

New Structural Elements of Outcropped Amin Formation in Huqf Region, Oman

Olga Shelukhina¹, Mohamed El-Ghali¹, Iftikhar Ahmed Abbasi¹, Mazin Al Khadouri¹, and Basim Al Khadouri¹

¹Sultan Qaboos University

ABSTRACT

Field geological studies of the Amin Formation have uncovered new structural elements in the Huqf region. The lower contact of the Amin Formation with the Huqf Supergroup is defined by the Angudan Unconformity, whereas the upper contact is defined as possible unconformity with the Miqrat Formation and at places with the Al Khlata Formation. The study area is in Wadi Sumaynah, located in the Northeastern part of Huqf area. The area is structurally complex and includes a series of outcrops ranging from Huqf Supergroup to Miqrat Formations. The field observations focusing on the structural aspects of the Amin Formation in Wadi Sumaynah outcrops will be presented. The Amin and Miqrat formations show series of anticline and syncline structures in the eastern interior part of the wadi. Faults coexist with the anticline and syncline structures. The fault system observed in the south-western part of the wadi is associated with an exposed mud diapir of 3-5 m height and up to 10 m wide, with brecciated zone along the fault contact. The mud diapir indicates intense compressive deformation events. The occurrence of these structures may play a role as factors controlling the hydrocarbon trapping system in the region.