil and gas reserves
- Optimise separator operating conditions and perform separator calculations
- Explain reservoir fluids characterisation and EOS Tuning procedures
- Make decision on field development planning
- Describe the phase behaviour of gas hydrates

WHO SHOULD ATTEND?

- Petroleum and Reservoir Engineers who need to determine accurate values of the properties of reservoir gas, oil and water for use in engineering calculations and Simulation studies
- Production and Operations Engineers who want to have an understanding of the way reservoir fluids behave, the reservoir depletion process and for designing surface processing requirements
- Petro-physicists, Geo-physicists, Geologists and Non – Engineers who work in teams with Petroleum and Reservoir Engineers to estimate hydrocarbon in place and reserves
- Analysts who are required to identify markets and product prices
- Managers who seek to derive greater decision making on field development

TRAINING METHODOLOGY

This training course will utilise a variety of learning techniques to ensure maximum understanding, comprehension and retention of the information presented. The daily workshops will be highly interactive and participative. This involves regular discussion of applications as well as review questions on each topic.

ACCREDITATIONS



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SEMINAR OUTLINE

DAY ONE

The Components of Reservoir Fluids, the Five Reservoir Fluids and their Phase Behaviour and Compositional Gradients in Reservoirs

- Introduction
- Components of Naturally Occurring Petroleum Fluids,
- Identifying Components - Single Components and SCN Fractions
- Phase Behavior – Pure Substances
- Two Component Mixtures, Three and Multi-component Mixtures
- The Five Reservoir Fluids
- Compositional Gradients

DAY TWO

Properties of Reservoir Fluids and including Recombination Calculation Ideal and Real Gases

- Real Gases - SPE 26668
- Properties of Dry Gases
- Properties of Wet Gases
- Properties of Black Oils – Definitions
- Properties of Black Oils – Field Data

DAY THREE

Reservoir Fluids Sampling and Analysis, PVT Reports and Application

- Well Sampling
- Properties of Black Oils – Reservoir Fluid Studies
- Swelling Test and MMP
- Retrograde Gases
- Application of Laboratory PVT Studies to Predict Reserves
- Volatile Oils

DAY FOUR

Reservoir Fluids Properties from Correlations, Equilibrium Ratio and Separator Calculations

- Properties of Black Oils – Correlations (including JCPT Paper)
- Retrograde Gases – Correlations
- Retrograde Gases and Volatile Oils – Correlations (SPE 102240)
- Gas Liquid - Equilibrium
- Surface Separation
- Equilibrium - Ratio Correlations, k-values

DAY FIVE

Development and Application of Equation of State (EOS), Reservoir Fluids Characterisation Procedures and EOS Tuning, Properties of Oilfield Waters and Gas Hydrates

- Cubic Equations of State (EOS) and Applications
- Hydrocarbon Characterization Procedures: GC, TBP and Physical Properties of SCN Groups
- Hydrocarbon Characterization Procedures: Splitting, Lumping and Physical
- Properties of MCN Groups
- Properties of Oilfield Waters
- Gas Hydrates



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Please use BLOCK CAPITALS to fill in this form. It is important that you read carefully through all information before starting to complete the form.

REGISTRATION DETAILS

Family Name

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First Name (Mr./Ms.)

.....

Position

.....

Company

.....

Mailing Address

.....

Telephone

Mobile

.....

Fax

Email

.....

AUTHORISATION

Authorised by

.....

Position

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Mailing Address

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Telephone

Mobile

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Fax

Email

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HOTEL ACCOMMODATION

Hotel accommodation is not included in the Registration Fee. A reduced corporate rate and a limited number of rooms are available for attendees wishing to stay at the hotel venue.

Please make your request for accommodation **at least 3 weeks** prior to the commencement of the course.

CERTIFICATION

A Certificate of Completion will only be awarded to those delegates who attend the entire course

COURSE SCHEDULE

19 - 23 March 2017

Abu Dhabi, United Arab Emirates

REGISTRATION FEES

US\$ **4,500/-** - per participant

This fee is inclusive of Documentation, Lunch and Refreshments

MODE OF PAYMENT

- Please invoice my company
- Please invoice me
- Cheque payable to "Glomacs"

WAYS TO REGISTER

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You must notify the Registrar of cancellations at least 2 weeks before a scheduled seminar in order to be eligible for a credit. If you cannot attend, you may send a replacement from your organisation at no charge. There is a \$250 handling charge for all cancellations or rescheduling. We reserve the right to cancel a seminar due to low enrolment. All registrants will be notified in advance and a full refund will be provided upon request.

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