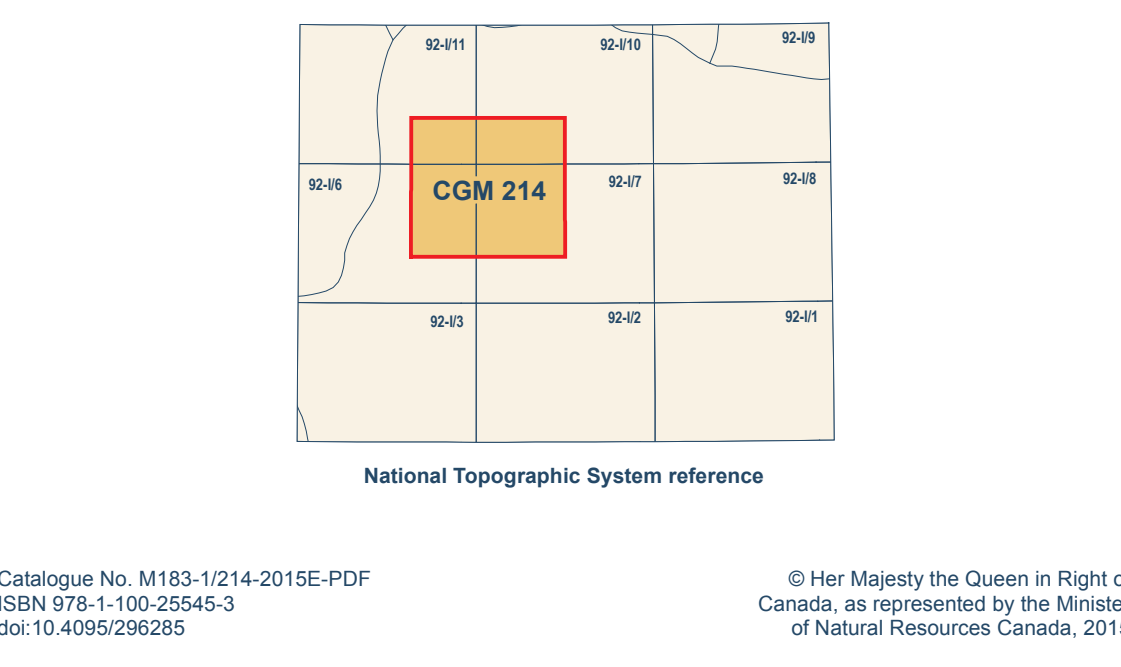


Abstract

The GNAWED Mountain area includes the Highland Valley Copper mine (porphyry Cu-Mo) which is a major copper producer in Canada. The most areally extensive glacial sediment in the region of the mine is till deposited during the Late Wisconsinan Fraser Glaciation. Glaciers dominantly flowed south to southeastward during this glacial event as indicated by the orientation of numerous drumlins and flutings. During ice retreat, lateral meltwater channels were eroded in the flanks of valleys and the hillides of mountains indicating that ice occupied low ground when higher elevations were ice-free. Accumulations of glaciofluvial sand and gravel, too small to be mapped at this scale, can be found in proximity to these meltwater channels. The glaciofluvial drainage was generally to the south during ice retreat with aggradation of glaciofluvial sediments in the Guichon Creek valley. Glacial lake sediments in the Wilches Brook valley were deposited in a glacial lake which formed when the eastward drainage was blocked by a mixture of ice and sediments. Mine tailings (anthropogenic deposits) are present near the open-pit and in the valley which extends northwest from the mine (previously occupied by Pukiet Creek). Limited field work was completed in this region in 2011 and 2012. Field station locations are shown on the map.

Résumé

La mine Highland Valley Copper (gîte porphyrique Cu-Mo) est l'un des principaux producteurs de cuivre au Canada et fait partie de la région de la montagne GNAWED. Le sédiment glaciaire le plus répandu dans la région de la mine est le till de la glaciation de Fraser du Wisconsinien tardif. Les glaciers se sont principalement écoulés vers le sud et sud-est pendant cet épisode glaciaire comme en témoigne l'orientation des nombreux drumlins et carénées. Pendant le retrait glaciaire, des chenaux d'eau de fonte de marge glaciaire ont été érodés sur les flancs des vallées et les versants des montagnes indiquant que de la glace occupait les points les plus bas alors que les hautes régions étaient déglaciées. Des accumulations de sable et de gravier fluvioglaciaires, trop peu étendues pour être cartographiées à cette échelle peuvent se retrouver à proximité de ces chenaux d'eau de fonte. Le drainage fluvioglaciaire était généralement vers le sud pendant le retrait glaciaire avec une accumulation de sédiments fluvioglaciaires dans la vallée du ruisseau Guichon. Les sédiments glaciolacustres dans la vallée du ruisseau Wilches ont été mis en place dans un lac glaciaire qui s'est formé suite à l'obstruction du drainage vers l'est par de la glace et des sédiments. Des résidus miniers (dépôts anthropiques) sont présents près des mines à ciel ouvert et dans la vallée qui s'étend au nord-ouest de la mine (anciennement occupée par le ruisseau Pukiet). Des travaux de terrain limités ont été faits dans cette région en 2011 et 2012. La localisation des stations de terrain est indiquée sur la carte.



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Geology by A. Plouffe and T. Ferby, 2011, 2012
Geology conforms to Surficial Data Model v. 2.0.2
Geomatics by L. Robertson
Cartography by G.S. Hanna

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

SURFICIAL GEOLOGY
GNAWED MOUNTAIN AREA
British Columbia
Parts of NTS 92-I/6, NTS 92-I/7, NTS 92-I/10, and NTS 92-I/11
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 2015, 16°36'E, decreasing 9.7' annually
This map is not to be used for navigational purposes.
Title photograph: Looking north from the east edge of the Valley Pit at Highland Valley Copper Mine in south central British Columbia. Photograph by A. Plouffe, 2014-250

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/).



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Preliminary publications in this series have not been scientifically edited.