



# Mudgas Play: A New Prospect in Petroleum + Fieldtrip

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Surabaya, East Java

# Mudgas Play: A New Prospect in Petroleum + Fieldtrip

**Investment Fee : IDR 24.000.000,- / participant**

The course fee includes meals (2x coffee break and lunch), training kits, training materials, group photograph, certificate. In order to allow sufficient time for arranging travel and processing document, participants are recommended to make an early enrollment.

## About The Course

Northern East Java basin is known as a Mud Volcano Province. Ngrayong Formation and Kujung formation are target for drilling in there. To achieve these targets, usually we have to through Overpressure Shale Layers (Tawun Formation or Tuban Formation) which cause problems such as kick gas, blow out, collapsed formation or Stucked Drilling Bit. Almost all wells in Kradenan records that in shale's overpressure layers have high total gas flow in sandstone, limestone, shale and siltstone. These phenomenons are more likely to be seen as a potential disaster and driller usually increase the density of he drilling mud that have risk to causing formational damage.

Data presence of gas in shale overpressure layer shows that this layer can serve as a gas storage such as the chamber in conventional reservoir layer. Study velocity of overpressure in seismic interpretation can be identified, distinguished and delineated its geometry. In addition, mud diapir can also form a structure to accumulate the oil and gas. The structures makes the field which is not potential to be a hydrocarbon potential field. The old paradigm that overpressure shale as a potential drilling hazards need to be given an alternative that Mud Volcano have a large potential hydrocarbon system. This new paradigm will spur the development of new drilling technology. Therefore, the number of mud volcano cases in Indonesia also potentially produce large hydrocarbon reserve.

This course is designed to give participants the basic working tools to explore and develop hydrocarbons in mud gas play. The course will initially address mud volcanic basins and what drives mud mobility. We will then shift to discussing, first, how mud flow, diapirism, and minibasin formation are triggered by early differential loading, extension, contraction, or strike-slip deformation, and second, how diapirs and minibasins evolve over time and can be reactivated during episodes of extension or shortening. Focusing in on the details around diapirs, we will examine how diapiric growth impacts folding, faulting, and reservoir distribution. Because mud often moves more laterally than vertically, we will explain how and why allochthonous canopies form and evolve, and what can be expected just below mud sheets.

### At the end of the integrated course participants will be able to:

- Understand the depositional setting of layered mud and the control on later deformation,
- describe the mechanics of mud flow and identify the loading, extensional, and contractional triggers for mud movement,
- interpret mud geometries associated with diapirs and minibasins,
- illustrate the processes and geometries resulting from extensional or contraction reactivation of diapirs,
- explain how diapir rise influences stratal geometries, faulting, and reservoir distribution in diapir-flank traps,
- understand the role of mud in rift basins, passive margins, and convergent-margin fold-and-thrust belts,
- determine the effect of mud on sediment transport and deposition,
- appraise the influence of mud bodies and welds on hydrocarbon maturation, migration, and entrapment
- assess more accurately the risks in the exploration of mud volcanic basins.

## You Will Learn

### Introduction

- Mud Volcano and Its System
- Mud Volcano Character
- Morphology of Mudvolcano
- Character System of Mudvolcano
- Research Development of mud volcano
- Elemen and Process in Mudvolcano System

### Research Method of Mud Volcano

- Determine the age of the rock fragment
- Determine the age of mudvolcano from macrofossil & Microfossil
- Determine the age of mudvolcano
- Estimate source material of mudvolcano
- Scanning Electron Microscope Analysis

- Physical properties of the mud
  - Water Chemical Character of the mud
  - Isotoph analysis of the mud
- ### Identification and Mechanism Of Overpressure

### Mudgas Play Concept

- Review of Deposition Models of Mud Volcanic.
- Physical Properties of Mud Volcanic
- Flow mechanics of Mud Volcanic
- Internal Deformation of Mud Volcanic and Sheets. Practical Exercise
- Diapir growth and geometry. Practical Exercise
- Cap rock development and Dissolution structures.

## Who Should Attend

All personnel who are involved in Drilling Operations (including Operations Geologists, Drilling Supervisors, and Drilling Engineers); geophysicists, geoscientists, petroleum engineers, well engineers and production technologists.

## About Instructor



### Dr. Ir. Muhammad Burhannudinnur M.Sc

Received a B.S. in Geology from Gadjah Mada University an M.Sc. in geology from UBD-Aberdeen and a Dr. in geology from the Institut Teknologi Bandung. He was previously a consultant with Schlumberger-Geoquest Jakarta. Burhannuddin now is a lecturer in trisakti Univesity and conducts research sponsored by industry. Although Burhannudin's background includes many types of geological expertise, his primary interests are focused on the Overpressure and Mud Volcano. He is the author or coauthor of over 20 papers. He have been active in AAPG since 1995, and was a board of Committee of Indonesian Association of Geologist in 2002-2004.

## Cancellation, Substitution & Non Attendance Policy

Tuition fees are trasferable but not refundable. Notification is required to substitute another participant, no later 5 working days prior to the program, should the nominated person be unable to attend. Late cancellation sometimes causes event to be abandoned. Non attendance participant will be full charged as all preparations will have been done.

## Information & Registration

### Biro Kursus IAGI

Phone : 022 2517886 (Bandung Office)  
Mobile Phone : 08156200197 (Hari Utomo)  
Email : [birokursus.iagi2@gmail.com](mailto:birokursus.iagi2@gmail.com)  
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