

Section 1: Mineral Deposits

RADIO-ACTIVE MATERIAL IN VICINITY OF GREAT REPUBLIC MINE, GIPPS CREEK

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Early in January, 1956, Mr. D. Parker of Fingal sent in to the Department a sample of greisenised rock which showed small crystals of torbernite and gave a count of four to five hundred counts per minute on an Austronic PRM 200 Counter. These samples were considered sufficiently encouraging to warrant a visit to the area from which they were obtained.

On the 10th of January I accompanied Mr. Parker and Mr. A. Yates to this locality. A small cut had been opened on the top of a hill within a few chains of the Great Republic main shaft. This latter is located a few chains south-west of a hut on the Gipps Creek Road, about three miles from the main Rossarden Road. The area is Crown land and is not held under mineral lease, but is part of grazing lease, Lot 247 of 773 ac. of the Bona Vista Estate.

The country rock is the typical Devonian granite of the Avoca district. At intervals along major joint planes striking north-west, this rock has been greisenised by hot ascending solutions and certain amounts of metallic and other minerals deposited. Many of these greisen "veins" have been worked for tin in this locality, including those at the Great Republic and the neighbouring Ben Lomond Mine. A description of the workings, &c., of both mines is given in Bulletin 40, "The Avoca Mineral District".

The small cut opened by Mr. Parker shows a small blob of greisenised material containing abundant tourmaline and purple fluorite and possible some cassiterite. On the dump were one or two pieces of rock showing some tiny specks of green torbernite and it was stated that the samples sent to the Department came from here.

Unfortunately, nowhere could a count comparable with that obtained from the samples be obtained. The greatest count of the rock, in mass, both from the outcrop and the dump was about 300 c.p.m. Not only this, but the area of greisenisation at this point is very small and seems to pinch out both along the strike (to the north-west) and within a few feet of the surface at depth.

The counter was also tried on the dumps of the Great Republic main shaft, three shafts of the Ben Lomond mine, and the adit of the latter mine, all of which workings are inaccessible. In no case could a count exceeding 200 c.p.m. be obtained.

It would appear that in this area from the small amount of surface work done, the occurrence of uranium minerals so far revealed is of academic interest only. There is no doubt that uranium does exist and the mineral torbernite can be identified in hand speci-

mens. Moreover, like the tin, it seems to be associated with the zones of greisenisation. It is not felt that on the evidence available any future work or expenditure can be recommended, except that if no great labour is involved, the cleaning of the adit at Ben Lomond mine may be attempted so that some of these greisenised "veins" may be inspected at depth.