

porphyritic with predominant soda orthoclase, and quartz, subordinate plagioclase, minor biotite, muscovite and tourmaline. The acid igneous activity gave rise to the Aberfoyle/Storeys Creek cassiterite-wolframite lodes in the Silurian rocks and to late stage greisen lodes emplaced in the granite. This granite indicates 3 to 4 times background radioactivity.

An intrusion of hornblende-biotite granodiorite extends as a north south tongue to the east of Mt. Barrow with the bulk of the body extending away to the NE.

(f) Permian

Following granite intrusion there was a long period of erosion and peneplanation during which time the granite was exposed and glaciation followed at the beginning of the Permian.

Marine sedimentation took place over the whole basin area throughout the Permian giving rise up to 2000 ft. of mudstones, sandstones, felspathic sandstones and shales with minor conglomerates, and limestones, in a variable depositional environment.

The Permian stratigraphic column is well exposed around the Western Tiers and less so about the Mt. Barrow, Ben Lomond area and upper South Esk areas.

(g) Triassic

Following uplift late in the Permian, sedimentation continued through the Triassic but largely in fresh water lakes and swamps which extended over much of the area. Up to 700 ft. of sandstone, felspathic sandstone and shale with coal measures in the upper part was deposited conformably and unconformably on the Permian. It has been suggested (Hale in Banks et al, 1962) that part of the felspathic material, and other possibly volcanic fragments, in the sandstones, was derived from trachytic or andesitic tuffs. However, there has been no positive identification of the sources of vulcanism.

The Triassic rocks are exposed around the Western Tiers, the north eastern highlands and as remnants in the Longford area.

(h) Jurassic

Following further uplift and minor faulting the Permo-Triassic system was intruded concordantly by massive dolerite sheets up to 1200 ft. thick, generally in the lower part of the Triassic rocks. Normal faulting accompanied the intrusion. The dolerite is composed largely of labradorite, augite and hypersthene and is generally tholeiitic.

The dolerite outcrops prominently throughout the hilly parts of the basin, It forms the capping of the Central Plateau and the other hills which bound the Tertiary Basin, and occurs as remnants therein. It is also the effective basement virtually throughout the basin.