

I need scarcely say that the results of Mr. Hill's trial-shaft are highly gratifying, and that there is now no doubt that great quantities of coal will be soon available for sale.

Dr. Hector, F.R.S., Director,
Geological Survey, Wellington.

I have, &c.,
JULIUS HAAST.

WESTLAND.

Dr. HECTOR to the UNDER SECRETARY, Public Works.

SIR,—

Geological Survey Office, Wellington, 20th June, 1872.

I have the honor to forward correspondence relative to a coal seam which was discovered on the Kanieri River, about miles from Hokitika, in July, 1870.

Under Secretary, Public Works.

I have, &c.,
JAMES HECTOR.

Enclosure No. 1.

Dr. HECTOR to the UNDER COLONIAL SECRETARY.

SIR,—

Geological Survey Office, Wellington, 13th December, 1870.

I have the honor to report as follows on the analysis of the specimens of coal from Kanieri, Westland, submitted, together with a plan, sections, and report, by the County Engineer, on the 28th October last, a reply to which has been unavoidably delayed until this date owing to pressure of work.

The information supplied in Mr. O'Connor's report, together with the inspection of the accompanying rock specimens, only enables me to speak with confidence on the following points:—

1. The coal seam undoubtedly belongs to the same formation as that in which the Brunner mine on the Grey River occurs, the associated rocks, which are very characteristic of the formation, being identical.

2. From the direction in which the coal is dipping, viz., S.E., or towards the slate and granite ranges which, I believe, bound the Kanieri Lake, and also from the friable texture of the coal, the seam which has been discovered appears to be in a faulted or locally dislocated portion of the formation, in which case it probably has no great extent.

A very similar dislocated mass of the coal formation is found at the northern limit of the Buller Coal Fields on the Ngakuwau River, and I have not much hope of the new discovery unless the coal is found dipping at a lower angle and in a westerly direction.

It is, however, extremely encouraging to find that the coal formation extends so far to the South of its hitherto known limits, as it affords good ground for believing in the continuation of the coal field under the fossiliferous blue clay formation that forms the base of the terraced country lying between the mountains and the sea coast.

The sample sent shows the coal to be massive, with irregular laminated cleavage, exceeding friable, colour black in mass but brown in powder.

Notwithstanding the large percentage of ash which it contains, it cokes well and cakes strongly in the crucible. The colour of the ash is white.

Three separate specimens were analyzed, the first having been sent by Mr. Bloxham in July last, on the first discovery of the seam.

The following is their composition as determined:—

					I.	II.	III.
Water	...	...	...	...	86	29	40
Fixed carbon	...	...	...	...	58.69	48.97	44.80
Hydro-carbon	...	...	...	...	19.34	39.92	36.40
Ash	...	...	...	...	21.11	10.82	18.40
					100.00	100.00	100.00

No. I. is described as being from the original outcrop of the seam, where it was three feet thick, and is rather a highly carbonaceous shale than a true coal; it is therefore a good sign to find that the seam has so improved in quality on being followed under ground for a distance of 116 feet.

The seam is, however, too thin to admit of being profitably worked unless under very favourable circumstances.

I hope to be able to have the locality geologically examined this season, after which I will be able to advise whether steps should be taken to test the field at other points.

I have, &c.,
JAMES HECTOR.

The Under Colonial Secretary.

Enclosure in No. 2.

Mr. G. MUELLER to the Hon. W. REEVES.

(No. 407.)

SIR,—

Chief Surveyor's Office, Hokitika, 21st June, 1872.

I have the honor to report that, in accordance with instruction received from the County Chairman, I have examined the locality of the recent coal discoveries in the Kanieri district, and I beg now to submit a plan of the coal field and the result of my observations.