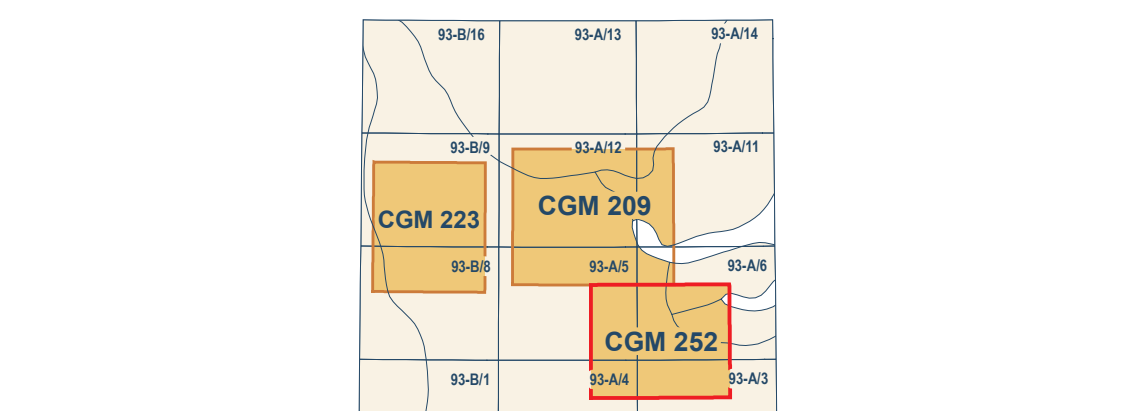


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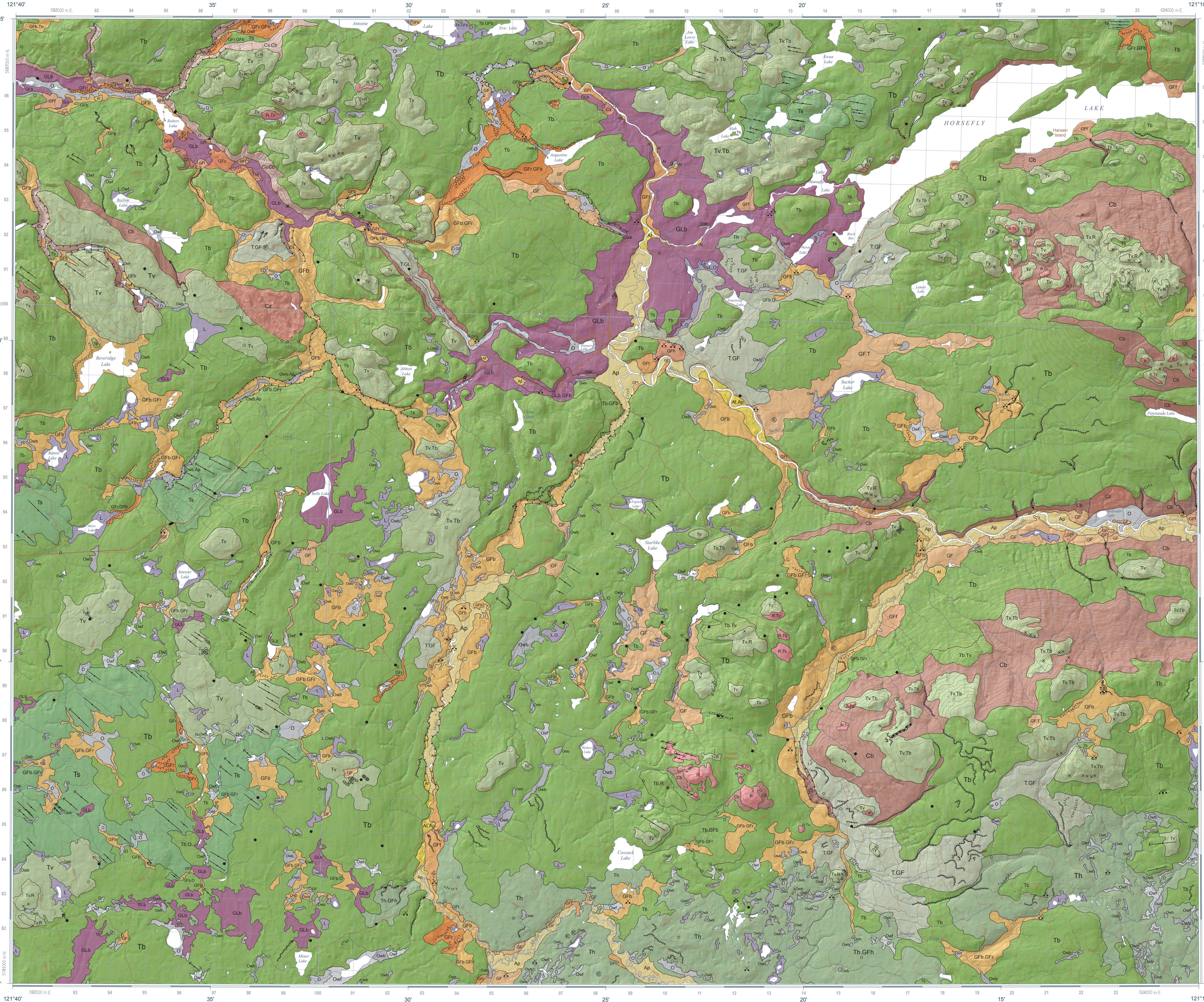
Abstract
The Moffat creek area includes the Woodjag porphyry Cu-Au-Mo developed prospect. Between Moffat and Woodjag creeks, this prospect consists of six mineralized zones: Megabuck, Deerhorn, Spellbound, Southeast, Takorn, and Three Firs. Till deposited during the Late Wisconsinian Fraser Glaciation is the predominant glacial sediment in the area. Landform-scale ice-flow indicators such as drumlins and crag-and-tail ridges, and outcrop-scale features such as striations, demonstrate that ice initially flowed south-southwest and later flowed north-northwest. Hummocky topography and eskers suggest that deglaciation was, at least in part, via downwasting of stagnant ice masses. Important accumulations of glaciofluvial sand and gravel deposits in the Horseshy River valley, and in lower volumes in the southwest part of the study area, represent sources of construction aggregate. Retreat-phase glaciofluvial sediments were deposited in the Horseshy area and Beaver Creek valley at elevations of up to 800 m above sea level. These deposits could be contemporaneous with, and related to, higher water levels in the Fraser or Quesnel river systems during deglaciation and the formation of glacial Lake Fraser. Alternatively, they could be related to local damming of the Beaver Creek and Horseshy River drainages.



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GEOLOGICAL SURVEY OF CANADA
CANADIAN GEOSCIENCE MAP 252
BRITISH COLUMBIA GEOLOGICAL SURVEY
GEOSCIENCE MAP 2016-1
SURFICIAL GEOLOGY
MOFFAT CREEK AREA
British Columbia
Parts of NTS 93-A/3, NTS 93-A/4, NTS 93-A/5, and NTS 93-A/6
1:50 000



- QUATERNARY
POST LAST GLACIATION
NONGLACIAL ENVIRONMENT
ORGANIC DEPOSITS: peat and plant material in various stages of decomposition; 1 to 3 m thick on average; peat derived from decayed plant material in an eutrophic environment; generally occur as flat, wet terrain (swamps) over poorly drained substrates; form relatively open peatlands; may include minor fluvial and lacustrine sediments.
Owf Fen peat: peat derived from sedges and partially decayed shrubs; forms relatively open peatlands with a mineral-rich water table that persists seasonally near the surface; can be covered with low shrubs and sparse trees.
Owb Bog peat: sphagnum or forest peat; may be tree or treeless.
O Undifferentiated organic deposits: undifferentiated bog and fen peat.
COLLUVIAL AND MASS WASTING DEPOSITS: diamicton and rubble; poorly sorted, massive to stratified debris deposited by direct, gravity-induced movement; composition varies with source material.
Cz Landslide deposits: diamicton, 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 amounts of pebbly gravel and organic detritus; more than 1 m thick; forming active floodplains close to river level with meander channels and spoil marks; prone to flooding.
Af Alluvial fan sediments: poorly sorted gravel, sand and diamicton; more than 2 m thick; occur where a stream issues from a narrow gully or valley onto a plain or valley floor.
Al Alluvial terrace sediments: sorted gravel, sand and minor silt; more than 2 m thick; forming inactive terraces above modern floodplains; represents a potential aggregate source.
L LACUSTRINE SEDIMENTS: sand, silt, and minor clay; massive to laminated; interbedded with variable amount of organic material; deposited in a lake; more than 1 m thick; exposed following lowering of lake levels; includes organic deposits too small to be mapped separately.
GLACIAL AND LATE-GLACIAL
PROGLACIAL AND GLACIAL ENVIRONMENTS
GLACIOLACUSTRINE SEDIMENTS: fine sand, silt, and clay, with minor debris-flow diamicton and gravel; laminated, bedded and massive; deposited in glacier-dammed lakes in valleys and along the margin of retreating glaciers.
GLB Glaciolacustrine blanket: fine sand, silt, and clay; dominantly laminated and bedded; more than 2 m thick on average; forms a continuous cover.
GLACIOFLUVIAL SEDIMENTS: sand and gravel with minor diamicton; well to poorly stratified; deposited behind, at, or in front of the ice margin by glacial meltwater; represent a potential granular aggregate source.
GFf Glaciofluvial terrace sediments: sand and gravel; 1 to 10 m thick; forming gently sloping flat surfaces between modern streams; meltwater channels or alluvial deposits.
GFs Outwash fan 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 a fan-shaped surface sloping away from the retreating glacier or meltwater source.
GFh Hummocky glaciofluvial sediments: poorly sorted sand and gravel with minor diamicton; bedded to massive; individual beds can be deformed; 1 to more than 20 m thick; deposited during ice-retreat; forms hummocky topography that is related to melting of ice.
GFc Ice-contact glaciofluvial sediments: poorly sorted coarse sand and gravel deposits with pockets of diamict and fine sand and silts; less than 1 m and up to 10 m thick; landforms include kame terraces, kettle and kame topography; small eskers, deltas and alluvial till forming an irregular topography.
Esker sediments: sand and gravel; massive to bedded; 3 to more than 5 m thick; forming ridges deposited by meltwater flow within tunnels, channels, or openings in glacial ice.
GFb Glaciofluvial blanket: sand and gravel; more than 2 m thick; occurs within and near the margins and mouths of channels and valleys that carried meltwater; forms gently undulating to flat surfaces.
GF Undifferentiated glaciofluvial sediments: undivided glaciofluvial sand and gravel deposits; more than 2 m thick.
TILL: matrix-supported diamicton consisting of pebbles, cobbles and boulders in a sandy to silty-sand matrix; deposited directly by glaciers; clasts are of various lithologies and many are striated and faceted.
Th Hummocky till: more than 2 m thick on average; hummocky to rolling surface; includes discontinuous lenses of glaciofluvial gravel.
Ts Streamlined and fluted till: more than 2 m thick on average; till surface marked by streamlined landforms including flutings, drumlins, and crag-and-tails; rare bedrock outcrops can be present at the head, or up-ice end, of crag-and-tails.
Tf Till veneer: 1 to 2 m thick on average; discontinuous till cover; underlying bedrock morphology is discernible; bedrock outcrops are abundant.
Tb Till blanket: more than 2 m thick on average; continuous till cover forming undulating topography that locally obscures underlying units; rare bedrock outcrops.
T Undifferentiated till: undivided continuous till cover; more than 2 m thick on average; rare bedrock outcrops.
PRE-QUATERNARY
BEDROCK: volcanic, intrusive, sedimentary, and lesser amount of metamorphic bedrock of Mesozoic to Cenozoic age.
R Bedrock: can include discontinuous areas of overlying till or colluvium that rarely exceed 1 m thickness.
Complex units: complex unit labels are used in areas where the map units are too small to be mapped individually. For example, TGF designates a region of till with lesser amount of glaciofluvial sediments.
Geological contact, defined
Landslide escarpment
Terrace scarp
Minor meltwater channel (paleocurrent direction unknown)
Major meltwater channel (paleocurrent direction known)
Major meltwater channel
Esker (paleocurrent direction unknown)
Drumlinoid ridge
Drumlin
Crag-and-tail
Roche moutonnée
Bedrock scarp
Kettle
Stations, poorly defined (paleo ice-flow direction unknown)
Stations (paleo ice-flow direction unknown)
Stations (paleo ice-flow direction known)
Cross striations (1 = oldest; shown where relative age could be established)
Small outcrop
Gravel pit, inactive
Gravel pit, active
Field station without sample
Field station with sample

Geological Survey of Canada
Canadian Geoscience Maps



Authors: T. Ferby, V.M. Levison, and A. Plouffe
Geology by T. Ferby, V.M. Levison, and A. Plouffe, 2011-2013
Geology conforms to National Data Model v. 2.1
Preparation of this map was completed with the field notes of V.M. Levison collected for Cold Fields Exploration Inc. in the region of the Woodjag prospect (south of Starline Lake).
Cartography by D. Viner

Joint initiative of the Geological Survey of Canada and the British Columbia Geological Survey, conducted under the auspices of the Intrusion-Related Ore System project as part of Natural Resources Canada's Targeted Geoscience Initiative 4 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

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1:50 000

Shaded relief image derived from the digital elevation model supplied by Natural Resources Canada. Illumination: azimuth 315°, altitude 45°, vertical factor 1x
Magnetic declination 2016, 17°02'E, decreasing 10.9' annually
This map is not to be used for navigational purposes.
Title photograph: Two sets of striations and grooves on a Chicoutic Group basalt outcrop located 7 km southwest of Bells Lake. One set is oriented 150-330° (parallel to smaller marker) and a second set is oriented 130-210° (parallel to larger marker). An age relationship between these sets could not be determined at this site. Markers are 14 cm long. Photograph by T. Ferby, 2015-097

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 downloading through GEOSCAN (http://geoscan.nrcan.gc.ca/).

Preliminary publications in this series have not been scientifically edited.

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