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ABSTRACT.

The stratigraphy of a clastic-dolomite sequence of the Burra Group and the unconformably overlying tillitic sequence of the Yudnamutana Sub-group, in the Nelshaby Anticline, are described and interpreted. A petrological study of arkosic and dolomitic arkosic sandstones of the Burra Group, indicate these sediments were derived from an igneous plutonic source. It is suggested the arkosic sediments accumulated in response to active tectonism in the source area, rather than aggradation on a peneplaned surface, under adverse climatic conditions. Field and petrological evidence indicated these sediments were deposited in a high energy environment. This has resulted in the tectonic arkoses being texturally mature and not immature as normally expected in tectonic arkoses.

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