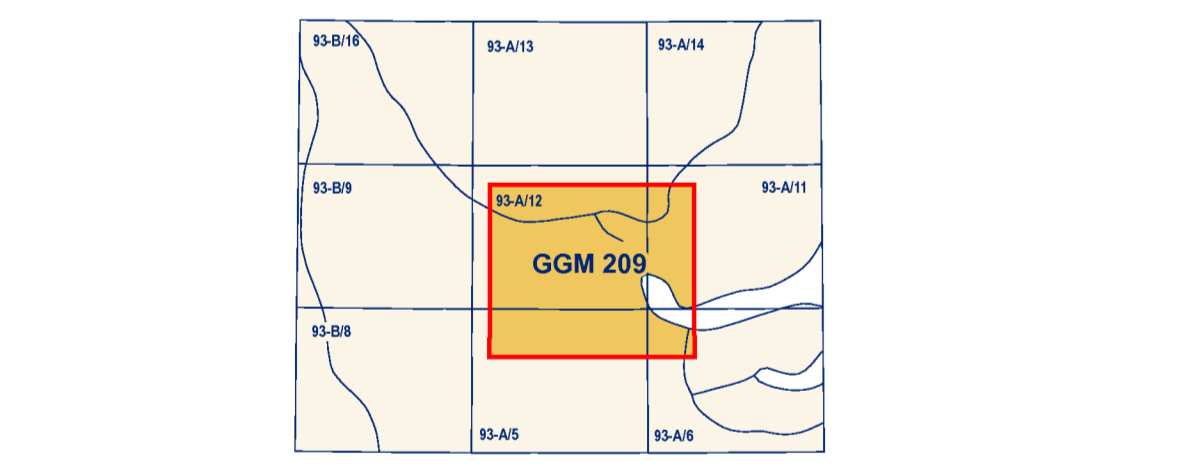


Abstract
The Bootjack Mountain region is bounded by the Quesnel and Cariboo river valleys to the north, Beaver Valley to the west and Quesnel Lake to the east. Till of the Late Wisconsinan Glacial Period is the dominant surficial material, mapped primarily as blankets but also as scattered, hummocky and rugged topography. Glaciofluvial sediments, marking glacial retreat, are mapped predominantly as outwash terraces, as well as kame terraces and ice-contact deposits interpreted to reflect ice-advancement. Glaciofluvial sediment veneers and blankets are mapped along Beaver Valley, Coliseum in the west and Quesnel and Cariboo river valleys. Coliseum is mapped as blankets, veneers, aprons, landslide and hummocky deposits, whereas alluvial deposits include terraces, plains, and fans. Melwater channels are generally oriented parallel to ice flow (northwest-southeast). Two distinct ice-flow movements have been recorded in this region. An earlier west-southwestward flow (255°-275°) followed by a later, northwesterly flow (260°-330°).

Résumé
La région de la montagne Bootjack est limitée au nord par les rivières Quesnel et Cariboo, à l'ouest par la vallée Beaver et à l'est par le lac Quesnel. Le till mis en place durant la glaciation de Frasier du Wisconsinan tardif est la formation superficielle dominante et a été cartographié en couverture continue, ainsi qu'avec une topographie fuselée, bosselée et côtelée. Les sédiments fluvioglaciaires sont associés au retrait glaciaire et sont cartographiés sous forme de terrasses, terrasses de fans et sédiments bosselés. Justifluviaires, ces derniers étant interprétés comme sédiments mis en place pendant une stagnation glaciaire. Des dépôts de venants et des alluvions d'âge Holocène ont été cartographiés dans la vallée Beaver et dans la vallée des rivières Quesnel et Cariboo. Les dépôts de venants sont cartographiés en couverture mince et continue, sous forme de dépôts éboulés et de glissements de terrain avec une topographie bosselée. Les alluvions sont présentées sous forme de terrasses, de plaines et de cônes alluviaux. Les chenaux d'eau de fonte sont généralement orientés parallèles à l'écoulement glaciaire (nord-ouest - sud-est). Deux mouvements glaciaires distincts ont été identifiés dans cette région. Un premier mouvement vers l'ouest-sud-ouest (255°-275°) a été suivi par un mouvement vers le nord-ouest (260°-330°).



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**GEOLOGICAL SURVEY OF CANADA
CANADIAN GEOSCIENCE MAP 209
BRITISH COLUMBIA GEOLOGICAL SURVEY
GEOSCIENCE MAP 2015-02
SURFICIAL GEOLOGY
BOOTJACK MOUNTAIN AREA**
British Columbia
Parts of NTS 93-A/5, NTS 93-A/6, NTS 93-A/11,
and NTS 93-A/12
1:50 000



QUATERNARY

POST LAST GLACIATION

NONGLACIAL ENVIRONMENT

- H** Anthropogenic deposits: Rubble, siltation, sand, and gravel, and mine tailings; massive, greater than 3 m thick, occurring as flat or steep surfaces employed by human activity near active mine sites.
- O** Organic deposits, undifferentiated: dominantly fine peat with rare bog peat; 1 to 3 m thick on average; derived from decomposed plant material in an estroglacial environment; the plant material is in various stages of decomposition, generally occur as flat, wet terrain (swamps) over poorly drained substrates; form relatively open peatlands.
- COLLUVIAL AND MASS WASTING DEPOSITS:** siltation and rubble; poorly sorted; massive to stratified; silty bedrock or till; occurs; gravity-induced movement; composition dependent on source material.
- Ap** Apron and talus scree deposits: siltation and minor amount of poorly sorted sand and gravel, generally 1 to 10 m thick, but may exceed 10 m at the base of large steep slopes.
- Cz** Landslide deposits: dominantly siltation, generally 1 to 10 m thick, but may exceed 10 m near the toe of large landslides; hummocky topography; includes inactive and potentially active landslides.
- Cv** Colluvial veneer: thin and discontinuous cover of slumped material; 1 to 2 m thick on average; dominantly overlies bedrock or till; occurs on moderate to steep slopes.
- Cb** Colluvial blanket: continuous cover of slumped material; more than 2 m thick on average; dominantly overlies bedrock or till; occurs on moderate to steep slopes.
- ALLUVIAL SEDIMENTS:** sorted gravel, sand, minor silt, and organic detritus deposited by modern streams; commonly stratified.
- Ap** Alluvial floodplain sediments: sorted sand and silt with lesser amount of pebbly gravel and organic detritus; more than 1 m thick; forming active floodplains close to river levels with meander channels and sand marks; prone to flooding.
- Al** Alluvial fan sediments: poorly sorted gravel, sand, and siltation; more than 2 m thick; occur where a stream issues from a narrow valley onto a plain or valley floor.
- At** Alluvial terraced sediments: sorted gravel, sand, and minor silt; more than 2 m thick; forming inactive terraces above modern floodplains; alluvial terraces, and alluvial fan sediments.
- A** Undifferentiated alluvial sediments: undivided floodplain, alluvial terrace, and alluvial fan sediments.
- L** LACUSTRINE SEDIMENTS, undifferentiated: sand, silt, and minor clay accumulated with variable amount of organic material; deposited in a lake; more than 1 m thick; supported following lowering of lake levels; includes organic deposits too small to be mapped separately.

GLACIAL AND LATE-GLACIAL

PROGLACIAL AND GLACIAL ENVIRONMENTS

- GLV** GLACIOFLUVAL SEDIMENTS: fine sand, silt, and clay; dominantly laminated and bedded; 1 to 2 m thick on average; thin and discontinuous.
- GLB** Glaciofluvial veneer: fine sand, silt, and clay; dominantly laminated and bedded; more than 2 m thick on average; forms a continuous cover.
- GLU** Undifferentiated glaciofluvial sediments: undivided glaciofluvial sediments; more than 1 m thick.
- GLC** GLACIOFLUVAL SEDIMENTS: sand and gravel with minor siltation; will be poorly stratified; deposited behind, at, or in front of the ice margin by glacial meltwater; represent a potential aggregate source.
- GFP** Outwash plain sediments: poorly sorted sand and gravel; bedded; 1 to more than 10 m thick; deposited by meltwater at various positions in front of the retreating glaciers; generally forms flat surfaces sloping away from the retreating glacier.
- GFI** Glaciofluvial terraced sediments: sand and gravel; 1 to 10 m thick; forming gently sloping flat surfaces perched above modern streams; meltwater channels or alluvial deposits.
- GFB** Hummocky glaciofluvial sediments: poorly sorted sand and gravel with minor siltation; bedded to massive; individual beds can be deformed; 1 to more than 20 m thick; deposited in contact with a retreating glacier; forms hummocky topography that is related to melting of ice.
- GFC** Ice-contact glaciofluvial sediments: poorly sorted coarse sand and gravel deposited with patches of fine sand, and siltation; greater than 1 m and up to 10 m thick; landforms include kame terraces, kettles and kame topography; small deltas, deltas, and eskers till forming an irregular topography.
- GFD** Kame terraced sediments: poorly sorted sand and gravel with minor siltation; bedded to massive; individual beds can be deformed; 1 to more than 20 m thick; deposited in contact with a retreating glacier; forms terraces, generally ungaurd, on a valley walls, perched above modern valley floor.
- GFE** Glaciofluvial veneer: sand and gravel; 1 to 2 m thick on average; occurs near the margins and at the mouth of meltwater channels; follows underlying topography.
- GFB** Glaciofluvial blanket: sand and gravel; more than 2 m thick; occurs near the margins and at the mouth of meltwater channels; forms gently undulating to flat surfaces.
- TLL** Till: siltation consisting of clasts of all size in a sandy to silty-sand matrix; deposited directly by glaciers; clasts are of various lithologies and numerous ones are stratified.
- Hummocky till:** more than 2 m thick on average; hummocky to rolling surface.
- Streamlined and fluted till:** more than 2 m thick on average; till surface marked by streamlined features including flutes, drumlins, and crag-and-tails; rare bedrock outcrops can be present at the head or ice-end of crag-and-tails.
- Till veneer:** 1 to 2 m thick on average; discontinuous till cover; underlying bedrock morphology is discernible; bedrock outcrops are abundant.
- Till blanket:** more than 2 m thick on average; continuous till cover forming unrelenting topography that locally obscures underlying till; rare bedrock outcrops.

PRE-QUATERNARY

- R** BEDROCK, undifferentiated: Volcanic, intrusive, sedimentary, and lesser amount of metamorphic bedrock of Palaeozoic to Cenozoic age; can include small-scale, thin, and shallow basins of glacial origin.

Stratigraphic relationship: A stratigraphic relationship is shown with two map-unit designators separated by slash (e.g. GL/F). F indicates a veneer of glaciofluvial sediments overlying streamlined till.

- Mine tailing
- Quarry
- Geological contact, defined
- Limit of mapping
- Landslide escarpment
- Minor meltwater channel (paleocurrent direction unknown)
- Minor meltwater channel (paleocurrent direction known)
- Large meltwater channel
- Esker (paleocurrent direction unknown)
- Esker (paleocurrent direction known)
- Drumlin ridge
- Dumlin
- Crag-and-tail
- Fluted bedrock or drift (paleo ice-flow direction unknown)
- Fluted bedrock or drift (paleo ice-flow direction known)
- Small landslide scar
- Slope movement
- Ice-contact delta
- Glacial siltation (paleo ice-flow direction unknown)
- Glacial siltation (paleo ice-flow direction known)
- Cross sections (numbers indicate relative age; 1 = oldest)
- Outcrop
- Gravel pit
- Field station without sample
- Field station with sample

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Preliminary publications in this series have not been scientifically edited.