THE FALHER MEMBER IN BRITISH COLUMBIA: OUTCROP AND SUBSURFACE TRENDS

D. LECKIE
Petro-Canada
40 Research Place N.W.
Calgary, Alberta T2P 1Y6

The Falher Member (Gates Formation) in the subsurface of British Columbia comprises 5 major upward coarsening cycles. Nonmarine conditions occurred to the south and marine to the north. The maximum southerly transgressive and northerly regressive limits of the 5 cycles all occur within an east-west trending zone 30 to 40 km wide. It is within this zone that conglomeratic beach deposits occur. A northward bulging lobe recurrently occurs between Ranges 15 and 19 on all the transgressive and regressive shorelines except Falher A regressive. Gas well 93-P-1 a-91-D, south of the regressive lobes, contains fluvial channel deposits in the Falher A, B and F Members, plus another in the overlying Notikewin Member. The recurrent lobes, interpreted as arcuate-type deltas, and the stacked fluvial channels suggest the occurrence of a major fluvial depositional axis that maintained itself vertically over most of Falher and Notikewin time. Marine, clean sandstone and conglomerate isopachs from each of the cycles trend west-northwest to east-southeast, parallel to the shoreline. The isopachs taper to zero northwards. The Falher cycles are regional, occurring across the whole of the basin. Regional sedimentation was controlled primarily by tectonic loading of the rising cordillera to the southwest and south (?) as well as the trend of the Peace River Arch. Eustatic sea level variations and sedimentary switching of point sources played no recognizable roles in controlling regional sedimentation.