

bed of coal nearly four feet thick, which appeared to be of good quality and free from shale. Another coal, nine feet thick, has been opened, as I am informed, a few miles north of Grantsville, which I have not yet been able to examine.

Leaving the Meadow Mountain coal, we cross Negro Mountain and Keyser and enter the Youghiogheny coal field, which has also been but little explored. One coal bed, about six feet thick, has been opened and mined at Smythfield, a little north of the Maryland line, and it has also been opened for local use at several places in Maryland. The quality of the coal is excellent, and it is free from shale and sulphuret of iron.

Like that in the Meadow Mountain field, this coal contains more bitumen than the coal of the Potomac coal fields. It burns with a clear bright flame and leaves but little ashes.

It is proposed to give a *full* description of these coal fields in a subsequent report.

I cannot conclude this sketch of our coal fields without a word of caution to those who may be disposed to waste money in costly excavations for the purpose of finding coal in the formations beneath what is called the true coal formation, No. 19, in the Table.

Immense sums were expended in this way in New York and Pennsylvania, until the completion of their geological surveys arrested such operations, by showing the true position of the coal and its non-existence in the subjacent formations.

Some years ago about \$25,000 were spent by parties in fruitless diggings for coal on the Virginia side of the Potomac river nearly opposite the Licking creek. Large sums have also been expended at Town Hill, Sideling Hill, and at other places in Maryland.

With the exception of *thin*, interrupted seams of anthracite, wholly without value, nothing nearer to coal than a black carbonaceous strata has ever been found in any of our formations lower in the series than the coal formation, No. 19.

As these exist no where in this State eastward of Dan's Mountain, I would say that the expenditure of money in search of it eastward of that line will be attended with more risks of loss than tickets in a lottery.

VIII. IRON ORES.

We are without positive facts as to the precise time when iron smelting was first commenced in this State, but it is certain that iron was imported in England from Maryland in the year 1717. At that period, and for some years after, it was unlawful to make any other than pig iron, which was then smelted exclusively with charcoal. The increasing demand for iron, with the rapid destruction of forests, at length induced the British Parliament *graciously* to permit the establishment of forges for the production of bar iron in the colonies. The act, however, provided that the Americans should not be permitted to erect "rolling mills, slitting mills or forges for making plates, as that would interfere with the manufacturers of Great Britain."

Those who are desirous for further information upon the history of this branch of industry in Maryland are referred to the very interesting report of Dr. Jno. H. Alexander, which was printed by order of the Senate of Maryland in 1840.

I propose to give a passing notice of the more important iron ores within our limits.

Bog Ore.

This variety of iron ore exists in marshes or bogs, wherein its formation is uninterruptedly going on as long as the marsh exists. When drained, however, the deposit of ore ceases.

It usually contains from thirty to thirty-five pt. ct. of the metal in the state of peroxide, and proportions of phosphate of iron, varying from one to fifteen pr. ct., besides earthy and vegetable matters and water.