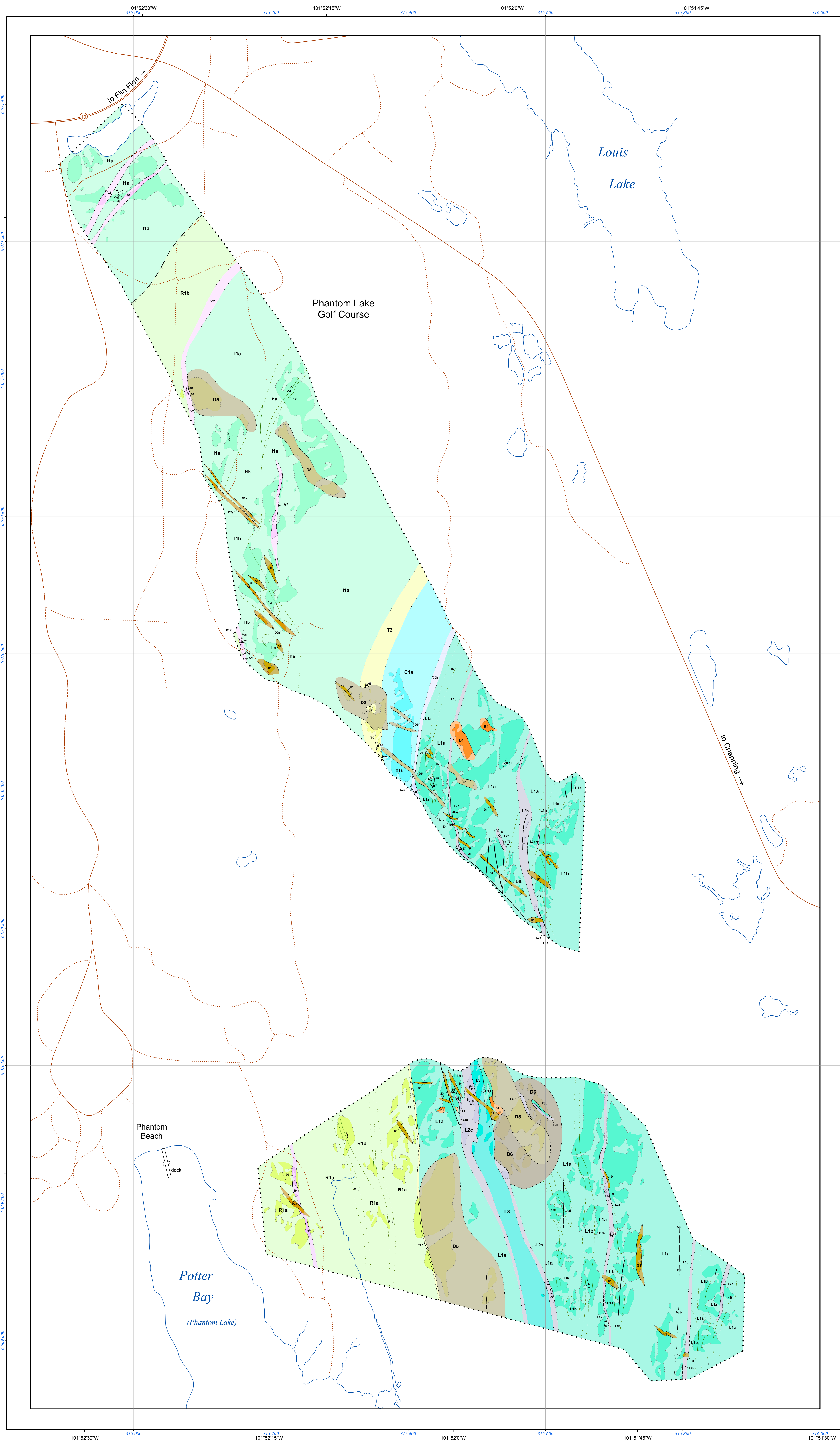




# Geology of the Hidden and Louis formations in the Phantom Lake Golf Course area, Flin Flon region, Saskatchewan (parts of NTS 63K12, 13)



### LEGEND

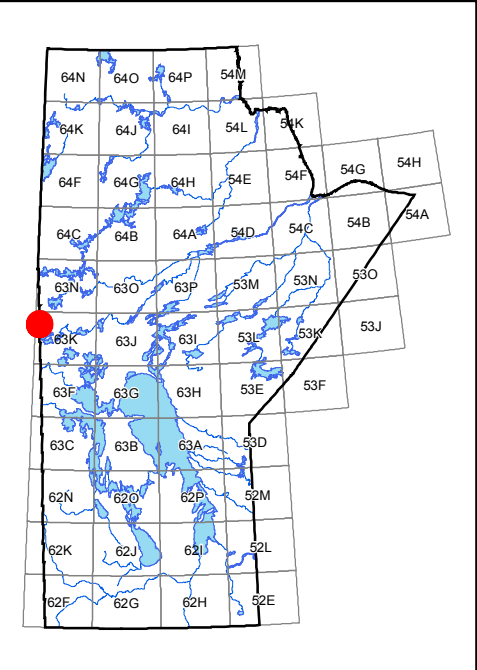
- <1.845 Ga INTRUSIVE ROCKS**
  - B1** Boundary intrusions; fine- to coarse-grained gabbro, locally with various xenoliths
  - Z1** Phantom Lake intrusions
  - G1** Granodiorite sills and dikes (?)
- MISSI GROUP**
  - X1** Conglomerate, wacke, sandstone and siltstone
- FLIN FLON ARC ASSEMBLAGE (>1.88 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 amygdalites, fine- to medium-grained porphyritic mafic dikes and sills
    - D1** Aphyric to sparsely plagioclase phyric (<5%), fine to medium grained, massive, commonly flow-banded and commonly containing quartz amygdalites (<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%) phyric 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%) phyric 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%) phyric basalt cryptoflows and flows with local peperite
          - a) massive
          - b) pillowed
          - c) contains included tuff
          - d) peperitic
      - Reservoir member**
        - R4** Mafic volcanoclastic rocks
        - R3** Massive plagioclase (>15% to <20%) and pyroxene (>15% to <20%) porphyritic basalt flows
        - R2** Plagioclase (>5% to <10%) phyric 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**
      - GS** Gossan patches
      - E1** 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
- Outcrop
- Bedding: tops known
- Foliation: generation unknown, 1st, 2nd
- Flow contact: tops known
- L-fabric: 1st generation
- Paved road
- Gravel road
- Trail
- Provincial boundary

### Index map



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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  
<sup>1</sup> Mineral 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 in the Phantom Lake Golf Course area, Flin Flon region, Saskatchewan (parts of 63K12, 13); Manitoba Science, Technology, Energy and Mines, Manitoba Geological Survey, Open File OF2007-5, map at 1:2000 scale.

