

The Twin Dome Structure, An Enigmatic Cretaceous Inlier in the Alberta Syncline

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The Twin Dome structure extends from the Highwood River, northeast of Okotoks, through de Winton, to Priddis, 40 km to the WNW, where it is also known as the Lloyd Lake structure. With a structural relief of at least 200 m, it is major regional topographic feature, forming the highest point on Highway 2 south of Calgary. Exposures are rare but 15 km northeast of Okotoks it crops out as a broad anticline in the banks of the Highwood River, striking WNW - ESE, oblique to the foothills structural trend, with a gently-dipping southern flank and a steep northern flank. It exposes Cretaceous and Tertiary strata including a possibly continuous K-T boundary. Advance and retreat of the Cordilleran and Laurentide ice sheets and associated glaciotectonics have complicated the already anomalous Laramide structure. Possible structural analogues include the Burning Springs anticline of the Appalachians.