Part 4. Lives of the Common People, HLF project, January 2012 - July 2013

9. Lead Mining 1066—1642

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Introduction

It is generally thought that the Romans must have mined lead in the High Peak ore field, including the Castleton area. A large pig of Roman lead has even been found near Brough within what was the Medieval parish of Hope but it is difficult to find physical evidence from the mines since most of them have been reworked over the succeeding centuries There is more tangible evidence that the Anglo-Saxons also mined lead. Many of the customs and laws associated with lead mining in the High Peak are thought to have originated with the Saxons, as have several of the terms and words peculiar to their activities. The Barmote Court, which still exists today, probably evolved in Anglo-Saxon times and came to oversee the administration of the mines. The document Quo Warranto of 1288 is evidence of the Saxon influence and mentions the Court of the Barmasters (Barnatt 1999; Rieuwerts 1978, p13-17).

However, more identifiable evidence of lead mining in the High Peak begins to emerge with the coming of the Normans with their passion for organization and record keeping such as the Domesday Book.

The lives of the miners

In the medieval period inhabitants of Castleton and Hope would have primarily been tenant farmers. Mining would be a sideline, which had to fit in with the cycle of the farming year usually between April and July. Men who mined are usually referred to, in documents, as 'cultor' or farmer not miner, which does make it more difficult to research the individual miners in a community. In the early medieval period the inhabitants would have been subject to the lord of the manor: in Castleton's case the Crown and whoever had control of the castle. Their position as serfs gave them little freedom and the small amount of land of which they had tenure would be poor quality. As a miner however, with the right of free mining, the peasant would theoretically be free from the control of the lord of the manor, provided he paid the dues of lot and cope and the tithe to the Church which was1/10th of all produce from the land. He probably made little money out of the lead, but in this aspect of his work he was independent and the extra money was significant. (See below *Lot and Cope and Free Mining*).

Domesday and the Normans

The record of lead production in the Domesday Survey of 1086 for Hope is for the combined manors of Hope, Bakewell, and Ashford but it covers the years 1042-1066, during the reign of Edward the Confessor, before William the Conqueror defeated Harold and not for the year 1086 when the survey was made. From the amount paid to the Crown in duty in these years we might deduce that as much as 250 tons of lead ore were mined within the parishes of Hope, Bakewell and Ashford each year from1042-1066 According to the Survey the royal manor of Hope together with Bakewell and Ashford supplied five wagon loads of lead annually to the King (Eales 2006; Reiuwerts and Ford 1993; Victoria County History 1907).

The choice of the site for Peveril Castle by William Peverel might well be explained by the ample supply of lead to be found in the limestone enclosing the head of the valley as well as its defensive position and proximity to good hunting ground, which, after Henry II reclaimed the castle, became the Royal Forest of the Peak. Lead was in great demand for roofs and flashings of the Norman stone buildings, The Crown regained control of the castle from the Peverels in 1155.

In 1250, during the reign of Henry III, the constable at the castle was ordered to buy 50 fothers of lead (fother = approximately one ton) for the royal castle at Winchester. Moreover in the years 1250-2 the castle was considerably refurbished and the bailiff was instructed to reroof the two gateways with lead. It is clear that lead mining was already an important contribution to the livelihood of the inhabitants of Castleton and Hope parishes (liberties) from the early part of the eleventh century onwards and that the lead was transported considerable distances (Eales 2006).

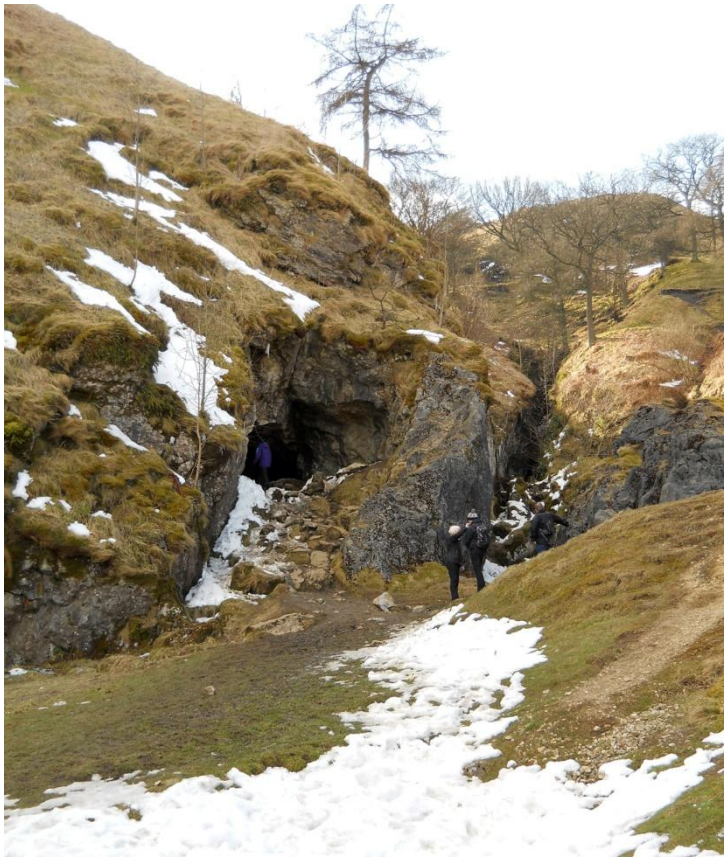

Figure 16. Odin Mine has been worked since at least the Medieval period.
Photo: Ann Price.

Medieval period 1100-1500

Little is known about individual mines in this early period since only the duties from each liberty were recorded and few records still exist. By 1372 we know that the records were supervised by the Barmaster of the Barmote court, who was appointed by the Duchy of Lancaster. The earliest reference to an actual mine in the Castleton Liberty is that of Odin Mine about 1280. It was referred to when a fugitive was detained in the Royal Forest of the Peak accused of poaching in the wood at the entrance to Odin (Brooksbank 1925; Rieuwerts 2007; see also Chapter 5, Crime and Punishment). We have to rely on what archaeological

evidence exists at the mines themselves to estimate when they were worked, and much of that has been obscured by later workings.
Hope itself is situated on the gritstone but is very close to the limestone where numerous rich lead veins occur. There are several ancient trackways which lead directly to the mines. One via Eccles House to Smalldale in the Bradwell Liberty whose mines are now for the most part obliterated by the cement works and on to Hazlebadge,, and another to the mines of Pindale and Dirtlow Rake which are mainly in the Castleton liberty. Black Rabbit lane also leads beyond Pindale to Castleton while Winnats Pass leads to the mines of Peak Forest liberty. Odin mine below Mam Tor was also accessible from the track to Chapel en le Frith and Edale. Ancient trackways, therefore afforded the inhabitants easy access to an alternative source of income. Rieuwerts thinks that the scar to the left of the entrance to Peak Cavern, marking a surface outcrop of lead ore, was an easy and obvious source of lead for the early miners. We know that miners were prepared to walk considerable distances to work a mine.

Liberties were the administrative areas for lead mining, which usually corresponded to the Parish boundaries. The laws and customs of lead mining evolved in Anglo Saxon times. The Crown owned the minerals beneath the ground and exacted royalties from the lead miners. It encouraged lead mining as a good source of revenue for itself. The Derbyshire lead field was divided into two areas of jurisdiction, the High and Low Peak, both were within the Kings field (or Queens field) which is an area administered for the Crown by the Duchy of Lancaster which was set up with a grant of land by Henry III for his son Edmund in 1265 and later confirmed as The Duchy of Lancaster in 1399. Outside of the Kings field there were some areas of land where a noble had been granted the mineral rights as a favour by the King and the dues were then payable to that noble. The Liberties of Hope and Castleton and Bradwell were for the most part within the Kings field. There was, however, one private Liberty, that of Hazlebadge, south of Bradwell, owned after 1421 by the Vernons where the usual laws of the Kingsfield did not apply. It is estimated that the mines of Castleton, Bradwell and Hucklow yielded 700-1000 loads (four loads = one ton approx.) each year between1236 and 1249 (Rieuwerts 1994).

The northwest area of the High Peak, which includes Castleton and Hope, is referred to by Blanchard as the “outer zone or reaches” (Blanchard 1971). Between 1270 and 1310 he reckons that the Derbyshire lead ore field “reigned supreme” and that the outer reaches were the most productive during this time. He thinks that Derbyshire was the “premier lead mining centre” in the country.

Rieuwerts has used the same figures as Blanchard from the Public Record Office for the High Peak, which might well have included some of the mines of Castleton and Bradwell Liberties to construct a table of ore production in the High Peak (Rieuwerts 1994). He reckons that the amount paid by the ‘farmers,’ in the High Peak for the right to collect the ‘lot’ duty from the miner in 1236-7 was £6-18-2 and went down to £4.00 in 1248-1249 indicating a fall in the price of lead. An approximate idea of the value can be formed from the National Archives currency conversion tables. In 1270 £6-18-6 would be worth £3,680,21 in 2005’s money not an insubstantial amount in those days. The farmers or lessees were often lead merchants and could have a very tight control of production, prices, smelting and sale as we see from the Vernon accounts of 1423 and 1442-43 which are discussed later.

Free mining 1100-1500
In 1288 an Inquisition was held at Ashbourne when the ancient rights of Derbyshire miners, which went back to Saxon times, were laid out in a document called Quo Warranto, which

still survives (Rieuwerts 1978). That an inquisition was held and gave some order and authority to the ancient rights peculiar to the lead miners in Derbyshire is indicative of the importance and proliferation of lead mines in the 1200s.

A miner could search for lead ore without hindrance from the landlord provided it was not in a garden, orchard, churchyard, burial ground, place of worship, dwelling house or highway. If he found lead he then had to free his mine by registering it with the Barmaster, the administrator for the liberty, by paying a freeing dish of lead ore, usually about 65 lbs.to the Crown or its lessee. This gave the miner the right to mine for two meers length to whatever depth or width he liked depending on the vein. A meer in the High Peak was about 29m or 32 yds. After this he mined the Lord's meer which meant all the ore mined here went to the Lord of the field or, if he wished, the miner could buy back the ore he had mined once it was valued. From then on he could mine as many taker meers as he wished provided he freed each one with a dish of ore (Rieuwerts 1978).

This right must have seemed very liberating to the men of the medieval period when their serfdom to their lord meant they were little short of slaves to him. Even though they had to pay duties they were free to mine where they chose which is why the right of free mining was held to be of primary importance to the miner and was defended so fiercely whenever it was threatened by the nobility. However, it would be surprising if sometimes the owner of the land which the miner farmed, did not covet the cash that the miner received for his lead ore and take it into account when he set the tenurial rate. For the poll tax of 1379 in districts where miners are known to have worked they are categorised as 'cultor' (farmer). Mining, it seems, was still seen as a sideline (Blanchard 1971, p100).

Lot and cope

Once the mine was freed the miner then had to pay a duty to the mineral lord, the King or Queen or his/her lessee or 'farmer,' which was called 'lot'. This usually amounted to $1/13^{th}$ of the dressed ore mined. The lot payment was for the miner's privilege of free access to his mine and also access to wood and water. It was usual for the right to collect the duty of lot to be 'farmed' out or leased to individuals, initially the gentry, but later such people as lead merchants.

In addition the miner or the lead merchant had to pay the duty of 'cope' of 4d per load which was payment in lieu of the Crown or its lessee having the first right to purchase the lead ore (Rieuwerts 1978).

The laws were complicated and quite costly for the miner but this right to free- mining gave everyone a chance to speculate and hopefully have another source of income. It led to many individuals or groups of two or three miners opening up several small mines along a vein. Hence a proliferation of small mines in the earlier period which eventually amalgamated into the larger mines. Mining and the chance of hitting on a rich vein has always been a lottery. Consequently in poor areas such as Hope and Castleton the miners were forced almost always to combine mining with subsistence farming, fitting it into the farming annual cycle.

'Farming' the lead and the role of the gentry

It seems that once the Crown regained control of Peveril Castle in 1173 the administration was entrusted to an experienced official to act as constable and bailiff for the castle. He would probably have fulfilled the function of the lessee, or 'farmer,' of the lead from the

mines of the parishes of Hope and Castleton until the control of the castle was handed over to John of Gaunt in 1373.
The 'farmers' appointed by the Duchy of Lancaster would have had an important influence on the lives of the actual miners. To farm the duties would have been a coveted right for several aspiring landed families. By the15th century the Vernons, Eyres and Foljambes were playing an important part in the exploitation of lead in the High Peak including Hope and Castleton. As Rieuwerts points out a lead farmer could earn as much as £3680 in one year for collecting the lot and cope even as early as 1248-9 (Rieuwerts 1994).

The Vernon family (later Manners) acquired an estate in Castleton in 1421 and appear from the Belvoir documents, discussed later, to have acquired the right to 'farm' the lead; an indication of the family's determination to extend their grip on the lead miners, even in the Kings field. In 1421 the Vernons in addition to their Nether Haddon estate had not only acquired the Strelley estates in Castleton but their land in Brough and the Private Liberty of Hazlebadge over which they had jurisdiction. They clearly had aspirations to control the local lead industry, which led to many legal battles and even riots. In 1630 John Manners from Haddon took all ore sales on his manor of Hazelbadge into his own hands and set the price at 9s per load instead of the market price of 22s leading to renewed conflict (Evans 1912; Wood 1999).

The Eyre family who held lands in the Hope Valley as far back as the 1200s was another family who together with the Foljambes disputed the freeminers guaranteed rights in return for payment of dues and tried to gain direct control over their estates. William Le Heyr (Eyre) was Forester of the Peak in the 1250 and was allowed a 'bovate' (between 15/20 acre) of land at Hope. His granddaughter Catherine married Sir Thomas Foljambe 1265-97 whose manor and principal residence was Hassop Hall, which the Eyres then came to own. One of the early mines in Pindale was Eyre Grove, In the reign of Henry VI a court was held at Castleton in 1472 when Nicholas Eyre acknowledged that he owed 'one lode (load) of ore and five dishes' to Nicholas Howe and Richard Slack de Burgh (Brough) 'attached Nicholas Eyre in plea of three lodes of lead ore.' This Nicholas Eyre could well be one of the sons of Sir Nicholas Eyre of Hope and is evidence of the Eyre's early interest in lead. In 1483 Nicholas Eyre is mentioned as being of Redseats Castleton. Blanchard has discovered from accounts found in the Public Record Office, that Robert Eyre II of Padley and his offspring were farming the lead from the High Peak between 1475-1481 and 1486-1527. The mines from the Hope and Castleton Liberties would probably have been included in these accounts but how much lead the mines produced is very difficult to estimate. At least the gentry thought it was profitable to bid for the right to farm the Lot and cope (Blanchard 2005, p1373; Evans 1912).

Blanchard concludes from documents at Lichfield Record office that Thustan del Boure of Tideswell paid £36 to be lessee or farmer for 1391-2 for the part of the High Peak he terms the outer zone which would have included Hope and Castleton. This sum presupposes that about 702 loads (175.5 tons approx.) would have been mined for the year and suggests that Thurstan del Boure must have felt confident that his investment was worthwhile and that the mines in the area were productive. It was customary for the right to farm to be granted for no more than six years at a time, which means that Thurstan may have had the right to collect the duty for more than one year (Blanchard 2005, p1373).

Smelting before 1570
To render the lead ore into a usable form and enable it to be transported more easily the lead had to be smelted. Much of the ore first extracted was pure galena or 'bing ore' and was

smelted in a bole furnace. A small amount of poorer quality ore ('boose') was taken to washing sites for cleaning along the courses of streams or rivers. The bole furnace was usually situated on the tops of west facing hills or escarpment to utilize the prevailing wind. They are first recorded in Derbyshire in the 12th century. Medieval boles were about three feet in diameter and later increased to about 20 feet in diameter. They were not very efficient and in the 16th century were superseded by ore-hearth furnaces, which enabled the boose ore, which had previously been discarded, to be smelted.

There are several hills today called 'Bole Hill' indicating where the smelters worked. The hill flanked on either side by the Hathersage and Grindleford roads to Sheffield is known as Bole Hill. It is in an ideal position on the route from the Hope Valley to Sheffield or Chesterfield and then onto Bawtry. The hill near Highlow Hall close to Abney (home of Robert Eyre II (1658) who had interests in lead) was known as Smelter's Hill. Winhill is the nearest gritstone hill to Castleton and Hope where it has been established, from the lead deposits ,that it was used for smelting, although Bradwell edge may well have been used as well. Depending upon where the lead was destined, the lead ore could be taken quite a distance even to the Tideswell smelters probably on Tideslow or as far as the outskirts of Sheffield.

The owners of the smelters were often lead merchants such as Thurstan del Boure and they became agents for the mine owners as well. They were the entrepreneurs of their day who frequently made the real profit from lead mining as Thurstan del Boure's wealth bears witness. We gather too from the Baslow Court Rolls that Thurstan paid 'the sum of xij per annum for having and burning boles' and on his death owned a considerable amount of property. There appears to be a group of smelters from Tideswell since Baslow Court Rolls record that a licence for having boles was granted to Thomas son of Henry de Litton, Richard Litton, Roger de Wormhill and Ralph le Barker "all from Tideswell and its immediate vicinity." Will of Hucklow was fined for having a bole without a licence (Kerry 1900).

Derbyshire miners sent to Royal mines in Devon 1295-1360

Clearly mining was well established in the Peak by the thirteenth century as in 1295 the King sends instructions to *"William de Wymundham and the bailiffs of the Peak to seek out all the miners of those parts so as to take them to the king's mine in Co. Devon, there to stay at the King's expense. The King also caused money to be delivered from the wardrobe to William for the expenses of the miners to Co.Devon"* (Great Britain 1904a).

It seems the first group of miners elected by the officials and the barmaster' were taken to Coombe Martin mine, owned by the Crown. The mine's records even list the names of some of the men who were sent who seem to have been from Wardlow and Monsall, However Blanchard (2005, p1627) maintains that the liberty from which the miners came can be identified from the list of names of those in the mining camp in Devon in 1297 and thinks Castleton miners were among them. The surnames, in those days related closely to the area in which they lived and Castleton was one such area. Castleton was a Royal manor and the mines belonged to the Crown so it is likely that some Castleton miners were elected to go to Devon. This demonstrates not just the power of the Crown to conscript men and transport them to Devon, but it also shows how much the expertise of Derbyshire miners was valued. The initial journey took ten days, which must have been quite an experience and the miners were allowed 2d per day for expenses. The Crown officials clearly anticipated that the mines would be very profitable (Blanchard 2005, p1627).

In 1295 The Crown officials opened up a new mine in Devon called Beer Ferrers, which was thought to hold great riches of silver and lead ore. A document in the Public Record Office reveals that a much larger and skilled labour force was needed, so officials were dispatched to the Peak District of Derbyshire to recruit more miners

In 1360 yet more miners were impressed at Coombe Martin. Peter Claughton explains in his excellent article that the Black Death (1348-50) had caused such a decline in lead mining, that Derbyshire alone had had sufficient skilled men to satisfy the needs of the Devon mines (Claughton 1991).
He points out that for the Derbyshire miners conditions would have been very different in Devon from those of the Kings field without their right to free mining. "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 clearly taken." There was a warrant for the arrest of twelve Derbyshire miners in June 1360 "until they shall find security for returning to Devonshire" (Claughton 1991).

Derbyshire lead in demand for prestigious buildings
Apart from references to lead tithes in various documents and, in 1250, the order for lead to be sent to Winchester, the three following references from 1351 are the first actual mention of the use of lead we have found relating specifically to Hope and Castleton. They indicate that lead has certainly become an important commodity, which the Crown, the owner of the castle, controls and sees fit to exploit as the officials did in Devon.

"Writ of aid, for one year for Thomas del Clough, keeper of the castle and honour of High Peak, now in the hands of Queen Philippa, charged by her to hire workmen for working a lead mine for her use (135i)" (Great Britain 1907a).

This next reference helps to corroborate the one above indicating that Castleton lead was in demand in 1351 for building work in London

"Protection for one year for John Fuitz, Henry Fuitz, Simon de Monyasse who has undertaken to find lead from time to time as required by the King and Queen Philippa for their works at London, and elsewhere in those parts, and for his ships with his men and mariners bringing the lead from the Peak to London" (Great Britain 1907a).

The Black Death lasted from 1348-51 so these references help to confirm that the Hope and Castleton miners may not have been as badly affected as other parts of the country and the local lead industry may have profited from this. Queen Philippa was the wife of Edward III and had been given charge of the castle by her husband. The lead could have been for any of a number of works in which she became involved.

From 1304-1311 Derbyshire was the leading export trader to foreign countries and sent 35 % of its output abroad. The lead was usually taken to Hull either, via Chesterfield and then to the port at Dunham (now a Toll Bridge over the Trent on the A57) to be shipped via the Trent to the Humber, or it was transported overland to Bawtry and then by ship to Hull. The favourite route from the Hope Valley seems to have been via Bawtry (Blanchard 2005, p1408).

The following reference indicates that the importance of Hull as a distribution centre for lead continues: "Sept 1351 protection with clause nolumus, for one year, for Richard Lever, the

King's purveyor of lead for his works, in buying lead in High Peak and carrying the same to Kingeston upon Hull and other ports" (Great Britain 1907a).
High Peak lead was used for prestigious buildings including Windsor Castle, Westminster Hall, and Winchester Palace as well as the Abbey of Clairvaux in France (Rieuwerts 2000).

This evidence of the demand for High Peak lead is corroborated by the fact that Thurstan del Boure from Tideswell, a wealthy lead smelter and merchant, was asked to provide 100 tons of lead for the roof of Westminster Hall in London (Victoria County History 1907).

Blanchard uses the value of the lead tithes to indicate for this period how much lead was being produced and what price it was fetching. The tithe was one of the many taxes the miners had to pay but this tax was to the Church. It amounted to 1/10th of what was produced. In Hope, Bakewell and Tideswell the value of the tithe paid to the diocese of Lichfield had fallen by a third in 1356 to £10-13s-4d from 1342 prices but then increased to £20 in1403. Blanchard argues that 1403 value was still less than 1342 in spite of lead doubling in price, but since the decline was just after the Black Death (1348-51) when the population fell so dramatically, it does not seem surprising that the output might be less. However the amount paid by Thurstan del Boure in 1391-2 to farm the lot and cope for the High Peak would mean that 720 loads were mined which is much more than 450 loads in 1310 before the Black Death (Blanchard 2005, p1373).

The first half of the Fifteenth Century
Whether or not the output of lead declined in the fourteenth century some historians think that there was a real decline in lead output in Derbyshire in the 15th century, which coincided with a decline in agriculture. The land in the two parishes was poor and given over, for the main part, to sheep. The decline in lead output is difficult to verify for Hope and Castleton since there are so few records available. The number of wars in which the nobility became embroiled would presumably have led to an increased demand for lead ore for warfare and also for men for military service. Wood has a telling contemporary quote 'old (lead) wurcks had ben in old tyme' but were now 'quite overgrown wth grasse' and thinks that the High Peak was "virtually moribund."

We do, however, have some interesting records from Belvoir Castle which help to illustrate how the lead industry was controlled in the first half of the 15th century.

Accounts for Sir Richard Vernon of Haddon Hall 1423-1443
The following accounts of Sir Richard Vernon give us some insight into the workings of the lot and cope, how much lead was being produced from Hope and Castleton mines in the fifteenth century and the money the miners would ultimately receive.

By the 15th century many entrepreneurs were becoming smelters and even tried to own the mines themselves to avoid having to pay the free miners for their ore. The miner then became a wage owner. In the following accounts from the Vernon papers, Robert Mornsall was not only the receiver and buyer of lead but organised the smelting on behalf of Sir Richard Vernon.

Belvoir castle Documents' Account No 1025 (1423)
1423 - Robert Mornsall receiver and buyer of lead for Sir Richard Vernon.
Received from the Kings field 316 loads 6 dishes.

This amount would presumably be from free miners but we only have the names of the miners and not the location of their mines. It is not clear whether the sums would be what they owed for duty of Lot or the amount bought.

1442-1443 – Robert Mornsall Purchase of ore

Robert Platts of Castleton 12 loads
Thomas Tym of Castleton 2 loads
John Tym 3 loads – 18/-
Richard Triket of Hope 3 loads
John Burton 5 loads – 30/-
William Fornes 4 loads at 6/8d – 26/8d
Richard Howe of Bradwell 18 loads at 6/ - £5-8-0
Nicholas Halle 7+1half loads at 6/- 45/-
William Bradshawe of Hope 4 loads at 6/- 24/-
Roger Slacke of Hope 3 loads at 6/-
Ralph Heye 1+ 1half loads – 9/-
Richard Bown 14 loads 2+1 half dishes He received £4-15-0
Richard Bown 4 loads at 6/8d *Bermaister dishes*

Total not including Platts 12 loads = 69 loads
Sum of ore 69 loads 3 dishes
allocated to the same 33/4d (BUT 69 loads at 4d per load cope; 69 x4/12 = 23/-
23/- + 5/4d = 28/4d not 33/4d)

It is difficult to understand the reckonings because the Latin is not clear. Perhaps something else has to be taken into account to make sense of them.

Another Belvoir Account (no. 1095) of 1442 to Michelmas 1443 does not explain why Robert Platts is not included in the final total, but some of the miners were not paid immediately and had to wait until the lead was smelted and then sold on, at which time Mornsall himself would receive the money from the Vernons to settle the debts. The miners might have to wait some time to receive their pay. Certainly in this document some appear not to have been paid. Blanchard thinks this is an example of how the Vernons operated: that the miners and the suppliers of tallow and rope for the miners were the last in the chain to get their money. Mornsall's own pay was only £1-6s-8d.

Since Robert Mornsall is listed as purchaser of ore, he would be liable to pay the duty of cope. The miners already should have paid the barmaster their duty of 'lot' in appropriate dishes. Was Richard Bown paying money owed for barmaster dishes?
It is interesting that Robert Mornsall seems to have kept his position for at least 20 years

Account Michaelmas 1442

Richard Bowne features again in a special account for the previous year as owing 24 loads 2 burdens 1 dish from mines in arrears, followed by a list of miners' names. Who possibly mined the ore. Was Richard Bowne Barmaster or did he collect money for the Barmaster? The miners' names are interesting. The fact that Robert Plattes is not included in the addition of the previous list may be because he still owed money..

Robert Marshall of Hope
Robert Plattes
Nicholas Burton of Bradwell
John Cole

Robert Elat of Aston and a William T—whose name is indecipherable

It seems here that Sir Richard Vernon must be the lessee or farmer for the Duchy of Lancaster, since Hope and Castleton are in the Kings field. However the Vernons had just acquired the Strelley estate in Castleton and at Hazlebadge in 1421 and would be a major landowner in the area. He seems to be exercising his prerogative of pre-empting the ore. By rights these men mentioned above should all be free miners (Evans 1912).

It would be wrong to assume that the sums paid to the miners would be all profit. The larger sums probably represented the work of at least two or three miners, apart from the other workers needed to dress the ore and transport it to the smelters. Moreover the miners would have incurred expenses for their specialist tools etc. From present day evidence it appears that much of the mining, prior to 1600, in Dirtlow Rake and Odin mine was large open cast workings to a depth of about 40 feet. The almost pure galena, which was initially mined, was called 'Bing'. This needed little dressing.

If the miners had removed all the surface lead and were involved in digging shafts and levels they would need their specialist tools, many candles, possibly powder to blast the rock (gun powder began to replace fire-setting from the mid 1600s), wooden props etc. and a windlass to lift the ore. It appears that levels were being driven under the shale by at least the early1600s at Odin. If a financier owned the mine then the miners could bill him for their expenses. It is difficult to establish from this document from Belvoir (Haddon) who actually owned the mines at this time but we can be sure the Vernon family and the smelter made the most profit.

The 'boose' (mixture of ore and surrounding minerals etc.) had to be 'dressed' by a bucker to extract the ore, and then someone had to put it through a sieve and wash it before it was sold and transported to the smelters. It would be interesting to know how many days' work a load equalled. The returns quoted in the Vernon document appear to be for a year, so the miners did not make great fortune.

At 2005 rates £5-8-0 which Richard Howe was paid for 18 loads would equal in 1440 £2,534.49 and 18/-paid to John Tym would equal £422.4. Four loads equalled roughly one ton so Howe was paid for four and a half tons, probably for the work of several men.

Developments in the second half of the fifteenth century

Most miners must have faced a problem in the second half of the 15thcentury and continuing into the sixteenth century. Most of the galena, good quality lead ore, which could be extracted from the surface had been exhausted and it became necessary to dig deeper, sink shafts and tunnel out levels from which to extract the lead ore.

At the end of the fifteenth century at Odin mine the first attempts appear to have been made to drive a tunnel beneath the shale. All this work needed new expertise and much more financial investment. So it was that the owners were forced to look for shareholders to provide the finance and many merchants and gentry began to seize the opportunity to invest in the mines. Another problem, which confronted the miners, was that of draining the mines once their workings were below the water table, forcing them to drive levels or soughs for drainage channels.

There was no shortage of gentry and aspiring yeomen willing to invest in the mines of the High Peak and as a result there appears to be an upturn in the second half of the 16th century. Moreover there is more documentation for this period and the country was at peace, after the War of the Roses was finally settled at the Battle of Bosworth in 1485. Before the battle of Bosworth, however there was another development, which implies that the Derbyshire lead trade was still vibrant in spite of the numerous battles and that the proceeds from its lead were highly prized by the Crown. The creation of a Staple at York in 1485 specifically for Derbyshire lead seems to indicate that towards the end of the fifteenth century at least there was an expectation of a worthwhile output of lead for export.

A Staple at York

In April 1485 Richard III, shortly before he was killed by the army of the Tudor pretender Henry VII, set up two Staples for the export of metal by royal charter, one at Southampton for various metals and the other at York specifically for lead from Derbyshire. A Staple was a designated market for export goods run by a mayor and various merchants which was responsible for collecting the duty due to the Crown for lead ore and usually wool and tin from the exporters. These new Staples were to have the same powers as the one at Calais, which was still in English hands. All lead and metal exports had to pass through one or other staple. Previously all exports had gone through Calais. It seems that Richard III wanted to prevent the exporters of lead and other metals from avoiding this tax and "to obviate the evils arising from the non-observance of the said provision." It also seems that although Calais still remained in English hands he did not trust the loyalty of the officials. The lead from the High Peak, destined for the continent from then on had to pass through York and from there by boat to the Humber and Hull. The output of Derbyshire lead must have increased and the amount of exported been quite substantial for the Crown to set up a special Staple for Derbyshire. Was it set up for the merchants convenience or because they were adept at avoiding paying the export dues? It suggests that the value of the tax to the Crown must have been considerable (Great Britain 1914).

Free mining in the sixteenth and early seventeenth century

An industry that Wood describes as 'moribund' was given a new lease of life about 1569. William Humphrey introduced an ore hearth mill for smelting which helped to revolutionise the output of the smelting industry. It meant that the smelters were no longer constrained by the seasons and the weather and much smaller pieces of lead could be smelted and poorer ore deposits and waste heaps could be utilized. To quote Kiernan "a high quality product, mainly for the domestic market, was transformed into a major overseas trade" (Kiernan 1989, ch6).

In the second half of the sixteenth century the most valuable commodity as far as private estates in Derbyshire were concerned was lead; Europe at that time depended on the supplies from English lead fields and over half the national production came from Derbyshire. Lead was in demand for roofing, pipes and pewter as well as supplies for the large European standing armies. In the 1540s Derbyshire miners produced an annual amount of 3,000 loads of ore but by 1600 this had increased to 34,000 loads of ore (Dias 1981; Wood 1999, p73).

The late sixteenth century and the beginning of the seventeenth century were the boom years for many of the ambitious yeomen and gentry who invested in the mines in the High Peak, whereas a free miner who worked underground would be dependent on a small workforce, often three from his own family. The miner himself would extract the ore from the lead vein, a carrier would take the ore to the foot of the shaft, up which it was wound to the surface and the winder, often the wife, would also dress and sieve the ore.

The work underground was hard and dangerous. One of the earliest confirmations that the Derbyshire miners were tunnelling at depth is the evidence they gave to the Exchequer Commission in 1581 where they maintained they were digging to a depth of 40 to 60 fathoms. The miner had to timber the level (tunnel) as he went, to prevent falling stone. He drove levels underground with only candles for light sometimes advancing less than 3 inches per shift. The process of fire setting to loosen the rock could fill the galleries with smoke, until the use of gunpowder was developed later in the century, He could be overcome by lack of oxygen or a concentration of methane. There were many fatalities (Wood 1999).

It is important not to underestimate the skill and knowledge of the miners themselves, which led to the development of the mines in the first half of the seventeenth century. One cannot but admire the fortitude and persistence of the men who not only constructed passageways underground with minimum tools, but understood enough about the geology to know where to dig and how to cope with the various rock formations and types of ore they encountered. Even though they were not always successful, they were prepared to risk their lives.

The miners themselves made their case when they gave evidence to an Exchequer Commission as early as 1581. They complained that the new system of smelting known as Humphrey's ore hearth mill which allowed for much smaller pieces of ore to be smelted, gave the cavers an advantage. All the cavers had to do was to dig over the waste hillocks left from the earlier workings and then sift the ore with one of Humphrey's sieves. Cavers were often semi-vagrant poor people, sometimes women, who scavenged for the small bits of lead ore in the waste heaps (hillocks). The ore hearth-smelting mill opened up a new source of income for the poorest. The Miners on the other hand had to "sinke a pytt" up to three fathoms in stone to find ore and then down to 40 or even 60 fathoms to extract the ore at great risk to their lives (Wood 1999, p82).

As the depth of the mine and the cost of mining increased, miners had to raise money for investment, consolidate smaller mines into bigger concerns or sell out to larger consortiums often headed by successful mine owners or merchants. The free miners of Castleton remained 'socially significant' but their importance was challenged by the need for greater investment and capitalisation of the industry. Between 1638-41 Wood reckons that 41-50% of the total population was dependent on mining in Castleton and Hope.

Attached to the list of miners names in the Miners' Petition to the Long Parliament in 1641/2 are the numbers of the poorer workers in individual liberties of the Derbyshire minefield, which demonstrates the abyss between those higher up the production chain, such as shareholders of consolidated mines or owners of smelting mills and merchants and the large number of cavers and hirelings dependent on mining for their livelihood (Anon. 1641-2).

In addition to the actual miners names in the Petition, the number of cavers and hirelings is listed. There were as many as 85 cavers in Hope and Castleton in 1641. Apart from the cavers, hirelings were the lowest class of society. As their name suggests they were for hire, for a minimal wage, often in gangs, at any mine where work was needed. Cavers and hirelings made up a quarter of the work force in the lead field.

Ancillary workers

The Derbyshire miners' Petition to the Long Parliament also provides a useful list of ancillary workers for the mining industry in Derbyshire in the years 1641/2, which shows how

important the lead industry had become at this time as a means of employment.
Smelters (the workers) and families 1000
Jaggers and families (who carry ore from the mines to the smelting mills) 2020
Carriers of lead from the mills 2000
Woodcutters (for Fuel) 500
Horse masters 150
Woodcutters for cross timber 600
Chandlers 300
Carriers of courses and cross timbers 100
Rope makers 100
Smiths 150

According to Wood the miners of the parish of Hope in the first half of the seventeenth century were among the poorest in the High Peak and this is borne out by the figures from the 1641 document which says:
"more poore hirelings and cavers with their children have their liveinges on the mynes. In Hope and Castleton there were 85 hirelings." (Anon. 1641-2).

Wood concludes that the miners were for the most part wage dependent and landless (Wood 1999). However by the mid 1660s the effects of the civil war and exhaustion of the ore from above the water table in many mines and the near monopoly of the profits by the gentry meant that the free miner was reduced to near poverty or to being a dependent wage earner.

By contrast Henry Kniveton a lawyer who lived in Castleton had made several million pounds, in today's money, from his shares in Odin mine by 1673 when his daughter Elizabeth married John Wright of Eyam Hall with a dowry of shares for Odin mine worth £1,500 equivalent to £124,000,000 in 2005 money. (Anon 1672)

Wills and Inventories
Some of the wills and inventories in Lichfield Record Office from Hope and Castleton of this period refer to small amounts of unsmelted lead ore (dishes) and some to lead already smelted into 'pigs', fodders or 'pieces.' The wills were written shortly before the Miners Petition of 1641.The impression is that lead is available at a price (see Ch. 12 Wills and Inventories).

The inventory of the estate of Thomas Bockinge of Castleton in 1615 includes a long list of people who owed him money and five who owed him lead. He in turn owed one man two fodders of lead priced at £22 (the 2005 equivalent of £22 in 1620 is £2,112.00) (Bockinge 1615). He does not seem to have been a lead miner since there are no miners tools in his inventory, nor would he have been fit enough at the end of his life but it could be that he was buying and selling lead: a bit of a wheeler dealer. Certainly, Bockinge's household effects point to a man who seems better off than many of the other villagers and he owns land setting him apart from most of the villagers and classing him probably as a yeoman. The surname Bocking(e) occurs fairly regularly in mining history, from this period and through the next two centuries, and especially in Bradwell, where there were Bocking Titles on the hill above Hazelbadge which were most probably active in this period since the miners of Hazlebadge were in dispute with the Vernons in 1629 over the regulation of the mines.

The small amounts of lead (pieces) owned or owed does make one wonder how much the 'black market' operated at this time. The Castle was now defunct so there was no local

Crown official to oversee the payment of duties. It would have been up to the vigilance of the Barmaster or the 'farmer' of the duties to do so. The Vernons may well have been the lessees or farmers. It is easy to imagine that small amounts of lead ore could be smuggled home, though a ton is not so easily disguised. If the lead had been legally smelted then duties would have been paid. It is commonly alleged that Castleton Miners were prone to evading the Barmasters records and the necessary duties. Even Richard Torre, in 1654 admits to neglecting to free eight meers in Odin and in consequence lost four of them to Eyre and partners (Rieuwerts 2007, p31).

Richard Needham's inventory (1617) raises some questions. From the estimated value, £43 9s 0d, of the goods he left, he does not seem as comfortably off as some of the other deceased. However he was owed £11.65s plus two pigs of lead. A pig of lead is ore which has been smelted and poured into a long large dish to form a bar or ingot. What did a Shoemaker need with 2 pigs of lead? In the 1641 petition listing the names of the miners who supported it, there were six different Needhams listed and at least four of the men owing Richard Needham money were also miners who put their mark on the petition list. Moreover, a century later, in the 1750s we have a record of a mine called Needham Grove on Dirtlow Rake (Barnatt 1999).

John Mellor, yeoman who died in1632 appears to own land (Mellor 1632). He owed or was owed money or lead by several of the men listed in the petition.

Thomas Townsend, who died 1637, owed Ottiwell Smith for a fother of lead, a lot of money, and other 'bonds of money' amounting to twenty seven pounds while Bockinge in turn owed him £24. 10s 0d for what we do not know (Townsend 1637). Who was Ottiwell who was owed so much? He does not appear on the petition list unless he is in the damaged section but there are other Smiths. Was he also dealing in lead?

The picture we get from these inventories is lead being bought and sold among the locals for what could have been work on houses or farms. Although the value of the lead was high, it does not seem that any of these men had enough to be fully-fledged merchants. The rate for a fother (almost a ton) of lead appears to be about £11. The 1632 equivalent of this in 2005 would be £980.76.

Derbyshire Miners' Petition to the Long Parliament 1641

In 1635 the miners encountered yet another threat to their income which eventually led the miners to organize a petition to King Charles which they presented shortly before the Civil War, when the King was keen to enrol as many as possible for the Royalist cause. Most of the miners eventually sided with the Parliamentarians.

King Charles had doubled the duties taken by the Exchequer on the export of smelted lead to forty-eight shillings per fodder or ton (2100-2300lbs). Lead prices were already beginning to fall and the miners realized that the increase of lead duties would have a knock on effect and would in effect reduce yet further the price they would get for their lead. This would also affect the other people whose jobs were dependent on the lead industry.

There were over 1.912 signatories to the petition of miners from Derbyshire to the Long Parliament asking for the duty to be reduced to twenty-eight shillings. The petition is significant since the signatories were not the gentry but the actual miners themselves. They included 30 legible signatories from Hope and Castleton and 163 who made their mark beside

their name, presumably illiterate. The document included the number of all their dependents, which amounted to 276. Some areas of the list are damaged. Unnamed but listed were the numbers of cavers (85) Ancillary workers for the whole of the Derbyshire ore field were also listed as 7,620. The document reckons that 424 people in the two liberties of Hope and Castleton were immediately dependent on lead mining for their livelihood. Only two families had a servant, which indicates the poor status of most of the miners (Anon. 1641-2).

The petition begins-
The humble petition of twentie thousand myners whose names are hereunto annexed inhabitants of Derbishire on behalf of themselves and divers others

Humbly sheweth that the myners of Derbishire have for many ages last past gotten by their own labour and indus(torn) great quantities of lead oare which milled into leade and part thereof transported beyond the seas hath (torn) profit and comoditye to the whole comonaltye besides the continuall mayntinance and daily imployment of many thousands in and about those mines that the duties paid out of the mines were only lott and cope and tythe the lott being the thirteenth dish or measure and the coope being in some manor sixpence and in some foure pence for every load of oare mine dish or making a----- and both theise are payd to the Kinge or lord of the manor. The tythe is paid to the Churche and when the myners have paid the foresaid duties all the rest of the lead oare is theire owne bot by lawe and tht custome of the mynes.they are discharged of all other payments for the same…

Here they explain that 20 shillings more had been added to the 28 shillings imposed by Queen Elizabeth on a fodder or tonne of lead, bringing it to 48 shillings. They argued that in Queen Elizabeth's reign lead was £17 a fodder, whereas it was currently only £10 a fodder.

Your petitioners most humbly pray that they have some reliife as by the taking of theis late illegall ymposicions or otherwyse they must bee forced to give over the mynes to the utter undoing of them and their wyves and children and to the great losse and prejudice of the Commonwealthe (Anon. 1641-2).

The petition was successful and in July 1641 the tithe duty was reduced by a Commons committee. The number of the petitioners is an indication of how important lead mining was to the local economy and that the miners could see themselves as a political force, independent of the gentry, yet able to organize themselves into an effective opposition.

Disputes over the paying of Tithes
The lead tithe had always been a costly duty for the miner and was very much resented. The Medieval church, especially the monasteries and abbeys, had long held the right to demand tithes of 1/10th of all agricultural production. Somehow lead came into this category. Perhaps it was seen as a product of the land. Apparently some even believed the lead grew in the veins. The Tithe was a very heavy tax for the poor but such was the power of the church that no one dared to refuse to pay it. After the dissolution of the monasteries by Henry VIII the right to collect tithes was sold by the Crown to various nobles and members of the gentry along with church land and property.

The story of the lead tithes payable to Lenton Priory illustrate how the gentry tried to use the tithes to buttress their finances and how the Bakewell, Hope and Tideswell miners doggedly resisted the tax. A list of tithes produced in the Court of Chancery in1619 by John Gell when he was seeking an injunction against the miners shows that the tithes for Bakewell, Hope and

Tideswell were originally granted to Lenton priory in the 12th century by William Peveril and a third had been sold to Lichfield Cathedral in the fourteenth century, presumably after 1347 (Slack 1996; Anon [n.d.]c).

In 1347 we learn that by letters patent the King lately granted licence for the Prior and Convent of Lenton to demise their manor of Dunston at farm and sell a portion of their tithe sheaves in the High Peak …..for a time ….praying that whereas they have a portion of a tithe of lead in the High Peak of some value but cannot sell this….they may have licence to sell or lease the same for sixteen years…to William of Amyas. The king has granted the licence prayed for (Great Britain 1914). Clearly these tithes were valuable,

This permission from the King to sell off or lease the tithes to William of Amyas,, an eminent business man and successful lead merchant from Nottingham, shows just how valuable the tithes were and what a heavy tax it was for the miners to pay . Moreover William was clearly a rich man who could afford to finance a chantry for himself and yet he saw the tithes as a good financial investment. No wonder the miners resented this tax, since it had ceased to be a way of funding the true work of the church, its original purpose (Cameron 1971).

After the Priory was dissolved in 1539 a third of the lease of the tithes for lead ore in the parishes of Bakewell, Hope and Tideswell had been bought by John Gell's grandfather in 1549 from the Dean and Chapter of Lichfield Cathedral and two thirds went to the Earls of Shrewsbury (later the Cavendishes) (Slack 1996).

The gentry continued to try to extract the lead tithes from the miners but the miners refused. In1613 Sir Francis Leake of Sutton acquired two thirds of the lease from Shrewsbury and conspired with John Gell of Hopton '*to raise the lead tithes upon the miners*.' Resistance was organized by the miners. Leake and Gell took court action in 1619, demanding the recovery of the documentation proving their right to the lease of the tithes, which the miners had stolen. They then sued in Chancery and Exchequer for the recovery of the tithe itself. The miners simply hid their ore or assaulted the men trying to recover the tithe.

After 1615 the miners met at Barmote meetings and collected money for fighting funds and to appoint legal advisers and attorneys. Legal proceedings continued between Gell and the miners until 1642 and the beginning of the Civil war but the vigour and organization with which the miners of Bakewell, Hope and Tideswell pursued their case against the payment of tithes and the expense for the lessees of litigation persuaded the lessees to desist from pressing their claims too strongly. The miners appear to have built up a considerable fighting fund.

'They made or gathered a purse, or a great some (sum) or anie some or somes of money for the mainteyning of suites against the sd John Gell" (Newton 1966; Slack 1996; Wood 1999; Anon [n.d.]a; Anon [n.d.]b).
The Hope, Bakewell and Tideswell miners also won a Pyrrhic victory on the matter of the tithe duty as Derbyshire began to collapse into civil war. On th15th of August 1642 King Charles published an appeal to the miners in which he offered to exempt them from the duties of lot and cope if they joined the army at Nottingham. Twenty-eight of the High Peak miners from Hope, Bakewell and Tideswell signed a petition agreeing to form a regiment if, instead of exempting them of the duty of lot and cope, he lifted the oppression of the lead tithes. Charles agreed. By early September about 400 miners had joined the King's army. At last they had turned the tables on the much-hated Sir John Gell who had been ruthless in

collecting the tithes and was the miners' main opponent in their opposition to the tithes. It was a short- lived victory however since they lost the privilege at the Restoration when the Dukes of Devonshire gained the right to collect the tithes (Wood 1999).

Challenges to Free mining 1606-1657

At the same time as the miners were battling with the land owners and lessees about the rights of the tithe payment, disputes arose as to whether an area was within the Kings field or not. As with the tithes, various members of the nobility or gentry had acquired parcels of land, which they insisted, did not have the rights of free mining. If the mine was not within the Kings field then the right of free mining did not exist and moreover the owners could insist on buying the lead at a reduced rate from the established miners (pre-emption). This coincided with an appreciable rise in the price of lead and an increased demand for its use in buildings, which the gentry wanted to exploit. There were ongoing battles, even violent skirmishes, at times between the High Peak miners and the Manners of Haddon Hall over the right to freemining. The miners of Haddon were frequently supported by miners from the adjoining Kings field of the High Peak (Wood 1999).

The powerful gentry families such as the Manners of Haddon and the Cavendishes of Chatsworth and lesser nobility such as the Eyres and Foljambes were opposed to free mining on what they considered their land. The manors of Castleton and High Peak, which included the parish of Hope, had been administered by the Duchy of Lancaster since 1155, when Henry II removed them from the Peveril lordship. They were therefore in the Kings field and so the miners thought they had a right to free mining. However sections of these manors had later been leased to the Earls of Shrewsbury and the Manners family. On the death of Gilbert Talbot Earl of Shrewsbury in 1616 the land went to Bess of Hardwick's offspring, the Cavendishes. Both the Manners and Cavendishes were initially opposed to free mining. The miners of the High Peak led by Ralph Oldfield of Litton and his son-in-law William Bagshaw of Hucklow began to lead the miners in their assertion of their free mining rights with legal actions from about 1606 to 1657. Both ended up in prison in1634 but were released a year later. They were both relatively wealthy and were of the upper yeomanry class. Both favoured the protestant Parliamentarian cause.

As the price of lead ore rose from the beginning of the1600s the lords tried to impose a pre-emption of ore sales within the Kings field of the High Peak at a rate lower than the market price. The Manners remained implacable against the free miners protests, The Cavendishes eventually were more amenable to the miners but the Eyres of Hassop, who had a reputation for corruption and were hated by rich and poor alike, sided with whichever family best suited their interests. It does seem that most of the miners within the Kings field of Hope and Castleton were eventually able to establish their rights, though conflicts and disputes continued between miners and those landowners who maintained they owned the mineral rights to their land, especially the Manners of Haddon Hall. In 1630 John Manners from Haddon took all ore sales on his manor of Hazelbadge, a private liberty, into his own hands and set the price at 9s per load instead of the market price of 22s leading to renewed conflict (Wood 1999, p120).

It would appear that the Manners family provided the lessees or farmers for the Duchy of Lancaster of Hope and Castleton for 1442-3 and almost certainly for longer and, according to Blanchard, one of the many Robert Eyres and his successors farmed from 1475-1485 and then again from 1497-1504 followed by Arthur Eyre 1506-1527. We have no indication who had this right by the later 1600s but many of the mines by the 1700s were owned by the

landed gentry, consortiums of people who were prepared to risk their money as shareholders or the lead merchants and smelters, the equivalent of modern day entrepreneurs. However if the mine was within the Kings field the owners still had to pay their dues, although how well the payments were policed depended on the efficiency of the Barmote officials who were initially appointed by the Duchy. From the early 1500s evasion of payment was becoming a problem (Blanchard 1971).

The Mines of Hope and Castleton

It is difficult to be too specific about the medieval Odin mine and those of Dirtlow Rake and Pindale, since the evidence of the old workings has inevitably been destroyed by later workings, It is also difficult to say which was being worked at any one time. Written evidence and records of the mines are almost non-existent since most of the miners would be illiterate and we do not even have the Barmote court records until the seventeenth century. Only those records in the Public Record Office give us any information and many were lost as a result of the destruction of the Duchy of Lancaster's archive in 1381 during the Peasants Revolt. Subsequently during the following century Duchy officials seemed to rely on oral estimates. Most of what we can deduce is from archaeological evidence and from documents such as the Domesday report, which is clear evidence that lead was being mined in the area in the 11th century. It seems reasonable to suppose that the workings were either at Odin and, or Pindale or Dirtlow, each of which has evidence of Medieval workings (Barnatt 2002; Blanchard 2005, p1372; Heathcote 2001).

Odin Mine

Although it is likely the Odin (or Odin) mine was being worked in the twelfth century, if not before, the first evidence of its existence is approximately 1280.) We know from the laws and customs compiled between 1288 and 1525 that the basic geology of the lead veins was understood by the miners: the concept of a vertical or sloping vein containing a rib of ore (galena) bounded by walls of stone or other mineral. The Miners would have understood that the galena would be found associated with limestone, but it was not until the mid sixteenth century that the miners realised that the ore bearing limestone continued below a shale covering (Rieuwerts 2007).

The Odin vein or rake, which outcrops at the base of Mam Tor at the northern end of Treakcliff was rich in ore. Here there is a limited but spectacular surface appearance of the vein which has been much drawn, painted and photographed since the late eighteenth century. Initially the mining would have been open cut. The open works extend for four meers to Gank Mouth. From there the vein disappears beneath the shale of Mam Tor, which was only exploited from the early seventeenth century. By 1638 nine meers had been worked below the shale and already they had been troubled by water. According to Rieuwerts' research, in 1638 Deep Shaft Meer, the second meer southwest from Gank hole was the only part of Odin mine then at work presumably because of the drainage problem. Robert Dakin, a sixty-year-old Castleton miner, deposed in 1669 that "about thirty one years ago the meers of ground in Odin were troubled by abundance of water and want of wind" (ventilation) Richard Torre mined Odin Grove and came into conflict with the Eyre Partnership because he had not freed his meers correctly (Rieuwerts 2007.)

The drainage problem was typical of so many mines, once shafts were dug and levels driven beneath the water table and it led to a huge expenditure on the construction of soughs (drainage channels) in an attempt to drain them. However the money, that the Kniveton

family is reputed to have made from Odin mine by 1670, is indicative of the amount of good quality ore that must have been mined.

The record of lead mined from 1042-1066 and 1236-1249 and then in 1295 testifies to the fact that the Castleton mines would have been active from a very early period and most probably even before the building of Peveril Castle.

Mines in Dirtlow Rake and Pindale
Unfortunately written evidence for the mines on Dirtlow Rake before the 1700s is scarce. The first known reference to Dirtlow Rake is in 1538. However, it seems that the extensive open cuts must have begun at a very early date.

The principal later mines on the northeastern end of the rake were Nether Dirtlow mine originally known as Ashton or Eyre's Grove, Pindale (Ashton's) Mine, Pindale End Mine, and Siggate Head Mine. The old name of 'Ashton' leads one to speculate that the Ashton family may have owned the mine. There are four miners named Ashton from Hope who were signatories to the 1641/2 petition, The Eyres of Aston, Hope and subsequently of Padley Hall and Hassop Hall were also heavily involved in lead mining even before the 1500s. There were Eyres living in Hope who likewise signed the petition in 1641 (Anon. 1641-2; Bates 2007).

The Pindale mines
Chris Heathcote has researched the Pindale mines and particularly draws attention to three mines, Pindale Side Vein, Kytle End Vein and Fire Scrin. Chris is a well-respected local mine historian. His findings help to confirm that these mines were active in the medieval period.
Pindale Side Vein or Lawyer Vein "The surface features at Pindale Side Vein together with Kytle End Vein and Fire Scrin have recently been given Scheduled Ancient Monument status which highlights the importance of the area. The open cast stopes (vertical fissures) on Pindale Side vein contain sweeping pick marks almost covering the walls. These may date from medieval times" (Heathcote 2001).
Fire Scrin "It is possible to enter with care the opencut at its open end – at this point large baulks of timber have been placed across the width of the vein walls--- Closer inspection reveals that originally, possibly in the 17th or 18th century, large timbers spanned the whole height of the opencut.-- The walls of the opencut are completely covered by pickwork seen in nearby Pindale Side Vein" (Heathcote 2001). This again seems to indicate early working.

Unfortunately the earliest records that can be located for the mines only date from 1727 onwards. The impressive handpicked stopes of Pindale Side Vein and Fire Scrin probably pre-date these records, possibly dating from pre-1600. Both veins were worked from 1727-1894 but only produced approximately 2400 loads of ore suggesting the earlier miners had taken the rich ribs of ore from the workings.

It is also worth noting that the entire side of Pindale below the Pindale Side Vein and Fire Scrin is covered in large hillocks of waste material testifying to the considerable amount of mining that has been undertaken in this vicinity.

Fig 17 Mining waste at Pindale; Photo by Robin Blake during Landscape Survey

Although Barnatt has found no firm evidence of Dirtlow Rake being mined before 1538 he thinks that the whole of the rake northeast from 'Dirtlo Rake Hed' had been worked by1538 and agrees with Heathcote and Rieuwerts that it is to the north east in the sides of Pindale where the workings are likely to have been medieval or even Roman (Barnatt *pers comm*).

Hazlebadge Mines and the Bradwell Liberty

Much of the early evidence of the mines in the Bradwell Liberty has been obscured by later workings, especially those of Smalldale whose veins ran parallel with Pindale. However the the mines of Hazlebadge Liberty reveal some evidence for the medieval period and could well have been worked by men from Hope or Castleton.

The Hazlebadge mines were in a private liberty owned by the Vernons since 1421 and, after the marriage of Dorothy Vernon to John Manners, by the Manners family of Haddon hall and eventually the Duke of Rutland. As early as 1292 the annual value of the lot ore was 10s suggesting a yearly output of 100 loads (Evans 1912).

Little is known about the working of the mines themselves prior to 1600 but in 1630 "twenty eight articles regulating the working of the mines in the Liberty were written down at a Barmote Court held at Hazlebadge." This may have been a result of trouble in1629-30 when a group of miners took possession of "fower score several meers" in various mines which the miners claimed had been abandoned. They argued that they had the right to take possession by the laws of the Barmote Court provided they fulfilled certain conditions. The case was heard at the Barmote Court at Hazlebadge but Hazlebadge was a private liberty and the Vernons/ Manners could dictate their own terms. The case led to seven named miners and others armed with many weapons and dogs meeting in a rebellious manner at the said mines At this time there was great resentment against the gentry especially the Manners and Gells, both owning considerable estates in the mining areas and both were challenging the rights of the free miners in order to exploit the riches of the mines. In 1630 John Manners from Haddon took all ore sales on his manor of Hazelbadge into his own hands and set the price at 9s per load instead of the market price of 22s leading to renewed conflict (Rieuwerts personal archive, now deposited at Derbyshire Record Office).

The Hazlebadge Liberty was extensive and included the Bocking titles. It is quite probable that some Hope or Castleton Miners worked there (Rieuwerts 2007, p64; Wood 1999, p120).

Mining Language

The geographical position of Castleton set at the far west end of the Hope Valley must have meant that the miners were relatively isolated so it is not surprising that they have developed their own terminology for special mining technicalities. Rieuwerts has listed some of the words peculiar to Odin mine found in a handwritten appendix to Mander's Miners' Glossary; Crooked Knerl used for a wide place in a vein, Jerranite applied to shale etc. From old plans Rieuwerts has found other terms whose meaning one can only guess, such as Gin Swafe, Slatter Bullock, the Brass Castle (Rieuwerts 2007).

Wood points out that even though most miners of the period before the Civil War would have been illiterate, their culture and the technical nature of their work gave an importance and authority to the spoken word. Terminology was necessary 'for tools, types of deposit, mining operations, legal processes and the huge variety of lead ores.' It is thought that many of the terms were of Saxon origin. Their trade dialect had to be exact and functional and Manlove writing in 1653 says "The miners' Terms are like to heathen Greek, Both strange and uncout" (Wood 1999*).*

Discussion

The Domesday Survey and the granting of lead tithes to Lenton Priory by William Peveril in the 12th century indicate that some of the mines in Hope and Castleton were active at least by the eleventh and twelfth century and continued to be so through to the seventeenth century and onwards. Lead was a valuable commodity, which the Crown and the gentry were anxious to control and exploit. High Peak miners contributed lead for some of the most prestigious buildings of the Middle Ages, not just in England , but in Europe too.

The miners of Castleton and Hope always struggled hard to make a living from the Norman period onwards while most of the profit from the mines went to the landed gentry, as the lessees or 'farmers' of the lead, and to the merchants who could control the prices. The miner was primarily a farmer of the land and much of his livelihood came from farming.

By the seventeenth century the feudal system had broken down and we see from some of the wills and inventories that some of the inhabitants owned their own land. The demand for lead was high so there should have been more scope to earn money from the lead industry. However the number of hirelings and cavers listed in the 1641 petition shows that there was still real poverty and most of the profit went to the shareholders, merchants or smelters.

The miners' opposition in early seventeenth century to the various monetary duties, especially the tithes, which the powerful gentry tried to exact, indicates that by then the miners had learnt to organise themselves into a political force, raise funds for litigation and so develop their own identity as miners of the High Peak. Instead of resorting to violence, as the miners had against the Vernons/ Manners at Haddon and Hazlebadge, they sought to exhaust their opponents by drawn out legal action and forming alliances. However there was a much greater need for investment, mines were amalgamated and the free miner inevitably became subject to the shareholders.

Wood believes that in the early seventeenth century the miners of the parish of Hope (which included Castleton) were among the "poorer sort. The social structures of the parish were built upon deep poverty, heavy wage dependency and extreme landlessness." (Wood 1999). The inhabitants of the other two parishes of the High Peak, Tideswell and Bakewell, were not as poor. The comparative poverty may always have been true. Even the churches of the three

parishes reflect their relative wealth in the 1400s and it seems no coincidence that Tideswell had at least three benefactors at that time who derived much of their wealth from lead, smelting, 'farming' it or as merchants: Sir John and Edward Foljambe, Sir Sampson Meverill and Thurstan del Boure. How much, if any, of this wealth disseminated down to the free miners is not clear, but the miners would have had a ready market for their lead ore.

By contrast, once the castle was abandoned, the wealthier medieval families of Castleton and Hope, who exploited the miners' work either migrated from the villages, as the Eyres and the Balguys did or, like the Vernons, never lived there. These families all, nevertheless, continued to prosper from the work of the miners in the seventeenth century. Wage dependency became more evident as the mines became owned by the wealthier families and their shareholders. This happened in Castleton. The statistics of the Hearth Tax of 1661 show it as one of the poorest villages in the county. Most of any wealth generated in Hope itself is thought to have come from wool (Cox 1907; Wood 1999, p89-93; Kerry 1901).

Many of the grand houses of the seventeenth century are adorned by lead from the High Peak among them Eyam Hall. Its exterior is graced by decorated hoppers and downpipes whose lead is most likely to have come from Odin Mine.

Very few of the actual miners of Castleton and Hope emerge from the shadows: Robert Dakin a mine owner gave evidence in 1669 when 60 years old about the problems that Odin mine had with flooding in1639 and was also a signature to the Miners Petition of 1641 albeit with a cross (his mark) since he could not write; Unfortunately the picture of the actual miners is eclipsed by the wealth of evidence there is for the exploitation of the mines by the gentry, nobility and the Crown.

The success of the miners' petition however proved to be but a 'false dawn.' After the Restoration (1660) the gentry continued to try to line their coffers from wealth earned by the miners. Richard Bagshaw of Castleton, as a shareholder in several mines, was one of the many in the Bagshaw family to profit from lead. He was able to live in style in Goosehill Hall, Castleton, from the proceeds of Odin and other mines in the early 1700s and to become High Sheriff of Derbyshire in 1721 (Anon. 1721; Newton 1966).