

Large foraminifera analysis

Taleh Zang Formation

In the Taleh Zang Formation the Thanetian age was identified in Amiran, Sarkan, SW Sultan, SE Sultan and NE Rit sections. The inner shelf facies in Amiran section is characterized by the presence of *Taberina daviesi* (Henson 1950), and *Lockhartia diversa* (Smout 1954). According to Henson (1950) the distribution of the *Taberina daviesi* is Paleocene-Early Eocene in Iran. Pignatti in Carbone et al. (1993) found *Taberina daviesi* in Paleocene rocks from Somalia associated with *Assilina azilensis* (Tambareau 1966) that belong to the Biozone *Assilina yvetteae* of Schaub (1981) or SBZ 4 of Serra-Kiel et al. (1998). *Lockhartia diversa* is located in the Paleocene rocks of Turkey (Sirel, 1998), Iran (Rahaghi, 1983) and in the upper part of the Early Paleocene in Tibet Xiaoqiao (1991). It seems thus reasonable to consider the association *Taberina daviesi* and *Lockhartia diversa* as Thanetian in age. The middle shelf facies in Sarkhan, SW Sultan, NE Sultan and NE Rit sections are characterized by *Miscellanea yvetteae* Leppig (1988) and *Ranikothalia sindensis* (Davies 1927). *Miscellanea yvetteae* is located in Thanetian rocks in India (Jauhri, 1998) and the Pyrenees (Leppig, 1988), and *Ranikothalia sindensis* also is identified in Thanetian rocks by Hottinger (1997) in the Pyrenees, Pakistan (Salt Range) and by Sirel (1998) in Turkey.

The Ilerdian age *sensu* Hottinger and Schaub (1960) or Serra-Kiel et al. (1998) was identified in SW Sultan, NE Sultan, Kush Ab and the base of the NE Chenareh sections. In the inner shelf facies the presence of *Alveolina moussoulensis* (Hottinger, 1960), *Alveolina montanarii* (Drobne, 1977), and *Daviesina ruida* (Schwager, 1863) characterized the Middle Ilerdian or SBZ 7-8 according to Hottinger (1960), Drobne (1977) and Caus et al. (1980). The Late Ilerdian or SBZ 9 is characterized by *Alveolina citrea* Drobne 1977 and *Assilina adrianensis* Schaub 1981, according to Drobne (1977) and Schaub (1981).

The Cuisian age *sensu* Schaub (1981) or Serra-Kiel et al. (1998) was identified in Kush Ab and NE Chenareh sections. We found only the Early Cuisian or SBZ 10 in the middle shelf facies characterized by *Assilina placentula* (Deshayes 1838) and *Assilina plana* (Schaub, 1981); according to Schaub (1981) both forms belong to Early Cuisian or SBZ 10.

Asmari Formation

In the Amiran section the Asmari Formation contains *Dendritina cf. rangii* (d'Orbigny 1826) and *Borelis curdica* (Reichel 1936). According to Reichel (1936) and Rahaghi (1980) the distribution of *Borelis curdica* is Burdigalian, but according to Henson (1950) and Bignot and Guernet (1976) it is Middle Miocene. The biostratigraphic distribution of the *Dendritina cf. rangii* according to Henson

(1950) is Oligocene-Middle Miocene and according to Bignot and Guernet (1976) is Early middle Miocene. Thus, we consider that the Asmari Formation is Middle Miocene in age in Amiran section.

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