Land at Spratsgate Lane, Shorncote Gloucestershire, Phases 3 and 4

Archaeological Excavation

for Morton C. Cullimore Gravels Limited

By Jo Pine

Thames Valley Archaeological Services Ltd

Site Code SLS18/20

July 2021

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Land at Spratsgate Lane, Shorncote, Gloucestershire Archaeological excavation, Phases 3 and 4

By Jo Pine

With contributions by Steve Ford, Matilda Holmes, Rosalind McKenna, Danielle Milbank and Jane Timby

Report 18/20

Summary

Excavations of extraction Areas 3 and 4 within the quarry complex known as Shorncote Quarry prior to mineral extraction, revealed a landscape occupied or exploited from the Mesolithic through to the post-medieval period. The earliest evidence took the form of flint work of Mesolithic date. The first features were two pits which contained pottery of earlier Neolithic date. Radiocarbon dating of one of the pits confirmed this chronology with a date of 3347-3084 cal BC.

The later Neolithic is represented by two pits, one containing a 'placed deposit' of worked flint and a polished stone axe probably imported from Cornwall. Radiocarbon gave this pit a date of 2789-2569 cal BC. The Late Neolithic-Early Bronze Age occupation of the site took the form of a small ring ditch with an associated central inhumation burial and a possible 'head and hooves' cattle burial. A radiocarbon date of 2292-2135 cal BC was obtained from fragment of the human skull.

The later Bronze Age- early Iron Age occupation comprised an dispersed open settlement which included a number of post-built roundhouses, four-post structures and fence lines. Two post-built roundhouses of likely similar date had also been recorded in extraction Phases 1 and 2 directly to the south.

The middle-later Iron Age is represented by two penannular gully roundhouses, pits and postholes and two lengths of segmented linear ditch at right angles to one another. The NW-SE length of the segmented ditch was previously recorded in the excavation area directly to the south with another length recorded at right angles to the southern end of this feature.

Late Iron Age-early Roman occupation is less dense, taking the form of a small number of pits. The Roman activity comprised a trackway and a series of enclosures and ditches together with a stone-lined well and pits. This occupation dates between from the later 1st century and throughout the 2nd century. The 3rd century was represented by a small mixed inhumation and cremation cemetery. There was a hint of Saxon occupation with just a few sheds of pottery, but one burial radiocarbon dated to the 8th or 9th century

Medieval and post-medieval ridge and furrow and field ditches were also recorded.

Introduction

This report documents the results of an archaeological excavation carried out at Shorncote Quarry, Spratsgate Lane, Shorncote, Gloucestershire (SU 0254 9614) (Figs 1 and 2). The work was commissioned Mr Moreton Cullimore of Moreton C. Cullimore Gravels Ltd, Netherhills, Whitminster, Gloucestershire, GL2 7PD. Planning permission (09/0014/CWMAJM) had been granted by Gloucestershire County Council to extract gravel from a *c*.8.5ha parcel of land. As the site had high archaeological potential, the consent was subject to a condition (15) which required a programme of archaeological excavation and recording in advance of extraction, as guided by *The National Planning Policy Framework* (NPPF 2012) and the County Council's policies on archaeology. This report relates to extraction areas known as 'Phases 3 and 4'; within the ongoing programme of works. Around 4ha designated Phases 1 and 2 in the southern part of the site have already been archaeologically excavated by Archaeological Research Services Ltd (ARS) and reported on (Williams and Cockroft 2018) (Fig 3). Phases 3 and 4 are located to the north and cover an area of *c*.3.2ha (Figs 3 and 4).

The excavations were carried out to specifications approved by Mr Charles Parry, Senior Archaeological Officer with Gloucestershire County Council who also monitored the project. The excavations were carried out between 12th June and 31st September 2018. The fieldwork was supervised by Jo Pine who also managed the post-excavation work. The field team comprised Will Atwood, Cosmo Bacon, Elsie St John-Brooks, Camila Carvalho, Nick Dawson, Daena Guest, Daniel Haddad, Josh Hargreaves, Anne-Michelle Huvig, Ashley Kruger, Pierre-Damien Manisse, Daniel Neal, Kristian Magnus, David Sanchez, Jon Tierney, Beth Tucker, Tom Stewart and Jamie Williams. The site code is SLS18/20. The archive is currently held by TVAS, East Midlands and will deposited at Corinium Museum in due course. Human remains were removed under Home Office Licence 18-0145.

Topography and geology

The site comprises an area of fallow agricultural land, bounded to the east by Keynes Country Park and to the west by Spratsgate Lane (Fig. 2). The site lies at approximately 91m above Ordnance Datum (AOD), with ground level rising gradually to the north and west to 91.70m. The underlying geology is mapped as River Terrace Gravels of the Pleistocene and recent eras (BGS 1974). This gravel was observed throughout the majority of the excavation area but having more clay patches in the western part of the site.

Archaeological background

Excavations have already taken place within the quarry complex in areas known as Phases 1 and 2 in the southern part of the site (Williams and Cockroft 2018) (Fig. 3). The earliest feature found in these areas was a pit dated to the late Neolithic or Bronze Age. Two post-built roundhouses were excavated being tentatively assigned to the Bronze Age.; however they were poorly dated with only two undiagnostic sherds of prehistoric pottery recovered from one of the structures. A middle Bronze Age crouched inhumation burial was radiocarbon dated. Two pits and a posthole were assigned to the early Iron Age, and segmented gully features broadly to the Iron Age. A Roman trackway was also recorded and a Saxon inhumation burial dated to the 8th-9th century. There were numerous postholes and pits which were undated.

In the wider environs, the Spratsgate Lane site lies in an area of intensive prehistoric and Roman occupation. Significant archaeological research has been undertaken in recent years on numerous sites in advance of mineral extraction such as at Ashton Keynes, Somerford Keynes, Fairford, Horcott, Latton Lands, Kempsford, Cricklade, Marston Meysey and Siddington (Fig. 1). Few particularly notable or remarkable individual 'sites' have been revealed but the work has provided, and continues to provide, substantive advances in our understanding of the spatial organization of past societies over long chronological spans (Coe et al. 1991; Barclay et al. 1995; Lambrick and Robinson 2009; Miles et al. 2007; Pine and Preston 2004; Powell et al. 2010; Hayden et al. 2017). The consensus of opinion (backed by extensive data) is that the Thames gravels, especially in the Upper Thames valley, consist of a tightly packed, highly organized landscape by the early Roman period, if not before, with 'sites' located roughly one every 0.5km in every direction, and field systems, roads, tracks, occupying more or less every space in between. Aerial photography (cropmarks) provides clear evidence of the extent of the early parcelling of the landscape (which excavation has shown is mainly Iron Age and Roman) but can significantly underestimate its intensity (as at Horcott) and chronological range. Similarly, more recent fieldwork in the Cotswold Water Park at sites such as Eysey (Pine in prep) Latton (Lowe et al. 2016), Siddington (Bray et al. 2020), and Roundhouse Farm (Cass et al. 2015) has indicated that extensive use of landscapes was taking place in the Iron Age by utilizing small, dispersed farmsteads with a tendency to 'drift' across the gravel terraces, rather than nucleated sites.

Excavations at the Cotswold Community site (Powell *et al.* 2010) just to the east of Spratsgate Lane showed that the site to have been a focus for human activity since Neolithic times. Successive Bronze Age, Iron Age and Roman settlements developed. Four phases of archaeological fieldwork have taken place. Phases 1 and 2 identified a large, complex multi-period settlement, including Bronze Age burials, roundhouses, field systems and enclosures and an extensive pit alignment (OA 2006). Further phases of fieldwork identified much less dense archaeological deposits, mostly comprising Roman field systems (Weale and Preston 2010) and three Iron Age roundhouses (Oram and Ford 2010).

The Geophysical Survey and Evaluation

Geophysical survey of the whole site was carried out prior to the evaluation phase. It identified anomalies likely indicating the presence of an enclosure in the north of the site and associated trackway to the west as well as traces of medieval ridge and furrow cultivation (Archaeological Surveys 2008) (Fig. 3).

An evaluation of eighteen trenches, 50m in length and 2m wide targeted on anomalies identified by geophysical survey was undertaken (CAT 2008) (Fig. 3). Eight of these trenches (Trenches 1 to 8) were located in the area to become Phases 3 and 4. Trenches 1, 3 and 4 were targeted on the possible trackway ditches. Trench 1 contained the possible trackway ditches, which contained pottery of later Bronze Age or Iron Age date. Two undated pits were also recorded. Within Trench 3 a continuation of ditches previously recorded in trench 1 and some possible prehistoric pits were excavated. Trench 4 contained a series of three undated ditches, orientated north-south, again likely continuations of the trackway ditches recorded in Trench 1. Trenches 5 and 6 were targeted at large irregular anomalies shown on the geophysical survey. In trench 5 a group of intercutting ditches was identified at the north-western end of the trench. Whilst Trench 6 contained four ditches one which was date to the Roman period. Two pits were also recorded; one of which contained Roman pottery. Trenches 2, 7 and 8 were blank apart from a series of furrows, which were also recorded in Trenches 1, 3, 4, 5 and 6.

The Excavation

The excavation areas, totalling c.3.2ha, were stripped of topsoil and subsoil using 360° type machines fitted with toothless grading buckets under constant archaeological supervision. Linear features, including ditches and gullies, were encountered, together with a possible ring ditch and ring gullies. Pits (isolated and intercutting) were recorded together with postholes (a number representing circular buildings, four-post structures and fence lines). Inhumation burials and cremation burials were also recorded. Multiple phases of ridge and furrow were identified (Figs 3 and 4).

To avoid confusion, from this point on, the extraction 'phases' will be referred to as 'Areas', thus the areas that are the subject of this report, known as 'Phases 3 and 4' in planning and quarry management terms, are 'Areas 3 and 4' for archaeological purposes. 'Phase' will therefore refer solely to the chronological divisions of the site's development. The following phases are applied:

Phase 1: Prehistoric

1a: Mesolithic
1b: Earlier Neolithic
1c: Later Neolithic
1d: Late Neolithic-Early Bronze Age
1e: Later Bronze Age-Early Iron Age
1f: Middle to later Iron Age
1g: Late Iron Age-Early Roman

Phase 2 Roman

2a: Later 1st-earlier 2nd century
2b: Later 2nd century
sub-phase 2bi
sub-phase 2bii

2c: 3rd century

Phase 3: Saxon

Phase 4: Medieval

Phase 5: Post-medieval/modern (16th to 20th centuries)

There is a degree of confidence that the deposits assigned to a particular sub-phase are broadly correct. Many of the earlier prehistoric features have been attributed to sub-phases on the basis of an assessment of the site on a landscape scale together with a logical fit into the site development narrative, where strictly chronological evidence (finds or stratigraphy) is lacking. However, it must be admitted that often details of the phasing are speculation. This is one of the major problems when discussing horizontal landscape archaeology with minimal stratigraphy and long- lived pottery traditions (or few finds). Spatial organization on a landscape scale is useful when trying to widen the discussion about lifestyle, community and society. Such data are required to consider topics such as land division, land ownership; communal and settlement interaction, so the uncertainties over chronology should be borne in mind.

All the excavated features are summarized in Appendix 1.

Phase 1 Prehistoric

Sub-phase 1a: Mesolithic

The Mesolithic is represented by a number of narrow flakes which are blades along with some blade cores. These were in the majority recovered as residual finds.

Sub-phase 1b Earlier Neolithic

Pit 907 (Figs 6 & 15; Pl. 1)

This pit was ovoid, being 0.50m by 0.45m and 0.19m deep. Its fill (1157) was a mid grey brown clayey silt which contained twenty three sherds of pottery some being decorated and representing a minimum of two vessels. These belong to the decorated vessels of the Peterborough series, perhaps of the Mortlake and Fengate sub-styles dating to the middle Neolithic period (3500-2800 cal BC).

Pit 943 (Figs 6 & 15; Pl. 2)

This was circular being 1.00m in diameter and 0.20m deep and its fill (1257) was a mid grey brown clayey silt This contained nine sherds of decorated Neolithic pottery likely to be of Fengate sub-style. This contained three fragments of animal bone and a radiocarbon date from a fragment of jaw bone gave a date of 3347-3084 cal BC (Appendix 18: UBA-43234).

Posthole 743 contained a sherd of decorated Fengate sub-style pottery but this is considered residual.

Sub-phase 1c: Later Neolithic

Two pits (5 and 102) have been placed in this prehistoric sub- phase

Pit 5 (Figs 6, 7 & 15; Pl. 3)

This ovoid pit was 0.65m by 0.50m and 0.20m deep. It contained a single fill (56) of mid greyish brown clayey silt which contained an assemblage of 34 struck flints including one narrow flake and a scraper. The assemblage is probably of later Neolithic date. A single hazel nut shell fragment was recovered from this pit together with oak charcoal.

Pit 102 (Figs 6, 7 &15; Pl. 4)

This was circular being 1.10m in diameter and 0.18 m deep. It had a bowl-shaped profile and contained a single fill 157 which was a mid reddish brown silt with occasional gravel inclusions. This contained 164 pieces of struck flint with the assemblage being dominated by flakes but also a number of spalls and some core fragments were recovered together with a Neolithic arrowhead. However microdebitage was absent, suggesting this was a 'placed deposit' rather than a working site. Metrical analysis produced results typical of an assemblage of Later Neolithic or Early Bronze Age date, with a low narrow-flake component and a very distinctive later Neolithic or Early Bronze Age arrowhead. A fragment of polished stone axe that is likely to come from the Lizard peninsular in Cornwall was also recovered. Pottery crumbs were recovered which could only be dated to the prehistoric period together with a small assemblage of animal bone including antler. This antler was radiocarbon dated to 2789-2569 cal BC at two sigma. (Appendix 18: UBA-43233) Burnt flint fragments weighing 440g and a small amount of oak charcoal were also recovered.

Sub-phase 1d: Late Neolithic-Early Bronze Age

Causewayed Barrow (Ring Ditch) 1400 (Figs 7 and 16; Pls 5 and 6)

A small causewayed ring ditch was recorded in the north-east corner of the site and has been placed in this prehistoric sub-phase due to a radiocarbon date from the associated burial found in its centre. This was a circular monument with a causeway to the north; the ditch itself was slightly irregular and varied in width and depth round its circuit. The monument measured *c*.6.60m in diameter from its internal edges or up to 8.00m externally. A total of eleven slots were excavated (346 to 348, 401 to 406, 418 and 419) and showed the ditch measured between 0.37m and 0.80 m wide and was between 0.12m and 0.37m deep. It had two fills: a primary fill of a mid red brown clayey silt with pea sized gravel, sealed by a dark red brown clayey silt. No pottery was recovered from the ditch apart from an intrusive sherd of Roman pottery from slot 405 and unidentifiable crumbs from slots 418 and 419. A small amount of worked flint was recovered from this feature: slot 404 contained a broken blade and a spall; slot 418 contained an intact flint flake and a spall; and slot 419 contained a spall. There was no material suitable for radiocarbon dating, so the dating rests on the internal feature.

Posthole 437 and 438 recorded on the external edge of the ditch may be contemporary. Posthole 347 was 0.25m in diameter and 0.15m deep whilst posthole 438 was 0.20 in diameter and 0.15m deep. These contained no finds.

Inhumation burial 245 (Fig. 7; Pl. 7)

This was recorded in the centre of the area enclosed by ditch 1400. The cut was rectangular on a NNE-SSW alignment with rounded corners, sharp sides and a flat base. The grave dimensions were 1.75m in length, 1.30m wide and 0.57m deep. Skeletal remains (SK358) were recorded resting against the southern edge of the cut and comprised a skull, two clavicles, a small piece of scapula and pelvis. The skull was recorded lying on its right side. A radiocarbon date of 2292-2135 cal BC was obtained from a bone fragment from the skull (Appendix 18: UBA-43137). The grave back-fill, a mid reddish brown sandy silt (357) also contained a flint scraper, an intact flake, a broken blade, and two spalls. In the upper 0.10m of this fill were the remains of a possible cow 'head and hooves' burial. An inhumation of this age is most unusual and the associated animal bone deposit very rare, although appearing to be part of an emerging regional phenomenon (see Holmes, below).

Pit 6 (Fig. 7)

This ovoid pit, 1.15m by 1.00m and 0.27m deep had a single fill (57) of mid reddish brown clayey silt. It contained one sherd of possible Bronze Age pottery and a flint spall.

A small number of features contained small amounts of worked flint and have been phased here. However they could as easily date to the earlier Neolithic or be from the following sub-phase, later Bronze Age-early Iron Age period.

Pit 111(Fig. 7)

This was a circular pit, 0.65m in diameter and 0.16m deep. It was filled with a mid brownish grey clayey silt (170) which contained 4 flint spalls.

Pit 112(Fig. 7)

This was a circular pit; being 0.56m in diameter and 0.15m deep. It was filled with a mid brownish grey clayey silt (171) which contained a broken flint flake

Pit 702 (Fig. 12)

This was ovoid, 1.00m by 0.80m and 0.34m deep. It was filled with deposit 890 which was a mid brown sandy silt. This contained an intact flake and three spalls.

Pit 905 (Fig. 12)

This was circular; being 0.71m in diameter and 0.15m deep. It was filled with a mid brownish grey clayey silt (1155) which contained a flint spall.

Pit 931 (Fig. 12)

This was circular; being 0.56m in diameter and 0.15m deep. It was filled with a mid brownish grey clayey silt (1189) which contained a flint burin. This overlay a grey gravel and sand fill (1196).

A late Neolithic/early Bronze Age pit (ARS449) was recorded near the east edge of the earlier excavations to the south (Williams and Cockroft 2018, 8) (Fig. 3). This was 1.02m by 0.95m and 0.12m deep and contained a pottery sherd with elements of Neolithic impressed ware and early Bronze Age traditions. A broken flint blade and a broken edge trimmed flake were also recovered, along with a charred wood sample (not radiocarbon dated). A similar pit nearby was undated but might have been contemporary (ARS451).

Sub-phase 1e: Later Bronze Age-Early Iron Age

Around 200 postholes were recorded in Areas 3 and 4 (Fig. 4). Identified within these were the ground plans of various post-built structures: roundhouses, fence lines, pens and likely raised granaries (4-posters). These structures and the other postholes are poorly dated but this is often the case with these unenclosed prehistoric sites which contain hundreds of postholes and which are termed open dispersed settlements (Lambrick et al.2009, 95ff). There was no material from any of the post-built structures suitable for radiocarbon dating; no burnt plant remains or animal bone; even though the majority of these postholes were fully excavated and extensively sampled.

A number of pits were recorded amongst these postholes and some are likely contemporary with the postholes. Of these, only pit 325 contained any datable finds: 89 sherds pottery of likely later Bronze Age- early Iron Age date. This pit was located close to post-built roundhouse 1421 (Fig. 10) and presumably related to the latter.

These post-built structures and the other pits and postholes located close by have been assigned to the later Bronze Age-early Iron Age phase of site development based on the very limited pottery evidence, the location of pit 325, the characteristics of the structures, landscape logic and the chronology of other sites in the near vicinity. Of course it is possible, given the multi-period nature of the site that some of the features assigned to this phase are actually earlier in date and some later.

Two poorly dated post-built roundhouses, dated by just two small sherds of prehistoric pottery, were recorded in Area 1 and 2 to the south and were suggested to be of probably Bronze Age date (Fig. 3) (Williams and Cockroft 2018, 10–18). These areas also contained an inhumation burial, some pits and a posthole which had been placed in the probable Bronze Age phase of this site development. There were almost 200 unphased pits and postholes in Areas 1 and 2. Within these it had been possible to identify buildings (Post-built structures 1 to 4) and fence lines (see below for details). It is considered here that these structures and many of the other undated pits and postholes identified in Areas 1 and 2 are very likely to have dated to the later Bronze Age-early Iron Age sub-phase proposed for Areas 3 and 4.

Post-built Roundhouses

Roundhouse 1417 (Figs 10 & 17)

This was located in the south-west part of the excavation area and c.7.00m from roundhouse 1421. It comprised five postholes (309 to 313) (Table 1). It had an internal diameter of 3.37m. No finds were recovered from this structure.

Table 1: Postholes of Roundhouse 1417

Cut	Fill	Diameter (m)	Depth (m)
309	347	0.45	0.14
310	375	0.22	0.12
311	379	0.30	0.12
312	377	0.27	0.12
313	378	0.24	0.12

Roundhouse 1421 (Figs 10 & 17)

Roundhouse 1421 was composed of seven postholes (142-4, 320-22 and 327) (Table 2). It had an internal diameter of 5m. Four postholes (323, 324, 328 and 329) just to the west also possibly relate to this structure. Dating is an issue; eight sherds of pottery in fabrics LISH and LISHF were recovered from posthole 323. These fabrics are considered probably of middle-later Iron Age date however the sherds are small plain body sherds and the pottery tradition is long lived. Pit 325, which is located c. 4m from roundhouse 1421 contained 89 sherds of later Bronze Age-early Iron, Age pottery.

Table	Table 2. Postholes of Roundhouse 1421						
Cut	Fill	Diameter (m)	Depth (m)	Comments			
142	199	0.22	0.18				
143	250	0.30	0.09				
144	251	0.40	0.13				
320	389	0.44	0.18				
321	392	0.32	0.1				
322	393	0.40	0.13				

Table 2:Postholes of Roundhouse 1421

Cut	Fill	Diameter (m)	Depth (m)	Comments
327	399	0.25	0.2	
323	394	0.36	0.14	Pottery
324	395	0.30	0.10	
328	450	0.30	0.21	
329	451	0.70 x 0.55	0.15	

Pit 325 Figs 10 &18, Pl. 8)

This pit was circular; being 0.78m in diameter and 0.53m deep. It had near vertical sides and a flat base. Its primary fill (396) was a mid greyish brown silt with occasional gravel. Overlying this was fill 397 which was a mid reddish brown silt. Fill 396 contained some 89 sherds of pottery weighing 402g. These sherds were mainly in calcareous fabrics and included some with finger-tipped decoration or incised lines. The pottery from pit 325 possibly dates to the early Iron Age; however the range of fabrics and the finger tipping decoration from this pit is quite similar to the later Bronze Age wares previously found at Shorncote (Morris 1994).

Roundhouse 1428 (Figs 11 & 17)

This was located in the south-east part of the site and close to the four-post structures 1427 and 1429. Its components formed a circle of six postholes (11 to 15 and 19) (Table 3). This had an internal diameter of 4.26m. Two internal postholes (9 and 10) were possibly for roof support (Table 3). No finds were recovered from this structure.

Table 3: Postholes of Roundhouse 1428

Cut	Fill	Diameter (m)	Depth (m)
9	60	0.38	0.19
10	61	0.36	0.14
11	62	0.34	0.14
12	63	0.37	0.14
13	64	0.29	0.1
14	65	0.37	0.13
15	66	0.31	0.13
19	67	0.44	0.23

Roundhouse 1450 (Figs 7&17)

This putative building is very speculative based on the recording of an arc of four postholes (108, 109, 110 and 113) located in the north-eastern part of site. Again, no finds were recovered from this structure. It is interesting it is located close to pit 5 which likely dates to the later Neolithic. Maybe the structure should be considered to be of a similar date?

Table	2 4: KOI	indhouse 1450	
Cut	Fill	Diameter (m)	Depth (m)
108	167	0.30	0.11
109	168	0.20	008
110	169	0.20	0.09
113	172	0.24	007

Table 4: Roundhouse 1450

Four-Post Structures

Three examples of four-post structures were recorded in Areas 3 and 4 and likely represent raised granaries. Again these contained no finds but have been placed in this phase by landscape logic. The form of the structure was common from the late Bronze Age to the early Roman period but chiefly associated with the Iron Age.

Four Posthole Structure 1416 (Figs 10 & 17, Pl 9)

A roughly 2.5m square four posthole feature was recorded just to the south of Post-built roundhouse 1417. This

comprised four postholes (208 to 211) (Table 5).

Four Posthole Structure 1427 (Figs 11 & 17)

Another square four posthole feature was recorded just to the north of post-built roundhouse 1428. It comprised four

postholes (25 and 32 to 34) (Table 5). Its dimensions were 1.375m by 2.0m.

Four Posthole Structure 1429 (Figs 11 & 17)

A four posthole structure comprising postholes (125, 126, 131 and 132) (Table 5) was recorded c.18m to the south-east

of roundhouse 1428. A support post or replacement (130) for posthole 126 was also recorded.

Table 5: Postholes of 4-poster structures

Group	Cut	Fill	Diameter (m)	Depth (m)
1416	208	265	0.29	0.16
1416	209	266	0.30	0.12
1416	210	267	0.30	0.12
1416	211	268	0.30	0.2
1427	25	71	0.30	0.22
1427	32	72	0.30	0.18
1427	33	73	0.26	0.17
1427	34	74	0.30	0.12
1429	125	184	0.31	0.15
1429	126	185	0.60 x 0.70	0.2
1429	130	189	0.15	0.09
1429	131	190	0.30	0.2
1429	132	191	0.40	0.29

Fence lines

Fence Lines 1422, 1423 and 1424 (Figs 5, 8 &18; Pl. 10)

A series of fence lines were recorded just to the west of roundhouse 1421. Fenceline 1422 was recorded on a roughly W-E alignment for c.16.00m and at its western end it was truncated by Roman trackway ditches 1430/1/2. It comprised twenty six (146 to 207 and 741 to 804) postholes (Table 6). A sherd of probable earlier Neolithic pottery was recovered from posthole 743 (987) which is likely residual.

At the western end and to the west of the Roman trackway ditch was a small stretch of fenceline 1423, on a NW-SE alignment extending for just 3.00m m and comprised six postholes (847 to 900, 902 and 903) and posthole 901 is likely contemporary (Table 6).

Another stretch of fence line 1424 was on a NW-SE alignment for *c*.10m and joining with fence line 1422 at posthole 744. It had been truncated by later furrows but nine postholes (814 to 819, 822, 823 and 824) survived. Postholes 820 and 821 are likely contemporary (Table 6).

Table 6: Postholes of Fencelines 1422, 1423, 1424

1 4010 0.	1 obtilo		, integ i 122, i i	23, 1121	
Group	Cut	Fill	Diameter (m)	Depth (m)	Comment
1422	146	253	0.30	0.14	
1422	147	254	0.26	0.10	
1422	148	255	0.32	0.14	
1422	149	256	0.28	0.15	
1422	200	257	0.26	0.11	
1422	201	258	0.32	0.13	
1422	202	259	0.30	0.15	
1422	203	260	0.27	0.12	
1422	204	261	0.26	0.11	
1422	205	262	0.30	0.14	
1422	205	262	0.27	0.11	
1422	207	264	0.26	0.10	
1422	741	985	0.26	0.14	
1422	742	986	0.30	0.10	
1422	743	987	0.30	0.15	Neolithic sherd
1422	744	988	0.28	0.13	i teomine shera
1422	745	989	0.30	0.18	
1422	746	990	0.29	0.13	
1422	747	991	0.30	0.18	
1422	748	992	0.30	0.11	
1422	749	993	0.25	0.09	
1422	800	994	0.22	0.10	
1422	801	995	0.30	0.20	
1422	802	996	0.32	0.13	
1422	803	997	0.25	0.12	
1422	804	998, 1051	0.30	0.20	
1423	847	1097	0.32	0.16	
1423	848	1098	0.23	0.10	
1423	849	1099	0.32	0.15	
1423	900	1150	0.26	0.10	
1423	901	1151	0.28	0.11	
1423	902	1152	0.28	0.22	
1423	903	1153	0.27	0.21	
1424	814	1070	0.40	0.14	
1424	815	1069	0.25	0.10	
1424	816	1068	0.27	0.14	
1424	817	1067	0.40	0.13	
1424	818	1066	0.25	0.10	
1424	819	1065	0.30	0.17	
1424	820	1091	0.36	0.13	
1424	821	1092	0.20	0.10	
1424	822	1090	0.26	0.10	
1424	823	1071	0.25	0.10	
1424	824	1072	0.25	0.14	

Fence Lines 1442, 1443 and 1460 (Figs 9 & 18)

Fence line 1442 was recorded on a north-south alignment for c.15m. It comprised seven postholes (evaluation posthole 3006, 709, 723 to 726 and 728). Posthole 728 contained a single sherd of Iron Age pottery weighing 4g in fabric SASH. Fence line 1443 was to the south of 1442 and was curved and c.15m in length. This comprised six postholes (634–637, 716 and 718). Fence line 1460 comprised postholes 731, 732, 733 and 734 on an east-west alignment for c. 18.5m Posthole 731 contained a sherd of 1st/2nd century AD pottery but this may be intrusive.

Table 7: Postholes of Fencelines 1442, 1443, 1460

Group	Cut	Fill	Diameter (m)	Depth (m)
1443	634	868	0.50	0.30
1443	635	869	0.35	0.26
1443	636	870	0.40	0.20
1443	637	871	0.40	0.19
1442	709	898	0.80	0.20
1442	714	954	0.25	0.15
1443	716	956	0.34	0.14

Group	Cut	Fill	Diameter (m)	Depth (m)
1443	718	959	0.60	0.16
1442	723	966	0.36	0.14
1442	724	967	0.33	0.13
1442	725	968	0.27	0.13
1442	726	969	0.36	0.20
1442	728	971	0.35	0.13 pottery
1460	731	975	0.42	0.12
1460	732	976	0.36	0.44
1460	733	977	0.35	0.14
1460	734	978	0.25	0.15

Rectangular structure? or Animal Pen 1444 (Fig. 8)

This comprised five postholes (618 to 621 and 813) and enclosed an area of c. 8 sq m. It is likely that a third southern posthole was removed by segmented ditch 1414, assuming the latter to be later. No finds were recovered even though the postholes were fully excavated.

Table 8: Postholes of Animal Pen 1444

Cut	Fill	Diameter (m)	Depth (m)
618	798	0.28	0.15
619	799	0.30	0.17
620	850	0.25	0.15
621	851	0.25	0.13
813	1064	0.28	0.12

Other Post-built Structures

A strange configuration of postholes (1451) was observed just to the south-east of four-post structure 1416 (Fig. 10). This comprised six postholes (221 to 226) which appear to be three pairs, and may represent a drying rack, a bench or holding rails to tether horses, successively replaced in the same spot.

Another irregular pattern of postholes, 1452 (postholes 213 to 220, 227 to 229) just to the south may also date to this sub-phase of site development. Their purpose was unclear but they must have formed some sort of structure(s), possibly a pen. Again no dating evidence was recovered from any of these postholes.

A 3-post structure (1453) comprising postholes 28, 35 and 36 was located just to the south of 4-post structure 1427. This was recorded for c.2.5m. These too may represent a bench or tethering, but 3-posters are commonly thought likely to have the same function as 4-posters.

Group	Cut	Deposit	Diameter (m)	Depth	
1453	28	87	0.40	0.25	
1453	35	88	0.42	0.19	
1453	36	89	0.30	0.15	
1452	213	270	0.34	0.10	
1452	214	271	0.32	0.09	
1452	215	272	0.30	0.15	
1452	216	273	0.25	0.13	
1452	217	274	0.27	0.10	
1452	218	275	0.23	0.10	

Table 9: Postholes of irregular structures 1451, 1452 and 1453

Group	Cut	Deposit	Diameter (m)	Depth
1452	219	276	0.30	0.10
1452	220	277	0.26	0.10
1451	221	278	0.30	0.13
1451	222	279	0.25	0.12
1451	223	280	0.28	0.10
1451	224	281	0.25	0.12
1451	225	282	0.25	0.12
1451	226	283	0.28	0.12
1452	227	284	0.25	0.11
1452	228	285	0.25	0.13
1452	229	286	0.28	0.10

Cremation burial 212 (Fig. 10)

This was located in the southern part of the site in an area between the roundhouses in Area 3 and 4 and the roundhouses found in Areas 1 and 2. It was a shallow circular cut 0.27m in diameter and 0.06m deep and contained a mid brown silt (269). This contained 224g of cremated human bone of an adult whose sex could not be determined. There were no other finds and phasing relies purely on the location in the settlement cluster of this phase.

Post-built structures and other features on Areas 1 and 2 (Fig. 3)

Only a brief summary of the main features in the earlier excavation area to the south are included here. Further details on these structures can be found in the ARS report (Williams and Cockroft 2018).

Roundhouse 1

This was defined by 13 postholes and had an internal diameter of 12.50m. Eight postholes formed the main structure and two formed a porch. Three internal postholes were possibly for internal support or a partition. Two postholes contained fragments of pottery identified as undiagnostic later prehistoric.

Roundhouse 2

This comprised a sub-circular structure with an internal diameter of 5.50m, with 18 postholes forming a main structure and a possible entrance and porch. Fired clay fragments from one of the postholes were identified as loom-weight or thatch weight dated to the later Bronze Age.

Possible Post-built Structure

This comprised three shallow postholes but it was suggested at one time there may have been a fourth. This would have created a structure with internal dimensions of 1.8m width and 4.2m in length. One of the postholes contained an abraded fragment of grog tempered ware pottery dated to the early prehistoric period

Crouched burial

A crouched inhumation burial within a circular pit (483) was recorded towards the east of Areas 1 and 2 (Fig. 3) (Williams and Cockroft 2018, 19–20). A radiocarbon date of 1382–1323 cal BC (SUERC-39006) was obtained and the body was probably that of female, over the age of 45.

<u>Pits</u>

A large shallow pit; being 0.88m by 1.18m and 0.27m deep was recorded and contained grog-tempered pottery dated to the early prehistoric period. Another pit which was ovoid; 1.24m by 0.78m and 0.30m deep contained a fragment of pottery given an early Iron Age date. Another ovoid pit; being 0.95m by 0.75m and 0.12m deep. This contained sherds given an early Iron Age date. A posthole was also recorded being 0.24m in diameter and 0.14m deep and contained a sherd of possible early Iron Age pottery.

Other post-built structures (PBS1 to 4) were unphased on the southern part of the site (Williams and Cockroft 2018): the phasing suggested here is based only on morphological similarities to the Area 3 and 4 structures above, themselves not at all well-dated.

Post-built Structure 1

This comprised eight postholes in a right angled L shape. It could be the remains of a building or an animal pen. The internal dimensions were 4.5m by 6.00m. No finds were recovered.

Post-built Structure 2

This comprised four postholes creating a rectangular shape possibly for a raised granary. The internal dimensions of the structure were 0.80m wide and 4.40m in length.

Post-built Structure 3

This comprised six postholes in two lines creating a rectangular shape again possibly for a raised granary. The internal dimensions of the structure were 1.10m wide by 3.60m long. It was located close to roundhouses 1 and 2 which lay towards the north of the southern excavation area.

Post-built Structure 4

This comprised four postholes set again in a rectangular shape. The internal dimensions of the structure were 0.62m wide and 3.80m in length. No finds were recovered and it is likely another raised granary.

Fence lines

A possible fence line comprising four postholes was recorded for c.8.50 on a west-east alignment. No finds were recovered from these features. it is possible this line extended further west but the postholes there were much more widely spaced and might not be related. Three other postholes were recorded on a north-south alignment for c.2.50m and may be a very short fence or a standing rail to tether horses.

Sub-Phase 1f Middle to later Iron Age

Roundhouse 1401 (Figs 7 and 18, Pls 15 and 16).

This roundhouse was only partially visible extending from the northern baulk of the excavation. The partial ground plan of a circular gully had an internal diameter of 11.74m with a possible small entrance of 1.08m, facing south (Figs 7 and

17, Pl. xx). A second small gap to the west may be due to the shallowness of the gully in this area rather than a real entrance, although the position of posthole 408 does suggests a true terminal in the gully. To the east the gully was also little more than a stain. Six slots (339, 340, 341, 342, 429 and 435) were excavated through the (eaves drip?) gully showing it was between 0.26m and 0.34m wide and between 0.06m and 0.13m deep. There were three internal postholes (343, 344 and 436) and a posthole (345) by the southern entrance and two postholes (400 and 408) were recorded within the gully (Table 10). No finds were recovered from this structure and no material suitable for radiocarbon dating. It has been placed in this sub-phase due to form of the structure.

Table 10: Summary of postholes in roundhouses 1401 and 1437

Group	Cut	Fill	Diameter (m)	Depth (m)
1401	343	467	0.14	0.10
1401	344	468	0.16	0.09
1401	345	470	0.28	0.08
1401	436	586	0.19	0.08
1401	400	476	0.21	0.08
1401	408	578	0.4	0.33
1437	829	1078	0.38	0.12
1437	835	1085	0.34	0.17

Roundhouse 1437 (Fig. 8)

The partial ground plan of a penannular gully was recorded in the far southwest of areas 3 and 4. It had been badly truncated to the east and west by Roman trackway ditches, and to the south by furrows and a modern ditch, such that only a short length of the northern part of the penannular gully survived. Six slots (830, 831, 833 837, 839 and 842) were excavated through the gully showing it was between 0.34m and 0.39m wide and no more than 0.15m deep. The structure had a projected internal diameter of 12.3m or a bit less. Two internal postholes (829 and 835) were recorded (Table 10). No finds were recovered from this structure and no material suitable for radiocarbon dating. Again it has been placed in this sub-phase due to form of the structure.

Gully 1418

This was just south-west of roundhouse 1437, aligned east-west for c. 7.00m (Fig. 5) and may have been associated with the roundhouse. The four slots (145, 440, 441 and 531) dug through it showed it was between 0.30m and 0.45m wide and between 0.05m and 0.12m deep. A single sherd of pottery in fabric LISH was recovered from slot 145.

Ditch 1419 and Ditch 1440 (Figs 5 & 8)

Ditch 1419 was on a WNW-ESE alignment for c.9m. Four slots (914, 917, 920 and 921) were excavated through it and this showed it was between 0.50m and 1.00m wide and between 0.09m and 0.21m deep. A single small sherd of pottery in fabric LISH was recovered from terminus 914, which had also been recut (915). Ditch 1440 is likely part of this system. This was on an approximately NNE-SSW alignment for c. 10m (Fig. 8), immediately north of roundhouse 437

and plausibly related to it. The three excavated slots (834, 836 and 838) showed it to be between 0.53m and 0.80m wide and 0.06m–0.20m deep.

Segmented Linear Ditches 1414 and 1420 (Figs 5, 8, 9, 18, & 21; Pls 17 and 18)

Two segmented linear features (1414 and 1420) in the current excavation area combined two on the area to the south to form three sides of a large rectangular 'semi-enclosure' (Fig. 21).

Segmented Ditch 1414 extended from some 44m into the Areas 1/2 site, and for a further 58m from the southern limit of the current excavations on a NNW-SSE alignment. It was truncated twice, by a modern ditch and by Roman trackway ditch 1430: it possible that trackway ditch 1413 and or a furrow might have removed a short final northern element but even if so, it did not continue beyond ditch 1413. This was referred to as *causewayed linear 3* in Areas 1 and 2 to the south (Williams and Cockroft 2018) (Fig. 3) where it consisted of two short stretches of ditch and seven elongated pits. In Areas 3 and 4 it comprised short lengths of ditch and gullies together with elongated pits and a number of circular pits, overall resembling a combination of pit alignment and segmented ditch. The slots through the ditch and gully elements showed these were between 0.70m and 1.10m wide and between 0.24m and 0.43m deep. The elongated pits were between 0.60m and 0.70m in length, remarkably uniformly 0.70–0.89m wide and 0.24–0.29m deep. The circular pits (1013 and 1207) were 0.75m in diameter and respectively 0.11m and 0.29m deep.

At the SSE end of *causewayed linear 3* and at right angles to it was another short stretch, *causewayed linear 2* some 16m long (Fig. 21).

Close to the north end of feature 1414 and at right angles to it on an ENE-WSW alignment was another length of segmented ditch, 1420. This extended for *c*.32m and likely at one time this segmented linear continued up to (or at least closer to) the NNW end of linear 1414 but this area of the site was truncated by the later Roman trackway. Feature 1420 comprised elongated pits (647, 648, 649,710, 711, 712 and 713) and postholes (1203, 1204 and 1205). These were shown to be between 0.67m and 0.80m in length, 0.46m and 0.72m in width and between 0.09m and 0.18m deep. Considering these segmented features together they surround an area of c. 4000 sq m (100m N–S, 40m W–E). There was no corresponding east side, and both NW and SW corners appear not to have been 'closed'.

These segmented linear boundaries are poorly dated in both excavation areas. Gully slot 938 and pit 1013 of ditch 1414 each contained two sherds of pottery in fabric LISHF which it is considered probably dates to the middle-later Iron Age. It must be noted that ditch terminal 812 two sherds of Roman pottery but these are considered intrusive. Two sherds of pottery considered of early Iron Age date were recovered from *causewayed linear 2(*Williams and Cockroft 2018). A very short stretch of a further causewayed linear (*causewayed linear 1*) was recorded further south (Fig. 3) on a different alignment (ENE-WNW) for *c.* 20m. No finds were recorded form this but it is likely contemporary with the

other segmented linear features. Such features when composed mainly of elongated pits tend to be of earlier Iron Age date while longer segmented ditch sections appear to be more a middle Iron Age phenomenon. This hybrid form may be intermediate between the two (or an early stage of one evolving into the other).

Other Features

A small number of pits contained pottery sherds in limestone and shelly wares which may date these features to the middle-later Iron Age. Two pits (233 and 234) may date to this phase based on the fabrics of the pottery recovered from them but as the number and size of the sherds were small they may belong to the earlier phase. Pits 231 and 232 close by may be contemporary (Fig. 10).

Pit 29 (Fig. 6)

This was a small circular pit, 0.50m in diameter and 0.33m deep. Its fill (68) was a grey brown silt which contained eight pottery sherds in fabric LISH2.

Pit 233

This was circular, 0.86m in diameter and 0.16m deep. Its fill (290) was a mid reddish brown silt which contained three tiny pottery sherds in a broadly Iron Age fabric.

Pit 234

This circular pit had a diameter 0.90m and was 0.14m deep. Its fill (291) was a mid reddish brown silt which contained

one tiny sherd in fabric LISH.

Pit 231

This was circular, being 0.93m in diameter and 0.13m deep. Its fill (288) was a mid reddish brown silt.

Pit 232

This was circular, 0.95m in diameter and 0.13m deep. Its two fills were a mid reddish brown silt (289) overlying a light

grey sandy gravel (292).

<u>Pit 439 (Fig. 12)</u>

This was ovoid, 1.00m by 1.60m and 0.56m deep. It contained four fills (589-591). The lowest fill (590) contained a

sherd in fabric LISHC, whilst fill 591 contained a sherd in fabric CALC.

<u>Pit 448</u> (Fig. 12)

This was circular 1.28m in diameter and 0.26m deep. It contained eight sherds of Iron Age pottery in fabric LISH.

<u>Pit 729 (Fig. 9)</u>

This circular pit was 0.93m in diameter and 0.25m deep, with two fills. Its lower fill (973) was a dark greyish brown silt

containing 17 sherds in fabric LISHF. This was sealed by a mid reddish brown silt (972) with no finds.

Pit 603(Fig. 12)

This was circular; being 1.15m in diameter and 0.27m deep. Its fill (780) contained three sherds of prehistoric pottery.

Pit 912 (Fig. 13)

This was badly truncated by pit 913 but was seen to be 0.40m deep. It contained three sherds of prehistoric pottery.

Sub-Phase 1g Late Iron Age-Early Roman

There was a low density of late Iron Age–early Roman (i.e. 1st century BC to 1st century AD) features on site. Only a few features, all pits apart from one short gully, contained exclusively late Iron Age–early Roman pottery (in low numbers) but some pottery of this date was found in later Roman features, mostly in the northern part of the excavation area. This may suggest further occupation evidence of this date remains to be found beyond the northern limits of this excavation.

Gully1438 (Fig. 12)

This short stretch of gully was just 4.30m long. The two slots (503 and 516) were between 0.38m and 0.60m wide and between 0.08m and 0.25m deep. Slot 516 contained four sherds of MAL REB fabric and a sherd in an early Severn valley ware .

Table 11: Summary of Late Iron Age/Early Roman pits/postholes

		Diameter (m)		Finds/notes
Cut	Fill(s)	Or length x breadth (m)	Depth (m)	
8	59	2.08	1.24	(Fig. 11) 1 sherd pottery (LIA/ER), cattle and sheep bones
18	78	0.90	0.38	(Fig. 11) 1 sherd pottery (LIA/ER)
30	77	0.80	0.34	(Fig. 7) 1 sherd early Roman pottery, 2 flint spalls
432	582	2.25 x 0.58	0.26	(Fig. 7) 4 sherds LIA pottery, plus 18 more broadly Iron Age
433	583	1.05	0.32	(Fig. 12) 1 sherd LIA/ER pottery, 5 sherds iron Age, fired clay, quern frag.
614	794–5	2.50 x 1.10	0.78	(Fig. 12) 34 sherds LIA/ER, bones of cattle, sheep/goat and dog/fox
630	864	0.62	0.12	(Fig. 12) Cut by gully 1410
1019	1288	1.20	0.69	(Fig. 13) 1 sherd pottery (LIA/ER) cut pit 1018
1118	1387	2.80 x 2065	0.45	(Fig. 12) (=pit 1032) Roman brick/tile fragment

Animal burial 337 (Fig. 13)

This pit contained the partial skeleton of an adult equid;(horse or donkey) comprising the vertebrae (cervical, thoracic and lumber vertebrae)' fore (scapula, humerus, radius and ulna) and hind (femur, patella, and tibia) limbs.. This pit was 2.41m by 1.41m and only 0.15m deep. Apart from the animal skeleton this pit contained six sherds of pottery including early Roman sherds.

Four more pits (1109, 1113, 1137 and 1307) (Figs 12 and 13) have been placed here on the basis of stratigraphy (cut by early Roman features) but as they did not contain any finds they could of course be any earlier prehistoric date: all were also badly truncated.

Phase 2 Roman

Much of the Roman activity was located in the northern part of the site (Fig. 7, 12 and 13). It comprised parts of an enclosure and/or field ditches together with gullies, a stone-lined well, inhumation and cremation burials, pits and postholes. Given the location of these Roman features and the fact that many of the linear features continued underneath the northern baulk of the excavation, together with the results of the evaluation trenching and the geophysical survey indicate that further Roman features are to be found just beyond the northern limits of the present excavation. The Roman activity uncovered during the excavation dates from the later 1st century through the 2nd century and into the earlier 3rd century but with nothing later.

A trackway system was also recorded in the western part of the current excavation and had been redefined on more than one occasion. It appears to have been first laid out in the later 1st century-earlier 2nd century, and had previously been recorded to the south in excavation Areas 1 and 2 (Williams and Cockroft 2018) (Fig. 3).

Sub-Phase 2a: Later 1st-earlier 2nd Century

Enclosure ditch 1402 and gullies 1408, 1409, 1410, and 1411 (Fig. 12; Pls 19 and 20)

The partial ground plan of a ditched enclosure (1402) was revealed in the far north of the excavation area. The ditch was observed entering the excavation area on a NE-SW alignment for 6.50m before curving round to an ENE-WSW alignment for around 28m then turning more sharply to a NW-SE alignment. It was recorded on this alignment for c.10m before terminating. A posthole (608) just to the north of this terminus may be contemporary. A continuation of the ditch on its east side (NE-SW) beyond the current limits of the excavation was observed as a line of geophysical anomalies (Fig. 3) but any corresponding continuation at the west end was not visible within the excavation as this area was densely occupied by other features. It is likely that this enclosure was built into the southern ditch of an offshoot from the trackway (see below). Eight slots (421, 434, 502, 515, 513, 523, 532 and 1225) were excavated through ditch 1402 and showed it to be between 0.41m and 2.06m wide and between 0.11m and 0.54m deep. Its fill contained 193 sherds of pottery including a small assemblage of Iron Age pottery and a larger assemblage of 2nd century Roman pottery, dating the ditch's backfilling. It may of course have originally been dug earlier, for example in the later 1st century. It was truncated by ditches 1403 and 1404.

Roughly flanking enclosure ditch 1402, at a distance of 3.50m south of it, was a shallow intermittent stretch of gully (1408, 1409, 1410 and 1411). It is possible together with the boundary formed by ditch 1402 this was a small stretch of droveway to manage stock into the enclosure. Excavations through gullies 1408, 1409, 1410 and 1411 showed

they were between 0.27m and 1.00m wide and between 0.04m and 0.23m deep. These gullies contained a few sherds of Roman pottery dating to the later 1st to 2nd century and early 2nd century.

Internal features (Fig. 12)

There were a number of internal features within the enclosure which may be contemporary, and although some were undated, others contained 2nd century pottery. Those containing Roman pottery could be contemporary or belong to earlier or later Roman phases. Those containing no dating evidence could be prehistoric or Roman. They have been placed here for convenience.

Table 12: Summary of pits/postholes within enclosure 1402

		Diameter (m)		Finds/notes
Cut	Fill(s)	Or length x breadth (m)	Depth (m)	
411	498	0.64 x 0.54	0.25	
422	564, 567	1.02	0.25	Animal bone
427	574	1.30	0.32	5 sherds 2nd-century pottery, tegula, brick
504	679	1.00	0.25	Animal bone
517	678	0.70	0.14	
524	688	0.65	0.13	
548	775	1.05	0.32	23 sherds 2nd century pottery, animal bone, box flue tile
601	771	0.53	0.10	Animal bone
602	779	1.02	0.12	(flint core residual)
606	783	0.34	0.14	Posthole
607	784	0.34	0.20	Posthole
703	891	1.20	0.23	Truncated by ditch 1403
705	895	1.40 x 0.96	0.32	Truncated by ditch 1403

Gully 1434 and recut 1405

Gully 1434 was on a roughly east-west alignment; *c*.12m in length, being between 0.70m and 91m wide and between 0.16m and 0.30m deep. It contained ten sherds of 2nd-century pottery. It was recut as gully 1405 which was between 0.55m and 0.96m wide and between 0.15m and 0.50m deep. It contained 26 sherds of 2nd-century Roman pottery.

It appears the trackway system was also first laid out in the later 1st-early 2nd century although good dating evidence is sparse.

Trackway system (Fig. 5, 13 & 19; Pls 11 and 12)

A trackway was recorded entering the southern edge of this current excavation area on a NNE-SSW alignment; being a continuation of the trackway ditches previously recorded in Areas 1 and 2, with a length in all of around 250m. It comprised two parallel ditches (1412 and 1432) between 9.40m and 13.20m apart and was recorded on this NNE-SSW alignment in Areas 3 and 4 for western ditch (1412) *c*.155m and eastern ditch (1432) for *c*.140m. There were several terminals in the original ditch and recuts at the north end, most marked on the east side. The west side can be seen continuing north in the geophysical survey (Fig. 3) It appears an offshoot from this trackway was also laid out from the north end, heading in ENE direction towards the Roman enclosure. Only the southern ditch (1433) of this offshoot was

recorded in the excavation area. The northern ditch of this off shoot was not exposed in the excavation area however the geophysical survey plotted its course being c.15m to the north of ditch 1433 (CA2008)(Fig. 3). Towards the southern end, the western ditch turns west, but it is not clear if the eastern ditch follows it (further south) or this is also an offshoot (Fig. 3).

Western trackway ditch 1412

This ditch was recorded from the southern baulk of the excavation area across the whole length of the excavation area. Twelve slots (526, 845, 916, 1023, 1026, 1233, 1303, 1310, 1314, 1315 and 1316) were excavated through this ditch and showed it to be between 0.80m and 2.30m wide and between 0.20m and 0.60m deep. Its fill contained just seven sherds of Roman pottery including later 1st to 2nd century and 2nd century wares, and a fragment of *tegula* together with a small assemblage of animal bone.

Eastern trackway ditch 1432

This ditch also extended from the southern baulk (and beyond to the south) across the whole excavation area for c. 140m before then terminating in the north. Seven slots (826, 948, 1011, 1208, 1210, 1235 and 1318) were excavated through this ditch and showed it to be between 0.46m and 1.00m wide and between 0.06m and 0.30m deep. Its fill contained a single sherd of pottery dated to the 1st to 2nd century and a moderate assemblage of tile.

Offshoot trackway southern ditch (1433)

This was recorded for c.23m on a WSW-ENE alignment. It terminated either at slot 1046 or just to the SW of this slot; where it was truncated by ditch recut 1430 (Figs 12 and 13). The four slots (1035, 1046/1047, 1105 and 1136) excavated through this ditch showed it to be over 0.90m wide and between 0.32m and 0.90m deep. Its fill contained eight sherds of pottery dated to the 1st to 2nd century and early 2nd century.

There would have been a entrance gap between the terminal (1318) of ditch 1432 and the WSW terminal end ditch 1433 however as this terminal end has not been identified its size is not possible to state.

Well 420 (Figs 7 & 19 Pls 21 and 22)

A stone-lined well (570) was recorded in a large circular construction cut (470), located just to the SE of the northern focus of Roman occupation. It comprised an interlocking limestone block superstructure/shaft (570) which was 1.70m in depth with the well having an internal diameter of 3.02m. The well contained four internal fills (572, 573, 1199 and 1250). The lowest fill (1250) was a gleyed blue grey clayey silt and contained a Roman box flue tile fragment. Fills 572, 573 and 1199 contained a small assemblage of Roman pottery with a broad 2nd century date. The fills (571, 1275, 1276, 1575 and 1576) of the construction cut (420) contained a small assemblage of Roman pottery again given a 2nd century date. It is likely this well was sunk in this Roman sub-phase but it could have continued in use throughout the subsequent Roman sub-phases of occupation.

Several other pits may belong to this sub-phase

		Diameter (m)		Finds/notes
Cut	Fill(s)	Or length x breadth (m)	Depth (m)	
413	550	0.29	0.08	(Fig. 12) Cut by ditch 1403
518	674	uncertain	0.30	(Fig. 12) 10 sherds 2nd century pottery Cut by ditch 1404
645	879-82	(see 1044)		(Fig. 12) =1044
906	1156	1.20 x 1.08	0.20	(Fig. 13) 1 sherd Roman pottery
919	1174	0.90	0.23	(Fig. 13) 1 sherd Roman pottery
945	1259	1.50 x 1.00	0.25	(Fig. 13) 5 sherds later 1st-2nd century pottery
949	1263	0.90	0.30	(Fig. 13) 6 sherds later 1st-2nd century pottery
1033	1352-3	2.00(+)		(Fig. 12) 15 2nd-century sherds, tile; cut by ditch 1430, cut gully 1032
1041	1298–9	(see 1044)		(Fig. 12) =1044
1042	1350		0.46	(Fig. 12) 1 sherd pottery, cut treebole 1040
				(Fig. 12) =645 and 1041. 1 sherd pottery; cut treebole 1040, cut by pit
1044	1360	4.00 x 2.50	0.46	1048 and ?ploughscar 1043
1308	1590	3.20	0.45	(Fig. 13) 4 sherds later 1st-2nd century pottery, cut pit 1307
1114	1383	1.30 x 1.00	0.34	(Fig. 12) 17 sherds 2nd-century pottery, cut by pits 1115 and 1211
1112	1378	0.80	0.60	(Fig. 13) cut by ditch 1430
				(Fig. 13) =1244. 22 sherds 2nd-century pottery, bone, cbm, cut by pit
1127	1388	3.0 x 2.8	0.31	1128=1135
1223	1553-5	1.30 x 1.09	0.73	(Fig. 13) cut by ditch 1430
1214	1485		0.39	(Fig. 13) cut by ditch 1430, only very partially revealed.

Table 12: Summary of pits/postholes within enclosure 1402

Sub-Phase 2b later 2nd century

It is possible to see some sub-divisions of activity during this later Roman occupation phase being defined primarily though stratigraphy. One isolated grave might also belong in the 2nd century, but it is discussed with the other human burials in sub-phase 2c, below.

Sub-Phase2bi.

Enclosure 1403 (Figs 12 & 20)

Cutting the south-east corner of earlier Roman enclosure 1402, was the corner of a second enclosure extending beyond the northern edge of the excavation. It entered the excavation area on a NE-SW alignment recorded for c.12m before curving sharply to the NW for *c*.10m before exiting under the northern baulk again. It is possible that some of the geophysical anomalies may be a continuation of this ditch but none is convincingly so (Fig. 3). The eight slots excavated (410, 412, 428 512, 521, 535, 539, 701/704) showed the ditch to be between 0.80m and 1.35m wide and between 0.16m and 0.80m deep. It contained just over 100 sherds mainly 2nd century Roman pottery (some may be earlier), animal bone and a fragment of tile. The ditch was truncated by ditch 1404 and itself truncated gully 409 and pits 411, 703 and 705.

Other ditches at the north edge of excavation

A series of ditches at the northern edge of the excavation could be contemporary with 1403 and while they could quite easily belong to sub-phase 2bii, they do appear to respect the terminal end of ditch 1402. Further excavation in the area to the north will likely aid in a better understanding of the form and chronology. The earliest ditch was ditch 1407 recorded on a SW–NE alignment for 14m, terminating on the line of enclosure ditch 1402. It was between 0.32m and

1.42m wide and between 0.18m and 0.30m deep. It contained a small assemblage of 2nd century Roman pottery together with an intrusive post-medieval sherd. It was redefined by ditches 1406 and 1436 on a similar alignment and of similar dimensions. Ditch 1406 only contained an intrusive medieval pottery sherd whilst 1436 contained no pottery.

Trackway system

The trackway appears to have been redefined at this time; dating is poor but stratigraphy indicates this.

Western trackway ditch 1413 (Fig. 5)

This ditch replaced ditch 1412 across the whole length of the excavation area a NNE-SSW alignment. Twelve slots (302, 303, 527, 841, 1024, 1025, 1234, 1302, 1311, 1313, 1317, 1324 and 1325) were excavated through this ditch and showed it to be between 1.00m and 2.70m wide and between 0.25m and 0.80m deep. Its fill contained ten sherds of pottery, the majority being residual late Iron Age-early Roman pottery together with a single 2nd century sherd. A small assemblage of animal bone was also recovered.

Eastern trackway ditch and Offshoot trackway southern ditch 1430 (Fig. 5)

The earlier eastern trackway ditch 1432 and southern off shoot ditch 1433 were replaced by ditch 1430. This recut 1430 was recorded as one continuous length of ditch being both the eastern trackway ditch and the southern offshoot ditch, extending from the southern baulk of the excavation area on a NNE-SSW alignment across the excavation area for c.140m before then curving round to a WSW-ENE alignment for *c*. 55m before exciting the excavation area. Twenty two slots (500, 828, 923, 947, 1010, 1034, 1045, 1104, 1111, 1120, 1125, 1138, 1143,1202, 1209, 1215, 1220?, 1236, 1241, 1242, 1248 and 1312) were excavated through this ditch and showed it to be over 0.90m wide up to a maximum width of 3.30m. It was between 0.24m and 0.60m deep.. The slots through the part of ditch 1430 which represented the trackway's eastern ditch only contained pottery dated to the later 1st to 2^{nd} century some of which could be residual. The southern off shoot ditch part of ditch 1430 contained more clearly 2nd century pottery.

Phase2bii.

Stratigraphy as discussed above indicates further site modification.

Ditches 1404 and 1435 (Fig. 12)

Ditch 1404 was shown to truncate both enclosure ditches 1403 and 1402. It was recorded for 11.80m on a SE–NW alignment from a SE terminus to exit the northern edge of the excavation. The six slots (414, 514, 520, 522, 536, 540) showed it to be over 0.60m wide and between 0.27m and 0.41m deep. It was redefined by ditch recut 1435. This was 0.55m wide and 0.38m deep. The geophysical survey suggests it continues for c.20m and then joins the southern off shoot ditch (Fig. 3).

Trackway system

The western trackway ditch was likely still ditch 1413 in this sub-phase, with the eastern side of the trackway now being represented by recut 1431. This ditch was recorded on a NNE-SSW alignment coming from the southern baulk of the excavation area for c.160m and then terminating, the most northerly of the termini (1126). Fifteen slots (446, 827, 832, 946, 1009, 1126, 1148, 1201, 1212, 1237, 1240, 1243, 1249, 1301 and 1320) were excavated through this ditch and showed it to be between 1.15m and 3.00m wide and between 0.27m and 0.45m deep. Its fill contained 21 sherds of 2nd century pottery and a single clearly intrusive Saxon sherd. It was in its turn recut in a small stretch at its northern end (recut 1425).

It is considered that the southern offshoot trackway in this sub-phase was represented by ditch 1446. This was recorded I just three slots (1036, 1102/1103, 1121) for c. 25m and was seen to be between 1.42m and 1.70m wide and between 0.42m and 0.75m deep. It would appear to have terminated east of slot 1045/1046/1047 and thus have left a small gap between this and the trackway ditch terminal at slot 1126.

Roman Pits

Some pits (likely for rubbish deposal) which contained 2nd century pottery and had no stratigraphic relationships could belong to any of the 2nd century sub-phases of activity including the later 1st century-earlier 2nd century sub-phase. Some pits were however shown by stratigraphy to likely belong to either sub-phase 2bi or bii. Some of these pits were very large (though rarely very deep), yet still yielded relatively little pottery and not many other finds, although amongst these, fragments of box flue tile (and other tiles) are significant a they indicate that a Roman building of some architectural sophistication must have existed nearby. They are summarized in table 13.

Table 13: Summary of 2nd century pits

		Diameter (m)		Finds/notes
Cut	Fill(s)	Or length x breadth (m)	Depth (m)	
349	474–5	1.22	0.22	(Fig. 7) 44 sherds, mostly 2nd century
525	689–93	2.80	1.20	(Fig. 12) 39 sherds, mostly 2nd century, cbm, much animal bone
616	798	2.00 x 1.80	0.56	(Fig. 12) 32 sherds pottery, fired clay, animal bone
730	974	1.70 x 1.30	0.29	(Fig. 9) 9 sherds pottery, animal bone
736	979-80	1.70	0.33	(Fig. 9) 96 sherds pottery, cbm, including box flue tile, animal bone
737	981	1.80 x 1.10	0.18	(Fig. 9) 3 sherds pottery; modern truncation
918	1173, 1181	1.95	0.44	(Fig. 13) 1 sherd pottery, box flue tile
				(Fig. 13) 48 sherds pottery, stone tile, imbrex, box flue tile, animal
928	1182-3	2.00	0.76	bone
939	1253	1.20	0.53	(Fig. 13) 56 sherds pottery, cbm, animal bone
1048	1358	0.90 x0.45	0.50	(Fig. 12) 1 sherd pottery; cut pit 645, 1041 and 1044
1116	1385	2.00	0.48	(Fig. 12) 12 sherds pottery
1128	1389	(see 1135)		4 sherds pottery; =1135
1135	11452	6.0 x 2.20	0.82	(Fig. 12) 1 sherd pottery, tile; =1128; Cut pit 1227/1244
	1482, 1483,			(Fig. 12) 32 sherds pottery, box flue tile; cut pits 1114, 1214; cut by pit
1211	1487	unclear	0.50	1216
1227	1552	1.5	0.26	(Fig. 12) 1 sherd pottery
1309	1592	unclear	0.32	tile

Intercutting pits 1246/1247(Fig. 13)

These were seen in a box slot and the relationship between the two could not be discerned. These were deep pits between 0.76m and 0.81m deep and contained a sherd of late Iron Age–early Roman pottery and a sherd of 2nd century pottery.

Phase 2c earlier? 3rd century

This phase of Roman occupation is dated by a extremely small assemblage of 3rd century Roman pottery together with radiocarbon dates. Analysis of the pottery showed a complete absence of any of the later Roman colour-coated wares which might suggest the site had been abandoned shortly after the mid-3rd century. Some features have been placed in this phase of site development by stratigraphy and landscape logic. However, the nature of the site's use changes and it is now dominated by a cemetery, in itself a clear indication of a new phase in the site's development. Indeed, several of the cremation burials were cut into the trackway ditches, showing that they had filled in fully, and although the inhumations were aligned on the line of and on the same orientation as the trackway, it seems most unlikely that they would have been located within a route that was till in use, so that the trackway must have fallen from use by now.

Inhumation and cremation cemetery

All but two of the human burials on the site were located in one cluster in the north-west corner, on the line of the earlier trackway. Three inhumation burials (grave cuts 238, 244 and 316) were located aligned approximately north to south along the eastern side of western trackway ditch 1413 (Figs 13 and 14). A fourth (1238) was cut into (but aligned along) the eastern trackway ditch. Eight likely cremation burials were also recorded just to the west and SW of the burials. Four of the cremation burials (five if pit with pyre debris 306 is included) truncated the backfilled ditch 1413 whilst the others were located just to the west of this ditch. While, as noted above, these locations strongly suggest that the trackway had gone out of use at this time, they might also imply however that the backfilled ditches were still a visible earthwork and of some importance.

Dating of the cemetery as a whole is uncertain, due to the fact that that some of the pottery in the graves is clearly residual. However skeleton 1566 in grave cut 1238 was radiocarbon dated to cal AD 228- 365 at 2 sigma and is located only a short distance from the main focus of burial, while stratigraphically at least one inhumation and five cremations are clearly later than the 2nd century, and the others appear very likely to be contemporary. They are therefore all discussed here, along with two more isolated graves, although there is less conviction that the latter two need be of the same phase.

Inhumation burial 238

This was the central burial of the three located on a N-S alignment. The grave cut was rectangular with rounded corners, 1.5m in length, 0.56m wide and only 0.18m deep (Figs 13 and 14).. The skeleton (299) was lying supine, with the head to the south and the legs semi-flexed towards the left side. The sex of the skeleton could not be ascertained but it was the body of an older adult 46+ years. The grave fill (286) was a greyish brown sandy silt and contained residual early Roman pottery.

Inhumation burial 244

The cut for this most southerly of the three aligned graves was rectangular with rounded corners being 1.53m in length, 0.52m wide and only 0.18m deep (Figs 13 and 14). The skeleton (355) was semi-flexed, with the head to the north but facing west together with the body lying on its right side (facing W). The body was that of an older adult male 46+ years. The grave fill (356) was a light greyish brown sandy silt and contained a sherd of residual prehistoric pottery.

Inhumation burial 316

The northern grave cut was much the largest, and somewhat ovoid, being wider to the south than the north. It was 2.16m in length, 0.72m wide at its maximum, and 0.38m deep (Figs 13 and 14). The skeleton (385) was supine with the head to the north. The right arm was extended with the right arm crossed over the stomach, and left arm acutely bent with the hand near the shoulder. The legs were extended. The body was possibly that of a female aged between 14-16 years .The grave fill (384) contained residual Iron Age and early Roman pottery together with an iron nail fragment.

Inhumation burial 1238

This was some 13m to the SE from grave 244. The grave cut (1238) was rectangular with rounded corners being 1.52m in length, 0.62m wide and only 0.20m deep (Figs 13 and 14). It truncated the backfilled trackway ditch 1432. The skeleton (1566) was a male estimated to be 12-14 years old. The body was orientated with head to the north and feet to the south. The body was semi-flexed on right side and the head had rolled, and appears to be prone. The legs were semi-flexed. A radiocarbon date from the skeleton gave a date of cal AD 228- 365 (Appendix 18: UBA-43138). The grave fill (1567) contained a residual sherd of late Iron Age-early Roman pottery.

In the same location, was a small cremation cemetery comprising eight disturbed/ truncated cremation burials. It is likely that they had been truncated by the medieval/ post-medieval ridge and furrow system (Figs 3, 5 & 13). This means the cremation burials contained much less bone than that expected from the cremation of a complete (adult) individual (recorded range: 1001.5g-2442.5g, average: 1625.9g based on modern crematoria (McKinley 1993).

Cremation burial 246 (Figs 14 & 20, Pl. 13).

This was circular cut; being 0.30m and only 0, from an adult whose sex could not be determined. The fill also contained six sherds of early Roman pottery and charcoal from oak and ash trees.

Cremation burial 248(Figs 14 & 20).

This was oval; 0.54m by 0.40m but shallow being only 0.06m deep. Its fill (361) was a dark brown grey silt which contained only 78g of cremated human bone which was from an adult, possibly a female. Oak charcoal was also recovered from the fill.

Cremation burial 249(Figs 14 & 20).

This was oval; being 0.71m by 0.43m but again shallow at just 0.06m deep. Its fill (362) was a dark brown grey silt which contained 22.5g of cremated human bone but it was not possible to sex or age the remains. It also contained two small sherds of prehistoric pot and oak charcoal.

Cremation burial 300(Figs 14 & 20).

This was again oval, 0.40m by 0.34m but shallow being 0.06m deep. Its fill (363) was a dark brown grey silt which contained 369g of adult bones of indeterminate sex. Oak charcoal was also recovered from the fill.

Cremation burial 301(Figs 14 & 20).

This truncated back-filled trackway ditch 1413. It was circular, 0.35m across and only 0.03m deep. Its fill (364) which was a dark brownish grey silt only contained only 31g of human bone (cranial fragments, teeth and long bone shaft fragments) of an individual whose age and sex could not be determined. Oak charcoal was also recovered from the fill.

Cremation burial 304(Figs 14 & 20; Pl. 14).

This too truncated backfilled trackway ditch 1413. It was 0.52m in diameter and 0.08m deep. It was located just to the south of cremation burial 308. The fill (367) of 304 was a dark brownish grey silt. This contained only 11.5g of human bone; these being cranial fragment and long bone shaft fragment. The age and sex of the individual could not be determined. Four residual sherds of prehistoric pottery was also found in fill 367 and charcoal from burning ash.

Cremation burial 305(Figs 14 & 20).

This also truncated ditch 1413 and was 0.44m in diameter and only 0.04 deep. Its fill (370) a dark brownish grey silt only contained 12g of human bone, being long bone shaft fragments. The age and sex of the individual could not be determined. A small assemblage of 2nd century pottery was also recovered from fill 370.

Cremation burial 308(Figs 14 & 20).

This also truncated ditch 1413 and was 0.37m in diameter and 0.08 deep. Its fill (373) a dark brownish grey silt only contained 7.5g of human bone; being a long bone shaft fragment. The age and sex of the individual could not be determined . Oak charcoal was also recovered from the fill.

Alongside this distinctive group of burials, small pit 306 was almost identical, but contained no finds and no cremated bone, and none of the charcoal was large enough to identify: it may be a small deposit of pyre debris.

Two isolated inhumation burials were recorded both in the northern part of the current site but well to the east of the cemetery area. One (338) was radiocarbon dated whilst grave 241 was undated.

Inhumation Burial 338 (Figs 12 &14).

This was an isolated burial being located *c*.12m to the south of Enclosure 1402. It was a rectangular grave cut with rounded corners aligned N-S. It was 1.80m in length, 0.52m wide and 0.41m deep. The skeleton (SK483) within the grave was orientated head to the north with the body being supine with the legs acutely bent at the knees. The skeleton was of a male individual; ageing was not conclusive but it is likely SK483 was 20-25 years old. The grave earth sealing the body (462) contained a pottery sherd date to the early Roman period. A radiocarbon date was obtained from the bones of the skeleton which gave an age of cal AD 105–243 Appendix 18: UBA-43139). it is thus possible that this isolated grave belongs to the earlier (2nd century) sub-phase, and marks the early appearance of the Roman burial use of the site, but there is still a substantial chance that it belongs in the 3rd century.

Inhumation Burial 241(Fig 7&14).

This was located 13m to the east of ring gully 1401 (Fig. 7). It comprised a very shallow and badly preserved grave cut, only 1.00m of its length survived being 0.40m wide and only 0.08m deep. An extended right leg and a left distal femur present were the only elements of the skeleton (353) to survive in the cut. These remains indicate the individual as an adult (20+ years) and possibly a male. In the absence of dating evidence, it is only an assumption that the grave belongs in this period.

Disarticulated perinatal human bones were also recovered from pit 1219, not considered to be part of the cemetery, but rather indicative of the separate treatment of infant and perinatal deaths often observed in this period.

Other Features

It is possible that a small stretch of the off shoot ditch 1430/1446 was redefined in this period given that slot 1121 contained a small assemblage of Roman pottery including 3rd century wares. But more likely it should be considered this 'recut' was using this stretch of ditch like a rubbish pit. This slot also contained a piece of box flue tile, and a piece of *tegula*. The remaining features of this sub-phase are all pits, summarized in Table 14. A series of pits located against the northern baulk of the excavation, and which would have been within the routeway of the offshoot trackway, may fit better into this phase of site development, assuming that the trackway would be an awkward place for rubbish pits. If this is accepted, then almost all of their finds may be residual/redeposited, since almost all of the pottery belongs to earlier sub-phases (Table 14).

Pit 1216/1217(Fig. 12)

This was recorded truncating an element of ditch 1430 and pit 1211. It was shown to be ovoid with vertical sides and a flat base. It contained two fills; the primary fill (1494/1491) which was a dark brownish grey silt which contained two pieces of tegula and residual 2^{nd} century pottery. Sealing this was a dark brown silt (1486/1490) which contained residual 2^{nd} century pottery.

Table 14: Summary of 2nd century pits

		Diameter (m)		Finds/notes
Cut	Fill(s)	Or length x breadth (m)	Depth (m)	
1218		1.60 x 0.50	0.25	(Fig. 12) Cut ditch 1430 and pit 1216/1217
511	669	1.13 x 0.80	0.54	(Fig. 12) 3 sherds of 2nd century pottery; cut ditches 1402 and 1403
				(Fig. 13) partly under baulk; 45 sherds 2nd century pottery, box flue
913	1163	2.86	0.81	tile; cut undated pit 912
911	1160	2.80 a 1.60	0.33	(Fig. 13) 22 sherds earlier Roman pottery, tile, brick
1131		Very truncated	0.28	(Fig. 13) cut by 1132
1132	1399	=911		(Fig. 13) =911; cut 1131. 1 sherd of pottery
1100	1374-5	0.60 x 0.80	0.70	(Fig. 13) small piece of ceramic building material
1101	1376	0.75	0.30	(Fig. 13) 2 small pieces of ceramic building material
1108	1364	0.60	0.15	(Fig. 13) tile; cut possibly prehistoric pit 1109
1119	1381 - 2	2.20 x 2.16	0.24	(Fig. 13) 6 sherds, 2nd century
1129	1392-5	1.49 x 1.07	0.33	(Fig. 12) animal bone
1130	1396	0.46	0.12	(Fig. 12) (Posthole)
1001		3.00 x 2.85	0.51	(Fig. 12)
1219	1495	=1001		(Fig. 12) =1001; 13 sherds 2nd century pottery, quern, human bones

Phase 3: Saxon

A single intrusive sherd of Saxon pottery in an organic tempered ware was recovered from ditch slot 1126. Seven sherds in the same organic temper were recovered from ditch slot 1148 and are probably from a single barrel-shaped jar with a simple rim. It is highly likely the two sherds from slot 1149 (which truncated slot 1148) are from the same vessel. It is probable a feature/cut containing this vessel was missed during the excavation process rather than these sherds dating the ditches. This type of organic tempered ware likely dates to the 6th-7th centuries.

Saxon feature on Areas 1 and 2 (Fig. 3)

An inhumation burial (ARS427) radiocarbon dated to cal AD 701–894 at two sigma (SUERC-39005) (Williams and Cockroft 2018, 115) was located towards the eastern edge of the site (close to the Bronze Age burial, ARS483). The grave cut contained an extended supine skeleton with the head to the west. The body was probably that of a male between the ages of 30 to 50 year old.

Phase 4: Medieval/Post-medieval

Medieval and post medieval activity on the site took the form of ridge and furrow and field boundary ditches and drains.

Ditch 1415 (Fig. 5)

This was recorded on the western edge of the excavation on a SSE-NNW alignment for 29m before curving to the south where it was recorded for a further c.5m before exiting westwards. A continuation of this ditch was recorded in Areas 1 and 2 to the south (Williams and Cockroft 2018) (Fig. 3) on a north-south alignment terminating after *c*.26.5m. The excavations in both areas showed it was between 0.50m and 0.92m in width and between 0.07m and 0.26m deep. It was truncated by a stone-lined drain (442) with this drain being built into another stone-lined drain (443, 858) which was cut into a back-filled ditch 1610 (Fig. 5 and see below). A single tiny sherd of Roman pottery weighing 0.5g was recovered from ditch 1415 (slot 528) but this is considered residual. It is thought that ditch 1415 was likely medieval or post-medieval in date as in the main it mirrors the same alignment as ditch 1610 and drain 443 which are considered post-medieval in date. Maybe this was an earlier version of the ditch.

Ditch 610, Drain 443(858) and Drain 442(650)(Fig. 5)

At the south-western corner of the excavation, ditch 610 was observed entering the excavation area on a SSE-NNW alignment and was recorded on this alignment for c.29m before curving gently to the SW for a further 4m before exiting the area. It was 2.45m wide and 0.33m deep and contained no finds. Possibly this ditch was an early roadside ditch for a precursor of Spratsgate Lane. It was truncated by a construction cut (443) for a stone lined drain (858); with this drain being observed along the whole length of ditch 610. The construction cut 1443 (598) contained 24 sherds of post-medieval glazed red earthenware and a sherd of tin glazed ware. Another stretch of stone-lined drain (660) in construction cut 442 was recorded. This was aligned on a NE-SW alignment for c.11m and at its SW end was built into drain 443(858). From the backfill (597) of the construction cut eight sherds of glazed red earthenware.

Pit 240 (Fig. 7)

This was circular; being 1.15m in diameter and 0.38m deep. It contained two fills (351 and 352). Fill 351 contained a fragment of brown bottle glass weighing 4g.

Ridge and furrow earthworks were noted on all areas of site Areas 1 to 4 (omitted from plans in areas 1 and 2). They were aligned approximately east-west and appear to end before and respect post-medieval ditch 1610 and Spratsgate Lane.

Areas 1 and 2

A post-medieval ditch which dissected the site east-west was clearly that depicted on the tithe map of 1840 and Ordnance Survey map of 1875. A cluster of six intercutting pits were dated to the 17th-18th century based on pottery recovered from one of the pits. Another small pit also contained pottery of similar date.

Finds

Neolithic pottery by Richard Tabor and Jane Timby

Three features, pits 907 and 943 and posthole 743, produced sherds of decorated pottery of Neolithic date. The sherds

have pale brown surfaces with a black core and are extremely friable. In all cases the fabric is the same, heavily

tempered clay containing coarse fossil shell and limestone.

Pit 907 (1157) - minimum of two vessels.

1) Two refitting sherds form an incurved rim with chevrons on top and a possible row of oblique fingernail impressions on the inner underside. A diaper pattern is deeply incised into the exterior below the rim. The rim has strong Fengate sub-style traits.

2) A broad, possibly near upright rim with an outward-sloping expanded top forming a cavetto is most probably from a Mortlake sub-style vessel.

Pit 943 (surface of 1257)

1) Fig. 22: 1 Two refitting sherds form an incurved rim very similar in style to [907] (1157)/1 and possibly from the same vessel, hence Fengate sub-style.

2) Single attitude unclear, with oblique slash marks on top and oblique incised lines on the exterior surface. Probably Fengate sub-style.

Posthole 743 (987)

1) Fig. 22: 2 Single rim, incurved, with twisted cord impressed chevrons on top and parallel oblique twisted cord impressed lines on the exterior surface below the rim. Probably Fengate sub-style.

The style of decoration shows these vessels to belong to the Peterborough series. The quite heavy rims might suggest they belong to the Mortlake and Fengate sub-styles dating to the middle Neolithic (3500-2800 cal BC). The typological development of the decorated vessels is constantly under review and has not yet been fully resolved (Barclay 2002, 90). Peterborough ware has been identified on a number of sites in the Thames Valley, particularly in the middle zone and such vessels are commonly found in pits. Broadly similar style vessels identified as belonging to the Mortlake and Fengate style have also been documented from Gloucestershire sites at Cam (Smith 1968) and Fairford (Bain 2019).

Later Pottery by Jane Timby

The archaeological work resulted in the recovery of a moderately large assemblage of 2046 sherds weighing 17.7kg dating to the early Prehistoric, later prehistoric, Roman, Saxon, medieval and post-medieval periods. The assemblage was analysed broadly following the guidelines outlined in Barclay *et al.* (2016). Prehistoric and other handmade wares were sorted into fabrics following the PCRG (1997) guidelines with letters denoting the main inclusions present. Known named or traded Roman wares were coded using the National Roman fabric reference system (Tomber and Dore 1998). Other wares, mainly of presumed local origin, were coded more generically according to colour and main characteristics. The sorted assemblage was quantified by sherd count and weight for each recorded context. Rims were

additionally coded to general form and measured for the estimation of vessel equivalents (EVE) (cf. Orton *et al.* 1993). Where relevant forms are referenced to existing corpora e.g. Dragendorff 1897; Young 977). Freshly broken sherds were counted as single pieces where identified. Very small sherds, including a large number from sieved samples, were too small to sort into fabrics and are subsumed under the code OO and excluded from any detailed quantification. The quantified data were entered onto an MS Excel spreadsheet. A summary catalogue by contest is presented in Appendix 2: more detail is in the archive. Appendix 3 (late prehistoric) and 4 (Roman and later) summarize the quantifications by fabric, Appendix 5 by form. A summary description of the fabrics and associated forms can be found in Appendix 6.

The condition of the material was exceptionally variable with an overall average sherd weight of 8.7g. Despite this there were a few instances of multiple sherds from single vessels mainly from the Roman component. Pottery was recovered from 167 recorded cuts with a total 189 contexts of which 25% yielded single sherds and 73% with 10 or less sherds which with a multi-period site has significant implications for the accuracy of any dating.

Iron Age (Appendix 3)

Approximately 15% of the assemblage probably dates to the later prehistoric period. There are remarkably few featured sherds to allow much detailed refinement of date. Most of the fabrics, 63.5% by count, contain calcareous inclusions, limestone shell and other fossiliferous debris, which have a long pedigree through the prehistoric period.

One group from pit 325, comprising some 89 sherds weighing 402g, stands out as quite distinctive and this is likely to be an isolated feature probably dating to the early Iron Age. The sherds, mainly in calcareous fabrics, include some with finger-tipped decoration or incised lines. Rims include a flared rim jar (Fig. 22: 3) and two very small rims in a black fine ware with rare calcareous grains (fabric BWFCA) and probably from fine ware tripartite or carinated bowls with flared rims. The fabrics although in the calcareous range appear in detail to be bespoke to this group and do not occur elsewhere in the assemblage. They include a coarse, sparse fossil shell tempered ware often with leached voids (SH1); a fine black sandy ware with and without rare calcareous inclusions (BWF/BWFCA); oolitic limestone-tempered ware (LI2) and wares containing mixed shell and limestone (LISH).

The range of fabrics from this pit is quite similar to the later Bronze Age wares previously documented at Shorncote (Morris 1994). This previous group however contained just one fine sandy ware sherd and no examples of the fine ware bowls seen in pit 325 which might suggest a slightly later date. Finger-tipping however did features of some the later Bronze Age vessels (Morris 1994).

Other calcareous fabrics from elsewhere in the site are more likely to date to the middle-later Iron Age typified by a common frequency of medium to fine crushed fossil shell, fossil detritus and limestone (LISH). Featured sherds are

limited five jars sherds most of which are quite fragmentary but the most substantial is a round-bodied jar with a vertical rim (Fig. 22: 4) from gully slot 432. Many of the sherds occur residually in Roman features.

Other Prehistoric wares

A small number of other generally very small sherds are present which are difficult to date closely other than prehistoric. These include one tiny piece with a coarse calcined flint temper which may be Bronze Age (FL1); two small calcareous sherds (CA) and one shelly ware with iron pellets all of which could be of earlier or later prehistoric date. A group of 18 sherds from one vessel in an oxidized grog-tempered fabric from pit 727 are also slightly ambiguous but occur alongside a single Roman grey ware. The sherds are of note as they display a thick internal calcareous lining from holding or heating water. It is also possible that some grog-tempered sherds dating to the later Bronze Age or earlier have been absorbed into the later Iron Age-early Roman grog-tempered wares.

Late Iron Age - early Roman (Appendix 4)

A small number of wares are present which could date to the later Iron Age or early Roman period. These include one sherd of Malvernian rock-tempered ware (MAL RE A); thirty-two sherds of Palaeozoic limestone tempered wares (MAL REB) and a small number of grog-tempered or grog and organic-tempered wares. The former two wares are imports into the area and Shorncote must lie at the very periphery of their distribution. Fabric MAL REB features a jar and bodysherds from a large bowl with a moulded rim. Both date to the later Iron Age but continue to occur in early Roman deposits across the region. Of note amongst the grog-tempered wares is a vessel with a projecting handle in a grog and flint-tempered ware from pit 525 (Fig. 22: 5) and the substantial part of a jar (Fig. 22: 6) from pit 614. The former vessel is unusual but was recovered alongside a number of early Roman wares. A number of grog and/or organic-tempered wares in handmade and wheel-made forms greatly resemble early Severn Valley wares found in Gloucestershire dating to around the mid-1st century AD and it is uncertain whether these are related or stem from a similar tradition. Featured sherds include four everted rim jars and a tankard or carinated bowl. Also potentially of early Roman date are three black sandy wares with flint (BWFL).

The early Roman period also sees the appearance of grog-tempered Savernake ware and a thinner walled grog-tempered grey ware (WILGYGR) which may be related. Savernake ware, mainly featuring as large jars, continues into the 2nd century and accounts for 3.4% count but 13.2 % weight of the Roman assemblage.

Roman (Appendix 4)

The Roman assemblage proper dates from the later 1st century into the 3rd century and, including the later Iron Ageearly Roman wares, totalled some 1578 sherds weighing *c* 15.5kg and with 14.4 EVE. Whilst there are a few imported continental and regional pieces it is dominated by several products of the North Wiltshire industry. Continental imports are limited to 28 sherds of samian and nine sherds of *amphorae*. The samian includes two sherds of South Gaulish origin (LGF SA) with the remainder from Lezoux, Central Gaul (LEZ SA2). Recognisable forms include cups Drag. types 27 (x2) and 33 (x6); dishes Drag. 18/31 (x2) and one sherd from a bowl Drag. 37. Overall the samian accounts for 1.7% (count) of the Roman assemblage. There are no stamped sherds present. The *amphora* comprise eight small pieces of Baetican fabric, probably from a Dressel 20 olive oil *amphora* and one cylindrical neck fragment in a slightly powdery, white, micaceous fabric which may be from Gaul.

Regional imports include a moderately large consignment of Dorset black burnished ware amounting to some 19.3% (count) of the Roman assemblage. Most of the forms are typical of the 2nd century, including several jars decorated with acute burnished line latticing, flat rim bowls and just two plain-walled dishes. There is one example of a jar with oblique latticing indicative of a date from the 3rd century onwards. Several vessels had evidence of sooting from use. Other regional wares include four sherds of Oxfordshire white ware *mortaria*, one stamped *mortarium* sherd from Mancetter-Hartshill, one sherd of South-west black burnished ware and a few sherds of Severn Valley ware. The Oxfordshire *mortaria* include one rim from a form Young (1977) M17, a type which dates to the 3rd century. The sherd from Mancetter-Hartshill is stamped by the potter Sarrius (Fig. 22: 9) who is known to have been operating in the middle of the 2nd century (see below). The only other import to the site is a small group of wares typical of the oxidized Severn Valley industry. Forms include one wide-mouthed jar with a pendant rim and three tankards.

Local wares collectively account for around 64.7% of the Roman assemblage. Two wares dominate: a grey sandy ware (NWILRE) and a wheel-made, black sandy ware often with a burnished finish (WILBB). The latter, accounting for 15.4% was recognized in the early Roman levels at Cirencester (Rigby 1982) and is thought to have appeared around the Neronian period continuing into the early 2nd century. Forms are limited to jars, shallow bowls/dishes with flat rims, curved wall dishes and a bowl loosely copying a samian bowl (Drag. 30) (Fig. 22: 8). Some jar sherds show traces of rusticated decoration.

The inception date of the more standardized sandy grey and oxidized North Wiltshire wares is not precisely known but it is likely these vessels were being made from the Flavian period onwards with a *floruit* in the 2nd century (Anderson 1979). Nearly all the reduced wares, which alone account for nearly 32% of the total Roman assemblage, are from jar forms but there is one cornice-rimmed beaker. The finer grey wares, also probably part of the same industry, include beaker with barbotine dot panel decoration. The oxidized equivalent (NWILOX) of the grey ware is not quite as common contributing 5.35% but includes tankards (Fig. 22: 7) and a flask as well as simple everted rim jars. There is a single sherd of Wiltshire colour-coated ware again likely to be of 2nd century date. The South-west oxidized and white-slipped wares, probably a slightly later development are only present in very small amounts. The latter is represented by a mortarium. Other sandy wares of unknown provenance form a very small proportion of the assemblage with featured sherds largely limited to jars and plain-walled dishes.

Forms (Appendix 5)

The Roman assemblage had a total 14.4 EVE with a moderately limited repertoire of vessels of which 69.6% comprised jars. Large storage jars add a further 1.5% to this. Drinking vessels, including both beakers and tankards, are quite well represented at 9.1% followed by bowls at around 6%. Other forms based on rims are limited to mortaria; tablewares (cups and one dish); dishes and a single flask.

Modified sherds

Five sherds were noted with some form of post-firing modification. The base from a DOR BB1 jar from ditch 1402 (slot 521) had a minimum of two holes drilled through whereas a base from pit 433 from a grog-tempered jar had a large central hole neatly drilled through after firing. A second grog-tempered jar from pit 614 had four equidistant holes with hour-glass profiles drilled into the base (Fig. 22: 6). Cremation 305 produced a re-used basesherd with a worn circular edge, diameter 70mm of which 25% survives whilst pit 608 contained the base of a fine grey ware jar which has been trimmed around the edge.

<u>Saxon</u>

Ten sherds of early Saxon date were recovered from two features. The sherds are all typical organic-tempered wares likely to date to the 6th-7th centuries. One sherd was recovered from ditch 1425 and nine sherds from ditch 1431. The seven sherds from ditch 1431 slot 1148 are probably from a single barrel-shaped jar with a simple rim (Fig. 22: 10).

Medieval and post-medieval

A single glazed handle from a medieval Minety ware jug or pitcher was recovered from ditch 509. Five sherds of postmedieval glazed red earthenware were recovered from gullies 22 and 534 and further 34 sherds along with a sherd of tin glazed ware came from drains 442 and 443.

Discussion

The recent work at Shorncote has produced an assemblage of pottery demonstrating a long period of intermittent activity at the site extending from Neolithic times through to the 18th-19th century. The shallow nature of the site appears to have caused some intermixing of material and it is difficult to determine whether some sherds are residual, intrusive or dating the features. The earliest evidence comes from the decorated Neolithic bowls associated with two pits 907, 943 and a posthole 743. Odd sherds occurring residually in later features may reflect other prehistoric activity and given that previous work at the locality has yielded Beaker and Late Bronze Age remains and associated material (Hearne and Heaton 1994; Barclay *et al.* 1995) this is perhaps not surprising. A single pit, 325, contained an assemblage typical of the early Iron Age perhaps overlapping with or succeeding the later Bronze Age activity previously identified at Shorncote. A large collection of limestone and shelly wares, largely unfeatured, probably reflect some level of middle-later Iron Age use of the site. Significant amounts came from some contexts allocated to ditch groups 1402 and 1414. However ditch 1402 dates to the 2nd century AD which might suggest this ditch cut through earlier activity. Single Iron Age sherds were the only finds from ditch/gully groups 1418 and 1419.

There is a particular focus of activity in the later Iron Age or early Roman period extending through to at least the mid 3rd century. The earliest phase is reflected in the presence of grog-tempered, Palaeozoic limestone-tempered and Savernake wares dating the later Iron Age or early Roman periods although it is difficult to isolate many features exclusively containing this material.

The main use of the site seems to date to the later 1st and 2nd centuries AD seen in the high numbers of local North Wiltshire wares and Central Gaulish samian. Of the total number of cuts with pottery 65% ceramically date to this phase (though some of these have been assigned to later phases of site use on other grounds). This includes some 40 pits, well 420, two postholes and 24 ditch or gully groups. The latest Roman pottery from the site is associated with ditch slot 1121 which contains some pottery typical of the 3rd century. The complete absence of any of the later Roman colour-coated wares might suggest the site had been abandoned by or shortly after the mid-3rd century. This time of abandonment aligns it with several other similar sites in the area including Whelford Bowmoor (Brown 2007); Kempsford Quarry (Biddulph 2007) and Totterdown Lane, Horcott (Timby and Harrison 2004). The assemblage with its low level of imported wares suggests an establishment of lower economic status. This is supported by the percentage of samian which at 1.7% is entirely typical of rural sites in the region.

Saxon activity is also well documented across the Water Park and the small amount of Saxon pottery recovered here is not surprising. Overall the assemblage from the recent work at Shorncote is entirely typical of that to be found within the Cotswold Water Park which has seen continuous exploitation from early prehistoric times through to modern times.

Catalogue of illustrated sherds (Fig. 22)

- 3. Flared rim jar with finger depressions around the upper body. Oxidized surfaces with a grey core. Fabric: LI2. Pit 325 (396).
- 4. Handmade, vertical rimmed jar. Black to brown in colour. Fabric: Fine version of LISH. Slightly sooted exterior. Gully 432 (582).
- 5. Handmade, beaded rim vessel with at least one vertically projecting handle. The exterior surface is marked with horizontal tooling lines, Dark brown surfaces with a black core. Fabric: GRFL. Roman pit 525 (689).
- 6. Multiple sherds from a handmade necked jar possibly with a wheel-finished rim. Pale brown to dark grey in colour with traces of burning on one side of the interior. Fabric: GROR. Pit 614 (794).
- 7. Several sherds from a handled tankard. Fabric: NWILOX. Pit 1115 (1384).
- Bowl loosely copying a Drag. 30 form with two lines of light rouletting. Fabric: NWILBB. Ditch 1430 slot 1236 (1564).
- 9. Slightly worn *mortarium* rim fragment. The vessel has a low bead and a curved flange stamped by the potter Sarrius. Kilns belonging to Sarrius have been found at Mancetter and Rossington. Sarrius is one of the more prolific 2nd century potters and used at least seven dies of which this is probably one of the more commonly found with similar examples from *Verulamium* (Hartley 1992, fig. 146.35) and Birrens (Robertson 1975, fig. 84.8). A date of AD 135-75 has been suggest by Hartley (1992, 378) for his production period. Fabric: MAH WH. Ditch 1426 slot 721 (963).
- 10. Handmade, simple rim barrel-shaped jar/ Brown exterior with a black interior or core. Fabric: SXOR. Feature 1148 (1474).

Fired clay by Danielle Milbank

A total of 13 contexts produced fired clay, 39 fragments of fired clay weighing 224g. These were distributed in small quantities per context, and highly fragmented. The fabric is typically medium to soft, and comprises fine clay with sparse fine sand inclusions, and very occasional small angular burnt flint inclusions. The colour is uniformly a medium red, poorly-fired at low temperature, with frequent examples of blackening which is indicative of reduced oxygen conditions during heating, material was examined under x10 magnification and summarized in Appendix 7.

Overall, the fired clay lacks diagnostic characteristics, though it may represent daub, and is not datable.

Ceramic building material by Danielle Milbank

A modest quantity of brick and tile fragments were recovered during the excavation, comprising 196 fragments weighing a total of 15.734kg. The majority of the fragments are identifiable as tile, with smaller fragments (10g or less) not diagnostic and could equally represent brick or tile. The material is typically in moderate to poor condition, with frequent abrasion, and is summarized in Appendix 8.

Roman tile

Several forms of Roman tile were identified. These were encountered in a range of contexts, typically in fairly small quantities (under 1kg). The typical fabric, accounting for over 90% of the sherds, is an evenly-fired, slightly soft, fine clay with very occasional fine groggy inclusions, with a light orange red colour. Pieces with a grey core, signifying reduced oxygen conditions during firing, were also present, along with a small number of pieces which were mid to light grey throughout. The range of identifiable forms includes *tegula* roof tile, box flue tile and thick tile-like bricks.

Well 420 (1250) contained a single piece of box flue tile in a soft, slightly rough textured fabric in a light orange with pale orange white lensing, with three wide combed lines across one corner.

Pit 427 (574) contained a piece of brick 62mm thick, and a tegula piece identified by the flange along one side, which has a low squared-off profile. The texture is fairly rough and the thickness of the face is a relatively thin 18mm. Pit 525 (693) contained a piece of brick in medium hard, evenly fired dense sandy fabric with a shallow fingertip imprint in the upper surface.

Box flue tile fragments were recovered from pits 548 (775), a single piece with four wide combed lines, and 736 (979), which contained pieces of the right-angled edge but with the combed face not present.

Pit 928 (1182) contained a small piece of possible imbrex (curved roof tile), and a piece of box flue tile with widetoothed lines which may be stamped rather than combed. Three further combed pieces were recovered from pit 918 (1181) with varying comb patterns. One has two sets of at least 5 combed lines, at right angles, one has sets of four very widely spaced (5mm between each groove) lines, and one has closely-spaced sets of 7 combed lines.

Various slots across ditch 1430 produced a variety of tile types. A *tegula* piece in a very soft fine fabric and thickness of 18mm, with a square profile flange, was recovered from slot 1045 (1360), in addition to a piece with a reduced core and a piece with a slight angle at one edge suggesting it represents a small piece of box flue tile. Ditch 1430 contained another *tegula* piece (slot 1036 (1356)) in a medium-hard fine fabric in a grey (reduced) colour, with a curved-profile flange. A tile or thin brick (possibly *pedalis, bessalis* or similar) piece 30mm thick was also recovered, along with a thinner piece of tile (20mm thick and perhaps representing *tegula* body) with a fingerprint in the upper surface. A piece of box flue tile was recovered from slot 1242 (1664) which has two sets of six combed lines on a fairly soft fine clay body. Also in ditch 1430, slot 1121 (deposit 1452) contained a piece of *tegula* with the cutaway present can be broadly categorized as type B or C, which are most typically of 2nd or early 3rd century date. Deposit (1453) infilling the same slot contained a range of pieces including a *tegula* fragment with a square-profile flange, a double finger groove at the base of the flange, and a thickness of 24mm. This context also contained three pieces of box flue tile, with sets of five combed lines on two co-joining pieces.

Pit 911 (1161) contained a piece of thin plain tile 11mm thick in a fairly fine, medium hard, evenly fired fabric, grey in colour, and a piece of brick 38mm thick, fine and soft with a slightly rough texture, orange surfaces and reduced core. There are fine striations on the upper surface and it is slightly uneven, suggesting it was smoothed by hand.

Pit 913 (1163) contained two fragments from box-flue tiles identified by the presence of a combed surface. It also contained a single large 82mm thick brick piece which is of uncertain date. The fabric is a hard, fine clay with very

sparse fine limestone inclusions, and a light grey colour with red surfaces. Pit 1033 contained five fragments of cbm including two box tile fragments.

A piece of *tegula*, with only the flange part present, was recovered from ditch 1412 slot 1310 (1594). It is in a soft (very abraded) fabric in a bright orange with darker orange and pale lensing. The flange profile has a sharp outside edge, and the inside edge rounded down towards the face (a commonly-occurring type). Part of the cutaway is present (though insufficient to identify it by form according to Warry 2006) and the piece is not closely datable.

Ditch 1433 slot 1136 (1478) contained a piece of possible *tegula* (based on the thickness of 24mm) with four parallel fingertip grooves, forming a 'signature' mark. Various interpretations of these types of marks have been suggested, including tally marks, luck or apotropaic marks, or a quality control mark. The fingertips are fairly small, suggesting they were applied by a smaller adult or possibly even a child, which perhaps makes any of the above interpretations doubtful in this case.

A single piece of box flue tile was recovered from pit 1211 (1482) which has two sets of four deeply combed lines at right angles to each other.

Pit 1217 (1491) contained two pieces of *tegula* which are 24mm thick in a medium hard fairly fine fabric, with the flange broken away. A further piece from ditch slot 1220 (1498) is 22mm thick and also has a broken flange, and has a groove along the base of the flange.

Discussion

Overall, the Roman ceramic building material comprises a modest range of forms: *tegula*, box flue tile and flat tile-like brick. The *tegula* cutaway was only present on one piece and is the only more datable feature, with a likely 2nd or early 3rd century date. The box flue tiles were used to channel warm air through the walls of a room, usually used in conjunction with hypocaust flooring, and the combed lines were applied to provide keying for wall plaster. A narrow range of combed types were recovered, with the majority applied using a five toothed comb, and the material overall may tentatively suggest a tiled-roof building, perhaps with hypocaust heating, having existed on or near the site.

Struck Flint by Steve Ford

A collection of 249 struck flints were recovered from the site summarized in Table 15 and catalogued in more detail in Appendix 9. The majority of the flint work was patinated an off-white colour with some bluish grey but the material was otherwise in good condition. Most if not all of the flint appears to have been derived direct from a chalk source.

Table 15: Summary of site struck flint

Types	Number
Flakes	124
Narrow flakes (blades)	14
Cores	10

Blade cores	2	
Core fragments	13	
Tested nodules	2	
Spalls	61	
Scrapers	13	
Retouched flakes	2	
Serrated flakes	6	
Burin	1	
Oblique arrowhead	1	

Most of the features containing flintwork usually recorded small numbers, up to 4 items, and most of these were residual finds. Two features (5 and 102), however, both of Neolithic date produced larger assemblages. Pit 102 is exceptional in the volume of material it contained as most Neolithic features on the Upper Thames gravels contain a few dozen flints at most.

Chronology

The collection certainly includes a mixture of Mesolithic and later Neolithic material. It is possible that it might include some Bronze Age and earlier Neolithic flintwork also.

The Mesolithic is represented by a number of narrow flakes which are blades, *sensu stricto* along with some blade cores. One of the blade cores is only 30mm long indicating a need to conserve flint usage in a region without flint outcrops and at the same time emphasising the rarity of the large assemblage in pit 102. As frequently recorded on the large scale excavations that have taken place on the Upper Thames Valley gravels, Mesolithic flintwork is persistently present, but very rarely in large numbers, nor densely clustered (Hey and Robinson 2011, 209). It is possible that repeatedly re-visited 'base camps' (Binford 1982), if such a concept is applicable here, where flint manufacture, use and repair tasks (amongst others) takes place, are still to be identified. Perhaps the evidence for such sites is being removed wholesale without record when topsoil is removed mechanically or simply that conservative flint usage leaves behind few traces of even large sites. Some larger sites have been recorded on the valley floor by fieldwalking such as in the environs of Abingdon (Holgate 1986) and North Stoke, Oxon (Site 150 Ford 1987, 126), but an alternative suggestion is that this landscape was exploited only by small numbers of people leaving behind only slight traces of small sites.

Assemblage descriptions

<u>Pit 5</u>

Pit 5 was a simple pit with a bowl-shaped profile and a single fill. It contained 34 struck flints. Just one narrow flake was present and the only retouched piece was a scraper. One flake was burnt. The assemblage is probably of later Neolithic date.

Pit 102

Pit 102 was also a simple pit with a bowl-shaped profile and single fill. Some 164 pieces of struck flint were recovered. The assemblage is dominated by flakes and seems to be largely made from flint direct from a chalk source. The majority of the flakes exhibit pronounced bulbs of percussion and appear to have been struck using a hard hammer. The assemblage has clearly been selected for placement. It contains a number of spalls and some core fragments which are indicative of primary knapping debris but microdebitage, which would have been recovered by sieving, was absent. The latter would be inevitable if a knapping episode had been collected onto a sheet or skin prior to disposal. Further, whilst pieces less than 20x20mm (spalls) may be considered as debitage in flint-rich areas, it is clear that in flint poor areas, cores (as here) are used to produce flakes of this smaller size. The assemblage also includes a high proportion (14.5% - excluding spalls, tested nodules and core fragments) of retouched material including 12 scrapers,3 serrated flakes, 2 retouched flakes and an oblique arrowhead.

The arrowhead is a distinctive late Neolithic oblique form (Green 1980) with a moderate length stem (tang) 10mm long with either a wide or very poorly formed barb. It is 44mm long and 30mm wide and 4mm thick. Only small portions of it are invasively flaked to form the point and barb as it was made on a flat flake that needed no extra thinning. The flint had a cherty inclusion and it is patinated off-white. It is best to describe it as a well made arrowhead intended to be used rather than one for display

This pit assemblage, with its high proportion of scrapers, is an infrequent but recurrent observation suggestive of a particular, specialized craft function. Scrapers are mainly regarded as being used for hide working though there is a wide range of actual uses (Moss 1983). Later Neolithic sites, as Rackham, Sussex contained large numbers of scrapers (Holden and Bradley 1975). Individual Early Bronze Age pits, as at Philliols Farm, Dorset also produced scraper-dominated assemblages (Ford *et al.* in prep) as did a surface scatter at Ruscombe Lakes, Berks (Ford 1987b, site 200).

Metrical analysis

The purpose of the following analysis is to characterize the nature of the lithic assemblages metrically, both to define the chronological attributes and to determine the broad range of flint-using activities that may have taken place. A total of 99 flakes were subject to the analysis, taken from pit 102. The 47 intact flakes were measured following the method of Saville (1980) and the 52 broken flakes after Ford (1987a). These figures can be compared with the summarized data from other stratified assemblages (Ford 1987).

Length:Breadth ratio. The metrical data for the pit 102 assemblage are presented in Table 16. For the intact flakes, some 10.7% of the flakes exceeded a Length:Breadth ratio of 2:1 (Table 16b). When these figures are combined with the data for the broken flakes (Table 16a) the blade-like component drops to 7% of the total. In terms of chronology, this figure is low for assemblages of Late Neolithic date and could easily indicate a Bronze Age date. Fieldwork at Thame, Oxon, revealed Grooved Ware pits with radiocarbon dates centred on *c*. 3000 cal BC which also unexpectedly containing sufficient material for metrical analysis (Ford 2012). There the proportion of narrow flakes was

c. 13% and whilst that assemblage was distinct from those of earlier Neolithic date, it serves to emphasize the paucity of narrow flakes in pit 102 here.

Cortex remaining. The proportion of all flakes retaining more than 2/3 of the original cortex is fairly low with a figure of 11.1% and is typical of settlement-associated activity rather than quarry debris. As the material has to be imported to this site, it is most likely that some dressing of the raw materials by removal of cortex will have taken place. Functional analysis.

An assessment of the functional capability of the assemblage was made as in Ford (1987a) Unlike microwear study, this assessment was not intended to detail what specific pieces were used for and what activities took place but is a measure of the overall origin of the assemblage. The combined total of waste flakes at 33% is fairly high (Table 16A), and on the border of that expected for quarry assemblages, but it is clear that some knapping debris is present in the assemblage with cores, tested nodules, and core fragments being present. As such a modest proportion of unusable flint, as observed, is no surprise. The proportion of flakes that were suitable for basic activities such as cutting (35%) is again fairly typical but not exceptional for an assemblage of domestic origin.

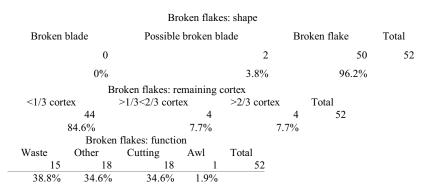
Table 16 Metrical analysis of Neolithic struck flint from Pit 102, 157

Table 16A

Blades >5:2 4	All flake Blade-like >2:1<5:2		kes	ses Squat <=1:1 15	Total 99	
4%		3%	77.8%	15.2%		
	А	ll flakes: rem	aining co	rtex		
<1/3 cort	ex >	1/3<2/3 cort	ex	>2/3 cor	tex	Total
	76		12		11	99
-	76.8%		12.1%		11.1%	
Waste 33	All flal Other 30	kes: function Cutting 35	Awl	Total 99		
33%	30.3%	35.4%	1%			
Table 16B						
		ces: length br				
Blades	Blade-like			Squat	Total	
>5:2	>2:1<5:2	>1:1		<=1:1		
2		3	27	15	47	
4.3%		6.4%	57.4%			
Thick	ness mean (n	/	Star	ndard devia		
		9.8			4.	.9
		act flakes: rei	0			
<1/3 cort		1/3<2/3 cort		>2/3 cor		Total
	32		8		7	47
	68.1% Intact fle	akes: function	17.0%		14.9%	
Waste	Other	Cutting	Awl	Total		
18	12	17	0	47		
38.3%	25.5%	36.2%	0.0%			
	I	ntact flakes:	size (leng	th in mm)		
		L:B	ratio < 1.5	5		
<30mm	>=30<5	50mm	>=50<7	70mm	>70mn	n Total
10)	21		7		0 38

26.3%	55.3%	18.4%	0.0%

Table 16C



Discussion

The analysis of this assemblage has provided components with which to consider the origins, chronology and use of lithic material from the site. For pit 102 in terms of chronology, the metrical analysis has produced results typical of an assemblage of Later Neolithic or Early Bronze Age date, with a low narrow-flake component and a very distinctive later Neolithic or Early Bronze Age arrowhead. Although it includes cores and spalls, the assemblage is not dominated by primary knapping debris and again distinctive micro-debris is absent. The pit also included a high proportion of retouched material at 14.5% which is indicative of a 'domestic' assemblage compared to other Neolithic assemblages (Healey and Robertson-Mackay 1983, 21). Here it is suggested that the high number of scrapers present represents a specialized assemblage. Although the flintwork may have originated from domestic or specialized activities, the deposit is clearly not a simple dump of rubbish but has been selected to form a placed deposit.

Animal Bone by Matilda Holmes

A small assemblage of animal bone was recovered from features dated to Neolithic, Bronze Age, Iron Age and Roman periods (Appendix 10). Only the Roman assemblage was large enough to investigate the likely diet and husbandry of those living at the site. The animal remains associated with the late Neolithic-early Bronze Age grave will be detailed as they have characteristics of a rare head and hoof burial. Sample sizes from other periods were too small, so will only be described briefly.

Bones were identified using the author's reference collection. Due to anatomical similarities between sheep and goat, bones of this type were assigned to the category 'sheep/ goat', unless a definite identification (Zeder and Lapham 2010; Zeder and Pilaar 2010) could be made. Horses, donkeys and mules were separated based on teeth morphology (Eisenmann 1986; Johnstone 2006). Bones that could not be identified to species were, where possible, categorized

according to the relative size of the animal represented (micro – rat/ vole size; small – cat/ rabbit size; medium – sheep/ pig/ dog size; or large – cattle/ horse size). Ribs were identified to size category where the head was present, vertebrae were recorded when the vertebral body was present, and maxilla, zygomatic arch and occipital areas of the skull were identified from skull fragments.

Tooth wear and eruption were recorded using guidelines from Grant (1982) and Payne (1973), as were bone fusion, metrical data (von den Driesch 1976), anatomy, side, zone (Serjeantson 1996) and any evidence of pathological changes, butchery (Lauwerier 1988) and working. The condition of bones was noted on a scale of 0-5, where 0 is fresh bone and 5, the bone is falling apart (Lyman 1994, 355). Other taphonomic factors were also recorded, including the incidence of burning, gnawing, recent breakage and refitted fragments. All fragments were recorded, although articulated or associated fragments were entered as a count of 1, so they did not bias the relative frequency of species present. Details of Associated Bone Groups (ABGs) were recorded in a separate table. A number of sieved samples were collected but because of the highly fragmentary nature of such samples a selective process was undertaken, whereby fragments were recorded only if they could be identified to species and/ or element, or showed signs of taphonomic processes.

Bones were only included in analysis if they came from phased features. Quantification of taxa used a count of all fragments (NISP – number of identified specimens), and mortality profiles were constructed based on tooth eruption and wear of mandibles (Grant 1982; Jones and Sadler 2012) and bone fusion (O'Connor 2003). Cattle and sheep/ goats were sexed on the basis of the morphology of pelves (Davis 2000; Greenfield 2006), and pigs by their canines (Schmid 1972). Taphonomy and Condition

Bones were generally in fair condition, though the Roman assemblage was better preserved than the earlier material However, they were extremely friable, with a very high proportion of fresh breaks and refitted fragments. Relatively few bones showed signs of canid gnawing, suggesting that they were buried soon following discard. The presence of loose teeth not in association with their respective mandibles in most phases implies that they were affected by a delay in burial, or post-depositional disturbance. There were relatively few butchered and burnt bones, most coming from Roman contexts. Butchery included filleting typical of Roman techniques, where the meat is shaved from the bone, as well as other marks representing carcass reduction. Two sheep and cattle horn cores, both from Roman contexts, had been sawn through, most likely to remove the horn for working.

There were no obvious deposits of primary butchery, skin-processing or craft-working waste. However, the presence of loose epiphyses alongside their associated metaphyses from contexts 670 (ditch 1403) and 1497 (ditch

1430) implies that these are primary contexts, as are contexts 1495 (pit 1219), 459 (pit 337) and 357 (grave 245) that contained associated bone groups, which will be considered in more detail below.

Earlier Neolithic

A cattle humerus and loose mandibular tooth from an adult animal were recovered from pit 943 (context 1257).

Later Neolithic

A small assemblage of bone came from pit 102 (Table A10.2), including cattle, sheep/ goat, pig and red deer. The red deer was represented by a first phalanx indicating it was hunted, but there was nothing to suggest that the cattle or pigs were wild. All parts of the carcass were represented, and a pig tooth came from a young adult animal at wear stage E.

Late Neolithic to Early Bronze Age

A small assemblage was recovered associated with grave 245 (Table A10.2). A few poorly preserved bones were recovered from the upper fill (context 357) of grave 245, which contained an inhumation burial. This group of bones is of interest as it represents the head (skull and mandible) and hooves (metapodials and phalanges) of at least one adult cattle and one calf. The adult was elderly, with mandibles at tooth wear stage H, and the calf was immature, the first molar half erupted, at wear stage B. It is likely that this deposit represents a rare 'head and hooves' burial, which has few parallels within England. Previous work has described inhumation burials, often with lavish grave goods, with the head and feet of cattle placed in association with the burial, but outside the grave cut itself (Piggott 1962).

Within southern England similar burial practices have been observed at Hemp Knoll, Wiltshire (Grigson 1980) and Kingshill North, Cirencester, Gloucestershire (Strid and Nicholson 2012). Most recently, and most similar in terms of the animal remains is the site at Lechlade, Gloucestershire, *c*. 10km to the east (Holmes 2020), which included the head and hooves of two adult cattle and two calves associated with a high-status inhumation. Cattle would have been integral to the status and economy of late Bronze Age society (Bartosiewicz 2013), and the presence of such valuable animals must have been an important sacrifice.

Evidence of this ritual has wider implications. It appears that this is a phenomenon specific to this region in England, though the tradition itself has been linked to cultures from the Eurasian Steppe (Holmes 2020; Piggott 1962). Other sites where head and hoof burials have been identified have been Bronze Age in date, and it is possible that this is an early example.

Iron Age

A few cattle and sheep/ goat remains were recovered from middle-later Iron Age pits 448 and 439 (Appendix 10),

Late Iron Age to Early Roman

The majority of animal remains came from pit 614, including cattle, sheep/ goat and dog/ fox (Appendix 10). The partial skeleton of an adult equid was recovered from pit 337, comprising the vertebrae (cervical, thoracic and lumber

vertebrae), fore (scapula, humerus, radius and ulna) and hind (femur, patella and tibia) limbs. There was no evidence for butchery or other bone modifications. Single fragments of cattle and sheep bones were identified from pit 8, and a pig tooth came from gully terminus 516 (group 1438). A single sheep tooth came from a young adult animal at wear stage E. Roman

Animal bones came from pits and ditches with no obvious bias of taxa or elements in any particular feature type. Cattle dominated the Roman assemblage, followed by sheep/ goat remains (Table A10.1). Equid (horse or donkey) were next most commonly recorded, with a few bones of pig, canid (dog or fox) and a red deer antler fragment. Evidence from both tooth wear and bone fusion (Tables A10.3 and A10.4) indicate that cattle were culled at a range of ages, some at ages consistent with meat production (wear stages D and E), and others being old or elderly (wear stages G and H). The porous bone of a perinatal calf and mandible at wear stage B further indicate breeding casualties and imply that cattle were bred close by. A single pelvis fragment was morphologically indicative of a male animal. One mandible had malocclusion of the M1, and an M3 had a vestigial posterior column.

Sheep ageing data were consistent between tooth wear and bone fusion, forming a group of animals that were most likely culled for meat at wear stages D to F and some older animals at wear stage G that would probably have been valuable for wool, milk or breeding purposes. A pelvis was identified as coming from a ewe, and a mandible had malocclusion to the P4.

Of the equid remains, only horse could be positively identified from the teeth, and none of the bones were small enough to suggest donkey. All bones were fused indicating that they were important to the economy for transport or draught purposes. Two of the canid remains were from juvenile animals with unfused long bones, and a mandible came from a small breed of dog.

Worked Bone

A piece of worked bone was recovered from Roman pit 349, context 474. It was likely a broken pin (85mm length) with a circular shape section with 4mm of maximum diameter. A point from Roman early Roman pit 1242 (1298) had been formed out of a long thin bone, possibly a cattle ulna or equid lateral metapodial. A piece of antler offcut that had been sawn at both ends was recovered from Roman pit 1211 1483.

Summary

This site is important for the presence of a rare head and hooves burial associated with the late Neolithic to early Bronze Age inhumation, which implies a specific regional tradition that may draw on cultural origins from eastern Europe. Later settlement in the Roman period appears to have been reliant upon cattle for much of the meat diet, as well as their use for secondary products such as milk or traction. Sheep/ goats were also important for meat, milk and/ or wool. The absence of domestic birds such as chickens is unusual in this period, though this may be due to the small sample size.

Human bone by Ceri Falys

A total of seven graves were found within the excavated area (Appendix 11). The majority of graves were aligned in north-south orientation, however, the skeletal remains were not placed uniformly within the graves, as differing body positions were observed. Osteological analysis has identified that each inhumation contained a minimum of one individual, who were of differing ages, sexes, and had a range of pathological conditions at the time of death.

The Graves

The graves were located primarily across the northern portion of the excavated area. Three graves form a linear cluster (graves 238, 244 and 316), running approximately north to south along ditch 1413. The remaining four graves (241, 245, 338, and 1238) do not appear to have been organized into an intentional pattern, as they are distanced from each other across the site. Six of the seven grave cuts are in a north-south alignment. The exception to this is 316, which is NE-SW.

The graves themselves are rectangular in shape, and are relatively shallow, which has predisposed the remains to post-depositional damage. The burials range in depth between c. 0.08m (grave 241) and 0.57m (grave 245). The length of the grave cuts varies from 1.00m (grave 241) to 2.16m (grave 316), and have widths between 0.40m (grave 241) and 1.30m (grave 245). A summary of graves and their contents can be found in Appendix 11, Table A11.1.

The Skeletons

Within the graves, the skeletons were not interred in uniform alignments or body positions (Table A11.1, Pl. 23). The inhumations were found in two alignments. Five individuals were buried in a north (head) to south (feet) alignment (SK353, SK355, SK385, SK483 and SK1566), two were buried with their head to the south (SK299 and SK358).

All individuals appear to have been carefully arranged within the graves. One individual was supine and with legs extended (SK385) (Pl. 23a). Somewhat usually, the upper bodies of two individuals were supine (SK299 and SK483), however, their legs were semi-flexed with the knees in a vertical position, resting against the side of the grave cuts (Pl. 23b). Two individuals were semi-flexed and laying on their right sides (SK355 and SK1566) (Pl. 23c). The position of the body was unclear for two individuals, SK353 and SK358, due to the incompleteness of the skeletal remains (legs and a skull/upper chest respectively).

Osteological Analysis

The purpose of osteological analysis is to assess the minimum number of individuals present within the assemblage, as well as the biological sex of the individuals, estimates of age-at-death, approximate stature (where possible), health status (e.g. prevalence of disease, age-related changes, suggestions of occupation, lifestyle and diet), and any other anomalies recorded in the skeleton (e.g. non-metric traits). Analysis has been undertaken following suggestions by Buikstra and Ubelaker (1994), Brickley and McKinley (2004) and Mitchell and Brickley (2017). Summaries of the state of preservation, completeness, and demographic osteological data are presented in Table A11.2.

Minimum Number of Individuals

Assessment of the minimum number of individuals present within the assemblage relies on the identification of the duplication of skeletal elements, or differences of stages of skeletal development within each grave. No such element duplication and differences in maturation was identified, suggesting that one individual was interred within each grave. As a result, the minimum number of individuals present within the assemblage is seven.

Preservation

Skeletal preservation depends on several factors, both intrinsic and extrinsic to the skeleton itself. Intrinsic factors such as age, sex, and the overall size, shape and robusticity of the bone affect the degree of preservation. Extrinsic factors in the burial environment, post-depositional disturbance and post-excavation treatment can also affect the condition of bone. Preservation was assessed using criteria by McKinley (2004), with scores ranging between 0 (excellent) to 5+ (poor). The state of preservation varied between the seven burials, with two individuals each displaying grade 2 (SK 483 and 1556), grade 3 (SK355 and 358), and grade 4 (SK 385 and 299). The remains of SK 353 were highly fragmented and generally poorly preserved (grade 4).

Completeness

The degree of completeness was estimated based on four general categories, less than 25% complete (i.e. <25%), 25% to 50%, 50% to 75%, and over 75% of expected skeletal elements (i.e. 75+%) were present at the time of analysis. Only two of the seven individuals were 75+% complete (SK 483 and 1556), two were 50%-75% complete (SK 299 and 385), one was 25%-50% complete, and two individuals has less than 25% of expected skeletal elements present (SK 353 and 358). The main contributors to missing skeletal elements was due to poor preservation of the areas comprised primarily of trabecular bone (i.e. vertebra bodies, pelves), and the shallow grave depths predisposed burials to truncation and disturbance.

Sex

Assessments of skeletal sex (male, 'M', or female, 'F') were investigated for all individuals over the age of 10 years, based on the morphologies of the cranium, mandible (lower jaw) and pelvis based on the guidelines found in Buikstra and Ubelaker (1994), as well as the shape of the distal humerus (Rogers 1999; 2009). Metric analyses of the diameters of the heads of the humerus and femur were also taken for adult individuals, where possible (Stewart 1979). The cases where sex could not be confidently assessed as one sex or the other, a designation of probable male ('?F') was made. When sex could not be assessed, a label of indeterminate sex ('I') was given.

Four males, or probable males were identified in the assemblage, SK353, 355, 483 and 1556, as well as one probable female (SK385). SK299 and SK358 were not able to be allocated to one sex or the other, due to a mixture of sexually dimorphic cranial and postcranial traits present (SK299), or the lack of traits to analyse (SK358).

Age at Death

Estimates of age-at-death were made using as many standard ageing techniques as possible. Non-adult age was determined using the stages of development of the dentition and the skeletal elements (van Beek 2002; Scheuer and Black 2004). Adults were aged based on the eruption and/or root completion of the third molars (van Beek 2002), the surface features of the pubic symphysis (Brooks and Suchey 1990), the auricular surface of the ilium (Lovejoy et al. 1985), and/or the degree of dental wear (Brothwell 1981).

Broad age categories have been used to describe the stage of skeletal development or degeneration at which death occurred. Given the reliable timings of skeletal and dental development, the general category of "child" is able to be subdivided into more precise ages. These categories were as follows:

foetal	prenatal, before birth
infant	≤ 1 year
child	1-14 years (1-2 years, 2-6 years, 6-10 years, 10-14 years)
adolescent	14-19 years

Adult individuals, aged over 20 years of age, were also divided into more specific age ranges, wherever possible:

20-25 years 26-35 years 36-45 years 46+ years 20+ years (if a more specific designation could not be made)

Three of the seven burials were of advancing age, with SK299, 355 and 358 estimated to have been over the age of 46 years at the time of death. Two individuals were estimated to be in their teenage years, with SK1556 estimated to be 12-14 years, and SK385 aged 14-16 years. The skeletal ageing indicators observed for SK483 produced conflicting results, with the dental age (i.e. 20+ years) did not agree with the postcranial stages of maturation (i.e. 16-20 years),

however, taking into account pathology present, it is likely SK483 was older than the development of his postcranial skeleton suggests (20-25 years). Finally, the age at death of SK353 could not be estimated within a specific age range, but was aged 20+ years at the time of death.

Stature

It was not possible to assess the stature of any of the individuals, due to the lack of unfragmented long bones.

Puberty

The assessment of stage of puberty, based on the extent of skeletal maturation, is an emerging area of study in osteology (Lewis *et al.* 2016). Puberty is a key life stage, and would have affected how individuals looked and sounded. Two of the most complete and well-preserved individuals, SK483 and SK1566, were assessed using criteria to determine their stage of pubertal development (Shapland and Lewis, 2013, 2014). SK483, male with a postcranial age of 16-20 years and dental age of 20-25 years, had reached peak height velocity (PHV), meaning that his body was beginning to develop a more adult appearance, with musculature developing and his voice would have likely become deeper in tone. In contrast, SK1566, male aged 12-14 years, was in the acceleration, the stage before SK483, during which his body mass would have begun to increase, and pubic hair would have developed.

Health Status

Pathological alterations are recorded by the human skeleton most commonly when the conditions are chronic, or are the result of a traumatic event. Such manifestations were identified in several of the Spratsgate Lane individuals. A broad spectrum of skeletal changes were present, and were allocated to the general pathology categories of: congenital and developmental abnormalities, degenerative joint disease (spinal and extra-spinal), non-specific infection, endocrine disease (HFI), and circulatory disruptions. Three additional skeletal abnormalities, although not strictly pathological, are also presented, including arachnoid granulations, an irregular cranial lesion, and irregular long bone morphology (including asymmetry).

Congenital and Developmental Abnormalities

Congenital and developmental abnormalities are present from the time of birth. They may be hereditary, or can result from a number of factors, including genetics (e.g. inbreeding), poor maternal health (e.g. virus infection, poor diet), environmental pollution or trauma in the womb. Most congenital anomalies do not affect the person in any way. SK 483 (male, 21+ years) displayed two developmental anomalies, including a defect of the right mandibular condyle, which appears to have developed in two separate condyles. Unfortunately, only the medial half of the right condyle was present

for analysis, as the lateral half of the condyle had been damaged. The defect could not be compared with the same structure on the left side of the body, as the left mandibular condyle was absent. The second developmental defect was the neural arch of the first sacral vertebra was unfused in the midline.

Joint Disease of the Vertebral Column

Degenerative joint disease (DJD) tends to increase with age, and is characterized by the formation (osteophytes) and/or destruction (porosity) of bone (Roberts and Manchester 1995). Osteophytes (bone formation around joint surfaces) result in response to stress as the body attempts to spread the load over a greater area.

Evidence of DJD was identified in the three oldest individuals, SK299, 355 and 358, all three of whom were suggested to be aged 46+ years at the time of death. It is noted that these individuals were not 100% complete at the time of analysis, so the prevalence of DJD may be underestimated.

DJD of the temporal-mandibular joint (TMJ) was identified in both SK299 and SK358, with both individuals displaying changes in the contour of the joint surfaces. The DJD was more severe on the left TMJ of SK299 than the right, and was marked by an anteriorly projecting bony spur on the left mandibular condyle.

SK299 also had widespread DJD, with the joint surfaces of the left lateral surface of the clavicle, manual phalanges, and throughout the spine (cervical, thoracic and lumbar vertebrae) displaying the characteristic changes. SK355 also had DJD of the superior articular facets of the lumbar vertebrae.

Non-specific infection

The active formation of new bone deposits on the surfaces of a bone can indicate the inflammation of the periosteum (i.e. the sheath of tissue that surrounds all bones) (Ortner 2003, 206-207). Although it may not be possible to identify the exact cause of the lesion(s), such periosteal inflammation and resultant new bone formation can form in response to infection, trauma and/or chronic ulceration (Roberts and Manchester 2005; Ortner 2003, 206-207). It is noted that new bone deposits are commonly delicate and easily damaged, and given the state of preservation of the Sprattsgate individuals, additional evidence for non-specific infection may have been absent at the time of analysis, masking the true distribution of affected elements. Evidence of infection has been identified in the remains of three individuals: the upper bodies of SK353 (20+ years, possible male) and SK483 (20-25 years, male), and the lower limbs of SK385 (14-16 years, possible female).

The bones of the upper body of SK385 displayed patches of dense, grey, striated bone along the shafts of the left and right humeri, radii, and ulnae. The superior surfaces of the claviculae, and dorsal and visceral surfaces of ribs also display active new bone formation. Similarly, plaques of grey woven bone on visceral and dorsal aspects of the ribs of SK483.

The lower limbs of SK353 display patches of grey woven new bone formation, where areas of cortical bone have been preserved. Elements affected include the posterior surface of the right femoral shaft (along the linea aspera), and both tibiae (anterior-lateral surfaces), and right fibular shaft.

Specific causes of these localiazed areas of active bone remodelling cannot be suggested, with the exception of the ribs, which are likely indicative of respiratory infection (e.g. tuberculosis or bronchitis – chronic lung infection).

Endocrine Disease

Hyperostosis frontalis interna

Hyperostosis frontalis interna (HFI) is thought to result from altered pituitary secretions, most frequently affecting postmenopausal women (Roberts and Manchester 2005). This change in hormones results in the thickening of the cranial bones, and nodule formation on the endocranial surface, primarily of the frontal bone. Two of the older Sprattsgate individuals, SK299 and 358 (both aged 46+ years, and indeterminate sex) displayed thickening of the frontal and parietal bones, with nodule formation and depressions localized along the midline of the frontal bones.

Circulatory

Disruptions in the circulatory system lead to the fragmentation and collapse of skeletal joints. One such pathology is osteochondritis dissecans, which usually affects young males in the first decade of life (Roberts and Manchester 1995). Bone tissue death (necrosis) occurs following disruption to the area's blood supply. There is known to be familial occurrence, but the main aetiology is repetitive trauma to the affected area due to vigorous activity (Polousky 2011). Osteochondritis dissecans defects are usually 'well-defined, porous, often circular...' (Roberts and Manchester 1995, 89). Surface defects have been identified on the joint surfaces of a single individual, SK 483 (male, aged 2-25 years). Small, erosive lesion, osteochondritis dissecans, are located bilaterally on the proximal ends of the first metatarsals, as well as the proximal ends of the proximal phalanges of the big toes.

Other observations

Other skeletal observations are described below. Differential diagnoses or possible aetiologies were not possible due to the incomplete nature of the remains or poor preservation limiting the analyses, or need for further investigations (i.e. x-rays).

Arachnoid Granulations

Arachnoid granulations are small and well-defined depressions on the endocranial surface of the skull. They commonly form clusters on the parietal bones (on either side of the sagittal suture), or can be found on the frontal bone. Such depressions have been reported to increase in number with advancing age (Barber *et al.* 1997), however, their aetiology is still in question. The left frontal bone, and mid sagittal suture of the right parietal bone of SK299 (46+ years, indeterminate sex) displayed these characteristic lytic lesions.

Raised lesion on frontal bone

A raised, circular bump of bone was identified on the left side of the frontal bone of SK385 (14-16 year old, possible female), located above the left orbit. The lesion had a maximum medial-lateral diameter of 20.4mm. The lesion may be the result of a localized antemortem blunt-force trauma, or may be neoplastic in origin. Further research is needed to aid diagnosis (e.g. x-ray), however, it is noted that the large nodule does not have the appearance of a button osteoma.

Long bones with irregular morphologies

The long bones of SK483 (male, aged 21+ years) displayed unusual morphologies. The distal femora were notably bellshaped and twisted appearance. His humeri were also asymmetrical (maximum humeral lengths: right = 29.4cm, left = 28.4cm; minimal and maximum diameters at midshaft: right = 18.2mm, 20.8mm; left = 16.4mm, 19.7mm, respectively). The morphologies of the claviculae were also unusual. The inferior edges of the medial third of the clavicular shafts had sharp margins with pronounced cortical defects.

The humeri of SK1566 (12-14 year old, male) were also asymmetrical. unfortunately, the distal ends were damaged and metric analyses could not be undertaken.

Asymmetries in limbs could result from developmental defects of the skeleton, or the result of trauma, usually during childhood.

Dental Health

Teeth have the ability to provide information on more than oral hygiene. Dental disease reflects the quality of the diet and the enamel on tooth crowns can record periods of illness or malnutrition during childhood. Dentition was recovered from a total of four of the Sprattsgate individuals (SK299, 385, 483, and 1566). The teeth themselves were generally well preserved, however, the majority of the mandibles and maxillae were fragmented and/or poorly preserved. Unfortunately, significant portions of the maxillae and mandibulae were not recovered during excavation, resulting in a small sample size. As a result, it has not been possible to draw any conclusions to patterns of disease expression.

A total of 69 permanent (adult) teeth were present for analysis from four individuals. The assemblage of adult dentition comprised both 29 maxillary and 40 mandibular teeth. In addition, the postmortem tooth loss of five teeth was recorded (2 maxillary and 3 mandibular), and four permanent third molars were recorded as unerupted. This absence of teeth from the jaws following death and burial (e.g. in the burial environment or during excavation) was likely increased due to the fragmentation of the jaws. During analysis, observations were made regarding the presence dental disease (i.e. caries, calculus, periodontal disease, and abscesses), uneven dental ware, and enamel hypoplasia.

Calculus

Calculus is the mineralization of dental plaque that collects on the surfaces of the tooth crowns. Daily brushing of teeth removes plaque before it can calcify. The presence of calculus indicates that dental hygiene was not a daily priority. Deposits of calculus were graded following Brothwell (1981). Dental plaque was observed on the dentition of SK299, SK483 and SK1566. SK483 (male, aged 21+ years) and SK1566 (aged 12-14 years, male) each displayed calculus deposits of "slight" severity. Deposits were present on the lingual surface of the mandibular dentition of SK483, and the anterior dentition of SK1566. SK299 had "considerable" calculus on the buccal and occlusal surfaces of the teeth.

Dental wear

Dental wear is common in archaeological populations due to the presence of grit in the food, resulting from the food preparation technology of the time (i.e. the use of quern-stones in grain grinding etc.). Dental attrition is a physiological process resulting from tooth-on-tooth contact. This wear increases in severity over time, and as a result, criteria have been developed to relate the amount of enamel wear on the molars to chronological age-at-death (i.e. an age estimation technique). Conversely, dental abrasion, considered pathological, is the wearing away of dental hard tissue by some abnormal mechanical process or abrasive material (Langsjoen 1998), usually resulting in uneven or unusual patterns of wear.

Unexpected patterns of wear were observed in two adult individuals, SK299 and 385. SK299 (46+ years, indeterminate sex) had severe and uneven wear on the left mandibular third molar. Unfortunately, this was the only tooth recovered for SK299. SK385 displayed angular wear to the left central incisor in the midline of the occlusal surface, in addition to irregular traumatic chips along the occlusal edge of the right maxillary central incisor.

Linear Enamel Hypoplasia

Enamel hypoplasia are linear defects of the enamel that are formed in response to nutritional deficiency and/or pathological events (e.g., acute illness, high fever) during childhood. While the crowns are developing within the jaws

(under the age of 7 years), these episodes of disease or malnutrition cause a cessation of growth, resulting in deficiencies of the enamel. These defects can take the form of grooves or pits, broad bands of hypomineralization or honeycombed beds of cup-shaped enamel voids (Langsjoen 1998). Faint linear defects were recorded on the dentition of SK385 (14-16 years, female), including the right mandibular canine and first premolar, as well as the maxillary central incisors.

In summary, the seven inhumations recovered from Sprattsgate contained the remains of individuals from two main demographic profiles, adolescents (SK385, 483, and 1566), and adults of advanced age (SK299, 355 and 358). The younger individuals commonly displayed developmental defects, circulatory disruptions and evidence of non-specific infection. The older subsection of the population displayed areas of degenerative joint disease and endocrine disorders (i.e. HFI).

Disarticulated Human Bone by Ceri Falys

Six fragments of disarticulated non-adult bone were recovered from pit 1219 (1495). Skeletal elements present included an infant left clavicle (medial half), fragments of three left and one right rib shafts, and the complete diaphysis of a right femur. Although fragmented, the remains were well preserved, with a McKinley (2004) erosion of the cortical bone score of 1. Based on the maximum length of the diaphysis of the right femur (77.6mm), the infant was aged within 10 lunar months of conception (Scheuer and Black, 2004). Plaques of active, porous, grey coloured woven bone were observed on all fragments, suggestive of the normal growth of infant skeletal remains. No further information could be retrieved from these six fragments of infant bone.

Human Skeleton Isotopes by Ellen McManus-Fry

Stable isotope analysis is a valuable and well-established technique in the archaeological study of the diet and mobility of past populations (e.g. DeNiro and Epstein, 1978; Schoeninger *et al.* 1983). The analysis of carbon (δ^{13} C) and nitrogen (δ^{15} N) isotope ratios in the bone collagen of individuals provides information about the diet, or more specifically the dietary protein, consumed by those individuals over a number of years. It can identify variability in the consumption of animal protein and the use of marine resources and so inform about differential use of and access to food resources (e.g. McManus *et al.* 2013). Oxygen (δ^{18} O) and strontium (87 Sr^{/86}Sr) isotope ratios measured in human and animal tissues, most commonly tooth enamel, are influenced by geological and geographical factors (Chenery *et al.* 2012; Evans *et al.* 2006; Price *et al.* 1994). The analysis of these isotope ratios is therefore used to investigate questions of mobility and migration. Enamel samples from second molars were taken from three individuals, SK385 (an adolescent female), SK483 (a young adult male) and SK1566 (an adolescent male) and sent to SUERC (Scottish Universities Environmental Research Centre, Glasgow) for oxygen and strontium isotope analysis. Carbon and nitrogen isotope data were collected from bone collagen samples from the same three individuals in the course of radiocarbon dating at Chrono, Queens University Belfast. C:N ratio and collagen yield were used to assess collagen quality and were within acceptable limits for all individuals (Ambrose 1990; Van Klinken 1999).

Table 17. Carbon, nitrogen, oxygen and strontium isotope values

SK number	δ ¹⁸ O SMOW (‰)	⁸⁷ Sr/ ⁸⁶ Sr	$\delta^{13}C$ (%)	$\delta^{15}N$ (%)
SK385	26.1	0.708428	-21.2	10.7
SK483	26.2	0.708727	-19.2	10.1
SK1566	25.8	0.709107	-19.7	9.9

The carbon and nitrogen isotope analysis produced δ^{15} N values of 9.9‰ to 10.7‰ and δ^{13} C values of -19.2‰ to -21.2‰ (Table 17). The δ^{13} C and δ^{15} N values are indicative of diets based on terrestrial sources and are within the range seen at other Roman British sites (Cheung *et al.* 2012). Two of the three individuals sampled are subadults (with age estimations of 12-14 and 14-16 years old), but due to the limited number of samples available from this site it is not possible to compare these values to a wider adult population and so no conclusions can be drawn about possible agebased differentiation in diet.

The strontium isotope values obtained from the samples (Table 17) are consistent with the values found locally, which would be expected to range between 0.7086 and 0.7092 (Evans *et al.* 2018). However, values within this range are found across large areas of Britain and so strontium isotope values taken in isolation are not diagnostic of the origins of these individuals.

Oxygen isotope values can provide additional information on the geographical origins of the individuals and so are particularly useful to use in combination with strontium isotope ratios. The equation of Chenery *et al.* (2012) was used to convert the oxygen isotope ratios as measured in tooth enamel carbonate ($\delta^{18}O_c$, Table 1) into equivalent drinking water values ($\delta^{18}O_{dw}$). These can be compared with the isotope values found in local drinking water in order to establish likely geographical origin.

$$\delta^{18}O_{dw} = 1.590 \text{ x } \delta^{18}O_{c} - 48.634$$

With this conversion, $\delta^{18}O_{dw}$ values of between -7.0‰ and -7.6‰ were produced. These are consistent with the range of values which would be expected for drinking water in the local area, which is -7‰ to -7.5‰ (Evans *et al.* 2018). Together with the strontium isotope values, which are also consistent with expected local values, this suggests that the three individuals were local to the area and grew up in the region in which they were buried (Chart 1). As previously mentioned, the relative ubiquity of the strontium values in particular means that mobility cannot be absolutely

ruled out, but the young age of the individuals combined with the strontium and oxygen results makes a local origin for the three individuals the simplest and most likely conclusion.

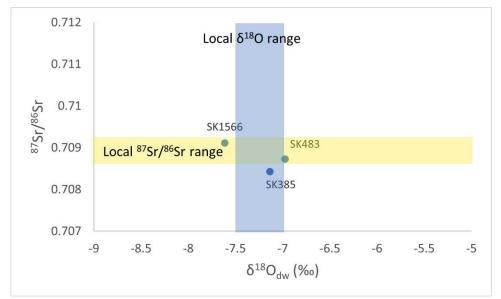


Chart 1. oxygen and strontium isotope values with local expected ranges for comparison (Evans et al. 2018).

In summary, the carbon and nitrogen isotope values of the three individuals sampled here indicate a terrestrial-based diet, typical for rural Roman sites. The strontium and oxygen isotope values are consistent with the values found in local bioavailable strontium and drinking water and suggest that these individuals grew up in the local area.

Burnt Human Bone by Ceri Falys

Varying amounts of burnt human bone were recovered from nine features within the excavation area (Appendix 11, Table A11.3). The deposits were whole-earth recovered on site in a series of 0.02m thick spits. During the post-excavation processing, these samples containing the bone were floated and wet-sieved to a 1mm mesh size, with all burnt bone and other associated residues separated for further analysis.

The bone from each spit was sorted using a sieve stack of 10mm, 5mm, and 2mm mesh sizes, and weighed. The relative weights from each of the sieves, as well as the colour of the bone and maximum fragment sizes of both cranial and postcranial skeletal elements are provided in Tables A11.3 and A11.4. The overall preservation of the remains was fair, with all pieces displaying dense textures, although the amount of fragmentation varied widely both within and between contexts.

A moderate degree of fragmentation was common in the assemblage. The largest post-excavation measurements for cranial fragments ranged between 22.9mm (feature 212) and 49.0mm (feature 248), while long bone shaft fragments were of similar size with values between 17.3mm (feature 304) and 49.8mm (feature 300). However, overall, the

majority of bone recovered from the excavation area was less than 10mm in size, which unfortunately limited the amount of demographic information retrievable.

The colour of fragments was not uniform within the cremation deposits. The colour of burnt bone reflect the efficiency of the cremation process, which takes into account exposure of the body to adequate time, temperature and oxygen supply to fully oxidize the organic components of the bone and produce a white colour (McKinley 2004). Although the majority of bone in each context was white in colour, some fragments provide evidence that the bodies' exposure to oxidation/reducing conditions were not uniform across the entire pyre structure during the cremation process, as fragments were observed to display hues of black, blue and/or grey in the majority of deposits. Factors affecting the cremation efficiency include the quantity of fuel used to build the pyre, the temperature attained in various parts of the pyre (McKinley 2004:11). Holden *et al.* (1995a and b) found that charring (black colouring) resulted from heating bone to approximately 300^oC, while blue or grey coloured fragments (incompletely oxidized bone) were exposed to temperatures up to c. 600^oC. White bone resulted from temperatures in excess of 600^oC.

The total weights of bone recovered from each of the nine features ranged from just 7.5g (feature 308) and 369.0g (feature 300). Such values are significantly less than would be expected from the cremation of a complete (adult) individual (recorded range: 1001.5g-2442.5g, average: 1625.9g based on modern crematoria, McKinley 1993). Reduced quantities of bone may reflect disturbance of the burial after internment, poor preservation in the burial environment, the age of the individual, or the practice of burying only some of the calcined bone of the cremated individual, representing a symbolic or token internment (McKinley 2006).

Osteological Analysis

All pieces of bone were subjected to osteological analysis following the procedures suggested by Brickley and McKinley (2004), and Mitchell and Brickley (2017). The purpose of osteological analysis is to determine the demographic profile of skeletal assemblages based on the assessment of age, sex, pathological conditions and non-metric traits that can be extracted from the bones. In addition, the minimum number of individuals (MNI) represented within the assemblage was determined through the identification (or lack) of duplication of the same skeletal element, or by the presence of age-related development of teeth and/or skeletal element.

Initial osteological analysis divided fragments into five main areas of the body: cranial, axial, upper limb, lower limb and non-descript long bone (unidentifiable to specific limb). A more detailed identification of fragments to specific skeletal element and side was also attempted, where possible. Commonly identified elements included pieces of cranial vault, tooth roots, pieces of vertebrae, and phalanges of the hands and feet, however, the majority of pieces were midshaft portions of the long bones (e.g. humerus, radius, ulna, femur, and tibia). The lack of duplication of skeletal regions within each feature suggests the presence of one individual with each of the cremation deposits.

A summary of the osteological findings is provided in Appendix 16. In the absence of suitably preserved ageing and sexually dimorphic features of the skeletal remains, maximum cranial vault thicknesses were recorded (Appendix 16), following Gejvall (1969). Unfortunately, no conclusions could be made with respect to cranial vault thickness and the demographic characteristics of the individuals. Only a single deposit contained a suitably preserved sexually dimorphic skeletal feature. A small portion of supraorbital margin was recovered from deposit (361), which was sharp in appearance and suggestive of a female trait. As a result, the individual was tentatively assessed as possibly female (?F), however, it is noted that it is essential to analyse several features of an individual to accurately assess the sex (and age) of human skeletal remains. The remaining eight deposits contained the remains of individuals of indeterminate sex (I).

It was not possible to estimate a precise age at death or presence of pathological alterations for any of the deposits. Based on the extent of skeletal and/or dental development, the individuals from features 212, 246, 248 were adult (i.e. 20+ years) at the time of death. It was not possible to determine the age of the individuals in the five other cremation deposits.

In summary, a small assemblage of human cremation burials were recovered from within the excavated area. The overall preservation of the remains was fair, however, a significant amount of fragmentation was present, which limited the amount of retrievable demographic and pathological data from the remains. A minimum of one individual was identified from within each burial. Four of the nine deposits contained the remains of adult individuals (20+ years). One possible female was present, and no pathological conditions were observed. No further information could be retrieved from the deposits of burnt human bone.

Non-human and unidentified burnt bone by Ceri Falys

A small assemblage of non-human burnt bone was recovered from four contexts. A total of 67.0g of bone was present for analysis (Appendix 12), with individual deposits comprising between just 0.5g (features 331 and 739) and 65.0g (feature 348). With the exception of bone recovered from 311, the overall surface preservation of the remains was fair, however, a significant amount of fragmentation was present. Maximum post-excavation fragment sizes ranged between 6.5mm (deposit 983) and 36.1mm (deposit 476). A mixture of colours of burnt bone was observed within the deposits, with unburnt, charred black, grey, buff, and white noted. It was not possible to identify the element(s) or species of origin of the fragments recovered from deposits 157, 453, and 983 due to the small fragment size or non-descript nature of the pieces of bone. Within deposit 476, evidence of at least one "medium" sized animal was present (e.g. sheep/goat,

pig, deer), in the form of a rib shaft. A small fragment of tooth was also present, however, it was not possible to identify it as either a sheep/goat or cow. No further information was retrieved from the small assemblage of burnt bone.

Glass

A single fragment of 19th-century or later brown bottle glass weighing 4g was recovered from pit 240 (351).

Metalwork

Just four iron objects were recovered (Appendix 13). A nail fragment possibly from a hobnail was recovered from grave 316. A nail was recovered from pit 122. Two small unidentifiable fragments of iron were recovered from gully 347 and treebole 1230.

Stone by Kevin Hayward

Two stone items were examined in hand specimen in good light with the use of a hand lens (Gowlland x10). Treatment of dilute Hydrochloric acid determined whether the rock had a calcareous composition. Consultation of local maps (British Geological Survey Map Sheet 235 Cirencester) determined that the materials were non-local stone.

The site lies in an area of the British Isles characterized by relatively young, soft Upper Jurassic Clays, completely unsuitable for quern or axe manufacture which require extremely robust hard coarse- or fine-grained rocks. These older rocks which lie to the north and west of the site would have been accessible via the Fosse Way (5km to the east) in the Roman period and any number of trackways during earlier prehistoric occupation. Furthermore, both objects are considered portable stone artefacts and would easily have been transported especially given the establishment of extensive trade networks in both categories of finds by late prehistoric occupation.

The Rotary Quern

Recovered from the fill (788) of gully 611 was part of an upper rotary quern fragment made from a type of pebbly red brown gritty sandstone sourced to the Lower Devonian of the Forest of Dean (Shaffrey 2006, 21). Forest of Dean quernstone is widely present in Romano-British querns in this part of Gloucestershire, with numerous examples recovered from Cirencester but more importantly at farmsteads local to this site including a very large group from Ashton Keynes (Shaffrey 2006, 117) and two from Somerford Keynes (Shaffrey 2006, 115). The form largely undiagnostic appears to be of the rimmed continental type 5a of Shaffrey (2006, 37, fig. 4.13) and is Roman in date.

The stone axe

Part of a once polished stone axe was recovered from the fill (157) of pit 102 from the central part of the site. In hand specimen it can be described as an olivine dolerite or meta-dolerite, a dark grey to black medium grained dense basic

igneous or metamorphic rock. With distinctive grey black cuboid olivine or garnet set in a white feldspar groundmass it is clearly a non-local stone brought in over a considerable distance. The nearest sources are the basic and ultrabasic igneous rocks of the Lizard complex, a common provenance for these prehistoric axes, although it is possible that a Welsh or Lake District source may be given. Even after thin-section preparation and analysis it may not be possible to accurately pinpoint a source or match an axe example from a thin-section reference collection as the mineralogy is so complex and completely altered. Geochemical analysis may go some way to pinpointing its igneous origin but until a more accurate, comprehensive XRF database is put in place conclusions remain at best rather speculative.

Small fragments of possible rotary quern were also recovered from late Iron Age gully 1445 (slot 433) and late Roman pit 1219 (1495).

Conclusions

Examination of the quern and polished axe from Spratsgate Quarry, Spratsgate Shorncote in south Gloucestershire show the materials to be non-local stone. This is not at all surprising given that the underlying geology for this area consists of soft geologically younger Upper Jurassic bedrock completely unsuitable for axe or quern manufacture.

The polished axe is prehistoric and part of the enormous trade in these portable highly desirable artefacts. Made from a type of metadolerite or dolerite it most probably derives from the Lizard Ophiolite Complex on the southern tip of Cornwall. However, it is possible it comes from Wales e.g., Anglesey or the Lake District or even indeed acquired from a till erratic anywhere north of the maximum glacial limit in the British Isles. Comparison with existing thin section and geochemical reference databases may help to identify a possible source, but these rocks are often heavily altered highly variable and have complex mineralogy at high magnifications, whilst existing databases may not be sufficient to pinpoint regional exposures, let alone outcrop specific localities. Hand specimen comparison with other hand axes in this part of Gloucestershire would at least identify whether a common source is

The rotary quern is Roman in date and comes from the Forest of Dean Devonian Brownstones. Very large groups of rotary querns made from Forest of Dean have been identified at Romano-British rural sites in this region including Ashford Keynes and Somerford Keynes (Shaffrey 2006, 115-117). The proximity of the Fosse Way which connects these settlements to these older harder rocks on the Welsh Borderland as well as Cirencester a major centre which also used large quantities of Forest of Dean querns are key factors in the profusion of these materials in this part of Gloucestershire.

Shell by Cristina Mateos

A very small assemblage of mollusc shell has been analysed according to the guide of Winder (2011). The assemblage was quantified to enable an assessment of the minimum number of individuals, with left and right valves identified when possible (Appendix 14). Very small fragments were counted and weighed only. Maximum length and width were recorded but this was possible in just a single case, as most of the specimens are very fragmentary. The main group of mollusca are common oysters (*Ostrea edulis*), and only one small fragment of shell has been identified as a mussel (*Mutilis edulis* L.). The quality, quantity and of the assemblage is tiny, so it is difficult to deduce more than that the oysters were consumed.

Burnt Flint by Jo Pine

A small assemblage of burnt flint weighing 719 g from deposits ranging in date from the later Neolithic and late Roman (3rd century) (Appendix 15). Those from the later Neolithic pits 5 and 102 come from pits with possible placed flint deposits and it is not impossible that burnt flint was also selected as part of this process.

Charred plant remains by Rosalind McKenna

Two hundred and thirty seven soil samples and twelve hand picked charcoal samples were the basis of this investigation. The soil samples were processed by staff at TVAS using their standard water flotation methods.

The flot (the sum of the material from each sample that floats) was sieved to 0.5mm and air dried. The heavy residue (the material which does not float) was not examined, and therefore the results presented here are based entirely on the material from the flot. The flot was examined under a low-power binocular microscope at magnifications between x12 and x40.

A four point semi quantitative scale was used, from '1' – one or a few specimens (less than an estimated six per kg of raw sediment) to '4' – abundant remains (many specimens per kg or a major component of the matrix). Data were recorded on paper and subsequently on a personal computer using a Microsoft Access database. Identification was carried out using published keys (Jacomet 2006; Biejerinkc 1976; and Zohary and Hopf 2000), online resources (http://www.plantatlas.eu/za.php), the authors own reference collection. The full species list appears in Appendix 21. Taxonomy and nomenclature follow Stace (1997). The flot was then sieved into convenient fractions (4, 2, 1 and 0.3mm) for sorting and identification of charcoal fragments.

Identifiable material was only present within the 4 and 2mm fractions. A random selection of ideally 100 fragments of charcoal of varying sizes was made, which were then identified. Where samples did not contain 100 identifiable fragments, all fragments were studied and recorded. Identification was made using the wood identification guides of Schweingruber (1978) and Hather (2000). Taxa identified only to genus cannot be identified more closely due to a lack of defining characteristics in charcoal material.

Results

Charred plant macrofossils were present in nineteen of the samples. The results of the plant macrofossil analysis can be seen in Appendix 16. The preservation of the charred remains was poor. Indeterminate cereal grains were recorded in eighteen of the samples. These were identified based on their overall size and morphological characteristics, which may suggest a high degree of surface abrasion on the grains, indicative of mechanical disturbances that are common in features such as pits, post holes, gullies and ditches, where rubbish and waste are frequently discarded. Grass seeds were recorded in five samples, and weed seeds in two samples. A single hazel nut shell fragment was recorded in one sample. Hazel-nuts are valuable nutritionally, as well as being readily available. In addition, the nut shell is hard and resistant to decay ensuring its survival in some quantities. The hazelnut shell recovered may be indicative of a food source being consumed, perhaps as a snack and their husks being added to the fires as a method of waste disposal. However, the hazelnut shell fragment showed no marks typically associated with processed shells. Together with the presence of hazel charcoal, this may indicate that it was merely representative of hazel wood trees being burnt, which could be either a natural or a man-made process

The samples all produced small suites of plant macrofossils, both in terms of quantity and diversity. Due to this fact, other than to state their presence, nothing of further interpretable value can be gained. It is probable that these secondary deposits do not result from deposition of debris from accidental charring events, but instead represents the charring of cereals and using the waste for fuel, or the build up of occupation waste.

Charcoal fragments were present in sixty one of the samples and twelve hand picked charcoal fragments, scoring between a '1' and '4' on the semi quantitative scale. The preservation of the charcoal fragments was generally poor to average. The majority of the fragments were too small to enable successful fracturing that reveals identifying morphological characteristics. Where fragments were large enough, the fragments were very brittle, and the material crumbled or broke in uneven patterns making the identifying characteristics difficult to distinguish and interpret, and so only a limited amount of environmental data can be gained from the samples. Identifiable remains were however present

in thirteen of the samples and eight of the hand picked charcoal samples. The results of this analysis can be seen in Appendix 17.

The total range of charcoal taxa comprises oak (*Quercus*), ash (*Fraxinus excelsior*), hazel (*Corylus avellana*) and Willow / Poplar (*Salix / Populus*). These taxa belong to the groups of species represented in the native British flora. A local environment with an oak dominant woodland is indicated from the charcoal of the site. As seen in Appendix 22, oak was the dominant species in ten of the samples and four of the charcoal samples, ash dominated two of the samples and four of the charcoal samples, and willow / poplar dominated one of the samples and a further charcoal sample. Most of the samples were recorded only a single sample. It is possible that these were the preferred fuel woods obtained from a local environment containing a broader choice of species. All of the samples produced varying but mainly small amounts of charcoal. The compositions of the samples are all similar, it is probable therefore that these small assemblages of charcoal remains reflect the intentional deposition or accumulation of domestic waste.

Conclusion

The samples produced some environmental material of interpretable value, with the plant macrofossils from eighteen of the samples, and the identifiable charcoal remains from thirteen of the samples and eight of the hand picked charcoal samples. The deposits from which the samples derive, represent the intentional deposition or accumulation of domestic waste associated with fires.

The remains of plant macrofossils recovered from the samples showed the utilisation of indeterminate cereal grains. The fact that the samples have produced broadly similar results suggests that these secondary deposits do not result from deposition of debris from accidental charring events, but instead represent a consistent pattern of charring cereal grain and chaff over the period of occupation. In terms of taphonomy, it is likely that the samples from pits, postholes, gullies, ditches, etc. mostly represent secondary deposition of charred plant remains. This probably occurred through intentional dumping. As the plant remains were found together with charcoal remains, it may suggest that waste or spilt grain were put on the fire with other rubbish and a small fraction became charred without burning up, and joined the domestic ash on the rubbish heap. It is possible that charred debris from cereal crop parching, possibly also in combination with other crop processing waste used as fuel, was redeposited in the features.

The charcoal remains showed the exploitation of a several species native to Britain. Oak and ash have good burning properties and would have made a fire suitable for most purposes (Edlin 1949). Oak is a particularly useful fire fuel as well as being a commonly used structural/artefactual wood that may have had subsequent use as a fire fuel (Rossen and Olsen 1985). Ash is strong and tough, and makes excellent firewood producing both heat and flame. It will also burn when green (Grogan *et al.* 2007, 30). Hazel is recorded as a good fuel wood and was widely available within

oak woodlands, particularly on the fringes of cleared areas (Grogan *et al.* 2007, 30). Willow/Poplar are species that are ideal to use for kindling. They are anatomically less dense than for example, oak and ash and burn quickly at relatively high temperatures (Gale and Cutler 2000, 34, 236, Grogan *et al.* 2007, 29-31). This property makes them good to use as kindling, as the high temperatures produced would encourage the oak to ignite and start to burn. Hazel is recorded as a good fuel wood and was widely available within oak woodlands, particularly on the fringes of cleared areas (Grogan *et al.* 2007, 30). Dryland wood species indicates the presence of an oak-ash woodland close to the site. This would have consisted of oak and ash, which would be the dominant large tree species (Gale and Cutler 2000, 120, 205).

Of the samples that originated from features associated with pyre debris, oak was the most abundant recorded species in eight of the samples with as being the most abundant remain in two of the samples. The typical composition of cremation wood assemblages in general, shows that oak was predominantly used for the main structure, with other species used as brushwood (Davies and Mates 2005). Whilst oak tends to be the most recorded remain from these features, it may be over represented in the record due to its robust heartwood. The high temperatures reached during the cremation process would have burnt up the majority of other species, thus favouring the preservation and recording of oak.

Radiocarbon dating

Five samples of material for radiocarbon dating (all bone) were submitted to the Chrono Centre, Queens University Belfast for radiocarbon dating. Details of methodology and assessment of the reliability of the results are held in archive. The results presented in Appendix 18 were calibrated with (CALIB rev 8.2) used in conjunction with Stuiver and Reimer 1993, with data from IntCal 20 (Reimer *et al.* 2020) The calibrated date probabilities are expressed as the relative area under the curve at 2-sigma range (95.4% probability). The plot of the results presented as Chart 2 used OxCal4.4.4 (Bronk Ramsey 2021): differences between the calibrations are negligible.

Conclusion

The excavations carried out at Spratsgate Lane and have revealed a landscape exploited widely between the Mesolithic and post-medieval periods.

The earliest cut features recorded were two pits of earlier Neolithic date. These contained decorated vessels of the Peterborough series and a radiocarbon date of 3347-3084 cal BC was obtained from one of these pits. The later Neolithic is represented by two pits; one containing a 'placed deposit' of worked flint and a polished stone axe. A radiocarbon dating of this latter pit gave a date of 2789–2569BC, likely to be at least six centuries after the earlier

phase pits. The archaeological record for Neolithic occupation within the region usually consists of little more than seemingly isolated pits and it is also not well represented by durable artefact scatters (Milbank *et al.* 2011a). It is considered that the limited below-ground evidence for Neolithic activity here is representative of a mobile settlement pattern. The motivation(s) behind the deliberate selection of otherwise mundane domestic material for deposition in pit 102 can only be speculated at, but this deposit must surely indicate a special event (cf Garrow 2007; Garrow *et al.* 2005), which will have been especially emphasized by the placement of the polished axe.

The Late Neolithic-Early Bronze Age use of the site took the form of a small ring ditch with a central inhumation burial, within an unusually large grave cut. This grave contained a fragmented human skeleton which was radiocarbon dated to 2292-2135 cal and a probable head and hoof burial (cow and calf) was recorded buried within the upper fill of the grave. This is a not a common burial practice within England but has been recorded on a few sites in south-western England; such as Hemp Knoll, Wiltshire (Robertson MacKay 1980), and within Gloucestershire at Kingshill North, Cirencester (Biddulph and Welsh 2012) and Lechlade (Hood 2020). At Lechlade this included the head and hooves of two adult cattle and two calves associated with a high-status inhumation burial.

The later Bronze Age- early Iron Age occupation comprised a dispersed open settlement which included a number of post-built roundhouses, 4-post structures and short fence lines. Little can be said regarding the farming economy of this period as there was no faunal evidence surviving and only one oak charcoal fragment was recorded; no charred seed remains were present this despite extensive sampling. Fence lines do suggest the presence of stock, and raised granaries could be taken to indicate cereals were stored on site, but this need not indicate they were grown there. Increasingly as the results from large scale excavations taking place prior to gravel extraction become available, this settlement type is becoming a familiar occurrence in the Upper Thames Region with sites at Cotswold Community (Powell *et al.* 2010), Roundhouse Farm, (Cass *et al.* 2015; Latton (Lowe 2016), Latton North (Pine 2018) and Eysey Manor (Pine in prep).

The middle Iron Age activity is represented by two penannular type roundhouses and segmented gullies. As the faunal evidence from this period was sparse it is only possible to indicate that cattle and sheep/goat were utilized; either for food or for transport in case of the cattle and no environmental evidence (charred seeds nor charcoal) survived. Again this is a familiar settlement pattern in the Upper Thames. The segmented ditches/gullies are of interest. Three of them mark out three sides of a rectangle; maybe the fourth side was formed by the edge of a woodland? If these did form a rectangular enclosure then the segmented form of the boundaries ('permeable boundaries') would not have deterred animal movements. Maybe then this area had a more spiritual reason behind its construction.

Late Iron Age-early Roman occupation took the form of a small number of pits which contained exclusively late Iron Age-early Roman pottery. Pottery of this date was also found in Roman features; mostly in the northern part of the excavation area and it is not necessarily a chronologically separate 'period'. This suggest further occupation evidence of this date may likely survive beyond the northern limits of this excavation.

More fully Roman occupation dates from the later 1st-early 2nd century, through the 2nd century and into the early 3rd. A ditched trackway; which was first laid out it the later 1st century-earlier 2nd century and then redefined throughout the 2nd century; was recorded in the western part of the site crossing both Areas 1/2 in the south and 3/4 in the north with what appears to be an off shoot trackway heading towards the north -eastern area of Areas 3/4. In this area ditched enclosures and other evidence of occupation, pits and postholes and a stone-lined well were recorded. The discovery of a small assemblage of ceramic building material including box flue tile fragments in some of these Roman features suggests a tiled-roof building, perhaps with hypocaust heating, having existed, and probably near the site (although it must be allowed that this durable building material might be re-used and thus disposed of at some distance from the original building; and that there was not very much of it here). The pottery assemblage of this Roman occupation suggests an establishment of lower economic rural status but not without access to imports. As further features are likely to be located beyond the northern edge of the excavation this is likely not the whole picture. The animal bone assemblage indicates that cattle dominated during this Roman occupation assemblage followed by sheep/ goat remains and then Equid (horse or donkey) with only a few bones of pig surviving. If the pig-bones have not been subject to exceptionally poor survival compared to other species, their low representation might also be taken as an indicator of low status, or, more properly, a less Romanized diet, as the regional trend is generally for an increase in cattle and pig relative to sheep/goat from the late Iron Age into the Roman period (Allen 2017). The limited environmental remains showed the presence of indeterminate cereal grains but in such low numbers no conclusions can be drawn.

It appears the ditched trackway had gone out of use when a small Roman cemetery was created in the northern part of the trackway route, likely during the earlier 3rd century. The cemetery comprised three or four inhumation burials (238, 244 and 316 and probably 1238) and eight (truncated) cremation burials. It is dated by a radiocarbon date from SK1566 in grave 1238 which gave a date of cal AD 228–365 at 2 sigma, and by stratigraphy and landscape logic together with a small assemblage of 3rd-century pottery was discovered from other features on site. The cemetery; where sex and age could be established appeared to be mixed with adult and juveniles of both sexes present. Isotope analysis of skeleton 385 in grave 316 and Skeleton 1566 in grave 1238 indicate these individuals most probably grew up in the local area as did skeleton 483 from grave 338. This grave was located which *c*. 80m to the east and a radiocarbon date of 105- 243 cal AD was obtained from the skeleton, most probably making this burial earlier than the cemetery. It is difficult to place many of the occupation features in the same phase as the cemetery, but this may represent a simple shift of occupation northwards (there also appear to have been no contemporary features in the excavation to the south) in this period rather than total abandonment. Nonetheless, the complete absence of any finds later than the mid 3rd century suggests that both occupation and funerary use of the site had ceased by then. Abandonment on rural settlements well before the end of the Roman period are relatively common, although the major dislocation is often earlier (mid to late 2nd century) and conversely, Gloucestershire seems to have a stronger tradition of continuity at least to the middle of the 4th century than other parts of the country (Allen *et al.* 2015). Whether an explanation is to be sought in a movement of rural populations into expanding towns (or newly created villages) or in the combination of small farms into larger 'latifundia', driving smaller farmers off the land, is difficult to assess on a single-site basis. in this one instance, the sudden appearance of a small cemetery, apparently followed almost immediately by abandonment, might conceivably indicate a more local crisis rather than part of a longer-term or wider economic trend.

Acknowledgements

The excavation was generously funded by Morton C. Cullimore Gravels Limited. The author wishes to thank all who participated on site and behind the scenes.

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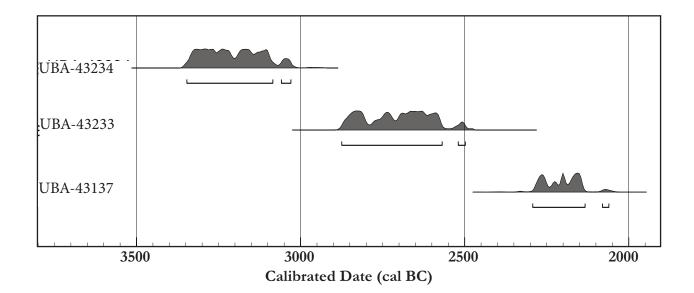
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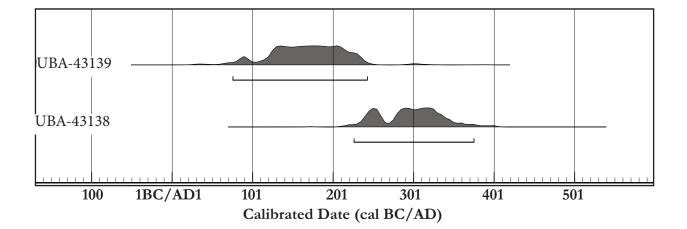
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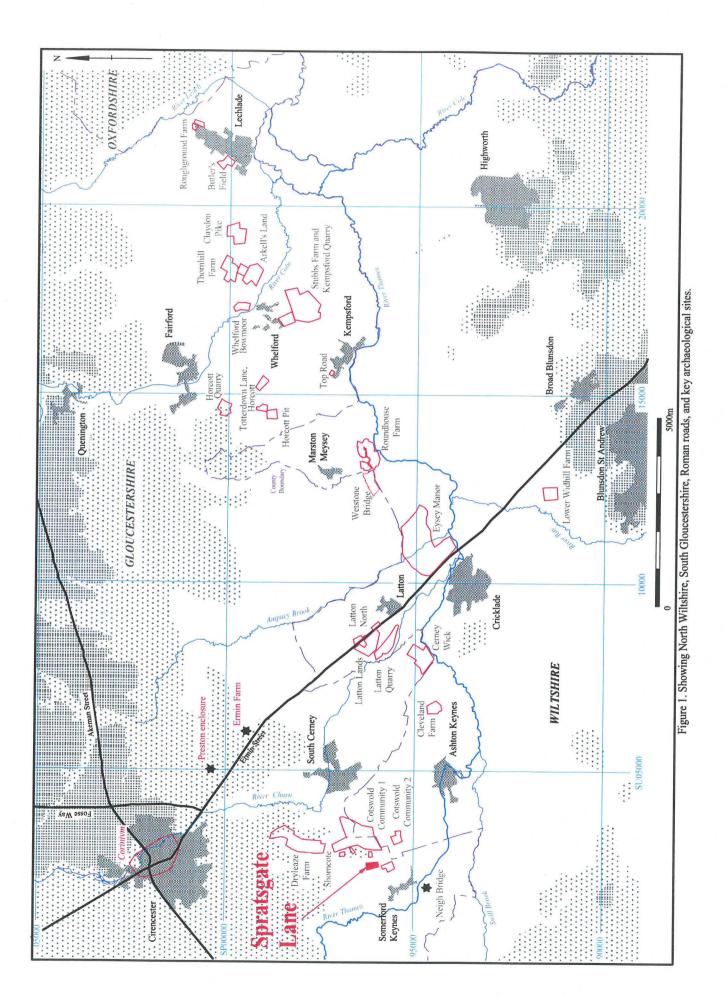
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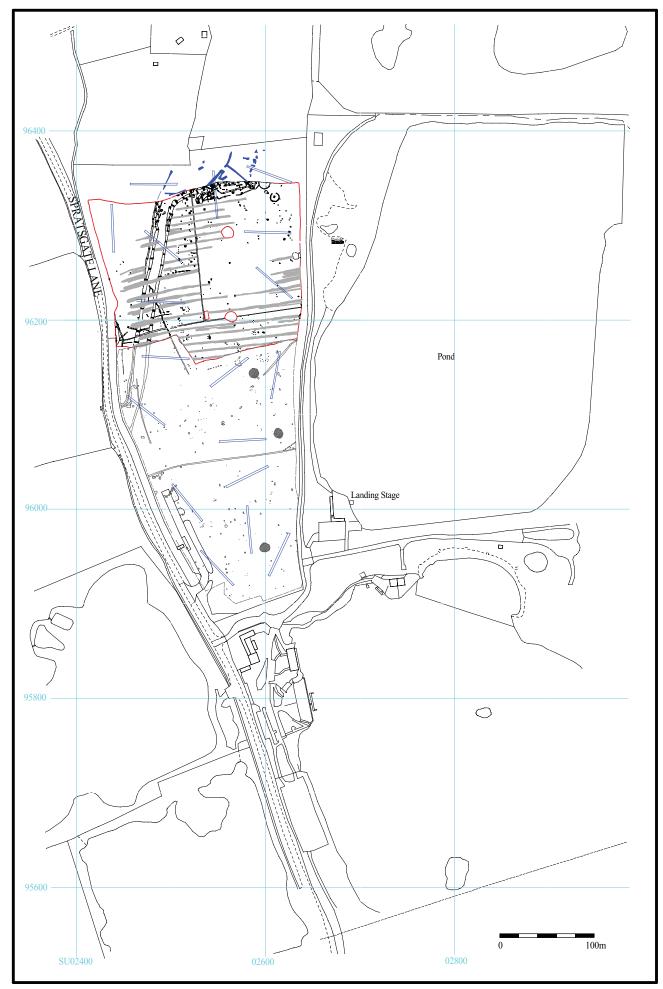
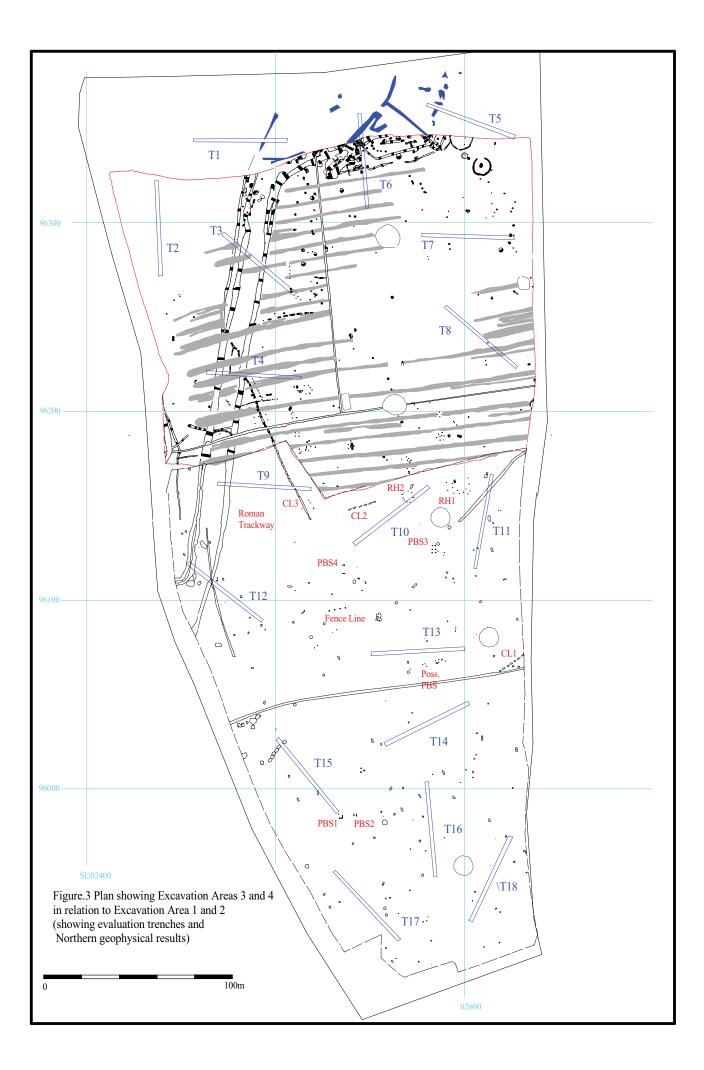
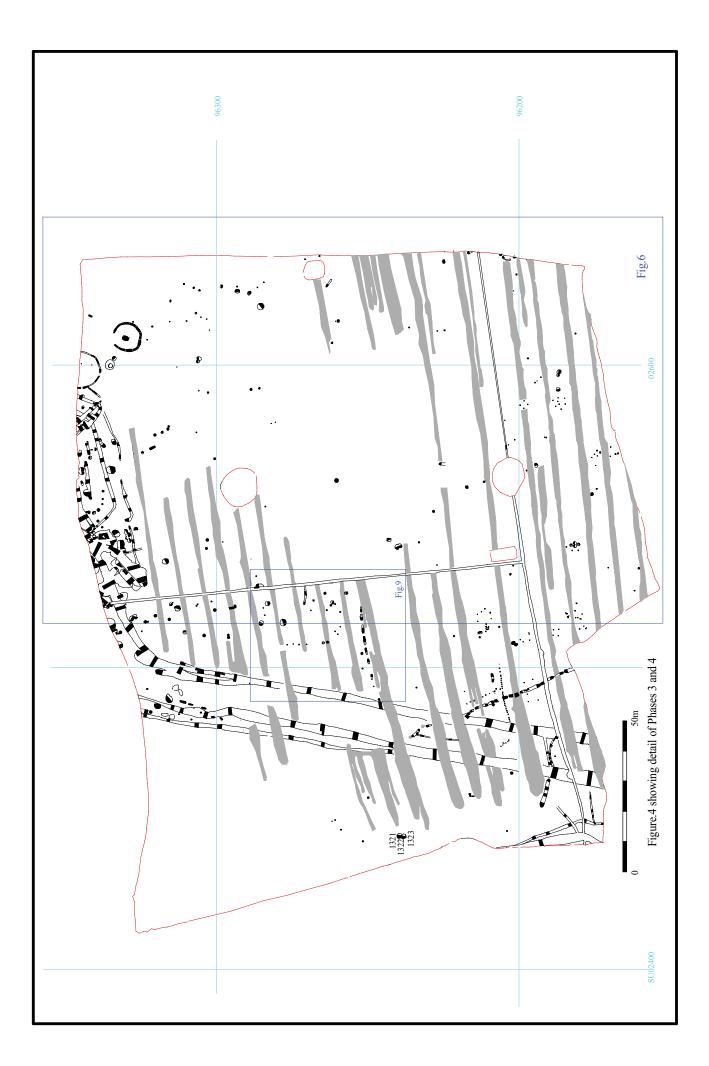
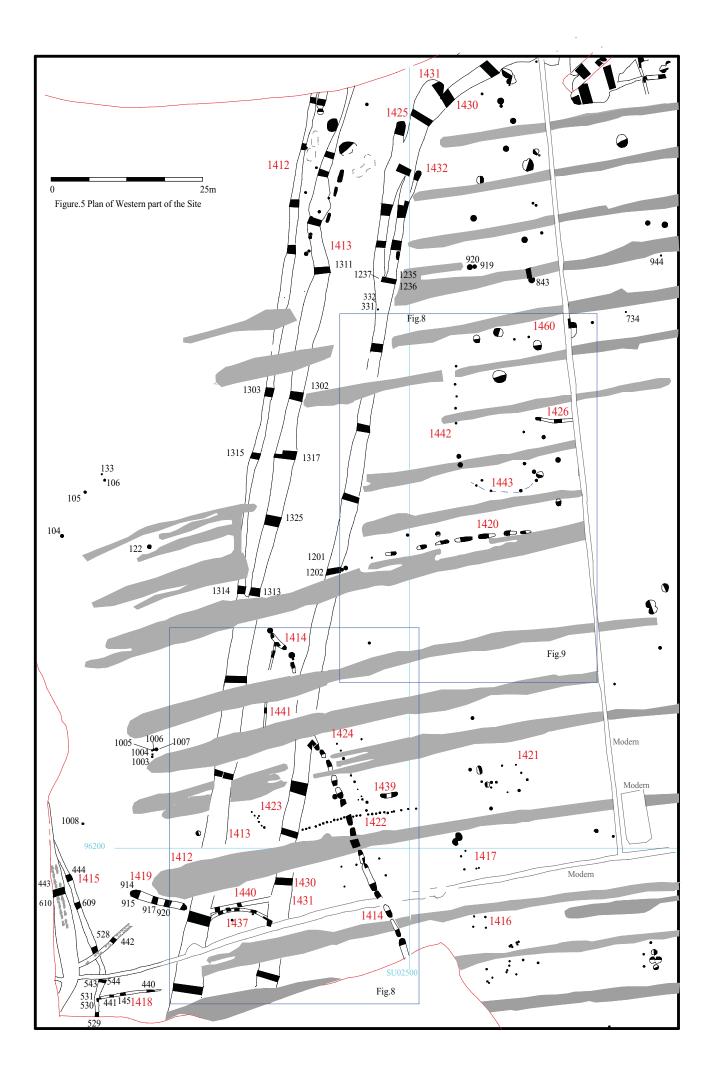
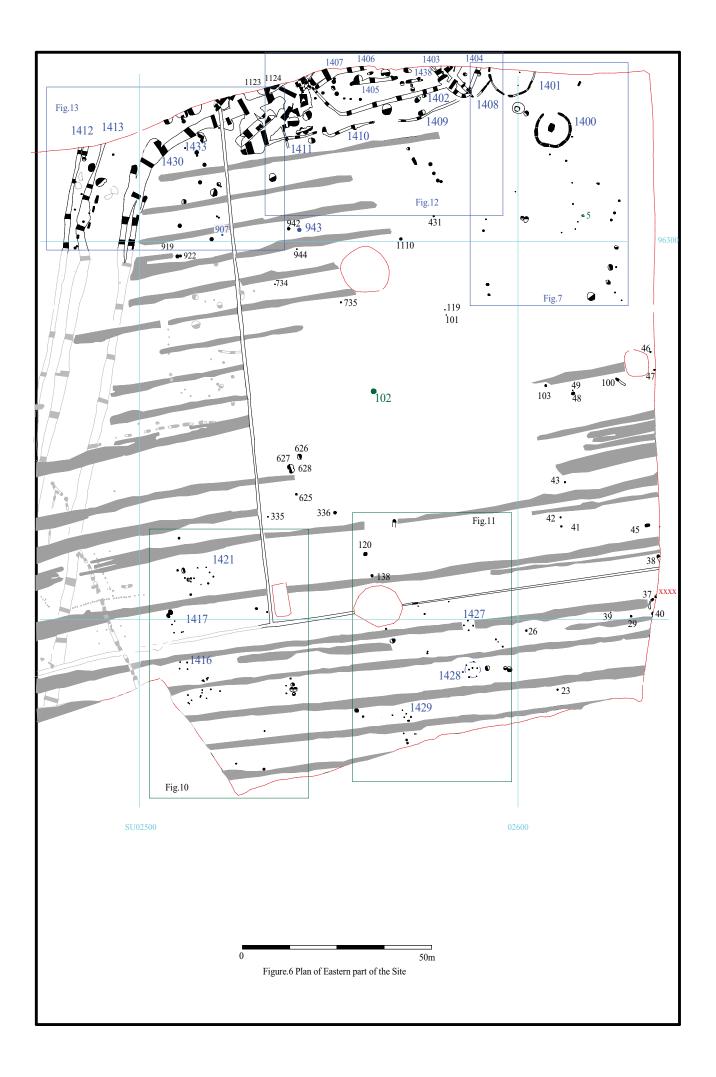


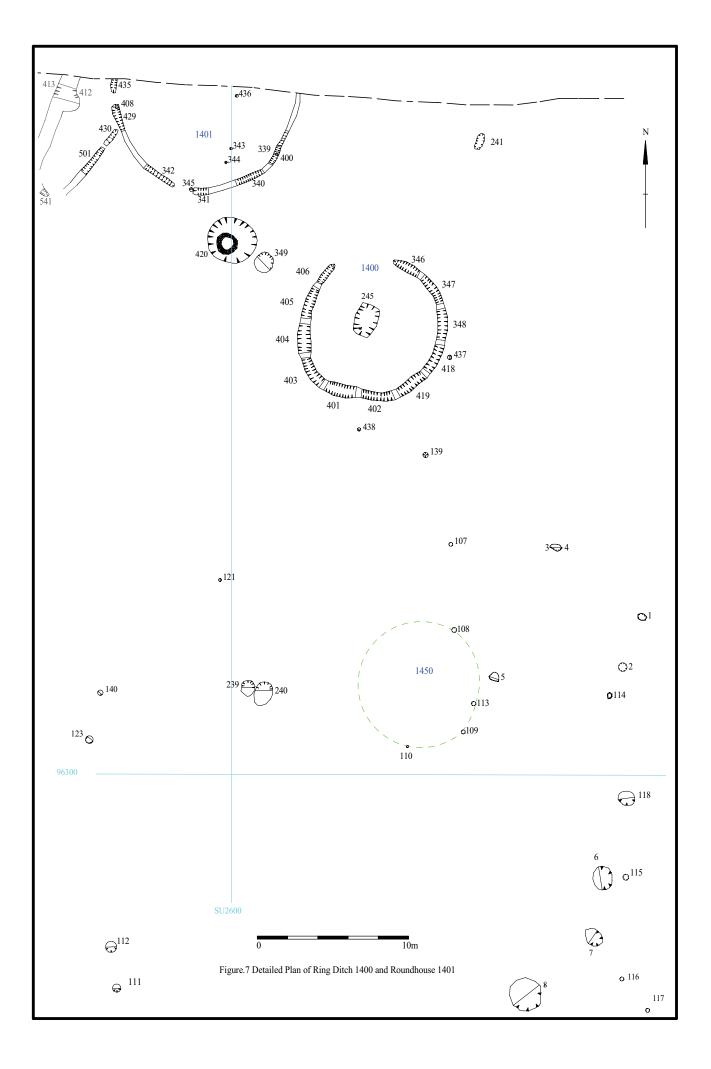
Figure 2. Detailed location of site on Spratsgate Lane, showing Excavation Areas ('Phases') and evaluation trenches.

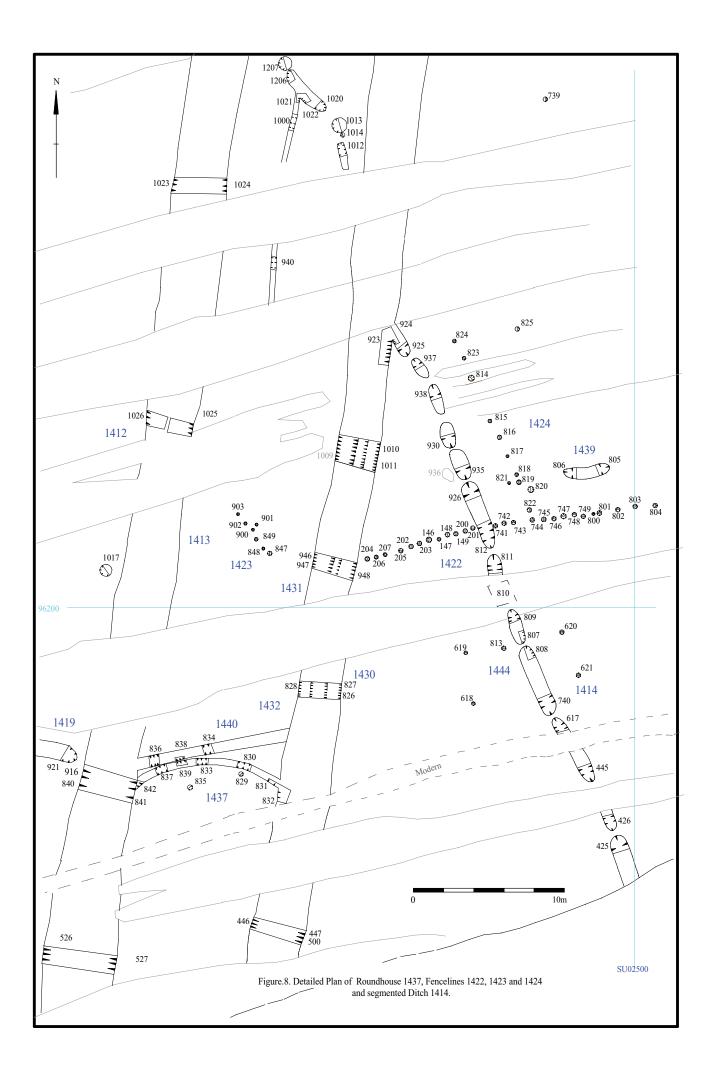


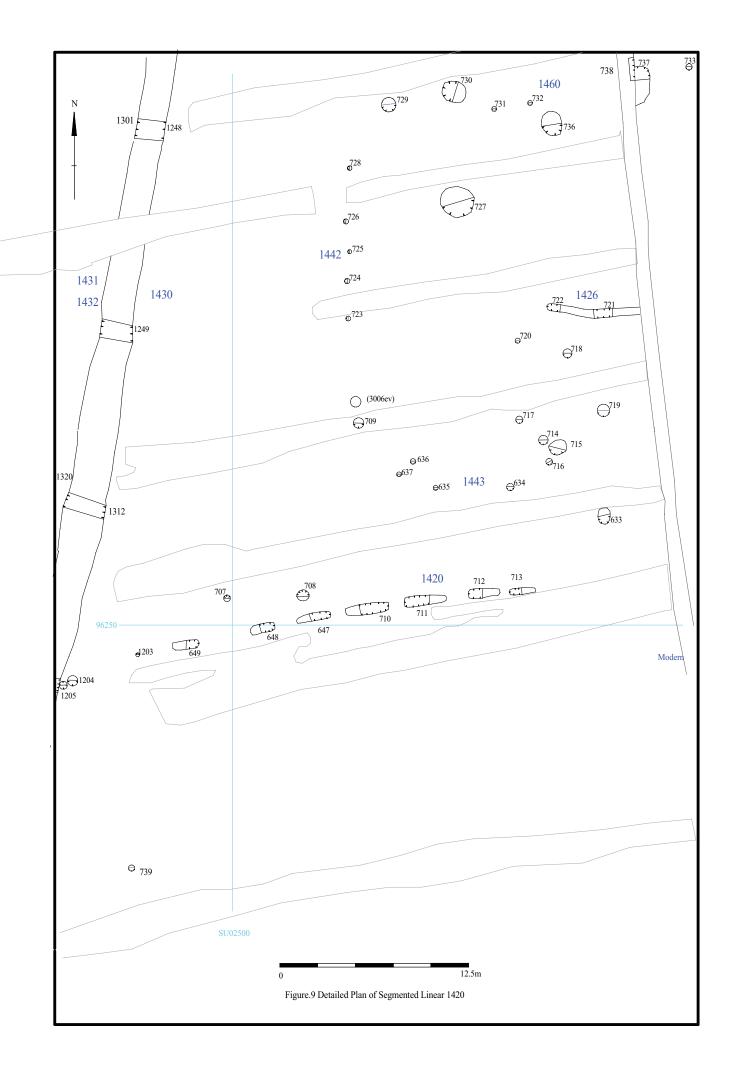


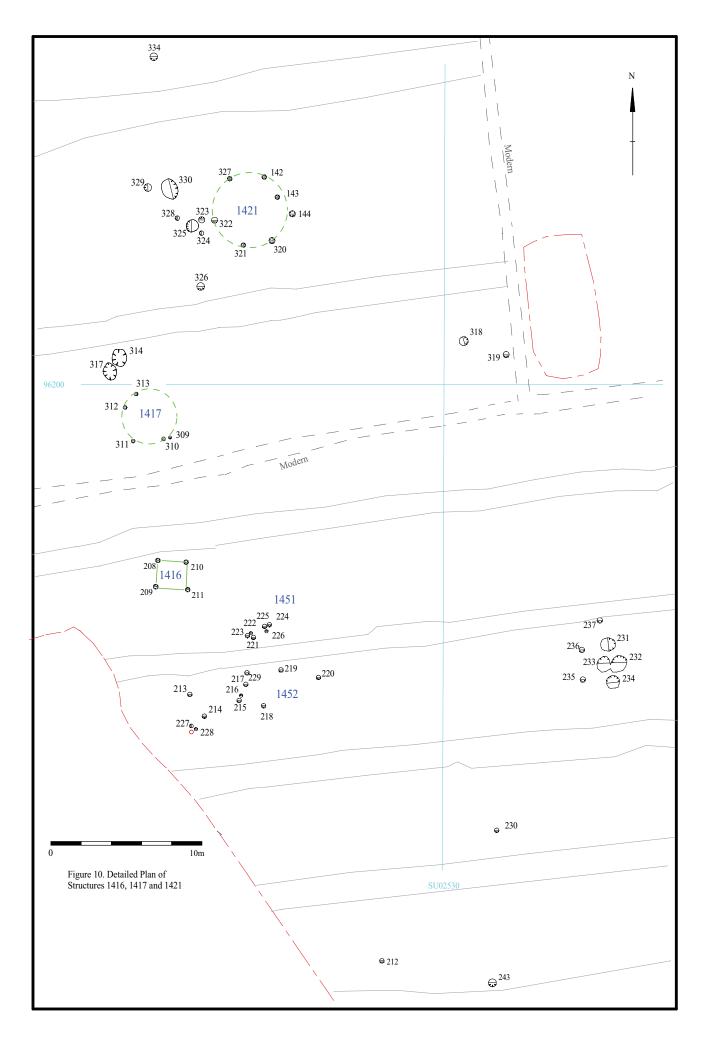


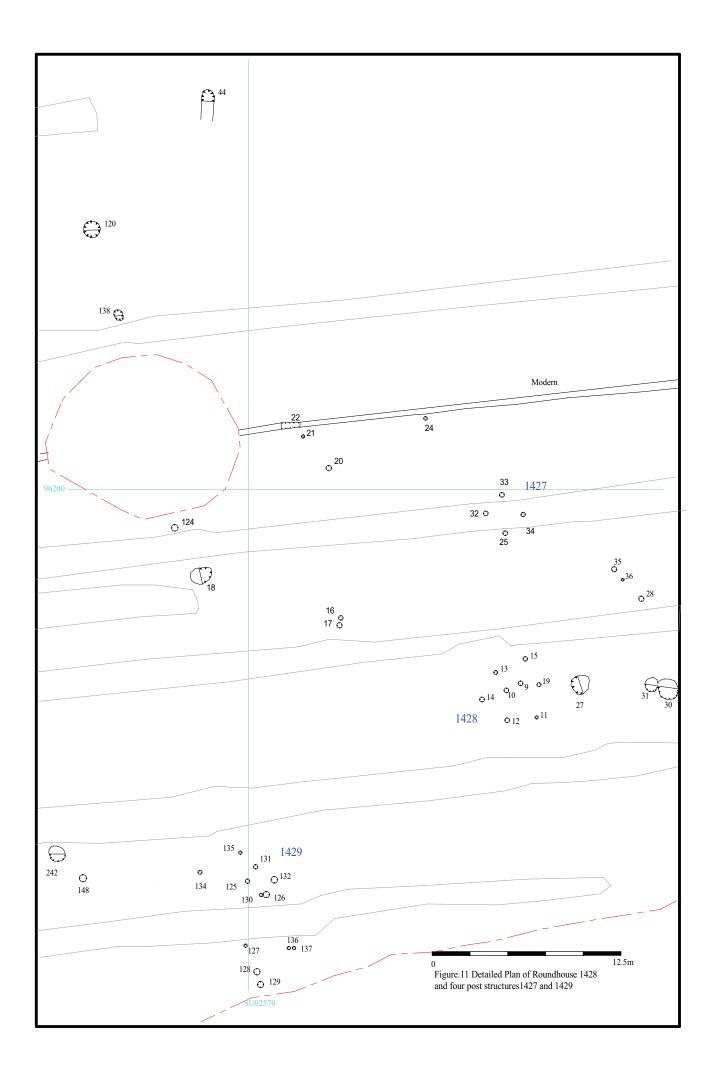


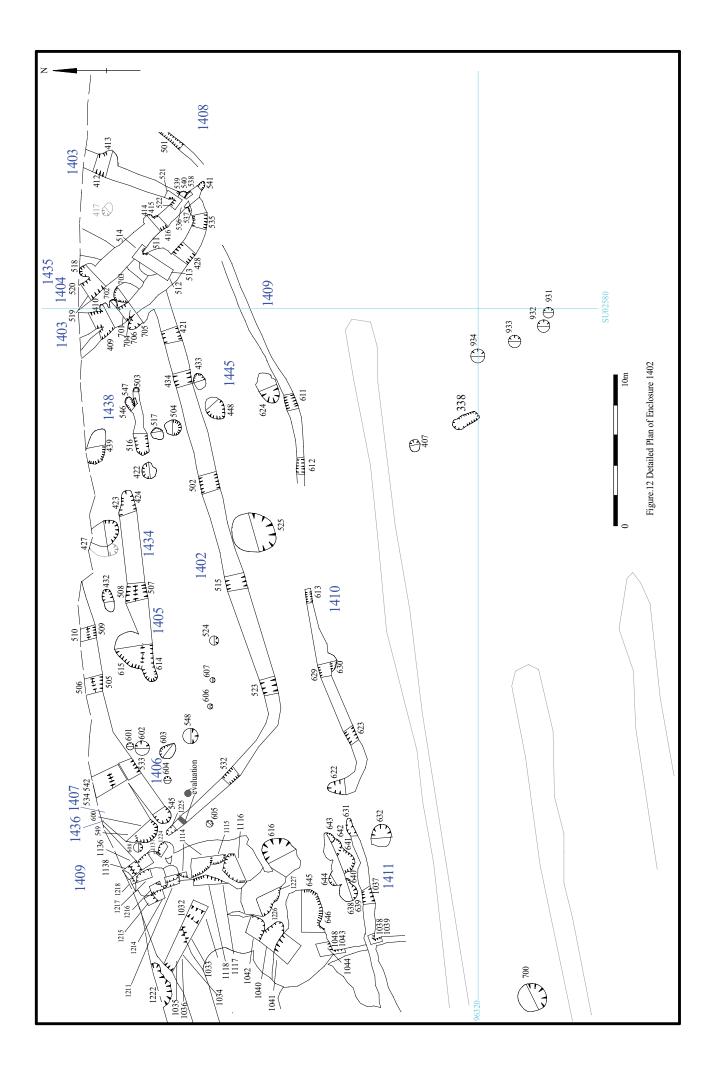


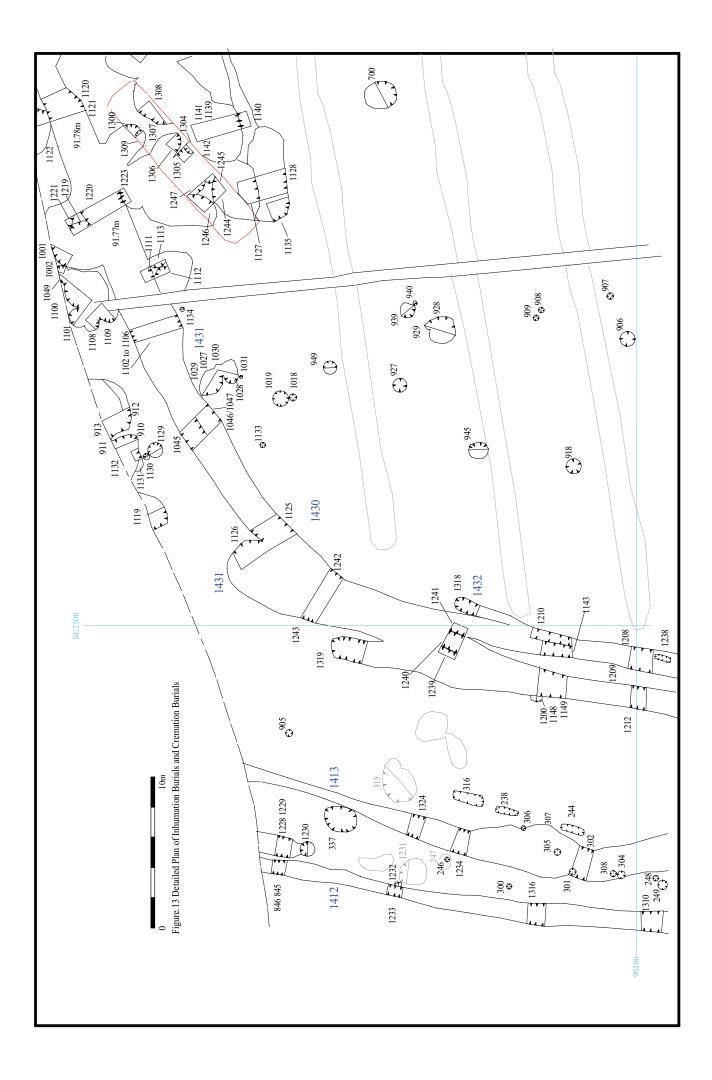


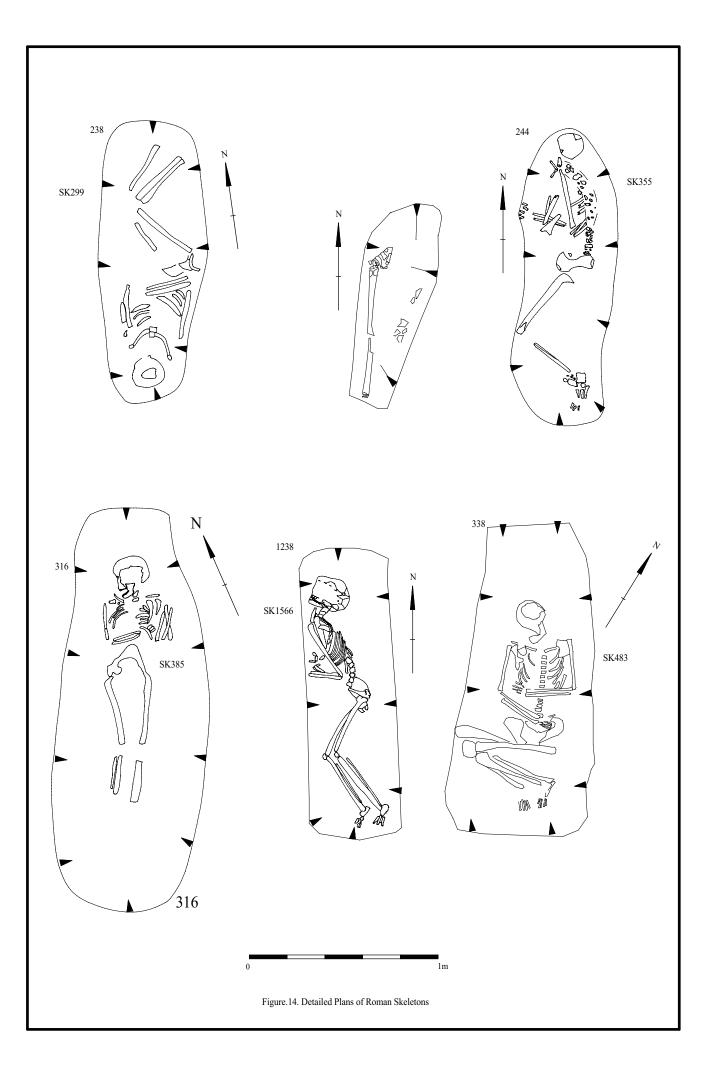


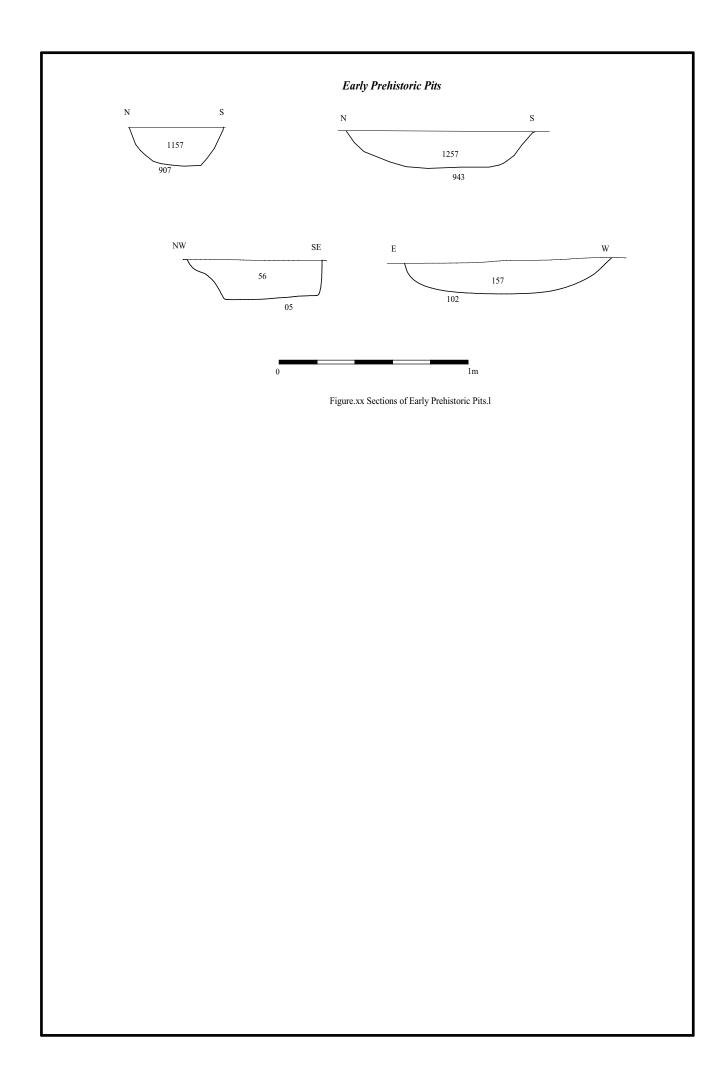


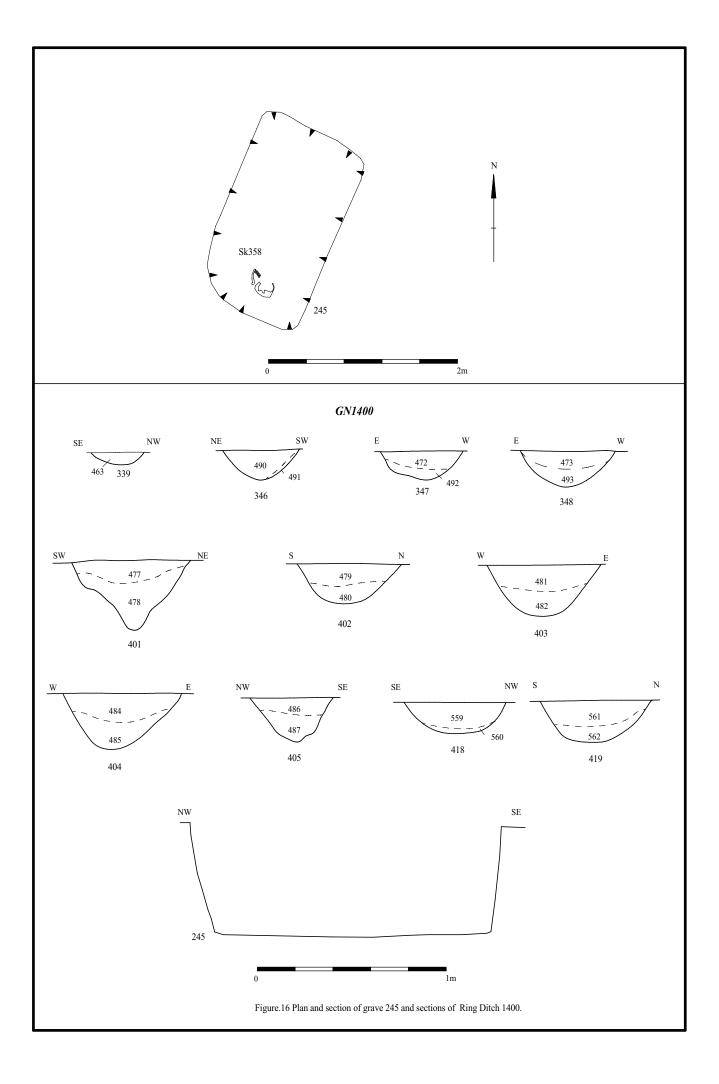


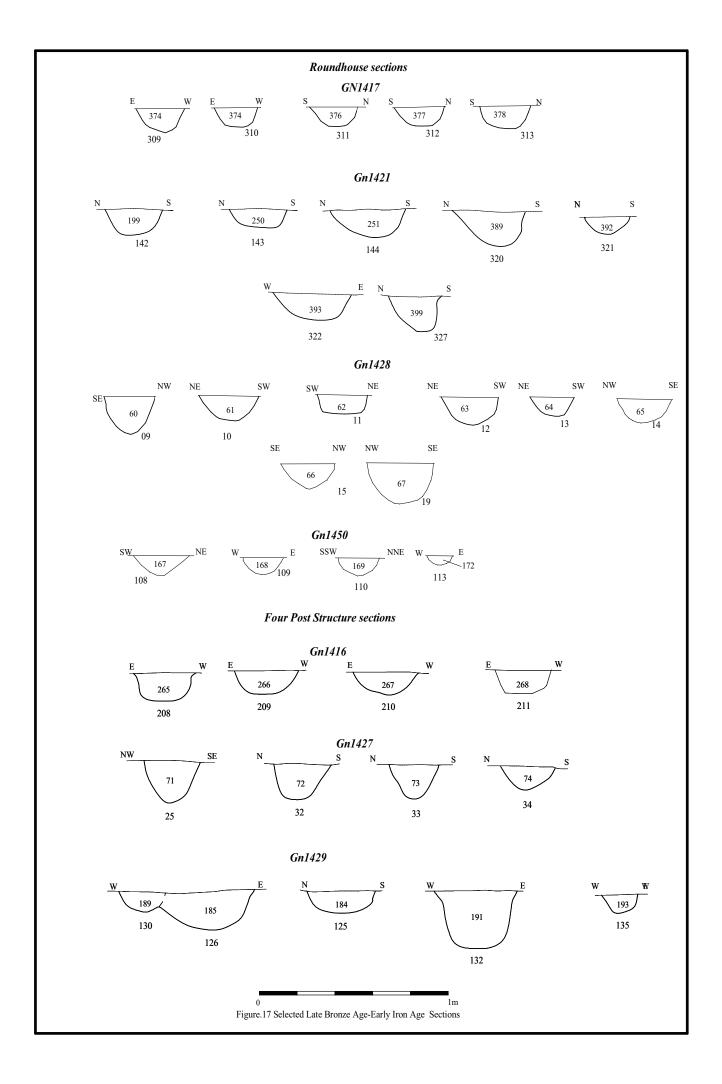


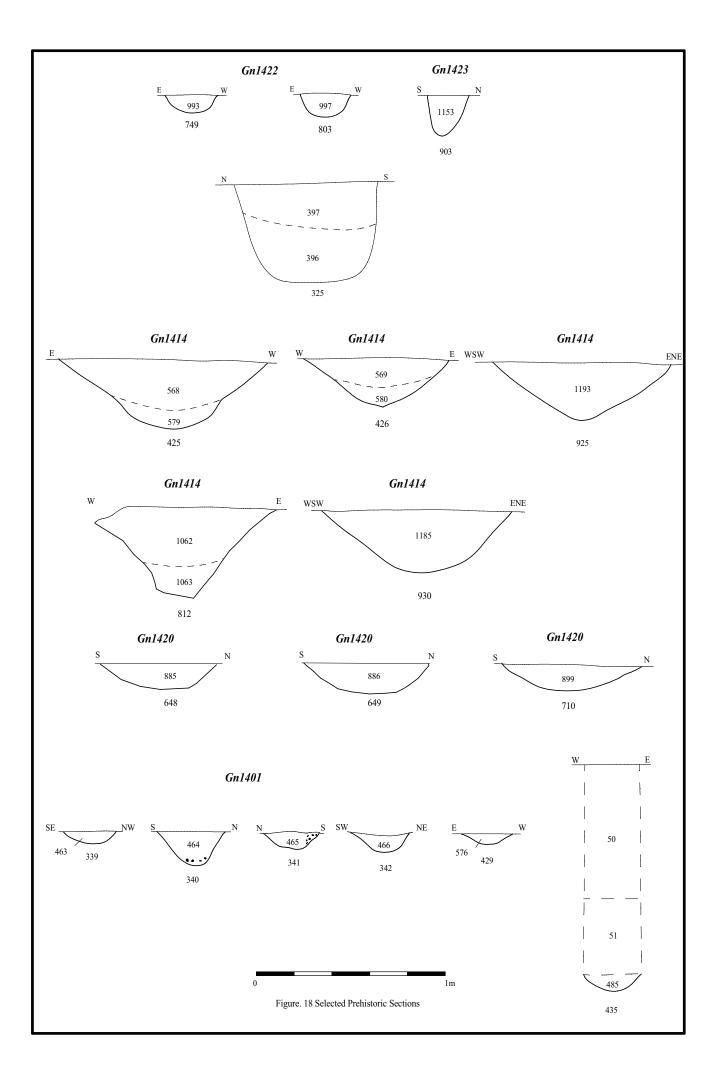


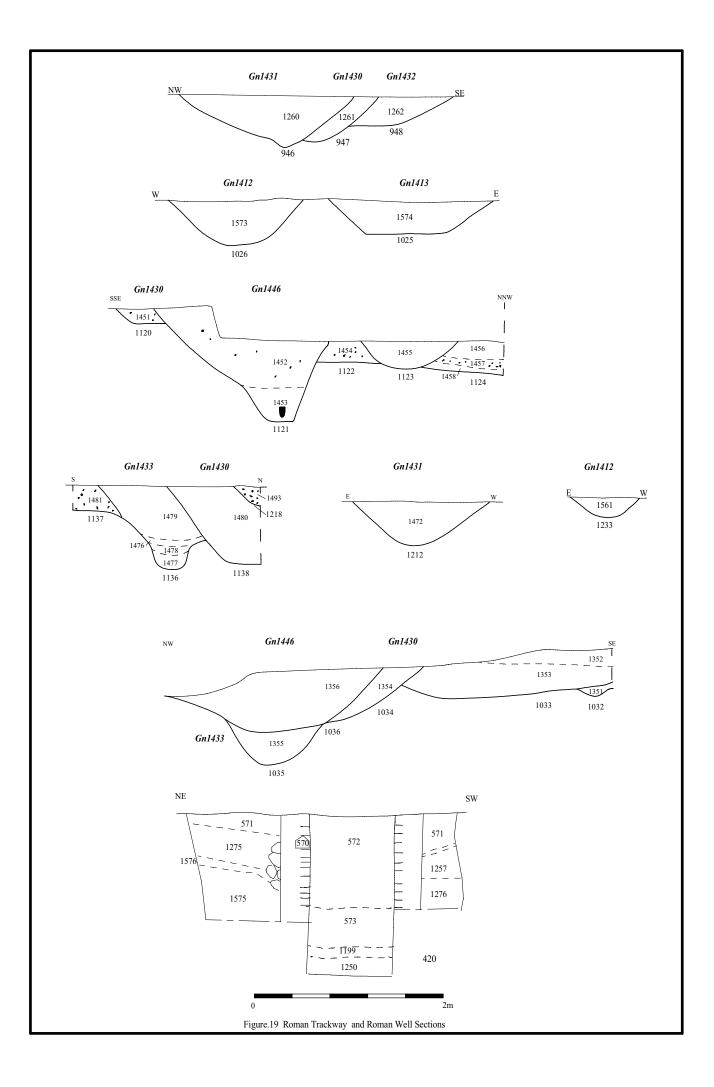


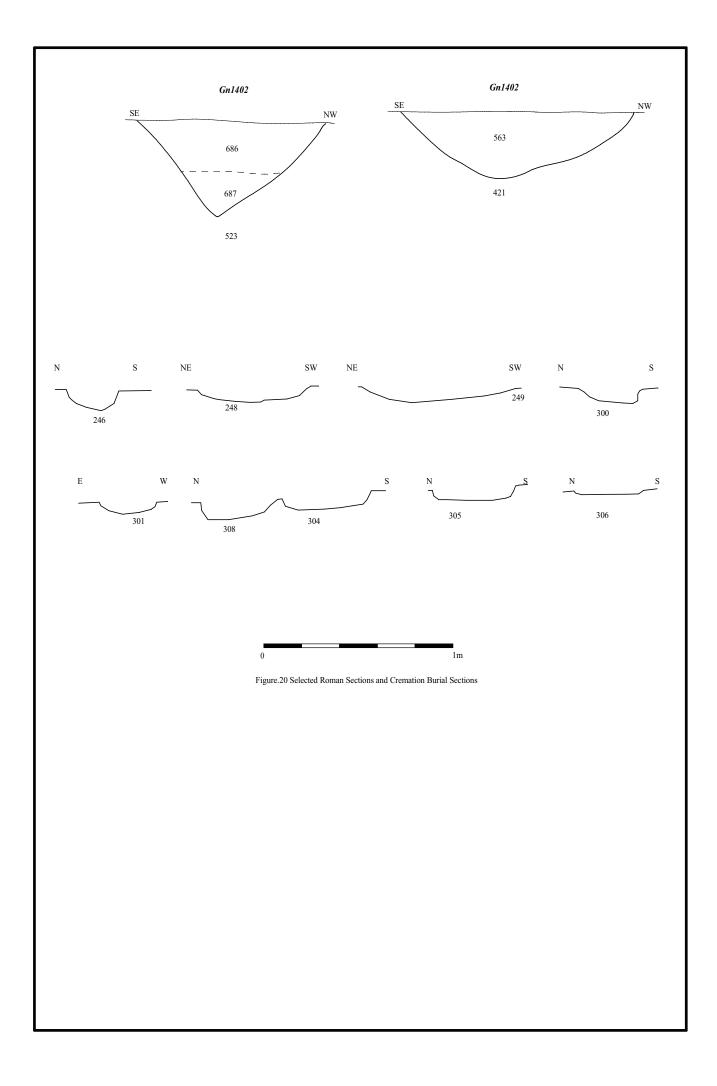


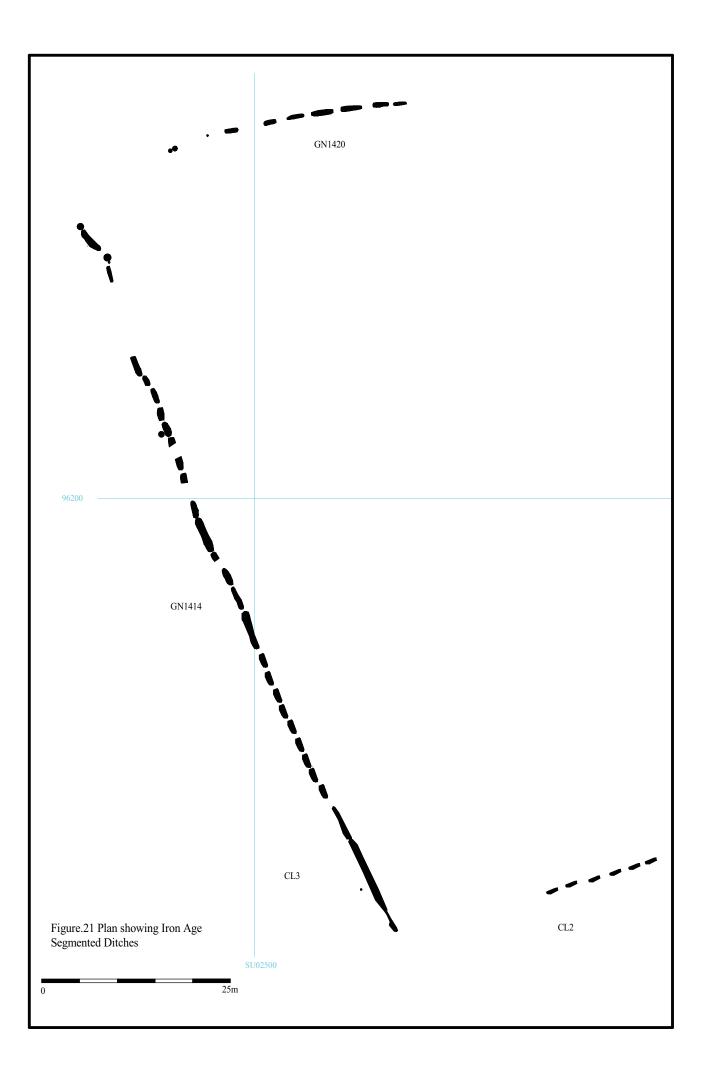












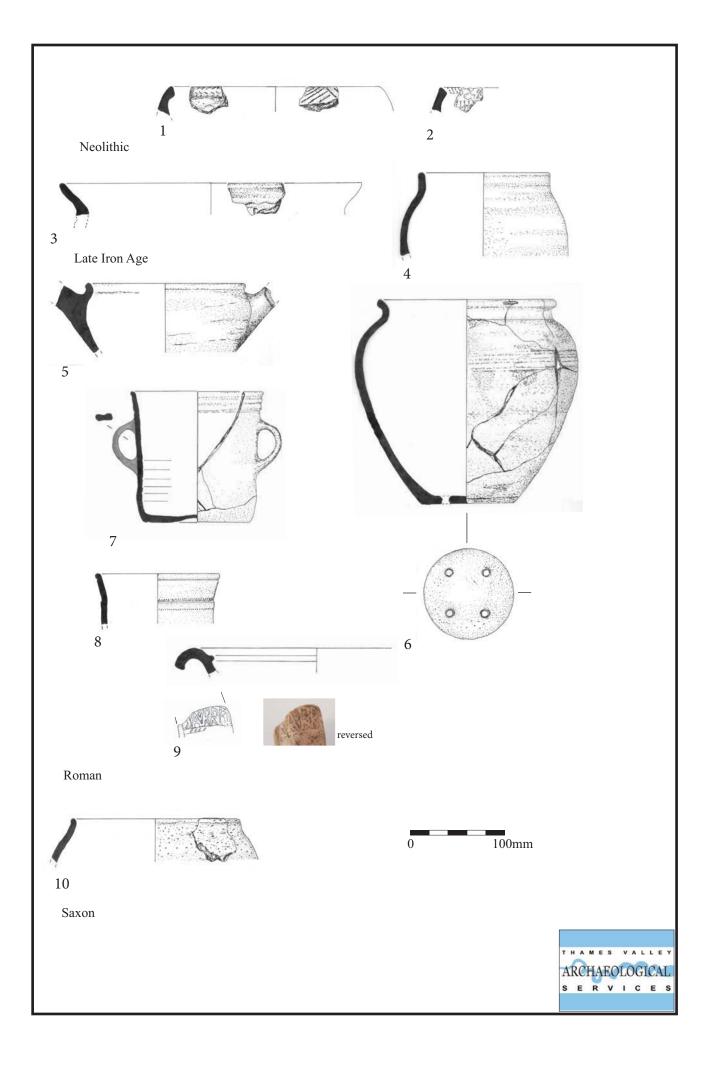






Plate 2. Pit 943, looking E, Scales: 1m and 0.3m.

Land at Spratsgate Lane, Shorncote, Gloucestershire, 2019 Archaeological Excavation Plates 1 and 2.





Plates 3 and 4.





Plate 5. Ring Gully 1400, slot 403, looking east Scales: 0.50m and 0.30m.



Plate 6. Ring Gully slot 1400 and central grave 245 before excavation, looking south.



Land at Spratsgate Lane, Shorncote, Gloucestershire, 2019 Archaeological Excavation Plates 5 and 6.





Plate 7. Burial 245 SK 358, SW to top, Scales: 0.50m and 0.30m.



Plate 8. Pit 325, looking east, Scales: 0.50m and 0.30m.

Land at Spratsgate Lane, Shorncote, Gloucestershire, 2019 Archaeological Excavation Plates 7 and 8.





Plate 9. Four-poster 1416, looking south, Scale3: 1m, 0.3m, 0.1m.



Plate 10. Fenceline 1422, looking east.

Land at Spratsgate Lane, Shorncote, Gloucestershire, 2019 Archaeological Excavation Plates 9 and 10.





Plate 11. Trackway ditch slot 1310, looking south, Scales: 1m and 0.30m.



Plate 12. General View of Trackway, south end, looking south-west.



Land at Spratsgate Lane, Shorncote, Gloucestershire, 2019 Archaeological Excavation Plates 11 and 12.





Plate 13. Cremation 246, looking E, Scales: 2 x 0.30m



Plate 14. Cremation 304, looking E, Scales: 0.5m and 0.3m.

Land at Spratsgate Lane, Shorncote, Gloucestershire, 2019 Archaeological Excavation Plates 13 and 14.





Plate 15. Roundhouse gully 1401 slot 435, looking North, Scales: 1m and 0.50m.



Plate 16. General View of Roundhouse 1401, looking south-east.



Land at Spratsgate Lane, Shorncote, Gloucestershire, 2019 Archaeological Excavation Plates 15 and 16.





Plate 17. Segmented Gully 1414, Terminus 740, looking north, Scales: 0.50m and 0.30m.



Plate 18. Segmented Gully 1414, Terminus 811 at fore, looking south Scales: 0.50m, 2 x 0.30m and 0.10m.

Land at Spratsgate Lane, Shorncote, Gloucestershire, 2019 Archaeological Excavation Plates 16 and 17.



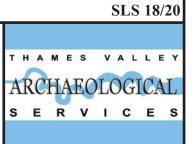
SLS 18/20



Plate 19. General view of north end of site, featuring Roman enclosure 1402, looking west.



Plate 20. Enclosure ditch 1402 slot 515, looking west, Scales: 0.50m and 0.30m.



Land at Spratsgate Lane, Shorncote, Gloucestershire, 2019 Archaeological Excavation Plates 19 and 20.



Plate 21. Well 420 mid-excavation, north-west to top; Scales: 1m, 0.5m



Plate 22. Well 420 in section, showing the level of the water table, looking south-east. Scales: 1m, 0.5m.



Land at Spratsgate Lane, Shorncote, Gloucestershire, 2019 Archaeological Excavation Plates 21 and 22.



