

LATE SAXON CROP PROCESSING AT WHARRAM PERCY: NEW RADIOCARBON DATES FROM THE SOUTH MANOR SITE

By MARK MCKERRACHER¹, with contributions by BOB CROFT²,
PAUL STAMPER³ and STUART WRATHMELL⁴

Introduction (BC, PS)

Ten seasons of excavations (1981–90) were carried out within the *curia* of Wharram Percy's so-called South Manor, the twelfth-century camera block of which was found beneath the first peasant house excavated there in the late 1950s (Andrews and Milne 1979; Stamper and Croft 2000). A significant quantity of Anglo-Saxon pottery was recovered when an adjoining area (Site 44) was dug in the 1970s (Stamper and Croft 2000, 17–18), and the aim of the 1980s work was to see if there was indeed a pre-Conquest site hereabouts – something which until then had proved elusive at Wharram.

In the event the 1980s excavations found the largest assemblage of Middle Saxon (seventh- to eighth-century) pottery recovered from Wharram, associated with which was a smithy, at least one post-built structure and ditches (Stamper and Croft 2000, 19–37, 195–198). There was slightly less Late Saxon pottery, but still Wharram's largest assemblage; other finds from this period included a late ninth- or early tenth-century Borre interlace-style belt-slide. While it was impossible to say whether or not there was continuity of 'high status' occupation, in the later twelfth and early thirteenth centuries this was the location of a manorial establishment associated with either the Chamberlain or the Percy family (its attribution has been discussed by David Stocker: Wrathmell 2012, 265). After its demolition, it became the site of peasant houses and their outbuildings. Various features associated with these phases were also found.

The crop processing oven

One of the features was a small crop processing oven/kiln, dubbed 'Grain Drier 31', which on the basis of limited ceramic evidence was associated in the report on the site with the manorial phase of activity, perhaps starting in the 1160s (Stamper and Croft 2000, 43–45). It took the form of a roughly oval pit cut into the chalk, c. 2.90m long north-south and 1.40m wide (Figures 1–2). The south end of the feature was interpreted as the stokehole of the oven; the deeper north end was interpreted as the drying chamber. Midway between the

stokehole and drying chamber, a large slab of sandstone on either side formed a flue 0.65m wide.

Olive-brown clay had formed part of the superstructure of the oven, which had collapsed or been pushed into the drying chamber, forming a layer c. 0.20m thick. This layer sealed a spread of charcoal across the whole of the base of the chamber, which in turn lay on a thin layer of clay similar to that used for the superstructure. The whole feature had an upper fill of brown loam, the lower part of which included some clay of the type found beneath.

Three stake-holes were found at the southern edge of the stokehole. These may have supported a screen to funnel the prevailing southerly wind towards the fire, thus channelling hot air through the flue and under the cloth or straw on which the crops to be dried were placed. That drying platform, c. 1.50m square, had probably rested on vertical walls around the outer edge of the chamber, formed from the clay that was eventually dumped into the body of the oven.

The original dating of the fill, in or after the late twelfth or thirteenth centuries, rests on a single York Glazed sherd. The relatively small amounts of carbonised material in the drying chamber and the stoke-hole, along with the lack of evidence for modification or repair, suggested to the excavators that the oven was little used and lasted for only a short period of time before it went out of use and was backfilled.

The significance of crop processing ovens

Crop processing ovens are designed to heat grains or other commodities without cooking them. Such ovens may be used to dry harvested crops prior to storage, to harden cereal grains prior to milling, or to 'cure' sprouted grains in order to produce malt for brewing (van der Veen 1989). The archaeobotanical contents of this feature, dominated by the charred grains of wheat, barley and oat, support its interpretation as a crop processing oven (Carruthers 2000, 193). Although the lack of sprouted grains might suggest that the oven had not been used for malting, it should be remembered that only a tiny minority of the grains which likely entered the oven during its use-life have survived as charred remains through accidental contact with the fire. If the oven had in fact performed a number of different crop processing functions, including both drying and malting, we need not expect all of these to be represented archaeobotanically.

¹ School of Archaeology, University of Oxford; mark.mckerracher@arch.ox.ac.uk.

² South West Heritage Trust.

³ University of Leicester.

⁴ Fishergate, York.

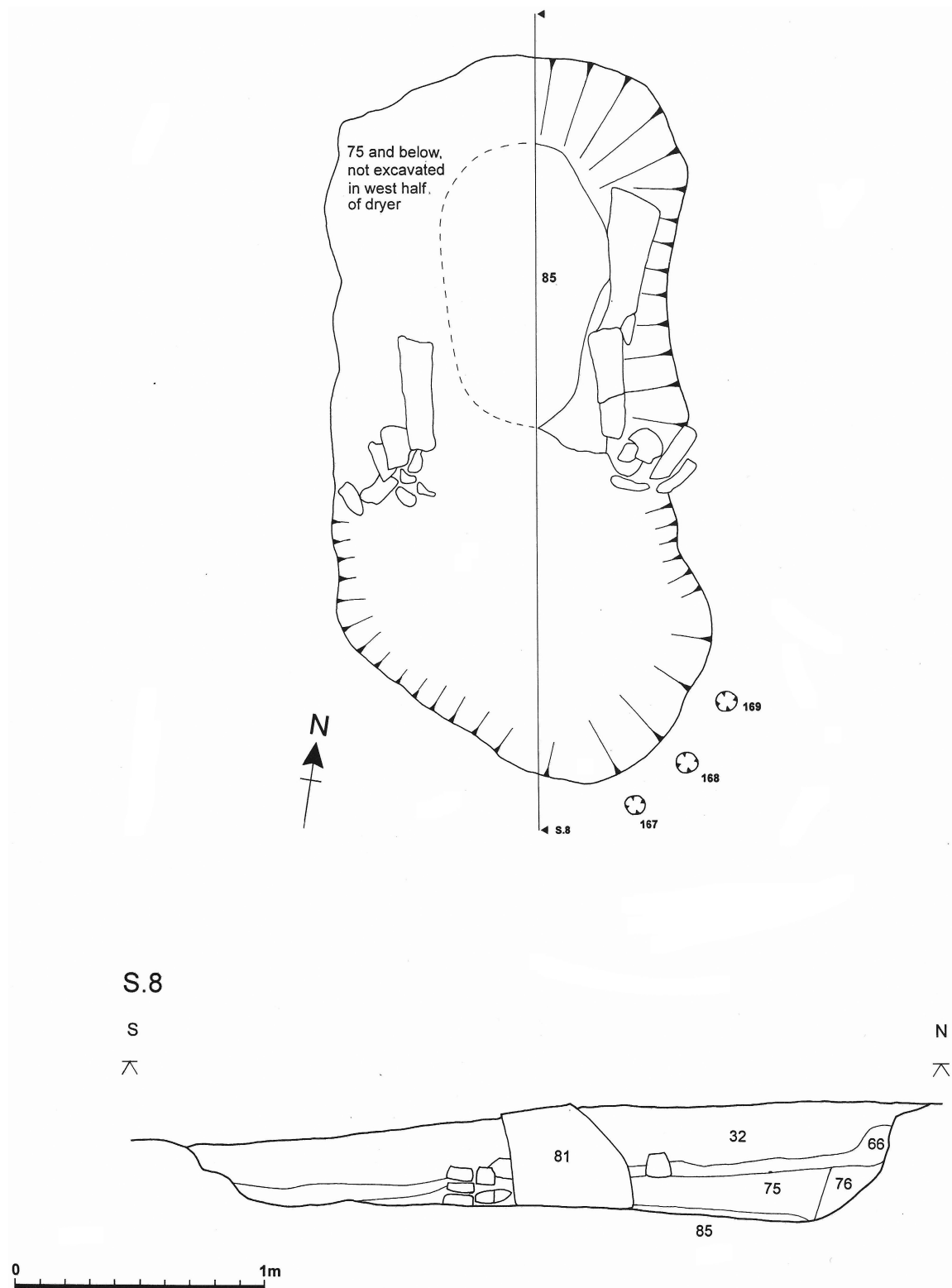


Figure 1 Plan and section of Grain Drier 31 (Stamper and Croft 2000 Fig. 24). Reproduced by kind permission of the Wharram Research Project.

In any case, it is important to note that none of these functions necessarily requires a specially built crop processing oven. Hearths or heated stones, for example, can serve much the same purpose in domestic settings (Fenton 1978, 375). The construction of a dedicated oven therefore implies that processing activities were

taking place at a scale exceeding domestic capacities, and also that the oven's owners could afford to expend additional firewood. In short, there is a compelling *a priori* case for associating crop processing ovens with 'high status' and/or specialised settlements handling large surpluses of cereal crops and firewood.



Figure 2 Grain Drier 31 under excavation (photograph by Paul Stamper).

Archaeological evidence from the Middle Saxon period seems to bear out this association. In stark contrast to Wales (see Comeau, this volume), crop processing ovens of fifth- to sixth-century date are extremely scarce in England. They become much more common, however, in the archaeological record between the mid-seventh and late ninth centuries, and the largest of them (exceeding 2m in length) tend to be associated with settlements of high and/or ecclesiastical status, such as the presumed royal tribute collection centre at Higham Ferrers (Northants) or the monastery at Hoddom (Dumfries) (McKerracher 2018, 121–122). There are hints that such associations persist through the late ninth to eleventh centuries and beyond, at least for larger ovens exceeding 2m in length. For instance, an oven

at Addingham in West Yorkshire was associated with a post-Conquest manorial complex (Adams 1996), while a ninth-century example at Cottam in East Yorkshire may have functioned within a royal multiple estate (Richards *et al.* 1999, 34–40). A large oven at Barley in Hertfordshire, dated to the tenth and eleventh centuries, was situated within demesne land of the manor of Mincingbury (Woolhouse 2019); and a variety of drying and malting ovens were in use through the twelfth to fourteenth centuries at Raunds, Northamptonshire, attached to the manors of Burystead, Furnells and West Cotton (Audouy and Chapman 2009; Chapman 2010).

The presence of Grain Drier 31 at the South Manor site at Wharram Percy therefore seems consistent with that site's manorial status in the twelfth to thirteenth centuries. However, the presumed twelfth- to thirteenth-century date of the oven rests entirely upon a single sherd. Could the oven in fact indicate high status activity in a fugitive earlier phase?

Radiocarbon dating: the FeedSax project

The South Manor excavations produced an important assemblage of charred plant remains – relatively scarce in Yorkshire, compared to central and southern England – which has provided direct evidence of early medieval crop husbandry at Wharram (Carruthers 2000). This assemblage was therefore of interest to *Feeding Anglo-Saxon England* ('FeedSax'), a project based at the Universities of Oxford and Leicester which is researching developments in Anglo-Saxon and medieval farming using bioarchaeological evidence (Hamerow 2017).⁵ As part of the FeedSax project, subsamples of charred grain from five contexts at the South Manor site were submitted to the Oxford Radiocarbon Accelerator Unit for radiocarbon dating.

The resultant radiocarbon determinations have been calibrated using IntCal20 (Reimer *et al.* 2020) and OxCal 4.4.2 (Bronk Ramsey 2009) in the table and figures below.

Sample 60/5 represents a one-metre grid square from the 'black loam' (context 60) which contained both pre- and post-Conquest pottery (Richards 2000, 197). This black loam sealed the yellow-brown loam originally dated to the seventh to eighth centuries and was itself cut by Ditch 117. Context 118 is the fill of this Ditch 117, one of three parallel linear features which were cut into the black loam and sealed by stone structures dating from the later thirteenth century onwards. The latest pottery from Ditch 117 dates from the twelfth to

Table 1 Radiocarbon dating results for selected contexts.

Context/sample	Laboratory no.	Material	Age BP	Calibrated dates AD (probability)
60/5	OxA-37641	3 barley grains	1166 ± 26	772–974 (95.4%)
118	OxA-37645	2 wheat grains	940 ± 23	1035–1160 (95.4%)
66	OxA-37642	3 oat grains	1130 ± 25	878–993 (93.3%)
75	OxA-37643	3 barley grains	1099 ± 23	890–995 (95.4%)
163	OxA-37644	2 barley grains	1006 ± 23	991–1048 (78.8%)

⁵ The FeedSax project is supported by the European Research Council under the European Union's Horizon 2020 research and innovation programme (grant agreement no. 741751; PI Hamerow).

thirteenth centuries. Contexts 66, 75 and 163 all belong to Grain Drier 31, which was dug straight into the natural chalk, outside the area covered by the loam (Stamper and Croft 2000, 37).

If the report is correct in saying that the Middle Saxon activity sealed by the black loam ends in the ninth century, then the balance of evidence now seems to suggest that the black loam itself is most likely of Late Saxon date, as proposed in the second possibility outlined in the excavation report (Richards 2000, 197). This interpretation is supported by the new radiocarbon date obtained from grid square sample 60/5, which most likely indicates an origin for the charred grain in the ninth century: cal. AD 779–902 with 57.9% confidence, cal. AD 772–974 with 95.4% confidence (Figure 3).

Meanwhile, the new radiocarbon determination for context 118 suggests that Ditch 117 can be dated to the earlier end of its original phasing, between the early eleventh and mid-twelfth centuries (cal. AD 1035–1160 with 95.4% confidence). Again, this is consistent with a ninth-century date for the black loam, stratigraphically earlier than the ditch.

The remaining three radiocarbon-dated samples derive from contexts within the crop processing oven. Context 163 is described by Carruthers as ‘an ash layer on the oven floor’ which ‘probably represents an accumulation of grain that had fallen through the floor of the oven into the fire’ (Carruthers 2000, 193). Context 75 is described as a clay layer which ‘had collapsed or had been pushed into the drying chamber’; context 66 lies directly above this (Figure 1; Stamper and Croft 2000, 42–43).

The new radiocarbon dates from these contexts are at odds with the oven’s original assignment to the manorial phase of occupation, between the later twelfth and thirteenth centuries. The latest likely date range is cal. AD 991–1048 with 78.8% confidence (context 163) while the two contexts stratigraphically above this returned earlier date ranges: cal. AD 890–995 (context 75, with 95.4% confidence) and cal. AD 878–993 (context 66, with 93.3% confidence). The material in basal context 163 could therefore represent the last firing, with the material from contexts 66 and 75 representing earlier waste redeposited in the backfilling of the oven. The excavators suggest that the oven had a short use-life (Stamper and Croft 2000, 43), which the radiocarbon determinations could therefore plausibly date to around the 990s AD.

In summary, the new radiocarbon dates suggest that the crop processing oven is most plausibly dated to the Late Saxon phase (most likely to the late tenth century), and also that crops were probably being processed in the vicinity of the black loam by the ninth century. This evidence could therefore indicate ‘high status’ and/or

specialised settlement activity in this ninth- to tenth-century phase.

The broader implications of the redating (SW)

The final volume of the Wharram excavation reports assembled evidence for Middle Saxon and Late Saxon (Anglo-Scandinavian) activity across the whole of the village site and beyond (Wrathmell 2012, 118–135, 203–206). A review of the results of the South Manor area excavations led to two key conclusions. The first was that the pre-Norman structural remains could be assigned to two main phases of activity, through their apparent relationships to each other and to the black loam layer discussed above. The second was that the South Manor area was a focus for activity in both the Middle Saxon and Late Saxon periods.

It was inferred that Ditch 35/37/38/52 (Fig. 4) was created later than – and was a replacement for – another ditch a short distance to the north, running on much the same alignment (Ditch 25/107/137/146: Wrathmell 2012, Fig. 55). The later ditch was thought to have been cut through at least the lower part of the black loam, whereas its putative predecessor was not observed until the top of the underlying yellow-brown loam had been removed.

Furthermore, some of the numerous postholes and post-pits to the south of these ditches, in the part of the site that produced large quantities of Anglo-Saxon smithing debris, could be resolved into two separate structures: Buildings A and B. They could not have been in contemporary use given the extent to which their footprints overlapped, and in terms of their relationships with the ditches to the north, it seemed more likely that Building A was the later, rather than the earlier of the two.

The chronological span of these phases was not clearly determined, but the distribution of pottery and small finds across the South Manor and wider village areas (Wrathmell 2012, 204–205, Table 13 and Fig. 80) indicated its continued focus for artefact deposition in the Late Saxon period as well as in the Middle Saxon period. The newly available dating evidence provides us not only with a further structure to add to the Late Saxon occupation, in the form of ‘Grain Drier 31’, but also with greater confidence that the black loam represents, at least in part, accumulations dating to the earlier part of the same period. It is even possible that this part of the site was a continuing industrial and agricultural processing area from the Middle Saxon period down to the twelfth century.

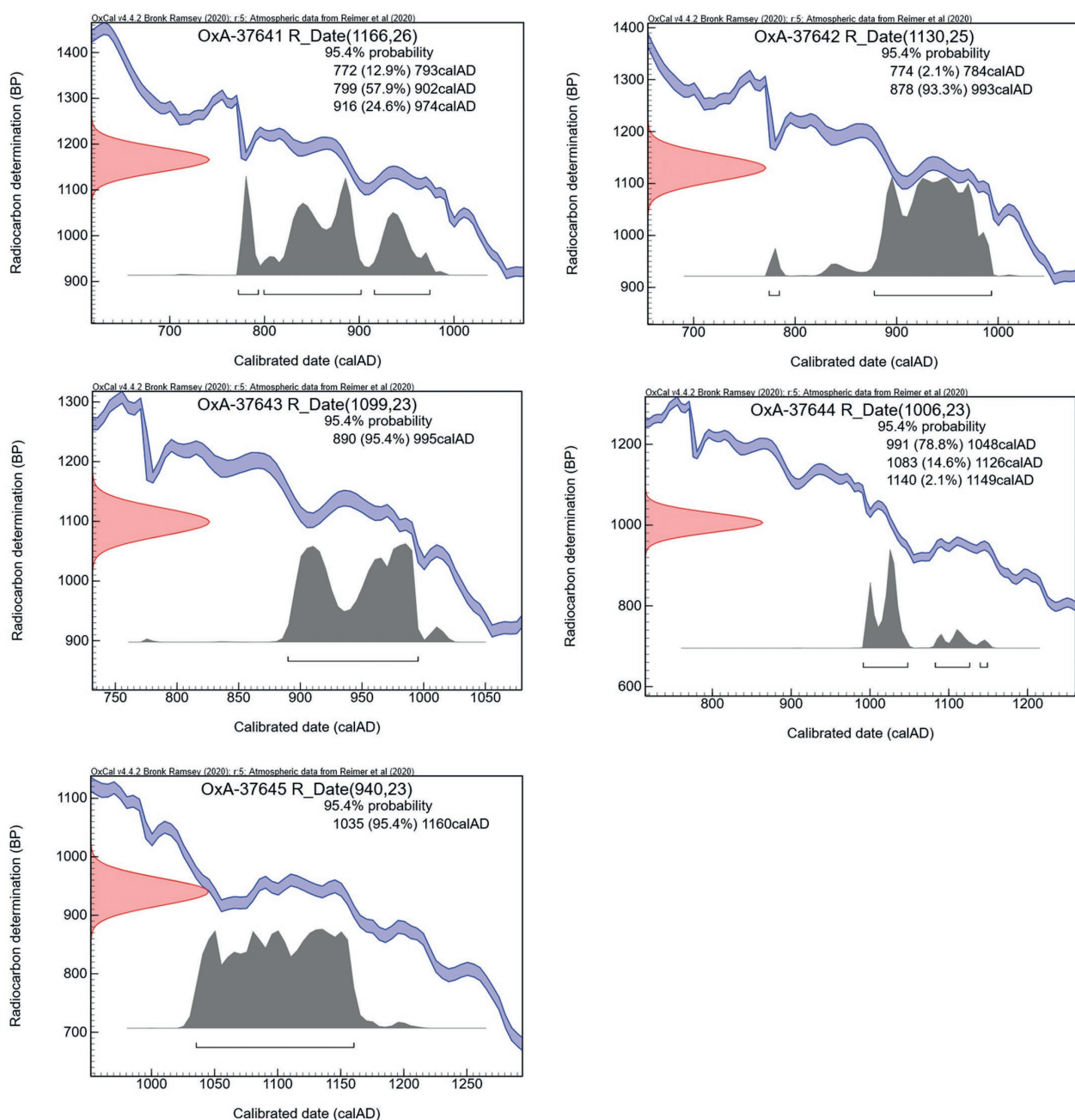


Figure 3 Calibration of radiocarbon dates.

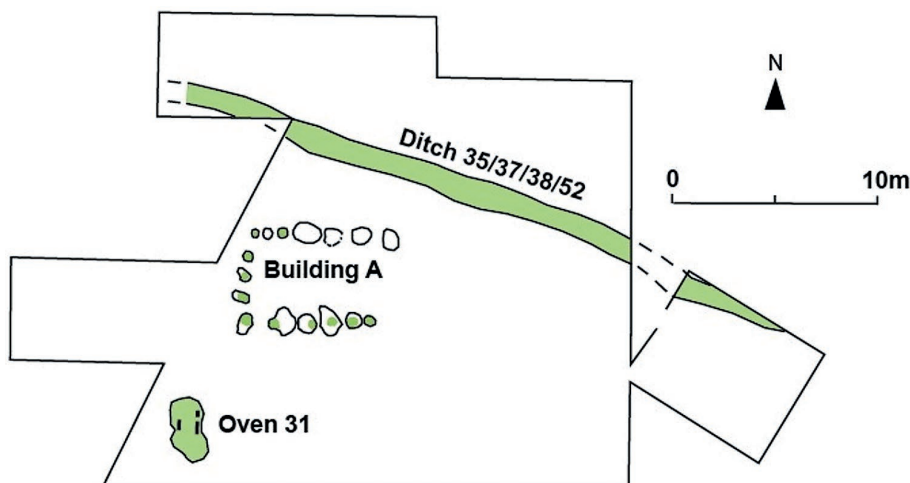


Figure 4 Structures in the South Manor area now attributed to the Late Saxon (Anglo-Scandinavian) period. The shading within the post-pits of Building A indicates possible post positions (after Wrathmell 2012, Fig. 55).

Acknowledgements

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