

Integrated analysis of the Triassic Montney turbidites: a case study from northern Alberta

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ABSTRACT

An integrated analysis of the Triassic Montney Formation using seismic, well log, and core data, reveals a basin floor turbidite system characterized by channels as well as more sheet-bedded frontal splay deposits. Montney turbidites commonly consist of very fine grained sandstones characterized by ubiquitous Bouma Tb and isolated Ta and Tc beds. Occasional climbing ripples, convolute bedding, and flame structures can also be observed in conventional cores. Seismic data reveal the presence of channels that appear to bifurcate from west-northwest to east-southeast, suggesting a transport direction towards the east-southeast.

Borehole data integrated with seismic data suggests that some of the seismically resolvable channels are largely mudstone filled. In contrast, the sections that they overlie and erode into are generally more sandstone prone. Moreover, these underlying sandstones tend to be more correlatable of larger areas and hence, more widespread. We interpret this succession as a sandstone-prone frontal splay or distributary channel complex, overlain and eroded into by low-sinuosity channels, some of which are markedly sandstone poor.