

**THE LITHOLOGY OF THE LOWER PART OF  
QULQULA RADIOLARIAN FORMATION (EARLY  
CRETACEOUS),  
KURDISTAN REGION, NE IRAQ**

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**ABSTRACT**

The lower part of the Qulqula (Radiolarian) Formation is studied in the Thrust Zone, Northeast Iraq (Kurdistan Region). The lower part consists of alternation of four detrital limestone successions (each about 25 m thick) with thick intervals of bedded chert and shale. The limestones are mainly of distinctly bedded and shallow marine in origin. The four successions have nearly the same lithology of peloid, ooid, lithoclastic and bioclastic grainstone and packstone, with rare mudstone and wackstone. The matrix consists mostly of blocky cement and minor amount of micrite (lime mud).

Previously mentioned, that the lower part of the Qulqula (Radiolarian) Formation overlies the Balambo and Kometan formations and a conglomerate bed (0.2 – 2 m thick) separates the two formations. In the present study, the origin of this conglomeratic bed is studied and inferred that it belongs to Tanjero Formation. It is found that, with the conglomerate, slices of the Shiranish Formation occur below the lower part of the Qulqula Formation.

The conglomerate is followed for about 30 Km continuously, from Said Sadiq town to Chuwarta town. The conglomeratic bed, 6 Km east of Chuwarta town, merges lithologically and stratigraphically with the conglomerate beds of the lower part of Tanjero Formation (Maastrichtian). The lithologies of both conglomerates are similar. Both of them consist of variegated chert and limestone clasts, therefore, it is thought that they have the same age and origin and belong to Tanjero Formation. This is inferred by observing lateral combination and similar lithologies of the two conglomerates. The only difference is that the conglomerate of Tanjero Formation is characterized by better roundness and sorting than the concerned conglomerate, in the present study. This difference is attributed to more closeness to the source area. The occurrence of Shiranish Formation and conglomeratic bed of Tanjero Formation below Qulqula Formation is attributed to thrusting of the latter formation above the formers.

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