THOMPSON NICKEL BELT PROJECT: PROGRESS REPORT

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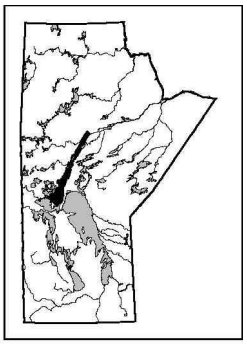

Macek, J.J., Zwanzig, H.V. and McGregor, C.R 2001: Thompson Nickel Belt Project: progress report; *in* Report of Activities 2001, Manitoba Industry, Trade and Mines, Manitoba Geological Survey, p. 47-50.

SUMMARY

Work on a new compilation map of the Thompson Nickel Belt (TNB) continued during the fall and winter of 2000 and spring of 2001. The compilation map is a collaborative project involving the Manitoba Geological Survey, Inco Limited, Falconbridge Limited and Hudson Bay Exploration and Development Company Limited (HBED). New data, obtained from relogging of diamond-drill core during the summer of 2000 (Macek et al., 2000), and the results of remapping (Zwanzig, 1998; Zwanzig, 1999) have been included in the new map.

A preliminary version of the new compilation map, released on June 15, is available as a set of fifteen maps (Thompson Nickel Belt Geology Working Group, 2001a–o) that covers an area from Moak Lake (northeast of Thompson) to Bracken Lake (north of Grand Rapids). These maps represent preliminary results of the compilation effort and will ultimately be superseded by the final maps.

Another portion of diamond-drill core, from a southern part of the exposed TNB and presently stored in Wabowden, was re-examined during the summer of 2001. Data obtained will be incorporated into the final version of the TNB compilation map.

PRELIMINARY TNB COMPILATION MAPS

Fifteen preliminary compilation maps were issued in four groups (Fig. GS-7-1):

- The northern part of the exposed TNB (from Moak Lake area to Setting Lake) is covered by four maps designated I-1 to I-4.
- The southern part of the exposed TNB (from Setting Lake to Clarke Lake area) is covered by four maps designated FN-1 to FN-4.
- The northern part of the sub-Paleozoic portion of the TNB (from Ponton to Hargrave River–Hill Lake area) is covered by two maps designated HB-1 and HB-2.
- The southern part of the sub-Paleozoic portion of the TNB (from Hargrave River–Hill Lake area to Bracken Lake area) is covered by five maps designated FS-1 to FS-5.

The maps were issued at either 1:100 000 or 1: 50 000 scale, depending on the density of the data available. The latter versions usually display the Ospwagan Group supracrustal sequence divided into five formations (Manasan, Thompson, Pipe, Setting and Bah Lake) and, where density of data permits, each formation is subdivided into several members. In addition, Kisseynew paragneiss is divided into Grass River and Burntwood groups and, where data permit, further subdivision into informal formations is made.

Two significant findings are apparent from the maps:

- Over twenty new occurrences of the Ospwagan Group supracrustal sequence appear on the new compilation map, compared to the 1972 compilation map (Coates et al., 1972).
- All economic nickel deposits found to date are hosted by the Ospwagan Group sequence.

RE-EXAMINATION OF THE DIAMOND-DRILL CORE

Re-examination of the diamond-drill core continued this summer (327 holes). Most of the core came from holes randomly distributed thorough the broad area around Wabowden, which straddles Phillips, Halfway, Setting, Bowden, Rock Island, Resting, Conlin, Gormley, Key and Muningwari lakes. To date, two-thirds of this core have been examined. Relogging of the rest of the core will be attempted next summer. Results from this summer and the next will be incorporated into the final version of the TNB compilation map.

RESULTS

A variety of ultramafic rocks, such as serpentinized dunite, metaperidotite, metapyroxenite, porphyroblastic metapicrite and derived ultramafic schist, was identified in 54% of the examined holes (Fig. GS-7-2a). Ospwagan Group rocks were identified in 47% of the relogged holes (Fig. GS-7-2b). The frequency with which all Ospwagan Group formations were intersected is shown in Figure GS-7-2c, where M, T, P, S and B stand for Manasan, Thompson, Pipe and Setting formations, and Bah assemblage, respectively. Results are comparable to those reported in Macek et al. (2000).

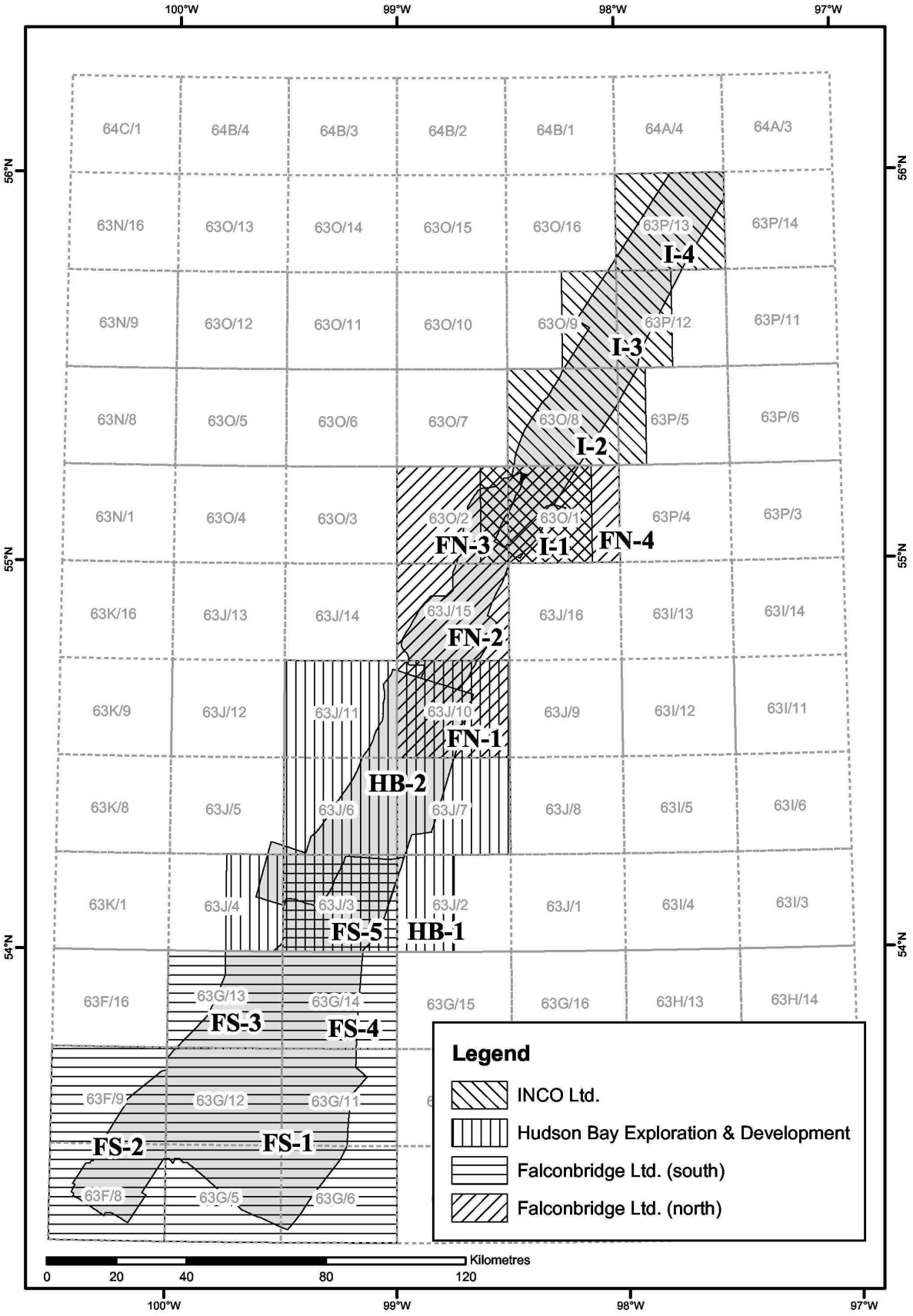

Figure GS-7-1: Map index for 2001 Thompson Nickel Belt compilation map.

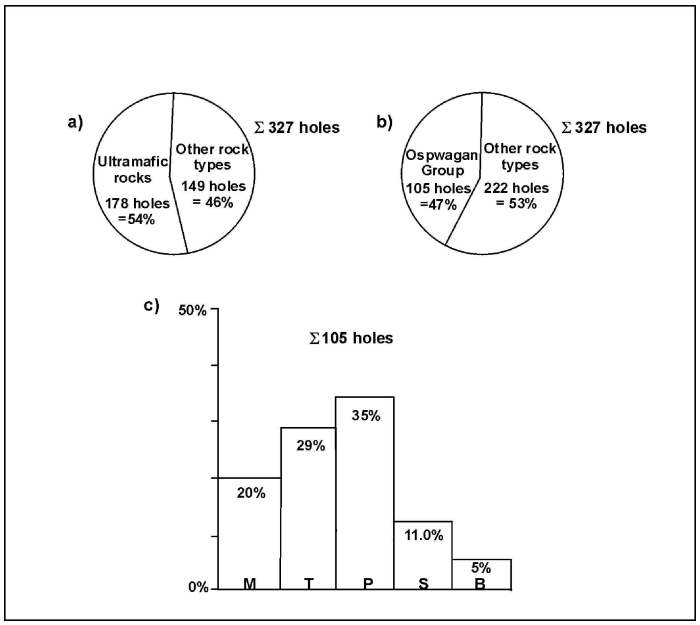

Figure GS-7-2: Main rock types encountered in the re-examined diamond-drill holes in the region around Wabowden: a) ultramafic versus other rock types, b) Ospwagan Group versus other rock types, and c) Ospwagan Group formations.

OUTLOOK

Within the next three- to four-year period, the recently issued preliminary compilation maps will be finalized. The final maps will be improved as follows:

- Geological and geographic data will be transformed onto the newest topographic base utilizing the orthophoto coverage.
- All features will be geographic information system (GIS) compatible.
- Boundaries among all four map subsets will be revised and made seamless.
- Structural information and a cultural infrastructure will be added.
- Maps will be accompanied by marginal notes.

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Special thanks go to P. Lenton for the extraordinary effort necessary to issue all preliminary maps simultaneously and on time.

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