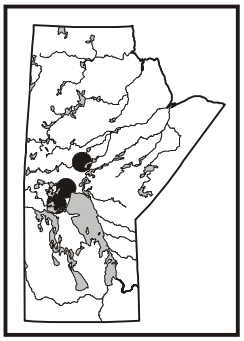
GS-3 THOMPSON NICKEL BELT PROJECT: PROGRESS ON A NEW COMPILATION MAP OF THE THOMPSON NICKEL BELT (PARTS OF NTS 63F, 63G, 63J, 63O AND 63P)



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SUMMARY

Geological compilation of NTS sheets 63F/08, 63F/09, 63G/14 and 63J/03 was completed during last winter as part of an ongoing compilation map program for the Thompson Nickel Belt (TNB). The program is a collaborative project involving the Manitoba Geological Survey, Inco Ltd., Falconbridge Limited and Hudson Bay Exploration and Development Company Limited (HBED).

During the summer, diamond-drill core from 317 holes, drilled in a broad area around Wabowden, was re-examined. Thirty per cent of these drillholes contain Ospwagan Group rocks. This is notable, as no Ospwagan Group rocks were shown on the 1972 compilation map of this area. It is well known that, in the northern part of the TNB, the Ospwagan Group metasedimentary sequence hosts large nickel deposits, including the Thompson Mine deposits.

Although only one-third of the available core was examined this summer, major lithological trends will be compiled onto maps from the newly obtained data. Relogging of additional drillholes will be undertaken next summer to further refine the compilation map.

COMPILATION MAP PROGRESS

Work on the new compilation map of the TNB, sub-Paleozoic portion (Macek et al., 1999a) continued during the winter months by extending the compilation (Fig. GS-3-1) to:

1) the extreme southwest (NTS sheets 63F/08 and 63F/09); and
2) the central part (NTS sheets 63G/14 and 63J/03), filling the gap between Falconbridge Limited and HBED permit data.

Compilation work in the southern part of the exposed TNB around Wabowden (Fig. GS-3-1, dotted pattern) was delayed until re-examination of the diamond-drill core, originally stored at the Bucko mine site (Macek et al., 1999b), had begun. Relogging of this core was initiated this summer. Out of the 15 000 boxes of core, 5000 were relogged, providing new regional lithological information on 317 diamond-drill holes. Most of these holes are randomly distributed thorough the area, which straddles Phillips, Halfway, Setting, Bowden, Rock Island, Resting, Conlin, Gormley, Key and Muningwari lakes.

RESULTS

A variety of ultramafic rocks, such as serpentinized dunite, metaperidotite, metapyroxenite, porphyroblastic metapicrite and derived ultramafic schists, was identified in 57% of the examined holes (Fig. GS-3-2a). Ospwagan Group metasedimentary rocks were identified in 30% of the relogged holes (Fig. GS-3-2b). The frequency with which all Ospwagan Group formations were intersected is shown in Figure GS-3-2c, where M, T, P, S and B stand for Manasan, Thompson, Pipe, Setting and Bah formations, respectively.

The abundance of Pipe Formation rocks encountered in the drillholes (57%) is mainly a result of 'target drilling' of strong magnetic anomalies associated with electromagnetic conductors. In the TNB, magnetic anomalies are usually caused by ultramafic rocks and magnetiferous silicate-facies iron-formation. Those conductors caused by graphite-enriched, sulphide-facies iron-formation occur in the Pipe Formation (Macek and Bleeker, 1989; Bleeker, 1990).

CONCLUSIONS

The abundance of Ospwagan Group rocks in the re-examined drillcore is quite significant, because the previous compilation map of the TNB (Coats et al., 1972) does not show any occurrences of the Ospwagan Group metasedimentary sequence (unit 5) in the Wabowden area. Previously, the most southerly occurrence of Ospwagan Group rocks was recorded on Brostrom Lake, just north of Sasagiu Rapids. The re-examination of the retrieved core, initiated this summer, will substantially contribute to the accuracy of the new compilation map of the TNB. Although two-thirds of the available core have yet to be examined, major lithological trends have emerged and will be added to the compilation map during the coming winter.

ACKNOWLEDGMENTS

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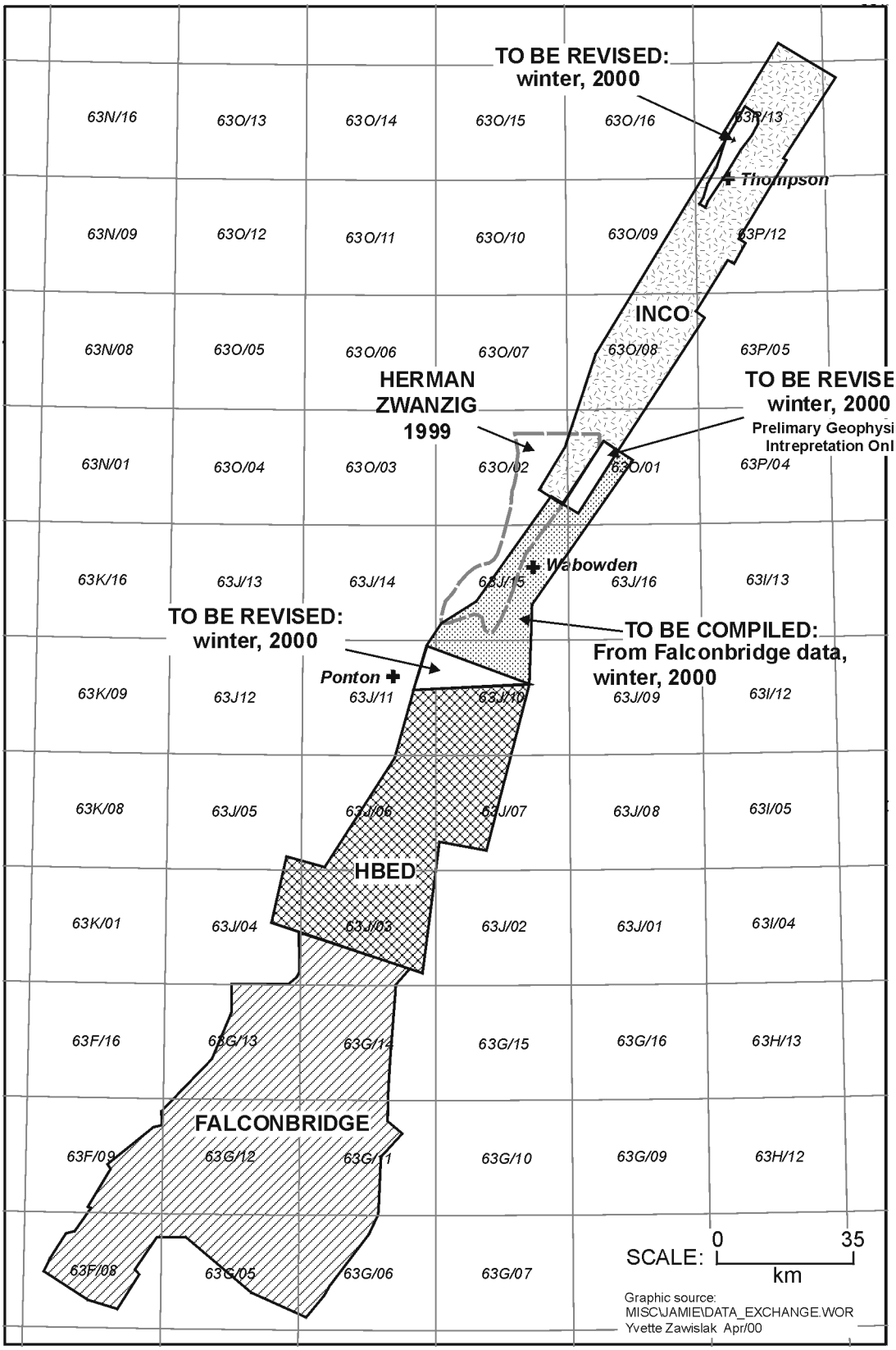

Figure GS-3-1: Status of the Thompson Nickel Belt compilation, showing boundaries of the geological data contributed by all partners.

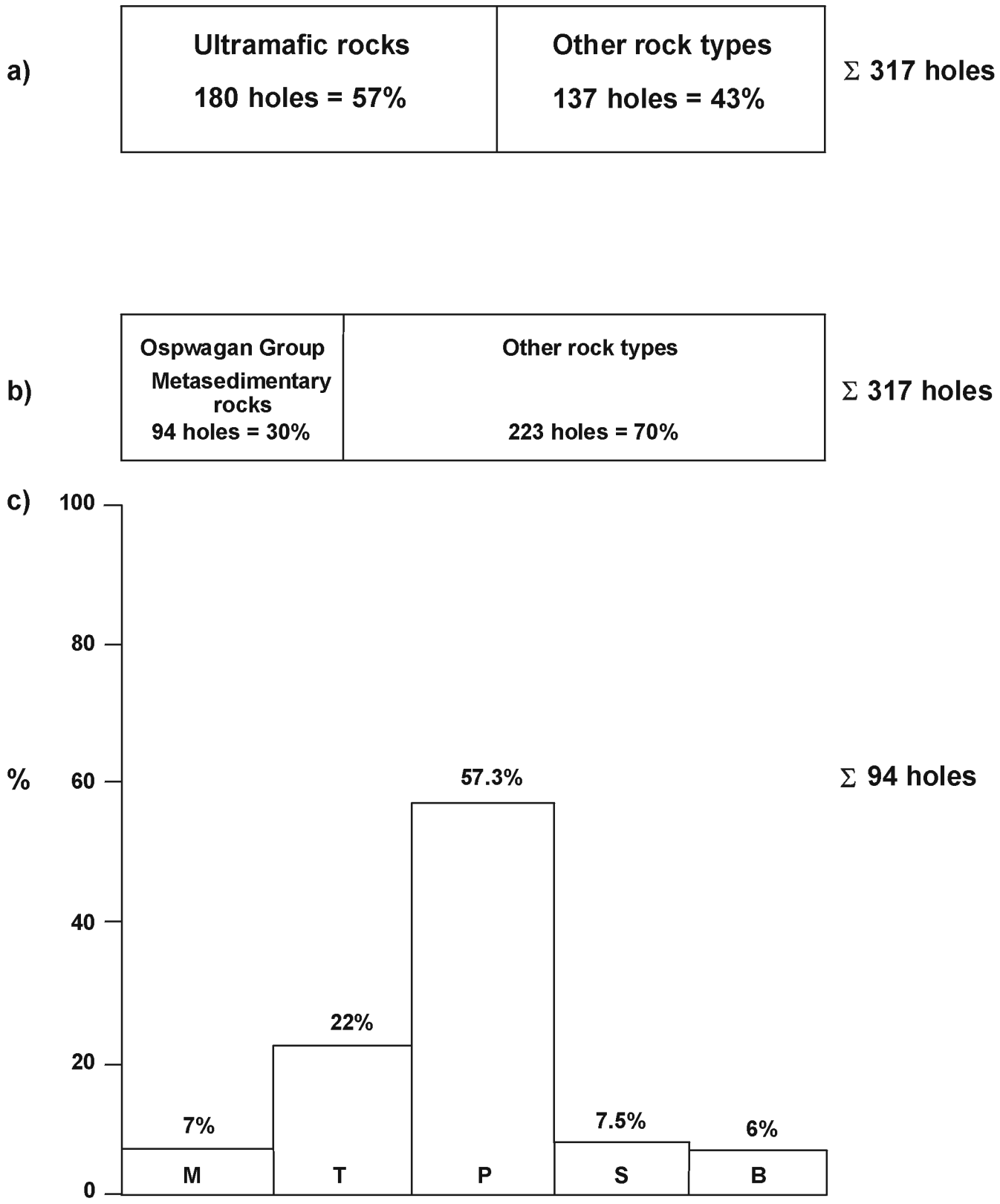

Figure GS-3-2: Main rock types encountered in the re-examined diamond-drill holes in the region around Wabowden.