

Shallow shelf sedimentation of the Jurassic Samana Suk Limestone, Kala Chitta Range, Lesser Himalayas, Pakistan

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Detailed sedimentological studies of the Samana Suk Limestone (type section Samana Suk Peak, Samana Range, Pakistan) have been carried out from the Kala Chitta Range, Pakistan as the first comprehensive contribution of its kind. The stratigraphic name refers to the Upper Triassic to Liassic Kioto Limestone of earlier literature which has now been differentiated into the Triassic Mianwali Formation, the Chak Jabbi Limestone, the Kingriali Formation and the Jurassic Datta Formation, and the Samana Suk Limestone.

The Kala Chitta Range is an east-west longitudinal trough forming the northern border of the adjoining hydrocarbon bearing Potwar Basin. The Islamabad-Peshawar Highway is the dividing line between the Kala Chitta Range and the Hazara Mountains towards the eastern end, while the Indus River marks the western limit.

The Samana Suk Limestone is well bedded limestone and can be identified in the field into oyster bearing beds, micritic beds, shelly limestone composed of gastropods, and pelecypods, sandy limestone and the oolitic limestone. The field observations are indicative of shallow shelf deposits. In other words, it represents a carbonate platform deposition. The microscopic studies have identified most common microfacies into the mudstone (micritic facies), bioclastic wackestone, packstone where the skeletal elements are the oysters, gastropods and the pelecypods, while the grainstone is non skeletal represented by the oolitic grains. Apart from the microfacies analysis, the diagenetic imprints have also been elucidated. All these features also substantiate its shallow shelf sedimentation. Two lithologs from Surg and Chapra have been extensively studied to elaborate the sedimentological details.

Key words: Sedimentation, Jurassic Shelf, Kala Chitta Range, Pakistan.