

Coal outcrops in many places near the head of the Blackburn, and towards the western margin of a large flat “pakihi,” conveniently called the Blackburn Pakihi, through which that stream runs for some distance. The principal outcrops belong to one seam, which has a thickness of from at least 8 ft. to 25 ft., and possibly 40 ft., or even more. The coal, though in places friable, is everywhere clean and of good quality, as is shown by the following analyses, which, it should be noted, represent somewhat weathered coal, containing more moisture than will be found in coal from a solid face :—

	(1.)	(2.)
	Per Cent.	Per Cent.
Fixed carbon	56.99	53.05
Volatile hydrocarbon	36.77	40.50
Water	5.72	3.13
Ash	0.52	3.32
	100.00	100.00
Total sulphur	0.91	2.45

No. 2 cokes, whilst No. 1 is non-coking coal. Both burn to a dark-brown ash. No. 1, which is from a coal “island” at the north-west corner of the Blackburn Pakihi, represents 25 ft. of perfectly clean coal, whilst No. 2 is from a spot some distance to the eastward.

In general the coal dips to the north of east, and consequently it disappears under cover in that direction. A considerable area of the Upper Ngakawau watershed may therefore be expected to contain coal; but the notoriously inconstant nature of the Buller coal-seams renders it necessary that the area should be thoroughly proved by boring before positive statements can be made. Another reason for proceeding with great caution is furnished by the fact that both to the north and the south the coal-measures are found to rest upon ancient rocks without exposing coal. Eastward the coal-measures terminate against the great fault that forms the western side of the Mount Glasgow Range. Hence the Blackburn coal lies in a basin, the coal-bearing portion of which may be comparatively small.

West of the Blackburn Pakihi, and principally in the watershed of Erin Creek, is a series of ridges capped in places, but not continuously, by coal-measures. In all, three coal-seams are exposed, but only one of these was ever of workable thickness over any large area. This seam is doubtless the same as that seen outcropping on the Blackburn Pakihi, and is of similar quality. The following analysis represents a sample from the headwaters of Erin Creek :—

	Per Cent.
Fixed carbon	51.24
Volatile hydrocarbons	40.89
Water	4.82
Ash	3.05
	100.00
Total sulphur	4.62

The sample cokes, but does not swell. It burns to a dark-grey ash.

Unfortunately, the extent to which denudation has proceeded makes it practically impossible to work any of the remnants of coal remaining in the Erin Creek watershed.

(b.) *Mackley or Orikaka District.*—For many years persistent reports have been circulated to the effect that in the Mackley Valley there was a large and valuable coalfield. These reports probably originated in the first place through the error made by Cox and Denniston regarding the drainage of the Upper Blackburn district, but from time to time were strengthened by the discovery of various outcrops of coal in the real Mackley watershed. As yet the lower four miles of the Mackley River and the Pensini Creek have not been examined, but the detailed survey of the upper and middle portions of the Mackley Valley shows conclusively that the greater part of the coal once present has been removed by denudation, with the result that coal is now seen only in a few small isolated areas. It is therefore quite certain that the greater part of the Mackley Valley is of no commercial value as a coalfield. When the survey of the area near the Buller is made, possibly more satisfactory data may be obtained.

(2.) *Alluvial Gold.*

Alluvial gold has been obtained at many places within the Buller-Mokihinui Subdivision. Some of these were mentioned in the last annual report. A large amount of gold has been won from the Fairdown terraces, near Westport, but these were not examined during the past season, and therefore no account of them can at present be given. Old workings, none of great extent, were observed near Coalbrookdale, at the head of the Whareatea River; near Kiwi Compressor, and on the saddle at the head of Cedar Creek. The gold at all these places has been derived from argillites and grauwackes of the Greenland or Aorere Series. There is no possibility of alluvial gold being found in quantity in the area examined, but small patches of a few ounces may be discovered at any spot on or near exposures of the Greenland rocks.

(3.) *Auriferous-quartz Veins.*

Quartz veins are numerous in the argillites and grauwackes (“slates”) of the Greenland Series, but none hitherto discovered has been remarkable for its gold-content. The only quartz-mine at work in the Buller-Mokihinui Subdivision is the Britannia Mine, in Stony Creek, near Waimangaroa. This was not examined last season. The Banbury Mine, near Denniston, was worked many years ago for a short time. Veins in Todea or Cascade Creek were also worked a few years ago, without any real success.