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Neoarchean Mafic– Ultramafic Intrusions in the Bird River Greenstone Belt:
Tectonic Setting and Economic Significance

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GAC–MAC 2013: Field Guide Summary

Neoarchean Mafic–Ultramafic Intrusions in the Bird River Greenstone Belt: Tectonic Setting and Economic Significance

GAC–MAC Winnipeg 2013, post-meeting field trip

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FIELD TRIP OBJECTIVES

The Neoarchean Bird River greenstone belt in southeastern Manitoba contains a variety of mafic to ultramafic intrusions that host significant Ni-Cu-(PGE) and chromite mineralization. This excursion will focus on magmatic stratigraphy, chromitite layering and associated mineralization in the Neoarchean Bird River Sill and Mayville intrusion (Figs. 1, 2), located within the main part and northern arm, respectively, of the Bird River greenstone belt. In addition to the surface exposures, drillcore will be examined from the Ni-Cu-(PGE) M2 deposit and the PGE-reef style mineralization in the Mayville intrusion, as well as the Ni-Cu-(PGE) orebodies at the former Maskwa-Dumbarton Mine within the Bird River Sill.

This field excursion in the Bird River greenstone belt provides a unique opportunity to examine and compare two contemporaneous (ca. 2.745 Ga) Neoarchean mafic to ultramafic intrusions that are separated by an approximately 20 km wide granitoid terrane containing some relatively older (Mesoarchean) intrusive phases. The trip complements the GAC–MAC 2013 Special Session entitled *Magmatic Ni-Cu-PGE-Cr Deposits: Ore-Forming Processes with Implications for Exploration.*

OTHER INFORMATION

The 3-day trip is based at the Wilderness Edge conference centre at Pinawa (100 km east-northeast of Winnipeg). It will depart from Winnipeg directly after technical sessions on May 24 and return on the evening of May 27. A moderate level of physical activity is involved (at least 1-3 km daily) and sturdy footwear and raingear are recommended. Parts of the Mayville intrusion may not be accessible because of high water levels, in which case an alternative itinerary will be run.

Figure 1. Typical exposure of the ore zone at the M2 site in the Mayville intrusion.

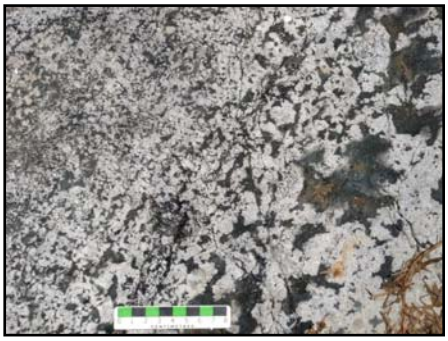

Figure 2. Medium-grained to very coarse grained leucogabbro (Mayville intrusion).