| Mineral. | Locality. | Specific gravity. | Proximate analysis. | | | | Ultimate analysis. | | | | Ratio of carbon to hydrogen. | Authority. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Volatile matters. | Fixed Carbon. | Ash. | Carbon. | Hydrog. | Nitrogen. | Sulphur. | Oxygen. | | |
| Welsh bituminous coals. | Duffryn | 1.326 | 15.70 | 81.04 | 3.26 | 88.26 | 4.66 | 1.45 | .77 | 0.60 | 100 : 4.82 | H.How. |
| | Newydd | 1.310 | 25.20 | 71.56 | 3.24 | 84.72 | 5.76 | 1.56 | 1.21 | 3.52 | 100 : 6.79 | " |
| | Ebbw Vale | 1.275 | 22.50 | 76.00 | 1.50 | 98.79 | 5.15 | 2.16 | 1.02 | 0.39 | 100 : 5.73 | " |
| Scotch bituminous coals. | Grangemouth | 1.290 | 43.40 | 53.08 | 3.52 | 79.85 | 5.28 | 1.35 | 1.42 | 8.58 | 100 : 6.61 | " |
| | Fordel | 1.025 | 47.97 | 48.03 | 4.00 | 79.58 | 5.50 | 1.13 | 1.46 | 8.33 | 100 : 6.93 | " |
| English bituminous coals. | Broomhill | 1.025 | 40.80 | 56.13 | 3 07 | 81.70 | 6.17 | 1.84 | 2.85 | 4.37 | 100 : 7.55 | " |
| | Lydney | 1 283 | 42.20 | 47.80 | 10.00 | 73.52 | 5.69 | 2.04 | 2.27 | 6.48 | 100 : 7.73 | " |
| Eng. cannel. | Wigan | 1.276 | 39.64 | 57.66 | 2.70 | 80.07 | 5.53 | 2.12 | 1.50 | 8.08 | 100 : 6.90 | Vaux. |
| Scotch cannels. | Lesmahagow | 1.251 | 56.70 | 37.26 | 6.03 | 73.44 | 7.62 | .... | 1.14 | * | 100 : 10.43 | Miller. |
| | Capledrae | ..... | ..... | ..... | 25.40 | 56.70 | 6.80 | 1.90 | 0.35 | 8.80 | 100 : 11.99 | A. Fyfe. |
| Torbanite. | Torbanehill, Scotland | 1.170 | 71.17 | 7.65 | 21.18 | 66.00 | 8.58 | 0.55 | 0.70 | 2.99 | 100 : 13.00 | H. How |
| Albertite. | Hillsboro, New Brunswick | 1.091 | 54.39 | 45.44 | 0.17 | 87.25 | 9.62 | 1.75 | .... | † | 100 : 11.02 | Slessor & How. |
| Stellarite. | N. Glasgow, Nova Scotia | 1.103 | 66.53 | 25.23 | 8.21 | 80.96 | 10.15 | 0.68 | .... | ‡ | 100 : 12.53 | " |

* Nitrogen and oxygen 11.76. † Sulphur (if any) and oxygen, 1.21. ‡ N, S, and oxygen .68.

"In the paper in question I pointed out that the true comparative value of combustible minerals, while partly indicated by the relative amounts of volatile matter and fixed carbon, is only truly shewn when account is taken of the oxygen; which is sometimes large in quantity, as is seen above, and is reckoned as volatile matter, to the credit of the mineral, while its real effect is reduction of value. I showed that when the hydrogen equal to the oxygen present is deducted, taking only those cases where there is an apparent equality in the ratio of carbon to hydrogen, the last three minerals in the table above, stand apart from the rest, thus:—

*Ratio of carbon to hydrogen after deducting hydrogen equal to oxygen present.*

| | |
|---|---|
| Cannel coal from Wigan | 100 to 5.65 |
| " " " Leshmahagow | 100 to 8.71* |
| Capeldræ | 100 to 10.05 |
| Torbanite from Scotland | 100 to 12.43 |
| Albertite " New Brunswick | 100 to 10.85 |
| Stellarite " Nova Scotia | 100 to 12.43 |

* Allowing two per cent. for nitrogen.

and that theoretically they should be excellent 'oil-coals,' as is abundantly shewn by experience."*

Description of stellar seam.

The size of the stellar-coal bench in the oil-coal seam varies from four or five inches in thickness to some two feet, and its content of oil varies also. As a rule, this seam appears to improve going eastward, as stated by Mr. Hoyt. The general appearance of the stellar coal is peculiar; it is irregularly bedded, the different layers seemingly interlaced, giving it a sort of an entangled appearance, or a structure like

* How, Mineralogy of Nova Scotia, p. 25–26.