

LEGEND

PLEISTOCENE AND HOLOCENE, UNDIVIDED

- 0 ORGANIC DEPOSIT: woody fibrous and mucky peat, up to 7 m thick; present in bogs, fens, swamps and marshes; generally flat topography.
- 1 EOLIAN DEPOSIT: fine and medium-grained sand and silt; up to 7 m thick; longitudinal and parabolic dunes scoured by blowouts; undulating to rolling topography.
- LACUSTRINE DEPOSIT: silt, sand and clay with local ice-rafted stones up to 80 m thick; deposited mainly in proglacial lakes, but includes also undifferentiated recent lake sediment; flat to gently undulating topography.
- 2a Coarse sediment: sand silt; undulating surface in places modified by wind.
- 2b Fine Sediment: silt and clay; flat to gently undulating surface.
- 3a FLUVIAL DEPOSIT: gravel, sand, silt and clay; includes local till and bedrock exposures; up to 20 m thick; present on floor and terraces of river valleys and meltwater channels, and in deltas; flat to undulating topography.
- 3b Coarse sediment: gravel, gravel and sand, fine to coarse-grained sand, minor silt beds.
- 3c Fine Sediment: fine sand, silt and clay, minor gravel beds.
- 4 STREAM AND SLOPEWASH ERODED DEPOSIT: exposed till and bedrock, local slump material; slopes of river valleys and meltwater channels, in places badland type terrain. 4a - mostly bedrock

PLEISTOCENE

- 5 CRYOTURBATED EOLIAN (LOESS) AND FLUVIAL DEPOSIT: mixed fine sand, silt and gravel, local clay; up to 3 m thick; overlies proglacial gravel and sand on the unglaciated Cypress Hill and Del Bonita uplands; flat to gently undulating topography.
- ICE-CONTACT LACUSTRINE DEPOSIT: sand, silt and clay, local till; up to 20 m thick; deposited in supraglacial and ice-walled lakes or in proglacial lakes floored by ice; undulating to hummocky topography.
- 6a Coarse Sediment: sand and silt.
- 6b Fine Sediment: silt and clay.
- ICE CONTACT FLUVIAL DEPOSIT: gravel, sand, silt and clay, local till; up to 25 m thick; deposited in ice-walled and supraglacial streams, or in ice-front fans and deltas; undulating to hummocky topography.
- 7a Coarse Sediment: gravel, gravel and sand, fine to coarse grained sand.
- 7b Fine Sediment: fine sand, silt and clay.
- ICE CONTACT LACUSTRINE AND FLUVIAL DEPOSITS, UNDIVIDED: gravel, sand, silt and clay, local till; up to 25 m thick; deposited in intermittent supraglacial lakes and streams, or at margins of ice-floored proglacial lakes; undulating to hummocky topography.
- GLACIAL DEPOSIT (Units 9 through 12a): till consisting of unsorted mixture of clay, silt, sand and gravel, with local water-sorted material and bedrock; the thickness is generally less than 25 m on uplands, but may reach as much as 100 m in buried valleys; flat, undulating, hummocky or rigid topography.
- 9 DRAPED MORAINÉ: till of uneven thickness, with minor amounts of water-sorted material and local bedrock exposures; up to 10 m thick; includes local areas of undifferentiated subglacially modified deposit with streamlined features; flat to undulating surface reflecting topography of underlying bedrock and other deposits.
- STAGNATION MORAINÉ: till of uneven thickness, local water-sorted material; up to 30 m thick; undulating to hummocky topography reflecting variations in till thickness.
- 10a Undulating topography, with local relief generally less than 3 m.
- 10b Hummocky topography moderately to weakly developed, with irregularly shaped and poorly defined knobs and kettles; local relief 5 to 20 m.
- 10c Hummocky topography strongly developed, with generally round well defined knobs, dimpled kettles, doughnut shaped hills and kettles; local relief 5 to 20 m.
- 10d Mixed hummocky and moraine plateau topography: flat-topped irregularly shaped hills with a cover of stratified sand, silt and clay, interspersed with mounds composed of till; local relief 5 to 20 m.
- 11 RIDGED END MORAINÉ: till, gravel and silt; deposited in ridges at or near a glacier margin; up to 15 m thick; typically forms a series of subparallel ridges.
- ICE-THRUST MORAINÉ: mixed and contorted bedrock, till and water sorted material that have been translocated by ice in a more-or-less intact state as thrust blocks, or deformed into thrust slabs and folds; up to 100 m thick topography consist of ridges, irregularly shaped hills and depressions.
- ICE THRUST AND STAGNATION MORAINÉ, UNDIVIDED: bedrock, till, local watersorted material; up to 50 m thick rolling to hummocky topography.
- GLACIAL AND FLUVIAL DEPOSITS, UNDIVIDED: mixed till, sand, silt and gravel, local bedrock exposures; flat to hummocky topography.
- 12a Draped Moraine interspersed with fluvial deposit; up to 5 m thick; flat to undulating topography.
- 12b Stagnation moraine interspersed with fluvial deposit; the thickness unknown; rolling to hummocky topography locally strongly modified by stream erosion.

CRETACEOUS, TERTIARY AND PLEISTOCENE, UNDIVIDED

- 14a BEDROCK AND GLACIAL DEPOSIT, UNDIVIDED: bedrock, discontinuous till, slump material, minor sand and gravel; flat, undulating, hummocky and ridged topography.
- 14b Draped moraine on bedrock uplands and plains; discontinuous till over bedrock surface strongly modified by ice and stream erosion; till is up to 10 m thick; hummocky to ridged topography.
- Stagnation moraine on bedrock uplands; discontinuous till over bedrock surface slightly modified by ice and stream erosion; till is up to 10 m thick; hummocky to ridged topography.

LATE TERTIARY AND EARLY PLEISTOCENE

- 15 FLUVIAL DEPOSITS: gravel and sand, minor silt beds; up to 10 m thick found overlying bedrock in upland areas, but generally covered by tiller water-sorted material and exposed only along crests of erosional slopes.

CRETACEOUS AND TERTIARY, UNDIVIDED

- 16 BEDROCK: sandstone, siltstone, mudstone and shale, minor ironstone, limestone and coal beds; includes slump material; 16 a - unglaciated bedrock, 16 b - bedrock exposed by erosion or tectonic activities.

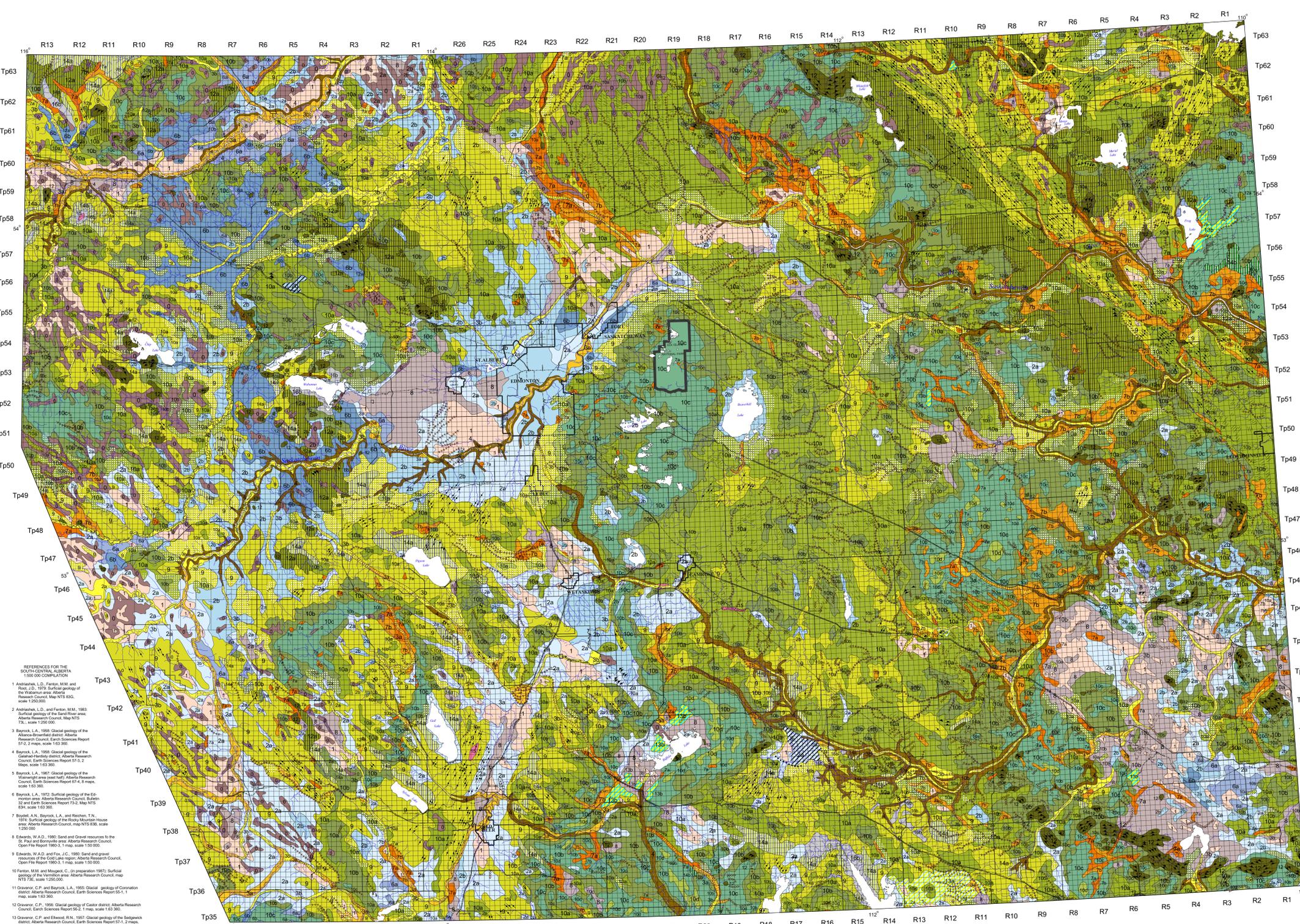
Surface modified by lake and stream erosion and deposition

- Stagnation moraine under a cover of lacustrine sediment
- End moraine ridge
- Linear feature parallel to ice movement: flutes, drumlins.
- Linear feature transverse to ice movement: small ridges, elongated hummocks and depressions; includes crevasse filling
- Ice-thrust ridge
- Ice thrust block
- Source depression of ice-thrust block
- Esker
- Major meltwater channel
- Minor Meltwater Channel
- Meltwater channel partly buried by glacial deposit
- Meltwater delta
- Ice-contact meltwater delta or fan
- Alluvial fan

Reference Key

SCALE 1:500,000

Kilometres 0 10 20 30 40 50 60
Miles 0 10 20 30 40



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Any revisions or additional geological information would be welcomed by the Alberta Geological Survey

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