

tain torrents, which cut deeply into the syenitic rocks, rendering the land rugged and unfit for cultivation. Picturesque glens and gorges are formed in both cases by the erosion of the friable Carboniferous conglomerate. The distribution of the various geological formations accords with the direction of the watersheds, which are themselves the axes of folds continuous with those affecting the Coal Measures. That of the Coxheath Hills is the anticline which runs through Point Edward and thence to South Bar and Bridgeport Basin. Instead, however, of dipping regularly from it on the south-east side, the Carboniferous rocks are broken and tilted by the Sydney River fault, which brings the Millstone Grit near the Forks close to the felspathic rocks. On the opposite slope the dip is towards the valley of Leitch Brook, which flows in a basin of Carboniferous Limestone and Millstone Grit rocks, the rim of which is the Boisdale Hills, an extension of the anticline that runs from Point Aconi to Saunders Cove. Boularderie Island forms another basin, the upper portion of which, composed chiefly of Millstone Grit and Coal Measures, is alone exposed; and the last lies to the westward of the St. Ann Hills.

These undulations are not always simple, but are accompanied by great lines of fracture and dislocation. Two of these run along the south-eastern slopes of the Coxheath and St. Ann hills, and a third probably occupies a similar position on the Boisdale Hills, cutting out a great thickness of Lower Carboniferous strata.

The succession of the formations which occur within the district is as follows, in ascending order:—

1. Syenitic, gneissoid and other felspathic rocks, . . .	} Pre-Cambrian.
2. George River Limestone Series	
3. Barabois slates and other rocks,	} Cambrian.
4. Carboniferous Conglomerate Series	
5. Carboniferous Limestone Series	} Carboniferous.
6. Millstone Grit	
7. Coal Measures	

1. SYENITIC, GNEISSOID AND FELSPATHIC ROCKS.

These rocks are exposed on anticlines in the Coxheath, Boisdale and St. Ann hills. In the Coxheath Hills they consist of felsites and quartz-felsites, compact, fragmental and granular, often porphyritic, of various bright colours, associated with hornblendic and micaceous granitoid rocks and including a light-coloured altered felsite useful as a fire-clay. Traces of hæmatite are frequent among these rocks, while on one of the deposits of copper ore is the Coxheath mine. Separated from the Coxheath Hills by a valley less than three miles wide in the narrowest part, lie the Boisdale Hills, running parallel with St.