Examining Paleo-Environmental Changes in the Permian Stratigraphy of Mount Jesmond, British Columbia

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Carbonates of the Mount Jesmond (Mississippian – Triassic, Cache Creek Terrane, British Columbia) record peritidal deposition on a Panthalassic seamount. Permian to lower Triassic deposition skeletal limestones, with basaltic rocks and dolomitic facies as well as minor Triassic limestones. Late Permian fauna record shallow warm water hypersaline deposition. Early Triassic Smithian-Spathian beds record shallowing upwards cycles followed by gradual sea level rise Late Permian.

Elemental and isotopic data from limestone and dolostones of the Late Permian at Jesmond record shallow warm water depositional conditions with trace element evidence of high salinity but no evidence of sediment starvation.

We present $\delta^{13}C$ data positioning the chemostratigraphic record at Jesmond within a global context. Linking these data to trace element data provides insight into changes in relative sea level as well as sedimentation along with oxygenation conditions. Further research will examin carbonate associated sulfur isotopic composition to further refine the local depositional conditions across the boundary through the Smithian-Spathian. Integration of these data with those of the more sections deposited on the eastern and western margins of the Panthalassa (e.g., Japan, British Columbia, Tibet), will provide much needed insight into the tempo and extent of environmental change preceding and following the end-Permian crisis.