

**SURFICIAL GEOLOGY GAINSBOROUGH, MANITOBA-SASKATCHEWAN (62F/03)**

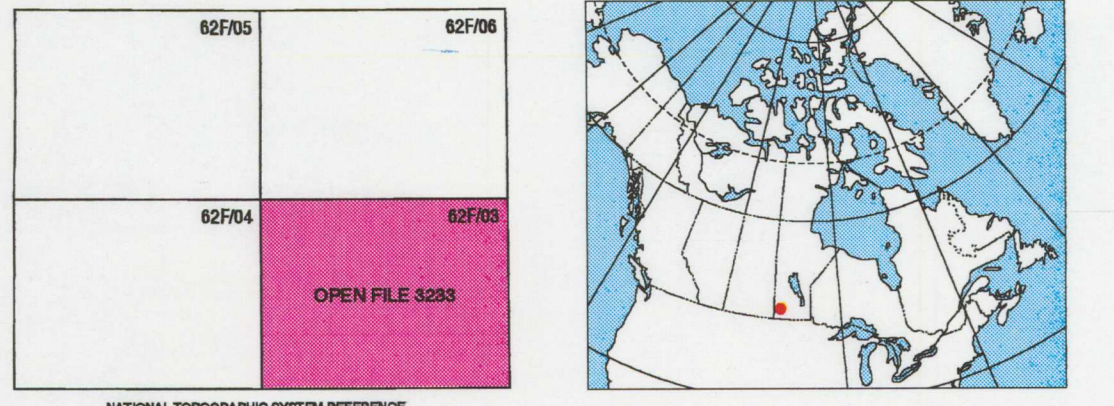
**SURFICIAL MATERIALS**  
Quaternary

- Cx COLLUVIAL COMPLEX DEPOSITS:** Silty to clayey diamicton; veneers, blankets, aprons, and fans of colluvial debris occurring on and at the base of steep slopes; complex of colluvial materials which can include areas of till, washed till and locally may contain small inclusions of alluvial plains and terraces; unit thickness <5 m.
- Ap ALLUVIAL FLOODPLAIN DEPOSITS:** silt, clay, and sand with minor gravel and organic muck and organic-rich silt and clay; poorly sorted and stratified; modern floodplains occurring as gently undulating plains containing swales and abandoned stream channels; locally swampy; unit thickness <5 m in most areas.
- LI LACUSTRINE AND GLACIAL LACUSTRINE PLAIN DEPOSITS:** silt, sand, and clay with organic-rich muck at the surface in poorly drained areas; well to moderately well sorted, massive to laminated; nearly flat (level) surface, with some low rises and shallow hollows (relief <2 m); sL - sand dominant, surface metre of sandy lacustrine deposits has, in many places, been reworked by wind and locally is overlain by isolated dunes; unit thickness <50 m.
- GLACIOFLUVIAL DEPOSITS:** sand and gravel in ridges and hummocks, underlying benches well above present stream level, and underlying broad flat to undulating plains; coarse clast composition variable and in many places dominated by shale; deposited as glaciofluvial materials in contact with melting ice, as glacial outwash plains and deltas, and as catastrophic flood deposits.
- Gt Glaciofluvial Terrace Sediments:** sand, gravel, and bouldery gravel; well washed and sorted; occurs as benches 5-40 m above modern valley floors; remnants of glaciofluvial outwash plains; unit thickness <5 m.
- GI Glaciofluvial Plain Sediments:** Flat: sand, gravel, and bouldery gravel; well washed and sorted; nearly flat (level) to gently undulating with relief <2 m; coarse clast composition variable and generally high in shale; largely formed as deltaic deposits at the margin of glacial lakes; unit thickness <10 m.
- Gw/T Glaciofluvial Sediments, Veneer:** sand and bouldery gravel; thin to discontinuous layer of glaciofluvial materials overlying till; glaciofluvial component thickness <1.5 m.
- MORAINAL DEPOSITS:** till (diamicton), in many areas overlain by a surface layer (<1 m) of massive, sparsely pebbly, clayey silt; in places also includes variable amounts of stratified glacial deposits, and minor veneers of postglacial alluvial and eolian silt and sand, and organic-rich silt and clay; till generally is a sandy, clayey, silt diamicton having a minor content of pebbles and variable content of boulders; morainal deposits are the direct deposits of glacial ice; till layers of different ages commonly underlie the surface but stratigraphy and thickness can be assessed only by drilling; a discontinuous layer of large (<1.5 m diameter) faceted boulders lies at the base of the surface till layer in many places; thickness varies from as little as 1 m where a single till sheet overlies bedrock, to 100 m in buried valleys and where multiple till units are present.
- T-w Till Plain, Eroded:** till, gravel, boulders, sandy silt, sand, and muck; consists of till, in many places with an overlying discontinuous lag of gravel, sand, and boulders; includes muck and silty sediments in poorly drained valley floor locations; occurs as flat plains, on benches in valley bottoms, and on slopes at the margins of meltwater channels; patchy gravel and sand occurring as part of this unit is in places <2 m thick.
- Tl Till Plain, Flat:** till, in many places overlain by massive clayey silt <1.5 m thick; nearly flat (level) to very gently undulating with relief <2 m in the form of low rises and shallow depressions; Tl-c - flat till plain including rim ridges (arcuate ridges in part outlining shallow depressions).
- Tp Till Plain, Gently Undulating:** till and minor stratified sediments; gently undulating areas of low rises and shallow depression (relief 2-5 m).

**FEATURES AND SYMBOLS**

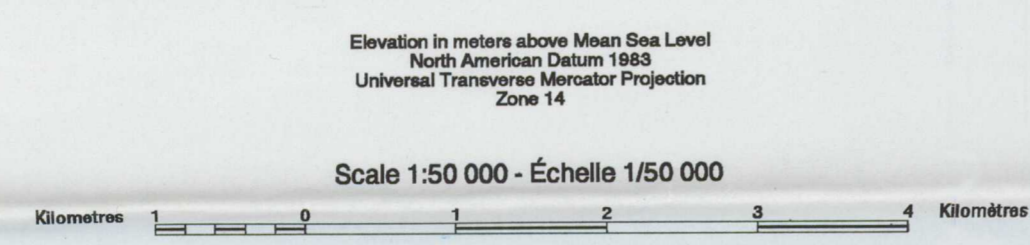
- Geological boundary
  - defined
  - approximate
  - assumed
- Streamlined features developed by glaciofluvial flow
- Abandoned meltwater channel
  - large
  - small
- Outcrop
- Gravel pit
- Ground observation
- Till analysis site
- Borehole log site locality

Geology by S. Sun and R. J. Fulton 1995



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Sun, C. and Fulton, R.J. 1995. Surficial geology of Gainsborough area, Manitoba - Saskatchewan (62F/03), Geological Survey of Canada, map, Open File 3233, scale 1:50 000.

# Surficial Geology, Gainsborough, Manitoba - Saskatchewan (62F/03), Preliminary Map



Produced by Terrain Science Division, 1995  
Geological Survey of Canada, Natural Resources Canada, Ottawa  
Geology compilation and editing by G. Sun  
Digital mapping, production and compilation by J. Paquette

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