

**PROCEEDINGS OF THE ROYAL SOCIETY
THE SOMERSET COALFIELD, AS OBSERVED 300 YEARS AGO**

The Proceedings of the Royal Society demonstrate that people already had a good idea of how the coal seams ran in the Somerset Coalfield. Although written by learned students, much of the information in these papers must surely have been obtained from talking to the miners, who worked the ground.

On Firy Damps in Mines

By Mr J. BEAUMONT from Philosophical Transactions 1681. p.474.

“About two miles on the south-east of Stony Easton, at a place near Mendip Hills, begins a running of coal, consisting of several veins, which extends itself in length towards the east about four miles; there is much working in this running, and fire-damps continually happen there; so that many men of late years have been there killed, many others maimed and burnt; some have been blown up at the works mouth, the turn-beam which hangs over the shaft has been thrown off its frame by the force of it, and those other effects whereof you had an account from other places are generally found. The middle and more easterly parts of this running are so very subject to these fire damps, that scarcely a pit fails of them; notwithstanding which, our colliers still pursue their work; but to prevent mischief, they keep their air very quick, and use no candles in their works but of a single wick, and those of sixty or seventy to the pound, which nevertheless give as great a light there as others of ten or twelve to the pound in other places and they always place them behind them and never present them to the breast of the work.

[There follows remedies for the cure of burns].

A letter of John STRACHEY Esq. to Dr Robert WELSTED, MD, RS Soc. and by him communicated to the Society, 1719:

A Curious Description of the Strata observ'd in the Coal-Mines of Mendip in Somersetshire

“I now send you the observations which I sometime since promised you, relating to the different strata of earths and minerals found principally in the coal-mines in my neighbourhood. For the better illustration whereof, I have inclosed a draught, which you must suppose the section of a coal country, and to take in about four miles from the north-west to the south-east, and may be applied to the veins of coal as they lye at Faringdon-Gournay, and likewise at Bishop-Sutton, which last place is near Stowly but in the parish of Chew Magna in this county of Somerset. For discovery of coals, they first search for the “crop”, which is really coal, tho’ very friable and weak, and sometimes appears to the “day”, as they term it; or else for the “cliff”, which is dark or blackish rock, and always keeps it’s regular course, as the coal does, lying obliquely over it. For all coal lies shelving, like the tyle of a house, not perpendicular nor horizontal, unless it be broken by a ridg, which is a parting of clay, stone, or rubble; as if the veins by some violent shock, were disjointed and broken, so as to let in rubble, etc. between them. The obliquity, or “pitch” as they term it, in all the works hereabouts, is about twenty-two inches in a fathom; and when it rises to the land, is called the “crop”, but in the north “basseting”. In the works near Stowly, and likewise at Faringdon, it riseth to the north-west, and pitcheth to the south-east; but the farther they work to the south-west the pitch enclines to the south, and è contra when they work towards the north-east. So likewise they observe, as they work to the south-west, when they meet with a ridg it causeth the coal to “trap up”, that is being cut off by the ridg, they find it over their heads when they are thro’ the ridg; to the north-east, they say it “traps down”, that is, they find it under their feet.

Coal is generally dug in valleys or low grounds. The surface in these parts is mostly a red soyl, which under the first or second spit degenerates into malm or loam, and often yields a rock of reddish freestone, till you come to four, five, and many times to twelve or fourteen fathoms depth, when by degrees it changeth to a gray, then to a dark or blackish rock, which they call the “coal clives”. These always lye shelving and regular as the coal doth; but in these parts they never meet with freestone over the coal, as at Newcastle, and in Staffordshire. These “clives” vary much in hardness, in some places being little harder than malm or loam, in others so hard that they are forced to split them with gunpowder; so likewise in colour; the top inclining to red or grey, but the nearer to coal the blacker they grow; and wheresoever they meet with them, they are sure to find coal under them; but to their disappointment ‘tis not always worth the digging.

The first or uppermost vein at Sutton is called the Stinking Vein; it is hard coal fit for mechanick uses, but of a sulphurous smell. About five fathom and a half, seldom more than seven fathoms, under this lyes another vein,

which, from certain lumps of stone mixt with it like a “caput mortuum”, not inflammable, called “cat’s-head”, they call the “Cathead Vein”.

About the same depth under this again lies the “Three Coal Vein”, so called because it’s divided into three different coals; between the first and second coal is a stone of a foot, in some places two feet thick; but the middle and third coal seem placed loose on each other, without any separation of a different matter. These three veins before-mentioned are sometimes worked in the same pit; but the next vein which I am going to mention is generally wrought in a separate pit, for tho’ it lyes the like depth under the other, the cliff between them is hard and subject to water; wherefore I have represented a pit sunk thro’ the three upper veins at A, and another sunk upon the three coal veins only at B, and so if they sink on any of the lower veins they go more to the north-west.

Next under the “Three Coal Vein” is the “Peaw Vein”, so denominated because the coal is figured with eyes resembling a Peacock’s Tayl, gilt with gold, which bird in this country dialect is called a “Peaw”. The cliff also over this vein is variegated with cockle-shells and fern branches, and this is always an indication of this vein, which is always searched for about fifteen fathoms to the north-west of the former.

Under this again, between five and six fathom, lies the “Smith’s Coal Vein”, about a yard thick; and near the same depth under that again the “Shelly Vein”; and under that a vein of ten inches thick, which, being little valued, has not been wrought to any purpose. Some say there is also another under the last, but that has not been proved within man’s memory.

At Faringdon they have the same veins, which, as I am informed, agree in all parts with those of Bishop-Sutton before mention’d; but as Faringdon lies four miles south-east from Bishop-Sutton, so, in the regular course, they would lye a mile and one-third deeper than those at Sutton. But as in fact they are dug near the same depth, it follows there must be a “trap” or several “traps down”, which in all must amount to that depth between the said works.

Between Faringdon and High-Littleton, the same veins seem to retain their regular course, but at Littleton their undermost and deepest vein is the best coal, which at Faringdon proves small.

On the other hand, in the parish of Stanton-Drew, to the north-east of the coal-works at Sutton aforesaid, about a mile distant, and in the true course with those at Sutton, the same veins are found again; but here they wind a little, and their course or drift runs almost north, and they dip to the east; which winding is attributed to ridges, which the workmen have met with on both sides, and have occasion’d them to discontinue the work that way. At Stanton they have little of the red earth or malm on the surface, but come immediately to an “Iron-Gritt” or “Grey Tilestone”, which is a fore-runner of the “Coal-Clives”; in all other matters they agree with the works near Stowy.

In the same parish of Stanton-Drew, a little to the eastward, they have another coal-work, but the veins are in all respects different from the former. Their drift or course is to the “Eleven a Clock Sun”, as they term it; they pitch to the “Five a Clock Morning”, and rise to land consequently to the “Five a Clock Evening Sun”. They have several veins, but as yet only three are thought worth working. The uppermost, about three feet thick, small “Lime Coal”; the next is about three fathom under it, about two feet and an half thick, fit for culinary uses; the undermost is about the like depth under the former, only ten inches thick, but good hard coal.

At Clutton, about two miles from these latter, in the same drift, viz: almost to the south-east. and by south, these last veins appear again. The surface here is red, and so continues to ten, and sometimes to fourteen fathom, and in other respects agree with the last-mention’d works at Stanton-Drew.

At Burnet, Queen-Charlton, and Brisleton, they have four veins, which pitch to the north nearly, and consequently the drift lies almost east and west. The surface is red land, generally to the depth of four to five fathom. The uppermost is from three to six feet thick at Brisleton, but less at Charlton and Burnet. The next, call’d “Pot-Vein”, is six fathom under the former, eighteen inches thick, all hard coal. Thirdly, the “Trench Vein”, seven fathom under the other, which is from two feet and a half to three feet thick, all solid coal. Fourthly, “Rock Vein”, always distinguished by a rock of paving stone call’d “Penant”, lying over it; which rock is sometimes twenty feet thick, or more, and therefore this vein is never wrought in the same pit with the former vein, but about two-hundred yards more to the south, or to “Land”, as they term it. It’s computed seven fathom under the former.

This is all I can say in relation to the different veins of coal and earth in the coal-works in these parts, wherein all agree in the oblique situation of the veins; and every vein has it's "cliff" or "clives" rising over it, in the same oblique manner. All of them pitch or rise about twenty-two inches in a fathom; and almost all have the same strata of earth, malm, and rock over them, but differ in respect to their course and drift, as also in thickness, goodness, and use.

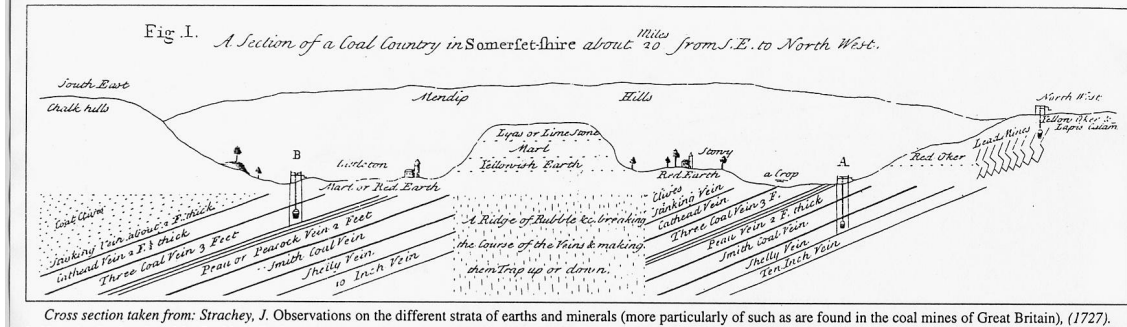
Now as coal is here generally dug in valleys, so the hills, which interfere between the several works before mentioned, seem also to observe a regular course in the strata of stone and earth found in their bowels; for in these hills (I mean those only that are dispers'd between the coal-works above mention'd) we find on the summits a stony arable mixt with a spongy yellowish earth and clay; under which are quarries of "Lyas", in several beds, to about eight or ten feet; and six feet under that, thro' yellowish loam, you have a blue clay enclinable to marle, which is about a yard thick; under this is another yard of whitish loam, and then a deep blue marle, soft, fat, and soapy, six feet thick; only at about two feet thick it is parted by a "Marchasite" about six inches thick; but as this swells beyond the bounds of a letter, I must defer the farthest description of these and some lead mines to another opportunity; only 'tis to be noted, that these beds of stone and marle, different from coal, lie all horizontal."

Your humble servant
John STRACHEY.

STRACHEY added to his comments in a paper to the Royal Society in 1725 (Proceedings of the Royal Society 1725, p.395):

"..... I have further observed the strata of the stone, clay, and marl of the interjacent hills, where, under the black marl, lies a spongy yellowish earth; all this lies above the red soil, which I have said is generally the surface of the valleys, where the coal is found. And as this red mould on the surface degenerates into marl or loam, so, towards the north-west, beyond or without the veins of coal, about Winford, in the same county, it turns to ruddle, or red-ochre, used chiefly for marking of sheep, and for ground colours or priming, instead of Spanish brown, and often counterfeits Bole Armoniack.

But as I never heard any coal was found to the west or south of the Mendip Hills, so Cotswold to the north-east and the chalk hills of Marlborough Down and Salisbury Plain, seem to set bounds to the coal country etc."



Cross section taken from: Strachey, J. Observations on the different strata of earths and minerals (more particularly of such as are found in the coal mines of Great Britain), (1727).

Notes on John STRACHEY

John STRACHEY Esq. lived at Sutton Court in Stowey. He married Jane HODGES, one of the daughters and coheireesses of George HODGES of Wedmore. These HODGES were related to the High Littleton HODGES, who sold the Lordship of the manor of High Littleton and subsequently most of the coal rights there to John BRITTON.

STRACHEY's daughter Elizabeth (died 26.12.1743, aged 69) married William JONES of Stowey (died 4 Jan 1748, aged 69), who inherited the manor of High Littleton and all the coal mines of his half brother John BRITTON of High Littleton. With these connections it is perhaps not surprising that the only two places marked on STRACHEY's 1727 section of "a Coal Country in Somersetshire" were Littleton and Stowey.