SAXON AND MEDIEVAL SETTLEMENT ON THE NORTHERN EDGE OF WIMBORNE MINSTER, DORSET

PIOTR ORCZEWSKI with contributions from PHIL ANDREWS, PHIL HARDING, L. HIGBEE, INÉS LÓPEZ-DÓRIGA, LORRAINE MEPHAM and PATRICK S. QUINN, and illustrations by S.E. JAMES

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Abstract

An excavation on the northern edge of Wimborne Minster revealed elements of a middle to late Saxon and medieval rural settlement fronting onto the west side of the road that leads north out of the town. The Saxon phase comprised a number of rectangular enclosures flanking the road, within and to the west of which were numerous pits and postholes as well as a number of features probably related to industrial activity, including iron smelting. Although no clear structures were identified, the material recovered from the features include Saxon pottery, animal bone, and charred crop remains indicative of settlement within a mixed agricultural economy. Radiocarbon dating of cereal grain from four features gave date ranges in the early/middle and middle/late Saxon periods. The enclosures were subsequently extended during the late Saxon/medieval period, with pottery indicating occupation possibly continuing into the 13th–14th centuries. The site also produced very limited evidence of prehistoric and Romano-British activity.

Introduction

In 2015 Wessex Archaeology carried out an archaeological excavation on land west of the B3078 (Wimborne Road/Cranborne Road) on the northern edge of Wimborne Minster, Dorset (Wessex Archaeology 2016). Three areas (referred to here as Areas 1–3, south to north) were excavated, totalling 2.21 ha (centred on NGR 401000 100920) (Fig. 1) . The site fell within a larger development area spanning the B3078, within which four areas to the east of the road were excavated separately (Bournemouth Archaeology 2015). The excavations had been preceded by a desk-based archaeological assessment (Terence O'Rourke 2009), geophysical survey (Pre-Construct Geophysics 2012) and a trial trench evaluation (Bournemouth Archaeology 2014).

The large southern excavation area (Area 1), some 200 m north of the River Allen, occupies fairly level ground at approximately 20 m OD. The ground gradually rises to the north, with Area 3 lying near the top of the slope at approximately 33 m OD. The underlying geology of the southern part of the site is mapped as silty clays of the West Park Farm Member with superficial Quaternary river terrace and head deposits; in the northern part of the site it is mapped as sand of the London Clay Formation (British Geological Survey). The natural deposits encountered during the excavation were generally similar across the site and consisted of yellowish silty clays and sands overlaying gravels; substantial colluvial deposits, up to 0.8 m in depth, were present in the northern part of Area 1.

Archaeological background

A number of flint tools, including two Mesolithic tranchet axes from a pit, as well as scrapers, cores and a leaf-shaped arrowhead, were recovered during the excavation east of the B3078 (Bournemouth Archaeology 2014). That excavation also revealed three possible domestic structures of Late Bronze Age/early Iron Age date, represented by a large number of pits and postholes, surrounded by a large enclosure ditch.

There have been few other archaeological investigations in the area (Terence O'Rourke 2009), although further Bronze Age activity is indicated by the remains of bowl and bell barrows at St. Michael's Middle School, Colehill, approximately 1.3 km east of the site. Within Wimborne itself, an archaeological investigation to the rear of 36–39 East Borough recovered prehistoric worked flint, while excavations to the rear of 25–27 West Borough produced further possible Bronze Age flints. The important Iron Age site at Badbury Rings hillfort is located 4.5 km to the north-west.

A significant Romano-British settlement is located at Lake Farm to the south-west, where a possible military camp is recorded, and finds of Romano-British date suggest settlement at Wimborne prior to the establishment of the middle Saxon minster and the development of the late Saxon and medieval town (Dorset Historic Towns Project 2011).

The historic medieval core of Wimborne is situated in a gap between the Pamphill and Colehill ridges along the River Allen. The remnants of further medieval occupation, known as 'The Leaze', can be seen to the south-west of the minster as a series of earthworks including a hollow-way and former house plots. Small-scale investigations of the area suggest a date in the twelfth/thirteenth century.

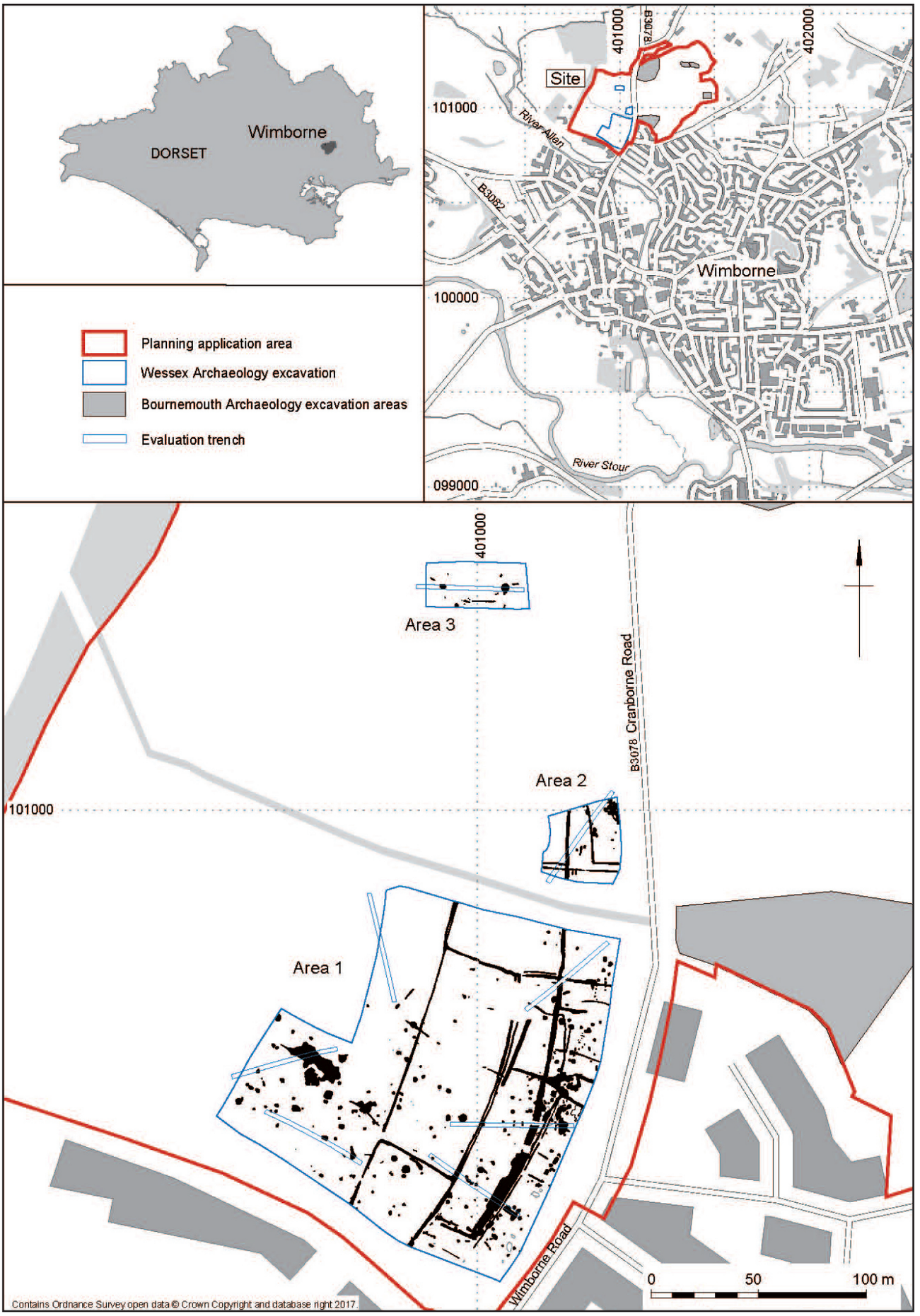

Figure 1: Site and trench location

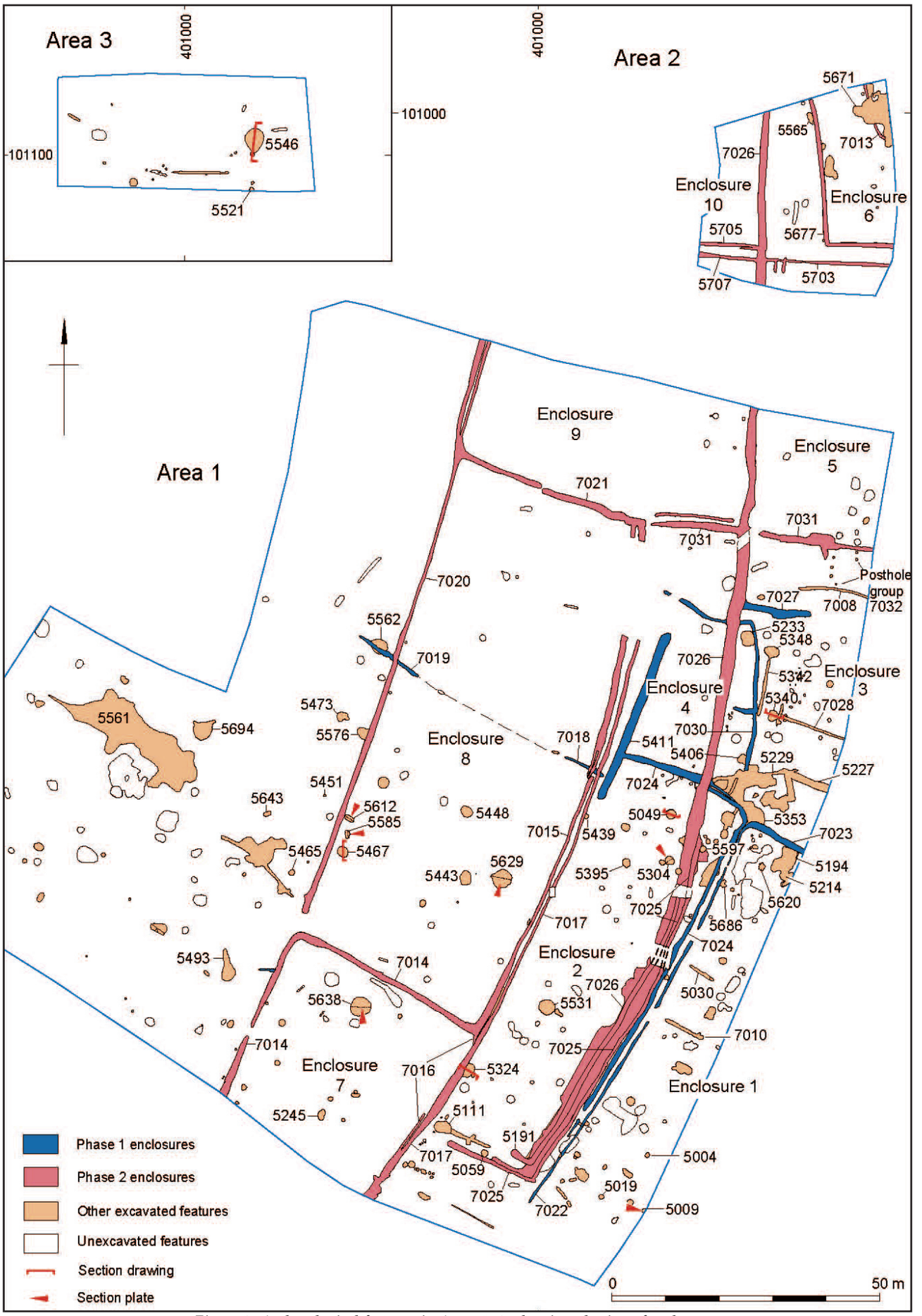

Figure 2: Archaeological features in Areas 1–3, showing phasing of enclosures

Results

Prehistoric

Only two prehistoric features were identified (Fig. 2), although residual prehistoric finds, including Mesolithic worked flint, were retrieved from later features and from the topsoil and subsoil.

A shallow pit or gully terminal 5521, 1.2 m wide and 0.25 m deep, was located on the southern edge of Area 3, extending beyond the excavation. Its single fill contained nine small sherds (19 g) of Neolithic pottery and a piece of worked flint of potentially the same date.

In the southern part of Area 1 was a subcircular pit (5059), 1.3 m in diameter and excavated to a depth of 0.8 m. The pit contained several deliberate backfill deposits producing produced four sherds (19 g) of Early Iron Age pottery and seven pieces of worked flint, as well as small quantities of animal bone and charcoal.

Romano-British

A small number of Romano-British finds were recovered, all of which are considered to be residual. They included six sherds of pottery, a copper alloy toilet implement (object number (ON) 101) and a few pieces of *tegula* roof tile. No features of this date were identified.

Saxon and medieval

The middle Saxon period saw the establishment of settlement on the west side of Wimborne Road/ Cranborne Road, associated with an arrangement of ditched plots whose slightly curving rectangular shape matched the line of the road (Fig. 2). The settlement appears to have continued in occupation through late Saxon period and into the medieval period, by which time the initial plots were overlain by, and incorporated within, a more extensive field/enclosure system. In total, up to ten possible ditched plots were identified; although their precise function is unclear they are referred to here as enclosures (enclosures 1–5 and 7–9 in Area 1, and parts of enclosures 5, 6, 9 and 10 in Area 2). For simplicity, their main axes are described below as north–south and east–west, and the enclosure numbers are referred to below to identify the locations of other features, although there is no necessary association between them.

Detailed phasing of the site was hampered by the relatively small quantity of datable finds in individual features, the few chronologically distinctive pottery types, and the difficult soil conditions which reduced the visibility of some stratigraphical relationships. However, it appears likely that most of the pits and other discrete features were infilled during the middle–late Saxon period, as were the first phase of enclosure ditches, while the pottery from the phase 2 enclosure ditches was dominated by post-Conquest forms, the latest of which can be dated to the thirteenth or fourteenth centuries.

Discrete features

The discrete features were distributed fairly evenly across the central, southern and eastern parts of Area 1 (Fig. 2), although their greater density near the road suggests settlement-related activity along this frontage. There are a number of postholes recorded in this area, including a group of seven (7032) in enclosure 3, possibly representing a north–south-aligned building some 7 m long and 5 m wide (but one end possibly cut by a phase 2 ditch). Others were probably parts of fence lines and similar structures rather than buildings. The insubstantial remains of other timber structures may have been completely truncated by later agricultural activity.

A large proportion of the discrete features were surveyed but not excavated, and of those that were excavated a relatively large number contained no clear dating evidence, although some can be dated by association or through environmental evidence. However, in the absence of features of other dates (apart from prehistoric) they are assumed to be of predominantly middle–late Saxon date. Four features – 5324, 5340, 5467 in Area 1 and 5546 in Area 3 – the latter two containing no datable finds, were selected for radiocarbon dating, and all returned dates in the early–middle and middle–late Saxon periods (Figs 3 and 4; Table 5).

Feature 5467 (in enclosure 8) may have been a well. It was 2.1 m in diameter and cone-shaped at the top, narrowing to a near vertical shaft at 0.8 m depth; it was excavated to a depth of 1.2 m without its base being reached (Fig. 4). A sample of charred barley grain from charcoal-rich layer 5469 was radiocarbon dated to cal AD 530–670 (UBA-33718, 1442±46 BP, in the early–middle Saxon period (Table 5).

There were also two adjacent wells in enclosure 2. Well 5049 was 1.9 m in diameter and was excavated to a depth of 1.2 m, then augered to a depth of over 2 m (Fig. 3). It had near-vertical sides with deposits of clay and burnt clay around its western edge. Just 7 m to

its south was well 5304, which was 1.5 m in diameter and augered to a depth of at least 1.6m. Its sides had a step at approximately 0.6 m depth, below which it continued as a rectangular shaft. Surrounding the well was an irregular pattern of several possible postholes and stakeholes (Fig. 5), suggesting the presence of an associated structure, possibly a shelter.

A large undated oval pit (5562), which measured 1.8 m by 2.5 m and was 0.6 m deep, was cut by phase 1 ditch 7019; its single fill produced no finds. Three other pits (5324, 5439, 5576) were stratigraphically earlier than the phase 2 enclosure ditches. Pit 5324, which was cut by ditch 7017 (in enclosure 2), was 2.7–2.9 m wide and 1.3 m deep with moderately steep, regular sides and a rounded base (Fig. 3). It contained several fills which appeared to have been deliberately deposited, containing pottery, ceramic building material (CBM), fired clay, stone and slag. In addition, fill 5331 contained two pieces of residual metalwork – a Late Iron Age/Romano-British iron wire armlet and Romano-British copper alloy toilet implement (ON 101, Fig. 12). A charcoal-rich fill (5332) and a deposit of burnt clay (5350) were recorded in the upper part of the pit; a sample of charred wheat grain from fill 5332 returned a radiocarbon date of cal AD 650–880, in the middle–late Saxon period (Table 5).

Pit 5439, also cut by ditch 7017, was 0.9–1 m wide and 0.3 m deep, and produced one sherd of late Saxon pottery from its single fill. Pit 5576 (west of enclosure 8), which was cut by ditch 7020, measured 2.3 m by 3 m, and was excavated to a depth of 1.3 m without its base being reached; it had straight, steep sides. It contained one sherd of Romano-British pottery as well as a fragment of *tegula* (both probably intrusive), and a moderate amount of slag.

Among the largest of the discrete features was pit 5629 (in enclosure 8), which was up to 3.9 m wide and 1.2 m deep (Fig. 6), and contained flint-tempered pottery as well as relatively large amounts of charcoal and slag. The lower part of the pit, which cut through the natural gravel, had remnants of what may have been a clay lining, above which were several backfilled deposits. Pit 5531 (in enclosure 2) which contained Saxo-Norman pottery (and one residual Romano-British sherd), as well as animal bone, CBM and stone, measured 1.4 m by 3 m and was excavated to a depth of 1.2 m; augering indicated a depth of at least 1.6 m.

At three locations there were combinations of a pit with an adjoining ditch/gully. Pit 5111, at the southern end of enclosure 2, was 1.2 m in diameter and 1 m deep with near-vertical sides and rounded base. It contained a few small and abraded sherds of Romano-British pottery, but the plant remains from this feature suggest a later, Saxon or medieval date. The relationship between the pit and a gully (5091) running east from it was unclear. Two similar features were located close to each other in enclosure 3. Pit 5340, which was stratigraphically earlier that the adjoining gully (7028), was at least 1.6 m wide and 0.6 m deep with straight, steep sides and a flat base (Fig. 3). It contained several charcoal-rich deposits mixed with gravel, from which a sample of charred wheat grain provided a radiocarbon date of cal AD 770–990 (UBA-33717, 1138±35 BP, in the middle–late Saxon period (Table 5). To its immediate north, pit 5348 measured 1.1 m by 2.6 m wide and was 0.6 m deep, with stepped sides that were somewhat extended towards the gully (5342) that ran south from it, although the relationship between them was not clear, possibly due to truncation; an iron knife (ON 102) was recovered from the fill of the pit.

Evidence of for different forms of pyrotechnical, possibly industrial' activity, which is thought likely to pre-date the establishment of the enclosure field system, was represented by a moderate quantity of iron smelting slag and two possible kiln/furnace features (5585 and 5612 in enclosure 8) (Figs 7 and 8). Both were shallow with a 'figure-of-eight' shape, and moderately heavily burnt on their bases and sides but with little evidence of vitrification. Pit 5585 measured 0.5 m by 1.3 m and was 0.1 m deep, while adjacent pit 5612 measured 0.9 m by 1.9 m and was 0.24 m deep. In contrast, another burnt feature (pit 5009 in enclosure 1), was circular, 0.6 m in diameter and 0.07 m deep (Fig. 9), and may have had some different function.

Some other features may also have been associated with industrial activity, such as pit 5638 (in enclosure 7) which contained a substantial deposit of sandstone rubble. It was 3.7 m in diameter and relatively shallow apart from a deeper (0.5 m) bowl in the centre where there was a deposit of iron-cemented sandstone (see Metalworking debris) (Fig. 10). Although no datable finds were recovered from pit 5546 in Area 3 (Fig. 4), this substantial feature, measuring 3 m by 4.2 m and 1.5 m deep, contained a relatively large amount of slag from a charcoal-rich fill, suggesting industrial activity nearby; a sample of charred wheat grain from charcoal-rich layer 5550 provided a radiocarbon date of cal AD 660–880 (UBA-33719, 1257±50 BP, in the middle–late Saxon period (Table 5). Two large tear-drop shaped

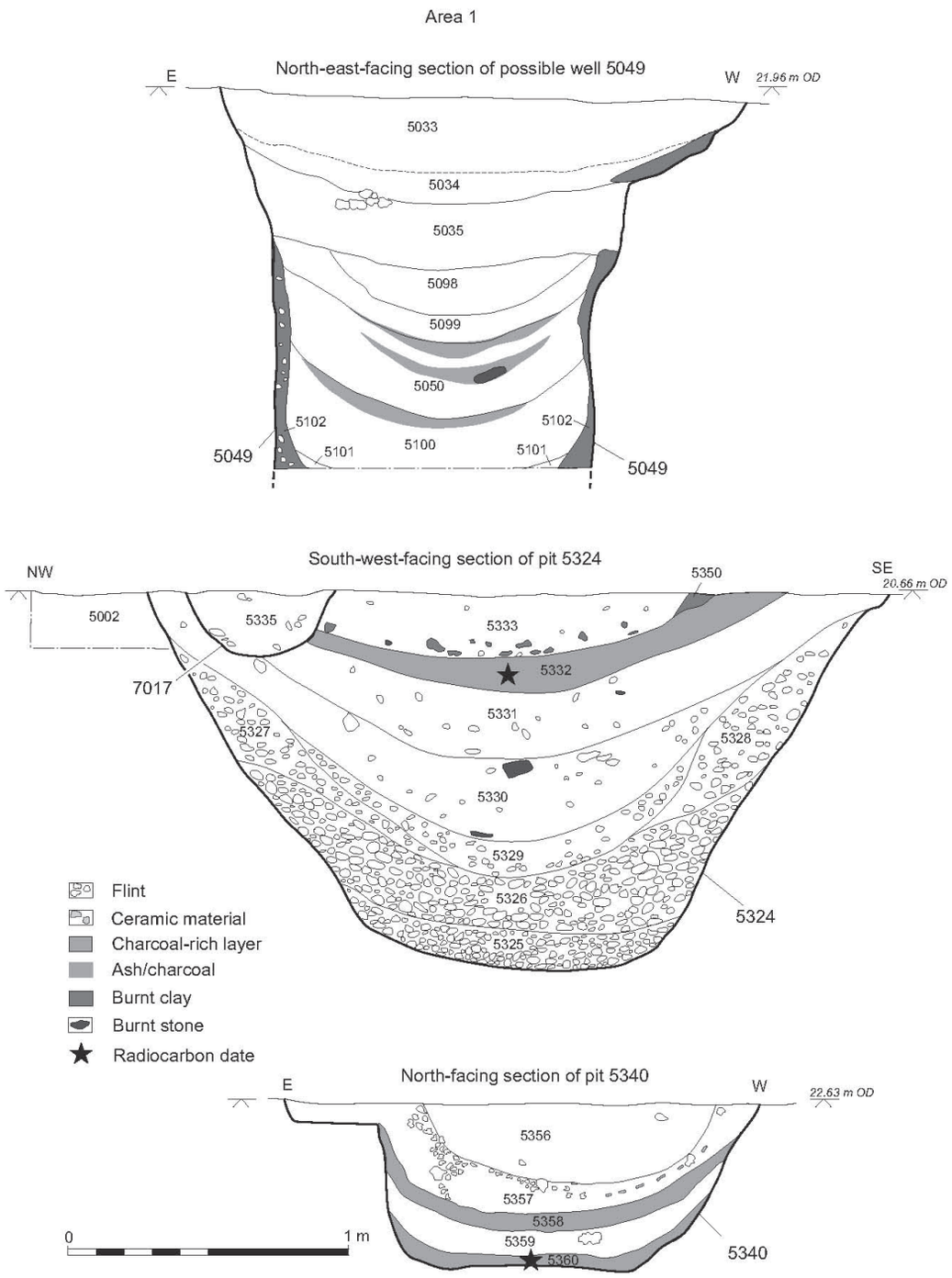

Figure 3: Sections of well 5049, and pits 5324 and 5340

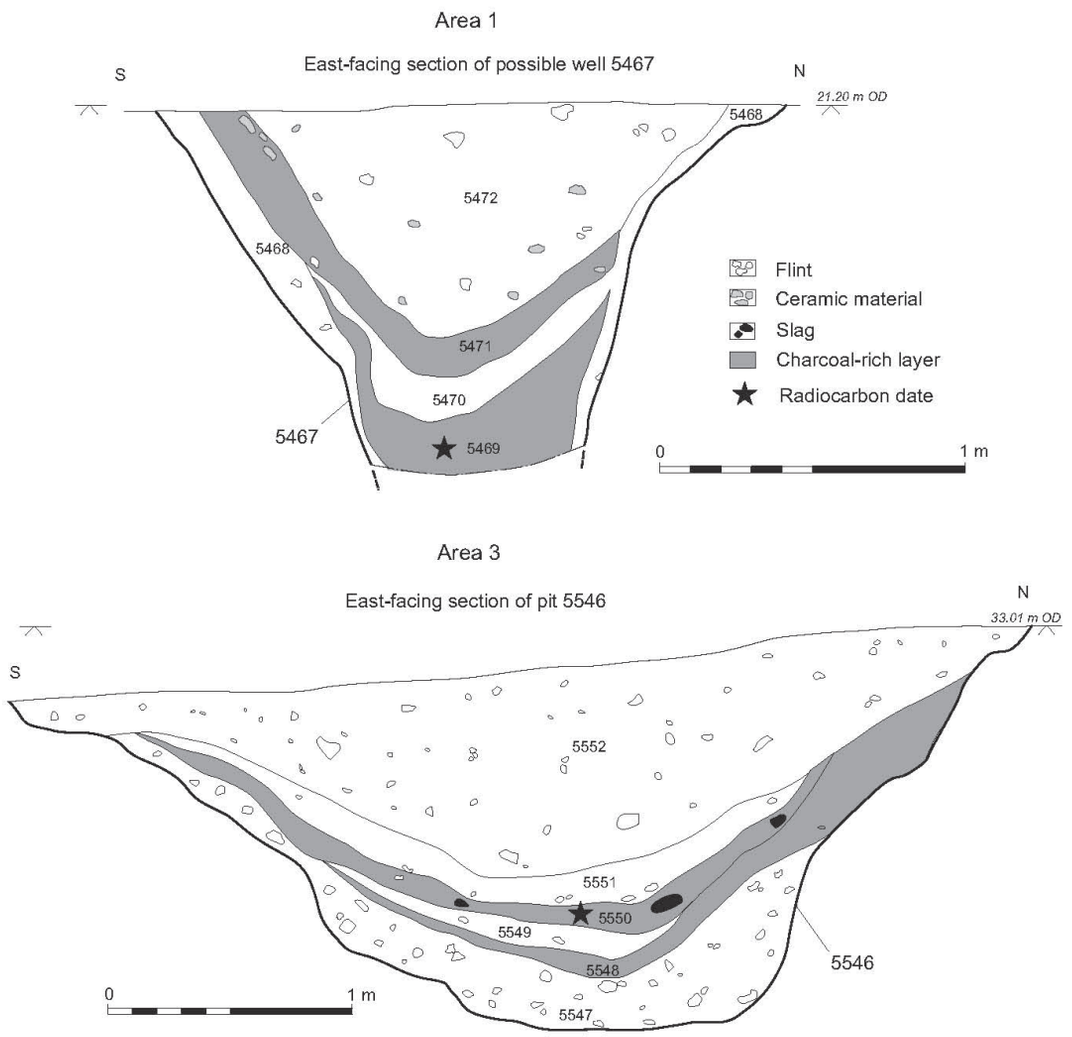

Figure 4: Sections of well 5467 and pit 5546

pits (5493 and 5694), both to the west of the enclosure system, also contained relatively substantial amounts of charcoal and slag.

Overall, the density of pits falls off rapidly towards the west in Area 1. In addition to the features described above, a number of other features, most of them undated, were excavated to the west of the enclosure. For example, oval pit 5643 measured 0.8 m by 1.5 m and was 0.8 m deep, and was mostly filled with charcoal-rich deposits. Other pits excavated near the south-western corner of Area 1 were of similar shape and size, but much shallower with an average depth of 0.25 m. There was an extensive layer of soil (5561) in this area, measuring at least 10 m by 25 m and up to 0.35 m thick, but its nature is unclear.

Middle–late Saxon (phase 1) enclosures

The earliest stratigraphic phase of land division is suggested by a number of narrow and shallow ditches in Area 1, including 7022, 7023, 7024 and

Figure 5: North-west-facing section of well 5305 (2 m scale)

Figure 6: South-facing section of pit 5629 (2 m scale)

Figure 7: Kiln/furnace 5585, viewed from the east (1 m scale)

Figure 8: North-east-facing section of kiln/furnace 5612 (1 m scale)

Figure 9: West-facing section of oven/kiln 5009 (0.5 m scale)

Figure 10 South-facing section of pit 5638, with stone deposit (2 m scale)

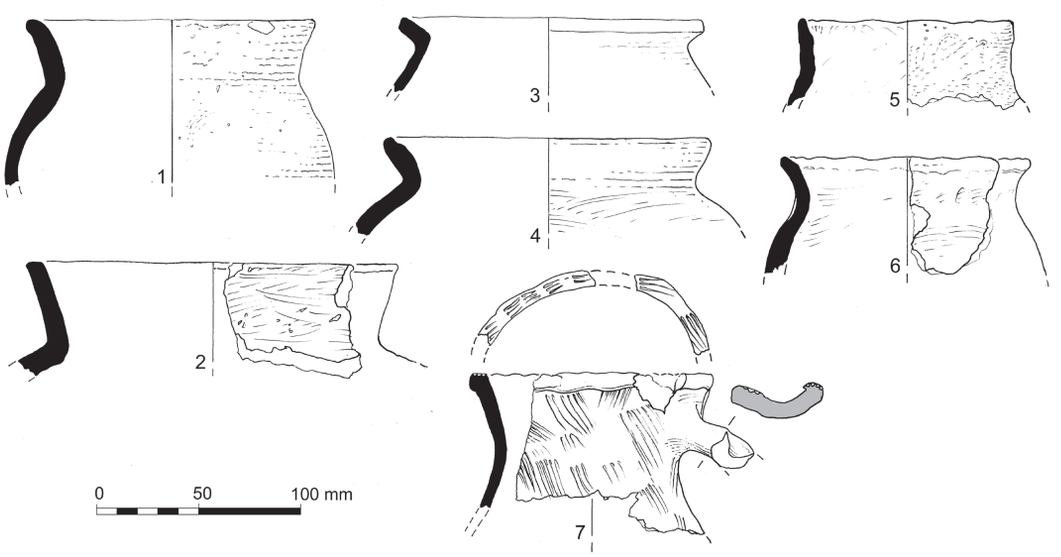

Figure 11: Saxon pottery (see text page XXX for details)

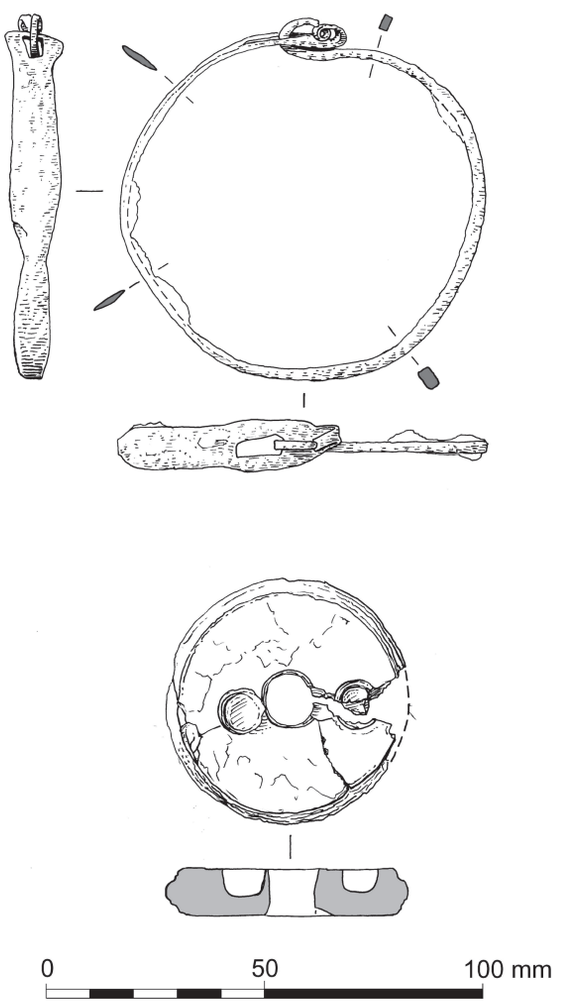

Figure 12: Iron armlet (above) and perforated shale disc (below)

7030, and wider ditch 5411 (Fig. 2). Ditches 7018 and 7019, probably parts of a single north-west orientated feature may also belong to this phase. No phase 1 ditches were identified in Area 2.

Ditches 7022 and 7023 formed the western and northern sides, respectively, of enclosure 1 which lay immediately west of the road, with its eastern boundary outside the excavation. As exposed it measured at least 80 m by 14m. Ditch 7023, which was 0.9 m wide and 0.4 m deep, cut through a cluster of shallow pits (5194), and there was a similar shallow feature (5353) to the north. Pottery was retrieved from all of these features. Ditch 7022 was much shallower and segmented, its discontinuous nature probably due to truncation.

Parallel to ditch 7022, and approximately 1 m to its west, was a similar ditch (7024) which turned to the west at its northern end, and ran for 25 m before abutting north–south ditch 5411. The edges of ditch 5411 were unclear and its full extent remains unknown, continuing only a short distance south of its junction with ditch 7024. Together they formed enclosure 2 which was at least 78 m long, but no dating evidence was recovered from them and they are assigned to phase 1 on stratigraphic grounds alone.

Further to the north, ditch 7030 separated enclosures 3 and 4, and, where it turned to the west, formed the northern side of enclosure 4, the northern part of ditch 5411 defining the enclosure's western side. The eastern side of enclosure 3 lay outside the excavation, probably fronting the road, but its northern end may have been defined in part by ditch 7027, the eastern terminal of which contained a lathe-worked core from shale armlet manufacture (ON 103, Fig. 12). Ditch 7030 cut two pits (5406 and 5233) and appears to have respected ditch 7027; both these ditches were cut by phase 2 ditch 7026.

Late Saxon-medieval (phase 2) enclosures

The second phase of land division is characterised by larger enclosures, defined by ditches 7014, 7015, 7016, 7017, 7020, 7021, 7025, 7026 and 7031 in Area 1, and ditches 5677, 5703, 5705, 5707, 7013 and 7026 in Area 2. In the southern part of Area 1, the lines of some of the ditches largely matched those of phase 1, but diverged westwards from them towards the north. Ditch 7026 appears to have formed a major north–south boundary, helping to define phase 2 enclosures 1/3, 2/4, 5, 6, 9 and 10, and it in particular displayed several episodes of recutting, indicating continued reuse.

Phase 1 enclosures 1 and 3 appear to have been amalgamated to form a single elongated enclosure (enclosure 1/3), bounded to the west by the southern part of ditch 7026 and to the north by the eastern part of ditch 7031. A number of smaller unphased east–west gullies (e.g. 5030, 5227, 7008, 7010, 7028), measuring on average 0.5 m wide and 0.12 m deep, may have formed internal subdivisions possibly related to occupation adjacent to the road. Ditch 5227 cut pits 5231 and 5229, the latter containing late Saxon pottery.

To the north of enclosure 1/3, and sharing with it ditch 7031, enclosure 5 was bounded to the west by the northern part of ditch 7026, and to the north (in Area 2) by ditch 5703. The enclosure extended east of the excavation areas, probably flanking the road, and measured over 50 m north–south, and at least 26 m wide. To its immediate north, and extending north and east of Area 2, was another possible enclosure, defined by ditch 5703 to the south, and by the continuation of ditch 7026 to the west; an L-shaped ditch (5677) within its interior could represent an earlier or later phase of this enclosure, or a subdivision within it.

As with enclosures 1 and 3, phase 1 enclosures 2 and 4 were also amalgamated to form a single new enclosure (enclosure 2/4), measuring over 120 m long and 17–23 m wide, narrowing towards the north. It was bounded in the east by ditch 7026, to the north by the western part of ditch 7031, to the west by ditch (7017) and to the south by ditch 7025, the latter two features being narrow and shallow.

Further to the west new, wider enclosures were laid out. At the south-west, enclosure 7 was defined to the north and west by ditch 7014, and to the east by ditch 7016 and the southward continuation of ditch 7017. It was 32–39 m wide and at least 37m long, its southern end lying outside the excavation. There was a possible entrance, 1.8 m wide, along the west side, although this gap may be the result of truncation, as the ditch does not exceed 0.3 m in depth.

Enclosure 8, to the north of enclosure 7, was 35–41 m wide and 95 m long. It was defined by ditches 7015 to the east, 7021 to the north, 7020 to the west and 7014 to the south. There was a clear entrance, 3.5 m wide, at its south-west corner, but the 18 m wide gap towards the northern end of ditch 7015 was probably a result of truncation.

Enclosure 9, which extended north from Area 1 into the south-west corner of Area 2, spanned the full widths of phase 2 enclosures 2/4 and 8. It was defined to the east by the northern part of ditch 7026, to the

north by ditch 5706, to the west by ditch the northern part of ditch 7020, and to the south by ditches 7021 and 7031. It appears to have been approximately square, measuring 49 m north–south and up to 54 m east–west.

Also in Area 2, abutting enclosures 6 and 9, was the south-east corner of enclosure 10, defined to the south by ditch 5705 (parallel to and 1–2 m north of ditch 5707) and to the east by the northern part of ditch 7026.

The Finds

Finds were recovered in moderate quantities from the site; the assemblage ranges from prehistoric to medieval. Apart from the pottery, a significant proportion of the assemblage comprises evidence for metalworking in the form of ironworking slag. Totals by material type are given in Table 1.

Table 1: Finds totals by material type

Material	*No.*	*Wt. (g)*
Pottery	485	7075
Prehistoric	19	81
Romano-British	6	52
Middle-late Saxon/medieval	460	6942
Ceramic building material	14	7962
Romano-British	8	2603
Medieval	2	89
Post-medieval	4	5270
Fired clay	359	4563
Stone	189	4926
Flint	211	-
Burnt flint (unworked)	261	6360
Slag	131	22.515
Shale	1	34
Metalwork	12	-
Copper alloy	1	-
Iron	11	-
Animal bone	577	1261

Worked flint *Phil Harding*

A total of 211 pieces of worked flint was recovered. The breakdown of the assemblage by type is given in Table 2.

The vast majority of the assemblage is of a reasonably good quality flint of a grey/brown/black colour, with rare examples of a honey colour. Where cortex remains, it is most commonly thin or moderately thin and of a white/cream colour, but in a couple of instances this has been stained a pinkish colour or has a glossy yellowish appearance.

Table 2: Composition of flint assemblage by type

Type	*No.*	*%*
Flake cores	3	1.4
Broken cores/core fragments	15	7.1
Blade/bladelet cores	1	0.5
Blades	6	2.8
Broken blades	10	4.7
Bladelets	4	1.9
Broken bladelets	3	1.4
Flakes	103	48.8
Broken flakes	29	13.7
Rejuvenation flakes	1	0.5
Micro-debitage/chips	11	5.2
Debitage/fragments	5	2.4
Subtotal debitage	*191*	*90.5*
Scrapers	11	5.2
Piercers	1	0.5
Other tools	1	0.5
Miscellaneous retouch	5	2.4
Burins	2	0.9
Subtotal retouched	*20*	*9.5*
Total	211	

It is likely that much if not all of this has derived directly from the chalk regions nearby to the north, but it is not impossible that some has originated in pebble beds associated with the local Thames Group deposits. There is no clear evidence of any coastal derivation but this also remains a possibility.

The condition of the material is generally good with only moderate abrasion evident, and in some cases, it remains remarkably fresh. A high proportion exhibit a lustrous, glossy appearance and there are only rare examples with patination (these being white/bluish), with no clear correlation between typology and surface condition. Less than 5% show clear evidence of being burnt, though some highly glossy (but unbroken) examples may represent the lower levels of heating clearly visible in other cases.

The majority of the assemblage is comprised of debitage, in particular flakes and broken flakes (58%) and as such is chronologically undiagnostic. All stages of production are represented, though secondary and tertiary flakes are most common and, although the sizes vary, most are medium to small in size. Micro-debitage is poorly represented but this obviously reflects the recovery methods more than its actual absence. Both hard and soft hammer modes of production are in evidence, but it is difficult to

be sure which has been used in many cases. Blade/bladelet production is well represented, albeit at a relatively low frequency (twenty-three pieces) and some examples in particular exhibit a form suggestive of a refined level of core preparation and control typical of earlier prehistoric technology. A large core rejuvenation flake (from ditch 7026) is further evidence to this effect. One blade from the subsoil is notably larger than the others and appears to have a faceted butt, a feature most commonly associated with Upper Palaeolithic/Late Glacial technologies. A total of nineteen cores/core fragments were recovered and, although most are flake cores, at least one (from pit 5629) is a neat bipolar bladelet core, also in keeping with earlier prehistoric technology and of probable (later) Mesolithic date. The others are also fairly small and, whilst most are only fragments, for the most part it appears more than likely that they were small when whole.

A total of twenty tools (8.8%) were recovered and while most are not chronologically diagnostic, a few are worthy of attention. At least two of the scrapers (from the topsoil and ditch 7019) are examples of 'thumbnail' scrapers typical of the earlier Bronze Age. One blade (from the subsoil) and one bladelet (from ditch 7026) represent convincing burins and as such provide further evidence of earlier prehistoric (almost certainly Mesolithic) technology. The large (potentially early) blade mentioned above shows clear use-wear along its right-hand edge so could reasonably be regarded as a knife.

Most of the lithic finds are either from the overburden, undated features or features demonstrably post-prehistoric. One blade-like flake was recovered from ditch terminal/pit 5521 (Area 3) which produced Neolithic pottery and could easily (though not necessarily) be attributed the same date, as could some of the undiagnostic pieces (particularly some of the blades), while much of the undiagnostic material (as well as the thumbnail scrapers) would sit happily with a Bronze Age date. Thus, broadly speaking, the assemblage reflects the site's location on the fringe of later prehistoric activity and for the most part has been removed from its original context. It is not coherent or numerous enough to give detail of local activity but is abundant and unabraded enough to imply this close proximity. Further to this it gives a fragmentary but clear indication of earlier prehistoric activity in the immediate vicinity, in particular from the (later) Mesolithic period.

Pottery *Lorraine Mepham*

Pottery provides the primary dating evidence for the site, but was found in a relatively sparse distribution across it. The assemblage of 475 sherds (6971 g) includes material of prehistoric, Romano-British and middle–late Saxon/medieval date. Condition ranges from poor to fair; the assemblage is fragmentary, and most sherds exhibit at least some surface and/or edge abrasion. There are few groups of conjoining or even same-vessel sherds. Mean sherd weight overall is 14.7 g, but the prehistoric and Romano-British sherds (mean sherd weights 3.6 g and 8.7 g respectively) are considerably more abraded than the Saxon/medieval sherds. The assemblage has been quantified (sherd count and weight) using the regional type series, supplemented by alpha-numeric codes based on dominant inclusion type (CA = calcareous; FL = flint; QU = quartz sand), following the Wessex Archaeology recording system for pottery (Morris 1994). Table 3 gives the totals by ware type. To supplement the macroscopic fabric analysis, six samples were submitted for petrographic analysis by Dr Patrick Quinn (University College, London). His full report is held in the project archive, but his results are incorporated in the discussion below, and his fabric descriptions are presented as Appendix 1.

Prehistoric pottery

Eighteen sherds were identified as prehistoric. These occurred in two distinct fabric types: flint-tempered and sandy.

The earliest material appears to be a small group of nine sherds from gully terminal (or pit) 5521, coarsely flint-tempered (fabric FL1) and heavily abraded. While the use of flint temper is not particularly chronologically distinctive in the prehistoric period in Wessex, the coarseness and random sorting of the inclusions in this instance is typical of Neolithic ceramic traditions in the region, although in the absence of any diagnostic features (there is one possible rim, but it cannot be related to specific vessel form), these sherds cannot be assigned to a specific ceramic tradition within the Neolithic period.

The other four flint-tempered sherds (fabric FL2) are more likely to be later prehistoric, most probably Late Bronze Age or Early Iron Age, although again there are no diagnostic features. These flint-tempered sherds came from two contexts (pits 5059 and 5629), and in both cases were associated with sandy sherds (fabric QU1). The single sandy sherd from pit 5059

***Table 3**: Pottery totals by ware type*

Date	*Fabric code*	*Description*	*No. sherds*	*Wt (g)*
Prehistoric	FL1	?Neolithic flint-tempered wares	9	19
	FL2	LBA/EIA flint-tempered wares	5	30
	QU1	Sandy wares (all periods)	4	19
		Subtotal prehistoric	*18*	*68*
Romano-British	E100	Black Burnished ware (BB1)	2	9
	E162	New Forest colour coated ware	1	33
	E300	Samian	1	2
	QU100	Coarse greywares	1	2
	QU101	Coarse oxidised wares	1	6
		Subtotal Roman	*6*	*52*
Middle–late Saxon/ medieval	*CA400	Calcareous 'mixed grit' wares	13	241
	*E422a	SE Wilts/E Dorset coarseware a	61	1865
	E422b	SE Wilts/E Dorset coarseware b	235	2735
	E422c	SE Wilts/E Dorsetcoarseware c	85	1327
	FL400	Flint-tempered wares	55	546
	FL401	Flint-/chert-tempered wares (Blackdown Hills type)	2	71
	*QU400	Fine silty ware	1	13
	*QU401	Sandy ware with glauconite	1	35
	QU402	Fine micaceous ware	1	21
	QU403	Sandy/organic ware	1	13
	QU404	Grey sandy ware	4	55
	*QU405	Sandy ware with fine flint	1	20
		Subtotal Late Saxon/medieval	*460*	*6942*
		Overall total	484	7062

* indicates sample taken for petrographic analysis

appears to be from a fineware carinated bowl of Early Iron Age type, possible red-finished (e.g. Davies 1987, fig. 80, 26). The three sandy sherds from pit 5629 are undiagnostic, and in fact could just be fired clay rather than pottery. The same pit produced a large quantity of ironworking slag from another fill (see below), so if these fragments are prehistoric then they were residual finds.

Romano-British pottery

The six sherds of Romano-British pottery recovered include examples of South-east Dorset Black Burnished ware (BB1), New Forest colour-coated ware and samian, as well as a few sherds of unsourced coarsewares. The samian sherd is from a Central Gaulish platter (second century AD), while the New Forest colour-coat can be dated as later 3rd or 4th century AD. All other sherds are undiagnostic and not closely datable within the period.

Two Romano-British sherds were residual in Saxon/ medieval features; the other four provide the only datable finds from pits 5111, 5448 and 5576, although the quantities are too small (and the sherds too abraded) to take this as firm dating evidence.

Middle–late Saxon/medieval pottery

The overwhelming majority of the assemblage dates to the late Saxon/medieval period, within which the chronological focus appears to be on the tenth to twelfth centuries, although the main interest in the

assemblage lies in the potentially early (middle–late Saxon) date of some of the material. The fabric types identified fall into four groups.

Group 1: coarse sandy wares (E422). These are coarse sandy wares of a type found widely across south-east Wiltshire and east Dorset. There is one known source for these wares, at Laverstock outside Salisbury, where kilns of the mid-late thirteenth to early fourteenth century have been excavated (Musty *et al.* 1969; Musty *et al.* 2001), but similar wares were clearly circulating in the Salisbury area at an earlier date, from at least the early twelfth century (Stone and Charlton 1935, 186; Vince 1981, 311, fig. 21:1). Other sources are postulated along the outcrop of the London Clay and Reading Beds which runs down the east Dorset border, and which includes the area occupied by the post-medieval Verwood industry. There are documentary references to medieval potters in this area (Spoerry 1988), while petrographic analysis on sherds from Wareham postulated a source (or sources) in the Poole Harbour area, possibly in Purbeck (Hinton and Hodges 1977). This group has been subdivided into three (E422a–c), somewhat arbitrarily, on the basis of inclusion size. This subdivision has been used in the recording of Laverstock-type coarsewares in Salisbury (e.g. Mepham 2000) and, although there is no unambiguous progression from coarse to fine, the coarsest variant, as seen in Salisbury and elsewhere, does seem to be restricted to the early part of the sequence.

Vessel forms seen here form a very limited repertoire. Jars are predominant; these appear to be round-based, and most have either thickened rims, or short stubby rims with a grooved or bifid outer edge. Both types are paralleled within the kiln assemblage from Laverstock (Musty *et al*. 1969, fig. 7, rim type III; fig. 10, 38), although the grooved rims are more characteristic of south-east Dorset (e.g. Poole: Barton *et al*. 1992, fig. 31 nos 2–13). However, there are also examples of more crudely made jars with simple everted rims (Fig.11, 5, 6), forms not previously documented for this ware type.

Also present are flared bowls or dishes with thickened rims (Musty *et al*. 1969, fig. 12, 52–4) and shallow dishes with massively thickened, 'hammerhead' rims, a form not seen at Laverstock, but particularly characteristic of south-east Dorset (e.g. Poole: Barton *et al*. 1992, fig. 33, 55–6). There is also one large flared bowl, or possibly a curfew, with applied, thumbed strip around the rim (Musty *et al*. 1969, fig. 23, 195).

Jugs and pitchers are represented by rims and strap or rod handles; most examples are at least patchily glazed, but decoration is limited to two examples with combing (Fig. 11, 7), one with wide-spaced rilling around the shoulder, and one with red-painted decoration. These coarseware jugs and pitchers are more characteristic of the east Dorset area, as opposed to south-east Wiltshire (where fineware jugs from Laverstock were circulating) and the Poole Harbour area (where whiteware jugs are commonly found).

The overall potential date range for these wares across south-east Wiltshire and east Dorset, going by typological dating and associated wares, runs from at least as early the eleventh century (an earlier start date is possible, but as yet has not been supported any independent dating evidence) through to at least the early fourteenth century, and probably later. In this instance, the vessel forms are not particularly closely datable (there is an absence of the more distinctive tripod pitchers of 11th/twelfth-century date), and the only clear chronological indications come from the appearance of the squared jar rims of thirteenth-century date or later. However, the association of some simple jar rims with flint-tempered and calcareous wares (see below) suggests a start date somewhere in the late Saxon period (10th to 11th century). A comparable quartz-rich coarseware was identified at Bestwall Quarry, Wareham, where it was thought to be of late Saxon date (Brown 2012, fabric 6). A sample of fabric E422a taken from pit 5531, probably from the same vessel as the jar illustrated (Fig. 11, 5), confirms a possible origin for both the sand temper (iron-rimmed quartz) and the clay matrix in the London Clay, which outcrops close to Wimborne Minster, in line with the results of analysis of later samples (Spoerry 1990).

Group 2: Flint-tempered wares (FL400, FL401). Two flint-tempered types are seen here: fabrics containing sparse inclusions of patinated flint (FL400), and fabrics containing coarser and more frequent inclusions of patinated flint and/or chert (FL401).

The patinated flint inclusions vary in coarseness, but the wares can be seen as forming a single ceramic tradition, found across Hampshire, Wiltshire and Dorset; examples are known, for example, from Amesbury, Wiltshire and Romsey, Hampshire (Powell *et al*. 2009, fabric FL400; Mepham 2011, fabric FL400); in Southampton, flint-tempered wares appear in mid-Saxon *Hamwic*, but are more common in the late Saxon period (Timby 1988, fabric group VI; Brown 1994). Vessel forms seen here are limited to jars with simple everted rims (Fig. 11, 1).

The flint-/chert-tempered wares fall into a ceramic tradition seen across the south-west, for example, at Ilchester (Pearson 1982), and these wares have recently been linked to a large-scale industry based in the Blackdown Hills and probably operating from at least the mid-10th century (Allan *et al*. 2010). In Dorset, parallels are known from Sherborne Old Castle (Mepham 2015, 164–5) and Winterborne Stickland (Mepham 2003, fabric FL400). There is only one diagnostic form here: a jar with a long everted neck and simple flattened rim (Fig. 11, 2).

Group 3: Calcareous 'mixed grit' wares (CA400). Fabric C400 comprises a small group of sherds containing a mixture of quartz, flint and calcareous inclusions (the latter leached out, leaving voids) in varying proportions. Three of the sherds came from pit 5340, and include a rounded basal angle; there are no other diagnostic sherds. Mixed grit coarsewares have been recorded in Wareham, from middle–late Saxon contexts (RCHME 1959; Brown 2012, fabrics 1 and 3), and similar wares are known from the mid-Saxon *Hamwic*, although more common in the late Saxon period (Timby 1988, fabric group IV).

Two samples were submitted for petrographic analysis, and identified the presence of bone inclusions in one sample. There is nothing sufficiently distinctive to suggest a possible source, although equally there is nothing to suggest that these wares were anything other than local to the site.

Group 4: Miscellaneous sandy wares (QU400-QU405). A small group of eight sherds are in miscellaneous sandy fabrics. One small rim sherd (vessel form uncertain) is in a medium-grained sandy fabric with sparse organic inclusions (QU403); the presence of organic material suggests an early/middle Saxon date. Two sherds contain glauconite (QU400, QU401), for which petrographic analysis suggests a source close to glauconitic sandstone bedrock, possibly from an outcrop some 25–30 km west of Wimborne. One sherd, a jar rim with squared profile (Fig.11, 3), is in a very fine, visibly micaceous fabric (QU402) that is comparable to the products of a kiln in Shaftesbury dated to the early–mid-9th century (Whittingham 2008, fig. 8, 1–2), and there is a second jar rim (from the same context) in a grey sandy fabric (QU404; Fig. 11, 4). Petrographic analysis of one sherd in a sandy fabric with sparse fine flint (QU405) suggests a probable local source. Six of the eight sherds (representing a maximum of three vessels) came from a single context, the uppermost fill of pit 5324.

Discussion

Chronology

The main interest here lies in the potentially early (middle–late Saxon) date of part of the assemblage. Parallels are not plentiful in this part of Wessex, and indeed across the region the Saxon to early medieval sequence is not well understood. Most usefully, comparisons can be made with a small assemblage from Bestwall Quarry, for which radiocarbon dates indicate a date range in the early to late Saxon period, although the organic-tempered wares which appear to fall earliest in the Bestwall sequence are absent at Cranborne Road (one sandy/organic-tempered sherd is more likely to be mid-Saxon), and the rest of the Bestwall assemblage is mid-Saxon or later. There are also parallels with mid-to late Saxon *Hamwic* in the use of 'mixed grit' and flint-tempered coarsewares. Typologically, crudely made jars in relatively small sizes (Fig. 11, 5, 6) appear to characterise this mid-late Saxon phase, and their occurrence in quartz-rich coarsewares which are comparable to the later south-east Wiltshire/east Dorset wares may therefore suggest an early date for this ceramic tradition.

A mid-Saxon phase of activity at the site is supported by four radiocarbon dates, two of them obtained from features containing pottery. A date of cal AD 650–880 was returned for a sample from upper fill (5332) of pit 5324. Three sherds were recovered from a lower fill (5330), all FL400. The layer immediately above 5332 (final fill 5333), produced a small but interesting pottery group which included sherds of Q403, E422a and b and FL400. Other sherds from the group may include regional imports to the site. They comprise a flint-/chert-tempered jar in the Blackdown Hills tradition (Fig. 11, 2) and a micaceous ware jar (Fig. 11, 3), comparable to products of the 9th-century kiln in Shaftesbury (Whittingham 2008). The small assemblage from Winterborne Stickland, although lacking independent dating, may be broadly contemporary with the pit 5324 group. A radiocarbon date of cal AD 770–990, in the middle–late Saxon period, was returned for a sample from the basal fill (5360) of pit 5340, which also contained three sherds of CA400, including a rounded basal angle.

It is difficult to establish a continuous sequence through the Conquest period, as quantities of pottery by feature are so small (see below), but what evidence there is seems to suggest that most if not all of the pits were backfilled during the mid- to late Saxon period. The phase 1 enclosure ditches also contain nothing

that need be later than this period. By the time the phase 2 enclosure ditches were backfilled, however, the assemblage is dominated by south-east Wiltshire/east Dorset coarsewares in post-Conquest jar forms. The latest phase is illustrated by groups from feature 5353 (cutting the phase 1 ditch 7023) and the phase 2 ditch 7013; both contained 'hammerhead' dishes and glazed jug sherds, and 7013 also yielded a possible curfew. All these forms can be dated to the thirteenth or fourteenth centuries.

Intra-site distribution

Overall, the Saxon/medieval assemblage is not large, and the intra-site distribution reveals what is largely a low-level background scatter rather than larger, discrete groups of pottery. Sherds were recovered from 53 cut features (mainly pits and ditches), as well as three tree-throw holes and one natural feature. The pit groups are on the whole very small. The largest group came from pit 5019 (55 sherds), but this appears to comprise sherds from a single vessel. Only one other pit produced more than 25 sherds (27 from pit 5004). The ditches were hardly much more productive. Eighty-two sherds from ditch 7013 comprise the largest feature group, but again this may be made up mostly of sherds from one or two vessels. None of the other ditches produced more than 20 sherds. Small quantities, combined with relatively low mean sherd weight (15 grammes) indicate a relatively high level of redeposition, and the corresponding reduction in the confidence that can be placed on the use of this material for dating. What evidence there is does support the relative chronology of pit digging, superseded by the division of the site into a series of enclosures, but further refinement of the chronological framework on ceramic grounds is not possible.

List of illustrated vessels (Fig. 11)

1. Jar rim, flint-tempered ware (FL400); context 5466, pit 5465.
2. Jar rim, flint-/chert-tempered ware (FL401); context 5333, pit 5324.
3. Jar rim, fine micaceous sandy ware (QU402); context 5333, pit 5324.
4. Jar rim, sandy ware (QU404); context 5333, pit 5324.
5. Jar rim, SE Wilts/E Dorset coarseware (E422a); context 5540, pit 5531.
6. Jar rim, SE Wilts/E Dorset coarseware (E422b); context 5246, pit 5245.
7. Pitcher rim with strap handle; combed decoration; patchy glaze; SE Wilts/E Dorset coarseware (E422b); context 5180, linear feature 5191.

Animal bone *L. Higbee*

The assemblage comprises 577 fragments (or 1.261 kg) of hand-recovered animal bone. The material is highly fragmented due largely to poor preservation and once conjoins are taken into account the total falls to just 252 fragments, of which only 21% are identifiable to species and skeletal element.

The following information was recorded where applicable: species, skeletal element, preservation condition, fusion and tooth ageing data, butchery marks, metrical data, gnawing, burning, surface condition, pathology and non-metric traits. This information was directly recorded into a relational database (in MS Access) and cross-referenced with relevant contextual information.

Animal bones were recovered from a number of middle–late Saxon and medieval pits (5324, 5395, 5448, 5493, 5531, 5576, 5597, 5629 and 5694) and ditches 7020 and 7025. The overall quantity of animal bones recovered from these features is quite modest and only 16% are identifiable to species. Most of the identified fragments are cattle and horse teeth from both the upper and lower jaws. The teeth are in a fairly fragmented state and in some instances only the enamel has survived. The largest group of horse teeth came from pit 5531 and they include part of the lower dentition from a juvenile animal. A few cattle and horse post-cranial bones were also recovered from the pits, of particular note was the distal femur from a calf. The other identified bones are all from pit 5531 and include sheep/goat, pig and domestic fowl.

Bone fragments were also recovered from a number of undated pits. It is likely these features belong to the main phase of activity as represented by the middle–late Saxon/medieval pits and the general character of the material seems to confirm this. Most of the identified fragments belong to cattle and sheep/goat, but also pig, horse and domestic fowl.

Metalworking debris *Phil Andrews*

A moderate assemblage of metalworking debris was recovered comprising 185 pieces with a total weight of 25.74 kg. Virtually all of this material has been identified as iron working slag, with very small amounts of furnace lining – physically attached to the slag, and fuel ash slag. Some 22 kg of similar material had been recovered during the evaluation

in 2014 (which also covered land east of the B3078) (Bournemouth Archaeology 2014, appendix 2), including one large piece, weighing 11 kg, from close to pit 5686 in enclosure 1 (which the later excavation showed contained a further 4.6 kg).

Description and distribution

The material from the excavation has been examined macroscopically and classified on morphological grounds. Sample residues were checked for hammerscale with a magnet but were generally devoid of such debris, which is characteristic of primary bloom smithing and blacksmithing.

Generally, the slag is somewhat abraded, with many of the fragments relatively small, though there are a few larger pieces, the most substantial (from context 5634, pit 5629) weighing 3.4kg.

All of the diagnostic slag can be attributed to iron production, specifically bloom smelting, with no evidence of iron smithing, as was also the case with the evaluation assemblage. The majority of the small amount of undiagnostic material (comprising most of the smallest pieces) is also likely to derive from iron smelting.

The diagnostic slag can largely be classified as furnace conglomerate (Bayley *et al*. 2001), and mostly comprises irregular lumps. It formed within a smelting furnace, and varies from very dense to more vesicular, sometimes in the same piece. The denser material is likely to have come from the base of a furnace, and two or three pieces of slag have a curved surface with traces of clay furnace lining attached. The more vesicular, 'spongy' material typically forms around charcoal, and in many pieces here there are impressions of charcoal, some 10 mm or more in size, clearly visible both on the surface of and within (exposed in fractured surfaces) the slag.

A few pieces show evidence of a flow structure on the upper surface, mostly limited in extent, but there are a couple of larger pieces with more extensive and pronounced flow structure that can be classified as tap slag, molten slag that has been tapped from the furnace during a smelting operation.

The single piece weighing 11 kg, recovered during the evaluation, was substantially larger than any found in the excavation. This has been classified as slag conglomerate/raked slag, comprising mainly slag with gravel adhering, most likely produced when the still-hot contents of the furnace were raked out after a smelting operation.

Of the fifty-one excavation contexts that produced slag only six contained more than 1 kg, with the most (4.6 kg) coming from fill 5687 of pit 5686. The other five contexts comprise fill 5634 of pit 5629 (3.6 kg), fill 5550 of pit 5546 (3.4 kg), fill 5698 of pit 5694 (2.4 kg), fill 5474 of pit 5473 (1.6 kg) and fill 5496 of pit 5493 (1.3 kg).

Three contexts from the evaluation produced more than 1 kg, the large piece weighing 11 kg (evaluation context 707) coming from the same area as pit 5686 (see above), though its precise context is unclear. The 4.62 kg of slag from evaluation context 412 is almost certainly from the fill of pit 5493, while the 2 kg from evaluation context 403 is from a complex of shallow features close to pit 5694, both of these pits producing more than 2 kg of slag (see above).

The fairly wide distribution, with most of the debris coming from probable Saxon features, the relatively small amount in terms of smelting (and taking into account the volume of features excavated), as well as the moderately abraded nature of the material, suggests that the slag has been quite extensively dispersed. No clear concentrations were identified, though virtually all came from the southern part of the site and it is possible that surface dumps have been dispersed in the topsoil. The single pit (5546) containing slag in Area 3, more than 200m to the north, may indicate a separate focus of smelting activity in the (mid-) Saxon period.

Despite the fairly widespread distribution and limited quantity of slag, it does seem probable that iron was smelted on or near the site. There is paucity of vitrified furnace lining, though it is just possible that two small, shallow, oval pits (5585 and 5612, described further above), moderately heavily burnt on their base and sides but with little evidence of vitrification, might be the heavily truncated remains of two smelting furnaces.

Finally, the source of the iron ore used in smelting needs to be considered. It is not certain what this was, although relatively substantial quantities of iron-cemented sandstone were recorded across parts of the site, and several concentrations within pits were noted, particularly in pit 5638 (see above). This sandstone has been provisionally identified as Agglestone grit which is mapped in the Studland area 15 km or so to the south, but which may occur more locally to the site. Although primarily used for walling, it is possible that it could have provided a suitable ore for iron smelting.

Discussion

This is a moderately significant assemblage of smelting slag, particularly in the setting of a rural Saxon settlement, and the absence of any smithing debris is unusual. However, the quantity is relatively small (for a smelting site) and the significance is reduced somewhat by the debris being found in secondary contexts and, with two possible (though not overly convincing) exceptions, the absence of any associated furnaces or related structures.

A relatively local parallel for the assemblage is provided by that from the extensive excavations at Bestwall Quarry, immediately west of Wareham, just over 15 km to the south-west (Ladle 2012). Here, approximately 200 kg of ironworking slag was recovered (from a much larger quantity present), around 75% of this material probably deriving from smelting and the remainder from smithing, each apparently with a different focus of activity just over 250 m apart (McDonnell *et al*. 2012, 152–3). Radiocarbon dating suggests ironworking activity starting in the early Saxon period, possibly as early as the 5th century AD, and continuing – perhaps sporadically – until the late 9th century (Ladle 2012, 321). Similar to Wimborne, there were no certain remains of smelting furnaces, and ferruginous sandstone may have provided the source of iron ore, with the quantities of smelting slag possibly reflecting a dozen or so smelting operations producing a few tens of kilogrammes of iron (McDonnell *et al*. 2012, 153 and 158). Though modest, the collective evidence from Wimborne, Bestwall Quarry and nearby at Worgret (Maynard 1988) and east of the Corfe River (Cox and Hearne 1991, 41) attests to quite widespread production in this part of Dorset during the Anglo-Saxon period, perhaps together producing iron for more than simply local domestic needs.

Other finds *Lorraine Mepham*

Ceramic building material

This category includes roof tile and brick, and the assemblage ranges in date from Romano-British to post-medieval. Eight fragments were identified as Romano-British. This includes three *tegula* roof tiles, one box flue (with incised keying), and one brick (50 mm thick). Two fragments have been classified as 'flat featureless', and could derive from further roof or flue tiles. One *tegula* came from pit 5576, associated with Romano-British pottery, while the featureless fragments provide the only dating evidence for pits 5214 and 5443. Other fragments were residual finds in later contexts.

There are two fragments of medieval flat (peg) roof tiles, and four pieces of post-medieval brick, including a complete example, very overfired, from posthole 5451.

Fired clay

All of the fired clay is of similar character: soft-fired and friable in a sandy fabric. Some fragments have flattish surfaces, but most are featureless and abraded, with the appearance of having been subjected to high temperatures. No wattle impressions were observed. The largest context group (132 fragments, weighing 1093 g) was recovered from possible furnace 5585, and is likely therefore to represent furnace lining, and fragments from other contexts are probably of a similar origin, although it should be noted that the correlation with contexts producing ironworking slag is only partial.

Stone

The stone consists largely of rotary quernstone fragments, and this includes 187 fragments (2739 g) from lava quernstones. These are mostly small, abraded and featureless fragments – very few retained surfaces, and no edges were observed. Mean fragment weight is 14.7 g. Little more can be said about this group, beyond noting that lava quernstones were imported during the Roman period, and then again from the mid-/late Saxon through to early medieval period (11th century) – by the twelfth and thirteenth centuries, hand querns were being superseded by water mills. In this instance, a middle–late Saxon date range seems most likely, given the distribution of the fragments, primarily from the pits.

One fragment of Greensand could also come from a quern, but retained no diagnostic features (5481). Another possible quern fragment is in a hard (possibly burnt) limestone, of uncertain source (5578).

Burnt flint

Burnt, unworked flint was also recovered in moderate quantities (6.36 kg). This material type is intrinsically undatable, although is often taken as an indicator of prehistoric activity. In this instance, no burnt flint came from dated prehistoric contexts. The remainder came either from late Saxon/medieval or undated contexts. No context yielded more than 1 kg of burnt flint; rather, the material shows a relatively even, low-level background scatter across the site.

Metalwork

Metalwork comprises one object of copper alloy, and eleven iron objects. The copper alloy object is a small, circular sectioned shank, with a flat extension, possibly from a Romano-British toilet implement (ON 101); this was found in pit 5324.

The iron objects are all heavily corroded, and identification has been made primarily from X-radiographs. Of particular interest is a wire armlet with a simple hook and eye fastening (Fig. 12), also a residual find in pit 5324. It is of Late Iron Age or Romano-British style, although such objects are generally found in copper alloy; one iron example was found in a Durotrigian grave at Whitcombe (Manning 1990), and a very similar copper alloy example from Poundbury (Cool 1993, fig. 64, 1).

Other identifiable objects include two whittle tang knives (from pit 5348 (ON 102) and well 5467); these are not particularly closely datable as the form was in use from the Saxon through to the medieval period. There are also three nails, a staple and a short length of wire.

Shale

A single shale object (ON 103) was recovered from the eastern terminal of phase 1 ditch 7027. This is a disc-shaped, lathe-worked core (diameter 52 mm) from armlet manufacture, with one off-centre peg-hole for lathe-fixing on one face (Fig. 12). A central perforation appears to be a later modification, adapting the core for use as a spindlewhorl and probably obliterating a second peg-hole (Cox and Woodward 1987, fig. 90). The *floruit* of Kimmeridge shale working in south Dorset was in the Iron Age and Romano-British periods, and the technique of lathe-fixing by means of pegs was introduced in the first century AD.

Palaeoenvironmental evidence

Inés López-Dóriga with a contribution from Dana Challinor

Thirty-four samples for palaeoenvironmental assessment were recovered during the excavations, from pits, wells/waterholes, possible ironworking features and a ditch – 29 from Area 1, three from Area 2 and two from Area 3, and processed by standard methods. After assessment, five samples (from pits 5324, 5340 and 5620, and well 5467, in Area 1, and pit 5546 in Area 3) were selected for quantitative analysis, based on assemblage richness and taxonomic diversity.

Plant remains

Methodology

The flots for analysis were split into 50% fractions with the help of a riffle box. All identifiable charred plant macrofossils were extracted for full quantification from one of the 50% fractions, using stereo incident light microscopy at magnifications of up to 40x. The remaining 50% of each flot was scanned for the presence of other taxa not retrieved. Taxonomic identifications have been carried out with reference to specialised atlases and modern reference collections where appropriate. Quantifications are given as MNI (minimum number of individuals) and are based on anatomy (whole items or the highest type of anatomical fragments (cereals, based on Antolin and Buxó 2011; legume cotyledons divided by two), or size (hazelnut pericarp fragments, based on Antolin and Jacomet 2015). Taxonomic identification results are given following the nomenclature of Stace (1997) for wild plants, and traditional nomenclature, as provided by Zohary *et al.* (2012), for cereals.

Results

Rich assemblages of charred plant remains were recovered from most of the deposits, and most of the taxa identified in the assessment (Wessex Archaeology 2016, table 5) are present in the fully quantified samples (Table 4). Despite the high numbers of plant remains, the preservation is generally poor, with high rates of fragmentation and erosion, preventing precise identifications in many instances. The assemblages are fairly homogeneous in composition, dominated by cereal grains, with occasional remains of other economic plants (legumes, flax), chaff, weeds and other processing by-products, such as fruit seeds, nut shell fragments and fruit stones. The only exception is an assemblage with a higher number of chaff in comparison to grains.

The context of the assemblages is tertiary (*sensu* Fuller *et al.* 2014) and, therefore, they could be a post-depositional mix of by-products which originally arose from a diversity of processing activities. Nevertheless, some general hypotheses about the processing activities on site can be suggested. The dominance of cereal grain over chaff suggests these assemblages are agricultural products charred in the last stages of crop processing (Veen 2007), i.e. during accidents in food preparation. The assemblage with the majority of chaff probably represents an earlier stage of processing, whose by-products (chaff) could have

Table 4: Charred plant remains analysis (mineralised remains marked *)

Feature type		***Pit***	***Pit***	***Well***	***Pit***	***Pit***
Feature		5324	5340	5467	5546	5620
Context		5332	5360	5469	5550	5621
Sample		112	118	119	124	126
Volume (l)		9	9	10	8	10
Flot size (ml)		220	500	212	200	34
Subsample		50%	50%	50%	50%	-
Crops						
Avena sp. grain MNI	Oats	13	20	2	1	1
Avena sp. awn fragment	Oats	10	3	-	1	-
Hordeum vulgare grain MNI	Barley	38	210	2	2	3
Hordeum vulgare rachis segment	Barley	1	3	2	-	-
Hordeum vulgare var. *vulgare* grain MNI	Barley	-	-	7	-	1
Secale cereale grain	Rye	-	8	1	-	-
cf. *Secale cereale* grain	Rye	1	28	-	-	-
Secale cereale rachis segment fragment	Rye	6	29	-	-	-
Secale/Triticum grain	Rye/Wheat		202	-	-	-
Triticum aestivum/turgidum grain MNI	Naked wheat	71	5	8	1	3
Triticum aestivum/turgidum rachis internode	Naked wheat	135	-	-	-	1
Triticum sp. grain MNI	Wheat	67	61	-	-	4
Triticeae grain MNI	Cereal	80	261	2	3	2
Triticeae chaff	Cereal		1	-	-	-
Pisum sativum seed	Garden pea	1	-	-	-	-
Vicia faba seed MNI	Broad bean	-	-	-	-	2
Linum usitatissimum capsule fragment	Flax	9	-	-	-	-
Forest/shrubbery						
Corylus avellana fruit MNI	Hazel	1	1	1	1	1
Prunus sp. endocarp	Plum/cherry	-	-	1*	-	-
Segetals/ruderals/varia						
Ranunculus ficaria tuber	Lesser celandine	-	-	-	2	-
Atriplex sp. fruit MNI	Orache	1	-	-	-	-
Chenopodiaceae fruit MNI	Goosefoot family	-	1	-	-	-
Agrostemma githago fruit MNI	Corncockle	1	-	1	-	-
Caryophyllaceae fruit MNI	Pink family	-	-	1	-	-
Rumex sp. fruit MNI	Docks	-	-	1 (14*)	2	-
Brassica/Sinapis seed	Mustards	-	-	10*	-	-
Trifoliae seed MNI	Trefoil tribe	-	-	1	-	-
Viciae seed MNI	Vetch tribe	1	-	4	-	4
Fabaceae seed fragment	Legume family	1	-	-	-	-
Urtica cf. *urens* seed	Small nettle	-	-	10*	-	-
Sherardia arvensis seed	Field madder	-	-	3*	-	-
Galium sp. seed	Bedstraw	-	-	-	-	1
Valerianella dentata fruit	Cornsalad	1	-	-	-	-
Asteraceae seed tp. *Anthemis cotula*	Stinking mayweed	1	-	1	-	-
Carex sp. achene	Sedge	-	-	2	-	-

Feature type		*Pit*	*Pit*	*Well*	*Pit*	*Pit*
Feature		5324	5340	5467	5546	5620
Context		5332	5360	5469	5550	5621
Sample		112	118	119	124	126
Volume (l)		9	9	10	8	10
Flot size (ml)		220	500	212	200	34
Subsample		50%	50%	50%	50%	-
Lolium/Festuca grain MNI	Grasses	-	-	-	-	1
Poa/Phleum grain	Grasses	-	-	6	-	-
Bromus sp. grain MNI	Grasses	-	-	4		-
Avena/Bromus grain MNI	Grasses	10	10	-	1	-
Poaceae grain	Grasses	2	16	-	-	-
Poaceae embryonal grain fragment	Grasses	-	-	1	-	-
Poaceae apical grain fragment	Grasses	-	-	2	-	-
Poaceae longitudinal grain fragment	Grasses	-	2	-	-	-
Poaceae grain fragment	Grasses	-	-	-	-	1
Poaceae grain MNI	Grasses	2	17	2	-	-
Poaceae rachis segment	Grasses	28	-	2	-	-
Poaceae culm fragments	Grasses	2	-	6	-	-
Indet bud		-	-	-	-	2
Indet seed		-	1	9 (2*)	2	-
Indet tuber		-	-	-	-	1
Gall?		1	-	-	-	-

been discarded into the fire. The occasional presence of remains of other potential foods, such as pea, broad bean, hazelnuts and plum/cherry does not necessary imply their lesser economic importance. Rather, due to the nature of preservation by carbonisation, the importance of some taxa over other is difficult to estimate. It is simply likely that these less represented taxa were processed in a way that didn't require the use of fire and they had, therefore, less chance to become carbonised during cooking accidents.

Mineralised plant remains (marked * in Table 4) were identified in the assemblage from well 5467, which could have served as a rubbish pit for the disposal of a variety of domestic by-products, promoting the preservation by phosphate replacement. This is a relatively well-known phenomenon (McCobb *et al*. 2003) which occurs in deposits rich in decomposing organic matter such as rubbish pits and latrines. The differential taxonomic composition of these types of assemblages provides a complementary view on plant exploitation to that given by the charred ones. This is a good indicator of the risks of making agricultural interpretations based solely on evidence of charred plant macro-remains.

Agriculture during the Saxon period

On the basis of the assessed and analysed samples, naked varieties of wheat (probably bread wheat, *Triticum aestivum*), hulled barley (*Hordeum vulgare*), rye (*Secale cereale*) and possibly oats (*Avena sativa*) were the main cereal crops of the period. All of these could have been part of the human diet, but also used as fodder such as in instances of over-abundance for human use, shortage of fodder, or spoilage of stored crops. Domestic legumes, such as broad bean (*Vicia faba*) and pea (*Pisum sativum*) were also cultivated, as was flax (*Linum usitatissimum*), although the current evidence does not allow to establish whether it was for the production of fibres, for linseed or for both. Insignificant differences were seen between the crop assemblages from the middle–late Saxon and late Saxon–medieval phases. There was, however, a possible reduction in the crop choice over time: earlier assemblages include flax and garden pea, which are absent in the later assemblages, although this can also reflect differences in the way these resources were prepared (e.g. garden peas could be eaten raw, flax could be exploited for fibres).

Complementary wild resources such as hazel (*Corylus avellana*) nuts, plum or cherries (*Prunus* sp.) and blackberries or raspberries (*Rubus* sp.) were also consumed. A number of the seeds from wild plants interpreted as potential weeds might indicate that the plants were intentionally exploited for a diversity of uses (Fern 1996–2012) including human consumption, as green vegetables (*Rumex* sp.), or for oils (*Brassica*/*Sinapis* seeds).

Radiocarbon dating

Samples of short-lived material (cereal grain) from four features (pits 5324, 5340 and 5546, and well 5467) were submitted to the 14CHRONO Centre, Queen's University, Belfast, and were successfully measured (a fifth, also from pit 5340, failed due to insufficient graphite). The dates have been calculated using the IntCal13 calibration curve (Reimer *et al*. 2013) and the computer program OxCal (v4.2.3) (Bronk Ramsey and Lee 2013) and cited at 95.4% confidence. The degree of reliability of the radiocarbon date and the event which is aimed to be dated is assessed following Waterbolk (1971) and Pelling *et al.* (2015).

One sample provided a date range falling within the early–middle Saxon period, the rest within the middle–late Saxon period (Table 5). Although they could potentially be either residual or intrusive (Pelling *et al*. 2015; Waterbolk 1971), the coherence of the archaeobotanical assemblages suggest this is not likely. At any rate, the dates provide a reliable framework for agricultural activity on the site.

Wood charcoal *Dana Challinor*

A series of samples from pits, wells and the possible remains of two smelting furnaces were examined for charcoal remains (Table 6). Radiocarbon dating and pottery evidence indicated that two main phases of activity were represented in the dataset: middle–late Saxon and late Saxon–medieval. A number of the samples produced rich grain assemblages suggesting that much of the material from the pits derived from food preparation and, rarely, early stage crop processing. The study of the charcoal offered the opportunity to characterise the resources exploited for fuel and to examine any functional differences in fuel use.

Methodology

The analysis was constrained by time limitations and consequently an assessment type approach was adopted. This aimed to characterise the taxonomic composition of the sample by scanning the whole assemblage and selecting distinct fragments (by texture/appearance), which were then fully identified according to standard procedure. This method does not provide reliable quantification, except where a single taxon was visibly more abundant than others, and it is probable that the number of taxa is under-represented.

The charcoal was fractured and examined at low magnification (up to x45), with representative fragments examined in longitudinal sections at high magnification (up to x400). Identifications were made according to appropriate keys (Hather 2000; Schweingruber 1990) and modern reference material. Observations on maturity and other features were made where possible. Classification and nomenclature follow Stace 1997.

Results

The preservation of the charcoal was generally fair to good, but there was frequent infusion of sediment within the pore structure. One sample came from a deep pit (5546) in Area 3 and the charcoal showed evidence of semi-waterlogged/seasonally wet conditions with strong iron and vivianite staining. A minimum of thirteen taxa were positively identified. Some of the *Prunus* fragments exhibited the wide

Table 5: Radiocarbon dating results

Feature	Context	Material dated	Lab. ref.	Date BP	Calibrated date (95.4%)	Period
Pit 5324	5332 sample 112	*Triticum aestivum/ turgidum*	UBA-33716	1277±52	cal AD 650–880	Middle–late Saxon
Pit 5340	5360 sample 118	*Triticum aestivum/ turgidum*	UBA-33717	1138±35	cal AD 770–990	Middle–late Saxon
Well 5467	5469 sample 119	*Hordeum vulgare*	UBA-33718	1442±46	cal AD 530–670	Early–middle Saxon
Pit 5546	5550 sample 124	*Triticum aestivum/ turgidum*	UBA-33719	1257±50	cal AD 660–880	Middle–late Saxon

Table 6: Charcoal results

Feature type		***Oven/kiln***	***Well***	***Well***	***Pit***	***Well***	***Pit***	***Pit***	***Furnace***	***Pit***	***Pit***
Feature		5009	5049	5304	5340	5467	5493	5546	5585	5665	5694
Context		5010	5100	5307	5360	5469	5495	5550	5588	5668	5696
Sample		100	104	116	118	119	130	124	125	132	136
Ulmus sp.	elm					.	+s				
Quercus sp.	oak	+r	+r	++++h	+r	+hr	+rs	+	+h	+s	+rh
Betula sp.	birch					+r	+r			+r	
Alnus glutinosa Gaertn.	alder		+r			+r		+r		+r	
Corylus avellana L.	hazel	+r	+r		+	+r		+r			+r
Alnus/Corylus	alder/hazel									+r	
Populus/Salix	poplar/willow		+		+			+r			
Prunus spinosa/domestica	blackthorn/plum	+r			+r	+r				+r	+r
Prunus sp.	cherry type	+r	+r								
Maloideae	hawthorn group	+	(+r)		+	+r				+	+r
Ilex aquifolium L.	holly						+				
Frangula alnus Mill.	alder buckthorn										(+r)
Acer campestre L.	field maple		+		+	+r		+r			+r
Fraxinus excelsior L.	ash									+r	
Sambucus nigra L.	elder					+r				+r	
Indeterminate	diffuse	+r						+r			

+=present; ++++=dominant; r-roundwood; h=heartwood; s=sapwood

ray widths consistent with the native *P. spinosa* (blackthorn) or the introduced *P. domestica* (cultivated plum), which cannot be easily distinguished. The ray widths on other fragments were not diagnostic, and it is possible that *P. avium* (wild cherry) was also present.

Ulmus sp., elm

Quercus sp., oak

Betula sp., birch

Alnus glutinosa, alder

Corylus avellana, hazel

Populus sp., poplar, or *Salix* sp., willow

Prunus spinosa/domestica, blackthorn/plum

Maloideae, incl. *Malus,* apple; *Pyrus,* pear; *Sorbus,* service tree/whitebeam/rowan, *Crataegus,* hawthorn

Ilex aquifolium, holly

Frangula alnus, alder buckthorn

Acer campestre, field maple

Fraxinus excelsior, ash

Sambucus nigra, elder

Moderate to strong ring curvature was recorded in multiple fragments, indicating roundwood, with occasional bark and twig fragments also noted. Tyloses were occasionally recorded in the oak fragments.

Discussion

By the time of Domesday (and probably earlier), all woodlands were in known ownership and subjected to some form of woodland management (Rackham 2006). While there is no direct evidence from the charcoal to support this assertion, it is a reasonable assumption that supplies of firewood were drawn from managed woodlands in order to ensure adequate quantities for all the fire-based needs of a settlement, from domestic crop processing, cooking, and heating to metalworking and smithing requirements. The charcoal assemblages from this site exhibited relatively high diversity, with up to eight taxa identified in a single sample. This diversity, combined with the prevalence of roundwood in the samples, is indicative of bundles of faggots, reflecting the provision of firewood from the underwood or timber offcuts of local woodlands. The assemblage includes a number of taxa which coppice well (e.g. oak, ash, alder, hazel, willow, poplar, field maple) and also taxa which, as small trees or shrubs, form an understorey in mixed deciduous woodland (e.g. hazel, field maple, holly, alder buckthorn, hawthorn, apple, pear, cherry). Relatively open or marginal woodland is indicated by the presence of light-demanding taxa such as ash, birch, blackthorn and elder. Many of these taxa could also be found in hedgerows or scrub, and it is likely that the wood was drawn from several sources, including riverine (alder and willow or poplar). In addition, supplementary material from hedgerow/tree trimmings, old structural or artefactual wood and gathered deadwood may be represented and cannot be distinguished in the archaeobotanical record. Of course, the samples are not all contemporary, but there are enough similarities between them to suggest some continuity in woodland resources and practices; in any case, a more profound chronological analysis is not viable on this dataset.

Oak represents the most frequent taxon, present in 100% of the samples, and the sole taxon recorded in two features: well 5304 and possible furnace 5585. The origins of the charcoal in the well deposit are unclear but the assemblage comprised an abundance of slow-grown oak heartwood; this use of mature oak wood suggests that it may have had a specific function, other than domestic, since this assemblage is atypical compared to the pit assemblages from which domestic type debris was recovered. The results from possible furnace 5585 must be treated with caution, however, as the quantity of charcoal in this assemblage was low and derived from a backfill deposit, which may not be indicative of the functioning of the possible furnace. It should be noted, however, that oak (especially heartwood) provides a high thermal heat, both as a wood, and as a charcoal fuel which would be necessary for smelting activities (Goffer 2007, 174). Possible furnace 5509 also produced a rather sparse assemblage, but it included at least five taxa with a significant component of roundwood. This is appropriate for medieval charcoal burning practices (Bond 2007, 280–90) and similar to the charcoal assemblages recovered from a series of furnaces at Hemyock, Devon, dating to the 9th–10th centuries AD (Challinor forthcoming).

Discussion

The small number of pre-Saxon finds – Mesolithic, Neolithic, Bronze Age, Iron Age and Romano-British – indicate low-level activity on the site during these periods, and reflects the presence of other sites already known within the wider landscape. The most significant finding, however, is the evidence for Saxon settlement, industry, agriculture and land enclosure originating in at least the middle Saxon period and possibly earlier. The evidence from Wimborne Minster

suggests that there was no pre-existing Roman town (Dorset Historic Towns Project 2011, 25).

The site lies 1 km north of, and on the opposite side of the River Allen from, the town the recorded history of which begins with the establishment of a nunnery in AD 705, one of the earliest religious foundations in Dorset (*ibid*.), and possibly the site on which the minster church of St Cuthburga was built. This date is clearly later than the earliest radiocarbon determination, of AD 530–670, obtained on cereal grain from one of the pits to the west of the phase 1 enclosures.

The curvature of those enclosures, matching the line of the present B3078, indicates that the road follows the line of an ancient, and possibly pre-Saxon roadway following the eastern edge of the Allen valley. A road-side location on the south facing slope just above the valley floor would have been ideally suited for the establishment of a new settlement. As the River Allen is faster flowing that the Stour, it may have been more suitable for the locating of watermills, eight of which were recorded in Domesday for the combined manors of Wimborne Minster, Wimborne St Giles, Moor Crichel and Shapwick (Dorset Historic Towns Project 2011, 28). The AD 899 entry in the Anglo-Saxon chronicle describes Wimborne Minster as a walled town, that appears to have developed largely to the north of the minster church and possibly bounded to the east by the River Allen (Taylor 1968), so that the excavated settlement would have lain outside its boundaries.

Although the phase 1 enclosures appear to have been limited to the eastern half of Area 1, the discrete features, the majority of which the pottery and radiocarbon dating suggest may have been of middle–late Saxon date, were much more extensive, extending beyond them to the west and some 200 m up the slope to the north. It can be suggested, therefore, that some of the discrete features pre-dated the enclosures. While the function of the enclosures remains unclear, it seems likely that they were closely associated with road-side settlement structures, perhaps with building plots on the road frontage and garden plots to the rear. There were a number of groups of postholes in the road-side enclosures, although the group of seven (7032), possibly representing a building at least 7 m long (north–south) and 5 m wide, was the only recognisable structure. There was a high density of features, including large areas of intercutting pits in the road-side enclosure, particularly on either side of ditch 7023 which separated enclosures 1 and 3.

The discrete features appear to have had a range of functions, but it is notable that the two adjacent wells, one possibly sheltered by a screen, were located within the rear plot (enclosure 2). In contrast, the two possible 'figure-of-eight' kilns/furnaces were located even further to the west, and so probably at a greater distance from the domestic structures, as were feature 5638 containing the large deposit of sandstone, and feature 5546 containing a relatively large amount of iron smelting slag (in Area 3). In contrast, burnt feature 5009, which was subcircular, and lay towards the southern end of roadside enclosure 1, may have had some different (non-industrial) function, possibly as an oven.

It is clear that the layout of the phase 1 enclosures influenced that of the phase 2 enclosures, which seem likely to have had their origins in the late Saxon period, but which may have continued in use, possibly being extended, and some ditches (particularly north–south ditch 7026) being recut on a number of occasions, perhaps before and after the Conquest, and well into the medieval period (thirteenth–fourteenth centuries). There was a slight modification in their orientation, and a significant expansion to the north (beyond Area 2 but not it appears as far are Area 3), and the west. While, again, it is not possible to be certain of their function, particularly given the difficulty in identifying a comparably late phase of discrete features, it is reasonable to suggest a sequence of road-side housing plots (enclosures 1/3, 5 and 6), and rear garden plots (enclosures 7–10), with, in part of the settlement, a narrow intervening space (enclosure 2/4). To the west of the settlement there appears to have been open ground.

The lack of later medieval activity is comparable to the situation to the south of town, where during the thirteenth century the town extended onto fields known as the Leaze where a series of earthworks, including a hollow-way, subsidiary roads and house plots, are visible, and small-scale excavations revealed postholes, pits and ditches dating to twelfth/thirteenth century (Field 1973). The Black Death in 1348 had a major impact on the town and it is widely believed that the area of the Leaze was abandoned during that period and still remains undeveloped today. A similar conclusion may be suggested for this site. A well-established roadside settlement, originating in the centuries before the foundation of the Saxon minster church, and lying at the interface between the developing town and its agricultural hinterland, engaged in agriculture and low-level industrial activity

and possibly exploiting traffic going to and from the increasingly important late Saxon and medieval town, may have endured for perhaps seven centuries before being finally abandoned.

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APPENDIX 1: PETROGRAPHIC ANALYSIS OF POTTERY SAMPLES

By Dr Patrick S. Quinn

Fabric CA400: calcareous 'mixed grit' ware, context 5022

This sherd is characterised in thin section by the presence of large chert inclusions and abundant opaques in a non-calcareous clay with high porosity. The coarse chert inclusions range up to 4.8 mm in size and are generally sand-sized or above. They exhibit significant variability in shape, from angular to well-rounded, and in composition, with heavily iron-stained, radiolarian-bearing, coarse chalcedonic and fine homogeneous examples in the same sherd. Other sand-sized inclusions in the sample include rare rounded quartz and polycrystalline quartz. The sand fraction appears to have been added as temper to a non-calcareous base clay. The sample also contains abundant opaque inclusions which vary in shape and size up to 1.5 mm. Some larger inclusions of this type contain silt-sized quartz clasts, suggesting that they are iron-rich nodules that could have been naturally occurring in a residual clay source, or fragments of some sort of weathered sedimentary iron-stone deposit that may have been added as temper. The sample contains one inclusion of possible grog, though it is not clear whether this was an intentional addition because of its low abundance. The base clay to which the chert and possible ironstone temper were added was fine, non-calcareous and contained only small amounts of silt and opaques. The sample contains significant porosity in the form of meso- to mega-elongate voids and meso- and macro-vughs. Many of the latter contain fragments of clay-rich material and rare chert. It may be that these is an artefact of preparation, representing material that was not washed off the section. However, the shape of the voids indicates that they may have once contained inclusions that were removed. Possible charred organic matter occurs in some, though this is not certain. There is no evidence of carbonate material, which is soluble common inclusion type that can be removed from sherds after burial. The sample was fired <850°C in an incompletely oxidising atmosphere.

Fabric QU400: Fine silty fabric, context 5530

This sherd is composed in thin section of a fabric containing abundant sand and silt-sized quartz and glauconite in a non-calcareous clay matrix. It has a moderately bimodal grain-size distribution consisting of a distinct sand and silt sized fraction. The former inclusions are mainly medium and coarse sand-sized and are composed of rounded quartz, glauconite, less common polycrystalline quartz and rare feldspar. The glauconite inclusions have been oxidised to an orange to dark brown colour. The sample contains a couple of agglomerations of these rounded sand-sized inclusions which appear to represent glauconitic sandstone fragments which were the source of the isolated inclusions in the sample. It appears that this material was added as temper. They are cemented by silica. The abundant silt sized inclusions in the sample are more angular and consist of quartz, muscovite mica, chert and rare feldspar. They were naturally occurring in the non-calcareous silty base clay to which the glauconitic sand temper was added. The sample has low porosity, consisting of meso- and micro-elongate voids. The sample appears to have been fired at a temperature <850°C under oxidising conditions.

Fabric E422a: SE Wiltshire/east Dorset coarseware, context 5540

This sherd is characterised in thin section by the presence of iron-rimmed, sub-angular to well-rounded medium to very coarse sand-sized inclusions of quartz, polycrystalline quartz and chert in a clean non-calcareous clay matrix with elongate voids. Most of the sand-sized inclusions have a thin (<0.1 mm) more or less continuous coating of opaque iron-rich material around them. Several large inclusions consist of a thicker mass of opaque material with sand clasts within them. This suggests that the source of the isolated iron-coated sand particles was a ferruginous sandy sediment or sandstone deposit. The coated grains are mostly quartz with undulose extinction, but also include strained and slightly foliated polycrystalline quartz as well as fine-grained stained and unstained chert. The iron-coated sand inclusions appear to have been added as temper to a very fine, non-calcareous base clay that has a clean appearance under the microscope. This appears to

have contained only very sparse silt sized inclusions of quartz and opaques. It contains some fine iron-rich streaking in places, though this seems to be a natural phenomenon. The sample is highly porous due to a significant proportion of elongate meso- and macro-voids as well as occasional large vughs. These are aligned to the vessel margin reflecting the orientation of the clay minerals during forming. Firing was in an amply oxidising atmosphere and well below 850°C.

Fabric QU401: Glauconitic sandy ware, context 5541

This sherd is characterised in thin section by the presence of abundant sand and silt-sized inclusions of quartz, polycrystalline quartz, chert, glauconite, feldspar, muscovite mica and amphibole in a non-calcareous clay matrix. Many of the larger sand sized, subangular to rounded inclusions of quartz, polycrystalline quartz and chert have an iron rim around them. The sample has a unimodal grain size distribution; however, it is probable that the iron-rimmed sand inclusions were added rather than being an intrinsic phenomenon in the clay source used to manufacture this pot, due to their presence as temper in the sample from context 5540 (above). The finer inclusions are generally more angular. These are dominated by quartz, but significant oxidised glauconite occurs, as well as feldspar and chert. Fine white mica was present in the clay source used to manufacture the sample. The sample contains numerous darker naturally occurring clay pellets and concentrations of inclusions and a few possible grog particles occur. Meso- and macro-elongate voids make up the main porosity in the sample. It was not well oxidised during firing and may have been fired <750°C on account of the presence of rare green amphibole, though the oxidation of this mineral may have been retarded by the low level of free oxygen.

Fabric CA400: Calcareous 'mixed grit' ware, context 5481

This sherd is composed in thin section of a fabric containing coarse chert, quartz and bone temper in a non-calcareous silty quartz and mica-rich base clay with abundant elongate voids. The coarse chert inclusions range up to 2 mm and are angular to rounded in shape. They can be heavily iron-stained, radiolarian-bearing or fine and homogeneous. Other coarse sand sized inclusions occur in the sample, though less frequently. These include rounded quartz, siltstone, bone and an unidentifiable opaque inclusion. The sample has a bimodal grain size distribution with the larger sand inclusions contrasting against a moderately abundant silt fraction. This suggests that the former were added as temper. The fine fraction is composed predominantly of angular to sub-rounded quartz, but also contains muscovite mica, feldspar, chert and rare glauconite inclusions. These inclusions may have been naturally occurring in the base clay to which the coarse sand temper was added. However, the presence of several siltstone inclusions in the latter, which have clasts of a similar composition, size and shape may suggest that they could have been added by the disaggregation of these. The sample contains opaques and rare clay pellets. The clay matrix is noncalcareous. The sherd exhibits high porosity, much of which is formed by meso- and macroelongate voids, which are aligned subparallel to the vessel margins. However, several large vughs also occur, which appear to have been left by the removal of plant matter and other inclusions. Ring voids occur around many of the chert and bone inclusions. The sample was fired <850°C and fairly well oxidised. The core is darker indicating the presence of organic matter and/or a short firing duration.

Fabric QU405: Sandy fabric with sparse fine flint, context 5365

This sherd is composed in thin section of a fabric containing abundant sand sized quartz, polycrystalline quartz and chert in a non-calcareous clay matrix. The inclusions are sub-angular to well rounded and both equant and more elongate. The chert inclusions range up to 2.5 mm in size and can be heavily iron-stained radiolarian-bearing, chalcedonic or fine and homogeneous. The quartzose inclusions are monocrystalline or less commonly polycrystalline. Some of the latter can be foliated. Rounded sand-sized opaque inclusions also occur in the sample including a large (5 mm) iron-rich nodule containing silt sized quartz. Several possible grog particles are present, though the sample also contains clay pellets with which grog can be confused. The rarer silt-sized inclusions are more angular and composed of quartz with rare mica and chert. It is possible that the larger inclusions were added as temper in the form of a polymict sand. However, they may also have been present in a sandy clay source. The clay matrix is non-calcareous. The sample has low to moderate porosity, composed of somewhat randomly orientated elongate macro- and meso-voids. A few voids seem to have been produced by the carbonisation of plant matter, though this may have been naturally occurring rather than being added as temper. The sample was fired <850° C in a strongly oxidising atmosphere.