

# Geological Mapping, Regional Data Compilation and Mineral Evaluation of the Burrell Creek Map Area, Southeastern British Columbia (NTS 082E/09)

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## Project Summary

The Burrell Creek project involves geological mapping and compilation of a large part of the area covered by the 1:50 000 scale Burrell Creek map sheet (NTS 082E/09), located in the Columbia Mountains of southeastern British Columbia (Figure 1). The project is a northward extension of the Deer Park mapping project completed in 2009 (Höy, 2010; Höy and Jackaman, 2010), which focused on the potential for Tertiary mineralization within the southern Monashee Mountains along the northern margins of the Grand Forks gneiss complex (Preto, 1970; Höy and Jackaman, 2005), and recognized and defined a variety of base-metal and precious-metal mineral deposits seemingly related to prominent north- and northwest-trending regional structures. The Burrell Creek project will extend this work into an area that has attracted considerable historical exploration, due in large part to development of the Franklin mining camp (Drysdale, 1915; Keep and Russell, 1989), but that has seen little university- or government-led research since a regional (1:250 000 scale) mapping project by Little in the 1950s (Little, 1957) and a regional (1:250 000 scale) compilation map done in the late 1980s (Tempelman-Kluit, 1989).

The Burrell Creek map sheet is located along the eastern edge of the Pentiction map sheet (NTS 082E), 60 km northwest of the Rosslund Gold mining camp and approximately 50 km northeast of the Greenwood camp. The Franklin mining camp in the southern part of the Burrell Creek map sheet includes numerous deposits and past producers related to an alkalic, mafic to ultramafic complex. Styles of mineralization include platinum-palladium-copper mineralization, contact-metamorphic skarns and precious- and base-metal quartz veins. A few other mineral occurrences, of largely unknown character and age, are scattered throughout the rest of the map area. Recent exploration ac-

tivity, largely concentrated in the immediate vicinity of the Franklin mining camp and in the Deer Park map area immediately to the south, and the results of the Geoscience BC 2009 mapping project have highlighted the Tertiary mineral potential in the southern Columbia Mountains.

The Burrell Creek project will include approximately 40 days of geological mapping, which will concentrate on areas of higher mineral potential or mineral occurrences as well as on the evaluation and upgrading of the mineral occurrence database (MINFILE; BC Geological Survey, 2011). It will also include compilation in digital format of all regional geological, geophysical and geochemical data collected under the National Geochemical Reconnaissance (NGR) Program and the BC Regional Geochemical Survey (RGS) Program, which information will be combined with mineral occurrence and geology databases to produce several 1:20 000 and 1:50 000 scale geological maps suitable for directing and focusing mineral exploration. An important focus of the project is mapping and evaluation of Tertiary intrusive activity and faulting and their relationships to mineralization. Höy and Jackaman (2010) have shown that several styles of mineralization in the adjacent Deer Park map area, including base- and precious-metal veins and porphyry molybdenite, are in part controlled by Tertiary extensional tectonics; these models will be further developed and evaluated in the Burrell Creek map area, again with the goal of defining exploration targets and regional controls to mineralizing trends.

Geological mapping of the southern part of the Burrell Creek map area began in late 2011 and will be completed during the 2012 field season. Data, including integrated geological maps, poster displays and articles for the *Geoscience BC Summary of Activities* series, will be released on completion of the project in the winter of 2012–2013.

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**Keywords:** geology, regional compilations, Grand Forks gneiss complex, Tertiary extensional faulting, mineral deposit evaluation, Franklin mining camp

This publication is also available, free of charge, as colour digital files in Adobe Acrobat® PDF format from the Geoscience BC website: <http://www.geosciencebc.com/s/DataReleases.asp>.

## References

BC Geological Survey (2011): MINFILE BC mineral deposits database; BC Ministry of Energy and Mines, URL <<http://www.empr.gov.bc.ca/Mining/Geoscience/MINFILE/Pages/default.aspx>> [October 2011].

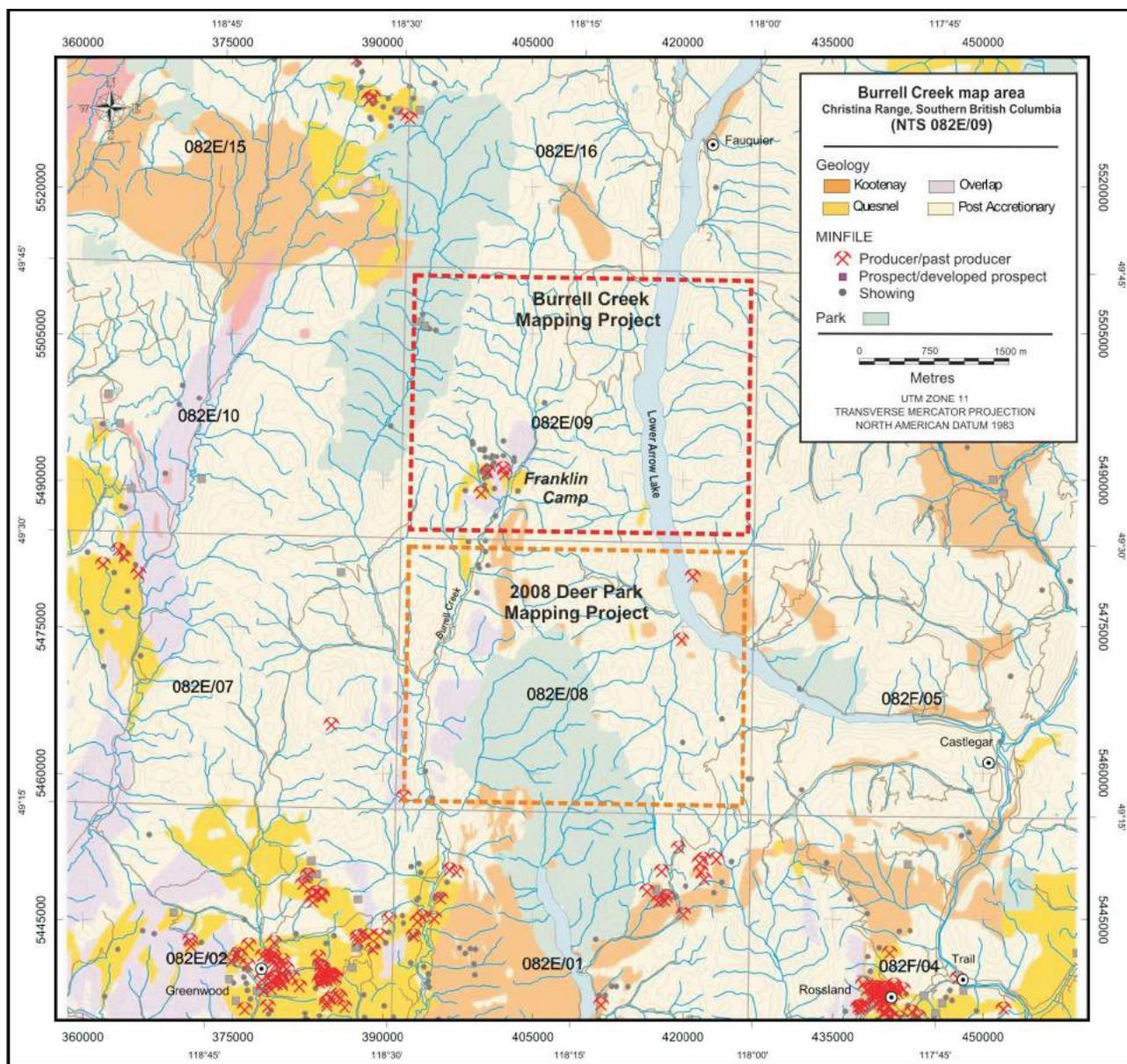


Figure 1. Location of Burrell Creek map area, southeastern British Columbia.

Drysdale, C.W. (1915): Geology of Franklin Mining Camp, British Columbia; Geological Survey of Canada, Memoir no. 56, 246 p.

Höy, T. (2010): Geology of the Deer Park map area, southeastern British Columbia (NTS 082E/08); in Geoscience BC Summary of Activities 2009, Geoscience BC, Report 2010-1, p. 127–140.

Höy, T. and Jackaman, W. (2005): Geology of the Grand Forks map sheet; BC Ministry of Energy and Mines, Geoscience Map 2005-2, scale 1:50 000.

Höy, T. and Jackaman, W. (2010): Geology of the Deer Park map sheet (NTS 82E/08); Geoscience BC Report 2010-7-1, scale 1:50 000.

Keep, M. and Russell, J.K. (1989): The geology of the Averill plutonic complex, Grand Forks, British Columbia (82E/9W); in Geological Fieldwork 1988, BC Ministry of Energy and Mines, Paper 1989-1, p. 27–31.

Little, H.W. (1957): Kettle River, British Columbia; Geological Survey of Canada, Map 6-1957.

Preto, V.A. (1970): Structure and petrology of the Grand Forks Group, BC; Geological Survey of Canada, Paper 69-22, 80 p.

Tempelman-Kluit, D. J. (1989): Geology, Penticton, British Columbia; Geological Survey of Canada, Map 1736A.