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**"Outcrops sedimentological model for the Late Ordovician stratigraphic interval, Algeria"**

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The Late Ordovician (Unit IV) corresponds to a well known glacial period in the Saharian Basins. These glacial events influence greatly the depositional environments and induce a very complex framework within the deposits. The Ajjers Tassilis area provides well exposed outcrops that have been subjected to many sedimentological studies, first by the IFP in the 60's and latter by various Beicip-Franlab/Sonatrach teams. These investigations have provided very representative depositional models to oil and gas fields of the Illizi Basin.

The main objective of this poster is to present both Units IV-2 and IV-3 (Late Ordovician), corresponding to the infill of incised glacial palaeovalleys. Such valleys, typically incised by ice drift, have complex morphologies related to multistory erosional phases and a possible structural component (older fault control). The valley depth reaches several hundred of meters (300 to 400 m), and typical abrupt morphological changes characteristic of incised glacial valley are frequent (typical U sides of trough valley and possible existence of rock bar related to ice retreat). These deposits display a general transport trend from South to North, and a paleogeographic scheme in the same trend, with an evolution from fluvio-glacial environments in the southern position (South Hoggar outcrops, and Tafassasset Tassili), to glacio-marine environments toward the North (Ajjers Tassili and Illizi Basin).

In the northern Ajjers Tassilli area, the Unit IV-2 is composed of three mains intervals:

- **A basal chaotic complex**, mainly represented by slide and slump deposits, constitutive of the basal infill of the palaeovalley. The presence of several glacial surfaces indicates the occurrence of multiple glaciation phases.
- **A gravity flow complex**, mainly composed by grain and fluidised flows, and characterised by high angle progradations.
- **A turbiditic channels and megaripple complex**, which constitutes the upper part of the valley infill. The coarser part of this complex constitutes the best reservoir of this unit.

In Unit IV-3, a **bioturbated and cross-bedded complex** is present and locally well developed below the Silurian “hot” shale. A sandstone bed containing brachiopods (dated Upper Ashgillian) is occasionally present towards the base of this complex. This unit which corresponds to a transgressive system, can locally constitute a good reservoir.