9. Green sandy shale with flat cement stones, containing plant impressions; bedding very regular, but the strata are cut by joints lined with calcareous spar and ironstone—80 ft.

10. Conglomerate—10 ft.

11. Nodular sandstone.

Resting unconformably on the above are calcareous shales and marlstones.

Parengarenga Harbour is only suitable for vessels of small size, the depth of water on the bar being only a few feet.

The foregoing notes were made in the course of a general and cursory examination of the district for a few days in January 1866, and sufficiently prove that there is a considerable development of coal in the district north of the Bay of Islands. I was not successful in getting perfect fossils, and therefore cannot express a decided opinion as to the age of the formation in question; but in the geological map of the district I have placed it provisionally in the same group with the Kawa Kawa coal.

The only recommendation I at present feel able to make is, that the coal up the Kaiou Creek should be opened out and traced on the surface if possible, so that, its true direction being ascertained, it may be sought for at the most convenient place to the deep water. Boring should not be resorted to until it is very clearly established that the coal may be expected to occur in the particular locality selected. This course was previously recommended to the persons locally interested, but I have never heard of the result.

The existence of valuable coal near Mongonui at present rests on the evidence afforded by the occurrence of carbonaceous sandstone near the Autere River, and the single specimen obtained by the Rev. Richard Taylor, as I do not consider that the lignite deposit at Cooper's Beach and close to Mongonui would answer for steamers.

A rough sketch of the district is enclosed, showing the position of the localities alluded to, excepting Parengarenga, and representing approximately the general distribution of the geological formations.*

I have, &c.,

The Under Secretary for Public Works, Wellington. JAMES HECTOR.

NEL ON.

Dr. HECTOR to the UNDER COLONIAL SECRETARY.

SIR,— Geological Survey Office, Wellington, 29th June, 1872.

I have the honor, in reply to your reference of 12th January,† to make the following report on the Collingwood Mine, in the Province of Nelson, which I had no opportunity of examining till 30th May last.

This mine is situated in the Pakawau Coal Field, the general characters of which are described in a previous report (Geological Report, 1867, p. 19), made when the coal seam had been only recently discovered, and no mine had been opened. A description of the state of the mine last year was given by Captain Hutton (Geological Reports, 1871, p. 157).

To reach the mine, the river is ascended in a boat for half a mile to a point where wharves have been built, and where vessels of small size can load. From this point to the foot of the hills, a distance of one mile and a quarter, a wooden tramway has been laid through a bush flat, a good deal of iron rail being used near the river. The hill is then ascended by an incline at an average angle of 33°, but in parts even steeper, the length of the incline being 1,300 feet, and the vertical rise 600 feet. The rails on the incline are made of wood, the line being double, and there being also a double length of wire rope, which appears rather unnecessary, as the incline is worked with a single drum and powerful break.

From the top of the incline, a side-hill cutting leads up a valley for about a mile to where it strikes the creek at the top of a vertical fall of 107 feet. The coal is here received into the waggons from screens, to which it is sent down from the mine by a steeply-set box-shoot, the difference in level between the mine and the screens being 80 feet. Narrow iron tramways are laid down from the different levels in the mine to the shoot.

The mine consists of workings in two seams of coal, which have been opened out at the lowest level at which they can be cut in the bed of the creek, and from there excavated to the outcrop on the brow of the spur for a distance of two chains. The workings extend on the strike of the seams for about five chains, and are then cut off by another branch called Isaac's Creek. The whole of the available coal in the block between the two creeks has now been worked out, as shown on the attached plan of the workings, which is from a rough sketch by the manager, Mr. Marshall.

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* Enlarged geological map of the Northern District of the Auckland Province.—J. HECTOR, 1867.

† NOTE.—The reference alluded to was made on the following Report of the Public Petitions Committee of the House of Representatives, Session 1871.

Report on the Petition of Henry Halcombe.

Petitioner is Henry Halcombe, an elector of Collingwood.

Petitioner states that a certain coal mine at Collingwood has been leased from the Crown by a company, who have expended nearly £4,000 in opening up a tramway and approach to the said mine.

Petitioner prays that the House will reimburse the lessees of the coal mine their aforesaid expenditure, and will give them aid by providing a sufficient supply of skilled miners under the Immigration Act of 1870.

I am directed to report that the Committee are favourably inclined to the proper development of the coal fields of the Colony, but are unable to make any recommendation on petitioner's case, as it involves a question of policy which the Government ought to consider and deal with on some well-defined principles which could be generally applied wherever coal fields can be profitably worked.

THOMAS KELLY,

10th October, 1871. Chairman, Public Petitions Committee.

REFERRED to Dr. Hector for inquiry, to report on capabilities of this mine (at Westport, or elsewhere).—W. GISBORNE, January 12, 1872.