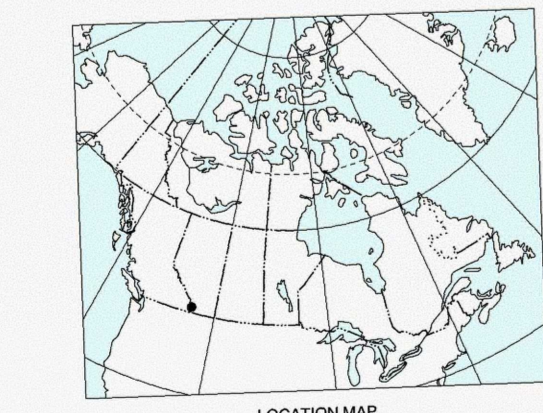


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Geology by L.E. Jackson, J. and E.R. Lebon, 1994 and 1995  
Co-ordinated by D. Label through the auspices of the  
Southwestern Canadian NATMAP Project  
Digital compilation by K. Shimamura, Terrain Sciences Division and  
P.M. O'Hagan, Geoscience Information Division  
Any revisions or additional geological information known to the user  
would be welcomed by the Geological Survey of Canada

MAP 1930A  
SURFICIAL GEOLOGY  
BLAIRMORE  
ALBERTA  
Scale 1:50 000 - Échelle 1:50 000  
Kilometres 1 2 3 4 Kilometres  
Universal Transverse Mercator Projection  
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Digital base map from data compiled by Geomatics Canada,  
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Copies of topographic map for this area may be obtained from the  
Canada Map Office, Natural Resources Canada, Ottawa, Ontario, K1A 0S9  
Some geographical names subject to revision  
Magnetic declination 1998, 7°30' E, decreasing 6.4° annually  
Elevations in feet above mean sea level

82 010	82 020	82 030	82 040
82 050	82 060	82 070	82 080
82 090	82 100	82 110	82 120
82 130	82 140	82 150	82 160
82 170	82 180	82 190	82 200
82 210	82 220	82 230	82 240
82 250	82 260	82 270	82 280
82 290	82 300	82 310	82 320
82 330	82 340	82 350	82 360
82 370	82 380	82 390	82 400

LEGEND  
Not all coloured units and symbols in legend necessarily appear on this map  
Tous les symboles et unités colorées ne sont pas nécessairement sur cette carte

QUATERNARY

**H** Holocene - Post-Eratic Train Glaciation

**m** MADE LAND: Artificial fill and new 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 silts, clays, and sands; organic materials are usually underlain by lacustrine and/or glacial till; thickness up to 5 m

**Eb** EOLIAN SEDIMENTS: Sand and silt transported by wind

**Ob** COLLUVIAL SEDIMENTS: Stony detritus resulting from the mixture of varying amounts of erosion, weathering, soil, and glacial sediments by nonfluvial processes such as creep, landslides, and debris flows; often silty, poorly sorted, and highly variable in composition

**Cb** COLLUVIAL BLANKET SEDIMENTS: Detritus, stony, massive, 1 to 2 m thick

**Cv** CULTURAL VEGETATION SEDIMENTS: Detritus, stony, massive, <1 m thick or patchy; overlie bedrock

**Ca** CULTURAL OPEN SEDIMENTS: Blocky detritus and poorly sorted and stratified sand and gravel, sediments from a wedge-shaped or fan-shaped deposit; may be covered by a thin layer of soil or vegetation

**Cc** ROCKFALL SEDIMENTS: Blocky rockfall deposits; forms cone-shaped benches 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: Detritus formed of broken rock, soil, and glacial deposits; forms a hummocky or ridged topography with slopes between 10 and 30 degrees; thickness up to 10 m (direction of movement indicated by symbol)

**Cx** UNDIVIDED COLLUVIAL SEDIMENTS: Hummocky open terrain adjacent to mountainous areas; possible of mass wasting origin

**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 recent alluvium. They may be underlain by bedrock, glacial till, or lacustrine deposits. Alluvial fans and alluvial cones are composed of coarse to fine sand, silt, and clay, and may contain pebbles and cobbles. Alluvial fans and alluvial cones are composed of coarse to fine sand, silt, and clay, and may contain pebbles and cobbles. Alluvial fans and alluvial cones are composed of coarse to fine sand, silt, and clay, and may contain pebbles and cobbles.

**Ap** ALLUVIAL PLAIN SEDIMENTS: Gravel and sand, massive to stratified, moderately to well sorted, deposited by a braided stream; may be underlain by bedrock, glacial till, or lacustrine deposits; thickness up to 10 m

**At** ALLUVIAL TERRACE SEDIMENTS: Gravel and sand, massive to stratified, moderately to well sorted, deposited by a braided stream; may be underlain by bedrock, glacial till, or lacustrine deposits; thickness up to 10 m

**Af** ALLUVIAL FAN SEDIMENTS: Gravel and sand, massive to stratified, poorly to moderately sorted, deposited by a braided stream; may be underlain by bedrock, glacial till, or lacustrine deposits; thickness up to 10 m

**Ax** ALLUVIAL COMPLEX SEDIMENTS: Fluvial fans, terraces and terraces that cannot be subdivided at the scale of mapping

**WISCONSINAN:** Erratic Train Glaciation

**Lv** GLACIOFLUVIAL SEDIMENTS: Sand, gravel, and minor silt and clay; they are commonly stratified and moderately to well sorted; they may be underlain by bedrock, glacial till, or lacustrine deposits; thickness up to 10 m

**Lb** GLACIOFLUVIAL BLANKET SEDIMENTS: Silt, clay, and the sand; surface morphology conforms to underlying topography

**Li** GLACIOFLUVIAL PLAIN SEDIMENTS: Local relief <1 m; silt, clay, and fine sand; they are commonly stratified and moderately to well sorted; they may be underlain by bedrock, glacial till, or lacustrine deposits; thickness up to 10 m

**Lp** ROLLING HILL PLAIN SEDIMENTS: Local relief 1.5 m; fine sand, silt, and clay; they are commonly stratified and moderately to well sorted; they may be underlain by bedrock, glacial till, or lacustrine deposits; thickness up to 10 m

**Lh** ICE-CONTACTED GLACIOFLUVIAL COMPLEX SEDIMENTS: Moderately to well sorted, massive to stratified, sand, gravel, silt, and clay; they are commonly stratified and moderately to well sorted; they may be underlain by bedrock, glacial till, or lacustrine deposits; thickness up to 10 m

**Gp** GLACIOFLUVIAL PLAIN AND FAN SEDIMENTS: Gravel and sand, massive to stratified, moderately to well sorted, deposited by a braided stream; may be underlain by bedrock, glacial till, or lacustrine deposits; thickness up to 10 m

**Gt** TERRACED GLACIOFLUVIAL SEDIMENTS: Gravel and sand, massive to stratified, moderately to well sorted, deposited by a braided stream; may be underlain by bedrock, glacial till, or lacustrine deposits; thickness up to 10 m

**Gd** GLACIOFLUVIAL DELTA SEDIMENTS: Sand, gravel, and minor silt and clay; they are commonly stratified and moderately to well sorted; they may be underlain by bedrock, glacial till, or lacustrine deposits; thickness up to 10 m

**Gh** GLACIOFLUVIAL ICE MARGINAL COMPLEX SEDIMENTS: Sand, gravel, silt, and clay; they are commonly stratified and moderately to well sorted; they may be underlain by bedrock, glacial till, or lacustrine deposits; thickness up to 10 m

**Gx** UNDIVIDED GLACIOFLUVIAL AND GROUND MORAINAL SEDIMENTS: A patchwork of glaciofluvial sediments and ground moraine (G) deposits; may be underlain by bedrock, glacial till, or lacustrine deposits; thickness up to 10 m

**Gv** GLACIOFLUVIAL VEGETATION SEDIMENTS: Gravel and sand, massive to stratified, moderately to well sorted, deposited by a braided stream; may be underlain by bedrock, glacial till, or lacustrine deposits; thickness up to 10 m

**MOHAWK SEDIMENTS (M):** Detritus (blocky to boulder size) deposited by glacial ice, including clay and silt, and is commonly underlain by massive, poorly sorted, and highly variable in composition. It contains clasts of Rocky Mountain and other ranges Precambrian and Paleozoic igneous, sedimentary, and metamorphic rocks. It contains Canadian Shield Proterozoic igneous and metamorphic rocks. It contains Rocky Mountain Proterozoic igneous and metamorphic rocks. It contains Paleozoic igneous, sedimentary, and metamorphic rocks. It contains Mesozoic and Tertiary igneous, sedimentary, and metamorphic rocks. It contains Quaternary glacial and glaciofluvial sediments.

**Tb<sup>1</sup>** Till blanket: 1 to 5 m of glauconitic till that conforms to the underlying bedrock topography. It generally contains more and coarser pebbles and larger clasts than T2.

**Tb<sup>2</sup>** Hummocky moraine: Detritus and interstratified glaciofluvial gravel and sand, massive to well-sorted bedding, deposited by glacial ice. It is commonly underlain by massive, poorly sorted, and highly variable in composition. It contains clasts of Rocky Mountain and other ranges Precambrian and Paleozoic igneous, sedimentary, and metamorphic rocks. It contains Canadian Shield Proterozoic igneous and metamorphic rocks. It contains Rocky Mountain Proterozoic igneous and metamorphic rocks. It contains Paleozoic igneous, sedimentary, and metamorphic rocks. It contains Mesozoic and Tertiary igneous, sedimentary, and metamorphic rocks. It contains Quaternary glacial and glaciofluvial sediments.

**Tm<sup>1</sup>** Rolling hill plain: More than 5 m of glauconitic till; surface morphology conforms to the underlying bedrock topography. It generally contains more and coarser pebbles and larger clasts than T2.

**Tm<sup>2</sup>** Hummocky moraine: Detritus and interstratified glaciofluvial gravel and sand, massive to well-sorted bedding, deposited by glacial ice. It is commonly underlain by massive, poorly sorted, and highly variable in composition. It contains clasts of Rocky Mountain and other ranges Precambrian and Paleozoic igneous, sedimentary, and metamorphic rocks. It contains Canadian Shield Proterozoic igneous and metamorphic rocks. It contains Rocky Mountain Proterozoic igneous and metamorphic rocks. It contains Paleozoic igneous, sedimentary, and metamorphic rocks. It contains Mesozoic and Tertiary igneous, sedimentary, and metamorphic rocks. It contains Quaternary glacial and glaciofluvial sediments.

**EARLY PLEISTOCENE OR PLEISTOCENE GLACIAL OR BOREAL SEDIMENTS:** City detritus (assumed to be a colluvial deposit) containing clasts of Paleozoic igneous, sedimentary, and metamorphic rocks. It contains Canadian Shield Proterozoic igneous and metamorphic rocks. It contains Rocky Mountain Proterozoic igneous and metamorphic rocks. It contains Paleozoic igneous, sedimentary, and metamorphic rocks. It contains Mesozoic and Tertiary igneous, sedimentary, and metamorphic rocks. It contains Quaternary glacial and glaciofluvial sediments.

**PALEOZOIC TO EARLY TERTIARY ROCK:** Detritus, silty, massive, composed of conglomerate, sandstone, siltstone, shale, and minor igneous rocks of early Tertiary and Mesozoic age and massive, dolomitic, and quartzitic Paleozoic igneous, sedimentary, and metamorphic rocks. It contains Canadian Shield Proterozoic igneous and metamorphic rocks. It contains Rocky Mountain Proterozoic igneous and metamorphic rocks. It contains Paleozoic igneous, sedimentary, and metamorphic rocks. It contains Mesozoic and Tertiary igneous, sedimentary, and metamorphic rocks. It contains Quaternary glacial and glaciofluvial sediments.

**RA** 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 backward topography

**VEEMER:** Glaciofluvial  
Eolian  
Organic

**Geological boundary (defined, assumed, inferred):**  
Neoglacial lateral or end moraine  
Arête  
Cirque  
Multewater channel  
large  
small (flow direction known, unknown)  
edge of ice-walled channel  
Estier (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 moraine  
M2 Ice limit of the major resurgence of Late Wisconsinan moraine  
C1 Maximum ice limit of Late Wisconsinan continental glaciation  
C2 Resurgence position of Late Wisconsinan continental glaciation

Lateral and end moraine (associated with advance M1, M2, or retreat of continental ice sheet from limit C2)  
Former ice contact line established with  
Stratigraphic section  
Vertical scale locally  
Reduvation age (years before present)  
One or more Foothills Erratic Train Erratic (years before present)  
Cosmogenic <sup>10</sup>Be exposure age on Foothills erratic (years before present)  
Moraine symbols close to or at the all time upper limit of moraine glaciation  
Canadian Shield erratic at or near the all time upper limit of continental glaciation  
Cosmogenic <sup>10</sup>Be exposure age of Canadian Shield erratic (years before present)  
Moraine symbols close to or at the all time upper limit of glacial (years before present)  
Arrows indicating direction of possible movement (associated with the end C2)  
\* Assumes a zero erosion rate and no cosmic ray blockage by snow cover

Stratigraphic sections accompany this map

Recommended citation:  
Jackson, L.E., and Lebon, E.R.,  
1998. Surficial geology, Blairmore, Alberta,  
Geological Survey of Canada, Map 1930A, scale 1:50 000