

ing to the student of geology, but practically they are of little consequence to the gold-miner, at least in so far as their value has yet been proved. In similar gravels, report has it that gold in small quantities has been obtained over a wide area between the shores of the Bay of Plenty and the southern end of Lake Taupo. It would be rash to say that, though all were tried, none of these would prove payable. Yet, up to the present time, though gold has been obtained from Taupo to Te Puke, in no case has the amount been sufficient to pay for working the deposit. What is curious is that these deposits are generally without quartz, and no sedimentary rocks of any kind are present as a part of them, and that almost exclusively the material is composed of rhyolite. As to the source of the gold in these Te Puke cements, it cannot reasonably be referred to the reefs to the south-east, in Fleming's Hill and that vicinity, since thus could not be accounted for the gold in distant inland parts; and it does appear that the gold in these rhyolite gravels and cements should be referred to a common origin.

Wellington, 16th May, 1899.

ALEXR. MCKAY.

REPORT ON THE DISTRICT BETWEEN STRATFORD AND THE TANGARAKAU RIVER.

By ALEXANDER MCKAY, F.G.S., Government Geologist.

SIR,—

Wellington, 26th April, 1899.

As directed, between the 10th and 22nd instant, I made an examination of the country along the main line of road and proposed Stratford route of railway, from Stratford to the Tangarakau River. My instructions directed the making of a detailed survey of the eastern part of the Mokau Coalfield, that part of it lying within the Wanganui watershed and is developed towards the head-waters of the Tangarakau, Heao, and Ohura Rivers, within the valleys of which streams several outcrops of coal are known to exist.

The position of these outcrops in rugged mountain-country, and the lateness of the season, rendered it improbable that the work suggested could be effectively carried out, at least until the fine weather that may be expected during the coming summer sets in. This was represented to those interested in the making of the survey required, and finally it was arranged that I should make an endeavour to ascertain the southern limit of the coalfield which it was hoped might lie within the bounds of the County of Stratford. This arrangement I endeavoured to carry out, and on the 14th April I went from Stratford to Whangamomona, and the following day to Sladden's Camp, one mile from the Tangarakau River. Here I learned that it would be difficult to reach any of the coal-outcrops reported to occur in the valleys of the affluents of the Wanganui draining the west side of the upper part of the Wanganui watershed. It had been reported to me that I could reach the nearest of the coal-outcrops three miles beyond Sladden's Camp. When I reached there I found that the nearest outcrop was twelve miles distant, and that a good deal of difficult country lay between the camp and the coal-outcrops. Not being provided with the means of camping out nor with a guide, after reaching and following some distance up the right bank of the Tangarakau River without having seen the coal-outcrops, I determined to return, as it was clear that, single-handed and alone, I was not likely to reach even the nearest of the coal-outcrops. In consequence I returned to Stratford, and thence to Wellington.

REPORT.

The town of Stratford is situated south-east of Mount Egmont, and on the main line of railway thirty miles south of New Plymouth. West and north of Stratford fragmental ejecta and solid lava streams form the low grounds, or build up the volcanic cone of Mount Egmont and the flanking ranges connected therewith. Volcanic matter at the surface extends east of Stratford to Toko—a distance of seven miles—and the eastern boundary of the volcanic rocks; thence runs north to the coast-line near the mouth of the Urenui River. To the eastward of these volcanic rocks, the country west of the Wanganui River is formed for the most part of Tertiary sediments of Pliocene or Miocene age in the southern part and within the limits of the County of Stratford. Beyond this, to the northward, and within the district drained by the western tributaries of the Wanganui, is the supposed eastern extension of the Mokau coalfield. Several outcrops of coal are known to occur in this part of the district, and as these are at no great distance from the proposed route of railway from Stratford to connect with the south extension of the Auckland railways, an importance has been attached to these coal-outcrops which, otherwise, they might not have had for many years to come.

There has, hitherto, been no certainty as to the position of the southern limit of the coalfield within the Wanganui watershed, and, naturally enough it was hoped to be much nearer Stratford than proves to be the case. There is little likelihood of coal being found to the south or south-west of the Tangarakau River. If coal-seams are found in this part of the district, they must lie at the base of the Tertiary sequence, and be connected therewith. Whether or not this would prove such coal-seams of a different age to those of the Mokau Valley remains to be seen, and there are no present means of determining this question.

The highest and youngest sedimentary rocks between Stratford and the Tangarakau River are soft sandstone beds—often loose sands—that contain a percentage of iron sands as ilmenite or as magnetite. These sands appear at and extend four miles to the east of Toko, beyond which, as reported, shelly limestones appear to the east and north-east. The actual age of these sands might be matter for debate, as they do not well agree with the Putiki series of Hutton as developed on both sides of the Lower Wanganui. In the higher beds they are not richly fossiliferous, nor are they largely formed of pumice-sand and coarser grit, as are the rocks of Younger Pliocene age in different parts of the Wellington and Hawke's Bay Districts. In that they are associated with shelly limestones that resemble those of Scinde Island, and appear to