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Follow-up till geochemical data: Pokiok Batholith and environs.

**Gilmore, W.F. - 10 p. (pdf and xlsx formats).**

During the 2021 and 2022 summer field seasons, the New Brunswick Geological Survey (NBGS) carried out a follow-up till survey program, with a focus on critical minerals, of the areas overlying and surrounding the Pokiok Batholith, north of the Saint John River (NTS map sheets 21 G/14, 21 G/15, 21 J/02, and 21 J/03). This survey, which increased the sample density of the area to approximately one site per 2 km<sup>2</sup>, will help to better define anomalous areas identified in past surveys (Seaman 1999; Allard et al. 2005) and increase the possibility of delineating previously unknown areas of prospective mineralization.

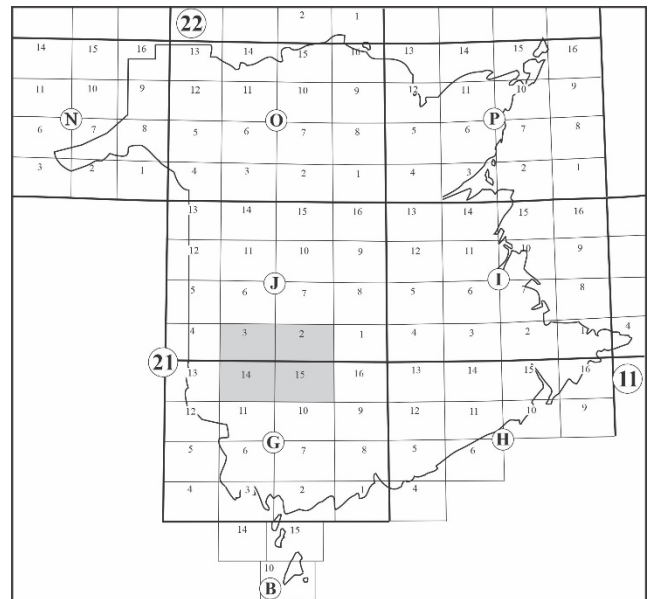
Samples were collected from sites in between the sample sites of previous regional till surveys. The area is mainly underlain by Devonian granitic rocks of the Pokiok Plutonic Suite, Devonian volcanic rocks of the Tobique Group, Early Devonian mafic intrusive rocks, Cambrian to Early Ordovician sedimentary rocks, Silurian sedimentary rocks, and Late Carboniferous sedimentary rocks.

During the summer of 2021, 102 till samples were collected from 97 hand-dug pits. An additional 106 till samples were collected during the summer of 2022 from 101 hand-dug pits. Samples were collected in areas located above the underlying Pokiok Batholith or near mapped contact boundaries.

Samples were prepared (dried and sieved) at NBGS laboratory facilities in Fredericton, New Brunswick. AGAT Laboratories (Mississauga, Ontario) was contracted to conduct geochemical

analyses for 48 elements by ICP-MS following a 4-acid digestion, as well as Au, Pd, and Pt analysis by Fire Assay (ICP-OES and ICP-MS Finish; ICP-MS Finish only for samples collected in 2022). Additionally, 198 archived till samples (collected in 1995, 1996, and 1998 on the Millville map sheet, NTS 21 J/03) were sent for re-analysis (same method of analysis described above; 76 samples with the 2021 batch and 122 samples with the 2022 batch).

This multi-year project will continue in 2023 to the north-northeast, extending into the Coldstream (21J/06) and Napadogan (21 J/07) areas, with additional till sampling in the areas underlain by the Pokiok Batholith.



grey shading on map denotes study area