Tectonic Origin of the Pink Mountain Anticline Northeastern British Columbia, Results from Isopach Maps and Seismic Sections

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The Pink Mountain Anticline is located at the Cordillera Front (57°N, 123°W). Why this structure formed in front of the regional Foothills belt is not apparent from geological mapping.

The structural origin of the Pink Mountain Anticline appears to be related to a topographic high in the Carboniferous and older strata in the subsurface just east of Pink Mountain. Preliminary isopach maps of the Carboniferous Kiskatinaw and Golata formations show a possible western extension of the Beatton High at the eastern border of the Trutch (94G) and Halfway River (94B) map areas. Also, the generally north-northwest trend of the major anticline is deflected to nearly north-south near the middle of Pink Mountain, coincident with a major east-west thickness increase in the Kiskatinaw and Golata formations in the subsurface. The unit thicknesses on the isopach maps are corrected for the effects of thrust repeats and steeply dipping beds, in some wells.

From seismic evidence, the subsurface topographic high appears to be the result of north-northwest trending normal faults possibly related to an episode of Carboniferous extension documented in the Peace River area. These observations suggest that the western edge of the subsurface high focused the Laramide deformation in the Pink Mountain area, resulting in the formation of the Pink Mountain Anticline just west of the Carboniferous high and east of the regional physiographic foothills belt. The deflection and offset of the Pink Mountain Anticline at Halfway River could be the result of minor east-west normal faulting related to the Carboniferous extension.