

Report of Activities 2003

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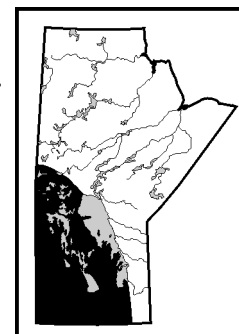
Manitoba Geological Survey, 2003.

ERRATA:

The publisher/department name in the bibliographic reference cited immediately below the title of each GS report should read

Manitoba Industry, Economic Development and Mines instead of **Manitoba Industry, Trade and Mines**.

Conley, G.G. 2003: The Manitoba Stratigraphic Database: an update; *in* Report of Activities 2003, Manitoba Industry, Trade and Mines, Manitoba Geological Survey, p. 250–251.



Summary

The Manitoba Stratigraphic Database (MSD) continues to be updated. Wells with licence numbers 1 to 1100 have had the formation tops completely updated with all available data. This is in addition to the 1271 stratigraphic and mineral exploration wells that have already been completed. Because of commitments to the Targeted Geoscience Initiative (TGI) II Williston Basin Architecture and Hydrocarbon Potential Project, it is anticipated that the database will be completely updated by mid 2004.

Introduction

The Manitoba Stratigraphic Database continues to be updated. In 2002, a major update of historical formation tops picked by H.R. McCabe (formerly of this Department) was carried out, adding data to petroleum and stratigraphic wells in licence numbers 1 to 2600. In 2003, the data was reviewed by G.G. Conley and, in addition to correcting errors in the dataset, missing tops intervals were infilled by data from the Petroleum Branch and from a second unverified dataset. Wells with licence numbers 1 to 1100 now have all available formation tops entered. This is in addition to the already available stratigraphic and mineral exploration wells.

Entry of historical data for wells with licence numbers 2600 to approximately 4000 will start in November 2003. Missing intervals will then be infilled by data from other available formation tops datasets. This process is expected to be completed by early 2004 so that the data can be used for generating 2-D stratigraphic and structural maps as well as a 3-D geological model for the TGI II Williston Basin Architecture and Hydrocarbon Potential Project.

The TGI project will involve the creation of numerous cross-sections in the development of the 2-D maps and 3-D model, and contractors will be employed to repick specified wells. This will allow us to correct errors in the tops that wouldn't otherwise be found and will help improve the quality of picks in the Manitoba Stratigraphic Database. At the conclusion of the TGI project, the updated Manitoba Stratigraphic Database will be released to the public.

At present, there are 5519 wells in the database, of which 4797 have formation tops. Of the 4797 wells with tops, 3514 wells have Mesozoic tops (Tertiary, Cretaceous, Jurassic and Triassic), 3104 wells have Mississippian tops, 892 wells have Devonian tops and 1376 wells have tops ranging from Silurian to Precambrian. Of the total 5519 wells, 542 are stratigraphic wells, 717 are mineral exploration wells, 10 are water wells, 2 are hydro wells, and 4247 are oil and gas wells.

Recent products of the Manitoba Stratigraphic Database

In November 2002, the report on the bedrock mineral resources of Manitoba's Capital Region was released as Geoscientific Report GR2002-1 (Bezys et al., 2002a). This report highlights areas with less than 5 m of overburden that have high potential for crushed stone within the Capital Region. One area lies within the limits of the City of Winnipeg. The report also contains 16 maps at a 1:50 000 scale (NTS 62H10, 11, 14 and 15 and 62I2, 3, 6 and 7) and a CD-ROM with appendices containing detailed descriptions of quarries, quarry mineral inventory cards, section descriptions and quarry photographs. The maps and report can be downloaded in PDF format, at no charge, from the Free Downloads page of the Mineral Resources Division website under the Geoscientific Report category.

A Capital Region Study update and description of detailed stratigraphic drilling was also published in 2002 (Bezys et al., 2002b). This report outlines the detailed stratigraphic drilling program carried out in the Capital Region area from 1997 to 2002.

In 1998, Open File Report OF98-7 was released (Bezys and Conley, 1998). It contained the Manitoba Stratigraphic Database and the complete stratigraphic map series on a CD-ROM. For clients that are interested in tops from the Silurian to Precambrian, the database on this CD-ROM contains a complete verified set of tops for all of the deep wells in Manitoba. Little new deep drilling has occurred since the production of this dataset.

Economic considerations

The Manitoba Stratigraphic Database is a database of all subsurface Phanerozoic stratigraphic data and core storage data for all Phanerozoic wells in Manitoba. The database is designed so that clients can request tops on a specific well by location, using either the township grid or by selecting a range of UTM's. Clients can also request information on specific tops or groups of tops over any size of area. As shown in the bedrock mineral resources of Manitoba's Capital Region report (Bezys et al., 2002a), isopach and structural maps derived from the database can be used to identify areas of high potential for crushed stone or possibly other economic deposits. Maps of overburden thickness and depth to Precambrian are also used to determine the economic feasibility of drilling in specific areas.

The Petroleum Branch also maintains a database of subsurface well data called the Manitoba Oil and Gas Well Information System (MOGWIS). The MOGWIS database is focused on the oil and gas producing areas in the south-western corner of the province and contains engineering, production and core storage data in addition to formation tops. MSD only contains stratigraphic data and core storage data but it does so for the entire province, including the area covered by MOGWIS as well as the mineral producing areas to the north at the edge of the Phanerozoic. Both databases maintain their own set of tops, but MSD includes petroleum tops where no other tops exist. Clients requiring petroleum-related data should inquire at the Petroleum Branch.

References

- Bezys, R.K., Bamburak, J.D. and Conley, G.G. 2002a: Bedrock mineral resources of Manitoba's Capital Region; Manitoba Industry, Trade and Mines, Manitoba Geological Survey, Geoscientific Report GR2002-1, 45 p. plus 16 maps at 1:50 000 scale and 1 CD-ROM.
- Bezys, R.K., Bamburak, J.D. and Conley, G.G. 2002b: Capital Region Study (Winnipeg and surrounding areas) update and stratigraphic drilling 2002, Manitoba; *in* Report of Activities 2002, Manitoba Industry, Trade and Mines, Manitoba Geological Survey, p. 266–272.
- Bezys, R.K. and Conley, G.G. 1999: Manitoba Stratigraphic Database and the Manitoba stratigraphic map series; Manitoba Energy and Mines, Geological Services, Open File Report OF98-7, 1 CD-ROM.