THE NEOPROTEROZOIC WINDERMERE SUPERGROUP: AN ON-LAND CONTINENTAL MARGIN TURBIDITE SYSTEM (SHEET 2 OF 2).

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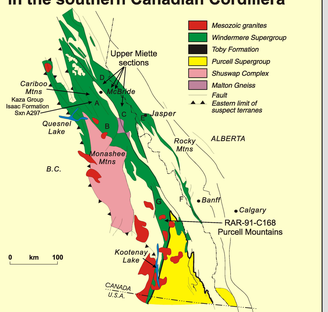
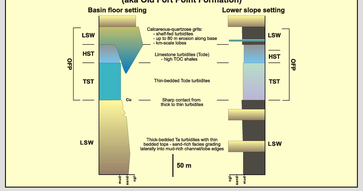
REGIONAL CORRELATIONS AND LINKAGES

Distribution of Windermere Supergroup in the southern Canadian Cordillera

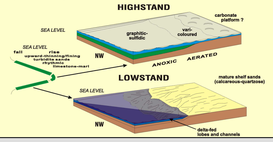


Letters A-G indicate where the Old Fort Point equivalents have been identified. The location of measured sections used in the generation of the sulfur isotope data are shown.

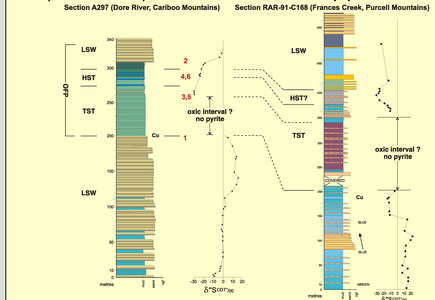
Stratigraphic Elements, Windermere Condensed Section (aka Old Fort Point Formation)



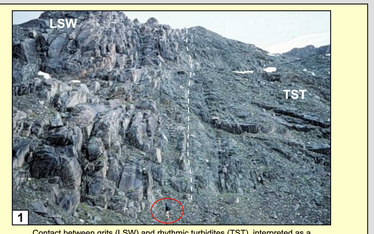
Depositional Model for Condensed Section Deposition during High Stand (Carbon-rich facies) and subsequent Lowstand (Progradation of Calcareous Shelf Castics)



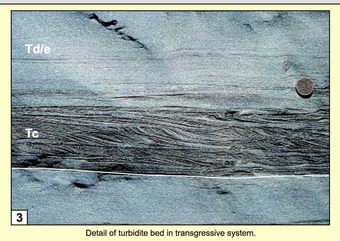
Comparative Stratigraphic Columns and suggested Stratigraphic Correlations for the Old Fort Point equivalents in the Kaza Group (Cariboo Mtns) and Horsethief Creek Group (Purcell Mtns)



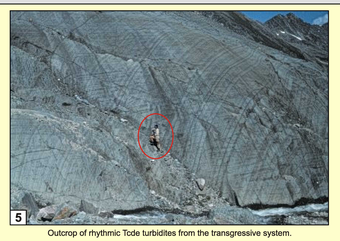
Sulfur isotopic data are plotted to the right. LSW=low-stand wedge; TST=transgressive systems tract; HST=highstand systems tract. The very 32S depleted values are characteristic of the Old Fort Point in these localities but occurs at slightly different relative positions.



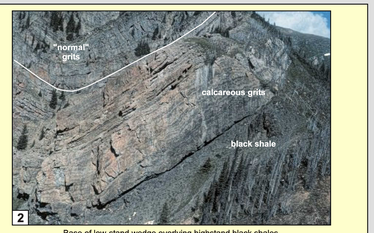
1 Contact between grits (LSW) and rhythmic turbidites (TST), interpreted as a transgressive surface.



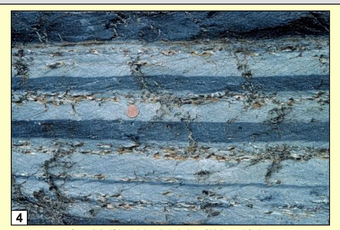
3 Detail of turbidite bed in transgressive system.



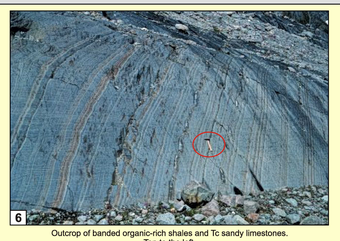
5 Outcrop of rhythmic Tcde turbidites from the transgressive system.



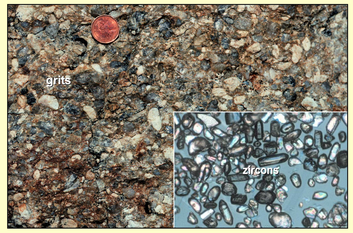
2 Base of low-stand wedge overlying highstand black shales.



4 Organic/sulfide-rich banded shales of highstand facies.

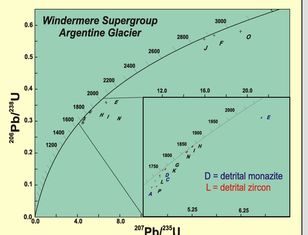


6 Outcrop of banded organic-rich shales and Tc sandy limestones. Top to the left.

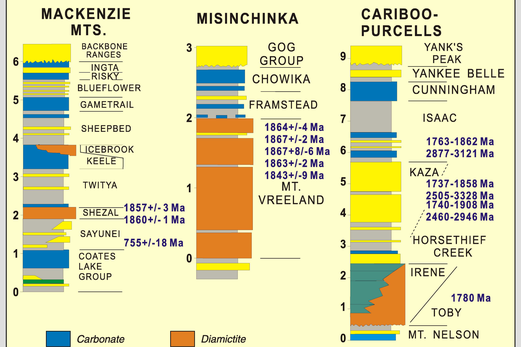


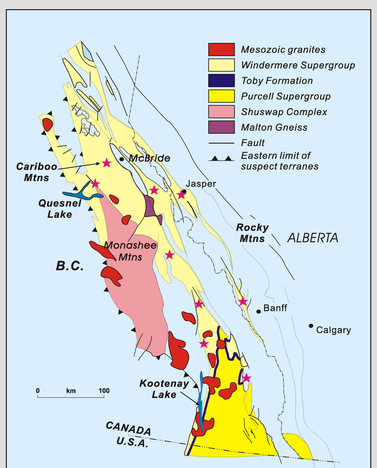
Suite of detrital zircons separated from typical pebbly arkose.

Concordia plot of bimodal U-Pb ages of detrital zircon and monazite typical of the Windermere grits.



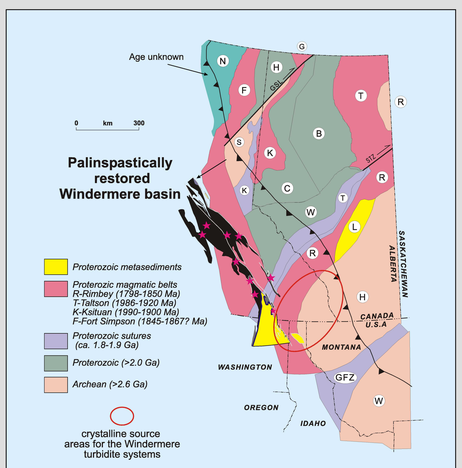
Regional Detrital Zircon Database



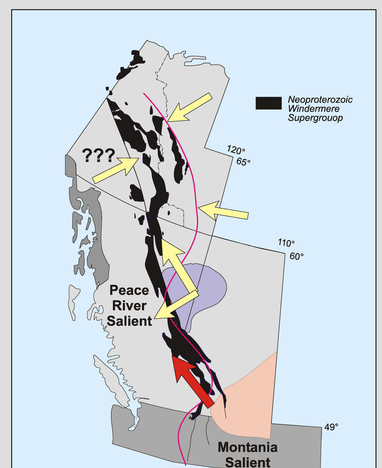


Bimodal Detrital Zircon Signatures (1.75-1.90 Ga and >2.6 Ga) Windermere Supergroup

★ *sample location with bimodal signature*



Map of basement domains beneath sediment cover in western Canada, determined by U-Pb dating. The main source areas for the bimodal signature of the Windermere turbidite basin are Archean and Proterozoic crust of the Hearne and Rimbey belts, respectively, in southern Alberta and British Columbia.



Regional pattern of salients and reentrants along the Windermere margin. The southern salient (Montania) fed the southern Cordilleran turbidites for ca. 4° of latitude. Work is underway to constrain the northern dispersal patterns (yellow arrows).

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NOTE:
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CONDENSED SECTION CORRELATIONS

DETRITAL ZIRCON U-Pb GEOCHRONOLOGY AS A PROVENANCE AND CORRELATION TOOL