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EXAMINATION OF ROCK FROM WHITTON'S QUARRY, PROCTORS ROAD

Three thin sections, differently oriented, were prepared from a mottled green-and-white rock from Whitton's quarry, Proctors Road. The quarry was visited and specimens taken in order to identify the minerals present. The specimens did not correspond with samples previously taken and sent for analysis, but were selected for lithological characteristics obvious to the eye. These specimens, four in number, were ground, and ground fragments of the requisite size microscopically examined in immersion media. Pieces from the samples, from which the thin sections were cut, were then similarly treated.

Thin Section

1. Greenish mottled rock

Under the microscope this rock shows a very fine grained ground mass with aggregate polarisation and semi opaque irregular greenish bands, which are possibly the relics of depositional laminae. In the ground mass are irregular crystals of garnet, radiating needles of wollastonite and occasional small masses of recrystallised calcite.

2. White Rock

Consists wholly of angular to sub-angular quartz grains in cryptocrystalline to opaque ground mass.

Rock Fragments

1. Green and White Mottled rock: Consists chiefly of Wollastonite with lesser calcite and quartz in about equal amounts. Minor garnet. Fine plates of chloritic material (green).

2. White rock: Contains Wollastonite, calcite and quartz in about equal amounts.

3. Pink rock: Consists of cryptocrystalline calcite, with minor wollastonite, and reddish brown garnet (melanite).

4. Green rock: Chiefly calcite, with some greenish chloritic material and a little reddish brown garnet.

5. Yellowish-green rock forming beds about 3' thick half-way down main quarry face: This rock consists of calcite and quartz, and much green chloritic material with minor minerals.

The examination shows that the rocks are an arenaceous limestone (specimen 1 - 4) and a calcareous mudstone (specimen 5). The arenaceous limestone has been partially metamorphosed by the heat and pressure of surrounding doleritic intrusions with development of wollastonite, but the reaction of silica and calcium carbonate to give calcium silicate has not been completed. The calcareous mudstone has suffered less alteration, but neither rock contains carbonate of lime in sufficient quantity to make it suitable for crushing for use as agricultural lime. Although the calcium carbonate content is very uneven, there is no simple way in which the rock containing the higher proportion could selectively quarried.

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19/7/1950