

Upper Cambrian and Lower Ordovician conodont biostratigraphy and revised lithostratigraphy, southern Boothia Peninsula, Nunavut

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Summary

The strata exposed along Lord Lindsay River on southern Boothia Peninsula, previously named the Netsilik Formation (Christie 1973) and then the Turner Cliffs Formation (Miall and Kerr 1980; Stewart 1987), are redefined as three units, i.e. the lower and upper members of the Turner Cliffs Formation and lower Ship Point Formation, by this study. The new conodont data demonstrate that the three newly identified units were deposited during the latest Cambrian to Early Ordovician.

Results, Observations, Conclusions

New detailed field investigation at 23 localities along the Lord Lindsay River section resulted in a discovery of over 640 identifiable conodont specimens, with 33 species representing 16 genera. Five North American standard conodont zone/subzone-equivalent faunas are documented from the section, namely the *Hirsutodontus hirsutus* Subzone-equivalent, *Cordylodus angulatus*, *Rossodus manitouensis*, *Acodus deltatus/Oneotodus costatus* and *Oepikodus communis* zones-equivalent faunas. These faunas enable a new understanding of the age and stratigraphic position of the Netsilik/Turner Cliffs Formation on southern Boothia Peninsula. The Netsilik Formation can be correlated to the lower member (except for the lowest part) and upper member of the Turner Cliffs Formation; the previously unmeasured upper part of the section can be associated with the lower Ship Point Formation. Based on the new conodont data, these three units are dated as early Age 10, Late Cambrian to middle Tremadocian, Early Ordovician; late Tremadocian, Early Ordovician; and early Floian, Early Ordovician, respectively. This study fills a gap in Upper Cambrian and Lower Ordovician biostratigraphy on Boothia Peninsula, and links the regional biostratigraphy to that of Laurentia (Cooper and Sadler 2012).

Acknowledgements

This project is part of Boothia-Somerset Integrated Geoscience Project under Geomapping for Energy and Mineral (GEM) Program-2. Financial support from the Canadian Northern Economic Development Agency's (CanNor) Strategic Investments in Northern Economic Development (SINED) program, logistic support from the Polar Continental Shelf Project (PCSP), and field assistance from university students and Taloyoak Inuit are greatly appreciated.

References

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