

REPORT CMS 80/4/14

Petrological Descriptions23088

S 371800N

375060E

Caldbrook
Hill

(T.S. 31396)

This is an altered labile pelite, ranging from a fine sandy siltstone to silty shale. The rock is somewhat turbidite-like and can be classified essentially as a finegrained tuffaceous greywacke or subaqueous tuff (the distinction is tenuous and academic). There are similarities with the more labile (tuffaceous) facies of the Crimson Creek Formation.

Finer clastic particles are poorly resolved, but the sand-sized grains are mainly splintery to angular feldspar (albitised plagioclase, minor K-feldspar) and microcrystalline felsic-intermediate lava clasts with relatively minor angular quartz. The silt-sized component, in part at least, comprises mildly abraded microshards and the finer ("shaly") bands may represent pelitic ash material.

Alteration is of contact-metasomatic character, with more or less pervasive development of extremely fine-grained biotite and green ?tremolite-actinolite (too fine for positive optical determination). Minor chlorite develops as a late alteration of the mica.

The dark colouration (hand specimen) is a reflection of pervasive ultrafine carbonaceous matter and is enhanced by thinly, but more or less pervasively, disseminated extremely fine clastic opaques and by the dark metasomatic mica. The proportion of carbonaceous matter is thus difficult to estimate, although it comprises at least a few percent and conceivably up to 5 % of the rock. Rare ultrafine Fe-sulphide particles are present, but these would be insignificant in terms of I.P. response.

20389

S 371800N

375190E

Caldbrook
Hill

(T.S. 31397)

This is a phlogopitised, slightly sandy pelite, essentially similar to 20388. As previously, there is little to choose between a subaqueous tuff and a tuffaceous greywacke. However, this rock contains relatively clearly defined microscopic shards with little evidence of abrasion and these tend to confirm a primary pyroclastic mode of origin.

General features require little special comment. In comparison with 20388, this rock is weakly laminated and very incipiently graded on a sub- to millimetric scale. Fine silt-sized clastic opaques comprise 2-10 % of the predominantly silt-sized clastic material and are partly recognisable as magnetite and ilmenite (the rock is weakly magnetic).