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Research Group

WEALDEN IRON RESEARCH GROUP

BULLETIN NO. 9

Contents

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Inventory of Sites Visited by W.I.R.G

Bloomeries

ROFFEY BLOOMERY: TQ 203 334 Wealden Iron p.442.

This may have been the site of a medieval bloomery and forge. According to Straker, it was from here that 1000 horseshoes were sent to Shoreham in 1327, at the demand of the sheriff. There is however no sign of a bay and the features mentioned by Straker are more than 100 yards from the cinder evidence. What Dr Ovenden considers to be powered-bloomery cinder can be found in the small copse close to the railway.

COW FIELD WOOD, CROWBOROUGH TQ 499 313

Four hundred yards up the stream that enters the site of New Mill pond from the E. a small gill joins from the S. A few yards up this small valley are large pieces of cinder.

BREAM WOOD: TQ 523 331.

There is a cinder heap on the N. bank of a tiny stream, that starts near Gillridge Farm, at its junction with the main stream, 150 yards below the large bay in Bream Wood.

ROUGH WOOD GILL: TQ 522 326

A cinder heap is exposed on the S. bank of the gill 25 yards above the junction with Beechen Wood gill, and there is much tap slag. There are two large wet pits between here and the Hodges Wood bloomeries to the E.

PALES GATE: TQ 531 311

At Pales Gate, just S. of Steel Cross, the stream cuts through a heap of cinder and burnt clay. Just upstream there are many siderite ore nodules; there is much scattered cinder in the area.

WALNUT TREE FIELD, RENBY GRANGE: TQ 532 332

Here a large round patch of contrasting-coloured soil on an arable field contained cinder, tap slag, and pieces of furnace lining. With it were several sherds of Romano-British pottery. The site is some 50 yards away from a small stream tributary to the main valley stream.

CROOKED WOOD, N. OF RENBY GRANGE TQ 533 376

A small site is here cut through by the stream. It appears to have been destroyed recently when making the pond now on the site and much cinder is now in the bay of the new pond.

PEPPERINGEYE FARM BLOOMERY TQ 744 131 Wealden Iron p.351

The site of the cinder bed, recorded by Straker, is immediately N. of the house, on the E. side of the farm road, and S. of the small stream. Several millstones from the former powder mill once situated here, lie on the ground over the area. Below one where an open drain is exposed, a bed of bloomery slag can be seen. Mr David Evans, the occupier of the farm, says that slag occurs all round the area of the house.

IRIDGE BLOOMERY, SALEHURST: TQ 752 277 Not in Wealden Iron

This bloomery was discovered while following the footpath to Iridge Furnace, which lies about 400 yards to the W. At this spot a tributary stream from the SW. joins the Iridge Furnace stream and bloomery slag was noticed under the bridge which carries the footpath. Tap slag lies thick in the tributary stream for about 50 yards above the bridge until the slag heap is reached in the right bank, now being washed out by the stream. There is much burnt clay and tap slag characteristic of that from Roman-period bloomeries. Samples were taken.

CROWHURST PARK BLOOMERY: TQ 771 138 Wealden Iron p.353

The field described by Straker has been cleared of woodland by the present occupier, Mr John Simmons, and is now arable. On the slope W. of the small stream is scattered bloomery slag, but Mr Simmons says he has removed for roadmaking any concentrations of slag that he has found. There is now nothing to be seen resembling the photograph in Wealden Iron (p.353). The mine pit at the top of the field still remains.

FOOTLANDS, SEDLESCOMBE: TQ 773 202 Wealden Iron p.327

This site can be approached by public footpath or by permission of the occupier of Footlands Farm. It is still very much as Straker described it. When visited, the field E. of the stream was under crop but one of those to the W. was lying fallow. Over at least an acre bloomery tap slag was scattered together with occasional sherds of Roman-period pottery and tile. In shingle beds in the stream were numerous pottery sherds including Samian. In the E. stream bank could be seen, in section, beds

of furnace waste several feet thick. These included many pieces of furnace lining besides slag, cinder, and pottery. There have been a number of small excavations on this important site, none of which, unfortunately, have been adequately published. Pottery from here is in the Straker Collection, and more pottery has recently come to Barbican House, Lewes, from Guildford Museum. Some of the pottery appears to be of pre-Roman Iron Age date and this site is thus probably one of the few of the Iron Age so far recorded, with a strong possibility of continuity after the Roman conquest.

Sussex Arch. Coll. Vol. **99**, p.lx, no.18, under "Museum Accessions" records 'Bequest of the late Mrs Chown, per Mr A. W. E. Lowther. Selection of the finds from the Footlands Romano-British ironworks site near Battle (remainder on loan to Battle Historical Society). Further published references to Footlands occur in Sussex Notes and Queries Vol. **11** (1948) p.20: 'Lead Object found at the Roman Bloomery, Footlands, Sedlescombe', by I. D. Margary; pp.148-51: 'Painted Iron Age Pottery at Sedlescombe', by Mrs E. Chown, (see correction p.175); p.174: notice of 'Thimble shaped object' found at Footlands and exhibited at Society of Antiquaries.

A rather inadequate account of excavations at Footlands in 1951 is published in the Battle and District Historical Society Transactions 1950-51 pp.22-23.

The pottery collected by Straker is probably that in the Straker Collection (now at Michelham Priory).

Water-powered Sites

STANDFORD FURNACE & FORGE (?) BRAMSHOTT, HANTS: SU 819 344 Wealden Iron p.450)

Here almost all the original features are covered by concrete, and a modern industrial site. However a small amount of glassy furnace slag can be seen in the much disturbed banks of the stream.

POPHOLE FORGE, LYNCHMERE & SHOTTERMILL: SU 874 326 Wealden Iron pp.449-50

The bay here is 100 yards long and 12 feet high and is cut through by the stream at about its centre. Much forge cinder can be found in the stream.

SHOTTERMILL FORGE, HASLEMERE & THURSLEY: SU 883 326 Wealden Iron p.448

The bay here has disappeared and a cottage and garden cover the site. There is some forge cinder in the garden.

THURSLEY or HORSEBANE HAMMER, FURNACE & FORGE: SU 920 413 Wealden Iron pp.447-8

The main bay here is 117 yards long and 10 feet high. The original spillway at the S. end is separated from the rest of the site, below the bay, by a high bank. No glassy slag was seen but large lumps of forge cinder are cemented into a ledge in the present spillway. Dr Ovendon who visited the site makes the following comment:

"A series of pen ponds, from above Cosford House, finally terminate in Warren Mere. Another series is associated with the S. arm of this last. The hammer pond, which appears to be cut in two by the main road, occurs in the middle of the first series of ponds and there is a leat running away between the arms of Warren Mere, but which terminates in a natural gully feeding the Mere. The logical explanation of these complex works, and also the confusion of names, is that there are two hammer ponds. The earlier site, being at the Hammer Pond, had to build an extended tail race to overcome water backing up from the highest pen pond of the lower site".

WEST END FURNACE, CHIDDINGFOLD, SURREY: SU 939 345 Wealden Iron p.421

Here there is a bay, 100 yards long and 15 feet high, with little signs of silting on the upstream side. It is cut through by the stream near its centre, where the basal raft members are visible at low water. There is a scattering of green glassy slag for ½ mile downstream on both banks, and a pen pond in Frillinghurst Wood (SU 934 342).

BURNINGFOLD FURNACE & FORGE, DUNSFOLD, SURREY: TQ 004 343 Wealden Iron p.422.

This site has a bay 117 yards long, 10 feet high upstream and 12 feet downstream. A strong stream draining from the N. end of the now dry pond has broken through the S. end of the bay. The furnace area, now a copse, is covered by charcoal dust, and green and brown glassy slag is scattered downstream. No sign of forge cinder was seen.

DEDISHAM FORGE, RUDGWICK. TQ 107 329 Wealden Iron p.443-4

This site is an unusual one in that the pond was formed by a long main bay running along the valley, with a short return across it. This short return bay is now gone but the long bay, nearly 400 yards in length, remains almost intact. Straker explains the complications of the waterway systems that seem to have been used here. Today it looks as if the present rather winding course of the Arun, S. of the former pond, is artificial. The channel is very deep and its course is through ground higher than that of the valley bottom. Straker suggests that the working area was at the W. end, however there is an area of disturbed ground at the E. end, in the space between the bay and the bridge, that takes the farm road over the Arun. Also at this end, in the gap made in the bay between it and the main road, there are several forge bottoms.

SHIPLEY FURNACE, FORGE. TQ 149 208 Wealden Iron pp.418-19

Straker only records this site as a forge but a recent visit indicates that there was also a furnace here. The bay is c.100 yards long, 10 feet high on the upstream and 12 feet on the downstream. Glassy slag was found near the surface in the shaw NE. of the SE. end of the bay, where irregular mounds occur between the end of the bay and the probable tail race. Forge cinder was also found on the bay and on the pond side of it, and a forge bottom lay on the surface at the SW. corner of the bay. Straker seems to refer to Bentons Place pond as being the main one, although he was unable to find any slag or cinder there. He records the pond described above as “about a mile to the NNW.” of Bentons, an error for NNE. In the recent visit no cinder or slag could be found and it seems probable that it was a pen pond.

KNEPP FURNACE, SHIPLEY. TQ 163 211 Wealden Iron p.418

This site has been so altered or destroyed that almost nothing of the original can be found. It would seem that the original bay was

downstream of the one now existing at TQ 155 211, but is now entirely destroyed by the erection of farm buildings and the A24 road. Winbolt records finding slag when the bridge was widened in 1928 and since then a dual carriage way has been constructed obliterating any remaining traces. One piece of glassy slag was found in the stream on the E. side of the A24 road, near the site referred to by Winbolt. The new pond is still in water.

SCARLETS FURNACE & FORGE: COWDEN TQ 443 401 Wealden Iron pp.224-5

Like Cowden Furnace this site suffered in the flood of September 15th 1968, but more disastrously. Here the bay burst releasing all the pond, which cut a channel through the bay and the working area below it. This exposed a number of interesting sections, described by the owner, (Mr Jackson):

The bay itself was first made of clay but afterwards raised by soil mixed with slag. It was afterwards faced on the upstream side with a wall 2 feet thick, the bottom of which is of stone and the top brick, of modern type. Through the bay could be seen 2 square wooden tunnels to serve water wheels, one above the other. Also in a section across the working area were 2 distinct floor levels.

Although not mentioned by Straker, Mr Jackson says that the iron working was followed by a corn mill. A brick-lined wheelpit can be seen, with timbering, c.24 feet behind the bay, about its centre, where the working area seems to have been. The weir and sluice-gates are still in position, although the pond is dry. A bank separates them from the working area. A fine Elizabethan house, built, it is said, in 1571, stands across the road opposite the N. end of the bay. There is much slag, ranging from light to dark in colour, some streaky, and forge cinder.

CROWBOROUGH FORGE: TQ 497 326 Not in Wealden Iron

Since the publication of a description of this forge in Bulletin No.6, page 29, further details have emerged after another inspection, prompted by the exceptional drought in the summer of 1975, when the stream was almost dry.

The bay would now appear to have been about 120 yards long including a small part dug away at the W. end. It is now 9 feet high on the upstream

side and 12 feet on the downstream. There are gaps at the E. end and the furthest E. of these would appear to represent a weir. A little way below it a mainly dry stream bed curves round to join the main stream lower down. A short distance to the E. there is a projection of the bay northward, at right angles, probably to prevent flooding behind it. In the bed of the main stream, just below the bay, the base of the anvil still survives. It consists of a tree trunk, set upright and projecting just above the stream bed. It is about 3 feet across and has a vertical roughly square hole, 2 feet across, cut in it to an unknown depth. Also, at right angles to the left bank and running from it to the tree trunk, is a 1-foot-wide plank or balk of squared timber. About 2 feet away, upstream, another plank or balk of unknown thickness, is lying in the stream bed at right angles to the left bank. This has the remains of a vertical wooden pin or dowel to connect with some structure above. Also in the stream bed, a few yards downstream from the anvil, and nearer the right bank, is an iron plate measuring 2 feet by 3 feet.

VAUXHALL FURNACE, TONBRIDGE: TQ 5925 4400 Wealden Iron p.222
The bay is 8 feet high on each side, and about 60 yards long, and raised at some time by spreading slag on its top. The present stream has destroyed its W. end and from just behind its E. end the course of a leat can be traced to its junction with the stream much lower down. Also at the E. end, about 13 yards behind the bay, and W. of the leat, is a plateau area, 7 yards across. Behind this, to the N. are 2 heaps containing green glassy slag. A sketch plan will be included with the records.

WOODMAN'S FURNACE/?FORGE, WARBLETON: TQ 603 176 Wealden Iron pp.377-8
In writing about this site Straker strikes a note of caution in saying that "by tradition" it is the site of Woodman's furnace. When we visited it we could find no evidence of there ever having been a furnace here, only a forge. There was a small amount of glassy slag in the stream, both above and below the bay, which almost certainly originated from Heathfield Furnace, less than a mile above. However in the stream, along the sides of the bay, and on the ploughed field behind the bay, was forge cinder, including a few forge bottoms. Also on the field behind the E. end of the bay

the soil was black over a large area, and here, with the forge cinder, was much slag resembling bloomery tap slag. A single large mass of cinder lies in the stream. The bay is in good condition, c.184 yards long, 12 feet high on the downstream side and 10 feet on the upstream. It is broken by the stream at its E. end, and at the W. end by a deep channel, now dry, which, after running S. for about 80 yards, turns into the field below the bay. This is probably the remains of a flood weir or sluice. There is a slight depression in the field below the bay, just E. of the middle, that may represent the wheelpit. The exposed vertical bank of the stream shows that fairly deep deposited silt comes up to the back of the bay and covers the working area. This evidence, together with the very short channel from the weir, and the relatively small amount of forge cinder, gives one the impression that the pond for the Steel Forge, only 600 yards downstream, must at some time have reached as far as the bay. If so this postulates a short life for the forge on this site with its bay later supporting a pen pond for Steel Forge below.

STEEL FORGE, WARBLETON: TQ 604 170 Wealden Iron p.378

Here the much broken bay is c.150 yards long, 6½ feet high on the downstream side and 4½ feet on the upstream. There are forge bottoms spread along its length. There is much black soil and cinder exposed at the E. end where the working area appears to have been. At this end the bay is broken by the stream, in both banks of which are patches of buried red burnt soil. Here too the stream runs in S-bends, probably due to banks of cinder. Behind the bay at the E. end is an area excavated to a low level in which is a depression, probably denoting the wheel pit, and from it a channel runs to join the stream a little lower down. This would seem to indicate that the present stream is the site of the flood-weir or sluice. See above for the suggestion that the water at Woodman's Furnace/Forge was at some time a pen pond for this site.

RATS CASTLE FORGE, TONBRIDGE: TQ 6115 4675 Wealden Iron p.222

At this site very little is left of the bay, as Straker recorded, but the probable line followed the N/S hedge line between Pond Meadow to

the W. and Rushes Meadow to the E. In Pond Meadow indication of a filled-in stream meander could be seen. In Rushes Meadow, next to the hedge (the bay?) is a bank containing forge cinder, and one or two forge bottoms were found, together with bloomery-like slag, as at other forge sites. The forge cinder seemed to be concentrated in two hillocks and between them was the possible site of the wheelpit. What appears to be a pen pond is at Postern Heath Forge Farm (TQ 606 462), where the road acts as the bay. This site requires further investigation as it might be a forge in its own right. Straker gives little documentation for Rats Castle Forge, and that only in the 16th century. There must be therefore, the possibility that it had a medieval foundation in conjunction with the not-far-distant Tudeley medieval bloomery. A sketch plan will be included with the records.

BRIGHTLING or GLAZIERS FORGE (& FURNACE?) TQ 651 213 Wealden Iron pp.301-2.

A long private road leads to this site from Dallington, and a number of houses are grouped around it. The one on the right, below the bay, is probably contemporary and if so is the iron-master's house. The road from it to Glaziers Farm runs along the top of the bay which is c.60 yards long. It is now 4 feet high upstream and 10 feet on the downstream side, which is revetted with stone. The lawn running from the front of the probable ironmaster's house to the stream has been made up with several feet of forge cinder which can be seen in section in the stream bank. It contains many forge bottoms, some of which have fallen into the stream. Among this debris is a small amount of glassy blast-furnace slag. This supports Straker's idea that a blast furnace once existed here. The owner of Glaziers Farm has a cast iron half mould, said to be for making cannon balls. It does not seem, that in practice it could be used for this purpose, and it is more probable that it was used as a gauge for testing the shape and size of balls. It has a diameter of 5½ inches.

There are many minepits in the woodland E. of the road to the site.

ETCHINGHAM FORGE TQ 701 266 Wealden Iron p.298

This site is now difficult to understand as the railway was driven through the middle of it. Straker seems to have believed that it had

no pond but was powered by a leat originating from much higher up the Rother, as at Bibleham Forge. Owing to the railway this is now difficult to determine on the ground but should be clear from pre-railway maps. What is certain is that there still exists the very long artificial tail race. This runs parallel to the Rother before joining it half a mile further down. The main river has now broken through into this at the forge site, resulting in most of the water going along the race.

The isolated Forge Cottages still stand S. of the railway but look modern. Between them and the railway are some irregular banks and ditches. There is plenty of forge cinder and forge bottoms on the N. side of the railway, scattered on the field and in the banks of the mill-race channel.

SOCKNERSH FURNACE, BRIGHTLING: TQ 703 233 (bay) 705 233 (furnace)
Wealden Iron pp.306-7

This is a most interesting, unusual, and perhaps unique site in that the furnace was built nearly 300 yards below the bay and pond. The reason is not immediately apparent but may have been because of the very damp conditions below the bay. The bay itself is 100 yards long facing the now-dry pond area, but at its N. end turns E. for another 50 yards to form the S. bank of the weir. The overspill from where was once the weir can still be seen as a wide but shallow channel turning abruptly S. after 50 yards, to join the main stream behind the S. end of the bay. The bay is 3½ feet high on the upstream side and 6 feet on the downstream. We were very puzzled at this point as no glassy slag could be found except a little on the top of the bay. However 200 yards downstream we found 2 semi-detached stone cottages with back gardens jet black from charcoal impregnation. Just above them, where there runs an old track leading W. along the side of the valley to the Elizabethan Socknersh Manor House, an upturned tree root had exposed a dump of roasted ore and Cyrena limestone. Following still further down the stream, 85 yards beyond the cottages, is almost certainly the furnace site. Here there is much glassy furnace slag, both in the stream and in its left bank, and a “bear” on the same bank. A few yards on, still on the N. side of the stream, is a low artificial mound, topped by a tree. Pieces of glassy slag and glazed furnace lining have fallen from this and the mound feels hard to the probe. A footpath from the main track leads here and crosses the stream.

ROBERTSBRIDGE ABBEY FORGE: TQ 756 236 Wealden Iron pp.310-18

This important forge really ran as one unit with the Robertsbridge furnace, but had a separate pond some 400 yards below the furnace pond, both now dry. From it was the unusual feature of a leat or dyke, about 300 yards long, running E. and cutting deeply through high ground, to the forge site, SE. of the Abbey.

The road (a public footpath) from the Abbey to the forge site is metalled with slag, forge bottoms and even pieces of iron. At the actual site are two empty cottages. Here the road rises on a causeway across this low part of the valley but with higher, almost level ground on its W. side. It would almost appear that there might have been a small silted up pond or perhaps occasional flooding here.

Just beyond the cottages, on the W. side of the road, the field is very black, while on the E. side there is a heavy scatter of forge cinder with roof tiles and some glassy blast furnace slag mixed with it. On our visit several pieces of iron were picked up.

In the undercroft of the Abbey House are preserved a forge hammer cam, a small cannon, the head of a "riser" from cannon ball moulding, and some iron hammers. There is also an unusual flat shovel-like tool, triangular shaped, 17 inches long by 12 inches broad. In the garden are a number of cannon balls, 7½ and 9 inches in diameter. Smaller balls from the same heap have recently been stolen.

BUGSELL FORGE, SALEHURST: TQ 723 256 Wealden Iron p.300

Here it is difficult to disentangle the forge remains from those of, the later corn mill, of which the ruins still remain. The mill was run from a small pond fed by a long leat coming out of the S. side of the Rother half a mile higher up. It is not clear if the forge used the same system. The only evidence to the contrary is what could be the remains of a bay, 100 yards long, but now only 1½ feet high, going across the valley from the corn mill site to the river. At the NE. end, just inside the meadow, and in the gateway, are many, pieces of forge cinder and bottoms.

BEDGEBURY FORGE, GOUDHURST: TQ 727 357 Wealden Iron p.282

Straker states that all traces of this forge have disappeared, and this may well be true. Forge Farm house is built at the lower end of what looks like a dry pond, with the stream running alongside it.

On the other side of the stream is the bank of the disused railway. On this side too is what appears to be a short length (about 25 yards) of a bay running from the railway bank to the stream. On the other, or W. side, of the stream the farm house stands almost on its line and the bay may here have been levelled to build the house. There are perhaps faint signs of the S. end of the bay on the road leading to Bedgebury furnace. Against the above theories not a trace of cinder could be found in the stream, banks or the farm garden. However what looked suspiciously like forge cinder occurs in the railway bank.

FRITH FURNACE, HAWKHURST: TQ 736 325 Wealden Iron p.320

This site is on land now belonging to the Forestry Commission near Bedgebury Pinetum. There is a fine unbroken bay 105 yards long on top of which runs a farm road. Upstream it is 9 feet high and downstream 10-11 feet. There appears to have been a weir at its N. end from which runs a now dry channel.

Near its S. end a bank (which also supports a track) projects at right angles E. to the bay. It would appear to have acted as a loading ramp and to separate the working area from a deep pit behind the extreme S. end of the bay. On the N. side of this bank is obviously the site of the furnace, as described by Straker, with many furnace bricks just below the surface.

Just N. of the furnace a small stream flows through a culvert under the bay. It is obviously the old mill race and where the wheel pit once was a large 12 inch by 12 inch balk of timber lies across the stream and has several mortice slots in it. Just E. of it are two vertical posts about 7 inches by 7 inches in size, all below the water. Below the furnace the collapsed furnace drain can be seen, and the remains of another culvert further N. There is a small scatter of glassy slag.

BATTLE PARK, BATTLE: Furnace (or Forge?) TQ 742 146 Wealden Iron pp.350-1

Here there is still a fine pond in water with a bay 170 yards long and 12 feet high on the lower side. Nearby are several buildings associated with use by the later powder mill, but in spite of a diligent search in the area behind the bay and in the stream no trace of slag or any other ironworking activity could be found. Farthing Pond was not visited, but appears to be a pen pond, and there is another small pen pond to the NE.

HODESDALE FORGE, MOUNTFIELD: TQ 748 183 Wealden Iron pp.329-9

Here there is a formidable S-shaped bay, 260 yards long with a height upstream of 6-8 feet and downstream of 8-9 feet. This does not seem to tally with Straker's disbelief in the existence of a pond. The working area was obviously at the S. end of the bay, near the present stream. Here, just behind the bay, is much forge cinder and many forge bottoms, while across the stream, in Eastland Wood, is an area used for charcoal dumping, served by an old track, and several mine pits. Perhaps mine was taken in return loads to the furnace.

In the stream bed just below the bay, are some heavy timbers with signs of mortices, and still here is the iron plate noted by Straker. It is approx. 28 inches by 19 inches by 1½-2½ inches in size.

The old house at Woodesdale, built on what is probably an old track from Mountfield to Hodesdale, may be contemporary with the forge.

MOUNTFIELD FURNACE & FORGE: TQ 749 196 Wealden Iron p.326

There is here a very substantial bay about 135 yards long with a downstream height of 10 feet but only a foot or so higher on the upstream side. At the S. end it is only about 60 yards from the railway line and after the first 40 yards is cut by the stream. After another 82 yards a farm track has been bulldozed through it and soon after this it meets rising ground. Behind this last short length at the N. end is a hollow surrounded by a low circular bank which may represent the furnace. Lying about nearby is much glassy furnace slag, pieces of glazed furnace lining, bricks and roof tiles. There is also evidence of a charcoal dump in the area. A hollow, running from the N. end behind and parallel to the bay, towards the stream might have been a tail race. Some lumps of what might have been forge cinder were found in the stream but otherwise there is little evidence of the forge.

IRIDGE FURNACE, SALEHURST: TQ 749 277 Wealden Iron p.320

Straker refers to this site as a little furnace with a small stream and a slight bay. However the stream is quite a strong one and the bay c.90 yards long and 7 feet high on the upstream side and 10-11 feet on the downstream. Glassy slag occurs sparingly in the stream and behind the bay, together with roasted ore and Cyrena limestone.

Near the S. end of the bay there is a shallow gap and below it a

depression which has the appearance of a wheel pit. However from it leads a leat that runs parallel to the main stream for over 250 yards and it may well be that this is the site of the weir. Just N. of the above a bank projects E. at right angles to the bay, and appears to be the typical loading ramp, also forming the protection of the working area from water flowing over the weir. In confirmation of this what is almost certainly the actual furnace site is a small projection on the N. side of this bank where burnt bricks and clay protrude from the surface.

ROBERTSBRIDGE ABBEY FURNACE: TQ 751 231 Wealden Iron pp.310-18

At this site almost all the earthworks have been destroyed. The farm road would appear to be on top of the W. end of the bay, but at its E. end, where its line departs from that of the road, it has apparently recently been bulldozed flat. Its course can, however, still be traced across the arable field by two wide double lines of glassy slag separated by a band of yellow soil. The slag goes quite deep down, below plough level, and would seem to be part of the construction of the bay. The bay had probably been c.200 yards long and the furnace appears to have been at the W. end where there is a raised projection to the N. side of the farm road (the bay). From near here runs a ditch, probably representing the tail race. Around this area is scattered glassy slag, Cyrena limestone, pieces of furnace lining, roof tiles and thin furnace bricks and pieces of clay cannon mould. An old track leads NE. from the furnace site to the forge.

In the garden of the house immediately W. of the bay is a large “bear”.

HAWKSDEN FURNACE MILL, HAWKHURST: TQ 774 213 Wealden Iron p.321

This is a very puzzling site and although Straker only refers to it as a furnace we at once formed the opinion that there had also been a forge here. Round the area of the former corn mill there is plenty of forge cinder and there are forge bottoms in the garden rockery of Furnace Farm. Furthermore the present house at the mill is called Forge Mill. The former furnace pond is now dry and only about 100 yards of the former long bay remains, all of the N. end having been levelled to build Furnace Farm and its garden. A small quantity of glassy slag can be found but we were told that large quantities exist under the road to Furnace Farm.

It would appear that to make the corn mill pond the back of the furnace pond bay was utilised and the furnace pond allowed to become dry. This has resulted in the silted up level of the now dry mill pond nearly reaching the top of the back of the furnace bay. To fill the mill pond a leat about 500 yards long was dug from higher up the stream and to it was added the overflow from some deep mine pits to the S. This development would appear to have taken place after iron working was abandoned, or the two industries could have been contemporary, as at Horsted Keynes, which has a similar arrangement. A third possibility is that the system was first used for a separate forge, followed by a corn mill. The cannon balls and mould mentioned by Straker seem now to have disappeared.

BREDE FURNACE: TQ 801 192 Wealden Iron pp.341-4

This furnace site, later occupied by a powder mill, was almost completely destroyed in the construction of the Brede Reservoir. One cannot even be certain of the position of the bay, but it must have run across the valley somewhere between the present reservoir dam and the main road to the S. In this area there is dark charcoal-impregnated soil and scattered glassy slag and, just inside the gate leading from the main road, a “bear” lies in the grass field.

In the opposite field, on the S. side of the road, is similar black soil and slag; here some pieces of clay mould were picked up. At the bridge there is much glassy slag in the stream on its S. side, and in the corner formed by the stream and the road; on this side the field is irregular, possible indicating buildings. Some artificial terraces on the hillside N. of the bridge seem more likely to be associated with the powder-mill period.

EWHURST FURNACE, NORTHIAM: TQ 810 248 Wealden Iron p.320

This site can be approached from the main road at TQ 806 246, by a public footpath. Its present situation is unusual in that it is surrounded by arable fields.

The bay was a long one, 187 yards, but has had 30 yards destroyed and levelled at the N. end. Upstream it is 5½ feet high and downstream 7 to 8 feet. It is evident that the furnace was at the S. end where a widening of the bay probably acted as a loading ramp. Here too the soil of the field is contrastingly black and scattered over it is much

glassy slag, Cyrena limestone, roasted ore, and broken bricks and roof tiles. The stream cuts through the bay 62 yards from the S. end.

BIDDENDEN HAMMER MILL TQ 822 383 Wealden Iron pp.282-3

Straker appears to have thought that the forge site here was at the W. end of the bay, where the corn mill was situated (near the present Hammer Mill Farm). However it seems quite evident that it was at the extreme E. end of the bay. The bay here turns N. at right angles for a short distance, to partly enclose the forge site. Here a hollow seems to mark the site of the wheel pit and from it a now shallow channel runs to the stream, representing the tail race. A dip in the height of the bay must be where the tunnel through it has collapsed. Scattered around are lumps of forge slag, parts of round forge bottoms, broken bricks and roof tiles, and notably a large rectangular forge bottom measuring 2½ feet by 4 feet.

The bay at the forge end is 5½ feet high on the upstream side and 7½ feet on the downstream. It is a long one and can be traced from about 230 yards SW. from the E. end, running roughly parallel to, and on the S. side of, the main road as far as Hammer Mill Farm house. Beyond the farm what may be a continuation turns S. towards Hammer Wood and perhaps enclosed part of the W. side of the pond. Recently when part of the main road, near Hammer Mill Farm, was being dug up a cannon ball 4¼ inches in diameter was found and is in the possession of Mr F. C. Hall of Hammer Mill Farm.

It should also be mentioned that at the actual site of the forge there is quite a quantity of glassy blast furnace slag. This phenomena has been noted at other forge sites (e.g. Cansiron and Ardingly).

BECKLEY FURNACE & FORGE: TQ 836 212 Wealden Iron p.348

This is a most interesting site where a long bay (c.170 yards) had a furnace at one end and a forge and boring mill at the other.

At the S. end the Tillingham river now cuts through the extreme end of the bay and in the stream are many forge bottoms and some lumps of swarf from the boring mill. Also in the stream bed are considerable remains of a timber structure, probably the wheel pit, of which a sketch plan has been done for the records.

At the N. end of the bay the furnace was superseded by a corn mill and it appears that for this purpose the pond was drained and a leat dug to tap the river higher up. Here, in the mill house garden, is much glassy slag

and an iron slab approximately 4 feet by 1½ feet by 6 inches, made by running molten iron into a shallow trench. Near the point where the bay meets the newer mill leat a round mound in the garden may well represent the furnace. Probing showed some solid structure below the grass.

The main centre portion of the bay, crossing the meadow, is now low and broad from levelling and ploughing, and barely 2 feet in height, but at the extreme ends it rises to nearly 10 feet.

There is a tradition that a new house on the opposite side of the road to the mill house is built on the site of a house once belonging to one of the famous Lenards, ironmasters.

Darvel Furnace – A Note

The note in Bulletin No. 7, p.27, on 1973's exposure of this site was very interesting. The "earlier operation or unknown forge" referred to could perhaps be the remains of "Darfold Furnace", spelt Darvolld and Darvoll in Thomas Glidd's 1568 lease. The early Derefold, in Netherfield Hundred, became Darvel and Darwell, today's Darwell Hole having been Derfould Hole in 1608. The 1574 listing of "j furnace in echingham" possibly led Straker to place "Darfold" at Burgham Farm on the Limden, but the lease makes clear that Sir Robert Tirwhitt's whole extensive property was called Echingham Park and contained both furnace and forge. In spite of correction by the S. R. S., confusion still remains. (Vol.53)

The Revd. J. Gyles, who re-started the furnace in 1649, was licensed to make and repair bays and may have used part of the old site. He was probably related to the iron-working Glidds (who also owned Collin's Forge), old Thomas's son, another Thomas, having married a Gyles. It would be interesting to establish what was at Burgham — could it have belonged to Thomas Maye? Burgham is, by the way, in Shoyswell Hundred. — W. Phyllis White.

Maresfield Powder Mills, Furnace and Forge by Joseph Pettitt

Such is Straker's title in Wealden Iron (1931), p.400. This is At TQ 460 227. In his text, however, he says the Forge was shifted and in his interleaved map shows it halfway up to Maresfield Corn Mill at c.465 331. He uses a Furnace symbol: his practice was to use this for a combined site, as well as for a furnace, but he makes no mention of the shifting of the furnace.

The evidence for the shift is found in a number of 18th century maps by three mapmakers: one, the famous Budgen map of 1724; two, the series of Bowen maps — these are probably based on Budgen; three, the map of 1724 copied by Charles Dawson in 1912 for an article by W. V. Crake in Sussex Archaeological Collections **55** (1912), called "A Notice of Maresfield Forge". Straker used the last map — the copy — as evidence for the forge shift; see p.401. This map also shows a blast-furnace symbol at c.465 233 on the edge of Furnace Bank(s) Wood, the Powder Mills is shown at the old forge site and the Maresfield Ouse is shown as navigable by barge up to the shifted forge.

Straker also notes various field names, notably on the air photo facing p.402; these are derived from the Tithe Apportionment c.1840. Of interest are 'Forge Lane' and 'Upper Forge' up the western valley towards Batts Bridge.

Investigations by WIRG

On Jan. 7 1970 within ten minutes of starting down what Straker called 'the lane up which guns were hauled', Buxted WIRG team lighted on Bloomery tapslag at 463 233 in Furnace Bank Wood. A hundred yards further down they found convincing evidence for a blast-furnace: glassy slag, charcoal, a bay and a decayed pond. The stream is not shown on any OS map, it being negligibly small. Nor is the pond, though it appears on the Tithe map, c.1840. Was this another furnace? Not the Maresfield Furnace? Certainly 'Furnace Bank' was justified.

Below the pond bay near Powdermills Cottage there is forge cinder and charcoal: this was obviously Maresfield Forge. But furnace slag? None. Interesting furnace bottoms, but that's another matter. Search up the western stream towards Batts Bridge gave no evidence of activity, beyond a piece of bloomery slag in Forge Lane where the Roman

Road leaves the valley on the west side.

A later visit to the 'shifted forge' site revealed nothing. The writer likewise found nothing to warrant the furnace symbol on the Dawson map at the southern edge of Furnace Bank Wood.

Comments and conclusions

a) The SAC **55** article is misnamed: the activities were connected with a furnace.

b) Maresfield Furnace was separate from the forge, and in Furnace Bank Wood. A Mill Lane ran from here to the main road just north of Maresfield Corn Mill, not up the supposed 'Gun Road'. This is made clear in a Gage Map of 1822.

c) Maresfield Forge was never shifted, despite three mapmakers. Budgen, an expert on roads, did not check the Forge site; it was working when he was surveying. Bowen followed; Dawson followed — for a reason implied later.

The Gage Map referred to and the 1st Series O.S. 1" both show a leat from just below Batts Bridge leading away from the valley and disgorging into the Forge Pond. To do this it would have to surmount a hump in Forge Field behind the Powdermills Cottages. Impossible? However, the Funnel Field in the Straker air photo is Tunnel Field in the Gage Map. Was there then a culvert?

There is some faint evidence of a ditch leaving the valley just below Batts Bridge on the east side; it is not to be confused with the ditch on the valley floor on the same side. Since the rest of the way to the Forge is over arable land no further traces can be seen except where the leat, if it existed, crosses the lane just east of the Cottages.

d) The mystery of 'Upper Forge' is still unsolved. It could not have been a pen pond for the Forge: gravity forbids.

e) The map that Dawson copied? It never existed. The original — highly original — was the supposed copy of 1912, the year of goings-on nearby on Piltdown Common. Piltdown Man wasn't so old, either. The writer has made a detailed study of the map and area: the map shows the impossible — a barge could not get up to the shifted forge. There are vertical obstacles nearly ten feet high at Shortbridge and the Powder Mills.

A glance at the pond bay at the latter site makes that clear. Moreover only a canoe — carried along the bank — could get up the stream in many places and in the higher stretches. The map antedates the Powder Mills by 125 years: documents dated 1849-59 show its history, from licensing to bankruptcy. Maps before 1849, say the Tithe Map of c.1840, show 'Forge Cottages'; a plaque on the Powder Mills Cottages has the date 1850; Maresfield Rates first record the Mills in 1852. Dawson's Furnace was on the top of a hill; not even a mad miller would do that. Windmill-powered? Unique in metallurgical history? To give water power to such a furnace a bay 600 yards long would have been necessary: this would have inundated the Maresfield Corn Mill above, perhaps the King's Highway, some of the smallholders on Budletts Common and many cattle. There are other blunders, chiefly anachronisms. SAC of 1974 carries an article by the late Lt. Col. P.B. Andrews on the roads shown: a short article by the writer appeared in SAS News of May 1975. 7he writer has also a more detailed study with sketch maps and documentation, including a note on the supposed lock, which turns out to be a ruined cart bridge. Budgen's error in siting the never-shifted forge was a gift to Dawson, though he never put Budgen's map 'in evidence'.

Two Outlying Ironworking Sites

A North-eastern Extension of the Early Wealden Iron Industry.

Viscount Monckton of Brenchley kindly invited me to look at a site where tap slag was appearing on arable land, at TQ 872 514, just across the road from his house at Runham Farm, Harrietsham, Kent. It looked to the writer to be the typical dense Roman type of tap slag, and from Lord Monckton's limited excavations it appeared to be coming from a buried road surface running in a NW-SE direction and actually passing under his house. Some confirmation of this view was the finding of similar slag, some three fields away, on the presumed line of the road.

All this evidence must lead one to expect that a Roman bloomery site must exist somewhere in the vicinity; but how far would it be economic to cart the slag?

In Bulletin No. 7 (Winter 1974) p.8, Mr Alec Miles reports on a bloomery site at Lenham Heath, not far from Runham. It would be interesting if slag from these two sites could be compared.

C. F. T.

EARLY IRON AGE IRONWORKING IN SUSSEX.

In view of the scarcity of evidence for Iron Age iron working in Sussex, particularly of B.C. date, it is of great interest to hear of such evidence from Slonk Hill, Shoreham (TQ 226 065) where, following, a rescue excavation in 1968, in advance of roadworks, Messrs. Hartridge and Whitty have been working each season. Here they found evidence of a prehistoric settlement where metal working was carried on in both copper and iron. The iron slag was submitted to Mr Henry Cleere who believes it to be the product of smithing rather than smelting. Pottery associated with the metal working covers the period from about 600 to 200 B.C.

The nearest iron ore source in the Wadhurst Clay, where presumably smelting took place, is nearly 20 miles away. The presence of smithing slag only would seem to indicate that raw blooms were brought here for working up.

One can only speculate as to whether these people sent expeditions into the Weald to make iron. Dr R.F. Tylecote suggests that itinerant smiths, skilled in the working of both iron and copper base alloys visited this farming community from time to time.

I am most grateful to Mr R. Hartridge for generously giving me the above information prior to the full publication of the site in a forthcoming volume of Sussex Archaeological Collections.

C. F. T.

SCARLETS FURNACE: A NOTE

In order to repair the bay which burst in the flood of 1968 the owner of Scarletts, Mr John Jackson, a member of our group, has been clearing the ground to make a new spillway and has uncovered the tail-race culvert and gun-casting pit of the north furnace. So far the wheelpit has been excavated and found to be in excellent condition with well-squared stone work founded on a wooden floor which extends under the culvert; next comes an access chamber and then another culvert of a different section and founded on separate beams under each wall, with cross pieces dowelled in. A curious feature is that the floor of this culvert is about 12in. above the floor of the wheelpit, thus trapping a foot of water under the wheel, which may have been used pitched back.

Fortunately several paddles of the overshot wheel were found, together with a fragment of the rim, enabling a diameter of 9 foot 9 inches and width of 2 foot 5 inches with 22 buckets pitched at 15¾ inches centres to be measured; this appears to be a wide wheel for a furnace. Also found in the wheelpit was a piece of wrought iron bar of roughly octagonal section, very similar to the boring bar, 1⅜ inches across the flats, 2 foot 8 inches long and weighing 15 lbs. and in as good a condition as the day it was made. There were also some curious thin wooden gauges that appear to have hung from plumb lines, and could have been used for lining up a gun and boring bar. There was also a small piece of cast iron rack 9 inches long.

By carefully scraping the bay above the wheelpit David Butler exposed a very clear contrasting earth section of the water shoot which is a different type to the unique in situ trough (for the supposed south furnace) which was exposed by the flood and which we hope to investigate.

Roger J. Adams

BOG IRON OR IRON PAN.

The problem of the identification of Bog Iron, or Iron Pan, as it is often called, is one that sooner or later will face the field worker who is trying to discover new iron working sites. This is due to its superficial resemblance to forge cinder or even hammer scale. First, what is bog iron and how is it formed? Very simply one can say that in certain types of acid soils rain water will dissolve the iron compounds in the top soil and, given suitable conditions, these will come out of solution to be precipitated at a lower level, forming a

compact layer of iron pan. This layer may impede drainage and often leads to waterlogging. In another way it may form round a tree or plant root leaving, when the root rots, a rough tube. A number of these tubes are in the Straker Collection, and Straker was evidently puzzled as to their origin.

Another type of iron pan or iron concretion, very like forge or furnace cinder and distinct from iron pyrites, can be found on the chalk downland. Usually this is found in isolated lumps but sometimes in concentration, as at Hollingbury Camp, Brighton, where Curwen found large quantities under the rampart (see photograph in the Straker Collection).

In the Weald bog iron is usually found at the edge of waterlogged, or former waterlogged ground, at the point where the flood plain meets higher ground, where it sometimes forms a hard compact layer. Farmers and farmworkers seem generally to believe that the iron pan that they find when deep ploughing or ditching indicates ancient iron workings. I have recently, on three occasions, been directed to such sites, where I was told ‘cinder’ had been found, only to see that it was bog iron. This fact may in certain cases have influenced field names incorporating the word ‘cinder’ and so be misleading to those seeking iron working sites from field names. A probable example of this is ‘Cinderberry Field’ near Wivelsfield Green (TQ 350 216) which has a stream on its northern boundary. A recent visit, after the stream had been dredged, revealed large quantities of bog iron lifted from the stream bed but no genuine iron working cinder.

A layman’s guide to the recognition of bog iron is mainly an emphasis on negatives. Close examination reveals no cellular structure or stray lumps of charcoal, as in genuine cinder. Although often very hard outside it is usually crumbly when broken, and its consistency is in contrast to the variety of cinder forms from an iron working site.

It is perhaps of interest that bog iron has been successfully used as ore in a number of countries, notably Ireland and Iceland, but there is at present no evidence of such use in the Weald.

C. F. TEBBUTT.

REVIEWS

D. W. Crossley 'The Sidney Ironworks Accounts 1541-1573',
Royal Historical Society, Camden Fourth Series (1975).

All students of the wealden iron industry owe a debt to David Crossley for his excavations at Panningridge, Chingley, and Pippingford (all published) and the light they throw on the layouts and technical processes of this industry in the pre-Industrial Revolution period. The author, rightly not content with fieldwork alone, has also devoted much time to documentary research, where material was available.

The publication of the Sidney Ironworks Accounts relates to Sir Henry Sidney's interests in establishing, running, and maintaining a furnace and forge at Robertsbridge, a furnace eight miles away at Panningridge (excavated by the author, see Post-Medieval Archaeology Vol.**6** (1972) pp.42-68), and a furnace in Glamorgan, S. Wales. This latter he rented to secure a supply of cast iron plates for his steel works at Robertsbridge Abbey and Boxhurst, nearby. The local Welsh haematite ores were found to produce iron more suitable for this purpose than those in the Weald. In a scholarly introduction, with many footnotes, the author has squeezed every bit of information from the detailed accounts to piece together the methods and materials used to build and maintain this industrial complex. For example the labour employed, which included skilled furnace and forge men, miners, charcoal burners, timber cutters, carpenters, stone masons, and carters, etc., and their wages, is all analysed, compared and date tested to see if their employment was seasonal or permanent. Much information from other sources, consulted by the author, is used for a final analysis, which makes a fascinating story.

The light thrown by the Accounts on this early steel making venture is obviously of great interest. It is soon apparent that the heavy initial overhead costs were not confined to the shipping of iron plates from Cardiff to Rye, and the to and fro of persons to Wales and back. The author explains that at that time Germany was the regular supplier of steel to this country, and the Sidney enterprise a new one here. it was therefore necessary to recruit (and probably bribe) skilled "dutchmen" to come over to work the new steel works.

To accomplish this, responsible servants were sent on an expensive recruiting mission to Antwerp where they were successful in bringing back

“dutchmen”. On their behalf there are constant items in the accounts relating to travelling expenses from Antwerp to Robertsbridge, via London and Hawkhurst, and for food, beer, apparel, bedding, firing, and even ‘the expenses of a surgeon for medicine and blood letting. Some tried to leave, presumably they were under contract, and were arrested before they got further away than Rye. The steel produced had at first a wide sale, undercutting the German product, and was surprisingly sold by the barrel, in firkin barrels.

The reviewer found many small items of great interest in bringing to life the problems of suddenly imposing an industrial process on a traditionally rural setting. The constant passing of heavy wagons filled with “cole” and “mine” across the countryside necessitated many payments for “the liberty of passing through other men’s grounds”. Gates were obviously often too narrow and there are many payments for new gates and posts. Roads were often quite inadequate and there is constant reference to “mending the ways”. This was often done with cinder carted from the furnace or by “cutting bushes and thorns to lay in the lane”.

Naturally as much raw material as possible was supplied from the estate. Much building timber was required and this was either sawn on “sawstages” or “sawpits”. One interesting item was “timber work for the furnace” that had to be “reared” by the help of a number of people who were supplied with bread and beer. Was this a framed runway for the loading ramp or a frame round the furnace, as depicted on the Leonard fireback? There are several references to the sale of ashes and “cole dust”, from the furnaces. This was probably to farmers to spread as fertiliser. If so the practice may account for the scatter of glassy blast furnace slag that occurs on so many fields in the Weald.

Again there is an interesting mention of rewards paid to the hammerman and finer for fining “old iron”, which suggests that the process was difficult or even dangerous. Does this account for the defective cannons, or pieces of cannons, still found on iron sites and apparently rejected as profitable scrap?

Tudor spelling is always a joy to decipher as it usually is phonetic and reflects local dialect. These Accounts are no exception. As examples furnace is spelt in at least eight different ways and iron in five!

It is a great pity that, except to fellows of the Royal Historical

Society, this volume is unobtainable, and by its rules there can be no sales to the general public for 2½ years after publication. However it is likely that the Sussex Record Office and the Library of the Sussex Archaeological Society will have copies that can be consulted.

C. F. T.

D. W. Crossley 'Ralph Hogge's Ironworks Accounts 1576-81'
Sussex Archaeological Collections Vol.112 (1974) pp.48-79

Philip Henslowe's notebook, recording his financial involvements with theatrical companies in the early 17th century, was deposited by his stepdaughter in the library of Dulwich College, founded by her husband Edward Alleyn. This MS book has long been familiar to theatre historians, but until recently no one interested in wealden ironworks appears to have known, or been informed that at the back were some accounts of Ralph Hogge the famous Buxted ironmaster. He had married Philip Henslowe's sister Margaret, and John Henslowe, another brother kept his accounts.

The accounts are unfortunately very incomplete but they do throw a little more light on this rather mysterious and almost mythical local character. Their incompleteness makes them almost useless to calculate the economics of his famous cannon casting business, but they do suggest the scale of his enterprises and the names, activities, and working methods, of the sub-contractors, who made, cut, dug, and carted his raw materials.

The author has written a masterly introduction to the Accounts and all that they reveal. Many members of W.I.R.G., as members also of Sussex Archaeological Society, will have received copies of this article. For others it is available in public libraries.

C. F. T.