REPORT

ON THE MAURY TRACT OF COAL AND TIMBER LANDS ON GAULEY RIVER, WEST VIRGINIA.

By Professor D. T. ANSTED, F. R. S.,

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THIS large estate of rather more than sixty-three square miles in total area, and having a boundary line of nearly one hundred miles, includes the sides and summit of an extensive mountain tract of coal lands situated north of Gauley river, and about six miles from New river. The property is in detached, but nearly adjacent tracts, which together form a block measuring about nine miles by six, almost corresponding to the block of Gauley mountain which intervenes between Gauley and New rivers. Both are intersected by creeks and hollows giving convenient access. Both also contain the whole of the series of coal forming the middle or productive seams of the great Kanawha Basin. In both, the seams are many in number, of very convenient thickness and yield, coal of excellent quality. Some of the coals of the upper measures, of great value, are also present and workable in the estate.

The estate is crossed from Southwest to northeast by Twenty-mile creek, and is terminated eastward by Peters' creek. Twenty-mile is a winding creek with a good width of bottom lands throughout the estate. Peters' creek has no direct access to Gauley by any practicable water channel, but can be reached over a low pass from the extremity of Little Elk river, a small tributary of Gauley. When reached, Peters' creek is found to be wide with a considerable breadth of cleared and cultivated lands. Twenty-mile creek divides the property into two portions, the larger of which (that to the east) is easily accessible up Little Elk; further subdivisions of the whole estate might be made, each tract being accessible without difficulty.

Openings have been made in various part of the estate to show the thickness and nature of the various seams of coal; these may be conveniently grouped into three: the western, the southwestern, and the eastern tracts. The southern part of the estate and a large tract in the northern part have been less proved; there is, however, no doubt whatever that the whole contains the full series of the middle measures, while some parts have also some of the upper series of coals not found on the Kanawha.

WESTERN DIVISION.

The coal seams proved in the western part of the property are reached in the various forks of Rock Camp creek, which runs up to the north for some miles and leads over to some of the forks of the Elk River creeks. This series appears to me to be the same as that worked at cannelton on the Kanawha, but it also includes coals above the well-known flint ledge which terminates upwards, the middle division of the coal measures. These upper seams are of splint coal of the finest quality and ample thickness, one being four feet and the other though not completely laid bare, probably thicker; they crop out about nine hundred and twenty and nine hundred feet respectively above the Kanawha; they are repeated on the hills enclosing the Little Elk, and though of course limited in range, must underlie a large acreage of the estate.

A magnificent seam of splint coal, no doubt the Coalburg seam, is seen in the course of a stream about six hundred feet above the Kanawha in the same part of the estate. As a large part of the mountain summit exceeds this elevation, a good breadth of this valuable coal may be anticipated; where seen in the crop the thickness of coal is about 5 ft. 6 in. Two other fine seams of splint coal crop out on the hill-side one hundred and one hundred and fifty feet below respectively, and within another hundred feet are several others; some in the Right Hand branch, some in Rock Camp creek, and some in Twenty-mile creek in small hollows and on banks near the stream.

On the whole I was able to identify at least seven of the recognized coals of the series. All the coals are of fine quality, and most of them perfectly accessible with proper management.

SOUTHWESTERN DIVISION.

Little Elk Run penetrates the southern part of the property and a considerable number of good seams have been proved, chiefly in a small branch called Upper Coal Fork; the top coal in the Fork is a very good splint 3½ feet thick, about five hundred and eighty feet above the Kanawha. probably the same as a thick splint seam in Armstrong's creek. Below are several very good but thin bituminous coals within a moderate thickness of measures.

On the mountain-side going up the stream, at a height of not less than eleven hundred feet above the Kanawha, is one of the upper seams only imperfectly opened, but showing certainly 3 ft. 7 in. of good bituminous coal and 2 ft. 4 in. of cannel, and probably an additional four or five feet of bituminous coal.—This noble seam is here only eighty feet below the top of the hill but on the opposite side of Elk Run the mountains are more lofty, and there it might be opened with advantage on the rise side and would yield an enormous quantity of marketable coal.

Besides the seams mentioned a very good 5 ft. 8 in. seam of bituminous coal has been opened on the lands immediately adjacent, and must enter the Maury estate; this seam is about two hundred and eighty feet above the level of Gauley.

There is a wagon road up Little Elk and over a low pass by Otter creek to Peters' creek, and near the top of the pass a two foot seam has been opened on the road-side. The road is good and the gradient not troublesome, and by it we reach the eastern tract.

EASTERN DIVISION.

Peters' creek evidently contains much coal on the western side, to which this property is limited, and there is abundant proof of the existance of workable seams at very low levels both on the main creek and on the small branches. Certainly four and probably five good seams are open for inspection, varying in thickness from nine down to four feet; the coal is chiefly hard bituminous and of the finest quality. The seams examined were: 1.—Jerry's cr., a fine mixed seam five feet thick, about five hundred and twenty feet above Gauley level. 2.—A very good hard bituminous coal, about four feet thick, in Tate's run, about three hundred and sixty feet. 3.—A seam measuring 4 ft. 4 in. on the road-side between Tate's run and Line creek. 4.—An extremely fine crop nine feet thick, partly splint and partly very hard bituminous. All these seams might easily be reached and would be opened very cheaply, but they could not be opened for market without some means of taking them out of the valley. A fifth seam of clear splint of workable thickness has been observed on the mountain-side in the upper part of Line creek, but I was not able to visit it.

Without having visited every coal opening and crop known, I have sufficiently examined this large estate to be satisfied that the whole, without exception, may be regarded as coal land, containing everywhere seams workable to profit. As far as they are proved the seams are generally thicker and contain harder coals than in the Kanawha Valley. The quality of the bituminous coal is certainly as fine as I have anywhere seen; *they are rich in gas, possess great heating power, burn with a long hot flame. and the slack cokes very readily;* they burn with a very moderate quantity of white ash. For long travelling, occasional trans-shipment. and resistance to exposure, *I believe them to be equal to any and superior to most of the coals used in commerce.* The splint and cannel will fully support the reputation already enjoyed by these varieties.

The extensive mountain-slopes of a large part of this tract are covered with timber, much of it fine growth, and this is likely to be the case more especially with the northern parts which I saw the least of. On the main creek there has been in part a good deal of clearing, and the heavy timber has been taken. A profitable business still remains, and I observe in some of the creeks that the original growth is undisturbed. The timber is of the usual kinds. viz: White Oak, Ash, Poplar, Black Walnut, Chestnut, etc., but there is said to be an unusual proportion of wild Cherry, a wood much used for furniture and bearing a high price.

To bring these lands into profitable working, it will be necessary to construct a branch of the Chesapeake and Ohio Railroad that should run up Gauley river to Twenty-mile creek and there fork, one branch running up the creek and the other up the right bank of Gauley and Little Elk run and crossing into Peters' creek. I have been informed that a continuation of such a line would enter a mineral district to the north, from which supplies of iron ore could be obtained. There are no engineering difficulties whatever to render the construction of the line expensive so far as this property is concerned. The country in the larger valley is cleared and cultivated, having a considerable population. The soil is good, and although at present there is no outlet for the productions, the proposed railway would certainly find a considerable amount of passenger traffic and freight independent of the mineral traffic.

I have not observed in the beds of the creeks, either of the forks of Twenty-mile or Peters' any indications of workable ironstone. It is possible that there may be one or more of those belts apparently over-

lying the flint in some parts of the Kanawha district, but these could only be present in small quantity of acreage. My experience in the district would suggest that no really important carbonates of iron exist in the middle division of the Appalachian coal field as developed in the great Kanawha Valley.

I need not now enlarge on the vast national importance of the great coal field of which this property forms a very sensible proportion. It must soon be developed, and when this is the case it will be found that each portion of the field has some special adaptation to a particular market. I believe it will be found that the lands under consideration will be about equally available for the manufacture of iron, and the export trade supplying distant stations for steamboat use.

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HAWK'S NEST, W. VA.,
22nd December 1873.

P. S.—Within the last year an English Mining Engineer has pronounced the coals from this property the best for coking porposes seen since his arrival in this country.

J. W. MAURY, JR.

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Boulware
Wheat
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