



Natural Resources  
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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

**Map Information  
Document**

**Geological Survey of Canada  
Canadian Geoscience Maps**

Preliminary

2015

**Canada**

## PUBLICATION



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Canadian Geoscience Map 209 (Preliminary)

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### Title

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

### Scale

1:50 000

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### 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 Fraser Glaciation, is the dominant surficial material, mapped primarily as blankets but also as streamlined, hummocky and ridged topography. Glaciofluvial

sediments, marking glacial retreat, are mapped predominantly as outwash terraces, as well as kame terrace and ice-contact deposits interpreted to reflect ice-stagnation. Glaciolacustrine sediment veneers and blankets are mapped along Beaver Valley. Holocene colluvial and alluvial sediments are mapped in Beaver Valley and the Quesnel and Cariboo river valleys. Colluvium is mapped as blankets, veneers, aprons, landslide and hummocky deposits whereas alluvial deposits include terraces, plains, and fans. Meltwater 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 ( $255^{\circ}$ – $275^{\circ}$ ) followed by a later, northwestward flow ( $293^{\circ}$ – $330^{\circ}$ ).

## 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 Fraser du Wisconsinien 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 kame et sédiments bosselés juxtaglaciaires, ces derniers étant interprétés comme sédiments mis en place pendant une stagnation glaciaire. Des sédiments glaciolacustres en couverture mince et continue ont été cartographiés dans la vallée Beaver. Des dépôts de versants 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 versants sont cartographiés en couverture mince et continue, sous forme de dépôts d'éboulis et de glissements de terrain avec une topographie bosselée. Les alluvions sont présentes sous forme de terrasses, de plaines et de cônes alluviaux. Les chenaux d'eau de fonte sont généralement orientés parallèle 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 ( $255^{\circ}$ – $275^{\circ}$ ) a été suivi par un mouvement vers le nord-ouest ( $293^{\circ}$ – $330^{\circ}$ ).

## ABOUT THE MAP

### General Information

Authors: S. Hashmi, A. Plouffe, and B.C. Ward

Geology by S. Hashmi, A. Plouffe, and B.C. Ward, 2012, 2013, 2014

Geology conforms to Surficial Data Model v. 2.0.2

Geomatics by L. Robertson

Cartography by G.S. Hanna

Initiative of the Geological Survey of Canada, as part of Natural Resources Canada's Geo-mapping for Energy and Minerals (GEM-2) program.

Map projection Universal Transverse Mercator, zone 10.  
North American Datum 1983

Base map at the scale of 1:50 000 from Natural Resources Canada, with modifications.  
Elevations in feet above mean sea level

Shaded relief image derived from the digital elevation model supplied by Natural  
Resources Canada.

Illumination: azimuth 315°, altitude 45°, vertical factor 1x

Magnetic declination 2015, 17°18'E, decreasing 13.8' annually.

This map is not to be used for navigational purposes.

Title photograph: Looking to the northwest at a striated outcrop located 10 km northwest  
of Mount Polley Mine. Striations are oriented 140–320. For scale, the Brunton compass  
is 22 cm and water bottle 26 cm long. Photograph by A. Plouffe. 2014-244

The Geological Survey of Canada welcomes corrections or additional information from  
users.

Data may include additional observations not portrayed on this map.  
See documentation accompanying the data.

This publication is available for free download through  
GEOSCAN (<http://geoscan.nrcan.gc.ca/>).

Preliminary publications in this series have not been scientifically edited.

### **Map Viewing Files**

The published map is distributed as a Portable Document File (PDF), and may contain a  
subset of the overall geological data for legibility reasons at the publication scale.

## ***ABOUT THE GEOLOGY***

### **Author Contact**

Questions, suggestions, and comments regarding the geological information contained  
in the data sets should be addressed to:

Alain Plouffe  
Geological Survey of Canada  
601 Booth Street  
Ottawa ON  
K1A 0E8  
[Alain.Plouffe@NRCan-RNCan.gc.ca](mailto:Alain.Plouffe@NRCan-RNCan.gc.ca)

## **Coordinate System**

Projection: Universal Transverse Mercator

Units: metres

Zone: 10

Horizontal Datum: NAD83

Vertical Datum: mean sea level

## **Bounding Coordinates**

Western longitude: 121°57'00" W

Eastern longitude: 121°22'00" W

Northern latitude: 52°43'00" N

Southern latitude: 52°25'00" N

## **Surficial Data Model Information**

The Geological Survey of Canada (GSC) through the Geomapping for Energy and Minerals Program (GEM) has undertaken the Geological Map Flow to develop protocols for the collection, management (compilation, interpretation), and dissemination of surficial and bedrock geology data and map information. To this end, a data model has been created.

The Surficial Data Model (SDM) was designed using ESRI geodatabase architecture. The XML workspace document provided can be imported into a geodatabase, and the geodatabase will then be populated with the feature datasets, feature classes, tables, relationship classes, subtypes and domains.

Shapefile and table (.dbf) versions of the data are included within the data. Column names have been simplified and the text values have been maintained within the shapefile attributes. The direction columns are numerical, to display rotation for points, and the symbol fields will hold the correct values to be matched to the appropriate style file.

For a more in depth description of the data model please refer to the official publication:

Deblonde, C., Plouffe, A., Eagles, S., Everett, D., Huntley, D.H., Inglis, E., Kerr, D.E., Moore, A., Parent, M., Robertson, L., Smith, I.R., St-Onge, D.A., and Weatherston, A., 2014. Science language for an integrated Geological Survey of Canada data model for surficial geology maps, version 2.0; Geological Survey of Canada, Open File 7631, 464 p. doi:10.4095/294225

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