GS-22 MANITOBA STRATIGRAPHIC DATABASE AND THE CAPITAL REGION STUDY, 2001

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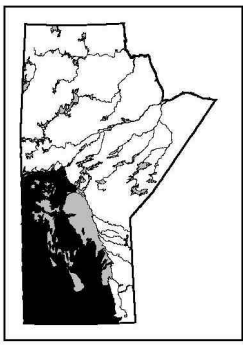

Conley, G.G. 2001: Manitoba Stratigraphic Database and the Capital Region Study, 2001; *in* Report of Activities 2001, Manitoba Industry, Trade and Mines, Manitoba Geological Survey, p. 150-151.

SUMMARY

In 1999, preliminary maps (bedrock potential, overburden thickness, geology, bedrock topography [5 m contour interval]) for the northern portion of the Capital Region Study were released in printed form (Bezys et. al., 1999a–h). The mapping of the southern portion of the study area has been completed and the maps and report are in the final editing stage for the entire Capital Region.

The Manitoba Stratigraphic Database (MSD) continues to be updated. It contains 5619 stratigraphic, mineral exploration, oil and gas, and other wells, of which 4340 wells have formation tops.

MANITOBA STRATIGRAPHIC DATABASE AND THE CAPITAL REGION STUDY

Sixteen 1:50 000 map sheets for the Capital Region Study are currently undergoing final editing. The map sheets include Selkirk (62I/2), Stonewall (62I/3), Teulon (62I/6), Netley Marsh (62I/7), Ste. Anne (62H/10), St. Adolphe, (62H/11), Winnipeg (62H/14) and Dugald (62H/15). The maps will show overburden thickness (5 m contour interval) and bedrock topography on a colour bedrock geology base. These maps will supersede the previous black and white editions, which are now mostly out of print. The maps and report are in the production stage and are expected to be released in early 2002. The map titles are:

- CAP-1 Geology, Overburden Thickness and Bedrock Potential, Selkirk (NTS 62I/2)
- CAP-2 Geology and Bedrock Topography, Selkirk (NTS 62I/2)
- CAP-3 Geology, Overburden Thickness and Bedrock Potential, Stonewall (NTS 62I/3)
- CAP-4 Geology and Bedrock Topography, Stonewall (NTS 62I/3)
- CAP-5 Geology, Overburden Thickness and Bedrock Potential, Teulon (NTS 62I/6)
- CAP-6 Geology and Bedrock Topography, Teulon (NTS 62I/6)
- CAP-7 Geology, Overburden Thickness and Bedrock Potential, Netley Marsh (NTS 62I/7)
- CAP-8 Geology and Bedrock Topography, Netley Marsh (NTS 62I/7)
- CAP-9 Geology, Overburden Thickness and Bedrock Potential, Ste. Anne (NTS 62H/10)
- CAP-10 Geology and Bedrock Topography, Ste. Anne (NTS 62H/10)
- CAP-11 Geology, Overburden Thickness and Bedrock Potential, St. Adolphe (NTS 62H/11)
- CAP-12 Geology and Bedrock Topography, St. Adolphe (NTS 62H/11)
- CAP-13 Geology, Overburden Thickness and Bedrock Potential, Winnipeg (NTS 62H/14)
- CAP-14 Geology and Bedrock Topography, Winnipeg (NTS 62H/14)
- CAP-15 Geology, Overburden Thickness and Bedrock Potential, Dugald (NTS 62H/15)
- CAP-16 Geology and Bedrock Topography, Dugald (NTS 62H/15)

Data sources for the maps include 5897 water wells and 182 stratigraphic wells from MSD. Despite much detailed editing and cleaning of the data, with respect to borehole elevations and quality of the water well data, the final bedrock surface appeared quite ‘bumpy’. The ‘bumpy’ surface gives an impression of detail that is probably the result of minor errors rather than actual bedrock detail. To smooth the bumps, a moving average surface was created by QuickSURF™ (version 5.1), used within AutoCAD® Release13. The moving average routine acts as an averaging filter resulting in a smoother surface. The final contours for both overburden thickness and bedrock surface were created from the moving average surface.

The generation of new bedrock contours required that the geological formation boundaries be modified to accommodate the new zones of outcrop. Editing of the formation boundaries was completed by J. Bamburak. Quarries and outcrop locations were also brought up to date. Bedrock potential is considered where overburden thickness is less than 5 m.

MANITOBA STRATIGRAPHIC DATABASE: AN UPDATE

The Manitoba Stratigraphic Database continues to be updated. However, this has proceeded slower than expected due to the amount of time required by the Capital Region Study and other projects. At this time, formation tops exist in 4340 stratigraphic, mineral exploration, oil and gas, and other wells.

A set of nine insert maps has been produced for the upcoming NTS 63G sheet of the Bedrock Geology Compilation Map Series. These insert maps include isopach maps for the Winnipeg, Red River, Stony Mountain and Stonewall formations and the Interlake Group. Precambrian structure, depth to Precambrian, depth to bedrock and bedrock topography and outcrop belt maps have also been produced. The NTS 63G Bedrock Geology Compilation Map sheet will be released in early 2002.

REFERENCES

Bezys, R.K., Bamburak, J.D. and Conley, G.G. 1999a: Capital Region Study: mineral resource potential and overburden thickness, Selkirk (NTS 62I/2); Manitoba Energy and Mines, Geological Services, Preliminary Map 1999CAP-1, scale 1:50 000.

Bezys, R.K., Bamburak, J.D. and Conley, G.G. 1999b: Capital Region Study: geology and bedrock topography, Selkirk (NTS 62I/2); Manitoba Energy and Mines, Geological Services, Preliminary Map 1999CAP-2, scale 1:50 000.

Bezys, R.K., Bamburak, J.D. and Conley, G.G. 1999c: Capital Region Study: mineral resource potential and overburden thickness, Stonewall (NTS 62I/3); Manitoba Energy and Mines, Geological Services, Preliminary Map 1999CAP-3, scale 1:50 000.

Bezys, R.K., Bamburak, J.D. and Conley, G.G. 1999d: Capital Region Study: geology and bedrock topography, Stonewall (NTS 62I/3); Manitoba Energy and Mines, Geological Services, Preliminary Map 1999CAP-4, scale 1:50 000.

Bezys, R.K., Bamburak, J.D. and Conley, G.G. 1999e: Capital Region Study: mineral resource potential and overburden thickness, Teulon (NTS 62I/6); Manitoba Energy and Mines, Geological Services, Preliminary Map 1999CAP-5, scale 1:50 000.

Bezys, R.K., Bamburak, J.D. and Conley, G.G. 1999f: Capital Region Study: geology and bedrock topography, Teulon (NTS 62I/6); Manitoba Energy and Mines, Geological Services, Preliminary Map 1999CAP-6, scale 1:50 000.

Bezys, R.K., Bamburak, J.D. and Conley, G.G. 1999g: Capital Region Study: mineral resource potential and overburden thickness, Netley Marsh (NTS 62I/7); Manitoba Energy and Mines, Geological Services, Preliminary Map 1999CAP-7, scale 1:50 000.

Bezys, R.K., Bamburak, J.D. and Conley, G.G. 1999h: Capital Region Study: geology and bedrock topography, Netley Marsh (NTS 62I/7); Manitoba Energy and Mines, Geological Services, Preliminary Map 1999CAP-8, scale 1:50 000.