

THESIS INFORMATION

Title: MECHANISM OF FORMING THE OIL RESERVOIR IN THE FRACTURED KAINOZOI BASEMENT IN BACH HO FIELD

Major: GEOENGINEERING

Major code: 62.52.05.01

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Contributions of this thesis :

- The main objective of the thesis is to use a unified system approach to the study of the oil reservoir in the fractured basement in Bach Ho field, the method of studying oil reservoir in fractured basement has been developed: The oil reservoir is only formed in the basement when fully satisfy 3 conditions:
 - a) **Conditions of source rock and trap in the uplift basement:** The basement must be covered by a high quality of mature sources rocks, and this source's rock will play a role as a seal for the accumulation of petroleum in the basement.
 - b) **Conditions for porosity and permeability in the basement:** Focus on tectonic activity phases, especially compression phase impacting on the uplift basement; need to study other causes: magma shrinkage, weathering, hydrostatic pressure changes, hydrothermal...
 - c) **Conditions for migration, accumulation, and preservation of hydrocarbon:** The adjacent main reservoirs apply to the uplift basement, with the channel (sand layers, faults) adjacent to the pressure and toward the uplift basement. There are no strong tectonic activities when oil has migrated into the trap.
- The force analysis model has demonstrated the mechanism of the formation of the diagonal oblique fault system in the lifting basment and the uneven movement of the blades due to the combination of uplift and compression forces.

- Confirm the correctness and suitability when using WellInsigh-FRP software with multi-mineral model from which to determine the measured value on the well log curve for assessing the permeability characteristics of the oil and gas in the block lifting basement. The cross plots, especially the DT-NPHI and RHOB-NPHI plots, allow a quick assessment of the possible ranges for currents of the oil and gas in the block lifting basement.
- The combination of seismic attribute allows to clarify the fracture feature, the two combined attribute give good results including the RMS attribute on the RAI background and the Gradient magnitude attribute on the RAI background, Combining attribute interpretation seismic and well-geophysical interpretation yielded highly compatible results.

Advisors

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