



NEWSLETTER 46 AUTUMN 2007

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CHAIRMAN'S LETTER

Dear All

It was so good to see so many of you at the Annual General Meeting at Fernhurst. Carla Barnes gave an interesting talk on North Park and an enjoyable visit to the site in the afternoon was hardly interrupted by rain. Quite an achievement in the rainy season!

After the talk the business meeting took place. Ashley Brown stood down as treasurer and, in the absence of any other nomination, I have taken on this important post for the time being. Of course this is not ideal so we would all welcome someone else to take over from me. Thanks were given to Ashley for his efforts over the passed two years. Please consider joining the committee – a new perspective on our work is always welcome. The committee meets approximately four times a year and it is your chance to make an input. I am pleased to report that David Brown has taken over the task of administering the Field Group. Again I must add my grateful thanks to the committee for their support and friendship plus hard work.

A copy of the annual report and accounts is enclosed with this so you will be able to read what happened but you might like to know of projects etc. that are being discussed for the future. David Brown is planning to start an archive of photographs and will be asking for copies from you of any of WIRG activities such as forays, AGMs, Winter Meetings or anything at all pertaining to iron. I shall certainly be go-

ing through my slides etc. which will bring back memories of many enjoyable times. I wonder why this hadn't been thought of before but this shows the value of having someone new on the committee! Dot Meades' articles on forays have been collected together as one document and will be available to new members (or anyone else) at forays and meetings. If you would like a copy please get in touch with David. We are also pleased to welcome several new members.

Please let me know if you have any ideas for future speakers or sites that you would like to visit.

Many thanks to those of you who have completed Gift Aid forms – this is a splendid way of adding to WIRG's resources at no extra cost to any taxpayers. If you have not already filled in a form, and are a UK taxpayer please let me know so that I can send you one.

Best wishes for Christmas and the New Year

Shiela Broomfield

MICHAEL EDWARDS, CBE, QC 1925-2007

Michael Edwards, who died in March, had a distinguished career in law, the steel industry and higher education, rising to become Managing Director of British Steel (International) and Chairman and MD of British Steel (Overseas). Living in the Weald, firstly at Leigh (Kent) and latterly at Rotherfield, Michael took a great interest in the history of the region and, not unnaturally, of the iron industry in particular. He served briefly on WIRG's Committee in the early 1990s, and was a liveryman and Past-Master of the Ironmongers' Company. He seemed an obvious choice, in 1996, when it came to approaching a distinguished personage to perform the dedication of the plaque commemorating the 500th anniversary of the establishment of Newbridge furnace, then considered the oldest in Britain. His address on that occasion nicely emphasised the significance of the event, setting it in its historical and industrial context. The broad scope of his other interests was recorded in the pages of *Who's Who*, for which he declared one of his interests as 'making things happen'. He was a good friend to WIRG, and will be missed.



What is this?

Answer on back page

IRON, WOOD AND WATER IN THE WESTERN WEALD

An illustrated talk to the AGM on 21st July 2007 by Carla Barnes

One of the highlights of WIRG's year is the talk at the AGM, followed by a visit to a nearby place of interest for Members. This year the talk was given by someone who has special affection and knowledge of the place and is a proud custodian of one of the most important iron sites in the Western Weald.

Robin Barnes and his wife, Carla, own the working area of North Park Furnace in Fernhurst with the remainder held by the Cowdray Estate. Since 1987 their mission has been to save this important, recently- Scheduled Ancient Monument and help interpret its story for the benefit of an increasing number of visitors. They believe they have made a real breakthrough in recent years as others are now realising the importance of this site. English Heritage officers were due to inspect it on the Monday after the AGM and a book entitled 'Fernhurst Furnace' has recently been published; both confirming the growing awareness of the iron history in the area and of this site.

North Park is one of a number of furnaces in the area south of Haslemere. Close by are Milland, Inholmes Copse, Harting Coombe and Verdley Wood with Imbhams, West End and Witley Park nearer that town. The Hammers were at Chithurst, Rogate and Pophole. Altogether there were some eight Furnace sites, with one undiscovered somewhere near Milland and six Hammer sites in this part of the Western Weald. Thus although quite westerly relative to the main areas of production in Sussex and Kent it was nevertheless an area of significant iron production. Carla introduced us to the Quennells, Montagues and Bettsworths who operated many of the sites during the Sixteenth and Seventeenth centuries though we learned that North Park was still in production in the Eighteenth.

In April 2006 the Fernhurst Furnace Preservation Group Ltd was formed and about a month before the AGM, Charitable Status was finally secured. Negotiations are underway with the Cowdray Estate to lease the site to the Preservation Group so that applications for grant aid can be made to the Heritage Lottery Fund. This would help pay for specialist advice to set out in detail what is needed for restoration and it was helpful to have a Conservation Management Plan already in place for the application.

Through her excellent slides Carla enabled WIRG Members to gain an insight into how this furnace operated. It was sometimes difficult to see through all the water poring through the site but key structures could be discerned with a little help from the speaker. All would be revealed on the afternoon site visit! By way of contrast a slide showing the Furnace at Saugus in the USA showed what restoration could achieve and without leaving as much to the imagination.

The north and south spillway had lost ma-



Members at North Park Furnace, Fernhurst

sonry in the recent heavy rain but thankfully drawings had been made so restoration is possible. The oak lining to the tailrace is still in place and the bed of the furnace is protected by a Geodex layer. The back wall is still in good condition. It was intriguing to see what Carla described as white water rafting in this part of the Weald! Perhaps a storm water relief pipe would have been useful in recent weeks. One of Mike Codd's reconstructive drawings showed how such a site could have looked when operational but knowledgeable WIRG Members had spotted that it did not look efficient because the iron was taken out of the wrong side of the furnace and it was surrounded by water. Could it have been rebuilt? Reg Houghton helped answer this one, pointing out that where a gun casting pit had been installed it was easier to control casting if the layout was as shown in the drawing. Viewing more slides Members were also able to see the casting pit and box and further views of the furnace, including the backfilling with Geodex.

It was also a pleasure to see slides of some of the two 2-day events that Carla and Robin had held on site, the first of which was linked with Heritage Open Days so they didn't have to pay a £200 insurance premium! This mattered because they didn't charge admission to these open days. The Sealed Knot had put in an attendance, as had a local group from Emsworth and there were displays of button making, flint knapping, pole lathe and hurdle making. South Downs Lamb was roasted and Battards Beer was on sale. The South Downs Joint Committee supported the events.

North Park Furnace was established circa 1614 'Thomas Gray, Gent, built an ironworks' and worked it in tandem with Pophole as the Forge. Carla felt that the site should be earlier but there was no evidence to substantiate this. Robin's family had owned the land since 1793 but whereas it was once

OFFICERS AND COMMITTEE

Chairman & Hon. Treasurer: Shiela Broomfield

Vice-chairman: Jeremy Hodgkinson

Hon. Secretary: David Brown

Committee: John Baillie, Ashley Brown, Ann Callow, Brian Herbert, Tony Singleton, Tim Smith

5000 acres in extent it was now down to 150. Papers from the estate are lodged at the Archives and Record Office at West Sussex County Council and there is information in the Fernhurst Archive for this very active village, which also has its own web site.

Finally in answer to questions we learned that there was little evidence of Roman activity nearby other than a tile works and some pottery making. There were no known bloomeries though Jeremy Hodgkinson added that there was a different tribal tradition here to that further east and this could be one reason. There is however a medieval site nearby.

In conclusion the Chairman thanked Carla and also Robin for giving such an interesting and very good talk. WIRG Members showed their appreciation in the customary manner.

Ashley Brown


**THE WEALDEN IRON RESEARCH GROUP
ONLINE SITES DATABASE**

The iron industry in the Weald has been extensively studied since the mid 19th century, with writers, from Mark Antony Lower to Henry Cleere & David Crossley, compiling gazetteers of sites where iron-making took place in the Weald. To date, more than 800 sites, dating from the pre-Roman Iron Age to the 19th century AD, have been discovered and new ones

are found every year. As well as their intrinsic importance as evidence of the growth and development of the iron industry, the existence of sites in a parish contributes to the economic and social history of those localities. With the regular discovery of new sites, printed studies rapidly fall out of date, so the Wealden Iron Research Group determined that an online database of sites, that could be regularly updated, would be a useful tool for historians, archaeologists and others. Adapted from an Access database compiled over the past 20 years, and incorporating site information originally published in *The Iron Industry of the Weald* in the group's own journal, *Wealden Iron*, and in other sources, the opportunity has been taken to allow a wide range of fields to be searched, and bibliographic sources to be included. This latter feature will be extended in due course to become a more general bibliography of the iron industry. Other features, including images, may be incorporated in due course. Search facilities are available to any user, without password, editorial access being reserved for the managers of the database. Corrections, amendments, and information about newly discovered sites are actively encouraged, and the Editor will be pleased to hear from any would-be contributors.


The database can be accessed from the Wealden Iron Research Group's website:

www.wealdeniron.org.uk



WEALDEN IRON RESEARCH GROUP
IRON SITE DATABASE

www.wirgdata.org



Iron Site Search

Define as many criteria as you need below, then click on Search. Hover over a field to see a description.

Perform search using logical AND OR

Site Name:

OS Reference: Within 0 km of
(must be in format: TQ 1111 1111)

Bibliography Reference: Present Absent Either

District:
Ashford
Chichester
Crawley
East Hampshire
[Select / Deselect All](#)

River Basin:
Adur
Arun
Ashburn
Astern
[Select / Deselect All](#)

Period:
Iron Age
Medieval
Modern
Roman
[Select / Deselect All](#)

Earliest Date: and
 and

Dating evidence: Present Absent Either
CLBR: Yes No Either
Gun Foundry: Yes No Either
Wire mill: Yes No Either
Excavation Details: Present Absent Either
Geology: Present Absent Either
Slag Heap Area (m. sq): and
 and

Parish:
Abinger
Aloston
Aldrington
Alfold
[Select / Deselect All](#)

County:
East Sussex
East Sussex / Kent
Hampshire
Kent
[Select / Deselect All](#)

Site Type:
Administrative Centre
Bloomery
Bloomforge
Boring Mill
[Select / Deselect All](#)

Century:
01
02
03
04
[Select / Deselect All](#)

Latest Date: and
 and

Scheduled Monument Number: Present Absent Either
Bloomery admin.: Yes No Either
Sickle mill: Yes No Either
Excavation?: Yes No Either
Lab Analysis of Residues: Present Absent Either
Description of site vegetation: Present Absent Either
Slag heap (Hodgkinson Scale): and
 and

[CLICK HERE TO SET WHICH FIELDS TO DISPLAY](#)

To search the database, log onto the WIRG website and click the link on the menu at the left side of the homepage. The homepage of the database will appear. Ignore the box asking for a password, and click SEARCH DATABASE. You will be presented with the screen on the previous page.

If you know the name of the site for which you want details, type its name in the Site Name box at the top of the screen, and click Search at the bottom of the screen (you may have to scroll down to find it). If you want to find what sites there are in a particular parish or local authority area, you need to scroll down the names in the appropriate box, and highlight your choice (you can highlight more than one), and then click Search.

The same method applies for different types of site, or historical periods or river basins. You can highlight combinations of choices from different boxes.

If you want to cancel a choice, click it a second time.

If you only want certain types of data to be shown when you get the results of your search, you can click on some of the other information types to show or hide them, or click where it says **CLICK HERE TO SET WHICH FIELDS TO DISPLAY**; the default is that all information is shown.

If you get stuck, email the Editor; there is a link on the Database homepage.

THE TEBBUTT RESEARCH FUND

It is twenty years since this fund was established, and its anniversary is a good opportunity to review how it came about, its purpose, and how well it has done over the years.

Fred Tebbutt was a distinguished amateur archaeologist who retired to Sussex from his native Huntingdonshire in the 1960s. He quickly became drawn into the archaeological scene in his adopted county and when the Wealden Iron Research Group was mooted in 1967 it was not long before he became actively involved. In time, he brought the group together from being a disparate federation of local teams, and instigated a number of projects, including some important excavations, that gave a unifying purpose to the group. He was pivotal in assembling the gazetteer for 'The Iron Industry of the Weald' and was able to see its long-awaited publication in the Autumn of 1985, just a few months before his death at the age of 85.

To celebrate his work, WIRG announced that a research fund would be set up, and members and others involved in archaeology in Sussex and elsewhere contributed to it. The Sussex Archaeological Society agreed to devote the proceeds of its annual conference in 1987 to the fund – memorably two days after the Great Storm. The purpose of the fund was to further the aims of WIRG, namely 'to promote investigation and collate information concerning the Wealden iron industry and related activities for the benefit of the public'. Among the few conditions applied to grants

are that the results of research be published, ideally in the WIRG Bulletin. The existence of the fund is advertised widely every year, through the newsletters of the archaeological societies and in the universities in the South East.

Over the years, many grants have been awarded, although it has been evident that, in recent years, the number of applications has declined and that for the past few years the panel appointed to consider applications has had no call on its time. One of the problems may be that as bank interest rates have declined, the value of the interest which the fund generates each year, and which constitutes the amount available for a grant, has declined as well, making it less attractive to potential applicants. This situation shows little sign of improving in the short term.

What should be done? To enable the fund to generate enough interest to make the grants sufficient to motivate research, the capital fund would need to be substantially increased, perhaps by a factor of ten. Such an injection of funds is unlikely. Things could be left as they are, or the fund could be wound up and its capital devoted to one or two larger projects. The fund is not governed by its own charitable objects, other than those that govern the Group; it is merely accounted for separately when the Group's finances are independently examined and presented to the membership every year. The Committee is considering the future of the fund, and would welcome comments by members.

Bearing in mind the purpose of the fund, what do you think should be done to make it more useful? Carry on as at present? Seek donations to increase the fund? Broaden its purpose? Spend the capital on one or two major projects? Or what?

Let us have your thoughts. Write or send an email to the Chairman with your views.

HEARING THE SPEAKER AT MEETINGS

I have a slight hearing loss and find that at many of our meetings I cannot hear the speaker, even when the amplification system is working. Often my hearing aid does not help much. It may be that the acoustics in some of the venues we use are poor, and it may be a problem only I have, but the thought has occurred to me that maybe I'm not alone.

Those of us who are hard of hearing tend to accept the situation and say nothing, and I'm one of those normally. But now I'm the secretary I have decided to take a lead and ask if anyone else has the same problem. I'm concerned that there may be a number of us who come to meetings hoping to hear what the speaker has to say – isn't that one of the reasons for coming? – but finding that we only get snatches or the odd word, and rely on the slides to get the gist of what's going on.

If you are one of those with the same problem as myself, I'd like you to let me know and we'll see what we can do about it.

Contact David Brown— details on back page

DON'T THROW OUT THAT OLD WIRG PHOTOGRAPH – DAVID BROWN MIGHT WANT IT

I would like to start a collection of photographs of WIRG people, activities and events, sites visited, artefacts found, excavations excavated and anything iron-related in the Weald. I don't want to keep the photo: I want to borrow it, scan it and let you have it back. The archive will be kept by WIRG for future use.

I think an archive of photographs digitally stored would be an asset to a group such as ours. We've been going for close on 40 years and there must be a wealth of photos lurking in dusty spaces waiting for a purpose. Their time has now come.

Information about each photograph will be recorded such as when it was taken, where it was taken, the names of anyone in it, a brief description of what is seen and who owns the copyright.

If you have any photographs you are prepared to have stored in the archive which you think might be of interest and which record an event, or show something iron-related found or seen, please let me know. In the first instance, don't send the photographs: just tell me how many you think you have which you think should be considered for inclusion. I will then get back to you and we'll go from there.

I hope to put on a regular display of new acquisitions at our summer and winter meetings.

Contact David Brown— details on back page

BARRY H. LUCAS A personal memory of a Wealden fieldworker

I first remember Barry Lucas in the 1950s, at the dispensary at Boot's the Chemist in Bexhill. My family lived in the town, and Barry, who was chief pharmacist at Boot's, was an old friend of my father, having been his Best Man at my parents' wedding. As younger men, they had shared an enjoyment of the Sussex countryside and had undertaken several walking tours of the county in the late 1920s and early 1930s. I still have the albums of photographs they took. I knew Barry had been interested in archaeology because, while I was at school, I had discovered that, many years earlier, he had directed some of the pupils



in excavations of the lost village of Northeye, on Pevensy Levels. What I was unaware of was his interest in the iron industry, and it was not for some years after I had joined WIRG in 1977 that I read the account of the excavation of the bloomery site at Crowhurst Park (*Sussex Arch Colls.*, 79, 1938), which Barry had carried out with Ernest Straker. I

mentioned my discovery to my father who revealed that he had visited the dig, at Barry's invitation, in about 1936. I soon found out that Barry Lucas had been involved in other fieldwork relating to the iron industry in the Bexhill-Hastings area, notably at Bynes farm bloomery, Crowhurst, and at Pepperingey, near Battle. I don't recall when he died, but it would have been round about the time that WIRG was founded. A pity, as I daresay he would have been delighted to see the next generations carrying on his good work, and it might have pleased him that the son of his old friend shared an interest with him.

JSH

FERRARIA

Since I submitted the note about the *ferraria* printed in Newsletter 44, my article, 'Our ferraria and Surrey's', has been reprinted in the Surrey Archaeology Society's *Bulletin* 392 (April/May 2006) with an important editorial note stating that, contrary to my supposition, workable deposits of iron are to be found in the Chertsey area and citing evidence of Roman ironworking thereabouts. The Society's *Bulletin* 394 (June 2006) continued the discussion with a stout rebuttal by the county archaeologist, David Bird, of any possibility of ironworking in the Chertsey area and a spirited defence by the editor, Phil Jones, of the arguments in favour of it.

M. J. Leppard

(It may be perfectly feasible for a *ferraria*, or forge, to have existed where there were no workable deposits of iron, its purpose possibly being to work iron, which could have been sourced elsewhere. – Ed.)

RALPH WILLARD, ARMOURER

In Newsletter 44, I also mentioned the statement in the *Victoria County History*, volume 2, that Ralph Willard, who died at East Grinstead in 1599, was the only armourer known in Sussex. Dr Roland B. Harris, in the Sussex Extensive Urban Survey's Historic Character Assessment Report for East Grinstead, has now pointed out that there was also one in 16th-century Horsham, according to volume 6 of the VCH. Citing Colin Brent's *Pre-Georgian Lewes*, he adds that Willard 'appears to have dabbled as a barber-surgeon'.

M. J. Leppard

FIREBACKS AT LULLINGSTONE CASTLE

Some readers may have enjoyed the BBC2 series about The World Garden, based in Lullingstone Castle. On a recent visit, we were impressed by three iron firebacks in the public areas of the house.

Sir John Peche built the original manor house during the reign of Henry VII. The estate passed to one of the Peche nephews, Sir Percyval Hart, whose descendant Anne Hart married Sir Thomas Dyke,

Sussex ironmaster. They inherited the estate in 1738, and the Hart Dykes have lived there ever since. Henry VIII and later Queen Anne were regular visitors. Historically, the Hart Dyke household held Jacobite loyalties.

All firebacks are *in situ* within the fireplaces, and are still used. As so often, with firebacks that have given good service, all have extensive wear/damage, and are riveted into the walls for stability.

The first fireback in the Great Hall is similar to the Petworth fireback on page 3 of WIRG Newsletter, 41, (Spring 2005). It measures approx 3 feet H x 2½ feet W; i.e. it is of the higher, arched 'Dutch' shape. A female figure in feathered hat holds aloft a plainer hat on a lance, between the words 'Pro Patria' (the first three letters in 'Patria' are missing, possibly damaged by a vertical crack nearby). To her right is a lion rampant. There is a bad horizontal crack, and the pattern on the lower half of the fireback has disintegrated, so details and any date are indiscernible. It varies from the Petworth version in that the word 'Hollandia' is absent from the similar elaborate arched border, although the same motifs of grapes and roses remain, restyled and positioned slightly differently. Lullingstone's fine hat also has a taller crown and wider brim. The family say this fireback was dated by an unknown source to 1701.

According to JSH, these 'Dutch' firebacks were probably produced in the Siegerland for the Dutch market, but many were copied in this country. If this is an English copy this would explain the differences, given the symbolism: 'The lion clutches seven arrows, which are symbolic of the seven provinces united by the Union of Utrecht (1579). The lady ... is sitting in the Garden of Holland, with its wattle fence, which was symbolic of Dutch identity. In the mid 17th century, when this fireback was produced half of the Netherlands were in Spanish/Austrian hands, and much of the symbolism was aimed at the goal of reunification.' (JSH, pers. com.).



The second fireback is in the dining room fireplace and bears a more familiar lion passant. There is a thistle motif at top, a rose and a fleur-de-lys to either side, and it is dated 1649, with the initials I M to the right of the base under the date. It measures approx 2½ feet W x 3¼ feet H, and is a full inch thick (the others are slightly thinner). Unlike the other two firebacks, which 'came with the house', this earlier fireback was brought to the house from Scotland by the current Mrs Hart Dyke. However, as Mrs Hart Dyke is a distant cousin of her husband and shared the same surname before marriage, it's possible that



it came down from an earlier branch of the same family. There are several examples of the 'Lion' fireback in houses and museums including Anne of Cleves House, Lewes (where the thistle twists to the right of the lion instead of above, instead of a fleur-de-lys). The Lullingstone 'Lion' also features the characteristic scroll and hooked 1, suggesting that this is one of the set from a single furnace, possibly Brede, by the otherwise unidentified founder 'I M' between 1649-56 (cf JSH: 'A Godly Chimney Plate and Other Firebacks from Brede', WIRG Bulletin Second Series no 27, 2007, p 24-26).

The final fireback is in the library. I could not get access to measure this accurately but estimate it at approx 3 feet W x 3½ feet H. This is also of the 'Dutch' shape with scrollwork within the arched border, depicting a central figure on horseback flanked by a helmeted soldier or possible Britannia figure on one side and an obscure seated figure on the other. Cupids fly aloft. Again, the base is worn but appears not to be dated or initialled. The symbolism on this particular fireback also remains obscure: do readers have any ideas?

Lullingstone Castle is near Eynsford, Kent; open Friday, Saturday and Sunday from 2.00pm, April to October. For disabled access details phone: 01322 862114. <http://www.lullingstonecastle.co.uk/>

Helen Pearce

FORAY NOTES

Dean Farm, Rushlake Green Sat 10 Feb 2007

The foray examined three areas of Dean Farm. The first, adjacent to Dean Farm Oast House was chosen because a layer containing scattered slag, roasted and unprocessed ore had been seen when a hole was dug at the end of 2006. This layer began at a depth of about 0.5 m. Its lower boundary has not been determined. Three methods of measuring the extent of the possible site were tried.

1. A metal detector was used to find responsive areas. This was unsuccessful because of the scatter of modern farm and building waste, but perhaps also because of the depth at which the known traces of smelting debris is buried.
2. The slopes of two lynchets (defining the old corner of the field in question) were scraped in the hope of tracing the debris-bearing stratum. Significant amounts of unprocessed ore were found, but these may have been natural since the site is down-slope from the Wadhurst Clay-Ashdown beds boundary.
3. The area adjacent to the known layer of smelting debris was augered to about 1m. No convincing traces were found, so this method does not work at the periphery of sites where smelting debris is scattered.

Thus the Dean Farm Oast site, which certainly exists, has yet to be defined.

The second area examined was the field between Dean Farm Oast and a second site partly described by the late Mr. W. Beswick (unpublished note). Bloomery slag was found, thinly scattered over a wide area. This argues the existence of at least one other bloomery in the area since this slag was found on the slope opposite Dean Farm Oast and over a saddle from that noted by Mr. Beswick.

The third area was on the clay-sand boundary above a larger pan shaped gill/shaw. The location (TQ 6400 1724) was known from previous work with a metal detector. The active area was up to 25m across the slope. A transect 15 m up the slope was augered at 1m intervals, producing slag at each test hole at depths over 0.25m.. There was no roasted ore, and hence no possibility of defining an ore preparation area. Augering when the smelting debris is abundant but buried deep is a useful method of delineating a site.

This site (TQ 6400 1724) is at different coordinates from those noted by Mr. Beswick. The first of these original map references is in a plausible position and there is a small amount of surface slag in the field. His second reference is implausible, perhaps because of a transposition of numbers or the difficulty of getting an eight figure reference before the advent of GPS. There is some slag all round the edge of the gill, so there may have been several furnaces there, though not necessarily contemporaneously. Members on the foray noted considerable erosion from the gill shaw.

There is a series of large pits immediately

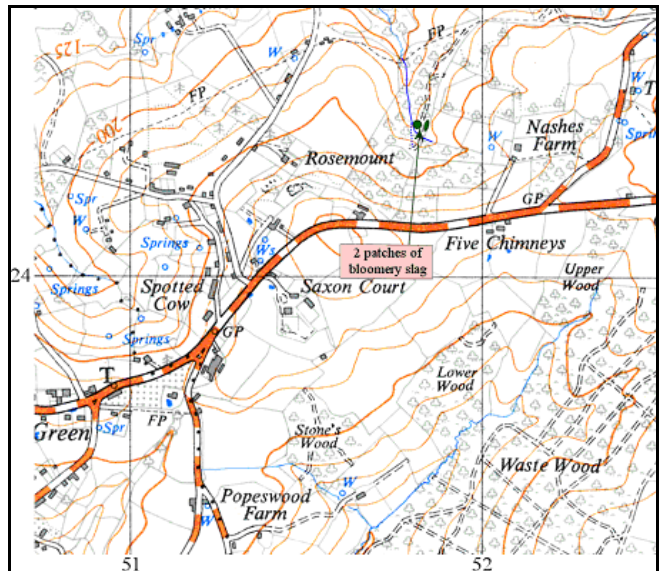
south of the areas examined. On some maps these are named as 'Banky Shaw'. Since they are connected to the Warbleton Priory Blast Furnace by a slag metalled road (now grassed over) they are plausible candidates for ore pits.

I am grateful to our colleague Mrs. M. Beswick for the use of her husband's note.

Jonathan Prus

A new bloomery in Buxted

The new bloomery site is partially on a slipping plateau (into the stream) and partially on stable land just above. It is on the right-hand bank at TQ 5182 2444; nothing has been found on the opposite bank. The stream is unmarked on the 1:25000 map but has been added to the map below where the contours suggest.



More slag was found just upstream and adjacent to a field to the east, at TQ 5184 2444. The two areas of slag may have been bisected by the track, however, it did seem unusual in that this second find was on almost level ground and some way from the stream and may have been taken there as foundation for a building. Two streams joined just below the sites but no further slag was discovered, apart from that washed down due to erosion. No pits or hollows were seen in the woodland or downstream, although with all the erosion that has taken place ore may have been discovered in the stream bank.

The geology of the site is Tunbridge Wells Sand and there is a great deal of slippage adjacent to the stream all around the bloomery site. The edges of the stream have been undermined by some 1.5 to 4.5m (to the side) by this minute stream, allowing the slipped soil to maintain its horizontality as it moves, and then slowly eroded away. However, as the stream is only about 0.6m wide this erosion process must have been happening for a very long time.

Brian Herbert
David Willcocks

The Penhurst to Ashburnham Leat

The leat between Ashburnham Furnace and Penhurst Furnace was recorded in WIRG Bulletin 2nd ser., 1 (1981), pp 4-7. The Field Group will be carrying out an initial, visual survey, and will then decide if and where to section the leat in one or two places to see if it is possible to calculate the potential water flow. It will also be important to confirm the leat's slope and in which direction the water flowed, and of course, why it was dug in the first place. The story that members of a family by the name of Keeley came over from Ireland around 1721 to dig the leat is unconfirmed. Members of the Keeley family still live around the area.

The initial foray started at Ashburnham Furnace,

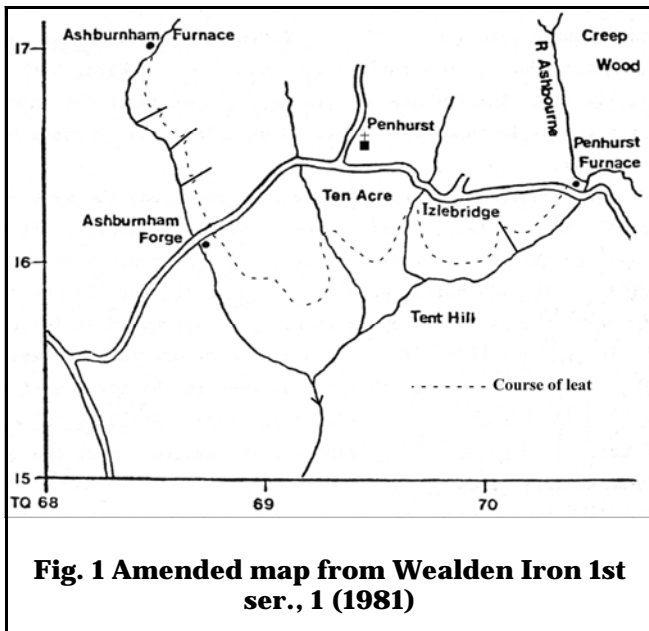


Fig. 1 Amended map from Wealden Iron 1st ser., 1 (1981)

where the leat seems to finish on the east side of the valley and at the same level as the furnace working area; this suggested that the leat water could not fill the Ashburnham furnace pond from a point 2.5 to 3m below the top of the bay. It would appear that the leat's water could only have been used at the furnace site at a low level, but for what purpose is not clear. And why bother when there would have been plenty of water from the local stream. It was obvious that the leat water could not have been passed (easily) across the valley to the possible boring mill site, next to the house called 'Furnace'.

This was not a good start to the leat survey if we could not suggest a use for the leat's water; the possibility was that there might have been a bay a little way down stream for an earlier furnace; this suggestion has yet to be confirmed

The leat's route to the south is easily visible along the east side of the valley, until it crossed the ancient track between furnace and forge, where there would have been a water splash or perhaps a culvert, before it passed through a piece of woodland on the west side of the track. Hereafter, most of the leat passes through grassland and is only discernable by

the greenness of the grass. However, before reaching the forge, the leat must negotiate three small side streams. When such a problem is encountered, one solution relies on the leat being dug in along the side of the gill and out of the other side; see Fig.2.

Digging the leat towards the stream's water source and then away from it, the actual slope of the leat must continue remain constant. As the leat is dug along the side of the gill, it will approach the level of the stream to be crossed, but it must not be allowed to flow down this stream. To this end, a short bay was built across the gill to form a small pond into which the leat's water was fed. It is a simple matter to con-

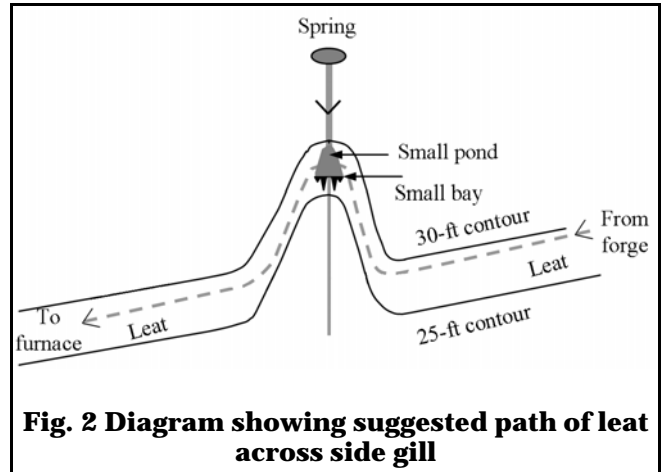


Fig. 2 Diagram showing suggested path of leat across side gill

tinue the leat on the opposite side of the pond and out of the gill (at the same slope) eventually reaching a point where it can continue across the next field.

Where the leat water enters the first field after the forge, a great deal of excavation has taken place because the road here, between Penhurst church and Ashburnham Forge, was only built in the first half of the 19th century. Nevertheless, the slope of the land suggests that it continued across the road and passed adjacent to the east side of the forge.

Initial indications suggest that the leat water arrived at Ashburnham Furnace after flowing down from Ashburnham Forge with drop of 6-metres. This was measured using a GPS receiver that only had a resolution of +/-1m. From this data, and measuring the leat's length so far walked as 1150m, using a map measurer, the slope of the leat is calculated as 0.3 degrees, flowing from the direction of the forge towards the furnace.

Future Work

Further measurements would be useful to measure, more accurately, the leat's slope. This is quite difficult because GPS is not up to the accuracy we desire, whilst other methods require that two points along the leat, say 30m apart, are simultaneously visible. WIRG owns a Dumpy Level, which could be used, or alternatively the ancient 'tube of water' method that is very accurate providing the water temperature is constant throughout.

The final report of this study will be published in

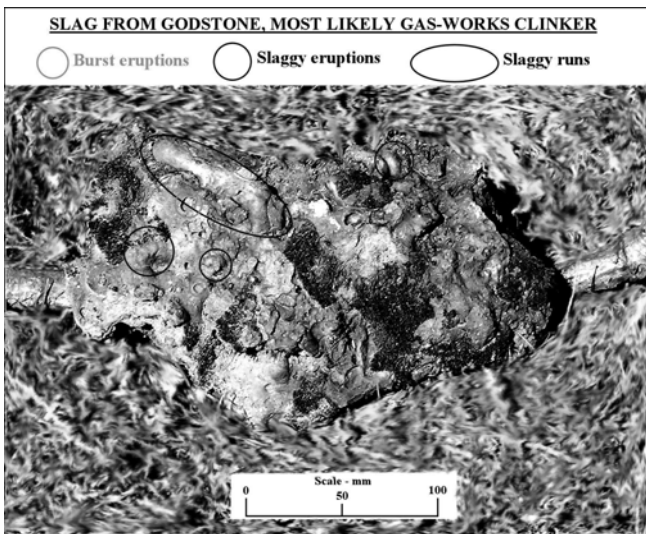
the WIRG Bulletin, but it is envisaged that this will take a further 2 to 3 years. A map of this foray, noting points of interest, complete with cryptic comments, is available from the author.

Brian Herbert

Foray at Godstone, Surrey, to see slag found by the Time Team on 25 March 2007

In the closing moments of the Time Team dig at Godstone, Stewart Ainsworth emerged from woodland and into a field with news of slag at that point; it was just visible and seemed to be quite large pieces. At the time, it was thought that this slag came from the nearby Roman Road. The pictures from the Time Team web site did not help in locating the site, fortunately, one of our members recognised the area from when it was up for sale.

We were led to the slag site, passing the Time Team dig site en route, where at a low point in the field, which, might once have been a pond although now filled in, a small pile of slag was seen just beyond a fence from where it had recently been dug out from a ditch.



The slag did not look to be from a bloomery furnace nor were they forge bottoms. There were no sign of the typical wrinkles of slag, no sign of charcoal, nor were there any rusty areas. Although the metal detector could detect the slag, its response was poor considering the size of the slag pieces. There were signs of circular, once molten eruptions, as well as burst eruptions, both 10 - 20mm in diameter, also, once molten runs about 10mm across and 10 - 30mm long (see photograph); all these had smooth surfaces. It was difficult to guess at the attitude of this slag as it cooled, but was probably horizontal as the molten slag seems to have oozed-up and spread-out, suggesting that it was fairly molten at the time and well above its free-running temperature.

Slag identification and possible source

All the pieces of slag were indicative of waste material, called clinker, from a gas works, although such large lumps have not been seen before. In many past cases, there has been a reddish tinge to some areas, although not apparent on these pieces. In the recent past the gas works produced coal gas, before North Sea gas became available. The closest gas works were at Oxted 3 miles, Redhill 5 miles, and East Grinstead 7.5 miles. However, many small estates and large houses had their own gas generating plants.

There has been much gravel extraction in this area, on the Lower Greensand, and Fullers Earth was dug locally. It is not known whether traction engines were used for the gravel extraction as they may have cleaned out their fire-boxes there; exactly the same situation occurred in steam trains. Clinker-like material is also formed in a blacksmith's forging hearth when coke is used as a fuel, but not with charcoal.

The owner has requested that the site identification is not published

Brian Herbert

RECENT PUBLICATION

Sarah Paynter, 'Romano-British workshops for iron smelting and smithing at Westhawk Farm, Kent', *Historical Metallurgy*, 41, 1 (2007), 15-31.

The Romano-British settlement at Westhawk Farm, near Ashford, was excavated in 1998-9, in advance of building development. In fact, only half of the site that was revealed by geophysical survey was actually dug, the rest not being developed after all. The settlement, which dated from the 2nd and 3rd centuries AD, straddled the junction of two Roman roads: one from Rochester to Lympne; the other crossing to the north of Romney Marsh to join with the road running north from Bodiam. In an area which has yielded several early iron smelting sites, it was not altogether surprising that some evidence of iron working should be discovered in the remains of the settlement. Two iron-making sites were identified in the 5.3 hectares that were excavated, and it is these that form the subject of Sarah Paynter's paper. The surviving remains of iron working were such that it was possible to derive a considerable amount of data from them, and to attempt a reconstruction of the layout and processes involved in some detail.

Close examination of the various residues of iron making constituted the basis for the reconstruction that was carried out, and by carefully analysing the relative positions and densities of those residues it was possible to suggest not only the working layout of the sites but also the way in which the various stages of production might have been organised. These reconstructions are compared with other sites, notably the nearby iron-working site excavated by Brian Philp at Runhams Farm, Lenham, and the large iron workshop at Woolaston, on the edge of the For-

est of Dean. The materials which make up the residues discovered on the Westhawk sites are each dealt with and their analyses described, extrapolating from them the evidence for each of the processes.

In common with the majority of other iron-working sites excavated in the Weald, the main fuel was found to have been oak charcoal. However, the ore source was not the siderite beds found in the Weald Clay, but was identified as iron-rich nodules derived from the Lenham Beds or from layers of clay with flints, both of which are of Tertiary geological age. 1.6 tonnes of ironworking waste were recovered from the site, and Dr Paynter has included a useful glossary of categories of such waste types in her paper. Also discovered was an iron billet, weighing 4.64kg, more than twice the weight of the one found at Little Farningham Farm, near Cranbrook.

Of particular interest are the conclusions relating to output. The ironworking waste found at Westhawk indicated that both smelting and smithing were carried on there over a period of a century. The amount of waste from these processes suggested that only a limited quantity of iron was made per year, possibly the output of as little as two smelts. With raw material acquisition occupying some of the time, the whole operation could have been carried out by as few as two ironworkers at any one time, producing around 4.5kg of finished iron from each smelt. On a smelting site in the High Weald this might be regarded as very small, but the context of the iron working at Westhawk was as a small workshop in a quasi-urban setting, serving a limited market for trade and repairs, perhaps operated seasonally.

JSH

TILFORD RURAL LIFE CENTRE

The Rural Life Centre is situated near the village of Tilford, south of Farnham in Surrey. It consists of 11 acres of land, which belonged to Madge and Henry Jackson who founded the Museum in 1972. It was subsequently formed into a charitable Trust in 1986. Over the years it has built up a large collection of artefacts relating to the farming industry and village life of yesteryear. It has also acquired and rebuilt on site, a prefab, chapel, village hall, cricket pavilion, school-room and laundry.

The Museum is always looking for further attractions to increase its profile, and to this end is looking into the possibility of building a working half-scale Wealden Iron Furnace together with water-wheel and hammer. We have a great variety of voluntary skilled staff and feel the project is not beyond our capabilities. We are in the preliminary stages at present and are looking at various ways of funding this project, i.e. through grants, etc.

Jeremy Hodgkinson and David Brown have visited us recently and their comments to us were favourable to the idea. We would much appreciate the moral and technical help that WIRG has to offer during the construction and hope the finished scheme

will present an informative insight into how iron production was carried out in the Weald area many years ago.

We thank you for your support and will keep you informed on the progress of this venture.

Gerald Baker

THE NEW EAST GRINSTEAD MUSEUM

On 1 September 2006 the new East Grinstead Museum opened in purpose-built town-centre premises with a professional curator in post, funded largely by the Heritage Lottery Fund plus grants from the town and district councils and other bodies, donations and fund-raising activities.

It is a museum of local history, not just East Grinstead's but also that of the surrounding Sussex, Surrey and Kent villages and parishes within a radius of about six or seven miles, the town's traditional market area.

In addition to permanent displays, regular temporary exhibitions and a small shop, there is a research room dedicated to the history of the area, which is regularly receiving fresh donations. The material ranges from local ephemera and periodicals such as parish magazines, through standard works on the history of the area and local history disciplines, to extensive (but not yet complete) runs of *Sussex Archaeological Collections*, *Sussex Notes & Queries*, *Archaeologia Cantiana* and other journals for all three counties. The museum also has a small collection of local maps and over 6000 photographic images, which can be consulted by arrangement. The publications, however, can be consulted by any visitor during normal opening hours.

The museum, which is fully accessible, is in Cantelupe Road, just off the High Street, which is served by all buses, and within a short walk of car parks and the railway station. It is open Wednesdays to Saturdays 10 a.m. - 4 p.m., Sundays 2 - 5 p.m., admission free, with activities as announced. For further information contact 01342 302233, info@eastgrinsteadmuseum.org.uk or www.eastgrinsteadmuseum.org.uk

M. J. Leppard (Trustee)

SOUTH-EAST RESEARCH FRAMEWORK

The archaeology, buildings and historic landscape of South East England (East Sussex, Kent, Surrey and West Sussex) comprise an outstanding inheritance that helps to give the region its distinctive character and sense of identity. This historic environment is also a rich resource for education, research and leisure, but what do we actually know about the region's past, and what are the questions we want and need to answer. The South East Research Framework for the historic environment is an opportunity for all those who care about the region's heritage to

take stock and plan how limited resources should be used. Groups of researchers are studying specific time periods as well as more general themes relating to the human history of the South East in order to produce a Resource Assessment. This is a statement of our current knowledge of the archaeology and history of the region. The Resource Assessment will enable us to build a list of the gaps in our current understanding, and identify research questions and topics in order to form a Research Agenda for the future. We will then be able to develop a Research Strategy for investigation and interpretation of the historic environment of the South East.

Public seminars are planned for October to December 2007. Individual seminar papers, as well as Resource Assessment chapters covering various periods and themes, will be made available here for comment before publication. The South East Research Framework for the historic environment is very much a partnership of the four counties that make up the region, involving all sectors of the archaeological community.

The meetings will be held at the Institute of Archaeology, UCL, 31-34 Gordon Square, London, on Saturdays in October to December 2007. Entry will be free of charge, but it would be helpful if anyone wishing to attend could let us know in advance by email (serf@kent.gov.uk). Meetings will run from 10:00am until 5:00pm, with a break for lunch. Tea and coffee will be available, and a suitable area for eating packed lunches provided. The meetings will include presentations by members of the SERF Period and Thematic Groups, and there should also be plenty of opportunities for comment and discussion.

The current programme is:

The Palaeolithic and Mesolithic 13/10/07 ;

Chair: Francis Wenban-Smith and Mathew Pope

The Middle Bronze Age to Iron Age 20/10/07 ;

Chair: Tim Champion

The Roman period 27/10/07 chair: David Bird

The Anglo-Saxon and Medieval periods

3/11/07; Chair: Gabor Thomas (Medieval session chair to be confirmed)

Historic Rural and Urban Landscapes 17/11/07;

Chair: Nicola Bannister and John Williams

Defence and Maritime Themes 24/11/07; Chair:

Victor Smith and Gustav Milne

Post-Medieval, Modern and Industrial

1/12/07 ; Chair: Luke Barber (Industrial session chair to be confirmed)

The Neolithic and Early Bronze Age 8/12/07;

Chair: Paul Garwood

Environment and Environmental Archaeology

VOLUNTEER WORK WITHIN THE KENT HISTORIC ENVIRONMENT RECORD (HER)

The Historic Environment Record for Kent is the prime county record for information on archaeological sites, historic buildings and landscapes, archaeological events and sources. It is maintained by Kent County Council in Maidstone and consists of over 20,000 records, stored in a computerized database and linked to a mapping system.

The information in the HER comes from a range of sources – archaeological projects carried out as part of the development control system, academic and other researchers, national projects and casual or chance discoveries. Similarly, it is used for a range of purposes – to inform planning decisions and archaeological projects, as a basis for archaeological research and for education, public access and outreach projects.

An enormous amount of new archaeological work is carried out each year – we receive over 350 archaeological reports per year in addition to the results of a large number of research projects. All of this information needs to be added to the HER so that it is accessible for those who want to use it.

Kent County Council is looking for enthusiastic volunteers who would be willing to help add this information to the HER and thereby play a critical role in the conservation of Kent's heritage. We are also aware that some volunteers will have extensive knowledge of their own and we hope that they will feel able to add this to our existing information.

What would I do?

Volunteers work within our HER team, helping to create new HER records from our resource of archaeological reports. We provide full training (no prior experience is assumed) and support during your volunteer period. You work through the archaeological reports, compare them with existing records and, as appropriate, either add information to existing records or create completely new ones. Most of this work is based on the reports alone, but sometimes it is necessary to use aerial photographs, historic maps or other documentary sources to enhance the record.

What would I learn?

Lots! Volunteers wishing to make a career in archaeology will gain vital experience at working with a real HER in a busy county Heritage team. They will learn about the thinking process behind HERs, the software used and how information is gathered and managed. Volunteers who are just interested in making a contribution to Kent's heritage will learn about the very latest archaeological discoveries in the county, much more about their own area or theme of interest and how a busy county unit operates.

Who can volunteer?

Anyone with an interest in the heritage of Kent and a solid understanding of UK archaeology. You might be an undergraduate studying archaeology, a member of a local history or archaeology society, a graduate or

WEALDEN IRON BULLETIN 28

Articles for inclusion in this year's Bulletin should be submitted to the Editor, David Crossley, by 31 March (see back page for contact information).

archaeologist looking for more experience or a member of the public with good knowledge of the past who wants to become involved in Kent's heritage in a meaningful way.

How can I find out more?

To learn more please contact me at the address below and I will be happy to chat to you or to welcome you if you'd like to make a visit first.

Paul Cuming
 Historic Environment Record Manager
 Heritage Conservation, Kent County Council, Invicta House, County Hall, Maidstone, ME14 1XX
 Tel: 01622 696918
 paul.cuming@kent.gov.uk

MYSTERY OBJECT
 (see front page)

A pair of furnace or forge bellows, carved on the floor of Newland Parish Church, in the Forest of Dean, Gloucestershire.

DATE FOR YOUR DIARY

Winter Meeting Sat 19 January 2008 2.30pm
 Speaker: Simon Stevens (Archaeology South-East) on
 '*Excavations of Medieval ironworking on the ASDA site in Crawley*'

WIRG CONTACTS

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EDITOR'S NOTE

Thank you for your contributions and please keep them coming. Newsletters are published in March and November each year. Items for publication should be received by February 14 and October 14, respectively, for inclusion in the forthcoming issue. Please send by email preferably, by floppy disc or CD, or hard copy; I can work with most PC formats. Line drawings and monochrome photographs can be accepted. Digital images need to be at least as big as their expected published size, ideally at 300 dpi or more.

PUBLICATIONS FOR SALE		
	PRICE	BY POST (UK) <u>AT MEETINGS</u>
Excavations of a Late 16th./Early 17th. C. Gun Casting Furnace at Maynards's Gate, Crowborough, Sussex, 1975-1976, O. Bedwin.	1.90	1.50
A Middle-Saxon Iron Smelting Furnace Site at Millbrook, Ashdown Forest, Sussex, C.F. Tebbutt.	1.60	1.20
The Fieldwalker's Guide and an Introduction to the Iron Industries of the Weald, B.K. Herbert.	4.00	3.50
Guns Carried on East Indiamen, 1600 – 1800, Ruth Rhynas Brown.	0.80	0.50
Identifying 18th. Century Trunnion Marks on British Iron Guns; a discussion, Ruth Rhynas Brown.	0.80	0.50
Parson Levett and English Cannon Founding, Brian G. Awty.	1.30	1.00
Metallurgical Analysis of Ferrous Alloy Produced in a Primitive Furnace. R. C. D. Sampson & B. K. Herbert.	5.00	4.00
Fernhurst Furnace. Chichester District Archaeology No. 2, J. Magilton (ed.).	13.70	12.00
The Iron Industry of the Weald, H. Cleere & D. Crossley (1995). [shop-soiled copy]	20.50	16.50
CD of Series 1 <i>Wealden Iron</i> Bulletins, Vols. 1 to 17, with searchable index.	6.00	5.00
<i>Second series Bulletins:</i> -		
Volumes 1 to 16 (1981 to 1996)	1.50	1.00
Volumes 17 to 27 (1997 to 2007)	2.00	1.50
Note: Vols. 5, 10, 15, 20 & 25 have 5-volume cumulative indexes. Vols 21 onwards are separately indexed		
Index for <i>Wealden Iron</i> , Bulletin of the Wealden Iron Research Group 1st ser. Vols 1-17 and 2nd ser. 1-20	2.50	2.00
Publications are available from the Publications Officer, Brian Herbert (see Contact List above)		