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NOTES ON BAUXITE AT GELLIONDALE, VICTORIA

by

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1. Summary. Bauxite, to which my attention was first drawn by Messrs. Sulphates Pty. Ltd., occurs at Gelliondale within half a mile of the railway station.

The bauxite overlies basalt, with which it forms a low rounded hill rising to about 40 feet above plain level. Reserves are probably small although the outcrop can be traced for about 1200 feet along the strike.

Such bauxite as can be seen in a shallow quarry is concretionary in character and contains much limonite (or hematite) as roughly spherical shells and irregular seams, both about one inch in thickness.

2. Locality, Access and Ownership. The bauxite occurs in Allotment 17, Parish Alberton West, Co. Buln Buln, and lies about $\frac{1}{2}$ mile north-east from Gelliondale railway station, and less than one mile north of the South Gippsland Highway. Allotment 17 is bounded on the south by the railway line.

Gelliondale is about 10 miles east from Welshpool and eight miles by rail or road south-west from Yarram, the nearest large town.

The Allotment is owned by Mr. B.F. Dessent, store-keeper at Gelliondale who resides on the Allotment. Mr. Dessent was absent on the occasion of my visit and consequently no information was obtained regarding mineral rights on his property.

3. The Bauxite Deposit. The accompanying sketch map, to a scale of 1"=200' approximately, shows the area of bauxite outcrop with tolerable accuracy. The ground surface slopes down to the north and west of the outcrop, but is approximately level for a considerable distance to the south and east.

Basalt, represented by black soil and boulders, occurs on the southern edge of the bauxite and forms the crest of the low rounded hill, the north-west flank of which is composed of the bauxite.

The lower ground to the north of the bauxite is covered with fine grey sand.

Of the area mapped as bauxite, that portion lying between the western end of the quarry and the eastern tip of the large outcrop (i.e. 600 feet by 100 feet) is occupied mainly by massive ferruginous bauxite without overburden, while the remainder, west of the quarry and measuring roughly 300 feet by 150 feet, consists of isolated boulders of bauxite in red soil.

The shallow disused quarry shown on the plan has an average depth of four feet and at one point has exposed bauxite to a vertical depth of six feet. One sample, representative of this thickness was taken and forwarded to the laboratory for analysis.

The bauxite is ferruginous in appearance, light brown on fresh faces, and concretionary.

Shells of hard black and red hematitic and limonite one inch thick and as much as one foot in diameter enclose cores of soft light brown and greyish bauxite which is probably almost wholly composed of gibbsite.

Ramifying veins of limonite about one inch thick are common.

4. Volume of deposit. Extension of the body beyond the visible outcrop is improbable. On the east, south and south-west the outcrop is flanked by basalt. West and north the surface falls fairly steeply to plain level, but some extension to the north-east is evident from small outcrops shown on the plan.

A conservative estimate of the surface area of the solid bauxite is 50,000 square feet, equivalent to about 3,000 tons per vertical foot. This estimate discounts any bauxite which may occur west of the quarry, where it is probable that only residual boulders lying in red soil and clay remain.

The body is lenticular or pod-like, and it is unlikely that the maximum thickness will exceed about 10 feet. The total tonnage, therefore, is of the order of 10,000 tons.

5. Conclusion. The deposit is small and the bauxite contained therein will be much contaminated with soil and clay introduced from the surface into weathered out joints and fractures, and, therefore, the deposit may be regarded as virtually useless to the Commission.

The presence of bauxite near Gelliondale suggests that other deposits may exist in the district and that some search should be undertaken. It may be significant that Messrs. Sulphates Pty. Ltd., do not appear to know of any other bauxite occurrence in the locality.

A local report of bauxite at about $\frac{1}{2}$ to 1 miles west from Gelliondale was investigated, and no bauxite was found on the low ridge occupying the site that had been indicated.

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