broken small and applied to the ground, will give good results. At present the expenditure necessary to set up a crushing plant is not justified. More outcrops will probably be found, but the sinter is a surface deposit, and no extensive body of it occurs.

At Bartle's the stream flows through felled bush, and the seepage from the conical hills on the banks has formed a ledge of sinter overhanging the stream for 2 chains, and from the bottom of the ledge stalactites hang down. But this again is only surface sinter, and is very limited in amount. Probably more patches will be found, as in many places the conditions are suitable for its formation. It has been suggested that the sinter is derived from some bed of limestone in the vicinity, but thick deposits of volcanic material cover the whole district from Egmont to the coast. It has been shown* that the volcanic rock contains up to one-tenth its weight of lime (CaO), and it is not necessary to look further for the source of the lime.

In the north and east of Ngaire Survey District the shell-rock is used on the roads; it does not last well, but suitable volcanic rock does not occur in the vicinity. In the other parts of the area examined macadamizing material is obtained from the andesite boulders in the streams, on the beaches, or in the conical hills. Much of the andesitic rock is scoriaceous, and therefore not as dense as could be desired, but it makes a good tar-macadam road, and the main Taranaki roads are the best in New Zealand.

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2. BORING NEAR KAITOKE, HUTT COUNTY.

(By W. Gibson, formerly Assistant Geologist.)

During 1916 drilling operations were undertaken by a small syndicate (Kaitoke Prospecting Syndicate) near one of the branches of Hill's Creek, itself a tributary of the Pakuratahi, which is a tributary of the Hutt River. The site of the bore is on Section 28, Block 16, Akatarawa Survey District, that section being about four miles and a half east and south of Kaitoke, on the main road from Upper Hutt to the Wairarapa district. It is about 8 chains east of the road, and at an altitude of 980 ft. above sea-level.

The drilling operations were begun in the first place with a diamond drill lent by the Mines Department, and were under the supervision of Mr. W. Carter. The syndicate hoped that boring would indicate the exact depth of a coal-seam the existence of which under the surface-material was strongly asserted by Mr. W. Platt, a so-called "coal-diviner." The casing and drilling-tools belonging to the Mines Department were removed after 112 ft. of boring, mainly through shattered greywacke, had been accomplished. The syndicate at the time of my visit, 20th September, 1916, had resumed drilling with a chisel bit of 8 in. diameter. The only information given as to depth reached was that the syndicate's bore had attained a greater depth than the bore drilled by Mr. Carter. The chips and grains from the bore, however, disclosed the fact that the rock being passed through was the same as that which outcropped at the surface, a fine-grained greywacke.

At 5 chains east of the bore and on the same level this rock outcrops in both banks of the small creek which runs from east to west. At 300 ft. above the bore and 8 chains south more outcrops of massive greywacke are seen in another small creek. The whole mass has, however, been so smashed that no trace of bedding is to be observed. A small fault, having a strike of 11° (magnetic), occurs at 1 chain almost due south of the bore. The pug of this fault being black-coloured when wet, and in layers with a somewhat shaly appearance, may have given rise to the opinion that coal exists on the property. Red argillaceous rocks in boulders occur in places on the hillsides.

The nature and geologic age of the rock being drilled, the field evidence indicating its probable continuance in depth, and the absence of coal-outcrops all combine to destroy any hopes of a workable coal-seam being found underground in the locality. The whole scheme is another example of the reckless folly of investors trusting to the opinion of a "diviner," when expert opinion, if sought, could have readily shown the hopelessness of the venture.

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3. NOTES ON THE GEOLOGY AND MINERAL OCCURRENCES OF THE WAKAMARINA VALLEY.

(Summary of Report by J. Henderson.)

Alluvial gold was discovered in the Wakamarina Valley in 1864, and for many years the winning of it was the principal occupation of the inhabitants of the district. Quartz lodes were first prospected in 1874, but the amount of gold contained in the ore was not sufficient to pay for its mining and treatment. Within the last few years, however, mining operations on the main lode have been successful owing to the enhanced prices of scheelite, a mineral which, in small quantities, also occurs in the ore. During the last seven years the Dominion Consolidated Developing Company has crushed 62,500 tons of ore for a yield of over £36,000 in gold and nearly £48,000 in scheelite. The main lode traverses subschistose greywacke, and is known to carry ore for a distance of 90 chains. It strikes north-north-westerly and dips easterly. The nature of the ore and its distribution in the fissure suggest that it represents a concentration, formed by means of circulating meteoric water, of tungsten-bearing material contained in the country.

With this summary are published plans showing the locality, the claims, and the underground workings of the Dominion Consolidated Developing Company's mine in plan and section. The full report will appear as an article in the *New Zealand Journal of Science and Technology*, the first number of which is expected to appear very shortly.

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* N.Z. Geol. Surv. Bull. No. 14 (New Series), p. 23.