

Since the first samples were sent to the Mines Department and analysed by Mr. Skey they have been subjected to various tests, in order to prove how the substance stands the elimination of its accidental and in part of its constitutional water without rending or crumbling to pieces during the dessicatory process. So far as these tests have gone, they show that unless very slowly dried the substance does crack to some extent, and this, together with the fact that, compared with Whitby jet, it is somewhat brittle, unfits it for the purposes to which jet is usually applied. Appended is a copy of Mr. Skey's original analysis of the specimen, and his remarks thereon.

The Under-Secretary of Mines, Wellington.

ALEX. MCKAY,  
Mining Geologist.

RESULTS of ANALYSIS of SPECIMEN No. 7252, CARBONACEOUS MINERAL. (Locality: Vicinity of Woodville).

THIS mineral has all the appearance of a first-class jet. It is very hard, and gives a greenish-brown powder. It cracks somewhat when rapidly dried, but, as Mr. McKay suggests, it may not crack at all if dried slowly at common temperature. Its quality as a jet is being further tested.

*Approximate Analysis.*

Fixed carbon	...	...	...	...	...	...	35.91
Hydro-carbon	...	...	...	...	...	...	22.83
Water	...	...	...	...	...	...	11.14
Ash (ferruginous)	...	...	...	...	...	...	30.12
							100.00

Evaporative-power low, only 4.6lb. Ash contains 17.99 per cent. of sesqui-oxide of iron.

WILLIAM SKEY, Analyst to Mines Department.

PROSPECT OF FINDING COAL ON THE TIRAUMEA ESTATE, UPPER TIRAUMEA VALLEY.

REPORT on, by ALEXANDER MCKAY, Mining Geologist.

Mr. A. MCKAY to the UNDER-SECRETARY of MINES.

SIR,—

25th May, 1896.

Between the 5th and 8th of May, as directed, I examined portions of the Tiraumea Estate, with the object of determining whether or not coal-seams of workable thickness occur there, and have the honour to report as follows:—

REPORT.

While the road from Alfredton to the East Coast by way of the Upper Tiraumea was being constructed indications of a seam of coal were exposed at the base of Cook's Tooth, about half a mile from the Home Station on the Tiraumea Estate, thirteen miles east of Alfredton.\* A sample of the coal found, on analysis, proved to be a brown coal of good quality. Subsequently a further sample gave a high return, and had an evaporative-power of 7lb., indicating in some degree an altered coal, implying the presence in the district of the Cretaceo-tertiary formation—the true coal-measures of New Zealand.

During last December I was instructed to visit this and some other localities where coal occurs in the Wairarapa North district, but was recalled to Wellington before being able to examine this particular deposit, but, opportunity offering, the locality of the outcrop and the surrounding districts were examined between the dates above mentioned.

*Locality of the Coal-measures.*

The Tiraumea Estate, about thirteen miles north-east of Alfredton, lies east of the Tiraumea River, and, containing 10,360 acres, extends north and south five miles, and has an average breadth east and west of three miles. The surface is generally hilly, with comparatively narrow valleys between. The most extensive areas of flat land lie along the valley of Ngarangakopo Creek, intersecting east and west the middle part of the estate. In the south-east, hills of papa and limestone rise to 1,200ft. or 1,500ft. above sea-level.

*General Geological Features.*

In the south-west portion, sandy clays and soft brown sandstone are developed over a small area, east of which there is a considerable development of Triassic (?) or Carboniferous rock, having

\* Of this coal Mr. Skey says, "This is a useful coal of its kind, comparing very well with the Shag Point coal and others of the less hydrous brown coals. It is a fairly-coherent homogeneous coal, burning freely, with a good flame."