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COMMONWEALTH OF AUSTRALIA.

DEPARTMENT OF NATIONAL DEVELOPMENT.

BUREAU OF MINERAL RESOURCES

GEOLOGY AND GEOPHYSICS.

RECORDS.

1957/16

BOTANICAL REPORT ON PLANT REMAINS FROM GRANT RANGE BORE NO. 1, KIMBERLEY DISTRICT, W.A.

by

Mary E. White

BOTANICAL REPORT ON PLANT REMAINS FROM GRANT RANGE BORE NO. I, KIMBERLEY DISTRICT, W.A.

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Grant Range Bore No. I was drilled by West Australian Petroleum Pty. Ltd. to a total depth of 12,915 feet. The bore started in Lower Permian Grant Formation. Upper Carboniferous siltstone was penetrated between about 7,900 and 9,500 feet. Below this, an arenaceous sequence contains only plant remains.

Plant fossils in Core 85, between 12,175 and 12,180 feet, were submitted for examination. The fossils consist of a number of impressions of stems varying from 3 mm. to 7 mm. in width. Some of the impressions show no diagnostic features, but several show minute surface markings.

Figure I shows portion of a stem in which the surface of the impression was covered by a thin film of calcite. Removal of the film gave a fresh surface on which markings were more uniformly shown. Figure 2 shows a stem in which small areas only show surface features. Minute circular depressions or pits, some with faint impressions of leaf bases around them, and a pattern of ridges suggest affinity of the stem with Bothrodendron minutifolium (Boulay). While the evidence is not sufficient for determination of the species to be reliable, it is probable that the stems concerned are young branches of Bothrodendron.

Bothrodendron is especially abundant in Upper Devonian and Lower Carboniferous rocks, and Bothrodendron minutifolium has this range. However, species of Bothrodendron range into Triassic strata and it is not possible to give a definite limited range for the specimens under discussion on the amount of available evidence.

STEM OF BOTHRODENDRON(?)
from core 85, (12,175 to 12,180 feet)
GRANT RANGE No.1 BORE

Fig. 1. *Faint reticulation showing vertical lines of depressions and spiral horizontal arrangement. Form of 3 leaf bases clear in one region.* X2

Fig. 2. *Arrangement of leaf scars, pits and small ridges on irregularly decorticated stem.* X2