



Gunflint Trail Geology

As you travel the Gunflint Trail Scenic Byway, you'll be traversing some of the oldest exposed rock on the planet. The Gunflint Trail occupies the southernmost point of the Canadian Shield, a shield-shaped formation of Precambrian rock that covers more than a million square miles.

The high granite cliffs you'll see are part of the Laurentian Divide, another eons-old rock formation. Be sure to make a stop at the Laurentian Divide Scenic Overlook (approximately 110 miles from Grand Marais). Waters on the north side of the divide flow north to Hudson Bay and the Arctic Ocean; waters on the south side flow southeast to Lake Superior, then on to the Atlantic Ocean. The area surrounding this divide is known as the Laurentian Highlands.

The Gunflint Trail area and Boundary Waters Canoe Area Wilderness contains some of the earth's most stable rock mass. The far northeastern portion of Minnesota is made up of a soft sedimentary rock, called gray-wacke, and hardened lava, which forced its way through the gray-wacke creating great humps tilted slightly to the south. When the glaciers moved across the area, the softer rock was deeply carved out and became lake bottom. The tilted, hardened rock was exposed. Today there are cliff, or palisades, on lakes including Pine, Mountain, Clearwater, Watap, Hungry Jack, West Pike, and Rose. These palisades loom over the water from 200 to 400 feet. Geologists call the rocks in this area the Rove Formation. The geology of the Gunflint Trail area is a fascinating natural history. Additional information:

Links:

[Petrology of contact metamorphosed argillite from the Rove Formation Institute on Lake Superior Geology](#)
[Minnesota Department of Natural Resources](#)

