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## **The Structural & Tectonic Evolution of the Saharan Platform in Algeria**

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Anadarko has been successfully exploring the Saharan Platform of Algeria for more than a decade and has access to an extensive seismic and well database. Interpretation of these data suggests the Phanerozoic rocks of the Saharan Platform record a polyphase tectonic evolution.

The Late Palaeozoic to Recent evolution of the Platform is closely related to kinematic plate movements along the margins of the African Craton. The first effects of the collision of Laurasia with Africa occurred during the Late Devonian and resulted in major changes to the sediment provenance areas in the Berkine Basin. The Hercynian collision resulted in large scale folding in the Ahnet & Sbaa Basins, major uplift and erosion of pre-existing arches and widespread uplift and erosion of the Saharan Platform Area.

Major extensional rifting occurred in Late Triassic/Liassic times related to precursor break-up of Pangea and the opening of the Central Atlantic. Active rifting in the Berkine Basin ceased in Middle Jurassic times with the onset of sea-floor spreading in the Central Atlantic. During the drift phase, in Middle Jurassic – Early Cretaceous, Africa moved eastwards relative to the Iberian plate, resulting in sinistral movement along the Newfoundland-Gibraltar Fracture Zone (NGFZ). The stresses resulted in transpressional folds in the Berkine Basin with NW-SE trending axes (Austrian Event). Opening of the North Atlantic, during Late Cretaceous-Oligocene, changed the relative movement of Iberia and Africa along the NGFZ resulting in dextral wrench tectonics with a NW-SE compressional component (Pyrenean Event). The Saharan Platform was uplifted, Palaeogene sediments were eroded and some pre-existing NE-SW oriented fault zones were structurally inverted. Finally, the effects of Late Tertiary (11 – 5 ma) Alpine collision of Africa into Europe were felt in the Platform and resulted in mild regional tilting and gentle inversion.