

# MIDDLE BURROW FARM EAST WORLINGTON DEVON

Results of Archaeological Monitoring and Excavation



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# Middle Burrow Farm, East Worlington

## Results of Archaeological Monitoring and Excavation

*For*

Mr. C. Kneller

*By*



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## *Summary*

*Archaeological monitoring and excavation was undertaken at Middle Burrow Farm in advance of agricultural development, including the construction of an automated milking parlour. This work was prompted by the proximity of the site to several Bronze Age barrow cemeteries.*

*Excavations within the footprint of the proposed development uncovered the remains of a large late Iron Age roundhouse and two four-poster structures, one of which post-dated the roundhouse. The roundhouse is one of the largest and most complete examples excavated in Devon, and appears to have been dismantled when it reached the end of its use-life.*

*It is probable the roundhouse and four-poster structures formed only one part of a larger open settlement similar to examples recently excavated near Truro in Cornwall, but given the proximity of the Bronze Age barrow cemetery, it is possible the location was selected as much for its ritual associations as agricultural or demographic ones.*

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## 1.0 Introduction

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**Location:** Middle Burrow Farm  
**Parish:** East Worlington  
**District:** North Devon  
**County:** Devon  
**NGR:** 277207.117534  
**Planning Application No.:** 45955  
**OASIS ID.** southwes1-39274

### 1.1 Background

South West Archaeology (SWARCH) were asked by Mr C. Kneller (the Client), to monitor the stripping of land at Middle Burrow Farm, East Worlington, Devon. SWARCH were to excavate and record any archaeological features revealed, prior to the development of the site and the construction of an automated milking parlour.

The archaeological work was carried out to fulfil the archaeological planning condition on the development and was undertaken in accordance with a Written Scheme of Investigation (see Appendix 2) produced in accordance with a brief (Appendix 1) issued by Devon County Historic Environment Service (DCHES).

The site is located immediately to the north of Middle Burrow Farm (Figure 1 & Figure 2), on a gentle, south-west facing slope at an elevation of just under 220m AOD, just below the crest of the hill. According to the British Geological Survey (1980), the underlying geology consists of sandstone of the Crackington Formation of the Culm Measures, and the Soil Survey of England and Wales (1983) regards the soils of this area as pelo-stagnogleys of the Hallsworth 1 Association. The site lies within an area characterised by the Devon Historic Landscape Characterisation Project as ‘Medieval enclosures based on strip fields’.





Figure 1: Regional location

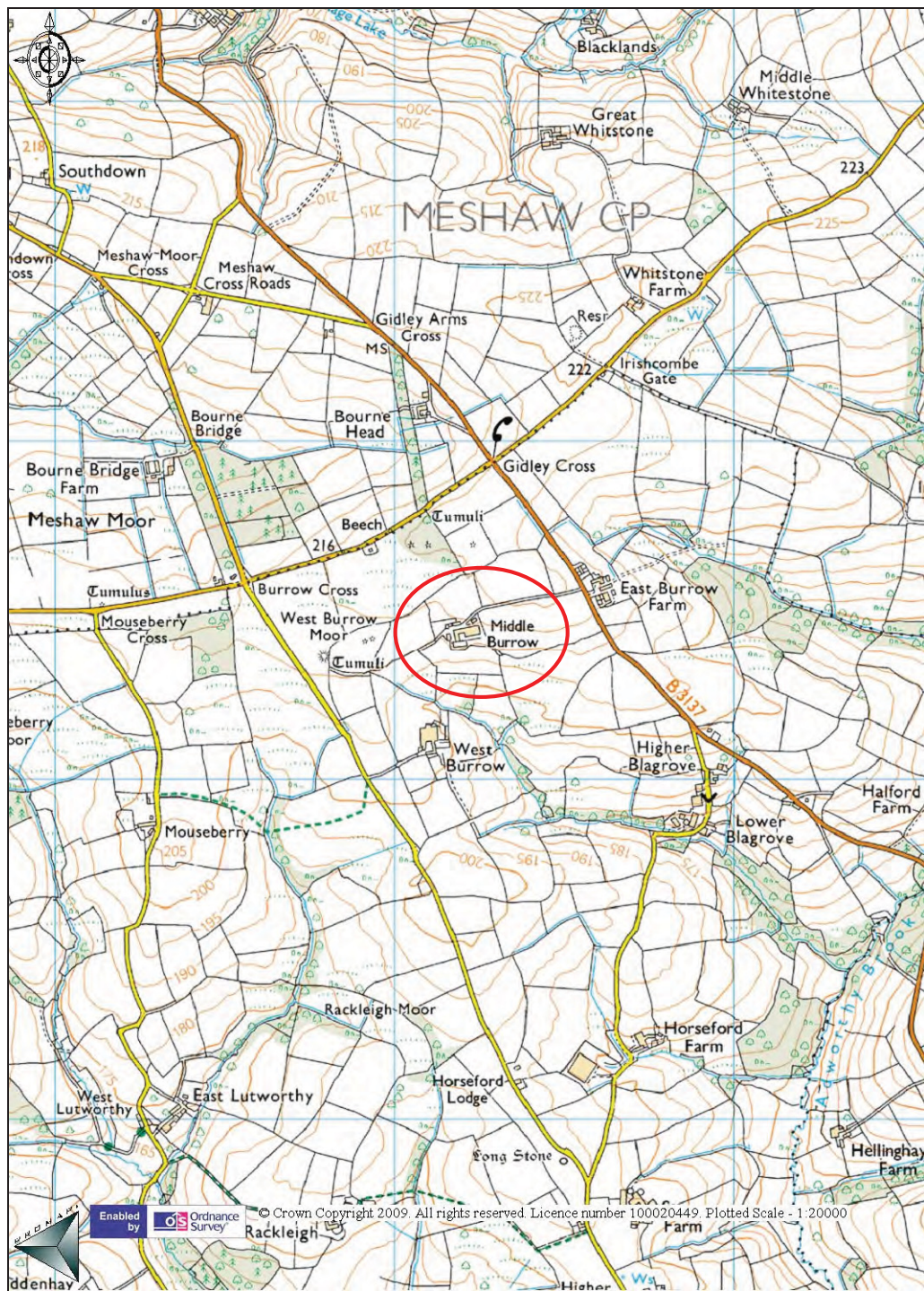


Figure 2: The location of Middle Burrow Farm (the site is indicated).



## 1.2 Archaeological Background

No previous archaeological recording has taken place at Middle Burrow Farm, but the site lies close to a series of scheduled monuments on West Burrow Moor (SAM 30319) (see Figure 3). The remains of seven Bronze Age bowl-barrows have been identified, the closest of which lies 100m north-north east of the excavated area. Three further groups of scheduled barrows can be found within 3km of the site, at Mouseberry Cross (SAM 30316), Dart Raffe Moor (SAM 28608-10) and Catkill Cross (SAM 28604).

There is no record of past archaeological investigations in the vicinity of the site, nor have any Iron Age sites previously been excavated in this part of Devon. There are, however, several scheduled monuments within 10km of the site that may be of Iron Age date, including BurrIDGE Camp, Chawleigh (SAM 28617), Berry Castle, Woolfardisworthy (SAM 34255), East Kidland Wood Camp, Knowstone (SAM DV473), Woodhouse Hillfort, Queen's Nympton (SAM 28623), and Whitechapel Moors Hillfort, Bishop's Nympton (SAM 30318).

The roundhouse at Middle Burrow Farm joins a small but growing number of lowland Devon examples excavated in recent years. One or more penannular gullies and associated features/structures were excavated during the construction of the new A30 at the Langland Lane, Long Range and Blackhorse sites (Fitzpatrick *et al.* 1999), with further unpublished examples from Willand Road in Cullompton, Southernhay in Exeter, Clyst Heath, Digby and Twinyeo Farm, Kingsteignton (Best 2009; Hood 2007; Hughes 2008; Stead 2004). A middle Iron Age to early Roman site at Mount Folly, Bigbury in the South Hams has also produced comparable structural evidence (Wilkes 2006a; 2006b; 2007; 2008). Middle Burrow is the first example to be excavated in north Devon, with the possible exception of the Holworthy roundhouse (see Green 2009).

## 1.3 Methodology

The area of the proposed development (see Figure 3 & Figure 4), comprised 2800m<sup>2</sup> of former pasture adjacent to the farm buildings at Middle Burrow Farm. This was stripped of topsoil under archaeological supervision using a tracked mechanical excavator with a toothless grading bucket. The archaeological features revealed were then excavated and recorded according to IFA guidelines and informed by consultation with Devon County Historic Environment Service. An additional area of comparable size to the west of the monitored area was subsequently stripped by the client without archaeological supervision. Remedial investigation failed to locate any features in that area and thus it does not form part of the programme of works described herein.

The sampling strategy employed was drawn up in consultation with DCHES. A total of 42 bulk samples were taken from all features on site excepting those regarded as too shallow to be free from the risk of significant contamination. Details of the charcoal and plant macrofossils recovered can be found in Appendices 5 and 6.

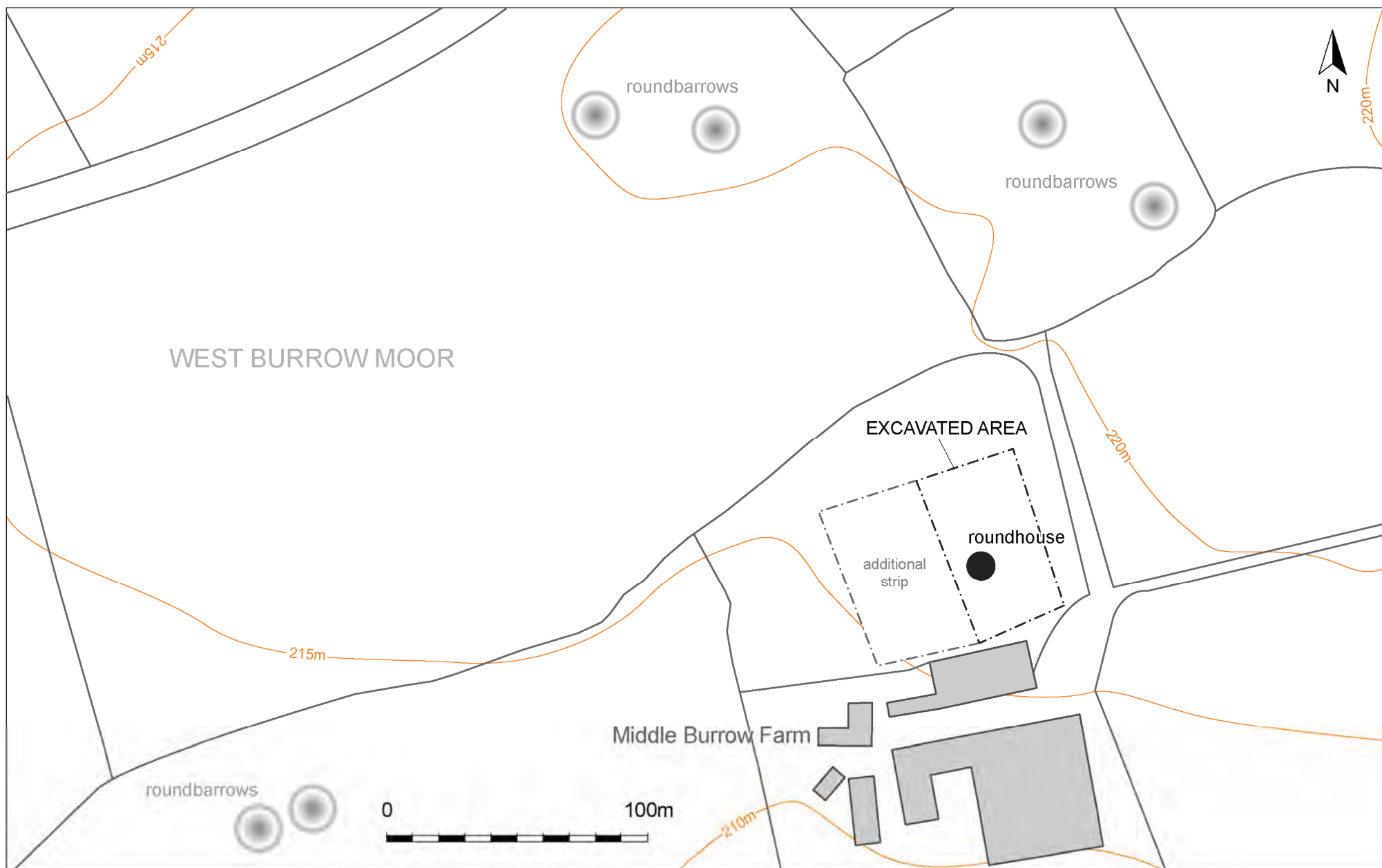


Figure 3: The excavations at Middle Burrow and the surrounding landscape; the roundhouse is shown in black and the Bronze Age barrows of Scheduled Monument 30319 in grey. The approximate extent of the additional area of topsoil strip is shown.

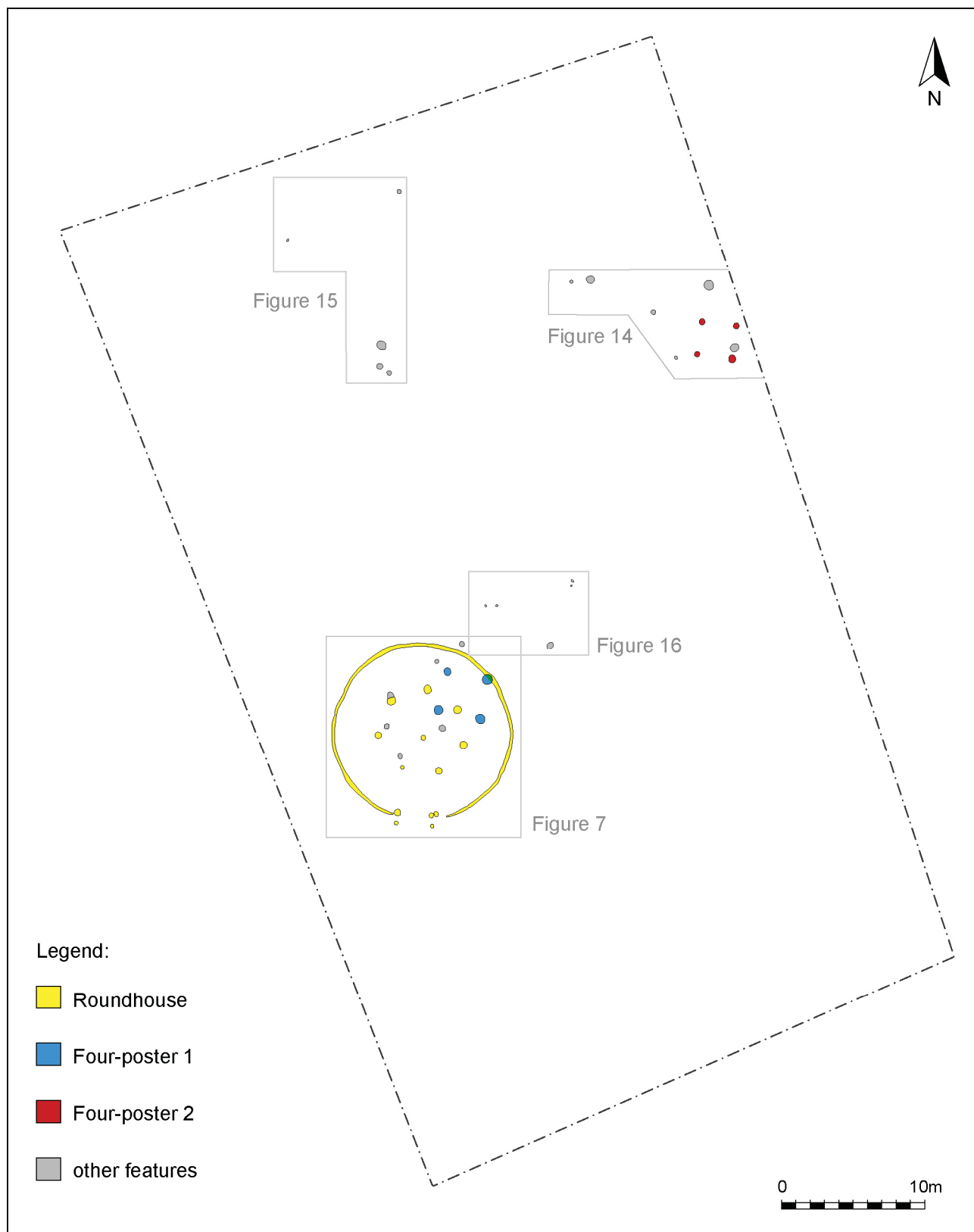


Figure 4: Plan of the excavated area with the location of features.

## 2.0 Results of the Archaeological Excavations

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Between 0.3m and 0.4m of topsoil was removed across the site to reveal a stony brownish-yellow clay-silt natural, with 45 archaeological features cut into it (Figure 4). Many of these features were shallow (under 0.3m), with the deepest being only 0.48m in depth. This, and the absence of any archaeological surfaces on the natural, indicates that the upper levels of the archaeology had been removed, most likely by ploughing (see Figure 5). All but one of the excavated features was circular or sub-circular, the largest being 0.7m in diameter. All of the features are illustrated here in plan/section (see Figures 4, 7-8, 14-16), but a number of the scattered postholes that were investigated are not described in great detail below due to the limited conclusions that can be drawn from these features. Further information can be found in the list of contexts (see Appendix 3).

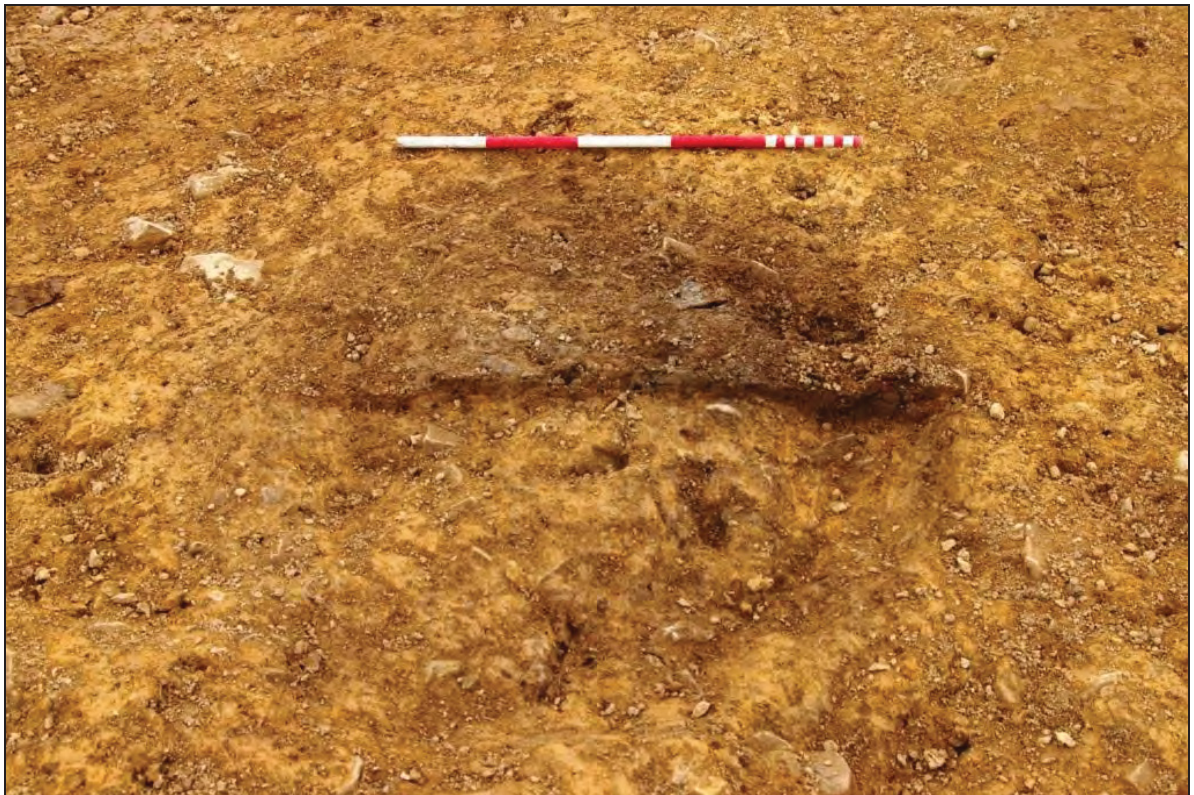


Figure 5: Feature [101] half-sectioned showing the shallow and truncated nature of many of the features, viewed from the south (0.5m scale).



## 2.1 The Roundhouse (Figures 6-13)

### 2.1.1 Penannular gully – Feature [133] (Figures 6, 7 & 9-11)

Feature [133] was a steep-sided penannular gully approximately 0.2m-0.25m wide and 0.15m-0.2m deep that formed a ring with an internal diameter of 12.25m. A series of postholes lay within or just outside this feature (see Figure 7 & Figure 9). The gully was steep-sided with a flat or slightly concave base and contained two fills, a lower stony silt-clay (192) and an upper soft, mid greyish-brown clay-silt (134). Although the base of the feature was for the most part flat, excavation revealed several shallow depressions 0.03m-0.09m deep (Figure 11). Some of these depressions were rounded in shape and 0.15m-0.2m in diameter, but others were clearly sub-rectangular, measuring 0.25m by 0.05m. These depressions did not contain separate fills.

The lower fill of this feature (192) produced a single sherd of pottery. This was much abraded and could not be identified beyond being from the second half of the first millennium BC; it was also of a different fabric from the rest of the assemblage (see Appendix 4). Given the very abraded nature of this sole find from the ditch it is likely to have been residual and provides an indication (alongside the structural evidence) for the existence of several phases of Iron Age occupation having occurred at the site, both before and after the use-life of the roundhouse.

In the south-south west portion of [133] there was a gap 3.6m wide. The gully became narrower and shallower as it approached this gap, which is likely to have formed the entrance into the roundhouse.



Figure 6: The penannular gully [133], and posthole [131] half sectioned, viewed from the south (0.5m scale).

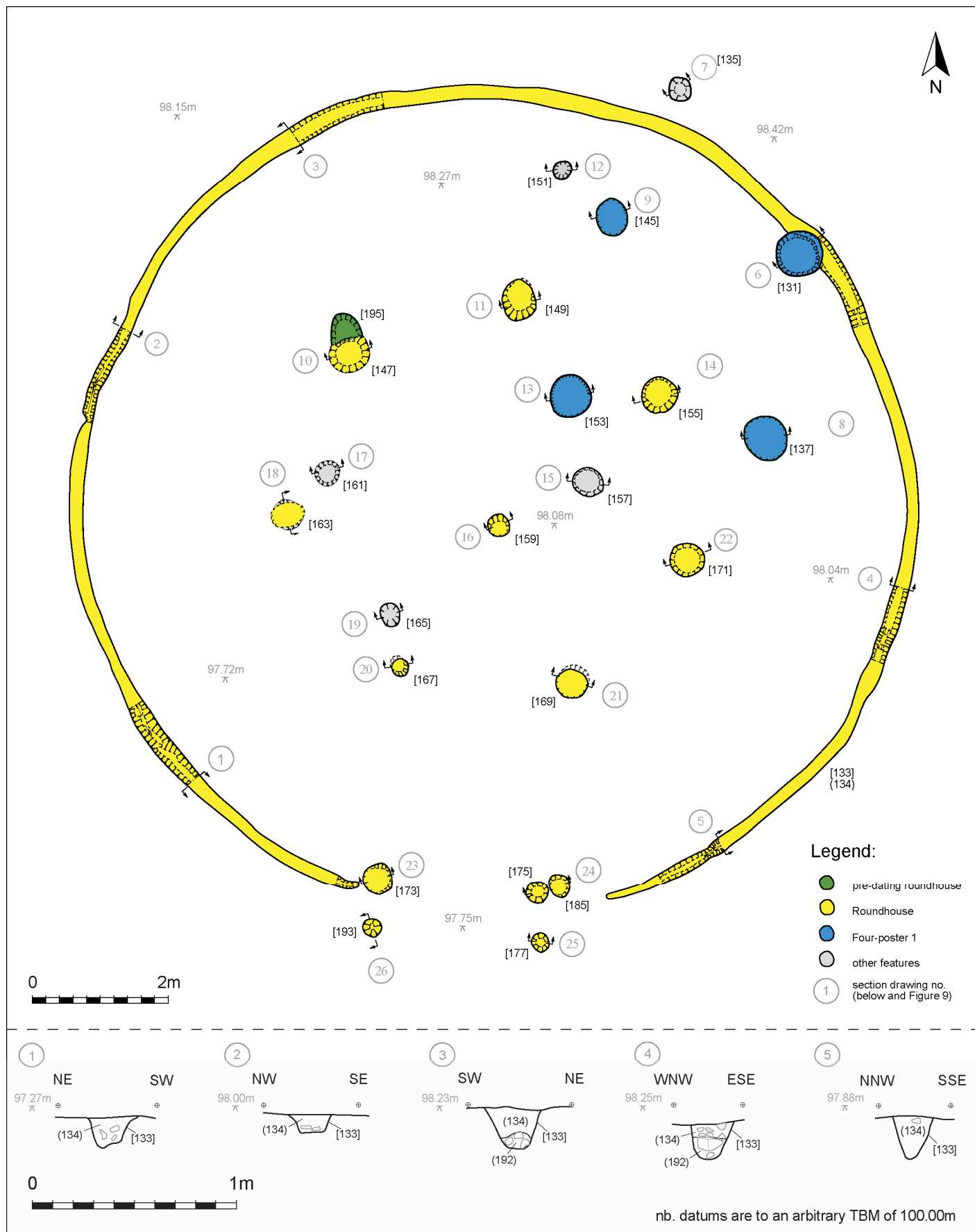


Figure 7: The roundhouse, with plan and sections of [133] (see Figure 8 for other section drawings) (plan at 1:75).

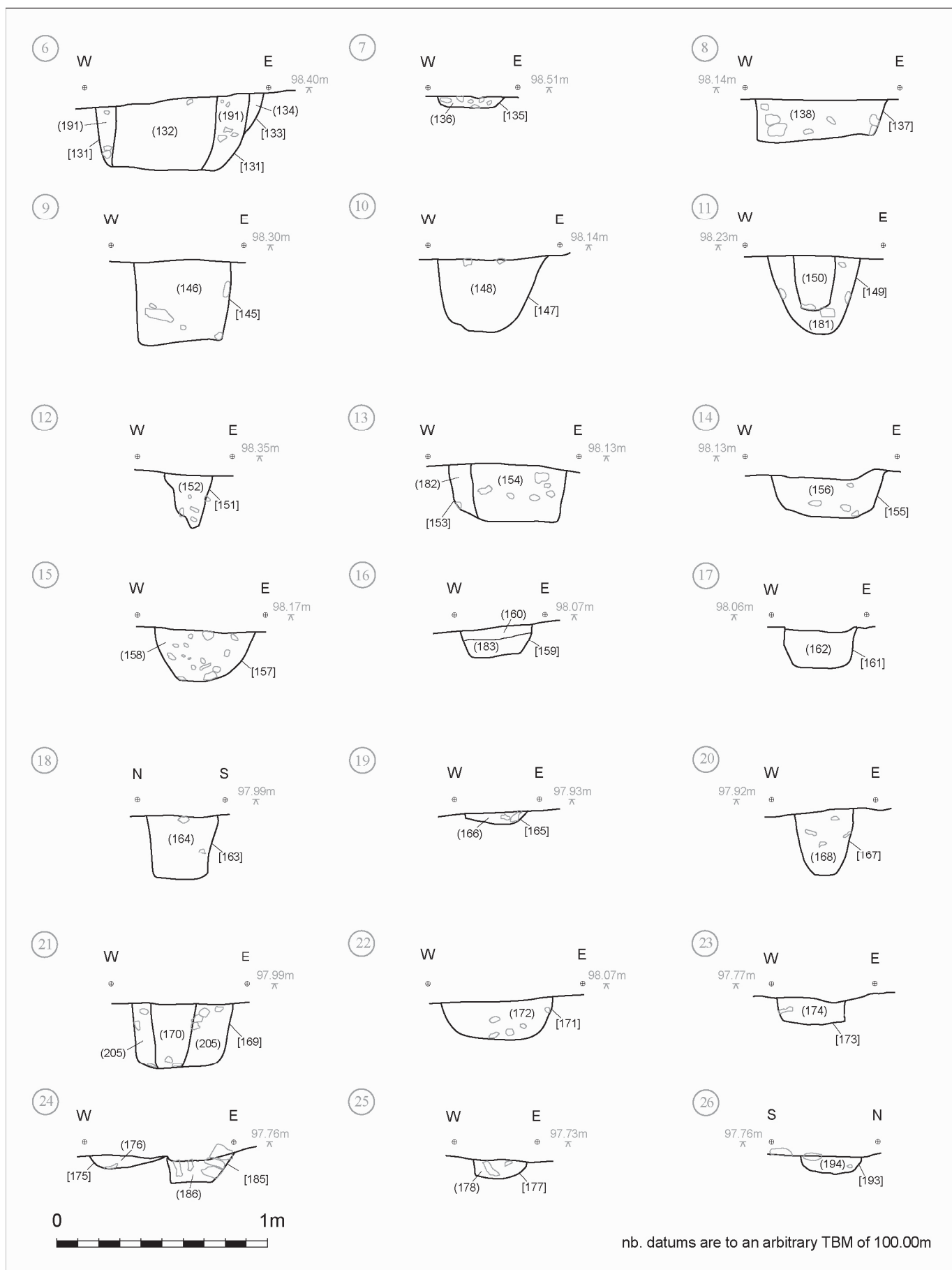


Figure 8: Section drawings of features associated with the roundhouse, excluding [133] (see Figure 7).



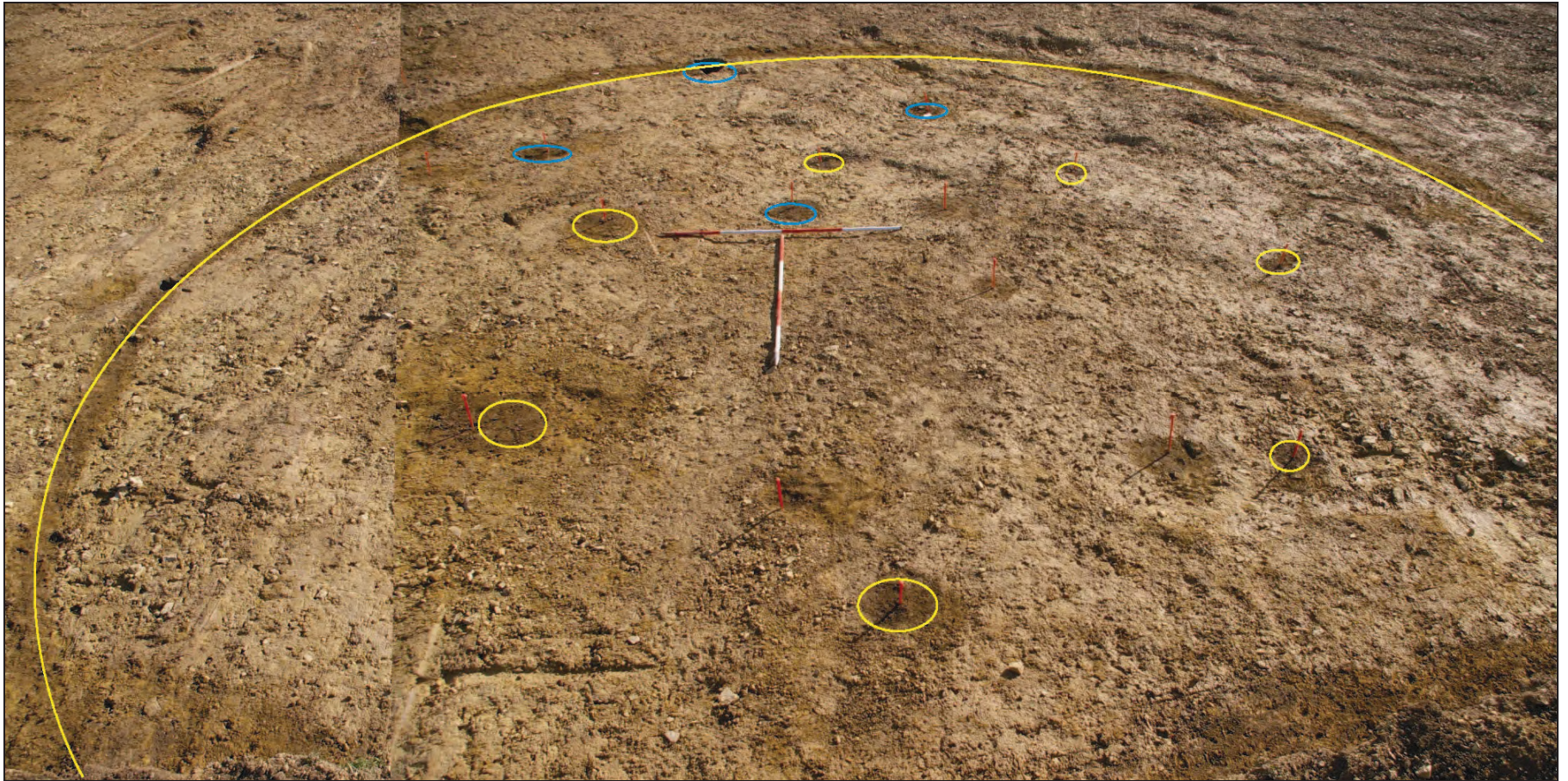


Figure 9: Composite image of the roundhouse pre-excavation, showing the inner ring of postholes and penannular gully (in yellow) and the four-poster (in blue), viewed from the west (2m scale).





Figure 10: The penannular gully [133] (north), post-excavation, showing the stony lower fill (191), viewed from east-north east (0.5m scale).

#### 2.1.2 Roundhouse porch – Features [173], [175], [177], [185] and [193] (Figure 7 & 8)

These five circular postholes (features [173], [175], [177], [185] and [193]) form a rectangle 3×1m within the gap in the gully [133], almost certainly representing the posts of a porch for the roundhouse. One of these features [175] appears to have been a replacement or reinforcement for the post in the north-east corner of the porch [185], as it is located immediately adjacent to it. The other inner posthole [173], located on the north-western corner of the rectangle, may also have been reinforced or replaced at some time, as it is considerably larger in diameter than any of the other postholes found in the porch and contained a much higher proportion of packing stones in its fill (174).



Figure 11: The roundhouse penannular ditch [133] (west) post-excavation, showing possible plank slots, viewed from the west (0.5m scale).

### 2.1.3 Roundhouse posthole ring – Features [147], [149], [155], [163], [167], [169] and [171] (Figures 6-8, 12-13)

In the centre of the roundhouse were seven postholes forming a ring 6m in diameter. With the exception of [167], these postholes measured from 0.45m to 0.6m in diameter, and were 0.3m-0.37m deep, though postholes [155] and [171] were 0.18m and 0.17m deep respectively. Postholes [149], [163], [167] and [169] all had one or more sides that were undercut by up to 0.08m. The largest undercuts were found in those postholes that were located closest to the porch (features [167] and [169] see Figure 13), with the undercuts on the opposite side of each feature to the porch itself.

The fills of the seven postholes did not contain packing stones. The fills of [147], [149], [155], [169] and [172] did, however, contain patches of firm yellow silt-clay similar to the natural, which had most likely been redeposited as post-packing. With the exception of postholes [149] and [169], most of these features lacked post-pipes, and given the mixed and mottled character of their fills and the undercuts noted above, may suggest that the original posts had been removed rather than being left to decay *in situ*. The post-pipes of postholes [149] and [169] measured 0.19m and 0.2m in diameter respectively and had slightly tapering sides.

The fill (148) of posthole [147] contained two sherds of South Western Decorated Ware, one of which was a rim (Figure 17, P1). This posthole cut a small sub-circular pit [195] which contained a dark-brown clay-silt fill (196) only 0.1m deep that also contained two sherds of South Western Decorated Ware.





Figure 12: Posthole [155] (from roundhouse ring) half sectioned, viewed from the south (0.5m scale).

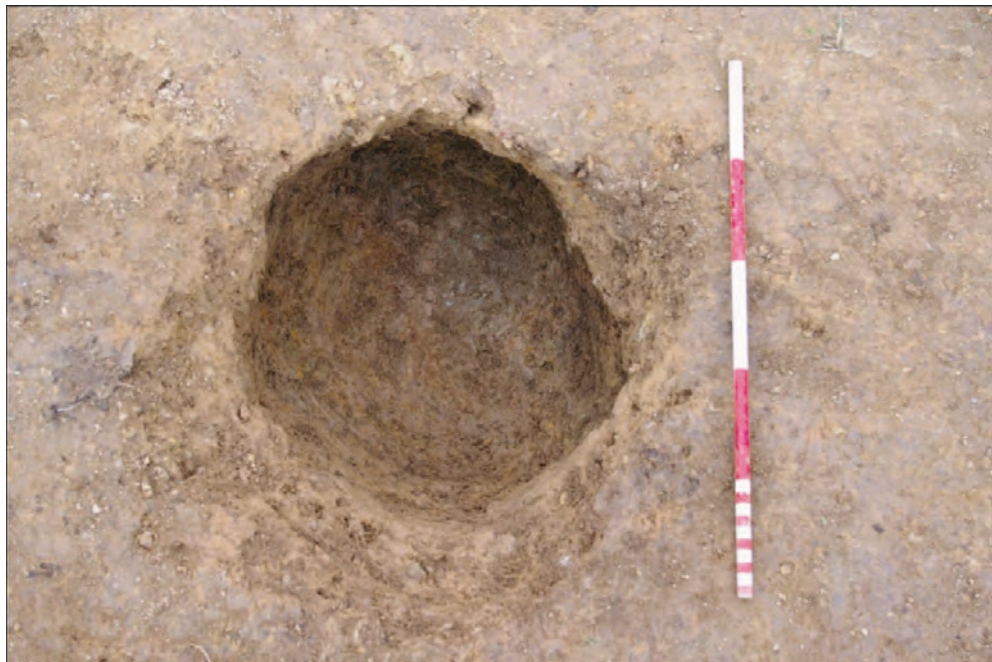


Figure 13 Posthole [169] (from roundhouse ring) fully excavated, viewed from the west. Note the undercut on the eastern side (0.5m scale).

#### 2.1.4 Other Postholes – Features [135], [151], [157], [159], [161], [165] and [195] (Figures 7-8)

These seven features were clustered in and around the northern half of the roundhouse. They were all circular or sub-circular in plan and measured between 0.27m-0.44m across and 0.05m-0.25m deep. The fill (158) of [157] contained one sherd of South Western Decorated Ware (Figure 17, P3), while the fill (196) of posthole [195] contained two further sherds of the same type.

No clear pattern or structure was discernable from the positions of these seven postholes, nor was there any indication that they were contemporaneous. But as [195] was cut by [147] – part of the inner ring of the roundhouse structure – it is clear that this feature (and possibly several of the others) pre-dated the roundhouse. Feature [159] was located within 0.35m of the centre of the roundhouse and possibly belonged to a central post (see 4.1 below). The other features may be contemporary; equally they may pre- or post-date the roundhouse structure.

### 2.2 Four-Poster 1 – Postholes [131], [137], [145] and [153] (Figures 7-9)

In the north-eastern quadrant of the roundhouse lay four circular or sub-circular postholes forming a square 3.3m across. These cuts were 0.57m-0.7m across and 0.2m-0.48m deep. The primary fills of all these features were mixed, containing 40-50% firm yellow silt-clay similar to the natural. The fill of [137] contained packing stones up to 0.1m across. The fill of [145] contained several stones 0.1m-0.15m across at the bottom of the cut, possibly forming a base for a post. [131] and [153] contained vertical circular post-pipes (154) and (132), of 0.44m and 0.47m in diameter respectively. These four postholes belonged to a square, timber-framed structure constructed from substantial posts of between 0.4m-0.5m in diameter.

Posthole [131] partially cut the roundhouse foundation gully [133], indicating that the square structure post-dated the use of the roundhouse (see Figure 9). The fill of [131] contained nine sherds of South Western Decorated Ware, including a rim and a body sherd with incised and stamped decoration (Figure 17, P2 and P4). The fill of posthole [137] contained two sherds of South Western Decorated Ware, while [145] contained a further sherd of the same style.

### 2.3 Four-Poster 2 – Postholes [115], [119], [121] and [125] (Figures 4 & 14)

A group of ten circular or sub-circular ?postholes were located close to the eastern edge of the excavation ([107], [109], [111], [113], [115], [117], [119], [121], [123] and [125]) which probably relate to features or structures that lie outside the limits of the excavated area. These features varied in diameter between 0.22m-0.7m and between 0.04m-0.28m in depth. The existence of such badly truncated features in this portion of the site strongly suggests that other, more ephemeral features and layers had been entirely removed by ploughing (see Figure 5).

Of this group, postholes [115], [119], [121] and [125] were similar in size and depth (0.22m-0.28m) and formed a small square 2.75m across. With the exception of [125], the fills of these postholes ((116), (120) and (122)) all contained small packing stones up to 0.15m-0.2m across. It is probable that these four postholes formed a single small, square, timber-framed building, but as another apparent posthole, feature [113], was located just to the north and east of feature [125], it is possible they formed only part of a rectangular structure that extended beyond the limit of excavation. Feature [113] was, however, wider and shallower than the others, and its fill did not contain any packing stones. The fill (114) of [113] did however produce the only find recovered from this group of features: a sherd from the body and base of an Iron Age vessel of a simple form that might belong to either the South Western Decorated Ware tradition or with subsequent forms linked to the Durotrigian tradition (see Appendix 4).



2.4 Area on the northwest of the site – Features [101], [103], [105], [197] and [199] (Figure 15)

A small group of features were recorded in the northwestern portion of the site, but no clear pattern or structure was discernable from the positions of these postholes/pits. Context descriptions can be found in Appendix 3.

2.5 Area northeast of the roundhouse – Features [127], [128], [129], [141] and [143] (Figure 16)

With the exception of [129], these features were circular or sub-circular cuts 0.12m-0.2m in diameter and 0.08m-0.15m deep that tapered to a blunt point. The size and shape of these features suggests the bases of truncated stake holes. They lay in two pairs, 5m apart, but no pattern or structure was apparent. Feature [129] was a sub-circular cut much disturbed by animal burrowing. No finds were recovered from any of these features. Context descriptions can be found in Appendix 3.

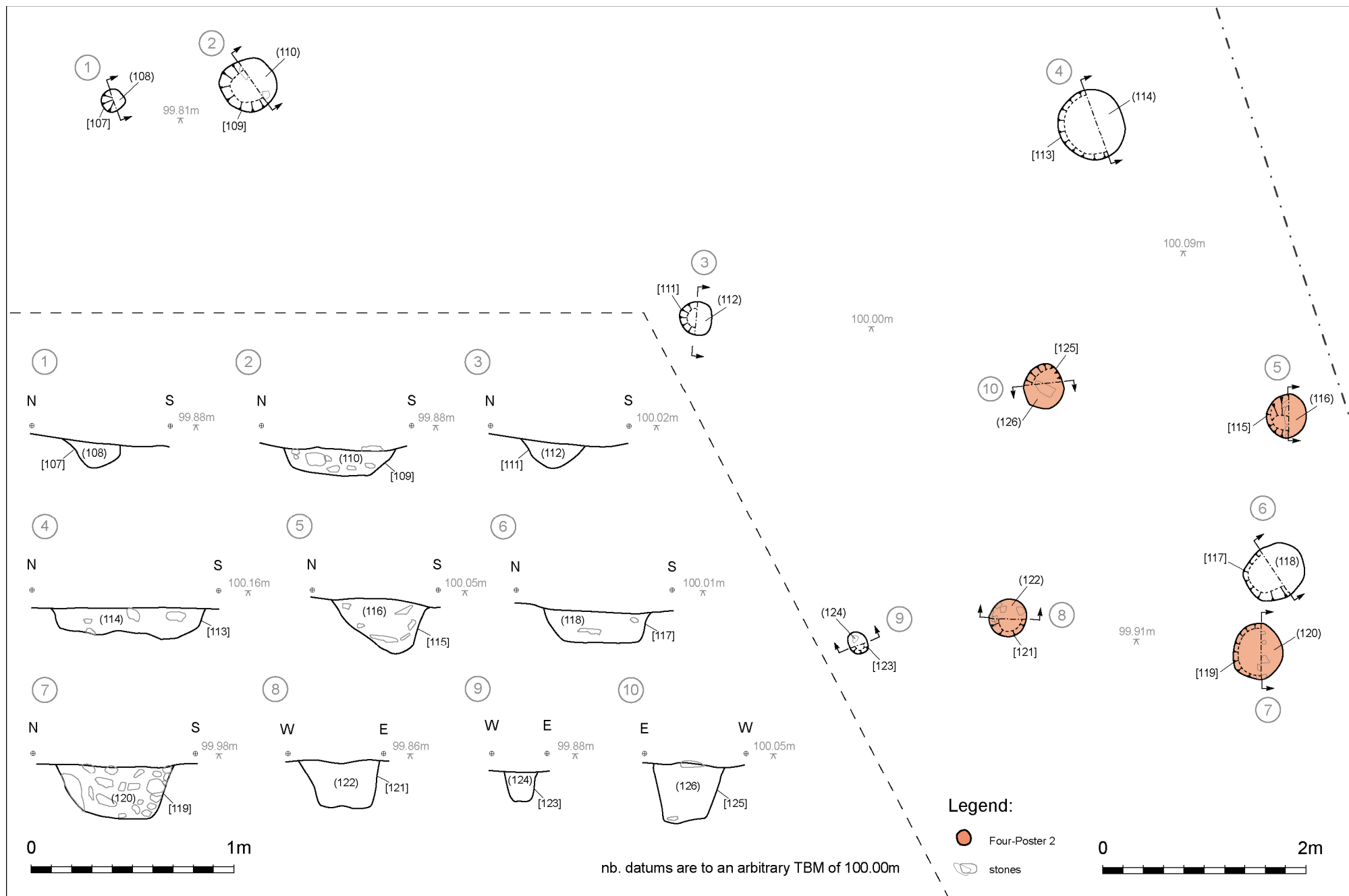


Figure 14: Features in the north east of the site: plan and section drawings.

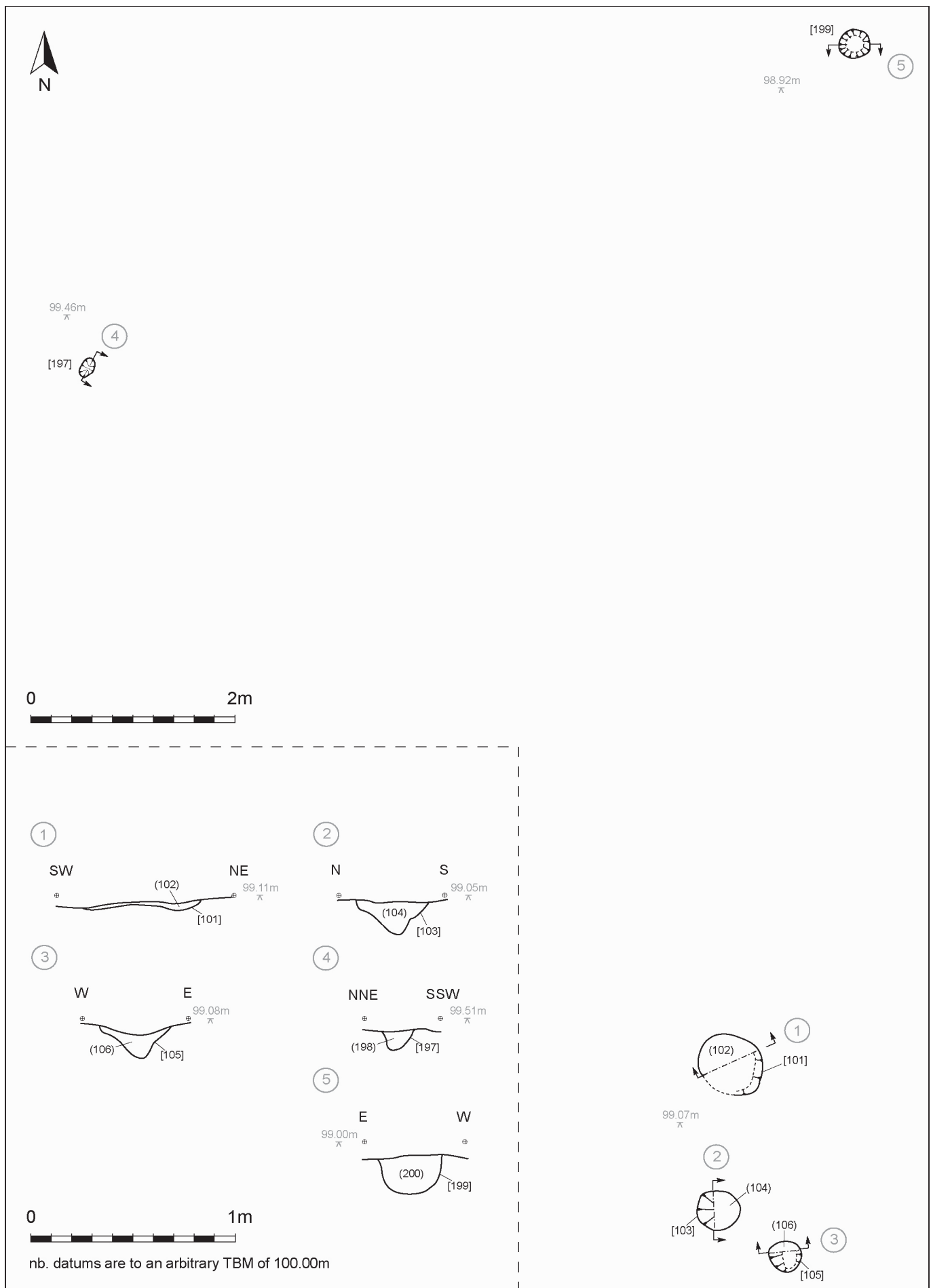


Figure 15: Features in the north west of the site: plan and section drawings.

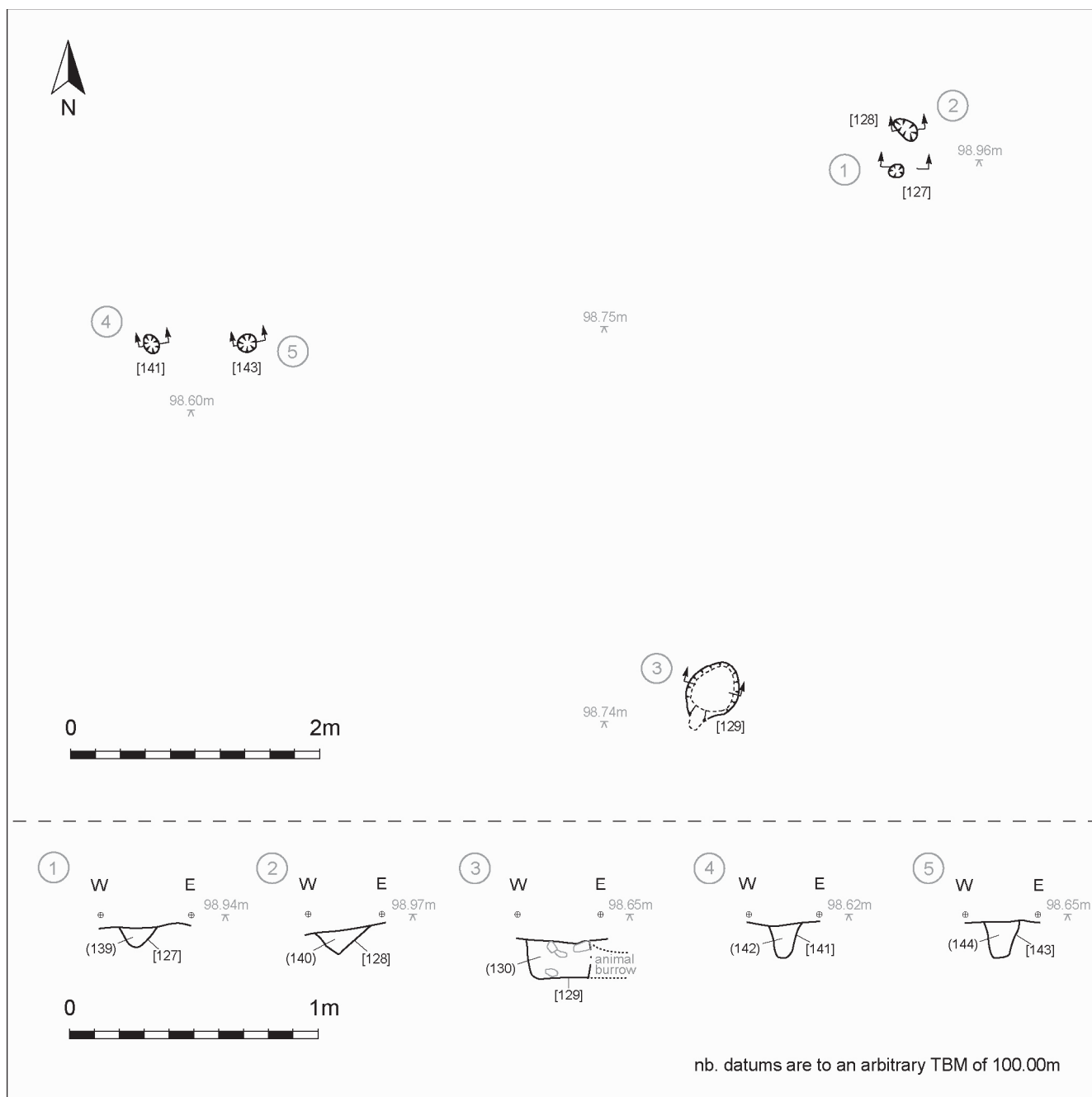


Figure 16: Features in the centre of the site: plan and section drawings.



### 3.0 Phasing & Dating

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The features excavated at Middle Burrow Farm demonstrate the site was occupied in the Iron Age and although all but one of the features were discrete postholes or small pits, it is possible to infer at least three distinct phases:

#### Phase 1

Shallow pit [195] comes from a period of activity that pre-dates the roundhouse as it is cut by [147], one of the inner ring of postholes.

#### Phase 2

The roundhouse itself, with its foundation gully [133], porch and internal ring of postholes.

#### Phase 3

A square four-poster structure that post-dates the roundhouse. Its eastern post [131] cut the roundhouse foundation trench [133]. A similar four-poster structure lay 26m to the north-east but it has no stratigraphic relationship to the roundhouse.

There is no direct dating evidence for the first phase, but the roundhouse foundation gully [133] contained a single sherd of pottery of a different fabric to all the other pottery encountered on site, although given the level of abrasion it could be residual (Appendix 4). In addition, the charcoal found in the fills of this gully gave radiocarbon dates of 389-349 cal BC (30.6%) and 311-209 cal BC (64.8%) (OxA-20379; Appendix 7). These dates are 100-200 years earlier than the dates for the other elements of the roundhouse and thus presumably are also derived from residual material. Therefore it seems likely that the earlier phase of activity on the site of the roundhouse can be dated to *c.*400-200 BC.

Analysis of the charcoal from the roundhouse porch and inner ring gave dates of 196-53 cal BC (95.4%) (OxA-20378) and 191-51 cal BC (95.4%) (OxA-20377) respectively. The coincidence of these dates reinforces their reliability, and dates the second phase to *c.*200-50 BC, the middle to late Iron Age.

The third distinct phase of activity – the four-poster – gave a very similar carbon-14 date to the roundhouse itself: 204-52 cal BC (94.7%) (OxA-20376). This would suggest that these phases were relatively short and followed on from one another in quick succession. The ceramic material from the second and third phases accord with this close radiocarbon dating as all of the sherds belong to the South Western Decorated Ware tradition.

The second four-poster on the site did not produce any ceramic evidence or charcoal suitable for dating. It is not, therefore, possible to determine a temporal relationship with the other features on site. The adjacent posthole or small pit [113] produced a carbon-14 date of 92-69 cal BC (5.3%) and 61 cal BC to 53 cal AD (90.1%) (OxA-20380). It also contained a sherd of pottery of a form which may be South Western Decorated Ware or may be related to a subsequent form connected to the Durotrigian tradition (see Appendix 4). This evidence would therefore, indicate continued activity in and around the site in the latter part of the Iron Age, post-dating the construction and occupation of the roundhouse.

## 4.0 Discussion

### 4.1 Structural

While examples of Bronze Age structures are relatively common, particularly on Dartmoor and, to a lesser extent, Exmoor, there are precious few excavated examples of Iron Age date from Devon (Webster 2007, 130). In the mid-1980s excavations were conducted in a roundhouse at Gold Park, Dartmoor (Gibson 1992, 24-27). Penannular gullies and/or post-rings have been excavated in east Devon at Blackhorse, Langland Lane, Long Range (Fitzpatrick *et al.* 1999, 130-93), Willand Road, Cullompton (Hood 2007) and Twinyeo Farm, Kingsteignton (Hughes 2008). Penannular gullies have also been recorded at two sites in or near Exeter at Clyst Heath (Best 2009) and Southernhay (Stead 2004) and at Mount Folly, Bigbury (Wilkes 2006a; 2006b; 2007; 2008). A possible example has also recently been excavated at Holworthy Farm, Parracombe, although much of the structural remains on this site seem to be Bronze Age in date (Green 2009).

With an internal diameter of 12.25m (area of 118m<sup>2</sup>) the roundhouse at Middle Burrow is at the larger end of the scale for such structures, although examples of up to 15m have been excavated (e.g. Moore 2006, Figure. 5.13). A comprehensive survey of excavated roundhouses in Wales showed that a diameter of just over 8m was the average (Johnston *et al.* 2007, 3.3, Figure 17), while roundhouses in the South West average c.6-8m in diameter (Webster 2007, 138). However, compared to other excavated unenclosed examples in Devon the Middle Burrow roundhouse is of a comparable size to the diameters of Long Range (13m), Langland Lane (12.5m), Blackhorse (10.7m and 9.8m) (Fitzpatrick *et al.* 1999), and Willand Road (14.5m) (Hood 2007), all in East Devon, and Clyst Heath (10m) (Best 2009) in Exeter.

| Settlement type | Site                 | No. houses | Internal diameter | Entrance Orientation | Reference                     |
|-----------------|----------------------|------------|-------------------|----------------------|-------------------------------|
| Unenclosed      | Willand Road         | 3          | 14.5m             | Et?                  | Hood 2007                     |
|                 | Long Range           | 3          | 13-13.5m          | ESE                  | Fitzpatrick <i>et al</i> 1999 |
|                 | Langland Lane        | 1          | 12.5m             | SE                   | Fitzpatrick <i>et al</i> 1999 |
|                 | <b>Middle Burrow</b> | <b>1</b>   | <b>12.25m</b>     | <b>SSW</b>           |                               |
|                 | Blackhorse           | 2          | 9.8-10.7m         | ESE                  | Fitzpatrick <i>et al</i> 1999 |
|                 | Twinyeo              | 2          | 9.5m              | ?                    | Hughes 2008                   |
|                 | Goldpark             | 1          | 8.5m              | E                    | Gibson 1992                   |
|                 | Clyst Heath          | 6          | 10m               | ?                    | Best 2009                     |
| Hillfort        | Raddon Hill          | 1+         | 8-9m?             | ?                    | Gent & Quinnell 1999          |
|                 | Berry Ball           | 9          | 8-9m              | ?                    | Manning & Quinnell 2009       |
|                 | Berry Down           | 1          | 9.5m              | SE                   | Gallant & Silvester 1985      |
| Enclosed        | Blackhorse           | 1          | 16m               | E                    | Fitzpatrick <i>et al</i> 1999 |
|                 | Southernhay          | 1          | 6m                | ?                    | Stead 2004                    |

Table 1: Details of the excavated middle to late Iron Age houses in Devon.

The outer wall of the roundhouse excavated at Middle Burrow Farm sat within a foundation trench [133]. Recent studies demonstrate that this is the case with the majority of roundhouses, particularly during the middle to late Iron Age (as opposed to posts with wattle-and-daub panels or stone walling) and it is thought that the walls set in such trenches would be composed of split timbers (Pope 2008, 17; Moore 2006, 101). As noted (above), the base of [133] had both round and rectilinear depressions set within it. The former may be the points where the bases of posts rested, whilst the latter are interpreted as slots for planks (these measured 0.15m-0.2m by 0.05m). Two of these possible plank slots overlapped each other clinker fashion, but an adjacent slot did not, the impression being that these vertical planks were arranged in a somewhat irregular fashion and that resulting gaps would have been subsequently sealed, probably with

daub. A similar pattern of penannular gully with post-depressions, but also with packing stones *in situ*, was excavated at Gold Park, Dartmoor (Structure 1; Gibson 1992, 36-9 and Figure 11). It is interesting to note that despite this apparent structural evidence for posts/vertical planks, at Middle Burrow Farm none of these slight features contained separate fills, and no post-pipes or packing stones were observed. This would imply that the wall may have been dismantled rather than being allowed to decay *in situ*, a suggestion supported by the (apparently) short period of time the roundhouse had been out of use prior to the construction of the four-poster structure over part of its footprint.

The penannular gully grows shallower and narrower either side of the gap for the porch, possibly indicating that the wall became less substantial at this point, but it may simply reflect differential truncation across the site. It is also possible that the inner posts of the porch may have supported the roof at this point and that there was less need for a substantial wall adjacent to these supporting timbers.

Studies of large numbers of roundhouses have shown that most porches face the quadrant between north east and south east, taking maximum advantage of available sunlight while providing shelter from prevailing westerly winds (e.g. Moore 2006; Pope 2008, 19-20). Studies of roundhouses in Wales and the Gloucestershire region have demonstrated that few share the south-south west facing orientation of Middle Burrow (Johnston *et al.* 2007, 3.3 Figure. 20; Moore 2006), although the orientation of those recorded in the Severn-Cotswolds region reminds us roundhouses facing south west can and do occur (Moore 2006: Figure 5.16). Amongst the excavated middle/late Iron Age settlements in Devon this southwestern orientation appears unique, with eastern or south eastern orientations being more common (see Table 1).

The porch of the Middle Burrow roundhouse would have allowed natural light into the structure from midday through into the afternoon, but would have been less sheltered from the prevailing westerly winds. It would, however, have allowed for a clear view of Yes Tor and High Willhays, two prominent high points on Dartmoor located some 20 miles away. This may be coincidental, but there might also have been an aesthetic or religious/cultural motivation for selecting this prospect. Unfortunately, the modern farm buildings to the south have obscured the original vista, which was inferred by looking along the same line-of-sight from further up the slope.

As noted above, some of the postholes of the inner ring were undercut in places. This may be the product of rocking the posts to remove them, or perhaps overzealous cutting of the holes for vertical posts. The most pronounced undercuts were on the two postholes nearest the porch on the inner side of the roundhouse. It is possible that these posts were angled towards the porch and formed part of a structure connected to it, but there would have been a substantial risk to the whole structure if supporting posts are set at an angle rather than vertical. These posts would have to support a roof that, taking into account timbers and thatch, could weigh in excess of 20 tons (Reynolds 1993, 6-7 and 10-11).

Experimental reconstructions have shown that a central post, as occurs at Middle Burrow [159], can be very useful when positioning rafters during construction (Reynolds 1993, 12). Furthermore, the post would not need to be maintained once the roof is complete. Due to truncation at Middle Burrow, there are no remains of internal features such as a hearth or any sort of flooring.

Taken as a whole, the structural evidence for the roundhouse would suggest it had been dismantled rather than destroyed or allowed to decay *in situ*. The general absence of post-pipes from the inner ring of postholes and the penannular gully, and the possible rocking-caused undercuts, all imply the posts/upright planks had been removed.

Set within its wider context, the Middle Burrow roundhouse shares a number of structural characteristics common to other excavated examples in Devon, but also differs in one significant

way. While other excavated examples possess a penannular (foundation) gully, a porch, or an internal ring of postholes, or a combination of any two of these, none of the other Devon examples possess all three. While it is possible that, as one of the larger examples in the region, each of these elements were essential in maintaining structural integrity, but equally large or larger examples make do without. It is probable that this in part reflects no more than differential truncation, but it is possible that this hints at differing sub-regional building traditions.

The four-poster structures at Middle Burrow are similar to examples commonly encountered on Iron Age sites (e.g. Structure 270 at the Long Range site, Groups 89 and 127 at Blackhorse: Fitzpatrick *et al.* 1993, 145, 166-8). They are usually small buildings (2-4m across in most examples) with substantial postholes implying that they carried a considerable load, and are traditionally interpreted as raised granaries. The four-poster in the roundhouse had postholes that were 0.44m and 0.47m in diameter, though the arrangement of packing stones in the postholes would suggest timbers 0.25-0.35m in diameter. No clear post-pipes survived for the four-poster in the north-eastern corner of the site. An alternative explanation offered for four-posters is that they were watchtowers, but due to rising ground to the north-east this seems less likely at East Worlington. If we pursue a ritualised interpretation of the landscape one could suggest excarnation platforms (Carr & Knusel 1997; Redfern 2008; Webster 2008, 142-3).

## 4.2 Settlement, Landscape and Environment

The excavations at Middle Burrow Farm uncovered the remains of one roundhouse, two four-posters and numerous other, potentially contemporary, postholes. Given the apparent absence of any enclosure ditch, it is probable that this represents only part of a more extensive open settlement composed of houses and ancillary buildings set within their fields. More extensively excavated open settlements at Threemilestone near Truro (Gossip 2005; 2006) and at Long Range (Fitzpatrick *et al.* 1993) are useful comparanda in this respect.

The evidence of the charcoal recovered from the site (Appendix 5) demonstrates the use of wood for fuel from oak/hazel woodland, heathland (gorse/broom) and damp, probably riverside woodland (willow and alder). Carbonised plant macrofossils were sparse on the site (Appendix 6) but indicated the presence of coarse grassland nearby, possibly from the use of turfs for fuel. Hazelnuts were also present and were probably a food resource, although again hazel may have been utilised as a fuel. The only evidence for arable agriculture lies in the assumption that the four-posters represent granaries. The evidence is suggestive of a diverse, largely pastoral landscape, the various differing elements of which were exploited by its Iron Age inhabitants.

As noted in Section 3 (above), the Middle Burrow site is adjacent to a Bronze Age barrow cemetery. Four barrows lie in a rough east-to-west line about 150m to the north of the roundhouse, and three more are sited 300-450m away to the west-south-west. All but one of these barrows survive as standing monuments, the largest being c.1.4m high. It can be assumed that prior to more recent plough-damage they were even more prominent in the Iron Age landscape and that they formed, in some way, a significant part of the everyday life and experience of the inhabitants of the roundhouse. While it is assumed that the roundhouse was a domestic structure – as implied by the presence of the four-posters if it is correct to regard them as raised granaries – it is possible that, given the proximity of the barrow cemetery, the structure could be interpreted in a wholly ritual fashion.



## 5.0 Conclusions

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Iron Age activity in the vicinity of Middle Burrow Farm stretches from *c.*400BC to *c.*50AD. Sometime around *c.*200-50BC a substantial roundhouse was constructed that survived long enough for its porch to require repair, and the excavated evidence suggests this structure was dismantled rather than destroyed/decayed *in situ*. While neither floors nor hearths survived, the roundhouse possessed the full structural complement of penannular gully with post-ring and porch, the only example thus far excavated in Devon, and one that perhaps hints at differing sub-regional structural traditions.

A four-poster structure was subsequently built on the site of the roundhouse, and with the single exception of another four-poster on the north-eastern edge of the site, the scattered post- and stake-holes uncovered indicate activity but do not form clear structures. The construction of a four-poster building after the roundhouse fell into disuse/was dismantled strongly suggests that the site continued to be inhabited, and it seems likely the excavated area forms only part of a more extensive unenclosed settlement, perhaps similar to that recently excavated near Truro (Gossip 2005; 2006).

Given the proximity of the settlement to the Bronze Age barrows to the north, and the view from the roundhouse doorway to Dartmoor, it is highly likely this location was selected as much for ritual or cultural reasons as it was for agricultural or demographic ones.

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## Appendix 1:

### BRIEF FOR ARCHAEOLOGICAL EVALUATION

**Location:** Middle Burrow Farm, East Worlington, EX17 4SS  
**Parish:** East Worlington  
**District:** North Devon  
**County:** Devon  
**NGR:** 277207.117534  
**Planning Application no:** 45955  
**Proposal:** erection of agricultural building to provide dairy housing, milking & equipment storage

**Historic Environment Service ref:** Arch/dc/nd/12937

#### 1. INTRODUCTION AND ARCHAEOLOGICAL BACKGROUND

1.1 This brief has been prepared by the Devon County Council Historic Environment Service (HES), at the request of Alister Smith, of Acorus Rural Property Services Ltd, with regard to the archaeological works required at the above site.

1.2 The proposed development lies in an area of high archaeological potential, demonstrated by the close proximity of a group of prehistoric burial mounds that are protected as Scheduled Monuments (ref: 30319). Given the high potential for survival and significance of below ground archaeological deposits associated with the known prehistoric funerary activity in this area and the absence of sufficient archaeological information on the possible impact of this development upon any surviving below ground archaeological deposits submitted in support of this application, the HES has advised that no decision should be made by the NDDC Planning Authority on this application until the applicant has submitted the results of archaeological evaluative investigations on the proposed development site in support of their application. This is in accordance with Policy ENV14 of the North Devon Local Plan and paragraphs 21 & 22 of PPG16 and will allow a sound decision on the application to be taken, informed by the results of such investigations.

1.3 The principal objective of the programme shall be to evaluate the survival of below-ground archaeological deposits across the proposed development site. The results will inform as to the nature, extent, and date of any surviving archaeological deposits within the application area. This information will also inform as to the significance of any surviving archaeological deposits and the requirement for any further investigations or alteration to the design of the proposed development to be undertaken as mitigation for the impact of the proposed development upon the archaeological resource. As such, these works may represent the *first stage* of a programme of archaeological mitigation.

1.4 This Brief covers the application area as defined in the plans submitted in support of this application.

#### 2. WRITTEN SCHEME OF INVESTIGATION

This document sets out the scope of the works required to determine the extent and character of any surviving archaeological deposits within the application area and will form the basis of the *Written Scheme of Investigation* to be prepared by the archaeological consultant and approved by the HES.

#### 3. CONTENT OF PROGRAMME

##### 3.1 Desk-based assessment

The programme of work shall include a desk-based *appraisal* of the site to place the development area into its historic and archaeological context. This work will consist only of map regression based on the Ordnance Survey maps and the Tithe Map(s) and Apportionments. The reporting requirements for the desk-based work will be confirmed in consultation with the HES.

##### 3.2 Evaluation of the site

A series of trenches will be excavated across the proposed development area. The location of these excavations will be determined in consideration of the results of the desk-based assessment, the below-ground impact of the proposed development and the site topography. These excavations should appropriately investigate the 'footprint' of the proposed development.

3.2.1 Details of the strategy for positioning trenches and their position must be agreed with the HES and set out in the Written Scheme of Investigation. The trenches should be excavated by a 360o tracked or JCB-type machine - fitted with a toothless grading bucket - to the surface of archaeological deposits or *in situ* natural ground - whichever is highest in the stratigraphic sequence. Excavation of exposed archaeological features shall be carried out by hand, stratigraphically, and fully recorded by context. All features shall be recorded in plan and section at a minimum scale of 1:20, larger where necessary.

##### 3.2.2 As a minimum:

- i) small discrete features will be fully excavated;
- ii) larger discrete features will be half-sectioned (50% excavated); and
- iii) long linear features will be sample excavated along their length - with investigative excavations distributed along the exposed length of any such feature.
- iv) one long face of each trench will be cleaned by hand to allow the site stratigraphy to be understood and for the identification of archaeological features.

Should the above % excavation not yield sufficient information to allow the form and function of archaeological features/deposits to be determined full excavation of such features/deposits will be required. Additional excavation may also be required for the taking of palaeoenvironmental samples and recovery of artefacts

Any variation of the above will be undertaken in agreement with the HES.

3.2.3 The full depth of archaeological deposits must be assessed. This need not require excavation to natural deposits if it is clear that complex and deep stratigraphy will be encountered.

3.2.4 Should deposits be exposed that contain palaeoenvironmental or datable elements appropriate sampling strategies should be initiated. The project will be organised so that specialist consultants who might be required to conserve or report on finds or advise or report on other aspects of the investigation (e.g. palaeoenvironmental analysis) can be called upon and undertake assessment and analysis of such deposits - if required.

3.2.5 The photographic record shall be made in B/W print supplemented by digital or colour transparency. If digital imagery is to be the sole photographic record then suitably archivable prints must be made of the digital images by a photographic laboratory. Laser or inkjet prints of digital images, while acceptable for inclusion in the report, are not an acceptable medium for archives. The drawn and written record will be on an appropriately archivable medium.

3.2.6 Human remains must initially be left in-situ, covered and protected. Removal can only take place under appropriate Ministry of Justice and environmental health regulations. Such removal must be in compliance with the relevant primary legislation.

3.2.7 Should gold or silver artefacts be exposed, these will be removed to a safe place and reported to the local coroner according to the procedures relating to the Treasure Act 1996. Where removal cannot be effected on the same working day as the discovery suitable security measures will be taken to protect the finds from theft.

#### **4. MONITORING**

4.1 The archaeological consultant shall agree monitoring arrangements with the County Historic Environment Service and give two weeks notice, unless a shorter period is agreed with the HES, of commencement of the fieldwork. Details will be agreed of any monitoring points where decisions on options within the programme are to be made.

4.2 Monitoring will continue until the deposition of the site archive and finds, and the satisfactory completion of an OASIS report - see 5.4 below.

#### **5. REPORTING**

5.1 A report shall be prepared collating the written, graphic, visible and recorded information outlined above. The report shall include plans and reports of all documentary and other research, and of the trenches, features, deposits and artefacts together with their interpretation. It is recommended that a draft report is submitted to the HES for comment prior to its formal submission.

The report shall summarise the archaeological potential of the site and the impact upon it of the proposed development. It should make suggestions as to the appropriate mitigation of the archaeological impact of the proposal, but these will be subject to review by the HES, who will make final recommendations to the Local Planning Authority.

5.2 The HES would normally expect to receive the report within three months of completion of fieldwork - dependant upon the provision of specialist reports, radiocarbon dating results etc the production of which may exceed this period. If a substantial delay is anticipated then an interim report will be produced. A copy of this brief shall be included in the report.

5.3 On completion of the report, in addition to copies required by the Client, hard copies of the report shall be supplied to the HES on the understanding that one of these copies will be deposited for public reference in the HER. In addition to the hard copies of the report, one copy shall be provided to the County Historic Environment Service in digital format - in a format to be agreed in advance with the HES - on the understanding that it may in future be made available to researchers via a web-based version of the Historic Environment Record.

5.4 The archaeological consultant shall complete an online OASIS (*Online AccesS to the Index of archaeological investigationS*) form in respect of the archaeological work. This will include a digital version of the report. **The report or short entry to the Historic Environment Record will also include the OASIS ID number.**

##### **5.5 Publication**

Should particularly significant remains, finds and/or deposits be encountered, then these, because of their importance, are likely to merit wider publication in line with government planning guidance. If such remains are encountered, the publication requirements – including any further analysis that may be necessary – will be confirmed with the HES. If further archaeological works are undertaken, then the results of these initial evaluative investigations will be incorporated into the publication text resulting from further works.

#### **6. FURTHER WORK**

In the light of the results of this archaeological evaluation it will be possible to identify what further work, (e.g. further evaluative work to clarify the site stratigraphy, area excavation, re-design/re-siting of the proposed development etc), if any, is needed as mitigation for the impact of the proposed development on the archaeological resource. Should the site be demonstrated to be archaeologically sterile then there would be no requirement for further archaeological works.

#### **7. PERSONNEL**

7.1 A professional archaeological consultant, to be agreed with the HES, shall carry out the programme of works. Staff must be suitably qualified and experienced for their project roles. All work should be carried out under the control of a Member of the Institute of Field Archaeologists (MIFA), or by a person of similar standing. The Written Scheme of Investigation will contain details of key project staff and specialists who may contribute during the course of the works - excavation and post-excavation.

7.2 Health and Safety matters, including site security, are matters for the consultant. However, adherence to all relevant regulations will be required.

7.3 The work shall be carried out in accordance with *IFA Standards and Guidance for Archaeological Field Evaluations (1994)*, as amended (1999).

#### **8. DEPOSITION OF ARCHIVE AND FINDS**

8.1 The archaeological consultant shall contact the museum that will receive the site archive to obtain an accession number and agree conditions for deposition. *The accession number will be quoted in the Written Scheme of Investigation.*

8.2 The artefact discard policy must be set out in the Written Scheme of Investigation.

8.3 Archaeological finds resulting from the investigation (which are the property of the landowner), should be deposited with the appropriate museum - in a format to be agreed with the museum, and within a timetable to be agreed with the HES. The museum's guidelines for the deposition of archives for long-term storage should be adhered to. If ownership of all or any of the finds is to remain with the landowner, provision and agreement must be made for the time-limited retention of the material and its full analysis and recording, by appropriate specialists.

#### **9. CONTACT NAME AND ADDRESS**

Stephen Reed, Archaeological Officer, Devon County Council, Environment, Economy and Culture

Directorate, Matford Offices, County Hall, Exeter EX2 4QW

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7th March 2008



## Appendix 2

### WRITTEN SCHEME OF INVESTIGATION FOR ARCHAEOLOGICAL EXCAVATION, MONITORING AND RECORDING AT MIDDLE BURROW FARM, EAST WORLINGTON, DEVON.

**Location:** Middle Burrow Farm, East Worlington, EX17 4SS  
**Parish:** East Worlington  
**District:** North Devon  
**County:** Devon  
**NGR:** 277207.117534  
**Planning Application no:** 45955  
**Proposal:** Erection of agricultural building to provide dairy housing, milking & equipment storage  
**Historic Environment Service ref:** Arch/dc/nd/12937

#### 1.0 INTRODUCTION

1.1 This document forms a Written Scheme of Investigation (WSI) and details the proposed scheme of archaeological work; to include desk-based appraisal and archaeological excavation and recording at Middle Burrow Farm, East Worlington, Devon. It has been drawn up by South West Archaeology (SWARCH) at the request of Chris Kneller (the Client) with regard to the archaeological works, associated with the construction of an agricultural building, required as a condition of planning consent for the above works at Middle Burrow Farm. The WSI and the schedule of work it proposes conforms to a brief as supplied by the Devon County Historic Environment Service (DCHES).

In accordance with PPG15 (1994) Planning and the Historic Environment, PPG16 (1990) Archaeology and Planning Policy and the Local Development Framework Policy on archaeology, consent has been granted, conditional upon a programme of archaeological work being undertaken.

This condition (number 6) requires that:

*'No development shall take place until the applicant has secured the implementation of a programme of archaeological work in accordance with a written scheme of investigation which has been submitted by the applicant and approved by the Planning Authority. The development shall be carried out at all times in strict accordance with the approved scheme, or such other details as may be subsequently agreed in writing by the Local Planning Authority.'*

1.2 The proposed stages of work consist of:

1.2.1 Desk-based archaeological appraisal.

1.2.2 Excavation, monitoring and recording.

1.2.3 Post-excavation work and reporting.

#### 2.0 ARCHAEOLOGICAL BACKGROUND

The proposed development lies in an area of high archaeological potential, demonstrated by the close proximity of a group of prehistoric burial mounds that are protected as Scheduled Monuments (ref: 30319). There is therefore high potential for survival of significant below ground archaeological deposits associated with the known prehistoric funerary activity in this area.

#### 3.0 AIMS

The main objectives of the programme of work are:

3.1 To investigate, excavate and record the below-ground archaeological deposits across the proposed development site area as defined (in red) in the attached plan (as submitted in support of the application)

3.2 Preservation by record of archaeological features within and affected by the proposed development area.

#### 4.0 METHOD

4.1 The Desk-Based Appraisal:

If archaeological deposits are revealed by the excavation desk-based work will be carried out. This may involve the examination of relevant cartographic, documentary and photographic sources held by the Devon Records office, West Country Studies Library and the County Historic Environment Service to place the site and any findings in context.

4.2 Archaeological Excavation:

The archaeological work will be carried out in accordance with the Institute of Field Archaeologists (IFA) *Standard and Guidance for an Archaeological Excavation (1995) and revised 2001* and the *Standard and Guidance for an Archaeological Watching Brief (1994 and revised 2001)*.

4.3 Health and Safety requirements will be observed at all times by any archaeological staff working on site.

4.3.1 Appropriate PPE will be employed at all times.

4.3.2 The site archaeologist will undertake any site safety induction course provided by the Client.

4.3.2 Should any excavations be deemed unstable, by virtue of depth or composition, these will be adequately shored, shuttered or stepped to allow safe access. The provision of such measures will be the responsibility of the client.

4.4 All topsoil, plough soil and modern overburden will be removed from the whole area of the proposed development (see attached plan) down to the first significant archaeological horizon or undisturbed subsoil using a 360° tracked or wheeled JCB-type machine with a toothless grading bucket, under strict archaeological supervision. If archaeological deposits are reached at a level above the intended formation or invert level, they will be excavated by the site archaeologist down to the latter, by hand.

4.4.1 In exceptional circumstances where materials of a particularly compact nature are encountered, these may be removed with a toothed bucket, subject to agreement with archaeological staff on site.

4.4.2 Spoil will be examined and any artefacts recovered.

4.4.3 should archaeological or palaeoenvironmental remains be exposed, machining will cease in that area to allow the site archaeologist to investigate, record and sample such deposits. The examination will be undertaken before the exposed level is affected by any further construction work and before plant and machinery is driven over it and sufficient time should be allowed in the construction programme to allow the site archaeologist to undertake these investigations. Any archaeological features discovered will then be cleaned, excavated by hand and recorded to IFA guidelines.

4.4.4 If complex or extraordinary archaeological deposits are exposed then the need for further mitigation will be agreed in consultation with the DCHES and the client.

- 4.4.5 Human remains must initially be left in-situ, covered and protected. Treatment of disarticulated human remains will follow guidance as set out in IFA technical paper 13 *Excavation and post-excavation treatment of cremated and inhumed human remains*. If any burials are encountered all work must stop immediately and will only proceed in consultation with DCHES.
- 4.4.6 Bulk samples will be obtained where appropriate. Any excavation and sampling will be completed in accordance with the Institute of Field Archaeologists (IFA) *Standard and Guidance for an Archaeological Excavation (1995 and revised 2001)* and the *Standard and Guidance for the collection, documentation, conservation and research of archaeological materials (2001)*.
- 4.4.7 Should gold or silver artefacts be exposed, these will be removed to a safe place and reported to the local coroner according to the procedures relating to the Treasure Act 1996. Where removal cannot be effected on the same working day as the discovery suitable security measures will be taken to protect the finds from theft.
- 4.5 SWARCH shall agree monitoring arrangements with the DCHES and give two weeks notice, unless a shorter period is agreed with DCHES, of commencement of the fieldwork. Details will be agreed of any monitoring points where decisions on options within the programme are to be made. Monitoring will continue until the deposition of the site archive and finds.
- 5.0 ARCHAEOLOGICAL RECORDING**
- All features identified will be recorded. At this stage archaeological recording will be based on IFA guidelines and those advised by DCHES and will consist of:
- 5.1 Standardised single context recording sheets, survey drawings in plan, section and profile at 1:10, 1:20, 1: 50 and 1:100 as appropriate and digital photography.
- 5.2 Survey and location of features.
- 5.3 Labelling and bagging of finds on site, post-1800 unstratified pottery may be discarded on site after a representative sample has been retained.
- 5.4 Should suitable deposits be exposed then consideration should be made for scientific assessment/analysis/dating techniques that could be applied to further understand their nature/date and to establish appropriate sampling procedures. The project will be organised so that specialist consultants who might be required to conserve or report on other aspects of the investigations can be called upon.
- 5.5 If archaeological features are exposed, then as a minimum:
- 5.5.1 Small discrete features will be fully excavated.
- 5.5.2 Larger discrete features will be half-sectioned (50% excavated).
- 5.5.3 Long linear features will be excavated to sample 20% of their length - with investigative excavations distributed along the exposed length of any such feature.
- Should the above % excavation not yield sufficient information to allow the form and function of archaeological features/deposits to be determined full excavation of such features/deposits will be required. Additional excavation may also be required for the taking of palaeoenvironmental samples and recovery of artefacts.
- 6.0 ARCHIVE AND REPORT**
- 6.1 An ordered and integrated site archive will be prepared in accordance with *The Management of Archaeological Projects* (English Heritage, 1991 2nd edition) upon completion of the entire project. The archive will be produced to the relevant archive standards. This will include the photographic record. If digital imagery is to be the sole photographic record the archive medium required will be agreed with the museum; if prints are required then these will be made of the digital images by a photographic laboratory. The drawn and written record will be on an appropriately archivable medium. The archive and finds will be deposited with the Museum of Barnstaple and North Devon under accession number 2008.16. Conditions for the deposition of the archive will be agreed with the Museum.
- 6.2 Archaeological finds resulting from the investigation (which are the property of the landowner), will also be deposited with the above museum in a format to be agreed with the museum, and within a timetable to be agreed with the HES. The museum's guidelines for the deposition of archives for long-term storage will be adhered to and any sampling procedures will be carried out prior to deposition and in consultation with the museum. If ownership of all or any of the finds is to remain with the landowner, provision and agreement must be made for the time-limited retention of the material and its full analysis and recording, by appropriate specialists.
- 6.3 An illustrated summary report will be produced as soon as possible following completion of fieldwork, and submitted to Devon County Historic Environment Service and the Client.
- 6.4 The report will include the following elements:
- 6.4.1 A report version number;
- 6.4.2 A location plan and overall site plan showing the distribution of existing groundworks and any archaeological features;
- 6.4.3 Plans and sections of exposed features or deposits at a relevant scale;
- 6.4.4 A description of any remains and deposits identified including an interpretation of their character and significance;
- 6.4.5 Any specialist reports commissioned;
- 6.4.6 The Desk based assessment aspect will include the reproduction of relevant historic maps/plans etc. and historic or current photographs where appropriate. And give an assessment of the context and development of the site.
- 6.5 DCHES will receive the report within three months of completion of fieldwork, dependant on the provision of specialist reports, radiocarbon dating results etc, the production of which may exceed this period. If a substantial delay is anticipated then an interim report will be produced. The report will be supplied to the HES on the understanding that one of these copies will be deposited for public reference in the HER. In addition to the hard copies of the report, one copy will be provided to the HES in digital format, in a format to be agreed in advance with the HES, on the understanding that it may in future be made available to researchers via a web-based version of the HER.
- 6.6 Should they merit it; the results of these investigations will be published in an appropriate academic journal. If required, after the production of a summary report, a programme and timetable for this will be submitted to Devon County Historic Environment Service and the Client for approval.
- 6.7 A copy of the report detailing the results of these investigations will be submitted to the OASIS (*Online AccesS to the Index of archaeological Investigations*) database under OASIS no. southwes1-39274.
- 7.0 PERSONNEL**
- The project will be managed by Colin Humphreys. Relevant staff of the DCHES will be consulted as appropriate. Where necessary appropriate specialist advice will be sought, (see list of consultant specialists in Appendix 1 below).
- Deb Laing-Trengove

South West Archaeology  
The Thornes, Kentisbury, Barnstaple, N. Devon. EX31 4NQ  
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## **Appendix 1 – List of specialists**

### **Building recording**

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Richard Parker; Exeter Archaeology, Bradninch Place, Gandy Street, Exeter EX4 3LS; Tel: 01392 665521; [exeter.arch@exeter.gov.uk](mailto:exeter.arch@exeter.gov.uk)

### **Conservation**

Richard and Helena Jaeschke; 2 Bydown Cottages, Swimbridge, Barnstaple EX32 0QD; Tel: 01271 830891

### **Curatorial**

Alison Mills; North Devon Museum, The Square, Barnstaple; Tel: 01271 346747

### **Geophysical Survey**

Ross Dean; South West Archaeology Limited.

GSB Prospection Ltd.; Cowburn Farm, Market Street, Thornton, Bradford, West Yorkshire, BD13 3HW; Tel: +44 (0)1274 835016

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### **Human Bones**

Seana Cummins; South West Archaeology Limited.

Louise Lou; Head of Heritage Burial Services, Oxford Archaeology, Janus House, Osney Mead, Oxford, OX2 OES; Tel: 01865 263 800

### **Lithics**

Martin Tingle; Higher Brownston, Brownston, Modbury, Devon, PL21 OSQ; [martin@mtingle.freemove.co.uk](mailto:martin@mtingle.freemove.co.uk)

### **Metallurgy**

Sarah Paynter; Centre for Archaeology, Fort Cumberland, Fort Cumberland Road, Eastney, Portsmouth PO4 9LD; Tel: 02392 856700;

[sarah.paynter@english-heritage.org](mailto:sarah.paynter@english-heritage.org).

### **Palaeoenvironmental/Organic**

Vanessa Straker; English Heritage SW, 29 Queen Square, Bristol BS1 4ND; Tel: 0117 9287961; [vanessa.straker@english-heritage.org.uk](mailto:vanessa.straker@english-heritage.org.uk)

Dana Challinor (wood identification); Lavender Cottage, Little Lane, Aynho, Oxfordshire OX17 3BJ; Tel: 01869 810150;

[dana.challinor@tiscali.co.uk](mailto:dana.challinor@tiscali.co.uk)

Julie Jones (plant macro-fossils); [juliedjones@blueyonder.co.uk](mailto:juliedjones@blueyonder.co.uk)

Heather Tinsley (pollen analysis); [heathertinsley@aol.com](mailto:heathertinsley@aol.com)

Ralph Fyfe (pollen analysis); University of Plymouth

### **Pottery**

John Allen, Exeter Archaeology, Bradninch Place, Gandy Street, Exeter EX4 3LS; Tel: 01392 665918

Henrietta Quinell; 9 Thornton Hill, Exeter EX4 4NN; Tel: 01392 433214

### **Timber Conservation**

Liz Goodman; Specialist Services, Conservation Museum of London, 150 London Wall, London; EC2Y 5HN; Tel: 0207 8145646;

[lgoodman@museumoflondon.org.uk](mailto:lgoodman@museumoflondon.org.uk)

## Appendix 3

### List of contexts

| Context Number | Description  |
|----------------|--|
|                | Note: Unless otherwise stated all cuts are cutting natural and fills are overlain by topsoil   |
| [101]          | Round cut 0.6m diameter, 0.05m deep, flat base, much truncated.  |
| (102)          | Fill of [101] fairly soft, greyish-brown clay-silt; some stone, charcoal and yellowish-brown clay lumps.   |
| [103]          | Round cut 0.4m diameter, 0.03m deep, concave profile, much truncated   |
| (104)          | Fill of [103] soft, light greyish-brown clay-silt; common sub-angular stone <30mm.   |
| [105]          | Round cut 0.3m diameter, 0.15m deep, sides taper in at 45° to concave base 0.15m across.   |
| (106)          | Fill of [105] soft, light greyish-brown clay-silt; common sub-angular stone <30mm.   |
| [107]          | Round cut 0.22m diameter, 0.04m deep, concave profile.   |
| (108)          | Fill of [107] soft, light greyish-brown clay-silt; common sub-angular stone <30mm.   |
| [109]          | Round cut 0.53m diameter, 0.13m deep, concave sides to flat base 0.35m across.   |
| (110)          | Fill of [109] soft to friable, mid greyish-brown clay-silt; sub-angular stone <100mm common.   |
| [111]          | Round cut 0.3m diameter, 0.13m deep, concave profile.  |
| (112)          | Fill of [111] soft, light greyish-brown clay-silt; sub-angular stone <40mm very common.  |
| [113]          | Round cut 0.7m diameter, 0.15m deep, sides taper in at 75° to flat base.   |
| (114)          | Fill of [113] soft to friable, mid to dark greyish brown clay-silt; sub-angular stone <100mm common, some charcoal.  |
| [115]          | Round cut 0.4m diameter, 0.25m deep, south side near vertical, north side tapers in at 45° to concave base 0.15m diameter.   |
| (116)          | Fill of [115] soft, mid greyish-brown clay-silt; sub-angular stone <200mm common around base and edges of feature.   |
| [117]          | Round cut 0.55m diameter, 0.15m deep, south side near vertical, north side tapers in at 60° to flat base.  |
| (118)          | Fill of [117] soft, mid greyish-brown clay-silt; some sub-angular stone <30mm, some charcoal fragments.  |
| [119]          | Sub-round cut 0.55m north-south, 0.48m east-west, 0.26m deep, steep sides and flat base.   |
| (120)          | Fill of [119] soft, mid greyish-brown clay-silt; sub-angular stone <200mm common around base and edges of feature.   |
| [121]          | Round cut 0.35m in diameter, 0.22m deep, steep sides and flat base.  |
| (122)          | Fill of [121] soft, mid greyish-brown clay-silt; sub-angular stone <150mm common around edge of feature.   |
| [123]          | Sub-round cut 0.23m north-south, 0.17m east-west, 0.15m deep, steep sides and flat base.   |
| (124)          | Fill of [123] soft, light greyish-brown clay-silt; a little sub-angular stone <75mm.   |
| [125]          | Sub-round cut 0.45m north-south, 0.38m east-west, 0.28m deep, east side near vertical, west side tapers in at 75° to flat base.  |
| (126)          | Fill of [125] soft, mid to dark greyish-brown clay-silt; some sub-angular stone <30mm, one 200mm stone.  |
| [127]          | Round cut 0.12m diameter, 0.08m deep, sides taper in to concave base.  |
| [128]          | Sub-round cut 0.2m NW to SE, 0.13m SW to NE, 0.08m deep, sides taper in to concave base.   |
| [129]          | Sub-round cut 0.5m NE to SW, 0.4m NW to SE, 0.15m deep, near vertical sides; SW corner disturbed.  |
| (130)          | Fill of [129] soft, greyish-brown clay-silt; some sub-angular stone <20mm, occasional charcoal fragments.  |
| [131]          | Round cut 0.7m diameter, 0.35m deep, near vertical sides to flat base; cuts (134).   |
| (132)          | Fill of [201] soft, mid to dark greyish-brown clay-silt; some sub-angular stone <30mm, some charcoal fragments.  |
| [133]          | Linear cut forming circle 13m in diameter (3.7m wide break to SW); 0.14-0.3m wide (mostly 0.2-0.25m), 0.08-0.20m deep (mostly 0.14-0.20m), sides taper in to base that is mainly flat.               |
| (134)          | Upper fill of [133] soft, mid greyish-brown clay-silt; some sub-angular stone <30mm; overlies (192), cut by [131].   |
| [135]          | Round cut 0.35m in diameter, 0.5m deep, concave profile.   |
| (136)          | Fill of [135] soft, greyish-brown clay-silt; some sub-angular stone <30mm.   |
| [137]          | Round cut 0.65m diameter, 0.2m deep, near vertical sides, flat base.   |
| (138)          | Fill of [137] mottled between 60% soft, greyish-brown clay-silt and 40% quite firm, yellow silty-clay; sub-angular stone <100mm found throughout, more common around edge of feature.                |
| (139)          | Fill of [127] quite soft, greyish-brown clay-silt; some sub-angular stone <30mm, a few charcoal fragments.   |
| (140)          | Fill of [128] quite soft, greyish-brown clay-silt; some sub-angular stone <30mm, a few charcoal fragments.   |
| [141]          | Sub-round cut 0.16m north to south, <0.10m east to west, 0.13m deep; sides taper to blunt point.   |
| (142)          | Fill of [141] quite soft, greyish-brown clay-silt, some sub-angular stone <40mm, a few charcoal fragments.   |
| [143]          | Round cut 0.14m diameter, 0.15m deep; sides taper to blunt point.  |
| (144)          | Fill of [143] quite soft, greyish-brown clay-silt, some sub-angular stone <20mm, a few charcoal fragments.   |
| [145]          | Sub-round cut 0.65m north to south, 0.57m east to west, 0.48m deep; near vertical sides, flat base.  |
| (146)          | Fill of [145] mixed 60% fairly soft, mid to dark greyish-brown clay-silt with 40% firm yellow silt-clay; some sub-angular stone <150mm (larger pieces in base of feature), a few charcoal fragments. |
| [147]          | Round cut 0.6m diameter, 0.34m deep; sides taper to flat base 0.36m in diameter.   |



|       |   |
|-------|---|
| (148) | Fill of [147] quite soft, greyish-brown clay-silt; some patches of yellow silt-clay, sub-angular stone <100mm fairly common.  |
| [149] | Sub-round cut 0.6m north to south, 0.48m east to west, 0.37m deep; south-west side tapers in, north and west sides near vertical, north-east side slightly undercut; base flat. |
| (150) | Fill of [202] mid to dark greyish-brown clay-silt.  |
| [151] | Round cut 0.27m diameter, 0.25m deep; sides taper in to flat base 0.13m diameter.   |
| (152) | Fill of [151] quite soft, greyish-brown clay-silt; some sub-angular stone <60mm and a few charcoal fragments.   |
| [153] | Round cut 0.62m diameter, 0.26m deep; sides near vertical, slightly concave base.   |
| (154) | Fill of [203] quite soft, dark greyish-brown clay-silt; some sub-angular stone <50mm and a few charcoal fragments.  |
| [155] | Round cut 0.53m diameter, 0.18m deep; sides taper in slightly (steeper to north than south) to slightly concave base.   |
| (156) | Fill of [155] quite soft mid to dark greyish-brown clay-silt; some sub-angular stone <50mm, some patches of firm yellow silt-clay and a few charcoal fragments.                 |
| [157] | Round cut 0.44m diameter, 0.24m deep; sides taper in steeply to south, vertical to north, slightly concave base.  |
| (158) | Fill of [157] quite soft greyish-brown clay-silt; common sub-angular stone <40mm, a few charcoal fragments.   |
| [159] | Round cut 0.35m diameter, 0.13m deep; north side tapers in, south side vertical, flat base.   |
| (160) | Upper fill of [159] 50mm thick; quite soft greyish-brown clay-silt, a few charcoal fragments.   |
| [161] | Round cut 0.35m diameter, 0.16m deep; sides taper in slightly to flat base 0.25m in diameter.   |
| (162) | Fill of [161] quite soft greyish-brown clay-silt; some sub-angular stone <30mm.   |
| [163] | Round cut 0.45m diameter, 0.3m deep; north and south sides taper in 0.05m, east and west sides overhang 0.05m; flat base.   |
| (164) | Fill of [163] quite soft mid to dark greyish-brown clay-silt; a little sub-angular stone <50mm, charcoal fragments rare.  |
| [165] | Sub-round cut 0.35m north to south by 0.28m east to west, 0.05m deep; shallow, concave profile.   |
| (166) | Fill of [165] quite soft, dark greyish-brown clay-silt; common sub-angular stone <40mm.   |
| [167] | Round cut 0.25m diameter, 0.3m deep; south side tapers in 0.065m, north side is undercut 0.065m; concave base.  |
| (168) | Fill of [167] soft, greyish-brown clay-silt; some sub-angular stone <30mm, quite common charcoal fragments.   |
| [169] | Round cut 0.45m diameter, 0.3m deep; sides near vertical except north east which is undercut 0.08m; base flat.  |
| (170) | Fill of [204] soft, greyish-brown clay-silt; some sub-angular stone <30mm.  |
| [171] | Round cut 0.5m diameter, 0.17m deep; sides taper in a little to a slightly concave base.  |
| (172) | Fill of [171] fairly firm mid greyish-brown clay-silt mottled with a little firm yellow silt-clay; a little sub-angular stone <30mm, rare charcoal fragments.                   |
| [173] | Round cut 0.45m diameter, 0.12m deep; east side tapers in a little, west side vertical; base flat.  |
| (174) | Fill of [173] quite soft mid to dark greyish-brown clay-silt; sub-angular stone <100mm common around edges of feature, some charcoal fragments.                                 |
| [175] | Round cut 0.33m diameter, 0.065m deep; shallow, concave profile.  |
| (176) | Fill of [175] mid greyish-brown clay-silt; some sub-angular stone <0.05m, rare charcoal fragments.  |
| [177] | Round cut 0.27m diameter, 0.090m deep; steep-sided concave profile.   |
| (178) | Fill of [177] mid grey-brown silt-clay; sub-angular stone <100mm common, rare charcoal fragments.   |
| 179   | <i>Number not used</i>  |
| (180) | Same as (146).  |
| (181) | Fill of [149] mixed 60% soft greyish-brown clay-silt with 40% firm yellow silt-clay; cut by [202].  |
| (182) | Fill of [153] mixed 60% quite firm greyish-brown clay-silt with 40% firm yellow silt-clay; some sub-angular stone <20mm, rare charcoal fragments; cut by [203].                 |
| (183) | Lower fill of [159] mixed 80% quite firm light greyish-orange clay-silt with 20% brown silt-clay.   |
| 184   | <i>Number not used</i>  |
| [185] | Sub-round cut 0.36m north to south by 0.29m east to west, 0.1m deep; west side vertical, other sides taper in steeply; flat base.   |
| (186) | Fill of [185] greyish-brown silt-clay; sub-angular stone <120mm common.   |
| 187   | <i>Number not used</i>  |
| 188   | <i>Number not used</i>  |
| 189   | <i>Number not used</i>  |
| 190   | <i>Number not used</i>  |
| (191) | Fill of [131] quite firm silt-clay mixed 50% grey and 50% yellow; sub-angular stones <30mm common; cut by [201].  |
| (192) | Lower fill of [133] <0.1m thick; friable to firm clay-silt mixed 50% grey and 50% yellow; sub-angular stones <100mm very common; overlain by (134).                             |
| [193] | Round cut 0.27m diameter, 0.1m deep; concave profile.   |

|       |  |
|-------|--|
| (194) | Fill of [193] greyish-brown clay-silt; sub-angular stone <100mm common, rare charcoal fragments.   |
| [195] | Sub-round cut 0.46m east to west, 0.36m north to south - south end truncated by [147], 0.1m deep; steep sides and flat base.                                   |
| (196) | Fill of [195] friable mid to dark brown clay-silt; some sub-angular stone <30mm, rare charcoal fragments.  |
| [197] | Sub-round cut 0.19m southwest to northeast, 0.13m northwest to southeast, 0.09m deep; sides taper in steeply to blunt base.                                    |
| (198) | Fill of [197] firm greyish-brown clay-silt; some sub-angular stone <20mm across, rare charcoal fragments.  |
| [199] | Round cut 0.3m diameter, 0.2m deep; steep sides and concave base.  |
| (200) | Fill of [199] mixed 60% quite firm greyish-brown clay-silt with some sub-angular stone <100mm and rare charcoal fragments; 40% firm yellowish-brown silt-clay. |
| 201   | <i>Number not used</i>   |
| 202   | <i>Number not used</i>   |
| 203   | <i>Number not used</i>   |
| 204   | <i>Number not used</i>   |
| (205) | Fill of [169] mixed 75% firm yellow silt-clay with 25% greyish-brown clay-silt; some sub-angular stone <40mm; cut by [204].                                    |

## Appendix 4

### The Ceramics by *Henrietta Quinnell* with petrography by *Roger Taylor*

| Context of fill | Context of cut | Feature                                     | Fabric 1        | Fabric 2           | Fabric 3 |
|-----------------|----------------|---|-----------------|--------------------|----------|
| 114             | 113            | Close to 4-poster                           | 1/ 81           |                    |          |
| 132             | 131            | 4-poster over roundhouse                    |                 | 9/56 <b>P2, P4</b> |          |
| 138             | 137            | 4-poster over roundhouse                    | 2 /3            |                    |          |
| 146             | 145            | 4-poster over roundhouse                    | 1/ 4            |                    |          |
| 148             | 147            | Posthole in roundhouse ring                 | 2 /15 <b>P1</b> |                    |          |
| 158             | 157            | Posthole in roundhouse but not part of ring |                 | 1/24 <b>P3</b>     |          |
| 192             | 133            | Roundhouse gully fill                       |                 |                    | 1/6      |
| 196             | 195            | Cut by roundhouse                           | 2/ 8            |                    |          |
| <b>Totals</b>   |                | <b>Overall total 19/197</b>                 | 8/111           | 10 /80             | 1/6      |

Table 2: Pottery from Middle Burrow Farm; the first figure indicates sherd numbers and the second weight in grams.

### The Assemblage

This consists of 19 sherds weighing 197g generally in a moderately abraded condition. The sherds come from two variants of Permian rocks in the Exeter/Crediton area (Fabrics 1 and 2) with one sherd of uncertain source (Fabric 3). This sherd is noticeably more abraded than others from the site. In addition to the four sherds described in detail below and illustrated (see Fig. 17), there is a substantial base in Fabric 1 from (158) and a base angle in similar fabric from (196). All fabrics are fairly hard and well-worked with moderate inclusions in the medium to coarse categories. In general the assemblage is reduced and similar in colour to P3 and 4.

### Description of illustrated sherds (Fig. 17)

**P1** (148)/1: Fabric 1 Rim sherd, upright neck with rim top expanded and then slightly flattened; a very unusual feature. There may be some knife trimming in the formation of the rim. Slightly oxidized 5YR 6/2 light reddish brown. Smoothed surface.

**P2** (132)/7: Fabric 2 Rim sherd with upright neck, rim bent outward at the top. Smoothed surface. Generally oxidized 5YR 6/6 yellowish red.

**P3** (158): Fabric 2 Girth sherd with part of a regular, geometric, incised design. Well-smoothed surface. Reduced 5YR 4/1 dark grey. Geometric arcs, either produced directly with a compass or using a compass-generated template, are frequent in South Western Decorated Ware. Unembellished arcs are however unusual, possibly because such simple decorations have not been chosen for publication (but see No.92 in Quinnell *forthcoming*). However assemblages published in Devon such as that from Blackbury (Young & Richardson 1954/5) and Milber Down (Fox *et al.* 1949/50) have fairly simple patterns compared to those found in Cornwall and more especially in Somerset (see illustrations in Peacock 1969).

**P4** (132)/5: Fabric 2 Girth sherd with unusual incised line and stamped pattern. Smoothed surface. Reduced 5YR 4/2 very dark grey. A small battered sherd may have the same decoration. The decoration consists of two parallel lines around the girth infilled with fairly regularly simple stamped impressions. (Initial impressions suggested this decoration was rouletted but close study shows irregularities with the use of a stamp). While stamped decoration was used throughout South Western Decorated Ware it tends to be rare in Devon. So far no parallel for this particular stamp is known to the author. Recent work at Trevelgue in Cornwall has demonstrated that, contrary to earlier speculation, stamp sherds can occur throughout the currency of the Ware but are more likely to occur at its end than at its beginning (Quinnell *forthcoming*).

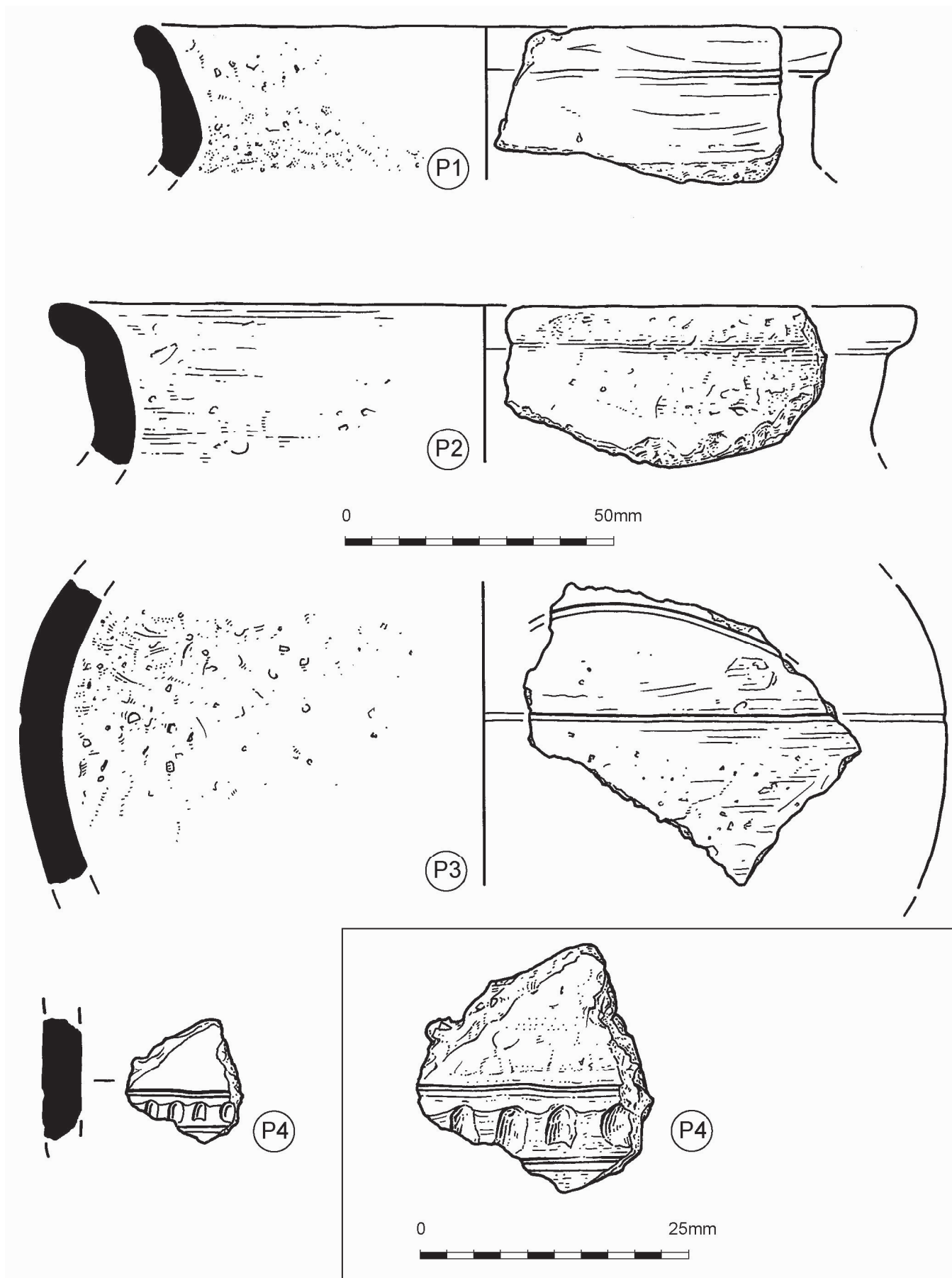


Figure 17: South Western Decorated sherds from Middle Burrow Farm (see Appendix 4). All at actual size except the enlargement of P4 at 2:1 (bottom right). Drawn by Jane Read.



## Character and dating of the assemblage

The abraded sherd of Fabric 3 from [133] roundhouse foundation trench is not distinctive, beyond general character of its fabric being appropriate for the second half of the first millennium BC. The date OxA-20379, 389-349 CAL BC (30.6%) and 311-209 CAL BC (64.8%) from the same context strongly suggests that the feature incorporates residual material, which is of interest as indicating use of the site before the building of the roundhouse. The abrasion on the sherd supports redeposition. The sherd appears to come from a source other than all the remaining assemblage. Given that the sherd has no distinctive features, it is suggested that it should be described only as later Iron Age. It might as easily belong to the latest stages of the Early Iron Age as to Middle Iron Age South Western Decorated Ware. The Fabric 1 base sherd from pit [113] outside the house is associated with a late date, OxA20380 92-69 CAL BC (5.3%) 61 CAL BC to CAL AD 53 (90.1%), and is of a simple form which might belong either to South Western Decorated Ware or with subsequent forms linked to the Durotrigian tradition. Its fresh condition suggests that it is likely to have been broadly contemporary with other material in the pit and not residual. The pit is likely to indicate use of the site after the abandonment of the roundhouse. The date should not be used to argue for late usage of South Western Decorated Ware.

The distinctive illustrated sherds P1-4 come from features related to the roundhouse or the 'overlying' four-post structure. It should be noted that the date from the four post structure OxA-20376, 204-52 CAL BC, is indistinguishable from the dates from inner post ring posthole [163], OxA-20377 191-51 CAL BC, and from porch posthole [173], OxA 20378 196-53 CAL BC. This suggests that both the roundhouse and the four-post structure were comparatively short-lived structures. Certainly there is nothing to distinguish the pottery from the two buildings. All can comfortably be accommodated within South Western Decorated Ware (Glastonbury Ware) (Peacock 1969) and assigned to the second or early first century CAL BC dates indicated by the radiocarbon determinations. As such they are broadly in line with the only other published group of dates for South Western Decorated Ware in Devon east of Dartmoor, from Blackhorse and from Long Range (Fitzpatrick *et al.* 1999, Fig. 80, Fig. 93).

Fabrics 1 and 2 indicate a previously unknown source for South Western Decorated Ware in the Crediton area. Their makeup is covered by Peacock's description of his Group 5 Glastonbury Ware (1969, 50). However recent work by Taylor (*in preparation*) on South Western Decorated Ware from the Crown Court site at Southernhay in Exeter has indicated that much of Peacock's Group 5 comes from the Ludbrook Valley area of Exeter so it is probably that Peacock's Group 5 was made from various sources in the Exeter/Crediton area.

## Petrography by Roger Taylor

All the sherds were examined under a binocular microscope. A full record is filed with the archive. Exemplars of the three Fabrics identified are provided here.

### 1) Fabrics with Permian derived minerals and rock fragments.

Sherd from (114) [113] *Quartz* – transparent translucent colourless to pale yellow, angular to sub-angular grains with abraded edges, 0.1- 0.8mm: *Rock fragments* – sub-angular to sub-rounded grey shale, siltstone and sandstone, 0.2-2mm, with one siltstone fragment greater than 8mm: *Mica* – biotite, as brown cleavage flakes, 0.05-0.5mm, concentrated on the outer surface, rarely grains show hexagonal crystal outlines; muscovite: as cleavage flakes, 0.05-0.3mm: *Limonite* – sparse soft dark brown to black rounded grains, 0.1-0.8mm: *Tourmaline* – rare hard black elongated grains, 0.4mm: *Feldspar* – rare translucent cleaved grains, 0.4-0.8mm.

Comment:

The general fabric is characteristic of mineralogy derived from the Permian breccias of the Crediton trough to the south east of the site, particularly the Crediton Breccias. The slate and siltstone fragments indicate that the sands were sourced from rivers and streams that run south through the breccias from the surrounding shales and sandstones of the Carboniferous rocks.

### 2) Fabric with Permian derived minerals and grey Carboniferous shale/mudstone fragments

Sherd from (138) in [137] *Quartz* – transparent to translucent colourless to greyish opaque grains, 0.05-0.8mm: *Rock fragments* – shale/mudstone, grey tabular oblate sub-angular to sub-rounded fragments, 0.2-3mm: *Mica* – biotite, dark brown cleavage flakes with rare flakes showing hexagonal crystal outlines, 0.05-0.4mm: *Feldspar* – sparse soft white altered and rare translucent less altered cleaved grains, 0.1-0.6mm: *Matrix* – Fine sandy silty clay with muscovite flakes.

Comment:

A Permian breccia based fabric with a major shale and mudstone component.

### 3) Fabric with quartz sand and sparse rock fragments

Sherd from (192) in [133] south. *Quartz* – angular to sub-rounded colourless translucent grains, 0.05-0.5mm. *Rock fragments* – rare buff weathered fine-grained sub-angular micaceous sandstone fragment, 1.2mm and micaceous slate, 0.3mm: *Matrix* – a smooth clay with some very fine muscovite flakes less than 0.05mm.

Comment:

A fabric with a fine-grained quartz stream sand content, which does not give a clear indication of its source.

### General comment:

The general fabric is characteristic of mineralogy derived from the Permian breccias of the Crediton trough to the south east of the site, particularly the Crediton Breccias. The slate and siltstone fragments indicate the sands were sourced from rivers and streams that run south through the breccias from the surrounding shales and sandstones of the Carboniferous rocks. Most of the fabrics from East Worlington have the common feature of a content of grains and fragments characteristic of some of the Permian breccias occurring in the area between Exeter and Crediton.

South Western Decorated Wares with related breccia derived fabrics have been found at two Iron Age sites at Exeter, one in the city at Southernhay and one on the outskirts at Clyst Heath (Taylor *forthcoming*). Both appear to have used a self-tempered alluvial clay derived from the Permian breccias to the east of the city with minor rock fragments derived from the Carboniferous sediments to the north, a likely source being the Ludbrook Valley. However, it seems unlikely that the East Worlington wares come from this source. The Permian fragments show less diversity compared with the Exeter wares. The prominent presence of Carboniferous shale/mudstone in two sherds is not matched in the Exeter assemblages. The likely main source of the Permian material is the Crediton Breccia cropping out around Crediton, about 14 km south-southeast of East Worlington, a more reasonable transport distance than at least 28 km from the probable source area of the Exeter wares.

The quartz and unaltered dark brown biotite showing crystal form occur in the granite porphyry fragments that are present in the Crediton Breccia, which is clayey weathering. The retention of crystal outlines by some biotite flakes indicates that this relatively fragile mineral has not undergone abrasion during transport since release from the parent igneous rock and that the clay was obtained near to the breccia source.

The lack of angularity in the shale and mudstone components in Fabrics 1 and 2 suggests that they have not been deliberately crushed for use as temper, and probably have an alluvial source. Its considerable abundance in these sherds suggests that it is not an original component of the clay and has been deliberately added.

Fabric 3 is distinctive in not containing any Permian derived minerals the quartz sand and sparse rock fragments and could have a different source area. The rock fragments show some resemblance to sources in the Exmoor area but are too sparse to confirm this source.

### Bibliography

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## Appendix 5

### Charcoal Identification *by Dana Challinor*

Thirty-six of the processed samples produced charcoal and were submitted. They were mostly from small Iron Age pits/postholes and included several forming part of discrete structures on the site. The flots were scanned under a binocular microscope at up to x45 magnification. Charcoal caught on the 2mm sieve was considered identifiable and quantified; fragments were randomly extracted, fractured if necessary and examined in transverse section. Each sample was also assessed for radiocarbon potential and selected fragments were identified in full using an incident-light high magnification microscope (up to x400). The full list of radiocarbon samples is included in the archive. In the case of large flots, a sample of c.20% was examined, although any quantification given is based on estimates of the entire flot.

#### Results

The results are given in the table below. The charcoal was generally well preserved, although the fragments were comminuted and frequently less than 4mm in size. The quantity of charcoal varied between the samples, with some producing only a few fragments whilst others were abundant. The assemblages were overwhelmingly dominated by *Quercus* sp. (oak), with smaller quantities of other taxa, including *Alnus glutinosa* (alder), *Betula* sp. (birch), *Corylus avellana* (hazel), cf. *Fraxinus excelsior* (ash), Maloideae (hawthorn, apple, pear, service), Salicaceae (willow family), and *Ulex/Cytisus* (gorse/broom). The full identification of some fragments for radiocarbon dating confirmed the presence of both alder and hazel.

#### Implications

The provenance of most of the charcoal is likely to be from fuelwood remains, but it is possible that some structural wood is represented, although none of the features exhibited evidence of *in situ* burning. Given the absence of any metalworking remains or evidence for specific activities, domestic debris is the most likely origin of the charcoal. In general, the assemblage indicates the use of oak-hazel woodland, with the lesser exploitation of heathland (indicated by gorse/broom) and riverside/lower lying areas (indicated by alder and willow). The potential for the charcoal to provide further, more detailed information on the use and management of woodland resources is limited.

| Sample number | Context number | Identifications                              | Notes   | C14 sample                      |
|---------------|----------------|--|---|---------------------------------|
| 1             | 146            | Quercus, Alnus/Corylus, Maloideae/Salicaceae | Predominantly oak   | Alnus/Corylus x 1               |
| 2             | 148            | Quercus, including heart-wood, Alnus/Corylus | Predominantly oak   | Alnus glutinosa x 1             |
| 4             | 150            | Quercus, including heart-wood, Alnus/Corylus | Good size fragments<br>Looks like all oak, too small to identify sapwood    | Corylus x 2 (small)             |
| 6             | 152            | Quercus                                      |   | None                            |
| 7             | 148            | Quercus                                      |   | None                            |
| 8             | 154            | Quercus, Alnus/Corylus, Maloideae            | Small size  | Maloideae round-wood x 1        |
| 10            | 138            | Quercus, Corylus                             |   | Corylus avellana round-wood x 1 |
| 11            | 164            | Quercus, Alnus/Corylus                       | Predominantly oak   | Corylus avellana x 1            |
| 12            | 156            | Quercus, including heart-wood, Ulex/Cytisus  | 3 year old stem   | Ulex/Cytisus round-wood x 1     |
| 13            | 174            | Quercus, Alnus/Corylus, Betula               | Some large fragments  | Betula x 1                      |
| 14            | 158            | Quercus                                      | Very small  | None                            |
| 15            | 172            | Quercus, Ulex/Cytisus round-wood             |   | Ulex/Cytisus round-wood x 1     |
| 16            | 176            | Quercus                                      |   | None                            |
| 17            | 186            | Quercus                                      | Predominantly oak   | None                            |
| 18            | 170            | Quercus, Alnus/Corylus                       |   | Alnus glutinosa x 1             |
| 20            | 168            | Quercus, Alnus/Corylus                       | Small fragments, <4mm   | Corylus avellana round-wood x 1 |
| 21            | 134            | Quercus                                      | Very small  | None                            |
| 22            | 134            | Quercus, Alnus/Corylus                       | Very small  |                                 |
| 24            | 134            | Quercus, including heart-wood, Ulex/Cytisus  |   | Ulex/Cytisus round-wood x 1     |
| 26            | 194            | Quercus, Alnus/Corylus                       |   | Alnus glutinosa x 1             |
| 27            | 120            | Quercus                                      | 2 fragments   | None                            |
| 28            | 118            | Quercus including round-wood, diffuse porous | Predominantly oak   | Quercus x 1 (immature)          |
| 29            | 116            | Betulaceae type                              | Only one fragment   | Betulaceae x 1                  |
| 31            | 114            | Quercus, Alnus/Corylus, Salicaceae           | Mixed   | Corylus avellana round-wood x 1 |
| 32            | 139            | Quercus                                      | Infused and comminuted<br>Looks like all oak, too small to identify sapwood | None                            |
| 33            | 140            | Quercus                                      |   | None                            |
| 34            | 130            | Quercus                                      | Predominantly oak   | None                            |
| 35            | 144            | Quercus, Alnus/Corylus                       | Some very small   | Corylus avellana x 1            |
| 36            | 142            | Quercus                                      | Predominantly oak   | None                            |
| 37            | 196            | Quercus, including heart-wood                |   | None                            |
| 38            | 132            | cf. Fraxinus, Maloideae, diffuse porous      | Small fragments, <4mm   | Maloideae x 1                   |
| 39            | 198            | Quercus, including heart-wood                | Mostly small  | None                            |
| 40            | 200            | Quercus                                      |   | None                            |
| 41            | 134            | Quercus, Alnus/Corylus                       |   | Corylus avellana round-wood x 1 |
| 42            | 160            | Quercus, including heart-wood                | Very comminuted   | None                            |

Table 3: Charcoal species identification.



## Appendix 6

### The Charred Plant Remains *by Julie Jones*

#### Introduction

Excavations undertaken by South West Archaeology at Middle Burrow Farm, East Worlington, Devon (NGR 277207 117534) revealed a series of stake- and postholes and/or small pits dated to the Iron Age period. The largest group lay within a circular ditch about 12m diameter, interpreted as an Iron-Age roundhouse. A pair of probable 'four-poster' structures, one of which post-dated the roundhouse, indicates more than one phase of Iron-Age activity on the site.

Samples for palaeoenvironmental investigation were obtained from excavated features and the samples were processed and sorted by South West Archaeology. 17 samples were examined by the author for plant macrofossil identification. Concentration of charred plant remains was very sparse and the material was in some instances fragmented. There was also intrusion of modern seeds in some samples. The results are shown in the accompanying table below. Nomenclature and habitat information is based on Stace (1991).

#### Results

##### Pre-dating roundhouse

###### Context (196)

This context from the fill of [195] appears to pre-date the roundhouse, but the sample only included a modern black bindweed (*Fallopia convolvulus*) seed.

##### Roundhouse foundation trench [133]

###### Context (134)

Feature [133], a steep-sided, mainly flat-bottomed ditch around 0.2m deep, formed a ring, approximately 12m in diameter, with a 3.6m gap to the south and is interpreted as the foundation trench for the outer wall of a roundhouse. Samples from (134), the upper fill of [133] included several charred, but unidentified root fragments and a single ribwort plantain (*Plantago lanceolata*) seed. Several modern seeds were also noted.

##### Round house inner ring

###### Contexts (148) (150) (164) and (156)

An inner ring of 7 shallow postholes in the centre of the roundhouse was sampled although only 4 contained charred material. Of these, 2 samples included identifiable fragments including an onion couch (*Arrhenatherum elatius* var *bulbosum*) tuber and a single redshank (*Persicaria maculosa*) seed. There was again some intrusion of modern seeds.

##### Round house porch

###### Contexts (176) and (194)

In a gap in the south-western area of the roundhouse perimeter, lay four features forming a rectangle 3m by 1m interpreted as the corners of a porch for the roundhouse. Two of the 4 features were examined; one included an onion couch tuber, with 2 other unidentified tubers or root fragments.

###### Context (158)

The relationship of this context to the other structures in the roundhouse is uncertain. However, only a single unidentified charcoal fragment occurred.

##### Four-poster over roundhouse

###### Contexts (146) (138) and (138)

In the north-east corner of the roundhouse four features are interpreted as forming a square, timber-framed building with a substantial post at each corner, although it appears to post date the roundhouse. No charred macrofossils were recovered here, although there were occasional modern seeds.

##### Features northeast of the roundhouse

###### Contexts (130) and (144)

This group of features, forming a series of rounded cuts outside the roundhouse enclosure are thought to be truncated stake holes, although no structure was apparent. Both samples include fragments of broken hazel (*Corylus avellana*) shell. The fragments from (130) were fairly substantial and may have originated from 2-3 whole nuts.

#### Conclusion:

Very few charred plant macrofossils were recovered from Iron Age features at Middle Burrow Farm. The identifiable remains associated with the roundhouse included several fragments of onion couch tubers, a perennial clump-forming grass, which reproduces vegetatively from bulbous fragments called corms, the fragments of which were identified here. They form part of a plant community of coarse grassland and have been recognized in a charred form from several prehistoric sites. Ribwort plantain can also occur in this community and both this taxa and redshank have been identified as components of turfs (Hall 2003), although both species also occur as part of charred arable weed assemblages,

associated with cereal crops. While this cannot be taken as evidence for the use of turf, perhaps in domestic hearths, from such sparse remains, the suggestion is a possibility.

It may be possible that the hazelnut shells found in the stake-holes outside the roundhouse enclosure were brought in on hazel wood meant for domestic use, perhaps as firewood, or represent the collection of nuts as a food source from local woodlands.

The intrusion of modern seeds amongst the samples is likely to be a factor of the shallow nature of the excavated features, many recorded as being under 0.3m in depth, a likely result of truncation by ploughing. These modern seeds are typical annual weeds of disturbed or arable ground and are likely to flourish locally.

**References:**

Hall, A. 2003: *Recognition and Characterisation of Turfs in Archaeological Occupation Deposits by means of Macrofossil Plant Remains*. Centre for Archaeology Report 16/2003 English Heritage.

Stace, C. 1991: *New Flora of the British Isles*. Cambridge University Press.

Table 4: Charred plant remains from Middle Burrow Farm.

| Context  | Feature             | Charred plant remains   | Other remains  |
|--|---------------------|---|--|
| <b>Pre-dating roundhouse</b>                           |                     |   |  |
| 196  | Fill of [195]       |   | <i>Fallopia convolvulus</i> (modern) 1   |
| <b>Roundhouse foundation trench [133]</b>              |                     |   |  |
| 134  | Upper fill of [133] | Indeterminate root fragments 2  | <i>Atriplex</i> (modern) 1   |
| 134  |                     | Indeterminate root fragments 2  | Charcoal fragments 4<br><i>Atriplex</i> (modern) 3                                 |
| 134  |                     | <i>Plantago lanceolata</i> 1  | <i>Atriplex</i> (modern) 1   |
| <b>Roundhouse inner ring</b>                           |                     |   |  |
| 148  | Fill of [147]       | <i>Arrhenatherum elatius</i> var. <i>bulbosum</i> 1 fragment<br>Indeterminate ?seed capsules 2          | <i>Atriplex</i> (modern) 1   |
| 150  | Fill of [202]       | Indeterminate fragment 1  | <i>Chenopodium album</i> (modern) 4  |
| 164  | Fill of [163]       | <i>Persicaria maculosa</i> 1 fragment<br>Indeterminate seed 1   |  |
| 156  | Fill of [155]       | Indeterminate ?root fragment 1  |  |
| <b>Roundhouse porch</b>                                |                     |   |  |
| 176  | Fill of [175]       | Indeterminate ?root or tuber fragment 1   |  |
| 194  | Fill of [193]       | <i>Arrhenatherum elatius</i> var. <i>bulbosum</i> 1 fragment<br>Indeterminate ?root or tuber fragment 1 |  |
| <b>Uncertain relationship with roundhouse features</b> |                     |   |  |
| 158  | Fill of [157]       | Indeterminate fragment 1  | Charcoal fragment 1  |
| <b>4-poster over roundhouse</b>                        |                     |   |  |
| 146  | Fill of [145]       | Indeterminate fragment 1  |  |
| 138  | Fill of [137]       |   | <i>Atriplex</i> 1<br><i>Stellaria media</i> 1<br>Beetle fragment 1<br>(all modern) |
| 132  | Fill of [201]       |   | Indeterminate fragment<br>?wood/twig 1   |
| <b>Features northeast of the roundhouse</b>            |                     |   |  |
| 130  | Fill of [129]       | <i>Corylus avellana</i> nut fragments 35  | Charcoal fragments 3   |
| 144  | Fill of [143]       | <i>Corylus avellana</i> nut fragments 6   |  |

Charred plant remains:

*Arrhenatherum elatius* var. *bulbosum* (Willd)

*Corylus avellana* L.

*Persicaria maculosa* Gray

*Plantago lanceolata* L.

Onion couch

Hazel

Redshank

Ribwort Plantain

GH

HSW

G

Cdo

Modern seeds:

*Atriplex* spp

*Chenopodium album* L.

*Fallopia convolvulus* (L.)A.Love

*Stellaria media* (L.)Villars

Orache

Fat-hen

Black-bindweed

Common Chickweed

CDn

CDn

CD

CD

Habitats:

C: Cultivated/Arable. D: Disturbed. G: Grassland. H: Hedgerow. S: Scrub. W: Woodland.

d: dry soils. n: nitrogen rich soils. o: open habitats.

## Appendix 7

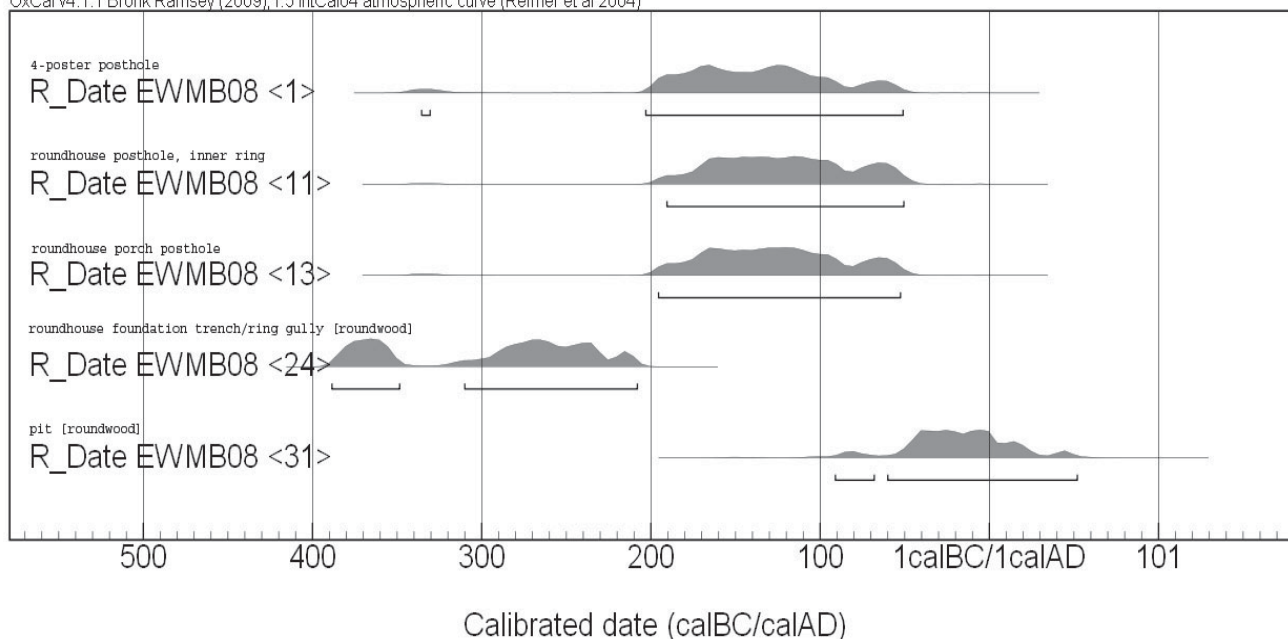
### Radiocarbon Determinants

Five samples were submitted to the University of Oxford Radiocarbon Accelerator Unit for Accelerator Mass Spectrometry (AMS) dating.

| Lab. sample number | Lab. sample reference | Context | Context description   | Uncalibrated RC date in years BP (AD 1950) | Calibrated date (95.4% probability)      |
|--------------------|-----------------------|---------|---|--|--|
| OxA-20376          | EWMB08 <1>            | (146)   | Fill of posthole [146] – part of four-poster cutting roundhouse | 2117 ± 25                                  | 336-331 BC (0.7%)<br>204-52 BC (94.7%)   |
| OxA-20377          | EWMB08 <11>           | (164)   | Fill of posthole [163] – part of the roundhouse ring            | 2101 ± 24                                  | 191-51 BC                                |
| OxA-20378          | EWMB08 <13>           | (174)   | Fill of posthole [173] – part of roundhouse porch               | 2107 ± 24                                  | 196-53 BC                                |
| OxA-20379          | EWMB08 <24>           | (134)   | Fill of circular ditch [133] – foundation trench of roundhouse  | 2245 ± 23                                  | 389-349 BC (30.6%)<br>311-209 BC (64.8%) |
| OxA-20380          | EWMB08 <31>           | (114)   | Fill of pit/posthole [113] – from the NE of the site            | 2021 ± 23                                  | 92-69 BC (5.3%)<br>61 BC -53 AD (90.1%)  |

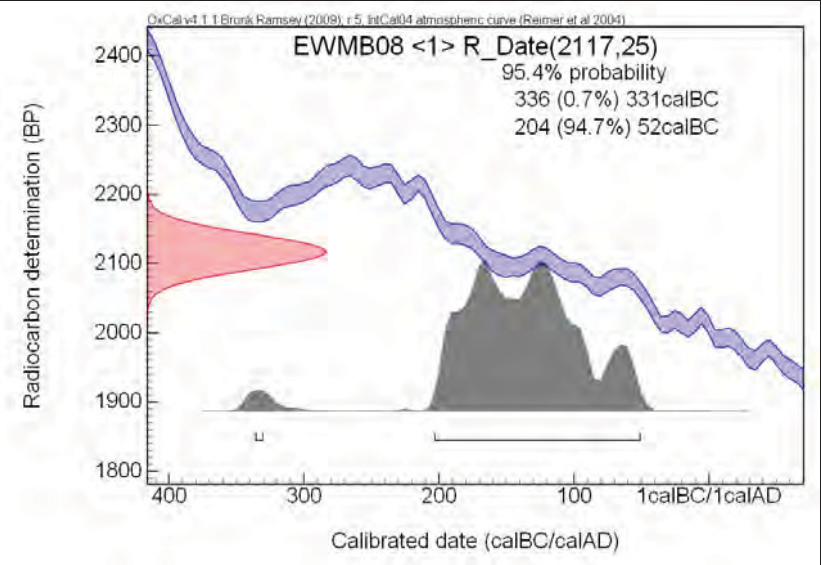
Table 5: Radiocarbon dates.

OxCal v4.1.1 Bronk Ramsey (2009); r5 IntCal04 atmospheric curve (Reimer et al 2004)

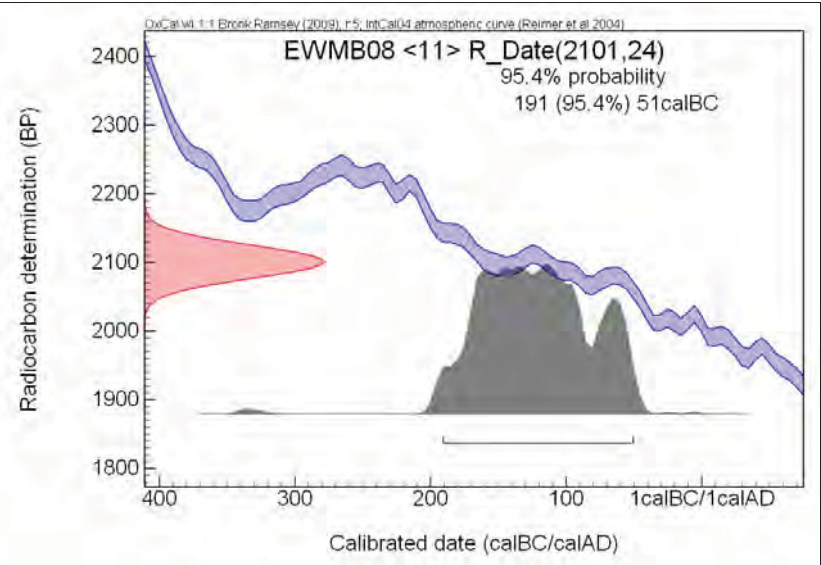




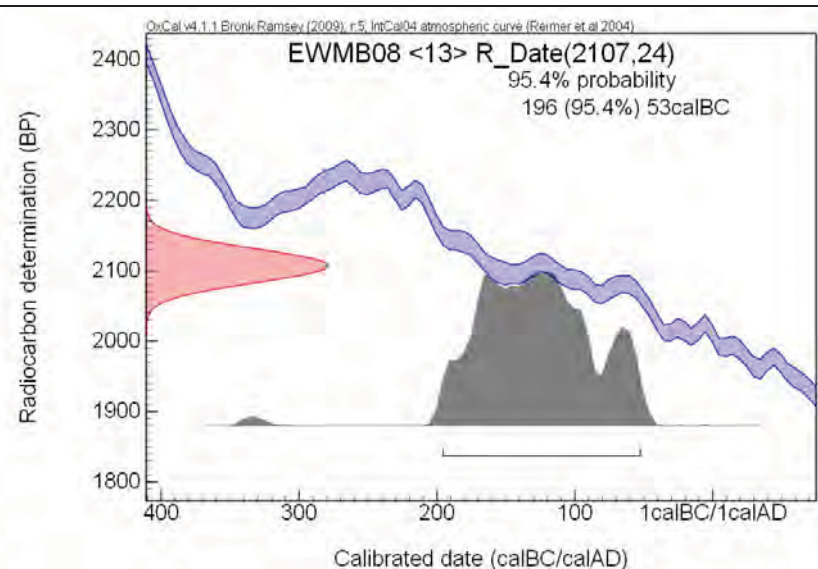
|  |                                 |
|--|---------------------------------|
| <b>Laboratory Code</b>                                   | OxA-20376                       |
| <b>Submitter</b>   | South West Archaeology Ltd      |
| <b>Site Reference</b>                                    | Middle Burrow, East Worlington  |
| <b>Sample Reference</b>                                  | EWMB08 (146) <1>                |
| <b>Material</b>  | Charcoal : <i>Alnus/Corylus</i> |
| <b><math>\delta^{13}\text{C}</math> relative to VPDB</b> | -26.96‰                         |
| <b>Radiocarbon Age BP</b>                                | 2117 $\pm$ 25                   |



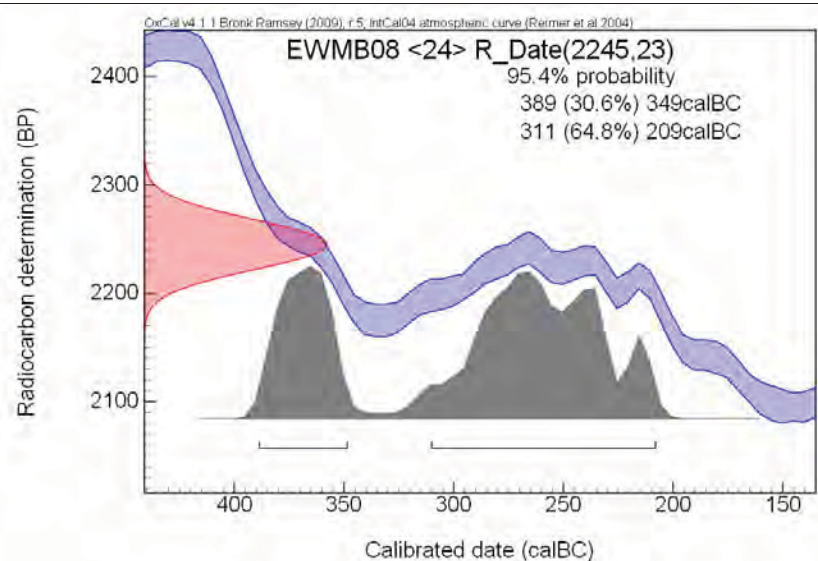
|  |                                    |
|--|------------------------------------|
| <b>Laboratory Code</b>                                   | OxA-20377                          |
| <b>Submitter</b>   | South West Archaeology Ltd         |
| <b>Site Reference</b>                                    | Middle Burrow, East Worlington     |
| <b>Sample Reference</b>                                  | EWMB08 (164) <11>                  |
| <b>Material</b>  | Charcoal : <i>Corylus avellana</i> |
| <b><math>\delta^{13}\text{C}</math> relative to VPDB</b> | -26.13‰                            |
| <b>Radiocarbon Age BP</b>                                | 2101 $\pm$ 24                      |



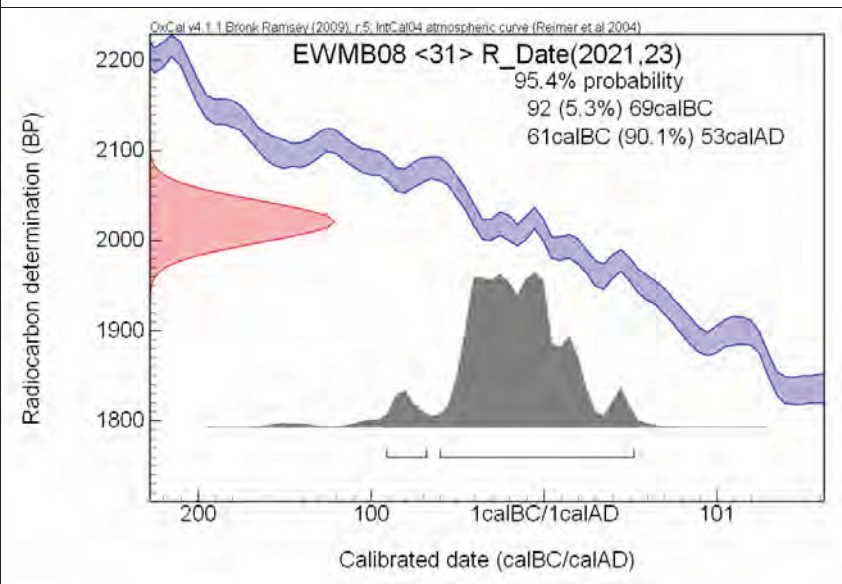
|  |                                |
|--|--------------------------------|
| <b>Laboratory Code</b>                                   | OxA-20378                      |
| <b>Submitter</b>   | South West Archaeology Ltd     |
| <b>Site Reference</b>                                    | Middle Burrow, East Worlington |
| <b>Sample Reference</b>                                  | EWMB08 (174) <13>              |
| <b>Material</b>  | Charcoal : <i>Betula</i> sp.   |
| <b><math>\delta^{13}\text{C}</math> relative to VPDB</b> | -27.23%                        |
| <b>Radiocarbon Age BP</b>                                | 2107 $\pm$ 24                  |



|  |   |
|--|---|
| <b>Laboratory Code</b>                                   | OxA-20379                                 |
| <b>Submitter</b>   | South West Archaeology Ltd                |
| <b>Site Reference</b>                                    | Middle Burrow, East Worlington            |
| <b>Sample Reference</b>                                  | EWMB08 (134) <24>                         |
| <b>Material</b>  | Charcoal : <i>Ulex/Cytisus</i> round wood |
| <b><math>\delta^{13}\text{C}</math> relative to VPDB</b> | -22.15%                                   |
| <b>Radiocarbon Age BP</b>                                | 2245 $\pm$ 23                             |



|  |   |
|--|---|
| <b>Laboratory Code</b>                                   | OxA-20380                                     |
| <b>Submitter</b>   | South West Archaeology Ltd                    |
| <b>Site Reference</b>                                    | Middle Burrow, East Worlington                |
| <b>Sample Reference</b>                                  | EWMB08 (114) <31>                             |
| <b>Material</b>  | Charcoal : <i>Corylus avellana</i> round wood |
| <b><math>\delta^{13}\text{C}</math> relative to VPDB</b> | -25.96‰                                       |
| <b>Radiocarbon Age BP</b>                                | 2021 $\pm$ 23                                 |



## Appendix 8

### List of Jpegs on CD to the rear of the report

- 1 General shot of the site viewed from the east.
- 2 General shot of the site viewed from the south east.
- 3 Feature [101] ½ sectioned, viewed from the south (0.5m scale).
- 4 Feature [103] ½ sectioned, viewed from the west (0.5m scale).
- 5 Feature [105] ½ sectioned, viewed from the south (0.5m scale).
- 6 Feature [107] ½ sectioned, viewed from the west (0.5m scale).
- 7 Feature [109] ½ sectioned, viewed from the west (0.5m scale).
- 8 Feature [111] ½ sectioned, viewed from the west (0.5m scale).
- 9 Feature [113] ½ sectioned, viewed from the west (0.5m scale).
- 10 Feature [115] ½ sectioned, viewed from the west (0.5m scale).
- 11 Ditch [133] unexcavated and posthole [131] partly excavated, viewed from the south (0.5m scale).
- 12 Feature [119] ½ sectioned, viewed from the west (0.5m scale).
- 13 Feature [117] ½ sectioned, viewed from the west (0.5m scale).
- 14 Feature [117] ½ sectioned showing packing stones, viewed from the east (0.5m scale).
- 15 Feature [121] ½ sectioned, viewed from the south (0.5m scale).
- 16 Feature [123] ½ sectioned, viewed from the south (0.5m scale).
- 17 Feature [125] ½ sectioned, viewed from the north (0.5m scale).
- 18 Feature [127] and [128] ½ sectioned, viewed from the south (0.5m scale).
- 19 Feature [129] ½ sectioned, viewed from the south west (0.5m scale).
- 20 Feature [135] ½ sectioned, viewed from the south (0.5m scale).
- 21 Hut circle [133] and associated postholes unexcavated, viewed from the west (2 x 2m scale).
- 22 As above.
- 23 As above.
- 24 As above.
- 25 As above.
- 26 As above.
- 27 As above.
- 28 As above.
- 29 As above.
- 30 Feature [149] ½ sectioned, viewed from the south (0.5m scale).
- 31 Feature [145] ½ sectioned, viewed from the south (0.5m scale).
- 32 Feature [147] ½ sectioned, viewed from the south (0.5m scale).
- 33 Feature [159] ½ sectioned, viewed from the south (0.5m scale).
- 34 Feature [151] ½ sectioned, viewed from the south (0.5m scale).
- 35 Feature [153] ½ sectioned, viewed from the south (0.5m scale).
- 36 Feature [161] ½ sectioned viewed from the south (0.5m scale).
- 37 Feature [137] ½ sectioned viewed from the south (0.5m scale).
- 38 Feature [163] ½ sectioned viewed from the south (0.5m scale).
- 39 Feature [157] ½ sectioned viewed from the south (0.5m scale).
- 40 Feature [173] ½ sectioned viewed from the south (0.5m scale).
- 41 Feature [155] ½ sectioned viewed from the south (0.5m scale).
- 42 Feature [165] ½ sectioned viewed from the south (0.5m scale).
- 43 Feature [171] ½ sectioned viewed from the south (0.5m scale).
- 44 Feature [175] and [185] ½ sectioned, viewed from the south (0.5m scale).
- 45 Feature [177] ½ sectioned viewed from the south (0.5m scale).
- 46 Feature [167] ½ sectioned viewed from the south (0.5m scale).
- 47 Ditch [133] excavated and posthole [131] ½ sectioned, viewed from the south (0.5m scale).
- 48 Ditch [133] excavated and posthole [131] ½ sectioned viewed from the south (0.5m scale).
- 49 Ditch [133] north section post excavation, viewed from the west (0.5m scale).
- 50 Ditch [133] south section post excavation, viewed from the west (0.5m scale).
- 51 Ditch [133] southeast section post excavation, viewed from the north east (0.5m scale).
- 52 Feature [197] ½ sectioned, viewed from the west (0.5m scale).
- 53 Ditch [133] west section post excavation; possible plank holes, viewed from the west (0.5m scale).
- 54 Ditch [133] northwest section post excavation viewed from the south west (0.5m scale).
- 55 Ditch [133] northwest section post excavation; close up on possible plank hole viewed from the south east (0.5m scale).
- 56 Feature [145] fully excavated, viewed from the west (0.5m scale).
- 57 Feature [167] fully excavated, viewed from the south (0.5m scale).
- 58 Feature [153] fully excavated, viewed from the south (0.5m scale).
- 59 Feature [161] fully excavated, viewed from the west (0.5m scale).
- 60 Feature [157] fully excavated viewed from the south (0.5m scale).
- 61 Feature [163] fully excavated, viewed from the south (0.5m scale).



- 62 Feature [169] fully excavated, viewed from the west (0.5m scale).
- 63 Feature [169] fully excavated, viewed from the south west (0.5m scale).
- 64 Feature [199] fully excavated, viewed from the south (0.5m scale).
- 65 Feature [199] fully excavated, viewed from the south (0.5m scale).



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