

intrusives are also present.

An important zone of fine-grained pyritic vitric tuffs was located between line 184N, 450 mE and line 136N, 180 mE. Quartz-sericite-chlorite alteration assemblages are associated with this zone. At 168N, 420 mE a float sample of black shale containing minor pyrite was found. Pits blasted at 184N, 450 mE and 144N, 290 mE exposed 10 cm wide "veins" of massive pyrite, but usually the pyrite occurs as coarse-grained disseminations. No other sulphides nor iron-oxides were found with the pyrite. To distinguish this zone from the pyrite zone drilled in 1971-73 the terms "eastern pyrite zone" and "western pyrite zone" shall be applied respectively.

Rhyolitic lavas were found between the eastern pyrite zone and the large mass of Jukes Formation rocks which forms the Mt. Selina massif. Magnetite-hematite veins occur in the lavas, more commonly upon approaching the Jukes contact. They may have been remobilised from the Jukes during tectonic deformation.

On the western side of the grid rhyolitic to dacitic lavas predominate, but various pyroclastics, volcanoclastic sediments and felsic intrusives have also been found in outcrop and in drill core.

The western pyrite zone, drilled in 1971-73 (D.D.H.'s LS4-7) is located between lines 144N and 112N. The pyrite occurs with magnetite, as veinlets and coarse disseminations in altered massive rhyolitic lavas.

Between lines 152N and 160N a body of rock which was previously mapped as bedded chert was reinterpreted to be hornfelsed banded ash-fall tuffs, volcanoclastic sediments and minor lavas. Graded bedding was noted in a polished sample of ash-fall tuffs, but has not been detected in the weathered outcrop. All three rock types contain veins of magnetite-hematite. In a road cutting about 40 m north of 152N, 2600'W, layers of magnetite and pyrite, up to 2 cm thick, appear to be syngenetic within banded fine-grained tuffs. At 20 m north of 152N, 2600'W, malachite was found coating fracture planes.

Altered rocks on line 96N, 2300'W and 1900'W, appear to have a medium to coarse-grained granoblastic texture and may be intrusives related to the Murchison Granite. Similar granoblastic rocks were found east of the pyrite-magnetite zone on line 48N of the Rolleston Grid and drill holes LS5 and LS6 ended in a porphyritic rock interpreted to be an intrusive. The association of granitic intrusives east of pyrite-magnetite bearing rhyolites was noted in the Murchison Gorge (Eastoe, 1980) where the mineralisation was interpreted to be due to circulating waters driven by the heat of the Murchison Granite. A similar association is apparent between the Darwin Granite and the Prince Darwin mineralisation, in the Jukes-Darwin area, south of Queenstown.

The middle part of the grid, south of line 136N, consists of a mixture of volcanoclastic conglomerate and coarse sandstone, lithic tuffs, lavas and crystal tuffs. The volcanoclastic conglomerate on line 128N may be part of the Jukes Formation but further detailed mapping is required to confirm this.

An interpretation of the entire sequence is made difficult by the patchy outcrop information and ill-defined structure. However, the massive lavas, intrusives and ash-fall tuffs of the western half of the grid probably formed near a volcanic centre and possibly under sub-aerial conditions. By contrast the abundance of epiclastic rocks