A Possible 'Shanty Town' At Fernhurst Furnace, Fernhurst, West Sussex Report on an Evaluation 30th June 2003

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NON-TECHNICAL SUMMARY

This project was undertaken in order to locate a possible 'Shanty Town' close to Fernhurst Furnace, near Fernhurst, West Sussex. Unfortunately none of the trenches contained any remains or artefacts which could be associated with such a settlement. However some pottery sherds were found closer to the furnace, in an area as yet not investigated. Information was obtained relating to the historic landscape around the furnace and a cross-section of a road provided some interesting evidence associated with the traffic to and from the furnace.

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1. BACKGROUND

1.1 Topography

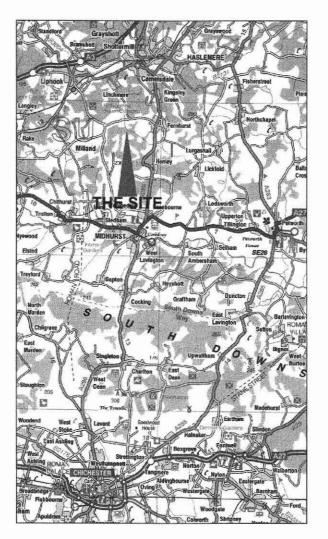


Fig.1 Site location. © Crown copyright. All rights reserved. Licence number: AL100036068.

- 1. Fernhurst furnace lies within the parish of Fernhurst, approximately 1.5 miles to the west of the village of Fernhurst and 5 miles to the north of Midhurst, in West Sussex (see Fig.1). The supposed shanty town was believed to have been located immediately to the north of the furnace, and to the south of Lower Lodge Farm, at c. 72m OD and NGR SU8780 2850.
- 2. The geology is Lower Cretaceous Weald clay, with sandstone pockets.

1.2 Reasons for and circumstances of the project

1. The landowner, Robin Barnes, wishes to establish the bounds of the Fernhurst furnace site in preparation for a possible Heritage Lottery Fund bid and Scheduling. The location of a 'shanty town' associated with the furnace was uncertain and the purpose of this project was to establish where it was and assess the condition of any surviving remains.

1.3 Historical & Archaeological background

- 1. An iron smelting furnace was in operation at the Fernhurst furnace by AD1614, but it seems likely from documentary evidence that it was also in use during the 16th century. The furnace continued in operation, with periodic lulls in operation, until falling into disuse in AD1776 (Barnes in Magilton 2003).
- 2. The introduction of the new blast furnace technology brought migrants from Northern France to the Weald from the end of the 15th century. Parish registers attest to the presence of such migrants in the Fernhurst area, and it is suggested that at least some of their number lived in a 'shanty town' close to the Fernhurst furnace. Supporting evidence for such a theory comes from 17th century parish register entries refering to individuals living and dying at the Fernhurst furnace (Barnes & Magilton in Magilton 2003). The location of the 'shanty town' is uncertain, but local legend places it a field to the north of the furnace, which is called on historic maps the 'Wide Lane to the Furnace'.

2. AIMS AND OBJECTIVES

- 1. To locate the 'shanty town' and assess the condition of any archaeological remains.
- 2. To provide information concerning the inhabitants of the 'shanty town'.

3. METHODOLOGY

- 1. The methodology for this recording brief was set out in a project design drawn up by West Sussex Archaeology (WSA 2003). Five trenches were proposed in the project design. The first trench was be 2m square, and would then be extended to create one of a further four trenches, each being 1m x 5m (trenches 1-4 on Fig.2).
- 2. The fieldwork was carried out from Thursday May 22nd to Friday May 30th. During the course of the fieldwork several changes were made to the methodology as set out in the project design.
- 3. The first change was that Trench 1 was not extended to form a 5m trench. It was felt that little additional information would be gained by doing so, and that the time would be better spent excavating an additional trench elsewhere.
- 4. After the excavation of Trench 1, 2, the eastern part of Trench 3 and Trench 4, it was decided that time permitted the creation of an additional seven trenches (5 11 on Fig.2) and the eastwards extension of trench 3. These additional trenches were all positioned near to roads out of the furnace, since it was still believed that they would provide the most likely locations for the 'Shanty Town'.

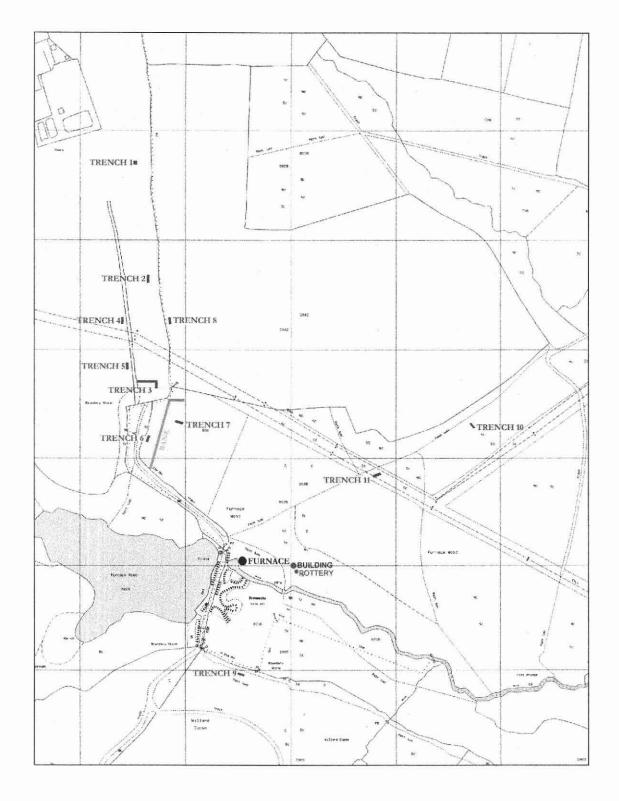


Fig. 2. Map showing the location of Fernhurst Furnace and the position of Trenches 1-11. © Crown copyright. All rights reserved. Licence number: AL100036068.

4. RESULTS

4.1 Trench 1

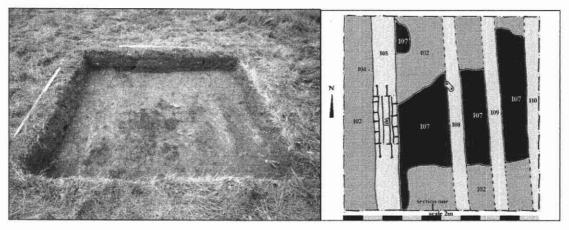


Fig. 3 Photograph of Trench 1, looking north.

Fig. 4 Plan of Trench 1, colouring relates to the matrix.

4.1.1 Description

- 1. Trench 1 was located at the north end of the field known as the Broad Road to the Furnace'. It was 2m x 2m square and hand excavated.
- 2. The removal of the topsoil (100) revealed an old ploughsoil (101), below which lay leached (102) and then non-leached (103) Weald clay. Lying upon the clay was a patchy layer of burnt material (107) and, cut into it, four north-south cuts. Three of these (108–110) were very shallow in depth and only visible where cutting the burnt later. The fourth (104) proved to be a narrow, but deep (c.0.6m), trench, at the base of which lay a ceramic drainage pipe (106).

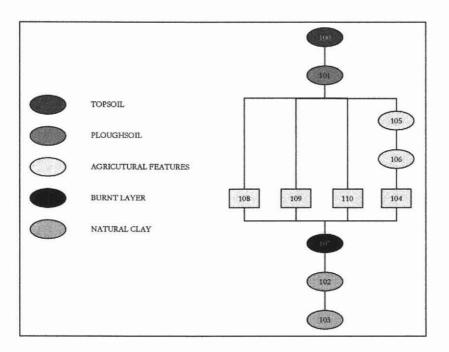


Fig.5 Harris Matrix showing all contexts in Trench 1.

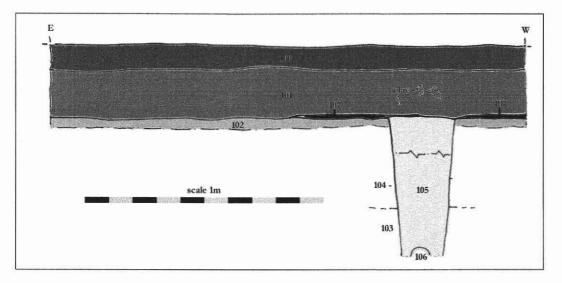


Fig.6 North facing section in Trench1.

4.1.2 Discussion

- 1. The archaeological deposits found in Trench 1 fit in well with the known recent history of the area. In the 1960's the field was cleared of scrub, which was burned in piles on site. Following this clearance the land was ploughed, and later converted to pasture. The burnt layer (107) would seem to be the remains of one of the scrub bonfires. This has meant that the ploughsoil (101) in this trench is considerably darker than elsewhere in the field, suggesting that the burning took place in the northern part of the field. Inconsistencies in the depth to which the plough has reached has probably resulted in the patchy nature of the burnt layer (107), as evidenced by the occasional deeper plough-scores visible (108-110). The drainage trench (104) was part of a drainage scheme carried out in the 1970's, in an attempt to alleviate the persistent flooding which had been occurring.
- 2. Nine sherds of well abraded medieval pottery were found in the ploughsoil (101), which indicate that this area was probably under cultivation at that time. Other artefacts found the same layer probably relate to the farm to the north; roofing tile, Horsham stone, brick, nails and 19th century pot indicating that this area acted as a rubbish dump. This suggestion is supported by the complete lack of artefacts from trenches to the south. No evidence for the 'shanty town' was discovered, indeed the artefacts recovered from the ploughsoil date to either before or after the period during which the furnace was in operation.

4.2 Trench 2

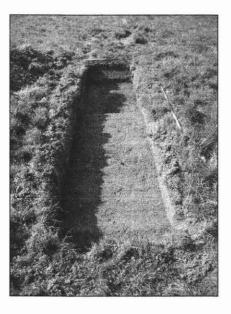


Fig.7 Photograph of Trench 2, looking south.

4.2.1 Description

1. Trench 2 was located approximately mid-way down the field known as the Broad Road to the Furnace'. It measured 5m x 1m, orientated north-south, and lay immediately to the east of earthworks believed to be associated with the road.

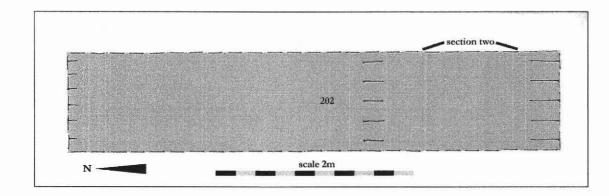


Fig.8 Plan of Trench 2, colouring relates to the matrix.

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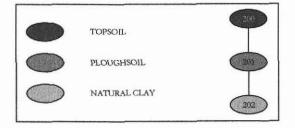


Fig.9 Harris Matrix showing all contexts in Trench 2.

2. The removal of the topsoil (200) revealed a paler ploughsoil (201) than that in Trench 1, below which was the leached Weald clay (202).

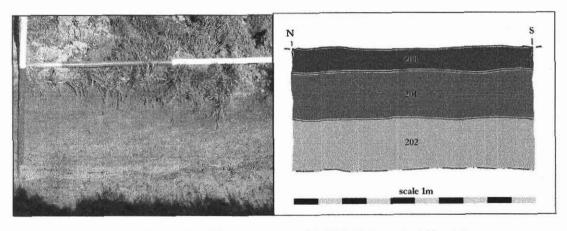


Fig.10 Photograph of west facing section in Trench 2.

Fig.11 West facing section in Trench 2.

4.2.2 Discussion

1. The deposits revealed in Trench 2 were markedly different from those in Trench 1, the soil was much lighter and no artefacts were recovered. The change in colour can be explained by the lack of any burnt material, which had artificially darkened the soil in Trench 1. The absence of artefacts is probably explained by the much greater distance for the farm to the north, with no rubbish being dumped in this area, either in the medieval period or later. No evidence for the 'Shanty Town' was found.

4.3 Trench 3

4.3.1 Description

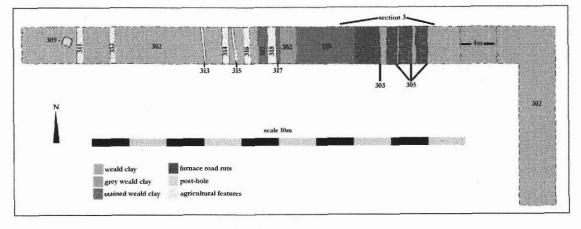


Fig.12 Plan of Trench 3.

 Trench 3 was located at the south end of the field known as the 'Broad Road to the Furnace'. Originally it was to have the same dimensions and orientation as Trench 2, however it was subsequently extended to the west, at its northern end by 16.5m. This was done in order to cross the line of the supposed road to the furnace.



Fig.13 Photograph of Trench 3, looking east along extension.

2. The topsoil (300), ploughsoil (301) and Weald clay (302) were identical to those found in Trench 2, although the ploughsoil contained a much greater amount of slag, particularly towards the centre of the east-west extension.

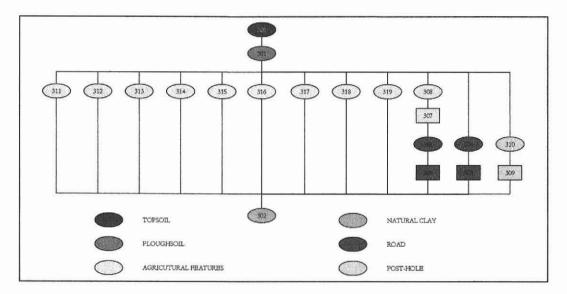


Fig.14 Harris matrix showing all contexts in Trench 3.

- 3. Crossing the trench north to south were a series of narrow cuts (311-316, 318), each filled with a mixture of ploughsoil and Weald clay. These could be divided into three types according to width: 0.06m (313 & 315), 0.2m (311, 312, 314 & 316) and 0.28m (318).
- 4. At the western end of the trench was a single, square-shaped cut (309) much disturbed by the roots of a nearby oak tree, whose fill (310) was very similar to the narrow cuts (311-316, 318) described above.
- 5. The most notable features in this trench were a series of north-south orientated depressions (303 & 305). These were all filled with slag, which became increasingly compact towards the base of each depression. The western depression (303) was 0.8m wide and 0.1m deep. The depressions to the east (305), although forming one cut as a whole, can be divided into three. The western of these sub-divisions was 0.1m wide at the base, and 0.25m deep. The central was 0.4m wide and 0.2m deep, and the eastern, 0.1m wide and 0.25m deep. Cutting the central depression was a narrow cut (307), filled with ploughsoil (308).

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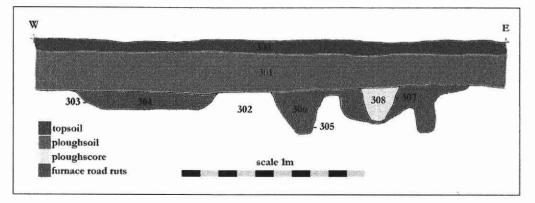


Fig.15 South facing section in Trench 3, showing cart ruts.



Fig.16 Photograph of cart ruts in Trench 3, looking north.

6. Immediately to the west of these depressions were two areas (317 & 319) where the Weald clay had been stained to a reddish/brown colour. This staining proved to be very ephemeral, since it was quickly removed by further excavation. Separating the two areas of staining was a patch of grey Weald clay (302).

4.3.2 Discussion

- 1. Similarities between the series of narrow cuts crossing Trench 3, and features excavated in other trenches, identified them as probable agricultural features: plough-scores (313 & 315), sub-soiler trenches (307, 311, 312, 314 & 316) and a land drain (318). All are of modern date and thus it was not felt necessary to investigate them further.
- 2. It is not possible to assign either a date or function to the square-shaped cut (309) at the western end of the trench, but it is possibly some form of post-hole.
- 3. The two depressions filled with slag (303 & 305) are almost certainly the remains of the 'Broad Road to the Furnace' itself. The eastern grouping of three depressions (305), probably represents two wheel ruts either side of a central rut created by an animal pulling the cart. This is supported by the fact that the most compacted slag was to be found in the base of the two narrow depressions, where it had become one solid mass. The western depression (303) was possibly created by the man guiding the cart along the road.
- 4. One surprising observation is the very narrow distance between the two cart ruts, a mere 0.68m, or 2ft 2 inches. This would be excessively small for a normal cart, however illustrations from a 16th treatise on mining by Georgius Agricola show two types of vehicle which could leave such narrow tracks. One possibility is for the use of sledges, as depicted in Fig.17, the advantage of which would have been in spreading the load on wet or uneven surfaces, particularly with heavy loads. Another possibility is for the very narrow, two-wheeled cart shown in Fig.18, although this is shown working in tandem with a roadway composed of logs. It seems reasonable to suggest that such smaller vehicles were used to take their heavy loads as far as Lower Lodge Farm, where they could be transferred onto larger carts using better drained and surfaced roads.



Fig.17 Illustration from 'De Re Metallica' of a sledge used in Iron mining.

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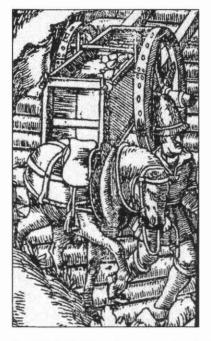


Fig.18 Illustration from 'De Re Metallica' of a narrow cart used in Iron mining.

- 5. There is a possibility that the road may have been broader than these cart ruts suggest. Modern ploughing has removed any features which may have existed above the level of the Weald clay, but the staining on its surface to the west of the ruts (317 & 319) may indicate where compacted slag once lay. This would have formed a considerably broader road to the furnace, approximately 4.5m wide, if the ruts were still in use. How the ruts related to this surface to the west, it is hard to say. It is possible that they were two separate roads, used at different times. However, it could be that they were contemporary, with the broader western surface being for light traffic (charcoal carts or empty vehicles), while the deeply-rutted eastern road was for heavy use (iron sows, cast iron products and cannon travelling from the furnace on sledges).
- 6. No evidence for the 'Shanty Town' was discovered.

4.4 Trench 4



Fig.19 Photograph of Trench 4, looking south.

4.4.1 Description

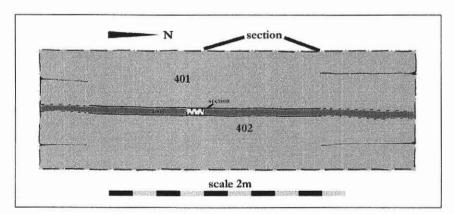


Fig.20 Plan of Trench 4, colouring relates to the matrix.

 Trench 4 was the last of the originally planned trenches. It was located in the field immediately to the west of the 'Broad Road to the Furnace' in the belief that if a settlement existed it could have extended to both sides of the road. Trench 4 measured 3m x 1m, orientated north-south. This was 2m shorter than planned, but it became apparent that little extra information would be gained from continuing excavation.

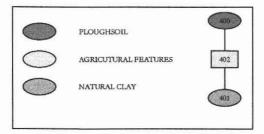


Fig.21 Harris Matrix showing all contexts in Trench 4.

2. Only two layers were found in Trench 4, the current ploughsoil (400) and the Weald clay (401). In addition to these layers a narrow cut (402) was visible running north-south along the line of the trench, filled with ploughsoil. Excavation revealed it to be 0.06m wide and 0.06m deep.

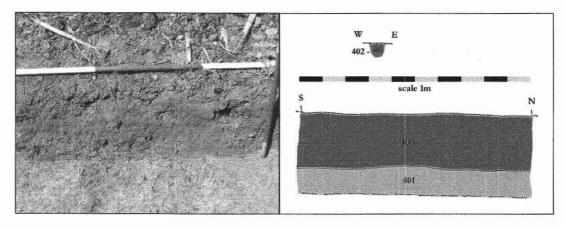


Fig.22 Photograph showing east facing section in Trench 4.

Fig.23 Section through plough-score and east facing section in Trench 4.

4.4.2 Discussion

1. Trench 4 proved to as sterile as Trench 2, with no indications of the 'Shanty Town'. The narrow cut (402) is almost certainly a plough-score.

4.5 Trench 5



Fig.24 Photograph of Trench 5, looking south.

4.5.1 Description

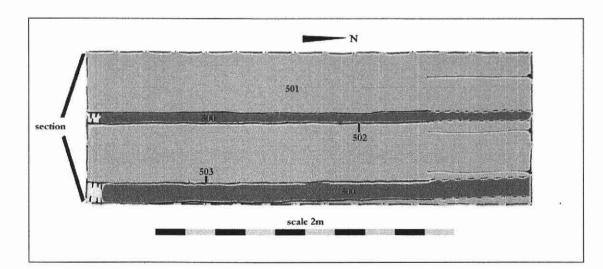


Fig.25 Plan of Trench 5, colouring relates to the matrix.

1. Trench 5 was located immediately to the south of Trench 4 in order to confirm that no trace of the 'Shanty Town' was to be found to the west of the road to the furnace. Trench 5 measured 3m x 1m, orientated north-south.

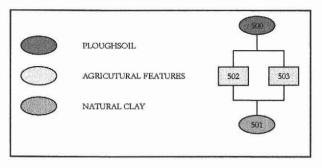
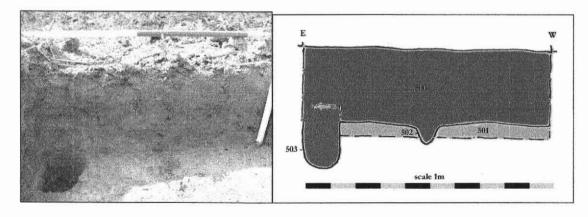


Fig.26 Harris matrix showing all contexts in Trench 5.

2. An identical sequence of layers to those found in Trench 4 was revealed, with ploughsoil (500) overlying the Wealden clay (501). Two narrow cuts (502 & 503) were also revealed, running north-south for the length of the trench, both filled with ploughsoil. One (502) had similar dimensions to that found in Trench 4 (402), the second (503) was wider (0.15m across) and deeper (0.2m deep).



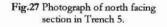


Fig.28 North facing section in Trench 5, colouring relates to the matrix

4.5.2 Discussion

1. The narrower cut (502) is likely to be a plough-score, as in Trench 4. The wider (503) appeared to be comparatively recent since traces of it were still visible within the ploughsoil despite subsequent ploughing. It seems likely that it is the product of some form of modern sub-soiling. Once more no trace of the 'Shanty Town' was apparent.

4.6 Trench 6



Fig.29 Photograph of Trench 6, looking north.

4.6.1 Description

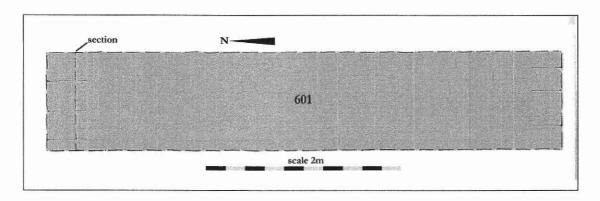


Fig 30 Plan of Trench 5, colouring relates to the matrix.

1. Trench 6 was located to the east of the current bridleway leading to the furnace, within an area of newly planted woodland. The trench was 5m x 1m and orientated north-south.

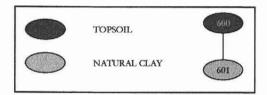


Fig.31 Harris matrix showing all contexts from Trench 6

2. The trench contained two layers, the upper being topsoil (600), while the lower was the Weald clay (601).

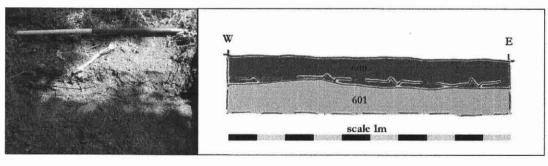


Fig.32 Photograph of south facing section in Trench 6.



4.6.2 Discussion

 The proximity of the clay to the surface in this location indicates that this area has never been ploughed. The remains of a boundary bank lying to the east (see Fig.2, marked in green) suggest that the roadway may have been narrowed, and that originally its eastern side ran in line with the eastern boundary of the field known as the 'Broad Road to the Furnace'. No evidence for the 'Shanty Town' was revealed in the trench.

4.7 Trench 7



Fig.34 Photograph of Trench 7, looking east.

4.7.1 Description

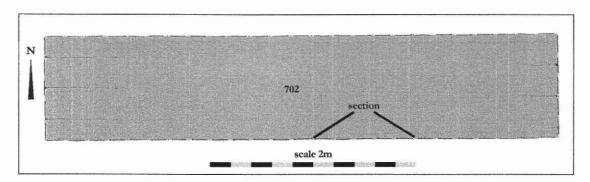


Fig. 35 Plan of Trench 7, colouring relates to the matrix.

1. Trench 7 was placed on the eastern side of the boundary bank illustrated in **Fig.2**. If this bank did mark the original eastern limit of the road to the furnace then it was thought possible that the 'Shanty Town' could lie beyond it. The trench measured 5m x 1m and was orientated east-west, at 90° to the bank.

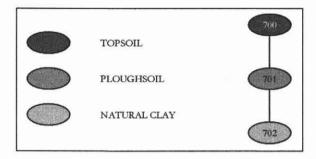


Fig.36 Harris matrix showing all contexts in Trench 7.

2. Three layers were revealed, the topsoil (700), ploughsoil (701) and Weald clay (702).

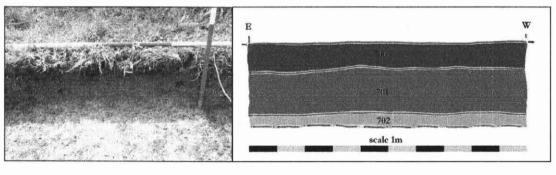


Fig.37 Photograph of north facing section in Trench 7.

Fig.38 North facing section in Trench 7, colouring relates to the matrix.

4.7.2 Discussion

 The presence of ploughsoil is of note in this location, since the area is currently wooded, with both mature and new plantings. However, from the evidence of this trench, at some point in its history it used to be cultivated land. It would seem likely that the boundary bank to the west of the trench (see Fig.2) marks the limit of the ploughed land, since Trench 6 showed no evidence of cultivation. The date of ploughing is uncertain, but it must pre-date Tithe Map of 1846, since it is shown as wooded on that and all later mapping. No evidence for the 'Shanty Town' was discovered.

4.8 Trench 8

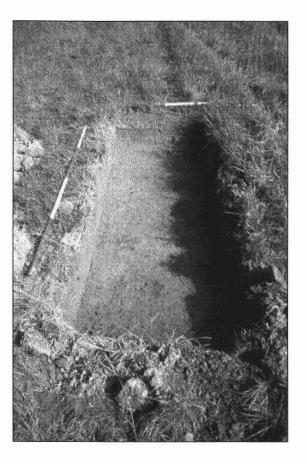


Fig.39 Photograph of Trench 8, looking north.

4.8.1 Description

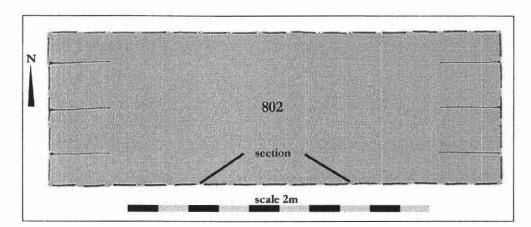


Fig.40 Plan of Trench 8, colouring relates to the matrix.

1. Trench 8 was located in the field immediately to the east of that called the 'Broad Road to the Furnace'. It has been suggested that parish boundaries could play a significant role in the sitting of settlements (Magilton 2003), and therefore it was considered necessary to investigate the eastern side of the Fernhurst/Linchmere boundary, in addition to the western. The Trench measured 3m x 1m and was orientated north-south.

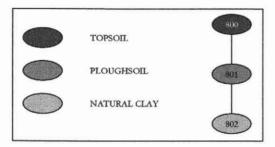
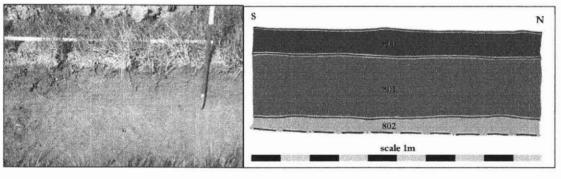


Fig.41 Harris matrix of all contexts in Trench 8

2. Three layers were found in the trench, the topsoil (800), a ploughsoil (801) and the Weald clay (802).



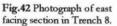


Fig.43 East facing section in Trench 8, colouring relates to matrix.

4.8.2 Discussion

1. The field is currently pasture, but from the evidence of this Trench, has obviously been cultivated in the past. No evidence for the 'Shanty Town' was recovered.

4.9 Trench 9



Fig.44 Photograph of Trench 9, looking east.

4.9.1 Description

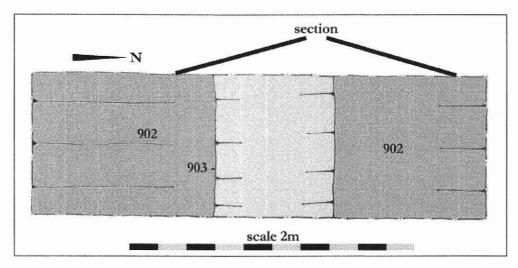


Fig.45 Plan of Trench 9, colouring relates to matrix.

1. Trench 9 was located to the south of the bridleway running east-west on the south side of the furnace, This in the belief that the 'Shanty Town' may lie close to one of the roads leading from the furnace. The trench measured 3m x 1m, and was orientated east-west.

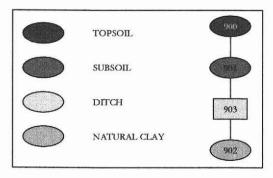


Fig.46 Harris matrix showing all contexts in Trench 9.

2. Below the topsoil (900) was a layer of red/brown subsoil (801), 0.35m thick, which also provided the fill for a north-south orientated ditch (803). This ditch was 0.4m wide, with a rounded base, its fill containing no artefacts save a small flint flake. Below the subsoil, and cut by the ditch, was the Weald clay (802).

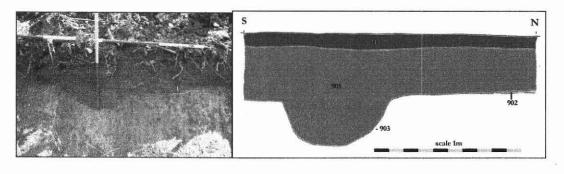


Fig.47 Photograph of ditch section in Trench 9.

Fig.48 North facing section in Trench 9, colouring relates to matrix.

4.9.2 Description

 The trench showed no signs of ploughing, although it is marked as a field called Willard's Piece on a map of 1660 (WSRO MS 1640), thus it would seem that it was pasture at the time. The ditch apparently pre-dates this map, since it is not shown on it, and it does not appear on any later maps. It possibly represents an old boundary line running down to the stream, before the construction of the furnace radically altered the topography. No evidence for the 'Shanty Town' was recovered.

4.10 Trench 10



Fig.49 Photograph of Trench 10, looking south.

4.10.1 Description

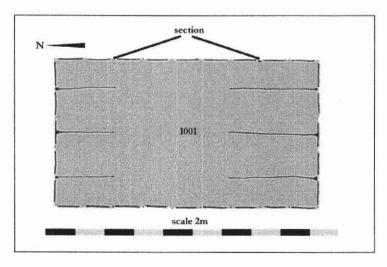


Fig.50 Plan of Trench 10, colouring relates to matrix

1. Trench 10 was located to the south of the bridleway running east-west on the north side of the furnace, in the belief that the 'Shanty Town' may lie close to this road from the furnace. It measured 1.5m x 1m, and was orientated north-south.

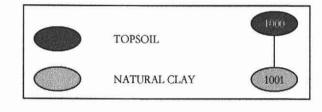


Fig.51 Harris matrix of all contexts in Trench 10.

2. Two layers were revealed, the upper being topsoil (1000) and the lower the Weald clay (1001).

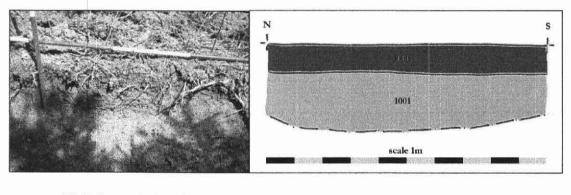


Fig.52 Photograph of west facing section in Trench 10.

Fig.53 West facing section in Trench 10, colouring relates to matrix.

4.10.2 Discussion

1. The lack of any ploughsoil indicates that this area may have always been wooded, as it is now, or used as pasture. No evidence for the 'Shanty Town was found.

4.11 Trench 11



Fig.54 Photograph of Trench 11, looking west.



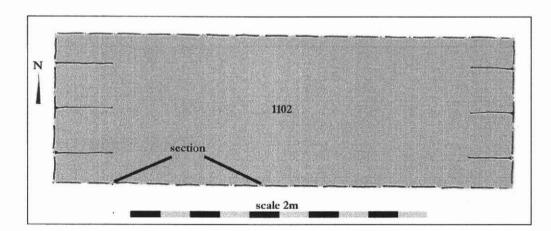


Fig.55 Plan of Trench 11, colouring relates to

 Trench Eleven was located to the west of Trench Ten, to the south of the bridleway and below the modern pylons, and for the same reason. It measured 3m x 1m and was orientated east-west.

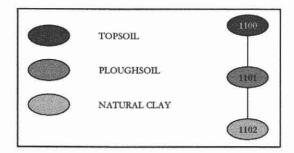


Fig.56 Harris matrix showing all contexts from Trench 11.

2. Three layers were revealed in the trench, the topsoil (1100), ploughsoil (1101) and Weald clay (1102).

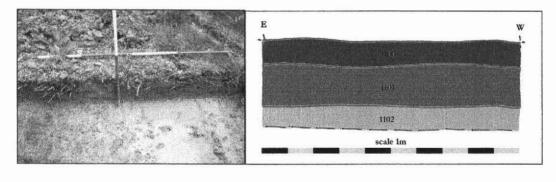
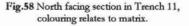


Fig.57 Photograph of north facing section in Trench 11.



4.11.2 Discussion

1. The presence of ploughsoil, in what is now a wooded landscape, indicates that in the past this area was open fields. No evidence for the 'Shanty Town' was discovered.

5. CONCLUSION

- 1. The stated aim of this project was to locate the 'Shanty Town' associated with Fernhurst Furnace. Unfortunately no trace of any settlement was discovered, either in the 'Broad Road to the Furnace' field, or anywhere else that trenches were excavated.
- 2. The evidence for the existence of a 'Shanty Town' near the furnace seems relatively strong, as discussed above, but that for placing it in the 'Broad Road' field fairly weak. Two pieces of evidence have been given, one that the 'remains of structures' were seen there in the 20th century (Magilton 2003, p.54), and the other simply seems to be the shape and location of the field itself.
- 3. It seems likely that what were interpreted as the remains of buildings last century were in fact merely ploughed-up 19th century rubbish dumps, as suggested by the evidence from Trench 1. Certainly no structural remains, or indeed artefacts, dating to the period when the furnace was in use, were found in any of the trenches excavated.
- 4. The unusual shape and position of the field and the road, has been seen as a second indicator of the presence of the 'Shanty Town'. Now that it has been shown that no such settlement exists within the field, or its immediate vicinity, other reasons must be sought to explain this. It might be that the parish boundary has dictated the alignment of the road and thus the field. The awkward kink in the parish boundary at the south end of the field would have forced the road to stop following its eastern side and switch to its western, while it still tried to maintain as direct a course as possible towards North Park Farm. The resulting compromise has created a road that is some distance from the parish boundary as it runs north through the Broad Road' field.
- 5. Despite finding no evidence for a shanty town the results of this project have shed some light onto the landscape of the area prior to and during its use. It would seem likely from the ploughsoil revealed in Trenches 7 and 11 that the extent of the woodland around the furnace was less than it is now. At what period the woodland increased in extent it is difficult to determine. Obviously those areas of wood that have earthworks in them associated with ore extraction or iron-working structures must have been clear at some stage during the use of the furnace. In addition the whole area to the north of the furnace, and extending eastwards beyond trench 11, was open plough-land at some stage before the 19th century.
- 6. The evidence would not contradict a model whereby much of the area was under arable or pasture during the medieval period, with fields running up to the stream from both the north and south. The road running along the parish boundary may have been in use at this time, so that the furnace, when constructed, used a preexisting crossing point of the stream. During the use of the furnace, woodland grew up in its immediate hinterland, probably to provide supplies of charcoal. It appears that as areas were exhausted of ore, they were planted with trees in order to make the best use of the land. An examination of mapping from 1650 (WSRO

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MS 1633), 1660 (WSRO MS 1640) and the Tithe Map of 1846, shows the gradual spread of wooded land.

- 7. In addition to adding to our understanding of the landscape surrounding the furnace, these excavations have also provided an interesting insight into the methods used to transport material to and from the furnace: the 'Broad Road' potentially being split into two parts, one for light traffic and one for heavy, with sledges seemingly used on the latter.
- 8. The location of the 'Shanty Town' remains an unknown. However having eliminated the Broad Road to the Furnace' field, it seems more probable that it is to be found much nearer the furnace. One reason for this would be convenience: it would make greater sense for the workers to live as near as possible to the furnace, particularly if the location of their settlements was chosen by the owner. There are a number of earthworks in the woods immediately around the furnace which would repay a full measured survey, those to the immediate north and east potentially being the most likely to be created by buildings rather than mining.
- 9. An examination of the ground to the east of the furnace (see Fig.2), and immediately south-east of an area excavated in 1992 (see Magilton 2003, p.52-3), produced a relatively large number of pottery sherds dating to the 17th and 18th centuries. Interestingly this assemblage contained a high proportion of fine wares, suggesting they originated from a wealthier dwelling than would be found in a 'Shanty Town'. The building uncovered by the 1992 excavations (located on Fig.2), appeared to be industrial in purpose, and thus this assemblage of domestic pottery must have come from elsewhere. Whether this was close to their find-spot, or some distance away, will only be determined by further investigations.

6. ARCHIVE LOCATION

- 1. The project archive shall be deposited with Chichester District Museum. The accession number given to this project is: 7676.
- 2. Copies of this report will be given to Chichester District Council SMR and the client.

7. BIBLIOGRAPHY

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