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2829
GEOLOGICAL SURVEY OF CANADA
COMMISSION GÉOLOGIQUE DU CANADA
OTTAWA
1994

OF 2829

RIVIÈRE LEPERS
QUÉBEC - NORTHWEST TERRITORIES

GEOLOGY

Open File 2829

Scale 1:50 000 - Échelle 1/50 000

Transverse Mercator Projection
Cartographic Section, GSC
Projection transverse de Mercator
Section de la cartographie, CGC
North American Datum 1927
Canadian Spheroid
Datum nord-américain de 1927
Sphéroïde canadien

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LOCATION MAP - LOCALISATION DE LA CARTE

Digital cartography by R.L. Kleist, Geological Survey of Canada
Digital map compilation by M.J. Van Kranendonk, Geological Survey of Canada

Any revisions or additional information known to the user would be welcomed by the Geological Survey of Canada

Digital base map from Surveys, Mapping and Remote Sensing Published at the same scale, corrected and modified by the Geological Survey of Canada

Copies of the topographical edition of this map may be obtained from the Canada Map Office, Natural Resources Canada, Ottawa, Ontario, K1A 0E9

Magnetic declination 1994, 33° 11' west, decreasing 12'E annually.

Elevations in feet above mean sea level

This map shows the geology of the westernmost part of the Trans-Hudson Orogen, in particular the contact between the Archean Slave Province and the Proterozoic Wopmay Orogen. The latter is subdivided into a number of lithotectonic units, which are described briefly in the map explanation. Detailed descriptions of the units are given in the bibliography. Geochronological data are available for many of the units, and are listed in the bibliography. Most of the geochronological data have been published in the above-mentioned bibliography, but some are unpublished. Sources of unpublished data are indicated in the explanation.

The map is based on 1:250 000 scale compilation maps published in 1992 and 1993 by the Geological Survey of Canada. Paper 92-1C; p.341-348.

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Recommended citation:
Van Kranendonk, M.J.
1994: Geology, Rivière Lepers, Québec - Northwest Territories; Geological Survey of Canada, Open File 2829, scale 1:50 000

DESCRIPTIVE NOTES

Lithology

In the map area, all rocks have been metamorphosed to the granulite facies. The oldest rocks include migmatitic basitic orthogneisses of supracrustal affinities age **AfgU**, which contain multiple sets of leucosome veins, restricted folds, and numerous sills and inclusions of mafic dykes. Meta-anorthosite and -gabbro, and meta-granodiorite and -granite (1 cm - 2 m wide; too small to show on map) which locally cut the migmatitic blocks to the basitic gneisses age of **AfgU**, which contain multiple sets of mafic dykes. Such granitic gneisses are interpreted as derived from anatexis of supracrustal Archean zoe age.

The migmatitic basitic orthogneisses of supracrustal affinities are also locally to extensively transformed into diatexite **AfgL** or complexly dominated by base metal (Mi, Zn) showings in the Tasiuyak gneiss. Quebec; data on their origin and the metallogenic implications for the region; in Wardle, R.J. and Hall J. (editors), Eastern Canadian Shield Onshore-Offshore Transect (ECSOOT). Report of Transect Meeting, The University of British Columbia, LITHOPROBE Secretariat, Report No. 32, p.74-82

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Structure

Supracrustal gneiss enclaves within rocks of suspected Archean age **AfgU** that are cut by mafic dykes, are of suspected Archean age and are denoted as Dn, Neither these structures, nor the dykes which cut them, have been recognized outside of this unit.

Structures of interpreted Paleoproterozoic age occur throughout the map area and affect those of suspected Archean age in the migmatitic basitic gneisses. The earliest set of Paleoproterozoic structures (Dn+1) include a metamorphic foliation, which is axial planar to tight to isoclinal folds, and a gneissic layering. These structures are truncated by the Archean unconformity, as are the dykes which cut them. Dn+1 structures are refolded by the regional folding event Dn+2. In the Archean rocks, the Dn+2 structures are the most commonly developed structures, and are manifested by the regional foliation, which is axial planar to tight to isoclinal folds, and a gneissic layering. Dn+2 structures are also developed in the Paleoproterozoic rocks, where they are axial planar to the regional folding event Dn+2. In the granitic rocks **Pgd** which locally have been affected by the regional folding and tectonic fabrics, as such rocks have been affected by