

The Sixteenth and Seventeenth Century

In 1544 Lord Thomas Wharton 3rd purchased the manor of Muker from the Crown and in 1566 also purchased half the manor of Healaugh so creating a single estate from the head of Swaledale to Arkengarthdale and mines were being worked in both these manors. In 1618 there was a dispute of over tenant rights in Muker and Lord Wharton reserved for the use of his miners *'all the timber on the common of Muker, the right to mine anywhere, to turn streams of water and to have right of access to and from any mines'*.

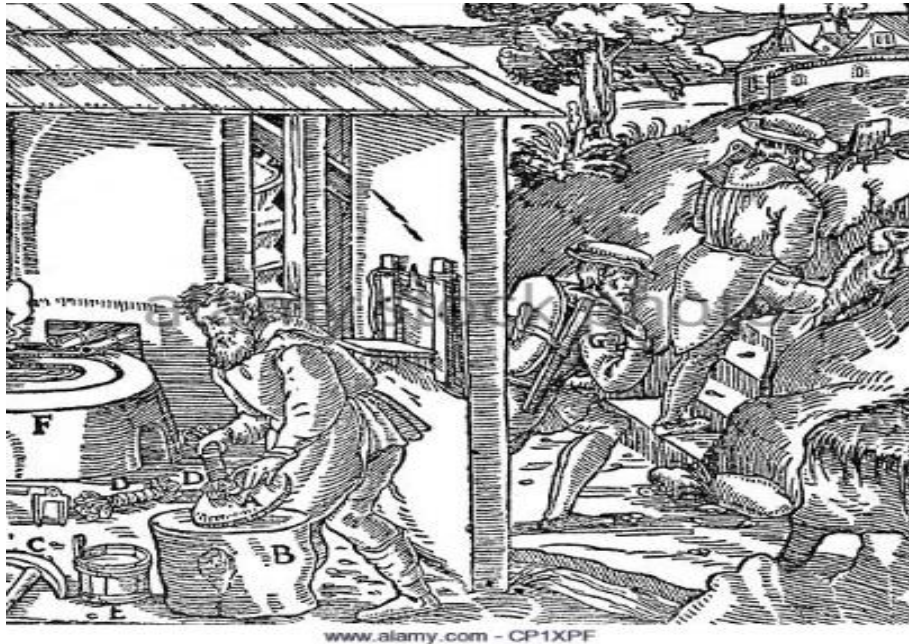
Men who had a little capital formed small 'partnerships' and began working mines all over the mining field of Swaledale. Many of these mines had previously been abandoned due to 'the miner's enemy' i.e. water levels. The ore veins collected a large amount of water from the many fissures in the surrounding rocks, and the old miners had no other means of draining the water from their works than drawing it out by 'kibble' (a wooden bucket). Tales were told of miners starting their day drawing out water for six hours to allow them to work the mine for the remaining two or three hours of a shift, and the same procedure would have to be completed each day. It is not surprising that the 15th and 16th century miners abandoned many of their mines due to constant battles with water levels.



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New mines were also discovered by these local small partnerships through embarking on *'trials'* with the consent of the owner of the mineral rights, who would then receive a royalty varying generally from $\frac{1}{4}$ to $\frac{1}{8}$ th of the produce of the mine. An area of promising ground would be selected by the miners and a permit obtained from the Lord of the Manor or his agent. The agreed area was calculated in a number of *'meers'* in the direction of the vein. A meer was equivalent to about 30 yards, and the term regularly occurs in old leases or *'bargains'*. Another measure covered the distance the miners were permitted to work on each side of the vein. This area was known as the *'quarter cord'* and varied as agreed upon from 100 yards to 300 yards, the miners' rights to work did not extend beyond this limit.

The second half of the sixteenth century and early seventeenth saw great prosperity and expansion. The Elizabethan period created great demand for copper and lead, and miners were brought in from Germany in 1564 to develop the copper mines of the Lake District, bringing with them new methods and tools. The Germans had advanced skills and techniques and introduced water wheels, pumps and blast furnaces and other machinery. They also drove levels (horizontal tunnels) into hillsides to reach ore veins and this practice slowly spread throughout the region and into Swaledale.



Huge amounts of labour and effort was employed in ensuring a constant water supply, which was needed both for hushing hill sides and the preparation (dressing) of the ore for smelting. Water course systems were cut into the surrounding moor tops and hills to collect all available water; many evolving into elaborate water systems which became the subject of sabotage, quarrel and dispute as the mines grew in size and profitability.

The sixteenth century was a time when the merchants of York and Hull made considerable fortunes from steadily robbing the miners on the weighing and subsequent price paid for their lead. Following a petition from the miners of Yorkshire, the king had sets of brass standard weights sent to all county towns, including York's Guildhall. However the merchants continued to use their own sets, which were typically heavier by thirty or forty pounds per each five hundredweight. In addition to this the merchants also added an extra weight of seven pounds to the scales when weighing each piece of lead. These practices, along with the tolls and charges for weighing, storing and shipping the lead caused many grievances and despair amongst the miners.

By the end of the seventeenth century Swaledale had become an area known to be rich in mineral veins and this led to a great expansion of the industry and the period of greatest activity.

(Source: Rastrick, A (1975): Lead Industry of Wensleydale & Swaledale Vol 1, Moorland Publishing. Fawcett, E (circa 1939): Lead Mines in Swaledale MS, North Yorkshire County Records Office)