

Sedimentology Of The Upper Triassic Charlie Lake, Baldonnel & Pardonet Formations From Outcrop Exposures In The Southern Trutch Region, Northeastern British Columbia

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ABSTRACT

Upper Triassic strata in the Trutch (94 G) NTS map area consist of the Charlie Lake, Baldonnel and Pardonet Formations. These units comprise a mixed siliciclastic-carbonate succession, ~350-400 m in thickness. Sediments accumulated along a low gradient continental ramp deposited on the northwestern margin of Pangaea. Twenty four lithofacies, deposited in distal offshore through supratidal settings were documented. Seven recurrent facies associations have been identified in these strata, four reflecting deposition in continental to marginal marine settings, three reflecting shallow to deep marine deposition.

Facies association 1 (FA1) consists of interbedded dolomitic mudstone/siltstone and dolomitic sandstone and was deposited in an intertidal flat depositional setting. FA2 consists of normally graded, trough cross-bedded to current ripple-laminated lenticular beds mudclast-rich fine- to medium-grained sandstone and was deposited by a series of small tidal channels. FA3 consists of well-sorted fine-grained sandstone beds characterized by high-angle tabular to wedge-shaped cross-beds, low-angle planar cross-beds, low-relief, translantent ripples and inversely graded lamina sets. FA3 is interpreted to represent deposition by a series of elongate, shore-parallel aeolian dunes. FA4 consists of a heterogeneous succession of solution collapse breccias, rooted, pedogenically-altered mudstone and siltstone and wave-rippled very fine- to fine-grained sandstone. It is interpreted as ephemeral lacustrine and/or supratidal sabkha.

Facies association 5 (FA5) is dominated by variably bioclastic quartzose sandstone, crinoidal packstone-grainstone and bivalve-dominated packstone beds. It is interpreted as a wave-dominated shallow (inner) ramp (i.e shoreface to foreshore). Facies association 6 (FA6) is dominated by very fine-grained calcareous sandstone and thin to thick-bedded bivalve-dominated wackstone, packstone and grainstone. It is interpreted as medial ramp (i.e offshore transition

to proximal offshore). Facies association 7 (FA7) is dominated by organic-rich calcareous siltstone and mudstone (commonly with abundant carbonate concretions) and variably thick bivalve laminite successions. FA7 It is interpreted as outer ramp (proximal to distal offshore).