

Bedrock geology of the Heath Steele-Halfmile Lake area, Bathurst Camp, northern New Brunswick

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The Heath Steele-Halfmile Lake area in the Bathurst mining camp hosts six known base-metal deposits as well as several other mineral occurrences. The area is underlain for the most part by volcanic and sedimentary rocks that are assigned to the Ordovician Tetagouche Group. The Tetagouche Group has been subdivided into several formations, most of which are recognized in the study area. These include the Patrick Brook, Nepisiquit Falls, Flat Landing Brook, Canoe Landing Lake, and Boucher Brook formations. The Patrick Brook Formation consists of quartzofeldspathic and lithic sandstones and wackes that host many of the sulphide deposits in the Bathurst Camp. The Nepisiquit Falls Formation is composed predominantly of quartz and feldspar-phyric flows and high-level sills (quartz-feldspar porphyries) that commonly show a spatial relationship to sulphide mineralization. The Flat Landing Brook Formation is made up of aphyric and

feldspar-phyric rhyolite flows that typically feature relict perlitic or spherulitic textures, and local hyaloclastic and rare pyroclastic rocks. Mafic extrusive and intrusive rocks collectively known as the Otter Brook tholeiite are locally abundant within the Flat Landing Brook Formation. The Canoe Landing Lake Formation is represented in the study area by a small portion of a thrust sheet underlain by basaltic rocks referred to as the Nine Mile Brook tholeiite. The Boucher Brook Formation overlies the preceding formations and comprises mainly sedimentary rocks, including a thin basal unit of red to maroon, hematitic and manganiferous slate or chert, overlain by lithic and feldspathic wackes, greywackes, siltstones, and graphitic or manganiferous shales and slates. Intercalated locally with the sedimentary rocks are units of mafic volcanic rock collectively known as the Brunswick alkalic basalt.