Short Course

Gas Reservoir Engineering for Geoscientists

Instructors: Kamal Malick, P.Eng.

Location: CEGA Classroom, +15 level, 540-5 ave SW, Calgary AB

November 8, 2023, | 8:00am-4:00pm (MST)
Member rate: $575+gst
Non-member rate: $775+gst

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Objectives

This course will provide an introduction to Geoscientists and other disciplines to gas well and play reservoir engineering methodologies. The course will begin with a discussion on the global LNG market and Canada's place in it. We will discuss natural gas PVT properties, liquids-rich behavior of gas reservoirs and how to maximize liquids recovery from a gas well in detail. This will be followed by resource assessment techniques starting with the Volumetric method. This will be followed by gas reservoirs drive mechanisms and resource assessment through engineering data. The interdisciplinary nature of resource assessment and collaboration required between various disciplines will be emphasized. Depletion is a critical risk in mature basins such as the WCSB. We will discuss ways to calculate the drainage area and how to minimize the depletion risk in both conventional and unconventional plays. Towards the end, gas well deliverability will be discussed. The course will be conducted in an interactive manner with examples from major liquids-rich gas producing formations in Western Canada to make the learning relevant and interesting.

Outline

- Natural Gas & The Global LNG Trade
- Liquids-Rich Natural Gas Behavior
- Gas PVT Properties
- Volumetric Gas-in-Place
- Gas-in-Place By Engineering Data
- Drainage Area and Pressure Depletion
- Gas Well Deliverability Testing

Who should attend?
Geologists, geophysicists, petrophysicists, reservoir engineers, production engineers, operations engineers, business development, technologists, technical managers and geomodelers.
**Biography**

Kamal Malick has been working in the energy industry for more than 25 years in a variety of technical and leadership roles. He has worked globally in Canada, USA, North Sea and Asia-Pacific regions on various complex oil and gas fields under both natural depletion and EOR schemes.

Kamal is currently working for Calgary-based independent, Enerplus Corporation on the Williston Basin in North Dakota developing exploitation plans for the Bakken and Three Forks shale formations. He has also worked on various conventional, tight, and unconventional fields in West Central Alberta in Canada. Previously, he was the Subsurface Manager for one of the largest onshore gas fields in Indonesia consisting of multiple naturally fractured stacked zones. He was responsible for managing its subsurface development and depletion planning in addition to optimizing the commercial aspects of various gas contracts on behalf of the joint-venture partners. Kamal has also worked on volatile
oil and retrograde-condensate gas fields in Algeria and on several oil fields in the UK North Sea with a subsurface consultancy. Kamal started his career from Pakistan where he worked on field development and exploitation planning of oil and gas fields in the Badin Basin in Sindh and in the Kirthar fold belt in Balochistan.

Kamal’s areas of expertise are reservoir engineering, field development planning, resource evaluation and economic analysis. He has been involved with teaching and mentoring throughout his career. He conducts industry courses through the Canadian Society of Petroleum Geologists (CSPG) and the Society of Petroleum Engineers (SPE). He has given talks at various universities around the world including in Canada, Pakistan, and Indonesia. He mentors junior professionals from around the world through the SPE e- Mentoring program. He holds a Professional Engineer designation with the Association of Professional Engineers and Geoscientists of Alberta (APEGA) and is a member of its Registration Committee. Kamal holds a Bachelor’s degree in Mechanical Engineering from NED University in Karachi, Pakistan, a Master’s degree in Petroleum Engineering from Stanford University in USA and is an EMBA candidate from the University of Calgary.