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Abstract

Recently published findings indicate that the Ordovician period has been much more dynamic than previously anticipated thus making this period significant in geological time. The Ordovician of India can best be studied in the Spiti region because the Spiti basin records the complete uninterrupted history of excellent marine sedimentary rocks starting from Cambrian to Paleogene which were deposited along the northern margin of India. Due to these reasons the geochemical data on the Ordovician rocks from the Spiti region is uncommon. The present geochemical study on the Ordovician Thango Formation (Sanugba Group) is mainly aimed to understand the provenance and the paleoclimatic conditions. The sandstones are the dominant lithology of the Thango Formation with intercalations of minor amount of shales. Detailed petrographic and sedimentological analysis of these rocks suggest that three major depositional environments, viz., fluvial, transitional and marine prevailed in the basin representing transgressive and regressive phases. The major and trace element ratios such as SiO_2/Al_2O_3, K_2O/Na_2O and La-Th- Sc discrimination diagram suggest that these rocks were deposited in