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GEOLOGICAL SURVEY OF CANADA | COMMISSION GÉOLOGIQUE DU CANADA

NATMAP
CARTNAT
Canada's National Mapping Program
Le Programme national de cartographie géoscientifique du Canada

DESCRIPTIVE NOTES

INTRODUCTION

The Archean to Paleoproterozoic geology map of the MacQuoid Lake–Gibson Lake–Akunak Bay area is compiled from 14 new bedrock released 1:50 000 geological maps (Tella et al., 1997c, 1998, 2000c; LaChance et al., 2001) and integrates results of bedrock mapping undertaken during 1995, 1996, 1998 with more recent data from historical and reconnaissance geological surveys (Heywood, 1957; Blackadar, 1967) in the southeastern part of the Rae Province domain, western Churchill Province (Fig. 1). South of the Dowdall Tectonic Zone, the northern Hearne Province is predominantly composed of Archean juvenile crust which is interpreted to be underlain by continental crust of the Rae Province. The purpose of this map is to provide a comprehensive geological framework for studies of the tectonic evolution of the Paleoproterozoic and to provide an improved lithostratigraphic framework for mineral exploration. Detailed accounts of bedrock geology and of targeted studies on structure, metamorphism, petrology, and geochronology of the area are presented in Tella et al. (1997a, b, 1998, 2000a, b, 2001), Tella and Eaton (1997), Tella and Ryan (1998a, b, 1999a, b), Sibbick et al. (1998), Ryan et al., (1999, 2000a, b, 2001a, b, 2002), and Sandeman et al., (2000a, b, 2001, 2002, 2003). Readers are referred to these publications for more details and for additional reference material on previous work in the region, the reader is referred to the reference section of this report. For a more detailed and regional overview of the paleogeography of the Archean greenstone belts that includes the area covered by this map,

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LITHOLOGY

The map area is broadly divided into three lithological and structural subdivisions (Fig. 2): 1) the northwest-dipping MacQuoid Homocline, principally comprising Archean supracrustal rocks and Archean to Paleoproterozoic granitoids; 2) the Gibson Lake–Akunak Bay greenstone belt (GLAB) comprising northeast-to-east-trending belts of Archean rocks flanking the MacQuoid Homocline to the north, intermediate and felsic volcanic rocks and sedimentary rocks of the Akunak Bay area (Tella et al. 2000) Nd to εNd(t) values of +2.2 to +2.5