

Conglomeratic Shoreface and Distributary Mouth Facies: Examples from the Upper Cretaceous Kaskapau Formation and Chungo Member, Alberta and B.C.

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Both the Turonian Kaskapau Formation and the early Campanian Chungo Member of the Puskwaskau Formation locally contain well-developed conglomeratic nearshore facies enclosed by otherwise sandstone-dominated strandplain deposits. Regional mapping, wave ripple and gutter cast orientations permit paleo-shoreline trends to be determined (generally NW-SE to NNW-SSE).

In NE British Columbia, the shale-dominated Kaskapau Formation passes laterally into thick stacked nearshore sandstones which locally host chert-pebble conglomerates that are 5-15 m thick, crossbedded and laterally-accreted, and also contain coarse-grained wave ripples. Channelized conglomerate units about 15 m thick and 250 m wide are also present but are not yet studied in detail.

The Chungo Member conglomerate package is up to 15 m thick, and interfingers with SCS sandstone over about 6 km. Dm scale crossbedding is typical, with strong normal grading and some openwork fabric. Crossbedded conglomerates show gently-inclined accretion surfaces. The upper part of the conglomerate package comprises landward (SW) directed cross-sets up to 5.6 m thick, dipping at up to 20° and containing abundant woody debris. This facies might represent washover behind a barrier bar, or the landward side of swash bars in a distributary mouth. This unit is capped by low-angle laminated granule beach facies.

Both examples of nearshore conglomerate contain evidence of combined fluvial and marine storm processes and might represent channel and bar complexes in the mouths of large gravelly rivers.