GE:1 26th November, 1951.

MEMORANDUM:

DUNALLEY QUARRY.

On the 18th instant, in the company of Mr. R. B. Pitt, District Highway Superintendent, I inspected a quarry for road metal, in the County of Pembroke, Parish of Mogeely.

About three miles south of Copping, on the main road to Port Arthur, a secondary road branches off to the north along the shore of Blackman Bay. The above quarry is situated close to this road, about two miles north of its junction with the main road. The quarry has been opened in the edge of a low plateau forming part of a basalt flow extending for some miles in an easterly and north easterly direction, and which is known to the Geological Survey as the Bream Creek Basalt. Triassic strata form a narrow coastal plain, some chains wide at this point, between the basalt plateau and the shoreline, and underlie the eastern part of the basalt.

The floor of the quarry is approximately 35 feet above the level of the public road and the basalt plateau rises to a little over 100 feet above the road. An average elevation of 95 feet has been assumed for the quarry site, giving a face of 60 feet in height. The present face has a possible width of two chains and as it is cut back into rising ground it may be progressively extended to give a final width of four chains. From the present position of the face to the rear boundary of the site it is a distance of approximately four chains. However, as the quarry is in fractured ground, all this material cannot be taken out, and a batter (of say 60°) will have to be left to ensure stable walls. On these figures the total extractable volume is 99,080 cubic yards.

The rock is a dark purplish black fine grained rock with numerous vesicles 2-3 millimetres in diameter, and is in field occurrence and lithological characteristics, in every way a characteristic basalt of Tertiary age and a suitable material for road metal. A more remarkable feature of the rock is the way in which it is shattered. The whole face of rock from top to bottom is seamed with a network of small fissures, so that the material is extracted in a condition finely divided enough for immediate use as road metal. This characteristic was caused by sudden cooling of the molten lava, and may not be evident in the interior of the flow, but will most probably persist to the boundaries of the quarry site, and even beyond them along the outer edges of the flow. Rock alteration by weathering has penetrated freely along fractures, from the surface to the floor of the quarry, resulting in numerous narrow seams of clayey material throughout the mass of the rock. The whole volume, however, both clay and basalt, can be used on roads, the clay and fine material serving as a binding.

To conclude then, it is estimated that the maximum extractable quantity of road material, of the same kind as that already taken out, remaining on the quarry site, is approximately 100,000 cubic yards. This estimate is based on the supposition that no alteration of the fractured condition of the rock, now showing in the face, occurs further into the hillside. Any such alteration would lower the value of the site as a quarry for road metal, by adding to costs of extraction.

Signed: G. Everard,

GEOLOGIST

The Director of Mines,
HOBART.