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PETROLEUM SYSTEM IN REGGANE BASIN

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The Reggane basin is located in the southwestern part of the Saharan Platform, its area is about 140 000 km².

Exploration started in 1954 with field geological works followed by different gravimetry, magnetometry and seismic companies. Drilling led to discover seven fields but that doesn't reflect the real petroleum potential of the basin. The different aspect analyses (reservoirs, source rocks, structure...) indicate that the Reggane basin have a well developed petroleum system:

- 1. Source rocks:** Several thick and mature source rocks develop in the basin: Silurian shales, carbonate shales in middle Devonian and Frasnian. Important hydrocarbon volumes have been generated and expected by these source rocks.
- 2. Reservoirs:** The clastic Cambro-Ordovician, Lower Devonian, Strunian – Tournaisian and Visean B deposits correspond to the reservoirs which are spread through the basin. Core analysis and well log interpretations show that these reservoirs could have good petrophysical characteristics in several areas in the basin.
- 3. Traps:** Reggane basin corresponds to an asymmetrical syncline with a highly tectonized northern flank where have been developed traps. Most of them are related to reverse strike slip faults, stratigraphic trapping possibility may exist within the Lower Devonian.
- 4. Hydrocarbon preservation conditions:** The hydrodynamic and hydrochemical conditions are good and assist the hydrocarbon preservation over almost all the Reggane basin.
- 5. The petroleum system working:** The petroleum results analysis of the realized wells indicate a good petroleum system working in the basin.

Prospect Potential: The petroleum system is most important for the three plays: Cambro – Ordovician, Lower Devonian and Strunian – Tournaisian. Based on the analysis results concerning the different aspects, the prospective zones have been delineated for each play.