

An Update of the Saskatchewan Portion of the Structural Compilation Project for the Western Canada Sedimentary Basin

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Summary

The Structural Compilation Project was initiated in 2005 by the Western Canada Sedimentary Basin Working Group and includes researchers from the geological surveys of Alberta, Saskatchewan and Manitoba. The goal of the project is to produce a structural database for the entire Western Canada Sedimentary Basin that may be used by industry and government in hydrocarbon and mineral exploration. Upon completion, key components of the project will include: 1) a compilation of digitized structural features from available maps; 2) a database incorporating assigned fault attributes based on data sources and geological interpretations; and 3) distribution of data via web pages and on CD-ROM with free viewing software.

In the Saskatchewan portion of the Western Canadian Sedimentary Basin, researchers from the Ministry of Energy and Resources are in the final stages of compiling the structural data from literature sources and government reports. Data incorporated into the database will include: 1) Precambrian domain boundaries and other cratonic elements below the Phanerozoic cover; 2) Seismically defined faults and lineaments in southeastern Saskatchewan from the IEA Weyburn CO₂ Monitoring and Storage Project; and 3) Major lineaments and related structural features influencing sedimentary deposition throughout the Phanerozoic. Attribute data includes fault type and orientation, formation(s) affected, original citation, and criteria by author for inferring the existence of a fault or lineament. Overlay of the lineament and structural data with local and regional geological mapping could then be used to show the effects that these structures have on depositional trends throughout the entire Phanerozoic section in Saskatchewan.