

SEQUENCE BIOSTRATIGRAPHY AND CORRELATION OF PERMIAN STAGES AND SERIES IN THE SVERDRUP BASIN, CANADIAN ARCTIC ARCHIPELAGO

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The Sverdrup Basin, located on the Pangean northwestern margin, is a good site to test the acceptability of international standard references for Permian stages and series. The base of the Permian is recognized by the appearance of *Streptognathodus isolatus* in basinal to slope facies of the Hare Fiord Formation. This species is not present within carbonate platform facies of the Belcher Channel and Nansen formations where an unconformity separates Gzhelian assemblages from the Late Asselian *S. constrictus* Zone. The base of the Sakmarian is recognized by *Streptognathodus barskovi* which also has been recovered only from the Hare Fiord Formation. It is absent from the platform where an unconformity separates the *S. elongatus* Zone from the *Mesogondolella bisselli*-*Adetognathus paralautus* Zone. The base of the Artinskian is recognized within the upper Raanes and lower Great Bear Cape formations by the introduction of the *Sweetognathus whitei*-*M. bisselli* Zone. *Neostreptognathodus pnevi*, a possible index for the boreal base of the Kungurian, has been recovered in lowstand slope facies correlative with the Sabine Bay Formation. The base of the Guadalupian can be correlated within transgressive deposits of the lower Assistance Formation which yield serrated *Mesogondolella idahoensis* that may be a short-lived species, *Jinogondolella nankingensis gracilis*. The respective index genera for the Guadalupian and Lopingian, *Jinogondolella* and *Clarkina*, never became established in the region because of climatic cooling. Correlation of Guadalupian and Lopingian stages between boreal regions like the Sverdrup and tethyan reference regions is therefore difficult because of strong conodont provincialism.