

Coal and coal mining, Bristol and Gloucester region

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Green, G W. 1992. British regional geology: Bristol and Gloucester region (Third edition). (London: HMSO for the British Geological Survey.)

Coal mining

The working of coal in the Bristol, Somerset and Forest of Dean areas is of great antiquity and may date back to Roman times. Coal working in the Kingswood district of Bristol is mentioned in the Great Pipe Roll of 1223, but it was not until after Kingswood Chase had passed out of royal hands in 1594 that coal mining became a thriving industry. It flourished in the Bristol district until the early part of the present century, reaching its peak between 1870 and 1890. Coal mining in the royal Forest of Dean certainly goes back to before 1282, the working of the leases or 'gales' being carried on by the Free Miners.

In early times, coal was dug mainly for use by smiths and lime-burners, the public being prejudiced against its use as a domestic fuel. However, with the increasing shortage of wood in the towns in Tudor times, it became an essential fuel.

The early workings were sited in places where the coal cropped out and could be won by shallow excavations or by pits and levels. In the Forest of Dean the whole coalfield is exposed, so that workings developed in belts along the outcrops. In the Bristol and Somerset coalfields where only part of the field is exposed, the earliest workings comprised shallow pits whose development was limited by drainage and ventilation problems. In the Forest of Dean much coal was won by adit levels which provided a natural drainage.

The hand windlass or horse drum was the sole method of winding coal until about the middle of the eighteenth century when the steam engine came into use. With improved machinery, deeper mining became practicable and by about 1800 the average depth of the pits was around 150 m. The deepest shafts were at Braysdown (569 m) and Mendip (Strap) Pit, near Stratton on the Fosse (559 m).

Long-wall working, with a continuous or stepped face, became almost universal, an exception being the use of the pillar-and-stall method in the thick basal seam of the Coalpit Heath-Parkfield district. In the steep or vertical seams of the Nettlebridge and Vobster areas, methods resembling the stoping used in metal mines were adopted. The impending demise of the industry became clear in the late fifties due to the approaching exhaustion of readily winnable reserves, the impossibility of applying large-scale mechanisation methods to the thin coals and the difficult geological conditions generally prevailing in the area. With the exception of a few small drift mines worked by Free Miners in the Forest of Dean, the last mine was closed in 1973.

Types of coal

The coals of the Bristol-Somerset area and the Forest of Dean are essentially bituminous, the majority of them having strong coking properties. During recent times over 40 per cent of the output of the Bristol-Somerset area was used by the gas industry. In the Forest of Dean, the Pennant Formation provided gas-making and long-flame steam coals, whilst the Supra-Pennant Formation

furnished house coals.

A factor that greatly contributed to the safety and ease of working in both coalfields was the almost complete absence of firedamp in the mines and, with a few exceptions, naked light working was possible.

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