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BUREAU OF MINERAL RESOURCES
GEOLOGY AND GEOPHYSICS

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REPORT ON BAUXITE NEAR ROSEVALE, COUNTY DEVON, TASMANIA

by

H.B. Owen

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REPORT ON BAUXITE

Near Rosevale, County Devon, Tasmania.

1946/35

1. INTRODUCTION - Early this year five occurrences of ferruginous bauxite near Rosevale were examined and two of them (Nos. 3 and 4) mapped in detail on a scale of 100 feet to 1 inch.

As a result of these examinations it was reported to the Assistant Director on 16th March, 1946 that:-

"There is insufficient bauxite in the locality to warrant a systematic testing campaign unless further discoveries are made."

No such discoveries have been made near Rosevale but it was felt that Areas 3 and 4 which offered some slight chance of successful development should not be abandoned until a few test-pits had been sunk to confirm or disprove the conclusions reached from the surface inspection.

Had the testing of these two areas indicated the presence of worthwhile volumes of bauxite of economic grade the testing would then have been extended to the nearby No.5 area, but as the results obtained were very unfavourable No.5 area will not be tested.

2. GENERAL - Rosevale lies to the North-West of Launceston and is about 11 miles by road North from Hagley, the nearest railway station. Areas 3, 4 and 5 are about 8 miles North from Hagley and 3 miles by road South-West from Rosevale.

The area within which the Rosevale group of bauxite occurrences lies has a general elevation of 500 to 700 feet above sea-level, and is portion of a dissected peneplain bounded by the Tamar River on the East and the Meander River to the South.

The Rosevale area is occupied mainly by dolerite but small patches of Tertiary deposits occur in places.

Some geological features are sketched on the accompanying locality plan and these include the Western boundary of a strip of Tertiary sediments which trend Northerly to North-Westerly for several miles and represent an old valley parallel to the present course of the Tamar, which was itself once filled with similar unconsolidated silts.

The bauxite everywhere in the area lies on dolerite from which

it is derived. In most cases erosion has removed the normal capping of nodular bauxite and left the granular material in which the original dolerite texture is apparently well preserved.

Descriptions of the individual bauxite occurrences follow:-

3. (a) No.1 Area - This bauxite occurs about 1 mile North-West from the site of Rosevale Hall and is in the North-West corner of the town reserve.

Only boulders and gragements of granular bauxite can be observed over a circular area with a diameter of about 900 feet.

On the Northern and Eastern margins of the area fresh dolerite forms a definite limit to any possible extension of the bauxite in those directions.

Towards the Southern and Western edges the presence of kaolinised dolerite was noted in the upturned roots of fallen trees.

Of the relatively few scattered fragments of bauxite which lie in the area, most are composed of the granular doleritic bauxite. This fact affords clear evidence that erosion of the original body of bauxite is complete, or nearly so, and that only a few residual boulders of bauxite are likely to remain. These would be embedded in clay or bauxite clay resting on kaolinised dolerite.

3. (b) No.2 Area - A very small exposure of bauxite occurs at a point 100 yard East of the Main Road in Rosevale township. Fresh dolerite outcrops to the East and South, and a few boulders of granular bauxite were observed in the clayey soil to the North.

It is not considered that this small occurrence of bauxite has any economic value.

(c) Areas 3 and 4 - (See M. R. S. Plan No. 1367)

These two areas are those which have been tested recently by trial pits. Sites for the pits were marked out on a rectangular grid, and two (Nos.10 and 11) were sunk on Area 3 and nine (Nos.1 to 9) on the other area.

(To enable the positions of these shafts to be plotted on the original tracing held in Canberra coordinates of two plane-table stations shown on the tracing are given - "E"= 00/160E, --- "F"= 00/100W.).

The results revealed by these shafts were confirmatory of the unfavourable conclusions stated in the memorandum of 16th March, 1946, to which reference has already been made.

i. No. 3 Area - Bauxite occurs, partly in apparently solid outcrop and partly as scattered fragments and brown bauxitic soil, over a narrow strip about 2,000 feet long with a maximum exposed width of 150 feet.

The deposit is surrounded by dolerite, but there was a possibility of bauxite being concealed under alluvium near the centre of the deposit.

This possibility was explored by Shaft 10 which passed through 3 feet of brown sedimentary clay into grey clay which is probably weathered dolerite.

The site of shaft 11 was chosen to test a more favourable place near apparently solid bauxite.

This shaft revealed an irregular bauxitization of dolerite for about 3 feet and then passed into red and white clay with the dolerite texture.

In the face of these results it was considered that no further work on the deposit was justified and the area can be regarded as valueless.

ii. No. 4 Area -

The results of the nine shafts on this area are summarized below:-

Shaft No.	Coordinates	Bauxite revealed
1.	400N/100W	Boulders only
2.	400N/100E	Boulders only
3.	200N/100W	3 feet of nodular bauxite 2 " 6 ins. of granular and clayey bauxite with clay seams
4.	200N/100E	2 ft. of granular bauxite with clay seams
5.	00/200E	Nil.
6.	00/00	Bauxite boulders in clay above 3 ft. to 6 ft. of granular bauxite with clay.
7.	00/200W	6 ft. 6 ins. of pisolitic and earthy bauxite with clay.

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|----|-----------|--|
| 8. | 200S/020E | 3 ft. of granular bauxite and clay. |
| 9. | 400S/050E | 2 ft. of granular bauxite with clay seams. |
-

As these shafts indicate an average thickness of about two feet of bauxite with a greater or lesser amount of clay it is obvious that the area is of no value.

Samples from Shafts 3, 6 and 7 have been forwarded for analysis, and the results when available should be read as an appendix to this report.

(d) No. 5 Area.

There is no need to depart from the opinion expressed on 16th March, 1946, i.e. -

"It is considered that the boulders represent the remnants of the usual hard capping of a bauxite deposit, and that little else of the original body now remains. This suggestion should be tested by pit-sinking, but even this step does not seem warranted unless the probable volume of bauxite in the district appears sufficient for - - - commercial exploitation".

4. Conclusion -

Testing of the known bauxite occurrences near Rosevale has shown that they are merely remnants of bodies which have been subjected to almost complete erosion.

The residual material is in itself of poor grade and admixed with clay.

The testing at Rosevale has been of value in that it has shown that an advanced stage of erosion in bauxite bodies can be recognized without the need of shaft-sinking and the expense in time and money involved in such operations can be saved or considerably limited.

Sigd. H.B. Owen.

Geologist
Bureau of Mineral Resources

A P P E N D I C E S.

- I. Memorandum 87T/4 from H.B. Owen to Assistant Director, Bureau of Mineral Resources, Canberra, dated 16th March, 1946.
 - II. Field Logs for shafts 1 to 11 at Rosevale.
 - III. Laboratory logs for samples from shafts 3, 6 and 7 at Rosevale.
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



P L A N S.

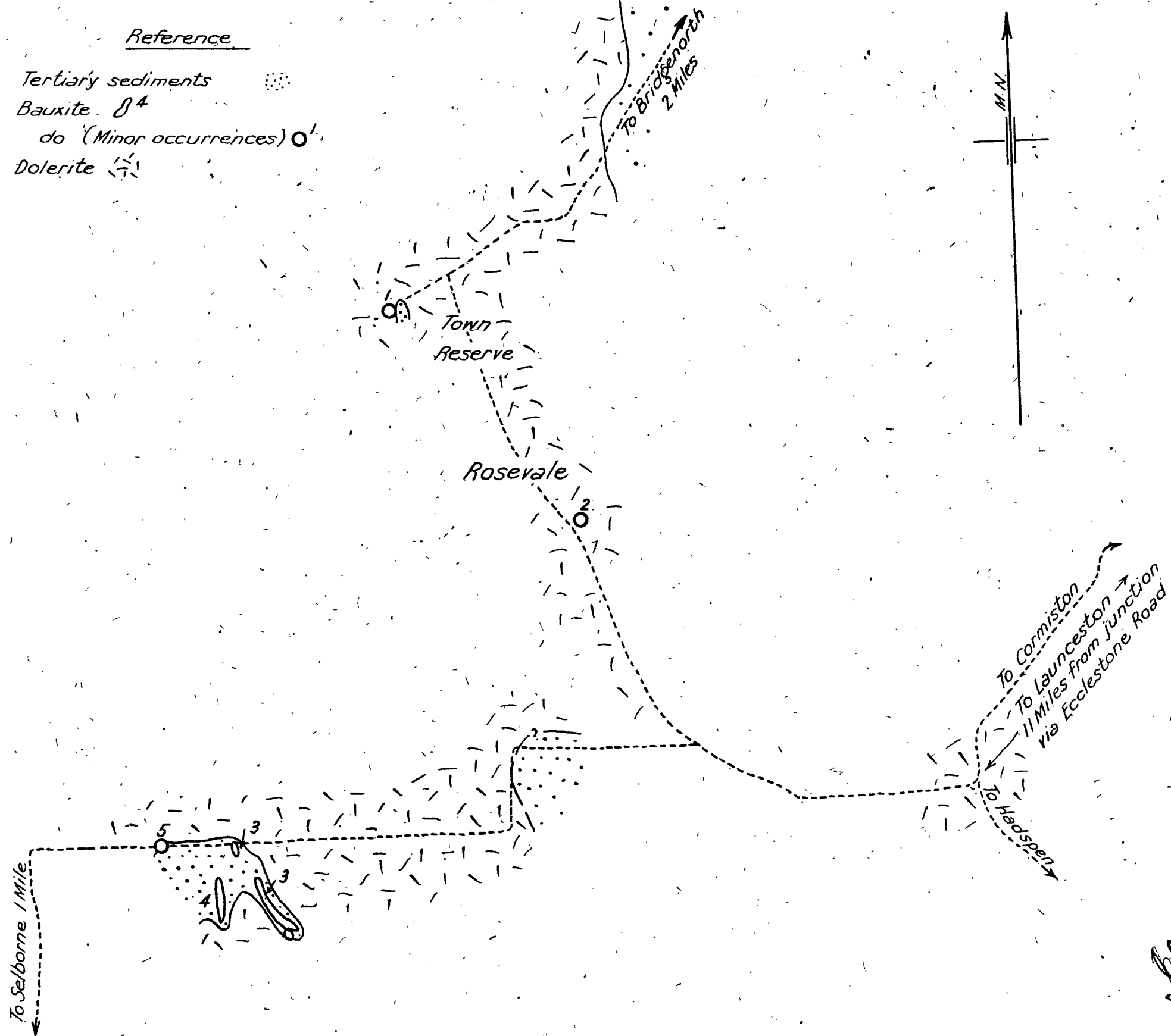
1. Locality plan. Scale 1" = 40 chains.
 2. Geological plan, Areas 3 and 4. (M. R. S. plan No.1367). Scale 1" = 100'
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Locality Plan
Showing Bauxite Occurrences
near Rosevale, Co. Devon, Tasmania.

Scale. 2 Inches = 1 Mile

Reference

Tertiary sediments 
 Bauxite ⁴
 do (Minor occurrences) ¹
 Dolerite 



B.S.D.
 Sept. 1944.