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Targeted Geoscience Initiative 4: Increasing Deep Exploration Effectiveness

Unravelling the Archean to Proterozoic History at the Meliadine Gold District, Nunavut, Canada

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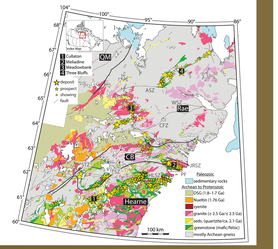
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1. introduction

Archean greenstone belts host a significant proportion of the world's gold, but in the case of the western Churchill Province (wCP; Fig. 1) pre-date the timing of auriferous hydrothermal fluids by nearly one billion years. For these orogenic greenstone- and BIF-hosted deposits, the spatial link between Proterozoic gold and Archean greenstone belts is particularly striking although its significance is still not fully understood (Fig. 1). The Meliadine gold district (2.8 Moz contained Au in reserves, plus an indicated and inferred resource of 5.8 Moz Au) represents an important example of this deposit style and is hosted within the Rankin Inlet greenstone belt (RlGB), which occupies a critical position along the largely inferred boundary between the Hearne craton and Chesterfield block (Fig. 1).


QM
CB
ASZ
WSZ
JRSZ
CFZ
PF
HLSZ
TSZ
DSG
Hearne
Rankin Inlet
Meliadine
Amer
Wager
Tyrrell
Josephine
Pyke
Happy Lake
Snowbird
Dubawant
Superior
Hearne
Churchill
Rae
Slave
Bear
Wyoming