

Rediscovering the Lead and Zinc Production of North-East Wales

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Abstract: The government *Mineral Statistics* provides us with details of the production of the lead and zinc mines of Flintshire and Denbighshire from 1845 onwards. The royalty accounts of the Grosvenor estate, which covered a large part of the orefield, allow us to estimate the output from the early seventeenth century. These accounts suggest that production in the period 1635–1845 was at least as much as in the later period, and perhaps one and a half times greater. We estimate that the total output from the orefield was up to 1.66 million tons of lead concentrates.

Mining in Flintshire and Denbighshire before 1692

The lead-mining district of north-east Wales was one of the most productive orefields in the United Kingdom. It was situated mainly in the great belt of Carboniferous limestone that extends from Talargoch, near Prestatyn at the mouth of the Dee estuary, for a distance of over twenty-five miles in a south-easterly direction to Minera, a few miles from Wrexham. The northern part was in the historic county of Flintshire, which included the extensive workings on Halkyn Mountain, as well as mines in the parishes of Dyserth, Meliden, Llanasa, Whitford, Holywell, Cilcain and Mold. The southern part, in Denbighshire, took in the parishes of Llanferres and Llanarmon-yn-Iâl, and (separated from the main field by a branch of the Bala fault), the mining township of Minera in the old parish of Wrexham. The historic (pre-1974) county boundaries are used in this article. The modern counties of Flintshire and Denbighshire, recreated in 1996, have the same boundaries so far as the mining area is concerned, except at the Minera mines, which were situated in what is now the county borough of Wrexham. For a map showing the mines and limestone areas of north-east Wales, see Fig. 1.

The mines at Halkyn and Meliden were worked in the Roman period to provide silver for coinage, and lead for the Roman fortress of Chester. Inscriptions on pigs of lead metal, and on water pipes from Chester, date between AD 74 and AD 84–96. Another undated pig, found in 1950 at Carmel, near Holywell, may be earlier, perhaps from the 60s AD.¹ In recent years evidence of even earlier mining has come to light with the discovery of a possibly prehistoric pestle and mortar, found underground in the Minera mines,² and a hammerstone on the south-west side of Ruabon Mountain, at World's End.³ In the medieval period, lead was needed for roofing castles and churches. During the fourteenth century, in Hopedale and Holywell in Flintshire, and at Minera in Denbighshire, the miners worked according to traditional mining laws, similar to those of Derbyshire. Early in the following century, during the revolt of Owain Glyndŵr, the mines fell into disuse, and mining was at a low ebb for two centuries.⁴

At the end of the sixteenth century the crown owned the mineral rights of a large part of north-east Wales – those of the wastes of Bromfield and Yale (Iâl) in Denbighshire, and Coleshill and Rhuddlan in Flintshire. These were sold

by Charles I in 1631, during the years when he was ruling without parliament, and was desperate for money. The king sold them to middlemen, who in 1634 resold them to the trustees of Sir Richard Grosvenor, Bt, of Eaton Hall in Cheshire (Fig. 2). Sir Richard's father, Richard Grosvenor, had in fact leased the Bromfield and Yale rights from 1601, when he had taken over the grant of them made to Nicholas Hilliard, the court painter and miniaturist. 1601 marked a general revival of mining in the area, for in that year Richard Grosvenor also acquired the mining interests of William Ratcliffe, a London man who had held the mines of Coleshill and Rhuddlan since 1589. Ratcliffe erected a smelting mill in Holywell in 1590, and in 1597 he leased another smelting mill at Leadmill, beside the River Alyn in Mold. In 1612 Grosvenor petitioned the Prince of Wales for a grant of the ancient mines of Coleshill and Rhuddlan, which had paid no profits for many years, and this he received in 1614. Grosvenor went into partnership with Thomas Jones, the owner of an estate in Halkyn, later (in 1704) to be purchased by the Grosvenor family. Jones brought in miners from Derbyshire, then a more advanced mining area than Flintshire. They tried unsuccessfully to introduce traditional mining laws, like those of Derbyshire, and years of dispute followed before Sir Richard Grosvenor defeated them in the court of Star Chamber in 1623. The Grosvenor smelting mill at Mold took the ore from the Halkyn mines, and from their mines in Denbighshire, and production reached about 1,000 tons a year by 1665. The mill smelted the output of the mines on the estate until 1684, when Sir Thomas Grosvenor started to sell his ore to independent smelting concerns, initially in Bristol, but later to other works set up in Flintshire.⁵

Until 1692 the Grosvenor estate worked their mines themselves, but in that year, for the first time, part of the Old Rake on Halkyn Mountain was leased for twenty-one years to a company that would raise the ore and pay a royalty of 32s. 6d. per ton. Although the estate continued to work its mines into the nineteenth century, the number leased out rose. The Quaker-owned London Lead Company began to work mines on the estate and elsewhere in Flintshire and Denbighshire, and those on Old Rake became the centre of their operations.⁶ At Gadlys, near Bagillt in Flintshire, the company erected a smelting works. Here, in 1704, they began to smelt lead ore using coal instead of wood, and to refine silver from the