Open File 2010-45
Saskatchewan Ministry of the Economy
Saskatchewan Geological Survey

Open File OF2011-3
Manitoba Innovation, Energy and Mines
Manitoba Geological Survey

Targeted Geoscience Initiative (TGI) II

WILLISTON BASIN ARCHITECTURE AND HYDROCARBON POTENTIAL

Total Dissolved Solids (TDS) – Ordo-Silurian Aquifer

Sheet 7 of 55

by
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This contour map was produced using water analyses from 85 wells retrieved from public and private data sources. A rigorous quality control procedure was implemented in order to best represent the natural salinity distribution. Control points were gridded using a kriging interpolation algorithm in Golden Software Inc.'s Surfer Version 8.0. The resultant grid was contoured and projected using Generic Mapping Tools (GMT) with manual modifications when necessary. A variable contour interval was chosen to illustrate significant changes in water chemistry across the isoconcentration lines. Areas in which anomalies may be present may not be accurately portrayed and are likely the result of data control, interpolation, and mapping algorithms.

Although the Saskatchewan Ministry of the Economy has exercised all reasonable care in the compilation, interpretation, and production of this map, it is not possible to ensure total accuracy, and all persons who rely on the information contained herein do so at their own risk. The Saskatchewan Ministry of the Economy and the Government of Saskatchewan do not accept liability for any errors, omissions or inaccuracies that may be included in, or derived from, this product.

This map may be referenced as:
Palombi, D. and Rostron, B.J. (2013): Total Dissolved Solids (TDS) – Ordo-Silurian Aquifer, Williston Basin Architecture and Hydrocarbon Potential, Targeted Geoscience Initiative II; Saskatchewan Ministry of the Economy, Saskatchewan Geological Survey, Open File 2010-45/Manitoba Innovation, Energy and Mines, Manitoba Geological Survey, Open File OF2011-3, sheet 7 of 55, 1:3 000 000-scale map.

This entire series may be referenced as:
Palombi, D. and Rostron, B.J. (2013): Regional hydrogeological characterization of the northeastern margin of the Williston Basin; Saskatchewan Ministry of the Economy, Saskatchewan Geological Survey, Open File 2010-45/Manitoba Innovation, Energy and Mines, Manitoba Geological Survey, Open File OF2011-3, set of 55 1:3 000 000-scale maps.

This Open File is available for free download at www.WillistonTGI.com.

Legend

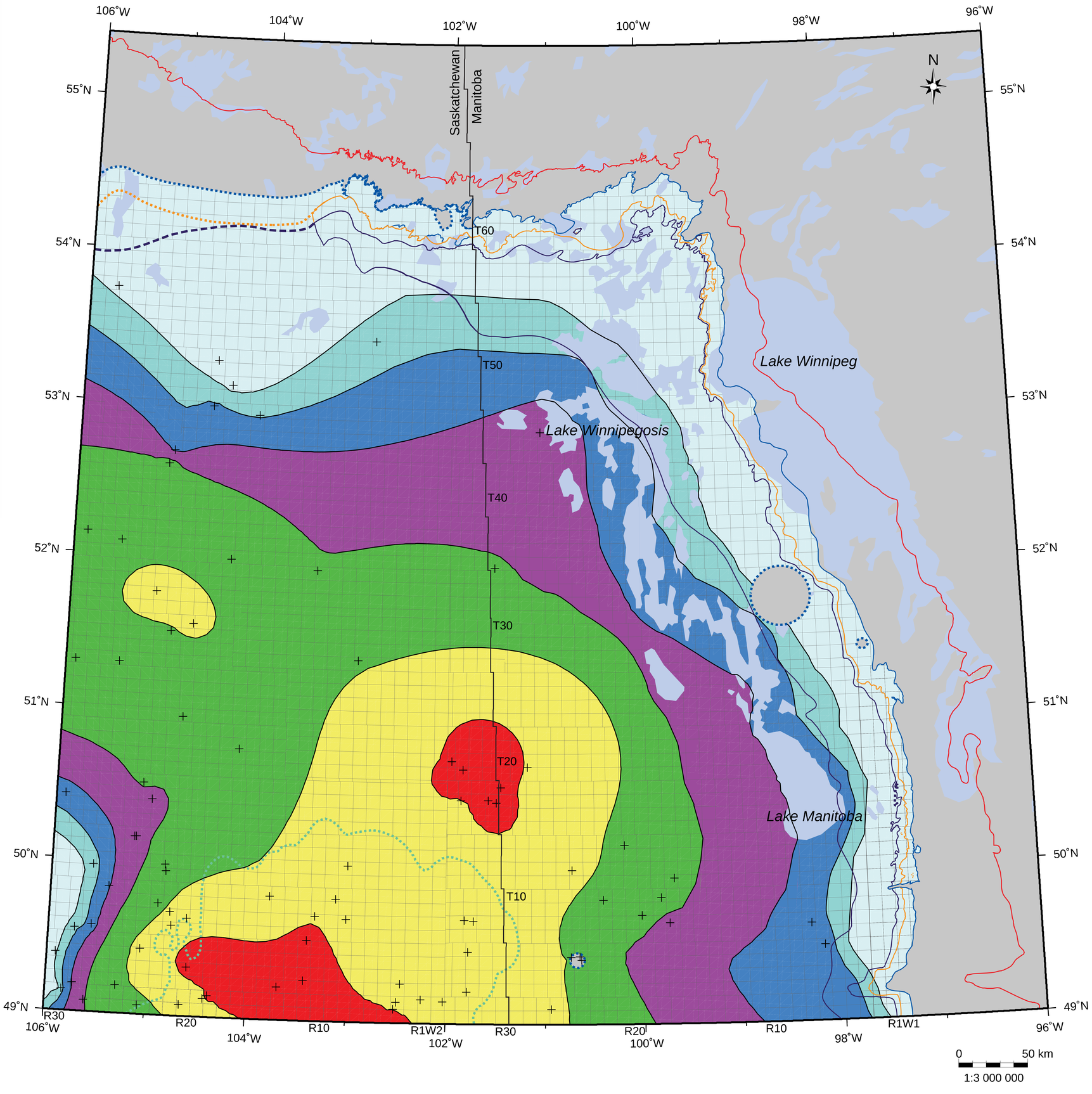
TDS (g/L)

0 10 25 50 100 200 300 400

- Isoconcentration line
- Edge of Phanerozoic cover
- Stony Mountain zero edge
- Stony Mountain outcrop
- Stonewall zero edge
- Stonewall outcrop
- Interlake zero edge
- Interlake outcrop
- Stonewall Basal anhydrite edge
- Aquifer eroded
- Control point
- Lake

Transverse Mercator Projection
Central Meridian 101° W

Hydrostratigraphy

- RAVENSCRAG
- Bearpaw
- JUDITH RIVER
- Colorado-Lea Park
- NEWCASTLE
- Joli Fou
- MANNVILLE
- Masefield-Waskada
- JURASSIC
- Watrous
- POPLAR
- RATCLIFFE
- MIDALE
- FROBISHER
- ALIDA
- TILSTON
- SOURIS VALLEY
- BAKKEN
- Three Forks
- BIRDBEAR
- Seward
- DUPEROW
- Souris River
- MANITOBA
- Prairie Evaporite
- WINNIPEGOSIS
- Ashern
- ORDO-SILURIAN
- Stony Mountain
- RED RIVER
- Winnipeg
- CAMBRO-ORDOVICIAN
- Precambrian

aquifer aquitard aquiclude