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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

1

LE — Sand and silt. Scattered horizontal stratification. Numerous randomly scattered stones, including Shield lithologies

LE — Gradational zone. Moderately stratified sandy diamicton and massive, well sorted medium and fine sand with few stones

TC — Diamicton (till). Medium grey brown (moist); light yellowish brown (dry). Sandy silt matrix has a prismatic fracture pattern with numerous oxidized vertical joints. Stone content = 5%. Most stones are < 5 cm, and many are rounded. Lithologies include quartzite and Shield pebbles. At 5.8 m, bed or top of unit a lens of poorly sorted pebble gravel occurs 1 m long and 20 cm thick, bounded on upper and lower surfaces by shear planes

C — Covered by colluvium

2*

GC — Sand, scattered stones with lenses of gravel towards bottom

GC — Sharp contact

GC — Coarse gravel; clasts to 61 cm long, mostly 3 to 10 cm long; poorly sorted; gravel grades laterally both to east and west into ripple marked sand, apparently brought in from southeast; outwash

GC — Sharp contact

GC — Sand, grit, scattered stones. Gradationally overlies 1.5 m of gravel; stones mostly 2.5 to 5 cm long. Gravel abruptly overlies 2.4 m of medium sand with lenses of fine gravel. Basal contact is generally sharp and undulating

TC — Till, silty. Dark brown with streaks oxidized to reddish brown; generally massive but locally contorted into overlying sand; contains Precambrian Shield stones. Sharp basal contact

GC — Sand, minor silt, unit is 3 m thick. Stones rare; sand beds up to 0.9 m thick; the silt is contained in thin lenses. Sharply overlies 0.3 m of till, reddish brown, locally oxidized to yellow; sandy, moderately stony with some Precambrian Shield stones; shows a poorly developed horizontal banding. Sand is medium to fine, well sorted, and shows ripple marks, some crossbedded; scattered stones; deposited from north. Sharp basal contact

TC — Till, dark greyish brown (dry), dark grey to black (moist); well indurated, mostly massive but contains some oxidized sand and silt lenses; moderately stony; contains Precambrian Shield stones. Basal contact rises 3 to 10 cm long; contorted and deformed. Sharp basal contact

LE — Silt, minor clay; varved (about 17 varves), varve thickness increases upward; stoneless; sharp basal contact

GC — Sand, reddish brown; stoneless near bottom, but contains a pebble band and scattered stones near top. Generally sharp basal contact

TM — Till, light grey, top 90 cm and bottom 90 cm oxidized brown; massive, except for pebble bands near top; stones numerous near bottom, but become fewer upward; some to 30 cm long; does not contain Precambrian Shield stones. Basal contact is sharp and undulating

GM — Gravel, reddish sand matrix. Stones to 20 cm long, but mean are 2-8 cm. Lithologies include quartzite, sandstone, limestone, dolomite, conglomerate, Crowsnest volcanics, but no Precambrian Shield stones; gravel has been contorted, the bedding mostly destroyed, and long axes of many of the stones are now vertical; mostly alluvial, but may included outwash from Oldman Valley glacier. Lower contact hidden

C — Covered by slump; probably overlies gravel and bedrock

Vertical scale (metres)

5
0

3*

GC — Scattered large boulders on surface overlying 1.2 m of silt, sand, scattered stones; weathered; chiefly outwash overlying 0.6 m of sand, with boulders to 60 cm long; weathered, bedding destroyed; probably outwash. Basal contact obscure

GC — Sand, largely slumped and overgrown, loose; outwash or alluvium. Basal contact obscure

GC — Silt, sand, stoneless; alluvial or lacustrine; 0.6 m thick overlying 1.5 m of fine sand, stoneless; alluvial or lacustrine. Basal contact is gradational

LE — Silt, clay; varved, with most of the varves about 8 cm thick and consisting chiefly of silt; the top part of this deposit is contorted. Basal contact is largely hidden, probably gradational

LE — Fine sand, stoneless. Basal contact largely hidden, probably gradational

LE — Silt, clay; varved, with most of the varves 8 to 10 cm thick and consisting chiefly of silt; only a few scattered stones, which become rare towards the top. Unit is 4 m thick. Gradational contact with underlying 0.6 m of silt, stony. Gradational basal contact

TC — Till, light brown, silty; this is the most poorly consolidated till in this section and much slumped; breaks into small, irregular pieces; moderately stony, with about 4% Precambrian Shield stones, 1% Crowsnest volcanic rocks, 15% local bedrock; stone orientations indicate glacier movement of S64°W or N44°E. Gradational basal contact

LE — Silt, fine sand, light grey; extremely stony, with stones increasing in number upward; beds about 30 cm thick. Sharp basal contact

LE — Clay, grading downward into 0.6 m of silt, fine sand, light grey; bedded ripple; the numerous stones include Precambrian Shield types; volcanic ash parting near bottom; alluvial. Sharp basal contact

TC — Till, light brown though darker than top till, many rusty streaks; silty and unconsolidated and does not form a prominent vertical cliff face; contains Precambrian Shield stones. Gradational contact with underlying unit

TC — Till, dark brown, silty and unconsolidated; breaks into small, irregular but better indurated than overlying till and forms a steep cliff face; displays vertical structures, tending towards columns; moderately stony, with about 8% Precambrian Shield stones, 3% Crowsnest volcanic rocks, and 10% local bedrock; stone orientations indicate glacier movement of S58°W or N58°E. Basal contact generally sharp, locally appears gradational

TC — Till, light bluish grey, becoming somewhat darker near top; an indurated, compact, clayey and silty till displaying the best columnar structure of any till in the section; moderately stony with about 1% Precambrian Shield stones, 4% Crowsnest volcanic rocks, and 9% local bedrock; stone orientation indicates glacier movement of S58°W or N58°E. Sharp basal contact

TC — Till, dark brown or grey to black, darkest of the tills in this section; a clayey indurated, compact, massive till, but less competent than underlying and overlying tills and does not form as steep a cliff face; breaks into small, angular pieces 2.5 to 7.5 cm long; extremely sticky and rubbery if wet; moderately stony, with about 9% Precambrian Shield stones, 3% Crowsnest volcanic stones, and 10% local bedrock stones; stone orientations indicate glacier movement of S51°W or N51°E. Sharp basal contact

TM — Till, light grey if dry, dark brown if wet; an indurated, resistant, silty till with tendency to columnar structure, and forms a nearly vertical cliff face; very stony; the stoniest till in section, due largely to a high content of stones from the Crowsnest Volcanics; moderately stony with about 4% Precambrian Shield stones, but contains 3% Crowsnest volcanic rocks and 25% local bedrock stones, the last being the highest percentage of such stones in any till of this section; stone orientation indicate glacier movement of S41°W or N41°E; locally there is a well striated boulder pavement at top of this till, with soled boulders to 1.5 m long; striations on boulders have average strike of about S40°W or N40°E. Gradational basal contact

GM — Gravel, well-rounded to subrounded with stones to 25 cm long, but mostly 5 to 8 cm long, generally becomes finer towards top; brown silt or fine sand matrix; this unit grades with decreasing number of stones and increasing content of matrix into the overlying till; no Precambrian Shield stones present, about 3% Crowsnest volcanic rocks and 14% local bedrock stones; the top foot of the gravel is weakly cemented with lime; largely outwash with some preglacial alluvial gravel. Sharp basal contact

R — Bedrock. Willow Creek Formation

4

TC — Diamicton (till). Abrupt lower contact. Dark brown. Clayey matrix with 10% stone content. Contains Shield stones

TM — Diamicton (till). Sandy silty matrix. All stones are montane. Bullet-shaped boulders within unit trend 270° and 245° and fabric indicates ice flow from WNW

GC — Stratified and sheared interbedded sand and fine gravel grading upward into diamicton. Beds and lenses are contorted and vary in thickness along their length. Contains a line of boulders, possibly a boulder pavement. Matrix is sandy and contains angular blocks and fragments of bedded sand. All are montane provenance

TM — Diamicton (till). Sandy matrix and 15% stone content. Most stones are less than 10 cm, but some boulders are >1 m. Limestones are striated, and many stones are faceted. Upper contact is abrupt

LE — Silt and sand with faint contorted structures in bedding. Scattered cobbles and pebbles

TM — Diamicton (till). Contains some thin sand beds. Same texture as diamicton at base of section. Upper contact is gradational and is marked by a boulder pavement and a chaotic mixture of sand diapirs and diamicton

GC — Stratified pebbly sand, sand, and sandy fine gravel. Lower contact is marked by a concentration of cobbles, possibly a lag deposit. Unit thickness ranges from 20-30 cm. All beds are thin and discontinuous

TM — Diamicton (till). Contains some thin sand beds. Same texture as diamicton at base of section. Upper contact is gradational and is marked by a boulder pavement and a chaotic mixture of sand diapirs and diamicton

5

TC — Diamicton (till). Sandy silt matrix. Contains Shield pebbles. Fabric indicates ice flow from SE

TC — Diamicton containing angular and irregular intraclasts of fine light grey sand up to 10 cm in length

TC — Diamicton (till). Cohesive matrix and 5% stone content including Shield pebbles Lower contact is gradational and marked by rip-ups of sand from layer below. Fabrics indicate ice flow from SE at base and NE at top of unit

TC — Stratified zone characterized by diamictons containing Shield pebbles interstratified with thin sheared and contorted sand layers. Fabric in diamicton at base of unit indicates ice flow from NE. Lower contact is abrupt

GC — Poorly sorted pebble gravel. Contorted and varies in thickness from 0.1 to 1.2 m

TC — Diamicton (till) with sandy silt matrix and clasts up to 5 cm with some silt beds.

TC — Contains Shield pebbles

TC — Alternating layers of fine sand and silt with pebbles

TC — Stony silt or silty diamicton

TC — Diamicton (till). Light grey where dry and dark greyish brown where moist. Cohesive silty clay matrix with 10% stone content that decreases upward through the unit. Contains numerous Shield pebbles. Uppermost 70 cm contains some interstratified silt beds. Fabric indicates ice flow from NE

LE — Massive fine sand with some thin diamicton lenses. Extremely consolidated. Diamictons have a cohesive silty clay matrix with clasts to 7 cm. Shield stones are present. Unit contains lenses of diamicton up to 50 cm long with ragged edges. Upper contact is abrupt and sheared; contains some thin sand beds that are injected into the base of the overlying diamicton

* Description after A. MacD. Stalker (1963) Quaternary Stratigraphy in Southern Alberta; Geological Survey of Canada, Paper 62-34. Unit age and genesis have been reinterpreted by E.R. Leboe and L.E. Jackson, Jr. in some cases. Stalker 's formational names do not appear

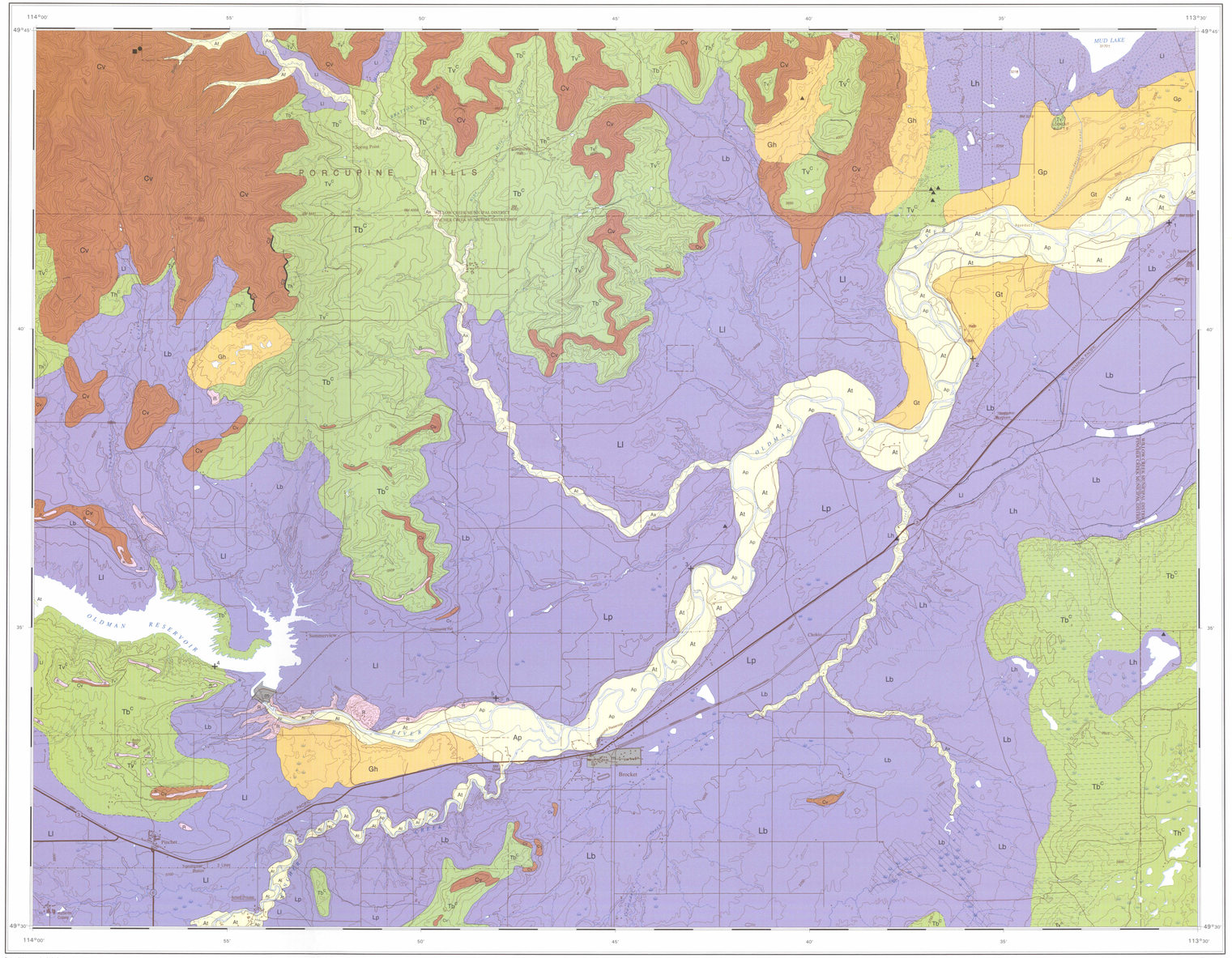
SUBSURFACE UNITS

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 glacigenic diamictons containing clasts transported from the Canadian Shield
- TM — Till and related glacigenic diamictons of Rocky Mountains and Foothills provenance

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

Preglacial
- R — Sandstone and shale



Copies of this map may be obtained from the Geological Survey of Canada
601 Booth Street, Ottawa, Ontario K1A 0E8
3303-33rd Street, N.W., Calgary, Alberta T2L 2A7
101-605 Robson Street, Vancouver, B.C. V6B 5J3

LOCATION MAP

Geology by E.R. Leboe, 1994 and 1995

Co-ordinated by D. Label through the auspices of the Southeastern Cordillera NATMAP Project

Digital cartography by K. Shimamura, Terrain Sciences Division and M. Signuin, Geoscience Information Division

Any revisions or additional geological information known to the user would be welcomed by the Geological Survey of Canada

MAP 1931A

SURFICIAL GEOLOGY

BROCKET

ALBERTA

Scale 1:50 000 - Échelle 1/50 000

Kilometres 0 1 2 3 4 Kilomètres

Universal Transverse Mercator Projection
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Digital base map from data compiled by Geomatics Canada, modified by the Geoscience Information Division

Copies of the topographic map for this area may be obtained from the Canada Map Office, Natural Resources Canada, Ottawa, Ontario, K1A 0E9

Some geographical names are subject to revision

Magnetic declination 1998, 17°22'E, decreasing 6.3' annually

Elevations in feet above mean sea level

82 J/10	82 J/9 1925A	82 I/12	82 I/11
82 J/7	82 J/8 1926A	82 I/5	82 I/6
82 J/2	82 J/1 1927A	82 I/4	82 I/3
82 G/15	82 G/16 1928A	82 H/13 1929A	82 H/14
82 G/10	82 G/9 1930A	82 H/12 1931A	82 H/11
82 G/7	82 G/8 1932A	82 H/5 1933A	82 H/6 1934A
82 G/2	82 G/1	82 H/4 1935A	82 H/3 1936A

NATIONAL TOPOGRAPHIC SYSTEM REFERENCE AND INDEX
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LEGEND

Not all coloured units and symbols in legend necessarily appear on this map
This legend is common to maps 1925A to 1936A

QUATERNARY

HOLOCENE - Post Erratics Train Glaciation

- m — ***MADE LAND:*** *Artificial fill and mine waste*
- I — ***EXISTING GLACIERS, ICE:*** *Flowing or stagnant glacial ice; contains or is covered by variable amounts of rock debris ranging from clay to boulders; thickness of ice 20 - 40 m*
- O — ***ORGANIC SEDIMENTS:*** *Water-saturated* ***Sphagnum*** *peat and organic silt formed predominantly by the accumulation of vegetal material in bogs, fens, and swamps; organic deposits are usually underlain by lacustrine silt and clay; thickness up to 5 m*
- Eb — ***EOLIAN SEDIMENTS:*** *Sand and silt transported by wind*
  Eolian blanket: *Sand, well sorted, massive; forms gently undulating plains marked by crescent-shaped dunes; thickness up to 5 m*
- Cb — ***COLLUVIAL SEDIMENTS:*** *Stony diamicton resulting from the mixture of varying amounts of broken bedrock, soil, and glacial sediments by colluvial gravitational processes such as creep, solifluction, debris flow, snow avalanching, and rockfall; reworked glacial sediments in colluvium occur within the limits of past glaciation*
  Colluvial blanket sediments: *Diamicton, stony, massive, 1 to 2 m thick*
- Cv — ***Colluvial veneer sediments:*** *Diamicton, stony, massive, <1 m thick or patchy; overlies bedrock*
- Ca — ***Colluvial apron sediments:*** *Bouldery diamicton and poorly sorted and stratified sand and gravel; accumulated at angle of repose on steep colluvial and talus slopes; forms aprons and narrow coalescing fans and solifluction deposits derived from bedrock or glacial sediments up slope; thickness ranges from <1 m at the up slope limit to up to 10 m in the thickest apron*
- Cc — ***Rockfall sediments:*** *Bouldery rockfall deposits; forms cone-shaped landforms at the angle of repose below steep bedrock slopes; thickness ranges from <1 m at the margin to 10 m near the midpoint of the cone*
- Ch — ***Landslide sediments:*** *Diamicton formed of broken rock, soil, and glacial deposits; forms a hummocky or ridged topography with irregular ridges transverse to direction of movement; thickness variable, may range up to 10 m (direction of movement indicated by symbol)*
- Cx — ***Undivided colluvial sediments:*** *Hummocky apron terrain adjacent to mountainous uplands, possibly of mass wasting origin*

- Ap — ***ALLUVIAL SEDIMENTS:*** *Gravel to silt size sediments deposited by streams either within channels or as overbank deposits. Deposits are commonly stratified and moderately to well sorted, with the exception of some alluvial fan deposits*
  Alluvial plain sediments: *Gravel and sand, massive to stratified, moderately to well sorted; locally overlain by or includes lacustrine silt and clay and minor peat and organic silt deposited in abandoned channels and along floodplain margins; forms plains within about 1 m of present stream level which are subject to inundation during floods; thickness 1 to 5 m*
- At — ***Alluvial terrace sediments:*** *Gravel and sand, massive to stratified, moderately to well sorted; sediments are of floodplain origin now isolated from flooding by stream incision; thickness ranges from a discontinuous covering on bedrock to several metres; where alluvial terraces are cut into glaciofluvial plains, total thicknesses of gravel and sand may be 5 m of more*
- Af — ***Alluvial fan sediments:*** *Gravel and gravelly diamicton, stratified, poorly to moderately sorted; forms fan-shaped landforms where streams enter larger valleys; in mountainous terrain, alluvial fans may be subject to inundation of debris flows; thickness up to 10 m*
- Ax — ***Alluvial complex sediments:*** *Floodplains, fans, and terraces that cannot be subdivided at the scale of mapping*

WISCONSINAN - Erratics Train Glaciation
Sediments deposited during advances and retreats of glaciers from Rocky Mountains and continental interior

- Lv — ***GLACIOLACUSTRINE DEPOSITS:*** *Well stratified sand, silt, and clay deposited in lakes dammed by glacial ice. Where deposition was distant from ice margins, glaciolacustrine sediments underlie plains or gently rolling terrain. Where deposition was near ice, they may underlie hummocky moraine, or pitted terrain caused by subsequent ice melt out. May include some postglacial lacustrine sediments*
  Glaciolacustrine veneer sediments: *Silt, clay, and fine sand, well stratified, thinly bedded to laminated or discontinuous; thickness <1 m thick to discontinuous*
- Lb — ***Glaciolacustrine blanket sediments:*** *Silt, clay, and fine sand; surface morphology conforms to underlying topography*
- Ll — ***Glaciolacustrine plain sediments, local relief <1 m:*** *Silt, clay, and fine sand, thinly bedded to laminated; surface morphology is a plain and underlying topography is generally obscured by these sediments; thickness 1 to 20 m*
- Lp — ***Rolling glaciolacustrine plain sediments, local relief 1-2 m:*** *Fine sand, silt, and clay, thinly to massively bedded; surface morphology undulating; underlying topography is generally obscured by these sediments; thickness 1 to 20 m*
- Lh — ***Ice-contact glaciolacustrine complex sediments:*** *Predominantly silt and sand; gravel, diamicton lenses and chaotsitones may comprise up to 10% or more of this unit; bedding thin to massive; bedding commonly contorted and folded due to syndepositional ice melt out; surface morphology is hummocky, pitted, and ridged with relief up to 10 m; commonly underlain by hummocky moraine sediments; thickness 5 to 10 m*

- Gp — ***GLACIOFLUVIAL SEDIMENTS:*** *Gravel, sand, and minor silt and diamicton deposited by streams flowing away from, or in contact with glacial ice. Sorting ranges from good to poor and stratification from thinly bedded to massive. Sediments may display evidence of syndepositional collapse due to melt out of buried or supporting ice. In areas formerly covered by mountain glaciers, they include lithologies from the Rocky Mountain and Paleozoic limestone, dolostone, argillite, and quartzite, and may include mafic and felsic volcanic rocks in the Oldman River basin. In areas covered by montane glaciers and glacier ice from the continental interior, additional lithologies include sandstone, mudstone, conglomerate and Canadian Shield provenance granitic and metamorphic lithologies*
  Glaciofluvial plain and fan sediments: *Gravel and sand; massive to thickly bedded; former outwash plains and fans; thickness 1 to 10 m*
- Gt — ***Terraced glaciofluvial sediments:*** *Gravel and sand; massive to thick bedded; former outwash plains and fans incised into a succession of terraces; thickness 1 to 10 m*
- Gd — ***Glaciofluvial delta sediments:*** *Sand, gravel, and minor silt and clay; thinly bedded to massive; flat surfaced, delta-form in plan view; deposited as a delta along the margin of a former glacial lake; thickness from 5 to 10 m*
- Gh — ***Glaciofluvial ice stagnation complex sediments:*** *Sand, gravel, diamicton, and minor silt and clay, thinly bedded to massive; bedding is commonly contorted and folded due to syndepositional ice melt out; surface morphology includes hummocks, kettle, esker and crevasse-fill ridges 2 to 10 m in relief with minor elements of unit Gp and Gt; thickness 5 to 10 m*
- Gx — ***Undivided glaciofluvial and ground moraine sediments:*** *A patchwork of glaciofluvial sediments and ground moraine (till) too variable to resolve at the scale of mapping*
- Gv — ***Glaciofluvial veneer sediments:*** *Gravel and sand, massive to thickly bedded; thickness <1 m or patchy; overlies bedrock*

MORAINAL SEDIMENTS (till): *Diamicton (pebble to boulder size clasts suspended in a poorly sorted clay to sand size matrix) deposited directly by glacial ice; sediments may be in part reworked and/or mixed by sediment gravity flow and/or ductile deformation. Till of two provenances were deposited during the Erratics Train Glaciation: 1" contains clasts of Rocky Front and Main ranges Precambrian and Paleozoic limestone, dolostone, and quartzite; Foothills and Interior Plains Mesozoic and lower Tertiary sandstone, mudstone, and coal; as well as Canadian Shield provenance granitic and metamorphic rocks. 1" contains clasts of Rocky Front and Main ranges Precambrian and Paleozoic argillite, and quartzite (may include Precambrian gneiss, mostly south of Crowsnest River); and Foothills Mesozoic and lower Tertiary sandstone, shale, and coal (includes lower Cretaceous volcanics in the Crowsnest Pass area). Trace amounts of Canadian Shield provenance clasts are present only where montane ice overrode pre-existing drift containing Canadian Shield provenance clasts*

Till veneer: *<1 m thick or discontinuous diamicton with patches of exposed bedrock or colluvium. TV*^{C} *generally contains more and coarser pebble and larger clasts than does TV*^{W} *and both may contain extensive areas of thin (<1 m) and patchy colluvium; overlies bedrock*

- Tv^{C} Tv^{W} — ***Till blanket:*** *1 to 5 m of diamicton that conforms to the underlying bedrock topography. TB*^{C} *generally contains more and coarser pebble and larger clasts than does TB*^{W}
- Tb^{C} Tb^{W} — ***Hummocky moraine:*** *Diamicton and interstratified glaciofluvial gravel and sand; massive to thick bedded; bedding slumped, contorted and folded by syndepositional ice melt out; sediments contain variable amounts of ice-walled lake fine sand and silt; forms hummocky, kame and kettle topography; local relief up to 30 m; thickness may be tens of metres*
- Tm^{C} Tm^{W} — ***Rolling till plain:*** *More than 5 m of diamicton; surface morphology undulates with 1-2 m local relief; totally or largely obscure surface morphology of underlying bedrock*

EARLY PLEISTOCENE OR PLIOCENE GLACIAL OR NONGLACIAL SEDIMENTS

- Tb^{C} — ***Till? blanket:*** *Stony diamicton cemented to a calcrete; contains striated clasts; thickness 2 to 3 m; rests on a succession of similar sediments of glacial or nonglacial origin*

PALEOZOIC TO EARLY TERTIARY ROCK

- R — *Sandstone, siltstone, shale, mudstone, conglomerate, coal, and minor volcanic rocks of early Tertiary and Mesozoic age and limestone, dolostone, and quartzite of Paleozoic and Precambrian age (includes areas of thin colluvial cover, blockfields, sorted stone polygons in alpine areas)*
- R-A — *Areas of rock as above subject to rapid mass wasting processes (rockfall and snow avalanches)*
- R-G — *Upper Mesozoic and Early Tertiary rock eroded into badland topography*

VENEER

- *Glaciolacustrine*
- *Eolian*
- *Organic*

Geological boundary (defined, assumed, inferred)
Neoglacial lateral or end moraine
Arête
Cirque
Meltwater channel;
large
small (flow direction known, unknown)
edge of ice-walled channel
Esker (flow direction defined, undefined)
Landform streamlined by glacial ice (direction of flow known, unknown)
Ice limit (defined, assumed, inferred);
M1 *Maximum ice limit of Late Wisconsinan montane glacial ice*
M2 *Ice limit of first major readvance of Late Wisconsinan montane glacial ice*
C1 *Maximum ice limit of Late Wisconsinan continental glacial ice*
C2 *Readvance position of Late Wisconsinan continental glacial ice*
Lateral and end moraine (associated with advance M1, M2, or retreat of continental ice sheet from limit C2)
Former ice contact face in stratified drift
Stratigraphic section
Vertebrate fossil locality
Radiocarbon age (years before present) 10600±100 GSC 2162
One or more Foothills Erratics Train Erratic >1 m in length
Cosmogenic ^{10}*Cl exposure age on Foothills erratic (years before present)** 15000±400
Montane erratic close to or at the all time upper limit of montane glaciation
Canadian Shield erratic at or near the all time upper limit of continental glaciation
Cosmogenic ^{10}*Cl exposure age of Canadian Shield erratic at or near the all time upper limit of continental glaciation (years before present)** 22600±1200
Arrows indicating direction of landslide movement (associated with the unit Ch)

** Assumes a zero erosion rate and no cosmic ray blockage by snow cover*

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1931A

Canada

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