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Alleged Uranium Occurrence at Riana

by Terence D. Hughes

Press reports in January, 1958, indicated that a discovery of uranium had been made at Riana by Messrs. W. Applebee and M. R. Marshall. An inspection of the area on the 27th February, 1958, failed to discover any sign of uranium mineralization, nor did a geiger counter show a higher count than could be expected from ordinary "hot" granite.

The area is situated $2\frac{1}{2}$ miles west of Riana, immediately adjacent to a good road and Mr. Applebee has made application for a lease of 65 acres. Prospecting operations by means of shallow shafts and a large surface cut have commenced.

The only rock occupying this area is Devonian granite. This is the granite that outcrops so widely in the Riana-Natone-Hampshire districts. Normally it is a fairly coarse variety, rich in orthoclase as well as quartz, plagioclase and biotite, so that it has a pleasant pink appearance; not as colourful as the Coles Bay Granite, but quite suitable for ornamental stone. Sometimes fine-grained variants of this granite are included in the more normal type, sometimes this finer-grained material contains large crystals of either quartz or felspar so that it may be termed "porphyry"; sometimes large crystals and aggregates of quartz and felspar form a kind of superpegmatite. Occasionally aggregations of quartz and biotite form small blackish seams in the granite. A major joint on the granite near the bottom of the more easterly shaft is a passage way for water to seep into the shaft. Outpourings of Tertiary basalt have covered the granite over much of this area. Most of the basalt lies to the east of the prospect but a smaller area of it occurs to the south-west.

Prospecting operations conducted by Messrs. Applebee and Marshall include two shafts of about 16 feet each, sunk through the weathered granite to more solid material and a large trench some 30 feet long by 10 feet deep, bulldozed into soft granite. To the west, old shafts, holes and trenches indicate earlier prospecting operations.

Readings were taken by Austronic PRM 200 Geiger Counter down the shafts, along the trench, and at various outcrops. The granite background count was 100-120 c.p.m. and the maximum count obtained was 220 at the bottom of the more easterly shaft. At the bottom of the other shaft maximum count was 150 c.p.m. Thus the maximum count obtained on the bottom of a shaft 16 feet deep in solid granite was but twice background which is to be expected below the granite surface. Neither could any trace of uranium mineralization be found. Consequently, it was not considered necessary to take any samples, and it is not recommended that any further work be done at this prospect.

It has been reported that colours of gold have been obtained in creeks in this neighbourhood, but it is not considered that payable gold could be found here. This granite has been associated with tin in other parts of the district, and further prospecting may reveal payable tin. However this should not be looked for in solid granite itself but as alluvial tin in wash below and at the edges of the basalt flows.