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1987/14. Industrial minerals in Tasmania - Graphite

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Abstract

Graphite has been found occurring as a minor component in quartz-mica schists in Tasmania. Minor quantities have been mined. There is no current production of this mineral.

INTRODUCTION

Graphite is "a crystalline form of carbon dimorphous with diamond ... opaque, lustrous, very soft, greasy to the touch, and iron black to steel gray in colour .. occurs as crystals or as flakes, scales, laminae, or grains in veins or bedded masses in metamorphic rocks" (Glossary of Geology, 1977).

Uses of graphite are many and varied, as the substance conducts both heat and electricity. Graphite is used in the manufacture of lead pencils, as a lubricant in high-temperature machinery, commutator brushes, in paint, stove polish, dry cells and in many other applications. An old fashioned name for graphite is 'plumbago'.

LOCATIONS OF OCCURRENCES

Ulverstone

A sample of 'coarse plumbago' from the River Leven was exhibited in 1856. This probably came from graphitic schist which Petterd (1910) recorded as occurring on the beach three kilometres west of the River Leven. An adit was driven into dark micaceous schist three kilometres south-east of Ulverstone (near Claytons Rivulet) in the 1930s. The schist was overlain by quartz gravel. This adit was inspected by H. Vaudeau in 1937. Hughes (1951) described the rock as a quartz muscovite schist, in which the muscovite flakes contain "tiny sheets and flakes of an opaque substance that resembles graphite" and possibly amorphous carbon. The carbon content of the schist was 0.6%. The schist belongs to the Forth Metamorphics and is of Precambrian age (Burns, 1965). The schist in the area around Claytons Rivulet was described as 'graphitic' by Taylor (1955) who noted the occurrence of "several pockets of pure graphite".

Cape Barren Island

Two leases for graphite were taken out on Cape Barren Island in 1898. Blake (1947) recorded that the Tasmanian Blacklead Mining Company was formed, and a small tonnage of graphitic slate mined from three shafts. The slate is of Silurian age.

Port Sorell

A lease for graphite was taken out in the 1920s near Marshall Creek on the shores of Port Sorell.

Hughes (1954) noted that some of the black slaty material had been used as a lubricant. Chemical tests did not show the presence of graphite and Hughes was of the opinion that the greasiness of the slate was due to some other mineral.

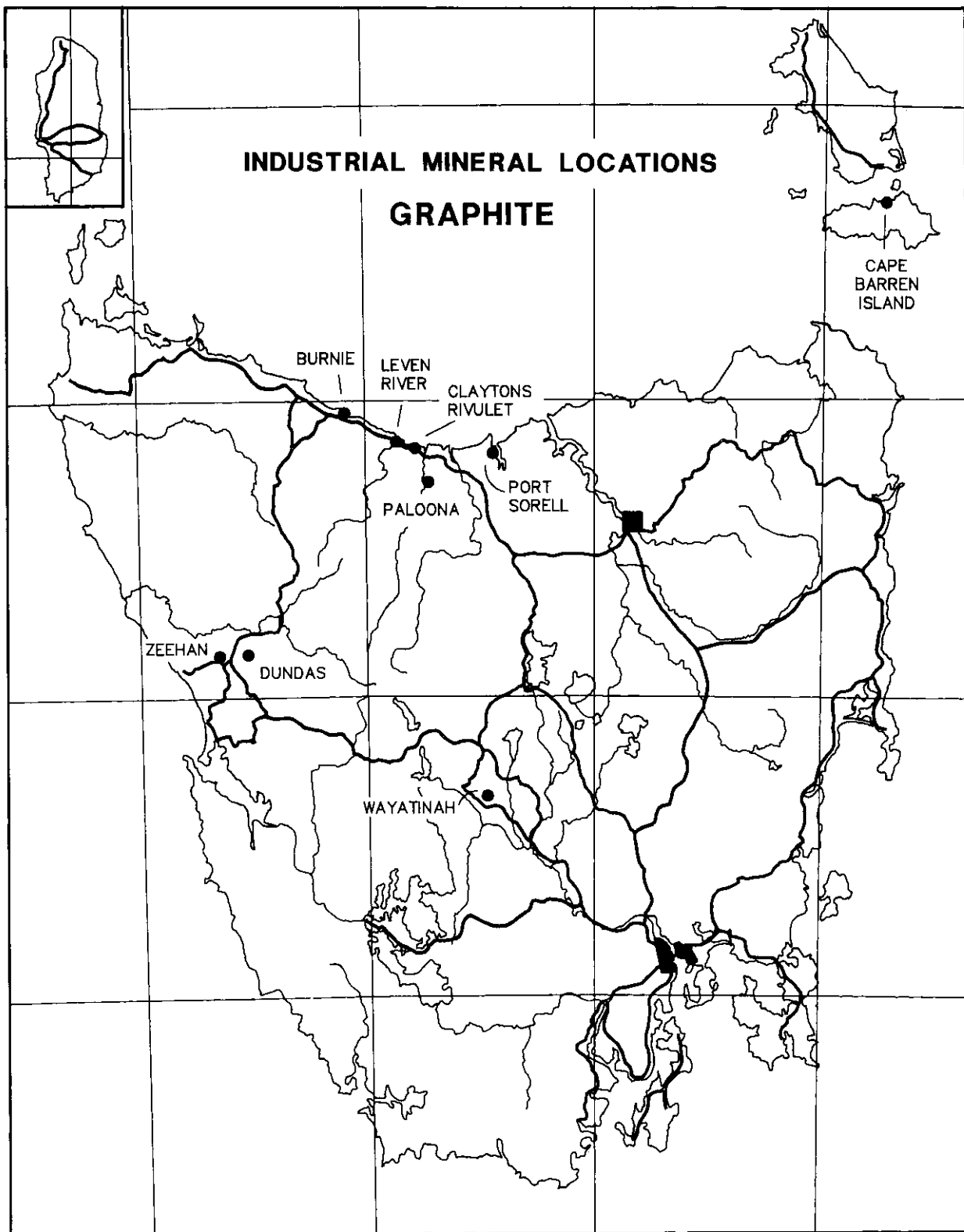


Figure 1.

5 cm

Burnie

A substance, taken to be graphite, was found near Burnie on land owned by the Emu Bay Railway Company in 1942 (*The Advocate*, 5 August 1942), and much interest was shown in the deposit. However analysis showed that the graphite-like material was, in fact, carbonaceous matter, in a slickensided carbonaceous mudstone (Department of Mines correspondence files M223).

Paloona

Burns (1965) recorded that graphitic schist, part of the Precambrian Ulverstone Metamorphics north of the Paloona bridge, contained 5% carbon.

Minor Occurrences

Graphite (in minute quantities) is associated with ores in the Zeehan and Dundas districts, in a 'small seam' near the Ring River, and coating joints in limestone near the Wilmot River (Department of Mines, 1970).

Thin beds of graphite associated with Triassic sediments were found during diamond drilling by the Hydro-Electric Commission in the Wayatinah area (Jennings et al., 1967)

CONCLUSIONS

Whilst the various occurrences of graphite are of interest, no commercial quantities of the mineral have been found, and apart from a quantity of some twenty tonnes of schist mined intermittently from 1940-1949, there has been no industrial use for the local occurrences.

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