

Petrographic descriptions of specimens collected in the Launceston Quadrangle

by G. B. Everard

The following petrographic descriptions are of specimens collected by geologist M. Longman in the Launceston Quadrangle.

63-232 — Tasman Highway Sidling (530500E, 917200N)

The hand specimen is a fine grained, finely banded bedded rock, brownish grey in colour. Current bedding with truncation of the upper parts is well shown. Coarser grained beds, with particles up to 1 mm across, occur.

In thin section the rock consists of an aggregate of grains of quartz sericite and opaque clay minerals somewhat stained by limonite. The coarser particles mentioned above prove to be composite masses of quartz grains averaging 0.03 mm across, whereas the finer grained particles are of very fine silt and mud grade.

The rock is a mudstone.

63-233 — Mt Arthur Road (516800E, 918000N)

The specimen is a fine grained, schistose, crenulated silver grey rock.

In thin section it consists of sericite and quartz in grains up to 0.03 mm long. Shearing is intense but in some places has been a little disturbed by enclaves of recrystallised quartz. In places sericite appears as minute knots with cleavage at an angle to the general rock cleavage, indicating rotation, and possibly replacement of albite.

The rock is a quartz sericite schist.

63-235 — Musselboro turnoff (531000E, 889500N)

The hand specimen is a very fine grained, uniformly grey rock with sparse colourless glassy crystals about 0.5 mm across.

The thin section is darkened by a fine dust of evenly scattered minute particles possibly mainly of carbonaceous material, although magnetite and pyrite are also present. Otherwise the rock is an aggregate of extremely fine particles of quartz, feldspar and sericite, the two former minerals giving very faint greys under crossed nicols. Some of the larger fragments are capable of being individually identified and consist of quartz, feldspar, sericite and rock fragments.

The rock is an indurated mudstone.

63-236 — Logging track north of Burns Creek (535000E, 899000N)

The hand specimen is a medium grained mesocratic rock with crystals of feldspar, biotite and hornblende 2 or 3 mm long in a finer grained quartzo-feldspathic matrix.

In thin section the texture is poikilitic. Plagioclase feldspar occurs in large subhedral crystals together with irregular crystals of hornblende and somewhat ragged plates of biotite with interstitial quartz. The plagioclase may contain a few inclusions of hornblende and oligoclase but the hornblende and especially the quartz are full of inclusions of the other minerals. The

inclusions are euhedral to subhedral and are of the order of 0.25 mm long.

The feldspar generally belongs to the oligoclase-andesine range. Some of the larger crystals are zoned but the range in composition does not seem to be very great. Tiny grains of opaque iron ore minerals are widely disseminated through the section.

The rock is a tonalite.

63-237 — Youngtown (507500E, 890500N)

The hand specimen is a dense, medium to coarse grained rock showing faces of prismatic and acicular crystals. The rock is heavily stained by iron oxides.

In thin section the rock has a coarse grained, confused structure typical of reaction under thermal metamorphism. Iron staining and cloudiness obscure the section. Plagioclase feldspar is common in broad laths showing simple twinning. It is extensively cracked and the cracks are filled with brown oxides of iron. A neutral to brownish grey augite occurs in euhedral crystals that have been very extensively corroded. Quartz and cordierite are present in clear irregularly shaped grains, and ilmeno-magnetite in large skeletal crystals showing alteration to leucoxene. Brushes and radiating sheaves of sillimanite needles are common.

The specimen is a sillimanite contact rock.

63-238 — Lisle Road (522200E, 912000N)

In hand specimen the rock is fine grained and greenish with dark grey bands, indicating the original sedimentary bedding which has been disturbed by shearing.

In thin section the grain size varies, possibly due to the disruption of graded bedding. The coarsest grained patches show quartz grains grading up to fine silt. Quartz is the principal mineral with much muscovite and chlorite. Iron staining occurs and the colour of the dark bands is due to hematite.

The rock is a quartz chlorite muscovite schist.

63-239 — Myrtle Bank (524100E, 913200N)

In hand specimen the rock is weathered and sheared, fine grained and argillaceous.

In thin section it is a felted mass of fine sericite, with clay minerals and iron oxide. Coarser grained material with quartz grains up to 0.02 mm occur in small irregular lenses. Shearing is well shown by wavy lineations of limonitic material.

The rock is a low grade sericite schist.

63-240 — Highway 2 miles south of Lilydale (512000E, 918500N)

The hand specimen is a pale coloured rock composed of rounded to angular fragments of quartz, kaolinised feldspar and rock fragments in a fine grained matrix. The rock fragments are of quartzite, mudstone and schist and are up to 3 cm long.

In thin section can be seen rounded to angular fragments of quartz, fresh feldspar, quartzite, schist, mudstone, &c, in a very fine grained isotropic matrix.

The rock is a subgreywacke.

63-241 — Diddleum Plains, St Patricks River (536000E, 911000N)

The hand specimen is a somewhat weathered, fine grained rock with phenocrysts of quartz and pink feldspar about 1 mm across.

In thin section the matrix consists of pinkish laths of feldspar with interstitial quartz, brown pleochroic prisms of hornblende and shapeless masses of biotite weathered to a yellow colour. There is a very minor amount of iron ore minerals in minute crystals.

The phenocrysts consist of rounded quartz grains and euhedral feldspar. The feldspar is oligoclase-andesine.

The rock is a granodiorite porphyry.

63-242 — 7EX Broadcasting Station (515000E 895000N)

The hand specimen is a fine grained brown and white mottled siliceous rock.

In thin section the rock consists of angular to subrounded grains of quartz averaging 0.25 mm in a matrix of fine siliceous particles and opaque limonitic material. There are also occasional remains of feldspar crystals.

The rock is a fine grained sandstone.

63-243 — Near Bradys Lookout (492000E, 908000N)

The hand specimen is of a fine grained, dense black rock with minute vesicles, some filled with zeolite.

In thin section the texture is intersertal with colourless glass and granular titanite in the interstices of twinned laths and needles of feldspar. Olivine is very plentiful in cracked and rounded crystals and aggregates. Euhedral iron ore minerals are common.

The rock is an olivine basalt.

63-247 — Arthur Road 1 mile east of Lilydale (513500E, 919000N)

The hand specimen is a grey and white, finely banded, fine grained rock. There is a strong cleavage along the bedding planes which are polished and show cleavage lines of a more imperfect cleavage at an angle of about 30° to the bedding.

In thin section both bedding and cleavage are well shown. The rock consists of quartz and sericite with much black opaque carbonaceous material, possibly graphite, and white opaque shreds and patches of very fine grained clay minerals, somewhat stained with limonite. Quartz particles range up to 0.02 mm but the average grain size is much less.

The rock is a banded carbonaceous shale.

63-248 — Logging track north of Musselboro (533000E, 895000N)

The hand specimen is a coarse grained, dark coloured holocrystalline rock. White rectangular crystals of feldspar up to 5 mm across and books of biotite up to 2 mm across are prominent.

In thin section the texture is hypidiomorphic consisting of oligoclase, biotite and hornblende with a little interstitial quartz. Inclusions of small twinned laths of feldspar are common in the other minerals. Small crystals of magnetite are widely disseminated and there is a little pyrite.

The rock is a diorite.

63-250 — Railway cutting, Lalla (508000E, 918850N)

The hand specimen is a fine grained, siliceous, friable rock, showing current bedding, and with much sericite in the bedding planes.

In thin section the rock consists of angular quartz grains averaging 0.075 mm across and much dark material of clay grade.

The rock is a siltstone.

63-252 — Parsons Spur, Lisle (522000E, 918000N)

The hand specimen is a fine grained, dark grey rock with minute, glittering crystal faces. It can be scratched with a knife. Under magnification it is seen to consist of both black and white minerals and the glittering faces are of books of black and white mica.

In thin section the rock consists of a mosaic of angular quartz grains about 0.075 mm across, with plentiful books of biotite of similar size, a little muscovite and occasional small opaque grains of magnetite. Very minute particles of dust size are scattered evenly through the section. Under crossed nicols an incipient granular structure appears with grains of about 1 mm across composed of areas of the mosaic with similar extinction positions for the quartz grains so that the area extinguishes as a unit separated from adjacent areas.

The rock is a hornfels.

63-253 — Lisle Road (523000E, 916000N)

This is a pale grey, fine grained, sheared rock.

In thin section the rock consists of angular quartz grains about 0.075 mm across with interstitial sericite and other very fine grained material. Shearing is shown by semi-parallel wisps and veinlets of sericite and very fine grained dark material.

The rock is a sheared siltstone.

63-255 — Railway cutting, Lalla (508200E, 918000N)

The hand specimen is a massive, pale grey, fine grained rock.

In thin section the texture is intersertal with a pale brownish or greyish glass in the interstices between a network of feldspar needles. Granules of pale coloured augite occur in the interstitial glass, and phenocrysts of olivine up to 1 mm long are common.

The rock is an olivine basalt.

63-261 — Road cutting south of Patersonia Creek (519000E, 904000N)

In hand specimen the rock is pale coloured, fine grained and siliceous, except for iron stained areas.

In thin section it consists of angular quartz grains up to 1 mm across and occasional rock fragments in a very fine grained, opaque, iron stained matrix.

The rock is a fine grained sandstone.

63-265 — Ridge NE of Lalla (509000E, 919300N)

This rock is a sandstone similar to 63-261 but of coarser grain with particles averaging 2–3 mm across.

63-266 — Ridge north of Walker's Orchard (507000E, 919500N)

In hand specimen this is a fine grained, pale grey and white, mottled, siliceous rock.

In thin section the rock consists of angular quartz grains, averaging 0.1 mm in diameter, wisps of sericite and rock fragments in a very fine grained opaque matrix of clay grade.

The rock is a mudstone.

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