

PAPERS RELATING TO DEVELOPMENT OF COAL MINES, ETC.,
AS PROVIDED IN PART VIII. OF THE IMMIGRATION AND PUBLIC WORKS
ACT AMENDMENT ACT, 1871.

No. 1.

Dr. HECTOR to the Hon. J. D. ORMOND.

MEMORANDUM by Dr. HECTOR as to Explorations for Coal in different parts of the Colony.

At the desire of the Hon. Mr. Gisborne, I beg to make the following remarks on the best application of the fund voted under the Public Works and Railways Acts, for the purpose of exploring for coal in the different parts of the Colony.

The geological survey of the Colony has hitherto, with few exceptions, been of a general character, more with the view of ascertaining the order and distribution of the various formations than for the purpose of accurately defining their boundaries, or of determining exactly the available quantities of coal seams and other contents of the rock masses which have an economic value. It has, in fact, been of the nature of a "reconnaissance survey," and as such has been extended as rapidly as possible to nearly every part of the Islands. This preliminary survey has had the effect of narrowing the field in which a detailed and much more expensive kind of examination is necessary. With reference to the special question of coal seams, we now know pretty accurately the areas in which they can and cannot exist. We also know the thickness and value of many known seams, but their extent only imperfectly. I would therefore suggest that the fund under consideration should be devoted to the more definite search for coal seams in favourable localities, and also to proving the extent of the seams already known. This work can be carried on under my direction and superintendence, without interfering with the regular progress of the more general geological survey. It will be necessary that the search should be conducted in some cases by geological surveying, and in others by boring. The first method will require, in each locality where the work is in progress, a field party consisting of a qualified geological surveyor, two or three men, pack-horses and camp equipage; cost about £70 per month.

Boring is much more expensive, and must be done by contract. The first step is to ascertain what boring tools are available; the second to choose the most advantageous localities.

Boring rods have been purchased by some of the Provincial Governments, Otago, Nelson, &c.; but definite inquiries will have to be made on the subject. If boring is determined on, it will be well to advertise early for the services of skilled persons, as boring is a special business, and on several occasions skilled borers have applied to me for employment.

The selection of the site on which the boring should be commenced, will require to some extent to follow the survey. At the same time, there are some localities that could be decided on without much difficulty. It would be very advantageous that boring should be only attempted in a district near where an assistant is at work in the field, so that he may examine the results from time to time as they are obtained, and see that the record is faithful.

Localities.

The most valuable seams of coal are, as is well known, on the west coast of Nelson; but there is also a large area in the south-east of the Province of Otago, where, although no large coal seams have been discovered, yet there is reason to expect their existence. These two districts should be placed under District Surveyors, who would gradually overtake the whole of them, each with a boring party, as well as a field party, when necessary. If the above mode of procedure meets with approval, for the present season I would make the following suggestions:—

The examination of the West Coast coal fields has been already considerably advanced; and as I am personally well acquainted with the details, I think it will be advisable that the survey of that district should in the meantime be continued under my immediate supervision, with such assistance as I can obtain locally.

For the south-east district of Otago, I can arrange that Captain Hutton should at once proceed with the examination, and devote to it the remainder of this season.

In addition to the above districts in the South Island, I would also suggest that Dr. Haast, who has just completed the survey of the coal fields of the Malvern Hills, should be employed also to examine the Clent Hills and a few other localities in Canterbury, and north-east of Otago, where there are coal seams concerning which our information is very imperfect.

In the North Island, there is the coal field in the northern district of Auckland which was examined and reported on in 1866. Since that date, the Kawa Kawa Mines have been extensively worked, and it would be desirable that they should be re-examined, in order to obtain any further information that has been rendered available by the workings.

From the Mokau River, southwards to the Wanganui, there is known to be a considerable area of coal-bearing country which has not been examined owing to the Native difficulty, but which, I understand, it might be possible to visit this season. It would, however, be impracticable to attempt more than a rapid inspection of this district, which it would be necessary that I should myself undertake.

A map is attached showing the different coal-bearing areas above referred to.

JAMES HECTOR.

12th December, 1871.