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Report on

METAMORPHIC ROCKS IN TASMANIA.

Proterozoic.

Very little field work has been carried out in the areas of Proterozoic rocks, but the following alterations and additions have been suggested by brief reconnaissance trips.

Sisters Hills (Rocky Cape). Detailed geological surveys have been carried out in the Smithton district in which the Dundas series of Cambro-Ordovician rocks occur. Reconnaissance trips to the east of Smithton and on Sisters Hills rather tend to prove that the Sisters Hills rocks are not as schistose as formerly supposed and are not typically Proterozoic types. It now seems probable that these rocks belong to a series of pre-Dundas sediments and are probably of Cambrian age, though they may represent passage beds between the Proterozoic group and the Cambrian system.

Western Tiers. Recent geological reconnaissance in the valley of the Lake River to the south of Cressy has revealed the presence of phyllites and mica schists probably of the Proterozoic group. The schists occur along the foot of the Western Tiers where they form part of the bedrock upon which the Permo-Carboniferous rocks were deposited. They probably extend more or less continuously to the north-west as far as the known outcrops at Quamby Brook.

Cambro-Ordovician.

Detailed geological surveys by K.J. Finucane in the Rosebery district and reconnaissance trips by the Geological Survey officers in the districts to the north and south of Rosebery have given additional information about the Porphyroid series, the Read-Rosebery schists and the Mt. Lyell schists. The Porphyroid series have been proved to be porphyries of various types intrusive into the Dundas series and a pre-Dundas or Rosebery series. The porphyries are also intrusive into Silurian rocks and are now regarded as being of Devonian age.

The porphyries are both massive and sheared and it is the more intensely sheared parts that form the Read-Rosebery schists (quartz sericite schists, chlorite schists) and probably also the Lyell schists. Large blocks or roof pendants of the intruded rocks (slates and quartzites) form the sedimentary rocks formerly assumed to have been interbedded with the "Porphyroid" series. The ore-bodies are associated with the sheared porphyries and the included blocks of sedimentary rocks.

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