

On the north of this range lies the vale of Holmesdale, throughout the bottom of which the argillaceous marle of Folkestone may be traced, without interruption, from the sea coast into Surrey. Above this, on the opposite side, rises the escarpment of the chalk hills, the bottom of which is formed by the grey chalk or cretaceous chalk marle, often containing beds of fire-stone, occasionally marked by spots of green earth.

Having thus traced these formations uninterruptedly from the coast into Surrey, it will be our next object to describe their appearance on the east of that county, near Merstham and Reigate; and this we shall do somewhat more minutely, since on the ground above stated—namely the continuous course of each formation from the coast—we feel ourselves compelled to dissent from the opinions advanced by a writer concerning whose eminent services to English geology one estimate only can be formed; and who, from the inspection of this single spot, has pronounced the fire-stone beds, which we assign to the chalk marle formation, to belong to that of green sand, and the range which we consider as the true green sand, to be iron sand. A particular account of the observations made by Mr. Phillips on this district in Feb. 1821, is therefore sub-joined.

#### *Section from Merstham Chalk pits to Nutfield.*

The Merstham pits are situated in the chalk marle, the colour of which here is very different to that of the grey chalk or chalk marle of Folkestone, which is much darker, owing perhaps to its being in immediate contact with the subjacent blue marle, but which is not the case at Merstham.

The kilns are situated at the lowest level at which the marle is fit for the kiln, beneath which it becomes hard and partakes largely of the nature of stone for 30 or 40 feet in depth; the lowest bed being, to use the term of a very intelligent miner, ‘rachelly’—rubbly, very loose, and easily cleared away.

This ‘rachelly’ bed rests immediately upon the series of fire-stone beds, which have during some years been worked as a quarry, affording the chief supply of fire-stone for the London market. At this time however, the quarry was full of water, but an account of it by T. Webster will be found in the fifth volume of the Transactions of the Geological Society. In addition to the information there given, it may be useful to annex a description of these beds, by the intelligent miner of whom mention has already been made.