

### Hadrynian and Lower Palaeozoic Geology of the Western Cobequid Hills

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The Hadrynian Jeffers Formation is the oldest rock group in the western part of the Cobequid Hills. Several major east-west faults break up the succession into a number of discrete structural blocks. The lower part of the Formation consists of mafic flows, some intermediate and felsic flows and pyroclastics, and interbedded phyllites, mudstones and minor carbonates. The upper part comprises felsic pyroclastics and volcaniclastic sediments. Both felsic and mafic hypabyssal intrusions cut the Formation prior to the development of a flat lying cleavage associated with local recumbent folding. This cleavage is probably related to late Hadrynian strike-slip movement along an ancestral Cobequid Fault. The cleaved strata are cut by

several granodiorite and minor granite intrusions, the largest of which (the Jeffers Brook pluton) has been dated by Donohoe and Wallace as latest Hadrynian. These plutons may be located along major strike-slip faults.

Silurian rocks consist of relatively undeformed fossiliferous mudstones and sandstones, and occupy only a very small area north of the Jeffers Brook Formation at the southern edge of the Cumberland Basin. The Devonian-Carboniferous Fountain Lake Group is not widespread in the western Cobequids. Devonian-Carboniferous plutons are localised along major strike-slip faults and appear to post date the main phase of motion on all but the main Cobequid Fault.