and disseminations of cassiterite-arsenopyrite-pyrrhotite.

The ore solutions are considered to have risen along tension faults in the Renison Bell Anticline and replaced adjacent carbonate beds. The source of the hydrothermal solutions is considered to be the underlying granitic body with faults acting as conduits.

At GAP the following types of mineralisation are seen to occur in rocks of the Crimson Creek Formation:

(i) Metasomatic replacement of permeable beds: The most common form of sulphide mineralisation observed at GAP is of this form. Since the hydrothermal solutions which introduced the sulphides also metasomatised the rocks, the distribution of this style of mineralisation is restricted to rocks of the Argillite Sequence. Pyrite and chalcopyrite is seen to occur with tremolite, axinite and chlorite in metasomatised arenaceous layers in Costean 1000N and on the Myrtle Grove road. Pyrite crystals occur as clusters showing replacive textures associated with phlogopite in sandy lenses mapped in Costean 1200N. Generally however, in Costean 1200N and the surrounding area, pyrrhotite is seen as the main introduced sulphide in the silty and sandy layers. Disseminated pyrite, pyrrhotite and chalcopyrite occurs in the metasomatic hornfels units mapped in the Exe River. Pyrrhotite, pyrite, arsenopyrite, chalcopyrite, galena, sphalerite and stannite have been detected in metasomatised arenaceous layers in the core of RBE 1 at Grid 5.

The carbonate rocks at Grid 4 show evidence of some introduction of sulphides, namely galena and chalcopyrite. More extensive replacement may occur at depth, particularly where the carbonate rocks are seen as ferruginous-manganiferous breccias. It is possible too that suitably altered and prepared sections in the Serpentinite Complex could host replacement type sulphides.

(ii) Vein filling in fault zones: Mineralisation of this type has been mapped in a short adit off the Ring River, along a faulted contact between