

The deposit consist of four major formations; The footwall finely laminated limestone, the Koolpin formation (BIF), Gerowee Tuff (siliceous tuffs), and the Mt Bonnie Formation, the latter being a mix of the previous two Stratigraphic units inter-bedded with greywacke and sediments from the overlying Burrell Creek formation. The Koolpin formation is characterized by alternating layers of carbonaceous shales, mafic sills (chlorite-feldspar) and silicate-sulphides.

The Gerowee Tuff consists primarily of white to black siliceous tuffs and tuffaceous siltstones.

Illustration below --Photo 1 - The Cullen Batholith is proximal (<600m from the known gold deposit) and well outcropping. It is slightly greisenised .Sampling proved that it was barren of metal. Photo 2 - is a finely banded limestone ,with occasional stylolites and bleb like forms of calcite .Photos 3 and 4 - illustrate part of the thermal aureole where clinopyroxene, chlorite etc (greens) have

affected bedding conformable parts of the ironstone, while dusty to finely laminated pyrrhotite Members of the Koolpin Formation remain intact .Clearly its ductile nature has yielded to intense folding, stretching and strain of the pyrrhotite (a further diagram below illustrates the transition between conformable sulphide and completely deformed sulphide overprinted by metamorphic minerals such as cordierite (photo 7).Photo 5 illustrates tourmaline intergrown with pyrrhotite in confined beds. In photo 8 we have the mudstone –black sulphidic shale the is both interbedded with ironstone and forms the Hanging wall to the ore sequence. Photos 9 and 10 show the ironstone and chert nodules and the very large (> 1 ft long) nodule ovoids that were part of a string of nodules within and transitional to boudinaged chert horizons.



MOUNT PORTER LITHOLOGIES- 1-THE Cullen stock—proximal to the mineralisation with clinopyroxene-cordierite contact aureole (destructive) 2 – the Footwall laminated and stylolitized limestone-barely marbled 3 and 4 – clinopyroxene altered ironstone beds 5- pyrrhotite –tourmaline beds 6 and 7 folded primary pyrrhotite beds ,8- hanging wall and interbedded sulphidic mudstone –black shale 9 and 10 nodular pyrite ironstone and massive loose chert nodules

