

◆ On the verge of Wessex? A prehistoric landscape at Oldlands Farm, Bognor Regis, West Sussex

Andrew Margetts

with contributions by

Anna Doherty
Karine Le Hégarat
Kristina Krawiec
Cath Langdon
Rob Scaife
and Lucy Sibun

Archaeological investigations at Oldlands Farm revealed many rare and new categories of features and finds for prehistoric Sussex, encouraging comparison with neighbouring parts of Wessex. During both the neolithic period and the Bronze Age the site was located close to an estuary or embayment associated with the Lidsey and Aldingbourne Rifes. This location, with its rich pastures and saltmarsh habitats, may have acted as a draw to people throughout prehistory. During the late neolithic period the area seems to have been used, perhaps on a seasonal basis, for feasting and possibly the production and consumption of alcohol. Associated with this phase was Grooved Ware pottery, a ritualised pit, the earliest known burnt mound from south-east England and a pit cluster. The latter two classes of monument may have acted as beacons in the landscape for transient local groups. During the subsequent Bronze Age the area was used for agriculture, settlement and funerary practice. Two phases of regular, possibly coaxial, field systems were located, as well as a significant L-shaped and later circular enclosure, reminiscent of the ringworks of eastern England. The latter phase of this enclosure was proximate to a significant waterhole, which not only provided the first example of a log ladder found in Sussex, but also a rare and important pollen sequence for the Coastal Plain.

INTRODUCTION

This article presents the results of an extensive programme of archaeological trenching, ‘strip, map and sample’ investigations and a geotechnical watching brief carried out by Archaeology South-East (ASE, UCL Institute of Archaeology) at Oldlands Farm, Bognor Regis, West Sussex (Fig. 1). The fieldwork was undertaken between June and November 2014 and was commissioned by CgMs Consulting Ltd on behalf of their client, Bericote Properties.

The archaeological excavation totalled 3.3ha with additional trenching, test-pitting and a borehole survey. The work was conducted prior to the creation of a Flood Compensation Area; however, the main development (a new Rolls Royce warehouse) was to receive imported material to raise levels between 0.5 m and 1.5m above the existing ground surface, to mitigate impact on the archaeological remains. The excavations represent one of a small number of large archaeological investigations conducted on the West Sussex Coastal Plain. It complements recent projects at the Medmerry Realignment Scheme, Selsey

(Stephenson and Krawiec 2019) and North Bersted (Taylor *et al.* 2014).

Fieldwork at Oldlands Farm was situated on the interfluvium between the Aldingbourne and Lidsey Rifes, in close proximity to the hamlet of Shripney. The land was previously laid to arable, bounded by drainage ditches and mature hedgerows. Archaeological remains were encountered dating from the mesolithic to the post-medieval period, including important late neolithic features associated with occurrences of Grooved Ware pottery (a rare find in Sussex).

Significant evidence of extensive Middle and Late Bronze Age occupation, land division, enclosure and funerary activity was also discovered, as well as Middle Iron Age–late Romano-British remains and a possible medieval strip-field system. This article presents the neolithic to Late Bronze Age activity from the site. The Iron Age to Roman evidence, though interesting, was deemed to be of only limited significance. The post-excavation assessment should be referred to for discussion of the results from these periods (Margetts 2015). The medieval and post-medieval remains provide the basis for

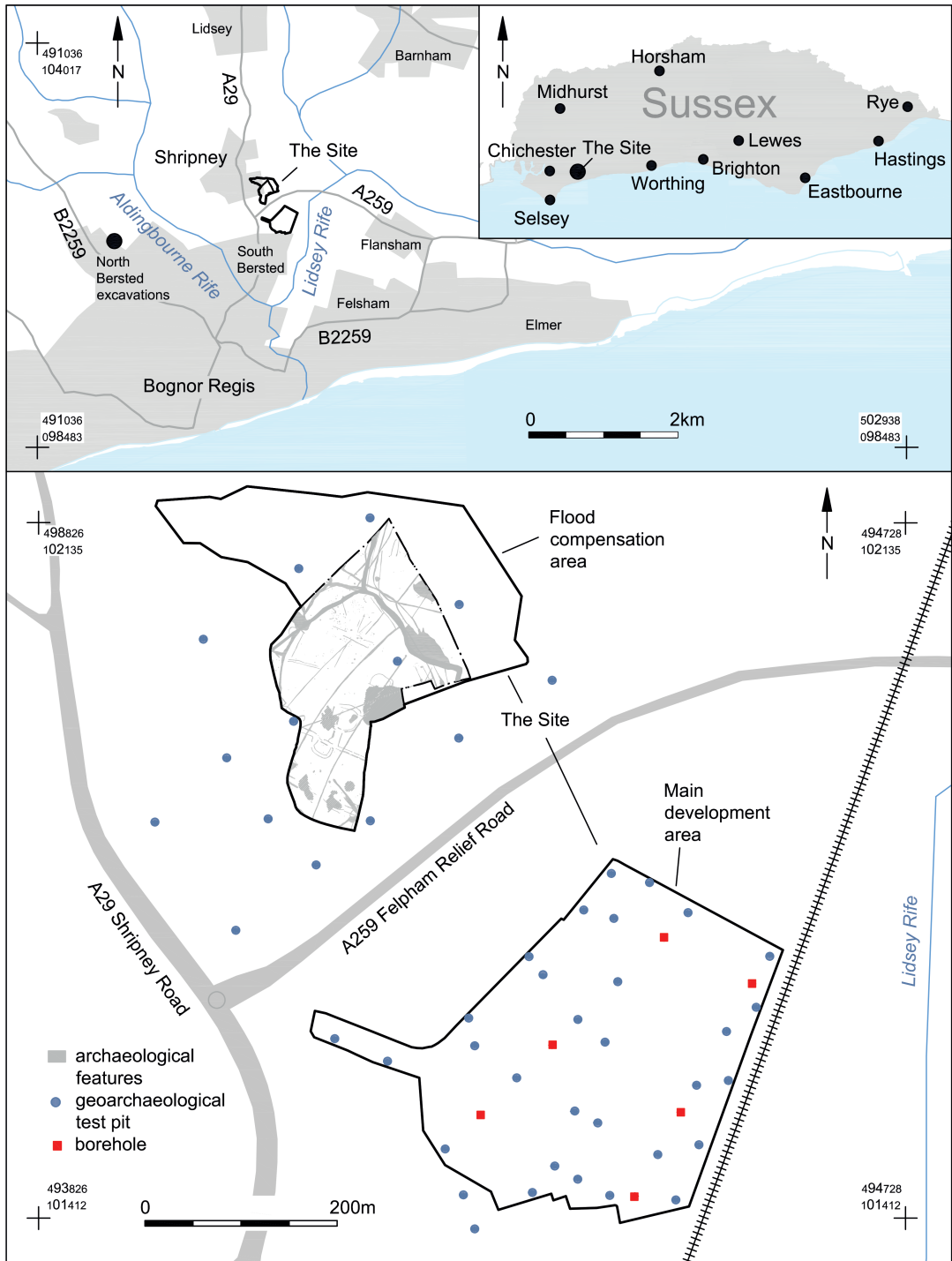


Fig 1. Site location.



Fig 2. Photograph of the site, looking north.

a further shorter article to be found elsewhere in this volume (Margetts this vol. pp 139–147).

THE GEOARCHAEOLOGICAL AND
PALAEOLANDSCAPE CONTEXT BY
KRISTINA KRAWIEC

The borehole survey was carried out along the floodplain of the Lidsey Rife, which is now a small, managed drainage channel. The survey recorded an alluvial sequence, and subsequent microfossil analysis (principally ostracods, forams and diatoms) demonstrated the nature of the pre-drained landscape.

The modern rife is a misfit channel, in that it occupies a much larger valley than the channel itself suggests. Analysis of the sediments demonstrated that the area was once a large, open estuary or embayment, both common features of the south coast of England during the prehistoric period. The embayment would have been fringed by tidal mudflats and saltmarsh.

Sediments associated with the channel varied across the site, indicating local changes in depositional environment over time. This was also reflected in the microfossils results which indicate changes in the morphology of the embayment such as the formation of tidal channels and upper tidal flat to saltmarsh transition. Such variations are likely to be linked to changes in sea level, as well as the reconfiguration of near-shore shingle barriers.

The problems of constructing a reliable chronology for the microfossil and sediment data were made clear after radiocarbon dating was carried out on the organic component of the deposits. This demonstrated that the organic material likely derived from the reworking of older, possibly offshore, peat deposits. As a result, the chronology for the area was inverted, with older dates present above younger ones. It is likely that this embayment was present at the site during the neolithic period and the Bronze Age, and that the formation of the rife as a formal channel relates to much later (probably medieval) land management practices.

RESIDUES OF HUNTERS

A small quantity of flints recovered from the site (around 13) was considered to be of likely mesolithic and/or early neolithic date. This adds to the growing corpus of such material from the West Sussex Coastal Plain where it seems probable that short-stay hunting camps existed, together with occasional longer-stay base camps (Butler 2008).

All the artefacts recovered from Oldlands Farm were residual finds in later contexts and this light background scatter probably represents transient activity. The local environment may have comprised thick, wet woodland during much of the mesolithic period, giving way to upper tidal saltmarsh by the middle of the 6th millennium BC. The occurrence of the flintwork amongst an assemblage dominated by later finds is fairly typical of the wider area, where quantities of late prehistoric material normally include a significant proportion of residual mesolithic pieces (*ibid.*, 27).

RESULTS OF EXCAVATION

PERIOD 1, PHASE 1: LATE NEOLITHIC (c. 2800–2600 BC)

Despite earlier evidence of people within the landscape, the first phase of activity represented by archaeological features dated to the middle part of the late neolithic (c.2800–2600 BC). Remains comprised pits as well as a burnt mound and areas of water-lain silt (*see* Fig. 3).

The latter constituted extensive areas of whitish soil which contained occasional finds of fire-cracked and struck flint. These deposits were likely a result of the low-lying nature of the site and micromorphological analysis has shown they represent shallow, seasonally infilled ponds.

The close proximity of the water table and areas of standing water in a marshland habitat would have contributed to the formation of these deposits. Indeed, the area would have been dominated by the embayment recorded in the microfossil data and fluctuations in sea level related to regional patterns of change, as well as local variations in tidal range across the seasons. This undivided landscape was suited to seasonal grazing, hunting, fishing and wildfowling (Fig. 3, OA1).

Pit [811]

Situated some 100m to the north of a cluster of pits described below, feature [811] (Fig. 3) was apparently dug for deliberate depositional purposes. Its shallow profile was filled by two distinct deposits. The uppermost of these was dark and related to a backfill event. It contained reasonably frequent inclusions of fire-cracked flint, as well as fired clay, a tiny fragment of bone, worked flint, pottery and charcoal.

The latter was identified as an array of different *taxa* comprising *Maloideae* (which includes apple, whitebeam, rowan, hawthorn), oak (*Quercus* sp.), hazel (*Corylus avellana*) and wild cherry/blackthorn (*Prunus* sp). It is interesting to note that all these species bear fruit or nuts and some deliberate selection may be inferred.

The pottery consisted of 34 sherds suggestive of the Durrington Walls sub-style of Grooved Ware. One of these had a thick, sooted residue adhering to its surface which produced a radiocarbon date of 2881–2635 cal BC (95% probability; 4167±29 BP; SUERC-63860). A piece of *Maloideae* charcoal was also submitted and this returned corroborative dates of 2887–2678 cal BC (95% probability; 4187±24 BP; SUERC-63859).

The large assemblage of unburnt worked flint (121 pieces) recovered from this feature was dominated by debitage products and a total of six cores were present. Similarities in the flint type suggest elements of the same knapping sequence are likely to be present; however, no refits or conjoins were found. The majority of the flintwork is chronologically undiagnostic but, based on technological traits, it forms a coherent group likely to be contemporary with the feature and the pottery.

The earlier fill was difficult to discern from the underlying natural and may, in fact, represent a disturbed interface between the two, or perhaps a layer of silting and weathering indicating that the feature was left open for a period prior to backfilling.

Pit cluster

Four large sub-oval pits [258], [283], [342] and [347] were encountered in the southern part of OA1 (*see* Figs 3 and 4). These formed an arc, orientated on a roughly north-east-south-west alignment, and all (apart from [347] which was not fully excavated due

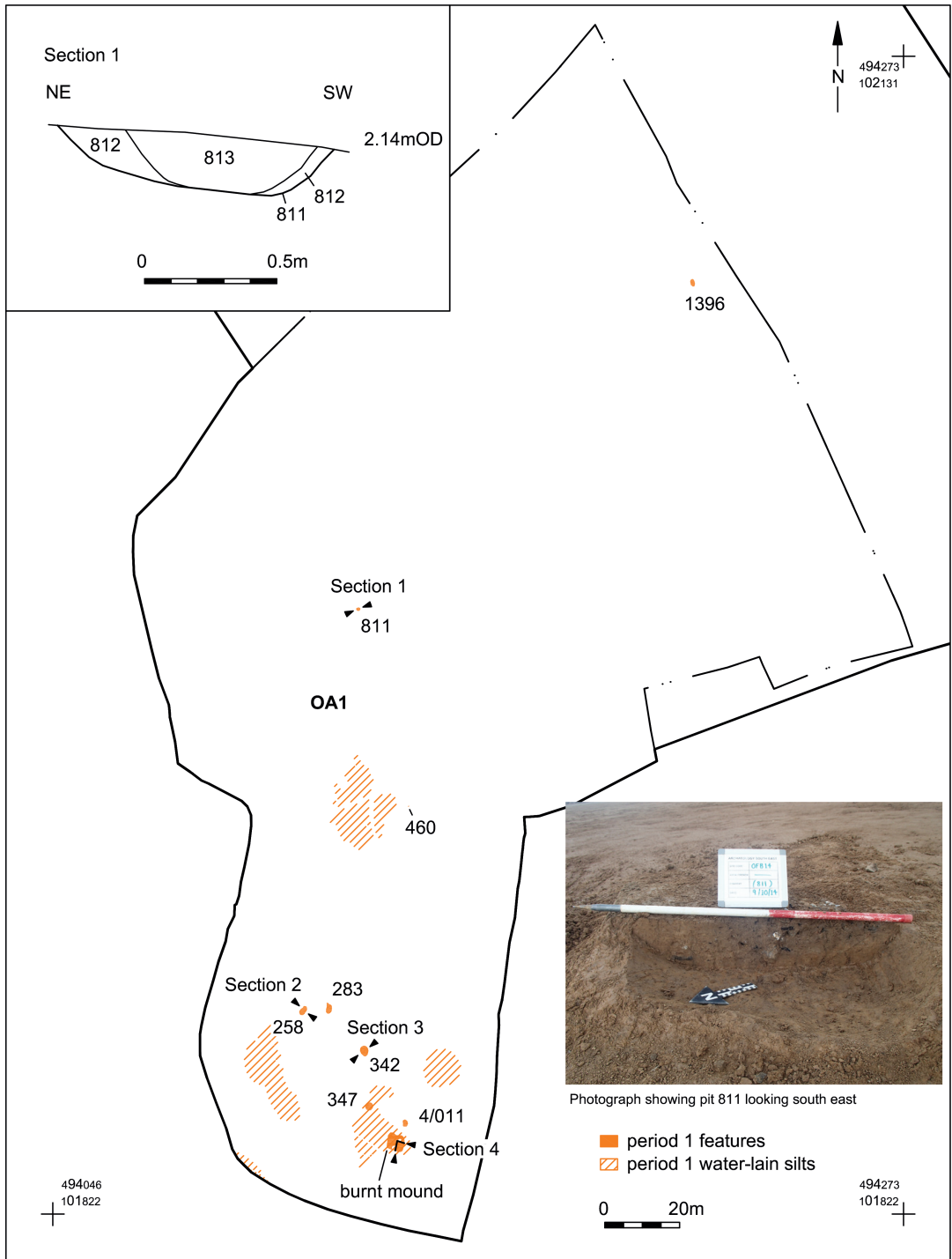


Fig. 3. Period 1.1 plan and section, with photograph of pit 811.

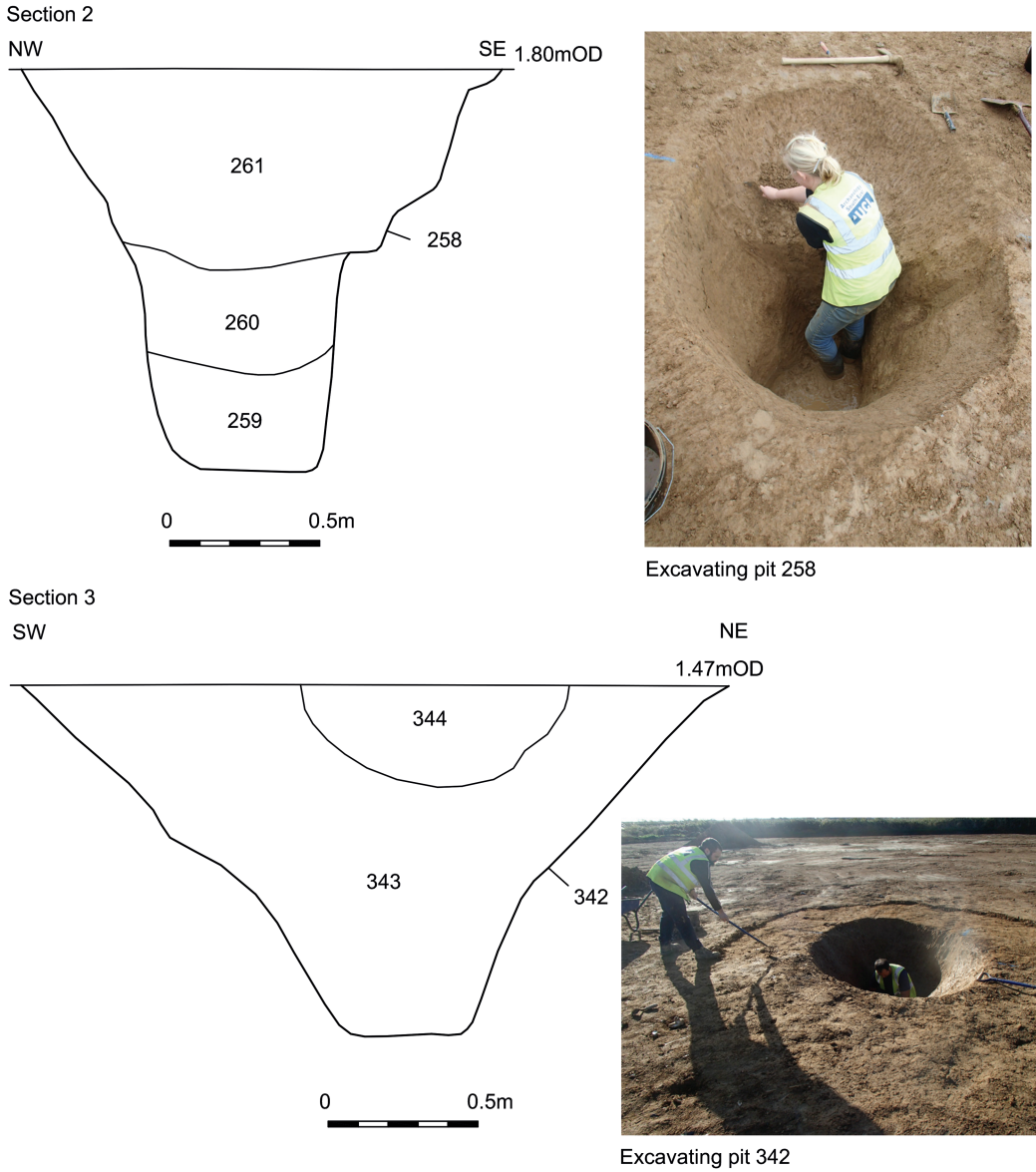


Fig. 4. Sections and photographs of pits [258] and [342].

to water ingress) had sharp, steeply-sloping sides with a rounded base.

Pit [258] was filled by three distinct deposits similar to the surrounding brickearth. These contained sporadic frequencies of chalk fragments, naturally occurring flint nodules, crushed

shell, charcoal and manganese flecks. The high proportion of chips within the associated worked flint assemblage indicates that knapping activity took place in the vicinity, whilst all sherds of pottery found within the feature were relatively abraded, perhaps indicating that they had washed into the

pit rather than being deliberately deposited. The presence of sherds from the same vessel in both the lower and middle deposits may, however, indicate that this process was relatively rapid, or that the fills comprised fairly immediate but sequential deposition of the pit's arisings. The finds recovered from the various fill deposits are shown in Table 1.

Pit [283] was similar in plan to [258] but was shallower in depth; a small projection on the north-western side may relate to a cut for access. Also, in contrast to [258], this feature was only filled by a single homogenous deposit and contained no clearly diagnostic late neolithic material. The small group of bodysherds recovered were in a very coarse, flint-tempered fabric unlikely to be later than Middle Bronze Age in date. Indeed, they may in fact be of early neolithic origin. The small assemblage of associated flintwork (eight pieces) may also be indicative of an earlier neolithic date, as two bladelets were counted amongst the pieces found.

Pit [342] was filled by deposits similar to the surrounding brickearth but with a slightly sandier texture, perhaps indicative of a mixture of silt and wind-blown deposition. The uppermost fill was slightly darker in colour than that which it overlay, due to the more frequent occurrence of charcoal flecks. Also within the fills were naturally occurring, worked (24 pieces) and fire-cracked flint, as well as fired clay, sherds of pottery and fragments of a red deer antler. The inclusions and finds may indicate

Table 1. Finds and environmental material recovered from pit [258].

Feature	GW Pit / Sump [258]		
	Primary fill	Secondary fill	Tertiary fill
Stratigraphy			
Context	[259]	[260]	[261]
Flake	2	3	6
Blade-like flake	–	–	1
Chip	14	27	33
Multiplatform flake core	1	–	–
Grooved ware	2	11	7
DR/PDR?/ENEO?	1	1	2
FCF	2g	34g	6g
Glass	–	–	<2g
Chert cobble fragment	–	–	128g
Charcoal	<2g	<2g	<2g
Hazelnut shell frags	–	–	<2g

that nearby occupation or burnt mound activity contributed material to these fills.

Pit [347] underlay a deposit of water-lain silt that was in-turn overlain by the late neolithic burnt mound described below. The pit was only revealed once this masking material had been removed. It was very similar in profile to pit [258] and was also filled by three distinct deposits. The base of the feature was not reached, due to the presence of the water table at 1.10m below the archaeological horizon.

All three deposits related to silting episodes or rapid backfilling with arisings. Finds recovered included a single intrusive sherd of undiagnostic later prehistoric pottery, together with four sherds of late neolithic/Early Bronze Age date. A tiny piece of fired clay was also retrieved, along with seven pieces of fire-cracked flint.

Pits of broadly neolithic date have occasionally been found on the Coastal Plain, with examples recorded in an area stretching from Selsey in the south to Lavant in the north and North Bersted in the east. At the latter site (Taylor *et al.* 2014) the late neolithic was reasonably well represented by

Table 2. Finds and environmental material recovered from pit [342].

Feature	Pit / Sump [342]	
	Primary fill	Secondary fill
Stratigraphy		
Context	[344]	[343]
Flake	4	19
Blade-like flake	1	3
Blade	–	2
Chip	8	12
Irregular waste	–	2
Unclassifiable/fragmentary core	–	1
End scraper	1	1
End-and -side scraper	–	1
Grooved ware	3	–
DR/PDR?/ENEO?	–	1
Antler	–	1
Burnt clay	10g	–
FCF	324g	718g
Charcoal	2g	<2g
Hazelnut shell frags	–	<2g
Natural flint	–	296g
CBM	–	8g

four pits, three of which contained Grooved Ware pottery.

One of these, pit [2041], was comparable in morphology to pit [811] at Oldlands Farm and returned a similar radiocarbon date of 2844–2623 cal BC (UBA22757; *ibid.*, 5–6, 147, Table 1).

It is probable that the evidence associated with Grooved Ware from both North Bersted and Oldlands Farm relates to the same general phase of activity within the landscape, whether or not this took place at precisely the same time on the two sites. Neolithic pit function is often the subject of much debate (*see* Anderson-Whymark and Thomas 2012) and there may be some separation between the small, bowl-shaped pit [811] and the larger, deeper pits found in a cluster or arc ([258], [283], [342] and [347]).

The former can best be interpreted as a pit used for ‘structured deposition’, perhaps as a ‘formal statement of abandonment’ (Pollard 2001, 323). The larger pits, by contrast, can perhaps be seen in more prosaic terms as attempts to discover fresh water. They may also have had other purposes in the wider landscape, such as marking ownership, or even as early land plots which have left little other archaeological trace.

They possibly represent occupation or at least transient activity of this date, with the associated artefacts indicating chance incorporation as washed-in finds. That said, the presence of the antler may support deliberate deposition as well as the rapid and sequential backfilling of pit arisings. However, the abraded nature of the pottery supports an interpretation of residues of habitation, rather than deliberately selected items.

Burnt Mound with a contribution by Karine Le Hégarat

To the immediate east of the pit cluster a heap of fire-cracked flint, which measured approximately 19m² and was approximately 0.45m thick, comprised the remains of a burnt mound (Figs 3 and 5). A slightly kidney-shaped oval in plan, it measured around 5m in diameter.

The heated flint filled a shallow depression and overlay a number of features that were separately recorded but filled with similar material to that which comprised the mound. Two gullies fed a roughly rectangular trough. This measured approximately 0.65m in length and 0.35m in width, with a shallow depth of about 0.07m.

A further shallow feature, which underlay the mound, comprised a possible hearth; however, there was only a small amount of evidence for *in-situ* burning. Environmental sample <102> taken from the main dump deposit overwhelmingly incorporated fire-cracked flint, although struck flint and charcoal were also encountered. The latter was dominated by hazel (*Corylus avellana* sp.), but *Maloideae* and oak (*Quercus* sp.) were also common, with occasional fragments of elm (*Ulmus* sp.), willow/poplar and ash (*Fraxinus excelsior*). Fragments of the first two *taxa* were sent for radiocarbon dating and returned similar dates of 2861–2500 cal BC (95% probability; 4094±30 BP; SUERC-65221) and 2872–2620 cal BC (95% probability; 4135±30 BP; SUERC-65220) respectively.

The burnt mound from Oldlands Farm is important, due to its association with two late neolithic dates. As such, it represents the earliest known example from Sussex, and probably south-east England, and is one of a small number dated to the late neolithic nationally. This class of feature is more often associated with the Bronze Age on the Coastal Plain, as proved to be the case at the nearby site of North Bersted. Here, the three encountered examples were more typical, all being of Middle Bronze Age origin (Taylor *et al.* 2014, 152).

The function of burnt mounds remains unclear. They may represent remnants of activities involving the immersion of heated pieces of flint or stone in order to boil water. Pursuits such as cooking, brewing, leather working, dying, salt production and bathing are all commonly proposed (English Heritage 2011a; Barfield and Hodder 1987; Ó Drisceoil, 1988). However, alternative uses from corn drying (Cunliffe 2002, 410–11) to obtaining tempering material for ceramics, or as part of the metal-working process (Thelin 2007) have also been suggested.

Other features

The remaining features have been somewhat uncertainly associated with this phase. They include shallow pit [4/011], encountered during the evaluation, a disturbed ‘cooking pit’ [1396], filled with fire-cracked flint, and a single late neolithic/Early Bronze Age sherd, as well as a plough-disturbed deposit of late neolithic/Early Bronze Age pottery [460]. The latter could relate to Grooved Ware or Beaker or possibly could be an Early Bronze Age collared or biconical urn.

Section 4

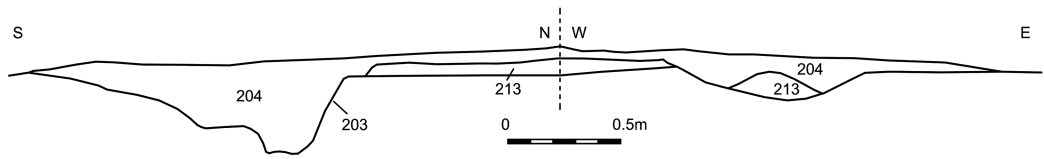


Fig. 5. Section and photograph of burnt mound looking west.

PERIOD 1, PHASE 2: LATE NEOLITHIC TO EARLY BRONZE AGE/MIDDLE BRONZE AGE RING DITCHES?

Four partial ring gullies (one of which was segmented in form) were encountered in the northern half of the site (Fig. 6, S1–4). Despite total excavation of two of the features they produced very little in the way of dating material, amounting to a single denticulated scraper from the segmented example (S4). Where stratigraphic relationships were present, two of these ring gullies could be demonstrated to be Bronze Age or earlier.

Though reminiscent of roundhouse gullies, the complete lack of domestic material and evidence of internal structural features makes an alternative explanation of small barrow ditches appropriate. Indeed, the roughly co-linear east–west alignment of the most northerly three could be consistent with the arrangement of

such monuments. Having said this, gully-defined buildings of non-domestic function may explain a lack of habitation debris and therefore dating evidence.

The discovery of two ring ditches during fieldwork on the A27 at Westhampnett (Fitzpatrick *et al.* 2008) and the known site of the (now destroyed) Hove Barrow are some of the few similar features known from the Coastal Plain (Dunkin and Yates 2008, 37). One further site is also worthy of note, however, and that is Claypit Lane (also near Westhampnett; Chadwick 2006). Here, two or three penannular gullies or ring ditches, accompanied by cremations of Middle Bronze Age date, were encountered. These features appear reflective of the increasing amount of evidence for small Middle Bronze Age barrows within south-east England and it is possible that the ring ditches at Oldlands Farm



Fig. 6. Plan of ring ditches and photograph of ditch S2, looking north-east.

in fact relate to later periods of known funerary activity at the site.

PERIOD 2, PHASE 1: MIDDLE BRONZE AGE LAND DIVISION AND ENCLOSURE

Middle–Late Bronze Age activity can be said to comprise the first intensive land use of the area (see Fig. 7). Phase 2.1 has been separately designated from phase 2.2, largely on spatial and stratigraphic grounds aided by radiocarbon dating. It is likely, however, that these do not necessarily mark a break in use at the site. Indeed, the period is likely represented by continual land use, with increasing evidence for settlement in the latter phase.

That said, there does seem to be an alteration in how field systems are bounded and a general re-establishment and replacement of a coaxial field system between the two phases. In contrast, an enclosure within the phase 2.1 field system remains in use but is further elaborated by phase 2.2. The evidence for temporal changes as well as continuity of location is, in part, borne out by the ceramic evidence. Generally, the pottery fabrics of both phases 2.1 and 2.2 pottery fabrics are more typical of the Middle and Late Bronze Age respectively, but the difference between the two is reasonably subtle. It is perhaps more correct to view the entirety of Period 2 as a transitional Middle/Late Bronze Age period, with activity likely ongoing before and after around 1150BC.

Enclosure and trackway

Features associated with Period 2.1 comprised a likely track or droveway (R1) which was encountered in the southern part of the site. The defining ditches produced a mixed assemblage of pottery which included abraded Grooved Ware as well as a few sherds dated to the Middle to Late Bronze Age. Two post-holes, roughly in line with the southerly trackway ditch, may be part of the same system. One of these contained both worked and fire-cracked flint and unworked pieces of Sarsen stone.

The divergence of the two trackway ditches in the area of these post-holes may relate to stock-funnelling. A further post-hole underlay part of the southerly trackway ditch. It was filled by similar deposits to the overlying feature and may relate to a post-marker for the setting out of the track.

The routeway divided two open areas (OA2 and OA3) and was clearly related to an enclosure (ENC1) that extended beyond the western limit of the

excavation area. The gully-like features that defined the space were filled by similar deposits to the associated trackway. They bounded an ephemeral deposit, possibly derived from livestock poaching, which contained two pieces of struck flint as well as a small piece of ceramic building material, likely introduced via ploughing.

An axial track, L-shaped enclosure and field system

A further trackway (R2) was encountered to the north of OA3 and represented part of a wider field system (FS1; see below). It was associated with an enclosure (ENC2), which was located within the corner of a larger field space. A pair of parallel ditches linked it with R2 to the south. The feature bears a resemblance to the L-shaped enclosures of Wessex, where they often appear to have been inserted into the corners of ‘Celtic fields’.

This is in contrast to the examples from the Upper Thames Valley, where they are usually freestanding (Lambrick and Robinson 2009, 70–73). ENC2 would remain a focus of activity as the period progressed but would be significantly recut, remodelled and elaborated during phase 2.2 (see below). Although ditch G50 has been equated with this phase, it could relate to Period 2.2, perhaps as part of an internal structure such as a roundhouse ring gully.

To the north of the L-shaped enclosure, the partial remains of a truncated, possibly coaxial, field system (FS1) was situated in the central portion of the site. This comprised a few recognisable square or rectilinear spaces defined by double-ditched boundaries or trackways. The vestiges of these ‘fields’ were obviously once part of a much larger system but had been truncated by both the plough and later features on site. The double-ditched boundaries or tracks were comprised of narrow, shallow, parallel gullies of around 0.50m in width, reaching depths of about 0.10–0.25m.

The finds produced included worked flint and pottery of Middle/Late Bronze Age date, as well as rarer sherds of late neolithic/Early Bronze Age and Romano-British origin. These are thought to be residual and intrusive respectively. Occasionally, shallow, irregular features were encountered within the bounds of the parallel ditches. These are thought to relate either to the remains of hedges or poaching caused by livestock movement.

Occasional post-holes within this field system were dated by stratigraphy or diagnostic Middle

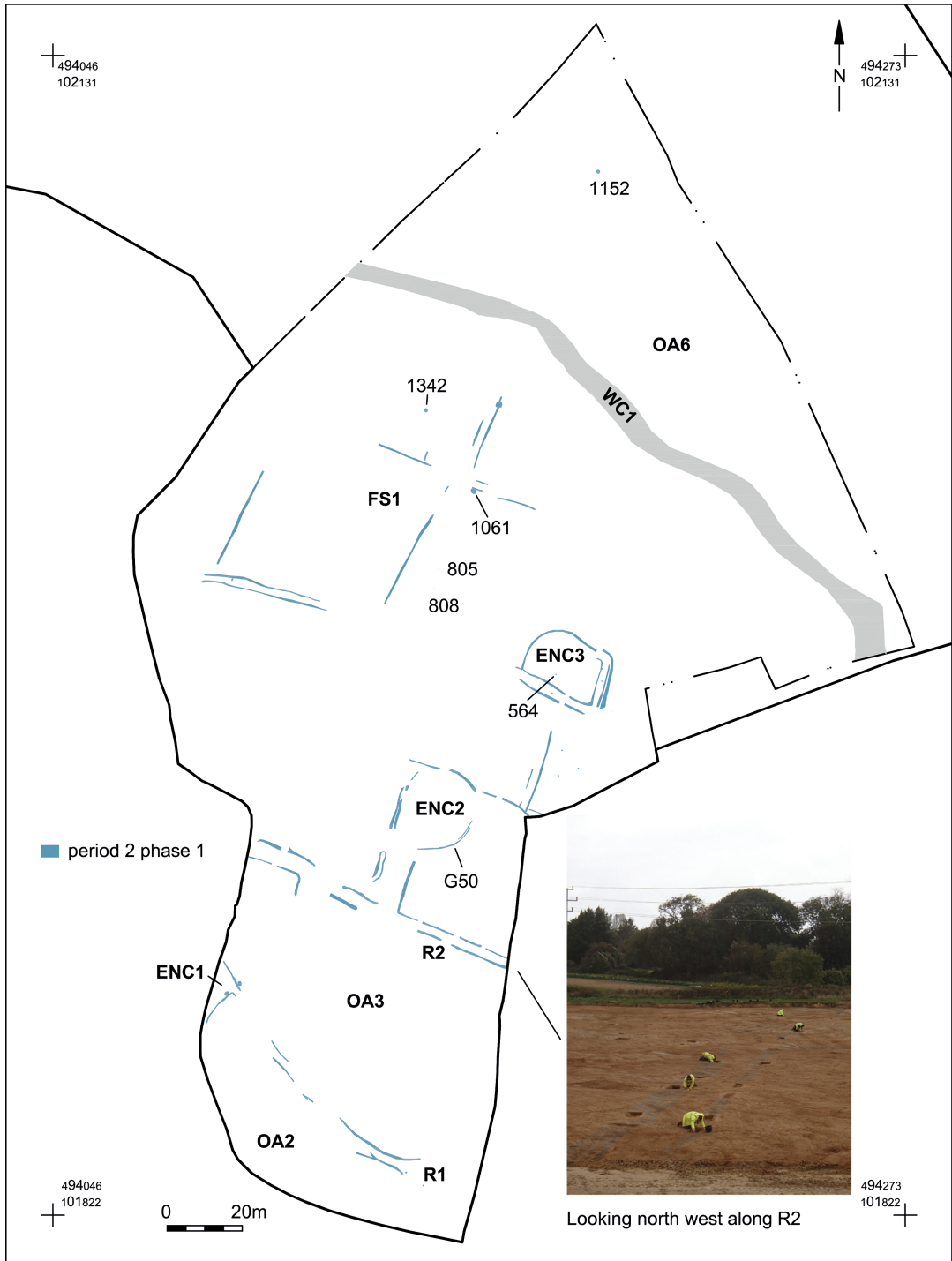


Fig. 7. Period 2.1 plan, with photograph looking north-west along R2.

Bronze Age pottery. Some of the boundary features were also associated with post-holes which may relate to marking out of the system. In addition, a well or solution pipe [1061] was clearly truncated by one of the linear features. This was sub-circular in plan, with a diameter of about 1.35m and had steeply-sloping, nearly vertical sides.

The base was dug by hand to 1.10m and the feature was subsequently bottomed by machine to a maximum depth of 2.2m. However, effective recording was prevented by the ingress of water. The feature was filled with silty clay similar to the surrounding brickearth. This incorporated a few sherds of Middle/Late Bronze Age pottery, occasional natural flint nodules and both worked and fire-cracked flint.

Whether this feature had man-made or natural origins, it was found to be located close to a nexus of boundaries. Its substantial nature may therefore have acted as a clear marker in the landscape prior to the creation of the fields.

Such regularly laid-out systems appear to be a feature of the later Bronze Age in lowland Britain (Yates 2007) and an extensive area of this category of land division has been encountered at Climping and Ford, some five kilometres to the east of the current site (Hart 2008; RPS Clouston 1999; 2000). Here, similarly orientated and morphologically comparable land division shared a contemporary (Middle–Late Bronze Age) date to the ‘fields’ at Oldlands Farm.

The Ford/Climping enclave may have been sited to allow the organised husbandry of cattle or sheep alongside the open grazing offered by the rich pastures of the Arun floodplain. Similar associations may be claimed for the Oldlands fields, proximate as they are to both the Aldingbourne and Lidsey Rifes.

What may be equally interesting, however, is the potential for the land division found at Oldlands and Ford/Climping to actually form continuous parts of the same system. It is important to note that no analogous land division was encountered at the nearby site of North Bersted (Taylor *et al.* 2014, 153) and it is therefore possible that the Aldingbourne Rife formed the western boundary of the system.

That said, the broadly north-east–south-west orientation of the land division of both Period 2.1 and Period 2.2 (*see below*) is a recurrent characteristic of the Late Bronze Age across the Coastal Plain (Yates 2007; Dunkin in prep.). It may be that the status of the South Coast as a significant

core area during the period (Yates 2007) is reflected in a widespread, if discontinuous, regular field system. Beyond the Coastal Plain, the contribution of late prehistoric and Roman land division to the historic landscape of the Sussex Weald has been the subject of recent investigations (Margetts 2018a; 2018b) and the implications for the evidence from Oldlands Farm is discussed in more detail later in this article.

Enclosure 3

In similarity to ENC2, ENC3 comprised a small, roughly sub-rectangular enclosure with an external track or field boundary. Although it was designated as a separate enclosure, it was defined by narrow, shallow, gully-like features that were obviously part of the wider field system (FS1). The enclosure ditches were partially overlain by a water-lain deposit associated with a later waterhole (WH1; *see below*).

Only a single feature was encountered within the interior of the enclosure, post-hole [564]. However, two post-holes were centrally positioned within the external track. These may relate to stock sorting facilities or gates. A deliberate deposition incorporating the remains of two semi-complete vessels of Middle Bronze Age date, as well as a fragment of quartzite axe (Fig. 8), was encountered in the south-eastern corner of the enclosure.

Such ‘special deposits’ are not uncommon within the corners and terminal ends of contemporary enclosure ditches and their placement seems to be related to the marking of importance. A similar structured deposit, comprising a copper alloy socketed axe and a saddle quern, was encountered at the Yapton Road site, Climping (Priestley-Bell 2009); however, it was recovered within the terminal end, rather than the corner of an enclosure ditch (*ibid.*, ditch D8).

Cremations/placed vessels with contributions by Lucy Sibun and Anna Doherty

Within the coaxial field system FS1 outlined above were a number of urned cremations or placed vessels ([805], [808], [1342]), often severely truncated. A further funerary feature [1152] was encountered within OA6, separated from FS1 by a stream (WC1).

The presence of occasional Middle Bronze Age cremation burials is not an uncommon occurrence on the Coastal Plain and similar evidence was encountered at the nearby site of North Bersted (Taylor *et al.* 2014). Evidence from Oldlands Farm



Fig. 8. Quartzite axe from the corner of ENC3.

Table 3. Quantification of cremated bone from Period 2.1 funerary features.

Group number	Context Number	Fragment size (mm)	Weight per skeletal element (grams)					Percentage of whole assemblage	Total
			Skull	Axial	Upper limb	Lower limb	Unident		
47	1344	0-4	5.2				31.5	13.8	265.1
		5-8		9.5	4.9	5.2	121.6	53.2	
		9-20		2.4	35.5	25.5	8	27.0	
		21-30				8.5		3.3	
		30+				7.3		2.8	
		Percentage of identifiable material	5.0	11.4	38.8	44.7			
84	1153	0-4					0.8		3.3
		5-8		0.1			2.4		
	1154	0-4	<1				72.0	50	144.0
		5-8	4.4	0.5	4.8		53.7	44.0	
		9-20	5.6	0.7	2.3			6.0	
		Percentage of identifiable material	54.6	6.6	38.8				

appears to corroborate earlier findings which suggest that extensive urnfields are not a feature of the area (Hamilton 2003, 71; Taylor *et al.* 2014, 152).

The pottery vessel within pit [805] comprised the fragmented lower portion of a Deverel-Rimbury/Post-Deverel-Rimbury (DR/PDR) transitional urn [806]. Upon initial block-lifting, it had quite a complete body profile which appeared to be of a neutral tub-shape – more of a DR trait – but also featured flint-gritting on the underside of the base – more typically PDR. The vessel did not contain any burnt bone, possibly due to the high levels of truncation. A small quantity of fire-cracked flint was recovered from inside the vessel and unidentifiable bone was encountered within the surrounding backfill [807].

Pit [808] contained pottery vessel [809], the base of a coarse, thick-walled example suggestive

of the Middle Bronze Age. This was noted to be in an even more truncated and fragmentary state than [806] described above. The upper part of the vessel had been completely removed by ploughing and this probably accounts for the complete lack of bone associated with the burial; however, a small quantity of fire-cracked flint was recovered from the vessel's interior.

Pit [1342] comprised a sub-oval pit, roughly one metre in diameter. It was filled by two deposits, the earliest of which, [1343], comprised a lining of fired clay, 0.19m thick, which included small quantities of unidentifiable burnt bone. Overlying this was a thicker deposit of dark clay-silt and charcoal (context [1344]). This contained a cremation vessel which was less obviously placed in an upright or inverted position (Fig. 9).

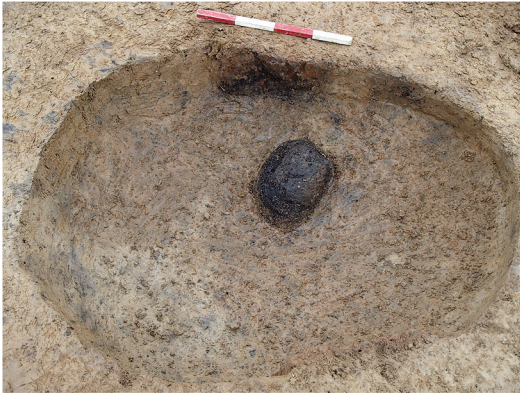


Fig. 9. Pit [1342] with vessel *in situ*.

The burial may be the earliest on site, as both the pottery and the radiocarbon date (cremated human bone dated to 1411–1232 cal BC; 95% probability; 3062±30 BP; SUERC-65219) indicate origins firmly within the Middle Bronze Age. The vessel resembled a DR barrel urn in terms of profile, although it is on a smaller scale with a diameter of just 120mm. The human bone (265.1g) it contained appeared to be from a single adult of indeterminate age.

It is possible the feature originally comprised a large cooking pit or hearth, subsequently used for funerary practice. No evidence of related structural evidence survived to indicate the latter interpretation, and use as a pit for boiling water, roasting or baking is favoured (*see below*). Though interment of human burials in non-funerary contexts is a noted occurrence in the Late Bronze Age (Brück 1995), no further instances of burial within directly analogous features has been encountered by the author.

The proximity of cremation [1333], which is phased to Period 2.2 (*see Fig. 17*), together with the associated pottery and radiocarbon dating, may indicate that these burials were deposited within living memory of each other. In addition, the spatial pairing of cremation burials [1333] and [1342] seems to mirror that of possible placed vessels or cremations [805] and [808]. Such pairing is important to consider in human terms. The interment of two people within close proximity may reflect a negotiated wish of the individuals (subsequently honoured by the community) to be in proximity during death. This pairing could relate to life partners, comrades, or immediate family members.

Pit [1152] contained cremation vessel [1154] (Fig. 10). This comprised the complete upper portion of a barrel urn, decorated with an applied boss and placed in an inverted position. The lower portion of the urn had clearly been truncated by ploughing and this resulted in only 144g of human bone being recovered from the vessel. Nevertheless, fragment size indicates that the individual was an adult, although sex could not be determined.

PERIOD 2, PHASE 2: A significant Middle to Late Bronze Age landscape

Period 2.2 activity largely relates to increased settlement, comprising roundhouses and four-post structures, as well as evidence of cooking, crop processing, funerary rituals and agricultural activities (*see Fig. 11*). A new (potentially coaxial) field system was laid out in the north of the excavation area and there was evidence for the elaboration of a pre-existing enclosure.

Drainage ditch

One large feature comprised a drainage ditch (D1) encountered in the south-east of the excavation area. Pottery recovered from the fill deposits dated from the Middle–Late Bronze Age and the feature was clearly intended to drain into a nearby watercourse. A smaller curvilinear ditch was heavily impacted by the presence of later features and was truncated to the south by D1.

Finds produced included a single, late neolithic/Early Bronze Age sherd, as well as many more, less-abraded sherds of later prehistoric date. Flintwork was also recovered from the feature, as well as a copper-alloy spring fragment from an early bow brooch (probably of 1st-century date (RF <1>). The presence of land drainage may mark an intensification of agricultural exploitation of the area and possibly some early improvement of grassland pasture close to a wetland environment.

A ringwork of the Coastal Plain?

ENC2 was significantly elaborated during this phase. This comprised the remodelling of the attendant drove or trackway (R2), with the addition of a D-shaped curving race, sorter or crush, as well as corral space and a gateway, indicated by the presence of paired post-holes. The L-shaped enclosure of the preceding phase was transformed with the addition of further gullies and ditches into a circular enclosure, with a restricted or controlled

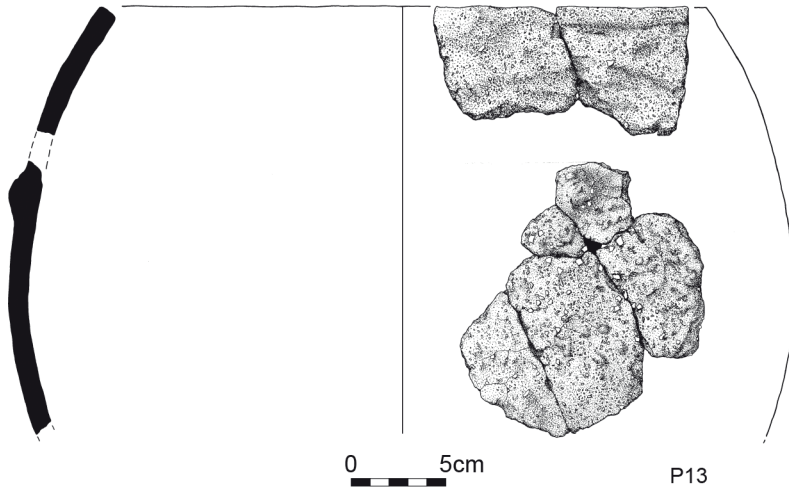


Fig. 10. Pit [1152] with illustration of *in-situ* vessel [1154].

entrance (marked by a short length of ditch), and antennae ditches effectively joining the enclosure to the drove.

ENC2 defined a sub-circular space of approximately 30m diameter with the antennae ditches demarcating a corridor of 14–15m length. Within the interior was a large area of cobbling, comprising fragments of both heated and naturally occurring flint. This surface survived to a depth of approximately 0.30m and incorporated charcoal as well as large pottery sherds from a few separate Middle–Late Bronze Age vessels.

The ditches defining the enclosure comprised four separate segments filled by deposits similar to the surrounding brickearth (Fig. 12). This was

overlain by a darker clay-silt, with occasional charcoal inclusions. The lower fills may relate to slumping derived from an internal bank within the enclosure while the overlying deposits likely result from natural silting during a period of disuse.

Within terminal [419] was a dark deposit with moderate charcoal, fire-cracked flint and fired clay inclusions as well as finds of pottery, struck flint and bone from a small mammal. Due to its location and distinction from the underlying ditch, this material is thought to derive from ritual deposition.

This enclosure is somewhat reminiscent of banjo enclosures; however, this class of feature is often larger and thought to belong to the Iron Age and early Romano-British periods rather than

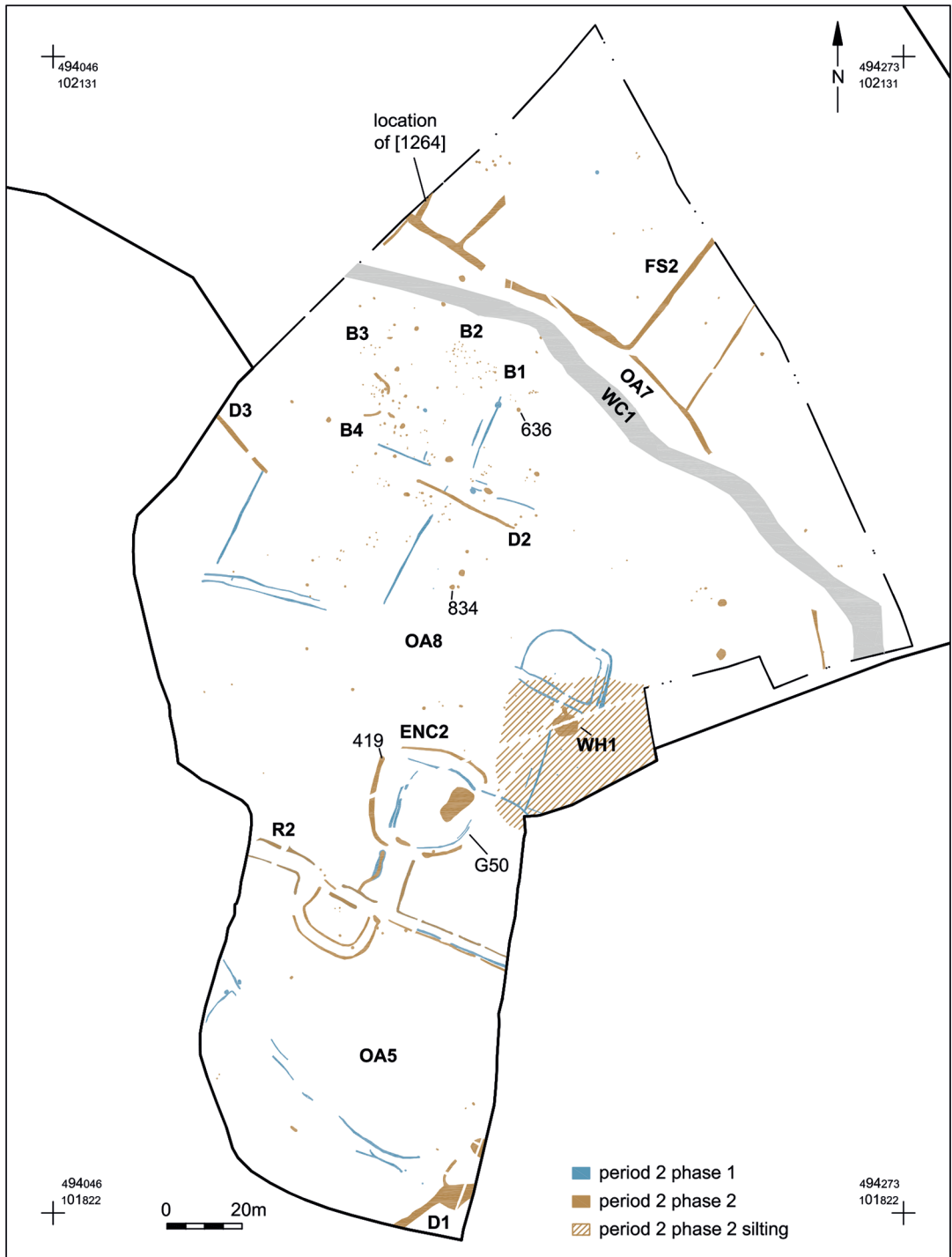


Fig. 11. Period 2.2 plan in relation to earlier Period 2.1 features.

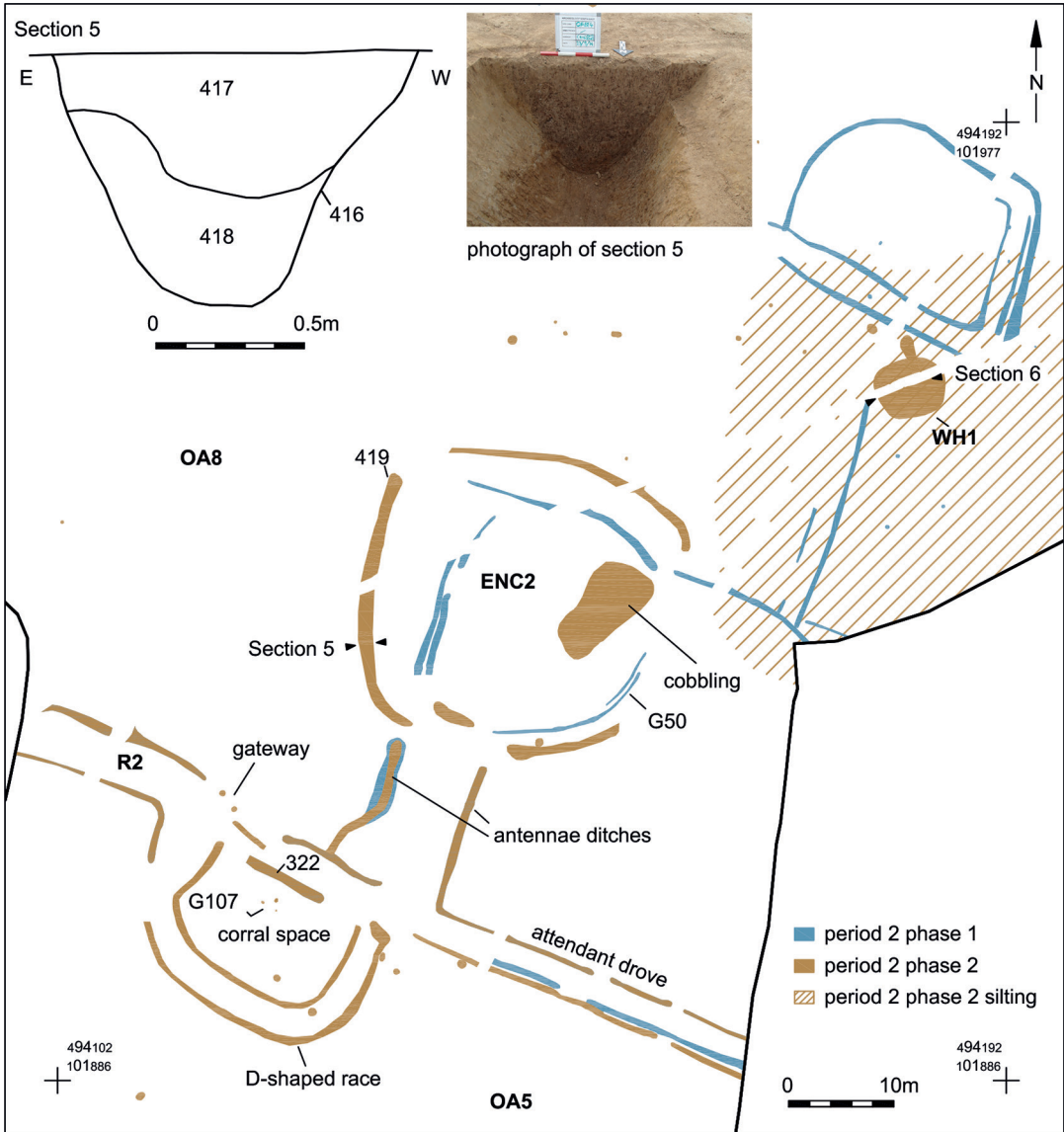


Fig. 12. ENC2 plan, with section and photograph.

the Bronze Age (English Heritage 2011b). That said, one of the few such sites investigated in Sussex (Carne's Seat, Goodwood) may show Late Bronze Age origins to at least some elements of the enclosure complex (Holgate 1986, 48). It is possible that the later phase of Oldlands Farm ENC2 may display similarities to this class of monument, due to shared functionality rather than specifically belonging to this site type.

The enclosure also bears a resemblance to Bronze Age ringworks, a feature of eastern England and the Thames Estuary where they occupy strategic positions on coastal approaches. These probable high-status, ditched and banked sites usually surround one or more roundhouses, as well as ancillary structures. Extra mural activity has sometimes been found to encircle the segregated compound (Yates 2007, 18) and Late Bronze Age

metalworking is occasionally associated with their occupation (Needham 1992).

The segmented form of ENC2 is similar to that of the ringwork at Springfield Lyons, Essex (Brown and Medleycott 2013), although the internal diameter of the Essex example is approximately 20m greater than that found at Oldlands Farm. Metalworking evidence was also encountered at both sites; however, the evidence from Oldlands Farm (*see below*) was rather more restricted than that from Springfield Lyons.

ENC2 may have additional similarities to the ringwork from Hornchurch, Essex (Guttman and Last 2000), which shares a comparable diameter, as well as analogous associations with a droveway, field system and limited finds of bronze moulds (Fig. 13). The difference between the Oldlands Farm enclosure and other known ringworks is the lack of evidence of an internal roundhouse and the comparatively shallow depth of the associated enclosure ditches. However, the Period 2.1 curvilinear gully (G50) may, in fact, relate to remains of a building; further evidence may not have been forthcoming due to truncation caused by reasonably heavy, modern ploughing.

Rather than a ringwork, the second phase of Oldlands ENC2 is arguably better interpreted as a small embanked enclosure, a more widespread category of settlement which is a feature of areas of level ground or south-facing slopes (English Heritage 2011c, 4–5). These sites are encountered in both Wessex and Sussex and are often associated with access tracks or hollow ways. Notable examples have been investigated at Shearplace Hill, Dorset (Rahtz and ApSimon 1962), and Plumpton Plain, East Sussex (Holleyman and Curwen 1935), where the earthworks of the unexcavated Enclosure I perhaps bear the greatest morphological similarities to ENC2 at Oldlands Farm (Fig. 14).

Away from categorisation of the enclosure, its association with other features indicate pastoral-related functions. The recovery of a decorated cylindrical loom weight, a residual find within a nearby medieval ditch, strengthens evidence for weaving in the vicinity and it is possible that the enclosure could have housed a single farmstead. Nevertheless, no certain structural evidence was encountered and the low to moderate quantities of material that could be derived from domestic activity could just as easily be associated with short

periods of seasonal occupation, or perhaps other uses such as feasting.

Despite the restricted evidence for settlement, only a small percentage of the ditch was excavated perhaps accounting for the lack of such material. The internal surface may relate to hardstanding for a yard to prevent poaching of corralled livestock or could even be the remains of a threshing floor. The presence of a Lodsworth Lower Greensand saddle stone, encountered within the enclosure's attendant drove (context [322]), may be a further indication of crop processing within the vicinity.

A significant waterhole and the contemporary environment with contributions by Kristina Krawiec, Cath Langdon and Rob Scaife

Situated a little way to the north-east of ENC2 was a large sub-circular waterhole, (WH1; [1391]; Fig. 15). This feature was encountered beneath an extensive area of silty clay, deposited through fluctuating water tables. It measured approximately 5.5m in diameter, with sharply-sloping sides. Due to the large size of the waterhole, and the clear disuse nature of the upper horizons, the feature was largely excavated by machine under geoarchaeological supervision. Effective excavation was prevented at around 1.4m below ground level, due to water ingress. However, further sampling and the excavation of a sondage was undertaken, allowing the bottom of the feature to be estimated at around 2.25m below the archaeological horizon.

The waterhole, which retained not only waterlogged deposits but also the remains of an oak log ladder at the base (Fig. 16), has provided a pollen sequence with which to better understand the Late Bronze Age environment. The log ladder can be assumed to date the use of the waterhole, if not its inception. The age determination places the beginning of the infilling of the feature during the Late Bronze Age (1110–1000 cal BC; 95% probability; 2870±20 BP; BETA -409063) and the upper oxidised deposits contained a fragment of saddle quern (from [1393]) as well as Middle–Late Bronze Age, pottery suggesting relatively rapid infilling of the feature.

The pollen assemblage recovered demonstrated three distinct zones (*see* Table 4). Although a possible waterhole or pond, only small numbers of aquatic and wetland fen *taxa* are present. This is in contrast with the Bronze Age well or watering hole excavated

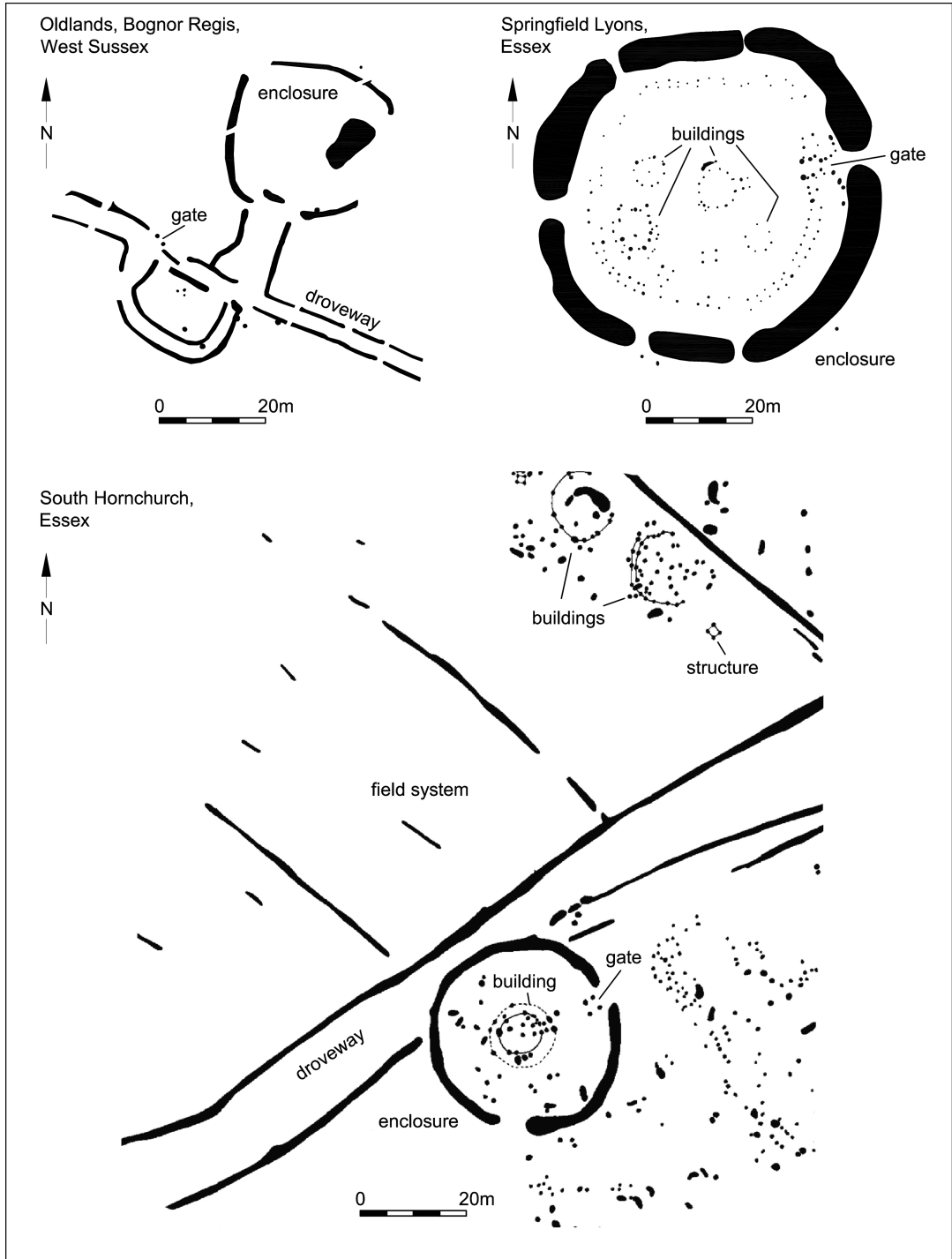


Fig. 13. Oldlands Farm ENC2 compared with ringworks from Springfield Lyons and South Hornchurch, Essex.

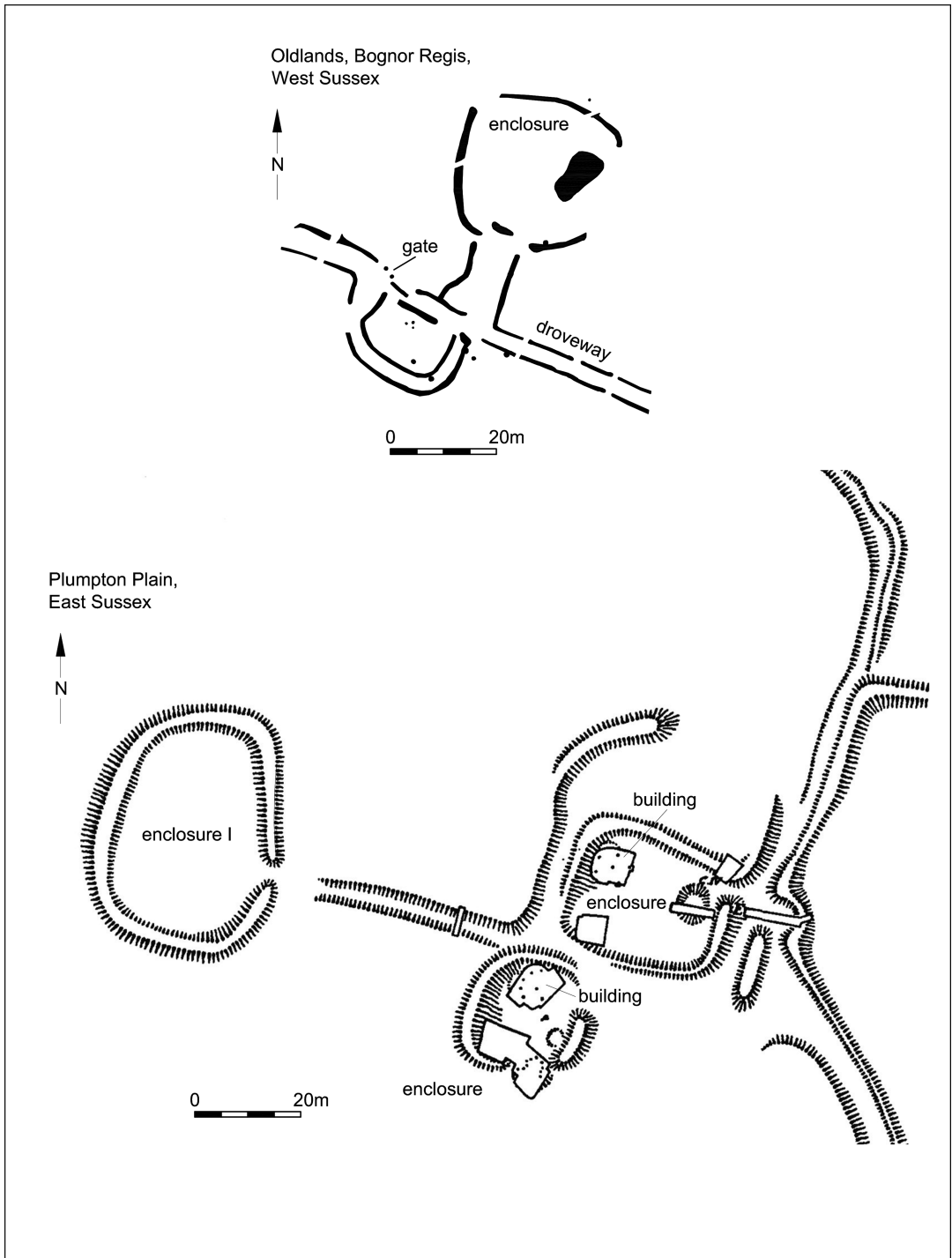


Fig. 14. Oldlands Farm ENC2 compared with unexcavated Enclosure 1 from Plumpton Plain, East Sussex.

Section 6

SW

NE

1.16mOD

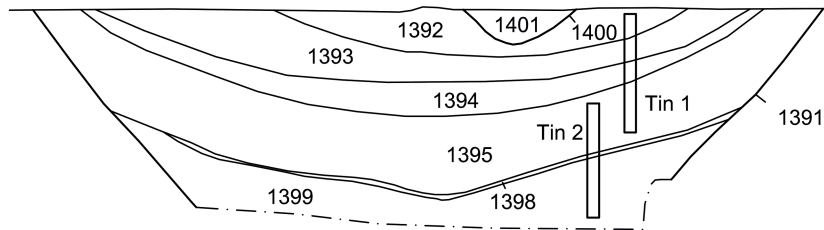


Fig. 15. WH1 section and photograph.

at the nearby Medmerry Realignment scheme, where greater numbers of freshwater aquatic *taxa* were recorded (Langdon and Scaife 2016).

Preservation was poor in the upper levels above the stratigraphical change to more oxidised deposits at 1.23m (zone 3, contexts [1393]–[1399]), and may have destroyed much of the typically fragile aquatic pollen. This is not the case for the lower zone, where pondweed and/or arrow grass (*Potamogeton* type) was present, with occasional marginal aquatic sedge and reedmace and/or bur-reed (*Typha angustifolia* type). It is possible that the feature was cleaned out, disturbed or polluted.

The plant macrofossil assemblages also presented a similar range of species, with low numbers of aquatic *taxa*, such as sedges, recorded. This may be due to fluctuating water levels within the feature, leaving only the more robust elements intact. There were frequent instances of thorns and brambles within the feature, suggesting that these hardier *taxa* had preferentially survived.

There were clear indicators of saline conditions throughout the history of the sediment basin, with a final dominance when the waterhole may have been transgressed by rising sea levels, a storm surge or the expansion of saltmarsh/mudflats

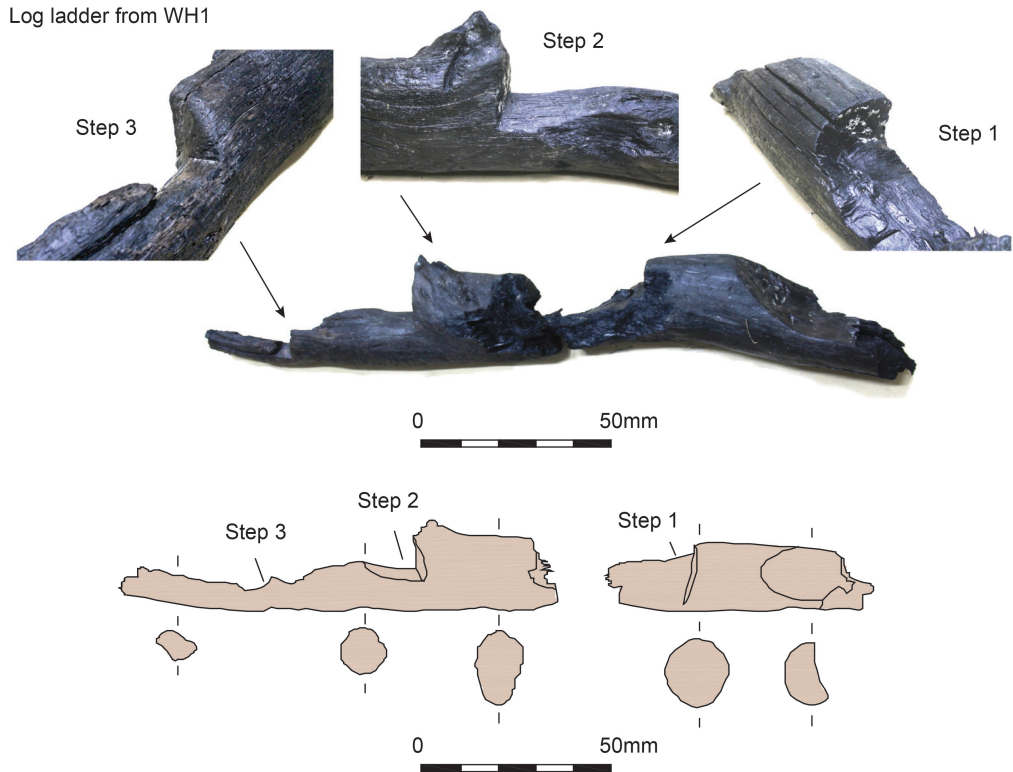


Fig. 16. Oak log ladder [T.1419] from WH1.

from the nearby embayment. *Taxa* recovered from Zones 1 and 2 include *Armeria* types (thrift and sea lavender), *Spergularia* (spurrey), *Plantago maritima* (sea plantain) and *Chenopodiaceae* (goosefoot, orache and samphire). These are indicative of nearby saltmarsh habitats.

It is noted that *Armeria*, although only sporadically present, is very poorly represented in pollen spectra and this belies its importance. There is a marked stratigraphical change at 1.23m [1399], also at the Zone 2/3 transition [1398], from the humic sediment fill of the waterhole to a probable saltmarsh or mudflat habitat. This may also represent a gap in the pollen sequence caused by a hiatus in the sedimentation or erosion of the transgressive contact. Pollen is, unfortunately, poorly preserved in the upper sediment of Zone 3.

The waterhole was probably a shallow water feature with pondweed, which was also recorded in the plant macrofossil assemblage (but possibly arrow grass within the same pollen *taxon*), fringed

by typical fen herb vegetation comprising sedges (*Cyperaceae*), bur-reed and/or reedmace (*Typha angustifolia* type). There are indications that the feature was in close proximity to areas of saltmarsh (Zones 1 and 2) and that the feature was transgressed by this mudflat and/or saltmarsh.

There is a major contrast in pollen preservation between less-oxidised, humic, grey-brown sediment in Zones 1 and 2 (2.38m to 1.24m) and overlying zone 3, the latter comprising oxidised (grey/orange) silt. Better preservation in Zones 1 and 2 is accompanied by a greater taxonomic diversity.

There is, in general, a paucity of tree and shrub pollen, with only sporadic occurrences of birch (*Betula*), oak (*Quercus*), alder (*Alnus*) and hazel (*Corylus*). All of the trees recorded are anemophilous and produce substantial numbers of pollen which, with the possible exception of ash (*Fraxinus*) may be disseminated over great distances. As such, these largely represent the regional flora probably some distance from the site.

Herbs were dominant in all of the pollen zones, reflecting the overall openness of the local environment. Two local pollen assemblage zones (1 and 2) reflect the changing herbaceous flora, especially in relation to agricultural activity during this phase of the Bronze Age. Initially, in Zone 1, numbers of cereal pollen are (albeit slightly) greater and, with other herbs of disturbed ground, indicate a phase of greater arable activity, at least in proximity to the site (i.e. within the pollen catchment). It is noted that the representation of arable *taxa* in pollen sequences is less recognisable than for pastoral habitats.

Overall, in Zone 1, where pollen preservation is relatively good, the local environment was open, treeless, agricultural land. It appears that it was primarily grassland/pasture but with the possibility of some local arable cropping or crop processing, which is further supported by the plant macrofossil data, which also recorded grassland species and only three instances of cereal remains (Barley and emmer/spelt).

Zone 2 appears to show a change to a more pastoral land use; however, it can also be suggested that existing, previously heavily-grazed pasture was allowed to grow, with resulting flowering in a meadow pasture. Grasses (*Poaceae*) attain especially high values throughout and may derive both from the on-site habitat and also from grassland/pastoral habitats. These, along with ribwort plantain (*Plantago lanceolata*), medick (*Medicago*) and clover (*Trifolium* and *Asteraceae* types) are all highly indicative of a strongly pastoral environment, at least in proximity to the site. This was consistent throughout.

Cereal pollen was also present in Zone 2 and, as arable activity tends to be less well-represented in pollen *spectra*, the importance of arable farming here may be underestimated. Whilst there is the strong possibility that cultivation was taking place in proximity, it should be noted that the cereal pollen could also derive from secondary sources.

As this is a waterhole and may have been used by animals, it is also highly likely that the pollen of cereals and any associated arable weed may have come from animal (or human) faecal material, or even from domestic waste which was deposited in the waterhole. Pollen becomes trapped in the cereal inflorescence and remains in human and animal feed. Once ingested, the pollen is readily preserved in human or other animal stomach and intestines

and, as a result, is frequently found in archaeological features where such waste was deposited.

This possibility is enhanced by the cyst of the intestinal (whip) worm, *Trichuris* in Zone 2, the upper pond fills. A further possibility is that cereal pollen may have been liberated and dispersed during crop processing, although the macrofossil data does not show this occurring on site.

That this feature has been interpreted as a waterhole/pond also supports a pastoral component to the agrarian economy. In both of the lower pollen assemblage zones, there is evidence of both pastoral and arable land-use activity and, as might be expected, the Bronze Age economy was of mixed character.

At 1.23m there is a stratigraphical change from grey-brown humic silt to orange-grey silt, which was clearly more oxidised through Zone 3. This change marks a change/transition from the humic sediment facies of the waterhole fill to that of brackish/marine sediment, which seals the feature (*see above*). The palynological consequence of this change was a much poorer pollen-preserving environment.

This is also manifested by the reduction in taphonomic diversity, with less robust pollen types having been destroyed and the more robust types being differentially preserved. This is especially clear with the sharp rise in numbers of very resilient dandelion-type (*Lactucoideae*) pollen. There is also a substantial representation (not shown) of reworked geological palynomorphs derived from reworking of older sediment.

In Zone 3 the pollen data are, therefore, badly skewed in favour of the *Lactucoideae* and is typical of poor preserving conditions, especially in alluvial sediment (Dimbleby 1985). In spite of the differential preservation, it is probable that the *Lactucoideae* types, although over represented, also suggest, as for Zone 2, that the local environment was pastoral and certainly open. Cereal pollen (large and robust) is present throughout, also showing continuation of arable activity and a mixed economy.

This feature was overlain by a pond deposit similar to that seen in other areas of the site. Again, micromorphological analysis confirmed that the post-Bronze Age landscape was still seasonally wet, with standing water infilling depressions in the land surface.

Overall, the palaeo-environmental material recovered from this feature has demonstrated that

Table 4. Local pollen assemblage zonation of Bronze Age watering hole, feature [1391].

Assemblage zone	Palynological characteristics
<p>3</p> <p>1.20m to 0.40m [1393]-[1399] <i>Lactuicoideae-Poaceae</i></p>	<p>This upper zone has low values of tree and shrub pollen with sporadic <i>Betula</i>, <i>Quercus</i>, <i>Alnus</i> and <i>Prunus/Malus</i> type. Herbs remain dominant, with lower taxonomic diversity. High values of <i>Lactuicoideae</i> (to 55%) replacing the dominance of <i>Poaceae</i> in l.p.a.z. 1/2. <i>Poaceae</i> are reduced (max. 35%) but remain relatively important and include cereal pollen (7%). <i>Plantago lanceolata</i> remains with low values along with <i>Chenopodiaceae</i> and <i>Polygonum aviculare</i> type. Marsh and aquatic taxa are poorly represented with only <i>Typha angustifolia</i> type (peak to 6%). Ferns comprise <i>Dryopteris</i> type (4%), <i>Pteridium aquilinum</i> (peak to 16%) and occasional <i>Polypodium</i>. Pre-Quaternary palynomorphs attain high numbers across the lower zone</p>
<p>2</p> <p>1.70m to 1.20m [1467] [1468] [1469] <i>Plantago lanceolata-Poaceae</i></p>	<p>This l.p.a.z. is characterised by increased values of <i>Plantago lanceolata</i> (to 20%), <i>Lactuicoideae</i> (to 20%). <i>Poaceae</i> remain dominant (to 60%). Cereal type and other herbs noted in l.p.a.z. 1 remain. Halophytes, <i>Spergularia</i>, <i>Armeria</i> 'A' line and <i>Plantago maritima</i> are present. Trees and shrubs remain at low levels, although there appear minor increases in <i>Quercus</i> (to 5%) and <i>Corylus avellana</i> type (6%) from mid-zone at 1.48m.</p>
<p>1</p> <p>2.44m to 1.70m [1465] [1466] <i>Poaceae-Cereal type-Pteridium aquilinum</i></p>	<p>Herbs are dominant, with <i>Poaceae</i> most important (to 68%). <i>Plantago lanceolata</i> (to 16%) and <i>Anthemis</i> type (peak to 19%) Asteraceae are also present in higher values than subsequent Zone 2. Cereal pollen has highest values in the lower levels (to 9%) and is present throughout. Halophytes are present with <i>Armeria</i> 'B' line and <i>Plantago maritima</i>. There are few trees and shrubs with taxa comprising small numbers of <i>Betula</i>, <i>Quercus</i>, <i>Corylus avellana</i> type, <i>Alnus</i> and <i>Fraxinus</i>. Marsh and aquatic taxa comprise occasional <i>Cyperaceae</i>, <i>Potamogeton</i> type, and <i>Typha angustifolia</i> type. Fern spores include occasional <i>Pteridium</i>, <i>Dryopteris</i> type and <i>Polypodium</i>.</p>

the site was vulnerable to changes in either sea level or tidal storm-surge episodes, evidenced by the halophytes recorded in the pollen *spectra* and the diatoms in the base of the feature. This is similar to the situation at Medmerry, where storm-surge deposits were recorded in proximity to the site, as well as halophytes within the waterhole recorded there.

Settlement activity

FS1 had clearly fallen out of use by the late 2nd millennium BC, to be replaced by an area of reasonably intensive settlement (see Fig. 17). At least four post-built roundhouses were clustered within the excavation area (B1–B4). These were represented by concentrations of post-holes of varying size, which occasionally contained small sherds of Middle/Late Bronze Age pottery as well as charcoal and fire-cracked flint. Two of the buildings were largely unaffected by later activity (apart from ploughing), while the remaining pair had been significantly impacted by the presence of a post-medieval drainage ditch.

One of the latter was somewhat atypical in form in that it was defined by two short, curvilinear features which were filled by deposits comprising a light-coloured sandy silt overlain by a darker layer with moderate-frequent inclusions of fire-cracked flint.

Early prehistoric flintwork was also encountered, as well as bodysherds of Middle/Late Bronze Age

date. This building may represent a different use, or indeed date, to the other roundhouses encountered on site. Pit [919] within its footprint contained conjoining pieces of a Bronze Age saddle quern indicating that crop processing was possibly undertaken within the interior.

Beyond the roundhouses outlined above were numerous unspecified pits and post-holes, which only occasionally incorporated contemporary dating material. The remaining features were largely equated with this phase, due to similarity of fill deposits and their proximity to the buildings. Two separate lengths of ditch (D2 and D3) are thought to be related to settlement boundaries or, more likely, functional separation.

A number of four- or five-post structures existed within the excavation area. Such features are often thought to represent the remains of granaries, although a number of other interpretations, such as fodder racks or excarnation platforms, are also possible. Some of the structures were of typical plan (although with the addition of a fifth post; S9, S10), while others were of a distinctly narrower type (S5–8). A further structure (S11) was collinear with five-post S10. It comprised a right angle of post-holes and two pits which are thought to be associated.

Scattered across the area occupied by the settlement were a large number of pits with similar morphology. These were typically sub-oval in plan and were filled by dark deposits rich in fire-

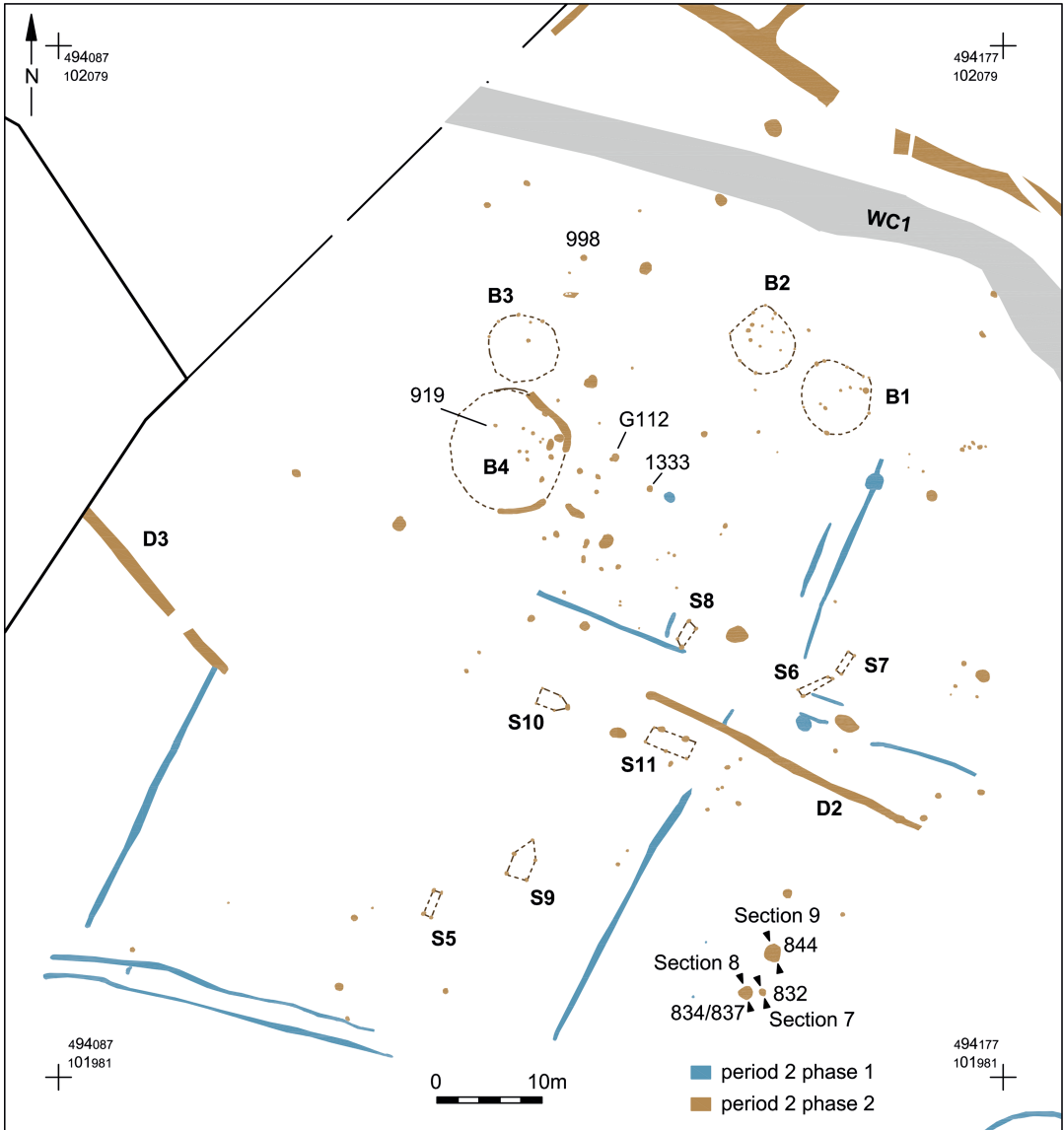


Fig. 17. Period 2.2 settlement activity in relation to earlier Period 2.1 features and WC1.

cracked flint. Occasionally, the pits had a lining of redeposited and heated sandy brickearth and two, [636] and [834], produced fragments of Lower Greensand saddle querns.

Analogies with burnt mounds may indicate that these features were intended for the boiling of liquid in the cooking and/or brewing process, however, they may also represent ovens, either for baking bread or roasting of joints of meat (*see*

Ramseyer 1991). No traces of related structures were encountered and it is likely that the associated activity was taking place in the open air.

One of the features, [832], which had noticeably fewer fire-cracked flint inclusions, produced 12 fragments from a bivalve mould, perhaps indicating that some were used in bronze casting (*see* Fig. 18). Unfortunately, all the fragments were heavily

abraded and no features remain with which to identify the exact form of the cast object.

One small piece did, however, appear to have a narrow V-shaped section, possibly a channel for the tip of a pointed implement such as a spear. It is possible that [832] as well as [844] (Fig. 18) were dug for deposition of waste material generated by adjacent pit [834]/[837]. The latter may have been more directly associated with the metal working process; however, no associated finds or residues were present. The incorporation of a saddle quern within its fill deposit may indicate that this too was associated with baking or the disposal of waste (Fig. 18).

A cluster of burnt, flint-filled features similar to the ‘cooking pits’ described above were encountered

at the nearby site of North Bersted (Taylor *et al.* 2014, 148). Unlike the features from Oldlands Farm, which were often dated by pottery from the Middle–Late Bronze Age, these pits produced no closely datable artefacts, although a sample from one returned an Early Bronze Age date (*ibid.*).

Field system

A potentially coaxial field system was located in the northern part of the excavation area (see Fig. 11) and was separated from OA8 by WC1 and OA7. The foundation of this system indicates a change from the earlier FS1, which fell out of use and was replaced by the settlement-related activity described above.

FS2 was orientated on a different axis and the associated ditches reflect certain field boundaries,

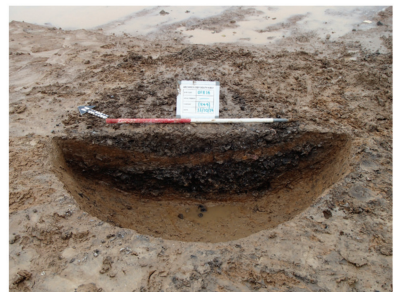
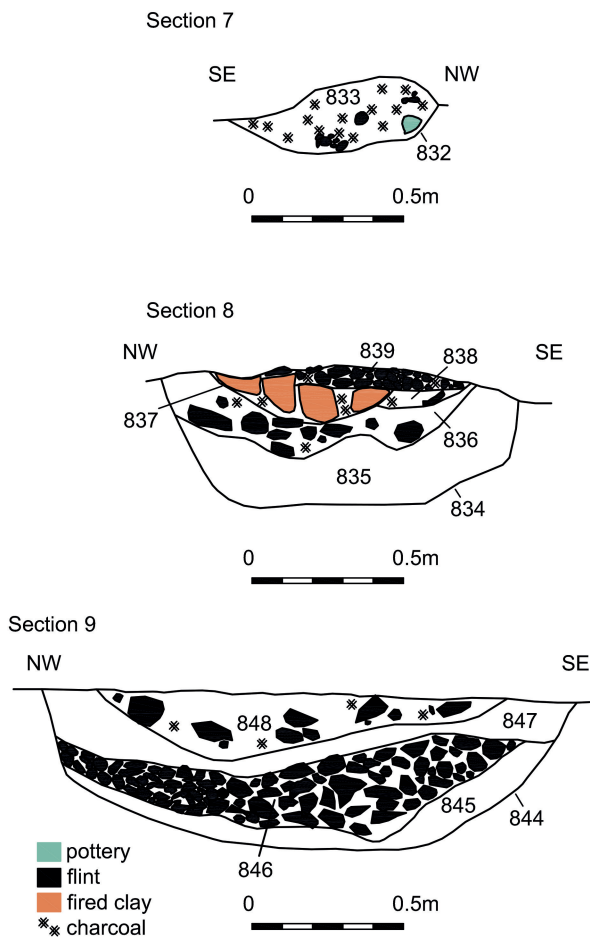


Fig. 18. Examples of cooking or industrial pits: [832], [844], [834]/[837].

rather than the slighter, double-ditched tracks or boundaries of the earlier land division. Where it was located close to a pre-existing watercourse (WC1) the field system showed some signs of recutting. Dating material retrieved from the features largely comprised sherds of Middle/Late Bronze Age pottery, although intrusive sherds of early Roman material were also encountered. Reaffirming its early date was the fact that parts of this system were clearly overlain by Iron Age drainage ditches.

The area was again peppered with small pits and isolated post-holes, as well as five 'cooking pits' similar to those described above. The only funerary-related feature comprised a possible pyre [1264], which overlay one of the field boundary ditches (*see below*).

Cremations/placed vessels with contributions by Lucy Sibun and Anna Doherty

Late Bronze Age cremation burials are often found to be closely connected with nearby settlements. Indeed, there appears to be an increasing trend towards funerary deposition within the settlement context as the Bronze Age progresses (Hamilton 2003, 76). At Oldlands Farm, these associations were apparent in two burials close to roundhouses B3 and B4.

Pit [998] contained an upright but heavily-truncated cremation vessel [999], possibly dating close to the beginning of the Late Bronze Age (Fig. 19). No definite human bone was recovered from the remnants, although some unidentifiable

burnt bone was present. It contained a charcoal-rich fill which produced radiocarbon dates of 1188–935 cal BC and 1124–931 cal BC (95% probability; SUERC-63870, 2873±29 BP; SUERC-63871, 2867±29 BP). The lack of cremated bone is likely due to truncation; however, the atypical occurrence of accompanying sherds from another vessel, as well as the associated charcoal *taxa*, possibly indicates that it relates to refuse or a placed vessel, rather than funerary activity.

Pit [1333] contained cremation vessel [1334], which was conventionally placed in an upright position, with the upper part truncated away (Fig. 20). The body has a neutral, straight-sided profile, typical of the DR tradition, although the fabric type (FLIN4) is only moderately coarse, possibly allowing for a Middle to Late Bronze Age attribution. The radiocarbon determinations on the associated human bone also appear to suggest a transitional Middle/Late Bronze Age date (SUERC-63861, 2966±29 BP, 1271–1057 cal BC; SUERC-63862, 2971±26 BP, 1279–1111 cal BC; 95% probability).

Cremated bone from the vessel fill and the surrounding backfill (958.6g total) probably related to the same individual, a probable adult of unknown sex. The bone from [1335] was more fragmentary than that from the vessel, possibly indicating further fragmentation post deposition.

Period 2.2 also contained two un-urned cremation deposits [329] (G107; Fig. 12) and [894] (G112; Fig. 17), both of which were found

Table 5. Quantification of cremated bone from Period 2.2.

Group number	Context Number	Fragment size (mm)	Weight per skeletal element (grams)					Total	
			Skull	Axial	Upper limb	Lower limb	Unident		Percentage of whole assemblage
111	1334	0–4				37.4	69.5	13.5	791.5
		5–8	18.7	0.9	30.3	8.6	186.5	32.2	
		9–20	72.5	9.8	40.5	36.6	69.4	28.9	
		21–30	91.2		70.8	15.1		22.4	
		30+	14.7		0.6	8.4		3.0	
		Percentage of identifiable material	42.3	4.4	30.5	22.8			
	1335	0–4					68.9	41.2	167.1
		5–8	8.4		4	2.7	61.2	45.7	
		9–20	2.9		3.9	3.3	1.8	13.1	
		Percentage of identifiable material	0.5		22.5	17.0	35.2		



Fig. 19. Pit [998] and vessel [999].



Fig. 20. Pit [1333] and vessel [1334].

alongside other possible cremation deposits that unfortunately did not contain identifiable human bone. These burials could not be conclusively associated with the Bronze Age activity, as no pottery was recovered from their associated fill deposits and no radiocarbon dating was undertaken.

Cremation deposit [329] (G107), located in area R2, only produced a total of 68.6g of bone with the only identifiable fragments coming from the skull

(12.1g). Cremation [894] (G112) was located close to other funerary activity in OA8 and produced 13.9g of bone, only 0.5g of which was identifiable, 0.1g as skull and 0.4g as upper limb.

Pyre Deposit

Possible pyre deposit [1264] was located in area FS2. Though it has been equated with Middle–Late Bronze Age activity, it contained no dating material and could easily be of Iron Age or later origins. Cremated bone from [1264] is summarised in the table below.

The deposit produced a total of 125.4g of bone, the majority of which was recovered from the 5–8mm fraction. Upper limb fragments comprised approximately 37% of the identified assemblage and skull fragments approximately 35%. Unlike the

Table 6. Quantification of cremated bone from pyre deposit [1264].

Group number	Context number	Fragment size (mm)	Weight per skeletal element (grams)					Percentage of whole assemblage	Total
			Skull	Axial	Upper limb	Lower limb	Unident		
83	1264	0–4					7.2	5.7	125.4
		5–8	7.1	3.4	1.6	3.3	45.5	48.6	
		9–20			17.0	6.7		18.9	
		21–30	11.3		8.3	6.8		21.1	
		30+	7.2					5.7	
Percentage of identifiable material			35.2	4.7	37.0	23.1	72.7		

cremation deposits from the site, only 75% of the bone was fully calcined and off-white in colour. The remaining 25% comprised mostly limb fragments and was charred black or grey. McKinley has stated that the presence of a pyre deposit implies that the pyre site and the burial of the individual are probably located nearby (McKinley 2013, 154).

DISCUSSION

NEOLITHIC ACTIVITY

The occurrence of features related to neolithic Grooved Ware is a significant contribution to the understanding of the Coastal Plain, Sussex and the wider region. During the 29th and late 27th centuries BC, the site was characterised by a cluster of deep pits as well as a smaller, more certainly ritualised example. The substantial pits, which may have been related to the procurement of fresh water, were sited close to a burnt mound in an environment that was defined by a large embayment or open estuary.

This would have been accompanied by mudflats and saltmarsh, rich in edible flora and fauna. Investigations at the Aldingbourne Rife, Bognor, demonstrated local clearance episodes within the neolithic and Bronze Age pollen record (Allen *et al.* 2002, 21). It is likely that the drier areas between the saltmarsh/mudflat habitats would have been cleared, to some extent, from an early date.

Sites producing Grooved Ware are relatively uncommon in south-east England (Garwood 2009) and only six locations in Sussex have so far produced this pottery type. The distribution of these wares is often related to neolithic passage graves and henge monuments, which have so far proved elusive within Sussex.

The regional scarcity of this pottery type may be linked to the restricted length of time the product was in use, as here Grooved Ware appears to have been quite rapidly replaced by Beaker (Garwood 2011, 377). The lack of finds may also be the result of fieldwork distribution, as the most intensive archaeological investigation may have historically taken place outside the areas where the pottery type most frequently occurs.

Within the Thames Valley, the distribution of Grooved Ware has been analysed by Botfield (2012) who has shown that it is related to low-lying, riparian environments on the terrace gravels. Such associations would appear to be entirely consistent

with Oldlands Farm's location on the Coastal Plain. The site was situated close to the confluence of the Lidsey and Aldingbourne Rifes, a landscape element that may have also been significant in relation to the deposition of Grooved Ware.

Grooved Ware is often found in pit contexts and it has been suggested that feature [811] was related to a statement of abandonment. Perhaps the lower fill indicates that the pit was left open for a period of time and deposited objects could either be viewed or added to by people visiting the site. The larger pits may be fairly characteristic of deposition related to the Durrington Walls sub-style of Grooved Ware, as these assemblages tend to exhibit far fewer higher-status objects and are generally less complex than those associated with either the Woodlands or Clacton styles (*ibid.*).

The large size of some Grooved Ware vessels has led to suggestions that they may be related to communal feasting (Richards and Thomas 1984) as well as brewing, which might also be supported by pottery residues, building forms and connections with ritual or ceremonial activity (Dineley 2004).

That the large pits interpreted as possible waterholes were found adjacent to a contemporary burnt mound and nearby watercourse is interesting in this context. As discussed, burnt mounds are occasionally interpreted as being related to the production of alcoholic drinks, and the occurrence of both running and still water on the site would have aided the brewing process.

If such activity was occurring, it is likely that both production and consumption would have been undertaken on-site and that the drinking of alcohol could have been combined with other, perhaps ritualised, forms of feasting. The occurrence of food-bearing trees within the charcoal assemblage of pit [811] may be linked to such activity, although little other evidence for food products, other than hazelnut shell fragments and a single antler, were encountered.

BRONZE AGE REMAINS

Late Bronze Age activity included important funerary and settlement-related features. However, the main significance of the site relates to evidence of field systems, the contemporary environment and high-status enclosures. The excavation results are largely consistent with the model for the Sussex coast proposed by Yates (2007, 46–52), who characterises the area as densely settled, with

extensive field systems associated with burgeoning political economies.

The interest in the two phases of land division lies not only in the potential extent of the 'Ford/Climping Enclave' (Dunkin in prep.) but also in the fact that there appears to have been some discontinuity and re-establishment of the field systems at the site. This situation may be reflective of the growing importance of Sussex from the Middle to Late Bronze Age suggested by Yates (2007, 118). However, it may also be linked to an intensification of agriculture and, perhaps, a shift from a primarily livestock-focussed regime to a more mixed agricultural one.

Similar systems of land division to that associated with Period 2.1 have most often been interpreted in terms of animal husbandry, including the movement and sorting of stock (e.g. Fengate, Pryor 1996). It is clear that during this time the site would have occupied a favourable position in such an economy, as it lies proximate to key pastoral resources (the Aldingborne and Lidsey Rifes). Not only does the area of drier ground on which the site is situated have access to nearby riverine and saltmarsh pastures but also potential access to the semi-upland grazing of the South Downs and the woodland pastures of the Weald. The latter areas could have been exploited through a system of transhumance; however, long-distance droveways, such as those known to have developed in Sussex by the early medieval period, would have been required.

A primarily livestock-related regime (perhaps based on sheep/cattle) is suspected to have continued during Period 2.2 due to the presence of a race, corral and waterhole. The latter may have been more accessible to people than animals, however, due to its steep sides.

This feature produced evidence of cereal pollen, indicating some degree of arable agriculture. The change to more substantial ditched boundaries may indicate the need for increased drainage and the protection of arable from straying stock. The soils of the Coastal Plain are well suited to the production of crops and it may be this natural asset that led to the rise of the Sussex political economy. A growth in cereal production may also be seen in terms of the need to feed a higher population and larger herds of overwintering stock.

Cereal pollen recovered from the waterhole, although approached with caution due to the

complexity of potential taphonomic pathways, demonstrates that the Late Bronze Age economy comprised an arable component. This is further confirmed by the presence of quern stones within the finds assemblage, as well as four-post structures, possibly utilised as granaries.

The introduction of field systems at the site (and beyond) would have marked a significant transformation of the landscape from an open-aspect saltmarsh environment to one heavily divided by clear and contiguous boundaries. The importance of the evidence from Oldlands Farm is that it shows the development of this landscape from the antecedent late neolithic/Early Bronze Age setting across the transitional Middle–Late Bronze Age divide.

What can be seen is an increasingly settled and intensive landscape, one where the boundaries of fields become more substantial and less specialised over time. This change to a more versatile fieldscape is witnessed by a conversion from a system with integrated droveways and stock management features to one more suited to mixed husbandry.

These alterations would have had important implications for the communities of the Coastal Plain. The adjustment to a more divided landscape would have inhibited movement, tying people closer to the land. Such a process may be witnessed in the burial evidence recovered from the site. Not only were cremations inserted into the domestic sphere, but also the agricultural one. Late Bronze Age funerary customs have been seen as linked to fertility and the renewal of resources. The control of disposal of the dead may have been used to maintain political dominance and the authoritative structure of society (Brück 1995, 262). It is clear that it was the deliberate intention of the community – and controlling elites – to tie individuals to the soil.

There is one further important aspect of the regular field systems encountered at Oldlands Farm. This importance relates to the reinforcement of the dominant north-east–south-west orientation of the land division encountered on the Coastal Plain (see Yates 2007, 46–52; Dunkin in prep.).

Although it has been noted here that this field system may not have been completely continuous, it is probable that during the Late Bronze Age the area from the Sussex/Hampshire border to the River Adur in the east may have been characterised by broadly north-east–south-west orientated fields. That these fields may have been in place by the

Middle Bronze Age and reached a reasonably developed state by the early 1st millennium BC is, on the evidence presented here, a strong possibility. The most fundamental of these changes may have been presided over by Wessex-style elites whose control over the core area of this part of the south coast allowed access to the exchange networks of the Atlantic seaboard.

The significance of the north-east–south-west orientation of the encountered land division has implications for our understanding of surrounding geographical zones. Recent research has illustrated how the historic landscape of much of the Sussex Low Weald may owe a great deal to late prehistoric land division (Margetts 2018a; 2018b). It may be no coincidence that the fields in this area, as well as the relict lynchetted examples shown to occupy neighbouring parts of the South Downs (Carpenter *et al.* 2016; Manley 2016), share the broadly north-east–south-west orientation (Margetts 2018a, 306–7).

While these extensive field systems are highly unlikely to have remained unmodified over time, the dominant grain of the landscape seems to have been in place by the late prehistoric period. As increasing amounts of fieldwork are undertaken, we may begin to understand the complex development of these interrelated zones. Although underlying environmental factors may have had a strong influence on the layout and siting of fields (Margetts in prep. and forthcoming), fundamental orientations of land division appear to have been in place on the Coastal Plain during the Late Bronze Age and in the Weald by the Late Iron Age/Early Roman period.

Away from discussion of the site's Bronze Age agrarian economy and land division, both phases of ENC2 are perhaps new classes of feature for the Coastal Plain. That said, a probable high-status, Late Bronze Age enclosure was partially investigated within the Arun Valley at Ford Airfield (RPS Clouston 2000) and, from the revealed dimensions, a diameter of 30–50m can be estimated, roughly analogous to that found at Oldlands Farm,

Although, during its initial phase, ENC2 is thought to represent an L-shaped enclosure similar to those of Wessex, by Period 2.2 it had developed into something morphologically akin to the ringworks of eastern England. L-shaped ditches may have been formative elements within rectilinear field systems or could have been subsequent internal developments.

They may have originated as features for the corralling of stock or as areas to define domestic, or even craft-related activities. In the example from Oldlands Farm we have an uncommon instance of further evolution into a high-status enclosure which may have been related to settlement, crop processing, the gathering of livestock, or a combination of all three.

CONCLUSION

Over the last decade or so, various authors have illustrated the differences between prehistoric Sussex on the one hand and Wessex on the other (e.g. Hamilton 2003; Allen and Gardiner 2009). The arguments are certainly persuasive and have much validity. However, the evidence from Oldlands Farm, as well as other known sites of the western Coastal Plain and adjacent areas of the South Downs, may show that similarities with neighbouring Wessex were strong, at least during parts of the neolithic and Bronze Age.

In Wessex, Grooved Ware pits are well-represented and the instances from Oldlands Farm, as well as the nearby site of North Bersted (Taylor *et al.* 2014,) add to a growing body of evidence for this pottery type in Sussex. The expanding data set has been noted by Garwood (2009) and it can be suggested that the western part of the Coastal Plain and the South Downs is emerging as an area in which our knowledge of activities and monuments associated with Grooved Ware may be expanded in the future.

Indeed, if henges are truly absent from this zone, other monuments comprising late neolithic ring ditches, such as the possible example from Lavant (Turner 1997), look to be present. The key to discovering sites of the late neolithic is to excavate on a large enough scale for isolated and ephemeral features to be exposed, something that 'strip, map and sample' investigations (such as that undertaken at Oldlands Farm) adequately perform whereas evaluations and keyhole excavations often do not.

The Bronze Age evidence from the western Coastal Plain, adjacent parts of the downland and the site in particular, show elements of both consistency and divergence from nearby parts of Wessex. In terms of the earlier part of the period, it may be no surprise that this area is the only part of Sussex where bell barrows have been found. Instances are known at the Devils Jumps, the Devils

Humps and Walderton Down. These are a rare form of monument nationally, with the vast majority of examples firmly located within Wessex.

Such associations seem to continue during the middle part of the period, as witnessed by the L-shaped enclosure encountered at the site. When located, as here, within the corner of a field system these features also appear to be a phenomenon largely restricted to Wessex.

The second phase of this enclosure may, however, show stronger affiliations with the ringworks of eastern England or the small embanked enclosures that cross the Wessex/Sussex divide. One further area of divergence appears to lie within the differences between Middle/Late Bronze Age metalwork deposition in Hampshire and neighbouring parts of Sussex (Yates 2007, 118). However, the regularly laid-out field systems in which hoards are often encountered straddle the boundary.

The brief discussion above is obviously vastly generalised in terms of scope and temporality. Cultural affiliations may have often fluctuated. However, any discussion of regional difference is by necessity sweeping in its statements and the results from Oldlands Farm show that we should not become complacent in the acceptance of divergent regional patterns between Wessex on the one hand and Sussex on the other. As can be expected with such an artificial construct, the lines are blurred.

It is certain that during the Early Bronze Age the West Sussex Coastal Plain was open to Continental immigrants who carried with them exotic items and new ways of expressing power. The major ceremonial centres of Wessex could have offered a draw to pilgrims or voyaging adventurers, a class of high-ranking hunter-warriors who overawed the general populace with prowess and display (Sheridan 2008).

The estuarine embayments of the Coastal Plain, such as that encountered at Oldlands Farm, would have facilitated the entry point for these peoples, as well as exotic goods and metalwork exchanged along the Atlantic seaboard. As the Early Bronze Age progressed the ethos of the warrior hero may have become culturally more ingrained in both Wessex and neighbouring parts of Sussex, where a zone of shared ritual and prestige vocabularies can be discerned. We only need to consider the western origins of Racton Man, accompanied by his riveted dagger of transitional Ferry Fryston type (Needham

et al. 2017) to see that this part of Sussex was not a socially severed zone.

Indeed, over the subsequent Middle Bronze Age the Coastal Plain may have become part of what was culturally a relatively homogeneous 'Channel Bronze Age' (Needham *et al.* 2006, 75). Here, however, as in adjoining parts of Wessex to the west, display was changing, with rigorously laid-out field systems, trackways and enclosures becoming the new monuments in the landscape.

This was a landscape peopled with elites, such as the individual buried within the Hove Barrow accompanied by a grave assemblage of classic Wessex II type, as well as metalworkers and a body of cultivators yoked to the soil. While some would have participated in the Atlantic trade networks, facilitated by vessels akin to the Dover Boat, it is possible that many could not.

Whilst it is clear that geographically greater, continent-wide factors were at play, the evidence presented here goes some way towards the consideration that, at certain times, parts of the western Coastal Plain and the South Downs were both geographically and perhaps culturally on the verge of Wessex.

ADS SUPPLEMENT CONTENTS

THE PALAEOENVIRONMENTAL RESULTS

Pollen Analysis of waterhole [1391], Soil micromorphology, Charcoal Analysis, The Waterlogged Plant Remains.

THE FINDS

The Flintwork analysis, The Prehistoric Pottery, The Fired Clay, The Registered Finds, The Worked Wood, The Animal Bone, The Cremated Bone, Radiocarbon dating

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Author: Archaeology South-East, Units 1 & 2, Chapel Place, Portslade BN41 1DR.

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