

Sample: S 424; TS34423

Location:

LS 8 at 49.7 m

and Specimen:

A greenish-grey rock containing numerous quartz grains or phenocrysts up to about 3 mm in size in a finer-grained, darker matrix. The rock now has a schistosity at a moderate angle to the direction of the drill hole and some of the quartz grains and/or aggregates have been drawn out in this direction. The rock is cut by a small white vein probably containing quartz and carbonate which has not been deformed.

Staining with cobaltinitrite shows no potash feldspar.

Thin Section:

A visual estimate of the minerals is as follows:

| | <u>Z</u> |
|----------------------------|----------|
| Quartz | 45-50 |
| Sericite | 35-40 |
| Chlorite | 5-10 |
| Calcite | 2-3 |
| Opaque oxide and leucoxene | 1-2 |
| Apatite | trace |
| Zircon | trace |

The rock has been deformed and partly recrystallized but still retains evidence of its original texture. It once contained numerous, relatively large quartz phenocrysts 1 to 3 mm in size and most of these have been extensively fractured, the fragments have been displaced relative to one another and the aggregates have been drawn out in the direction of schistosity. Calcite has invaded most of the fractured and deformed quartz phenocrysts and now fills spaces between the separated fragments. There are a few elongated patches of sericite but no definite relict textures to suggest that they were once feldspar phenocrysts and one of the larger, lenticular masses of sericite shows some evidence of former texture suggesting that it was a fragment of volcanic glass or pumice. There are a few elongated areas which show different amounts of staining and slightly different grain sizes and textures and it is therefore possible that this was originally a fragmental or pyroclastic rock. There are a few small, elongated aggregates of chlorite associated with leucoxene and very fine-grained opaque material and these may have been small fragments or phenocrysts of a dark mineral. Thin streaks containing concentrations of extremely fine-grained opaque oxide and leucoxene are subparallel to the foliation and curve around the larger phenocrysts. There are a few larger opaque grains up to 0.5 mm in size.

The matrix is composed of orientated, very fine-grained muscovite or sericite intergrown with varying concentrations of very fine-grained quartz and also minor amounts of extremely fine-grained opaque oxide. Locally there is minor chlorite. There are a few grains of apatite up to about 0.15 mm long and one or two of these have a turbid, grey-stained central zone. There are very few, tiny grains of zircon some of which have been fractured.

Conclusion:

This is a deformed rhyolite which is more likely to have been a pyroclastic (?crystal-vitric tuff or ?ash-flow) than a lava flow.