



**Land South of Lakeside Avenue
Tutnalls, Lydney
Gloucestershire**

**Post-Excavation Assessment and
Updated Project Design**

for
Kier Partnership Homes
on behalf of
MMC Estates

CA Project: 9118
CA Report: 13128

July 2013

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Issue: 01		Date: 3 July 2013

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SUMMARY

Site Name:	Land South of Lakeside Avenue, Tutnalls, Lydney
Location:	Gloucestershire
NGR:	SO 6420 0240
Type:	Excavation
Date:	January 2011 to October 2012
Location of archive:	To be deposited with Dean Heritage Museum
Accession Number:	SOYDH 2009.31
Site Code:	LSL 11

A programme of archaeological investigation was undertaken by Cotswold Archaeology between January 2011 and October 2012 at the request of Kier Partnership Homes (on behalf of MMC Estates) on land south of Lakeside Avenue, Tutnalls, Lydney, Gloucestershire, in advance of residential development. In compliance with an approved WSI (CA 2010), and in the light of the results of two field evaluations (CA 2004b, CA 2009) a targeted area was excavated across the development site.

Three principal periods of occupation/activity were identified, the earliest being the remains of a unenclosed mound or barrow, containing 22 cremations, three of them contained in collared urns of Middle Bronze Age date. Towards the centre of the mound a probable cist containing an unurned cremation, surrounded by three pitched stone slabs and covered by a larger capstone. Several other features in the vicinity could possibly be contemporary with the barrow. A further possible cist of possible Bronze Age date was identified in Area 4, and a small pit of Early Bronze Age/beaker date.

The second period dated to the late Iron Age was represented by a subrectangular domestic enclosure containing numerous postholes and pits, probably representing a domestic farmstead. The presence of quantities of metallurgical debris within Iron Age contexts suggest that this settlement was involved in iron production, if not on this actual site.

The third and final period saw the development of the Iron Age enclosure through the 2nd and 3rd centuries AD (i.e. the Roman period), with at least two phases of elaboration of the enclosure entranceway, and the laying out of two new sub-enclosures within the original. Again a significant quantity of metallurgical debris indicates that the association of the occupation with the manufacture of iron continued though this period.

Some evidence of medieval ironworking or production was also found, although there was no accompanying settlement evidence.

This document presents a quantification and assessment of the evidence recovered from the excavation. It considers the evidence collectively in its local, regional and national context, and presents an updated project design for a programme of post-excavation analysis to bring the results to appropriate publication.



1 INTRODUCTION

1.1 Between January 2011 and October 2012 Cotswold Archaeology carried out an archaeological excavation on Land South of Lakeside Avenue, Tutnalls, Lydney, Gloucestershire, (centred on NGR: SO 6420 0240; Fig. 1). The work was undertaken at the request of Kier Partnership Homes (on behalf of MMC Estates) in accordance with a Specification issued by RPS Planning and Development (RPS 2010) and with a subsequent detailed Written Scheme of Investigation (WSI) produced by CA (2010) and approved by Charles Parry, Senior Archaeological Officer, Gloucestershire County Council, the archaeological advisor to Forest of Dean District Council. The fieldwork also followed the *Standard and Guidance for Excavation* issued by the Institute of Field Archaeologists (1999), the *Statement of Standards and Practices Appropriate for Archaeological Fieldwork in Gloucestershire* (GCC 1996) and the *Management of Archaeological Projects II* (EH 1991). The fieldwork was monitored by Charles Parry, including several site visits.

Location, topography and geology

1.2 The site is located approximately 1km to the south of Lydney town centre. The site boundary is formed by an access road to the Federal Mogul factory to the south-west, residential development to the north-west, and the A48 Lydney Bypass to the south-east. The north-east boundary lies within Lydney Golf Course. The eastern part of the site currently forms part of a golf course, while the western part of the site is largely part of the Federal Mogul factory, with a small area of scrubland to the north of the factory (Fig. 2).

1.3 At the time of the fieldwork, the southern area of the site was largely covered by Lydney golf course. Disused elements of the Federal Mogul factory were also included within the western edge of the site. The underlying geology of the area is mapped as St Maughans Formation Sandstone of the Devonian period. This is overlain across the majority of the site by Third Terrace River Gravels of the Quaternary period (BGS DiGMapGB-625).

Archaeological background

1.4 The archaeological background of the site and its environs has been outlined within *Specification for a Programme of Archaeological Excavation and*

Recording (RPS 2010). A summary of information derived from this document is detailed below.

- 1.5 A Cultural Heritage Assessment (CA 2004a) and trial trench evaluation (CA 2004b), were undertaken on the site in 2004; these also included the adjacent golf course to the east and land to the north-east, beyond the current site limits depicted in Fig.1. Roman remains of 2nd to 4th-century date were recorded in the eastern part of the golf course, concentrated on higher ground to the east of the currently proposed development site. Although most of the revealed features were ditches, possibly representing former field boundaries, considerable quantities of pottery and iron slag were recovered, suggesting the possibility of settlement and industrial activity including ironworking in the vicinity. The presence of iron slag from a ditch containing 11th to 13th-century pottery found in the eastern part of the golf course suggests ironworking may have also been taking place in the medieval period.
- 1.6 Archaeological assessments (CgMs 2002a, 2002b) of large areas of land to the north and north-east of the proposed development area identified the potential for late medieval and post-medieval remains around Rodley Manor (NGR: SO 6440 0380) and possible Anglo-Saxon, medieval and post-medieval remains to the east of Crump Farm (an area centred on NGR: SO 6500 0310). Subsequent archaeological evaluation of the Rodley Manor site identified possible prehistoric activity represented by the recovery of five worked flint artefacts, the remains of timber-framed Roman buildings and substantial medieval stone buildings together with evidence of contemporary ironworking, and post-medieval drainage features (WA 2003a). Evaluation of land to the east of Crump Farm also identified activity associated with late medieval ironworking (WA 2003b). Further evaluation of this area in 2009 revealed evidence of prehistoric activity, tentatively dated to the Bronze Age, south of Naas Lane (CA 2009). Roman activity, including further evidence for ironworking activity of a 3rd to 4th-century date was identified to the north of Naas Lane during the same evaluation.
- 1.7 Archaeological investigations undertaken prior to the construction of the A38 Lydney Bypass (Goult 1994; Cook 1995) only recorded features associated with construction and use of the Former Severn Bridge Railway. An archaeological evaluation to the south of the current site (Holmes 2000) revealed ridge-and-furrow cultivation of probable medieval date.

2 AIMS AND OBJECTIVES

2.1 The principal objectives of the archaeological mitigation were defined in the WSI (CA 2010) and in summary were to:-

- record the nature of the main stratigraphic units encountered
- assess the overall presence, survival and potential of structural and industrial remains
- assess the overall presence, survival, condition, and potential of artefactual and ecofactual remains
- publish the results of the work in an appropriate format, and deposit copies of any reports generated with the Gloucestershire Historic Environment Record (GHER)

2.2 The broader research aims of the work were in line with the Archaeological Research Framework for South West England; Resource Assessment and Research Agenda (Webster 2008). Identified aims included:-

- Research Aim 29: Improve our understanding of non-villa Roman rural settlement
- Research Aim 38: Widen our understanding of the extraction, processing and transportation of minerals, stone and aggregate (with particular reference to developing our understanding of the iron industry in the Forest of Dean)
- Research Aim 47: Assess the archaeological potential for studying medieval economy, trade, technology and production

3 METHODOLOGY

3.1 Fieldwork commenced with the removal of topsoil and subsoil from the excavation area by mechanical excavator with a toothless grading bucket, under archaeological supervision. The impact area was stripped in a succession of phases (1-6), integrated within the schedule of the building programme.

3.2 The archaeological features thus exposed were hand-excavated to the bottom of archaeological stratigraphy. All funerary/ritual activity and domestic/industrial

deposits were 100% excavated. All discrete features (postholes, pits) were 50% sampled by hand excavation unless their common/repetitious nature suggested that they were unlikely to yield significant new information. All linear features (ditches, pathways etc.) were sampled to a minimum of 20%. Bulk horizontal deposits were as a minimum 10% by area hand excavated, after which a decision was taken (in conjunction with the Archaeological Consultant and Gloucestershire County Archaeologist, or representative) to remove the remainder with machinery.

- 3.3 All features were planned and recorded in accordance with *CA Technical Manual 1: Excavation Recording Manual* (CA 2007). Deposits were assessed for their environmental potential and sampled appropriately in accordance with *CA Technical Manual 2: The taking of samples for palaeoenvironmental and palaeoeconomic analysis from archaeological sites* (CA 2003). All artefacts recovered from the excavation were retained in accordance with *CA Technical Manual 3: Treatment of finds immediately after excavation* (CA 1995).

4 RESULTS

Fieldwork summary

- 4.1 Archaeological features were identified in all excavated areas, with the exception of Area 2.1, and included ditches, pits, postholes, tree-throw pits, post-medieval structures and the remains of a possible barrow/cremation cemetery. These features were assigned to provisional periods based on spot dates available from the recovered artefacts and on the spatial relationships of undated features to those containing dated artefacts. Some features remained undated. This section provides an overview of the excavation results; detailed summaries of the recorded contexts, finds and environmental samples (biological evidence) are to be found in the appendices.
- 4.2 Based on the criteria discussed above, features were assigned to the following provisional periods:-
- Period 1: Bronze Age (2400-700 BC)
 - Period 2: Late Bronze Age/Early Iron Age (1100-700 BC)
 - Period 3: Late Iron Age/Early Roman (1st century BC to 1st century AD)

- Period 4: Roman (2nd century AD)
- Period 5: Post-medieval (1500-1800)
- Period 6: Modern (1800+)

Period 1: Bronze Age (2400 – 700 BC)

- 4.3 Features assigned to Period 1 comprise a number of pits and possible cists identified in the northern part of Area 4, and the remains of a cremation cemetery in Area 6.
- 4.4 A shallow oval pit, 4844, measuring 0.77m in diameter and 0.26m in depth was excavated towards the southern end of Area 4 (Fig. 5). Five sherds of Early Bronze Age/Beaker pottery were recovered from its single fill, 4845. Due to its isolated nature, the function of this pit remains unclear.
- 4.5 The remains of a Middle Bronze Age cremation cemetery were identified towards the centre of Area 6 (Fig. 4). It was located on a slight natural promontory and comprised a thin roughly circular deposit, 6313, measuring approximately 14m in diameter and up to 0.14m in depth. This deposit seems to represent the remains of an unenclosed mound or round barrow. A total of 22 cremations (phase 1b) were cut into this deposit, three of which, 6305, 6301 and 6321, contained urns of Middle Bronze Age date. Two further Middle Bronze Age urns containing cremated bone, RA 6.1 and RA 6.4, were also recovered from mound deposit 6313.
- 4.6 The removal of mound 6313 revealed an earlier phase (1a) of 14 unurned cremations and two shallow pits, 6429 and 6424. The function of pits 6429 and 6424 remains unclear, although it is possible that they represent further 'token' cremations. Towards the centre of the mound a probable cist, 6382, was identified. It contained an unurned cremation, 6390, surrounded by three large pitched stone slabs which were in turn covered by a larger capstone. The base of the cist exhibited some evidence of *in situ* heating/burning (in the form of scorched natural) suggesting that the cremation pyre may have been located here prior to the placing of the stone slabs.
- 4.7 A further possible cist, 4741, was identified in the southern part of Area 4 (Fig. 5). It measured c. 1m in diameter, had a maximum depth of 0.45m and contained a

quantity of pitched stone slabs, which appeared to form a lining at the edge of the feature. Although undated and located in close proximity to the later ditched enclosures, the form of the feature suggests that it may have been broadly contemporary with Middle Bronze Age activity to the southeast. Other stone-filled pits (e.g. pit 4259; Fig. 6), possibly representing additional cists, were identified in the southwestern corner of Period 4 Enclosure 1.1, and may also relate to Period 1 activity.

- 4.8 Pit 6257 was located c. 18m northeast of mound 6313 (Fig. 4). It was 1.14m in diameter, roughly circular in plan, and had a maximum depth of 0.35m with almost vertical sides and a flat base. It contained three charcoal rich fills; the uppermost of which, 6260, contained a single sherd of Bronze Age pottery. Pit 6185 was located approximately 30m to the east of mound 6313 (Fig. 3). It was oval in plan and contained a single fill, 6186, from which a single sherd of probable Bronze Age pottery was recovered.
- 4.9 A number of other small, shallow pits were identified across Area 6, however only pits 6257 and 6185 (above) could definitively be assigned to Period 1 on the basis of the recovered artefactual evidence. Further analysis of these features may enable them to be assigned to a definitive phase of activity.

Period 2: Late Bronze Age/Early Iron Age (1100 BC – 700 BC)

- 4.10 Shallow sub-oval pit 4494 was located in Area 4 (Fig. 6). Its form and the presence of a large quantity of stone within its single fill, 4522, suggest that it may have been the remains of a further cist. A single sherd of Late Bronze Age/Early Iron Age pottery was recovered from this feature. A further sherd of pottery of Roman date was also recovered from this feature; however, this seems likely to be intrusive as pit 4494 was cut along its south-western edge by Period 4 (Roman) Ditch 8.
- 4.11 An additional residual sherd of Late Bronze Age/Early Iron Age pottery was recovered from Period 4 (Roman) pit 6224, part of the pit 6218/6230 group (Fig. 3).

Period 3: Late Iron Age/Early Roman (1st century BC to 1st century AD)

- 4.12 Features assigned to Period 3 comprised the remains of a ditched enclosure, (Enclosure 1). It seems likely that the numerous pits and postholes located on the interior of this enclosure were contemporary, although only a few have been

positively assigned to this period at present. Other pits and postholes, particularly to the southwest of the site (Areas 5 and 6) may also have been contemporary, but remain 'undated' at present.

Enclosure 1

- 4.13 A rectangular ditched enclosure, Enclosure 1, was identified in Area 4 (Fig. 5). This was located on a ridge of higher ground, on a northeast/southwest alignment with the ground dropping away to the northwest and southeast. The enclosure was defined by Ditches 1, 2, 3 and 12 (and later Ditch 4), and enclosed an area of approximately 60m by 45m. The ditches were generally over 1m in width and between 0.6m and 0.9m in depth, although they did not display a consistent profile, particularly on the southern side of the enclosure. Pottery recovered from the fills of Enclosure 1 ditches was generally of Late Iron Age/Early Roman date.
- 4.14 A complex entranceway was identified on the eastern side of the enclosure (Fig. 6). This was initially defined by a gap between the termini of Ditches 3 and 12 but was later subject to enhancement and remodelling. Ditches 5 and 9, from which Late Iron Age/Early Roman dating evidence was recovered, were situated outside the enclosure and further elaborated the entrance. Two large postholes, 4206 and 4216, each over 1m in diameter and 0.7m in depth, were located in the earlier entranceway, and appear to have been for posts to either side of a gateway standing between ditches 3 and 12 and the outer ditches 5 and 9. A recut (4439 - not illustrated) of posthole 4206 was also identified. Gullies 3 and 5, which echoed the layout of the entranceway, may have been for short lengths of fence or possibly acted as drainage channels.
- 4.15 A simple entranceway in the north-eastern corner of the enclosure was defined by a gap between Ditch 1 and the western terminus of Ditch 3 (Fig. 5). A third entranceway on the western side of the enclosure appears to have been closed off by Ditch 4, which was the only large-scale re-cut identified in the Enclosure 1 ditches.
- 4.16 A large number of pits and postholes were recorded within Enclosure 1, although at present only two of these (4136 and 4658) have been definitively assigned to Period 3 on the basis of artefactual evidence. Further analysis of features within Enclosure 1 may elucidate their phasing as contemporary with Enclosure 1

although, as outlined above, several pits located in close proximity to the western corner of (Period 4) Ditch 8 may belong to Periods 1-2.

Other Period 3 Activity

- 4.17 Ditches 1, 5 and 6, while being associated with Enclosure 1, continued northwards beyond the edge of excavation and may have represented a further enclosure or a field system leading off Enclosure 1.
- 4.18 Some Late Iron Age/Early Roman dating evidence was also recovered from several pits and postholes and a ditch located towards the south-western extent of the site in Area 5 (not illustrated).

Period 4: Roman (2nd century AD)

- 4.19 Features assigned to Period 4 comprise those associated with the re-modelling of both the interior and entranceway, features located within Enclosure 1, and other pits and ditches across the site.

Sub-Division of Enclosure 1

- 4.20 The interior of Enclosure 1 was subdivided by Ditch 8, which closed off the north-eastern quarter of the interior of the enclosure (Fig. 5). This ditch was an average of 2m in width, 0.35m in depth and was flat-bottomed, enclosing an area of approximately 700m². An entranceway into this newly enclosed area (Enclosure 1.1) was defined by a gap of approximately 1.3m between the northern terminus of Ditch 8 and the northern arm of Enclosure 1 (Ditch 3). Pottery recovered from the fills of Ditch 8 suggested a 2nd-century AD date.
- 4.21 Further subdivision of Enclosure 1 was identified to the south of Ditch 8, defined by Ditches 11 and 19, which formed two smaller enclosed areas (Enclosures 1.2 and 1.3), measuring 11m by 8m and 18m by 10m respectively.

Re-modelling of Enclosure 1 entrance

- 4.22 The entranceway on the eastern side of Enclosure 1 was extensively remodelled in Period 4 (Fig. 6). The Period 3 entrance was closed off by the cutting of Ditch 7, which cut the northern extent of Ditch 12 and earlier entranceway postholes 4206/4439 and 4085/4216. A new entranceway was defined by two large postholes 4222 and 4223 located to the north of Ditch 7, which both contained a large amount of stone packing. To the east of these an area of stone rubble (4076), dumped in the top of Ditch 5, appeared to be an attempt to provide a firm surface over the infilled ditch for the remodelled entrance into Enclosure 1.1.

Immediately to the west of the postholes, cobbled surface 4227 was laid over the silted-up southern terminus of Ditch 3. (Layer 4227 is not illustrated, but its extent was similar to overlying deposit 4196, depicted in Figure 6) The presence of large stones in the northern terminus of Ditch 7 suggested that part of this remodelled entrance was walled, a stretch of wall later collapsing or being pushed into the open ditch.

- 4.23 It is not clear if the silted-up termini of Ditches 3 and 5 indicate that Enclosure 1 had gone out of use prior to the Period 4 re-modelling of the entrance. Further analysis of the stratigraphic sequence and the recovered dating evidence may shed further light on this.
- 4.24 A second area of cobbling (4246), was identified immediately to the west of cobbled surface 4227. This was constructed of smaller stones than surface 4227, although this may have been a reflection of the fact that surface 4227 was laid over a silted-up ditch and therefore may have required larger stones, while surface 4246 was simply laid in a silty sand matrix. No relationship was established between the two cobbled areas although their respective locations suggest they formed part of the re-modelled Period 4 entranceway.

Other Period 4 Activity

- 4.25 Elements of a possible wall footing 4159/4354 lay just to the west of surface 4246 (Fig. 6). This comprised irregularly shaped flat pieces of stone in an uneven linear construction trench, which appeared to have been heavily robbed.
- 4.26 A large number of pits and postholes were identified within Enclosure 1.2, although these have yet to be assigned to a period (Fig. 5). Similarly a large number of postholes were identified on the interior of Enclosure 1.3, but were also undated and do not appear to form an identifiable structure.
- 4.27 Outside of Enclosure 1, Ditch 18 was identified in Areas 1B, 1B.2 and 6 towards the south-eastern extent of the site, running on a northwest/southeast alignment for approximately 35m before turning through 90° degrees and continuing for another 48m on a northeast/ southwest alignment (Fig. 3). A cluster of pits (6218, 6230, etc.) at the southern end of Area 6 were also of Roman date.

Period 4+: ?Later Roman

- 4.28 Several features and deposits were identified in Area 4 that appeared to be associated with activity immediately post-dating Enclosure 1.

- 4.29 A large area of stone rubble, 4196, was identified sealing both Period 3 and Period 4 ditches (Fig. 6), and sealing the same area as underlying layer 4227. This did not appear to be a deliberately laid surface but rather the result of demolition and robbing of a structure in the immediate vicinity. A large quantity of 3rd to 4th-century AD pottery was recovered from this deposit. A small quantity of 3rd to 4th-century AD pottery was also recovered from the fill of pit 6130 in Area 6.
- 4.30 Elements of a field system comprising gullies 2.1, 2.2, 2.3, 4, 11.1, 11.2 and 11.3 were identified post-dating the Period 3/4 activity associated with Enclosure 1 (Fig. 5). These gullies were all comparatively narrow and contained a distinct light grey silty fill. A small quantity of Late Iron Age and Roman pottery was recovered from the fills of these gullies. The northern end of gully 2.1 was cut by a possible wall footing which was only seen in section towards the northern extent of the site.

Period 5: post-medieval (1500 – 1800)

- 4.31 A stone culvert 285, 0.55m in width and 2.35m in length, ran parallel to the south-western extent of Ditch 20 (Fig. 3). Its position suggested it had been located to divert water away from a structure. The culvert was cut by stone-packed posthole 2009, which was sealed by surface 284. Two other stone-packed postholes (2013 and 2015) were also sealed by surface 284 from which a small quantity of slag and ceramic building material was recovered. A similar stone surface 275 lay in close proximity to surface 284 and was cut by a stone-packed posthole 296 with two similar postholes, 271 and 273 lying in close proximity. A large quantity of slag had been used as packing within the upper fill 274 of posthole 273. Stone surfaces 275 and 284 and associated postholes together appeared to form part of the same structure, probably agricultural, at the edge of a field. A small quantity of post-medieval pottery was recovered from fill 2005 of Ditch 20.

Period 6: Modern (1800+)

- 4.32 The absence of any subsoil towards the north-western extent of Area 2 suggested some truncation from the landscaping of the former golf course, but no other signs of truncation were encountered. The south-western extent of Area 5 had been truncated by terracing works associated with the adjacent factory. A modern sheep burial in Area 2 and a field drain in Area 1B were identified but no other modern features were recorded.

Unphased

- 4.33 Several ditches, principally those sloping downwards from the north-west to the south-east in Areas 1B, 5 and 6, remain unphased. Their alignment suggests it is possible they may form part of a field system associated with Enclosure 1 but this interpretation should be treated with caution as their alignment may well have been governed by the topography.
- 4.34 The majority of the discrete features in Areas 2, 5 and 6 remain provisionally unphased although further analysis may enable some of these to be assigned to a specific period.

5 FACTUAL DATA AND STATEMENTS OF POTENTIAL***Stratigraphic Record: factual data***

- 5.1 Following the completion of the fieldwork an ordered, indexed, and internally consistent site archive was compiled in accordance with specifications presented in the Management of Archaeological Projects (EH 1991). A database of all contextual and artefactual evidence and a site matrix was also compiled and cross-referenced to spot-dating. The fieldwork comprises the following records:

Context sheets	2005
Plans (1:10, 1:20, 1:100)	127
Sections (1:10, 1:20)	484
Sample sheets	187
Monochrome films	26
Digital photographs	1158
Matrices	18

Stratigraphic record: statement of potential

- 5.2 The survival and clarity of the site stratigraphy was good with archaeological remains having survived as negative features. Truncation of features by modern activity was generally limited in extent. Despite a relative paucity of stratigraphic relationships, many features have been assigned a preliminary period based on context dates and/or spatial association.
- 5.3 Further study of the stratigraphy of specific areas, notably the entranceway of Enclosure 1 and the Bronze Age barrow, in association with a refined artefactual dating sequence, will help to further clarify the chronological framework. This in turn will provide a context within which to set other types of material evidence.

Artefactual record: factual data

- 5.4 All finds collected during the excavation have been cleaned, marked, quantified and catalogued by context. All metalwork has been x-rayed and stabilised where appropriate.

Type	Category	Count	Weight (g)
Pottery	Bronze Age	403	5023
	LIA/Roman	6078	52700
	Post-medieval/modern	4	30
	Total		57753
Flint	Worked/burnt	11	230
Fired Clay	All	76	924
CBM		10	1651
Glass (Roman)	vessel	31	27
Glass (modern)	vessel	5	126
	object	1	441
Metals	Iron	32	2535
	Lead alloy	1	61
Slag/Industrial residues		229	18492
Worked bone	All		
Stone	Objects	10	5776

Artefactual categories*Worked flint*

- 5.5 A small assemblage of worked flint was recovered, largely undiagnostic in date.

Pottery

- 5.6 A large assemblage of Late Iron Age and Early Roman pottery was recovered. The fabric range was dominated by Belgic and Malvernian Ware, and Severn Valley Ware. A limited quantity of imported Roman wares was also recovered. Post-Roman pottery was limited to a small quantity of post-medieval and modern sherds.

Slag and industrial residues

- 5.7 A sizeable quantity of slag and associated industrial residues was recovered, representing iron smelting and both primary and secondary smithing, provisionally dated to the 2nd century AD.

Artefactual record: statements of potential

Worked flint

- 5.8 The small assemblage of lithics is limited in size and undiagnostic in terms of its dating. No further analysis is recommended, although a brief report based on the information presented here may be included in any publication of the site.

Pottery

- 5.9 The assemblage has significant potential for understanding the use of pottery in the region during the transitional Late Iron Age and early Roman period. Further analysis would also contribute to a greater understanding of landscape development in the area during this period.

Slag and industrial residues

- 5.10 A more detailed spatial analysis of finds would help firm-up conclusions on the centres (or absence of foci) of the metalworking activities. A detailed comparison with other local ironworking remains would also help the understanding of the importance of ironworking in the region.

Biological record: factual data

- 5.11 All ecofacts recovered from the excavation have been cleaned, marked, quantified and catalogued by context. A total of 193 bulk samples were taken for the recovery of environmental remains.

Type	Category	Count	Weight (g)
Human bone	Cremation burials	33	2685.05
Animal bone	Fragments	255	
Samples	Environmental	193	

Human bone

- 5.12 The cremated human remains amounted to a total of 2.7kg, and were recovered from 33 deposits. The remains represent token deposits of bones from the cremations. Only adults were identified in the material, which included remains of two females. The bones are heavily fragmented and poorly preserved. The burials were mostly located in the context of the Bronze Age barrow 6313, with three deposits contained within funerary vessels.

Animal bone

- 5.13 A total of 255 fragments of animal bone were recovered from across the site. In addition, 24 contexts contained burnt animal bone.

Plant macrofossil and charcoal

- 5.14 A total of 193 bulk soil samples were retrieved for plant macrofossil and charcoal assessment. Of these bulk samples, 154 were taken from a series of Bronze Age cremation burials, one from Bronze Age barrow material, four from Bronze Age inhumation burials and 34 from a series of Bronze Age, Iron Age and Roman pits, postholes, hearths and ditches.

Biological record: statements of potential

Human bone

- 5.15 Although the human bone was only evident as part of the token burials, the material has great potential in revealing aspects of how the Bronze Age cemetery was used, when considered together with the other archaeological evidence, especially in relation to the charcoal analysis. This will enable a good insight into the burial practice around Lydney and the Severn Valley during the Bronze Age.

Animal bone

- 5.16 The occurrence of the burnt animal bones on this site can be considered in conjunction with the cremated human remains, as potential ritual inclusions relating to the burial practice of the Bronze Age cemetery on the site. It is therefore recommended that the remains are discussed as such in conjunction with the cremated human remains.

Plant macrofossil and charcoal

Period 1 /2

- 5.17 Woodland clearance during the Bronze Age increased in pace with land clearance for agriculture and settlement. Full analysis of the charcoal will hopefully help to ascertain fuel preferences, reconstruct local woodland composition and provide evidence of woodland management. The charcoal analysis of selected samples from this site will hopefully provide a useful record of fuel use in cremation burial ritual during the Bronze Age, help to ascertain local woodland composition and provide evidence of woodland management.

Period 3/4

- 5.18 While the plant macrofossil cereal assemblage from Period 3 and 3/4 features is relatively small, analysis of the selected plant macrofossil material has the potential to provide a record of local crop cultivation and husbandry techniques.

Summary statement of potential

- 5.19 The fieldwork revealed a Bronze Age cemetery, represented by the truncated remains of a Bronze Age barrow with later intrusion cremation deposits, dating from between c.1600–1300 BC. A few other cremations were located in the immediate surrounds of the barrow.
- 5.20 Later activity included a large farmstead, enclosed by at least two phases of ditch, which appears to have been associated in some way with the metalworking activities to the north–east. The dating material from this phase indicates that settlement extended from the 1st to the late 2nd century. The settlement seemed to be primarily involved in the manufacture of iron, with indications of both primary and secondary smithing, although the evidence suggests that the focus of this activity was off-site (to the east?).
- 5.21 There was no appreciable settlement or activity on the site after the 2nd century. Later Roman and post-Roman material was also found, but only in small quantities.
- 5.22 The fieldwork was successful in regard to the original objectives. A coherent provisional narrative has been developed, and the character of the site through its major phases has been broadly developed.
- 5.23 The Bronze Age cremation focus is important, and the relatively well-preserved stratigraphy within the barrow, coupled with the ceramic vessels and the bone deposits, will allow important research into the changing funerary practices at this time. Further analysis of the extent of the contemporary activity will help to set this focus into the landscape context. Was there associated settlement, or other funerary activity?
- 5.24 The late Iron Age and Roman settlement is important for two reasons. Firstly it confirms the existence of significant pre-Roman settlement in the vicinity (other than the hillfort to the west). Secondly, the apparent association with ironworking suggests the Romans may have taken over an existing industrial concern, rather than starting from scratch.

- 5.25 While there is some evidence from the site that medieval ironworking was continuing in the area, it was not highly visible here. Nevertheless, the possibility that some of the metalworking debris may have a medieval derivation should not be overlooked.
- 5.26 The Bronze Age barrow and its contents provide a rare opportunity to understand the evolving funerary practices of the region, and set such activity within the contemporary landscape. Establishing what contemporary activity there was in the vicinity of the barrow will be crucial to this.
- 5.27 As it stands, the site has significant potential to illuminate the development of late prehistoric and Roman settlement and associated industrial exploitation in the area. While the evidence appears to suggest that the iron production itself was not taking place within the excavated area, it was clearly sited nearby, and as such the role of the settlement infrastructure as revealed on the site, and its association with that production, is highly significant.

6 STORAGE AND CURATION

- 6.1 The archive is currently held at CA offices, Kemble, while post-excavation work proceeds. Upon completion of the project and with the agreement of the legal landowners, the site archive and artefactual collection will be deposited with The Dean Heritage Museum, which has agreed in principle to accept the complete archive upon completion of the project.

7 UPDATED AIMS AND OBJECTIVES

- 7.1 To fulfil the potential of the site data, the following updated objectives have been set out to provide a framework for the proposed further analysis:

Objective 1: establish the date and nature of early prehistoric activity

- 7.2 The analysis will seek to refine the chronology – both absolute and relative – of the cremations and their associated ceramic evidence.
- 7.3 A total of 13 radiocarbon dates will be sought – 10 of them to determine the chronology of currently undated features, particularly in the vicinity of the barrow, and to refine that of existing artefactual dating. Only three of the barrow vessels

contained burnt bone – these deposits will also be tested to help establish a date range for the funerary activity.

Feature no.	Context	Area	Feature	Phase	Notes
289	292	2	pit	2?	plants
4603	4605	4	pit	2?	plants
4844	4845	4	pit	1?	charcoal
6274	6275	6	pit	2?	charcoal
6257	6258/9	6	pit	2?	charcoal
6274	6275	6	pit	1?	charcoal
6101	6102	6	pit	1?	charcoal/plants
6177	6174	6	pit	1?	charcoal
6205	6204	6	pit	1?	charcoal
6206	6207	6	pit	1?	charcoal
6281		6	Cremation vessel	1	RA 6.1
6308		6	Cremation vessel	1	RA 6.4
6320		6	Cremation vessel	1	RA 6,5

- 7.4 Analysis of the charcoal will shed light on details of the funerary practice, and the landscape within which it took place. Their rarity in this region increases their importance in understanding the nuances of funerary practice and the association between the living and the dead.
- 7.5 By comparison with the rest of Gloucestershire, the area west of the Severn has suffered from a lack of opportunity for archaeological research and the synthesis of evidence (Saville 2006, 240-1) particularly in regard to the prehistoric period. The barrow and its contents can add significantly to the understanding of that period.

Objective 2: The character and development of the Iron Age settlement

- 7.6 The analysis will seek to understand the chronology and character of the Iron Age enclosed settlement, confirm its association with ironmaking, and identify relevant characteristics. Was iron production or processing an integral function of this settlement, or was it only part of a more 'routine' agricultural enterprise?
- 7.7 While the importance of the iron industry in the Forest of Dean is recognised, aspects of its early development are still unclear; in particular the nature of ironworking sites in the late Iron Age is as yet imperfectly understood. How specialised were these sites? How far – if at all – were they under centralised

control? Recent research has refined the questions, but understanding the evidence is still difficult (Moore 2003, 281-2).

Objective 3: The Roman settlement

- 7.8 There seems to be continuity into the 2nd century. Is this of continuity of primary activity as well as of settlement? Is this an example of a resident native population adopting Romanised ways and material culture, or is this an incoming enterprise, opportunistically taking over and developing an existing native establishment?
- 7.9 Can the data illuminate any changes in the pattern of activity? Although no evidence seems to have been revealed of an ironworking site, can the working processes be understood?
- 7.10 It is interesting that occupation on the site appears to decline and possibly disappear altogether into the third century, and yet Holbrook indicates that there is an increase in iron production sites in the region at this time (Holbrook 2006, 114). If the iron production at this site relied upon the transport facility on its doorstep – the river, could the decline of the settlement be related to changes in shore topography, rendering the access to the river impractical? Alternatively, could the Lydney decline be connected with other developments in the vicinity, such as the establishment of the temple complex, which the re-evaluation of Wheeler’s original work suggests began in the 3rd century (Casey et al., 1999)?

8 PUBLICATION

- 8.1 The results from the investigations of the Land South of Lakeside Avenue, Tutnalls, Lydney are at least in part, of national significance and merit suitable publication, which will add to the understanding of the early development of iron production in the south-west of the country. It is proposed that a full report is published in the Transactions of the Bristol and Gloucestershire Archaeological Society.

Synopsis of Proposed Report

A Bronze Age cemetery and early iron industry: excavations at Lydney, Forest of Dean 2011-12

By Steve Sheldon and Tim Havard

Abstract

Brief summary of main findings of the project 300

Introduction

Project background, archaeological background, topography, geology 500

Excavation Results

Chronological narrative of the major phases and features of the site 3000

The Human Remains Jonny Geber 6000

The Finds and Environmental Evidence

Pottery Ed McSloy 5000

Metallurgical debris David Starley 2000

Other Artefacts Ed McSloy 1500

Animal Bone Jonny Geber 500

Plant Macrofossil and Charcoal Remains Sarah Cobain 2000

Radiocarbon Dating Sarah Cobain 250

Discussion 3000

Acknowledgements &

Bibliography 1500

Total: words (c.30 pages)

Illustrations:

Location of site 1

Site plan with phasing 1

Bronze Age barrow and cremation phasing 0.5

Detail of enclosure entrance 1

Sections of enclosure ditches 0.5

Pottery 5

Other finds 1

Photo (BA urn under excavation) 1

Total (pages): 11

Tables:

Pottery: 1

Metallurgical debris 1

Worked stone	1
Human bone	1
Animal bone	1
Plant Macrofossil and Charcoal Remains	3
	<i>Total (pages) 8</i>
Total Publication Estimate:	49 pages

The analysis and publication programme will be quality assured by **Martin Watts MifA** (Head of Publications: HoP) and managed by **Mary Alexander MifA**; (Post-excavation Manager: PXM), who will co-ordinate the work of the following personnel:

Neil Holbrook FSA MifA (Chief Executive Officer: CEO)

Advice on Roman archaeology and contribution to overall discussion

Steve Sheldon and Tim Havard (Senior/Project Officers: SPOs):

Post-excavation phasing, draft report preparation, research and archive

Ed McSloy MifA (Finds Officer: FO):

Specialist report preparation and liaison, post-excavation phasing.

Harriet Jacklin FSA (Human bone analysis)

Sarah Cobain AIFA (Environmental Officer: EO)

Specialist report preparation plant macrofossil and charcoal and liaison

Peter Moore (Senior Illustrator: ILL):

Production of all site plans, sections and artefact drawings (exc. pottery)

Andrew Baines MifA (Geomatics Officer: GO):

GIS applications

Contributions by the following external consultants will be managed by the Finds Officer:

Fiona Roe FSA: Stone analysis

Dr Tim Youngs FSA FGS (GeoArch): Archaeometallurgical residues

Karen Barker: Metalwork conservation

Contributions by the following external consultants will be managed by the Environmental Officer:

Harriet Jacklin FSA (Human bone analysis)

SUERC (East Kilbride): Radiocarbon dating

The final publication report will be edited and refereed internally by CA senior project management, and externally refereed by Dr Tom Moore (University of Durham).



9 TASK LIST

TASK	PERSONNEL	DURATION/ COST
Project Management	SPM	5
Stratigraphic Analysis	PO	4
Research, comparanda	PO	3
<i>Finds analysis and reports</i>		
Pottery analysis and report (BA)	FO	2.5
Illustration	SI	2
Pottery analysis and report (IA and Roman)	FO	5
Illustration	SI	5
Glass analysis and report	FO	0.5
Illustration	SI	0.5
Metalworking debris analysis and report	Specialist	FEE
Human bone analysis and report	Specialist	FEE
Animal bone analysis and report	EO	0.5
Stone analysis and report	FO	1
Illustration	SI	2
Other finds - report	FO	1
Processing of samples (5)	Arch	3
Charcoal – identification and report	EO	8
Plant and macrofossil - identification	EO	2
Plant and macrofossil – analysis and report	EO	8
Radiocarbon dating Analysis	Specialist	FEE
Report preparation	EO	0.5
<i>Preparation of publication report</i>		
Abstract and introduction	PO	0.5
Excavation results	PO	4
Compilation of specialist reports, tables etc.	PO	2
Discussion, conclusions	PO	2
Illustration	SPM	2
Acknowledgements, bibliography	SI	5
	PO	2
<i>Submission to external referees</i>		
Editing	SPM	1
Revisions	PO/SI	2
QA	HoP	1
<i>Submission of publication text</i>		
Research archive completion	PO	2
Archive		FEE
Microfilm		FEE
Deposition		FEE
<i>Publication</i>		
Printing	TBGAS	FEE

10 TIMETABLE

- 10.1 For a journal publication project, CA would normally aim to have completed a publication draft within 12 months of approval of the updated publication project design. A detailed programme can be produced if desired on approval of the updated publication project design.



11 REFERENCES

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Moore, T. H. 2003 *Iron age societies in the Severn-Cotswolds: Developing narratives of social and landscape change*, Durham theses, Durham University. Available at Durham E-Theses Online: <http://etheses.dur.ac.uk/3682/>

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Saville, A. 2006 'Archaeology in Gloucestershire: looking backwards but mostly forwards' in N. Holbrook and J. Jurica (eds) *Twenty-Five Years of Archaeology in Gloucestershire: a review of discoveries and new thinking in Gloucestershire, South Gloucestershire and Bristol 1979-2004*, Bristol and Gloucestershire Archaeological Report **3**, 239-47

WA (Wessex Archaeology) 2003a *Land east of Lydney, Gloucestershire. Archaeological Evaluation*

WA (Wessex Archaeology) 2003b *Land at Hurst Farm, Lydney, Gloucestershire. Archaeological Evaluation*



APPENDIX 1: LITHICS BY E.R. MCSLOY

A small group of worked or burnt flint was recovered. Worked material amounts to 10 pieces, only a scraper from among which exhibits secondary working.

Most of the worked flint exhibits high levels of edge damage or breakage consistent with its being a primarily (or fully) re-deposited group. The two fragments of burnt flint (deposits 4580 and 4834) are not fully calcined and heat alteration may have resulted unintentionally from domestic or industrial processes.

The worked group is limited in its range, consisting mainly of secondary (partly cortical) or tertiary (no cortex) flakes. The single tool, a scraper, is not suggestive of a particular date.

Statement of potential and recommendations for further analysis

The small lithics group is limited in size and undiagnostic in terms of its dating. No further analysis is recommended, although a brief report based on the information presented here may be included in any publication of the site.



APPENDIX 2: BRONZE AGE POTTERY BY E.R. MCSLOY

Quantification

Pottery amounting to 403 sherds (5023 g) and representing a minimum of six vessels was recovered. The majority of material, including vessels Ras. 6.1-6.5, was associated with barrow feature 6313, deposited upright within poorly defined pits cut into the mound material. The vessels from the barrow were associated with cremated human remains, with the larger vessels, Ra. nos 6.1 and 6.3-5, serving as the receptacle for this material. With the exception of one Beaker vessel, from Area 4 pit 4844, the prehistoric pottery dates to the early or Middle Bronze Age, with indications from some vessels that the group can be placed c. 1600–1300 BC.

Condition

With the exception of the small 'accessory' vessel Ra. 6.2, which preserves its full profile, the vessels were heavily truncated with only the base portions surviving intact. A small rim sherd occurs with urn Ra.5 and a portion of the decorated zone below the rim from Ra. 6.1. The surface preservation of most material was good. However the majority of the Beaker pottery from deposit 4845 were effected by thick correlations which have the effect of obscuring areas of the decorated surfaces.

Assemblage range: Beaker

The Beaker pottery is confined to a single deposit, the fill of pit 4844 (4845) in Area 4. A total of 18 sherds (136 g) are present, most coming from the same fineware vessel. Two sherds with horizontal incised bands probably represent a second vessel. From the main vessel represented, portions of the rim, the waisted girth zone and the rounded lower body are present. All of the zones feature bands of impressions which are indistinct but which probably represent comb impressions. The vessel form is most characteristic of the longer-necked forms belonging to the secondary beaker series.

Early-Middle Bronze Age

There are variations in fabric, though all are types where the primary inclusion is of grog. Surface preservation is good for the larger vessels: urns 6.1, 6.4 and 6.5, but for accessory Ra. 6.2 and smaller vessel Ra. 6.3, much of the surface is lost. Evidence for use as a patchy internal carbonised residue survives patchily to Ra. 6.4.

Sufficient of urn Ra. 6.1 survives for identification as of biconical form, with a horizontal applied cordon at the shoulder which is decorated with oblique impressions. The decoration in form this vessel compares with biconical vessels serving as cremation urns from Bevan's Quarry, Temple Guiting (Baldwin 1958) and biconical vessels are also known from domestic groups in Gloucestershire (Darvill 2006, 39–42). Biconical urns are more often associated with southern and south western Britain and the tradition appears to have its roots in the Early Bronze Age. Accessory Ra. 2 is straight sided, with knobs of applied clay applied in a row below the rim. Stylistically it belongs with the typically southern British Deverel Rimbury tradition. Among the remaining, heavily truncated, vessels a single rimsherd was identified associated with Ra. 6.5. This was of simple, slightly in-curved form, which together with the lower portion of the vessel is suggestive of a barrel-shaped vessel.

Statement of potential and recommendations for further analysis

There are few comparable cremation groups from the region, in particular the area west of the Cotswolds. Although poorly preserved, this group is of some significance in demonstrating stylistic affinities with more

typically southern British ceramic traditions. The development and dating of pottery from the middle and later 2nd millennium is not well understood, and the suspicion that the group relates to the earlier part of the possible range should be confirmed by absolute means. Radiocarbon dating of (cremated human bone) samples from each of the accompanied burials will also help to establish date range for the monument and the close contemporaneity or otherwise of individual burials.

Informed by the absolute dating it is recommended that a report for publication should be completed for the Bronze Age pottery. This should include characterisation of the pottery fabrics, a catalogue description for each vessel, and a section to discuss the group in its regional and wider setting. Vessels 6.1, 6.2 and 6.5 should be drawn.

Radiocarbon dating	fee
Reporting	2.5 days (SFO)
Illustration	2 days (SI)

References

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APPENDIX 3: THE LATE IRON AGE AND ROMAN POTTERY BY ANGUS CRAWFORD

The Late Iron Age and Roman pottery assemblage recovered from the excavation amounted to 6078 sherds weighing 52.7kg. The assemblage was recovered from 201 stratified contexts and as unstratified finds. For the purpose of this assessment all sherds were examined by microscope (x 20), sorted by fabric, broad period and quantified by count, weight, rim EVEs (Estimated Vessel Equivalent).

Sherd surface preservation is good, with those with surface treatments, such as burnishing, surviving well. Calcareous inclusions tended to have leached, resulting in vesicularity apparent in the surface and break. Sherd count per deposit was relatively high and included 15 contexts with over a hundred sherds, with the largest number of sherds (686) from deposit 4202. Slightly over 70% of the pottery was recovered from ditch fills, with a further 11% recorded from pits and 7% from posthole fills. The remaining 12% was recovered from layers and gully features, with 2% recorded from a hearth.

Indications of dating are derived largely from selected vessel forms amongst the coarse wares, such as the Severn Valley and Dorset Black-burnished wares, and some 'specialist' wares such as samian and mortaria. Where mentioned, the Severn Valley ware forms are referenced to Webster (1976), Dorset Black-burnished wares to Seager-Smith and Davies (1993), Oxfordshire wares to Young (1977) and the samian to Webster (1996)

The dominant fabric type was Severn Valley wares with 2550 sherds (23.6kg) or 42% of the total Roman pottery assemblage. Jars constituted a large proportion of the vessel types with a range of both narrow necked and wide mouthed variants, consistent with forms produced from the 1st to 2nd century. Early Roman Iron 'C' derived bowls, of 1st to 2nd century date (Webster types 59 and 60) were also recorded. Early tankard forms are absent with identifiable tankard forms typical of 2nd to 3rd century types. Only one deposit, enclosure ditch fill 4306, contained a tankard type of likely 4th century date (Webster type 44). Identifiable bowl forms were of segmented types (Webster type 65 and 66) of probable mid to late 2nd or early 3rd century date

The second largest fabric group, amounting to 1790 sherds, comprised material with calcareous inclusions. This included probable locally produced 'Belgic' types as well as Malvernian wares (Peacock B1 type). While the 'Belgic' wares were likely to be of early Roman period date, the Malvernian wares spans the Late Iron Age and Early Roman period.

A black firing, probably locally produced, sandy ware is likely to be contemporary with 'Belgic' types, based on the forms identified. Of the 60 sherds recorded, eight were jars with, where present, simple upright or slightly everted rims. An everted rim, from ditch terminus fill 4198, also featured post-firing holes below the rim, probably to facilitate the hanging of the pot over a cooking fire.

While Malvernian limestone-tempered wares were recovered in some quantity only two sherds of the Malvernian rock-tempered fabric (Peacock A) were identified. Pottery sherds with quartz inclusions were also lacking, with 93 sherds recorded of which 90 are from a medium mouth storage jar from deposit 4370.

Non regional wares were dominated by Dorset Black-burnished wares, a feature common on Welsh sites, with 1226 sherds weighing 9935g. Jars and flat-rimmed bowls (Seager-Smith and Davies types 1, 2 and 22) were the

most common vessel types, and dated predominantly to the 2nd century. There is a notable scarcity of any Black-burnished ware vessels dating to the 3rd or 4th century. However, sherds from dropped flange bowls (Seager-Smith and Davies type 25), of mid 3rd to 4th century date, were recovered from a single pit fill (6170).

Grog-tempered types amount to 149 sherds, with a small number also featuring organic or limestone inclusions. Identifiable (wheel-thrown) 'Belgic' types amounted to 76 sherds, of which 50 were from a single, necked jar from pit fill 4318. Five sherds of Savernake ware were also recorded from ditch fills 4118, 4841 and 4870.

A small quantity of greywares sherds were recorded (60) the majority probably locally produced. The majority of the sherds were of fine or sandy fabrics that could only be broadly dated to the Roman period. A small jar or beaker was recorded from ditch fill 4371 and was probable 1st or 2nd century date, while a flat rimmed dish from ditch fill 4213 was of likely 2nd century date.

A small quantity of Oxfordshire red-brown colour-coated ware (19) was recorded from ditch fill 6129. Included were sherds from a flanged bowl of mid 3rd to 4th century date (Young C51.3) and a mortarium with an upright rim and angular flange, of 4th century date (Young C100.2). Two further abraded Oxfordshire sherds were recorded from gully fill 6059. Further colour coated wares included a lower Nene Valley bag-shaped beaker, represented as 13 sherds from ditch fill 4316. The form is datable across the mid 2nd to early 3rd centuries.

A modest component of continental wares was recorded, consisting of 46 sherds of Gaulish samian and five probable sherds Baetican amphora. The latter also included the wart from the base of a Dressel type 22 amphora form. The majority of the samian, which is poorly preserved, comprises Central Gaulish wares (91%). These included dishes (Webster form 18/31 and 31), cups (Webster form 33 and 35), a mortaria (Webster form 45) and a bowl (Webster form 37) from ditch fill 4314. The latter features moulded decoration depicting a gladiatorial scene. Only four sherds of south Gaulish samian were identified and included an abraded bowl sherd (Webster form 37) and a dish (Webster form 18). While the Central Gaulish wares could be broadly dated to the 2nd century, the South Gaulish sherds were of 1st or early 2nd century date.

The remaining pottery assemblage consisted of small quantities of sherds of miscellaneous fabric types. These included 43 sherds in a fine and micaceous sandy fabric from ditch fill 4244, among which a flanged bowl of probable 2nd century date was identifiable; 27 sherds of miscellaneous oxidised wares and three sherds in a buff sandy fabric with organic inclusions. The majority of this material could only be broadly dated to the Roman period.

Statement of potential and recommendations for further analysis.

As well as providing the major source of dating evidence, and the chronological framework, the Late Iron Age and Roman pottery from Lydney represents a significant group from this area. While Roman pottery from the later 3rd and 4th century is present within the assemblage, it is of small quantity and, in cases, restricted to a small number of features. Therefore the assemblage has significant potential for understanding the use of pottery in the region during the transitional Late Iron Age and early Roman period. Further analysis would also contribute to a greater understanding of landscape development in the area during this period.

It is therefore recommended that a report characterising the late Iron Age and Roman pottery is undertaken, including further refinement of the site chronology, through the integration of the pottery records and the site stratigraphic sequence. Further, specialist analysis is also recommended for the samian.

Publication report	5 days
Samian analysis (Geoff Dannell)	1 day
Illustration	20 vessels

References

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APPENDIX 4: THE POST-MEDIEVAL/MODERN POTTERY BY ANGUS CRAWFORD

A small assemblage of post-medieval pottery, amounting to six sherds, was recorded from the assemblage. These consisted of glazed earthenwares and stoneware sherds of broad post-medieval, or early modern period date. None of the material was of archaeological significance and is not discussed further.

Recommendation

No further work required.



APPENDIX 5: WORKED AND BURNT STONE BY E.R. MCSLOY

The worked and burnt stone is listed according to Provisional Period in Table 1. There is a total of 63 items/fragments including burnt stone weighing 3415g.

The burnt stone comprises a mix of sandstone and quartzite cobbles. All was recovered from Period 3 (Late Iron Age) and later deposits. The limited volume of material suggests that most or all represents accidentally burnt stone from domestic hearths or similar, or possible heating stones/'pot boilers'.

There are a total of seven stone objects (represented as 10 fragments). All occur in Old Red Sandstone (including pebbly varieties) of local derivation. Three fragments from a rotary quern upper stone from Period 1-2 Area 4/posthole 4579 (Ras.4006/7) are of Late Iron Age type and indicate the feature is later than its phasing suggests. Rotary querns of Late Iron Age or earlier Roman type were also recorded from Period 3/Area 4 pit 4206 and as an unstratified find. An unusual cylindrical stone object, approximately 300mm in diameter and 250mm in height was recorded from Area 4/Period 4 layer 4225. Its upper surface is dished, although not well worn, and it may represent an unfinished or unutilised mortar. A second unstratified worked stone object is of interest. It consists of an irregular fragment approximately 450mm in length/width x 200mm in height and features deep cup-like depressions, one to each face and a third shallow depression. The function and date of this item is unclear although use (and re-use) as a pivot stone is perhaps most likely.

Tabular sandstone fragments from Period 3 and 4 deposits may have functioned as stone roofing material although a natural origin is also possible. Larger fragments from periods 1-2 and 3 appear heavily worn in the manner of 'threshold' stones, although again natural weathering may be responsible. The remainder of the (non-burnt) stone consists of fragments of greater or lesser regularity in (local) Old Red series sandstone. A number feature shallow grooves to the surface which may indicate use as tool/point sharpeners or, perhaps more likely, arise from natural weathering processes.

Statement of potential and recommendations for further analysis

The Forest of Dean has long been recognised as the source for querns and other objects which are exported widely by the Roman period. The unfinished/unutilised mortar is a possible indication that stoneworking was undertaken nearby. The Lydney group includes a number of objects (7) which merit publication to include full catalogue description. Four are of sufficient interest to require illustration.

Catalogue	1 day
Illustration	2 days

Table 1: Worked/burnt stone summary

Category	Classification	1-2	2	3	3-4	3-6	4	4-6	5	Us.
Burnt stone				10	1		3	1		
stone	flat fragment with grooves						1			
stone	nat weathered or threshold stone?	1		1						
stone	tile			1						
stone	unworked/building stone	1	1	2	3	2	6	2	3	3
stone	unworked/building stone with tooled? grooves - point sharpeners		10						1	
Worked stone	pivot stone?									1
Worked stone	poss saddle quern/rubbing stone - pecked to shape?	1								
Worked stone	quern lower stone or roughout?			1						
Worked stone	rotary quern upper stone	3								
Worked stone	2 frags from rotary lower stone									2
Worked stone	cylindrical with dished upper						1			
Worked stone	disc quern; upper stone						1			

APPENDIX 6: METALWORKING DEBRIS AND FIRED CLAY BY DAVID STARLEY

Ironworking debris, totalling 18.5kg, was found to include evidence of iron smelting and iron smithing, possibly including bloom smithing. Some of the smithing debris was associated with a hearth of second –century, Roman, date. No structure was identified as being linked with the smelting slag, which derived from a tapping furnace and this debris may have originated off site. The largest deposit was found in a second century feature, so both activities may be contemporary.

Smaller amounts of debris derived from later, post-medieval, activity, probably also relate to iron production.

Assessment of metalworking debris**Methodology**

18.5kg of metalworking debris, including bulk finds and residues from soil samples, was visually examined. This material was classified into the standard categories used by the specialist, based on those developed by the former English Heritage Ancient Monuments Laboratory. Visual observation of the exterior was backed up where necessary by the examination of fresh fracture surfaces, the use of a geological streak plate and a magnet. Tables 1 and 2 present a summary of these findings, based on the categories and divided by phase.

Classification of debris

The debris from Lydney included slag which was morphologically diagnostic of iron smelting and iron smithing. Much of the remaining debris was more ambiguous, but the high iron content suggested that it derived from one or the other of these activities. Further material clearly had origins in high temperature processes, but it could not be positively confirmed as being linked the working of iron, or other metals. Beyond these categories, a small group of material was singled out as deriving from some, unidentified, industry using more recent technology.

Table 1. Metalworking debris (g), by activity, type and phase

Activity	Classification	Phase							Total
		1-2	3	3-4	3-6	4	5	U	
Iron smelting	tap slag			118		930	380	58	1486
	fayalitic run slag		104	9			696		809
	ore							95	95
Iron smithing	smithing hearth bottoms		327			2668	85	1846	4926
	smithing pan					202			202
	flake hammerscale			<<1		<<1			
	spheroidal hammerscale	<<1		<<1	<<1	<<1			
Undiagnostic ironworking	undiag. ironworking slag	108	480	68		2267	2617	60	5600
	dense slag			23		246	1208		1477
	iron-rich cinder					102			102
Metalworking or other high temp process	vitrified hearth lining			245		470	120		835
	cinder	1	4			154	19	27	205
	stone furnace lining	<1					169		169

Activity	Classification	Phase							Total
		1-2	3	3-4	3-6	4	5	U	
	fired clay	<<1		19		1963	29		2011
Non-slag	burned stone	99	3	27	1	23	5	29	187
	ferruginous concretion	313							313
	iron frag in concretion					75			75
	Total	521	918	509	1	9100	5328	2115	18492

Diagnostic – iron smelting

By mass, the most common form of iron smelting debris was tap slag. This slag is very easily recognised, it shows a characteristic "ropy" flowed morphology on its upper surface and very low vesicularity at their fracture surfaces. Its composition is predominantly iron silicate (fayalite) which at the temperatures of operation of the bloomery furnace forms as a liquid. In a slag tapping furnace such slag is run off to form this distinctive waste product. Unfortunately, as such furnace technology was dominant in both the Roman and later Medieval periods it can only provide dating evidence within this broad time span. Fayalitic run slag is compositionally similar but comprises smaller fragments in the form of runs and dribbles and may be material that remained within the furnace. Very small amounts of similar material are occasionally produced in smithing hearths but the significant quantity and fragment size at Lydney indicated iron smelting. Ore is a relatively rare find on all but well-preserved, undisturbed iron smelting site, due to the generally friable nature of many ores, and their further degradation due to roasting prior to smelting. The Lydney fragment is a robust piece of rock ore, which has a vitrified/slaggy coating on one face. It is tempting to suggest that this is an example of the ore used in the slag-tapping furnace, but with the presence of more recent debris on site (see below) this cannot be certain. No analysis was carried out on the ore, but testing on a streak plate gave a blood red mark typical of hematite. However, it may be that the heating undergone by this rock has changed the surface composition.

Diagnostic – iron smithing

Evidence for iron smithing comes in two forms; bulk slags and micro slags. Of the bulk slags, the most easily recognisable are smithing hearth bottoms which have a characteristic plano-convex section, typically having a rough convex base and a vitrified upper surface which is flat or even slightly hollowed as a result of the downward pressure of air from the tuyère. Compositionally, smithing hearth bottoms are predominantly fayalitic and form as a result of high temperature reactions between the iron, iron-scale and silica. At Lydney, the eight smithing hearth bottoms comprised just over a quarter of the assemblage by weight. Statistical analysis of the mass and dimensions of these show them to be of variable size, some being unusually large for the period. The latter may derive from bloom smithing, the primary consolidation of the bloom after smelting.

Table 2. Smithing hearth bottom dimensions, all phases

n=8	Weight (g)	Length (mm)	Width (mm)	Depth (mm)
range	85-1591	70-195	40-150	30-65
mean	616	121	94	44
std dev	474	42	30	11

In addition to bulk slags, iron smithing also produces micro slag of two types (Starley 1995): Flake hammerscale consists of fish-scale like fragments of the oxide/silicate skin of the iron dislodged during working. Spheroidal hammerscale results from the solidification of small droplets of liquid slag expelled during hot working, particularly when two objects are being fire-welded together or when the slag-rich bloom of iron is first worked into a billet or

bar. Hammerscale is considered important in interpreting a site not only because it is highly diagnostic of smithing but, because it tends to build up in the immediate vicinity of the smithing hearth and anvil, it may give a more precise location of the activity than the bulk slags which may be transported elsewhere for disposal (Mills and McDonnell 1992).

At Lydney hammerscale was noted, both in the environmental sample residues and in the bags of bulk slag. However, quantities were extremely small, often amounting to a single flake or sphere from a context. Unusually, spheres were at least as common as flakes, providing support for the ironworking being largely associated with the smithing of blooms. However the very limited quantities of either types, given that soil samples were frequently taken and residues tested by a magnet, is such as to suggest generally that smithing had not taken place in the immediate area of that sample. However, one lump of iron-rich concretion which, on close examination, was found to contain hammerscale and was therefore categorised as smithing pan, proved very informative. Such deposits build up on the smithy floor and as a relatively friable material are unlikely to have moved far.

Non-diagnostic ironworking

As on many sites the largest category of material found at Lydney was undiagnostic ironworking slag. Such irregularly shaped fayalitic slags are produced by both iron smelting and iron smithing processes. Only in occasional instances, as in fill 4343, where hammerscale was found concreted to its surface, can the origin of such material be suggested - in this case, smithing. Other 'undiagnostic' slag of a glassy nature from (284) may belong to a much later period as will be discussed later. Dense slag is fayalitic material which, often because it has shattered on cooling, no longer shows the morphological features which allow it to be identified. Iron-rich cinder was distinguished by its significant content of iron not chemically combined as silicates, but visible as rust-orange coloured hydrated iron oxides and iron hydroxides.

Undiagnostic – metalworking or other high temperature process

Several of the categories of material can be produced by a wide range of high temperature activities and are of little help in distinguishing between these processes. Material listed as vitrified hearth/furnace lining may derive from either iron smelting or smithing or from non-ferrous metal working or ceramic firing. This material forms as a result of a high temperature reaction between the clay lining of the hearth/furnace and the alkali fuel ash or fayalitic slag and is often present in significant quantities, though it survives less well than more robust slags. It may show a compositional gradient from unmodified fired clay on one surface to an irregular cindery material on the other. A material associated with vitrified lining was classed as cinder. This comprises only the lighter portion of this, a porous, hard and brittle slag formed by the reaction between the alkali fuel ash and fragments of clay that had spalled away from the hearth/furnace lining. The fired clay without any surface vitrification could have derived from structures associated with metallurgical purposes, from those used for other high temperature activities or even conflagration of clay built dwellings. At Lydney some of these fragments showed substantial heat penetration, suggesting that some of these at least came from furnaces.

Unusual finds in the Lydney assemblage were stone furnace lining fragments, one of which was coated on one face with a glassy material. Such material is not consistent with bloomery iron smelting, but could match a number of later technological innovations. The 2002 1:25000 Ordnance Survey map of the area marks an 'iron foundry' immediately to the south-east of the site which may provide one possible origin.

Non slags

Ferruginous concretion from the assemblage was examined to determine whether it contained hammerscale and could then be classed as smithing pan. Only one fragment was found to do so (see above) the remaining material may simply be iron pan, a naturally occurring material where localised geology has a high iron content. For a large proportion of soil samples the residues contained burned stone: small gravel-like pebbles which either by their red/brown/black coloration or attraction to a magnet clearly contained a significant iron content. Whilst such material might be produced during the roasting of ore, the distribution of the material – largely within the prehistoric cremation pit fills of area 6, suggests that much derives other circumstances when the commonly occurring high-iron minerals within the soil are exposed to burning. A single lump of debris appeared to be a concretion around an iron fragment or artefact.

Evidence of other metalworking activities

No diagnostic evidence was found to support the working of any non-ferrous metals, such as copper, lead or tin or their alloys. Unusually, no evidence of fuels was noted although one piece of undiagnostic slag from pit fill (6321) showed charcoal impressions on its surface. Bloomery smelting was always carried out using charcoal, even at times (including Roman and Medieval) when coal was being utilised for smithing.

Conclusions

Only relatively modest quantities of slag (18.5kg) were recovered during the archaeological excavation at Lydney, Glos. Given the stated excavation and sampling strategy, it would seem unlikely that any major ironworking industry took place within the site boundaries. Modest quantities of tap slag, which derived from an iron smelting process which would have produced sizable quantities of such debris, suggest that iron production was occurring nearby, but not within the site. These relatively small quantities were subsequently re-deposited in contexts which ranged from late iron Age/first-century AD to post-medieval in date. As the technology to produce such slag was in use from the early Roman to Late medieval period, the slag itself cannot be used as a dating aid.

The large size of some of the characteristic smithing slags and the presence of spheroidal hammerscale suggests that bloom-smithing i.e. primary consolidation of the iron was also taking place in the area. However, the only apparent focus of smithing activity included seems to be associated with a second century hearth; (4324) in area 4 which survived as a *sub-circular, shallow sided feature with even base*. Three smaller smithing hearth bottoms and some flake hammerscale were found in fill (4322) of this hearth whilst fill (4323) contained a fragment of smithing pan, the floor deposit of a smithy. Further hammerscale was found in the same context and the underlying fill (4343), which also contained 'undiagnostic' iron smithing slag with hammerscale attached. Whether this hearth was in fact the actual smithing hearth is unclear. smithing hearths tend generally to be raised above the ground, and hence they rarely survive archaeologically. Intriguingly, only a single sphere of hammerscale was noted within the sample residues of the two sampled contexts, (4322) and (4343).

Although the iron smelting activity is difficult to pin down chronologically, there is a clear difference in technology between the bloomery smelting which produced the tap slag, fayalitic runs and presumably the vitrified hearth/furnace lining and the fragments of a stone built furnace found at Lydney. The context which produced a slag-glazed fragment of this also contained a material, classed as dense ironworking slag, but which was of a glassy nature. From such small fragments it is difficult to suggest the actual process. However, it would appear to

be of much more recent date and possibly iron related – either smelting or perhaps one of the conversion processes such as fining or puddling which converted cast iron to the more malleable ‘wrought iron’. A recent Ordnance Survey Map show the presence of an ‘iron foundry’ adjacent to the area studied. The history of this might be studied to determine any link, but the town of Lydney has a history of iron smelting which would provide alternative origins for the material.

There was no evidence for non-ferrous metalworking at Lydney or of the fuel used for the smithing. Bloomery smelting invariably used charcoal, but coal and wood for charcoal would have also been readily available for smithing and coal was used in the Roman period (Dearne & Branigan 1995). The Forest of Dean is well-known for the quality of its iron ores and Lydney Park is famous for a rare surviving ironstone mine of Roman date. It is unfortunate that the one piece of partially smelted ore found within the assemblage came from a context (5107) which was undated and did not contain any debris which might link it to either the Roman bloomery smelting or any historical process. Whether within the Roman period or the post-medieval, the proximity of the River Seven would have provided easy transport links for any raw materials or products manufactured from the rich resources of the Forest of Dean.

Recommendations for further analysis

The recovery of ore, smelting and smithing slag on a single site provides an opportunity to gain a closer insight into the working and efficiency of the process as a whole, through physico-chemical analysis of a range of finds. However, without the certainty that all debris are related within a continuity of operation, the value of any results will be limited and such work is not therefore seen as essential.

This assessment was carried out using only provisional dating and with limited information regarding site layout. A more detailed spatial analysis of finds would help firm-up conclusions on the centres (or absence of foci) of the metalworking activities. A detailed comparison with other local ironworking remains would also help the understanding of the importance of ironworking in the region.

Retention of finds

It is recommended that all finds be saved.

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APPENDIX 7: OTHER FINDS

Metal finds by E.R. McSloy

Items of metal are listed in Table 1. All but one item (lead weight, Ra. 4003) are of iron. The majority of items comprise fragmentary objects of uncertain function or nails/nail fragments. A very limited number of objects relate to the main Late Iron Age or Romano-British periods of activity (Provisional period 3–4). The majority would seem to date to the limited-scale post-medieval/modern activity at the site (Provisional periods 5–6).

The condition of the ironwork is poor, with items heavily corroded and brittle. Surfaces are commonly further obscured by concretions incorporating natural stones and soil. All of the recovered metalwork was x-rayed (Plates XRC 4–7) to help determine original form.

Ironwork

A total of 32 items of iron were recovered. Remarkably, only three items (from Area 4 deposits 4105, 4196 and 4998) derive, or potentially derive, from the main period of Romano-British activity (table 1). A further two items; a nail and a riveted strip fragment from unphased Area 6 deposits may also be Roman in date. The dearth of Roman metalwork is in stark contrast to the quantities of pottery from the enclosure ditches and other features of Roman date from Area 4. The 'Roman' objects are confined to nails and a curved strip of uncertain use. The nails conform to common Roman types; forged, with square-sectioned shafts and conical or flattened heads (Manning 1985: class 1B).

The majority of the remaining ironwork was derived from Period 5/6 and mainly from a post-medieval structure located in Area 6. Most items are fragmentary and identifiable items are restricted to nails, a wedge and a possible shears fragment consisting of a portion of the looped spring (deposit 284).

Lead

The single lead object was recovered from Period 4 (Roman) metallised surface 4227. It consists of a sheet fragment rolled to form a tube with simple butted join and may have functioned as a net sinker or other weight.

Statement of potential and recommendations for further analysis

The metalwork group is small and very limited in its composition, perhaps unexpectedly so given the extent of the Roman activity uncovered and its apparent longevity. The paucity of evidence for metalwork is difficult to account for other than as its suggesting a site of low economic status where the usually-expected personal or household objects were used sparsely and/or carefully curated/re-cycled. For whatever reasons, the evidence for metalwork in the Late iron Age/Romano-British periods, is scarce and requiring of no further analysis. Although more plentiful, the metalwork from post-medieval activity phases is similarly lacking in significance and requires no further work.

Clay tobacco pipe

A single clay tobacco pipe stem fragment was recovered from subsoil deposit 2002. It is unfeathered and only broadly dateable in the range c. 1580–1900. No further analysis is recommended for this material class.

Table 1 Quantification of metal objects by context

Material	Area	Prov. Period	Feature	Context	Ra.	Description	Count	Remarks	X-Ray no.	
Iron	1B.1	6		1004	-	vessel fragments	4	cast iron vessel fragments	XRK13/5	
	2	5		2001	-	nail shaft frag	1		XRK13/7	
	2	5		2002	-		5	chain link and wire fragments	XRK13/6	
	2	5	Ditch 20	2005	-	nail	1	large nail	XRK13/5	
	2	5		2014	-	strip	1		XRK13/7	
	2	5		284	-		14	shears fragment; nail; strip/bar frags; nail and wedge	XRK13/4	
	4	4-6		4105	-	strip	1	strip fragments curved in section	XRK13/7	
	4	4-6		4196	-	nail	1		XRK13/7	
	5	3-4		4998	4017	nail	1	2 frags	XRK13/7	
	2	U		2084	-		1	curving bar or nail shaft	XRK13/7	
	6	U		6244	-	nail	1		XRK13/7	
	6	U		6251	-	strip - riveted	1	strip bent to Z shape; with nail/rivet passing through	XRK13/7	
	Lead alloy	4	4		4227	4003	weight	1	rolled into cylinder with butted join;	XRK13/7;

APPENDIX 8: CREMATED HUMAN REMAINS BY JONNY GEBER

Introduction

A total of 33 deposits of cremated human bones deriving from the cemetery complex have been analysed (Table 1). The deposits were all token and very poorly preserved. Although fully cremated, they had suffered considerable from post-depositional erosion and were all severely fragmented. The bones were fully analysed following recommended standard practices (McKinley 2004). Age was estimated from epiphyseal bone fusion (Scheuer and Black 2000) and the relative thickness of the tables of the cranial vault (Gejvall in Sigvallius 1994). Sex was estimated from morphological traits of cranial bones (Buikstra and Ubelaker 1994; Ferembach *et al.* 1980; Sjøvold 1988). For the purpose of assessing the degree of fragmentation, each deposit was dry sieved in a four mesh-size category subdivision (<2mm, 2–5mm, 5–10mm and >10 mm) for the purpose of assessing the general degree of fragmentation. Each deposit was also classified by degree of fragmentation and cremation based on the classifications by Wahl (1982).

Age and sex profile.

The minor quantity of bone in each deposit and the considerable degree of fragmentation of this material (see below) inhibited much of the osteological determination of age and sex. Out of the 33 deposits, only six could be aged to broad age ranges, and eleven determined only as deriving from adult individuals. The remainder of the cremated bone deposits (N = 16) was not possible to age. Of the aged burials, an older adult age was determined in three cases, and a young/middle adult age in three cases. All these age estimations were conducted from assessing the relative thickness of the diploic layer of the skull vault – which expands with age – but must be considered as only tentative determinations. The lack of non-adults in this population may simply be due to taphonomic reasons. These might be represented by the 16 deposits that could not be aged due to poor preservation. They could also have originally been present in the many empty pits present within this cemetery, and then disintegrated completely in the ground, either through excessive fragmentation and abrasion, or chemically through biodegradation (see Lyman 1994, 354–403).

Two burials were tentatively sexed as females. Burial 6327, which were that of an older adult individual, included an identifiable fragment of a supraorbital margin from one of the eye sockets. The margin was relatively sharp and slender in appearance, which would indicate a female sex rather than a male. No other fragments could be assessed for sex in this deposit. The second burial was that of an older adult, which had been interred in urn RA6.5. This deposit included a slender and small mastoid process of a temporal bone, which is suggestive of a female sex. No other bones were assessable for sex.

Anatomical representation

The anatomical representation was assessed by the number of burials including bones from the skull, the axial skeleton, the upper limbs and the lower limbs. In the 17 burials with identifiable human skeletal elements, 16 included fragments of cranial vault. This is not surprising, as cranial bones are amongst the easiest to identify in a cremation burial. Thereafter, bones from the upper and lower limbs were equally often represented, followed by only a minor quantity of axial elements identified. The latter comprises mainly spongy and fragile elements, and is therefore often the most difficult fragments to identify in heavily fragmented cremation deposits.

When assessing anatomical representation by weight (Table 2), it is unsurprisingly made clear that a greater proportion of skeletal elements were identified in large deposits. There is therefore no evidence to suggest that

the token burial practice involved selecting particular bone elements; it rather appears as if a token amount of bone was collected at random.

Bone quantity

The recovered bone deposits from the cemetery ranged in quantity from only 0.03g to 494.27g. Experiments have shown that a cremation of a full adult body generates between approximately 1,000g and 2,400g of bone (McKinley 1993, 285). A recently published scientific study by Harvig and Lynnerup (2013) has also indicated a significant loss in bone volume, up to 40%, during the excavation of cremated bone deposits, and it is therefore important to consider this factor when assessing bone quantities in archaeological cremation burials. This significant variation in bone quantities is also likely to be the result of differential degrees of bone preservation, but also horizontal truncations. Nevertheless, the quantities of all burials is significantly less than what is expected from a cremation of a full body, and it is therefore clear that they represent a selection of bones for burial. This token cremation burial practice is very characteristic of the Bronze Age on the British Isles (see Brück 2006; Chadwick 2006; Fowler 2004, 40; Geber 2009; Lynch and O'Donnell 2007).

Bone fragmentation

The degree of fragmentation in these burials was considerable, and corresponded in all deposits to Wahl's classification 1 (very small; with a mean linear fragment size of less than 15mm) (1982, 31). The fragmentation of the remains was in fact much more severe, with the majority of the bones being 5–10mm in size, and a significant amount only 2–5 mm (Table 3). The three urned burials were less fragmented than the pit internments. This would suggest that these deposits were better protected against post-depositional taphonomic factors which causes fragmentation, such as ground pressure and bioturbation (Geber 2009; Wahl 1982, 230).

A high degree of fragmentation in prehistoric cremation burials have often been explained as a reflection of a burial practice wherein bones were crushed and pounded prior to burial, and that this had a particular meaning within the burial rite (e.g. Brittain 2006; Collins 2002; Evans 1997; Lynch and O'Donnell 2007; O'Sullivan 2005; Sigvallius 1994; White 1982). However, a multitude of unavoidable factors causes fragmentation in cremation burials (see Geber 2009; Rebay-Salisbury 2010, 65), and there is therefore little solid evidence to support this theory (McKinley 1993). The considerable fragmentation of these cremation burials is likely to have been a combination of cremation technology, the token burial practice, post-depositional taphonomic factors, and the archaeological excavation.

Cremation technology and burial practice

The poor preservation and low quantities of weight inhibited much of the outcome of the osteological analysis of the remains. However, the bones give a good deal of insight into the burial practice and post-cremation treatment of the human remains. For instance, the bones all displayed a chalk-white colour, with very little nuance variation. This would indicate that they were all efficiently cremated, in temperatures exceeding about 800°C (Herrmann 1988). A cremation is a very time and labour intensive process, and to achieve and maintain the required high temperatures necessary for human bones to incinerate, the pyre needs to be well constructed and the cremation itself constantly maintained (McKinley 2000; Østigård 2000, 27). McKinley (2000) has observed that the efficiency in prehistoric cremation burials is generally much better than their Romano-British equivalents, and explains this fact as a possible reflection of differential cultural perceptions in what was an accepted result from a cremation (McKinley 1997).

Despite the evidential occurrence of horizontal truncation on the site of cemetery, it is clear that a token burial practice was in place. How this practice should be interpreted is open for discussion. The selective nature of bones for burial may indicate that the ritualistic circumstances involving the cremation and burial was more important than the human remains themselves, and that these were only symbolically collected – or maybe sometimes not collected at all. There is also the possibility that each of the buried deposits represent individual internments by several mourners of the same burial (Cooney 1992, 226; Geber 2009, 225; Rebay-Salisbury 2010, 65). The loss of bone volume may have been the result of the bones having been curated for a long time prior to having been buried (Brück 2006), and that consequential fragmentation during that period may have reduced the bone quantities significantly. Whatever the reason for the token depositions are, the low quantities of bone in these burials does indicate that a underlying ritualistic and religious background determined how human bodies were treated after death; not just during the process of cremation, but also how they were handled afterwards.

Recommendations

The bones have been fully analysed and require no further osteological study. To fully be able to understand the burial practice of the site, and how the human remains relate to it, it is essential that a contextual and spatial approach is implemented. Such an analysis has the potential to detect potential pyre sites (Arcini 2005; Geber 2009) and pyre debris deposits (McKinley 1989; 1997), give an insight into the token burial practice of the cemetery, and possible chronological variation. This work requires a complete phasing and categorisation of the archaeological features of the site, and a completed analysis of the charcoal remains from these deposits. It is recommended that the results are discussed in their regional context, where references to other excavated Bronze Age cemeteries, such as Shorncote in Somerford Keynes and Hunt Court in Badgeworth is made (see Darvill 2006).

Estimated time needed:

Data analysis and research: 5 days

Publication report writing: 5 days

Estimated publication requirement:

Word count:

Figures (line graphics): 2 (1 page)

Tables: 5 (3 pages)

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Table 1. Summary table of burial deposits containing cremated human bone.

Burial	Weight (g)	Age (years)	Sex	Metrics (mm) (Gejvall 1948)								Degree of fragmentation (%/Weight)				Other
				1a	1b	2	3a	3b	3c	4	< 10mm	5-10m	2-5mm	< 2mm		
6190	36.96	>18	?	-	-	-	-	-	-	-	-	10.06	43.56	41.56	4.82	Animal bone (0.14g)
6200	0.73	?	?	-	-	-	-	-	-	-	-	0.00	26.03	71.23	2.74	
6248	14.33	>18	?	-	-	-	-	-	-	-	-	0.00	28.33	69.78	1.88	
6276	29.18	?	?	-	-	-	-	-	-	-	-	0.00	31.77	66.86	1.37	
6286	28.02	>18	?	4.81	-	-	-	-	-	-	-	2.75	42.54	51.25	3.46	
6287	2.08	?	?	-	-	-	-	-	-	-	-	0.00	20.19	69.71	10.10	
6296	34.60	>18	?	-	-	-	-	-	-	-	-	2.28	38.70	57.63	1.39	
6301	4.45	50-89	?	4.83	-	-	-	-	-	-	-	22.47	43.15	34.38	0.00	
6305	0.02	?	?	-	-	-	-	-	-	-	-	0.00	0.00	100.00	0.00	
6321	27.04	>18	?	-	-	4.16	-	-	-	-	-	5.03	41.05	51.63	2.29	
6322	0.06	?	?	-	-	-	-	-	-	-	-	0.00	0.00	50.00	50.00	
6327	494.27	50-89	?F	4.09	-	5.21	-	-	3.08	-	-	19.08	58.66	21.71	0.54	
6329	257.32	18-44	?	4.19	-	4.35	-	-	2.88	-	-	14.08	70.72	14.97	0.24	
6333	1.34	?	?	-	-	-	-	-	-	-	-	0.00	8.21	90.30	1.49	
6339	181.05	18-64	?	3.74	-	5.46	-	-	3.18	-	-	12.01	58.59	27.36	2.04	
6348	0.50	?	?	-	-	-	-	-	-	-	-	0.00	42.00	48.00	10.00	
6353	80.37	>18	?	5.31	-	-	-	-	-	-	-	11.27	52.47	34.84	1.42	
6358	0.55	?	?	-	-	-	-	-	-	-	-	0.00	0.00	100.00	0.00	
6364	0.27	?	?	-	-	-	-	-	-	-	-	0.00	66.67	33.33	0.00	
6374	2.03	?	?	-	-	-	-	-	-	-	-	0.00	24.63	71.43	3.94	
6382	0.31	?	?	-	-	-	-	-	-	-	-	0.00	90.32	9.68	0.00	
6389	0.03	?	?	-	-	-	-	-	-	-	-	0.00	0.00	66.67	33.3	
6395	0.24	?	?	-	-	-	-	-	-	-	-	0.00	0.00	87.50	12.50	
6424	31.79	?	?	-	-	-	-	-	2.24	-	-	10.16	23.25	54.64	11.95	
6436	61.71	>18	?	-	-	5.45	-	-	2.77	-	-	2.58	44.21	49.13	4.08	
6441	302.42	18-44	?	3.00	-	4.64	-	-	2.80	2.56	-	5.43	61.18	32.02	1.37	
6454	18.47	>18	?	3.32	-	-	-	-	-	-	-	0.00	51.54	47.81	0.65	
6456	190.32	>18	?	-	-	5.85	-	-	3.35	-	-	15.18	47.57	33.77	3.47	
6470	6.77	?	?	-	-	-	-	-	-	-	-	25.85	42.69	28.95	2.51	
RA 6.1	264.89	>18	?	3.83	-	5.89	-	-	3.40	-	-	23.48	64.34	11.99	0.19	
RA 6.4	3.52	?	?	-	-	-	-	-	-	-	-	0.00	12.78	80.11	7.10	
RA 6.5	414.17	50-89	?F	4.34	-	4.86	-	-	2.50	2.12	-	17.92	55.62	20.02	6.44	
n/a	195.24	>18	?	4.27	-	5.89	-	-	3.01	-	-	24.34	50.83	17.84	6.98	

Table 2. The minimum, mean and maximum weight (g) of the cremation burials in relation to anatomical representation by number of identified regions.

Anatomical representation	N	Min.	Mean	Max.
0 regions (0%)	16	0.02	3.87	29.18
1 region (25%)	5	4.45	23.47	34.60
2 regions (50%)	2	27.04	53.71	80.37
3 regions (75%)	7	36.96	207.36	414.17
4 regions (100%)	3	195.24	315.61	494.27

Table 3. The general fragmentation of the cremation burials by burial context and deposit site, assessed by percentages of weights in fragment size categories.

	<2mm	2-5mm	5-10mm	>10mm	Total weight (g)
<i>Container</i>					
Unurned (N = 29)	1.69	30.07	56.02	12.22	1,807.23
Urned (N = 3)	4.02	17.21	58.78	19.99	682.58
Indeterminable (N = 1)	6.98	17.86	50.88	24.27	195.06
<i>Size</i>					
<100g (N = 25)	3.37	49.25	41.35	6.04	385.37
101-200g (N = 3)	4.22	26.23	52.22	17.33	566.61
201-300g (N = 2)	0.22	13.45	67.48	18.84	522.21
301-400g (N = 1)	1.37	32.02	61.18	5.43	302.42
401-500g (N = 2)	3.23	20.94	57.28	18.55	908.44
TOTAL (N = 33):	2.66	25.91	56.35	15.08	2,685.05

APPENDIX 9: ANIMAL BONES BY JONNY GEBER

Thirty-seven deposits contained animal bone, which amounted to a total of 1.2kg. These were mainly recovered from pits and posthole, and were all very poorly preserved. About 90% of the fragments and 5% of the weight were burnt bone. Only 41 bone fragments (3.81%) could be identified to species, which included caprovine (*Ovis aries/Capra hircus*) (60.98%), cattle (*Bos taurus*) (19.51%), pig (*Sus sp.*) (12.20%) and horse (*Equus caballus*) (7.32%). There is virtually no potential for any metric analysis of the remains, and the often considerable surface erosion of the bone fragments inhibits any discussion on slaughter and butchery practices and palaeopathology.

The poor representation of bone from the archaeological is a reflection of the preserving qualities of the geology of the site. This would explain the relatively high proportion of burnt animal bone, as calcined bones generally survive better in archaeological deposits due to the absence of organic content (Iregren and Jonsson 1973; Lyman 1994). The occurrences of small amounts of burnt animal bones on archaeological sites in general are also not uncommon. These may simply represent burnt waste which has percolated into the ground (Geber 2009; McCormick 1988). However, considering that the excavation site included a Bronze Age cremation cemetery, it is quite possible that these deposits relate to ritualistic events such as intentional scattering of burnt animal bone as part of the cult and burial practice at the cemetery.

Recommendations

The animal bones have been fully analysed, and require not further study. It is however recommended that, for the publication report, the species identified and the occurrence of the burnt animal bones on this site is discussed in conjunction with the cremated human remains, as potential ritual inclusions relating to the burial practice of the Bronze Age cemetery on the site. This discussion can, however, only be undertaken once the features containing animal bones have been dated and assigned their final chronological phase.

Estimated time needed:

Discussion and publication report writing: 4 hours

Estimated publication requirement:

Word count: 500 words

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Table 1. Identified animals species by fragment count (NISP) and context. BOS = cattle; O/C = caprovine; SUS = pig; EQU = horse; LM = large sized mammal; MM = medium sized mammal; SM = small sized mammal; IND = indeterminable.

Context no.	BOS	O/C	SUS	EQU	LM	MM	SM	IND	Total	Weight (g)	Unburnt	Burnt
205	-	22	-	-	-	-	-	54	76	428.18	yes	no
222	-	-	5	-	-	-	-	-	5	75.60	yes	no
284	-	3	-	-	1	-	-	-	4	58.31	yes	no
2017	5	-	-	-	-	-	-	-	5	342.86	yes	no
4050	-	-	-	-	-	-	-	42	42	0.86	no	yes
4088	-	-	-	-	-	-	-	8	8	0.12	no	yes
4149	-	-	-	-	-	-	-	36	36	1.18	no	yes
4164	-	-	-	-	-	-	-	1	1	1.63	no	yes
4165	-	-	-	-	-	-	-	79	79	3.09	no	yes
4280	-	-	-	-	-	-	-	7	7	3.38	no	yes
4294	-	-	-	-	-	-	-	1	1	0.17	no	yes
4322	1	-	-	-	-	-	-	4	5	4.55	yes	no
4327	2	-	-	1	9	-	-	-	12	178.48	yes	no
4350	-	-	-	2	-	-	-	-	2	56.99	yes	no
4550	-	-	-	-	-	-	-	82	82	4.38	no	yes
4602	-	-	-	-	-	-	1	-	1	0.46	no	yes
4659	-	-	-	-	-	-	-	4	4	0.09	no	yes
4660	-	-	-	-	-	-	-	10	10	0.24	no	yes
4731	-	-	-	-	-	-	-	9	9	0.20	no	yes
4742	-	-	-	-	-	-	-	6	6	0.34	no	yes
4745	-	-	-	-	-	-	-	1	1	0.42	no	yes
4801	-	-	-	-	-	-	-	55	55	3.45	no	yes
4832	-	-	-	-	-	-	1	2	3	2.92	no	yes
4861	-	-	-	-	1	-	-	3	4	8.13	yes	yes
4869	-	-	-	-	-	-	-	4	4	0.82	no	yes
4896	-	-	-	-	-	1	-	-	1	0.43	no	yes
4904	-	-	-	-	3	-	-	-	3	16.29	yes	no
4966	-	-	-	-	-	-	-	16	16	0.19	no	yes
5076	-	-	-	-	-	-	-	2	2	0.49	no	yes
5134	-	-	-	-	-	-	-	3	3	0.06	no	yes
6120	-	-	-	-	1	-	-	-	1	1.24	no	yes
6174	-	-	-	-	-	-	-	41	41	1.41	no	yes
6204	-	-	-	-	-	-	-	498	498	25.57	no	yes
6207	-	-	-	-	-	-	-	4	4	0.23	no	yes
6256	-	-	-	-	-	-	-	4	4	0.13	no	yes
6259	-	-	-	-	-	-	-	24	24	0.70	no	yes
6313	-	-	-	-	-	-	-	17	17	2.20	no	yes
TOTAL:	8	25	5	3	15	3	2	1,015	1,076	1,225.79	10.69%	89.31%
Weight:	416.53	404.59	75.60	119.67	111.89	0.96	0.63	95.92	1,225.79	-	95.05%	4.95%

APPENDIX 10: THE PLANT MACROFOSSIL AND CHARCOAL REMAINS BY SARAH COBAIN

A total of 193 bulk soil samples were retrieved for plant macrofossil and charcoal assessment. Of these bulk samples, 154 were taken from a series of Bronze Age cremation burials, one from Bronze Age barrow material, four from Bronze Age inhumation burials and 34 from a series of Bronze Age, Iron Age and Roman pits, postholes, hearths and ditches. The aim of this assessment is to determine the type, preservation and quantity of plant macrofossil and charcoal remains recovered and use this to assess the potential of these remains to provide evidence of socio-economic activities being undertaken on the site (crop husbandry, diet, living conditions of communities, exploitation of woodlands for fuel, woodland management), and to infer the composition of the local flora and woodlands.

Methodology

Following flotation (CA Technical Manual No 2), the residue was dried and sorted by eye, the floated material scanned and seeds identified using a low power stereo-microscope (Brunel MX1) at magnifications of x10 to x40. Identifications were carried out with reference to images and descriptions by Cappers *et al.* (2006), Berggren (1981) and Anderberg (1994). Nomenclature follows Stace (1997).

A selection of charcoal fragments were fractured by hand to reveal the wood anatomy on radial, tangential and transverse planes. The pieces were then supported in a sand bath and identified under an epi-illuminating microscope (Brunel SP400) at magnifications from x40 to x400. Identifications were carried out with reference to images and descriptions by Gale and Cutler (2000) and Schoch *et al.* (2004) and Wheeler *et al.* (1989). Nomenclature of species follows Stace (1997). The cremation burials were split into quadrants for excavation purposes and samples taken from each quadrant. For the purposes of this assessment one sample from each cremation burial was assessed.

Results

The results are presented in tabular form (Tables 00.1-0.18) and are discussed below. SS refers to the Soil Sample number.

Period 1

Area 4

A single sample was taken from pit 4844 (SS 4020) and contained a small amount of well-preserved hazelnut shell (*Corylus avellana*) and a large amount of moderately well-preserved charcoal consisting of oak (*Quercus* spp). The paucity of plant macrofossil remains means no further work is recommended. Further charcoal work would however be recommended on this sample.

Period 1/2

Area 4

A single sample was taken from pit/posthole 4741 (SS 4021) and contained no plant macrofossil material. A small amount of unidentifiable, poorly-preserved charcoal was recovered. No further work is recommended on this sample.

Area 6

Each cremation burial was excavated in quadrants and each quadrant was sampled. For the purposes of this assessment a single sample from each cremation was assessed. Cremation burials 6200 (SS 6012), 6276 (SS 6045), 6286 (SS 6021), 6287 (SS 6023), 6296 (SS 6026), 6301 (SS 6030), 6305 (SS 6055), 6303 (SS 6041), 6321 (SS 6167), 6322 (SS 6048), 6327 (SS 6052), 6339 (SS 6064), 6329 (SS 6058), 6333 (SS 6060), 6348 (SS 6069), 6353 (SS 6073), 6359 (SS 6078), 6358 (SS 6085), 6424 (SS 6122), 6436 (SS 6129), 6441 (SS 6134), 6454 (SS 6138), 6456 (SS, 6470), cremation urns RA 6.1 (SS 6157) and RA 6.4 (SS 6169 and SS 6043), possible cremation burials 6364 (SS 6090), 6374 (SS 6088), 6389 (SS 6095), 6395 (SS 6104), 6400 (SS 6103), 6409 (SS 6120), 6431 (SS 6124) and post hole/possible cremation 6315 contained a small number of moderate to well-preserved plant macrofossils. Species identified included possible false oat-grass (*Arrhenatherum elatius*), possible poppy (*Papaver* spp), dock spp (*Rumex* spp), buttercup spp (*Ranunculus* spp), cleaver/goosegrass spp (*Galium* spp), vetch/vetchlings (*Vicia* spp/*Lathyrus* spp) and sedge spp (*Carex* spp). The small number of these remains recovered means no further plant macrofossil work is recommended.

The charcoal from these features varied in preservation and abundance (See results tables 0.10-0.18). Charcoal assemblages were dominated by oak, with smaller amounts of ash (*Fraxinus excelsior*), alder (*Alnus glutinosa*), alder/hazel (*Alnus glutinosa/Corylus avellana*), hawthorn/rowan/crab apple (*Crataegus monogyna/Sorbus* spp/*Malus sylvestris*) and cherry spp (*Prunus* spp). Further work is recommended on cremation burials 6200, 6276, 6287, 6296, 6303, 6305, 6322, 6364, 6389, 6454 and 6470. If can be confirmed as cremation burials, possible cremation burials 6301, 6395, 6400 and 6409 and possible posthole/cremation 6315 are also recommended for further work

Barrow material 6313 contained no plant macrofossil material and a large amount of poorly-preserved charcoal. A small amount of the charcoal was identified as alder/hazel and ash. No further plant macrofossil or charcoal work is recommended. Cist burial 6382 contained no plant macrofossils and a large amount of poorly-preserved charcoal identified as oak. The lack of plant remains and poor preservation of the charcoal means no further work is recommended.

Pits 6257 (SS 6009 and SS 6010) and 6274 (SS 6013) contained no plant macrofossils. A large amount of charcoal was recovered and identified as oak, hawthorn/rowan/crab apple and cherry spp. The charcoal from these features is recommended for further work.

Period 3

Area 4

Pit 4136 (SS 4002) contained a single carbonised hazelnut shell. The charcoal recovered was abundant but poorly-preserved and where identifiable, alder/hazel, oak and ash were recorded. The paucity and poor preservation of these remains means no further work is recommended. Pit 4658 (SS 4015 and SS 4014) contained no plant macrofossil or charcoal remains. No further work is recommended. Pit/posthole 4964 (SS 4022) contained a small assemblage of poorly-preserved possible barley (*Hordeum vulgare*), wheat spp (*Triticum* spp) and spelt wheat (*Triticum spelta*) grains, indeterminate cereal grains, indeterminate glume bases, persicaria spp seeds and vetch/vetchlings seeds. A large amount of poorly-preserved charcoal identified as alder/hazel, oak and hawthorn/rowan/crab apple. The poor preservation of this material means no further work plant macrofossil or charcoal is recommended.

Period 3/4

Area 4

Posthole/small pit 4087 (SS 4000 and 4001) contained a small, poorly-preserved assemblage of plant macrofossil consisting of an indeterminate cereal grains, a spelt glume bases and an indeterminate glume bases. The paucity of this material means no further work is recommended. The charcoal from these samples was abundant, but poorly preserved and highly fragmented. It was possible to identify a small number of oak and hawthorn/rowan/crab apple fragments. No further work is recommended.

Pits 4150 (SS 4003 and 4006) and 4166 (SS 4004 and 4007) contained relatively similar moderately well-preserved plant macrofossil assemblages including barley, spelt and emmer/spelt wheat (*Triticum dicoccum/spelta*) cereal grains, spelt and indeterminate glume bases and herbaceous taxa including fat hen/goosefoot (*Chenopodium* spp), chickweed spp (*Stellaria* spp), sedge, vetch/vetchlings, possible ash seed, chess (*Bromus* spp), black-bindweed (*Fallopia convolvulus*), redshank (*Persicaria maculosa*) and dock. Hazelnut shells, hawthorn seeds and sloe pips (*Prunus spinosa*) were also identified. Full analysis of these samples is recommended. The charcoal from these pits was abundant, but moderately to poorly preserved. Where possible, oak, alder/hazel, ash and hawthorn/rowan/crab apple were identified. It is recommended that broad characterisation analysis is carried out on SS 4006 and SS 4007.

Pit 4762 (SS 4017) and 4873 (SS 4019) contained no plant macrofossil remains with the exception of a modern fat hen and bramble (*Rubus* spp) seed. No further plant macrofossil work is recommended. Charcoal from pit 4762 (SS 4017) was recovered in small amounts, but unidentifiable. No further work is recommended. Pit 4873 (SS4019) contained a large assemblage of well-preserved charcoal identified as alder, alder/hazel and oak. Further work is recommended on this sample. Pit 4495 (SS 4010) was slightly different in composition to other samples from this period containing abundant hazelnut shells. Charcoal recovered was moderately well-preserved and identified as alder/hazel, oak, ash and hawthorn/rowan/crab apple. Further plant macrofossil and charcoal work is recommended.

Posthole 4450 (SS 4011) contained a single poorly-preserved possible hazelnut fragment and an indeterminate glume base and cereal grain. Charcoal was abundant, poorly-preserved and identified as oak and hawthorn/rowan/crab apple. The paucity and poor preservation of this material means no further work is recommended. Posthole 4730 (SS 4016) contained a small assemblage of moderately well-preserved indeterminate cereal grains, a barley grain, spelt and indeterminate glume bases, chess seed and bracken (*Pteridium* spp) fragment. Full analysis of this sample is recommended. The charcoal recovered was abundant, but poorly-preserved and where possible was identified as oak. The poor preservation means no charcoal work is recommended. Possible grave 4539 (SS 4012) contained no plant macrofossil material and a small amount of poorly preserved, unidentifiable charcoal. No further work is recommended.

Area 6

Ditch 6077 (SS 6044) contained a small number of vetch/vetchlings seeds. The paucity of this material means no further work is recommended. Charcoal was abundant, moderately well-preserved and identified as oak. Broad characterisation charcoal analysis is recommended on this sample. Ditch 6080 (SS 6000) contained no plant macrofossil material, no further plant macrofossil work is recommended. The charcoal recovered was abundant, moderately well-preserved and identified as oak, hawthorn/rowan/crab apple and cherry spp. Broad characterisation analyses is recommended on this sample.

Period 4

Area 4

Posthole 4223 (SS 4005) and 4780 (SS 4018) contained no plant macrofossil material. The charcoal from both posthole was poorly preserved and where identifiable recorded as oak. The paucity and poor preservation of these remains means no further work is recommended. Hearth 4324 (SS 4008 and SS 4009) contained no plant macrofossil material. No further work is recommended. Fill 4343 (SS 4009) contained no charcoal. Fill 4322 (SS 4008) contained a large assemblage of moderately well-preserved charcoal which would be recommended for further work.

Area 6

Cremation 6190 (SS 6006) contained an indeterminate cereal grain and possible ash seed. The paucity of this material means no further work is recommended. The charcoal was abundant and moderately-well preserved consisting of oak and ash fragments. Further charcoal work is recommended on this sample. Pits 6248 (SS 6127) and 6094 (SS 6001) contained no plant macrofossil material. As a result no further work is recommended. There was no charcoal recovered from pit 6248, however pit 6094 contained a large assemblage of poorly well-preserved charcoal identified as oak. The poor preservation of this material means no further work is recommended.

Undated

Area 2

Pit 289 (SS 200) contained a large assemblage of well-preserved plant macrofossils which included oat (*Avena* spp), barley, free-threshing wheat/spelt (*Triticum aestivum/turgidum/durum/Triticum spelta*) and indeterminate cereal grains. Herbaceous taxa included fat hen/goosefoot spp, chess black-bindweed, persicaria spp, redshank and dock spp. The charcoal from this pit was well-preserved and abundant, identified as alder/hazel and oak. If a date can be determined for this feature, further plant macrofossil and charcoal work would be recommended.

Area 4

Pit 4603 (SS 4013) contained a large assemblage of well-preserved hazelnut shells. The abundant, poorly-preserved charcoal from this pit consisted of oak and hawthorn/rowan/crab apple. If a date can be determined for this feature, further plant macrofossil and charcoal work would be recommended.

Area 5

Pit 5135 (SS 4023) contained a small number of poorly-preserved plant macrofossils including a chess seed and indeterminate cereal grain. The poorly preserved charcoal from this pit consisted of oak and hawthorn/rowan/crab apple. The paucity and poor preservation of these remains means no further work is recommended.

Area 6

Pit 6101 (SS 6002) contained a large assemblage of well-preserved hazelnut shells. The abundant, moderately well-preserved charcoal was identified as oak and ash. If a date can be determined for this feature, further plant macrofossil and charcoal work would be recommended. Pits 6177 (SS 6003) and 6205 (SS 6011) contained a small number of moderate to well-preserved plant macrofossils including an elder seed (*Sambucus nigra*), hazelnut shell, an indeterminate glume base and cereal grain. The paucity of these remains means no further work is recommended. The charcoal from these pits was abundant, moderately well-preserved and identified as alder/hazel, oak, ash, hawthorn/rowan/crab apple and cherry spp. If a date can be determined for these pits, broad characterisation charcoal analysis would be recommended. Pit 6206 (SS 6008) contained no plant

macrofossil material. The abundant, moderately-well preserved charcoal was identified as oak and hawthorn/rowan/crab apple. If a date can be determined for these pits, broad characterisation charcoal analysis would be recommended.

Discussion

The carbonised plant macrofossils were recovered in small to moderate quantities and were generally moderate to well-preserved. The charcoal was recovered in generally large quantities and varied in preservation from good to poor. There were some modern plant macrofossils identified in samples, which were most likely incorporated into the features by bioturbation. Since these were recovered in small quantities, it is not thought that they represent a significant risk of contamination.

Eight plant macrofossil and 34 charcoal samples have been proposed for further work. It is proposed that full identification and count of species will be carried out on all selected plant macrofossil samples. For the selected charcoal samples two approaches will be taken. The first is full analysis which proposes that 100 fragments are identified with equal proportions from sieve sizes >4mm and >2mm. This will focus on features where through finds or ecofactual assessment, the source of the charcoal is understood (hearths, cereal processing waste, cremation burials/pyre material). Cremation burials will differ slightly in that typically more than one sample taken per burial. To prevent any bias an equal number of charcoal fragments will be identified from each quadrant. The second approach is broad characterisation analysis where 30 fragments from each sample are fully identified. The aim of this is to provide a broad understanding of fuel use and woodland characterisation from the different periods of activity on the site.

Period 1

Woodland clearance during the Bronze Age increased in pace with land clearance for agriculture and settlement. Full analysis of the charcoal will hopefully help to ascertain fuel preferences, reconstruct local woodland composition and provide evidence of woodland management. It can also be used to compare the use of woodland resources from the Bronze Age through to the Roman period in this area. The paucity of plant remains means no further work on pit 4844 is recommended.

Period 1/2

Cremation burials of this date are recorded, but little work has generally been done on the charcoal. A small amount of work was undertaken on cremation burials from Shorncliffe Quarry, Gloucestershire identifying fuel as alder/hazel, although charcoal was not abundant (Robinson 1995, 46-7). The charcoal analysis of selected samples from this site will hopefully provide a useful record of fuel use in cremation burial ritual during the Bronze Age, help to ascertain local woodland composition and provide evidence of woodland management. Further examples of middle Bronze Age cremation burials will be researched and fuel use compared. The paucity of plant remains from all features dating to this period means no further work is recommended.

Period 3 and Period 3/4

The South West Archaeological Research Framework (SWARF) Research Strategy 2012-2017 outlines key areas that require further research, such as improving our understanding of wild and cultivated plants (Research Aim 20), increasing our understanding of agricultural intensification and diversification in later prehistory (Research Aim 40/21a) and assessing the impact of the Roman Empire on farming (Research Aim 41) (Grove and Croft 2012, 27, 35). Whilst the plant macrofossil cereal assemblage from Period 3 and 3/4 features is relatively small, analysis of the selected plant macrofossil material has the potential to provide a record of local

crop cultivation and husbandry techniques. The herbaceous taxa assemblage may also provide information regarding local flora. Further work on selected charcoal samples will hopefully determine fuel-use on site and characterise the local woodland resource. This material, whilst informing on local agricultural techniques, will then also be available for incorporation into future wider research reports which will feed into these SWARF research aims.

Period 4 – Second Century AD/Romano British

The paucity and poor preservation of plant macrofossil and charcoal material from Period 4 features means no further work is recommended with the exception of charcoal from cremation burial 6190. Research Aim 58 in the SWARF Research Strategy 2012-2017 (Grove and Croft 2012, 33) indicates more research is required to widen our understanding of Roman burial traditions. Full analysis of the charcoal from this cremation burial will allow an understanding of the use of fuel for ritual purposes and will provide evidence for fuel wood acquisition and woodland management.

Recommendations for further work:

Charcoal identifications = 16 x cremation burials (full analysis); 3 x features (full analysis); 11 x features (broad characterisation) = 8 days

Plant macrofossil identifications = 9 x samples = 2 days

Research/analysis Reporting = 8 days

Total = 18 days

Word Count = 2000 words

Number of tables = 7

Additional Soil Processing 5 samples; 80 litres

Total: 2.84 man days

Sample 4006 (4149) 20L

Sample 4007 (4165) 10L

Sample 4008 (4322) 10L

Sample 4013 (4605) 20L

Sample 6002 (6102) 20L

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Key – Tables 0.01-0.18

+ = 1-5 items; ++ = 6-20 items; +++ = 21-40 items; ++++ = >40 items
 (s) = charcoal generally highly fragmented/not identifiable

E = economic species; A = arable weeds; P = weeds indicative of grassland/pasture; D = weeds indicative of disturbance/opportunistic species; M = marsh/wetland species;
 HSW = hedgerow/scrub/woodland species

FA = full charcoal analysis
 BC = broad characterisation charcoal analysis

Table 0.01 Plant macrofossil identifications (Periods 1 and 1-2)

Context number	4845	4742	6199	6258	6259	6275	6280	6281	6285	6289	6292		
Feature number	4844	4741	6200	6257	6257	6274	6276	RA 6.1	6286	6287	6296		
Sample number (SS)	4020	4021	6012	6009	6010	6013	6045	6157	6021	6023	6026		
Flot volume (ml)	45	2.5	392	1089	218	5.5	1	1.5	0.1	33	42		
Percentage of flot assessed	100%	100%	100%	30%	100%	100%	100%	100%	100%	100%	100%		
Sample volume (l)	16	18	19	15	8	1	2	8	1	10	5		
Soil remaining (l)	0	0	0	10	0	0	0	0	0	0	0		
Period	1	1-2	1-2	1-2	1-2	1-2	1-2	1-2	1-2	1-2	1-2		
Plant macrofossil preservation	Good	N/A	N/A	Poor	N/A	N/A	N/A	N/A	N/A	Moderate	N/A		
Recommendations for further work	No	No	No	No	No	No	No	No	No	No	No		
Habitat Code	Family	Species	Common Name										
HSW	Betulaceae	<i>Corylus avellana</i>	Hazelnut	+									
D/HSW	Poaceae	<i>Arrhenatherum elatius</i>	False Oat-grass				cf +						
Flot Inclusions													
Charcoal				++++	++ (s)	++++	++++	++++		++	+++	++++	++++
Burnt bone							+						

Table 0.02 Plant macrofossil identifications (Period 1-2)

Context number	6297	6308	6309	6310	6313	6314	6316	6318	6319	6320	6325
Feature number	6301	RA 6.4	6305	6305	-	6315	6303	RA 6.4	6321	6321	6322
Sample number (SS)	6030	6169	6055	6037	6068	6040	6041	6043	6167	6054	6048
Flot volume (ml)	502	41	N/A	64	94	4	503	0.5	5.5	5.1	124
Percentage of flot assessed	50%	100%	N/A	100%	100%	100%	50%	100%	100%	100%	100%
Sample volume (l)	10	1	0.5	8	40	3	13	1	2	10	5
Soil remaining (l)	0	0	0	0	0	0	0	0	0	0	0
Period	1-2	1-2	1-2	1-2	1-2	1-2	1-2	1-2	1-2	1-2	1-2
Plant macrofossil preservation	Moderate	N/A	N/A	Moderate	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Recommendations for further work	No	No	No	No	No	No	No	No	No	No	No
Habitat Code	Family	Species	Common name								
A/D	Papaveraceae	Papaver	Poppy spp perianth								
A/D	Poaceae	<i>Arrhenatherum elatius</i>	False Oat-grass	cf 1							
Flot Inclusions											
Charcoal	++++		+++	++++	++++	++++	++++	++++	+++	++++	++++
Burnt bone									++++		

Table 0.03 Plant macrofossil identifications (Period 1-2)

Context number	6331	6335	6342	6344	6349	6354	6361	6365	6373	6377
Feature number	6327	6339	6329	6333	6348	6353	6359	6364	6358	6374
Sample number (SS)	6052	6064	6058	6060	6069	6073	6078	6090	6085	6088
Flot volume (ml)	1	42	7	157	32	1.1	0.1	3.5	0.9	1.1
Percentage of flot assessed	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Sample volume (l)	5	5	5	3	6	3	1	50	2	1
Soil remaining (l)	0	0	0	0	0	0	0	0	0	0
Period	1-2	1-2	1-2	1-2	1-2	1-2	1-2	1-2	1-2	1-2
Plant macrofossil preservation	N/A	Good	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Recommendations for further work	No	No	No	No	No	No	No	No	No	No
Habitat Code	Family	Species	Common Name							
A/D/HSW	Polygonaceae	<i>Rumex</i> spp	Dock spp		+					
Flot Inclusions										
Charcoal	++++	++++	+++	++++	++++	+++	+++	++++	+++	++
Burnt bone										

Table 0.04 Plant macrofossil identifications (Period 1-2)

Context number				6383	6388	6390	6391	6408	6418	6426	6428	6433	6437
Feature number				6389	6389	6382	6395	6400	6409	6424	6424	6431	6436
Sample number (SS)				6091	6095	6096	6104	6103	6120	6128	6122	6124	6129
Flot volume (ml)				50	1071	3.5	521	27	746	2	3	34	27
Percentage of flot assessed				100%	30%	100%	50%	100%	50%	100%	100%	100%	100%
Sample volume (l)				45	9	40	3	3	10	1	1	1	2
Soil remaining (l)				0	0	0	0	0	0	0	0	0	0
Period				1-2	1-2	1-2	1-2	1-2	1-2	1-2	1-2	1-2	1-2
Plant macrofossil preservation				N/A	Good	N/A	Good	N/A	N/A	N/A	N/A	N/A	N/A
Recommendations for further work				No	No	No	No	No	No	No	No	No	No
Habitat Code	Family	Species	Common Name										
M/D	Cyperaceae	<i>Carex</i> spp	Sedge				+						
A/P/D	Fabaceae	<i>Vicia</i> spp/ <i>Lathyrus</i> spp	Vetches/vetchlings (1-2mm) (half)				+						
A/D/HSW	Polygonaceae	<i>Rumex</i> spp	Dock spp				+						
P/D/A	Ranunculaceae	<i>Ranunculus</i> spp	Buttercup		+								
A/D	Rubiaceae	<i>Galium</i> spp	Cleavers/goosegrass				+						
Flot Inclusions													
Charcoal				++++	++++	++++	++++	++++	++++		++	++	+++
Burnt bone													++

Table 0.05 Plant macrofossil identifications (Period 1-2)

Context number				6443	6447	6460	6468
Feature number				6441	6454	6456	6470
Sample number (SS)				6134	6138	6148	6155
Flot volume (ml)				12	436	38	1456
Percentage of flot assessed				100%	100%	100%	30%
Sample volume (l)				2	5	7	5
Soil remaining (l)				0	0	0	0
Period				1-2	1-2	1-2	1-2
Plant macrofossil preservation				N/A	N/A	Poor	N/A
Recommendations for further work				No	No	No	No
Habitat Code	Family	Species	Common Name				
A/P/D	Fabaceae	<i>Vicia</i> spp/ <i>Lathyrus</i> spp	Vetches/vetchlings (1-2mm) (half)			+	
Flot Inclusions							
Charcoal				+++	++++	++++	++++
Burnt bone							

Table 0.06 Plant macrofossil identifications (Periods 3 and 3-4)

Context number				4137	4659	4660	4966	4088	4089	4149	4149
Feature number				4136	4658	4658	4964	4087	4087	4150	4150
Sample number (SS)				4002	4015	4014	4022	4000	4001	4003	4006
Flot volume (ml)				75.5	25	38.5	23	2.5	22	86	54
Percentage of flot assessed				100%	100%	100%	100%	100%	100%	100%	100%
Sample volume (l)				6	36	36	16	7	2	8	18
Soil remaining (l)				0	0	0	0	0	0	0	20
Period				3	3	3	3	3-4	3-4	3-4	3-4
Plant macrofossil preservation				Poor	N/A	N/A	Poor	Poor	Poor	Good	Moderate
Recommendations for further work				No	No	No	No	No	No	Yes	Yes
Habitat Code	Family	Species	Common Name								
A/D	Amaranthaceae	<i>Chenopodium</i> spp	Fat hen/goosefoot spp								+
HSW	Betulaceae	<i>Corylus avellana</i>	Hazelnut	+						+	
A/D	Caryophyllaceae	<i>Stellaria media</i>	Common chickweed								cf +
A/P/D	Fabaceae	<i>Vicia</i> spp/ <i>Lathyrus</i> spp	Vetches/vetchlings (1-2mm) (half)				+				
A/P/D		<i>Vicia</i> spp/ <i>Lathyrus</i> spp	Vetches/vetchlings (1-2mm) (whole)							+	
HSW	Fagaceae	<i>Fraxinus excelsior</i>	Ash							cf +	
E	Poaceae	<i>Avena</i> spp	Oat								cf +
A		<i>Bromus</i> spp	Chess (whole)							++	+
A		<i>Bromus</i> spp	Chess (fragments)							++++	
E		<i>Hordeum vulgare</i>	Hulled barley				cf +				
E		<i>Triticum</i> spp	Wheat				cf +				
E		<i>Triticum spelta</i>	Spelt				cf +			+	cf +
E		<i>Triticum spelta</i>	Spelt glume bases					+		+	+
E		Poaceae	Indeterminate cereal grain				++	+	+		+
E		Poaceae	Glume base				++	+	cf +	+	
A/D	Polygonaceae	<i>Persicaria</i> spp	Persicaria spp				+				
A/D/HSW		<i>Rumex</i> spp	Dock spp							+	+
HSW	Rosaceae	<i>Crataegus monogyna</i>	Hawthorn (whole)							+	cf +
HSW		<i>Crataegus monogyna</i>	Hawthorn (half)							+	
HSW		<i>Prunus spinosa</i>	Blackthorn/sloe							+	
Flot Inclusions											
Charcoal				++++	+++	+	++++	++ (s)	+++ (s)	++++	++++
Burnt bone										+	

Table 0.07 Plant macrofossil identifications (Period 3-4)

Context number				4165	4165	4451/2	4496	4540	4731	4761	4871
Feature number				4166	4166	4450	4495	4539	4730	4762	4873
Sample number (SS)				4004	4007	4011	4010	4012	4016	4017	4019
Flot volume (ml)				105	151	120	863	29	93	5	342
Percentage of flot assessed				100%	100%	100%	50%	100%	100%	100%	100%
Sample volume (l)				8	15	18	12	40	36	14	18
Soil remaining (l)				0	10	18	0	0	0	0	18
Period				3-4	3-4	3-4	3-4	3-4	3-4	3-4	3-4
Plant macrofossil preservation				Moderate	Moderate	Poor	Good	N/A	Moderate	N/A	N/A
Recommendations for further work				Yes	Yes	No	Yes	No	Yes	No	No
Habitat Code	Family	Species	Common Name								
HSW	Adoxaceae	<i>Sambucus nigra</i>	Elder (modern)	+	+						
A/D	Amaranthaceae	<i>Chenopodium</i> spp	Fat hen/goosefoot spp (modern)							+	
HSW	Betulaceae	<i>Corylus avellana</i>	Hazelnut	+		cf +	++++				
M/D	Cyperaceae	<i>Carex</i> spp	Sedge								
D/HSW	Dennstaedtiaceae	<i>Pteridium</i> spp	Bracken							+	
A/P/D	Fabaceae	<i>Vicia</i> spp/ <i>Lathyrus</i> spp	Vetches/vetchlings (2-3mm) (whole)	cf +							
A	Poaceae	<i>Bromus</i> spp	Chess (whole)	+	cf +						
A		<i>Bromus</i> spp	Chess (fragments)							+	
E		<i>Hordeum vulgare</i>	Hulled barley	+						+	
E		<i>Triticum spelta</i>	Spelt glume bases							+	
E		Poaceae	Indeterminate cereal grain	+	+	+				++	
E		Poaceae	Glume base		+	+				+	
A/D/HSW	Polygonaceae	<i>Fallopia convolvulus</i>	Black-bindweed		+						
A/D		<i>Persicaria maculosa</i>	Redshank		+						
HSW/D	Rosaceae	<i>Rubus</i> spp	Bramble spp (modern)								+
Flot Inclusions											
Charcoal				++++	++++	++++	++++	+++	++++	++ (s)	++++
Burnt bone				+		+					

Table 0.08 Plant macrofossil identifications (Periods 3-4 and 4)

Context number				6079	6082	4224	4322	4343	4801	6095	6193	6247
Feature number				6077	6080	4223	4324	4324	4780	6094	6190	6248
Sample number (SS)				6044	6000	4005	4008	4009	4018	6001	6006	6127
Flot volume (ml)				4	125	0.5	19	2	10.5	659	391	2
Percentage of flot assessed				100%	100%	100%	100%	100%	100%	50%	100%	100%
Sample volume (l)				2	16	14	15	15	14	14	48	1
Soil remaining (l)				0	0	0	10	10	0	40	0	0
Period				3-4	3-4	4	4	4	4	4	4	4
Plant macrofossil preservation				Moderate	N/A	N/A	N/A	N/A	N/A	N/A	Moderate	N/A
Recommendations for further work				No	No	No	No	No	No	No	No	No
Habitat Code	Family	Species	Common Name									
HSW	Adoxaceae	<i>Sambucus nigra</i>	Elder (modern)								+	
A/P/D	Fabaceae	<i>Vicia</i> spp/ <i>Lathyrus</i> spp	Vetches/vetchlings (1-2mm) (whole)	+								
A/P/D		<i>Vicia</i> spp/ <i>Lathyrus</i> spp	Vetches/vetchlings (2-3mm) (whole)	+								
HSW	Fagaceae	<i>Fraxinus excelsior</i>	Ash								cf +	
E	Poaceae	<i>Poaceae</i>	Indeterminate cereal grain								+	
Flot Inclusions												
Charcoal				++++	++++	++ (s)	++++	++ (s)	+++	++++		
Burnt bone												+

Table 0.09 Plant macrofossil identifications (undated)

Context number				292	4605	5134	6102	6174	6204	6207
Feature number				289	4603	5135	6101	6177	6205	6206
Sample number				200	4013	4023	6002	6003	6011	6008
Flot volume (ml)				371.2	1409	96	1461	99	685	955
Percentage of flot assessed				100%	30%	100%	30%	100%	50%	50%
Sample volume (l)				18	16	15	14	32	17	15
Soil remaining (l)				0	16	10	20	0	0	10
Period				U	U	U	U	3-7	U	U
Plant macrofossil preservation				Good	Good	Poor	Good	Good	Moderate	N/A
Recommendations for further work				Yes	Yes	No	Yes	No	No	No
Habitat Code	Family	Species	Common Name							
HSW/WF	Adoxaceae	<i>Sambucus nigra</i>	Elder					+		
A/D	Amaranthaceae	<i>Chenopodium</i> spp	Fat hen/goosefoot spp	+						
HSW	Betulaceae	<i>Corylus avellana</i>	Hazelnut		++++		++++		+	
E	Poaceae	<i>Avena</i> spp	Oat	++						
A		<i>Bromus</i> spp	Chess (whole)	+		+				
A/D		<i>Festuca</i> spp/ <i>Lolium</i> spp	Festuce/rye grass	+						
E		<i>Hordeum vulgare</i>	Hulled barley	+++						
E		<i>Triticum aestivum/turgidum/durum</i> <i>/Triticum spelta</i>	Free-threshing wheat /spelt wheat	+++						
E		<i>Triticum spelta</i>	Spelt	+						
E		Poaceae	Indeterminate cereal grain	++++		+			+	
E		Poaceae	Glume base						+	
A/D/HSW	Polygonaceae	<i>Fallopia convolvulus</i>	Black-bindweed	+						
A/D		<i>Persicaria</i> spp	Persicaria spp	+						
A/D		<i>Persicaria maculosa</i>	Redshank	+						
A/D/HSW		<i>Rumex</i> spp	Dock spp	+						
Flot Inclusions										
Charcoal				++++	++++	++++	++++	++++	++++	++++
Burnt bone									++	

Table 0.10 Charcoal Identifications (Periods 1 and 1-2)

Context number	4845	4742	6199	6258	6259	6275	6280	6281	6285	6289		
Feature number	4844	4741	6200	6257	6257	6274	6276	RA 6.1	6286	6287		
Sample number (SS)	4020	4021	6012	6009	6010	6013	6045	6157	6021	6023		
Flot volume (ml)	45	2.5	392	1089	218	5.5	1	1.5	0.1	33		
Sample volume (l)	16	18	19	15	8	1	2	8	1	10		
Soil remaining (l)	0	0	0	10	0	0	0	0	0	0		
Period	1	1-2	1-2	1-2	1-2	1-2	1-2	1-2	1-2	1-2		
Charcoal quantity	++++	++ (s)	++++	++++	++++	+++	++++	++	+++	++++		
Charcoal preservation	Moderate	Poor	Moderate	Moderate	Moderate	Moderate	Moderate	Poor	Poor	Moderate		
Recommendations for full analysis	Yes - FA	No	Yes - FA	Yes - FA	No	Yes - FA	Yes - FA	No	No	Yes - FA		
Family	Species	Common Name										
Betulaceae	<i>Alnus glutinosa</i>	Alder		2								
	<i>Alnus glutinosa/ Corylus avellana</i>	Alder/hazel		6								
Fagaceae	<i>Quercus robur/petraea</i>	Sessile/pedunculate oak	10	1	5	9	8	10	1	1	6	
	<i>Quercus robur/petraea h/w</i>	Sessile/pedunculate oak h/w					1					
Rosaceae	<i>Crataegus monogyna/ Sorbus spp/Malus sylvestris r/w</i>	Hawthorn/rowan/ crab apple r/w		1	4	1	1				4	
	<i>Prunus spp</i>	Cherry spp			2							
		Indeterminate		4					3			
Number of Fragments:			10	0	10	11	10	10	10	1	1	10

Table 0.11 Charcoal Identifications (Period 1-2)

Context number			6292	6297	6308	6309	6313	6314	6316	6318	6319
Feature number			6296	6301	RA 6.4	6305	-	6315	6303	RA 6.4	6321
Sample number (SS)			6026	6030	6169	6055	6068	6040	6041	6043	6167
Flot volume (ml)			42	502	41	N/A	94	4	497	0.5	5.5
Sample volume (l)			5	10	1	0.5	40	3	13	1	2
Soil remaining (l)			0	0	0	0	0	0	0	0	0
Period			1-2	1-2	1-2	1-2	1-2	1-2	1-2	1-2	1-2
Charcoal quantity			++++	++++		+++	++++	++++	++++	++++	+++
Charcoal preservation			Moderate	Moderate	Poor	Moderate	Poor	Good	Moderate	Poor	Poor
Recommendations for full analysis			Yes - FA	Yes - FA	No	Yes - FA	No	Yes - FA	Yes - FA	No	No
Family	Species	Common Name									
Betulaceae	<i>Alnus glutinosa</i>	Alder				2					
	<i>Alnus glutinosa/ Corylus avellana</i>	Alder/hazel				4	3	1			
Fagaceae	<i>Quercus robur/petraea</i>	Sessile/pedunculate oak	10	3	3				10	10	2
	<i>Quercus robur/petraea h/w</i>	Sessile/pedunculate oak h/w			2						
Oleaceae	<i>Fraxinus excelsior</i>	Ash		7			2				
Rosaceae	<i>Crataegus monogyna/ Sorbus spp/Malus sylvestris r/w</i>	Hawthorn/rowan/ crab apple						9			
		Indeterminate			2		15				9
Number of Fragments:			10	10	5	6	5	10	10	10	2

Table 0.12 Charcoal Identifications (Period 1-2)

Context number			6325	6331	6335	6342	6344	6349	6354	6361	6365
Feature number			6322	6327	6339	6329	6333	6348	6353	6359	6364
Sample number (SS)			6048	6052	6064	6058	6060	6069	6073	6078	6090
Flot volume (ml)			124	1	42	7	157	32	1.1	0.1	3.5
Sample volume (l)			5	5	5	5	3	6	3	1	50
Soil remaining (l)			0	0	0	0	0	0	0	0	0
Period			1-2	1-2	1-2	1-2	1-2	1-2	1-2	1-2	1-2
Charcoal quantity			++++	++++	++++	+++	++++	++++	+++	+++	++++
Charcoal preservation			Poor	Poor	Poor	Poor	Poor	Poor	Poor	Poor	Moderate
Recommendations for full analysis			No	No	No	No	No	No	No	No	Yes - FA
Family	Species	Common Name									
Fagaceae	<i>Quercus robur/petraea</i>	Sessile/pedunculate oak	3	10	10	1	8	10	10	10	7
Oleaceae	<i>Fraxinus excelsior</i>	Ash	7								3
		Indeterminate					12				
Number of Fragments:			10	10	10	1	8	10	10	10	10

Table 0.13 Charcoal Identifications (Period 1-2)

Context number	6373	6377	6388	6390	6391	6408	6418	6428
Feature number	6358	6374	6389	6382	6395	6400	6409	6424
Sample number (SS)	6085	6088	6095	6096	6104	6103	6120	6122
Flot volume (ml)	0.9	1.1	1071	3.5	521	27	746	3
Sample volume (l)	2	1	9	40	3	3	10	1
Soil remaining (l)	0	0	0	0	0	0	0	0
Period	1-2	1-2	1-2	1-2	1-2	1-2	1-2	1-2
Charcoal quantity	+++	++	++++	++++	++++	++++	++++	++
Charcoal preservation	Moderate	Poor	Moderate	Poor	Moderate	Moderate	Moderate	Poor
Recommendations for full analysis	No	No	Yes - FA	No	Yes - FA	Yes - FA	Yes - FA	No
Family	Species	Common Name						
Betulaceae	<i>Alnus glutinosa</i>	Alder			1			
	<i>Alnus glutinosa/ Corylus avellana</i>	Alder/hazel		3	4			
Fagaceae	<i>Quercus robur/petraea</i>	Sessile/pedunculate oak	1	3	10	5	6	10
	<i>Quercus robur/petraea h/w</i>	Sessile/pedunculate oak h/w	1	3				
Oleaceae	<i>Fraxinus excelsior</i>	Ash	6	3		4		
	<i>Fraxinus excelsior r/w</i>	Ash r/w		1				
		Indeterminate		3				
Number of Fragments:			8	3	10	10	10	10

Table 0.14 Charcoal Identifications (Period 1-2)

Context number	6433	6437	6443	6447	6460	6468
Feature number	6431	6436	6441	6454	6456	6470
Sample number (SS)	6124	6129	6134	6138	6148	6155
Flot volume (ml)	34	27	12	436	38	1456
Sample volume (l)	1	2	2	5	7	5
Soil remaining (l)	0	0	0	0	0	0
Period	1-2	1-2	1-2	1-2	1-2	1-2
Charcoal quantity	++	+++	+++	++++	++++	++++
Charcoal preservation	Poor	Poor	Poor	Moderate	Poor	Moderate
Recommendations for full analysis	No	No	No	Yes - FA	No	Yes - FA
Family	Species	Common Name				
Fagaceae	<i>Quercus robur/petraea</i>	Sessile/pedunculate oak	4	2	6	3
Oleaceae	<i>Fraxinus excelsior</i>	Ash				7
		Indeterminate	16	18	14	20
Number of Fragments:			4	2	6	10

Table 0.15 Charcoal Identifications (Periods 3 and 3-4)

Context number	4137	4659	4660	4966	4088	4089	4149	4149	4165	4165	
Feature number	4136	4658	4658	4964	4087	4087	4150	4150	4166	4166	
Sample number (SS)	4002	4015	4014	4022	4000	4001	4003	4006	4004	4007	
Flot volume (ml)	75.5	25	38.5	23	2.5	22	86	54	105	151	
Sample volume (l)	6	36	36	16	7	2	8	18	8	15	
Soil remaining (l)	0	0	0	0	0	0	0	20	0	10	
Period	3	3	3	3	3-4	3-4	3-4	3-4	3-4	3-4	
Charcoal quantity	++++	+++	+	++++	++ (s)	+++ (s)	++++	++++	++++	++++	
Charcoal preservation	Poor	Poor	N/A	Poor	Poor	Poor	Poor	Moderate	Poor	Moderate	
Recommendations for full analysis	No	No	No	No	No	No	No	Yes - BC	No	Yes - BC	
Family	Species	Common Name									
Betulaceae	<i>Alnus glutinosa/ Corylus avellana</i>	Alder/hazel	1		2			2	1		
	<i>Alnus glutinosa/ Corylus avellana</i> r/w	Alder/hazel r/w								1	
Fagaceae	<i>Quercus robur/petraea</i>	Sessile/pedunculate oak	1		5	2	5	10	7	8	
Oleaceae	<i>Fraxinus excelsior</i>	Ash	3							1	
Rosaceae	<i>Crataegus monogyna/ Sorbus spp/Malus sylvestris</i> r/w	Hawthorn/rowan/ crab apple			1	1	1		1	1	
		Indeterminate	5	2	12	5	3				
Number of Fragments:			5	0	0	8	3	6	10	10	10

Table 0.16 Charcoal Identifications (Periods 3-4)

Context number	4451/2	4496	4540	4731	4761	4871	6079	6082		
Feature number	4450	4495	4539	4730	4762	4873	6077	6080		
Sample number (SS)	4011	4010	4012	4016	4017	4019	6044	6000		
Flot volume (ml)	120	863	29	93	5	342	4	125		
Sample volume (l)	18	12	40	36	14	18	2	16		
Soil remaining (l)	18	0	0	0	0	18	0	0		
Period	3-4	3-4	3-4	3-4	3-4	3-4	3-4	3-4		
Charcoal quantity	++++	++++	+++	++++	++ (s)	++++	++++	++++		
Charcoal preservation	Poor	Moderate	Poor	Poor	N/A	Good	Moderate	Moderate		
Recommendations for full analysis	No	Yes – BC	No	No	No	Yes – BC	Yes – BC	Yes – BC		
Family	Species	Common Name								
Betulaceae	<i>Alnus glutinosa</i> r/w	Alder r/w				2				
	<i>Alnus glutinosa</i> / <i>Corylus avellana</i>	Alder/hazel		1		4				
Fagaceae	<i>Quercus robur/petraea</i>	Sessile/pedunculate oak	8	5	9	4	10	7		
	<i>Quercus robur/petraea</i> h/w	Sessile/pedunculate oak h/w			1					
Oleaceae	<i>Fraxinus excelsior</i>	Ash		2						
Rosaceae	<i>Crataegus monogyna</i> / <i>Sorbus</i> spp/ <i>Malus sylvestris</i> r/w	Hawthorn/rowan/ crab apple	2	2				2		
	<i>Prunus</i> spp	Cherry spp						1		
		Indeterminate			4					
Number of Fragments:			10	10	0	10	0	10	10	10

Table 0.17 Charcoal Identifications (Period 4)

Context number			4224	4322	4343	4801	6095	6193	6247
Feature number			4223	4324	4324	4780	6094	6190	6248
Sample number (SS)			4005	4008	4009	4018	6001	6006	6127
Flot volume (ml)			0.5	19	2	10.5	659	391	2
Sample volume (l)			14	15	15	14	14	48	1
Soil remaining (l)			0	10	10	0	40	0	0
Period			4	4	4	4	4	4	4
Charcoal quantity			++ (s)	++++	++ (s)	+++	++++	++++	
Charcoal preservation			Poor	Moderate	N/A	Poor	Poor	Moderate	N/A
Recommendations for full analysis			No	Yes - FA	No	No	No	Yes - FA	No
Family	Species	Common Name							
Fagaceae	<i>Quercus robur/petraea</i>	Sessile/pedunculate oak	1	9		4	9		
	<i>Quercus robur/petraea h/w</i>	Sessile/pedunculate oak h/w		1			1	1	
Oleaceae	<i>Fraxinus excelsior</i>	Ash						9	
		Indeterminate	1			6			
Number of Fragments:			1	10	0	4	10	10	0

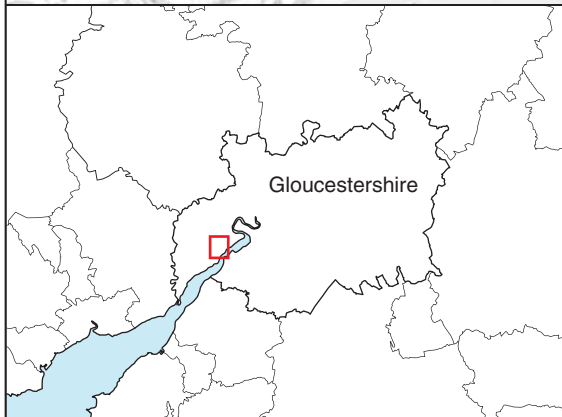
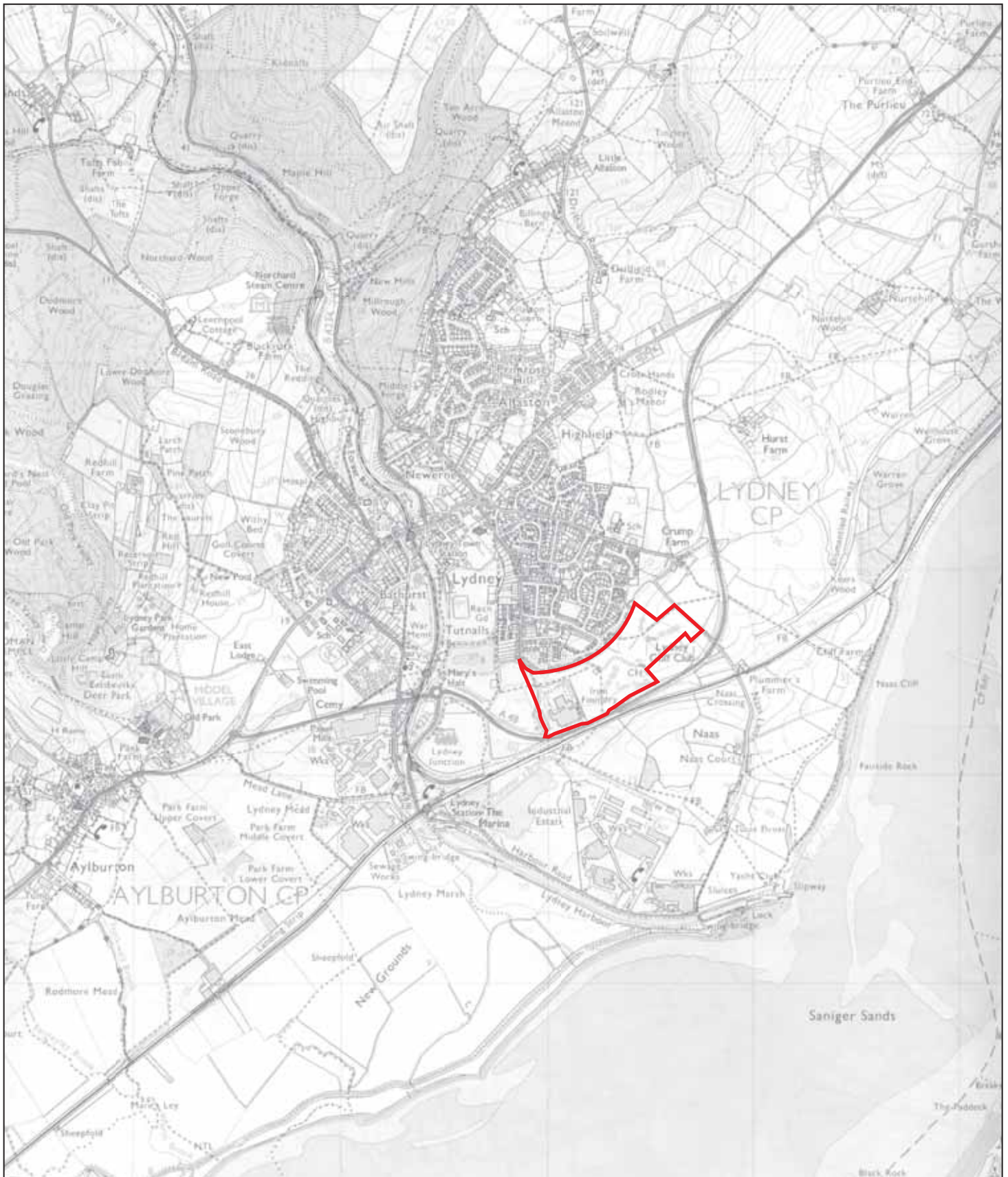
Table 0.18 Charcoal Identifications (undated)

Context number	292	4605	5134	6102	6174	6204	6207
Feature number	289	4603	5135	6101	6177	6205	6206
Sample number (SS)	200	4013	4023	6002	6003	6011	6008
Flot volume (ml)	371.2	1409	96	1461	99	685	955
Sample volume (l)	18	16	15	14	32	17	15
Soil remaining (l)	0	16	10	20	0	0	10
Period	U	U	U	U	3-7	U	U
Charcoal quantity	++++	++++	++++	++++	++++	++++	++++
Charcoal preservation	Good	Moderate	Poor	Moderate	Moderate	Moderate	Moderate
Recommendations for full analysis	Yes - FA	Yes - BC	No	Yes - BC	Yes - BC	Yes - BC	Yes - BC
Family	Species	Common Name					
Betulaceae	<i>Alnus glutinosa/ Corylus avellana</i>	Alder/hazel	3			5	
	<i>Alnus glutinosa/ Corylus avellana r/w</i>	Alder/hazel r/w	5				
Fagaceae	<i>Quercus robur/petraea</i>	Sessile/pedunculate oak	1	9	9	6	5
	<i>Quercus robur/petraea r/w</i>	Sessile/pedunculate oak r/w	1				
Oleaceae	<i>Fraxinus excelsior</i>	Ash				4	5
Rosaceae	<i>Crataegus monogyna/ Sorbus spp/Malus sylvestris r/w</i>	Hawthorn/rowan/ crab apple r/w		1	1		3
	<i>Prunus spp</i>	Cherry spp					2
		Indeterminate					
Number of Fragments:			10	10	10	10	10

APPENDIX 11: OASIS REPORT FORM

PROJECT DETAILS			
Project Name	Land South of Lakeside Avenue, Tutnalls, Lydney Gloucestershire		
Short description (250 words maximum)	<p>Three principal periods of occupation/activity were identified, the earliest being a the remains of a unenclosed mound or barrow, containing 22 cremations, three of them contained in collared urns of Middle Bronze Age date. Towards the centre of the mound a probable cist containing an unurned cremation, surrounded by three pitched stone slabs and covered by a larger capstone. Several other features in the vicinity could possibly be contemporary with the barrow. A further possible cist of possible Bronze Age date was identified in , and a small pit of Early Bronze Age/beaker date.</p> <p>The second period dated to the late Iron Age was represented by a subrectangular domestic enclosure containing numerous postholes and pits, probably representing a domestic farmstead. The presence of quantities of metallurgical debris within Iron Age contexts suggest that this settlement was involved in iron production, if not on this actual site.</p> <p>The third and final period saw the development of the IA enclosure through the 2nd and 3rd century, with at least two phases of elaboration of the enclosure entranceway, and the laying out of two new sub-enclosures within the original. Again a significant quantity of metallurgical debris indicates that the association of the occupation with the manufacture of iron continued though this period.</p>		
Project dates	Jan 2011 - Oct 2012		
Project type (e.g. desk-based, field evaluation etc)	Excavation: CA project 9118		
Previous work (reference to organisation or SMR numbers etc)	Trial trench evaluation CA 2004b		
Future work	Unknown		
PROJECT LOCATION			
Site Location	Tutnalls, Lydney, Gloucestershire		
Study area (M2/ha)			
Site co-ordinates (8 Fig Grid Reference)	SO 6420 0240		
PROJECT CREATORS			
Name of organisation	Cotswold Archaeology		
Project Brief originator	RPS Planning and Development		
Project Design (WSI) originator	Cotswold Archaeology		
Project Manager	Laurie Coleman		
Project Supervisor	Jaime Wright		
MONUMENT TYPE	None		
SIGNIFICANT FINDS	None		
PROJECT ARCHIVES	<table border="1"> <tr> <td>Dean Heritage Museum SOYDH 2009.31</td> <td>Paper archive: 6 boxes, Cremation urns: 6 boxes, mixed finds: 2 boxes, pottery: 8 boxes, animal bone: 1 box Slag & industrial waste: 1 box</td> </tr> </table>	Dean Heritage Museum SOYDH 2009.31	Paper archive: 6 boxes, Cremation urns: 6 boxes, mixed finds: 2 boxes, pottery: 8 boxes, animal bone: 1 box Slag & industrial waste: 1 box
Dean Heritage Museum SOYDH 2009.31	Paper archive: 6 boxes, Cremation urns: 6 boxes, mixed finds: 2 boxes, pottery: 8 boxes, animal bone: 1 box Slag & industrial waste: 1 box		
Physical	Flint, ceramics, fired clay, CBM, Glass, metals, slag & industrial		

		waste, worked stone, Human cremated bone, animal bone, seeds, charcoal
Paper	Context sheets	2005
	Plans (1:10, 1:20, 1:100)	127
	Sections (1:10, 1:20)	484
	Sample sheets	187
	Monochrome films	26
	Matrices	18
Digital		Access Database, digital photos: 1158
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Saville, A. 2006 'Archaeology in Gloucestershire: looking backwards but mostly forwards' in N. Holbrook and J. Jurica (eds) <i>Twenty-Five Years of Archaeology in Gloucestershire: a review of discoveries and new thinking in Gloucestershire, South Gloucestershire and Bristol 1979-2004</i> , Bristol and Gloucestershire Archaeological Report 3, 239-47		
WA (Wessex Archaeology) 2003a Land east of Lydney, Gloucestershire. Archaeological Evaluation		
WA (Wessex Archaeology) 2003b Land at Hurst Farm, Lydney, Gloucestershire. Archaeological Evaluation		



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PROJECT TITLE

Land South of Lakeside Avenue, Tutnalls,
 Lydney, Gloucestershire

FIGURE TITLE

Site location plan



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PROJECT NO. 9118 DATE 14-05-2013
 DRAWN BY JB REVISION 00
 APPROVED BY PJM SCALE@A4 1:25,000

FIGURE NO.

1



- site boundary
- areas of excavation
- archaeological feature
- colluvium
- tree protection area



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PROJECT TITLE
 Land South of Lakeside Avenue, Tutnalls
 Lydney, Gloucestershire

PROJECT TITLE
 The site, showing areas of excavation
 and archaeological features

PROJECT NO.	9118	DATE	14-05-2013	FIGURE NO.	
DRAWN BY	JB	REVISION	00		
APPROVED BY	ATB	SCALE@A3	1:1250		2

P:\0118 Land S of Lakeside Ave Lydney PXA\Illustration\Drafts\0118 Lydney PXA Fig 2 to 5.v2.dwg

SO



- ▬ site boundary
- ▬ areas of excavation
- Period 1 - Bronze Age
- Period 2 - Late Bronze Age/Early Iron Age
- Period 3 - Late Iron Age/Early Roman
- Period 4 - Roman
- Period 4+ - ?Late Roman
- Period 5 - post-medieval
- undated
- modern disturbance
- colluvium
- ▨ tree protection area



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PROJECT TITLE
**Land South of Lakeside Avenue, Tutnalls
 Lydney, Gloucestershire**

PROJECT TITLE
Excavation areas: Periods 1 to 5

PROJECT NO. 9118	DATE 14-05-2013	FIGURE NO.
DRAWN BY JB	REVISION 00	3
APPROVED BY ATB	SCALE@A3 1:1000	

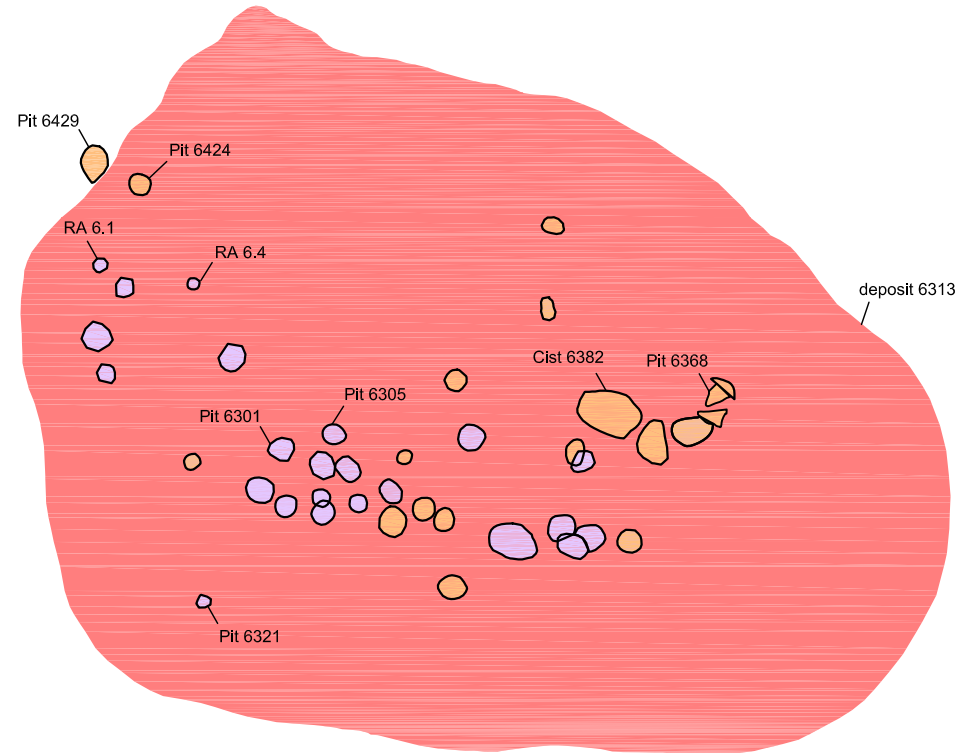
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6116
6101
6098

6257

6256



6206

- Period 1 - Bronze Age
- Phase 1a
- Phase 1b
- undated



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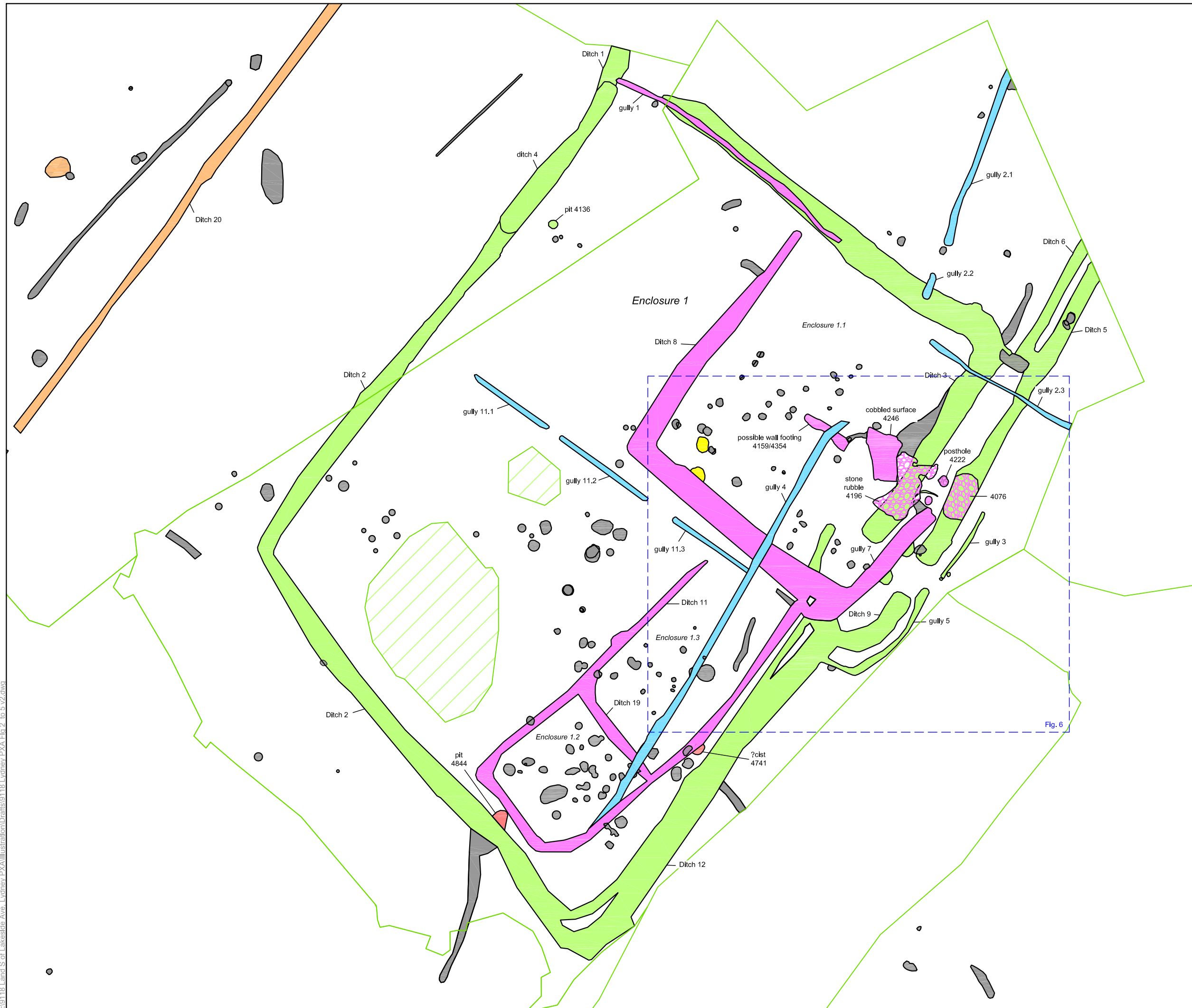
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PROJECT TITLE
 Land South of Lakeside Avenue, Tutnalls
 Lydney, Gloucestershire

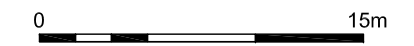
PROJECT TITLE
**Middle Bronze Age Barrow and
 cremation cemetery**

PROJECT NO.	DATE	FIGURE NO.
9118	14-05-2013	4
DRAWN BY	REVISION	
JB	00	
APPROVED BY	SCALE@A3	
ATB	1:125	

P:\0118 Land S of Lakeside Ave Lydney PXA\Illustration\Drafts\0118 Lydney PXA Fig 2 to 5.v2.dwg



- ▬ site boundary
- ▬ areas of excavation
- Period 1 - Bronze Age
- Period 2 - Late Bronze Age/ Early Iron Age
- Period 3 - Late Iron Age/ Early Roman
- Period 4 - Roman
- indicative of Period 4 rubble spread
- Period 4+ - ?Late Roman
- Period 5 - post-medieval
- undated
- modern disturbance



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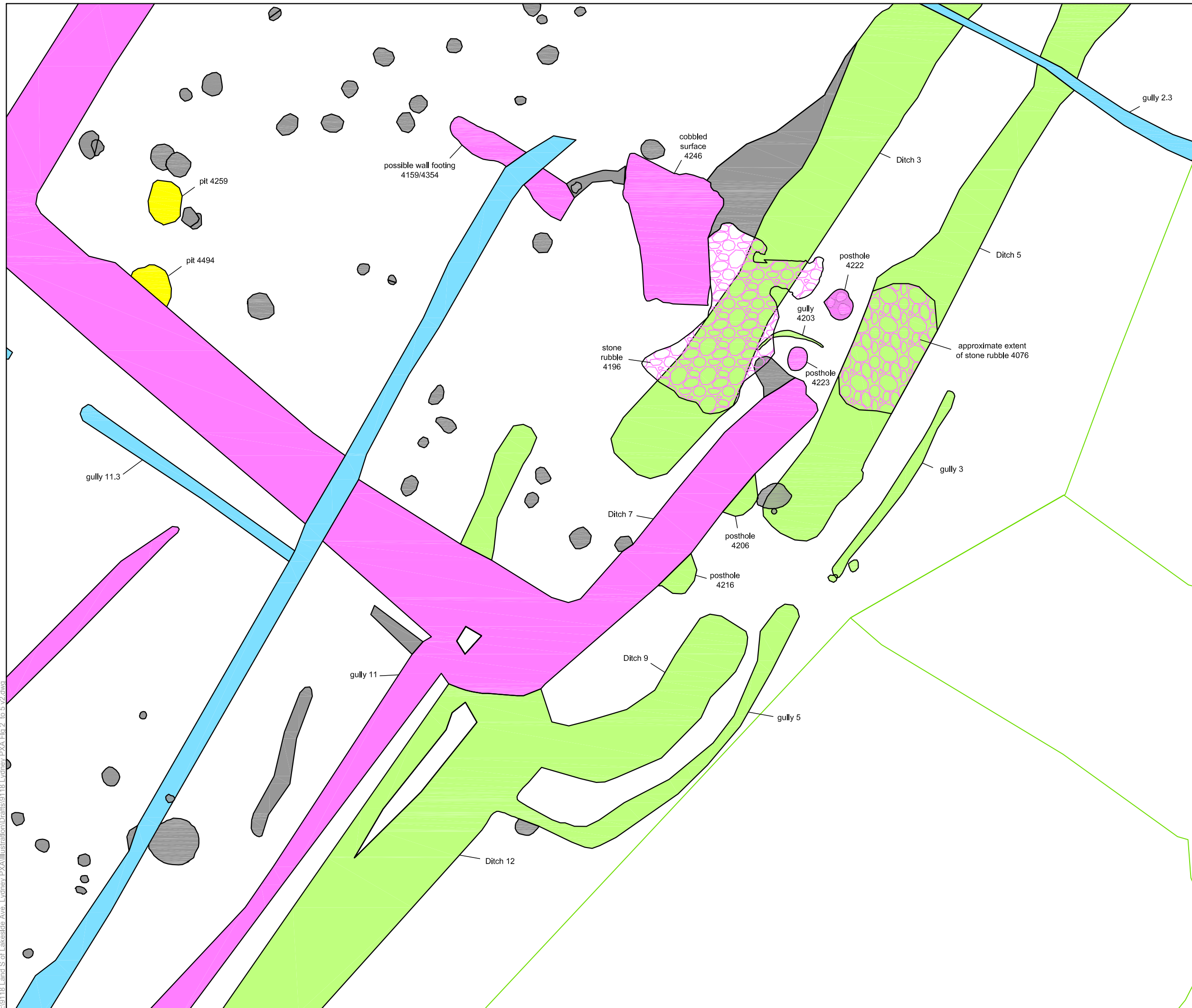
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PROJECT TITLE
 Land South of Lakeside Avenue, Tutnalls
 Lydney, Gloucestershire

PROJECT TITLE
 Enclosure 1 and associated features

PROJECT NO. 9118	DATE 14-05-2013	FIGURE NO.
DRAWN BY JB	REVISION 00	5
APPROVED BY ATB	SCALE@A3 1:350	

P:\0118 Land S of Lakeside Ave Lydney PXA\Illustration\Drafts\0118 Lydney PXA Fig 2 to 5.v2.dwg



- site boundary
- areas of excavation
- Period 2 - Late Bronze Age/Early Iron Age
- Period 3 - Late Iron Age/Early Roman
- Period 4 - Roman
- indicative of Period 4 rubble spread
- Period 4+ - ?Late Roman
- Period 5 - post-medieval
- undated
- modern disturbance



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PROJECT TITLE
Land South of Lakeside Avenue, Tutnalls Lydney, Gloucestershire

PROJECT TITLE
Detail of entrance way for Enclosure 1

PROJECT NO. 9118	DATE 14-05-2013	FIGURE NO.
DRAWN BY JB	REVISION 00	6
APPROVED BY ATB	SCALE@A3 1:125	

P:\0118 Land S of Lakeside Ave Lydney PXA\Illustration\Drafts\0118 Lydney PXA Fig 2 to 5.v2.dwg



7



8

7 Northern part of enclosure 1, looking south-east

8 Urned cremation (RA 6.1) being excavated in Bronze Age cremation cemetery



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PROJECT TITLE

Land South of Lakeside Avenue, Tutnalls,
 Lydney, Gloucestershire

FIGURE TITLE

Photographs

PROJECT NO. 9118 DATE 29-05-2013
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 APPROVED BY PJM SCALE@A4 N/A

FIGURE NO.

7 & 8



9



10

9 Posthole 4223. looking north-west (scale 0.5m)

10 Late Iron Age/1st Century AD pottery being excavated in Ditch 2



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PROJECT TITLE

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FIGURE TITLE

Photographs

PROJECT NO. 9118 DATE 14-05-2013
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FIGURE NO.

9 & 10