

***Precambrian rocks in the Trousers Lake area, Miramichi Highlands***

*L.R. Fyffe, Mineral Resources Branch,  
Department of Natural Resouces, Fredericton, N.B. E3B 5H1*

The presence of Precambrian rocks in the Miramichi Highlands of New Brunswick has long been an issue of debate. In the late 1800's, Eells considered deformed and metamorphic volcanic and sedimentary rocks extending along the upper part of the Nepisiguit River southeastward to the Little Southwest Miramichi River to be Precambrian because of their similarity to some of the Hadrynian volcanics in southern New Brunswick. He also included massive volcanics on the Nepisiguit Lakes within this group.

Shortly thereafter, Bailey mapped metamorphic rocks and massive volcanics in the Trousers Lake area as a southwestward extension of Eells' Precambrian. Late in the early 1900's, Bailey demonstrated that the massive volcanics mapped by Eells dipped rather gently and were, therefore, probably Silurian. (They are now known to be Early Devonian). However, he did not preclude the existence of Precambrian rocks in the area.

Mapping in the 1930's led Alcock to favour a mid-Ordovician age for much of the deformed volcanic complex along the Nepisiguit River, but at the same time, Shaw thought some of the metamorphic rocks in the Little Southwest Miramichi area to be as old as Cambrian. Recently, O'Brien and Rast have proposed that high grade metamorphic rocks of the central Miramichi Highlands are probably Precambrian.

Rocks exposed on the southeastern end of Trousers Lake are an interlayered sequence of dark green amphibolite, pink granitic gneiss and grey psammite. They are intruded by an elongated, concordant body of foliated granite containing rounded alkali feldspar megacrysts with rapakivi mantling. A Devonian granite pluton separates these Precambrian rocks from greenschist grade Cambrian quartzite and phyllite to the north of the lake.