

CAPITAL FORMATION IN THE WIRKSWORTH LEAD MINING INDUSTRY

- PART 2

by Robert Gould

Summary: This second part of a preliminary survey of the sources of capital for the lead mining industry in Wirksworth covers the years 1800-1900. This period is one of general decline of the industry affecting ownership patterns and interest. The exception is Edward Miller Wass, who became the last owner of any consequence in the district by buying shares in many mines and in smelters as they became available.

At the beginning of the nineteenth century the fortunes of the lead-mining industry in Wirksworth took a rapid down-swing. This was mainly for two reasons, the first being the dramatic drop in the price of lead ore, the second the increasing drainage problems faced by many of the mines.

The sharp fall in the price of lead ore was perhaps the more important reason for the decline in the industry. During the early stages of the Napoleonic Wars, the price of lead had remained fairly steady at around £35 a fodder (G.G. Hopkinson, "Derbyshire lead mining and smelting", Derbyshire Archeological Journal, for 1958, pp. 17-18 referred to the price "delivered in London" so this is probably the London fodder of 2180 lbs). In 1807 between March and September the price dropped steeply to £26 a fodder, and at that price it was impossible for the Derbyshire smelter to find a customer in London. By May 1808 the price had slipped further to £20 a fodder, and although the price rocketed to £38 a fodder later in the year because of wild mineral speculation, it fell again to £29 by August, 1808. After the end of the war, despite the freeing of the Continent from the French, the demand for metal remained low, slumping to only £19 a fodder in 1826. This slump forced the Welsh mine-owners to throw all their large stocks onto the open market and, as a result, by 1829 pig lead was being offered in the Midlands at only £19 a fodder. The situation remained bad until 1836 when the price of lead slowly started to rise again, but the main damage had been done and many of the smelters were forced out of business. Farey (Farey, J. "Agriculture and Minerals of Derbyshire", vol. 1, p. 386) commented that "several of the smelters are doing but little ... and some of their works are shut up occasionally", and he listed the following six local smelters in use:

1. Cromford Moor owned by Charles Hurt
2. Devils Bowling Alley (Alderwasley) ..... Francis Hurt
3. Lea ..... Shore and Co.
4. Bonsall Dale and Slag Mill ..... Evans and Co.
5. Via Gellia ..... Saxeby and Co.
6. Wirksworth-East of the Town (Wash Green) Charles Hurt

Of these six, the Cromford Moor cupola probably finished smelting between 1811 and 1831, as it was not listed by Glover (Glover: Directory and Gazetteer of the County of Derby) at the latter date; the Via Gellia Works were worked only spasmodically from the 1850s until 1878, and the last mention of the Wash Green cupola is in 1825 (Willies, L.: "Cupola Lead Smelting Sites in Derbyshire" - Bull. Peak Dist. Mines Hist. Soc., vol. IV, 1969) when the executors of the late Joseph Wilshaw were in possession. The other three cupolas survived until the late 19th century.

The effect of the fall in the price of lead can be seen by a study of the Wirksworth Vicarage tithe books before 1800 and the Barmaster's books after 1800, (Barmasters Books - in the possession of J. Rieuwerts). Figures for the 1770s show a high, steady rate of production, with the Vicar receiving in 1775 200 loads of tithe ore, bringing an income of £315 and indicating an overall production of some 8000 loads. In 1776 the Vicar received 279 loads, valued at £430, and by the mid-1780s he was selling the ore to no less than seven local smelters, and nearly thirty mines were in production in Wirksworth.

However, the drastic change in the fortunes of the industry in the first decade of the 19th century ensured that because of uneconomic working a large number of mines remained unwatered; many of them were nicked and their titles given away by the Barmaster. Many mines were now being operated, not by large partnerships or by the smelters, but by small partnerships of minor local businessmen or tradesmen who were combining their work with mining. Among those who were endeavouring to make a profit from mining at this time were such people as Marcellus Bamford, a shoemaker, active in the Yokecliffe Rake Mines, the College family, also shoemakers, and Daniel and John Wilson, who worked mines such as the Greymare on the Coalhills site. The Kniveton family of Bolehill combined mining with wool-combing. An inspection of the deeds of the cottage formerly owned by them suggests that the family had done sufficiently well out of lead-mining in the 18th century to build a house and weaving shop in the village and the family prospered in both fields of industry, setting up weaving shops at Breamfields and also acting as mine agents. The Frost family was another family who prospered both in business and mining in a small way. John Frost was working mines in his own right and acting as agent for the Meerbrook Sough Proprietors who discovered a vein while driving the sough in 1807. The family also had interests as builders, rope manufacturers and grocers in Wirksworth. However, with regard to the involvement of the more monied families, some of the most important figures in the first half of the 19th century were the Alsop family of Lea. According to Ince (Ince: Pedigree of the Alsop family - Derby Borough Library) the family had held a blacksmith's shop at Wensley near Matlock, had become farmers and then lead merchants. John Alsop appeared to be a man of considerable influence and business acumen and, with William Longsdon, a large owner and Sough proprietor, and Joshua Gregory, an agent, he used his powers as a soughmaster and lead merchant and smelter to good effect. In 1809 Alsop wrote to Longsdon (Sheffield City Library: Bagshawe 587 9) expressing his concern that the title to the Godber vein might be running into the Goodluck title, and his advice was forthright: "Some proposition should be made to the Dovegang Company without delay ... make an offer of 1/6 of the profits from the covenant of lifting water and if that be rejected offer them 1/12 of the ore in the Goodluck vein as well as in Godber vein". In 1809 Joshua Gregory wrote to Longsdon saying that Anthony Alsop (John's brother) who was the Barmaster at the time had been offered the post of agent to the powerful Dovegang Company. He had consulted Mr. John Alsop who had advised him to accept. In 1807 John Alsop had written to Longsdon a long letter concerning the state of the mines and soughs in the Wirksworth area, explaining where blockages occurred in the soughs and pointing out which mines needed unwatering. (S.C.L.: Bagshawe 587 41). It was Alsop's view that they should try to buy part of the George vein which at the time was fairly productive, or, failing this, should drive across the George "and take the discoveries ourselves", although this would cost twice as much. Alsop pointed out that certain veins in the area were still unwatered and he felt that "Mr. Hurt's Sough" (the Meerbrook Sough) could not effectively unwater the Rantor mine until it was brought up a further half-mile. He estimated that this would take thirty years "at the present rate of driving". He continues: "I have no doubt, if our intended plan is carried into execution that it will turn up a profitable concern to the proprietors of Gang titles for exclusive of the composition ore that may arise ... new veins would be found; indeed Mr. Hurt thinks so from his desire of securing all the composition under the present surface of the water ...". An attempt was also made about this time by the Cromford Sough proprietors to purchase the mineral duties in the Wirksworth Wapentake, and an indication of further machinations on the part of William Longsdon and others is shown in a letter from Longsdon to John Heath: (S.C.L.: Bagshawe 587 9 (11)):

"Colonel Simpson has agreed to join the partners and Mr. Shore (a son-in-law of John Nightingale) is willing to join and will have no objection to taking a larger share if necessary than his own. Mr. Milnes is also desirous of taking some shares ... care should be taken that the Cromford Soughers may have a full and large majority. We heard of other persons likely to be bidders ... Mr. Arkwright, Col. Thornhill and Mr. Brittlebank ... We hope that the Cromford Sough

partners will not let them go into other hands as they are most interested in them and will be of more value to them than any other company".

The power of the soughmasters was certainly being felt now by many of the mine owners. One letter from the Bagshawe Collection (S.C.L.: Bagshawe 587 10) shows just how dependent these owners were on sough driving. The letter was from a variety of the mine owners in the area and pleaded with the partners of the Cromford Sough and the Meerbrook Sough to settle their differences concerning the unwatering of several mines. The letter was couched in the most abject terms and contained such phrases as "... do pray and beseech both parties alike to listen to what we shall hereafter state which we hope and beg for the sake of alleviating the distress of society ... and trust that what might otherwise be deemed impertinent will on this occasion be kindly attributed to our sanguine wishes for the lower ranks of us to meet with employ and get our bread in our own country which at present but few of us are able to do". The letter went on to suggest how a compromise could be reached over the payment of composition ore and was signed by owners both large and small including John Barker the smelter, Robert Burdett for the London New Lead Company, mine agents Henry Flint and John Stubbs and small owners such as John and Samuel Colledge, Joseph Mather and John Frost.

This attempt by soughers and smelters to gain a stranglehold on the industry is further shown by Alsop's activities in the Middleton Liberty. In a Peak District Mines Historical Society Bulletin an account is given of the disposal of shares in three small mines to Alsop in 1830 by a small partnership. Within one month of obtaining control of the mines the new owner had decided to drive an adit to the vein (the Middleton Goodluck Mine). An agreement was reached with a local miner, Isaac Spencer, and with two other locals - William Greatorex and Benjamin Buckley. These men were given permission to go up Goodluck level to work their titles, provided that they paid 2/- per lead got, and Greatorex and Buckley also agreed that all ore got should be sold to Mr. John Alsop - presumably for smelting.

Alsop was one of the few enterprising owners at this time; for the other large owners the picture was not so bright. The Derby Mercury of July 27th, 1836 notes a forthcoming sale of shares at Matlock Bath on August 8th, the property of the Honourable John Simpson, whose shares included some in Cromford Sough and the Dove Gang Mines. The London Lead Company, too, was selling its holdings in the Goodluck and Dinah Mines (Derby Mercury: June 24th, 1835). The newspapers of the time contain more references than usual to the sale of mine shares. The prospects of the lead mining industry were rapidly dimming, and the only hope left to the mine owners was the continued driving of the last major sough to be started in Wirksworth, the Meerbrook Sough. The Derby Mercury for January 13th, 1841 records that:

"Proprietors of the Meerbrook Sough and others, including Messrs. Francis Hurt, Philip Gell, Charles Hurt, Richard Hurt, J. Woolley and J. Hayward (miner), John Wass, John Alsop, Daniel Wilson, John Wilson, Charles Wright, William Cantrell and Samuel Frost had called for a general meeting of the landed proprietors, mines and mineowners in Wirksworth at the Red Lion Inn on 18th January inst. at 12 o'clock to meet the Meerbrook Sough proprietors to consider the provision of a Bill about to be applied for in the ensuing sessions of Parliament for incorporating the sough proprietors and to enable them to raise levies from mines retrieved of water".

The Derby Mercury for 20th January, 1841, carried an account of the meeting. The report notes that work was being put in hand to start driving the sough again, which had been at a standstill since 1812. It was resolved to apply for an Act of Parliament. The sough proprietors were represented by Frederick and Charles Hurt, Richard Hurt, the Rev. P. Gell and J. Woolley. Later the same year the Derby Mercury of July 7th, 1841 revealed that the Meerbrook Sough Company had been incorporated under an Act of Parliament, with a capital of £20,000 in 400 shares of £50 each. The elected directors were Francis Hurt, M.P., Richard and Charles Hurt, the Rev. Philip Gell, the Rev. John Woolley and Mr. J.H.

Piddock. The object was "to carry forward the sough and also for working the several mines connected with it ... when it shall have been carried a short distance farther there is every expectation of affording relief to the mines within the valley which are known to contain large and valuable quantities of lead ore". The paper commented "In Wirksworth the mines are numerous and were profitably worked down to their present level about 60 years ago. They have since that period been lying dormant in consequence of being inundated with water, and without the possibility of relief except by aid of this sough".

The Derby Mercury of September 8th, 1843 recorded that the continued driving of the sough had already unwatered some mines, among which was the Bage, which experienced a large upswing in production in this period. But the capital costs involved meant eventually, as will be seen in the next section, that the last hope of the mine-owners had gone.

What then were the main trends in ownership in this fifty-year period? We have seen that the old-established families such as the Hurts and the Gells still had mining interests, but they were beginning to switch what capital they had to other industries, for example textiles, where both Hurt and Gell had provided capital for Arkwright, (Chapman, S.D. "The Early Factory Masters", 1967, p. 95). The Hurts had their own small colliery on the family estate as well as an iron-smelting furnace. The Nightingales too had moved almost completely into textiles (Chapman, 1967, p. 95). What was left of the lead-mining industry was now almost completely dominated by what smelters there were left, such as Alsop and Milnes, and the Sough proprietors who again were the local landed gentry and businessmen. Shares in the mines themselves appeared from the little evidence available to be going not to the people mentioned above, but to small local families like the Frosts and Knivetons, who probably still believed in an economic future for the mines.

#### 1850 - 1900

The final period of this study, from 1850 to 1900, was the steady decline of the industry in Wirksworth and indeed in the whole of Derbyshire. The amount of lead produced in Derbyshire fell from 4,564 tons in 1860 to 3,435 tons in 1900, and by 1900 the greater part of the ore came from one source, the Mill Close Mine in Darley Dale, of which more will be said later.

I have used as my main source for a study of this period the Mineral Statistics, the diaries and ledgers of Samuel J. Sheldon, Deputy Barmaster for the Soke and Wapentake of Wirksworth whose records include copies of ore production figures from Barmasters' Books in the possession of Mrs. Doxey of Idridgehay; and information concerning the last large mine-owner in the district - Edward Miller Wass. Using the Mineral Statistics first as a guide to lead-mining activity in this period we find that the number of mines recorded varied from year to year according to productivity; for some years the statistics gave only the total amount of ore and lead produced in Derbyshire, for other years names of all productive mines were given and for the remaining years only the names of mines producing over five, and sometimes over ten, tons of ore, were recorded. For the five years 1868 to 1872 the names of all productive mines were given showing that the number in Wirksworth declined from 13 to 7, and in Middleton from 8 to 5. In 1874 there was an attempt by the Inspector of Mines to list all known lead mines, at least those thought capable of producing ore. This resulted in a total of 235 mines for Derbyshire, of which 21 were in Wirksworth and 23 in Middleton. However, by this time the only mine producing significant quantities was the highly productive Bage Mine in Bolehill. As the accompanying Table I shows, the Bage Mine was producing huge amounts of lead ore completely dwarfing the few other productive mines in the area. Indeed it could lay claim during the decade 1878-1888 to be the second largest producer of lead ore in Derbyshire. Many of the smaller concerns were now turning to the mining of subsidiary minerals found with lead ore, namely "belland", brown lead ore, and, most importantly, barytes. It is impossible to

discover the quantities of barytes raised by each mine, but R. Hunt's Mineral Statistics of 1868, 1870 and 1881 listed the following Wirksworth and Middleton mines as producers: the Upper Golconda, Griff Bage, Greymare, Orchard, Rantor, Bage, White's Founder, Nether Gell, Croft Doghole and Bradwell. In 1868, 18 Derbyshire mines produced barytes totalling 10,735 tons - worth £6000 out of a national total of 14,235 tons, - value £8,728.

TABLE I

Source: Private Diary of Mr. S.J. Sheldon

YEAR	TOTAL ORE PRODUCED IN		AMOUNT PRODUCED BY	
	WIRKSWORTH	LIBERTY	BAGE	MINE
	Loads	Dishes	Loads	Dishes
1879	982	7½	627	4½
1880	1076	8½	839	7½
1881	1757	3½	1590	5½
1882	1029	0	800	6½
1883	789	4½	476	1½
1884	823	3½	707	5
1885	395	8½	312	6
1886	381	2½	286	1
1887	413	7½	331	2½
1888	504	7½	460	7½

Other minerals being extracted with lead at this time included black-jack (Ottery, F.: "Development of Wirksworth - 1800-1965" (unpublished M.A. Thesis, University of Nottingham, 1965)) or blends, calamine, manganese, fluorspar, gypsum and ochre. Black-jack was being used in brass manufacture, and the Birmingham Brass Foundry Company had a warehouse at nearby Cromford, specifically to purchase this mineral from the Wirksworth lead mines. Local calamine was also bought by Arkwright and had been used by him in mill construction, and it was also used in the production of zinc. The ochre was bought by paint manufacturers, both locally and further afield.

From the point of view of lead production, in both 1887 and 1888 there were only 11 mines in Derbyshire producing over ten tons of lead ore during the year and of these only one - the Bage, was in Wirksworth although the Golconda was nearby. This figure remained steady until the end of the century when the lead industry died out completely. With this decrease in lead production it became obvious that any lead-mining activity could now be brought under the control of a few, or even one, enterprising businessman. In fact this situation did occur in that by 1862 the only large mine-owner in the area was Edward Miller Wass. Born at Holloway, near Cromford, on September 6th, 1829, he was educated at the local grammar school at Wirksworth and after completing his education, was sent by his father, Joseph Wass, himself an active lead merchant, to be educated for business in some of the commercial houses in London and Hull. His obituary (Obituary of Edward Miller Wass - Transaction of Midland Counties Institution of Mining Engineers, Vol. 15, 1886-1887, pp. 41-44) recorded that upon the death of his father in 1852 he was called home to manage the family businesses. The Wass family was related to the Alsop family of Bonsall, through the marriage of Joseph to Hannah Alsop, daughter of John Alsop senior. Edward Wass was to prove himself a much more enterprising miner and businessman than his father. As we have seen in the previous section, by 1800 the lead smelters had come to dominate the business, the falling price of lead meaning that they could control the industry by deciding which mines were economic and which were not. The other main figures in the industry in this latter period were the sough masters, and by 1850 their interest had almost died. In August 1852 the Derby Mercury recorded:

"The Meerbrook Sough Company was established some years ago for the purpose of driving a level which would drain off the water from the mines in the vicinity of Wirksworth. We hear that at present they have only partially succeeded in carrying out their intention, but it is hoped that in a short time the sough will prove highly beneficial to many of the mines (and they) may flourish again and become a source of employment and remuneration to the working men of the town and neighbourhood".

This was false optimism and the Meerbrook Sough stopped driving later in the decade. All other soughs had been completed some time before, and the field was left open to the smelters.

Edward Wass set out to do two things. His first aim and achievement was to gain control of all smelting processes in the area; the Lea Lead Works grew under his hand, and he also rented smelting works from A.F. Hurt, making him the only smelter in the district. His second object was to buy up as many shares in mines as possible. The copies of mine sales from 1862 to 1872 (Copies of Sales of Shares in Mines, D.R.O.: Stone-Symonds collection) in Table 2 show in the clearest possible fashion his domination in the field of ownership.

TABLE 2

TABLE GIVING TRANSFER OF SHARES IN  
MINES FROM 9/10/66 TO 1/10/67

MINE	SHARE			PURCHASER SELLER
Paul's Pipe	Whole			Wass & Son J. Alsop (Miner)
Bradwells	4/24			Wass and Son M. Wilson (Widow)
Shurl	1/24			Wass and Son O. Adams (Miner)
Bradwell } Stitching }	4/24 6/24	1/48		Wass and Son W. Cantrell (Surgeon)
Middle Peak	1/144	1/92		Wass and Son J. Spencer (Farmer)
Bradwells	5/24	1/48		N. Doxey (Agent for Wass) W. Cantrell
Twenty Lands	1/24			
Gells Northcliffe	1/24	1/72		Wass and Son W. Cantrell
Sough, Northcliffe	3/24	1/192		
New Gells	16/24	1/48	3/24	Wass and Son W. Brooks (Miner)
Caulton Rake	1/48			
Ratchwood	1/24			Wass and Son J. Else (Miner)
Bells Scrin	Whole			Wass and Son J. & E. Else
Ogdons	Whole			Welchmans Venture Co. (No J. Doxey (Agent) details)
Grey Horse } Grey Mare }	1/5 1/48	1/5		Wass and Son S. & N. Flint (Miners)
Old Taylors	8/24			Wass and Son E. Wood
Cawdor Slack } Silver Eye } Burrows }	Whole			Wass and Son W. Cantrell & L. Spencer

Nearly all the mines, apart from a few very small ventures in Middleton, were purchased by Wass, either outright or by systematic buying of shares. Many 'adventures' and 'trials' were made by him at these mines, yet no permanent success rewarded his endeavours; indeed it is estimated in his obituary that he lost not less than £75,000 in these 'trials'. His one success, however, was the purchase of the Mill Close Mine in Darley Dale. The great success of this operation and his domination of the smelting trade enabled him to keep the family firm running at a profit. Mill Close was rated one of the richest mines in the United Kingdom in the 1870s and Wass carried out many improving schemes, among which was the 'dressing' of ore by machinery. After his death in 1886 all his shares were offered for sale (D.R.O.: 161 B. ES.278) and Table 3 gives a list of his holdings. However, hardly any of these shares were purchased and so ended the last large-scale ownership recorded in Wirksworth's lead industry.

TABLE 3

LIST OF SHARES OFFERED FOR SALE IN WIRKSWORTH, 1886,  
FORMERLY OWNED BY E. M. WASS

WHOLE MINES

Captains; Charity; Brough's Founder; Barkers; White's Founder; Swans Close; New Close; Lark's House; Old Jacob's; Half Acres; Brights Friendly; Caulton Rakes; Fox Holes; Bells Scrin; Shovel and Dirt; Saw Pit; New Gells; Wagstaffe's Sorin; Sand Holes; Barkers Scrin; Friendly; Windmill; B.C. Mine; The Nuk; Hardy's Lees; The Somnes Mine; Bradshaw Vein; Cross Vein; Bond Vein; Trusty Friend; Holly Bush; Little Glory; Belle Vue; Middle Peak Scrins; Robin Red Breast; Doxey's Engineer.

Wass also held shares in some thirty other mines. Many of these would be non-productive; but this illustrates the monopoly Wass had on the industry at this time.

As far as any other large scale capital involvement is concerned during this period, the only other evidence the author has found is contained in the following extract from the Derby Recorder of August 1858 which carried the following advertisement:

"Little Glory Mining Company (Hopton Moor). Capital of £1,500 in £1 shares. Prospectus now ready to be delivered to mining adventurers - to be worked under the customs of Wirksworth Wapentake - particulars from Jacob Buckley, Oakcliffe".

However, there is no evidence that the company ever started mining operations, and it is certain that the death of E.M. Wass signified the final collapse of the industry.

ACKNOWLEDGEMENTS

Thanks are due to Roger Flindall for his invaluable help and guidance, especially with newspaper references. Thanks are also due to Jim Rieuwerts for his helpful comments on both articles. My main acknowledgements are due to my father who aided me in much of this research.

M.S. Received 10th August, 1977

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