

**AAPG HEDBERG CONFERENCE**  
***“Paleozoic and Triassic Petroleum Systems in North Africa”***  
February 18-20, 2003, Algiers, Algeria

**Hassi R'Mel Triassic Reservoirs-  
Tectonic and differential Subsidence Control on Sand Body Architecture**

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The Upper Triassic reservoirs of Hassi R'Mel gas condensate field, Algeria, are geologically characterized by continental series of alternating channel-fill sandstones and fine-grained interfluvial deposits.

The deterministic prediction of sand bodies remains highly uncertain, due to volcanic activity associated to tectonic and ensuing differential subsidence. However, sequence stratigraphy concepts allows the development of a new reservoir depositional model, using sequence attributes based on detailed core descriptions and correlation panels covering the entire field.

The main characteristics of this depositional model can be summarized as follows:

- Sequences are pinching out towards the South of the field;
- Within the same stratigraphic interval, multi-story sand bodies are splitting into single story sand bodies over horizontal distances of less than 2-3 km;
- Fluvial incisions are temporally confined, with compound valley fill-up of about 25-35 m thick and 5-10 km wide;
- Restricted alluvial fans are formed in footwall areas of some faults;
- Volcanic activities associated with field faults system, resulted in temporally streams diversion and subsequent subsidence leading to thick deposits accumulation.

This conceptual model can be used as a basis for standard mapping of reservoir sandstones distribution and it is as well suitable for fluid-flow simulation techniques.