# WEST HOATHLY BRICKWORKS SHARPTHORNE WEST SUSSEX

# PROGRAMME OF ARCHAEOLOGICAL RECORDING FOR PHASE 2 (PART 6) EXTRACTION

For

**IBSTOCK BRICK LIMITED** 

CA PROJECT: 2151 CA REPORT: 10143

AUGUST 2010



### WEST HOATHLY BRICKWORKS SHARPTHORNE WEST SUSSEX

## PROGRAMME OF ARCHAEOLOGICAL RECORDING FOR Phase 2 (Part 6) Extraction

CA PROJECT: 2151 CA REPORT: 10143

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issue		

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#### **SUMMARY**

Site Name: West Hoathly Brickworks Phase 2 (Part 6) Extraction

**Location:** Sharpthorne, West Sussex

NGR: TQ 3763 3286

Type: Watching brief

**Date:** 16–18 August 2010

Planning Reference: HO/36/98

Location of Archive: To be deposited with East Grinstead Museum

Site Code: WHS 10

A programme of archaeological recording was undertaken by Cotswold Archaeology as part of the latest phase of works associated with the extension of the clay quarry at West Hoathly Brickworks, Sharpthorne, West Sussex. The work formed part of the Phase 2 (Part 6) Extraction and followed on from archaeological work undertaken during the Phase 2 (Parts 1–5) Extraction.

A single Early Neolithic or Mesolithic flint flake was recovered as a residual find from the topsoil.

Several large quarry pits were identified, similar to those identified previously on the site and likely have been the result of medieval iron ore extraction,.

A hearth pit and an undated charcoal-rich layer were also present. Although undated, these are likely to form a continuation of the iron processing activities identified during previous recording on the site.

Post-medieval/modern remains were also present, and comprised a dumped layer adjacent to a former marl pit identified during previous works, and a field boundary/drainage ditch.

#### 1. INTRODUCTION

- 1.1 During August 2010 Cotswold Archaeology (CA) carried out a programme of archaeological recording for Ibstock Brick Ltd at West Hoathly Brickworks, Sharpthorne, West Sussex (centred on NGR: TQ 3763 3286; Fig. 1). The programme of archaeological recording formed part of ongoing archaeological work required to fulfil a condition attached to planning consent for an extension to the clay quarry attached to the brickworks (planning ref.: HO/36/98). The objective of the archaeological work was to record any archaeological remains exposed during the groundworks.
- 1.2 The archaeological fieldwork was carried out in accordance with a brief for archaeological recording prepared by Mr John Mills, Archaeologist for West Sussex County Council Economic and Environmental Policy Service (WSCCEEPS), the archaeological advisor to the Local Planning Authority (LPA), and with a subsequent Written Scheme of Investigation (WSI) produced by CA (2003) and approved by the LPA acting on the advice of Mr Mills. The fieldwork also followed the Standard and Guidance for an Archaeological Watching Brief issued by the Institute for Archaeologists (2008), the Recommended Standard Conditions for Archaeological Fieldwork, Recording and Post-Excavation Work (Development Control), Version 2b issued by WSCCEEPS, the Management of Archaeological Projects (English Heritage 1991) and the Management of Research Projects in the Historic Environment (MORPHE) (English Heritage 2006).

#### The site

- 1.3 The current works comprise the Phase 2 (Part 6) Extraction and follow on from the Phase 1 and Phase 2 (Parts 1-5) Extraction reported on previously and located to the immediate south and west (for example CA 2007b). The site lies at approximately 140m AOD and comprises an area of former pasture which occupies a gentle north-facing slope to the north of Mare Pit Wood (Fig. 2).
- 1.4 The underlying geology of the area is mapped as Wadhurst Clay Formation Mudstone and Ironstone overlying Ashdown Beds Sandstones (BGS 2010). Clay substrate was exposed during the groundworks.

#### Archaeological background

#### Introduction

1.5 The general background to the archaeological works at the quarry has been outlined elsewhere (e.g. CAT 1999a) and it is not intended to fully reprise that information here. The results of the previous programmes of archaeological recording (Phase 1 and Phase 2 (Parts 1–5); Fig. 2) are summarised below.

#### Prehistoric

1.6 Three flint flakes and a scraper were identified during the Phase 1 Extraction (CAT 2001b) and a flint fabricator and an unutilised flake were identified during the Phase 2 (Part 4) Extraction (CA 2007a). All were unstratified and date to the Late Neolithic to Early Bronze Age.

#### Medieval

- 1.7 An evaluation prior to the Phase 1 Extraction identified several undated features including a stone-filled ditch, a posthole and a pit containing burnt material (CAT 1999b). The ditch was fully exposed during a subsequent programme of archaeological recording, along with a number of pits and postholes to its east (CAT 2001b). Medieval pottery, dateable to the 11th to 14th centuries, was recovered from these features. They also contained iron slag, burnt sandstone and fired clay likely to have derived from the walls of a charcoal-fired furnace, although no *in situ* furnace structures were identified (ibid.).
- 1.8 Within the Phase 2 Extraction area, visible earthworks within Mare Pit Wood were archaeologically surveyed (CAT 2000 and CAT 2001a) and an archaeological evaluation was undertaken within the northern part of the wood (CAT 2000). This work showed that the earthworks are likely to have been the remains of infilled iron minepits and associated spoil heaps. These are presumed to be medieval on the basis of evidence obtained during the excavation of similar minepits within the quarry in the 1980s (Worssam and Swift 1987).
- 1.9 A large number of these pits were exposed during the Phase 2 (Parts 4 and 5) Extraction works, with the northernmost extent of the pits following the 140m contour (CA 2007a and 2007b; Fig. 3). Beyond the wood, the foundations of a timber building were present, along with several pits (CA 2007a). These features were associated with a small amount of medieval pottery and had been backfilled with

iron-processing waste likely to have derived from iron furnaces. At least one iron-smelting furnace pit, apparently partially protected by a shelter or windbreak, was exposed within the Phase 2 (Part 5) Extraction area (CA 2007b). Other slag-filled pits and postholes were present close to the furnace pit.

#### Post-medieval

1.10 The evaluation and survey identified substantial post-medieval clay extraction (marl) pits and associated trackways and drainage channels within Mare Pit Wood. These were exposed during the Phase 2 (Parts 1 and 4) Extraction (CA 2004a and CA 2007a; Fig. 3). A pit containing charcoal and iron smelting slag was also identified during the Phase 2 (Part 1) Extraction. Although the pit remained undated, the slag was dated on typological grounds to the early post-medieval period (CA 2004a).

#### Methodology

- 1.11 The fieldwork followed the methodology set out within the WSI (CA 2003). An archaeologist was present during intrusive groundworks, comprising the removal of the topsoil and subsoil using a mechanical excavator equipped with a toothless bucket across an area measuring approximately 180m x 40m (Fig. 2).
- 1.12 Where archaeological deposits were encountered written, graphic and photographic records were compiled in accordance with CA Technical Manual 1: *Fieldwork Recording Manual* (2007).
- 1.13 The archive and artefacts from the work are currently held by CA at their offices in Kemble. Subject to the agreement of the legal landowner, the artefacts will be deposited with East Grinstead Museum along with the site archive. A summary of information from this project, set out within Appendix D, will be entered onto the OASIS online database of archaeological projects in Britain.

#### 2. RESULTS (FIGS 2-4)

2.1 The natural geological clay substrate (703) was exposed throughout the stripped area except at the southern end, where it was overlain modern layer 705 (Fig. 3).

#### Prehistoric

2.2 A single flint flake was recovered as a residual find from the topsoil and is probably Early Neolithic or Mesolithic in date.

#### Medieval

- 2.3 Although no dateable material was recovered from the features assigned to the medieval period, they have been so dated on the basis of their similarity to medieval features exposed within the Phase 2 (Parts 4 and 5) Extraction areas.
- 2.4 Eight medium-sized pits identified close to the southern edge of the area formed a continuation of the medieval quarry pits identified within the Phase 2 (Parts 4 and 5) Extraction areas (Fig. 3). All were circular in plan and measured between 1.6m and 2.8m in diameter. In agreement with John Mills, all remained unexcavated due to their anticipated depth, and all remained undated. As was the case with the pits observed during the Phase 2 (Parts 4 and 5) Extraction, the pits had been infilled with material derived from the clay substrate, probably the spoil from the next pit to be excavated.
- 2.5 Layer 704 was identified towards the middle of the area (Fig. 3). It consisted of a small, shallow (1.1m in diameter and 0.02m in depth) spread of charcoal mixed with yellow clay and occasional burnt clay flecks. No finds were recovered from this layer.
- 2.6 Hearth pit 728 was also identified towards the middle of the area (Fig. 3). It consisted of a circular cut 0.48m in diameter and 0.09m in depth with 45° concave sides and a flat base (Fig. 4). The clay substrate had been scorched red around the edges of the pit, indicating that burning had occurred within it, although no hearth structures or bases were present. It was filled with a single deposit, fill 727, comprising charcoal lumps and flecks mixed with yellow clay and occasional burnt clay flecks. It remained undated but sample 701 taken from this fill contained oak charcoal.

#### Post-medieval/modern

2.7 North-east/south-west aligned ditch 721 was identified within the southern part of the area. It was 1.1m wide and 0.3m deep with 45° concave sides and a u-shaped base. It contained a single fill (722) from which modern finds, including bottle glass and an angle-iron fence post were recovered. It was partially overlain by layer 705, a spread

of mid brown silty clay which contained modern finds, including bottle glass, iron objects and brick fragments.

#### The Finds and Palaeoenvironmental Evidence

- 2.8 A residual worked flint was recovered from the topsoil and two fragments of clear modern glass were recovered from fill 722 of ditch 721 (Appendix B). The flint consists of a long flake with blade scars to its dorsal face and is probably Early Neolithic or Mesolithic in date.
- 2.9 Sample 701 taken from fill 727 of hearth pit 728 contained oak charcoal. No metallurgical residues were contained within the sample, although magnetised material was recovered, probably the result of magnetisation of the surrounding substrate whilst the hearth pit was being fired.

#### 3. DISCUSSION

#### Prehistoric

3.1 The flint flake recovered from the topsoil is further evidence of activity within the area during the prehistoric period.

#### Medieval

- 3.2 The eight quarry pits form a clear continuation of the medieval iron ore quarrying identified within the Phase 2 (Parts 4 and 5) Extraction areas (CA 2007a and CA 2007b; Fig. 3). Their distribution confirms the impression given by the earlier results that the northernmost extent of medieval iron ore extraction closely followed the 140m contour line.
- 3.3 Although undated, layer 704 and hearth 705 contained similar fills to those of the features associated with medieval iron processing identified within the Phase 2 (Parts 4 and 5) Extraction areas (CA 2007a and CA 2007b). Their location places them parallel to, but to the east of, the medieval building (CA 2007a; Fig. 3). It remains to be seen whether these features form an outlier to the iron processing activity associated with that building or are associated with some, as yet unexposed, activity further to the east.

#### Post-medieval/modern

3.4 Ditch 721 is likely to have been a post-medieval/modern field boundary/drainage ditch. There was no indication that it originated any earlier than this. Layer 705 appears to represent dumping along the edge of the large marl pit exposed during previous recording and which survived as an earthwork feature (CA 2007a).

#### 4. CA PROJECT TEAM

Fieldwork was undertaken by Jonathan Hart. This report was written by Jonathan Hart with illustrations prepared by Peter Moore. The finds were analysed by Angela Aggujaro and the palaeoenvironmental evidence by Sarah Cobain. The archive has been compiled by Jonathan Hart and prepared for deposition by James Johnson. The project was managed for CA by Mark Collard

#### 5. REFERENCES

- BGS (British Geological Survey) 2010 *Geology of Britain Viewer. 1:50,000 scale* Online resource at <a href="http://maps.bgs.ac.uk/geologyviewer\_google/googleviewer.html">http://maps.bgs.ac.uk/geologyviewer\_google/googleviewer.html</a> accessed 19 August 2010
- CAT (Cotswold Archaeological Trust) 1999a West Hoathly Brickworks, Sharpthorne, West Sussex, Phase 1; Cookham's Lane: Archaeological Recording CAT typescript report no. 991046
- CAT (Cotswold Archaeological Trust) 1999b West Hoathly Brickworks, Sharpthorne, West Sussex, Phase 1; Extraction Area (Excluding Cookham's Lane): Archaeological Evaluation CAT typescript report no. 991063
- CAT (Cotswold Archaeological Trust) 2000 West Hoathly Brickworks, Sharpthorne, West Sussex (Mare Pit Wood): Archaeological Earthwork Survey and Evaluation CAT typescript report no. **001159**
- CAT (Cotswold Archaeological Trust) 2001a West Hoathly Brickworks, Sharpthorne, West Sussex, Mare Pit Wood; South-East: Archaeological Earthwork Survey CAT typescript report no. **01127**

- CAT (Cotswold Archaeological Trust) 2001b West Hoathly Brickworks, Sharpthorne, West Sussex, Phase 1 Extraction Area: Archaeological Watching Brief CAT typescript report no. **01110**
- CA (Cotswold Archaeology) 2003 West Hoathly Brickworks, Sharpthorne, West Sussex:

  Written Scheme of Investigation for a Programme of Archaeological Recording
- CA (Cotswold Archaeology) 2004a West Hoathly Brickworks, Sharpthorne, West Sussex:

  Programme of Archaeological Recording for Phase 2 (Part 1) Extraction CA typescript report no. **03176**
- CA (Cotswold Archaeology) 2004b West Hoathly Brickworks, Sharpthorne, West Sussex:

  Programme of Archaeological Recording for Phase 2 (Part 2) Extraction CA typescript report no. **04152**
- CA (Cotswold Archaeology) 2006 West Hoathly Brickworks, Sharpthorne, West Sussex:

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- CA (Cotswold Archaeology) 2007a West Hoathly Brickworks, Sharpthorne, West Sussex:

  Programme of Archaeological Recording for Phase 2 (Part 4) Extraction CA typescript report no. **06119**
- CA (Cotswold Archaeology) 2007b West Hoathly Brickworks, Sharpthorne, West Sussex:

  Programme of Archaeological Recording for Phase 2 (Part 5) Extraction CA typescript report no. **07067**
- Worssam, B. and Swift, G. 1987 'Minepits at West Hoathly Brickworks, Sharpthorne, Sussex', Wealdon Iron **7**, 3–15 (Bulletin of the Wealdon Iron Research Group)

#### **APPENDIX A: CONTEXT DESCRIPTIONS**

No.	Туре	Description	Length (m)	Width/ Diam. (m)	Depth (m)	Spot- date
701	Layer	Topsoil: mid brown clay silt. 0.25m deep		(111)	0.25	
702	Layer	Subsoil: mid brown-grey silty clay			0.15	
703	Layer	Natural: light brown-yellow slightly silty clay with fragments of iron panning				
704	Layer	Charcoal flecks and lumps and occasional burnt clay pieces mixed with unburnt yellow clay	1.1	1.1	0.02	
705	Layer	Mid brown silty clay containing modern finds (bottle glass, iron objects, brick fragments). Not excavated	40.0	25.0		Modern
706	Cut	Quarry pit: circular in plan; unexcavated		1.8		
707	Fill	Fill of 706: redeposited grey clay				
708	Fill	Fill of 706: redeposited orange clay				
709	Cut	Quarry pit: circular in plan; unexcavated		1.6		
710	Fill	Fill of 709: redeposited grey clay				
711	Fill	Fill of 709: redeposited orange clay				
712	· · · · · · · · · · · · · · · · · · ·			2.0		
713	713 Fill Fill of 712: redeposited grey clay					
714	714 Cut Quarry pit: circular in plan; unexcavated			1.8		
715	715 Fill Fill of 714: redeposited grey clay					
716						
717	Cut	Quarry pit: circular in plan; unexcavated		2.2		
718	Fill	Fill of 716: redeposited grey clay				
719	Cut			2.0		
720	Fill	Fill of 719: redeposited grey clay				
721	Cut	Ditch: straight with 45° concave edges and u-shaped base	>35.0	1.1	0.3	
722	Fill	Only fill of 721: mid grey silty clay with frequent iron mineralisation flecks. Contained occasional modern finds (bottle glass and an angle iron fence post)	>35.0	1.1	0.3	C20
723	Cut	Quarry pit: circular in plan; unexcavated		2.5		
724	24 Fill Fill of 723: redeposited grey clay					
725	Cut	Quarry pit: circular in plan; unexcavated		2.8		
726	726 Fill Fill of 725: redeposited grey clay					
727				0.48	0.09	
728	Cut	Hearth pit: circular in plan with concave edges and flat base. Natural clay scorched around edges of cut and part of base		0.48	0.09	

#### **APPENDIX B: THE FINDS**

	Context	Description	Ct.	Wt.	Date
ſ	701	Worked flint: long flag	1	6	-
	722	Modern clear vessel glass	2	10	C20

#### APPENDIX C: THE PALAEOENVIRONMENTAL EVIDENCE

One environmental sample (9 litres of soil) from fill 727 of hearth pit 728 was processed using an environmental flotation system. A 1mm nylon mesh was used for the residue whilst the flots were captured in 0.25mm and 1mm aperture brass sieves. The residue was dried in a low temperature dying cabinet and the flots air dried. The dried residue was sorted though a set of 10mm, 2mm, 1mm and 0.5mm brass sieves. After sorting, the fractions below 2mm were retained. For the purposes of this assessment, 10 charcoal fragments were fractured by hand to reveal the wood anatomy on radial, tangential and transverse planes. The pieces were then supported in a sand bath and identified under an epi-illuminating microscope (Brunel SP400) at magnifications from x40 to x400. Identifications were carried out with reference to images and descriptions by Cutler and Gale (2000) and Heller et al. (2004) and Wheeler et al. (1989). Nomenclature of species follows Stace (1997).

The residue from sample produced charcoal (4.6g) and magnetic material (74g). The 1mm flot (12.5g) contained charcoal fragments, modern roots and fine silt. The 0.25mm flot (9.2g) contained charcoal, modern roots and fine silt.

The charcoal was all identified as oak (10 fragments). Oak would have been chosen as a main fuel wood as it has a dense heartwood and if dried properly burns slowly and maintains an even temperature (Cutler and Gale, 2000, 205). This is ideal for fuel in a hearth or oven which would require a constant heat for relatively long periods of time.

Magnetic material within the sample was probably the result of firing within the hearth magnetising the surrounding substrate. No slag or other metallurgical residues were present.

Table 1: Table showing quantities of material within the sample

Context	Sample	Charcoal	Magnetic material
727	1	Α	Α

Key A = 200+ fragments, B = 100–200 fragments, C = 50–100 fragments, D = 10-50 fragments, E = 1–10

Table 2: Table shwoing charcoal species identification

Sample Number			701
Context Number			727
Family	Species	Common Name	
Fagaceae	Quercus robur/petraea	Sessile/pedunculate oak	10
		Total Fragments Identified:	10

#### References

Cutler, D.F. and Gale, R. 2000 Plants in Archaeology – Identification Manual of Artefacts of plant origin from Europe and the Mediterranean, Westbury Scientific Publishing and Royal Botanic Gardens, Kew

Heller, I., Kienast, F., Schoch, W., Schweingruber, F. H. 2004 *Wood Anatomy of Central European Species,* Online version - <u>www.woodanatomy.ch</u>

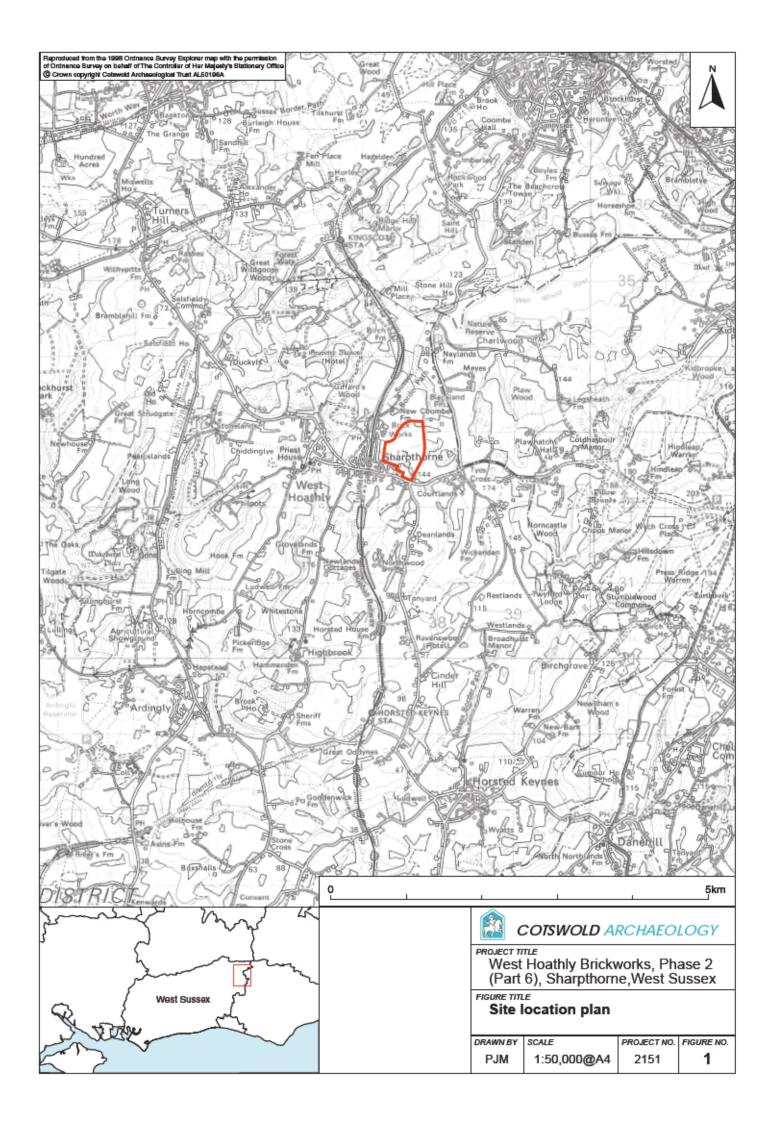
Wheeler, E.A., Baas, P. and Gasson, P.E. (eds) 1989 IAWA List of Microscopic Features for Hardwood Identification, IAWA Bulletin ns, 10, 219-332

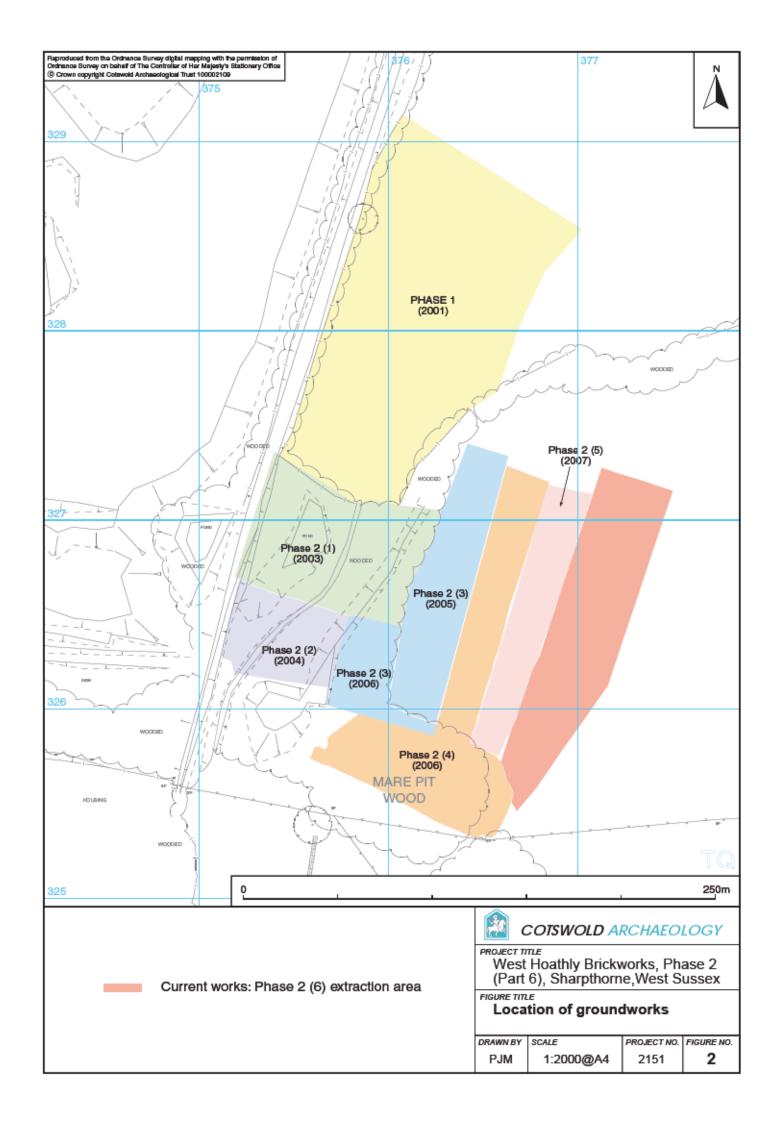
Stace, C. 1997 A New British Flora. Cambridge, Cambridge University Press

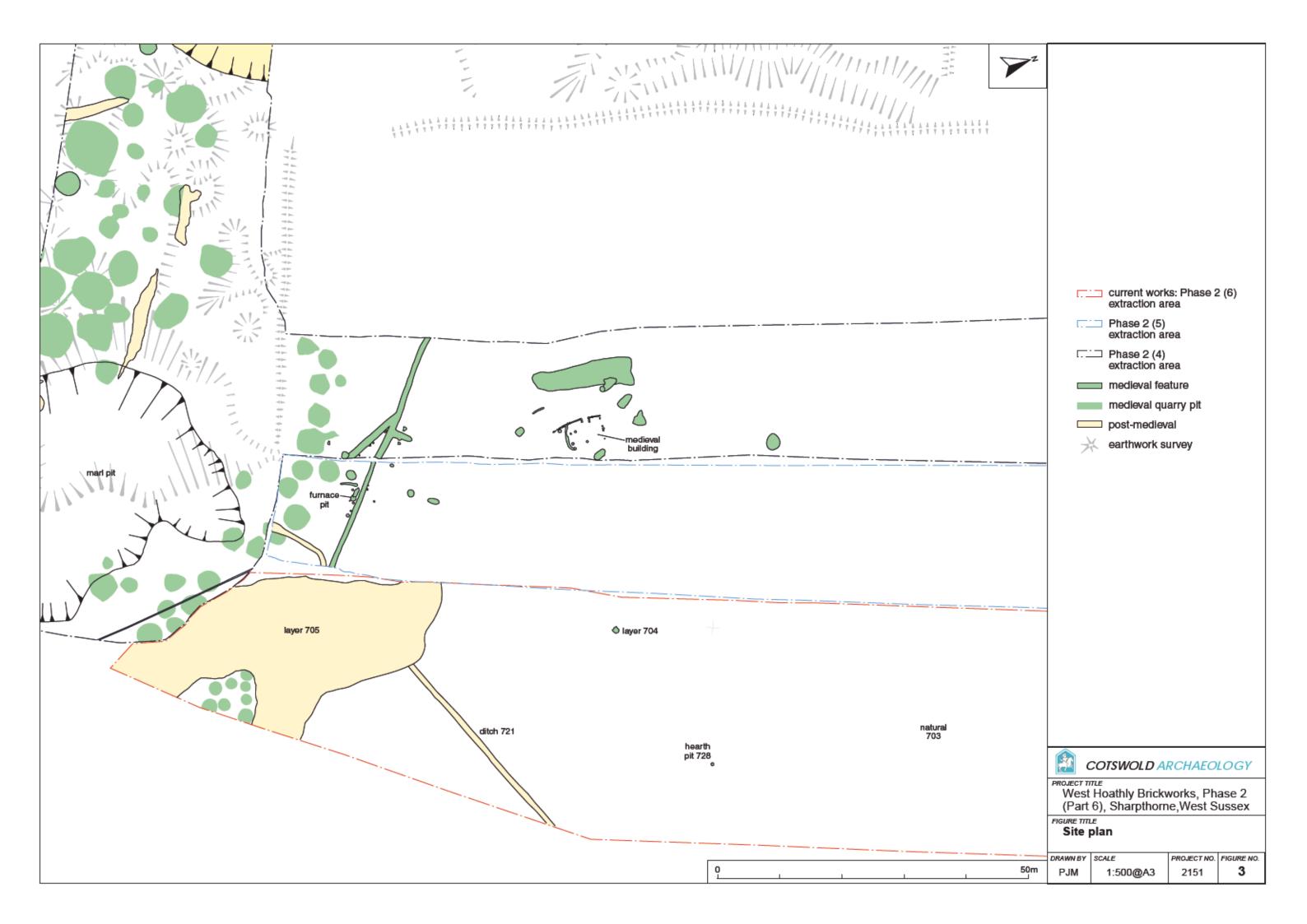
#### APPENDIX D: OASIS REPORT FORM

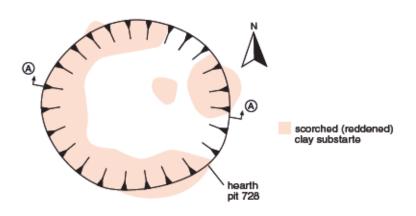
Project Name	West Hoathly Brickworks, Sharpthorne, We
Short description	Sussex: Programme of Archaeological Recording A programme of archaeological recording wandertaken by Cotswold Archaeology as part of the latest phase of works associated with the extension of the clay quarry at West Hoathly Brickwork Sharpthorne, West Sussex. The work formed part Phase 2 (Part 6) Extraction and followed on from archaeological work undertaken during Phase (Parts 1–5) Extraction.  A single Early Neolithic or Mesolithic flint flake was recovered as a residual find from the topsoil. Several large quarry pits were identified, similar those identified previously on the site and likely has been the result of medieval iron ore extraction.  A hearth pit and an undated charcoal-rich layer were also present. Although undated, these are likely form a continuation of the iron processing activitic identified during previous recording on the site. Post-medieval/modern remains were also present and comprised a dumped layer adjacent to a form marl pit identified during previous works and a field boundary/drainage ditch.
Project dates	16–18 August 2010
Project type	Programme of Archaeological Recording
Previous work	Ongoing Programme of Archaeological Recordi (see CA 2010)
Future work	Unknown
PROJECT LOCATION	
Site Location	West Hoathly Brickworks, Sharpthorne, We Sussex
Study area	180m in length and 40m in width
Site co-ordinates	TQ 3763 3286
PROJECT CREATORS	
Name of organisation	Cotswold Archaeology
Project Brief originator	West Sussex County Council Economic a
	Environmental Policy Service
Project Design (WSI) originator	Cotswold Archaeology
Project Manager	Mark Collard
Project Supervisor	Jonathan Hart
PROJECT ARCHIVES	Intended final location of Content archive
Physical	East Grinstead Museum Flint flake
Paper	East Grinstead Museum Context record drawings, photos
Digital	East Grinstead Museum Digital photos, reports

CA 2010 West Hoathly Brickworks, Sharpthorne, West Sussex: Programme of Archaeological Recording for Phase 2 (Part 6) Extraction CA typescript report no. **10143** 









### Section AA W Е 727 hearth pit 728



Hearth pit 728 from north (scale 0.5m)



#### **COTSWOLD ARCHAEOLOGY**

West Hoathly Brickworks, Phase 2 (Part 6), Sharpthorne, West Sussex

500mm

FIGURE TITLE

Hearth pit 728: plan, section and photograph

ı		<b>.</b>		
	DRAWN BY	SCALE	PROJECT NO.	FIGURE NO.
	PJM	1:10@A4	2151	4