

In 1894 Sir James Hector, in his progress report, refers at some length to the Picton coalfield. He states that a supposed new discovery was nothing more than the outcrops found and reported on in 1880, which occur south-west from Shakespeare Bay on the slope of the schist range. He concludes his remarks as follows: "It has been considered advisable to recapitulate what is known of the Picton coalfield, in order to put prospectors on their guard. There is no doubt that the composition of the coal is that of an excellent fuel for steam-generating, though rather tender and liable to form an excessive amount of dross; also that the locality, close to deep water in a splendid land-locked harbour, would give to a coal-mine so situated a vast importance; but ever since I first examined the locality I have doubted if there is any solid prospect of coal-seams being found that would support extensive mines. This opinion was based upon the fact that the presence of the coal-bearing rocks in the district was due to their being caught in between the sides of a great fault which marks the boundary-line between the foliated schists to the west and the old sandstone east and south of the Town of Picton. To this fact is due the very high angle at which the coal-bearing beds are found, the indurated condition of the beds, and the crushed character of the coal-seams. The denudation which has since taken place has removed the coal formation from each side of the fault-lines." (Rep. Geol. Explor. during 1892-93, No. 22, p. xxx-xxxiii, 1894.)

In August, 1914, I visited Picton, and reported as follows: "There is no chance whatever of coal being mined at a profit on a large scale either at Shakespeare Bay, The Elevation, or in the upper Tuamarina Valley—for example, at Mount Pleasant. The reason for this is that the coal-bearing areas are exceedingly small, whilst the coal present is dipping at high angles almost everywhere, is much faulted, irregular in thickness, . . . and variable in quality. It is possible that near Shakespeare Bay a few hundred tons of coal can be mined without loss for local use, but even this is very doubtful. A little surface prospecting may not be inadvisable. . . . Boring, shaft-sinking, or any expensive form of prospecting must be condemned as leading only to disappointment and loss of money, without any compensating advantage." (Ninth Ann. Rep. N.Z. Geol. Surv., part of Parl. Paper C.-2, pp. 81-83, 1915.)

During the early "eighties" of last century, while a serious attempt to mine coal at Picton was being made, the mine-workings were inspected several times by Messrs. S. H. Cox and G. J. Binns in their capacity as Inspectors of Mines. In 1883 Mr. Binns submitted brief reports upon the Picton Coal-mine (Fell's), Picton and Shakespeare Bay Coal-mine (Pugh's), and the Queen Charlotte Sound Coal-mine (south-west of The Elevation). The first of these concerns had sunk a shaft 55 ft., the second was driving a level but had not arrived at anything definite, and the third had found no coal. (Parl. Paper H.-11, p. 8, 1883.) Next year Mr. Cox described the workings of the Picton Coal-mine at some length. Two seams had been discovered, neither of which promised to be of any great extent. In character they were exceedingly patchy, the coal in several places being seen to pinch out from 4 ft. or 5 ft. to less than 1 ft. in the width of a drive; and in other places, though the thickness of the seam remained constant, coal at the top of the drive was represented by nothing but shale at the bottom. (Parl. Paper C.-5, pp. 18-19, 1884.) In 1885 Mr. Binns reported that the Picton Coal-mine was still working (during 1884), but doing very little. (Parl. Paper C.-4, p. 7, 1885.) In 1886 he reported that the mine had been idle during 1885.

The following table shows the production of coal from Picton mines as given in official statistics:—

—	Prior to 1880.	1881.	1882.	1883.	1884.	Total.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
Picton and Shakespeare Bay Coal-mine ..	50	..	3	53
Picton Coal-mine	75	8	100	475	658

Messrs. W. Syms (owner) and John [? Thomas] Pugh are mentioned in the old Mines Reports as managers of the Picton and Shakespeare Bay Coal-mine; Messrs. R. R. Hutcheson, John Renfrew, and F. Coombe are recorded as managers in succession of the Picton Coal-mine. In the former mine the coal-seam is stated to dip at 40° to the north; in the latter mine two seams—one 5 ft. thick, the other 12 ft. thick—dipping vertically, are reported.

RECENT OBSERVATIONS.

It will be helpful, I think, if I give my observations largely in the form of a narrative. On the 24th August, accompanied by Messrs. Allport and Webster, I went first to the old Picton Coal-mine (Fell's) on the eastern side of the head of Shakespeare Bay (Section 4, Block VII, Linkwater Survey District). Here there is nothing now to be seen except the old open-cut, whence coal was mined. This is, say, 40 ft. long, 20 ft. wide, and 10 ft. or so deep (dimensions very rough). At the north end shaly rock, dipping vertically and striking east of north, appears. The mine-dump shows coal, highly calcareous conglomerate, and calcareous fossiliferous claystone of a dark colour. The fossils indicate a Tertiary age. On the foreshore a few chains north and north-east of the mine the coal-measure rocks exposed are brown sandstone, fossiliferous conglomerate, and shale. These rocks strike north-east, and dip steeply to the north-west. From the Picton Coal-mine I proceeded to the west side of Shakespeare Bay. Here, along the shore (Kaipupu Scenic Reserve), the principal rock exposed is mica-schist, but for some chains a narrow band of shale, more or less carbonaceous and greatly crushed by faulting, shows at high-water mark. A few yards inland a shaft has been sunk by the Picton Coal-prospecting Syndicate 85 ft. in mica-schist. At the time of my visit this shaft was standing idle owing to difficulty with water. The intention of the Picton Syndicate was to drive eastward from the bottom of the shaft under Shakespeare Bay. No one with experience in coal-