

NEW FIELD OBSERVATIONS ON THE TRIASSIC - JURASSIC STRATIGRAPHIC EVOLUTION IN NORTH VICTORIA LAND, ANTARCTICA

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In order to study the initiation of plateau basaltic volcanism we investigated the Triassic to Jurassic stratigraphic evolution in Northern Victoria Land during the 9th German North Victoria Land Expedition 2005/2006 (GANOVEX IX). Representative outcrops were documented in the area stretching along more than 200 km from the Outback Nunataks and the southern Rennick Glacier in the north to the Eisenhower Range in the south. Across that area, the onset of deposition on top of a regional erosional surface is characterized by a succession of quartzose fluvial sandstones and subordinate conglomerates with abundant trough cross-bedding, called Section Peak Formation (SPF). Fine grained carbonaceous horizons and coal layers are locally interbedded. The upper part of the sedimentary sequence is represented by a succession of fine grained, often ripple cross-bedded tuffaceous sandstones and minor mudstones. Based on our field observations, we informally call this stratigraphic unit Shafer Peak Formation (SHF). According to preliminary field data, this unit may be interpreted as the lithological equivalent of parts of the Hanson Formation in the Central Transantarctic Mountains. Fossil plant material and conchostracans so far identified indicate a Late Triassic to Lower Jurassic age for both SPF and SHF. Clastic products of mafic volcanic eruptions are intercalated in the upper sedimentary succession (SHF). They are laterally not continuous and vary from chaotic breccias over lapilli- and block-bearing tuffs to ash- and small lapilli-sized lumps and angular fragments. We interpret these as proximal to distal products of local hydroclastic eruptions. Due to the local and stratigraphically repetitive nature of these eruptions, they are here referred to as Exposure Hill Type "events" rather than a stratigraphic "Formation". The first pillow lavas and/or lava flows that cover the clastic/volcaniclastic succession, are of variable composition and thus of local origin as well. They are locally overlain by thin sediments including fossiliferous lake sediments. Only the following volcanic eruptions produced the homogeneous plateau basaltic lava flows of the Ferrar Group.