Natural Resources Canada | Ressources naturelles Canada

GEOLOGICAL SURVEY OF CANADA | COMMISSION GÉOLOGIQUE DU CANADA

NATMAP
CARTNAT
Canada's National Geoscience Mapping Program
Le Programme national de cartographie géoscientifique du Canada

STRATIGRAPHIC SECTIONS

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- **L** (40 cm) — Clayey silt with scattered pebbles. They are mostly disaggregated sandstone and mudstone, and decrease in quantity toward top of unit. Calcium carbonate veining is extensive within the sediments
- **TC** — Diamicton. Cohesive fine sandy loam matrix. Moderately stony; clasts from granules to cobbles up to 10 cm in size. Contains coal, disaggregated sandstones, coal, siltstones, and resistant lithologies including Shield pebbles. Medium brown
- **L** — Stoneless medium sand with a 10 cm band of fine sand and a 2 cm band of medium-coarse sand at the unit base. The uppermost part of the unit has very faint diagonal stratification. Lower contact is abrupt. Upper contact is fairly abrupt and undulating, with evidence of a 3 mm wide injection plume of sand into overlying unit, and faint bedding distortion in the sand
- **TC** — Very stony diamicton (till). Matrix ranges from friable silty sand near the base to more cohesive silty matrix containing some clay near the top. Has small blocky ped structure. Clasts are rounded to subangular granules to boulders larger than 40 cm; some have flat-iron-like tops and basal keels. Contains Shield pebbles. Diamicton ranges from medium brown to dark grey brown. Two fabrics taken within this diamicton indicate flow from the east
- **TC** — Gradational sheared zone between bedrock and overlying diamicton. The number of local angular grey mudstone bedrock clasts within the diamicton decreases upward through this unit, whereas diamicton content increases
- **R** — Sandstone and shale. Extends 20 m to base of slope

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- **L** — Clay and pebbly clay. Contact with gravels is gradational. Unit becomes increasingly clayey and less stony toward top. Clay beds within unit are 1-2 cm thick. Top 5 cm is heavy, weakly stratified clay
- **GM** — Weakly stratified pink gravel. Contact with bedrock is abrupt. Bottom 20-30 cm is a fine gravel with some clasts to 7 cm. Remainder of unit is poorly sorted with clasts to 30 cm; matrix ranges from very silty sand to pink clay skins on open work pebble and cobble clasts
- **R** — Bedrock

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- **A** — Slightly pebbly silt. Clasts up to 2 cm. Contains two paleosols within 40 cm of the ground surface
- **TC** — Diamicton (till). Slightly stony. Medium yellowish brown (moist). Matrix is a slightly clayey silt. Clasts range up to 10 cm and are subrounded to subangular. Clasts include sandstone, limestone, brown quartzite, disaggregated local sandstone, coal, purple bandedchert, quartzwhite, red and green argillites, white quartzites and Shield stones. Contact with overlying unit is abrupt and undulates over more than 2 m
- **GM** — Angular bouldery pink gravel. Very poorly sorted and disorganized; up to cobble clasts in a matrix of fine sandy silt with some clay. Contains very coarse, clasts up to 2 m, and very angular to subangular. Lithologies are of montane provenance, from Purcell Supergroup. Pink colour derived from red argillite. Contact with above unit is not exposed
- **TM** — Gradational zone. Clasts within diamicton become increasingly angular and larger upward
- **TM** — Diamicton (till). Very stony, but not as stony as the gravelly unit below; contains some stonier patches. Matrix is silty with a significant granule and coarse sand content. Pink colour derived from Purcell red argillite. Clasts range from well rounded to subangular; all are derived from the Purcell Supergroup
- **GM** — Poorly sorted pink gravel. Matrix is mostly medium and coarse sand with some fines. Clasts range up to 40 cm and are rounded to subrounded. Contact with overlying unit is marked by a row of large cobbles and boulders
- **TM** — Diamicton (till). Very stony; clasts are mostly subrounded to rounded and range up to 10 cm. Pink colour derived from Purcell red argillite. Lithologies are all of montane provenance, predominantly Purcell Supergroup. No Shield stones noted. Contact with overlying unit is abrupt, but undulates over 0.3 m
- **C** — Covered by colluvium

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- **GC** — Poorly sorted pebble and cobble gravel, sandy matrix. All clasts have a thick calcite coating on their bases
- **GC** — Poorly sorted pebble gravel. Clasts range up to about 6-7 cm, averaging 2 cm, with a coarse sand matrix
- **L** — Clay with dropstones and interbeds of sandy gravel. The contact between the underlying diamicton and this unit is abrupt. The bottom 20 cm of the unit is very stony clay. Remaining clay has only scattered clasts. Breaks into angular irregular stones less than 1 cm in size and has no evident structures or layering. Two 10 cm thick layers of sandy pebble gravel occur in the middle of the unit
- **TC** — Diamicton (till). Clasts to 15 cm; a greyish brown (moist) fine sandy silt and clay matrix. Some stones are striated and faceted. Lithologies include Shield pebbles. Breaks into angular prisms. Fabric indicates flow from the northeast
- **GM** — Pink gravel. Faintly stratified, clast-supported cobble gravel with a coarse sandy matrix. Clasts average 7 cm, some up to 30 cm, and are coated with pink clay skins. Contact with overlying unit is a carbonate-cemented layer 1 cm thick of pebbles and fines. Contact is abrupt and slightly undulating
- **C** — Covered by colluvium

TC — Diamicton (till). Contains Shield stones. Heavily slumped

Vertical scale (metres): 5, 0

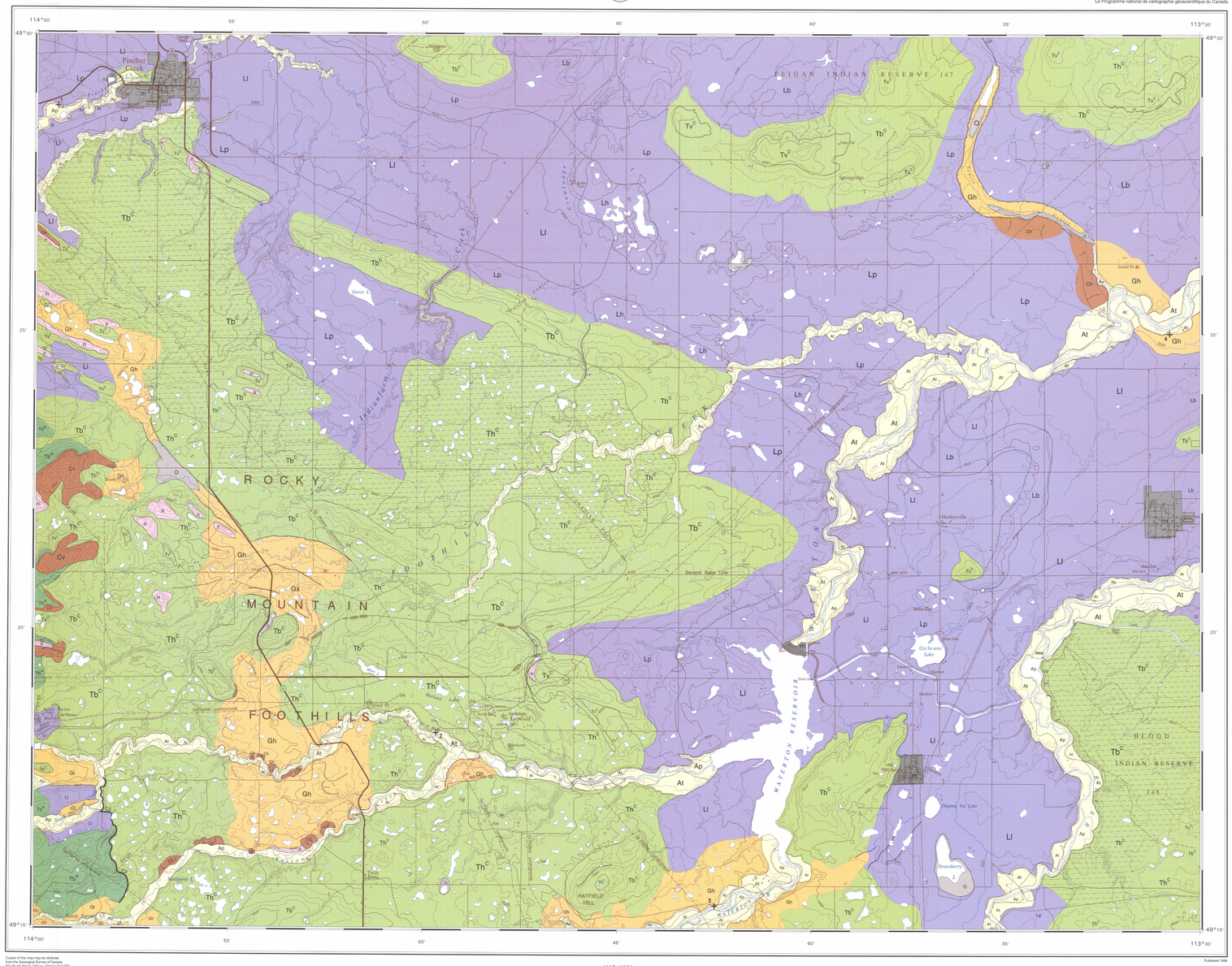
SUBSURFACE UNITS

Postglacial
- O — Peat
- C — Colluvium
- E — Eolian fine sand and silt
- A — Alluvial sand and gravel
- L — Lacustrine sand, silt, and clay

Wisconsinan – Erratics Train Glaciation
- LE — Laminated and thinly bedded glaciolacustrine sand, silt, and clay
- GC — Outwash gravel and sand containing clasts from Canadian Shield
- GM — Outwash gravel and sand (Rocky Mountains and Foothills provenance)
- TC — Till and related glaciogenic diamictons containing clasts transported from the Canadian Shield
- TM — Till and related glaciogenic diamictons of Rocky Mountains and Foothills provenance

Pre-Wisconsinan
- PW — Rocky Mountains provenance glacial sediments and interstratified paleosols

Pregacial
- R — Sandstone and shale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55′
50′
45′
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35′
113°30′
49°30′
25′
20′
49°15′
PEIGAN INDIAN RESERVE 147
ROCKY
MOUNTAIN
FOOTHILLS
Pincher Creek
Crowsnest Pass
Livingstone Range
Castle River
Oldman River
Waterton River
Gravel Pit
Springridge
Gladstone Valley
Gladstone Creek
Goose L.
Beaver Mines Lake
Indianola
Beaver Mines
Second Range Line
Hatherleigh
Gochrane Lake
Stoneyberry L.
Stepping Yar Lake
HATFIELD HILL
WATERTON RESERVE
BLOOD INDIAN RESERVE 148
Mount Tyrrell
Mount Galwey
Mount Kidd
Mount Ptolemy
Mount Head
Mount Haig
Mount Rae
Mount Lorette
Mount Burke
Mount Bolton
Mount Glendale
Mount Lineham
Mount Hood
Mount Hyndman
Mount Lebel
Mount Erickson
Mount Lyall
Mount Sentinel
Mount Alderson
Mount Blakiston
Mount Kenny
Mount Dungarvan
Mount Cartier
Mount Darrah
Mount Dungarvan
Mount Cartier
Mount Darrah
Mount Tecumseh
Mount Haultain
Mount Ward
Mount Remillard
Mount Coleman
Mount Sofa
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Mount Haultain