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MEMORANDUM: PETROGRAPHIC DESCRIPTIONS

The following petrographic descriptions apply to rocks collected by Geologist K. Burns.

Lorinna Road - 4581:

Fine grained dark grey rock with glassy phenocrysts about 1 mm. across. The specimen is cut by a complex vein about ½" wide, consisting principally of quartz with an irregular centre up to ¼" wide, consisting principally of hornblende needles.

In thin section the rock consists of a fine grained ground mass of quartzo-felspathic mosaic with disseminated, minute books of yellowish mica. The ground mass in general has a rather mottled appearance due to palimpsest structure. In this matrix are crystals of quartz and felspar. The quartz is somewhat cracked and distorted and the felspar is corroded. Opaque rounded iron ore minerals are fairly common and there are patches of yellow mica.

The vein boundary is in most places quite sharp, but there are places where minerals from the vein have penetrated into the rock. As stated, the middle of the vein consists of hornblende. The mineral is strongly coloured, intensely pleochroic and arranged in radial and sheaf-like masses of prismatic crystals. Euhedral crystals of magnetite arranged in strings and irregular patches tend to be associated with the hornblende. The outer parts of the vein contain anhedral crystals of felspar up to .5 mm. across. Most of the crystals show no twinning, but irregular coarse lamellar twinning is sometimes seen. Granulation that may be due to recrystallisation is also common. Quartz is present in equal or greater quantity. The quartz is mainly in irregular grains, but some euhedral crystals are present. The anhedral quartz contains much fine included material, including minute drops of liquid with mobile bubbles. Yellowish epidote is common, as small irregular grains and masses.

Lorinna Road - 4582:

Dark greenish fine grained rock with sub rounded quartz phenocrysts, and irregular patches of pink felspathic material. A large pebble-like inclusion of pinkish felspathic material containing quartz grains

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also occurs.

The rock is a fine granular quartzo-felspathic mosaic, containing larger grains (up to 1 mm.) of quartz, altered felspar, irregular granular masses of epidote, and masses of fine acicular hornblende, sometimes altered to chlorite.

The pink area has a matrix of quartzo-felspathic material of even finer grain, and it shows flow texture. Phenocrysts of corroded quartz grains and semi opaque felspar crystals are common. Quartz and quartz and epidote occur as groups of fine granular crystals in the finer grained matrix.

Forth River - 4583:

Fine grained dark greyish or brownish rock with indefinite porphyroblastic patches. One part of the specimen is thickly studded with somewhat rounded quartz crystals about 3 mm. across.

The rock is a very fine, even grained aggregate of quartz, felspar, sericite and biotite. Irregular areas consisting mainly of sericite become visible under crossed nicols and may be the ghosts of felspar crystals. The large quartz crystals show rounding and embayment.

Gales Bridge - 4584:

Dark brownish gray rock with numerous white phenocrysts. It contains a rounded flattened inclusion greenish in colour and surrounded by a white border.

In thin section the rock appears as a sheared quartz-felspar porphyry with sub-rounded crystals of clear quartz and rounded rhomboidal crystals of altered felspar showing simple or no twinning, in a very fine grained quartzo-felspathic matrix. A little epidote, magnetite, and pyrite is also present.

The green inclusion consists largely of hornblende and epidote in confused masses of fine crystals, together with phenocrysts of quartz and felspar and irregular masses of quartzo-felspathic matrix.

The white band is similar to the sheared porphyry but the matrix is fresher and whiter and there is more epidote present. The three different types merge gradually into one another.

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