

The Yussuf Ridge: Geodynamic Setting and Petroleum Exploration Implications

M. MEDAOURI*, **F. BENDIAB****, **R. BRACENE***, **J. DEVERCHERE*****,
D. GRAINDORGE***, **A.OUABADI******, **A. YELLES*******

* Sonatrach Exploration, avenue du 1er Novembre BP 68M, IAP, Boumerdès, Algeria
mourad.medaouri@ep.sonatrach.dz, rabah.bracene@ep.sonatrach.dz

** Entreprise Nationale de Géophysique (ENAGEO)
Avenue du 1er Novembre, Boumerdès, Algeria fethibendiab@yahoo.fr

*** Université de Brest; CNRS, UMR 6538 Domaines Océaniques;
Institut Universitaire Européen de la Mer, Place Copernic, 29280 Plouzané, France.
jacques.deverchere@univ-brest.fr, David.Graindorge@univ-brest.fr,

**** Université des Sciences et Technologie Houari Boumediene FSTGAT,
BP 32 El Alia Algiers, Algérie. a.ouabadi@yahoo.fr.

***** Centre de Recherche en Astronomie, Astrophysique et Géophysique (C.R.A .A .G.),
BP 63, Bouzareah, Algiers, Algeria. a.yelles@craag.dz.

The aim of this contribution is to highlight the tectonic and structural evolution of the Yussuf Ridge and to discuss the way the AlKaPeCa blocks were accreted in the westernmost Mediterranean Sea. Today, the Yussuf ridge constitutes a major morphological limit at the western part of the southern Balearic - Algerian basins. It is limited to the north by large fault that is among the longest structures along the complex plate boundary between Eurasia and Africa and is potentially absorbing an important part of the present-day deformation. We present and discuss new interpretations of bathymetry, gravity, magnetic and seismic industrial acquisitions that indicate a poly-history evolution of this ridge. As the structural framework shows a tilted block architecture where the Pre-Tortonian and Messinian deposits show thicknesses variations and onlapping towards the Yussuf ridge. This geological setting has the elements for an potential petroleum system working.