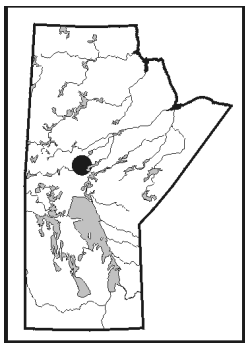
GS-8

THOMPSON NICKEL BELT PROJECT: PROGRESS ON A NEW COMPILATION MAP OF THE THOMPSON NICKEL BELT (PARTS OF NTS 63J, 63O AND 63P)

by J. J. Macek and C. R. McGregor



Macek, J. J. and McGregor, C. R. 1998: Thompson Nickel Belt project: progress on a new compilation map of the Thompson Nickel Belt (parts of NTS 63J, 63O and 63P); **in** Manitoba Energy and Mines, Geological Services, Report of Activities, 1998, p. 36-38.

COMPILATION MAP PROGRESS

Work on a new compilation map of the Thompson Nickel Belt (Macek, 1997) continued as planned. During the winter months of 1997-98, a lithological map manuscript was completed for area A (Figure GS-8-1). This summer, examination of selected drill core and outcrops in area B (Figure GS-8-1) was conducted. Clarke, Conlin, Gormley, and Kiski lakes were examined in greater detail and the western boundary of area B was spot checked in collaboration with H. Zwanzig (see GS-10).

The map manuscript for area B will be compiled during the winter and spring of 1998-99. Work on area C is expected to begin next summer.

VISIT TO MANIBRIDGE MINE SITE

Among other areas of interest, a waste pile at the site of Manibridge Mine (past producer) was examined for rocks associated with the ore zone.

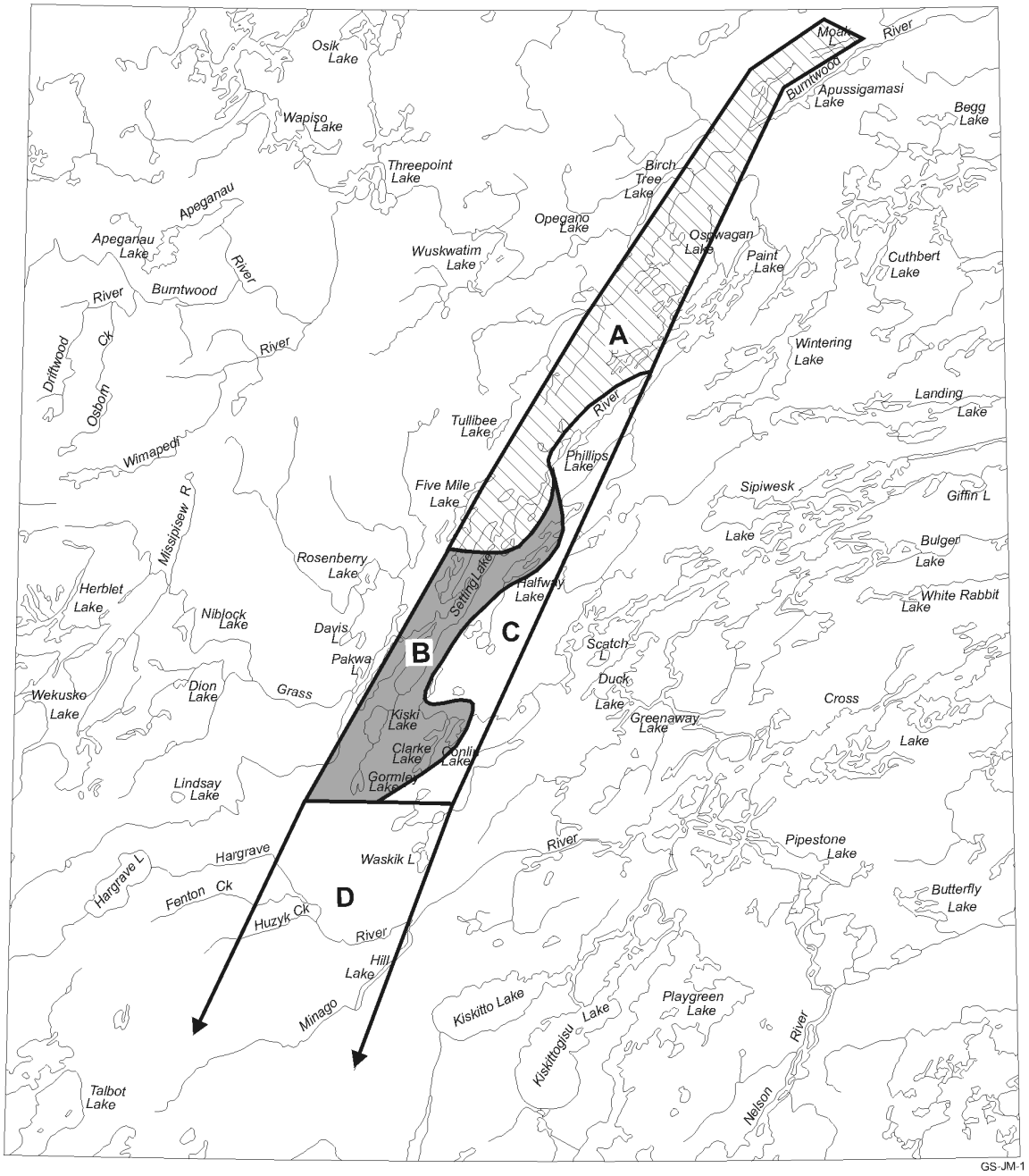


Figure GS-8-1: Compilation progress in the Thompson Nickel Belt.

Published papers and field excursion guides (Quirke et al., 1970; Coats and Brummer, 1971; Coats et al., 1972; Bleeker and Macek, 1996) describe, in addition to the serpentinized ultramafic body and ore zone, various gneissic wall rocks, pegmatite, granitoids, amphibolite and mylonite. No metasedimentary rocks are mentioned. Simplified plans and cross sections also imply that the ultramafic body and its ore zone are hosted by Archean basement gneiss, mylonite, granitoids, and pegmatite. All of these rock types were readily found on the waste pile, located south-southeast of a small rounded pond, north-northeast of the mine complex, and west of the access road. However, in addition to these rocks, numerous fist- to boulder-size fragments of olivine (serpentinized) - phlogopite - diopside marble and laminated, to thinly layered, impure marble were found and identified as typical calcareous metasediments texturally and compositionally identical to those that occur in the Thompson Mine (Peredery, 1979; Macek, 1986; Bleeker, 1989) and belonging to the Thompson Formation of the Ospwagan Group (Bleeker, 1990). These rocks are known to mine geologists as "skarns".

Olivine - phlogopite - diopside marble (Figure GS-8-2), recognized as a typical T3 Member of the Thompson Formation (Bleeker, 1990), is more abundant on the waste pile site than thinly layered, green - brownish-gray, impure marble, the T1 Member. Figure GS-8-3 shows the T1 impure marble in contact with a typical M2 semipelitic schist (M2 Member of the Manasan Formation). This schist is usually characterized by a distinct purplish colour and, in upper aphibolite grade, by development of pink pegmatitic segregations.

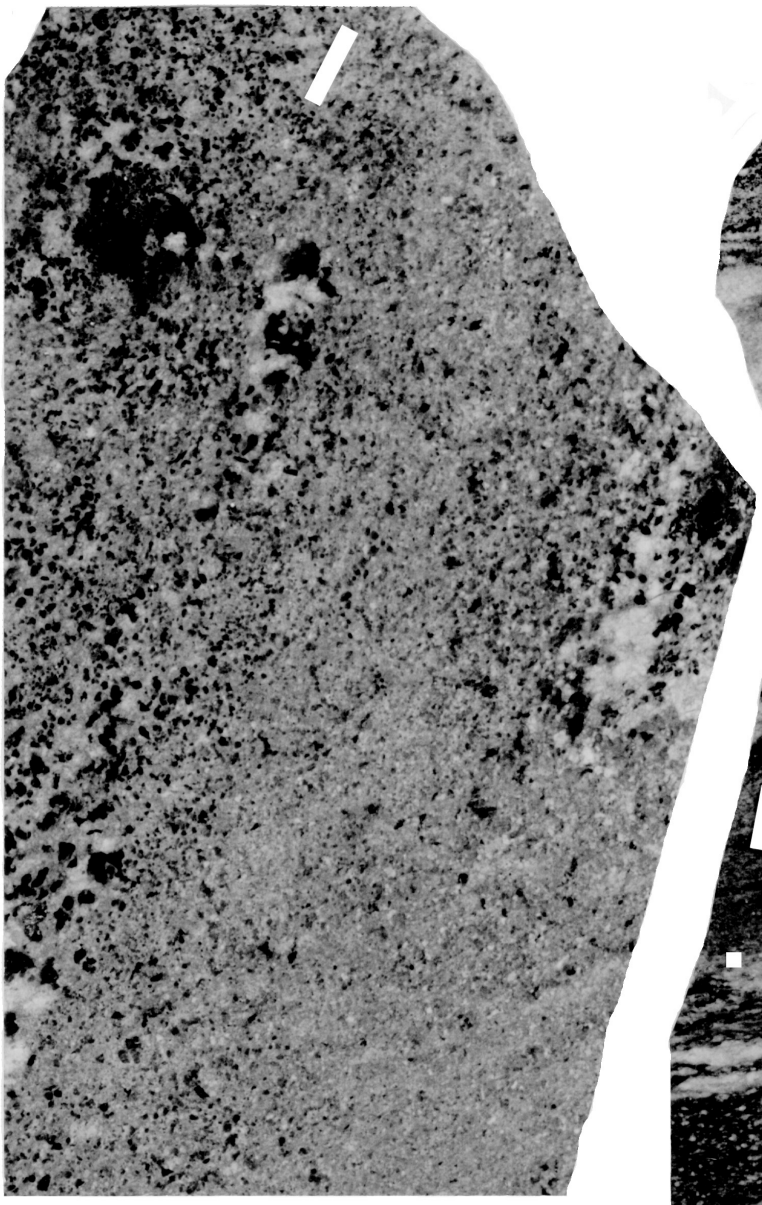


Figure GS-8-2: Olivine - phlogopite - diopside marble; the T3 Member of the Thompson Formation, Ospwagan Group. White bar is 1 cm long.

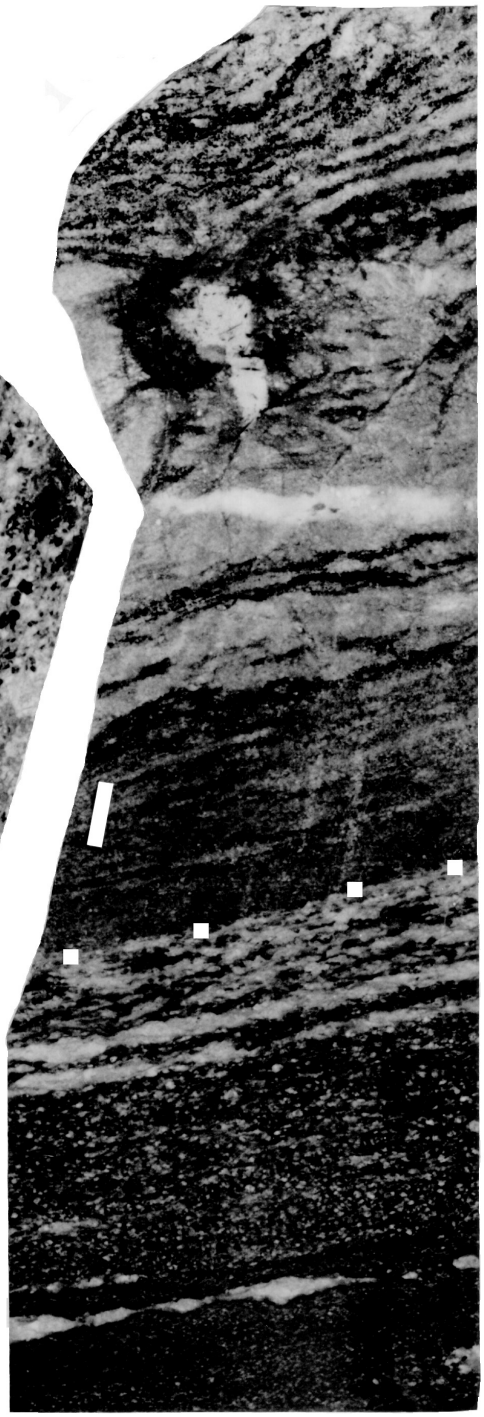


Figure GS-8-3: Thinly layered impure marble, T1 Member of the Thompson Formation, in contact with a typical semipelitic schist, M2 Member of the Manasan Formation, Ospwagan group. The contact is marked by four white dots. The bar is 1 cm long and situated in T1 marble.

The presence of these rock units indicates that the Manibridge nickel deposit is definitely associated with the metasedimentary sequence of the Ospwagan Group and therefore cannot serve as an example of a nickel deposit hosted solely by basement gneiss. It thus appears that nickel deposits hosted solely by Archean basement gneiss might be very rare in the Thompson Nickel Belt, if they do exist at all.

ACKNOWLEDGMENTS

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We thank Herman Zwanzig for his work on the western boundary of the Thompson Nickel Belt. The compilation map will greatly benefit from his expert knowledge of the Kisseynew Domain. We also thank Eric Ducharme for his excellent assistance in the field.

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