The Great Island Domain, which was last mapped in the 1970s, is a geologic domain within the Great Island area of the southeast Hearne craton in Manitoba and northwest Saskatchewan (ca. 2.1-1.9 Ga) and the partially time-equivalent Wollaston Supergroup in the Wollaston Domain of Saskatchewan. The Great Island Supergroup consists of middle Proterozoic to Early Cambrian supracrustal rocks, together with their basement and younger intrusions, have excellent exploration potential particularly for uranium and gold.

Recent/ongoing exploration: Wollaston & Great Island Domain (Au, base metals)

Mineral Potential of Manitoba’s Far North: A Brief Overview

The MGS Far North Mapping Initiative, conducted in 2008 with a 655 km2 airborne geochemical survey and archival granitoid samples, identified the cover of the Great Island Supergroup in the Great Island area of the southeast Hearne craton in Manitoba and northwest Saskatchewan (ca. 2.1-1.9 Ga) and the partially time-equivalent Wollaston Supergroup in the Wollaston Domain of Saskatchewan. The Great Island Supergroup consists of middle Proterozoic to Early Cambrian supracrustal rocks, together with their basement and younger intrusions, have excellent exploration potential particularly for uranium and gold.

Recent/ongoing exploration: Wollaston & Great Island Domain (Au, base metals)

For more information visit: http://gsc.nrcan.gc.ca/mindep/synth_dep/uranium/index_e.php

Stratigraphy

Far-South exploration:
- Magnetic surveys
- Acoustic surveys
- Seismic profiling
- Geophysical methods
- Other surface and remote sensing techniques

Far-North exploration:
- Chemical/structural traps
- Major shear zones
- Indicator mineral surveys
- Till geochemistry
- Regional heavy mineral sampling
- Regional electromagnetic surveys

Uranium

- Davis Lake deposit
- Iron formation hosted Au

Gold

- Premium grade gold target
- Au-rich VHMS?

Base metals

- Massive sulphide orebody
- Significant numbers of gahnite grains

Diamonds

- Kimberlite pipe

A summary of optically U-Pb dated detrital zircon grains from the southeast Hearne craton in Manitoba and northwest Saskatchewan indicates excellent exploration potential for uranium and gold.

The Paleoproterozoic cover sequence as the Archean Hearne craton in Manitoba bridges the area where similar sequences have been delineated in the Hurwitz Group of the Churchill Province in northern Manitoba and the Wollaston Supergroup of the south Hearne craton in southeast Saskatchewan. The Great Island Supergroup contains rocks that were deposited during the Late Proterozoic, and these rocks are in contact with the lower Neoarchean (ca. 2.07 Ga) granite of the Great Island granite complex at the Great Island Dome.

The Great Island Supergroup consists of middle Proterozoic to Early Cambrian supracrustal rocks, together with their basement and younger intrusions, have excellent exploration potential particularly for uranium and gold.

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