


NEW ZEALAND
GOVERNMENT GAZETTE

(PROVINCE OF NELSON).

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By His Honor's command,

J. C. RICHMOND, Provincial Secretary.

VOL. XI.

NELSON, SATURDAY, APRIL 11, 1863.

No. 7.

Provincial Secretary's Office, Nelson,
April 9, 1863.

HIS Honor the Superintendent directs the publication of the following Report, for general information.

J. C. RICHMOND,
Provincial Secretary.

To his Honor the SUPERINTENDENT, Nelson.

SIR—In accordance with your instructions, given on the 11th February last, I accompanied Mr. Hough for the purpose of searching for a pass to the Karamea which had been reported by him to exist, but, as I had expected from a previous acquaintance with the district, I found nothing of the kind. From this point I then began to explore southward going from Mount Arthur along the dividing range, which I intended to follow until I could ascertain whether any break existed in it through which a road might be made that would connect the now settled portion of Nelson with the western rivers, especially the Lyell, a small tributary of the Buller, the mouth of which is the site of the last rush of gold diggers.

I ascended by a long manuka spur leading up from the River Baton, a mile below Mr. Salisbury's wharf. In this locality, found, I think, by Mr. Salisbury, is a small seam of coal, and a kind of shale, with minute shell fossils; this coal is black, and is reported to be, and I believe is, of secondary formation.

At a height of 1,400 feet above the Baton, where I camped, there is an indication of black coal. On

looking for water, I found the same shale as that which exists in the lower part of the Waimangaroa. This was on its south hill-side, opposite the claim known as Wihaere's, and it showed in the hill for a distance up the river as far as Forrester's claim. I descended for several hundred feet, but did not arrive at its termination, and feeling assured that a search for coal in this neighborhood would be rewarded by success, I suggested that Mr. Burnett should be despatched for the purpose of making an examination, but unfortunately, when that gentleman arrived in the neighborhood, I was in the Buller district, and, consequently, he could get no information that would place him in possession of the spot where I had seen indications of the existence of coal. This I greatly regretted, because coal shows itself in the river at a very low elevation, and shale 1,400 feet above it, in a spot not exceeding a distance of forty miles from Nelson.

I would here beg to quote, from the *Penny Encyclopædia*, a description of Madeley Colliery, at Coalbrook Dale, in England, in order to shew that a search for coal might even require to be conducted by boring or driving levels into the hill, and that it is quite possible for plenty of coal to exist, and yet for it not to crop out:—

“The Coalbrook Dale Coalfield rests on transition rock. It extends from Wombridge, in the parallel of Wellington, to Coal Port, on the Severn, a length of about six miles; its greatest breadth is about two miles. The coal measures are composed of the usual alternating strata, which occur without much regularity, except that each bed of coal is almost immediately covered by indurated or slaty clay, and not by sandstone. The strata are eighty-six in number. In

Madeley Colliery, a shaft is sunk 729 feet, through all the beds. The first coal seam, which occurs at a depth of 102 feet, is very sulphureous, and not more than four inches thick; nine other beds of a similar nature, but rather thicker, occur between this and the depth of 396 feet. This coal is called 'stinking coal,' and is only employed in the burning of lime. The first seam of coal that is worked is 496 feet deep, and five feet thick. Two other beds of coal occur, one ten inches and the other three feet thick, before the bed of 'big flint' sandstone, which is found at the depth of 576 feet. Nine beds of coal occur of the aggregate thickness of sixteen feet, between the 'great flint' and the 'little flint' (an interval of 100 feet). Beneath the 'little flint' and the lowest bed of the whole formation, there is a sulphureous eight-inch coal."

This account refers particularly to Madely Colliery. The coal of this field is usually a formation of slate coal and pitch coal.

To continue my report. Above the manuka spur leading from the Baton, the hill, which is very rocky, exposes a beautiful kind of hornblende granite. Above this again, on the summit, slate exists, with small shell fossils, often intersected with veins of quartz. Samples of this I forwarded to you in one of my early letters.

I proceeded for about two miles along this, the Mount Arthur range (feeders from which on one side fall into the Baton and Wangapeka, and on the other to the Karamea), which has two dips both covered with a scrubby bush. On the second of these dips, at about 100 feet below where I was, and on the Karamea side, coal can be seen cropping out. At least it was reported to me by a man named Brown, who followed my tracks, and who had camped here, that in descending for water, he had stumbled upon some coal. His description was certainly a vague one, but this at least is certain, that whatever coal exists there it must be of the black or secondary formation.

I continued along the range, which in some places contains gentle slopes, with several kinds of good grass (seeds and specimens of which I sent to you), but in others the descent is very abrupt. After a distance of about ten miles, I found that the range suddenly stopped; this was opposite the northern end of the Mount Owen cluster; there is, however, on the western side a tolerably low bush saddle, which divides a small branch of the Wangapeka from a feeder of the Karamea. Part of this saddle is of limestone, and is about 2,500 feet in height. I may here say that I can only, as yet, give an approximation to the heights of different hills as I have not yet had time to compare the scale of the instrument which I took (an Aneroid) with a barometer, at different levels, but I do not think the error will exceed 200 feet.

The vegetation of this saddle is birch (some of the trees being five feet through), manuka, nene, deep moss, flax, toi-toi, tutu, fern trees, koromiko, and lawyers or brambles.

From this branch, but lower down, two small feeders run up towards Mount Arthur and the Baton. This would be the shortest route to the auriferous districts, and would be nearly all sideling. I crossed this saddle, and reached an isolated range running northerly, and parallel to the last-mentioned branch of the Karamea down to the Baton. It is of the same formation as the range I had just left. This singularly isolated range is nearly surrounded by branches of the Karamea; only a small portion of it, the south-east extremity, being bounded by the main Wangapeka, at which corner there is also a small lake, containing three or four acres of water, which is one of the feeders of the Wangapeka. This little lake is situated in a hollow of the range looking south into a valley of its own, whose further side completely shuts out any other view. A small stream, an outlet of the lake,

meanders down this valley, threading its way through numerous little pools till lost in the bush; it afterwards rushes over precipices to the parent Wangapeka. The lake is about 800 feet below the summit of the range, whose frowning cliffs are pleasingly contrasted by grassy slopes and patches of bush while some blue ducks, fishing and diving industriously, gave life to the scene. The formation at this level is still slate, with numerous veins of quartz studded with oxide of iron, detached pieces of which, a foot in thickness, were strewn about. Near this spot I found a piece of copper in quartz, but unfortunately lost the specimen.

From the summit I discovered a saddle connecting the Wangapeka with another branch of the Karamea, and which I should think is not above 2,600 feet above the sea. Its vegetation consists of lofty birch trees (some being of great size), ferns and most of the ordinary shrubs. The ascent to it by the Wangapeka is very gradual, while, on arriving near the saddle, the rise is very slight, and might be overcome by a gentle gradient. There are about four miles of a gorgy character, with some narrow pieces of table land about thirty or forty feet above the river, divided and occasionally separated by juts of rock, but presenting no practical difficulty. About six miles below this saddle, which is chiefly composed of hard slate similar to the Upper Waimangaroa, there is a space of, perhaps, two miles long, in which occurs the appearance of coal shale, containing the most beautiful fossils of leaves and ferns which I have ever seen. I had not time to look for the accompanying shell formation, nor could I find any seam cropping out, but I found a piece of drift coal about one mile lower down, similar to that from the saddle, and of the same character. I had previously ascended to the long high saddle dividing the Matri and Owen from the Wangapeka, which is situated about five miles up a tributary of the latter river. A mile below this spot this saddle divides the Owen from the Lyell ranges, and I think it is also the division of the secondary and tertiary coals. The rise to this saddle is steep and short, and no advantage would accrue by following its course to the Buller, whose chief difficulty lies below and somewhere abreast of the Lyell and Brunner ranges.

About three miles down the Karamea, in which interval two small gullies occur, and following a tributary which flows into the Karamea from the southwest, is the saddle watershed of the Lyell, about 3,200 feet in height. The bush rises for, perhaps, 150 feet above the lowest dip, and consists of birch trees, not quite so large as those on the last saddle I have mentioned, with nene, koromiko, flax, heath, toi-toi, &c., and pitch pine, and other shrubs of a similar nature, highly inflammable, and similar to the vegetation which generally exists in Coalbrook Dale. The top stratum is the coarse gritty stone generally exposed on the plateau of Coalbrook Dale and Papahaua. I should rather call this a double saddle, with a low hill of similar formation, with little paths every here and there of thin flaky shale, the intervening hollow being filled with the coarse chrystals from the gritty stone above mentioned. Another feature analogous to this coal-field is, that in this hill is a dyke, apparently descending vertically through the strata, of a beautiful conglomerate of quartz, slate, &c., which I have never before seen at this elevation. A similar conglomerate, only with less quartz and larger pieces of slate, exists in the Buller, about two miles after entering the first gorge. The double saddle may be described as about two miles long, and the best position for crossing it is about the centre, where the saddle is folded over with coal of a good quality [like that of specimens 6 to 9], and much of which may be wrought open-cast. I do not think this seam is more than three feet in thickness, although it appears

to vary in size, and is exposed in the creek flowing into the Karamea. For about two chains above in the bush and to the westward, a few chains off, I found drift coal, or, more correctly speaking, coal lying on the surface in lumps, six or eight inches long, with sharp edges and not worn by water, but there was no creek or any visible sign of how it was brought there; my conjecture was that the seam could not be distant, and that occasional small blocks had become detached and the soil gradually washed and worn away, till they were left without support, and rolled down the hill. This opinion was confirmed by my finding, at the east end of the saddle, about two-thirds of a mile off, some small drift coal on the surface under similar circumstances. After a careful search, I found a place where the pieces of coal were more numerous, and I then dug down for eighteen inches with my bill-hook, and I found that I was digging in what was entirely composed of pieces of coal, which pieces increased in size as I deepened the hole. To the east of the saddle I observed a slate range of similar character at the top to that of the Mount Arthur range. It runs for about three miles south, and then joins on to the Lyell range, without a break of any significance. The Lyell range exceeds it in elevation, and is remarkable for the regularity of its laminated strata, which is visible on both the Matiri and Lyell sides, and inclines slightly to south. In the centre and from the highest peaks flows a stream into the Lyell, which thus forms this range into a V shape, whose nearest side, with the three miles of slate formation, makes a curve, whose bend is to S.E. Many small creeks, previously flow from the range through shale, which begins generally about 800 feet below the summit, and, perhaps, extends 1,000 feet in vertical height. Below this again many of these creeks, in the shale, form giant steps of six and eight feet in height and width, whose faces are nearly vertical and horizontal, showing this part of the strata to be nearly in its primitive state of repose.

To the left of this saddle is an isolated mountain of similar character, shale showing in the same manner, from which, as a centre, a sort of table, gradually falling into spurs and creeks, descends into the Lyell up the bend which I mentioned as existing on the other side. Down one of these I found coal, perhaps three miles from the saddle, and 1,100 feet below it. It was here that I obtained the various fossils I sent you with the coal [Nos. of specimens 1 to 5], those obtained on the saddle being very imperfect perhaps owing to my difficulty in releasing them from the shale. The longest of these spurs extends five to seven miles down from the saddle, in a straight direction, to the commencement of the rocky and steep parts which may perhaps, extend for five miles; this latter being broken by an interval of about two miles, when easier slopes can be got: the last three miles appeared to be more open, and the hills seem to recede a little further from one another their general direction is S.W. To the west of the isolated hill mentioned is another saddle dividing the Karamea from another branch of the Lyell. In the bed of the Lyell, after getting below the shale, I found alternately a hard slate and granite formation. The river is rough and full of very large rocks and boulders, with low gorgy cliffs, &c. The spurs in this portion, in the prominent part, increase in steepness to a dangerous angle for a pedestrian; but I think most of them are short, yet, until they are cut through, persons attempting to travel here with any kind of load, will find themselves driven either above or below the route; and, as several of these sort of obstructions occur, persons could not, as yet, make any headway, and might perhaps end by returning and giving to the unopened route a character which, when formed, it will not deserve. Until I have got the road a little more forward, I should recommend

no digger to attempt passing by it. The Karamea presents a different feature, as, for some three miles below where it is blazed, the valley has wide shingle beds and good flats, for two or three miles after which the stones in the river become bigger, though still narrow flats, from two to ten chains in width, accompany it for about ten miles more. This is the furthest distance that I have been along the river. Near to where the wide shingle bed commences a creek joins the Karamea, from a low saddle connecting it with the Karamea near to the coast in a straight N.W. direction, and this will, probably, prove of value as a short communication with the flat land on the coast.

At the Wangapeka river there are flats extending as far up as the old bridle track, many of which are of very good quality, with excellent timber and fine wide open shingle beds to the river. I found brown coal at the creek above the Limestone Bluff, on the S.E. side of Wangapeka Plain. I may here say that I have found brown coal in the Inangahua; and that Mr. Haast, in his Report, mentions seeing such shale in the Upper Buller, and brown coal nearly everywhere. Those observations appear to show the limit of the field in that direction.

Down the Karamea, in what may be called the coast range, is a large extent of broken table hills of what appears to be the coal formation.

This range a little further south, contains our celebrated Coalbrook Dale field, and north, some twenty miles, black coal was found in the Heaphy mouth by Mr. Mackley. It has also been found at Wanganui and Pakawan, and will probably be found along the Wakamarama or Quartz Ranges, on the western wall of the Aorere river.

While speaking of the Karamea, I may repeat that it is likely to become one of the richest of our gold-fields. When I referred in the early part of this report to the Karamea Basin, I meant that point at which nearly all the streams culminate from N., S.E., and W., and all from gold-bearing ranges, most of which are now being worked on their opposite sides.

All the ranges recently explored by me are gold-bearing. Mr. Salisbury's letter will, in my opinion, also add a fresh stimulus to opening this district.

I consider the whole of the coast included between the Grey and Cape Farewell will probably be a mine of wealth to Nelson, and I should strongly recommend the appointment of a competent mineral surveyor to explore the district geologically, as many a source of wealth, now hidden to the ordinary observer, might be developed. In doing this, your Honor would only be following the example of neighboring colonies in possession of mineral lands.

I have enclosed a plan, showing the whole districts which I have reported on, and giving a good idea of the auriferous and other mineral resources of the country, as well as all the places where black coal is known to be, and also the brown, thereby showing an approximate limit to the coalfields of this province.

With one of my communications I also enclosed to your Honor a specimen of the lace bark tree, and a specimen of cord made from it, which I have used in the bush, in place of flax, for a considerable time. This tree grows to about six inches in thickness, and has a bark a quarter of an inch thick, composed of a clean fibrous material very suitable for many purposes for which flax is used, and luted together with a very sweet substance something resembling sago in taste, and often used by the natives of former days for food.

At a point on the coast half-a-mile north of the Heaphy, is a coarse granite interspersed with veins of fluor spar, an indication of lead (similar to what is found on the borders of Cornwall and Devonshire). Between the Heaphy and Haihai, and about three miles south of the former, is a remarkably coarse

granite formation, except near the mouths of these rivers, which is of limestone, with numerous and large fossil shells, some six inches in diameter.

From Halhai to Little Wanganui, some fourteen miles, is a sandy beach forming the seaboard of the principal flat land of the Karamea. In many places the sand is black or dark chocolate color; and at the mouth of the Karamea river, what miners call the colour of gold has been found on the beach near the mud-flat on the south side of the river.

At Wanganui, the low coast range of limestone, about 1,000 feet high, again begins, and ends near Mokihinui.

I am now engaged in cutting a foot-track to the Lyell, making small cuttings everywhere where sideling occurs. I am following the main Wangapeka up to its source, crossing the watershed into the Karamea, following down that river a short distance, and striking up a small branch to a saddle which divides the Karamea from the Lyell, which I follow

down to the Buller, opposite the confluence. The Inangahua flows a little down the Buller, but nearly in the same general line, forming the natural road into the Grey. During the progress of this work, which is rapidly proceeding, one gang of men will cut a six feet track down the Karamea, and the whole will be finished in about six weeks.

Independently of the gold, there is a block of fine timber land at the mouth of the Karamea, of about 20,000 acres; the quantity in the valley I cannot as yet give an estimate of; and there will also be a fine block of land in the Inangahua and Buller, near the confluence of these rivers. There is also a fair quantity of good land, worth surveying at once, on the Wangapeka, as far up as the place where the old bridle track leaves the main Wangapeka and turns to the Rolling River.

I have, &c.,

JOHN ROCHFORD.

Nelson, April 7, 1863.