

Geological revision of the Rivière Octave region (NTS 32D16 and 32E01)

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Summary

This report provides an update on the bedrock geology of the Rivière Octave region based on the results of a Sonic drilling program carried out in the winter of 2011. The drilling data compensates for the scarcity of riverside outcrops and the thick glaciolacustrine cover. The study area is located south of the Sleeping Giant mine and about 45 kilometres north of the town of Amos.

The objectives of the project are: 1) document the geology of the bedrock below the Quaternary sediment cover; 2) update the geological maps of the area; and 3) assess the area's mineral potential and identify favourable geological contexts for mineral deposits.

The rocks in the Rivière Octave region are Archean and composed of volcanic and sedimentary sequences injected by late intrusive units. The mafic volcanic rocks of the Vanier-Dalet-Poirier Group (2722-2721 Ma) and the Clermont-Disson, Desboues and Miniac formations are the oldest in the area. They were succeeded by felsic volcanic rocks of the Rivière Octave Formation, followed by sedimentary rocks of the Glandelet Formation (<2695 Ma) and the Chicobi Group (<2698 ±2 Ma). Our work improved the existing definition of the Glandelet and Rivière Octave formations. It also identified several gabbroic intrusions within the Desboues Formation, and divided the Bernetz Intrusion into three phases: an early phase of granodiorite, tonalite and gneiss, an intermediate phase of granodiorite and hornblende granite, and a late phase of porphyritic granite.

The region contains several large shear zones. In the southern part, the Chicobi-North shear zone placed the sedimentary rocks of the Chicobi Group into contact with the volcanic rocks of the Desboues Formation. In the north, the Laflamme-South, Laflamme-Centre 1, Laflamme-Centre 2 and Laflamme-North shear zones are concentrated within an E-W corridor, roughly 5 km wide, that marks the boundary between the major volcano-sedimentary assemblages in this area.

Finally, our work improved the characterization of the following types of mineralization in the area: 1) lode gold; 2) disseminated gold; and 3) polymetallic volcanogenic. Examples of disseminated gold mineralization were the most common and were found in association with shear zones, particularly the Laflamme-Centre 1 and Laflamme-Centre 2 shear zones.

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