The beginning of the Wireworks at Whitebrook, Gwent, in the early 17th century

D G Tucker

The wireworks at Whitebrook, about 8 km south of Monmouth on the west bank of the river Wye, were started in the very early 17th century as a branch of the then-prospering Tintern wireworks, already established for about four decades. The latter were the first works in Britain to use water power for drawing iron wire, and were thus the first to be able to produce wire of a quality comparable with that of European production. The works at Whitebrook were similarly based on water power. The Society of Mineral and Battery Works was responsible for these enterprises, and much has been written about this important monopoly set up during Elizabeth's reign.[1-4] However, until recently, little has been done to establish the physical nature of the works,[5] and in the case of Whitebrook not even the approximate locations and extent of the ground occupied seem to have been determined until my own recent investigation.[6] Since publishing the paper quoted, I have, thanks to a suggestion by Mr H W Paar, been able to find the basic deed[7] by which the land at Whitebrook was leased to the Society by the Earl of Pembroke. This is a most important document. By itself, at the present day, being devoid of plans, it would hardly be adequate to define the land occupied; but as a result of my previous work I have been able to interpret it and determine the boundaries of the land with some confidence. A number of other interesting matters also arise from the deed.

Date of occupation of the land by the wireworks

An especially important matter which the deed settles is that of the date of occupation of the land by the wireworks and the beginning of the construction of the works. There has previously been doubt on this matter. The Court Books (or minute books) of the Society for the period around the end of the 16th and beginning of the 17th century appear to have been lost, although earlier and later volumes are available at the British Library. From later references[8,9] it was known that there was a deed of 1607 referring to land granted to the Society at Whitebrook, and Schubert[10] assumed that this was the date at which the Society started activities at Whitebrook; however, Rees considered the commencement to have been before 1600.[11]

The deed now located is certainly dated 6 June 1607, but it is made quite clear that the Society had occupied the land since the previous Michaelmas and had already constructed some works, notably two leats ('newe diches') and some buildings ('newe workehowses'). It thus seems that the date of commencement at Whitebrook was September 1606, beyond any reasonable doubt.

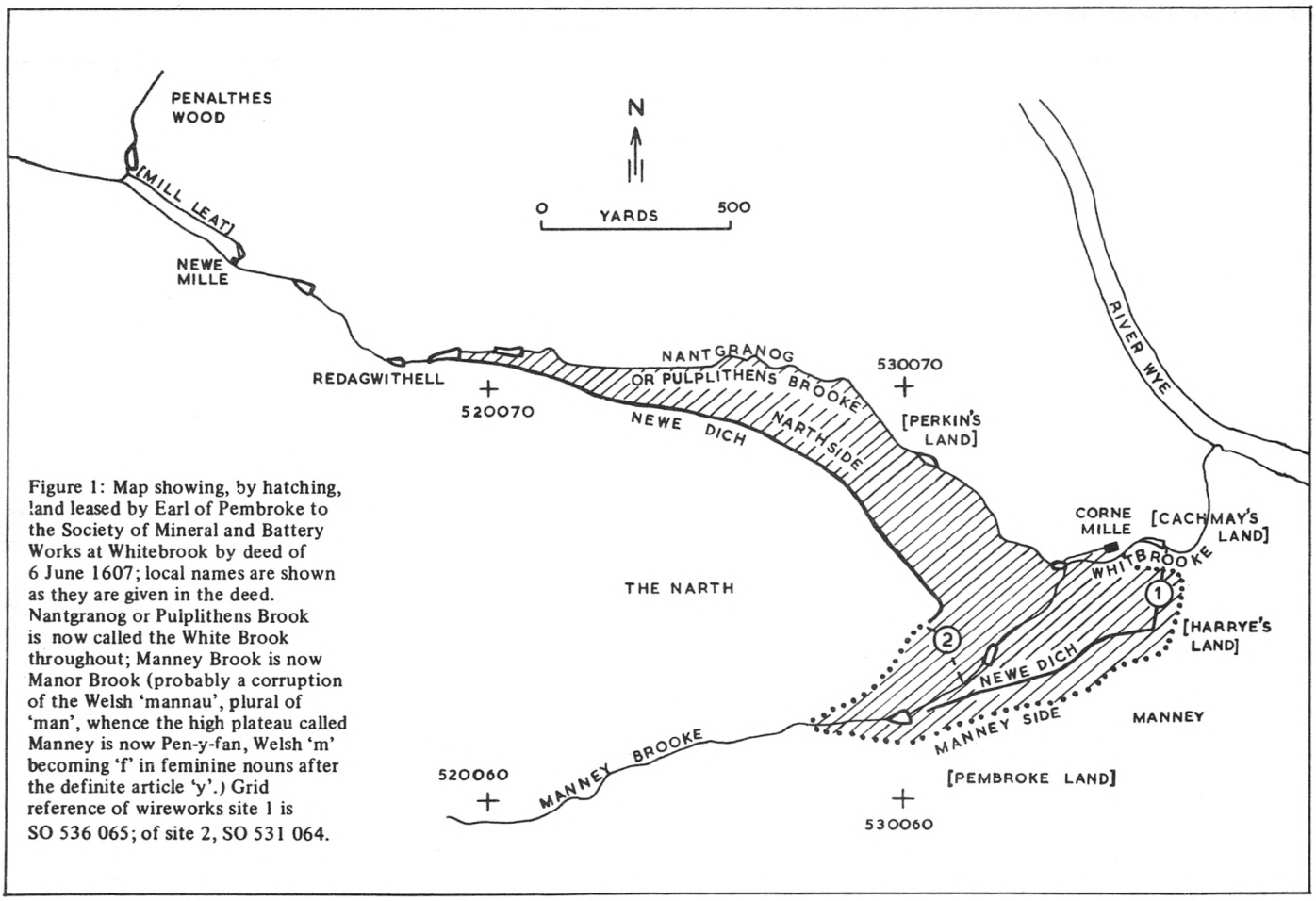

Figure 1: Map showing, by hatching, land leased by Earl of Pembroke to the Society of Mineral and Battery Works at Whitebrook by deed of 6 June 1607; local names are shown as they are given in the deed. Nantgranog or Pulplithens Brook is now called the White Brook throughout; Manney Brook is now Manor Brook (probably a corruption of the Welsh 'mannau', plural of 'man', whence the high plateau called Manney is now Pen-y-fan, Welsh 'm' becoming 'f' in feminine nouns after the definite article 'y'.) Grid reference of wireworks site 1 is SO 536 065; of site 2, SO 531 064.

	C	W	Cr	V	
1903 High Speed Steel	0.65	11.3	2.0	...	
do.	0.7	12.5	3.5	...	
H.S.N.	0.7	18.0	2.8	...	'To imitate Novo' **
1904 H.S.T.	0.6	18.0	3.5	...	'Superior to Novo on all tests
1905 H.S.M.	0.65	14.0	5.1	...	'Osborn Mushet'
H.S.C.	0.5	13.0	3.0	...	'Seebohm's Capital'
1907 H.S.3 with V	0.6	18.0	3.0	0.3	
	0.5	13.5	4.9	...	'Beardshaws'
1908	0.57	18.0	2.65	0.75	'Novo Superior'
1910 H.S.3P	0.68	18.68	3.27	0.85	VSM Twisted Drill
1915	0.70	15.80	4.30	1.21	'Triumph Superb'
	(A Jessop brand, also containing 1.2% cobalt)				
AE 105	0.70	18.00	4.25	1.30	(Fully developed 18/4/1 composition)
1921 S.B.S.T.	0.80	18.80	4.12	1.72	'Gave most excellent results under test'

Further modifications of the analysis occur, mainly in the addition of cobalt, up to 6% and molybdenum, up to 6% also. One most interesting forerunner of modern practice is a cast with 6% molybdenum but no tungsten, unfortunately there is no comment on its results.

* Vickers, Son and Maxim, Limited
** Trade mark of Jonas and Colver Limited

Boundaries of wireworks land

The lease gives rights to the Society over all the streams which join the White Brook, but the land to be occupied is more limited. It is shown hatched in my map of Fig.1. In this map the stream nowadays called the White Brook is shown with the embanked ponds which can now be located, but there is no evidence as to which of these, if any, existed in 1606–7. The stream defines the northern boundary of the wireworks land and the long leat the southern boundary of the north-west tongue, but there is the interesting provision that the Society may use land up to one perch (about 5 m) outside these boundaries for the purposes of making dams, ponds, etc., for their works. The stream still flows, and the leat can still be traced on the ground, so these boundaries are definite.

On the south and east the boundaries are less well-defined. John Aram's survey[12] of the Manor of Trellech made in 1772 shows the boundaries from the end of the long leat to the south side of the Manney Brook, and although his map was made half-a-century after the wireworks closed, this boundary is probably quite reliable. But south of the shorter leat, and to the east, the boundary is not certain. According to the deed the total area should be about 80 acres; according to Fig.1 it slightly exceeds 90. Possibly the surveyors of 1606–7 could have been in error by this much, and certainly we cannot remove as much as 10 acres from the hatched area in Fig.1 without departing from the boundaries as defined in the deed. Probably, therefore, Fig.1 is reasonably correct.

Sites of 'workehowses'

In my previous paper I suggested that there were probably five sites occupied by various units of the wireworks, and indicated the locations and gave a full discussion of my evidence and reasoning. It is very disappointing that only one site of 'workehowses' is specifically mentioned in the deed. This is marked '1' inside a circle on the map of Fig.1. This site agrees well with my previous work, which was, in respect of this site, based on field evidence. I feel quite confident in suggesting that there must also have been a site at the point marked '2', because the leat leads there. It runs at an elevation of 140 m, over 48 m above the shorter southern leat, and would hardly have been constructed merely to feed the latter. As now existing it is a large leat, about 2 m wide, whereas the southern leat is a small one of about one-third this width. At the site '2' there are, moreover, some levelled areas on the steep hillside and the remains of some buildings. It is possible, however, that the works on this site were not completed until much later.

The other sites I suggested were on the main brook, called Nantgranog in the deed in its upper reaches, and these seem to be provided for in the deed by the inclusion of the right to build ponds and dams on this brook, intruding if necessary up to one perch into the land to the north of the brook. Possibly these sites were not brought into use until the wireworks expanded in the second quarter of the 17th century following the abandonment by the Society, and the transfer to other operators, of the works at Tintern.

The deed includes provision for the Society to build cottages for its workers on this land, and for the tenants to have both the privileges and obligations normal in the Manor of Trellech.

REFERENCES

1 William Rees, 'Industry Before the Industrial Revolution', Cardiff, 1968

2 M B Donald, 'Elizabethan Monopolies', Edinburgh, 1961

3 H Hamilton, 'The English Brass and Copper Industries to 1800', London 1926.

4 H R Schubert, 'History of the British Iron and Steel Industry', London 1957.

5 H W Paar and D G Tucker, 'The old wireworks and ironworks of the Angidy Valley at Tintern, Gwent', J Hist.Met.Soc., 1975, **9**, 1–14.

6 D G Tucker, 'The seventeenth-century wireworks sites at Whitebrook, Monmouthshire', Bull.Hist.Met.Gp., 1973, 7(1), pp.28–35.

7 Gwent County Record Office, 4806 (M446). I have prepared a full transcript of this deed, and can make xerox copies available at cost.

8 Court Books of Society of Mineral and Battery Works, Brit.Lib., Loan 16, Vol.3.

9 Foley Papers, Hereford County Record Office, F/VI/Af/18.

10 Loc.cit., pp.294–5.

11 Loc.cit., p.628

12 National Library of Wales.