

A DETAILED STUDY OF THE TIMING, LITHOLOGY AND TECTONIC EVOLUTION OF THE VOLCANO-SEDIMENTARY ROCKS OF THE AILLIK GROUP, AILLIK DOMAIN, MAKKOVIK PROVINCE

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This study is part of a M.Sc. thesis project at Memorial University and is supported by the Newfoundland and Labrador Geological Survey. The project aims to constrain the timing, lithology and tectonic evolution of the Paleoproterozoic volcano-sedimentary rocks of the Aillik Group, which largely comprise the Aillik domain of the Makkovik Province, in northeast Labrador. The Aillik Group is known to host numerous uranium and molybdenum showings and deposits.

The 2008 field season involved detailed field mapping at 1:10,000 scale in two type areas of the Aillik Group. The first area is a well-exposed coastal section encompassing Pomiadluk Point between Wild Bight and October Harbour, referred to herein as the Pomiadluk Point area. The second study area is an inland section, to the east of Middle Head and northwest of Cross Lake, referred to herein as the Middle Head Inlet area. The Pomiadluk Point area is considered to represent a stratigraphically lower section of the Aillik Group, whereas the Middle Head Inlet area is considered to represent a stratigraphically higher, and hence younger, section of the Aillik Group. In addition to detailed bedrock mapping, samples were collected for petrographic, geochemical, isotopic (Nd) and geochronological studies. This research project aims to constrain the timing and evolution of felsic volcanism within the Aillik Group. Furthering our understating of the evolution of the Aillik Group will aid in unraveling the complex metallogenic history of the area.



Two generations of isoclinal folding preserved within a crystal felsic tuff at Pomiadluk Point. Hammer is 30 cm long.



Polymictic conglomerate with subrounded, poorly sorted clasts that range from 2 cm to 30 cm long and 1 cm to 30 cm wide; Pomiadluk Point. Clasts are largely composed of granite and minor felsic tuff, mafic tuff, and tuffaceous sandstone. Hammer is 30 cm long.



Aerial view looking south of Middle Head inlet area, one of the two study areas, in NTS areas 13J/14



Weathered-out, relict pillows in a greenschist-facies metabasalt of the Aillik Group. Relict pillows are 10 cm to 30 cm long and 5 cm to 15 cm wide. Pen is 10 cm long.



Aerial view, looking south, of Pomiadluk Point, one of the two study areas, and lies within NTS map area 13O/03.