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Photograph of the Month

Detachment folding in lower Cretaceous coal-bearing strata of the Luscar Group, Alberta, Canada. Photograph C.W. Langenberg, Edmonton. © C.W. Langenberg.

Detachment folding in lower Cretaceous coal-bearing strata of the Luscar Group as exposed by mining in the AN pit of the Cardinal River Coal Mine near Hinton, Alberta, Canada. The dragline at the bottom of the pit provides a scale. The Jewel Coal Seam, which has a stratigraphic thickness of 10 m, is structurally thickened in the cores of chevron-type folds, providing enhanced mining situations. There are various detachment horizons. The one visible in the picture is at the contact of the Jewel Coal Seam (black in the centre of the picture) and the underlying sandstone of the Torrens Member. On a larger scale there is detachment along the underlying Folding Mountain/Mystery Lake Thrust, which in places follows shale horizons in the Nikanassin and Fernie formations (Lebel et al., 1996). These folds form part of the Cadomin Syncline, which is a footwall syncline of the Nikanassin/Drinnan Thrust.

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Reference

Lebel, D., Langenberg, C.W., Mountjoy, E.W., 1996. Structure of the central Canadian Cordilleran thrust-and-fold belt, Athabasca–Brazeau area, Alberta: a large, complex intercutaneous wedge. Bulletin of Canadian Petroleum Geology 44, 282–298.

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