http://www.geology.19thcenturyscience.org/books/1845-49-Lyell-TravelsNA/README.htm

especially in the neighbourhood of masses of granite and syenite. In some cases the pebbles of the conglomerate remain distinct, while the shaly base has been turned into a well-characterised mica schist, of which I obtained specimens.

I have already mentioned (p. 72.) that in crossing from the west of the Alleghany mountains to the eastern portion of the Appalachian coal-field the volatile ingredients (oxygen, hydrogen, and nitrogen) of the original coal bear continually a smaller and smaller proportion to the carbon. In the specimens which I myself obtained from Pomeroy, Ohio, where the coal is bituminous, and where the strata are undisturbed, the quantity of gaseous matter has been found by my friend Dr. Percy to be in the proportion of 19 per cent., the rest being carbon and ash. 2dly. In the coal at Frostburg, in Maryland, in the midst of the Alleghany chain, where the strata have undergone but slight disturbance, the proportion of volatile matter was found to be $9\frac{1}{2}$ per cent. 3dly. In the Pennsylvanian anthracite of the Lehigh and Mauch Chunk mines, before alluded to (p. 69.), the volatile ingredients are about 5 per cent.*

In the plumbaginous anthracite of Worcester the proportion of volatile matter is about 3 per cent., there being a slight trace of nitrogen. I conceive that a

* These results were obtained from an elaborate analysis made for me by the kindness of Dr. J. Percy of Birmingham, since the statement given at p. 72. was printed. They bear out the geological inferences, there referred to, of Professor H. D. Rogers; but it will be seen that the proportions of the chemical constituents differ greatly, the gaseous matter being only half the previously estimated quantity. For details of the analysis and manipulations, see Appendix to a paper by the author, in the Journal of Geol. Soc., London, No. II. 1845.