

Land at Short Hazels Farm
Burton-upon-Trent
Derbyshire

Archaeological Evaluation



for
TÜV SÜD PMSS

CA Project: 660571
CA Report: 15803

January 2016



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SUMMARY

Project Name:	Land at Short Hazels Farm
Location:	Burton-upon-Trent, Derbyshire
NGR:	SK 3278 2004
Type:	Evaluation
Date:	20–22 October 2015
Planning Reference:	9/2015/0257
Location of Archive:	To be deposited with Derby Museum and Art Gallery
Site Code:	HAZE 15

An archaeological evaluation was undertaken by Cotswold Archaeology in October 2015 at Short Hazels Farm, Burton-upon-Trent, Derbyshire. Twelve trenches were excavated within the site. These trenches were located primarily to test possible kiln-type anomalies identified by a previous geophysical survey.

The evaluation recorded the ploughed-out remains of ridge and furrow, corresponding with the geophysical survey results and indicating that the site comprised part of the open field system that surrounded the medieval settlement of Hartshorne.

The evaluation also recorded a series of clay-lined pits backfilled with redeposited natural. These features displayed evidence of *in situ* burning. Nineteenth-century pottery was recovered from two of the pits and individual pits were observed to cut furrows and a 19th-century ditch.

The function of these pits is uncertain. One of the pits contained a very small amount of 19th-century pottery production waste, but this is not consistent with the large amounts of waste which would be produced by ceramic manufacture within the site boundary. Furthermore, there is no known record of post-medieval/modern industrial activity within the site. It is known that sherds were removed from factory waste dumps for use elsewhere as hardcore and in drainage, and this might account for the small amount of pottery production waste present at the site.

The evaluation results displayed a broad correspondence with the previous geophysical survey. All of the burnt pits exposed by the evaluation had been recorded by the survey, indicating that there are unlikely to be any further undetected burnt pits at the site.

1. INTRODUCTION

- 1.1 In October 2015, Cotswold Archaeology (CA) carried out an archaeological evaluation of land at Short Hazels Farm, Burton-upon-Trent, Derbyshire (centred at NGR: SK 3278 2004). This work was commissioned by TÜV SÜD PMSS.
- 1.2 Planning permission for the development of a solar farm at the site has been granted by South Derbyshire District Council (SDDC; the local planning authority), conditional on a programme of archaeological work (planning ref: 9/2015/0257). The scope of this evaluation was defined by Steve Baker, the Derby and Derbyshire Development Control Archaeologist (the archaeological advisor to SDDC). A subsequent detailed Written Scheme of Investigation (WSI) was produced by CA (2015a) and approved by Steve Baker.
- 1.3 The fieldwork followed *Standard and guidance: Archaeological field evaluation* (CIfA 2014), *Management of Archaeological Projects* (English Heritage 1991) and *Management of Research Projects in the Historic Environment (MORPHE): Project Manager's Guide* (Historic England 2015). It was monitored by Steve Baker, including a site visit on 21 October 2015.

The site

- 1.4 The evaluation site is located c. 160m north-west of Short Hazels Farm, in the parish of Hartshorne, Derbyshire. The c. 10ha site encompasses three fields; at the time of the evaluation, two of these fields were in arable use and one was a small paddock. The site is bounded to the north-west and south by woodland, to the east by uncultivated land and to the north-east by open farmland. The site lies at a height of c. 140m above Ordnance Datum (AOD) at its north-eastern border, declining to a height of c. 120m AOD at its south-western border.
- 1.5 The underlying bedrock geology of the area is mapped as mudstone, siltstone and sandstone of the Pennine Lower Coal Measures Formation. No superficial deposits are recorded within the site (BGS 2015).



2. ARCHAEOLOGICAL BACKGROUND

- 2.1 The evaluation site has been the subject of a desk-based heritage assessment (CA 2015b), which incorporated the results of a geophysical survey. The following section is summarised from this document.
- 2.2 The geophysical survey recorded evidence for the below-ground remains of ploughed-out ridge and furrow, indicating that the site comprised part of the open field system that surrounded the medieval settlement of Hartshorne.
- 2.3 The geophysical survey also identified a number of discrete anomalies across the central and eastern areas of the site. These were interpreted as the possible remains of former kilns. The site is situated within a landscape known to have been utilised for industrial purposes in the post-medieval period. There is, however, no known record of industrial activity within this site itself. As the sources consulted by the DBA dated back to the late 18th century, it was considered that any kilns within the site would be likely to pre-date the 18th century.

3. AIMS AND OBJECTIVES

- 3.1 The general objective of the archaeological evaluation was to provide information about the archaeological resource within the site, including its presence/absence, character, extent, date, integrity, state of preservation and quality. The information gathered will enable SDDC to identify and assess the particular heritage significance of the site, consider the impact of the proposed development upon that significance, and develop appropriate strategies to avoid or minimise conflict between heritage asset conservation and any aspect of the development proposal, in line with the National Planning Policy Framework (DCLG 2012).
- 3.2 The specific objective of the current evaluation was to test the geophysical anomalies interpreted as potential kilns (see *Archaeological background*, above), in order to establish the nature, preservation and significance of any associated below-ground archaeological remains.



4. METHODOLOGY

- 4.1 The evaluation comprised the excavation of twelve trenches in the locations shown on Figure 2. One of these trenches (T12) was additional to the trenches proposed in the WSI, and was opened at the request of Steve Baker in order to test a further geophysical anomaly. Eight trenches were 20m in length, three trenches were 30m in length and one was 25m in length. All trenches were 2m wide. The trenches were located to test the potential kilns detected by the geophysical survey (see *Archaeological background*, above).
- 4.2 All trenches were excavated by a mechanical excavator equipped with a toothless grading bucket. All machine excavation was undertaken under constant archaeological supervision to the top of the natural substrate. Where archaeological deposits were encountered, they were excavated by hand in accordance with *CA Technical Manual 1: Fieldwork Recording Manual*.
- 4.3 Deposits were assessed for palaeoenvironmental potential in accordance with *CA Technical Manual 2: The Taking and Processing of Environmental and Other Samples from Archaeological Sites*. No deposits were identified that required sampling. All recovered artefacts were processed in accordance with *CA Technical Manual 3: Treatment of Finds Immediately after Excavation*.
- 4.4 The archive and artefacts from the evaluation are currently held by CA at their offices in Milton Keynes. Subject to the agreement of the legal landowner, these will be deposited with Derby Museum and Art Gallery. A summary of information from this project, as set out within Appendix C, will be entered onto the OASIS online database of archaeological projects in Britain.

5. RESULTS

- 5.1 This section provides an overview of the evaluation results. Detailed summaries of the recorded contexts and finds are to be found in Appendices A and B, respectively. Figures 2 and 3 show plans of the trenches and the exposed archaeological features, overlain on the geophysical survey results.

- 5.2 In the following text, features marked (U) were not hand-excavated. This was to preserve the archaeological integrity of the site where sufficient characterisation and dating evidence had already been obtained.

General stratigraphy

- 5.3 The natural substrate comprised yellow-brown sandy clay and red-brown mudstone. T9 and T10 also featured natural coal seams. The natural substrate was generally exposed 0.24m–0.4m below ground level and was sealed directly by the topsoil. The only exception was T10, wherein the natural was exposed 0.54m below ground level and a 0.2m-thick silty clay subsoil layer was present between the natural and the topsoil.

Blank trenches

- 5.4 Other than furrows (discussed below), the following trenches contained no archaeological features: T3, T4, T5, T7, T8 and T9. All six of these trenches tested geophysical anomalies indicative of potential burning. It was not clear what had caused the anomalies in each of these cases, although it is notable that the potential burning anomalies in the area of T2, T3 and T5 were on the approximate line of the furrow and field boundaries in this area of the site; this might indicate that the geophysical survey registered burnt material within the topsoil which had been plough-dragged from the burnt features present elsewhere at the site.

Furrows

- 5.5 With the exceptions of T4 and T11, every trench at the site contained the bases of furrows associated with a ploughed-out ridge and furrow system. The furrows were observed to cut the subsoil in T10, which was the only trench to feature a subsoil layer.
- 5.6 The furrows displayed two alignments, corresponding to the results of the geophysical survey. The majority of the furrows were aligned north-east/south-west; those in the south-central area of the site were aligned north-west/south-east. The furrows were typically around 1.5m–2.5m in width and were generally separated from each other by approximately 5m–7m (base of furrow to base of furrow).

- 5.7 One of the furrows (furrow 502, at the north-western end of T5) yielded two fragments of ceramic building material and a pottery sherd, all of which dated to the 19th century. This might indicate that the ridge and furrow earthworks were extant until the 19th century.

Trench 1

- 5.8 Pit 103 (U) lay on the south-western end of the trench, corresponding to a geophysical anomaly. This pit was 3m in diameter. Its outer edge was lined with heat-affected clay (104) and it had been backfilled with redeposited natural (105). A small number of modern pottery sherds (produced 1820–1850) and fragments of mid 19th-century kiln furniture were recovered from the upper surface of this feature.

Trench 2 (Fig. 4)

- 5.9 North-east/south-west-aligned ditch 203 partially truncated a furrow. This ditch was 1.22m wide and 0.39m deep and contained two silty clay fills (204 and 205), the uppermost of which (205) yielded a single sherd of mid 19th-century pottery. Ditch 203 was in the broad location of a geophysical anomaly associated with a former field boundary.
- 5.10 Ditch 203 was truncated at its south-western end by pit 208. This pit was not fully excavated, but it displayed a similar sequence to pit 103 (T1), with an outer layer of heat-affected clay (209) and a main clayey backfill (210). Pit 208 was in the broad location of a geophysical anomaly.

Trench 6

- 5.11 Shallow pit 603 was approximately 2.3m in width and only 0.04m in depth. This feature was filled by a grey-brown sandy clay deposit containing fired clay inclusions (603). Pit 603 was in the broad location of a geophysical anomaly.

Trench 10 (Fig. 5)

- 5.12 Pit 1008 lay towards the centre of the trench. It measured 0.38m in diameter and 0.22m in depth and contained a single clayey fill (1009).

Trench 11 (Fig. 6)

- 5.13 Pit 1103 was 2.45m in diameter and was excavated to a depth of 0.9m without its base being reached. This pit featured an outer layer of heat-affected clay (1104) and was backfilled with redeposited natural (1105). Deposit 1105 yielded a sherd of modern pottery (produced 1820–1850). A notch was visible in the south-western part of the clay lining, possibly representing the remains of a flue edge. The natural substrate surrounding pit 1103 had been scorched red and hardened as a reaction to high levels of heat.
- 5.14 Two further pit features (1107 and 1109; both U) lay in the north-eastern end of T11, both of which also showed signs of *in situ* burning.
- 5.15 The archaeological features exposed in T11 displayed a broad correspondence with the geophysical survey results.

Trench 12

- 5.16 Pit 1203 (U) was 9m wide and featured a lining of heat-affected clay (1204) and a main redeposited natural backfill (1206). This feature corresponded to a geophysical anomaly.

6. THE FINDS

- 6.1 This section presents a summary account of the artefactual material recovered from the site. For a full report, see Appendix B.
- 6.2 Small amounts of pottery and ceramic building material were recovered from the fills of burnt pits 103 (T1) and 1103 (T11), ditch 203 (T2) and furrow 502 (T5). All of this material is 19th century in date.
- 6.3 Three of the pottery sherds from pit 103 are wasters, discarded during the pottery production process. This pit also contained small quantities of kiln furniture and two sherds from a saggar; these items are also pottery production waste, and are datable to the second quarter of the 19th century.

- 6.4 The material from pit 103 does not, however, provide evidence for ceramic manufacture within the site boundary. While some of the material from the site originates from one or more – presumably local – factories, the small quantities recovered suggest something other than the routine large-scale discard which factories would have undertaken on a regular basis. It is known that sherds were removed from factory waste dumps for use elsewhere as hardcore and in drainage, and this might account for the small amount of material present at the site.

7. DISCUSSION

- 7.1 The evaluation found no evidence for any activity pre-dating the medieval period at the site.

Medieval (1066–1539)

- 7.2 The evaluation recorded the below-ground remains of ploughed-out ridge and furrow, corresponding with the results of the previous geophysical survey (CA 2015a) and indicating that the site comprised part of the open field system that surrounded the medieval settlement of Hartshorne.

Modern (1801–present)

- 7.3 Ditch 203 (T2) was in the broad location of a geophysical anomaly associated with a post-medieval/modern field boundary. Pottery recovered from this ditch was 19th century in date.
- 7.4 The evaluation recorded a series of pit-like features of similar construction, comprising round, clay-lined pits backfilled with redeposited natural. The linings of these pits (and occasionally the surrounding natural substrate) displayed evidence of *in situ* burning. There was no clear evidence for former superstructures (such as stakeholes or fragments of roofing), although pit 1103 (T11) featured the remnants of a possible flue.
- 7.5 Although associated artefactual material was limited, small quantities of 19th-century pottery were recovered from the fills of two of the pits and individual pits were observed to cut furrows and 19th-century ditch 203 (T2).

- 7.6 The function of the 19th-century burnt pits is uncertain. Although one of the pits (103, T1) contained a small amount of 19th-century pottery production waste, the pits are unlikely to have served as kilns. The very small quantity of waste material present, coupled with the fact that this was found in one of the pits only, is not consistent with the large amounts of waste which would be produced by ceramic manufacture within the site boundary. Furthermore, there is no known record of post-medieval/modern industrial activity within the site (see *Archaeological background*, above). It is known that sherds were removed from factory waste dumps for use elsewhere as hardcore and in drainage, and this process might account for the small amount of pottery production waste present at the site.

Undated

- 7.7 The evaluation recorded two small/shallow undated pits (602, T6; 1008, T10). The function of both of these features is uncertain, but pit 1008 was near to a coal seam and may have been associated with coal extraction.

Geophysical survey

- 7.8 The evaluation results displayed a broad correspondence with the results of the previous geophysical survey (*ibid*). While all of the burnt pits exposed by the evaluation had been recorded by the survey, not all of the potential burnt features noted by the survey were found to correspond to below-ground archaeological features. It is possible that in some areas, the geophysical survey registered burnt material within the topsoil which had been plough-dragged from the pits elsewhere at the site. The fact that the burnt pits exposed by the evaluation had all been detected by the survey indicates that there are unlikely to be any further undetected burnt pits at the site.

8. CA PROJECT TEAM

Fieldwork was undertaken by Peter James, assisted by Mark Woodley, Kim Devereaux-West and Mai Walker. This report was written by Peter James, Jake Streatfeild-James and Derek Evans. The finds report was written by Dr David Barker. The report illustrations were prepared by Dan Bashford. The project archive

has been compiled by Emily Evans and prepared for deposition by Hazel O'Neill. The project was managed for CA by Derek Evans.

9. REFERENCES

BGS (British Geological Survey) 2015 *Geology of Britain Viewer* http://maps.bgs.ac.uk/geology_viewer_google/googleviewer.html Accessed 3 November 2015

CA (Cotswold Archaeology) 2015a *Land at Short Hazels Farm, Derbyshire, Written Scheme of Investigation for an Archaeological Evaluation*

CA (Cotswold Archaeology) 2015b *Land at Short Hazels Farm, Derbyshire, Heritage Desk Based Assessment*, CA Report No. 14461

DCLG (Department of Communities and Local Government) 2012 *National Planning Policy Framework*



APPENDIX A: CONTEXT DESCRIPTIONS

Trench No.	Context No.	Type	Fill of	Context interpretation	Description	Length (m)	Width (m)	Depth (m)	Spot-date	
1	101	Layer		Topsoil	Dark brown silty clay			0.28		
1	102	Layer		Natural	Yellow-brown clay					
1	103	Cut		Pit	Unexcavated	>2	3			
1	104	Fill	103	Lining of pit	Dark black-red fired clay					
1	105	Fill	103	Backfill of pit	Mid yellow-brown silty clay				1820–1850	
2	200	Layer		Topsoil	Dark grey-brown silty clay			0.24		
2	201	Layer		Natural	Yellow-brown clay					
2	202			VOID						
2	203	Cut		Ditch	Linear moderately-sloped concave ditch, aligned north-east/south-west	>3	1.22	0.39		
2	204	Fill	203	First fill of ditch	Dark yellow-brown silty clay			0.43		
2	205	Fill	203	Second fill of ditch	Dark grey-brown silty clay			0.3	MC19	
2	206	Cut		Furrow	Aligned north-east/south-west	>4	2.4	0.22		
2	207	Fill	206	Fill of furrow	Dark yellow-brown silty clay			0.22		
2	208	Cut		Pit	Unexcavated	>1.9	>0.85			
2	209	Fill	208	Lining of pit	Dark orange-red fired clay					
2	210	Fill	208	Backfill of pit	Mid grey-brown silty clay			>0.16		
2	211	Cut		Furrow	Aligned north-east/south-west	>0.5	>1.34	>0.42		
2	212	Fill	211	Fill of furrow	Dark yellow-brown silty clay			>0.42		
3	301	Layer		Topsoil	Dark brown silty clay			0.4		
3	302	Layer		Natural	Red-brown clay					
4	400	Layer		Topsoil	Dark red-brown silty clay.			0.27		
4	401	Layer		Natural	Mid red-brown clay					
5	500	Layer		Topsoil	Dark grey-brown silty clay			0.29		
5	501	Layer		Natural	Yellow-brown clay					
5	502	Cut		Furrow	Aligned north-east/south-west	>2	2.55	0.13		
5	503	Fill	502	Fill of furrow	Mid grey-brown silty clay			0.13	C19	
6	600	Layer		Topsoil	Dark grey brown silty clay			0.24		
6	601	Layer		Natural	Mid yellow-brown sandy clay			0.24		
6	602	Cut		Pit	Sub-circular shallow pit	>2	2.3	0.04		
6	603	Fill	603	Backfill of pit	Mix of mid red-brown fired clay and grey-brown sandy clay			0.04		
7	700	Layer		Topsoil	Dark grey-brown silty clay			0.28		
7	701	Layer		Natural	Mid yellow-brown sandy					
8	801	Layer		Topsoil	Dark grey-brown silty clay			0.30		
8	802	Layer		Natural	Mid red-brown clay					
9	901	Layer		Topsoil	Mid grey-brown silty clay			0.3		
9	902	Layer		Natural	Light yellow-orange clay					
10	1001	Layer		Topsoil	Mid brown clayey silt			0.34		
10	1002	Layer		Subsoil	Light yellow-brown silty clay			0.2		
10	1003	Layer		Natural	Dark blue-grey clay					
10	1004	Layer		Natural	Coal seam			0.54		
10	1005	Cut		Furrow	Aligned north-east/south-west	>2.5	>0.9	0.14		

Trench No.	Context No.	Type	Fill of	Context interpretation	Description	Length (m)	Width (m)	Depth (m)	Spot-date
10	1006	Fill	1005	Fill of furrow	Mid yellow-brown silty clay			0.14	
10	1007	Layer		Natural	Mid yellow-orange clay			0.30	
10	1008	Cut		Pit	Circular, steep-sided pit	0.38	0.37	0.22	
10	1009	Fill	1008	Fill of pit	Mid orange-brown silty clay			0.22	
11	1101	Layer		Topsoil	Dark brown clayey silt			0.3	
11	1102	Layer		Natural	Yellow-brown clay with blue mottling			>0.3	
11	1103	Cut		Pit	Unexcavated	2.45	2.45	>0.9	
11	1104	Fill	1103	Lining of pit	Dark red-orange fired clay			>0.9	
11	1105	Fill	1103	Backfill of pit	Yellow-brown clay with blue mottling			>0.9	1820–1850
11	1106	VOID							
11	1107	Cut		Pit	Unexcavated	2	2		
11	1108	Fill	1107	Fill of pit	Mix of dark black and yellow-brown silty clays				
11	1109	Cut		Pit	Unexcavated	2	2		
11	1110	Fill	1109	Fill of pit	Mix of dark black and yellow-brown silty clays				
12	1201	Layer		Topsoil	Dark grey-brown silty clay			0.4	
12	1202	Layer		Natural	Light yellow-brown clay				
12	1203	Cut		Pit	Unexcavated	>2	9		
12	1204	Fill	1203	Lining of pit	Dark red-orange fired clay				
12	1205	Fill	1203	Backfill of pit	Yellow-brown clay				

APPENDIX B: THE FINDS

By Dr David Barker, Archaeological Research Consultancy

Description

Pottery: post-medieval

Seven sherds of pottery are of 19th-century date. They include the base of an unglazed refined stoneware vessel, probably a jug, from 1105 (fill of pit 1103, T11); a glazed yellow ware jug handle/body sherd with banded slip decoration from 105 (fill of pit 103, T1); and a body sherd of a coarse earthenware dish or pan from 503 (fill of furrow 502, T5) with an internal dark brown glaze over a red slip coat – this last is a domestic vessel, although this does not preclude its use in an industrial context. Another body sherd from 205 (fill of ditch 203, T2) is from a large vessel – perhaps a jar or jug – in a coarse cream-buff fabric with a yellow-green glaze inside and out, although thinner on the inside; it is probably from an industrial vessel made at, and used in a factory situation.

Three further yellow ware sherds from 105 are in an unglazed, biscuit state and are therefore wasters discarded before the glost firing. The sherds are from a wide-mouthed bowl, basin or dish and from two London-shape bowls with banded slip decoration.

Pottery-production material

A limited range of material relates to the firing of pottery and, together with the biscuit yellow ware sherds, points to a factory source for the majority of the ceramic finds from this site.

Two sherds from 105 are the body and rim of a cylindrical saggar; the absence of glaze on the interior surface suggests that these have been used in biscuit, rather than glost firing, although there is no clue as to their contents. The sherds are in a coarse cream-buff-coloured fabric, heavily grogged, with walls of 17mm and 18mm. The rim is a plain flattened form.

Twelve pieces of unglazed clay in cream- and pink-coloured fabrics from 105 are 'wad clay' – extruded strips of clay used to seal the junctions between rims and bases of saggars during firing or to provide additional support to vessels during firing. They include flattened strips with the impressions of saggar rims and other pieces of a more rounded cross-section with flattened surfaces, pinched ends and possible vessel impressions. A further two flattened pieces in a cream-buff fabric, also from 105, may also be wad clay, or else clay pieces used to support or separate vessels or saggars.

The only piece of specialist kiln furniture is a hand-made spur, or cockspur from 105. This has a height of c. 19mm with 25mm between the three feet, although the uppermost point and two of the feet have been damaged during use. The spur is in a buff-coloured fabric with a thin yellow glaze sheen to the upper body, suggesting that it was used in the glost firing of refined yellow wares.

Ceramic building material

Just two fragments of roof tile were recovered from 503; they are in a sandy orange fabric, with a thickness of 14mm, but are otherwise undiagnostic.

Other material

Five pieces of coal (13g) from 1105 and five pieces (2g) of burnt coal from 105 may relate to pottery manufacture or other industrial activity, or else may simply be the result of domestic activity.

Discussion

The only pottery vessel sherds which can be identified as production waste are the three biscuit yellow ware sherds, although the presence of a glazed yellow ware sherd in the same context suggests that it may be related to the biscuit sherds. Yellow ware production is indicated by the single cockspur, an item of specialist kiln furniture which would have been used to support large flat ware vessels – plates, dishes, basins, etc. – during the glost firing. The presence of a thin yellow glaze on this shows that it was used in the firing of yellow ware, but such kiln furniture was also used in the firing of brown-glazed Rockingham wares in those factories which produced both yellow ware and Rockingham (and most producers of yellow ware seem also to have made Rockingham). The other production material provides no evidence for the type of ware with whose manufacture it was associated, although this will have been one or more of the refined earthenware types which required both biscuit and glost firings.

There is insufficient pottery for precise dating, although what there is is consistent with a production date in the second quarter of the 19th century. Yellow ware is a twice-fired refined earthenware with a light buff-coloured fireclay body which when glazed, presents a yellow appearance. It is well-known in archaeological deposits from the 1820s–1830s onwards. Production is well-documented in the numerous potteries situated in Swadlincote, Woodville, Church Gresley, Hartshorne and their environs in South Derbyshire and adjacent Leicestershire, and it was regarded as a speciality of that area (Jewitt 1883, 375–80), where it was known as 'Derbyshire Ironstone Cane Ware' or 'Yellow Ware' (ibid., 375–6). Production continued into the 20th century, but typical of the mid 19th-century wares are thrown forms such as mugs, jugs, porringers, bowls and dishes, often with some form of slip decoration, usually banded in cream or blue, but often featuring a dendritic 'mocha' pattern in blue, brown or green. The single red stoneware sherd is not from an 18th-century form and probably dates to the second quarter of the 19th century. The single coarse earthenware sherd can be even less closely dated.

The kiln furniture and related saggar material cannot be precisely dated, but the fact that the single cockspur is hand-made, rather than machine-made, may suggest an earlier, rather than later date. The introduction of machine-made kiln furniture in the late 1840s was accompanied by a range of patents, initially those of Charles Ford of Hanley in north Staffordshire in 1846 (UK Patent No. 11488, 'Improvements in the manufacture of pottery or earthenware ...') and Thomas Wentworth Buller of Bovey Tracey, Devon, in 1849 (UK Patent No. 12599, 'Improvements in the manufacture of earthenware'). This enabled the mass production of large numbers of identical stilts and spurs which could be quickly made from metal dies, into which the clay was machine-pressed. The advantages of identically-sized items of kiln furniture in the placing of wares were such that their use was rapidly adopted, with specialist manufacturers in north Staffordshire supplying the majority of the country's fineware potteries. The presence here of a hand-made cockspur suggests a date in the mid 19th century, or earlier, before the widespread adoption of mass-produced machine-made kiln furniture, but archaeological evidence shows that hand-made stilts and spurs continued to be used – often alongside machine-made kiln furniture – well into the 1860s. This was the case with material excavated from Sharpe's Pottery, Swadlincote, where machine-made kiln furniture predominated, but not to the exclusion of hand-made types (Barker 2011); this situation is not unusual.

The finds from Short Hazels Farm hint at the nature of pottery manufacture in the Hartshorne area during the 19th century, but are not necessarily conclusive proof of production on, or in the immediate vicinity of the site. This would require a larger assemblage. While finds of factory wasters, kiln furniture and other production waste may be anticipated in areas of ground disturbance in and around centres of past pottery production – the more so in those locations where production was on a large-scale and carried on over decades – such finds need not necessarily represent the dumping of waste from local factories. The removal of cartloads of sherds from factory waste dumps – in return for cash payments – is a well-documented practice, although the reasons for their removal are not stated. It is quite clear, however, that waste sherds were a usable commodity, for hardcore or for drainage, and the present writer has encountered finds of wasters from north Staffordshire factories being made at some distance (as much as 40km) from their place of origin. Not all groups of wasters encountered are necessarily directly related to pottery production in the place of their recovery.

The material recovered from the Short Hazels Farm evaluation offers no evidence for ceramic manufacture within the site boundary. While some of the material originates from one or more – presumably local – factories, the means by which it came to be deposited on the site is far from clear and the small quantities suggest something other than the routine large-scale discard which all factories would have undertaken on a regular basis. This process is likely to have involved the backfilling of disused clay pits, dumping on the banks of rivers or streams or the creation of large free-standing piles of waste beyond the immediate boundary of the factory. There is no evidence of any of these on this site. Moreover, the waste material under discussion is without question of 19th-century date, a period well-served by map evidence which indicates no industrial activity before the late 18th century. If earlier, medieval or early post-medieval industrial activity took place on this site it is not represented by any of the finds recovered during the fieldwork.

References

- Barker, D 2011 'Ceramic Finds', in R. Cramp & J. Goodwin, *Archaeological Investigations at Sharpe's Pottery Heritage & Art Centre, Swadlincote, Derbyshire, NGR SK 2983 1954*
- Jewitt, L. 1883, *The Ceramic Art of Great Britain* Second revised edition, London: Virtue & Co.

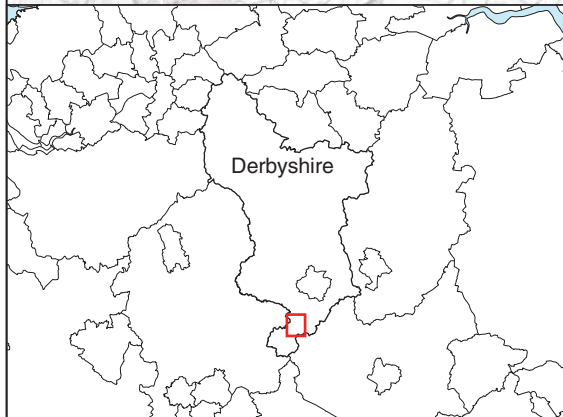
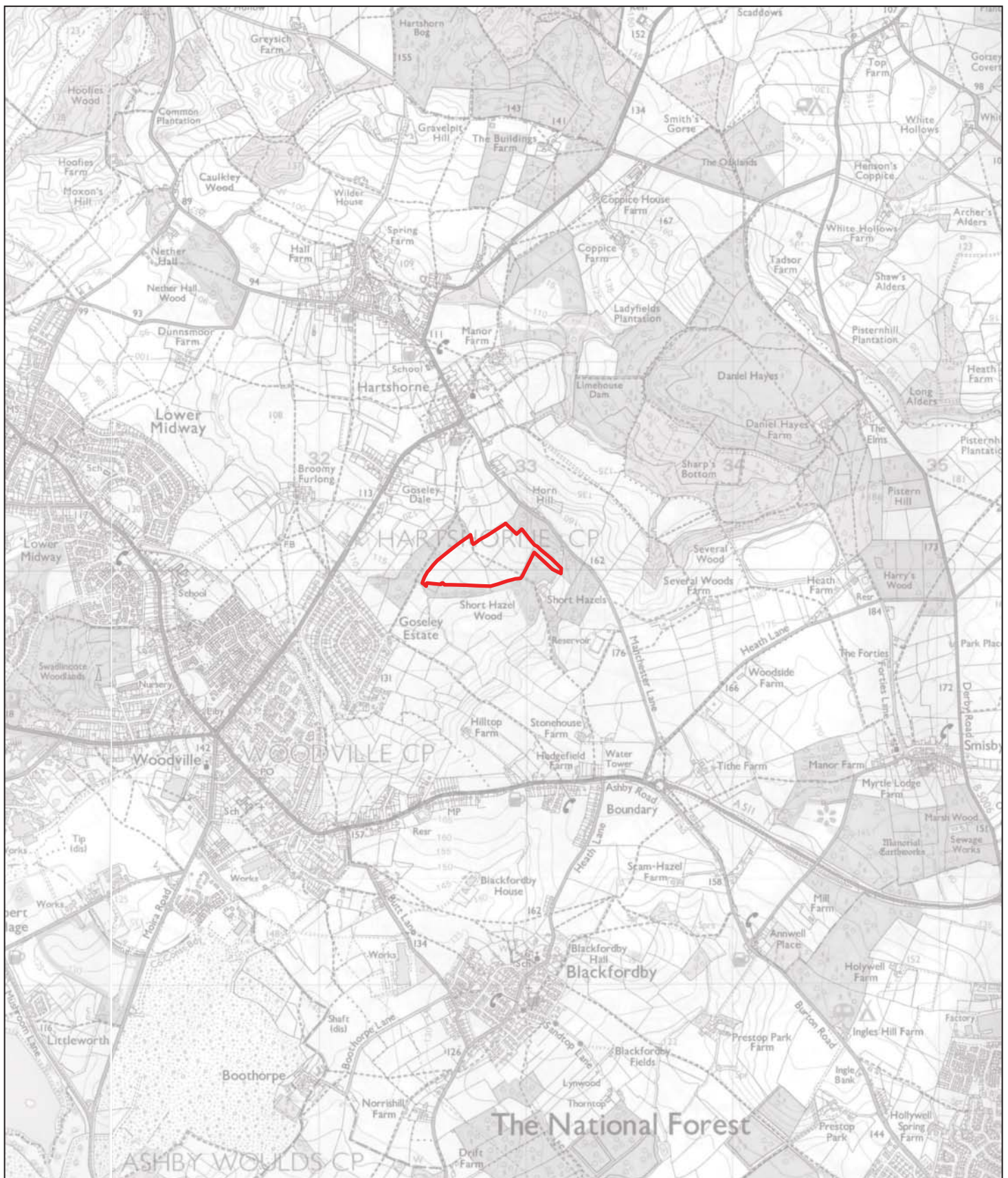
Table B1: Finds concordance

Context	Description	Count	Weight (g)	Spot-date
105	Cockspur, hand-made; height c. 19mm and distance between feet 25mm; buff-coloured fabric with a thin glaze sheen to the upper body; uppermost point missing and only one of the three feet is intact.	1	4	1820–1850
	Yellow ware handle/body sherd, glazed, from a probable jug, of plain oval cross-section with a trimmed rounded lower terminal. Cream-buff fabric with a straw-coloured yellow glaze. The body preserves evidence of banded slip decoration in white and blue.	1	27	1820-1850
	Yellow ware rim/body sherd, biscuit, from a wide-mouthed bowl, dish or basin. The vessel is thick-walled with a rounded rim. Cream-buff fabric.	1	77	1820-1850
	Yellow ware body sherd, biscuit, from a London shape bowl; the sherd preserves the sharp carination to the bowl's lower body; there is decoration immediately above the carination, comprising a horizontal band of trailed brown slip with narrower white slip bands immediately above and below and touching the brown.	1	5	1820-1850
	Yellow ware rim sherd, biscuit, from a probable London shape bowl; decoration comprises at least three narrow bands of white slip below the rim.	1	2	1820-1850
	Pieces of burnt coal	5	2	u/d
	Saggars sherds – 1 rim & 1 body – from probable deep cylindrical forms. The absence of an internal glaze suggests that these were used in biscuit, rather than glost firing. Coarse cream-buff-coloured fabric, heavily grogged, with walls of 17 and 18mm. The rim is a plain flattened form.	2	125	Mid C19
	Pieces of wad clay, unglazed, with two joins. These include flattened strips with the impressions of saggars rims, or pieces of a more rounded cross-section with flattened surfaces, pinched ends and possible vessel impressions. All are in cream- or pink-coloured fabrics.	12	86	Mid C19
	?Wad clay; flattened pieces of 4mm thickness are probably also wad clay, or else clay pieces used to support or separate vessels or saggars; these are in a cream-buff fabric.	2	6	?Mid C19
205	Glazed body sherd, possibly from an industrial vessel (jar or jug) made on, and used in the factory. Coarse cream-buff fabric with yellow-green glaze inside and out, although thinner on the inside.	1	7	Mid C19

Context	Description	Count	Weight (g)	Spot-date
503	Coarse earthenware body sherd from a dish or pan. Coarse pink-coloured fabric with internal dark brown glaze over a dark red slip coat.	1	7	C19
	Roof tile sherds, one of 14mm thickness; sandy orange fabric.	2	13	C19
1105	Base sherd of an unglazed red stoneware vessel with a turned undercut foot of c. 100mm diameter and straight outward-flaring sides – probably a jug.	1	10	1820–1850
	Pieces of coal	5	13	u/d

APPENDIX C: OASIS REPORT FORM

PROJECT DETAILS		
Project Name	Land at Short Hazels Farm, Burton-upon-Trent, Derbyshire: Archaeological Evaluation	
Short description (250 words maximum)	<p>An archaeological evaluation was undertaken by Cotswold Archaeology in October 2015 at Short Hazels Farm, Burton-upon-Trent, Derbyshire. Twelve trenches were excavated within the site. These trenches were located primarily to test possible kiln-type anomalies identified by a previous geophysical survey.</p> <p>The evaluation recorded the ploughed-out remains of ridge and furrow, corresponding with the geophysical survey results and indicating that the site comprised part of the open field system that surrounded the medieval settlement of Hartshorne.</p> <p>The evaluation also recorded a series of clay-lined pits backfilled with redeposited natural. These features displayed evidence of in situ burning. Nineteenth-century pottery was recovered from two of the pits and individual pits were observed to cut furrows and a 19th-century ditch.</p> <p>The function of these pits is uncertain. One of the pits contained a very small amount of 19th-century pottery production waste, but this is not consistent with the large amounts of waste which would be produced by ceramic manufacture within the site boundary. Furthermore, there is no known record of post-medieval/modern industrial activity within the site. It is known that sherds were removed from factory waste dumps for use elsewhere as hardcore and in drainage, and this might account for the small amount of pottery production waste present at the site.</p> <p>The evaluation results displayed a broad correspondence with the previous geophysical survey. All of the burnt pits exposed by the evaluation had been recorded by the survey, indicating that there are unlikely to be any further undetected burnt pits at the site.</p>	
Project dates	20–22 October 2015	
Project type	Field Evaluation	
Previous work	Desk Based Assessment (Cotswold Archaeology 2015)	
Future work	Unknown	
PROJECT LOCATION		
Site Location	Short Hazels Farm, Burton-upon-Trent, Derbyshire	
Study area (M ² /ha)	10ha	
Site co-ordinates (8 Fig Grid Reference)	SK 3278 2004	
PROJECT CREATORS		
Name of organisation	Cotswold Archaeology	
Project Brief originator	Derbyshire County Council	
Project Design (WSI) originator	Cotswold Archaeology	
Project Manager	Derek Evans	
Project Supervisor	Peter James	
MONUMENT TYPE		
	None	
SIGNIFICANT FINDS		
	None	
PROJECT ARCHIVES		
	Intended final location of archive	Content
Physical	Derby Museum and Art Gallery	Ceramics
Paper	Derby Museum and Art Gallery	Trench and context sheets, drawings, registers
Digital	Derby Museum and Art Gallery	Database, digital photos
BIBLIOGRAPHY		
Cotswold Archaeology 2015 <i>Land at Short Hazels Farm, Burton-upon-Trent, Derbyshire: Archaeological Evaluation</i> . CA typescript report 15083		



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PROJECT TITLE

Land at Short Hazels Farm
Burton-upon-Trent, Derbyshire

FIGURE TITLE

Site location plan



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PROJECT NO. 660571
DATE 04-11-2015
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FIGURE NO.
1



- site boundary
- evaluation trench
- archaeological feature
- furrow
- field drain

geophysical survey results
pre-construct-geophysics LTD

- >10nT Typically modern (rubble, metal objects/fencing etc)
- Archaeological remains typically produce weak magnetic anomalies within this range (e.g. ditches/pits). Exceptions include fired material (e.g. tile/pottery, kilns, hearths and other sites subject to intense heat)
- < -10nT Typically modern (rubble, metal objects/fencing etc)
- Potential archaeology
- Recent boundary/track
- Cultivation (ridge and furrow)



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PROJECT TITLE
Land at Short Hazels Farm
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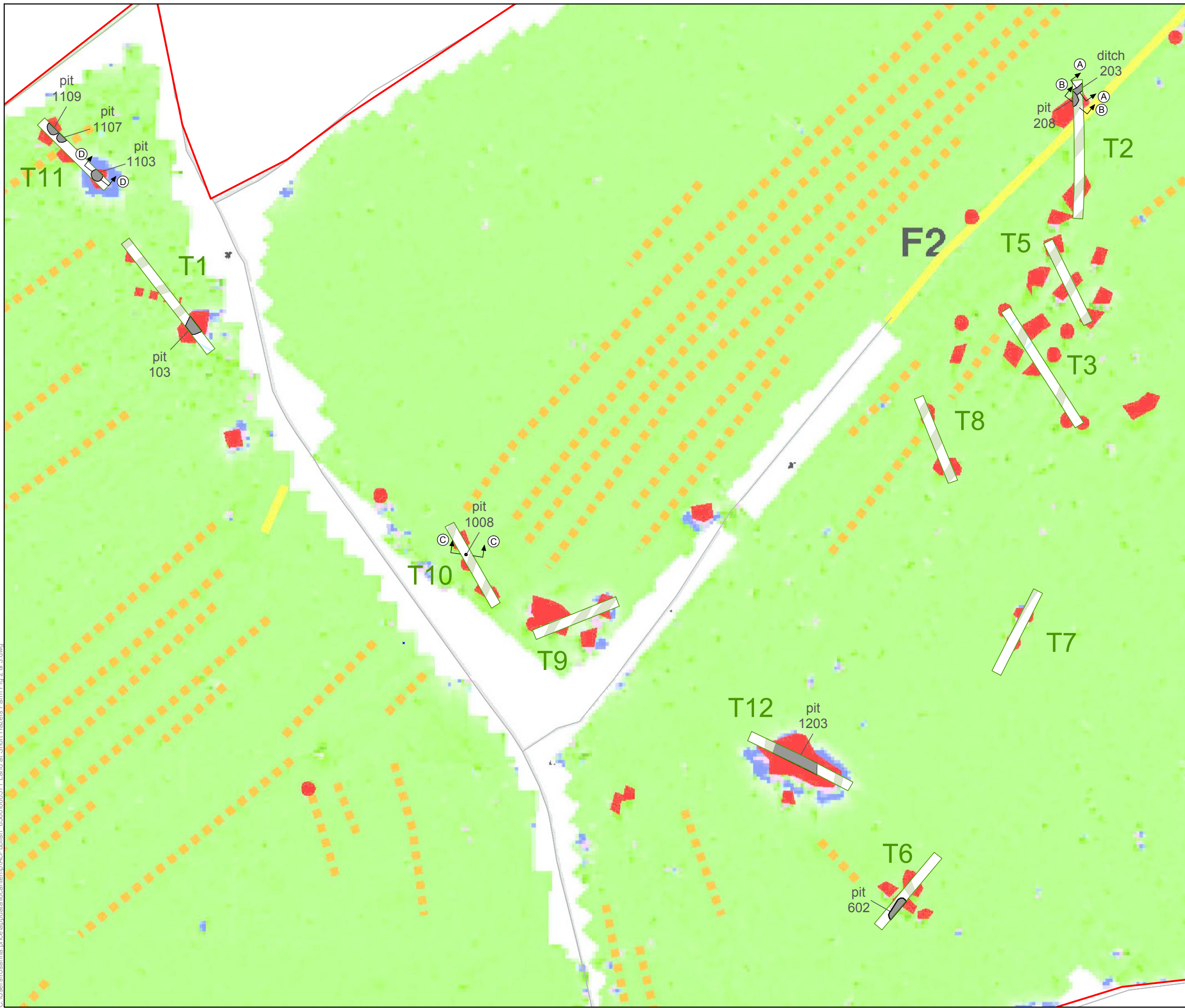
FIGURE TITLE
Trench location plan showing archaeological features and geophysical survey results

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- site boundary
- evaluation trench
- archaeological feature
- furrow
- field drain
- section location

geophysical survey results
pre-construct-geophysics LTD

- █ >10nT Typically modern (rubble, metal objects/fencing etc)
- █ Archaeological remains typically produce weak magnetic anomalies within this range (e.g. ditches/pits). Exceptions include fired material (e.g. tile/pottery, kilns, hearths and other sites subject to intense heat)
- █ < -10nT Typically modern (rubble, metal objects/fencing etc)
- Potential archaeology
- Recent boundary/track
- - - Cultivation (ridge and furrow)

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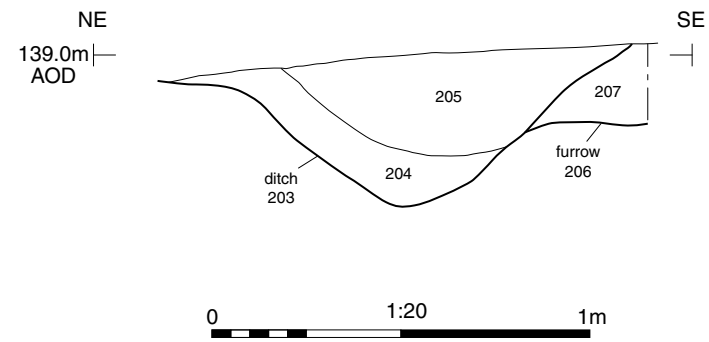
PROJECT TITLE
Land at Short Hazels Farm
Burton-upon-Trent, Derbyshire

FIGURE TITLE
Plan showing archaeological features in trenches 1, 2, 6, 10, 11 and 12

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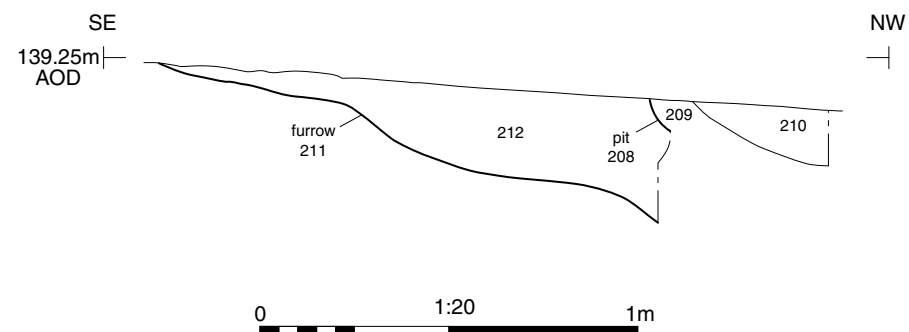
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Section AA



South-west-facing section of ditch 203, looking north-east (scale 1m)

Section BB



North-east-facing section of pit 208, looking south-west (scale 1m)

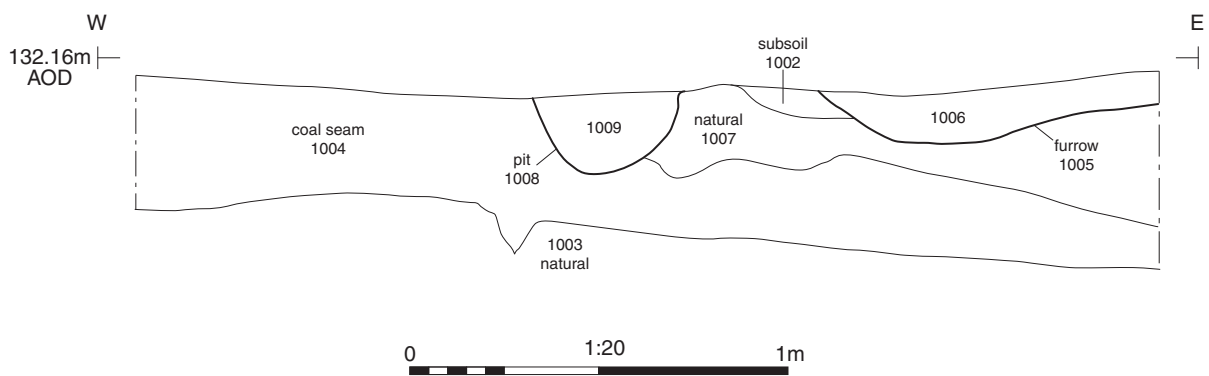

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PROJECT TITLE
**Land at Short Hazels Farm
 Burton-upon-Trent, Derbyshire**

FIGURE TITLE
Trench 2: sections and photographs

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Section CC



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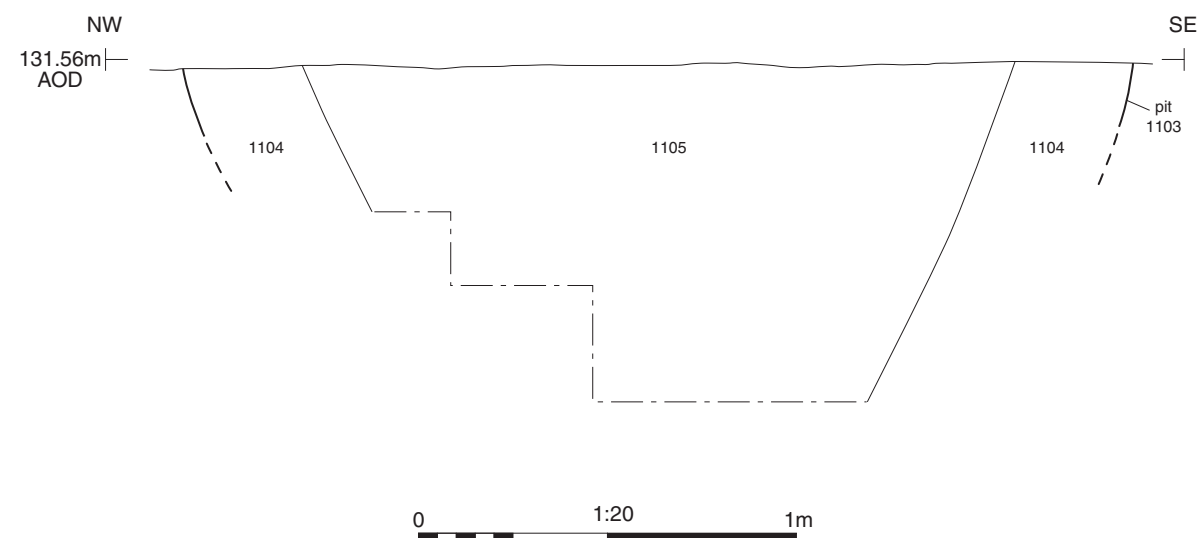
Land at Short Hazels Farm
Burton-upon-Trent, Derbyshire

FIGURE TITLE

Trench 10: section

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Section DD



Pit 1103, pre-excavation, looking north-east (scale 1m)



South-west-facing section of pit 1103, looking north-east (scale 1m)


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PROJECT TITLE
 Land at Short Hazels Farm
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FIGURE TITLE
Trench 11: section and photographs

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