



Sedimentology and Stratigraphic architecture of the early Cretaceous Alpien-Aptian succession of the Kiklah Formation, Jabal Nafusah, NW Libya

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Kiklah Formation is presents on the Jabal Nafusah escarpment for almost 400 km from the Tunisian border to the east of Gharyan. Kiklah Formation overlies the Early Cretaceous, Jurassic and Triassic sediments of Jabal Nafusah with marked unconformity. On the other hand, it is unconformably overlain by the Sidi as Sid Formation. This contact with overlying units is angular unconformity as it is evident only in the central Gharyan area.

The Kiklah Formation consists mainly of continental deposits such as conglomeratic sandstone, pebble sandstone, and mudstone with minor lacustrine interbeds of reddish yellow to greenish claystone. In addition, these rocks were formed by a braided river system carrying heavy sediment loads, with frequent shifting of the principal channels.

SEM studies show pitting and breakage features on the sand grains which are diagnostic of Fluvial depositional environment. In the Nafusah region the Kiklah Formation varies in thickness westward from absence near Gharyan to over 610 m in Tunisian subsurface.