Within and north of Taylor's lease the estimated amount of coal level-free is therefore 150,000 tons, but this amount might be more than doubled by tapping the level-free coal that lies to the westward beyond the western boundary of Taylor's lease.

The coal to be won from below sea-level or the datum of 20 ft. above that to a large extent depends on the depth of the shaft to where this cuts the coal. The dip of 20° is not likely to lessen much, so that a shaft 200 ft. deep should reach the coal 9 chains to the dip of the datum line level-free.

It were needless to show how much coal would thus be made available, because the amount is dependent on the maintenance of the thickness of the seam, both to the dip and along the line of strike.

Towards the dip nothing is known as to what the thickness of the seam may be, but along the strike it is known to maintain the same thickness for 50 chains, and I have, therefore, felt warranted in calculating the amount of coal level-free. The constancy in the thickness of the seam so far as traced along the strike leads to the hope that it will maintain its thickness for some considerable distance to the dip, and the amount of accessible coal from this seam alone, for a distance of 100 chains along its strike, and as far to the dip as would be reached by a 200 ft. shaft at or near sea-level, may be approximately set down at 1,000,000 tons, calculating on the basis of 1,000 tons per foot of coal to the acre; but this total estimate is necessarily subject to the limitations above stated.

(3.) There is a likelihood of coal being won from the lower seam, which has already been described, but the inducement to work this as the only seam in the district would not be sufficient, and the broken hilly country west of Taylor's lease may contain other seams, but under the circumstances—the season of the year and the roughness of the country—this could not be explored. This part, and the eastern slope of the range further south to the Pakawau Gorge, should be explored, more especially for the possibility of finding the 8 ft. seam in the south-eastern side of the anticline. The anticlinal ridge west of the Pakawau Gorge should be explored, and the western slopes of the main range south of the Pakawau Gorge give indications of at least one thick workable seam of coal, but whether this is identical with that worked in the Pakawau Gorge is as yet uncertain.

The part of the district immediately north and south of the Pakawau Gorge should be explored, as the discovery of workable coal in this part would probably decide the question of where a wharf should be built to facilitate the shipment of coal to a market. At Puponga the length of wharf to the same depth of water would be much greater than at a point one mile south of the entrance to Pakawau Inlet.

(4.) That a coalfield of considerable extent exists has long been known, but the smallness of the seams proved and worked in past years has had a discouraging effect on the development of the field. Now that it is proved that at least one thick seam exists at Puponga Inlet in the north, and an equally thick formation of coal, but of inferior quality, is known in the southern part, the prospects of the field are decidedly encouraging.

The coals of the southern part are bituminous and semi-bituminous. Those in the northern part are not bituminous, but yet of the highest quality of non-bituminous coals, and such as would form a very valuable and popular coal for domestic purposes, for stationary engines, and also for interprovincial and coastal steamers, but would not be equal to Westport coal for ocean-going vessels.

As from south to north these coals gradually lose their bituminous character, it is a question how far they occupy the same horizon as the brown coals of West Wanganui Inlet. Mr. Park considers that the West Wanganui coal belongs to a higher horizon, and that the coals of Puponga belong to the lower or bituminous series. In the latter case, however, he is mistaken, as the results of analyses of these coals appended will show, and the speculation is as to whether a like alteration of the condition and quality of the coal takes place as it is followed east and west from the shores of Golden Bay to West Wanganui Inlet.

If the supposition that the coal-measures are one and the same throughout prove to be correct, there is hope of an extensive field of workable coal of quality intermediate between the bituminous coal of Pakawau and the pitch coals of West Wanganui Inlet, and warrant also for the assumption that the intermediate coals will occur in seams of workable thickness, the 8 ft. seam at Puponga being cited as evidence in favour of this assumption.

ALEX. MCKAY,
Government Geologist.

The Under-Secretary for Mines.

Ten samples of coal taken from Mr. Taylor's lease, or from seams immediately outside that on its northern side, have been analysed in the Colonial Laboratory, and the following is Mr. Skey's report thereon:—

Result of Analyses of Specimens No. 8847. Reported on 5th July, 1900.

Ten Coals from Puponga, Collingwood County.—These are generally hard, coherent, and lustrous, and come under the class known as glance coal. They should bear transit well. I have only tested their caking properties at a red heat, so it is possible all might be got to frit at a high temperature.

The accompanying table shows that only Nos. 5 and 6* have such a high proportion of ash as to seriously interfere with their use. Throwing out these two, the other coals are all of excellent quality for household purposes, and several may come in very well for steam-coal on railways.

* No. 5 represents the lower of a group of three small seams that occur between the lowest seam (No. 1) and the 8 ft. seam (No. 4). No. 6 is from a small seam underlying and separated from the middle and upper parts of the 8 ft. seam by a clay parting.—A. McKAY.