

# MINING IN NORTH DEVON PRIOR TO 1800

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**Abstract:** This paper outlines current research into silver-lead and copper mining at North Molton and Combe Martin in Devon where the scale and impact of early metal mining has hitherto been little understood.

## INTRODUCTION

A considerable amount is now known in detail of mining activity in North Devon during the nineteenth century; a great improvement on twenty years ago. However the last century was not North Devon's heyday as a mining field. Certainly more mines than ever before were at work after 1800, but they had not the importance of their predecessors.

Silver-lead mining at Combe Martin was at its zenith between the end of the 13th century and the late 16th century; and, if its reputation is any indicator, dominated national production at certain peak periods. The North Molton Copper Mine was a dominating force in south-western production at the end of the 17th century and continued to provide a sizeable output of rich copper ore through to the 1770s.

The current research is looking in some detail at the varied mining activity in North Devon; to establish its relative position in the industry as a whole and against national production. This is approached on three levels; a detailed examination of documentary evidence, identification of remains on and under the ground, and an examination of contemporary activity within the region, and if necessary the country, using both primary and secondary sources.

## GOLD AND SILVER AT 'LE HOLE'.

Perhaps the earliest documented mining activity in the area, other than Domesday evidence for iron working at North Molton, was in a brief period following on the alleged discovery of gold and silver at 'le Hole' in 1262. The Crown exercised royal privilege, paying the landowner a bond of 80 marks in respect of land required for the opening up of the mine. Rights to wood for charcoal were granted at Chittlehamholt for the use of the keepers of the mine. Although examined by one of the King's miners, a further opinion was sought and miners brought in from the continent. Altogether some £32 was expended on the working but it appears to have come to nothing<sup>1</sup>.

Unfortunately 'Hole' is a common place name in Devon and as yet no firm location has been identified. A cluster of 'hole' tenement names to the south and east of Molland village, in an area of early copper working, is a possibility.

Where the mine could be significant is in the early use of Crown privilege on minerals under lands not in the hands of the King.

<sup>1</sup>This paper was first read at the Institute of Mining History and Archaeology Seminar, Twigworth, Glos. 2nd-3rd March 1991.

## SILVER-LEAD: COMBE MARTIN

The silver-lead industry came late to North Devon, following on the decline of the mines in the Northern Pennines and the Welsh Borders. An overall picture for the medieval and later workings at Combe Martin, up to 1600, has been gained from the many Public Record Office (PRO) calendars and other sources<sup>2</sup>. Detailed examination of documents has so far been confined to the periods 1292-7, 1360-3 and 1423; but only in the first of these has anything of real value to the understanding of the workings been found, and that primarily related to smelting. However some relevant production figures have come to light.

During the period 1292 to 1297 the mines were worked in conjunction with those at Birland (Bere Ferrers) in South Devon, as they were at various dates thereafter. It is in fact difficult to look at Combe Martin in isolation and a fair amount of detail has turned up for the southern mines.

Combe Martin appears to have contributed only 28% of the smelted silver-lead returned from the Devon mines in the first two years of working; after which Birland was responsible for all production to the end of the century.

### Lead and Silver Production; Devon Mines 1292-7<sup>3</sup>.

Year	Source	ore	Qty. smelted lead (method)	Annual value of silver	
20	Ed.I Birland	(galena)	42 feet 25 lb		
		Combe Martin	19 feet 32 lb	£50 0s 0d	
21	Ed.I Birland	(galena)	230½ feet 32 lb		
		Combe Martin	90½ feet 8lb	£133 6s 0d	
22	Ed.I Birland	(galena)	405 feet	£211 11s 7d	
23	Ed.I Birland	(galena)	713 feet		
		Birland	(cerussite)	120½ feet	£493 9s 0d
24	Ed.I Birland	(galena)	72 feet		
		Birland	(cerussite)	54½ feet	£45 0s 0d
		Birland	(galena)	245 feet (furnace)	
		Birland	(galena and blackwork)	904½ feet (bole and hutt)	
25	Ed.I Birland	(cerussite)	326½ feet (furnace)	£783 4s 1d	
		(galena)	445½ feet (furnace)		
		(galena)	1475 feet (bole)		
		inc black-work)			
	Birland	(cerussite inc black-work)	762½ feet	£1005 14s 10d	

Foot of lead = 70 lb.

It is too early to put forward a reason for the abandonment of the Combe Martin mines after such a short working period; however the total return for the mines was grouped with that for the smelting of white ore (cerussite) at Birland, and smelting difficulties may have been their downfall<sup>4</sup>. Cerussite, and some of the galena, was smelted in a furnace using forced draught (molend fornell); whilst a simple bole (boles) was used for the majority of the

galena. No specific method of smelting is given for Combe Martin, although the ore mined was galena.

In 1295 the 'hutt' was introduced alongside the bole for the smelting of galena. The exact process of the 'hutt' is as yet unclear; but it involved the use of refined lead returned into the smelting process, perhaps to facilitate a chemical reaction and the breakdown of the ore with heat (see discussion). At the same time the reworking of slags and blackwork is mentioned; but what, if any, relationship there was between that and the 'hutt' is unknown. Thereafter there is regular reference to the resmelting of blackwork in the furnace.

Although attempts were made in the second decade of the 14th century, Combe Martin appears not to have made any significant contribution until 1360, at a time when the Birland mines were inactive. Over a four year period they then returned over £788 in silver. In the first three years of working this silver was sold at from 22s 8d to 29s 10d in the pound giving a profit to the Crown of £147 8s 3½d<sup>5</sup>. That profit takes no account of the working costs nor of the revenue from the sale of refined lead, and is no indication of the success of the working. Some idea of the relative position of the mines' output might be gained by comparing it with that from the Birland mines in the first quarter of the century; an annual average of £586 in silver over a 14 year period<sup>6</sup>.

Examination of the documents from 1423 has so far yielded little other than the terms of the grant to Bowland and Rede of the mines within 12 miles of Combe Martin.

Linked to the examination of early documents is the search for remains on the ground at Combe Martin. A major

obstacle here is the proximity of the major early workings to the village itself. Since closure of these workings in 1848 they have been covered by the market gardens which dominated the economy of the village in the late 19th and early 20th century. This, with multiple ownership and a marked reluctance to admit the existence of mine workings plus recent building work has prevented access to extensive early workings.

Those workings were well documented in the reports of the various mining companies from 1812 to 1848; but it was difficult to relate them to shafts and adits in use with those companies. Recently, after a change in ownership, it has been possible to commence excavating *Williams Shaft*, one of the engine shafts of the 1830s and 40s. This was found to be vertical, not on the underlay as expected, and is an enlargement of an earlier whim shaft sunk on to the deep adit. The remains of surface installations at this shaft, plus further 19th century papers found since excavation commenced, have allowed positive identification of the other 19th century engine shaft, *Directors*, and the winding shaft, *Maxwells*. This in turn has indicated the approximate position of the early workings on the Old Combartin Lode; although there is no sign of these at surface.

The papers in the National Library of Wales have shown that the often referred to 'East Lode' is identical to that later known as Harris's<sup>7</sup>. That, and the result of the excavations, has prompted a re-assessment of the relative positions of the deeper workings. Unfortunately no plans survive for the Old Combartin workings.

It was hoped that the opening of *Williams Shaft* would lead to access to the early workings on the Old Combartin Lode, but that is now doubtful. Excavation will continue in the hope that, if next summer is as dry as the last, the deep adit will be accessible. Failing that, attention could be turned to further early workings on Harris's Lode to the north.

The Combe Martin deep adit is in itself of considerable interest. Believed to have been commenced in the 1640s by Thomas Bushell, it has all the hallmarks of his work; a shallow (cut and cover?) drain across the low ground and a barren drive of over half a mile under the village to the main workings, eventually giving forty fathoms of backs at Harris's Lode. Unfortunately little is visible today beyond a small outflow from a culvert near the Pack of Cards Hotel.

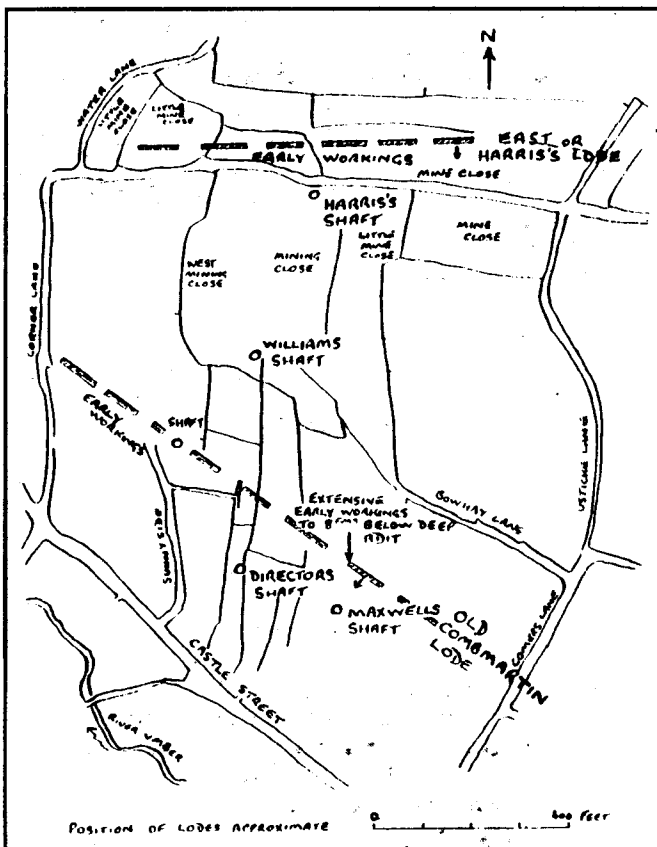


Fig 1. Workings east of the church at Combe Martin, showing some of the principal 19th century shafts.

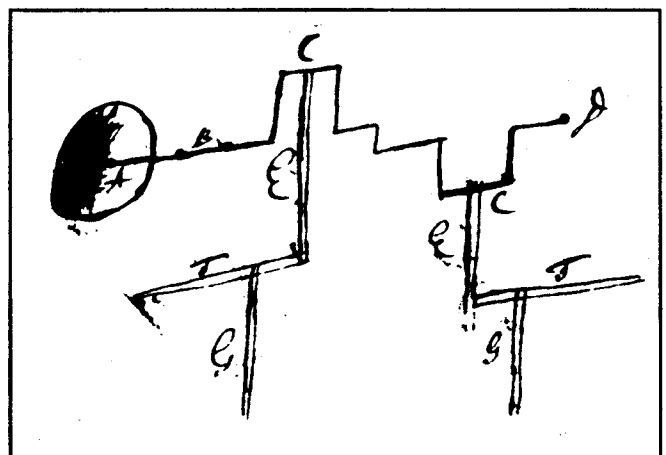


Fig 2. Details of the western pumping wheel at the North Molton Copper Mine, 1725; from Kahlmèter's journal.

## COPPER: NORTH MOLTON

Perhaps one of the richest copper mines in the country, the North Bolton, or later Bampfylde Mine consistently returned ore of twice the metal content of its contemporaries. From the evidence available to date, the mine was at its peak in 1698-99 when it was supplying 50% of the input to the country's smelting industry. An examination of Cletschers report to the Swedish mining authority in about 1700 shows that mining on the site had recommenced in 1696<sup>8</sup>. This is supported by the evidence from the Exchequer portbooks, which show a sudden rise in copper exports coastwise from Barnstaple and Bideford in the following year<sup>9</sup>. Conversely there appears to have been a considerable fall in ore exports out of the North Cornish port of Padstow; from 424 tons in the second half of 1696 to nil in the first half of 1703.

Copper ore exports from Bristol Channel ports; selected portbooks examined in detail.

Half year	Barnstaple and Bideford	Padstow
1695A		106 tons
1696B		424 tons
1699A+B	619 tons	
1701B	322+ tons *	
1702A	150 tons	
1703A		nil
1703B		nil

\* Includes 36 tons re-exported, from Truro.

Much more work is required on the portbooks and this continues with the help of the Wolverhampton Polytechnic Portbook Programme. Eventually I shall look at all available books for the south western ports - well outside the Wolverhampton programme's date limits. There is unfortunately far from a complete run of books for the south west and information from other sources is being sought to supplement them. Only then will it be possible to assess fully the part played by the North Devon mines.

One such source is found in the work of another Swede, Henric Kahlmeter, who around 1724-25 reported on English copper mines including that at North Molton. His report has been quoted by various authors, but more detail is available from his journal once the Swedish script can be mastered<sup>10</sup>.

Certainly by 1725 the North Molton Mine was again playing an important role in supplying the Bristol Company's smelter; although the indications are that output had fallen to half that obtained earlier.

On the ground at the site of the North Molton Mine, little can be done at present; but it is evident that some of the oldest workings are on the hillside west of the River Mole. The 'hand-picked' western adit, currently inaccessible, hints that the workings there predate the late 17th century, when blasting was already employed (see discussion).

At Molland the site of the earliest 18th century copper workings have been identified to the east of Bremley. However these, and other copper workings in North Devon, never seem to have had the impact of their North Molton neighbour.

Whilst there is much work yet to be done, it is so far evident that certain North Devon mines did contribute substantially to national production prior to 1800; but that production was over relatively short periods.

## COMMENTS AND DISCUSSION

It was suggested that the process used in the 'hutt' was some form of liquation. This is normally associated with the smelting of silver-rich copper ores in the saiger-process; the silver being drawn into the lead and then separated by cupellation. There is perhaps no reason why such a method should not have been used to treat difficult, but silver-rich, lead ore; a forerunner of the 'leading' process applied in the late 19th century.

Although not specifically mentioned in the paper as originally presented, the author was questioned on the role at Combe Martin of miners brought down from Derbyshire and elsewhere.

In the late 13th century impressed miners were drawn from a large area; instructions were given to officers in Chester, Bromfield (and Yale), Nottingham and Derby (the Peak) Gloucester, Somerset and Dorset to bring miners forward for selection. There is, amongst the PRO Exchequer Accounts, a file of documents dated 25 Edw. I (1297) related to the movement of miners from Wales which awaits examination. The majority of these miners would have been employed in South Devon; numbers are uncertain, although Gough<sup>11</sup> has suggested that sufficient were removed from Mendip for returns from the mines in the Bishop of Wells liberty to fall to nil in 1302.

The revival of the Combe Martin mines in the early 1360s was attended by a further impress of miners; this time confined to Derbyshire. Indications are that the Black Death had caused such a decline in lead mining that Derbyshire alone had sufficient skilled men to satisfy the needs of the Devon mines. Although with further activity in 1370 the search went further north when the keepers were appointed to take from Yorkshire eight miners, smelters and bolers in addition to a small number of miners from Derbyshire.

Impressed miners would have found conditions in Devon far different from those prevailing in Derbyshire. As servants of the Crown, on fixed wages, their independence was gone. Privileges, such as an exemption from local taxes, were given but the opportunity to abscond was evidently taken; as illustrated by the warrant for the detention of twelve Derbyshire miners in June 1360<sup>12</sup> "until they shall find security for returning to Devonshire." How these men fit into the image of the farmer/miner<sup>13</sup> is worthy of investigation.

There was however in the 13th-15th Century a small class of professional miners, the 'king's miners', amongst them a number of 'German' origin. They were primarily engaged in prospecting on behalf of the Crown but would occasionally venture their own money, taking a good prospect on lease with an appointment as keeper. Again, our knowledge of their activity is hazy and requires much further study.

Challenged on the wisdom of using hand-picking as an indication of early working, the author agreed that such

adits can be dated to well after the introduction of explosives. However there is documentary evidence of copper working at North Molton as early as 1346, but it is difficult to ascribe it to a particular site.

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