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REPORT ON MR. RATHBONE'S PROPERTY, GRANTON

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Mr. Rathbone's property (Mt. Nassau) is situated on the south side of the River Derwent about three miles to the west of Bridgewater causeway.

It has a frontage along the river above which there is a steep rise of approximately 100 feet, then a tract of gently rising ground from one half to one mile wide, and a steep rise to the hills at the southern end of the property. The drainage is effected by means of several small creeks (e.g. Quarry Creek and Orchard Creek) flowing from the hills with general northerly directions into the River Derwent.

In a narrow fringe along the shore, river gravels occur and represent deposits from the river in former times. In some places inland, e.g. along Orchard Creek, these gravels merge into those formed by the tributary creeks.

South of these gravels, the whole of the area examined is occupied by rocks of the Permo-Carboniferous system. In the lower portions, these rocks consist of sandstones and shales. This series is exposed in Quarry and Orchard Creeks and has a thickness of 100 to 200 feet at least, the greatest thickness occurring along Orchard Creek.

Overlying this series is one composed of 100 to 200 feet of marine fossiliferous mudstones, which are best exposed along the tranway between the lime-kiln and the limestone quarry.

The mudstone series passes up into one of limestone with a thickness of approximately 200 feet. The limestone is very fossiliferous and yields numerous specimens of spirifers, aviculopecten, productus, strophalosia, fenestella, stenopora &c. It is well-bedded, individual beds ranging up to three feet in thickness. The stone is quarried and burnt for the production of quicklime.

The limestone is overlain by a series of impure, argillaceous sandstones which are sparingly fossiliferous. This series was at least 200 feet in thickness as far as examined.

The above strata have a general dip to the west-south-west of a few degrees and form a conformable sequence of strata. The limestones have always been referred to the Lower Marine Series and the whole of the strata described apparently belong to the same series.

The object of the examination was to determine whether there was any possibility of coal seams being associated with the sandstones and shales.

These sandstones and shales are of Permo-Carboniferous age and thus excludes the possibility of there being any of Triassic coal seams (the usual ones worked in Tasmania) being present. Coal seams also occur in the Permo-Carboniferous system in the Greta and Tomago series. If as described above the whole of the Permo-Carboniferous rocks in the area belong to the Lower Marine series, then they occur below the horizon of the Greta and Tomago series and so the latter two coal bearing systems are not present, having probably been removed by erosion.

Even if the Greta and Tomago series were present it does not follow that good workable seams would be present. In southern Tasmania these fresh water series are not well developed and seams are known only in two districts, viz, Bruny Island and Mt. Cygnet. In these districts the seams are narrow and apparently unprofitable to work.

In view of the above, it is not recommended that any boring or other work in connection with a search for coal, be carried out.

P. B. Nye.
GOVERNMENT GEOLOGIST.

Mines Department,
Hobart.

29th October, 1928.