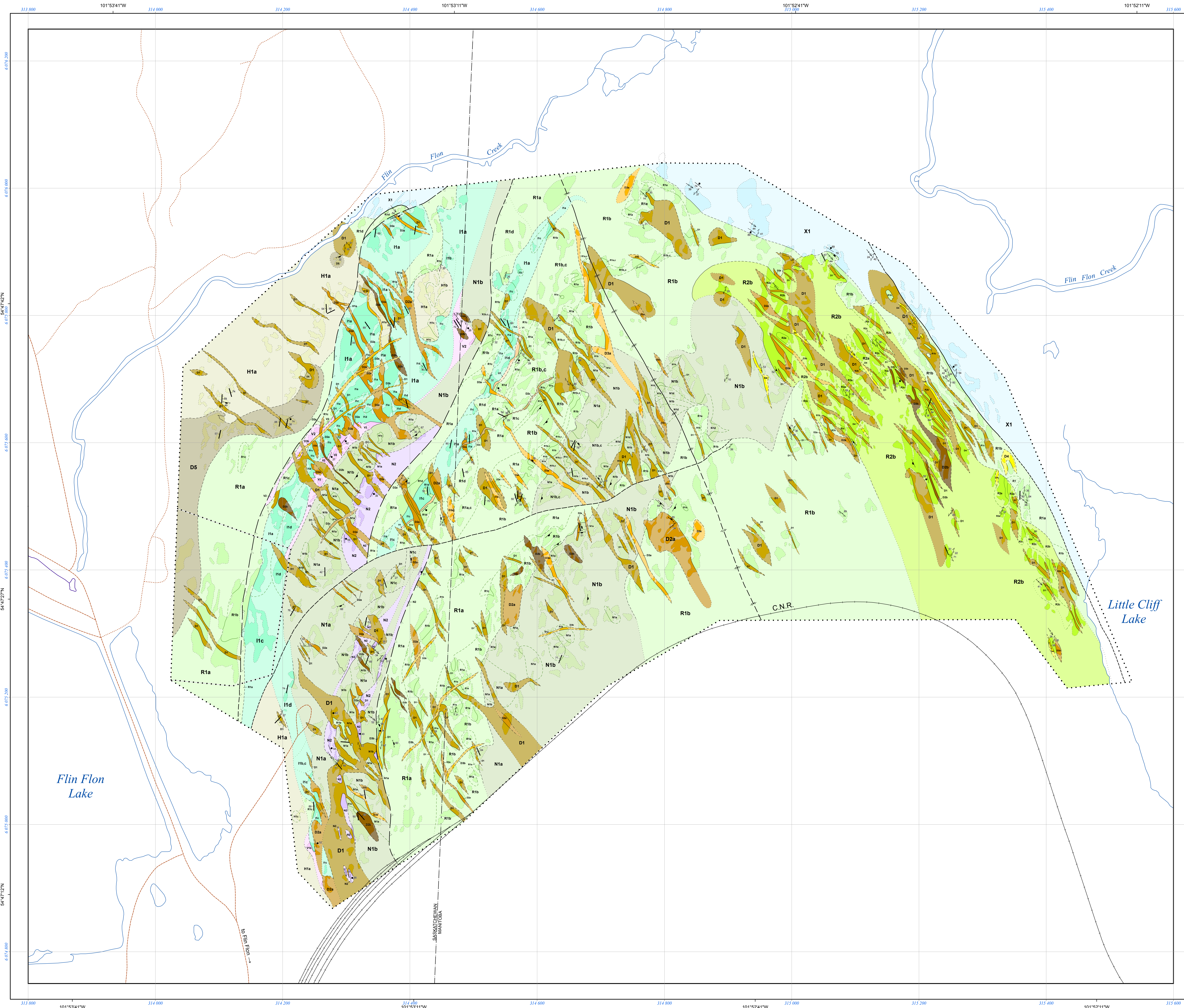




Geology of the Hidden and Louis formations north of the Canadian National railway, Flin Flon region, Manitoba and Saskatchewan (part of NTS 63K13)

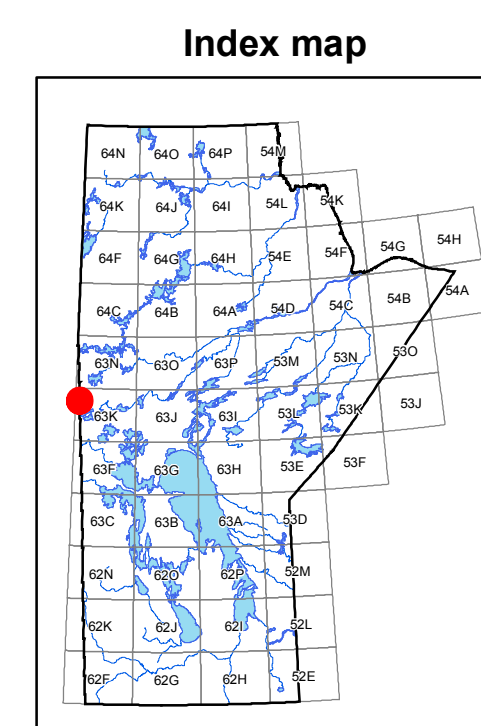


LEGEND

- <1.845 Ga INTRUSIVE ROCKS**
 - B1** Boundary intrusions, fine- to coarse-grained gabbro, locally with various xenoliths
 - Z1** Phantom Lake intrusions
 - G1** Granodiorite sills and dikes (?)
- MISSISSIPPI GROUP**
 - X1** Conglomerate, wacke, sandstone and siltstone
- FLIN FLON ARC ASSEMBLAGE (>1.88 Ga ROCKS)**
- Synvolcanic intrusive rocks**
 - D6** Gabbroic textured, medium- to coarse-grained dikes and sills
 - D5** Gabbroic textured, fine- to medium-grained dikes and sills
 - D4** Aphyric felsic dikes and sills
 - D3a** Fine-grained, grey andesitic dikes with 5 to 20%, 2 to 7 mm amphibole crystals
 - D3b** Coarse-grained, grey, plagioclase-rich andesitic dikes
 - D2a** Plagioclase (5 to 15%, 2 to 10 mm) and pyroxene (1 to 15%, 2 to 10 mm) fine- to medium-grained porphyritic mafic dikes and sills
 - D2b** Pyroxene (5 to 8%, 2 to 10 mm) fine- to medium-grained porphyritic mafic dikes and sills
 - D2c** Plagioclase (5 to 30%, 3 to 15 mm) with 5 to 15% quartz amygdaloids, fine- to medium-grained porphyritic mafic dikes and sills
 - D1** Aphyric to sparsely plagioclase phytic (<5%), fine to medium grained, massive, commonly flow-banded and commonly containing quartz amygdaloids (<5%)
- Louis formation**
- Undivided volcanic rocks**
 - L3** Aphyric, pillowed to massive basalt flows
 - L2** Mafic volcanoclastic rocks
 - a) mafic lapillistone
 - b) finely laminated mafic tuff
 - L1** Plagioclase (>15%) and pyroxene (<5%) phytic basalt flows
 - a) massive
 - b) pillowed
 - c) contains included tuff
 - d) in situ breccia
- Icehouse member**
 - C2** Mafic volcanoclastic rocks
 - a) heterolithic lapillistone, containing plagioclase- and pyroxene-porphyritic, non-amygdaloidal to amygdaloidal basalt clasts (70%), aphyric non-amygdaloidal to amygdaloidal (5-10%) basalt clasts, minor (<5%) aphyric rhyolite clasts in a plagioclase and pyroxene crystal-rich mafic tuff
 - b) finely laminated mafic tuff
 - C1** Strongly plagioclase (>25%) and pyroxene (>15%) porphyritic basalt flows
 - a) massive
 - b) pillowed with tuff between pillows
- Tower member**
 - T2** Mafic tuff to mafic lapilli-tuff with aphyric rhyolite clasts
 - T1** Massive to in situ brecciated aphyric to sparsely plagioclase (<5%) phytic rhyolite
- Hidden formation**
- Undivided intrusive rocks**
 - H1** Pyroxene-phyric basaltic cryptoflows and shallow intrusions
 - a) massive, 1 to 5% pyroxene phenocrysts
 - b) contains included tuff
 - c) peperitic
- 1920 unit**
 - I1** Amygdaloidal amphibole-phyric andesite cryptoflows
 - a) massive cryptoflows, 1 to 3 mm amphibole phenocrysts
 - b) pillowed cryptoflow, 1 to 3 mm amphibole phenocrysts
 - c) contains included tuff
 - d) peperitic
- Stockwell member**
 - N2** Mafic heterolithic lapillistone, containing aphyric non-amygdaloidal to amygdaloidal (1-80%) basalt clasts, minor (<1%) felsic clasts
 - N1** Plagioclase (>20%) and pyroxene (<5%) phytic basalt cryptoflows and flows with local peperite
 - a) massive
 - b) pillowed
 - c) contains included tuff
 - d) peperitic
- Reservoir member**
- Undivided volcanoclastic rocks**
 - R4** Mafic volcanoclastic rocks
 - R3** Massive plagioclase (>15% to <20%) and pyroxene (>15% to <20%) porphyritic basalt flows
 - R2** Plagioclase (>5% to <10%) phytic basaltic flows
 - a) massive, may contain up to 5% feldspar phenocrysts, quartz amygdaloidal
 - b) pillowed, may contain up to 5% feldspar phenocrysts, quartz amygdaloidal
 - c) in situ breccia
 - R1** Aphyric to weakly (<5%) plagioclase-phyric basaltic cryptoflows and flows with local peperite
 - a) massive, may contain up to 5% feldspar phenocrysts, quartz amygdaloidal
 - b) pillowed, may contain up to 5% feldspar phenocrysts, quartz amygdaloidal
 - c) contains included tuff
 - d) peperitic
 - e) in situ breccia
- Undivided volcanoclastic rocks**
 - V2** Mafic volcanoclastic rocks
 - V1** Felsic volcanoclastic rocks, pumice-bearing
- Other**
 - G5** Gossan patches
 - R1b** Regolith: weathered profile of aphyric basalt (Hidden formation)

NOTE: units with greyed-out text do not appear on map

- ### SYMBOLS
- Contact: defined, approximate, assumed
 - Facies: defined, approximate, assumed
 - Fault: defined, approximate, assumed
 - Thrust fault: defined, approximate, assumed
 - Syncline fold axis
 - Mapping limit
 - Area mapped by H. L. Gibson¹
 - Outcrop
 - Bedding: tops unknown, known
 - Pillow: tops known
 - Flow contact: tops unknown, known
 - Foliation: 1st, 2nd generation
 - Shear zone: sense unknown
 - Fault: sense unknown
 - Joint
 - Vein
 - L-fabric: 1st generation
 - Paved road
 - Gravel road
 - Trail
 - Provincial boundary



Geology by: Y. M. DeWolfe¹
Digital cartography by: M. E. McFarlane

Published by Manitoba Science, Technology, Energy and Mines, Manitoba Geological Survey, 2007
This map is available to download free of charge at manitoba.ca/minerals

¹Mineral Exploration Research Centre, Department of Earth Sciences, Laurentian University, 933 Ramsey Lake Road, Sudbury, Ontario, P3E 6C7

Suggested reference:
DeWolfe, Y.M. 2007. Geology of the Hidden and Louis formations north of the Canadian National Railway, Flin Flon region, Manitoba and Saskatchewan (part of NTS 63K13). Manitoba Science, Technology, Energy and Mines, Manitoba Geological Survey, Open File OF2007-2, map at 1:2000 scale.

