

Geological mapping program on St Pierre and Miquelon Islands

D. Rabu

Nova Scotia Department of Natural Resources, P.O. Box 698, Halifax, Nova Scotia B3J 2T9, Canada
and

J.L. Rabottin

49 rue de l'abbé P. Gervain, 97500 St Pierre et Miquelon

St Pierre and Miquelon islands lie 50 km south of Newfoundland. The bedrock geology was mapped by Aubert de la Rüe in 1951 and the Quaternary evolution has been studied by Tucker and McCann in 1980. The Bureau de Recherches Géologiques et Minières French Geological Survey is undertaking a new program of 1:50 000-scale geological mapping (1991-1992).

Preliminary results are as follow: volcanic rocks exposed on St Pierre and the central part of Miquelon consist of subaerial rhyolitic-dacitic lava flows, pyroclastic rocks (agglomerate, tuff) and minor pillow mafic flows. These volcanic rocks are unconformably overlain by red polymictic conglomerate of latest Precambrian age. Latest Precambrian-Cambrian rocks are mainly exposed on Langlade (southern

part of Miquelon) and are similar to the Burin Peninsula sequences. On the northeast Langlade coast, red arkosic sandstone and shale overlie rhyolitic lava flows and green vesicular basalt and may all be Devonian in age. Glacial features, such as striae and grooves, show that at least two major glacial events occurred on the archipelago: (1) north-west-southeast-directed flow, is found everywhere in the area and is probably early Wisconsin in age; and (2) north-east-southwest-directed flow, is only well displayed on the southern coast of St Pierre Island and is middle Wisconsin in age. Fossilized wood remains, below peat deposits around Miquelon, display a wide range of radiometric data between 5220 ± 90 BP and 2410 ± 70 BP.