

Eighteen rock samples from the Mt. Black Gold project were received for petrological examination. Representative thin-sections were prepared and examined, together with their respective offcuts, with carbonate and K-feldspar staining tests carried out as warranted. Attached tabulated descriptions summarise the microscopic data and include interpretative comments.

Summary

This suite is a composite of altered igneous and sedimentary lithologies. Six lithological groups may be delineated:

Group 1 comprises intrusive igneous rocks, typically thoroughly altered with pervasive sericite + chlorite and carbonate assemblages, and mildly stressed. Inferred composition ranges from basic to more typically acid. Some acid types, however, include abundant leucoxenised primary opaques suggestive of a differentiated basic-intermediate complex. This group includes samples 62803, 62805, 62824 and 62807, with 62824 representing the single (relatively altered and relatively sheared, ?older) basic.

Group 2 comprises altered (carbonated, silicified) ultramafic rocks. Due to general compositional similarity with Group 4 rocks, altered ultramafics may be more abundant than hitherto evident, the only specific petrological characteristic being relict primary dark red chromite characteristic of, but problematically not ubiquitously developed in, the Cambrian ultramafics of N.W. Tasmania. This group includes samples 62828, 62831 and probably 62820.

Group 3 comprises silicified and sericitised pyroclastic rocks and includes two samples only: 62812 (a compositionally poorly diagnostic pumiceous lapilli tuff) and 62838 (a rhyolitic lithic-vitric-crystal tuff).

Group 4 comprises apparently sedimentary breccias typified by a composite of carbonate, pelitic and cherty sedimentary, acid volcanic and minor ?reworked "granite"-derived components, with a variously carbonate-rich to cherty or pelitic matrix. "Limestone" components reflect diagenetic dolomitisation. Fabrics are consistent with intraformational brecciation, but interpretation will be dependent on field evidence. This group includes samples 62819, 62821 and 62822.

Group 5 comprises variably carbonaceous psammopelitic quartzose sediments, weakly acid volcanomict in part, and variably syngenetic-pyritic. These rocks are variously stressed to mildly sheared and locally brecciated. A few exhibit vein-hosted "granitic" alteration assemblages with associated concentrations of Fe-sulphides. This group includes samples 62809, 62810, 62811, 62833 and 62835.

Group 6 comprises an altered (sideritic-carbonated) and somewhat weathered conglomerate (62840), sand-matrixed and acid volcanomict in part, but with a framework dominated by clasts of pelitic sediment. This rock carries locally conspicuous dark red detrital chromite.