

**AAPG Annual Convention
Salt Lake City, Utah
May 11-14, 2003**

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Reconstructing the Sequence Stratigraphy of Early Cambrian Rocks in the Selwyn Foreland Basin, Northwest Territories, Canada

The June Lake and Sekwi Formations of the Selwyn Basin, Northwest Territories, Canada record a rich history of mixed carbonate and siliciclastic sedimentation on the Cordilleran passive margin during the *Fallotaspis*, *Nevadella* and *Bonnia-Olenellus* trilobite zones. Currently these units are well-exposed in easterly-directed thrust sheets emplaced during the Late Paleozoic. Ten detailed stratigraphic sections, up to 1 km thick, and including new trilobite and archeocyathan collections provide the basis for a new sequence stratigraphic analysis of these units. Sections were measured at the bed-by-bed scale carefully noting rock type and sedimentary characteristics (e.g. sedimentary structures, fossils, shallowing and deepening trends, etc.) and surfaces between and within units. Where possible beds and units were traced laterally within thrust sheets to determine their lateral continuity. However, mapping lateral continuity was commonly limited due to the topography, thickness of the units and brevity of the field season. By measuring the stratigraphic sections on closely-spaced thrust sheets and carefully tracking facies, fossils and surfaces we are reconstructing a dip cross-section across the ramp-to-basin profile. Although this type of sequence stratigraphic analysis does not provide a good perspective of lateral geometries of facies it is considered valid because it is constrained by the new and available biostratigraphy. The preliminary sequence stratigraphic analysis indicates there are four large, regionally correlative, 3rd-order (1-5 m.y. duration) sequences within the June Lake and Sekwi Formations. These sequences are composed of numerous peritidal and subtidal 4th- and 5th-order (10's to 100's k.y. duration) parasequences.

Funding provided by NSF-EAR-0106885.