Assessing Alternative Scenarios for the Cause of Underpressures in the Ordovician Sediments along the Eastern Flank of the Michigan Basin

Stefano D. Normani*[1], Jonathan F. Sykes†[1], Mark R. Jensen‡[2], and Eric A. Sykes§[2]

[1]Department of Civil and Environmental Engineering, University of Waterloo, Waterloo, Ontario, Canada, N2L 3G1

[2]Nuclear Waste Management Organization, 22 St. Clair Avenue East, 6th Floor, Toronto, Ontario, Canada, M4T 2S3

Supplemental Information

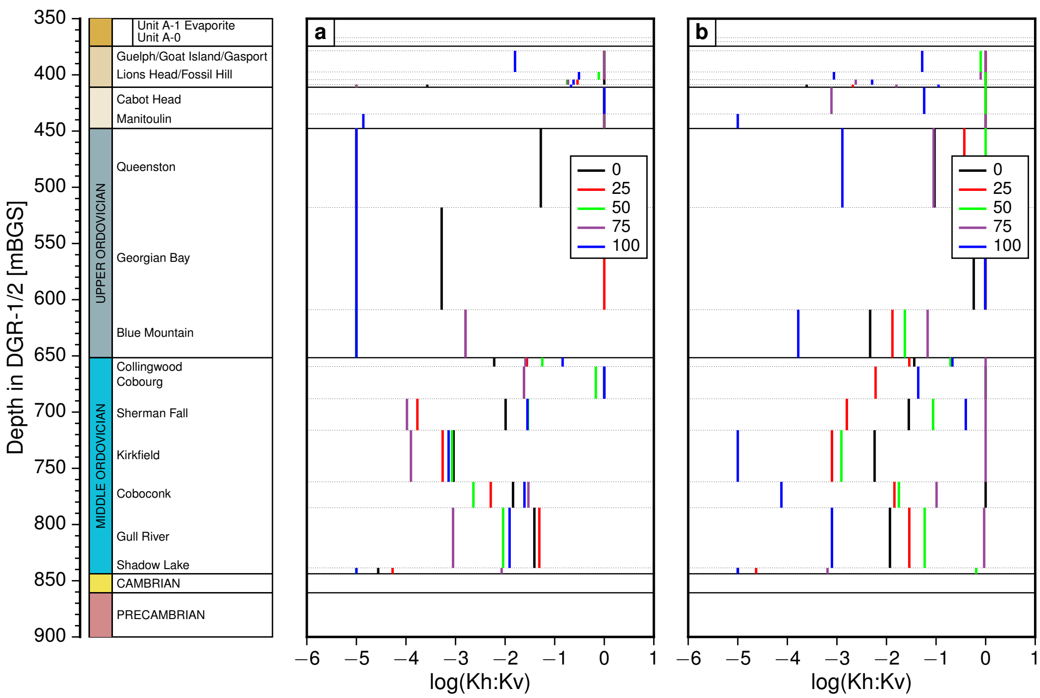

Figure S1: Calibrated horizontal:vertical hydraulic conductivity anisotropy ratios using glaciation scenario nn9921. Coloured lines represent different percentages of ice-sheet thickness applied as excess head to the top boundary condition. Subfigure (a) uses present day environmental heads as the initial condition while subfigure (b) uses a hydrostatic head condition computed assuming steady-state.

*Corresponding Author: sdnorman@uwaterloo.ca
†sykesj@uwaterloo.ca
‡mjensen@nwmo.ca
§esykes@nwmo.ca

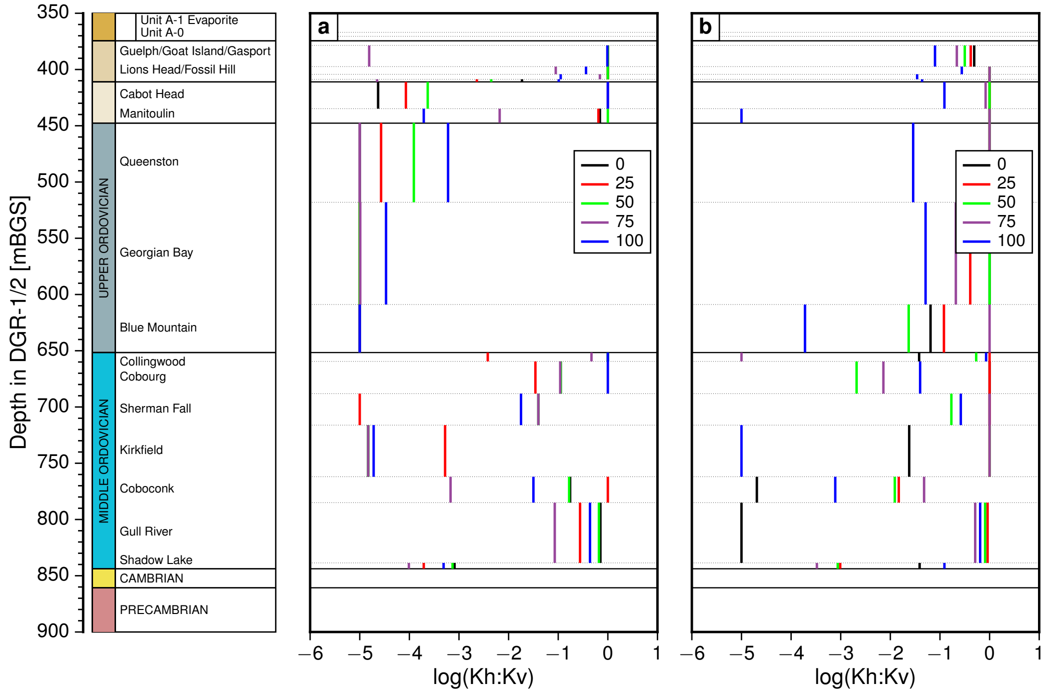

Figure S2: Calibrated horizontal:vertical hydraulic conductivity anisotropy ratios using glaciation scenario nn9930. Coloured lines represent different percentages of ice-sheet thickness applied as excess head to the top boundary condition. Subfigure (a) uses present day environmental heads as the initial condition while subfigure (b) uses a hydrostatic head condition computed assuming steady-state.

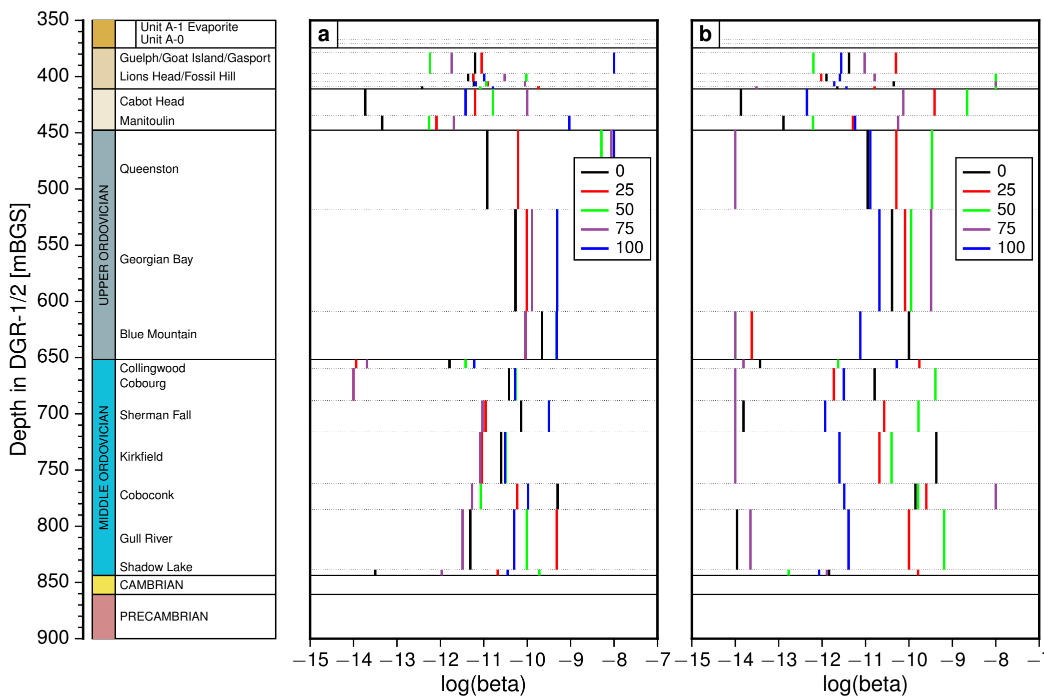

Figure S3: Calibrated vertical compressibility using glaciation scenario nn9921. Coloured lines represent different percentages of ice-sheet thickness applied as excess head to the top boundary condition. Subfigure (a) uses present day environmental heads as the initial condition while subfigure (b) uses a hydrostatic head condition computed assuming steady-state.

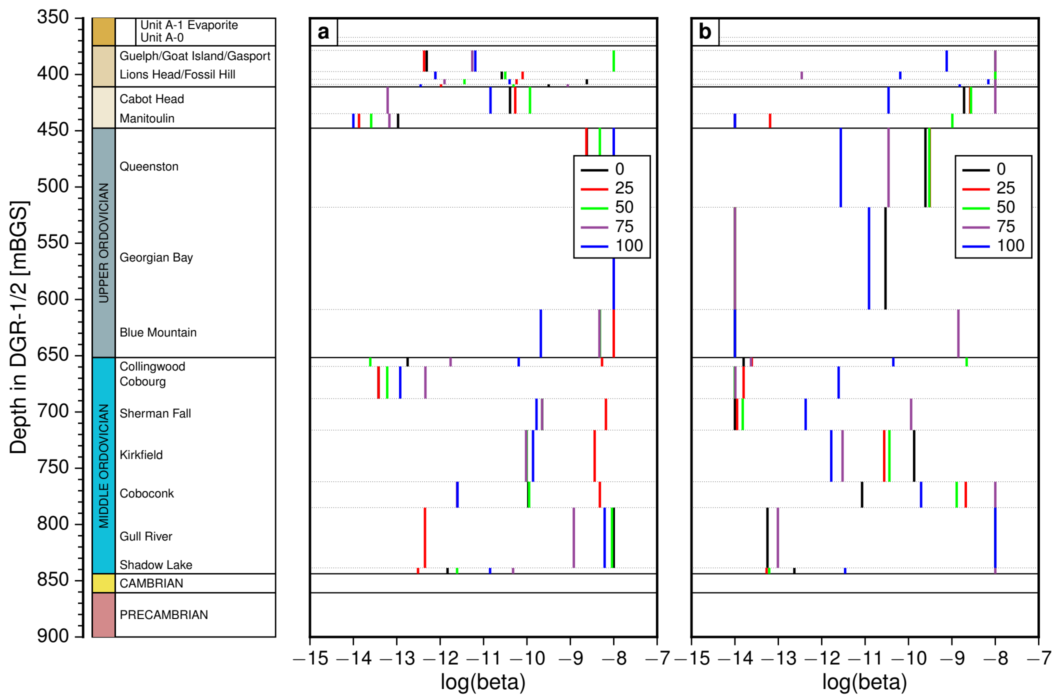

Figure S4: Calibrated vertical compressibility using glaciation scenario nn9930. Coloured lines represent different percentages of ice-sheet thickness applied as excess head to the top boundary condition. Subfigure (a) uses present day environmental heads as the initial condition while subfigure (b) uses a hydrostatic head condition computed assuming steady-state.

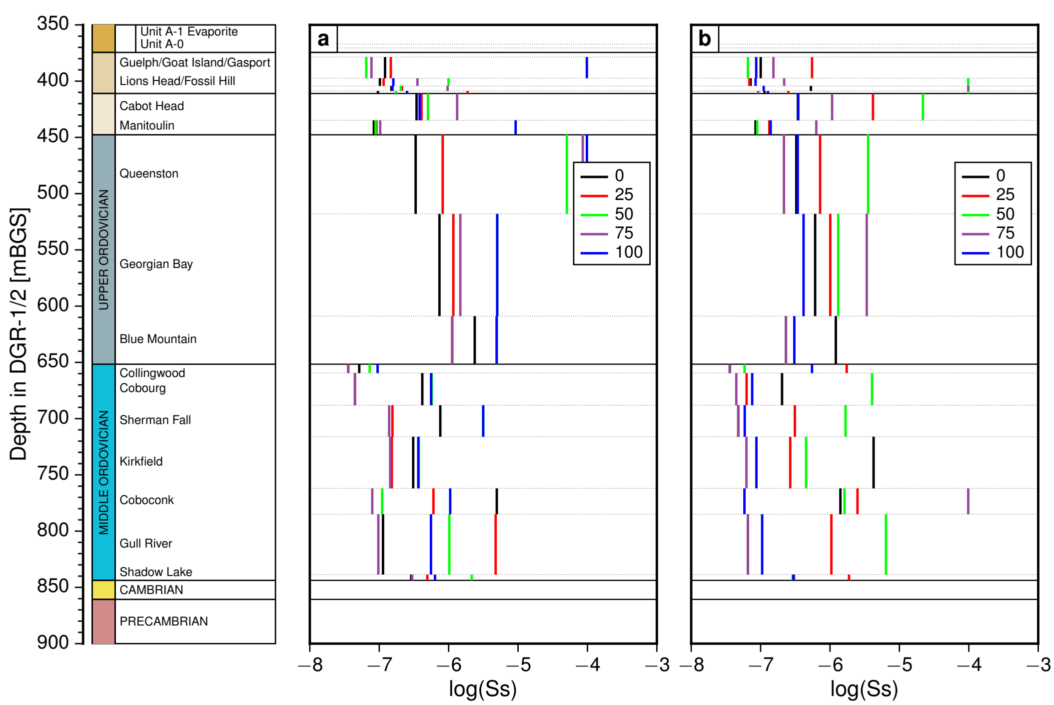

Figure S5: Calibrated specific storage using glaciation scenario nn9921. Coloured lines represent different percentages of ice-sheet thickness applied as excess head to the top boundary condition. Subfigure (a) uses present day environmental heads as the initial condition while subfigure (b) uses a hydrostatic head condition computed assuming steady-state.

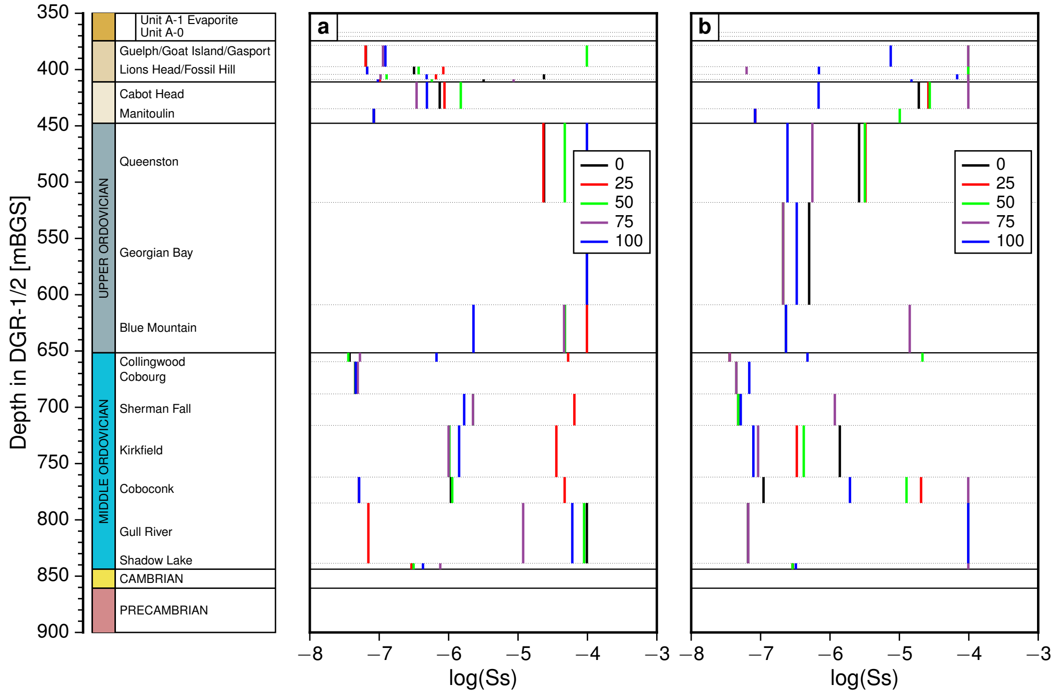

Figure S6: Calibrated specific storage using glaciation scenario nn9930. Coloured lines represent different percentages of ice-sheet thickness applied as excess head to the top boundary condition. Subfigure (a) uses present day environmental heads as the initial condition while subfigure (b) uses a hydrostatic head condition computed assuming steady-state.

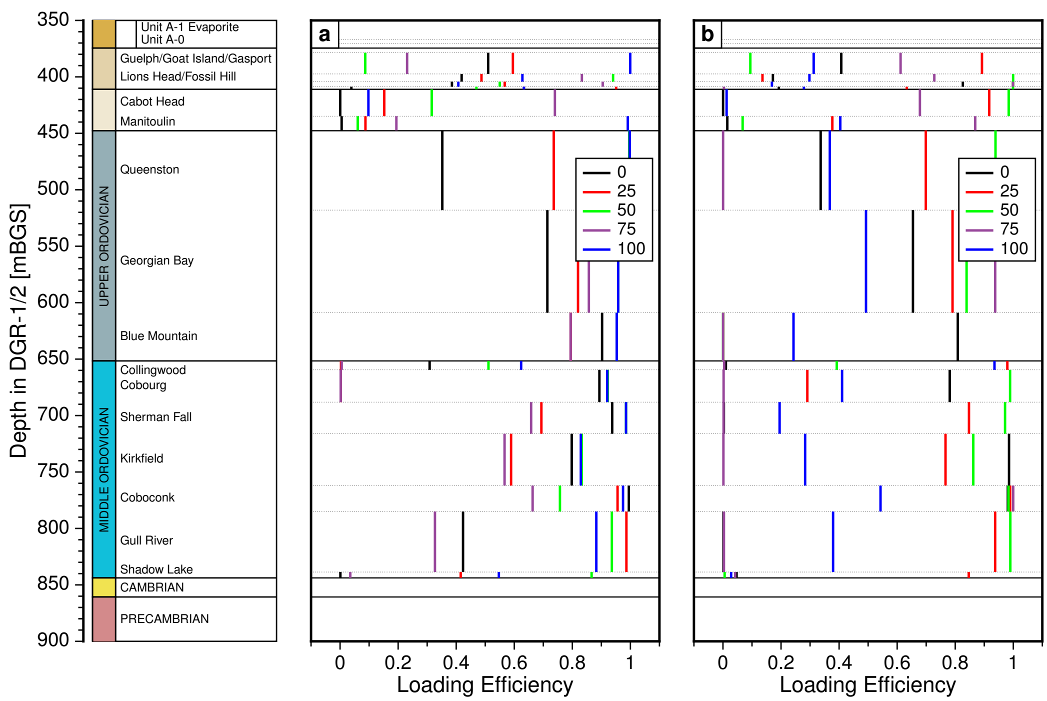

Figure S7: Calibrated loading efficiency using glaciation scenario nn9921. Coloured lines represent different percentages of ice-sheet thickness applied as excess head to the top boundary condition. Subfigure (a) uses present day environmental heads as the initial condition while subfigure (b) uses a hydrostatic head condition computed assuming steady-state.

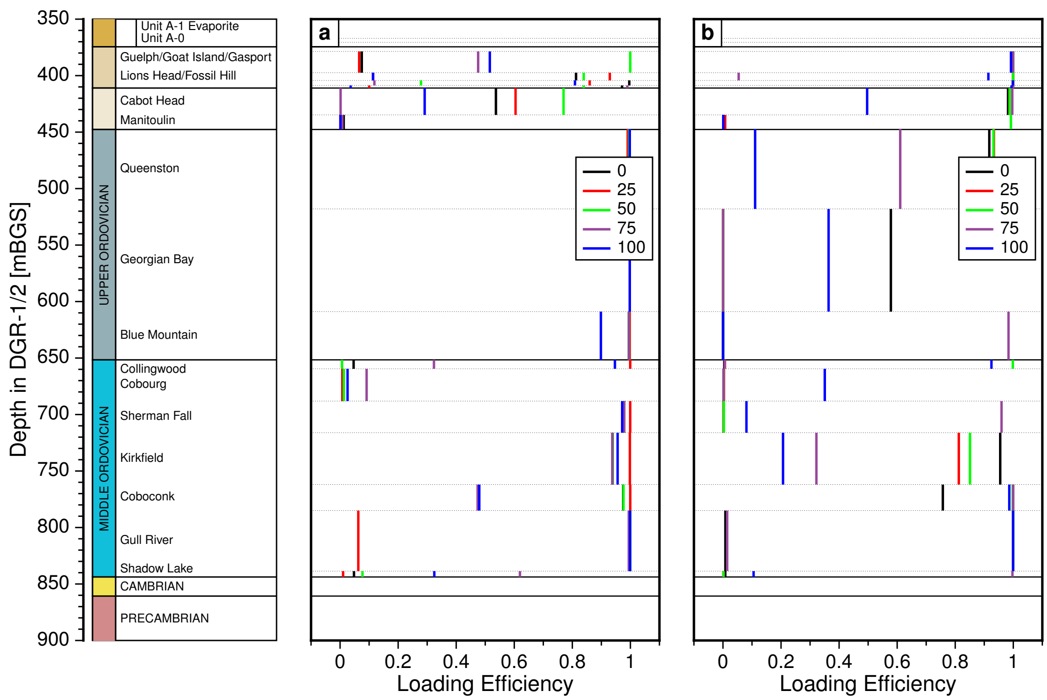

Figure S8: Calibrated loading efficiency using glaciation scenario nn9930. Coloured lines represent different percentages of ice-sheet thickness applied as excess head to the top boundary condition. Subfigure (a) uses present day environmental heads as the initial condition while subfigure (b) uses a hydrostatic head condition computed assuming steady-state.