



The Republic of the Union of Myanmar
Ministry of Electricity and Energy
Myanma Oil and Gas Enterprise



OIL AND GAS SECTOR

for

**Strengthening National Capacities for Coastal
and Seabed Mineral Development- the Myanmar's Experience**

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Organization of The Ministry of Electricity and ENERGY



For Energy Sector

Oil and Gas Planning Department
(OGPD)

- POLICY FORMULATION
- COORDINATION
- PLANNING

**Myanmar Oil and Gas
Enterprise
(MOGE)**

- EXPLORATION, PRODUCTION AND TRANSPORTATION OF CRUDE OIL, NATURAL GAS

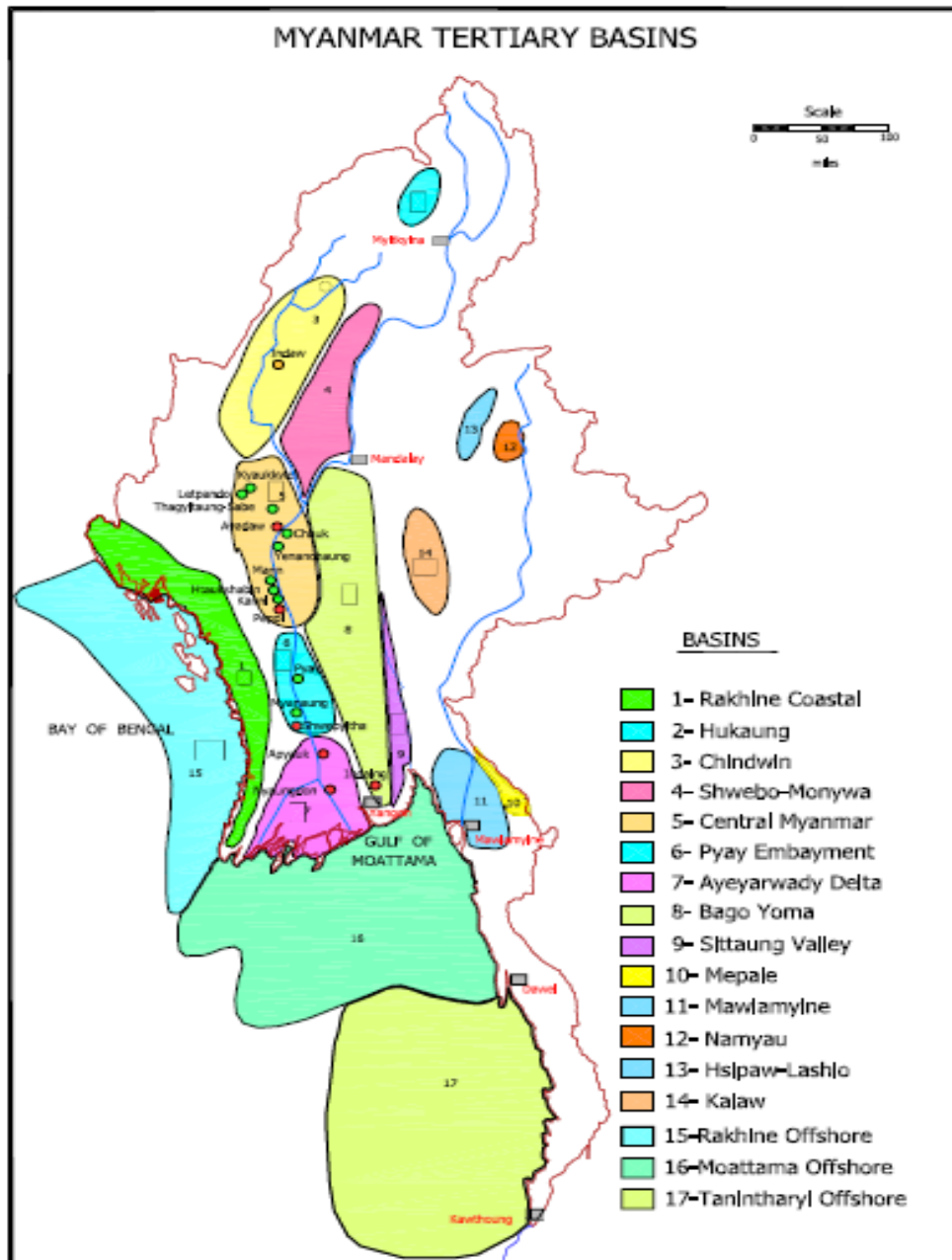
Myanmar Petrochemical
Enterprise
(MPE)

- OPERATE REFINERIES, FERTILIZER PLANTS, METHANOL PLANT, LPG PLANT, BITUMEN PLANT AND CARBON DIOXIDE PLANT

Myanmar Petroleum
Products Enterprise
(MPPE)

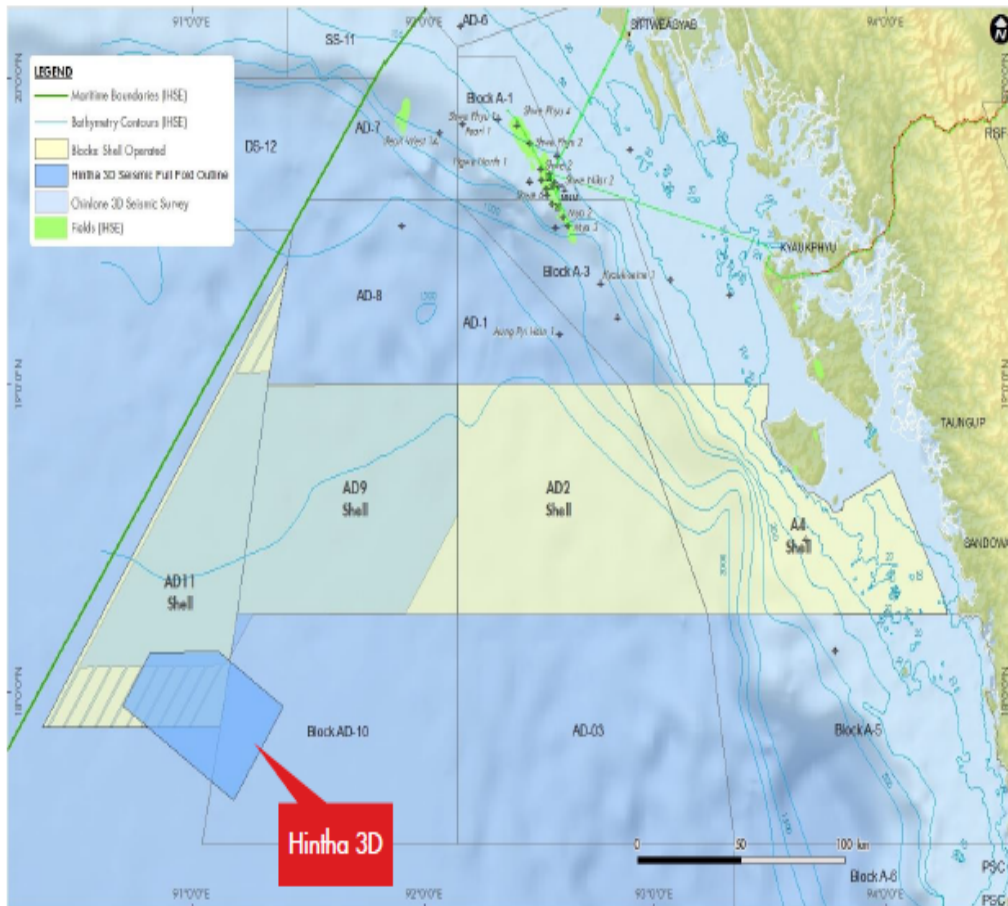
- MARKETING AND DISTRIBUTION OF PETROLEUM PRODUCTS

Oil and Gas Sedimentary Basin



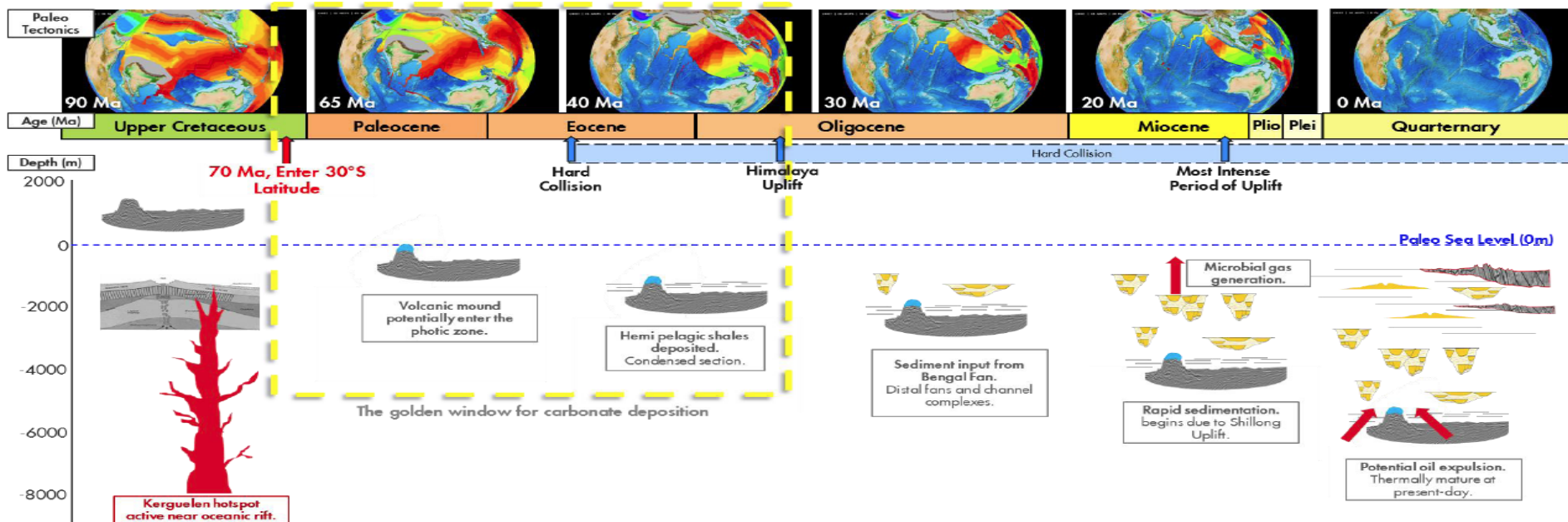
- ❖ A total of 17 Sedimentary Basin have been identified in Myanmar.
- ❖ 14 in Onshore Basins
- ❖ 3 in Offshore Basins
- ❖ Among them, 3 Onshore Tertiary Basins are producing Oil and Gas - Central Basin, Pyay and Ayeyarwady
- ❖ Myanmar Offshore can be geologically divided into three basins.
 - Rakhine Offshore Basin
 - Moattama Offshore Basin
 - Tanintharyi Offshore Basin

Potential Deep Water Area of Myanmar Offshore

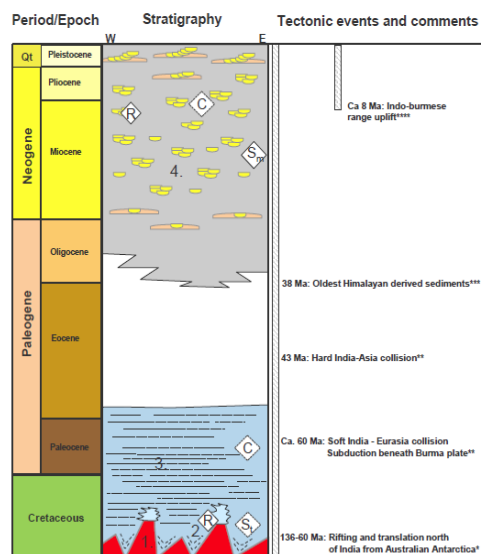


- ❖ The Study Area in Rakhine offshore deep-water to chase the biogenic gas play in stratigraphically trapped Miocene-Pliocene Turbidites.
- ❖ The extension of the Shwe Field play fairway into deep waters outboard of the Continental Shelf.
- ❖ The Study Area (AD-11 & AD-10) is a Large Frontier Basin with material potential in the Rakhine deep-water area.
- ❖ Its water depth ranges from 1,700 m to 2300 m.
- ❖ It is located 150 km southwest to the Shwe gas field and 220 km from mainland Myanmar, Rakhine State.

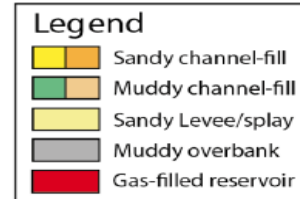
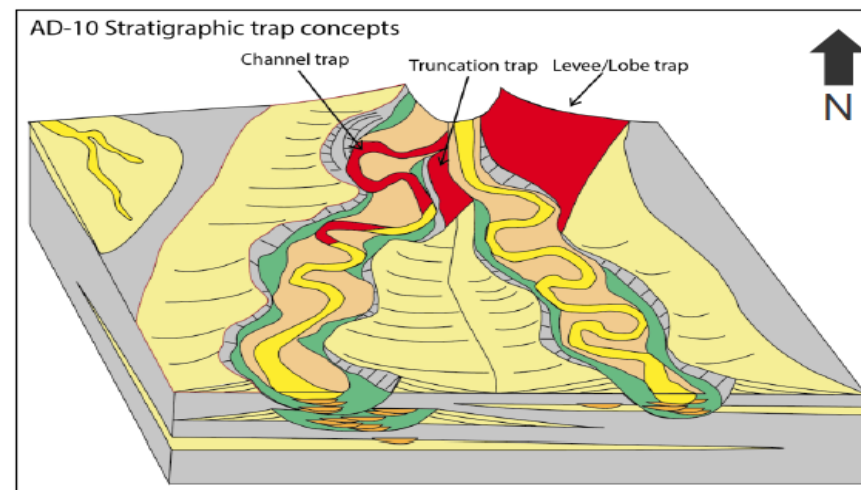
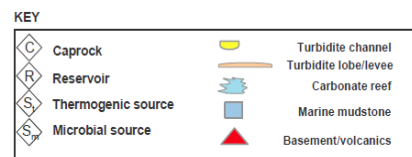
Stratigraphy and Depositional of Deep Water Area



Basin evolution and stratigraphy



1. The basement is comprised of oceanic crust with volcanic highs associated with the hot spot trail of the 90 degree east ridge
2. Cretaceous section comprised of i) volcanics, ii) sedimentary wedges/deep water chalk in lows and iii) potential carbonates on volcanic highs
3. Paleogene deep water chalk passively filling lows and covering remnant Cretaceous highs
4. Neogene - present strata comprises deep water clastics sourced from the Ganges-Brahmaputra system



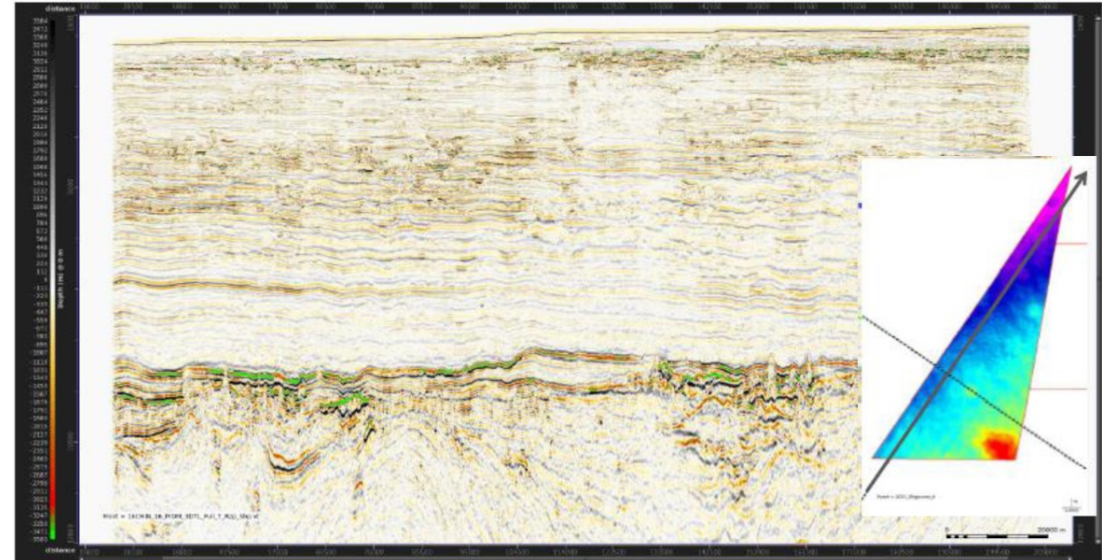
Potential Lead and Play of Deep Water Area



Lead Summary

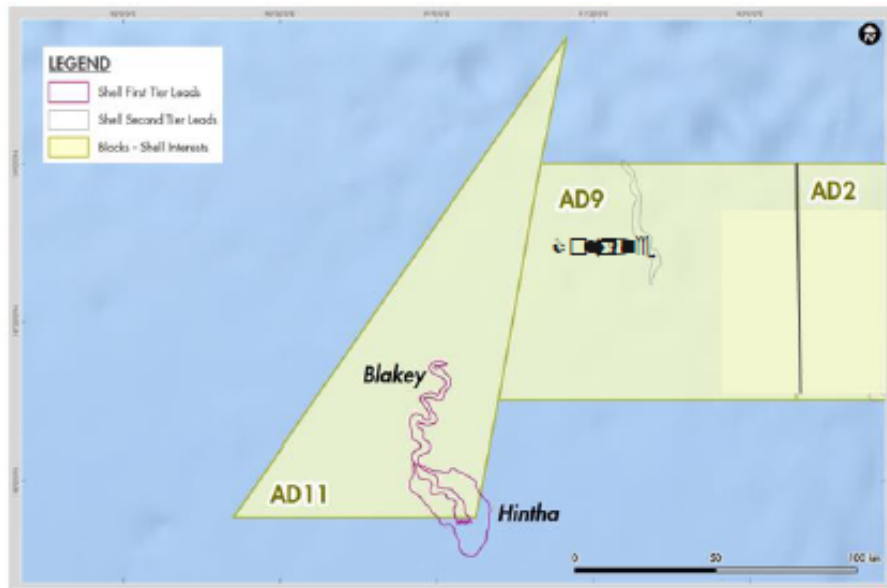
- Hintha
 - Potentially large volume (but high risk)
 - Key risk is reservoir presence
 - Key uncertainty is reservoir quality and amount of (under)fill
 - 1 other feature identified in AD-11, most likely volcanics

- Blakey
 - Channel above basement high – influence of underlying topography via faulting and differential compaction
 - Currently High risk and trap might change when 3D comes in
 - Key risk- seal

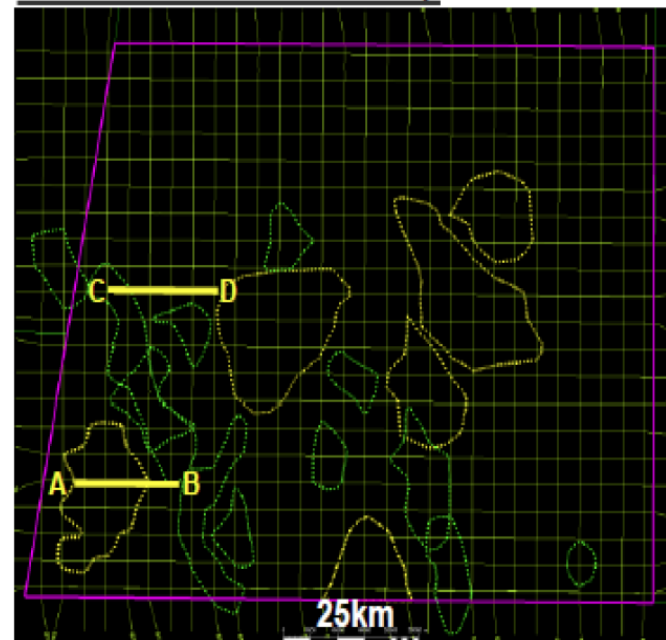


Reservoir types for the clastic plays in AD-10 are primarily comprised of:

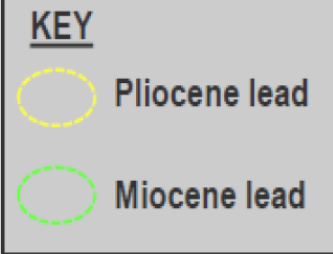
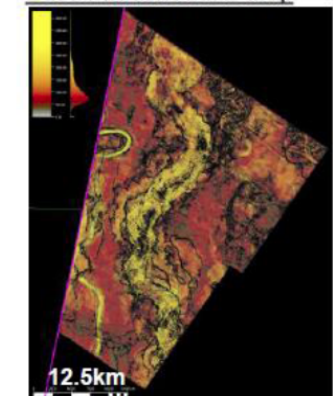
- Channel/channel complex fill sequences
- Levee deposits
- Splay and/or lobe deposits



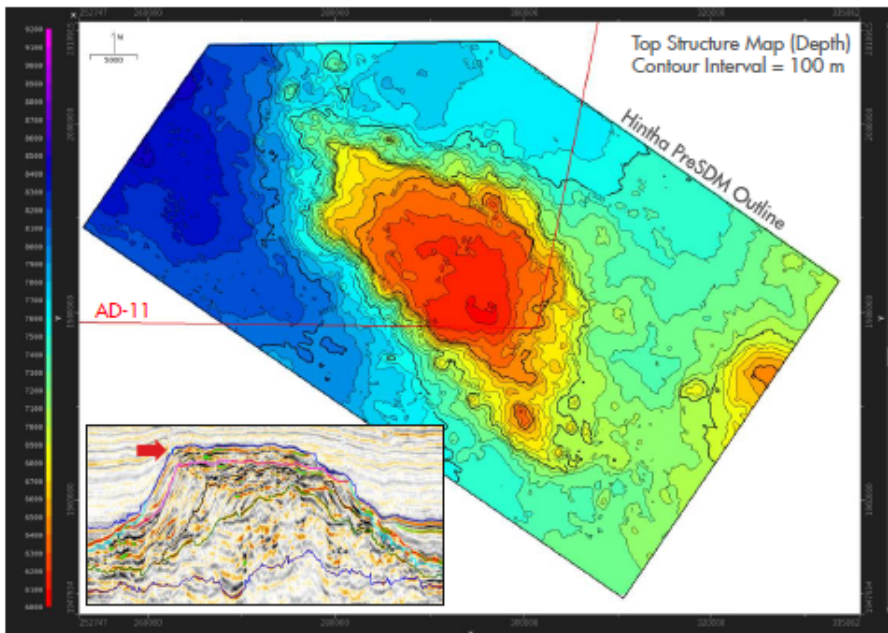
Miocene – Pliocene lead map



Base Pliocene RMS Map

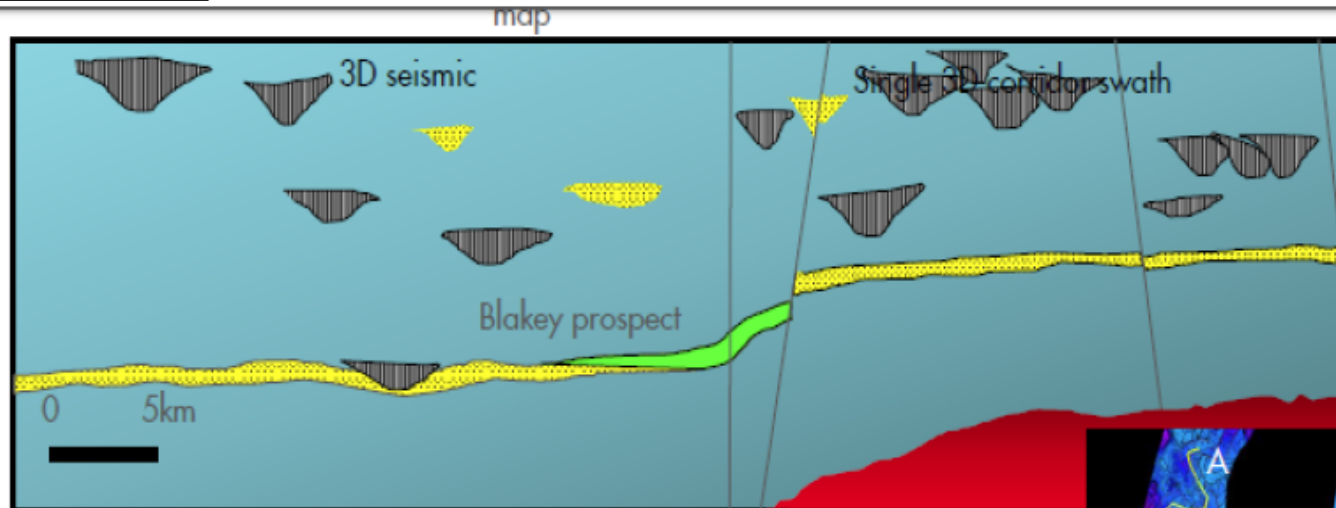
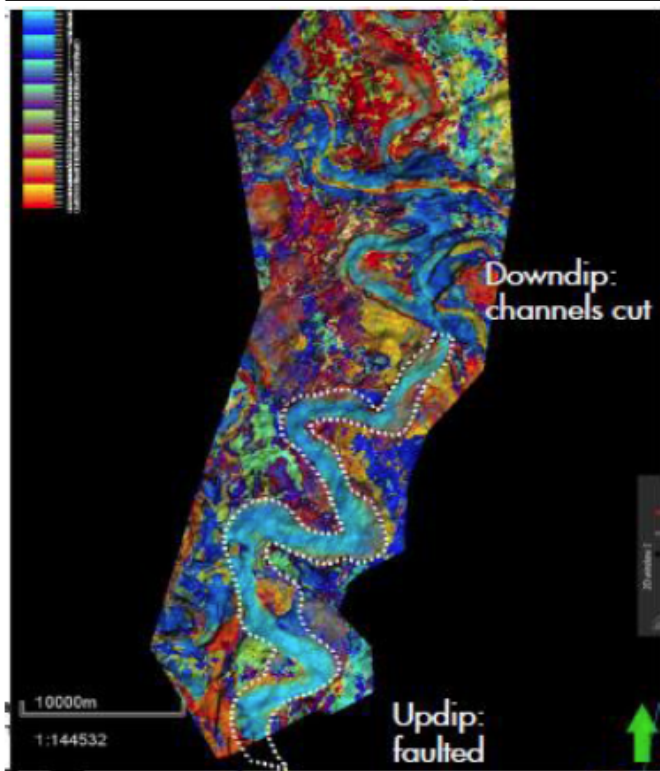


Carbonate and Clastic Play of Deep Water Area



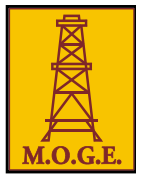
❖ Hintha Carbonate Geological Model

- Located in AD-11 (2150 m WD) with top crest at 3932m bml.
- Carbonate Platform on volcanic edifice with a structural closure of ~ 500 Km².
- Reservoir presence: Carbonate vs volcanic facies hotly debated but a symmetric steep dips on the flank of the structure point towards carbonate.



- Channel architecture as seen on the seismic is indicative of reservoir
- Overall the channel is flat topped
- Occasionally a convex geometry can be observed
- This suggests differential compaction effect -> coarser grain, good indication of sand

IEE & EIA for Offshore Exploration and Gas Field



- ❖ In Myanmar, according to the Environmental Impact Assessment Procedure (2015).
- ❖ All sizes of offshore seismic activity are required to conduct an Initial Environmental Examination (IEE).
- ❖ All types of Exploration, Appraisal and Development drilling are required to conduct an Environmental Impact Assessment (EIA).
- ❖ All Offshore gas projects are conducting a Marine Environmental Survey for EMP and monitoring.
- ❖ An Environment Management Plan (EMP), which provides the procedures and processes which will be applied to the project activities to check and monitor compliance and effectiveness of the mitigation and/or compensate environmental and social impacts identified in the EIA throughout Seismic/ Drilling and Production Field.

Thanks for your Kind Attention

