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9

COPPER MINING IN RICHMONDSHIRE

IN THE

EIGHTEENTH AND NINETEENTH

CENTURIES

(Volume II)

By

Thomas R. Hornshaw B.A.

A Thesis Presented for the
Degree of Master of Arts

1972

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Fig.1.

FRANCIS HARTLEY
1693-1738
Portrait at East Hall,
Middleton Tyas.



Fig.2. EAST HALL, MIDDLETON TYAS

Built by Leonard Hartley 1713.
The central bay window has
replaced the original front
door.



Fig.3.

THE SUMMERHOUSE, EAST HALL, MIDDLETON TYAS

The building to which the stolen copper ore was alleged to have been moved from the outhouse.



Fig.4.

THE CELLAR OF THE SUMMERHOUSE

Alleged by Grainger to have been the actual hiding place

(see Vol.I. page 19)



Fig.5. THE OUTHOUSE IN STONE HORSE PARK

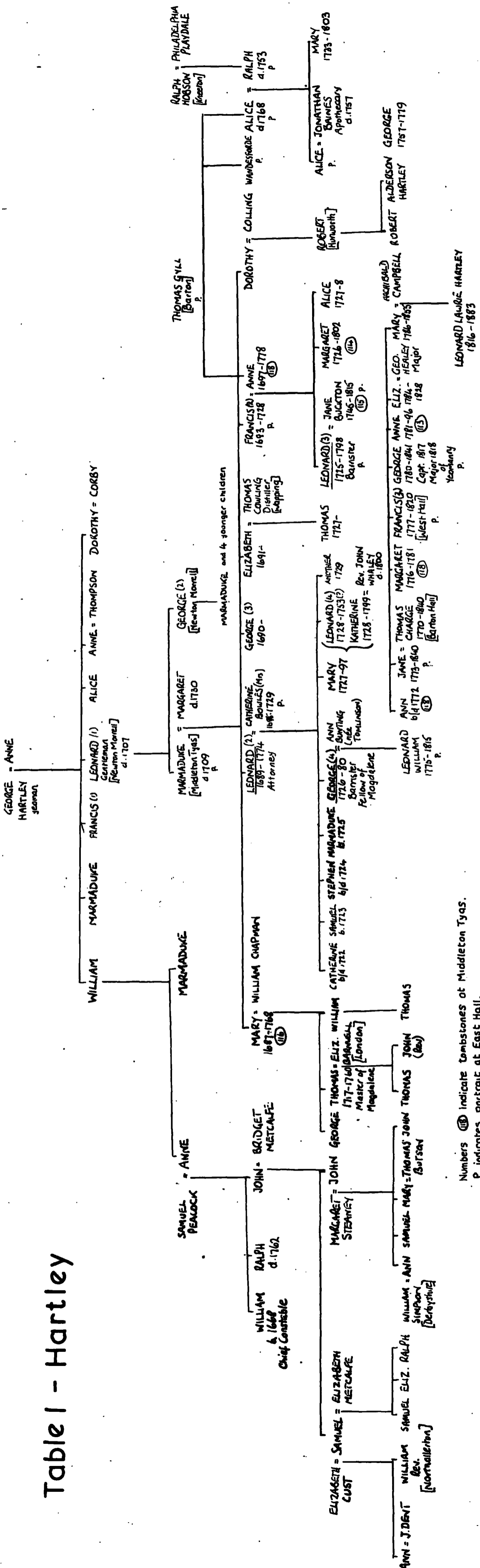
This building exactly fits the description given by Grainger of the original hiding place of the stolen ore (see Vol.I. page 19)



Fig.6. MIDDLETON LODGE (begun 1777, completed 1780)

Built for George Hartley by John Foss to the designs of John Carr of York

Table I - Hartley



Numbers (113) indicate tombstones at Middleton Tyas.
 P. indicates portrait at East Hall.

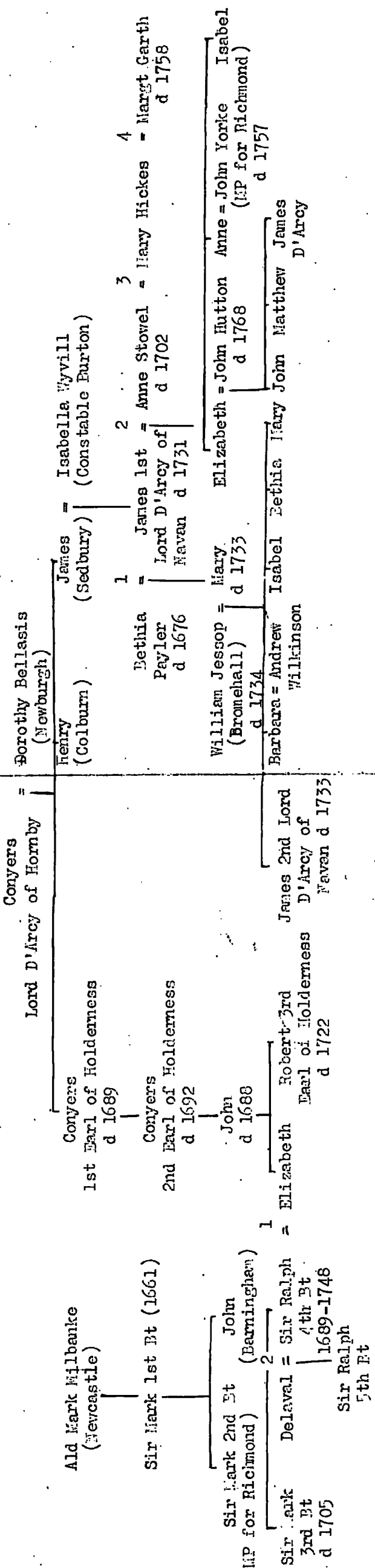
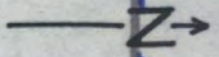


Table 2 - Milbanke & Darcy

MAP 1

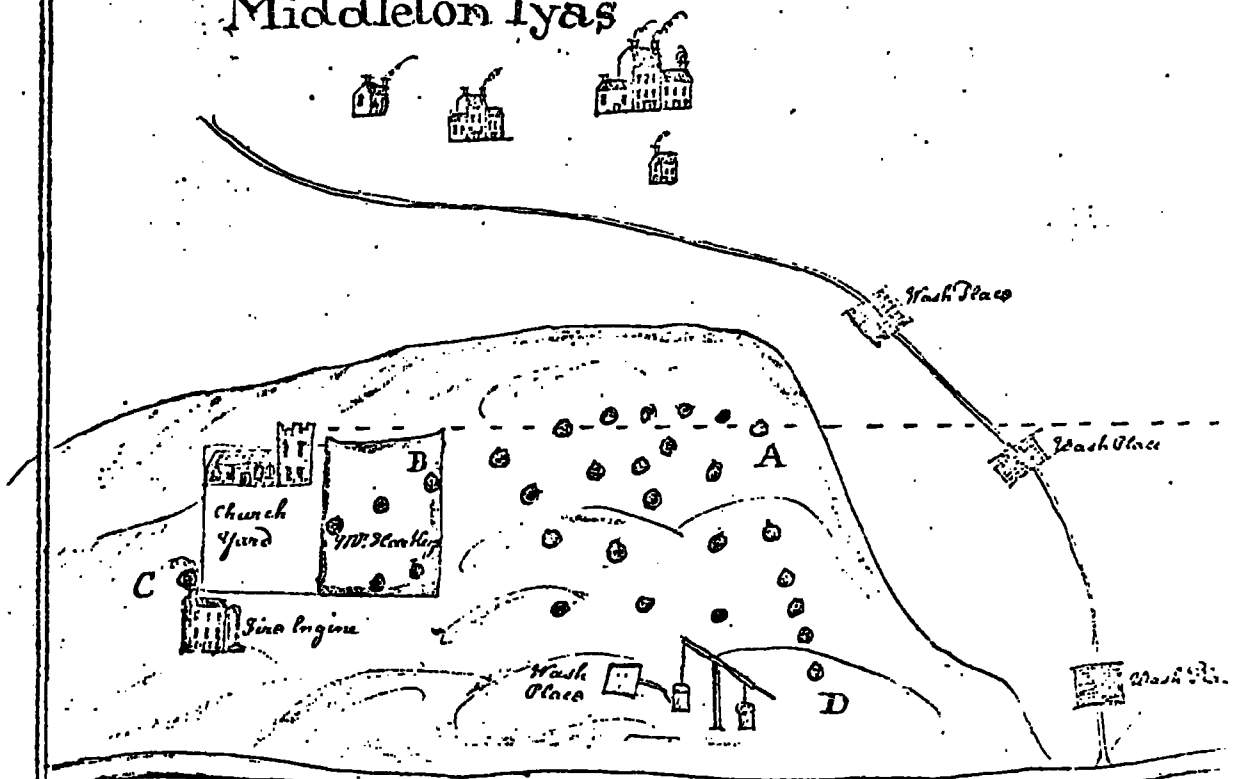
Key to Maps
2 to 6



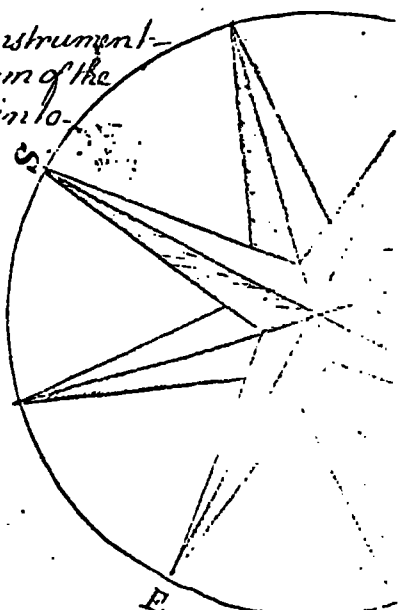
The Copper at Middleton, has been found at all Depths betwixt the
 The Copper has not been found to run in Veins or Strings in a
 The Principal part of it run in a Curve from A to B altering its Direction
 further Southward it runs from B to C directly South. East and dips
 From A to D the Vein runs straight North East, but at D it ceases,
 The rest of the Copper of which large Quantities has been got, lay all
 that is promiscuously squandered among a lomy Soil of the Coloni-
 on's Head, to those as small as Sea Sand. This lomy Soil lays over
 The Copper above the Level of the Brook lays dry and is clearer
 than that Ore which lays in the Water.

Neither Pumps, Buckets, nor Horse Engines could keep the Water
 the Mine Southward, hence comes it that a Fire Engine is now

Middleton Tyas



The Workmen say if a Pick-Axe or any other Instrument
 of Iron or Steel be left in the Water at the Bottom of the
 Mine, it is by the Quality of the Water turned into
 Copper.



This Plan taken the 1st March
 1754
 By Rich^d. Richardson
 Draughtsman

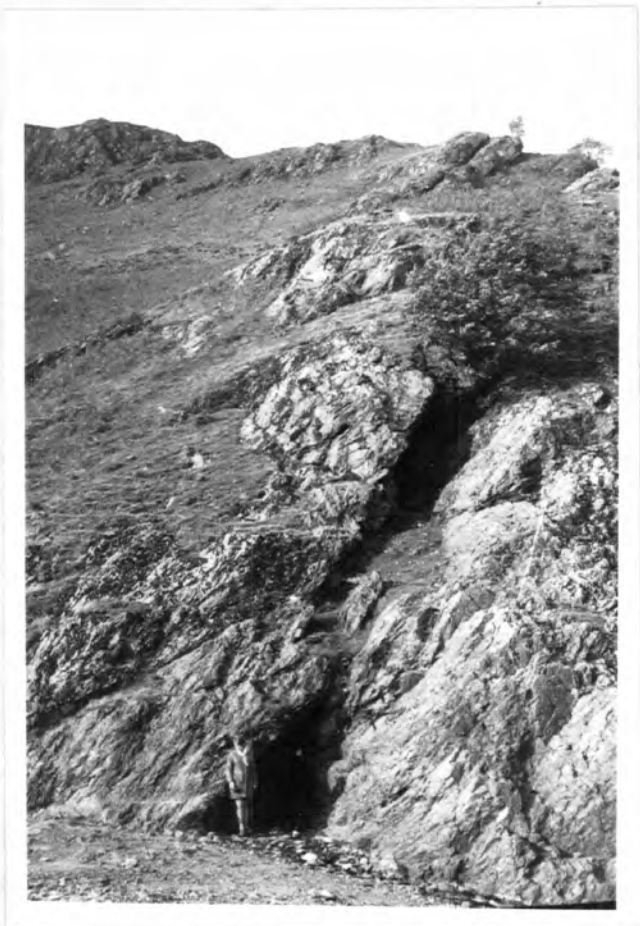


Fig.7.
GOLDSCOPE VEIN,
Newlands, Cumberland.



Fig.8. SHAFT (PB 2)
A typical shaft-top at Middleton Tyas
with surrounding spoilheap



Fig.9. BECKSEYS

The cropmark shows where copper-tainted waste used in diverting the beck in the eighteenth century still stunts the growth of the crop



Fig.10. ST MICHAEL'S CHURCH

The view, looking southwest shows the scarp along which most of the mining was done. In the foreground is Parson's Bottom. The rig and furrow in Parson's Bank shows clearly on the right.

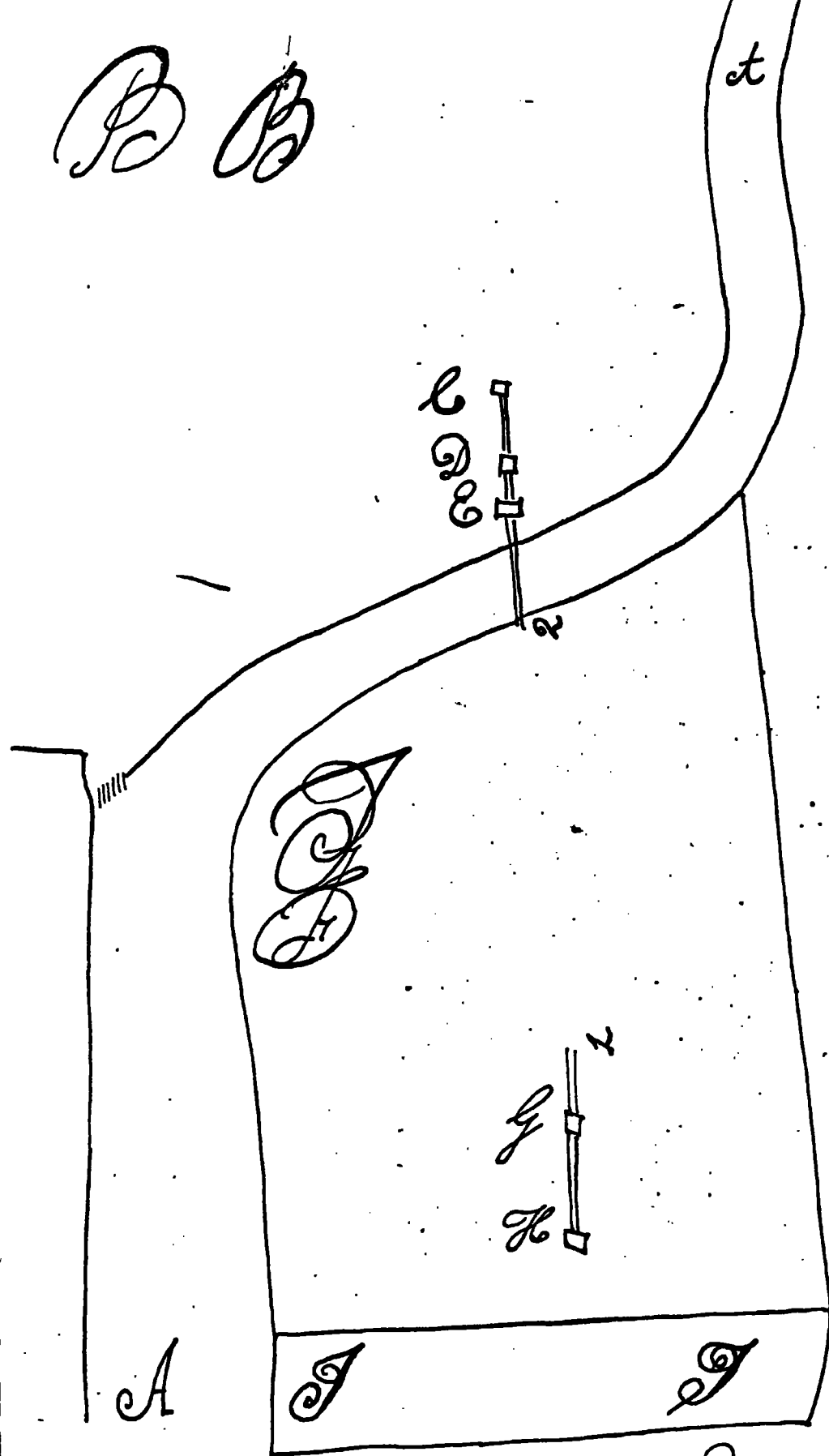


Fig.11. KIRK BANK. This view, looking due west, shows the Church on the top of the scarp, the bobwall of the Engine House left, and the shaft (KB3) which collapsed in 1968 in the left foreground.



Fig.12. SHAFT KB3. This was probably the shaft worked by the second beam from the engine. It was visible only as an inexplicable diversion in the fence until it caved in in November 1968. It has since been refilled.

Fig. 10



- A A The lanes that pass Mr. Wilkinson's and Mr. Shuttleworth's Land
- B B Mr. Shuttleworth's Land
- C D Are these shafts on of Vein discovered in Mr. Shuttleworth's Land
- F F The land belonging Mr. Wilkinson &c.
- G H Are the two shafts on of Rich Vein in Mr. Wilkinson's Land
- I J Mr. Shuttleworth's Dingle

N.B: The length of ground from 1 to 2 is uncut and is about 500 yds



Fig.14. NORTH LEYBERRYS

Looking westwards up the slope (from the building marked D on Map 4) this view shows the shaft tops clearly overlying the broad rigg and furrow.

(see Vol.I. page 46)

EXPLANATORY NOTE ON THE GRAPHS

The six following graphs illustrate certain trends in the growth and decline of the business of the Partners, discussed on pages 58-61 of Vol. I. A, B, D and E are logarithmic; C1 and C2 are drawn on a natural scale. A, B, C and E are divided into account periods listed on page 49 of Vol. I, since these irregular periods are more significant than a monthly or yearly scale. For reference purposes however the years are indicated in a scale at the top of the page. Graph D is calibrated in months only, since the bills for sharpening tools were detailed and totalled monthly.

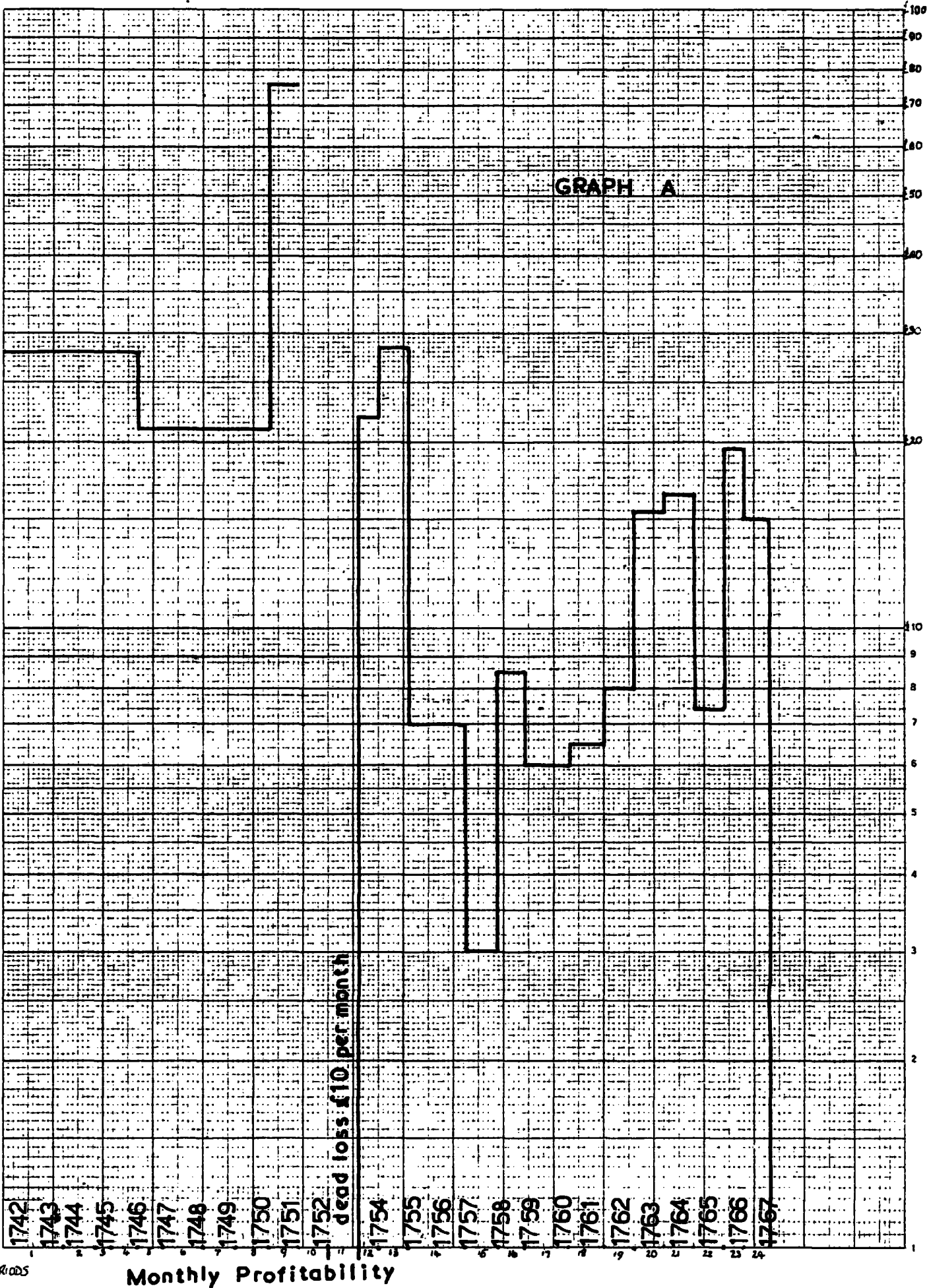
Graph A shows the profitability of the business over the whole period of twenty five years. The first four accounts (RH1-4), covering 1742-46, are taken together. During that period Ralph Hutchinson recorded a total expenditure by the Partners of £785/2/2½. In 1746 they received £2,383/19/9 for the sale of copper and ore already mined and smelted (£1,688/-/1 for copper and £695/19/8 for ore). As the production of five years was all sold at once the profit of £1,598/17/6½ is averaged out over the sixty months of these four account sheets. Similarly in the four year period covered by RH 5-8 (1747-50) a balance of £998/2/8 is left when the expenditure of £1,009/3/9 is subtracted from the income of £2,007/6/7 from the sale of ore plus millage charges. This is also shown as a monthly average over that forty-eight month period. (see Vol. I, page 59). In RH 9 and all subsequent accounts (except the missing RH 10) it is possible to balance income against expenditure in each period. It is significant that only in one period (RH 11) did the Partners make a dead loss.

Graph B shows a simple monthly average of production within each account period.

Graph C illustrates the amount of deadwork done, removing stone and soil without any production of ore. C1 shows this as a percentage of total costs in comparison with the cost of ore-getting and all other expenditure. Graph C2 shows the actual cost of deadwork. Both show a great increase in such unproductive work compared with more profitable effort. These graphs only cover the period of direct working in RH 1-12.

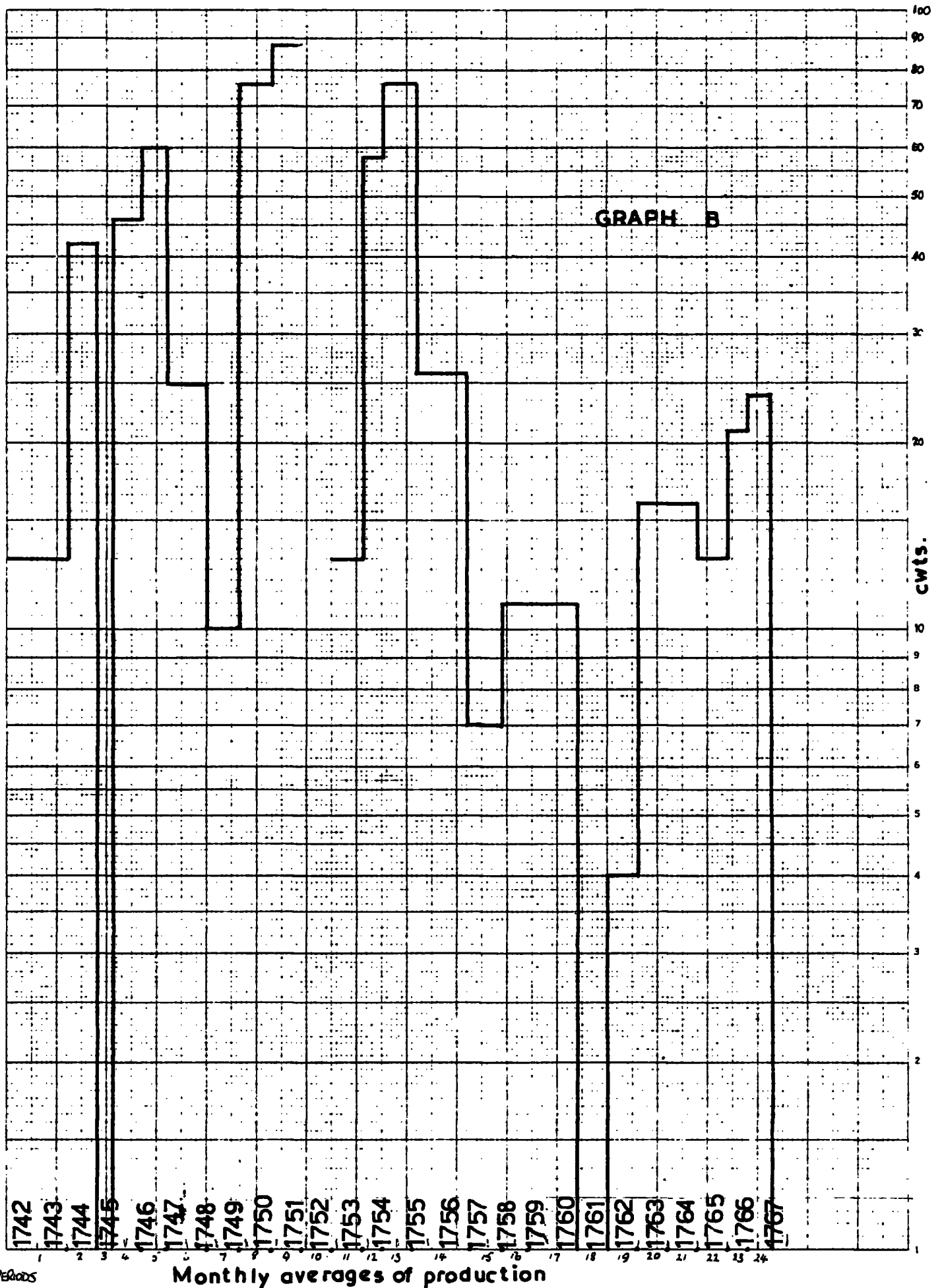
Graph D covers only a short period but shows the number of points sharpened by the local blacksmith, and detailed on vouchers which he submitted. The more deadwork the more jumpers and picks blunted.

Graph E shows the average price per ton (of 21 cwt.) at which the ore sold, in each period. During the years from the agreement with Cooper (see Vol. I, page 56) to the end of direct working, the Partners received a fixed price of £28 per ton. After that the mines were leased and the price was free to fluctuate. The graph shows a general downward trend to RH 17, but a revival in RH 19 and a maintenance of a high price thereafter.



R.H.
A/C PERIODS

Monthly Profitability



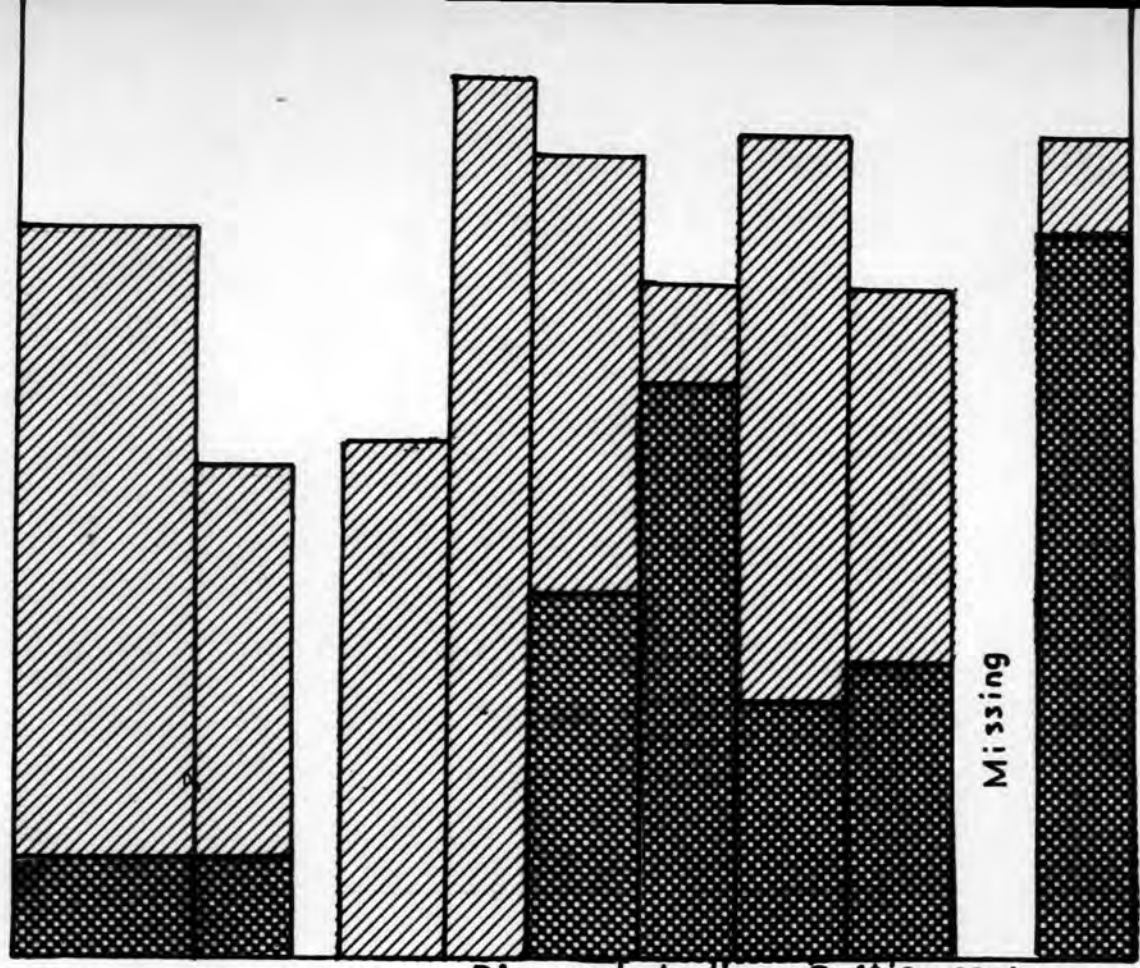
GRAPH B

Monthly averages of production

PERIODS

CWT.

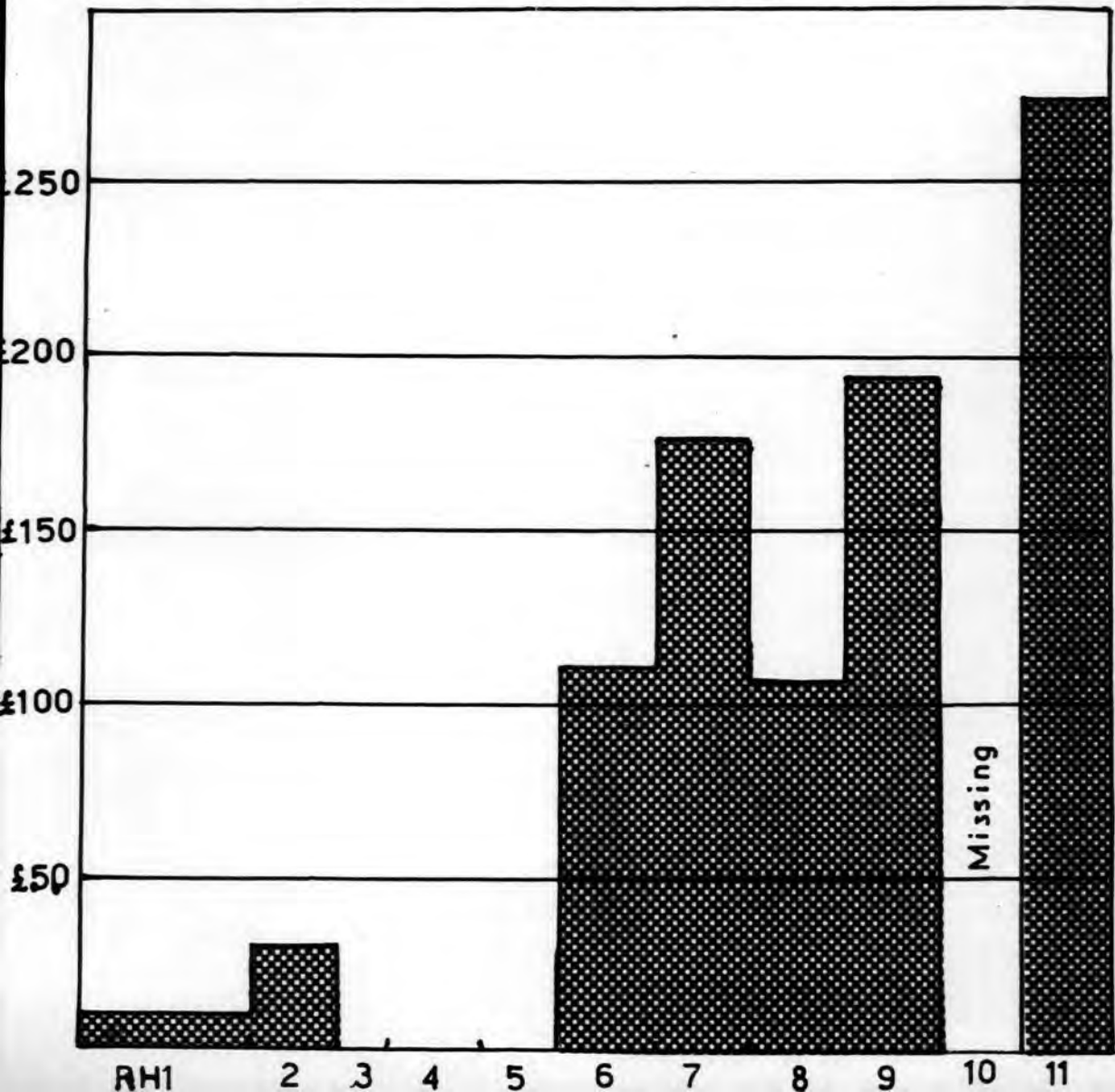
GRAPH C1



Percentages of costs

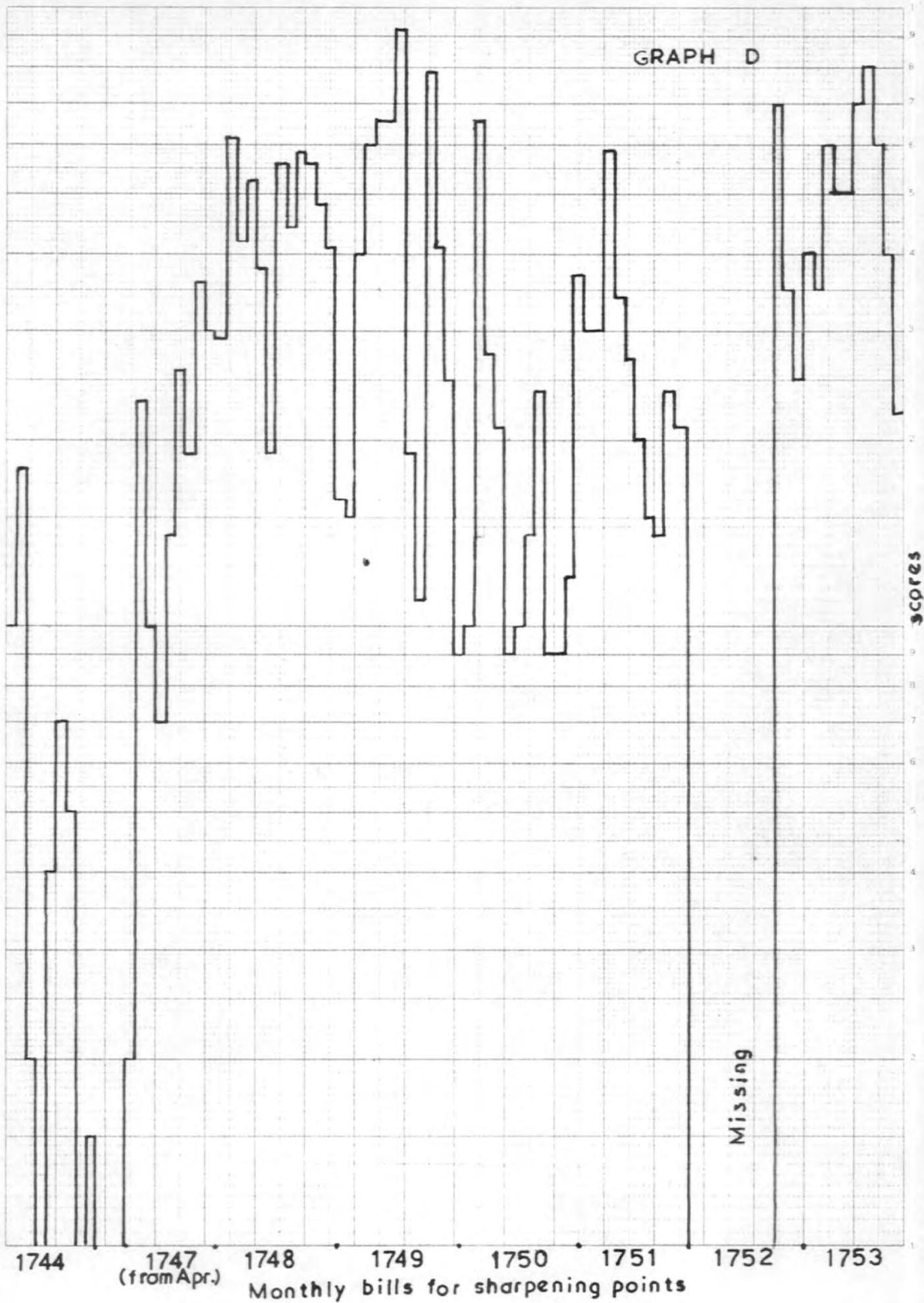
Diagonal shading = Getting costs
Checked shading = Deadwork costs

GRAPH C2

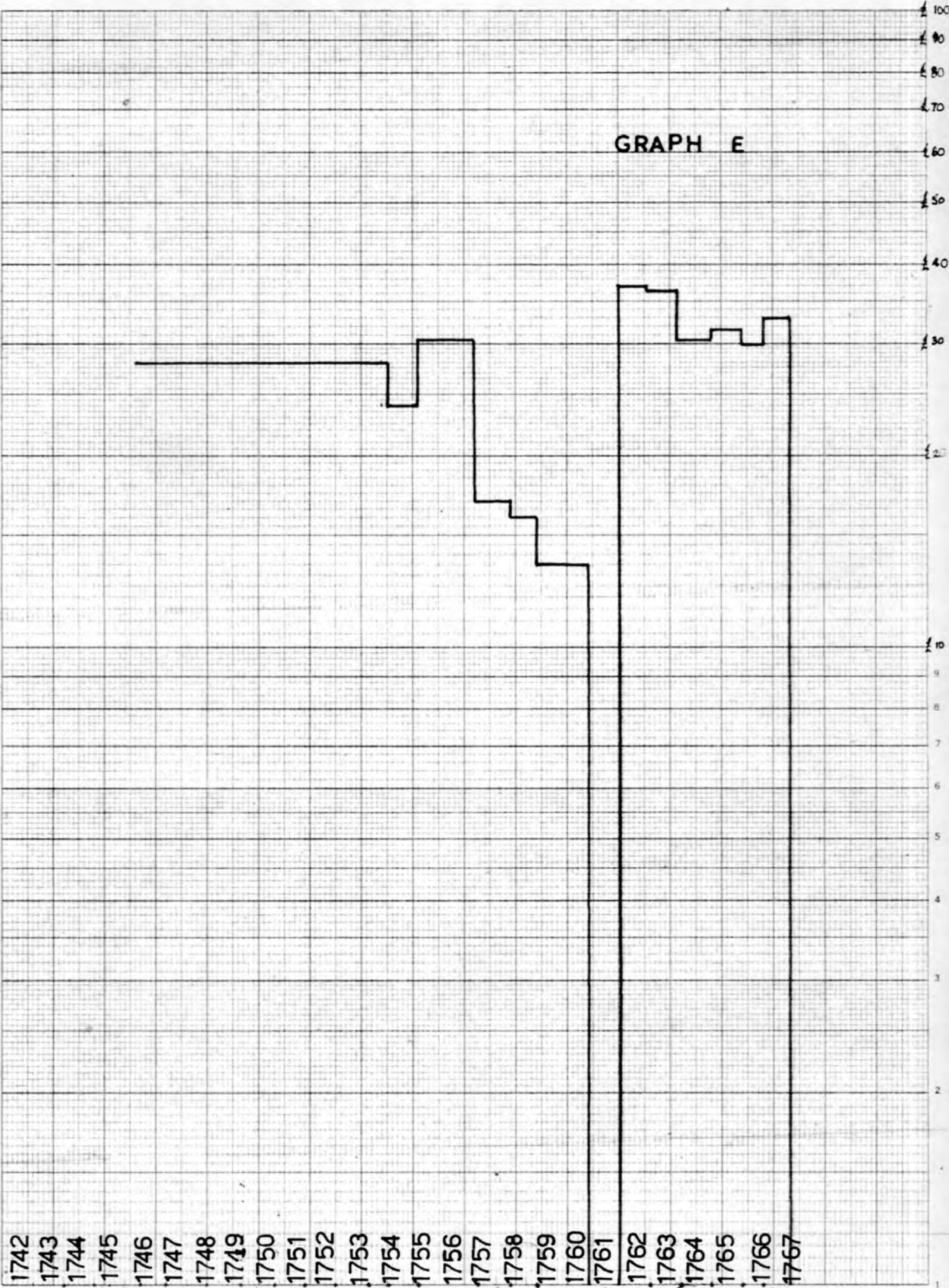


Missing

GRAPH D

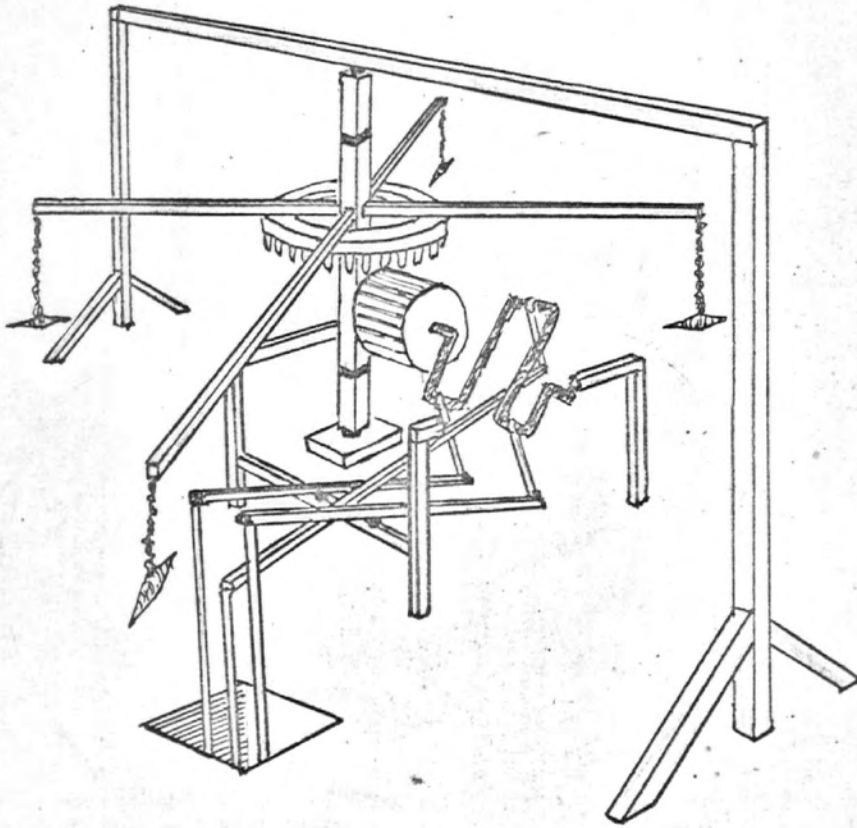


GRAPH E



R.H.
A/C PERIODS

Average price of ore per account period



FOUR HORSE PUMPING ENGINE

Fig. 15

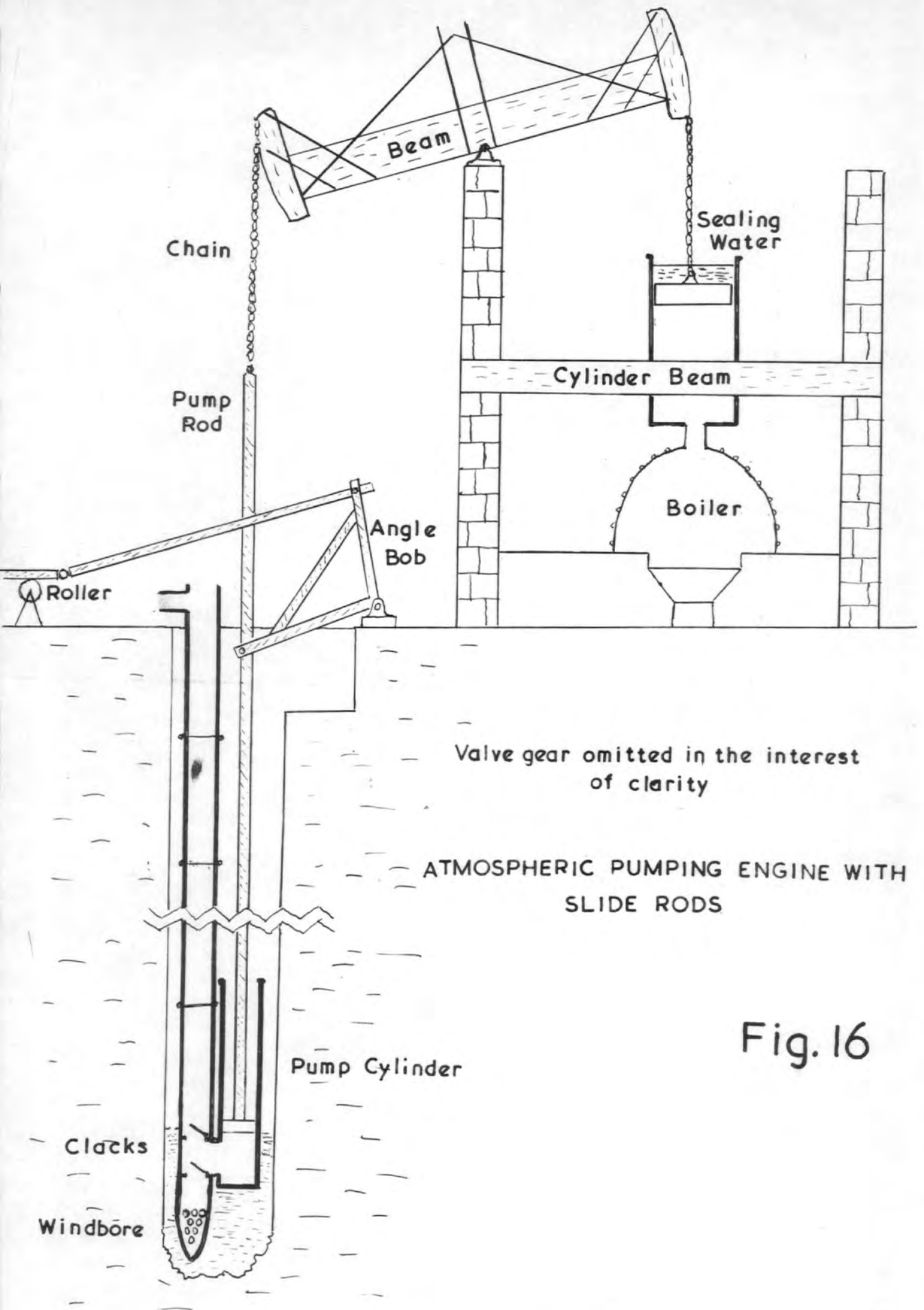


Fig. 16

Fig.17. THE BOB WALL

The ashlar masonry in the centre (marked 'a' on Fig.19) contrasts with the random masonry elsewhere in the Engine House complex.



Fig.18. THE CHURCH AND ENGINE HOUSE

(looking north west).
The straight joint between the ashlar and random shows clearly
(see Vol.I. page 93)

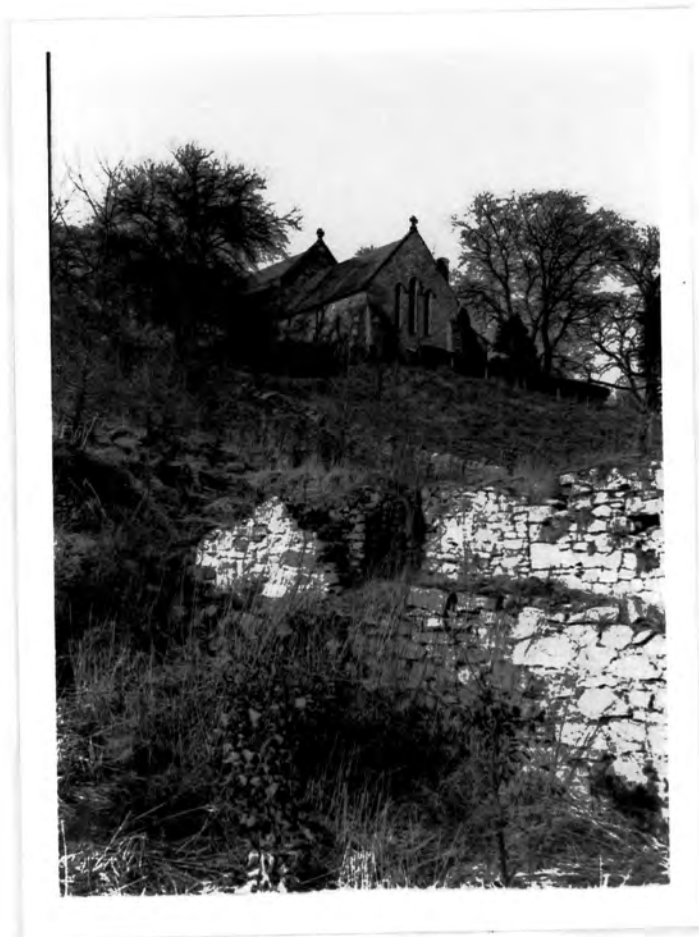


FIG. 19 The Engine House

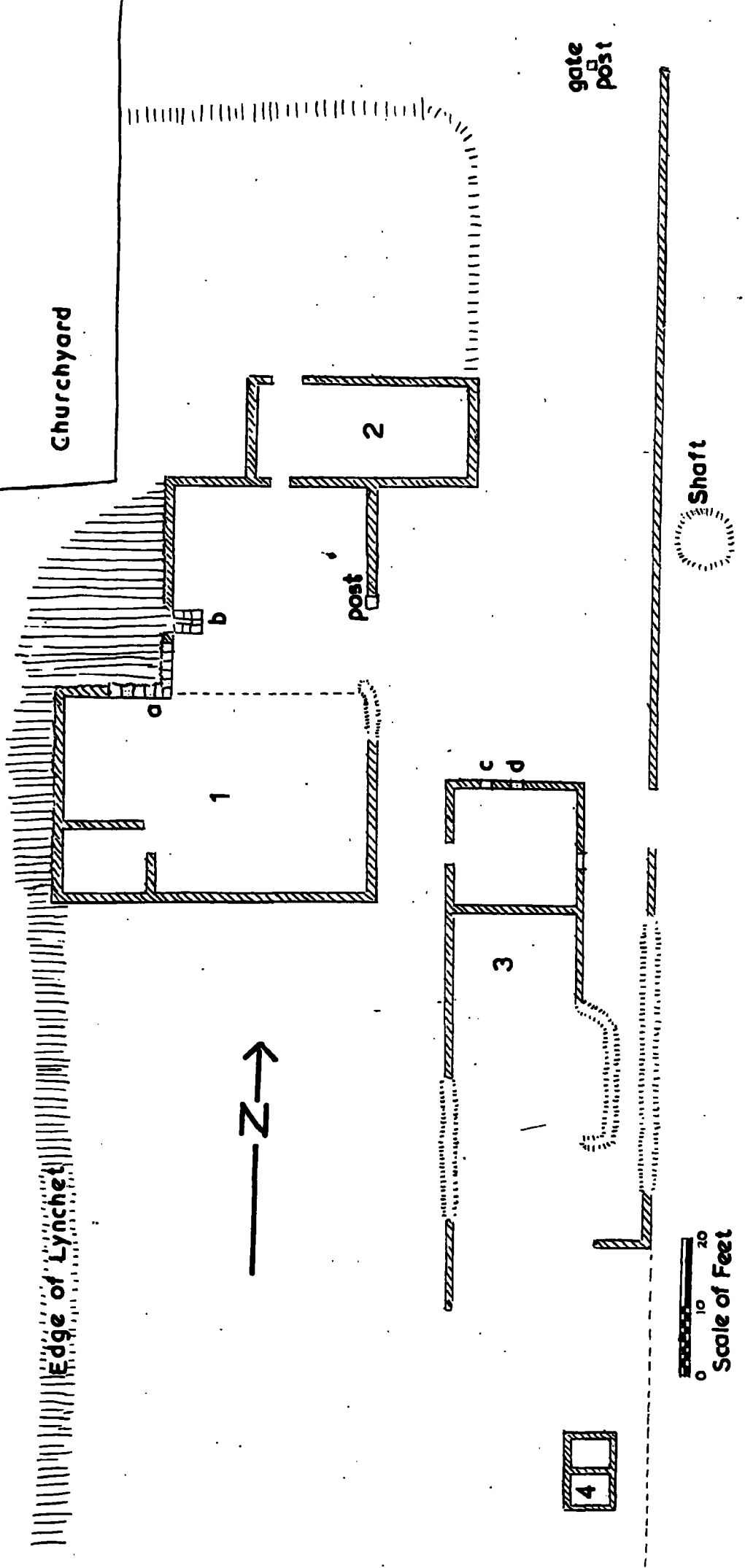




Fig.20. SITE OF WASHERIES

The washeries in Buddle Bottom (marked Q on Map 4) shown by Richardson as 'Wash Place' and served then by a two-cylinder pump, are still visible on the ground unlike the other washeries which appear only as crop-marks.



Fig.21. STOKEHOLE AND RABBLEHOLE

(marked 'c' and 'd' on Fig.19.)

If Building 3 is a smelting mill then these openings correspond to the rabblehole and stokehole of a reverberatory furnace (see Schluter's drawing in Fig.23).

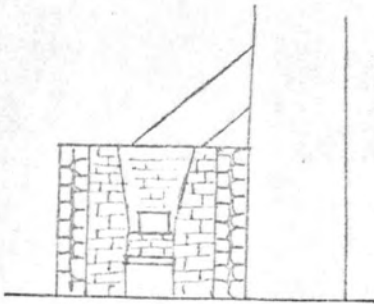
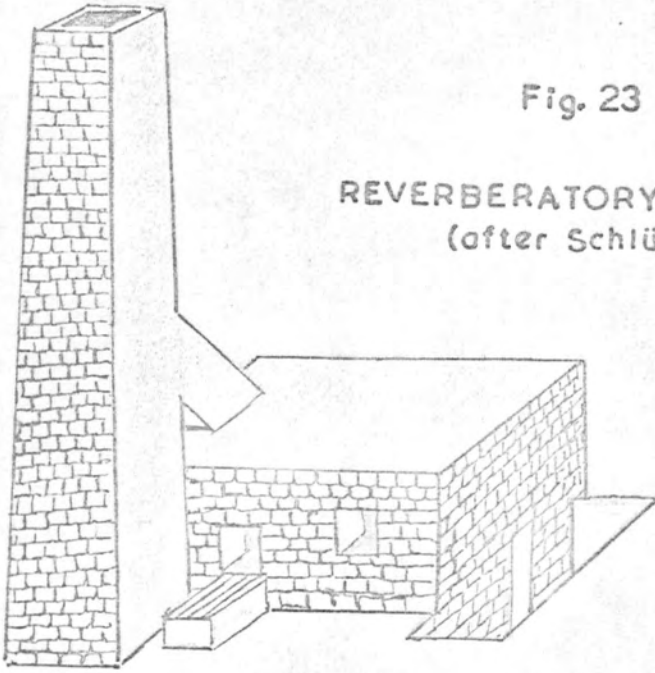


Fig.22. SUMPTER POT

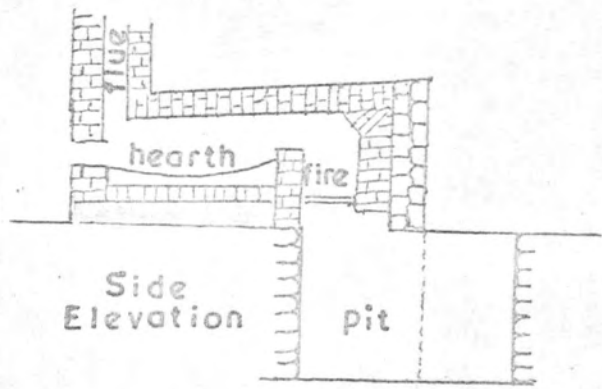
Cast-iron sumpter pot, one of a pair normally used for smelting furnaces and now used at East Hall as flower pots.

Fig. 23

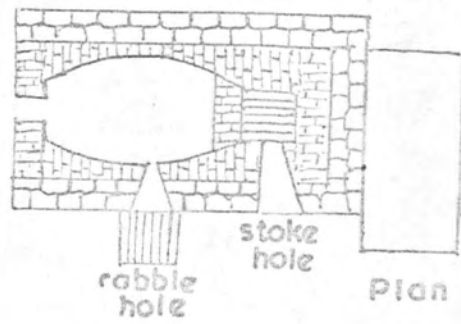
REVERBERATORY FURNACE
(after Schlüter)



End Elevation



Side Elevation



Plan



Fig.24. KNEETON HALL FROM THE NORTH EAST

Dovecot Hill, the area of the earliest leases, has been largely destroyed by the quarry in the foreground.



Fig.25. KNEETON HALL FROM THE WEST

The shaft marked A on Map 6 is in the centre of the picture.



Fig.26. BELLPIT AT FELDOM

The top of a shaft to the west of Feldom Lane



Fig.27. DRESSING FLOOR AT FELDOM

Shaft and workings at eastern end of Feldom Vein with dressing floor shown with broken fragments of limestone, copper ore and gangue minerals.



Fig.28. MERRYBENT MINES
Spoilheaps from the south (marked Y on Map 6)



Fig.29. MERRYBENT MINES
Reservoirs from the north (marked R on map 6)



Fig.30. ADIT MOUTH, KNEETON

The mouth of the Merrybent Upper Level emerging into Kneeton Quarry (marked D on Map 6). The building in the foreground is a disused limekiln, the adit is visible in the undergrowth to the right of it.

APPENDIX A

THE HARTLEY-KEARSLEY LEASE, 1738

This indenture was made the Eighteenth day of December in the Twelfth year of the Reign of our Sovereign Lord George the Second by the Grace of God of Great Britain France and Ireland King Defender of the Faith and in the year of our Lord One Thousand Seven Hundred and Thirty Eight BETWEEN Leonard Hartley of Middleton Tyas in the County of York Esquire of the one part and Oliver Kearsley of Sedgfield in the County of Durham Gentleman of the otherpart WITNESSETH that for and in consideration of the covenants payments provisions and agreements hereinafter in these presents mentioned expressed and reserved on the part and behalf of the said Oliver Kearsley his Executors Administrators and Assignes to be paid done and performed and for diverse other good causes and considerations him the said Leonard Hartley hereunto moving the said Leonard Hartley hath Demised Granted and to ffarm letten and by these presents DOTH Demise Grant and to ffarm lett unto the said Oliver Kearsley etc. ALL these his mines of Cole, Lead ore, Copper, Tinn, Allom and other Minerals as well opened as not opened lying being and remaining within and under which can shall or may be had sought digged won wrought obtained and gotten within forth and out of All or any of the lands grounds fields and premises of the said Leonard Hartley situate lying and being within the Township or Manor of Middleton Tyas aforesaid (EXCEPT one field or close called Stonehorse Park South of the Schoolhouse commonly Pasture and the Park adjoining the same comonly Meadow and one little Park or Paddock called Water Close Park) and now in the possession of him the said Leonard Hartley his undertenants or assignes and for the purpose aforesaid to digg Sink Work and make Pitt and Pitts Trench and Trenches and drive Drift and Drifts Watergates and Watercourses or other works whatsoever in any part or parts of the said Lands and Grounds (except before excepted) as well for the Winning Working Obtaining and getting of Cole, Lead ore, Copper, Tinn, Allom, and other Minerals forth and out of the said Mines as for Avoiding and Coursing away water as the said Oliver Kearsley etc. shall from time to time think fit and convenient and the said Ores and Minerals there found and all the Stones Earth Rubbish and other Refuse which shall from time to time be raised digged and brought above ground out of any of the said Mines Pitts or Groves or other Works as aforesaid to lay upon the grounds nearest the Mines Pitts and other places where the same shall be digged and raised as shall be most convenient and the same to Spall, try, wash, Pick, dress and make fitt for Smelting and Refining at his and their own Costs and Charges and the said Ores and Minerals so Spalled, Tryed and dressed and after the same shall be Smelted, Refined and Weighed and his part or Share thereof hereinafter mentioned to be excepted and reserved and to be laid out for the said Leonard Hartley his Heirs and Assignes as hereunder is expressed to have taken carry away and convert to his and their own proper use and uses without any Account to be made or given for the same and also full and free power and Authority to make place erect and sett up within or upon any of the Lands and grounds aforesaid (except before excepted) All such Milnes Engines Smeltinghouses Stonehouses Hovells Lodges Sheds or other Works as shall from time to time be needful and convenient for the working managing and carrying on the work of the said mines with liberty of Egress Regress to and for the said Oliver Kearsley etc and his or their Servants or Workmen at all times during the Term hereunder mentioned with horses carts and carriages to and from the same (EXCEPT and always reserved out of this present Grant unto the said Leonard Hartley etc One full and equal Eighth part of Share (the whole into Eight equal parts to be divided) of and in the said Ores and Minerals which shall arise be digged and gotten within forth or out of any the land grounds or places aforesaid or any part of parts thereof after the same are Spalled

tyed washed picked dressed Smelted and Refined and made merchantable free
 of and from all Charges for raising Smelting or Refining the same otherwise
 for and in lieu of his and their Toll and farm and to be had and taken by
 the said Leonard Hartley his Heirs and Assignes in Such manner as hereafter
 is mentioned) TO HAVE AND TO HOLD the said mines as well open as not opened
 and all and singular other the liberties powers and Priviliges above in
 and by these presents demised and Granted or mentioned or intended so to
 be and every part and parcell thereof (except before excepted) of and in
 the said Oliver Kearsley etc. from the second day of January next ensuing
 the date hereof for and during and unto the end and term of Twenty One
 Years from thence next ensuing fully to be compleat and ended YEILDING
 AND DELIVERING therefore unto the said Leonard Hartley his heirs or Assignes
 the said one full Eighth part or share (the whole into Eight equal parts
 to be divided) hereinbefore excepted and received of all the said Cole
 Ores and Minerals which shall from time to time during the said Term be
 gotten whithin forth and out of all or any the Mine or Mines to be digged
 won wrought obtained and gotten within all or any the premises above
 demised and in such manner as hereunder in that behalf is mentioned AND
 the said Oliver Kearsley in consideration of the Lease hereby made for
 himself his heirs Executors and Administrators doth Covenant promise grant
 and Agree to and with the said Leonard Hartley his heirs and Assignes by
 those presents in manner following (that is to say) That from time to time
 during the Term hereby granted when and as often as One Ton of Cole, Lead
 Ore, Copper, Tinn and other Minerals shall be digged raised and brought
 above ground out of any the lands or grounds aforesaid he the said Oliver
 Kearsley etc. or his or their agents shall and will at his and their own
 proper costs and charges spall try wash pick dress smelt refine and make
 the same fitt for Markett and cause the same to be duely weighed and entry
 thereof to be made in a Book for that purpose to be kept by his and their
 Agents at the works of the said mines which shall and may at all times
 during the said term be perused by the said Leonard Hartley etc. and after
 the same shall be so dressed smelted refined and made fitt for Markett and
 duely weighed as aforesaid shall and will deliver or cause to be delivered
 unto the said Leonard Hartley etc. the said full eighth part of share
 thereof hereinbefore received to his and their own proper use free and
 clear of and from all costs charges and expenses whatsoever AND further
 shall and will give unto the said Leonard Hartley etc. or his or their
 Agents three days Notice of every Division or weighing of all such Cole,
 Lead Ore, Copper, Tinn and other Minerals before the same shall be divided
 and weighed from time to time during the said Term which shall be so always
 smelted refined weighed and divided when One Ton shall be raised and gotten
 as aforesaid AND further that the said Oliver Kearsley etc. shall and will
 use his and their best and utmost endeavours for the effectual winning
 working and carrying out of the works of the said mines and work of the
 same fairly and orderly leaving sufficient walls and Pillars to support
 and uphold the Roofe thereof from falling in AND that he the said Oliver
 Kearsley etc. shall and will from time to time during the said Term cause
 to be kept oen or more Book or Books of Accounts of all the quantities and
 produce of all such Cole, Ores, and Minerals as shall be gotten within
 forth and out of all or any the Mines and premises above demised and
 wherein shall be made an Entry of the weight of all such Ores and Minerals
 after the same shall be washed and dressed before the smelting thereof and
 also after the same shall be Smelted Refined and made fitt for Markett
 which said Book or Books of Accounts shall from time to time be made and
 kept by some proper person employed in the working or managing the Works
 of the said Mines and that he the said Oliver Kearsley etc. shall and will
 at the Pitts or Smeltinghouses of or belonging to the said Mines monthly
 if thereunto required by the said Leonard Hartley his heirs or Assignes
 during the Term hereby demised produce and show forth or cause to be

produced and shown forth unto the said Leonard Hartley his heirs Agents or Assignes demanding the same the several and respective Book or Books of Accounts which from time to time shall be kept and given by the person employed for that purpose as aforesaid and also give and deliver or cause to be given and delivered unto the said Leonard Hartley his Heirs Agents or Assignes demanding the same true copies of all such Books of Accounts the several copies and Books of Accounts of such working produce smelting and refining to be signed and subscribed by the person or persons making and keeping such Book or Books so that the working and neat produce of the said mine may be the more easily and better discovered and ascertained AND that to the end the said Leonard Hartley his heirs and Assignes may the better be informed and satisfied of the fair and orderley working of the said Mines and of the fair and just keeping of such Books of Accounts it shall and may be lawfull to and for the said Leonard Hartley his heirs or Assignes or any viewer or viewers or other person or persons skillfull in mineing by him or them to be for that purpose employed or appointed at all or any time or times during the term hereby granted at his and their wills and pleasures to enter into all or any the Smeltinghouses Milnes or other works belonging to the said Mines also to ride and descend by the ropes and engines used by the said Oliver Kearsley etc. at the demised premises into all or any the Pitts or Shafts of or belonging to the said Mines and to view and inspect the working of the same, thereby the better to be informed of the due and regular course of working thereof AND also he the said Oliver Kearsley etc. shall and will at the end and expiration or other sooner determination of the said term above granted give yeild and deliver up to the said Leonard Hartley his heirs or Assignes quiet and peaceable possession of all and singular the premises above demised AND further also that he the said Oliver Kearsley etc. shall and will from time to time half yearly during the said term hereby granted pay and satisfye unto the said Leonard Hartley his heirs and Assignes all such Damage and Satisfaction for Spoil of ground Grass or Corn as shall or may happen to be made or done by reason or meanes of breaking ground setting up Milnes houses Engines making Pitts Drifts Watercourses or other works to be used in or about the winning owrking or carrying out of the works of the said Mines as by Robert Steaney of Middleton Tyas aforesaid Gentleman William Peacock of the same place Gentleman and Richard Coates of the same place Yeoman shall from time to time half yearly ajudge reasonable under their hands in writing the same to be paid within Twenty Days after demand thereof made the said Robert Steaney William Peacock and Richard Coates being three indifferent persons hereby appointed as well on the part and behalf of the said Leonard Hartley his heirs and Assignes as on the part and behalf of the said Oliver Kearsley etc. and in case of the death of the said Robert Steaney William Peacock and Richard Coates before the end of the said term hereby granted then and in such case the said Oliver Kearsley etc. shall and will from time to time and in like manner pay half yearly to the said Leonard Hartley his heirs and Assignes all such damages for spoil of ground as aforesaid as by three other indifferent persons (to be chosen and appointed by the said Leonard Hartley his heirs and Assignes) shall be ajudged reasonable the first half yearly payment for such damage to be made at the end of six Kalendar months next after the said Oliver Kearsley etc. shall begin to work or break ground in any part of the said demised premises AND the said Leonard Hartley for himself his heirs Executors and Administrators doth Covenant promise and Agree to with the said Oliver Kearsley etc. by these presents in manner following (that is to say) that it shall and may be lawfull to and for the said Oliver Kearsley etc. paying doing and performing all and every the Covenants promises and agreements in by these presents reserved and agreed on his and their parts to be payed observed done and performed from time to time during the said term of Twenty One Years by force and virtue of these presents peaceably and quietly to have hold use occupy possess and enjoy all and every of the

said Mine and Mines above granted and every part thereof without the lett suit hindrance of disturbance of the said Leonard Hartley his heirs and Assignes or any other person or persons lawfully claiming to claim by from or under him or them AND also it shall and may be lawfull to and for the said Oliver Kearsley etc. at any time or times within six Kalendar Months next after the end or other sooner determination of this present Grant to take carry carry away and enjoy to his and their own proper use or uses all and every the Coles, Lead Ore, Copper, Tinn and other Minerals which shall be then lying at the Milne or Smeltinghouses of or belonging to the said Mines hereby granted, the said eighth part of share thereof after the same shall be Smelted and Refined as aforesaid herein before referred to the said Leonard Hartley his heirs and Assignes and the Limestones only excepted AND also shall and will at the end or sooner determination of the present Grant permitt and suffer the said Oliver Kearsley etc. to remove and take away he or they having first paid or satisfied to the said Leonard Hartley his heirs and Assignes all such damage for spoil of ground as aforesaid or to be occassioned by leaving of any heaps of rubbish or earth upon the said premises or otherwise howsoever as by the said three persons shall be ajuded reasonable and not otherwise all such Milnes Engines and other implements and materials whatsoever then being upon the hereby demised premises without the lawfull lett suit and interruption or disturbance of the said Leonard Hartley his heirs or Assignes or any other persons lawfully claiming by from or under him or them PROVIDED always these presents are on this condition and it is hereby declared and agreed by and between the said parties for themselves their heirs Executors Administrators or Assignes that in case the said Oliver Kearsley etc. shall at any time give six Kalendar Months notice in writing to the said Leonard Hartley his heirs or Assignes of his or their desire or intention to quit or leave the said Mines or premises hereby granted and to deliver up the same his or their interest therein and thereof, or if the said Oliver Kearsley etc. shall neglect or refuse effectually to work the said Mines or to make trial for the discovery of some mine or mines of Cole, Lead Ore, Copper Tinn or other Minerals within some part or parts of the said hereby granted premises for the space of six Kalendar Months together at any time during the said term unless hindered by extremity of water or in dressing smelting refining and making fitt for markett the said ores and minerals or shall neglect or refuse to lay out and deliver unto the said Leonard Hartley his heirs or Assignes the said eighth part of share of the said Cole, Ores and Minerals hereby reserved as aforesaid from time to time when and as often as the same shall be divided and weighed during the said term or neglect or refuse to give notice unto the said Leonard Hartley his heirs or Assignes three days before every division or weighing of the said Ores and Minerals or shall take and carry away any of the said Cole, Ores or Minerals before such division and part laid out and notice given as aforesaid during the said term, or if the said Oliver Kearsley etc. do or shall at any time during the said term grant bargain sell assigne demise lett sett do away or depart with this present Lease And premises hereby granted or any part thereof to any person or persons whatsoever for all or any part of the said term hereby granted or at any time or times during the said term joyne or take in any partner or partners for the working managing or carrying out of the works of the said mines without the special lycence consent agreement of the said Leonard Hartley his heirs or Assignes in that behalf first had and obtained in writing then and in such case for all any or either of the causes aforesaid the present grant and every article clause matter and thing therein contained shall cease determine and be utterly void to all intents and purposes and then and in such case for any or either of the causes aforesaid it shall and may be lawfull to and for the said Leonard Hartley his heirs and Assignes into all and singular the premises hereby granted to re-enter and the same to lease

again retain and repossess and enjoy as in his and their former Estate any herein contained to the contrary in all and anywise notwithstanding PROVIDED also that it shall be may be lawfull for the said Leonard Hartley his heirs and Assignes at all times during the said term hereby granted to take and carry away from all and every pitts or bank topps of or belonging to the said mines all such limestones as shall from time to time be raised and gotten within forth be absolutely necessary for erecting milns courses engines or other works to be used in or about the winning working or carrying out the works of the said mines anything herein contained to the contrary thereof in anywise not withstanding IN WITNESS whereof the said parties to these presents have hereunto interchangeably set their hands and seals this day and year first above written.

LEONARD HARTLEY

OLIVER KEARSLEY

REVERSE

Signed : Witnesses : RICHARD COATES
 JAMES ALLAN

Add. be it remembered that it is agreed between the said parties before the sealing and delivery hereof by Leonard Hartley to accept and receive his said eighth part of share after the same shall be dressed and washed without being smelted until such time as the said Oliver Kearsley shall think necessary to erect a smelt mill.

APPENDIX B

CASE : D'ARCY AND PARTNERS v HARTLEY

The Lady D'Arcy, John Yorke Esq., John Hutton Esq., and the children of Mrs Jessop are seized of an estate at Middleton Tyas in the County of York, in which estate there is a copper mine or vein of copper oar which the proprietors have for some years past worked, and raised and got thereout several quantities of copper oar; and there are no other mines or works save this anywhere in that neighbourhood. The proprietors have received information several times of several quantities or parcells of copper oar being at different times stolen and conveyed away in the night time or otherwise secretly from the said mine, but were never able to discover or find out the persons who so stole and conveyed away the same, till about the 6th of July last, and on that day one Robert Grainger of Barton came before Sir Ralph Milbank Baronet (one of His Majesty's Justices of the Peace for the North Riding of the said County of York) and made an Information upon oath in the words following viz.

"The Information of Robert Grainger of Barton taken upon oath before me the 6th day of July 1742 who saith that he hath been employed by Mr Hartley of Middleton Tyas for some years past and saith that he has been frequently sent by the said Mr Hartley to purchase copper oar of Christ. Dinsdale of Middleton Tyas aforesaid, which copper oar the said Robert Grainger saith that Christ. Dinsdale got in a field near the limekilns which William Coats farms of Lady D'Arcy. And further informeth that the said Robert Grainger paid Christopher Dinsdale three pounds, twelve shillings for copper oar which he conveyed into a stable in Mr Hartley's Stone House Park, and some time afterwards Robert Grainger removed the said oar by Mr Hartley's order into his garden where he believes the said oar still remains covered under ground, and further saith not."

On the 6th day of July after taking the above Information the said Sir Ralph Milbank together with the Chief Constable went to the said Mr Hartley's house at Middleton Tyas aforesaid to search for the said oar in a particular place or corner of the said Mr Hartley's kitchin garden (which the said Grainger had described) found a pretty large quantity of copper oar bury'd and cancelled under ground which was then dug up. And in a particular place and corner of another garden or orchard of the said Mr Hartley's found another parcell or quantity of copper oar also bury'd and concealed there which was likewise dug up; and another parcell and quantity of copper oar was also found concealed in the said Mr Hartley's house in a little room over the passage near the kitchin door into which said room there was an entrance by a private trapdoor, over which trapdoor a Tubb was set when the said Sir Ralph Milbank and the Constable came to make the said search; the oar found in the 3 several places was together about a Tunn in quantity which was removed to the Constable's house who now has the same to produce. Afterwards the said Grainger made a further Information upon oath before the said Sir Ralph Milbank on the 13th of August 1742 as follows viz.

"The further Information of Robert Grainger of Barton taken before me upon oath this 13th day of August 1742, who saith that the contents and substance his former Information taken the 6th day of July last and which was read over to him this day is true save that the copper oar therein mentioned to have been purchased by this Informant of Christ. Dinsdale as therein is also mentioned and for which he paid the sums of £5/1s and of £5/12s as therein is set forth, was bought by him this Informant by the order of Mr Leonard Hartley of Middleton Tyas. For that the said Mr Hartley gave this Informant at two several times £1/1s and 20s and this Informant

laid out of his own pocket 20s more which this Informant never afterwards received from the said Hartley, who promised him this Informant that he should be a sharer with him the said Hartley on the sale and disposal of the said oar; saith that about 5 years ago when the report was that there was a copper vein discovered in a limestone quarry in a field farmed by William Coats of the Right Hble. Lady D'Arcy in the Township of Middleton Tyas aforesaid. He this Informant found in and about that quarry a piece of the said oar which he apprehending to be such carry'd to the said Mr Hartley his then master to let him see the same, who then told this Informant it was very good oar, and knowing that the same quarry was then wrought and the oar raised by one Christ. Dinsdale the said Mr Hartley ordered this Informant to apply directly to the said Dinsdale and know whether he would sell him this Informant all the oar he then raised which the said Dinsdale then agreed to; and having acquainted his said then Master Mr Hartley therewith, he gave this Informant two little sacks or pokes (which this Informant believes the said Mr Hartley had made himself for the purpose) and the key of a little out house in the Stone House Park with orders to carry and lodge the said oar there, which at different times and in the night when it was dark this Informant accordingly did and the quantity of the said oar so removed and lodged by him in the said house might to the best of his remembrance and belief amount to about six horse load. Saith that the said oar laid in the said house for 5 or 6 weeks during which time the said Mr Hartley along with this Informant went to see the same several times at some or one of which times the said Mr Hartley having perceived or apprehended that some parts of the said oar had been taken away out of an airhole in the said house, the said Mr Hartley himself stopp'd the same with which he cut and got for that purpose: saith that some little time after to prevent all or the remaining part of the said oar being taken away from the place aforesaid the said Mr Hartley gave this Informant orders to remove the same and for that purpose to take a horse and sledge, and carry and lodge the same or some parts thereof in the night time in a little partition under the henhouse in the back court adjoining to the said Mr Hartley's Dwelling house which this Informant accordingly did and the same was there locked up by a hang lock which he the said Mr Hartley gave and delivered to this Informant to hang thereon and that the key thereof was immediately after deliver'd by him to the said Mr Hartley. Saith that the said Mr Hartley had more oar (raised from the place aforesaid) carryed by William Coats Tenant of the said limestone quarry and Christopher Pattinson of Middleton Tyas aforesaid and by them by the Order of the said Mr Hartley lodged and put in the said Mr Hartley's summerhouse cellar. Saith that the said Mr Hartley (having some time after use or occasion for the said cellar) ordered and directed this Informant to remove the said oar thereout and hide and conceal the same in some convenient part or place of his the said Mr Hartley's gardens, that he removed the same accordingly and hid and concealed it therein, by covering the same in the manner and likeness of a hot bed. And saith that the said oar so lodged and concealed in the places aforesaid remained and continued there till the same was found on search made for that purpose. And saith that the agreement made by him with the said Dinsdale for the copper oar as above mentioned was very private and secret and that without the privity or knowledge of the said Coats the Tenant of the said quarry or the proprietors thereof and the same was so understood by the said Dinsdale this Informant and the said Mr Hartley;

MARGINAL NOTE

N.B. Hartley very well knew that the property of the mine was Lady D'Arcy's and that Dinsdale only was employed to raise limestone and had nothing to do with any copper oar that was found there

and saith that the better to colour the same and prevent the least discovery thereof the said Mr Hartley ordered and directed this Informant not to keep company or be seen with the said Dinsdale who being employed by the said Coats to raise limestone only and being suspected to have found in such working the said copper oar he the said Dinsdale as he raised the same in the day time conceal'd it amongst the stones or rubbish of the said quarry and the same lay so conceal'd till this Informant had an opportunity in the night and when no person could see to carry the same off with the manner of which as agreed to by Dinsdale and him this Informant he acquainted the said Mr Hartley. And saith that this Informant (at the time of agreeing with the said Dinsdale for the said Oar) had orders not to acquaint him that it was on the account or by the directions of the said Mr Hartley, notwithstanding which this Informant did acquaint the said Dinsdale; and that as an encouragement to this Informant to agree with the said Dinsdale for the said oar (this Informant apprehending the said Dinsdale had no right to dispose thereof) the said Mr Hartley told him this Informant that if there was a Lord of the Manor he (meaning the said Mr Hartley) was such. And that he this Informant need not trouble himself for that he would come to no harm, or expressed himself to that or the like purpose. And also further saith that Ann Carter the said Mr Hartley's housekeeper and several others of the said Mr Hartley's servants were privy to and knew of the said oar or some parts or parcell's thereof being lodged or concealed in the several places above mentioned and about the said Mr Hartley's house and gardens."

1st Question : Be pleased to consider Grainger's two Informations and the facts above stated and give your opinion 1st - Whether Dinsdale is guilty of felony in raising the copper oar and concealing it in the day time, till he had an opportunity of disposing of it, or conveying it away in the night time in the manner set forth in the above Information.

Answer : The copper ore was I conceive the property of the Owner of the Estate; unless any Lease had been made of the farm and mines then open or with power of opening mines etc. and I am of opinion if Dinsdale was employ'd by Coats or others to dig limestone only, or had power to sell limestone only, that it might be felony to take the oar which he dug up there and sell it unknown to the Proprietor, and I am rather inclined to look on it as a felony, because of the privacy with which it was transacted.

2nd Question : Whether an indictment will lye against Mr Hartley for buying the said copper oar as knowing it to be stolen either under the Statute of 1st Ann cap.9 or 5th Ann cap.31, or any other Law, and whether the indictment against him should be for felony or a misdemeanour only (Dinsdale being not yet convicted of felony) or in what other manner would you advise the owners of the said mine to proceed against Dinsdale and Hartley for they are determined to prosecute them, if under the circumstances of this case you are of opinion they can maintain it.

Answer : If Hartley knew it to be stolen and yet bought it, it is as I conceive the crime mentioned in several Statutes of receiving stolen good knowing 'em to be stolen, but yet taking all the circumstances together I cannot at present think it advisable to prosecute, the reasons of which are under the next question.

3rd Question : If Dinsdale or Hartley are prosecuted, how far can Grainger be admitted as a proper evidence against them or either of them ?

Answer : Grainger is the only witness, and 'tis clear he is an accomplice and tho' notwithstanding he may be admitted an evidence, yet Juries seldom or never find verdicts against Parties accused on the sole Testimony of an Accomplice without other strong circumstances of corroboration: now the circumstances of corroboration are the hiding the oar in secret places pursuant to his previous Information, but there is no proof of Hartley's knowing it to be brought there or ordering it to be brought or concealed so but Grainger, and there are two or three things in his Information not very consistent viz. his orders not to tell Dinsdale that it was by Hartley's orders (as supra page preced.) and other indicents pretty observable in the Informations then the distance of time and no sale ever made of any part! No quantity of great value taken in 5 years! the servants of the House knowing of it as well as Hartley! are all circumstances that weaken Grainger's account so that on the whole I cannot advise either a prosecution against Dinsdale or Hartley till after the rule moved for last term is at an end one way or the other.

RICHARD FLOYD

Chancery Lane February 1742

APPENDIX C

? Thus = R.H. 1?

RALPH HUTCHINSON'S ACCOUNTS

The Copper Mine at Middleton to the Adventurers thereinDr

		£	s	d
1741/2				
Feb 20	To Will Cape a Blacksmith at Middleton	-	12	9½
	To John Smith a Cowper at Gales	1	15	4
1742				
July 2	To Rob. Eliot a Carpenter at Fremington	1	2	6
Aug 18	To Mr James Duning a Merch. in Stockton	2	7	6
Novr 6	To Barth. Hardy for Sheldon Cradock Esq. for wood		9	1
	To Chris. Charge a Limeburner at Middleton	1	3	4
	To Henry Simpson a Carpenter at Middleton	1	15	1
	To John Pybus a Mason at Middleton	2	6	10
	To John Peacock of Middleton for Carriage	1	16	6
	To Edwd. Whitehouse a Blacksmith at Marsk	3	1	8
	To Mr John Brockel of Richmond for Wood	1	0	6
	To Will. Winn Note a Miner		9	6
	To Rich. Burrel of Richmond for Stoprice		10	6
	To Rob. Hutton for Tyles		6	"
	To Will Winn & Partn: for Getting T Hwt Qr lb			
			3	10
			3	0
	of Waste at 4£ per ton	14	3	"
To do.	for Getting 11 12 0 8			
	or Ore at 5£ per ton	58	"	"
To do.	for Sinking a Shaft 5⅓ Fath.			
	at 20s per Fath.	5	6	8
To do.	for Driving 3 Fath. at 20s			
	per Fath.	3	"	"
To do.	for Sinking a Shaft 4½ Fath.			
	at 5s per Fath.	1	2	6
To do.	for Crosscutting 1 Fath. at			
	5s per Fath.		5	"
To do.	for Driveing 3 Fath. at 5s			
	per Fath.		15	"
	To Cash to Lawyer Rudd &c.	3	13	6
	To James Hutchinson for Inspecting the Work	5	"	"
		<hr/>		
		£ 111	2	9½
By ¼ part of the Charge above paid by John Hutton Esq.		27	15	8½
By do.	paid by Lady D'Arcy	27	15	8½
By do.	paid by John Yorke Esq.	27	15	8½
By do.	to be paid by And. Wilkinson Esq.	27	15	8½
		<hr/>		
		111	2	9½

Errors Excepted by RALPH HUTCHINSON

The Coppermine at Middleton to the Adventurers therein Dr.

1744 :	£	s	d
To John Peacock for Carriage of Groove Timber &c. as by Bills	1	14	6
1 June To Sheldon Cradock Esq. for 49 doz of Timber at 20d.	4	1	8
To James Hutchinson for Tools and Stoprice	2	"	11
To George Carter for Sinking and Driveing as by Two Bills	22	13	"
To William Winn for Sinking and Driveing as by Bill	6	3	4
To Henry Simpson Carpenter		11	8
To Will Cape Blacksmith	2	11	7
To Will Wetherel for 80Q 2B Coal at 2/4	9	7	"
To Sundry Charges in Building the Miln and Furnaces	107	14	11½
T Hwt Q lb			
To Will Winn for geting 24 11 2 08 of Ore at £5 per ton	122	17	6
To Jona. Scott for 20 Fath. of Rope at 6d.		10	"
To Jos. Spence & Will Birbeck for 6Q of Coals		14	"
To One Years Salary to the Clerk	5	"	"
To John Smith for One Doz of Kibles		9	"
To Charles Alderson for a Lock and Staple for the Copperhouse Door		3	10
	<u>286</u>	<u>12</u>	<u>11½</u>

Decr. 27 1744 :

By ¼ part of the charge above to Lady Darcy	71	13	3
By ¼ part of do. to John York Esq	71	13	3
By ¼ part of do. to John Hutton Esq	71	13	3
By ¼ part of do. to And. Wilkinson Esq	71	13	3
	<u>286</u>	<u>13</u>	<u>"</u>

Errors Excepted by RALPH HUTCHINSON

The Coppermine at Middleton to the Adventurers therein Dr.

		£	s	d
1745				
Jan 19	To Thomas Wates for Leafing stones from Whashton as by rect.	1	1	"
:22	To Mr Richard Tanfield for 3 Hang Locks		4	"
Feb 18	To Thos Tate & Ralph Watkin for getting Sand at Easby		2	4
Mar 6	To John Smith for Carriage of 6 Load of Sand from Catterick		2	6
Apr 4	To Mr Edw. Eliot for 15c 3Q 26lb of Lead at 12f per Fother is	8	14	2
:22	To Ralph Hutchinson Rect. for 12 Load of Flagg & Carriage		18	"
May 26	To John Gill for Walling the Butments as by Rects;	1	14	7
	To Charles Alderson Receipt for an Iron Beam 67½ lbs wt. at 4½d	1	5	3½
	To Chris Deighton Rect. for Lead Weights 11½ lbs.		16	"
	To Richard Coats for One day leading Sand		3	"
	To Will Corner & Will Winn for 10 Scuttles		4	2
	To Mr John Foss for One Ch. of Lime		7	"
	To Edw. Whitehouse for several Iron Tools	5	7	2
	To Thomas Wilkinson for Carriage of 7 Load of Flaggs from Whashton		5	10
	To John Wade for 12 days Hewing Stones at 16d.		16	"
	To John Noton for 8 days Labour at 8d		5	4
	To Will Winn for 219 days Smelting at 18d	16	8	6
	To Jerem. Winn Smelter for 219 days Smelting at 18d	16	8	6
	To Will Sewel for 218 days do. at 16d.	8	10	8
	To Luke Morton for 190 do. at 12d	9	10	"
	To Will Liddel for 116 do. at 12d	5	16	"
	To Isaac Lumley for work done by himself & Men	10	6	8
	To John Peacock for 221Q 6B Coal and Leading Materials as by Rect.	31	6	6
	To Robert Nelson for 6 Furnace Bottoms at 3s6d.	1	1	"
	To Will Cape for Smithwork	3	7	7
	To Chris Tarran for Carpenter work & wood	1	"	"
	To Chris Palister & Thos Brown for leading Lime & Sand		12	"
	To John Pearson Recd for Toll at Gatherley Turnpike		12	7½
		127	6	5

Received the 24th July 1745: of John Hutton Esq Fifty Three Pounds Thirteen Shillings and Two pence halfpenny for his and Lady Darcy share of the Expense above by

RALPH HUTCHINSON

The Coppermine at Middleton to the Adventurers therein Dr.

		f	s	d
1745:				
Aug 30	To Isa. Lumley for a Stone Trough for the Miln as by Rect.	1	1	"
Sep 26	To Will Winn for Candles to the Miln in 1744 & 1745 as by Two Receipts	1	7	6
Oct 3	To Richd. Burrel for 1200 Stoprice & Carriage as by do.		6	"
Jan 22	To John Peacock for 85 Qr of Coals and Leading Materials	10	15	10½

1746:

Apr 9	To Thos Dennis for leading Two Loads of Sand from Catherick Bridge		3	"
Jun 21	To Jona. Sowler for 300 Bricks		3	"
July 5	To Thos. Urwin for getting Sand at Easby		1	8
26	To Thos. Stenny for 16 days Leading to the Miln	2	16	"
26	To William Cape for Smithwork	2	19	4
26	To Christ. Farran for Carpenterwork		17	11½
26	To Will Winn for sundry utensils		14	3
Aug 6	To Barth. Hardy for Grove Timber	2	6	"
July 5	To Will Coates for 148 Qr of Coals	18	14	1
5	To John Pearson for Toll at Gatherley Bar		4	3
5	To Jona. Scott for 12 Fath. of Rope		6	"
5	To Rob. Nelson for Gatherley Moor Stone	1	4	3
5	To John Farey for Cooper work		2	4
26	To Thos. Blackburn for 15 Doz of Groove Timber & Carriage	1	5	"
26	To Edw. Whitehouse for sundry Iron Tools &c.	5	13	8
15	To Postage of Letters		1	10½
Sept 5	To Two Years Salary to the Accompt for 1745 & 1746	10	0	"
July 5	To Will & Jer. Winn for Getting 28t 14h 1Q 27lb of Ore at 5f per ton	143	12	6
5	To Will & Jer. Winn for Smelting 304 days at 18d	22	16	"
5	To Will Sewel for Smelting 114 days at 16d	7	12	"
5	To Will Liddel Luke Morton & other Labourers for 284½ days at 12d	14	4	6
5	To George Binks Richd. Marriner and other Masons for 134 days at 18d	10	2	"
5	To Luke Morton for Assisting to Load the Refining Furnace 16 times		10	"
		260	0	0½

Sept 1746:

By Cash from Lady D'arcy for ¼ part of the Charge above
 By do. from John Yorke Esquire for do. 65 " "
 By do. from And. Wilkinson Esqr. for do. 65
 By do. from John Hutton Esqr. for do. 65

260 0 0

The Coppermine at Middleton to the Adventurers therein Dr.

1746.

Dec 13	To Thos. Robinson for 11 Bush. of Lime as by Rect.	1.	2	3½
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1747.

		T	Hw	Q	lb
May 4	To Will Winn for Getting of Ore at 5f	6	2	3	21
4	To Will Winn for Getting of Ore at 4f	19	14	0	21
4	To Will Cape for Smithwork				
4	To John Smith for Cooperwork				
4	To Chris Tarran for Carpenterwork				
4	To Will Winn for work &c.				
4	To John Farey for a Washers Piggins				
		2.	30	14	8
		3.	78	16	9
		4.	1	11	9
		5.	1	6	4
		6.	1	18	5¼
		7.	2	14	1
		8.	"	"	8
			117	5	1¼

By Cash from Lady Darcy for ¼ part of the Charge above
29 6 3

By do. from John Yorke Esq. for do.
29 6 3

By do. from And. Wilkinson Esq. for do.
29 6 3

By do. from John Hutton Esq. for do.
29 6 3

117 5 1¼

The 4th May 1747: Errors Excepted by

RALPH HUTCHINSON

6

The Coppermine at Middleton to the Adventurers therein Dr.

	f	s	d
To Edwd. Whitehouse Acct. for Smith work	3	9	11½
To William Cape Acct. for do.	4	19	8
To Jona. Scott Acct. for 3 Sto. & 13 lb of Rope at 6s.	1	3	7
To Henry Simpson for Carpenter Work		18	6
To Sheldon Cradock Esq. for 108 doz. of Wood 1500 Stoprods	11	"	6
To One Years Salary to the Accompt. due	5	"	"
To William Winn for Sinking and driving 108 Fathom at 20s.	108	"	"
To do. for Getting 1:16:3:19 of Ore at 4f.	7	7	8
To do. for Getting 7:14:1:14 of Ore at 4:10	34	14	8
To do. for Getting 8:17:0:17 of Ore at 4:15	43	1	6
To do. for Getting 1:7:3:16 of Ore at 4:0	5	11	6
To William Winns Bill of Incidentts		16	5
To John Farey for Cooper work		1	11½
To Will. Coates for Carriage		9	8
To Mr Stephenson for 10 Doz. of Wood at 18d.		18	"
To John Hutton Esq. for Pick Shafts &c.	1	9	8
	228	0	3

By Cash from Lady Darcy for $\frac{3}{4}$ part of the charge above

£57 0 1

By do. from John Yorke Esq. for do.

£57 0 1

By do. from And. Wilkinson Esq. for do.

£57 0 1

By do. from John Hutton Esq. for do.

£57 0 1

£228 0 4

Errors Excepted by

RALPH HUTCHINSON

We do approve of and agree to the Acct.

The
above Amounting to
wherein is no Balance

7

The Copper Mine at Middleton to the Adventurers therein from
 Mich. 1748 to Mich. 1749 Dr.

	f	s	d
Thomas Blackburne for 12 Doz. of Wood at 2s & 3 Doz. at 18d	1	8	6
Richard Buckton for Two Buntings		5	"
Richard Burrel for 1200 Stopprice		4	6
John Hutton Esq for 115 Doz. of Grove Timber at 2/-	11	10	"
do. for 3500 Stopprice at 3/6	<u>12</u>	3	12 2 3
William Sutton Esq for 117 Doz. of Grove Timber at 2/-	11	14	"
do for 3 Doz. Pick Shafts at 16d.		4	"
for 2 Doz. & 1/2 Shovel Steels at 5d.	12	6	
for 14 Large Kibles at 12 and 4 Less Kibles at 6d.	<u>16</u>		13 6 6
John Varey for Two Piggins &c.		2	4
George Bonner for a New Pump		18	"
Chris. Charge for 9 days leading Copper at 3/6	1	11	6
Henry Simpson for mending Landers Barrows &c.		6	2
Will Cape for Smith work to 18 Aug 1749	8	9	4
John Peacock for a Short payment in the 3d & 4th accot. in charging his card 6d a day short		5	6
Willm. Winn for Washing Ore in 1748	12	3	11
for Washing Ore in 1749	14	18	8
for Getting 6.13.0.8 of Ore at 4.15.0	31	12	" 1/2
for Sinking & Driveing 176 Fath 0 Yds 9 Inch at £1 per Fath.	176	2	6
for Working in the Old Quarry by himself & Clemminson	<u>3</u>	8	" 238 5 1 1/2
Jona. Scott for 4 Stone & 4 lb Rope at 5/6	1	3	7
Ra. Hutchinson for Three Years Salary due at Martinmas 1749	10		"
Chas. Alderson for Three Hang Locks		4	2
	<u>288</u>	12	5 1/2
By Cash from Lady Darcy for 1/4 part of the charge above ch	72	3	1 1/2
By Cash from John Yorke Esq for 1/4 part of the charge above	72	3	1 1/2
By Cash from And. Wilkinson for do.	72	3	1 1/2
By Cash from John Hutton Esq for do.	<u>72</u>	3	1 1/2
	288	12	6

Errors Excepted

RALPH HUTCHINSON

Ralph Hutchinson to the Adventurers at Middleton Copper Mine
to 1st Novr. 1750 Dr.

	£	s	d
To 16.7.3.2. of Copper Anno 1746 at 103f	1688	"	1
To 24.8.3.9. of Ore in 1746 at 28:10:0	695	19	8
To 30.0.0.0. of Ore in June 1750 at 28:10:0	855	"	"
To 1.16.0.0. of Waste Ore in June 1750 at 10:0:0	17	12	3
To Milage of the Ore above being 56 Tun at 18d	4	4	"
To 41.10.1.7. of Ore in Sept. 1750 at 28:10:0	1182	10	"
To Milage of do. at 18d	3	2	"
To Milage of 29.16.0.0. of Ore from Mr Paul at 18d	2	4	6
	<u>4448</u>	<u>12</u>	<u>6</u>

Cr.

By 14 Bills delivered to the Adventurers by Messrs Mathewman & Rotton Anno 1746	2430	"	"
By Cash paid the Adventurers in June & July 1750	700	"	"
Will Winn for Cutting 105 Fathom from Mich. 1749 to Mich. 1750 at 20s per Fath.	£105	0	0
for Getting 47.16.3.24 of Ore in 1750 at 4:15:0	<u>£227</u>	<u>5</u>	<u>6</u>
	332	5	6

John Hutton Esq.

for 131 Doz of Grove Timber at 2s.	13	2	"
for 7000 Stoprice at 3/6	1	4	6
for One Doz. large Kibles at 12d	12	"	"
for One Doz. little Kibles at 6d	6	"	"
for half a Doz. Piggins at 6d	3	"	"
for One Doz. Sho. Steels at 5d	5	"	"
for Two Doz. Pick Shafts at 16d	2	8	"
	15	15	2

Ra. Hutchinson for One Year Salary due

Martinmas 1750	5	"	"
for Sundry Incidents to do. as per Bill of particulars	<u>3</u>	<u>19</u>	<u>9</u>
	8	19	9

Will Cape for One Year Land Tax due Lady Day 1750

John Stockdale for One Year Land Tax due Ladu Day 1751

Will Coates for Carriage & Turnpike dues short claimed in 1748

Mr Tho. Cowling for a Sive

Chris Horner for 21 Threave of Straw at 8d

Will Corner for 9 Scuttles 3/9d; Three Lew Bottoms 1/6

Edw. Whitehouse for Smithwork to 13 Octo. 1750

Thos. Wilkinson for a Washing Tub

Will Cape for Smithwork from 18 Aug to 24 Sept 1749

Robert Hedley for Smithwork from 24 Sept 1749 to 29 Octr 1750

Will Winn & Two Labourers 5 days each taking Samples of Ore and also 1:6

By Cash paid the Adventurers in November 1750 as per 3 receipts

By Cash paid the Adventurers 6 Decem 1750 in full

profur

800 }
143 6 7

Ballance of Yr. Accot.

4448 12 6

Middleton Tyas Copper Mine 9th Acct. from Dec 1750 to
Novr 22 1751. Ralph Hutchinson Dr.

	f	s	d
To 49.12.2.3. of Ore deliv'd at Sundry Times to Mr Rotton at 28:10:0 per ton, 21 Hundred to ye Ton	1413	9	4
To Millage of do.	3	14	3
To Millage of 46.17.0.0. from Mr Paul	3	10	1 $\frac{1}{2}$
To Millage of 0.16.3.21. from Thos. Jackson		1	1 $\frac{1}{2}$
To Waste about the Buddles	10	10	0
	<u>1431</u>	4	10

Cr.

By Wm Winns Recpts for sinking &c 194 Fathom at 20s per Fath.	194	0	0
By Do. for getting 50.10.3.0. of Ore at 4:15 per Ton 21 Hund. to the Ton	240	0	10 $\frac{1}{2}$
By Thos Musgrave Rec for washing 1.11.0.2. of Ore got per Fathom	10	10	6
By Jos. Brown & Jos. Cleminson Rec. for boreing five weeks at 6s. per week each	3	0	0
By Geo Bywell's Rec. for Sieve &c to this day	0	18	6
By John Spence Rec for Air Trunks Landers &c	1	17	11
By Thos Wilkinson's Rec. for a New Washing Tub	0	15	0
By Edwd Whitehouse's Rec. for Smithwork to Sept 1751	6	8	2
By Robt. Hedley's Rec. for Smithwork to 15 Nov 1751	6	8	10
By Bryan Ayres Rec. for Land Tax for One yr to L. Day 1751	3	0	0
By Chris. Horner's Rec. for Straw &c as by Bill	1	9	9
J Hutton for 170 Doz of Timber at 2s	17	0	0
for 16500 Stoprods at 3.6	2	17	9
for 2 Doz Large Kibbles at 12d	1	4	0
for $\frac{1}{2}$ Doz Piggins at 6d.	0	3	0
	<u>21</u>	4	9

R. Hutchinson

for 127 Doz of Timber at 2s	12	14	0
for 60 Load of Flags at 16	4	0	0
for 100 yds of Buddle Boards at 4d	1	13	4
for 4 Rolls at 1s	0	4	0
for 2 Small Dormans for Copper House	0	3	0
for one yrs. Sallary due at Mart.	5	0	0
for Christ. Charge for Ale at weighing	1	18	3
	<u>25</u>	12	7

By Cash paid ye Adventurers in August 1751	600	00	00
By Cash paid ye Adventurers ye 22d Novr 1751 in full Ballance hereof	315	18	0 $\frac{1}{2}$
	<u>1431</u>	4	10

Errors Excepted by RALPH HUTCHINSON

£78.19.6 Each Share at this time.

(A Copy from Mr Hutchinson's Act)

Middleton Tyas 11th Accot. from 9th Novr 1752 to 9th Novr 1753
 Lady Darcy & Partners to Ralph Hutchinson Dr.

	f	s	d
Will Winn for Sinking & Driveing 272 Fath & One Yard at 20s per Fath	272	10	0
To do. for Getting 7.15.1.11 of Copper Ore at 4:15:0 per Tun	<u>36</u>	<u>17</u>	<u>10$\frac{1}{2}$</u>
			309 7 10 $\frac{1}{2}$
To John Hutton Esq for 104 Doz Groove Timber at 2s	10	8	"
for 4 Doz Pick Shafts at 16d	5	4	"
for 7000 Stoprods at 3/6	<u>1</u>	<u>4</u>	<u>6</u>
			11 17 10
Ra. Hutchinson for 94 Doz Groove Timber at 2s	9	8	"
for 4 Doz Shovel Shells at 5s	1	"	"
for 2 Water Tubbs at 20d	3	4	"
for One Year Salary Ended Martinmas 1753	5	"	"
for Ale to ye Weighers & Expences at Weighing & Paying	<u>6</u>	<u>"</u>	<u>"</u>
			15 17 4
Edw Whitehouse for Smithwork	5	13	4
Rob Hedley for Smithwork	6	10	8
Chris Horner for 26 Threave of Straw at 8d	17	4	"
John Spence for mending Landers &c.	2	4	"
Chris Charge for Leading Wood to the North Field	6	"	"
			<u>350 12 8$\frac{1}{2}$</u>

Cr.

By 7.8.1.11 of Ore 21 Hwt to ye Tunn Sold Mr Rotton at 28:10:0 per Tun	210	16	6
By One Year & a Half Rent of the Mill due at Martinmas 1753	15	"	"
By Cash from Lady Darcy & Partrs. in full Ballance of this Acct.	<u>124</u>	<u>16</u>	<u>2$\frac{1}{2}$</u>
			<u>350 12 8$\frac{1}{2}$</u>

One Fourth part whereof is 31:4:0

Errors Excepted by RA. HUTCHINSON

Middleton Tyas 12th Accot. from 9 Novr 1753 to 24th June 1754

Ra. Hutchinson to Lady Darcy & Partnrs Dr.

	f	s	d
To Stores and Utensils valued the 21st January 1754	31	10	0
May 9th To 3.12.3.0 of Copper Ore being $\frac{1}{4}$ part or the Duty of 14.9.0.0. of Ore weighed that day and sold for 28:10:0	102	16	0
June 20 To 1.19.2.0. of Ore being the Duty of 7.15.0.0. sold for 28:10:0	54	19	3 $\frac{1}{2}$
	189	5	3 $\frac{1}{2}$

Cr.

By Thos Parkin for One Year Land Tax Ended Lady Day 1753	2	0	0
By Thos Robinson's Rect. for Lime	0	2	6
By Jona. Scott's Bill for Ropes	1	10	7 $\frac{1}{2}$
By Expenses with Undertakers Miners &c	0	13	6
By Will Winn for Sinking & Driveing 8 Fath. since last Acct.	8	0	0
By Tyles & Leading them	0	2	8
By Ballance paid Lady Darcy & Partnrs as under	176	16	0
	189	5	3 $\frac{1}{2}$

Lady Darcys Share of the above Ball.	44	4	0	
John Yorke Esq. do.	44	4	0	176:16:0
John Hutton Esq. do.	44	4	0	
And Wilkinson Esq. do.	44	4	0	

Errors Excepted by RA. HUTCHINSON

13th Accot. of Middleton Tyas Copper Mine from 24th June 1754 to
 1st August 1755 by Ra Hutchinson
 Ralph Hutchinson to Lady Darcy & Partners Dr.

Days of Weighing	Whole Quantity Weighed				The Duty or $\frac{1}{4}$ Part				Rate per Tunn 21 Hwt			Sum due on each weighing											
	T	Hw	Q	lb	T	Hw	Q	lb	Hwt	ye	Tunn												
1754 Sept 6	4	11	"	"	1	2	3	"	28	10	"	32	4	8									
1755 Jan 2	11	6	"	"	2	17	1	"	28	10	"	80	8	2									
April 3	3	5	"	15	17	"	3 $\frac{1}{2}$		28	10	"	23	2	"									
14	5	11	1	13	1	8	"	10	39	"	"	54	"	6									
14	2	17	2	"	14	3	14		28	6	6	20	1	3									
17	2	8	"	"	12	2	"		5	13	6	3	7	6									
17		18	"	"	4	2	"		4	"	"	17	"										
17	1	"	1	"	5	1	7		42	18	9	10	17	"									
17	"	13	"	"	3	1	"		27	3	9	4	4	"									
17	1	10	2	"	7	3	14		8	6	6	3	2	6									
May 9	2	4	"	"	11	2	"		32	1	"	17	11	"									
9	4	"	"	"	1	"	"	"	42	3	9	42	3	9									
9	1	"	"	"	5	1	"		26	11	6	6	12	10									
27	3	14	"	"	19	1	"		27	15	"	25	8	9									
27		12	3	"	3	"	21		39	15	"	6	"	8									
27	1	17	"	"	9	2	"		14	14	"	6	13	"									
June 21	3	3	"	"	16	2	"		10	16	"	8	9	8									
21		9	3	"	2	1	21		34	10	"	4	"	"									
21		15	1	14	3	3	10 $\frac{1}{2}$		43	17	6	8	"	6									
July 28	8	10	2	"	2	2	2	14	8	15	"	18	11	9									
28	2	"	"	"	10	2	"		6	17	6	3	8	9									
												61	19	"	14	15	10	0	3	as above is	379	5	3

To One Year Rent of the Copper Mill Ended Martinmas 1754 10 " "
£389 . 5 . 3

Cr.

By One Year Salary to the Accompt due Martinmas 1754	5
By Expenses with Merchts & Labourers on Eleven Sundry Weighings	1 7 6
By Cash to Lady Darcy	95 14 5 $\frac{1}{4}$
By do to John Yorke Esq.	95 14 5 $\frac{1}{4}$
By do to John Hutton Esq.	95 14 5 $\frac{1}{4}$
By do to And Wilkinson Esq.	95 14 5 $\frac{1}{4}$
	<u>£389 . 5 . 3</u>

Errors Excepted by RA. HUTCHINSON

14th Account at Middleton Tyas from 1st Aug 1755 to 1 May 1757
 Ralph Hutchinson to Lady D'Arcy & Parnters Dr.

When Weighed	Tot. Quantity weighed				Duty or $\frac{1}{4}$ Part				Sold for by Tun			Sum due		
	T	Hw	Q	lb	T	Hw	Q	lb						
September 22 1755	"	16	"	14		4	"	$3\frac{1}{2}$	41	"	"	7	17	$4\frac{3}{4}$
		4	3	7		1	"	22	25	16	3	1	9	$6\frac{3}{4}$
		12	"	"		3	"	"	13	5	"	1	17	$10\frac{1}{4}$
		5	2	"	"	1	5	3	"	5	15	"	7	$5\frac{3}{4}$
January 20th 1756	1	14	"	"		8	3	"	31	17	6	13	5	$7\frac{1}{2}$
	1	12	2	"		8	1	14	33	"	"	13	3	$2\frac{1}{2}$
February 3 1757	4	12	"	"	1	3	"	"	33	19	11	38	17	$"\frac{1}{2}$
	1	13	"	"		8	2	"	29	11	1	11	19	3
	6	"	"	"	1	10	2	"	14	10	5	21	15	$7\frac{1}{2}$
	1	13	2	"		8	2	14	10	11	10	4	7	"
April 11 1757		20	2	22		5	"	$19\frac{1}{2}$	35	3	$11\frac{1}{2}$	8	13	$5\frac{1}{2}$
	1	19	"	"		10	"	"	23	6	$5\frac{1}{2}$	11	2	$1\frac{1}{2}$

To 2 Years Rent of the Copper Mill due at Martinmas 1756 20 " " "

Dr 161 14 : $7\frac{1}{2}$

Cr.

By 2 Years Salary to the Accompt. Ended Martinmas 1756 10 " "

By Sundry Expenses 10th March & Labourers on Weighing Day &c. 10 "

By Cash paid Lady D'Arcy for $\frac{1}{4}$ part of the Proffit 37 16 $1\frac{3}{4}$

By do to John Yorke Esq. 37 16 $1\frac{3}{4}$

By do to John Hutton Esq. 37 16 $1\frac{3}{4}$

By do to And Wilkinson Esq. 37 16 $1\frac{3}{4}$

Cr 161 14 : $7\frac{1}{2}$

Errors Excepted by RA. HUTCHINSON

15 Account at Middleton Tyas from 1st May 1757 to 1st Aug 1758
 Ralph Hutchinson to Lady Darcy & Partners Dr.

When Weighed	Tot. Quantity weighed			Duty or $\frac{1}{4}$ Part			Sold for by Tunn			Sum due			
	T	Hw	Q lb	T	Hw	Q lb	T	Hw	Q lb	T	Hw	Q lb	
July 8th 1757		19	2	"	4	3	14	10	13	11 $\frac{1}{2}$	2	9	8
	1	12	"	"	8	1	"	5	2	$\frac{1}{2}$	2	"	1
	1	8	"	21	7	1	5 $\frac{1}{4}$	13	"	$\frac{1}{2}$	4	10	4
Sep 1st 3d	1	"	3	15	5	1	24 $\frac{3}{4}$	32	16	5 $\frac{1}{2}$	8	11	"
		1	"	"		1	"	26	15	6		6	4 $\frac{1}{2}$
December 31st		19	1	6	4	3	8 $\frac{1}{2}$	30	7	4	6	19	6 $\frac{1}{2}$
		19	"	9	4	3	2	6	17	2	1	11	2 $\frac{1}{4}$
To 1 Year and three quarters Rent of the Copper Mill ended at Lamas 1758											17	10	"
May 12th 1758		17	1	9	4	1	9 $\frac{1}{4}$	41	5	"	8	10	1 $\frac{1}{2}$
May 31st 1758	1	9	"	2	7	2	0 $\frac{1}{2}$	12	7	6	4	8	4 $\frac{3}{4}$
										Dr.	56	16	8 $\frac{1}{4}$

Cr.													
By One Year and three quarters Salary to the Accountant Ended Lam. 1758											8	15	"
By Sundry Expences with Merchants & Labourers on weighing etc.												5	"
By Cash paid Lady Darcy											11	19	2
By do to the Honble. Mrs Yorke											11	19	2
By do to And Wilkinson Esq.											11	19	2
By do to John Hutton Esq.											11	19	2
										Cr.	56	16	8

Errors Excepted by RALPH HUTCHINSON

16th Account Currnt. for Middleton Tyas Copper Mines from 1st Aug 1758 to 1st May 1759
 Ralph Hutchinson Dr.
 The Honble. Mrs Yorke & Co..... Cr.

1759

March 17	To 0.16.3.0 of Copper Ore		By 9 Months Salary to the Account. Mayday	3 15 0
	at 20:12:6 per Tun,		1759	
	21 Hwt to Tun	16 9 0 $\frac{1}{2}$		

July 21	To 0.2.2.1 $\frac{1}{4}$ of do.	3 10 3 $\frac{1}{4}$	By Cash Paid the Hon. Mrs Yorke	26 " 5 $\frac{1}{2}$
	at 29:6; $\frac{3}{4}$		do	26 " 5 $\frac{1}{2}$

do.	To 0.11.1.0 of do.	3 7 0 $\frac{1}{2}$	By do	26 " 5 $\frac{1}{2}$
	at 6:5:2		to John Hutton Esq	

To 9 Months Rent of the
 Copper Mill Ended
 Mayday 1759 : 7 10 "

To 9 Months Rent of Will
 Wains Farm at do. : 51 " "

81 16 4 $\frac{1}{4}$

81 16 4 $\frac{1}{4}$

Errors Excepted by RALPH HUTCHINSON

17th Account Currant for Middleton Tyas Copper Mine from 1st May 1759 to 1st January 1761

Ralph Hutchinson Dr. The Honble. Mrs Yorke & Co. Cr.

1759					
Nov 28	To 0.11.2.0 of Copper Ore at				
	£12:6:8 per Turn 21 Hwt	6	15	0½	
					By Expenses with Merchants & Labourers on Weighing Days
					7 6
1760					
Mar 31	To 0.13.3.12½				
	do. £15:3:4 per Turn	10	0	2½	
	do. To 0.8.2.21				By One Year and a Half Salary to the Accomptant due at Martinmas 1760
	do. £12:0:0 per Turn	4	19	3½	7 10 "
					By Mr Tarrans Bill for Building a Stable upon the Farm
					38 " "
Apr 26	To 0.4.2.4½	4	16	6	By Cash paid The Honble Mrs Yorke
	do. £22:6:8 per Turn				39 4 10½
	do. To 0.2.3.1¾				By do. to And Wilkinson Esq
	do. £5:13:4 per Turn		14	11	39 4 10½
July 14	To 0.13.1.10½	12	18	4¾	By do. to John Hutton Esq
	do. £20:6:8 per Turn				39 4 10
	do. To 0.1.0.15¾		3	12	163 12 1
	do. £20:14:7 per Turn				
Nov 20	To 0.1.0.15¾	1	2	6	
	do. £20:14:7 per Turn				
	do. To 0.1.2.5¼				
	do. £21:19:4 per Turn	1	12	4	
	To One Year and a half Rent of the Copper Mill Ended at Martinmas 1760	15	"	"	
	To One Year and a half Rent of William Winns Farm at Martinmas 1760	102	"	"	
		£163	12	1	

The 14th January 1761 I do approve of and agree to this Account whereon is no Ballance

Errors Excepted by RA. HUTCHINSON

18th Accot. Current for Middleton Tyas from 1st January 1761 to
22d Novem 1761.

Ralph Hutchinson Dr.

To One Year Rent of the Copper Mill due at
Martinmas 1761. 10 0 0

To One Year Rent of the Farm held by William Winn
due do. 68 0 0

78 0 0

The Honble Mrs Yorke & Co..... Cr.

By Cash paid the Honble Mrs Yorke 26 " "

By Cash paid And. Wilkinson Esq 26 " "

By Cash paid John Hutton Esq 26 " "

78 0 0

Errors Excepted by

RA. HUTCHINSON

20th Account of Middleton Tyas Copper Mine & Farm from 22 Novr 1762 to
do. 1763 by Ra. Hutchinson

Ra. Hutchinson To the Honble Mrs Yorke & Co.....Dr.

	f	s	d
To One Year Rent of the Copper Mill due at Martinmas last 1763	10	0	0
To One Year Rent of the Farm Lett to Will Winn due do.	68	"	"
To 6.5.2.0 of Copper Ore sold to John Williams at 42:6:4 per Tunn 21 Hwt to the Tunn 264 19 9 $\frac{1}{3}$ 1s 88	6	6	"
To 3.4.3.14 of do. sold to do. 23:17:9 do.	76	19	1 $\frac{1}{3}$ 1s 25 13 "
Dr.	<u>191</u>	<u>19</u>	<u>6</u>

Contra Cr.

By Will Winn & Partrs claim in Beating down Pattinsons Ore Dressing it, Leading it to and from the Buddles and getting it assayed by Williams. See last Accot.	19	6	"
By Expences in Weighing the above ore by Mr Rotttons Agents &c.	5	0	"
By One Years Salary to the Accompt. He having claimed none the Two preceding years	5	"	"
By Cash to the Honble Mrs Yorke for $\frac{1}{3}$ part of the Proffitts above	61	18	4
By do. to And Wilkinson Esq for do.	61	18	4
By do. to John Hutton Esq for do.	<u>61</u>	<u>18</u>	<u>4</u>
	191	19	6

The 21st Account Curr. for Middleton Tyas Copper Mine & Farm of the Honble. Ann Yorke & Pirtners from Mart. 1763 to Mart. 1764.

Ralph Hutchinson				Dr.
		f	s	d
To One Year Rent of the Copper Mill Ended at Martinmas 1764.		10	0	0
To One Year and a half rent of William Winn Farm Ended at Mayday 1765.		102	0	0
To 4.10.2.0 of Ore sold to Roe & Co 21 Hwt to the Tunn at 44:0:0 per Tunn is	198	0	0	
To 3.8.2.9 of do. sold to do. at 13:6:10 is	43	9	6	
To 1.9.2.0. of do. sold to do. at 22:13:1 is	32	18	0	
The Duty or Third part	276	7	6	is 92 2 6
				Dr. 204 2 6

Contra Cr.

By One Year Salary to the Accompt. Ended at Martinmas 1764.	5	0	0	
By the Miners expences in Assaying Weighing & Selling the Ore 2:17:0 1/3 whereof is	19	0		
By Cash to the Honble. Ann Yorke for her third part of the Proffits above	66	1	2	
By do. to John Hutton Esq	66	1	2	
By do. to And Wilkinson Esq.	66	1	2	
				Cr. 204 2 6

Errors Excepted RA. HUTCHINSON

22d Accot. for Middleton Tyas Copper Mine belonging The Honble. Ann Yorke & viz. for 8 Tunn of Ore delivered in December last 1763 to Messrs Roe & Co. of Macklesfield in Cheshire by Ralph Hutchinson.

Ralph Hutchinson Dr.

£ s d

To the Third Part of £7:16:3 which Mr Roe detained out of the Ore in last Account : 2 : 12 : 1

To 8 Tunn of Ore delivered to Mr Roe in Decembr. last at £31:1:6 per Tunn is 248:12:0 1/3 whereof : 82 : 17 : 4

Dr. 85 : 9 : 5

Contra. Cr.

By One Third Part of the Expences to the Assayer Weighers & Postage 0 18 0

By Cash to ye Hon. Ann Yorke for 1/3 of the Proffitts above : 28 : 3 10

By do. to And. Wilkinson Esq. : 28 : 3 10

By do. to John Hutton Esq. : 28 : 3 10

Cr. 85 : 9 : 6

Errors Excepted RA. HUTCHINSON

23d Account for Middleton Tyas Copper Mine belonging to the Hon. Ann Yorke and Partners from Martinmas 1765 to the First Day of August 1766 by Ra. Hutchinson Dr.

	f	s	d
To One Year Rent of the Copper Mill from Mr John Rotton Ended at Martinmas 1765	10	0	0
To One Year Rent of the Farm held by William Winn due at Mayday 1766	68	0	0
To 6.4.1.0 of Ore sold to Mr Roe & Co 21 Hwt to Tunn at 35:3:9 per Tunn 218:4:10 the Duty or Third Part	72	14	11
To Three Tunn of do. sold to do. at 20:2:0 per Tunn is 60:6:0 the Duty or Third Part is	20	2	0
	<u>170</u>	<u>16</u>	<u>11</u>

Per Contra Cr.

By One Year and a half Salary to Ra. Hutchinson	7	10	0
By expences in Assaying Weighing & Selling the Ore above 2:15:7½ 1/3 whereof is	0	18	6½
By Cash to the Hon. Ann Yorke for 1/3 of the above Proffitts	54	2	9½
By do. to John Hutton Esq.	54	2	9½
By do. to And. Wilkinson Esq.	54	2	9½
	<u>170</u>	<u>16</u>	<u>11</u>

Errors Excepted by RA. HUTCHINSON

24th Accot. for Middleton Tyas Rent and Copper Mine Belonging the Honble. Ann Yorke & Prs. from Mayday 1766 to do. 1767.

Ralph Hutchinson Dr.

	£	s	d
To One Year and a half Rent of the Copper Mill Ended Mayday 1767.	10	"	"
To One Year Rent of the Farm held by William Winn due at Mayday 1767.	68	"	"
To 12.5.1.19 of Ore sold Mr Chas. Roe & Co. 21 Hwt to the Tunn at 34:19:9 is 428:16:6 $\frac{1}{4}$ $\frac{1}{4}$ of which is	107	4	1 $\frac{1}{2}$
To 1.17.0.0 of Ore sold to Mr Chas. Roe & Co. 21 Hwt to the Tunn at 18:18:8 is 34:5:2 $\frac{1}{4}$ of which is	8	11	3 $\frac{1}{2}$
	<hr/>		
	£193	15	5

Cr.

By One Year Salary to the Accompt. due at Mayday 1767.	5	0	0
By Expences in Assaying Weighing and Selling the Ores with Postage &c.	15	5	
By Cash to the Honble. Ann Yorke for 1/3 of the Proffitts above	62	13	4
By Cash to And. Wilkinson Esq. for do.	62	13	4
By Cash to John Hutton Esq. for do.	62	13	4
	<hr/>		
	£193	15	5

APPENDIX D - AGREEMENTS FOR SALE OF COPPER

1. Whereas John Yorke of Richmond Andrew Wilkinson of Boroughbridge and John Hutton of Marske Esquires for and in consideration of the Sum of One Hundred and Three pounds to be paid as hereafter is mentioned for every Tunn of Copper now in their custody hath Bargained and sold to John Rotton of Duffield near Derby and Joshua Mathewman of Sheffield all the Copper now laying and being in the Copper Miln at Middleton Tyas in consideration whereof

We John Rotton of Duffield near Derby and Joshua Mathewman of Sheffield in the County of York do hereby Joyntly and severally promise to pay to John Yorke of Richmond Andrew Wilkinson of Boroughbridge and John Hutton of Marsk all in the County of York Esquires or their order The Full and just sum of One Hundred and Three pounds of lawful Money of Great Britain for every Tunn of Copper now laying at Middleton Tyas and we do hereby promise to pay for the whole within three Months from the date hereof and to pay for every part or parcel thereof before we take it from the Premises as witness our Hands this Fifteenth day of October 1746.

JOHN ROTTON
JOSH. MATTHEWMAN

Witness

RALPH HUTCHINSON

2. Articles of agreement had made concluded and agreed upon by and between John Yorke of Richmond Andrew Wilkinson of Boroughbridge and John Hutton of Marske all in the County of York Esquires of the one part and John Rotton Agent to John Gilbert Cooper of Locke near Derby Esquire of the Other part.

Whereas the above named John Yorke Andrew Wilkinson and John Hutton for and in consideration of the sum of Twenty Eight Pounds Ten Shillings to be paid as is here undermentioned for every Tunn of Copper Ore which shall be got by them at Middleton Tyas near Richmond in the County of York and delivered to the Order of the said Gilbert Cooper hath bargained and sold and by these presents doth bargain and sell to the said John Rotton for the use of the said Gilbert Cooper One Hundred Tunn of Copper Ore provided their Mine at Middleton Tyas will yield or produce so much to be delivered in such quantitys as they can conveniently get and as often as the said John Gilbert shall require it and first send cash for it and the said John Yorke Andrew Wilkinson and John Hutton doth covenant promise and agree that the said John Gilbert Cooper shall have the use of the Copper Miln at Middleton Tyas to smelt or Runn all such quantitys of Ore as they shall deliver him he paying One Shilling and Six pence a Tunn for all he shall smelt and that the said John Gilbert Cooper shall have the Tools belonging the Miln and the Coals and other materials now lying there paying the full price they cost or such a sum as persons skilled in such matters shall think reasonable.

In consideration of which agreement the said John Rotton by the power and authority given him by the said John Gilbert Cooper doth for himself as well as for the said John Gilbert Cooper hereby covenant promise and agree to pay to the above named John Yorke Andrew Wilkinson and John Hutton or to their Order the Sum of Twenty Eight pounds Ten Shillings for every Tunn of Copper Ore which shall be delivered them by the said Parties before they carry or remove the same away for and untill One Hundred Tunn be delivered if the Mine will produce it and that he will pay the Sum of One

Shilling and Sixpence for every Tunn of Copper Ore he shall runn in the said Miln and also such Sum or Sums as the Tools Coals or other Materials have cost or shall be deemed worth as above And it is also hereby agreed that the said John Gilbert Cooper shall pay for the said Ore and take it into his own Custody so often as Thirty Tunn is made ready or on failure therein the said John Yorke Andrew Wilkinson and John Hutton shall have liberty to Smelt the same in the said Miln or to sell it as often as they shall think fit, and the said John Yorke Andrew Wilkinson and John Hutton do hereby agree that they will deliver the said Ore washed in such manner as that they have now got and laying in the Copper House and in case of any difference or dispute therein to be determined by Two persons viz. one named by each party, and if they do not agree by persons indifferently chose who are skilled in such matters and the said John Rotton on behalf of the said John Gilbert Cooper and himself doth further promise and agree to keep the Miln Furnaces and other things he shall make use of in good and sufficient repair so soon as he shall have Smelted the said One Hundred Tunn or Sooner if the Mine will not produce that quantity without committing or suffering to be done any manner of waste upon the Premises And the said John Yorke Andrew Wilkinson and John Hutton do agree to allow Twenty One Hundred Weight of Ore to each Tunn In Witness whereof the Parties above named have to these presents interchangeably Sett their Hands this Fifteenth day of October 1746.

JOHN ROTTON
 J YORKE
 A WILKINSON
 JOHN HUTTON

Witness

RALPH HUTCHINSON

APPENDIX E - INDEX TO WILLIAM BROWN LETTERBOOK Vol.I.

63	1752		186	9 Dec	HB
	2 July	BH	188	16 "	HB
64	4 July	HB	189	20 "	BH
69	11 July	BS	190	21 Jan	BH 1755
70	27	BH	191/3	28 "	HB
71	28	HB	194/6	16 Feb	HB
73	4 Aug	BH	196	22 Mar	BH
74	10	HB	197	31 "	HB
92	No date	HB	198	20 May	HB
94	15 Sept	BH	199	9 July	HB
95	1 Oct	HB	200	12 "	BH
96	1 "	HB	201	28 Aug	BH
97	15 "	BH	202	30 "	HB
99	20 "	HB	203	Wed. night	HB
101	31 "	BH	204	Fri. Night	HB
103	21 Nov	HB			
105	18 "	BH			
106	15 Dec	BH			
107	12 "	HB			
120	23 "	HB			
121	30 Jan	BH 1753			
122	11 Feb	HB			
141	4 Mar	HB			
145	7 Apr	HB	BH indicates	Brown and Hartley	
147	28 May	HB	HB indicates	Hartley and Brown	
149	3 June	HB			
151	16 "	BH			
152	29 "	BH			
153	14 July	HB	BS indicates	Brown and Spedding	
154	5 Aug	BH			
155	6 "	HB			
156	30 Oct	BH			
157/8	26 Dec	HB			
159	10 May	BH 1754			
160	26 "	HB			
162/5	25 June	HB			
166	No date	HB			
168	12 Aug	BH			
169	2 Sept	HB			
170/1	11 "	HB			
172	15 "	HB			
173/4	25 "	BH			
175/7	4 Oct	HB			
178	17 "	HB			
179	28 "	BH			
180	22 Nov	HB			
181	27 Oct	BH			
182	30 Nov	BH			
184/5	2 Dec	HB			

APPENDIX F - COPPERMINES OF MIDDLETON TYAS IN YORKSHIRE (1765)

Gabriel Jars ; Voyages Metallurgiques (Vol.III) Pages 72-75

(freely translated)

The mines were discovered about thrity years ago, while quarrying for limestone. Subsequent trials have been successful for several miles round about. The land where the mines have been sunk belongs to five different owners, who let it out to contractors or companies, whom they charge a royalty (or regalian right). The conditions of lease vary from place to place; for instance the Derbyshire Company made a fourteen year agreement with the Vicar, under which they pay him a sixth of the washed ore mined in their lease, over and above the £500 premium.

There are no mountains around Middleton Tyas, only small hills consisting of almost horizontal beds of limestone, the upper layers heavily fossilized and the lower cut by irregular veins of spar. It is in these beds, at different depths, that 'kidneys' of ore are found in cavities of varying sizes, filled with iron-stained sand. From them are obtained mountain green ore, white ore, vitreous ore, pigeon-throat ore mixed with soft green ore, and occasionally yellow ore, but not often.

The custom is for the ore to be won by working partnerships, with whom the companies agree on a wage, fitting them out with all necessary tools, giving them permission to prospect and dig at will in their stint. Because of the occurrence of the ore the workings are very irregular, all one sees are little pits; 3'6" square, with galleries opening off to right and left. As soon as they strike water they stop work until there is a drought. Indeed they are more like fox-earths than mines, but one cannot blame the miners who must avoid all unnecessary expense, and who have to work hard to win even a small quantity of ore. For although ore can usually be found almost anywhere the quantity of it is hardly adequate to pay for the cost of mining. Although there used to be considerable profits made, production has dwindled. There were a steam engine and a moulding machine, but these have been destroyed.

With the exception of nodules of pure copper all the other ore is crushed, washed and riddled in the same manner as lead ore, a most unsuitable method for such a rich and easily smelted material, since it results in the loss of the greater part of the green ore, which is very light.

The smelting furnace is of the reverberatory type like that illustrated in Plate 42 of Schluter's book. It has only one door on the side opposite to the hearth, that is to say under the chimney, and a tapping hole practically in the middle, separate from the stoke hole where the coal is put in. The furnace is built of fire-resistant sandstone and its hearth of the same material, the joints sealed with clay. It is built on a mass of masonry, not a vault, and although this takes longer to heat up it retains its heat longer. Its floor needs to be repaired only once in two months, and replaced only every six months.

When the furnace has been stoked for several hours it is charged through the door under the chimney with about 4 or 5 hundredweights of a mixture of the various kinds of ore, the matte from the previous tapping, crushed coal and slag from the previous smelting, all mixed well together. This mixture is stirred from time to time, and after four hours the slag floating on the surface of the 'bath' is removed with a long iron rabble. So that this slag can be easily taken away it is run into rectangular iron moulds, mounted on little wheels. The furnace is recharged with a similar mixture and this is repeated every four hours for twelve hours, after which time the slag is skimmed off again, and the furnace is then tapped. The

melt flows into two great ingot-moulds of sand, which are connected, but as the copper is heavier it stays in the first, the matte and slag flowing over into the second. The tapping hole is then blocked with a lump of wet sand. The product of a single tapping is about one hundredweight of copper and the same of rich matte. In twenty-four hours some 26 to 30 hundredweights of coal are burned at a cost of some 15-16 shillings.

The slag is crushed and washed to recover any granules of copper which remain.

Since the ore has a low sulphur content, particularly the mountain-green, which is a kind of copper carbonate (literally copper-limestone) and the copper only needs 'phlogistines' to revive it, it is not surprising that pure metal is obtained from the first melt.

The copper is taken to Derbyshire to refine, and the waste is reckoned to be about 10%.

APPENDIX G - PRODUCTION FIGURES

Production of the Merrybent Mines
(from Hunt's Mineral Statistics)

	Copper Ore	Refined Copper	Value	Lead Ore	Lead Metal	Silver
1863	463 0 0	46 6 0				
1864	76 0 0	7 5 0	£153	150 0 0	107 0 0	
1865	80 0 0	6 0 0	£566/2/-	345 13 0	241 10 0	
1866	Nil			205 0 0	150 0 0	750 oz.
1867	Nil			178 0 0	134 18 0	
1868	Nil			Nil		
1869	Nil			135 0 0	103 0 0	
1870	80 13 0	28 10 1		Nil		
1871	Nil			Nil		
1872	137 0 0	8 4 0	£1680/11/1	104 0 0	78 0 0	
1873	72 6 0	4 6 0		131 10 0	97 16 0	
1874	128 10 0	35 6 0	£2608/11/-	9 0 0	6 15 0	

Production of Billy Banks Mine
(from List of Mines and Quarries)

	Copper Ore	Percentage	Refined Copper	Value	Men Underground	Men Above
1906	341	7	25	£702	15	1
1907	379	5	20	£778	12	1
1908	106	2.8	3	£114	8	1
1909	Nil					
1910	76	6.54	5	£216	12	1
1911	270	5	14	£700	14	1
1912	92	3.8	5	£190	6	Nil

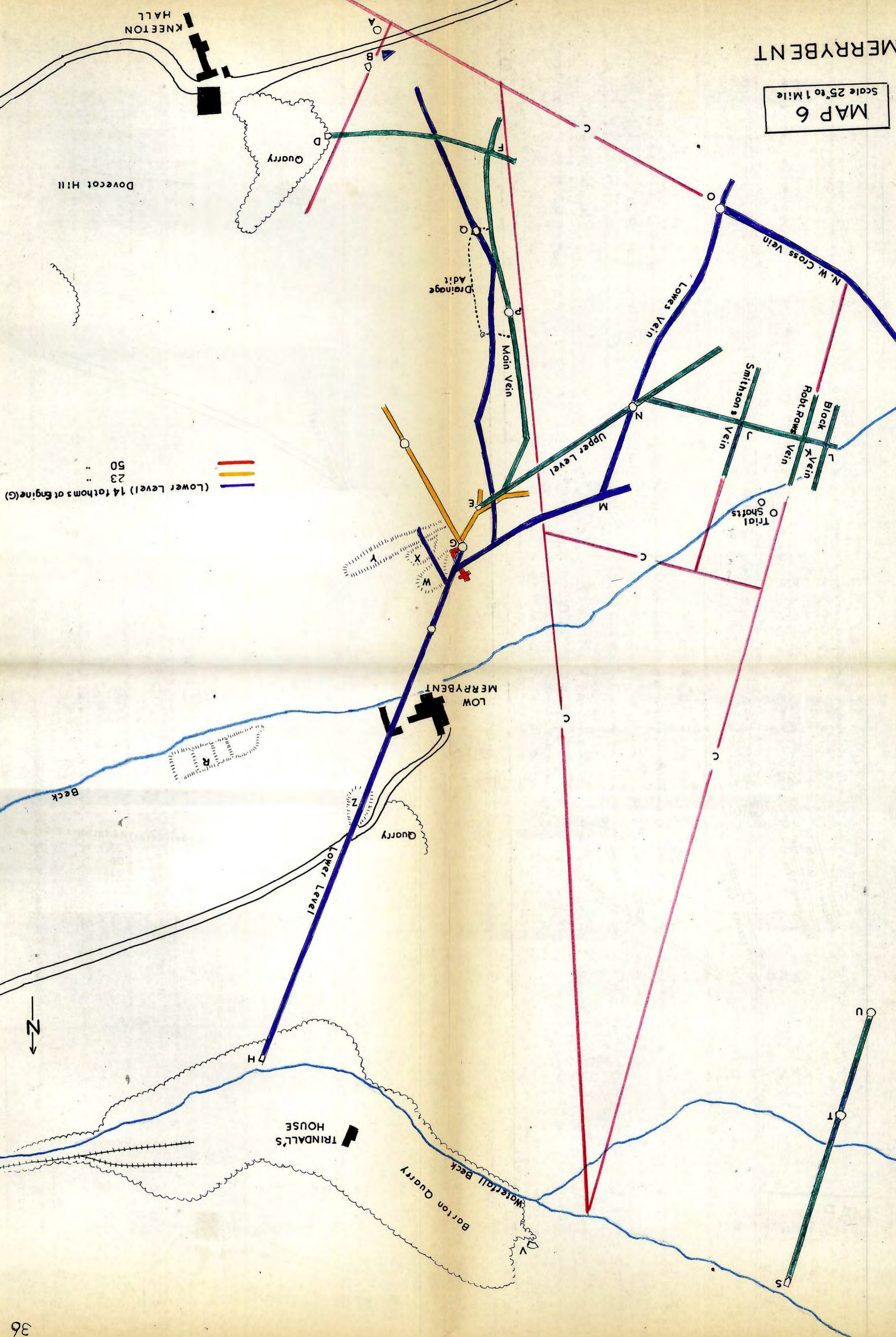
APPENDIX H - OWNERSHIP OF THE MERRYBENT & MIDDLETON TYAS MINING & SMELTING
COMPANY LIMITED

5 September 1866 Summary of Shares
2500 A 3903 B shares
(Paid up) (£3 Called)

	A	B
R H Allan, Blackwell, Gent.		200
C Alcock, Darlington, Gent.	100	
John Bell, Bedale, Draper	150	
James Bell, Grinton, Grocer	50	
Rob. Bishoprick, Richmond, Gent.		7
J Boyer, Barton, Gent.	100	
Wm. Braban, Cleasby, Farmer		10
C L Bradley Esq JP, Richmond, Gent.	550	1100
Lonsdale Bradley, Richmond, Gent.	370	556 (130A, 44B transferred)
Henry Bradley, Captain	100	
Wm. Breaks, Bedale, Bank Manager		10 (13B transferred)
Henry Briggs, Wakefield, Colly. Owner		350
H C Briggs, Wakefield	80	100
Edward Bull, Halifax, Civ. Engineer		20
Thomas Bucktrout, Bedale		15
John Cain, Melsonby	200	150
George Close, Harrogate, Gent.	45	
James Close, London, Spirit Merchant	10	
Stephen W Close, Richmond, Butcher	25	10
George Close, London, Wine Merchant	10	3
Henry Close, London, Italian Warehouseman	10	3
James Collyer, Harworth, Gent.		40
John Dixon, Skelton, Seedmerchant		10
W R Feddar, Carlisle, Gent.		22
Thos. Furness, Brigg		5
John Gill, Kettlewell, Grocer		20
Richard Gouthwaite, S. Milford, Land Agent		10
Rev. Edward Green, Dursley		5
Chris. Grosvenor, Hunslet, Colly. Owner		166
John Hainsworth, London Surgeon		13
John Harris, Darlington, Gent.		200
Robert Hodgson, Newcastle, Colly. Engineer	100	
Selina Hubback, Slough		10
Ralph P Ince, London, Esquire	100	166
Jas. Ingham, Normanton, Cashier		10
John B. Irving, Carlisle, Gent.		22
James Johnson, Cleasby, Farmer		50
Henry Johnson, Cleasby, Farmer		50
Wm. Kirby, Bedale, Gent.		10
Thos. Martin, Melsonby, Butcher		20
Jas. Marriott, Richmond, Innkeeper		5
Wm. B Page, Carlisle, Gent.		22
John Scholey, Wakefield, Gent.		100

	A	B
Walter Shepherd, Dundee, Gent.		: 50
Alfred Simpson, Richmond, Farmer		: 30
Philip Skipworth, Wakefield, Solicitor		: 50
Amelia Shipworth, Derby		: 25
Rosamund Shipworth, Derby		: 25
Robert Spence, Richmond, Ironmonger		: 50
Henry King Spark, Darlington, Colly.		
Owner	: 250	: 150
Henry Stansfield, Wakefield, Gent.		: 20
John Tattersall, West Witton, Gent.	: 150	(150A sold)
Henry Thompson, Caldwell, Spirit		
Merchant		: 13
Robert Wardell, Aldborough, Farmer	100	: 50
Jos. White, Wakefield, Mining Engineer		: 50
Jos. Whitell, Richmond, Grocer		: 5
Richard Wilson Esq JP,		: 25
Richard Wright, Richmond, Farmer		: 20

MAP 6
Scale 25" to 1 Mile





MAP 5
Scale 2 1/2" to 1 Mile

