SEDIMENTATION IN THE LOWER CRETACEOUS GETHING BASIN, ALBERTA

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During Albian time, increasing sediment supply from the rising Cordillera and decreasing stream gradients due to rising sea level initiated a change from net erosion to net deposition over large parts of Alberta. The change is reflected in alluvial-plain deposits of the Cadomin Formation and lower energy fluvial and flood-plain deposits of the Gething Formation. Isopachs from the top of the Mannville or the top of the Bluesky-Wabiskaw to the pre-Cretaceous unconformity show the presence of a southeast to northwest trending drainage pattern on the unconformity. This drainage pattern remained in effect through Cadomin and much of Gething time. Sediments of the Gething Formation record the transgression of the Clearwater-Wilrich sea from the north and northwest. Transgression of the western arm of the sea was halted for a time in the Peace River area when thick sands were deposited in tidal channels near the inlet mouth of a large tidal estuary. These thick sands now contain the heavy bitumen of the Peace River Oil Sands. The glauconitic Bluesky and Wabiskaw sands were deposited under open marine conditions as the seas advanced farther south. Several northwest-southeast trending islands remained emergent until well into Clearwater-Wilrich time.

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