

Sample: S443; TSC34437

Location:

LS 8 at 324.6 m

and Specimen:

A fine-grained grey and pinkish rock which contains a few small, paler-coloured patches or aggregates. It is cut by a network of small fractures.

Staining with cobaltinitrite suggests the presence of minor potash feldspar and this etching and staining emphasises the fragmental appearance of the rock.

Thin Section:

A visual estimate of the minerals is as follows:

	<u>%</u>
Quartz	50-55
Sericite	30-35
Potash feldspar	5-10 (?)
Chlorite	3-5
Opaque oxide	1-2
Leucoxene	trace
Calcite	3-5
Epidote	trace
Sulphide probably pyrite	trace

This is similar to sample S 422 in that it is an acid volcanic rock which has been extensively sheared and fractured but sufficient of the original texture has been preserved to show that it contained at least 5% of quartz phenocrysts and there were also at least a few feldspar phenocrysts. Some of the original quartz phenocrysts are now surrounded by optically continuous overgrowths which have encroached on the matrix and these overgrowths contain very small inclusions of iron oxide, chlorite and sericite. Very few of the feldspar phenocrysts have been preserved in recognizable form but there are a few remnants of potash feldspar extensively replaced by sericite and chlorite and there are a few patches of sericite which could also have been feldspar phenocrysts. There were probably at least a few mafic phenocrysts and at least one of these is outlined by extremely fine-grained iron oxide but other aggregates of iron oxide and leucoxene may represent altered and deformed crystals of iron-titanium oxides.

The groundmass or matrix of this rock differs from that in many of the other samples in that there are small patches of pale orange-stained, very fine-grained potash feldspar closely intergrown with very fine-grained chlorite and sericite. Most of these patches are too fine-grained for the mineralogy to be accurately determined by microscopic methods and it is possible that plagioclase could also be present but it is felt that potash feldspar predominates. These patches of potash feldspar are intergrown with quartz of very variable grain size and much of the quartz contains numerous tiny inclusions of iron oxide.

The rock is cut by numerous small intersecting shearing planes and fractures and there is a zone in which it has been so extensively crushed or sheared that it now resembles mylonite. Many of the small intersecting fractures contain calcite and a few of these have been microfaulted possibly indicating at least two episodes of deformation.

Conclusion:

Sheared and fractured rhyolite with intersecting veins of calcite. Original textures have not been sufficiently well preserved to show whether it was a pyroclastic or a lava flow.