

Map 600: A New 1:1 000 000 Bedrock Geology Map of Alberta

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Summary

Map 600 is the new 1:1 000 000 bedrock geology map of Alberta prepared by the Alberta Geological Survey (AGS). This map supersedes Map 236 (Hamilton et al., 1999) and Map 27 (Green, 1972).

Map 600 represents the compilation of existing geological maps and new geological mapping by staff of the Alberta Geological Survey (AGS). The representation of the Canadian Shield and Athabasca Basin is based on compilation. The geology of the Rocky Mountains and the Rocky Mountain Foothills is also the product of compilation with rare instances of new geological interpretation (e.g. the interpretation of bedrock geology beneath drift-filled valleys). The Devonian geology of northeast Alberta is also largely a product of compilation with some reinterpretation based, in part, on field observations. The Cretaceous geology of the Plains throughout most of northern and east-central Alberta is based on new geological mapping of the Fort St. John Group, the Dunvegan Formation, the Smoky Group, the Mannville Group, the Colorado Group and the Belly River Group. In addition, the Battle Formation (Cretaceous) and the Scollard Formation (Cretaceous - Paleogene) are based on new mapping north of Township 17 and east of Range 4 west of the 6th Meridian.

Mapping undertaken in support of Map 600 included field observations and the creation of three-dimensional models of subsurface stratigraphy based on the interpretation of geophysical logs from oil and gas wells. Each three-dimensional formation surface was projected to a model of the bedrock surface and the intersection formed the first approximation of the position of the geological contact at the base of drift. These preliminary contacts were then adjusted to honour outcrop data and the interpretation of the bedrock unit immediately below drift in individual wells.

References

Hamilton, W.N., Price, M.C. and Langenberg, C.W., 1999, Geological Map of Alberta: Alberta Geological Survey, Alberta Energy and Utilities Board, Map 236, scale 1:1 000 000.

Green, R., 1972, Geological Map of Alberta: Alberta Geological Survey, Alberta Research Council, Map 27, 1:1 267 000.