

BEDROCK

320 to 3 million years old

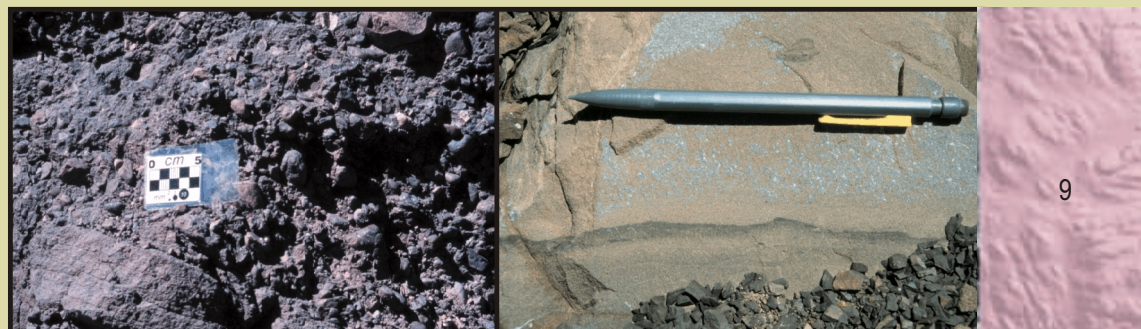


Figure 9a. Pebble conglomerate deposited by an ancient

b. Bedded siltstone and sandstone near Pinchi Lake.

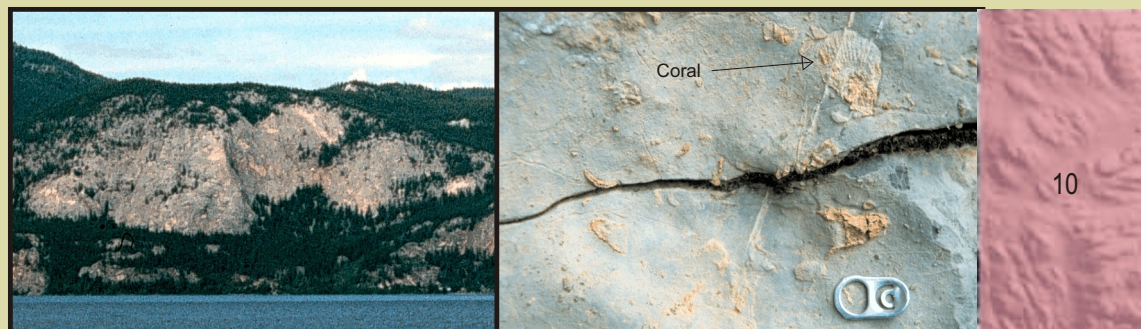


Figure 10a. Limestone, Mount Pope, Stuart Lake.
Photograph by L.C. Struik. GSC 1999-030

b. Coral fossils in limestone south of Pinchi Lake.
Photograph by L.C. Struik. GSC 1999-029B



Figure 11a. Dome of felsic volcanic rock.

b. Pink rhyolite containing white feldspar crystals.



Figure 12a. Columnar jointed basalt.
Photograph by L.C. Struik. GSC 1999-032

b. Vesicular andesite near Ormond Lake.
Photograph by L.C. Struik. GSC 1999-033



Figure 13a. Diorite with basalt fragments south of Fort Fraser.
Photograph by L.C. Struik. GSC 1999-035

b. Granite near the Endako mine.



Figure 14a. Dark masses of diorite in granitic rock.
Photograph by R.G. Anderson. GSC 1999-036

b. Ultramafite from Mount Murray north of Fort St. James.
Photograph by M. Hrudehy. GSC 1999-037

Sedimentary rocks

Sandstone, siltstone, shale, and conglomerate deposited in the sea 240–80 million

Limestone

Limestone and dolostone form long narrow ridges between Stuart and Pinchi lakes. Small areas of limestone also occur southwest of Stuart Lake and east of Toncha Lake. Limestone caves are found near Fort St. James. Some of the rocks contain beds rich in shells or corals. Streams draining limestone are more alkaline (higher pH) and more carbonate rich than streams draining other rock types. They may support larger fish populations. Limestone is quarried for road-bed fill east and west of the

Felsic volcanic rocks

Rhyolite, rhyodacite, and dacite ranging in age from 75 to 50 million years occur as layered sequences or dykes, mainly in the southern and western parts of the map area. They are light coloured, light weight, and massive or full of bubbles (vesicles). The rocks commonly contain crystals of quartz, feldspar, biotite, and hornblende. Streams draining felsic volcanic rocks have high concentrations of phosphate and potassium, enhancing the productivity of aquatic life. Felsic volcanic rock is quarried

Mafic volcanic rocks

Andesite and basalt form layered sequences up to 700 m thick. These rocks are dark coloured, heavy, and massive or full of bubbles (vesicles) and formed from volcanic flows similar to those occurring today at Hawaii. The rocks date to four periods: 280–247, 230–190, 70–47, and 27–11 million years ago. Some have conspicuous cooling joints (columnar joints) or contain fragments of sandstone or red basalt. Volcanic rocks are chemically reactive, and streams draining them have elevated concentrations of important nutrients such as phosphate. Some of the younger mafic volcanic rocks contain opal and agate. Quarries at Fraser Lake west of Fort Fraser

Felsic plutonic rocks

Light coloured, coarse-grained igneous rocks including granite, monzonite, and granodiorite. They consist of interlocking masses of quartz, potassium and sodium feldspars, biotite, and hornblende. Felsic plutonic rocks range in age from 220 to 60 million years. The rocks are mostly massive and structureless, but some have a planar or linear orientation of crystals. Some felsic granitic rocks around Fraser, Burns, and Camsell lakes contain deposits of molybdenum, copper, lead, silver, and gold. Groundwaters flowing through granitic rocks tend to be acidic (pH 4–7) and

Mafic plutonic rocks

Gabbro and ultramafite are 320 to 200 million years old and are concentrated along a wide northwest-trending zone that extends from Pinchi Lake to Mount Sidney Williams. The rocks are dark coloured and consist of interlocking crystals of calcium feldspar, hornblende, pyroxene, and/or olivine. They may contain deposits of chrome, nickel, antimony, and platinum. The rocks are mostly massive and structureless, but some