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Archaeological Excavation

On behalf of:

Tomack Developments

Concerning:

Land at Western Way

Dymock

Gloucestershire

May 2017



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Contents:

1	Non-Technical Summary.....	1
2	Introduction.....	3
3	Site Description.....	4
4	Historical and Archaeological Background.....	4
5	Methodology.....	6
6	Results.....	8
6.1	Phase 1a: Earliest features.....	9
6.1.1	Phase 1b: Main phase of activity (late 1 st –early 2 nd century AD).....	12
6.2	Phase 2: Post-1 st -2 nd centuries.....	32
6.3	Phase 3: Early -mid-3 rd century AD.....	38
6.4	Phase 4: Post-Roman to Modern.....	39
6.5	Phase 5 Modern.....	40
7	Discussion & Conclusion.....	41
7.1	Discussion.....	41
7.2	Conclusions.....	45
8	References.....	46
9	Appendices.....	48
9.1	Appendix 1 Context Register.....	48
9.2	Appendix 2 Roman Pottery Assessment.....	56
9.2.1	Introduction - Factual data.....	56
9.2.2	Dating.....	56
9.2.3	Supply.....	57
9.2.4	Function.....	62
9.2.5	Discussion.....	63
9.2.6	Bibliography.....	63
9.2.7	Appendix A: Spot-dating.....	64
9.2.8	Appendix B: Evaluation Pottery.....	71
9.3	Appendix 3 Roman Pottery Analysis (1042).....	73
9.3.1	The pottery from fill (1042)......	73
9.3.2	Illustrations.....	75
9.3.3	Recommendations for petrological analysis (see Appendix 4).....	76
9.3.4	References.....	76

9.4	Appendix 4 Petrological Analysis.....	77
9.4.1	Samples.....	77
9.4.2	Geology.....	77
9.4.3	Aims of analysis.....	77
9.4.4	Methodology.....	77
9.4.5	Results.....	77
9.4.6	Comments.....	79
9.4.7	Sample 3 comments.....	79
9.4.8	Kilns and Dating.....	80
9.4.9	Bibliography.....	80
9.5	Appendix 5 Fired Clay and Ceramic Building Materials.....	81
9.5.1	Introduction.....	81
9.5.2	Taphonomy.....	81
9.5.3	Fired clay (D00).....	81
9.5.4	Ceramic Building materials.....	82
9.5.5	Discussion.....	82
9.5.6	Bibliography.....	83
9.5.7	Appendix – The coded catalogue.....	83
9.6	Appendix 6 Assessment of Metalworking Debris.....	85
9.6.1	Summary.....	85
9.6.2	Excavation background.....	85
9.6.3	Methodology.....	85
9.6.4	Explanation of classification terms used for industrial debris.....	86
9.6.5	Interpretation.....	88
9.6.6	References.....	88
9.6.7	Appendix A Full listing of metalworking debris by context.....	89
9.7	Appendix 7 Lithics.....	91
9.8	Appendix 8 Assessment of Stone Artefacts.....	92
9.8.1	Introduction.....	92
9.8.2	Methodology.....	92
9.8.3	Local geology.....	93
9.8.4	Petrology.....	93
9.8.5	Summary.....	94
9.8.6	References.....	94
9.9	Appendix 9 Assessment of Glass.....	97

9.9.1	A small fragment of slightly curved pale blue-green glass (1.0–1.3mm thick) (1024)	97
9.9.2	Rim and part of neck from a bottle (1035)	97
9.9.3	Fragment 1 (1036)	97
9.9.4	Fragment 2 (1036)	97
9.9.5	Green glass, flat, 1.5–1.7mm thick (1066)	97
9.9.6	Green glass, slightly curved, 1–2mm thick with one fire-polished edge (1099)	97
9.10	Appendix 10 Assessment of Vertebrate Remains	98
9.10.1	Introduction	98
9.10.2	Methods	98
9.10.3	Results	98
9.10.4	Evaluation material	100
9.10.5	Discussion	100
9.10.6	References	101
9.10.7	Appendix A: Tables	101
9.11	Appendix 11 Palaeoenvironmental Assessment	103
9.11.1	Summary	103
9.11.2	Project background	103
9.11.3	Methods	104
9.11.4	Results	104
9.11.5	Discussion	106
9.11.6	Sources	107
9.11.7	Appendix A: Data from palaeoenvironmental assessment - ditch features	108
9.11.8	Appendix B: Data from palaeoenvironmental assessment – ‘kiln’ features	108
9.11.9	Appendix C: Data from palaeoenvironmental assessment - posthole or possible posthole features	109
9.11.10	Appendix D: Data from palaeoenvironmental assessment- pits and waste features	110
9.11.11	Appendix E: Data from palaeoenvironmental assessment - other features	111
9.12	Appendix 12 Bone Needle	112
9.12.1	Reference	112
9.13	Appendix 13 Clay Tobacco Pipes	113

1 Non-Technical Summary

Border Archaeology Ltd (BA) was instructed by Tomack Developments to carry out a programme of archaeological work comprising geophysical survey, archaeological field evaluation and excavation at Western Way Dymock Gloucestershire.

The excavation programme was undertaken in July to August 2013 and followed directly upon completion of initial geophysical survey (Archaeological Surveys 2013) and archaeological evaluation undertaken in late May and early June 2013 (Border Archaeology 2013). The evaluation identified a number of ditches crossing the site, together with possible pits and postholes sealed by a post-Roman plough-soil. Excavation confirmed these initial results and identified in addition evidence of small-scale industrial activity, which developed during the 1st-early 2nd century AD and declined in the later 2nd century, reflecting a pattern of activity identified elsewhere in Dymock (Border Archaeology 2014).

Little pottery was found dating to the 3rd century or later and this may have been a time when the focus of the settlement moved north and west. Initial results suggested the most significant feature on the site was a 'pit' feature [1046] dated to the late 1st-early 2nd centuries (Border Archaeology 2014).

A substantial amount of pottery and burnt clay was recovered from [1046], suggesting this may have been a small surface-built kiln, although the results were not conclusive and limited reassessment of the evidence was subsequently undertaken as part of a Post-Excavation Assessment and Updated Project Design.

This report reflects the results of this specific programme of additional analysis, incorporating petrological analysis and further discussion of the pottery and hearth features found on the site (Appendices 3 & 4), which concluded that the pottery was likely to have been locally made and that [1046] may indeed be the remnant of a small surface-built kiln, although the fill was not a last firing but detritus from kilns nearby, located outside of the excavation area.

Further evidence of small-scale industrial activity was represented by hearth features [1119], [1056] and [1072] of unknown function, one of which [1119] contained a fragment of a mould. Whilst substantial amounts of iron slag were found on the site, this could not be related directly to evidence for iron-smelting. Similarly, the very small amounts of hammer-scale found in samples from two postholes was insufficient to confirm that smithing was being undertaken on the site. It is possible that both the slag and the hammer-scale derived from the known metalworking activity previously identified at Kyrleside, which adjoins the site to the north.

Two substantial ditches ran from north to south across the site and whilst it seems likely that these were field boundaries, they almost certainly also served a drainage function, particularly in view of subsequent efforts to drain the field during the post-medieval period. While their alignment suggested that these features were open at the same time, the pottery indicated that they may have gone out of use at different periods. A far greater number of finds were recovered from the northern end of the ditches than from their southern ends, further suggesting that the site may have been peripheral to the activity taking place to the north, possibly closer to the line of the Roman

road, with the ditches utilised for the convenient disposal of domestic and other waste once their primary function had ceased.

A large enclosure on the western side of the site may have been unrelated to the ditches; it contained very few finds and the ditch defining it appeared to have been backfilled shortly after excavation. No features were associated with it and it is thought possible that the pottery in its fills may have been residual.

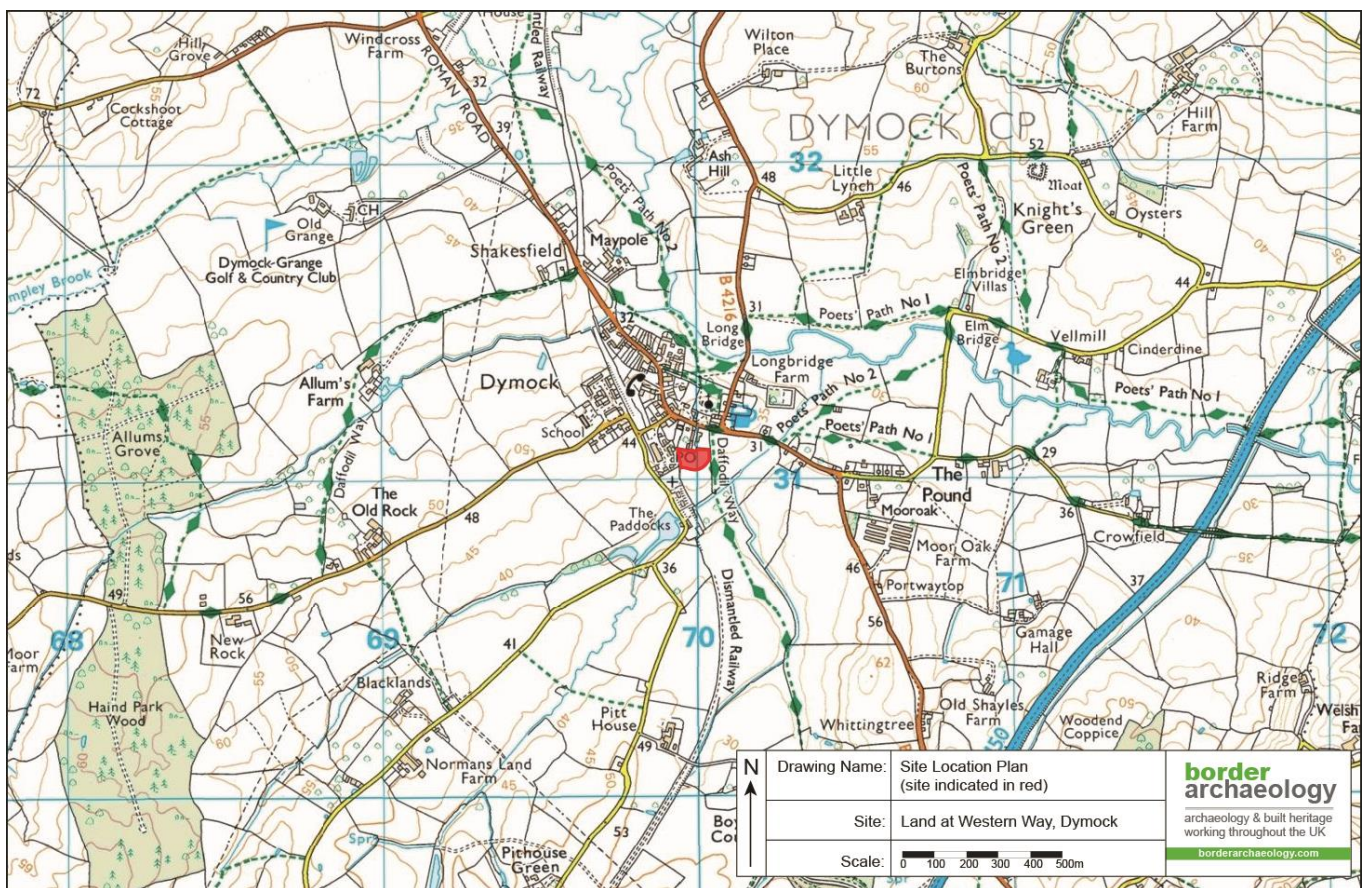
The Roman features had been truncated during the formation of a post-Roman plough-soil, which sealed these features and which contained large quantities of Roman pottery.

During more recent times, the site had been deliberately levelled, with the truncation of the post-Roman plough-soil on the northern part of the site and deposition of rubble to raise the surface in the waterlogged area to the east, adjacent to the ditch.

2 Introduction

Border Archaeology Ltd (BA) was instructed by Tomack Developments to carry out a programme of archaeological work on Land at Western Way Dymock (NGR SO 69989 31051) comprising 1) Geophysical survey, 2) Archaeological field evaluation and 3) Archaeological excavation (Planning Ref. P1219/12/FUL) (fig. 1).

Geophysical survey and evaluation were undertaken in late May and early June 2013 (Archaeological Surveys 2013; Border Archaeology 2013). The evaluation identified a number of ditches crossing the site, together with possible pits and postholes sealed by a post-Roman plough-soil, and excavation was thus undertaken in July to August 2013 (BA 2014).



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Fig. 1 Site location plan (site marked in red)

Initial results suggested the most significant feature on the site was a possible small surface-built kiln [1046] dated to the late 1st-early 2nd centuries AD. However, this interpretation could not be confirmed and an additional specific programme of specialist work to include full petrological analysis was commissioned by BA under instruction from the Client and agreed with Charles Parry Esq. Archaeologist Gloucestershire County Council.

This report thus follows a Post-Excavation Assessment and Updated Project Design (PEAUPD) previously submitted to Mr. Parry and reflects the results of the specific programme of additional analysis, as agreed.

3 Site Description

The development affects an area of some 6032m² (0.603ha) centred upon NGR: SO69989 31051 (as advised by Quattro Architects) measuring some 40m (N-S) × 80m (E-W). The land falls from 37.5m AOD at its northern extent to 36m AOD at the S. The settlement of Dymock itself occupies a small area of land rising to 50m AOD to the N of the site, flanked by the River Leadon to the NW and a small tributary stream to the S. The underlying geology is the Raglan Mudstone Formation of siliciclastic argillaceous rocks of the Devonian period with alluvium in the river valleys. Upper Ludlow Shales outcrop to the W with outcrops of Bromsgrove sandstone formation to the E.

The soils are typical argillic brown earths of the BROMYARD series (571b), composed of well-drained reddish silty soils over shale and siltstone (SSEW 1983).

4 Historical and Archaeological Background

Although Dymock is thought likely to have Iron Age origins (cropmarks to the E of the village show possible Iron Age enclosures (Catchpole *et al.* 2007a)), it is not until the Roman period that stratified archaeological features appear. Leech (1981) suggests a military origin; however, as yet, there has been no evidence to substantiate this suggestion (*ibid.*). The earliest excavated evidence derives from the Sewage Works excavations (Catchpole 2007a) which recovered examples of samian ware suggesting activity from c. 70AD onwards.

Given the lack of evidence for a military origin, the character of the archaeological evidence recovered to date, encompassing both amateur and professional excavations, indicates that Dymock was a Roman civilian settlement, probably extending from the NW edge of the existing village to the cricket field in the E (Catchpole *et al.* 2007a). The material recovered from excavation and chance finds suggests Dymock comprised a settlement with buildings of various type and status and that industrial processing, principally metalworking, but also pottery production, was practised.

Dymock stands at the junction of two Roman roads – one extending from Stretton Grandison to Dymock and then probably on to Gloucester (this latter section is less clear) and the other evidently originating near Tewkesbury and terminating at Dymock (Leech 1981). The distance between the settlement at Dymock and the Roman legionary fortress at Gloucester and the fort and suggested *vicus* at Stretton Grandison would have been approximately 18 and 14km, respectively, representing a distance equivalent to a day's march. Additionally, the distance between Dymock and the river-crossing at Tewkesbury would equally have been approximately a day's march (c. 18km). Indeed, it is postulated (Catchpole *et al.*, 2007b) that the positioning of the surrounding settlements equidistant from each other might suggest they were planned and that Dymock was established to accommodate official travellers and to provide locally manufactured goods; however, it is also possible that its establishment was due to market availability.

The settlement itself is thought to represent a pattern of roadside development typical of the Roman period. Palaeoecological evidence from the excavations at the Sewage Works (Catchpole 2007a) indicates that mixed farming was practised and it is suggested that the settlement could have been self-sufficient in terms of food

production (Catchpole *et al.* 2007a). Pottery evidence from the Sewage Works (Timby, in Catchpole 2007a), Rectory (Timby, in Simmonds 2007) and Rose Cottage (Tavener 2001) suggest that local pottery production was important and included handmade Severn Valley Ware and some greywares.

In addition, industrial activity in the form of metalworking is attested by the frequency of associated debris recovered from across the settlement area. There is, to date, only one reported focus of metalworking activity. The Malvern Research Group conducted excavations in an area to the S of the road (the precise location is not known) and, in addition to evidence for timber-framed buildings, with associated pottery dating from the 1st -3rd centuries AD, the discovery of at least two bowl-furnaces is reported, together with a possible smithing furnace and a large quantity of iron slag (Waters 1960-72) (the archive is located at Gloucester Museum and has not been reassessed).

Excavations undertaken by Oxford Archaeology in 2007 at Stallards Place (NGR: SO6986 3133) in advance of the construction of new housing identified a boundary ditch extending back from the main Roman road, which appeared to define a plot containing evidence of at least one - and possibly two – structures, together with a small number of pits and gullies. The ceramic evidence suggested that occupation of the site started later than at previously excavated sites at Dymock, perhaps representing a westward expansion of the original settlement, and that it continued in use after some other areas had been abandoned. It was concluded (Simmonds 2010) that this area may have been peripheral to the main settlement focus, being located at the western extent of the known distribution of Roman finds; excavation indicated less intensive occupation than has been recorded by excavations further E.

The seeming ubiquity of associated debris from excavations in Dymock strongly suggests that metalworking constituted an important industry. The Sewage Works excavations produced evidence for both iron-smelting and the casting of copper-alloy objects in the form of iron-slag debris and moulds. The small slag assemblage and the paucity of furnace fragments indicates that smelting did not take place within the excavated area, although it would have occurred nearby (Dungworth, in Catchpole 2007a). However, this apparent lack of archaeological evidence for shaft furnaces may - if a similar pattern of recovery continues - be misleading and it is considered possible that furnaces may have been constructed in such a way as to leave no trace (Catchpole *et al.* 2007b).

Recent excavations at Kyrleside, located adjacent to the present excavation site, produced further evidence of metalworking suggestive of iron-smelting, iron-smithing, the casting of copper-alloy artefacts and the small-scale extraction of silver from base metals (Williams 2011). Evidence for the presence of the latter derives from the occurrence of a small quantity of clay fragments (seven in total) identified as possible 'cupels' or heating trays, which may have been used in the extraction of silver (or gold) from base metals or alloys ('cupellation'). Evidence both for the cupellation process and cupels/heating trays has been identified on a moderate number of archaeological sites of Roman date spread widely across Britain (Young, in Williams 2011; Bailey & Eckstein 2006); however, this type of evidence is rare in Gloucestershire.

The metalworking evidence from Kyrleside derived from pit and ditch features and there was no evidence for structural remains associated with metalworking. Comparable with the assemblage from the Sewage Works, the relatively low density of the metalworking residue may best fit with the disposal of waste products.

Later in the Roman period there is a clear absence of materials, particularly ceramics, forming a recurrent pattern of evidence within the archaeology of Dymock (Catchpole *et al.* 2007b). Occupation ceased in the early 2nd century at Rose Cottage and Winserdine (Tavener 2001) and by the late 2nd and early 3rd century at the Rectory and Sewage Works (Simmonds 2007; Catchpole 2007b).

5 Methodology

Work was carried out according to *Standard and guidance for archaeological excavation* (IfA 2008) and *Management of Projects in the Historic Environment: The MoRPHE Project Mangers' Guide* (English Heritage 2009). The subsequent additional programme of specialist work was carried out in accordance with *Standard and guidance for the collection, documentation, conservation and research of archaeological materials* (ClfA 2014).

The upper surface of the post-Roman plough-soil (1005) was cleared by machine. This was followed by further clearance to the archaeological horizon (1002), all machining being carried out with a wide un-toothed blade ditching bucket, as specified in the Gloucestershire County Council's generic Brief. Once the first significant archaeological horizon was reached, excavation proceeded by hand.

Full written, graphic and photographic records were made in accordance with Border Archaeology's *Archaeological Field Recording Manual* (2012). Written records comprise detailed stratigraphic information using a context numbering system. Drawings were produced on gridded, archive-stable polyester film at scales of 1:50, 1:20 or 1:10, as appropriate, with representative measured sections prepared as appropriate showing the sequence and depths of deposits. A temporary benchmark (TBM) was established and plans, elevations and sections contained grid and level information relative to OS data. All drawings were numbered and listed in a drawing register, these drawing numbers being cross-referenced to written site records.

A photographic record was made using a high-resolution digital camera, comprising photographs of archaeological features and appropriate groups of features and structures. Included in each photograph was an appropriate scale and all photographic records were indexed and cross-referenced to written site records. Details concerning subject and direction of view were maintained in a photographic register, indexed by frame number.

Samples of 40ltr were taken from dry or waterlogged deposits where such contexts were deemed to have potential for palaeoenvironmental analysis (i.e. high organic content, peat etc.), that contained occupation material, that were datable and had a stratigraphic/contextual relationship with other contexts so as to facilitate interpretation.

Possible hearth bottom, slag and ore were examined and classified by BA's appointed specialist (*Appendix 6*)

Samples were taken from deposits & fills of pits believed not to be contaminated or of mixed/secondary origin (e.g. backfills or deposits with a high degree of residual/intrusive artefactual material), those thought or known to contain well-preserved biological remains, deposits likely to be closely datable and those interpretatively important at the context or site level.

These were analyzed for charcoal, molluscs, charred plant remains, mineral replaced plant and insect remains, faunal assemblages and pottery. Samples were taken from individual contexts and comprised where practicable, 40L or 100 per cent of the sample if smaller.

Large animal bone fragments, mollusc shells and carbonized materials were recovered by hand-collection and recorded through the finds system. Fish, insects, small mammals and parasites, mineralized and carbonized seeds and chaff etc., together with potential industrial residues, were recovered from samples by fine-mesh sieving and flotation separation (undertaken by ASUD).

Samples were assigned sample numbers and these were entered into a sample register and cross-referenced with record sheets.

Any associated artefacts recovered were retained, cleaned, labelled and stored according to *Standard and Guidance for the collection, documentation, conservation and research of archaeological materials* (IfA 2008) and *First Aid for Finds* (Watkinson & Neal 2001). The aim will be to create a stable, ordered, well-documented, accessible material archive forming a resource for current and future research (IfA 2008).

All artefacts were bagged and labelled with the site code and context number before being removed off-site. Each assemblage has been examined according to typological or chronological criteria and conservation needs identified. Conservation, if required, will be undertaken by an approved conservator on advice provided by a suitable specialist and in accordance with guidelines issued by the United Kingdom Institute for Conservation (now part of ICON, the Institute of Conservation).

6 Results

The following concordance identifies those archaeological features and deposits which were recorded during both the evaluation and excavation phases of the project and lists their respective context numbers.

Context (Evaluation)	Context (Excavation)
[1005]	[1028]
(1004)	(1024) (1027) (1033)
[1007] [1014] [5005]	[1032]
(1006) (1012) (5004)	(1026)
(2007)	(1052)
(2003)	(1005)

The natural deposit on the site (1002) was a well-compacted pink clay with occasional greenish sandstone patches and banding and manganese flecks. Archaeological features cut this deposit.

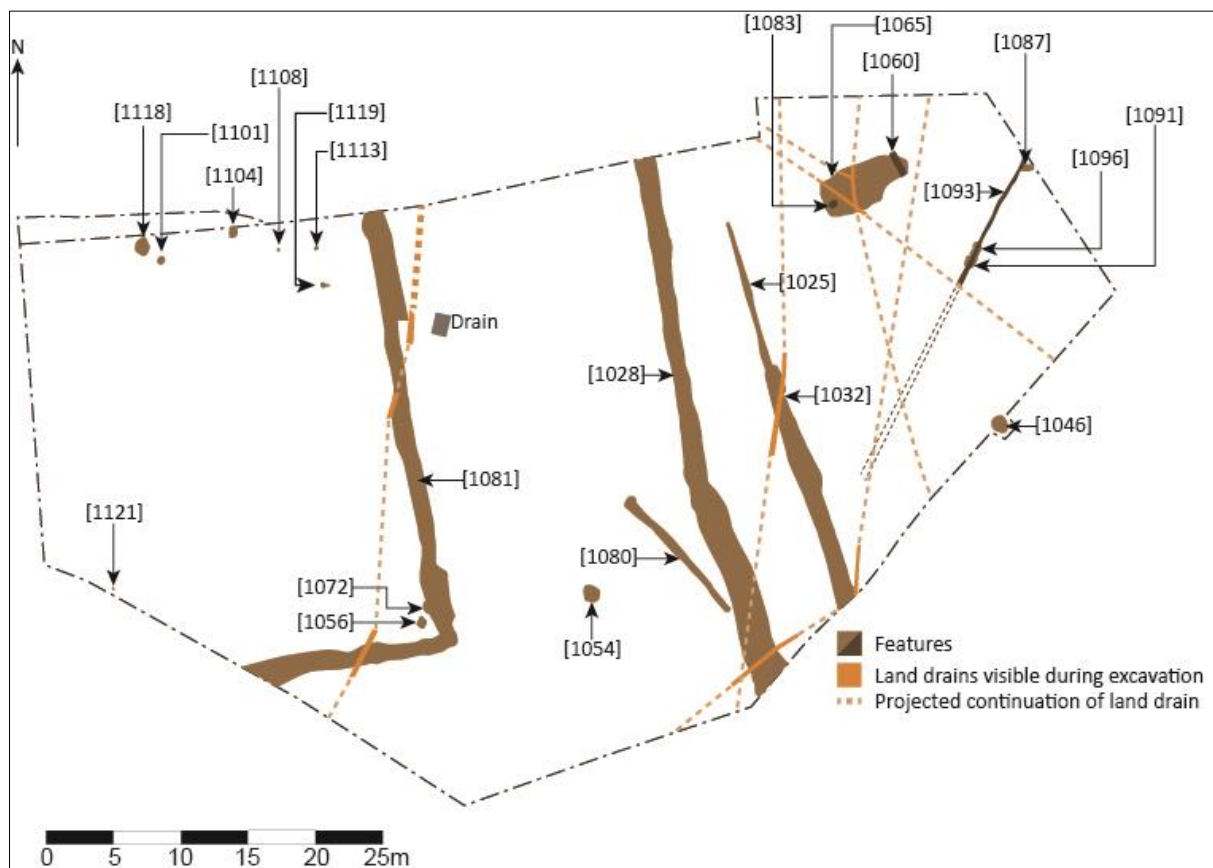


Fig. 2: Plan showing location of features

6.1 Phase 1a: Earliest features

Features are shown on the site plan above (*fig. 2*) and full context descriptions are provided as an appendix to this document (*Appendix 1*).

No evidence was identified for activity preceding the 1st century AD, although the pottery suggested that two features may possibly have been of pre-Conquest date. Of these, posthole [1104] (*fig. 2*) lay in the proximity of, and bore a close resemblance to, a feature [1101] containing slightly later pottery. As the earlier date was proposed on the basis of a single sherd, association with the later feature is thought more likely.

The remaining feature, [1087], for which a pre-Conquest date was possible lay close to the eastern extent of the site and comprised a shallow oval pit measuring 0.95m × 0.48m × 0.10m (*figs. 2 & 3*). The pit revealed steeply sloping sides and a concave base whilst the fill (1088) consisted of loose mid orange-brown silt clay with frequent charcoal and occasional fragments of burnt clay. The charred seeds within the fill represented weed species, with few cereal grains present. There was no evidence to indicate that burning had taken place within the feature itself and it is thought the pit was used to dump waste from a nearby feature. The pottery recovered from (1088) is dated 1st century AD.

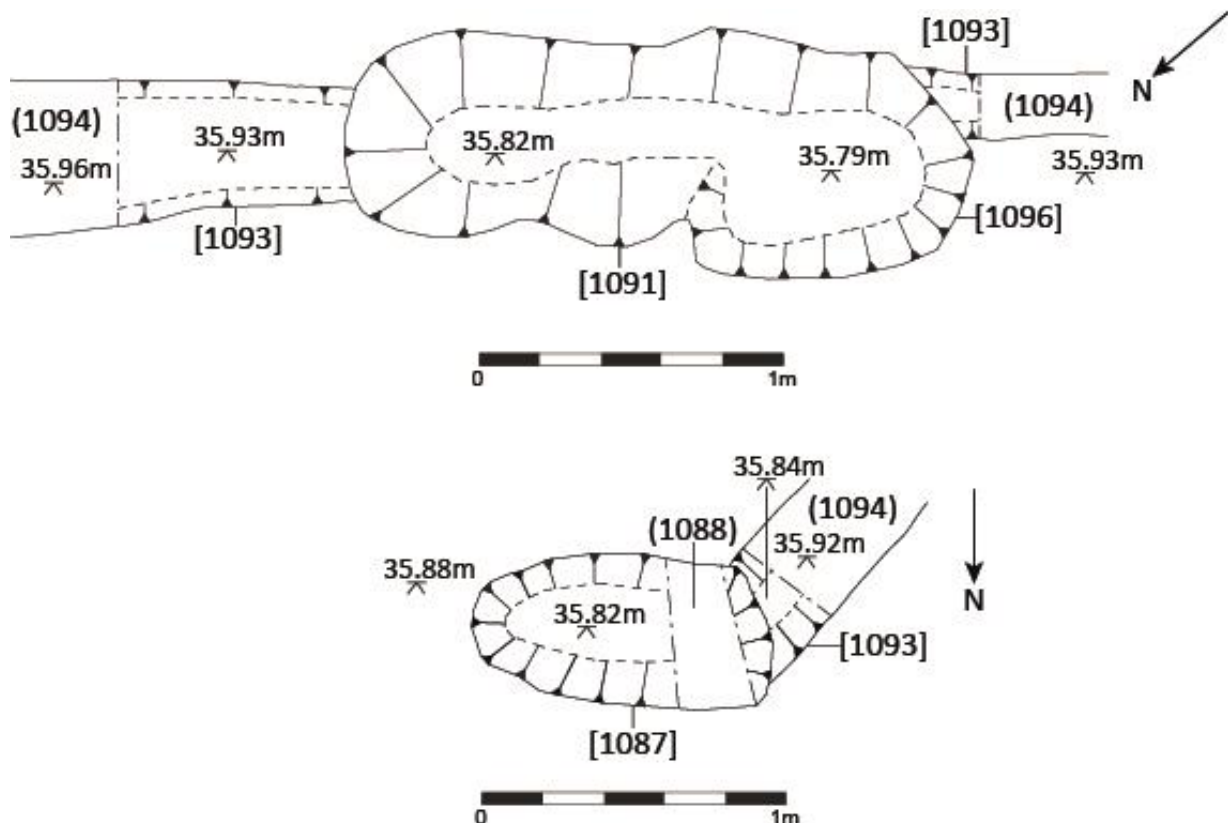


Fig. 3: Features [1091] & [1087]

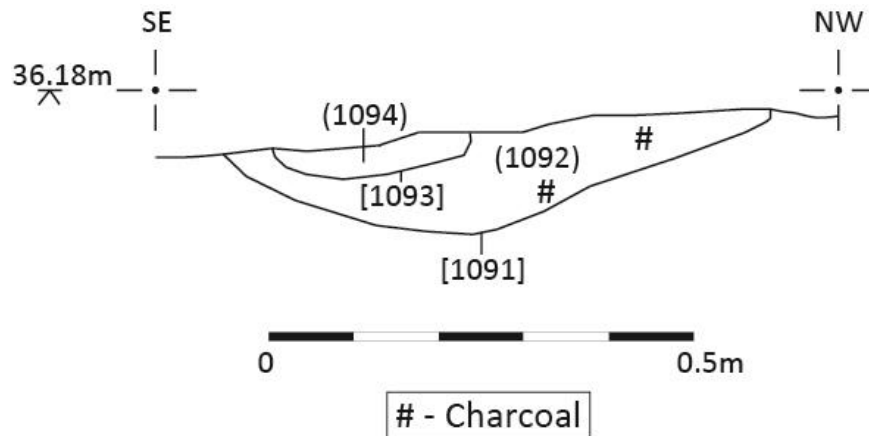


Fig. 4: Profile of feature [1091]

A shallow bowl-shaped cut [1091] (figs. 3 & 4) measured 1.18m × 0.65m × 0.12m. The fill (1092), a mid-greyish-brown silt clay, was relatively sterile but contained a few sherds of pottery dating to the 1st century AD, together with occasional fragments of animal bone and a little charcoal. The comparatively sterile fill suggested that primary use as a rubbish pit was unlikely and that the fill may have been deposited through natural silting, with the finds incorporated accidentally.

Pit [1054] (fig. 2) was first encountered during the evaluation excavation as feature [2008]. This feature was sub-rounded in plan and measured 1.32m × c.1.0m × 0.23m, with irregular sloping sides and a flat base. The fill (1052) was a firm mid grey silty clay with frequent charcoal and occasional light pink/grey fired clay (reduced fired), together with fragments of iron slag, suggesting that it could have been industrially derived. Pottery dated to the 1st century AD and was mainly calcareous-tempered material, following a late Iron Age tradition, and possibly produced on-site.

A midden [1065] (fig. 5) was truncated on its eastern side by a recent test pit and to the W by a number of land drains. Its regular form meant that it was almost certainly cut deliberately rather than being a natural hollow used for the deposition of rubbish. The cut measured 7.0m (E/W) × 4.0m × 0.25m and was roughly sub-rectangular in plan, with rounded corners and a flat base. The fill (1059) consisted of firm and compact dark greyish-brown organic silty clay, very free-draining, far more so than the surrounding natural clay, which contained frequent charcoal. This fill yielded a concentration of Belgic wares, mainly in typical forms (dating AD 1–70), but with some possible earlier examples (1st century BC–AD70). The earliest pottery was recovered from this material, comprising reduced Iron Age tradition wares in the form of Barrel Jars from the NE and SW quadrants, including an import with no siltstone in its matrix (NE quadrant). A barrel jar in a handmade calcareous fabric was also recovered from (1059) (NW quadrant).

This midden material contained the greatest accumulation of vertebrate remains. Butchery marks were typically seen as chops on cattle shaft fragments, although a split radius fragment was noted. Whilst *caprovid* and cattle remains were predominantly found across the site, some 22 pig bones were recovered from (1059), together with a single chicken radius fragment. Charred plant remains comprised cereal grains, including barley and *cf.* spelt wheat, with the presence of fragmentary hazelnut shell suggesting exploitation of gathered foods.

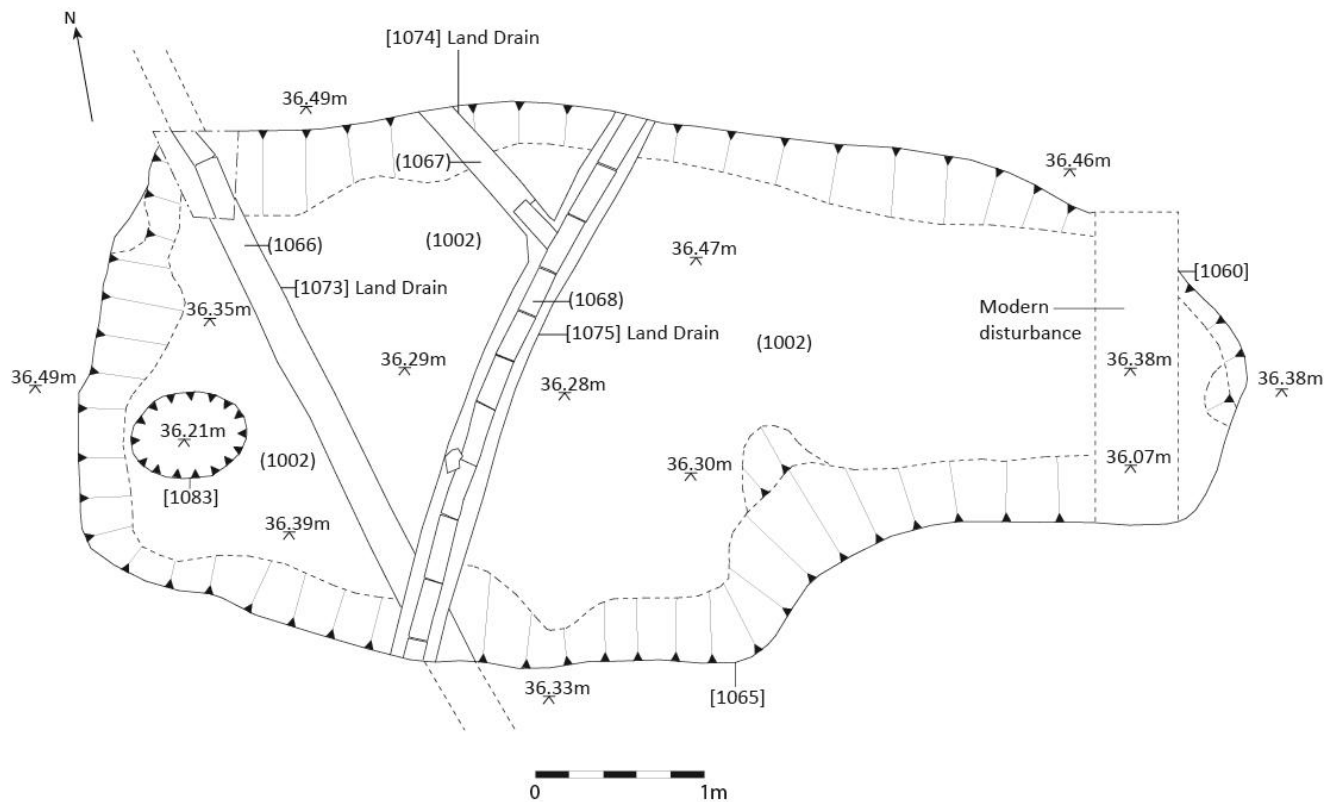


Fig. 5: Plan of midden [1065] showing posthole [1083]

It is, of course, possible that the feature initially served another purpose and that it was subsequently used to deposit rubbish once its original function had ceased. This possibility is certainly implied by the presence of a posthole, suggesting that a roof may originally have been present. The posthole, [1083], (fig. 5) was thought to be contemporary with [1065] and had a circular depression in the centre, which may have indicated the position of an upright. The two features seem to have been contemporary as, while the lower part of fill (1059) was cut by [1083], the upper part of the fill masked the feature. However, it is also possible that the upper part of the post was cut or broken away and removed while the lower part remained in place. Posthole [1083] was an irregular oval, measuring 0.61m (E/W) × 0.52m × 0.12m. The depression in the centre measured 0.13m × 0.16m. No post-pipe was seen in the fill. It is unfortunate that the three remaining corners of [1065] were damaged by a recent test pit [1060] on the E side and by land drains [1066], [1067], and [1068] to the W; thus, had similar features been present, they would have been removed.

Upon excavation, it became apparent that a higher proportion of burnt animal bone was present in the northern part of the feature than was found at the S; the bone was mainly of *caprovid*, with mandibles predominating, suggesting primary butchery waste. In addition to burnt animal bone, the NW quadrant contained a high proportion of calcareous-tempered ware, thought to have been made on-site. A conglomeration of poorly-fired ceramic material, possibly a mass of kiln wasters (Appendix 3), was recovered from this part of the fill. A large amount of black pottery was present in the NE section and a fragment of a quern stone was recovered. The stone was a quartz conglomerate, the nearest source of which is located in the Forest of Dean. A further quern stone

fragment found in the SE quadrant was not part of the same stone, being of Haffield breccia, probably derived from a source about 3km distant. This part of the feature also contained a considerable amount of pottery, although less animal bone was present. The samples contained more animal bone and pottery, together with grain, coal and clinker and hazelnut shell. The feature was dated AD 1–70.

6.1.1 Phase 1b: Main phase of activity (late 1st –early 2nd century AD)

At its SW end, [1091] had been cut by a further pit [1096] (*fig. 2*), with clear evidence of burning in its base. It measured 0.95m × 0.40m × 0.13m, with sloping sides and a convex base. The fill (1097) was a charcoal-rich mid reddish-brown silty clay; a large number of fragments of pottery, together with burnt bone and grain, including wheat and spelt and wheat chaff, were identified in the sample.

While [1096] may have been a small hearth requiring a low temperature, it is also possible that it was used to dump debris or spent fuel from a process taking place nearby. If this was the case, the waste material was deposited whilst still hot, accounting for the burning in the base of the pit. The cereal waste was probably used as kindling.

A number of fairly small discrete features lay along the NW edge of the site (*fig. 2*); pottery from all except (1103), the fill of posthole [1104], dated to the later 1st to early 2nd centuries. Fill (1103) contained only pottery dated to the 1st century AD, which could imply a pre-Roman (Phase 1a) date for [1104]; however, only one sherd was present, together with a fragment of flint flake, which had evidently incurred post-depositional damage. This, together with the feature's similarity and close proximity to [1101], and the similarity of fills (1103) and (1100), suggests [1104] is more likely to belong in Phase 2.

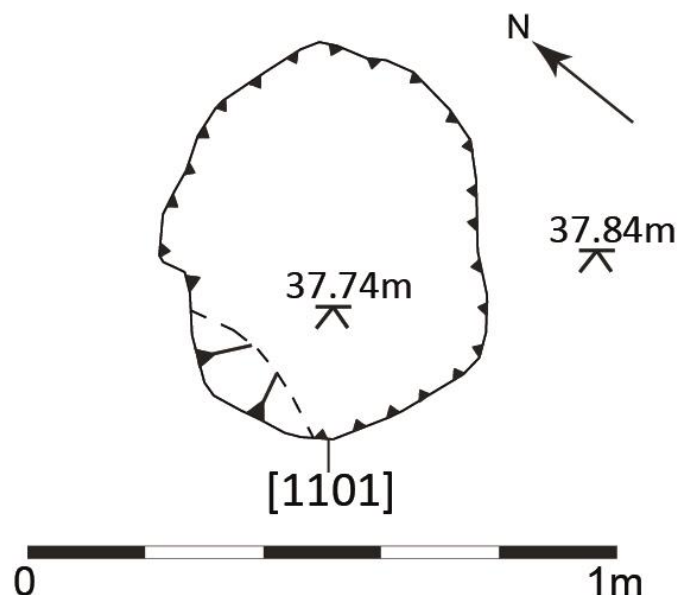


Fig. 6: Plan view of possible posthole [1101]

Posthole [1104] lay at the very edge of the site at its NW extent, closest to the previous excavation site at Kyrleside. It was of rounded form measuring 0.70m (N/S) × 0.60m (E/W) × 0.15m – a depth comparable with similar features

identified on the previous site. The sides sloped steeply to a fairly flat but irregular base. Fill (1103) was a very firm dark grey to black silt clay with very frequent charcoal and large fragments of stone. The stones may have served as post-packing.

Cut [1101] (*figs. 2 & 6*), another possible posthole, contained pottery of 1st to 2nd century AD date and was of similar size to [1104]. It was roughly circular in plan with a diameter of some 0.70m; it was 0.15m deep. It, too, had steep sides and an irregular base. As was the case with (1103), the fill (1100) contained large fragments of stone in a matrix of very firm dark greyish-brown silt clay with frequent flecks of charcoal. Samples from both features yielded charred grains of wheat, while (1103) also contained large fragments of oak charcoal. The stones in [1101], as with those in [1104], may have been post-packing.

To the E of posthole [1104] lay [1108] (*fig. 2*), which was roughly circular in plan and 0.18m deep, measuring 0.25m in diameter. The sides sloped steeply to a gently rounded base, a different form from the other two features. It was filled by (1109), a firm mid greyish-brown silt clay with frequent large fragments of charcoal. A stone and a sherd of pottery were found upright on the N edge of the cut and seemed to have served as post-packing. The pottery dated to the late 1st to early 2nd centuries AD.

Cut [1113] (*fig. 2*) had been damaged during the post-medieval period by the insertion of a land drain [1114], although its form appeared to be similar to that of [1108]. It was oval in plan, with the N edge sloping gradually and the S side more steeply; it measured 0.40m E/W and was 0.30m wide. The land drain ran through the centre of the feature so its full depth is not known and the form of the base could not be ascertained. It survived to a depth of 0.10m and was filled by (1112), a firm mid greyish-brown silt clay with frequent large flecks of charcoal. A small amount of clinker was recovered from the sample.

Feature [1118] (*figs. 2 & 7*) may have been a refuse pit and a considerable amount of burnt clay was present in its fill. The cut was sub-rounded in plan, with irregularly rounded sides, stepped on the N edge, and a rounded base. It measured 1.40m long (N/S) × 1.15m × 0.23m. The fill (1116) was a very dark brown, ashy silty clay, very rich in charcoal. A considerable amount of burnt clay was present in it, which, together with the presence of tap slag, suggested that it might have been used to dump industrial refuse. However, the presence of burnt animal bone and of pottery in the fill meant that the deposit could equally have originated as domestic refuse, with industrial residues accidentally incorporated. Although there was no evidence for ironworking on the site, association with a number of small industrial features which used heat is possible.

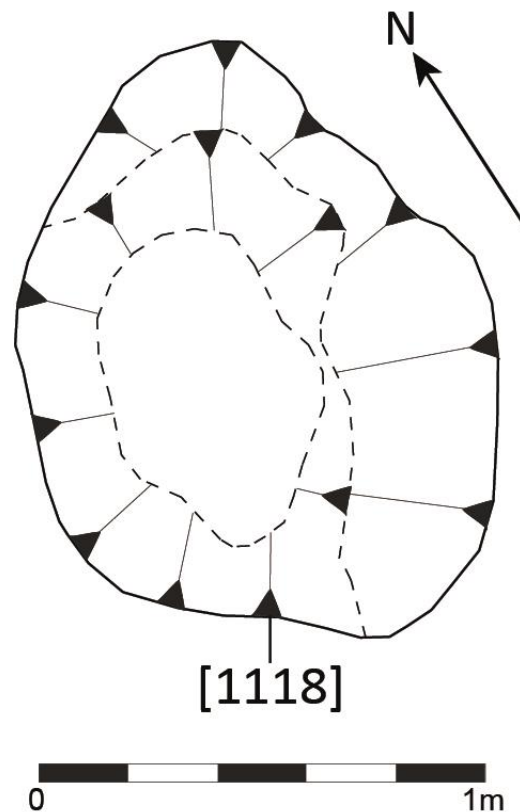


Fig. 7: Pit [1118]

6.1.1.1 Industrial features

A small hearth or kiln [1119] (figs. 2 & 8) lay in the NW part of the site. The feature was 0.90m E/W and was a maximum of 0.40m wide at its western end. The feature was bowl-shaped and oxidised to an orange-red colour. At the E end, it survived only as burning of the natural clay; it seems likely that, as it was partly masked by the post-Roman plough-soil (1005), damage to the structure had occurred in antiquity.

The fill (1117) consisted of fairly loose mid-brown silty clay containing a moderate amount of charcoal and numerous large fragments of burnt clay. The fired clay fragments contained a large number of inclusions, while the base of the hearth consisted of burnt natural clay. While it is possible that it had originally been lined, there was no surviving evidence for this. The fragments of the structure were clearly curved. No evidence was recovered as to the purpose for which the hearth or kiln had been used. There was no evidence - such as vitrification - to indicate that it had been fired to a sufficiently high temperature for use in ironworking and it was very small. While the small size need not preclude use in ironworking, neither slag nor hammer-scale was found in the fill nor recovered from the sample, which contained a large amount of fired clay, together with coal, charcoal and clinker, probably remains of fuel used in the kiln. No charred grains or seeds were found.

Two further small hearths, [1056] and [1072], of unknown function were present to the S of [1119], with the easternmost [1072] cut by later enclosure ditch [1081] (Plate 1; figs. 2 & 9). They were of similar form to one another, although markedly different to [1119] and, as with that feature, the fills offered no evidence of function and no large quantities of pottery were recovered.

Feature [1056] was oval in plan and aligned N/S. It measured 0.80m × 0.60m × 0.23m and a small lip, probably representing a flue or blowhole, was present at the N end. The feature had steep, near-vertical sides and a base that sloped 0.10m to the S within the cut.

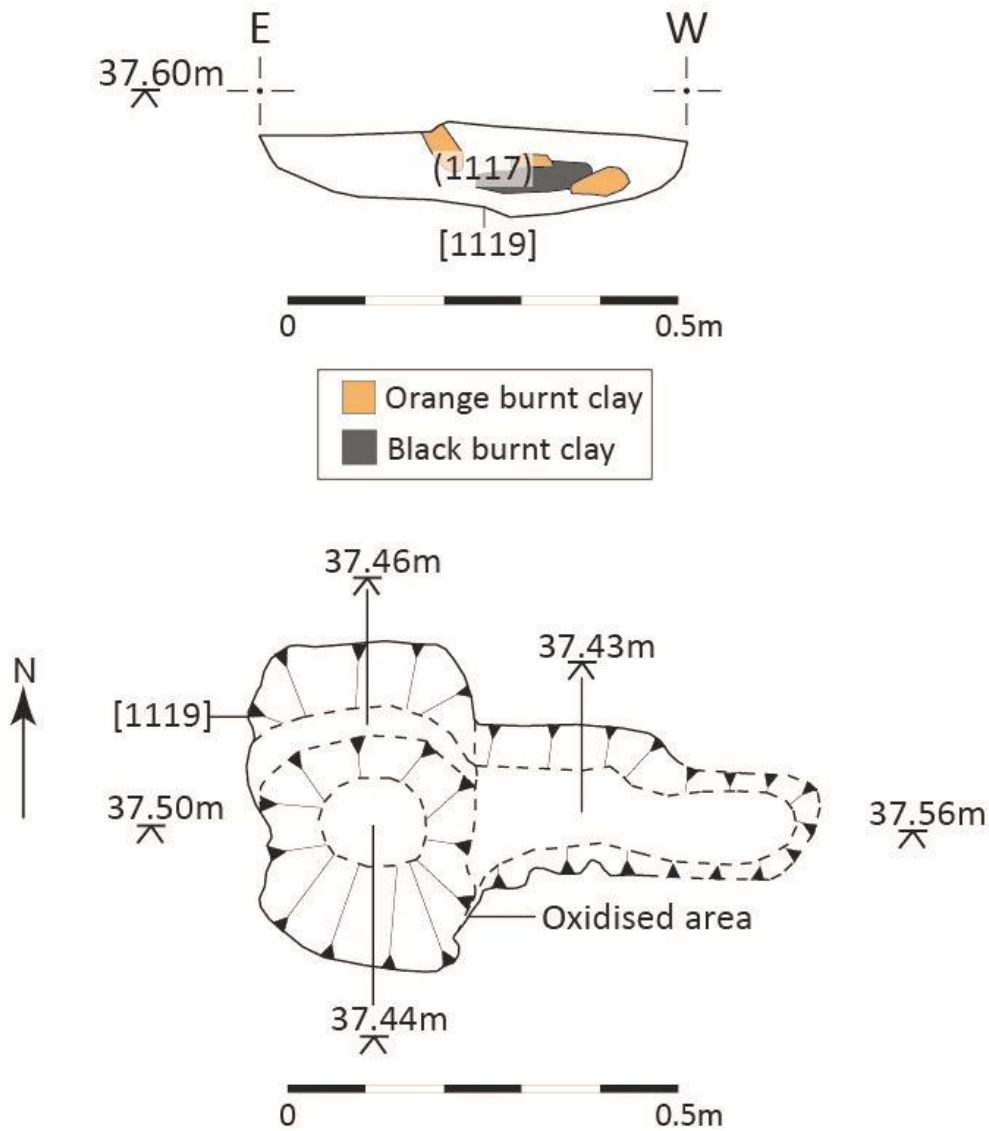


Fig. 8: Hearth/furnace [1119]

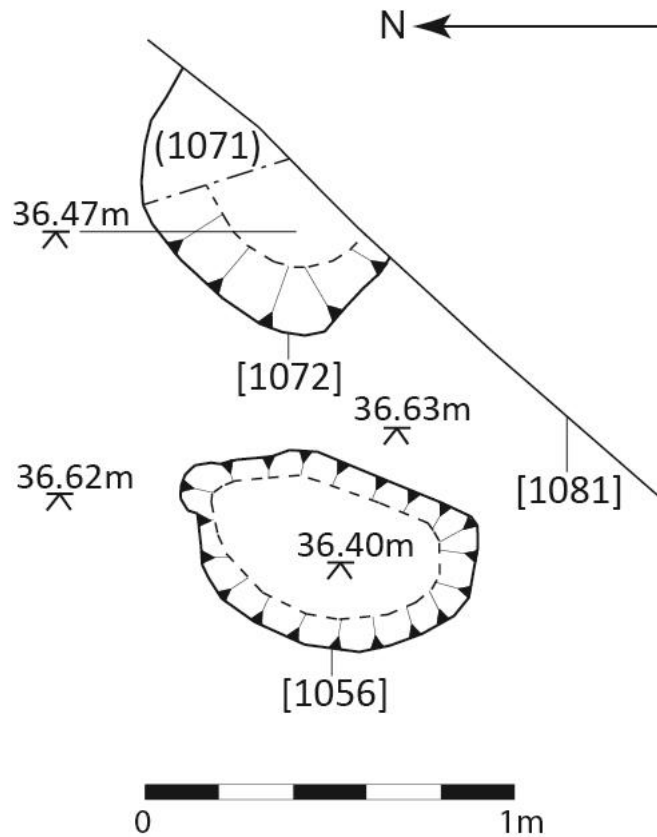


Fig. 9: Hearths [1056] & [1072]

Feature [1056] was lined with (1057); the upper surface of this layer formed a bowl shape, the regularity of which implied that it had been deliberately formed. It was firmly compacted and consisted of fragments of bright orange fired clay and charcoal. Lining (1057) was 30-50mm thick but was thicker at the edges of the cut. It is possible that lining (1057) was intended to provide insulation. Above lining (1057), a thin (50mm thick) layer of black silty ash (1061) probably represented fuel ash from the final firing of the hearth. While most of the contexts contained only limited charred plant assemblages, (1061) contained large assemblages of charred grass caryopses, predominantly brome grass, although charred cereal grains, including barley and spelt, were also noted.



Plate 1: View N showing hearths [1056] and [1072], post-excavation

The fill (1058) was firmly compacted, although the material was very soft. It was composed of silty clay, with charcoal flecks and a moderate amount of burnt clay, which may indeed have derived from the hearth superstructure. It was very 'dirty' and the sample, in addition to charcoal, contained coal and coal shale, together with cereal grains and bone fragments. Pottery recovered from this deposit was dated to the late 1st -early 2nd centuries AD and consisted predominantly of locally-made organic and siltstone/grog-tempered wheel-made wares (R31.1) with 'Belgic wares' and oxidized wares also present.

Of almost identical form to [1056] was a further circular or sub-circular cut [1072] (*Plate 1; figs. 2 & 9*), truncated on its E side by Phase 2/3 ditch [1081]. It measured 0.70m (N/S) × 0.40m × 0.15 and the profile was bowl-shaped – similar to that formed by lining (1057) within nearby [1056]. In the case of [1072], the 'lining' (1071) was the burnt edge around the upper part of the cut to a depth of around 30mm only, with no burning seen in the base. The fill (1069) was a firm greyish-brown silty clay, with moderate fired clay, frequent charcoal flecks and flecks of burnt bone. It is possible that a further fill or possible capping overlay (1069), as a deposit similar to overlying (1005), but rather softer, was present. It may represent a deeper patch of (1005) filling a void left by possible sinking of fill (1069).

A feature considered to represent a possible small surface-built kiln (*Plates 2 & 3; figs. 2, 10 & 11*) was identified on the southern edge of the site. The cut [1046] was a shallow oval measuring 1.32m × 1.04m × 0.29m and was thus slightly larger than [1119], [1056] and [1072] and of a similar size to a number of small kilns of early Roman date excavated in Britain (see 7.1).

Two cuts of about 0.5m in the base were considered possibly to represent the remnants of ventilation features. Although no evidence was seen for either a flue or stokehole, this may well have been lost during topsoil ploughing.

No evidence, however, was found in or around the oval of any of the features, material or debris associated with pottery production.



Plate 2: Plan view of [1046]



Plate 3: View SE of [1046]

The cut was lined (*fig. 11*) with a light yellowish-grey clay loam (1043), 140mm deep at the edges of the cut and fairly clean, apart from occasional flecks of manganese and occasional animal bone. Examination of the sample confirmed the lack of finds within this lining. Above it, (1042) was a firm to compact red clay with small dark brown patches, particularly around the dump of pottery in the fill. The fill contained pottery fragments from five different fabrics, together with burnt clay and charcoal. Stonework seen to the E may have had an association with [1046]; however, this area incurred quite substantial damage overnight due to unauthorized site entry and excavation.

A bronze brooch dating to the 1st -2nd century AD was recovered from (1042) but, as a result of the unauthorized disturbance, this was not found *in-situ* and its original position is thus unclear (*Plates 4 & 5*). It was also not possible to determine whether other items had been removed from this feature.

The five types of pottery in (1042) dated to the 1st -early 2nd centuries and included calcareous-tempered wares, early grey ware and oxidized ware, all local and possibly manufactured on site, and a small percentage of Belgic ware (*Appendices 2 & 3*).



Plate 4: Bronze brooch, dating to the 1st to 2nd century AD from (1042) (front)



Plate 5: Bronze brooch, dating to the 1st to 2nd century AD from (1042) (back)



Plate 6: Samian ware vessel from (1024)

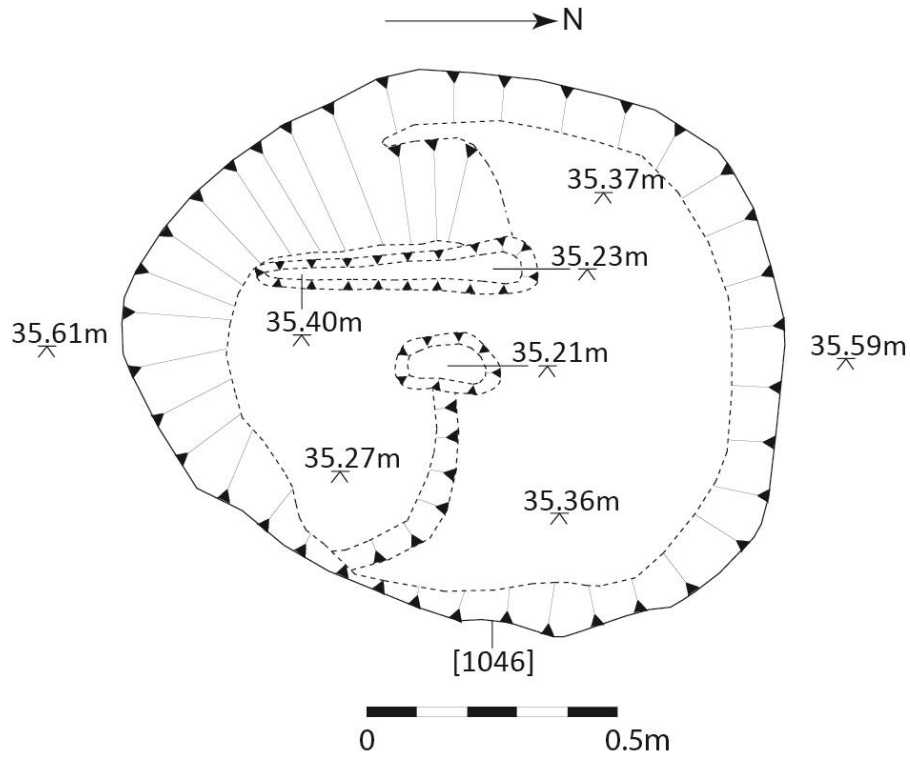


Fig. 10: Plan of Feature [1046]

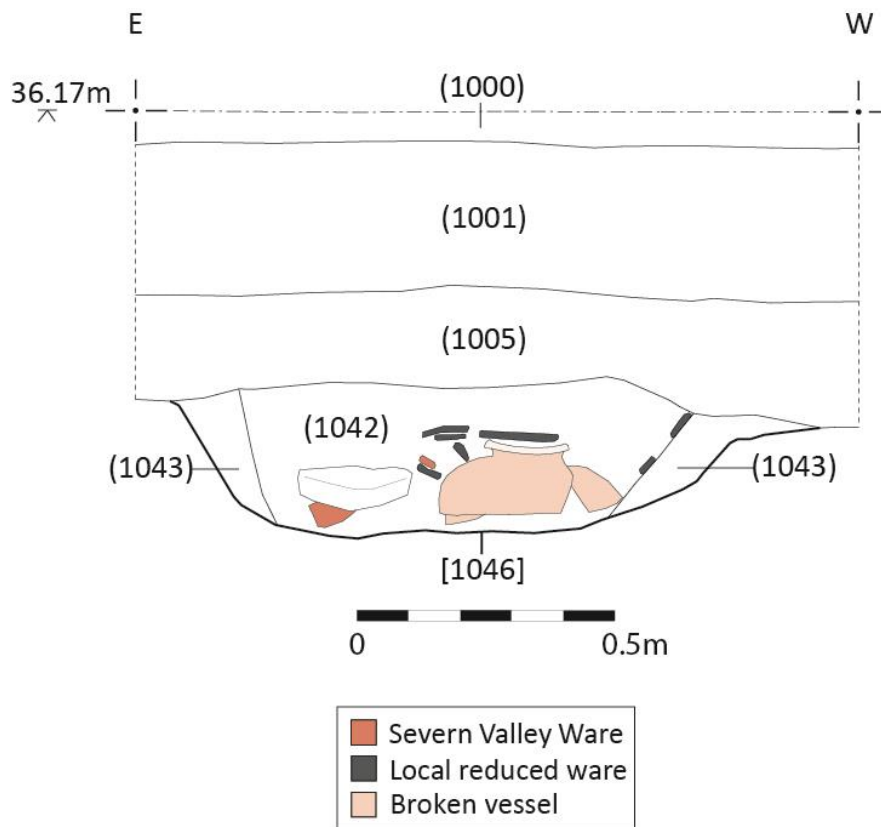


Fig. 11: N-facing section through feature [1046]

6.1.1.2 Ditches

Ditch [1080] (*figs. 2 & 12*) was aligned NW/SE, suggesting that it may have been earlier than the N/S -aligned ditches. It measured 11m × 0.38m × 0.30m, with a shallow U-shaped profile. Although the SE end was close to the western edge of ditch [1028], there was no relationship between the two features. The primary fill (1085) was a very compact dark brown silty clay containing a large amount of manganese and is considered to have formed by silting. No finds were present within the fill and the ditch probably remained open and full of water before being deliberately filled. Its shallow depth may be the result of truncation of the upper part during later agricultural activity. The ditch may have served as a boundary feature around part of the settlement or it may have served a drainage function. The alignment of the settlement may have changed with the construction of the road shortly after the Conquest, following which the ditch silted up and was then deliberately filled with rubbish.

The secondary fill (1070) was a moderately compact mid orange-brown silty clay with occasional fairly substantial charcoal flecks. A considerable quantity of pottery dating to the later 1st to early 2nd centuries was recovered from this feature, including storage jars in a greyware fabric, thought to have been made on the site. Although animal bone was present, only 24 pieces were recovered from the ditch. The NW terminus, although disturbed by a land drain, was rounded; a considerable amount of pottery was present in the feature at this point, suggesting a distinct episode of deposition.

Very little material was recovered from the soil sample. As with ditches [1028] and [1025], more finds were present at the N end of the feature, suggesting that the focus of settlement lay to the N. The lack of later pottery in fill (1070) might suggest that it went out of use at an earlier date than the N/S -aligned [1028] and [1026], which both contained later pottery.

Ditch [1025] (*Plate 8; figs. 2, 13 & 14*) was the easternmost of the ditches to be excavated and was initially encountered in the evaluation trench as context [5005]. The fact that it ran parallel with ditch [1028] suggests a field- or plot-boundary function. The ditch ran to the S from a point some 10m S of the northern limit of the site, where the terminus was rounded. It measured some 0.35m deep and was 0.45m wide. On the W, the side sloped at an angle of approximately 45 degrees, whilst the eastern side was stepped, with the fill overflowing from the V-shaped cut. The base tapered to a point.

The fill (1026) was a moderate to compact brownish-grey silty clay; small stones, mainly concentrated on the E side of the fill, were typical of this feature. The finds represented a mixture of domestic and industrial activity. This material included animal bone and pottery, together with fired clay, hearth/furnace lining, tap slag and undiagnostic ironworking slag, together with occasional lumps of charcoal and ironstone, representing potential ore.



Plate 7: Fragment of a bone needle from (1026)

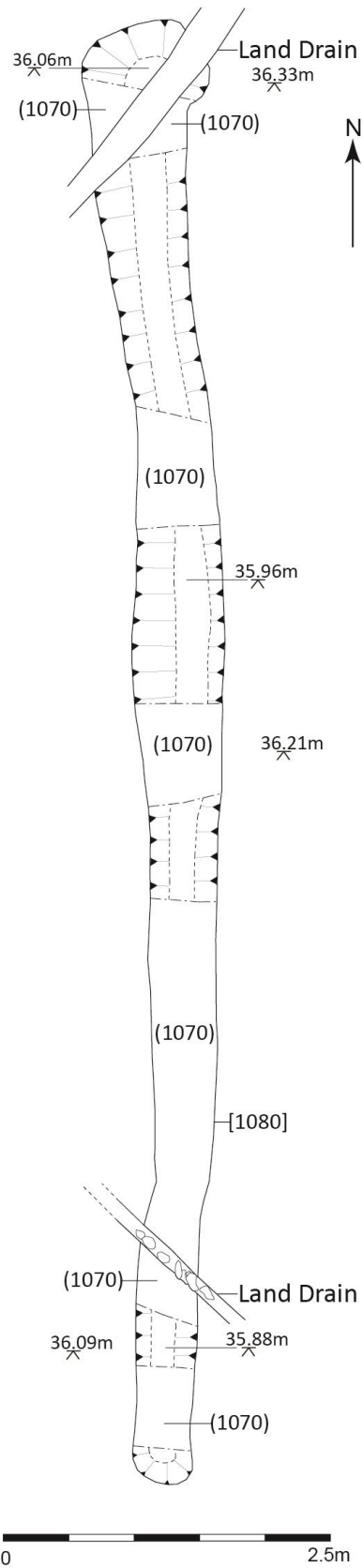


Fig. 12: Ditch [1080]

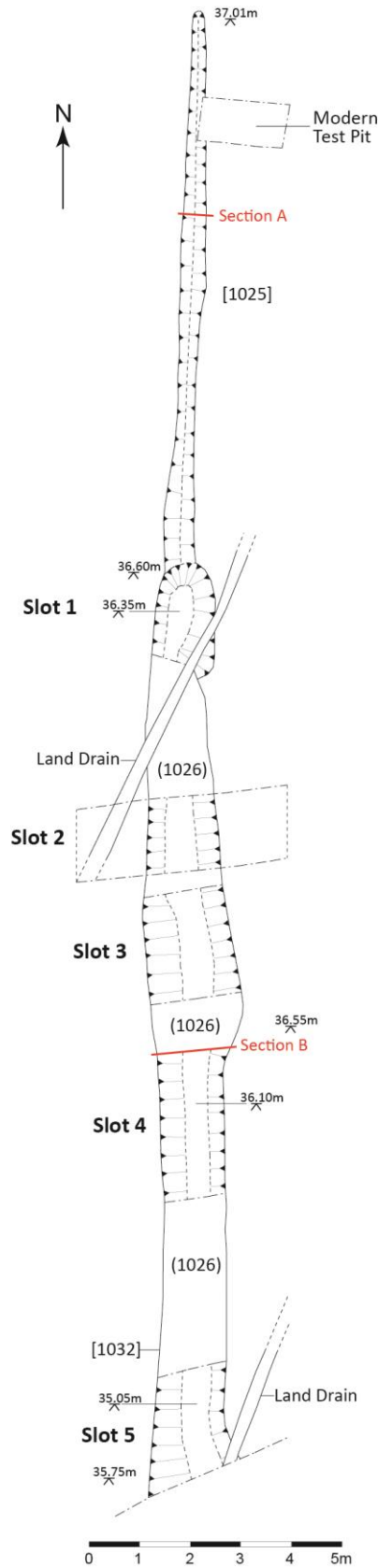


Fig. 13: Ditch [1025], [1032]

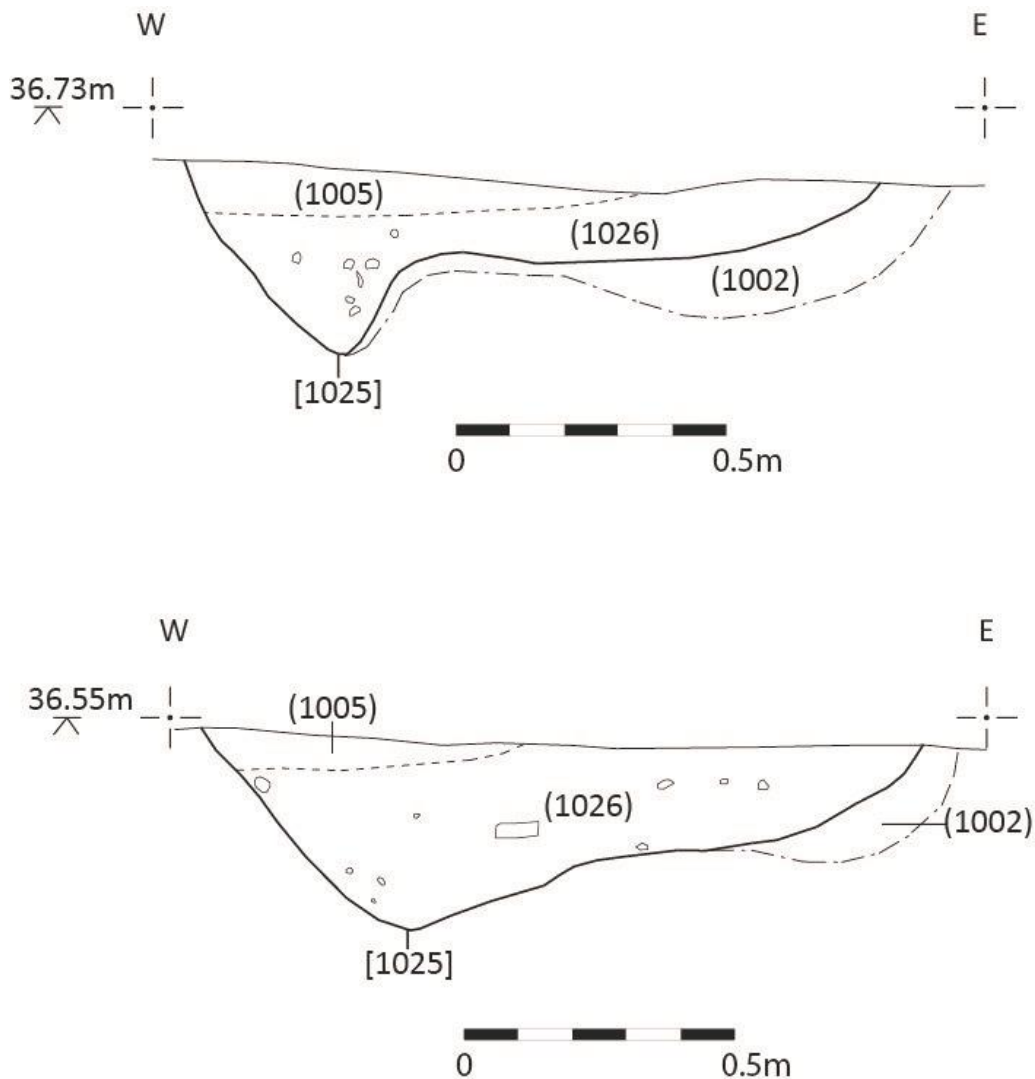


Fig. 14: S-facing section through ditch [1025] Section A (top) & Section B

The pottery assemblage included Savernake tradition jars with an AD 1st century date and an AD 1st century Severn Valley Ware beaker. The bone assemblage contained a relatively large proportion of pig bone, together with evidence of acid etching recorded on a *caprovind* calcaneum and fragment of a cattle second phalanx, which is interpreted as the result of ingestion by dogs (*Appendix 10*). In common with the ditch fills generally across the site, the charred plant remains from (1026) were relatively few and included low numbers of cereal grains (barley and wheat), as well as fragmentary hazelnut shell, indicating exploitation of wild resources.



Plate 8: Ditch [1025] facing N (Slot 1), showing step to E and small stones in fill (1026)

As in the case of other ditches excavated on the site, the number of finds within the fill decreased to the S, suggesting that, even during the earliest phases on the site, the main focus of activity in this period lay to the N. Recovered from the fill of the ditch was a whetstone, which could have related to industrial activity taking place to the N of, and to a lesser extent on, the site, although a domestic use for such an item cannot be ruled out. The object was of local sandstone with possible striations, indicating use, present on one side. A fragment of a bone needle polished from use was also found in (1026) in ditch [1025] (Plate 7). The lower end of the shaft was missing and the top had broken off at the base of the eye. The regularity of the shaft, together with the absence of any expansion around the eye, provides a date for the needle within the Romano-British period, although closer dating was not possible (Appendix 12). A fragment of an iron nail or staple was also found in the fill of the feature. Pottery from the ditch dated to the late 1st -2nd centuries AD, with a single sherd dating to the 3rd century from Slot 2, presumably intrusive.

Further to the S the cut became more rounded in profile [1032] (fig. 13) and considerably deeper, with the step, although still evident on the E side, less prominent. Apart from the comparative lack of finds to the S, the fill remained consistent throughout. It is possible that different depths of truncation during the post-Roman period and formation of the plough-soil horizon (1005) truncated the feature's N extent.

Ditch [1028] (figs. 2, 15-21) was the easternmost of the ditches to be excavated on the site and was probably the feature with the longest period of active use. It may have been a field boundary or continued in use as such once the remaining activity on the site had ceased. The ditch was encountered during the evaluation excavation as [1005] and ran parallel to ditch [1025], which lay some 12m to its W. It was at least 45m in length, continuing outside the northern and southern limits of the excavation. The ditch varied in form along its length, possibly consistent with the effects of water flowing along it, while the feature's long period of active use means that it must have been cleaned out and recut during its existence.

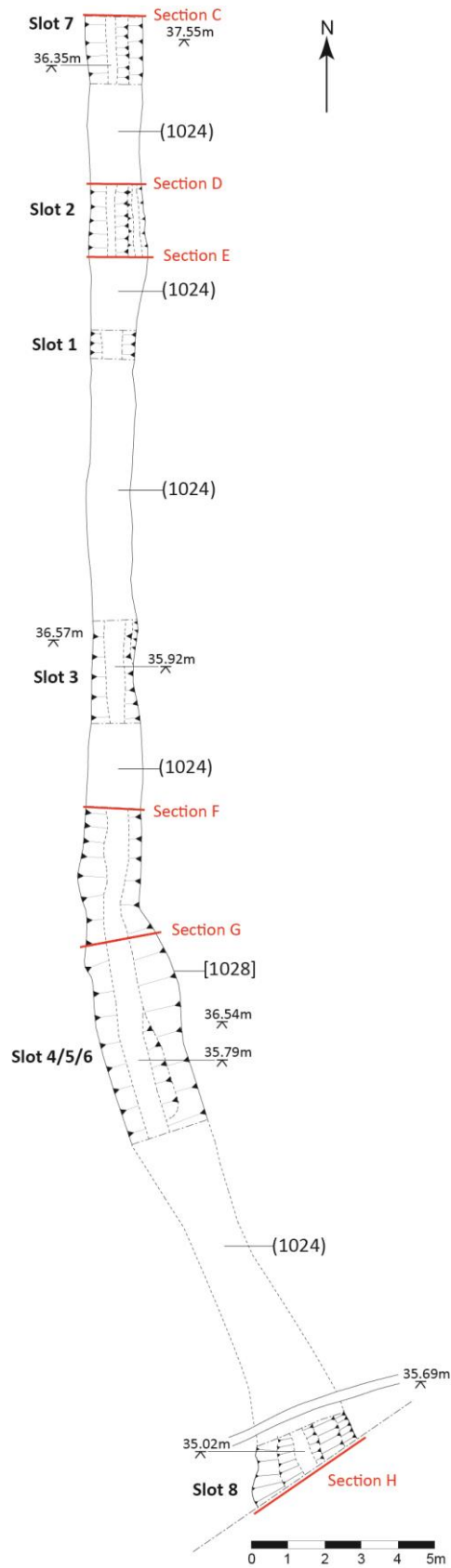


Fig. 15: Plan of ditch [1028]

At the N end (Slot 7), it was 2m wide and 0.70m deep, with the W side sloping at an angle of some 45 degrees to a narrow, though slightly rounded base (*fig. 16*). The eastern side was stepped, with the upper part of the cut sloping more gradually and the lower portion being almost vertical. At this point, the primary fill (1027) was between 30mm and 180mm deep and consisted of red loamy clay, with occasional fragments of pottery dating to the 1st - 2nd centuries, which included a Belgic necked jar dated AD 1-70, together with Roman tap-slag and fayalitic run slag, occasional animal bone and charcoal. This was interpreted as a colluvial deposit, suggesting some natural silting in the base of the ditch.

The profile was more rounded in Slot 2, which lay some 2.75m to the S, with a wider, convex base (*figs. 17 & 18*). In Slot 1, a further 2m to the S, the profile was more angular in form, with the step still apparent on the E side. Evidence for cleaning and re-cutting of the ditch was evident in Slot 4, where traces only of the basal fill survived around the limit of the cut. As it continued to the S, the ditch became more rounded and some 20m S, in Slot 5, it measured 1.69m wide and 0.60m deep, with a fairly regular rounded profile (*figs. 19 & 20*)

Slot 8 (*fig. 21*) revealed the profile of the ditch as irregular, the sides varying between concave and convex; the base was fairly flat, although slightly undulating and only a single fill (1033) was visible. Fill (1033) was a moderately compact mid reddish-brown clay silt, with very occasional flecks of charcoal, animal bone, sherds of pottery - including a 1st -century AD Severn Valley Ware tankard - and small to medium sized stones.

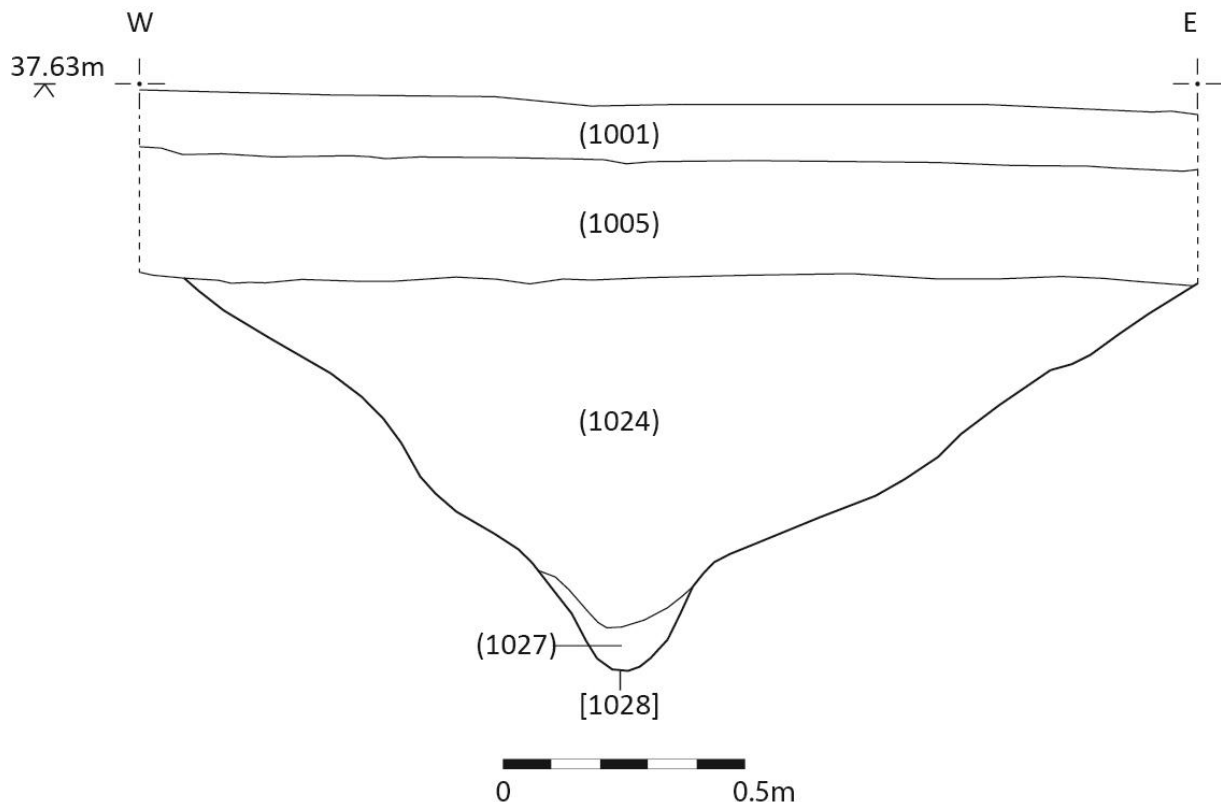


Fig. 16: Ditch [1028], Section C

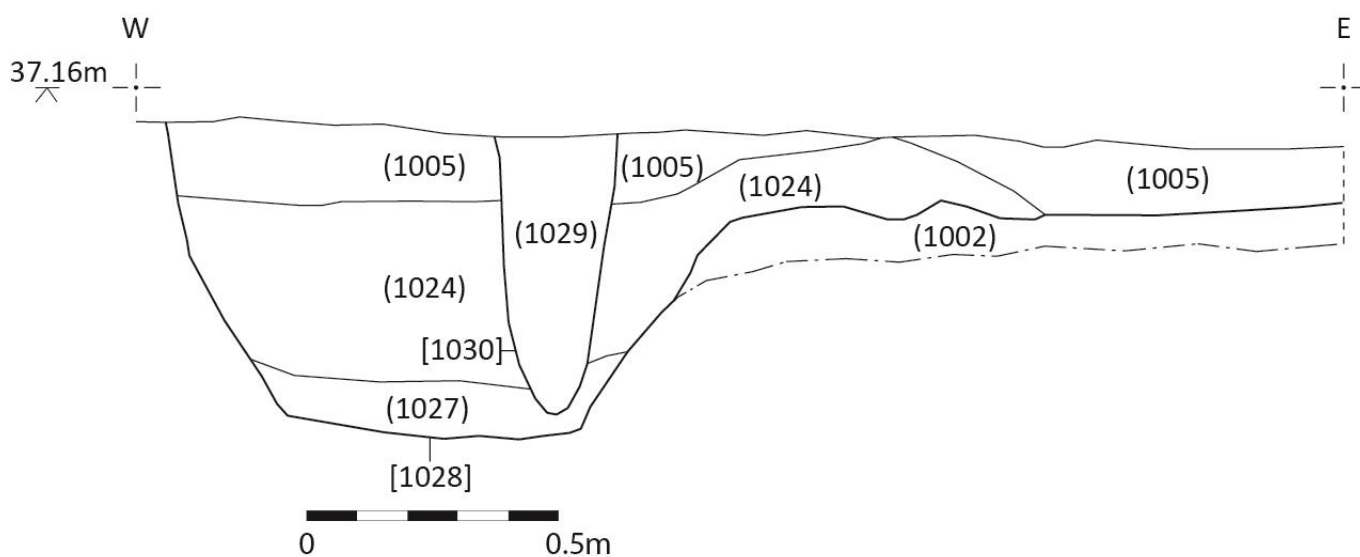


Fig. 17: Ditch [1028], Section D

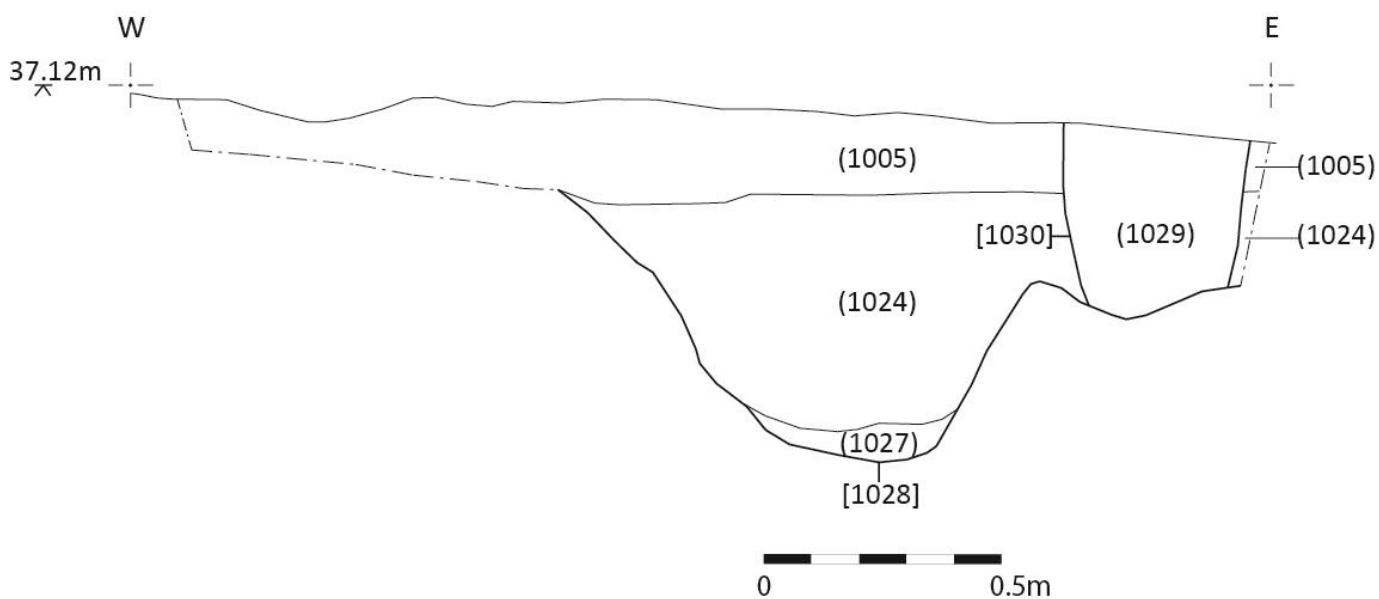


Fig. 18: Ditch [1028], Section E

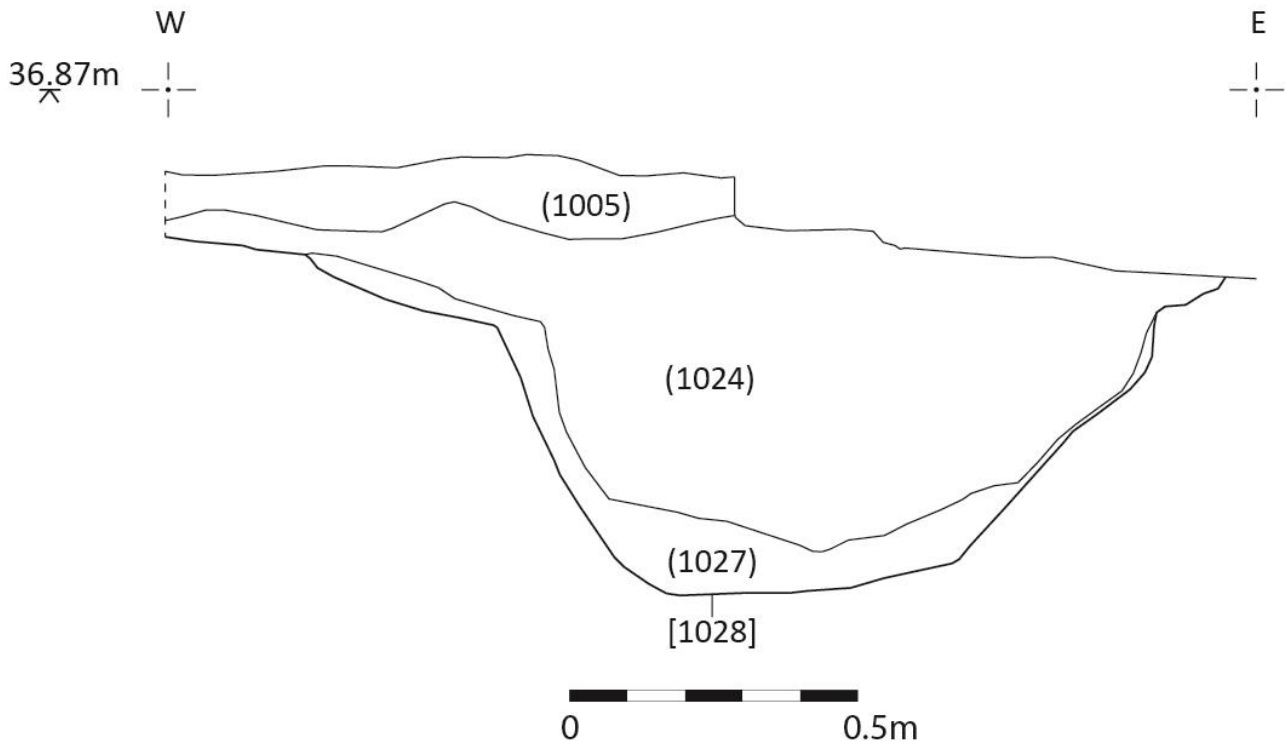


Fig. 19: Ditch [1028], Section F

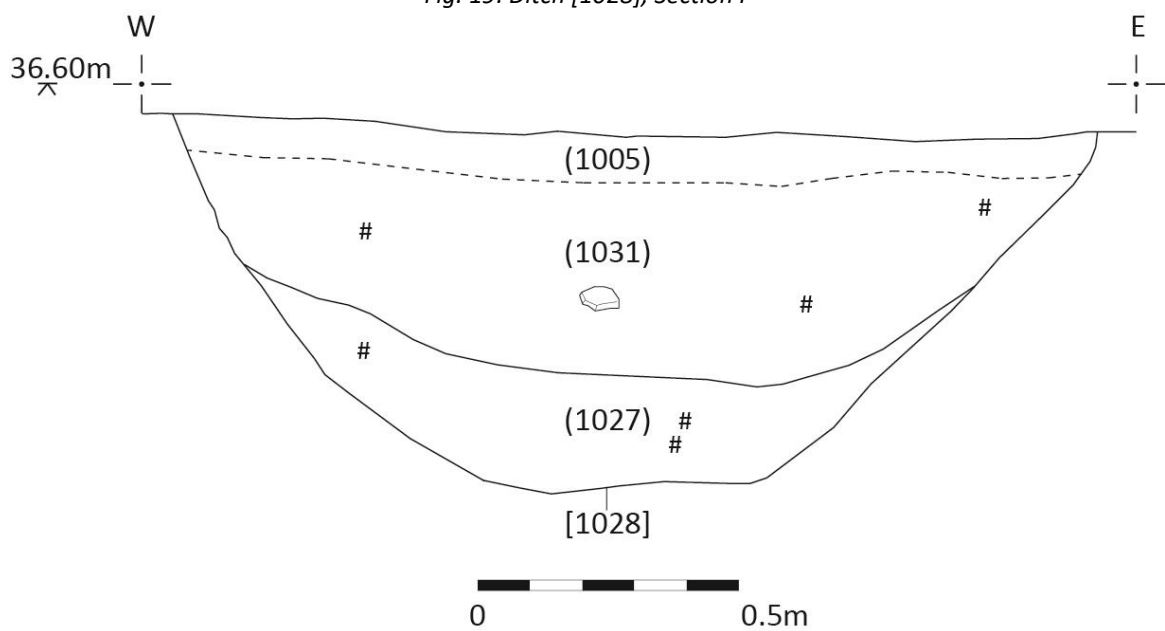


Fig. 20: Ditch [1028] Section G

The less anthropogenic deposition of the fills to the S provided further evidence to support indications that the main focus of activity during the Roman period lay to the N of the site. It is possible that the more southerly part of the ditch may have been allowed to silt up before the northern end, as pottery recovered from a slot dug at the S baulk dated to the 1st century. The ditch at this point had a more open profile and a silting deposit, identified with (1027), was once more visible in the base of the ditch. Very few finds were present in the feature at this point.

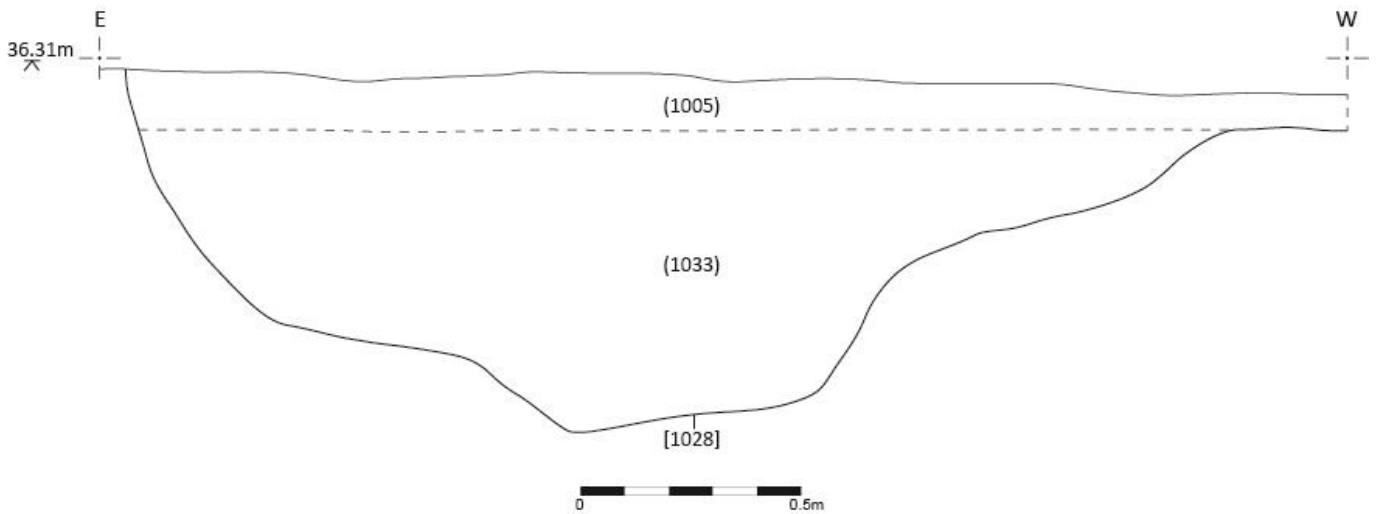


Fig.21: Ditch [1028], Section H

6.2 Phase 2: Post-1st -2nd centuries

Although enclosure ditch [1081] (*Plate 9; figs. 22-26*) contained pottery of 1st -2nd -century date, it cut hearth [1072], which was dated on the basis of pottery recovered from its fill to the late 1st -early 2nd centuries and by association with other industrial features on the site, particularly [1059], which also contained 1st -early 2nd -century pottery.

The small amount of pottery from the ditch was abraded and may have been present as a result of secondary deposition. This seems particularly likely, as the earliest, 1st -century, material was recovered from (stratigraphically) the latest fill. As such, the feature is considered to be post -1st -2nd century in date and may have been one of the later features on the site. The feature was identified during the geophysical survey (Archaeological Surveys 2013) but was very difficult to identify during excavation, not being visible in plan until a considerable amount of the upper deposit had been removed and the slightly darker, damper and more anthropogenic deposit (1082) revealed.

Ditch [1081] measured at least 30m N/S, extending beyond the N section. It lay too far to the E to have been identified during the 2008-9 excavations at Kyrleside (Williams 2011). A return extending into the W section measured 12m. No features thought to be contemporary with the enclosure survived within and were associated with the ditch, with the only features present on that part of the site being of Phase 1 date.

The ditch was 1.7m wide and varied in depth between 1.0m and 0.40m. The sides sloped steeply and the base was flat, although the profile, as well as the fills, varied somewhat along the length of the feature. At the N end, the feature had a regular V-shaped profile. The primary fill (1089) consisted of well compacted but soft and damp reddish-brown silt, this being somewhat grittier than the later fills of the feature. It is possible that this was a result

of water flowing along the base of the ditch; at this point it was 0.20m deep. However, there was no obvious silting deposit in the base, suggesting that it had either been cleared at regular intervals or backfilled shortly after excavation.

Above basal fill (1089) was (1082), a soft but compact greyish-brown silty clay with manganese flecks. It was darker and appeared more anthropogenic than (1089). However, as with all the fills of the ditch, very few finds were recovered and the soil samples were very clean, with only occasional burnt grain and small amounts of bone and pottery present. Above (1082) was (1086), a fairly soft, pink silty clay with patches of green decayed sandstone and occasional rounded stones. In plan, it was not distinguishable from the natural deposit into which the ditch was cut and during excavation could be distinguished only by the smaller fragments of sandstone and stone. Pottery dates spanned the late 1st –mid 2nd century AD. Further to the S, in Slot 3 (*fig. 22*), a slumping deposit (1105) (*fig. 26*) consisted of re-deposited natural, probably collapsed from the edge of the ditch during deposition of (1082). It consisted of compact red clay with green mottling.

The clean and obviously naturally-derived nature of the fills suggest the likelihood that the ditch was backfilled shortly after it was dug with an identical deposit to that removed from it. This was particularly apparent in Slot 5 (*fig. 25*), where, as with upper fill (1086), fill (1102), a soft dark red silty clay with natural sandstone, was distinguishable from the surrounding natural deposit only by the patchy deposition of the green stony material within the red clay matrix, as opposed to the banding evident in the natural. At this point, the ditch was 0.75m deep and 1.35m wide, with a U-shaped profile (*Plate 9*).

About 1m to the S of Slot 5, the ditch became considerably wider. Here, fills (1089), which produced pottery dates of late 1st -early 2nd century AD, and (1082), AD 120–200, contained a moderate amount of fired clay flecks, together with flecks of burnt bone, probably derived from (1069) and (1071), the fills of [1072], which the ditch cut. At the corner of the feature (Slot 6) the ditch deepened and had steeply sloping sides with a narrow, flat base (*fig. 24*). Fill (1089) was 0.30m deep at this point, with a narrow band of 'dirtier' (1082) above it. Upper or capping fill (1086) was 0.60m deep and contained small patches of a deposit similar to (1082), giving the impression that patches of this deposit were incorporated during a deliberate backfilling operation. Although fill (1086) contained a little pottery, this was much abraded, giving the impression of secondary deposition in the ditch. Similar to (1086), in being partly derived from the natural, fill (1090) was a firm mid yellowish-brown clay silt with occasional flecks of greenish stone and manganese flecks. No finds were recovered from it.

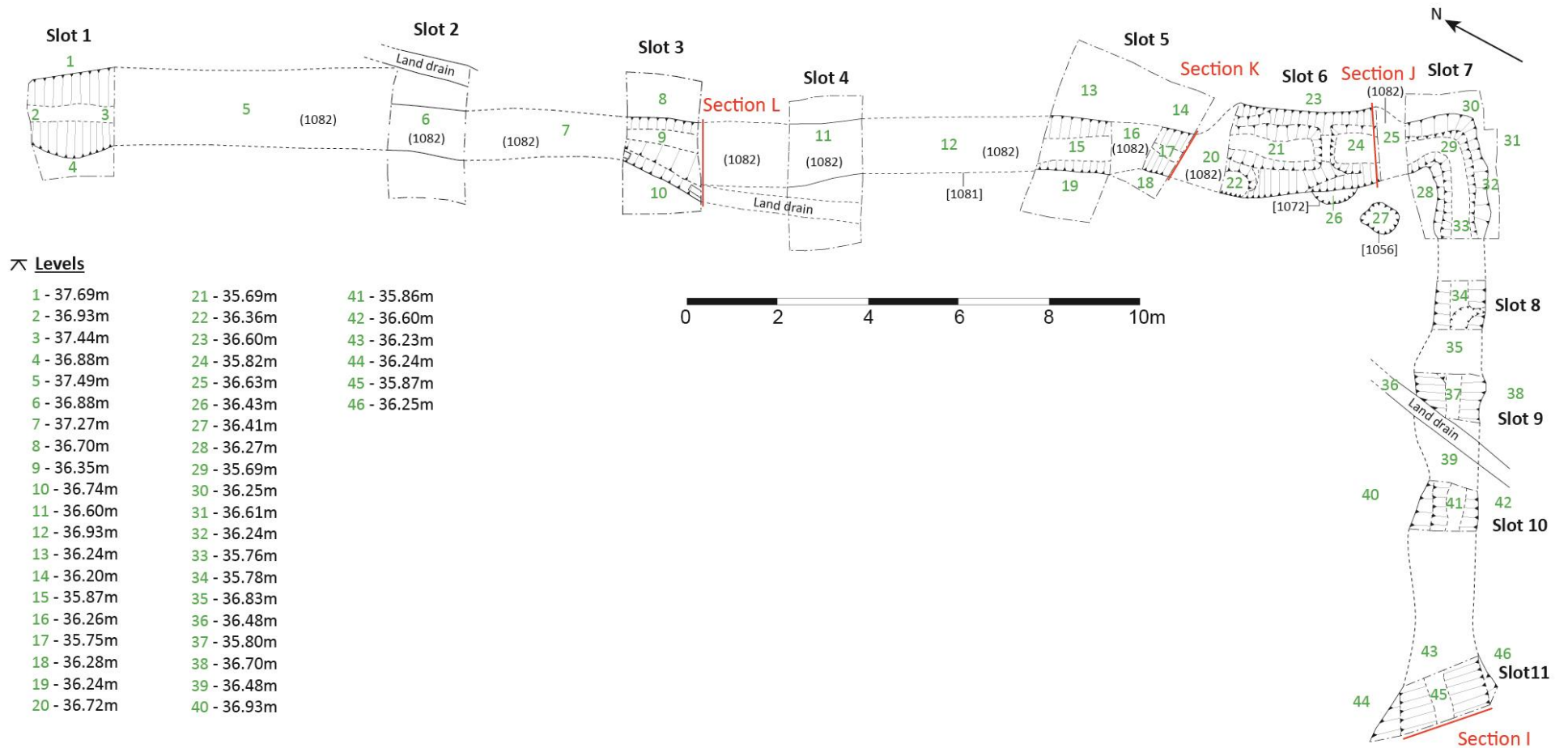


Fig: 22: Plan of ditch [1081]

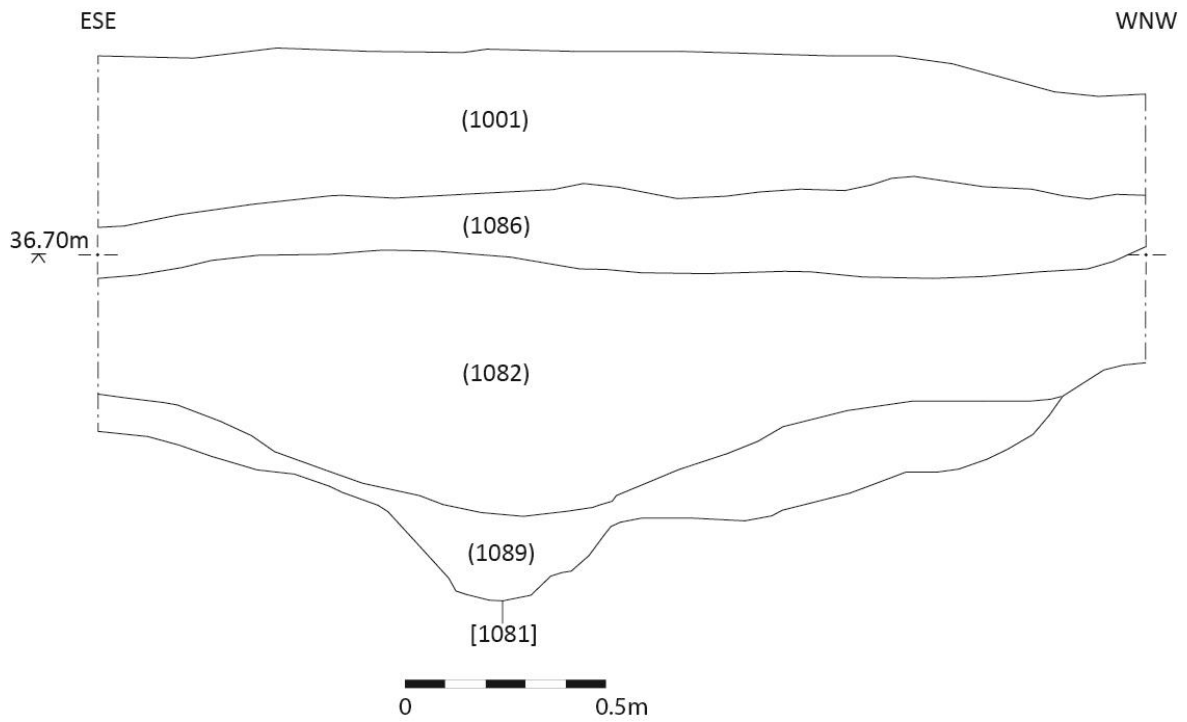


Fig. 23: Ditch [1081], Section I

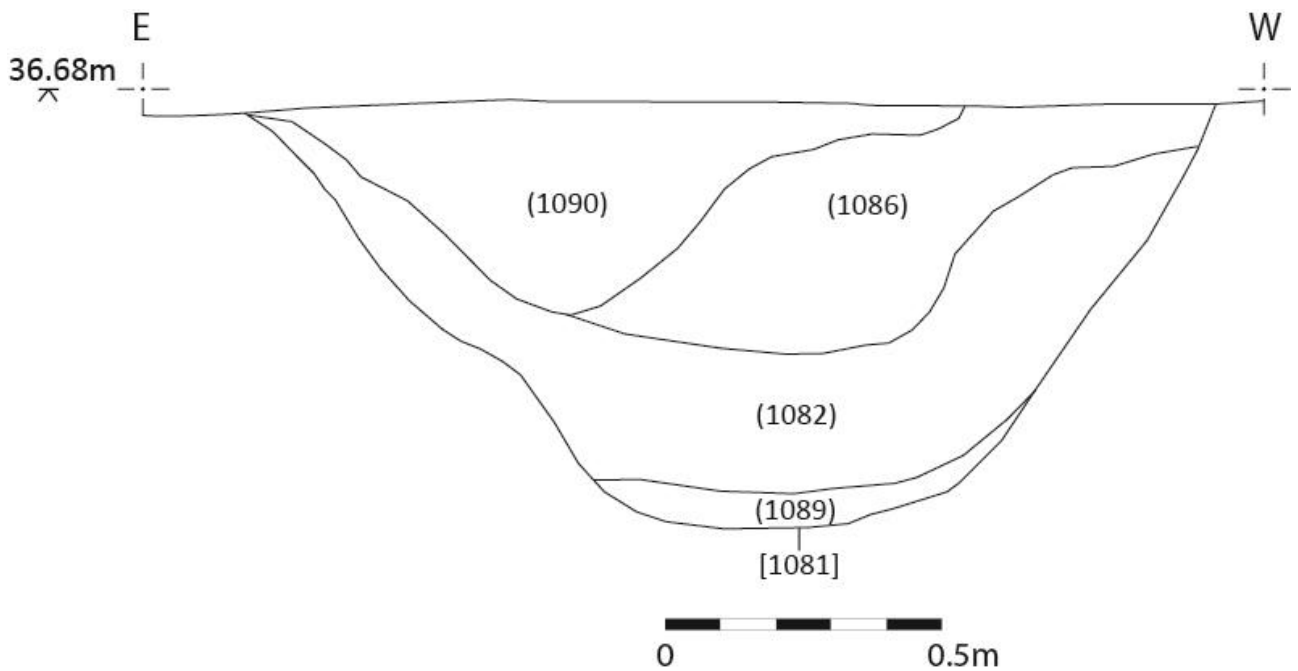


Fig. 24: Ditch [1081], Section J

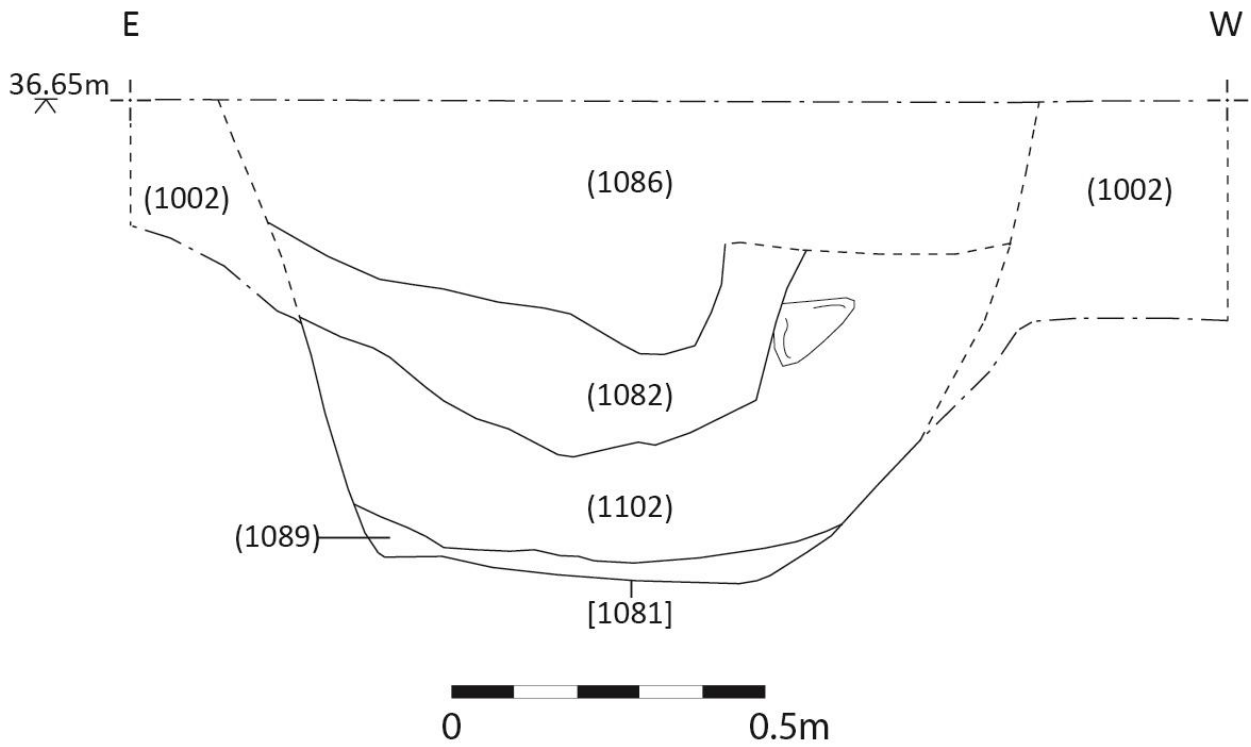


Fig. 25: Ditch [1081], Section K

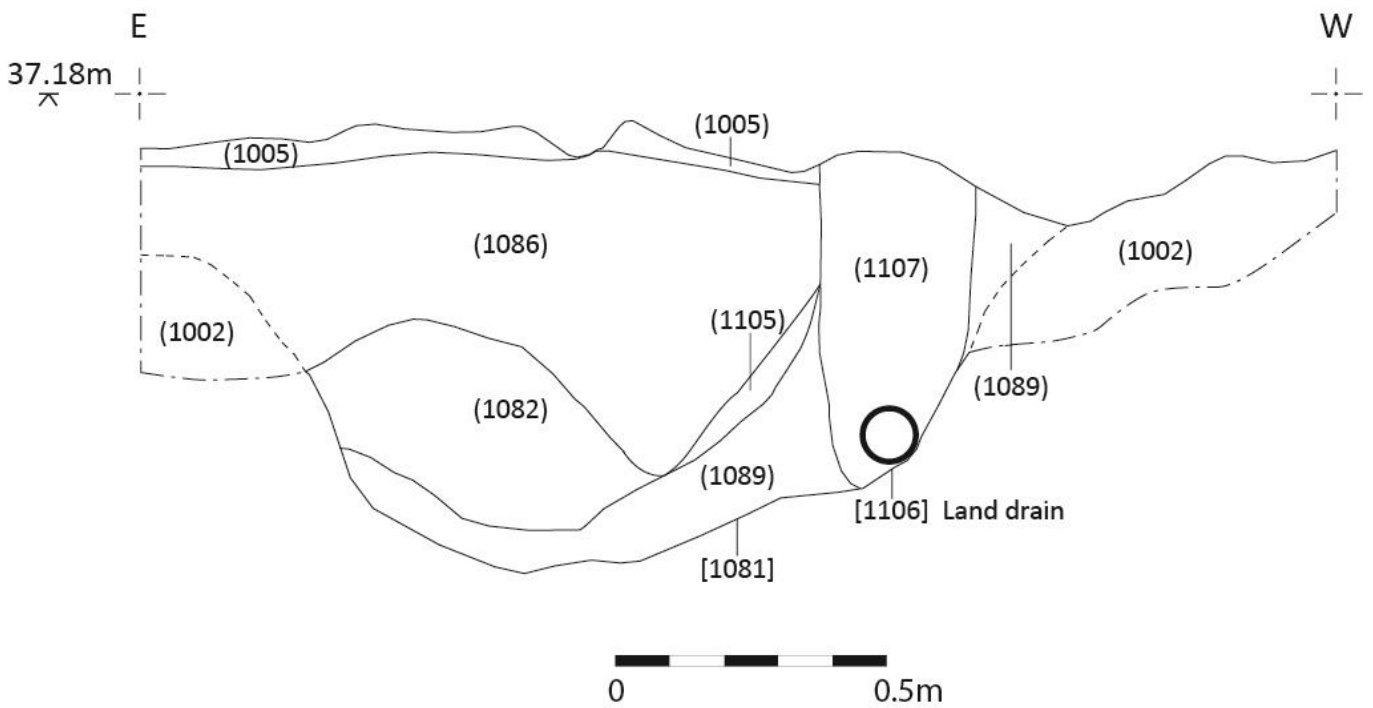


Fig. 26: Ditch [1081], Section L



Plate 9: Naturally derived fill (1102) within ditch [1081]

Some 3m N of the return of the ditch to the W, a water-management feature may have been present (*Plate 10*) with a 'step' crossing the base of the ditch. There was no evidence that the ditch had been recut, with the fills being more or less uniform along its length at this point and the 'step' was unlikely, therefore, to indicate a terminus and the commencement of another cut. It is tentatively suggested that the step may have served as a 'baffle' to impede the flow of water down from the northern part of the site. However, it is also possible that the presence of a band of stone within the natural deposit at this point may have caused the feature to form naturally.

After turning to the W, the ditch continued to the western section. At the point, where it met the section, the profile was a shallow V-shape measuring 0.40m deep and 1.40m wide. Fills (1089) and (1082) were present, with (1089) 0.15m deep in the base and on the N side of the ditch.

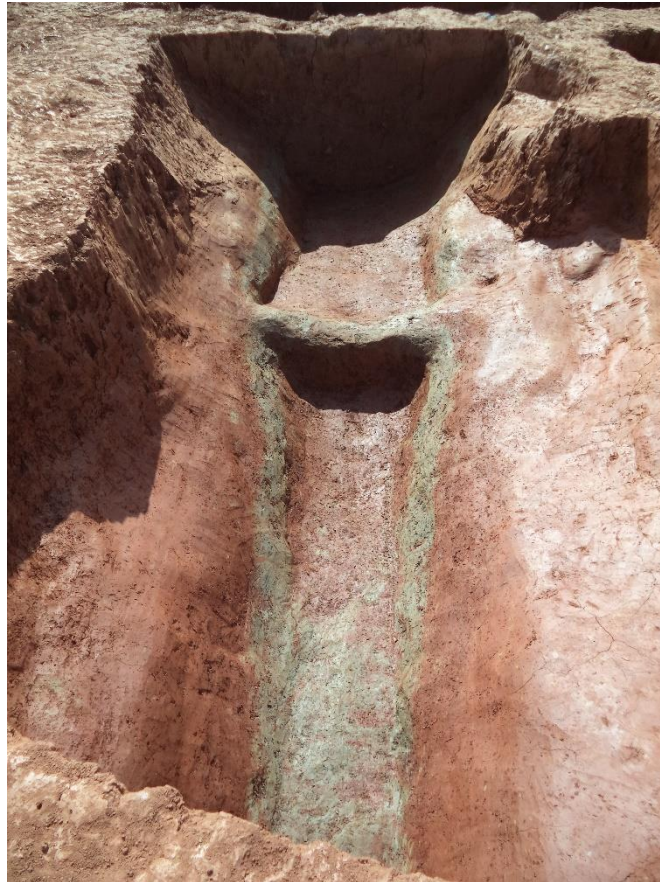


Plate 10: Water-management or naturally-formed feature in ditch [1081], facing ESE

6.3 Phase 3: Early -mid-3rd century AD

By this time, industrial activity had ceased and the site had probably reverted to agricultural use. Ditch [1028] was still open and was used for the deposition of domestic waste originating from elsewhere in the settlement. It seems likely that ditch [1025] may already have silted up or been filled.

The basal fill (1027) of [1028] consisted of compact red loamy clay, which produced occasional pottery, animal bone, charcoal and slag. Residual sherds representing jars in the AD 1st -century Savernake tradition were recovered from the overlying secondary fill (1024), together with early Severn Valley Ware forms. A small fragment of slightly curved pale blue-green glass (1.0–1.3mm thick) was also recovered from (1024). The fragment was too small to determine the overall form and it could not be ascertained whether it was Roman or modern.

At the N end of [1028], (1024) was composed of firm mid brown silty clay with moderate manganese and charcoal flecks, occasional angular stone, flecks of burnt bone and pottery largely dating to the middle of the 3rd century, including examples of unusual incipient bead and flange rim bowls in Malvernian Metamorphic tempered ware, dating from the early to mid-3rd century. The latest Roman material was recovered from this secondary fill deposit and included fragments of Oxfordshire whiteware *mortarium* c. AD 240–300, East Gaulish Black slip 'Rhenish' ware

c. AD200–250, as well as a sherd of Oxfordshire colour-coated ware. A 3rd- early 4th-century Severn Valley Ware tankard was also recovered from (1024), along with two late 2nd-3rd-century examples.

Interestingly, animal bone from this context, which was largely anthropogenic, showed a higher proportion of large compared to smaller mammal bones, which may reflect the change in husbandry practices brought about by Romanisation. Smelting slag from a tap furnace was also recovered from this fill and included examples of fayalitic run slag, tap-slag, slag rod(s) and dense slag, the presence of which strongly suggests iron smelting rather than smithing

The difference in dating of the pottery from fills (1027) and (1024) may indicate that the ditch was a long-lived feature that was cleared out at regular intervals. Some 2.75m to the S, in Slot 1, the step on the E side of the ditch was also prominent; however, the feature was considerably narrower, being 1.2m wide and 0.60m deep. Fills were similar to those seen to the N.

Fill (1024) produced the latest evidence for Roman activity on the site and shows that [1028] was being used for refuse disposal as late as the middle of the 3rd century AD. Given the lack of ironworking features on the site and the presumed decline of the ironworking industry in Dymock at this point, the large fragments of slag, including smelting slag, which were found in (1024) may represent secondary deposition of slag, together with more general domestic waste. It was noticeable that there was little or no later material within the fills of the ditch at the S section, suggesting that it may have remained open for a longer period at the N end. It is probable that this was a result of the natural drainage of the site, with sediment running down from the higher northern to the lower southern end of the site.

6.4 Phase 4: Post-Roman to Modern

Archaeological deposits and features were sealed by a 0.10-0.30m-thick subsoil deposit (1005) interpreted as a probable post-Roman plough-soil. This layer consisted of firm mid greyish-brown to buff silty clay containing moderate charcoal flecks and a considerable amount of Roman pottery, together with a small quantity dating to the medieval and post-medieval periods. It seems likely that this layer can be identified with the 'Roman ground surface' present on the Rectory site and at Rose Cottage and Winserdine (Simmonds 2007, 221). It was considerably deeper at the S than at the N end of site, possibly as a result of natural silting downslope or post-medieval levelling of the site.

The Roman pottery from this layer may indicate plough-damage to the Roman features beneath, which were sealed by it, and the probable truncation of these features. Plough-scars visible in features [1091] and [1096] confirm this explanation. Continued agricultural use of the site would also have led to the importing of pottery from elsewhere in the town, with midden material used as fertiliser; dumping of refuse on the field may also have taken place. These activities may account for the later pottery recovered from this layer, which dates to a period when occupation of the area appears to have ceased.

6.5 Phase 5 Modern

Deposit (1005) was cut by a number of land drains of varying type (ceramic pipes, French drains) which appeared to have been renewed, repaired and abandoned throughout the post-medieval period, with a number of different phases present. A brick chamber at the N side of the site may have been associated with at least one phase of drainage. Two fragments of clay tobacco pipe stem recovered from a land-drain trench that had been cut into (1026), the fill of the Roman N/S ditch [1025], probably both came from long-stemmed pipes and appear not to have been subjected to intensive modern ploughing. Long-stemmed pipes gradually went out of fashion from the 1840s onwards and this deposit is thus most likely to date from the very end of the 18th century or the first part of the 19th century, providing a *terminus post quem* for the cutting of the land drain across this part of the site (*Appendix 13*).

A layer of rubble (1125) on the eastern side of the site consisted of very recent ceramic building material (CBM), including tile, brick and pottery, together with stone and concrete, which had been used to level a low-lying part of the field adjacent to a ditch and which was subject to waterlogging, as indicated by the gleying of the natural clay in this area.

This levelling material lay above the uppermost of two subsoil deposits (1001). Context (1001) was 0.25m deep, consisting of fairly clean, firm pinkish-brown silty clay with occasional flecks of CBM and brick, which was interpreted as a plough-soil. Pottery recovered from it dated to the post-medieval period and was not retained. Above (1001) was topsoil (1000), a fairly soft mid to dark greyish-brown silty clay, with occasional pebbles and black flecks, together with roots and fragments of modern CBM. This represented a typical topsoil of some 0.20m depth and was present over the entirety of the site.

The most recent feature, which cut the topsoil, was [1060], a rectilinear machine cut, measuring 2m in length and 0.50m wide. This was filled with mixed materials, including modern topsoil and turf, and appeared to be the result of test-pitting. It was not associated with the earlier evaluation excavation. As the feature was clearly of modern date, it was removed only to the depth of the feature into which it was cut and its full depth was not established.

7 Discussion & Conclusion

7.1 Discussion

The excavation confirmed the results of the evaluation phase, suggesting that activity on the site was fairly sparse, with a number of isolated discrete features and substantial field boundary ditches. Although activity peaked in the later 1st and early 2nd centuries, there was little surviving evidence that the site was intensively used, even at that time. No surviving evidence for domestic occupation was encountered.

The site appears to have been a marginal area situated on the periphery of the Roman settlement, with the main focus of activity probably centred to the N, closer to the road. Occupation at Dymock seems to have been associated with ironworking and for a brief period in the 1st-early 2nd centuries the site was utilized, possibly for agriculture and certainly for small-scale industrial production. It is possible that expansion into the area was fairly rapid but - as a marginal component of the settlement - it was one of the first to be abandoned, either due to settlement contraction or as a result of a shift in the focus of occupation (Catchpole 2007 a and b, Catchpole *et al.* 2007 a and b). A reduction in the deposition of pottery on the site by the later 1st century may reflect this early decline.

It is likely that the features allocated to Phases 1a and 1b were actually more or less contemporary, particularly as there was evidence for what may have been industrial debris in the form of burnt clay in the majority of features. Discrete features were very scattered and later truncation, possibly during the formation of plough-soil (1005), is likely to have destroyed shallower structural features, such as postholes. Features of Phase 1a contained only 1st-century pottery in their fills or were cut by later features.

Dymock has been described as a roadside settlement, 'agricultural and with a significant industrial component' (Catchpole *et al.* 2007b, 235) and the presence on the site of both a possible small pottery kiln and spelt wheat chaff, representing cereal-processing nearby, is consistent with this model.

Dymock was probably one of a cluster of ironworking settlements focused upon the Forest of Dean during the Roman period, the most substantial being *Ariconium*, where slag dumps were reported to be 6m deep (Herefordshire HER). However, it is not clear whether Dymock obtained its ore from the Forest or whether more localized sources were exploited, such as Newent, an area that was mined in the 19th century, or the May Hill area (Catchpole 2007b, 238). There is evidence that extensive ironworking in Dymock had ceased by the late 2nd century AD (Catchpole *et al.* 2007, 238) and that either the focus of activity in the town had moved elsewhere or the town had contracted. The iron industry in Worcester, some 35km distant, did not become established until after the decline of that at Dymock and it is possible that increasing centralization affected some of the smaller industrial towns. Lying on the periphery of the town and supported by the demand for ironworking products during the post-Conquest period, the site was one of the first areas to be abandoned and to revert to agricultural use.

The pits were the features of most interest during the present excavation. Feature [1046] was thought to be the remains of a small surface-built pottery kiln based on similarities, in terms of size and shape, to a number of other small kilns of early Roman date excavated in Britain. However, subsequent analysis of this oval structure and finds

from the fill cast doubt on this interpretation (*Appendix 3*). No evidence was identified for stokeholes or fire bars, a kiln chamber structure, ash or burnt soil, although surface-built kilns of late Iron Age to early Roman date may lack substantial permanent walling or lining and the stokehole or stoking area could have been situated above the level of the furnace chamber (Swan 1984, 55; Sturdy 1976). A number of plough-scars seen in the natural subsoil suggest these features, if present, would have been destroyed by later agricultural activity, a suggestion which appeared consistent with the shallow depth of the firing chamber. Regular ploughing could, therefore, have removed much of the evidence.

Regardless of the function of [1046], the pottery recovered from the fill (1042) could not represent the final firing as it consisted of a number of different types, including early Belgic, and both oxidized and reduced wares; moreover, one of the reduced-ware jars has three post-firing grooves cut in the rim (*Appendix 3 fig. 2*). On the other hand, the clay covering the deposit (1042) was reddened due to heat and sieving revealed it contained many pottery fragments.

The pottery from the fill (1042) contained five types: calcareous (C) 42%, Belgic (E) 2%, oxidised (O) 10%, reduced early greyware R31.1 (43%) and R31.2 (3%). Altogether 245 sherds were recovered.

The calcareous ware could derive from local rocks as a source of the clay is known to outcrop close by to the NE (*Appendix 2*). Similarly, petrological analysis (*Appendix 4*) of the reduced wares R31.1 and 2 suggests a Devonian sandstone riverine source for the clay. It could therefore have come from the banks of the River Leadon tributaries which lie both to the N and S of the site, less than 200m away.

The petrological analysis describes these samples as being like organic tempered 'Severn Valley Ware'.

Severn Valley Ware (SVW) is perhaps best described as a tradition, as it derived from a number of production centres based both on the New Red (Triassic) Sandstone to the E of the River Severn and the Old Red (Devonian) sandstone to the W. SVW fabric was originally described as fairly fine; the colour is buff and orange-buff with a few grey (reduced) examples. Mica in the fabric of most vessels implies firing at a temperature below 1000 C. A grey core characterizes many of the thicker examples. The texture suggests little filler was used, although some early examples have a calcitic filler. It dates from the mid-1st to the 4th century AD (Webster 1976).

However, the tradition of SVW is that it uses local clays for local consumption and there are variations in both fabric and form (Timby 1990). The fabric of the pottery from (1042) is courser than the SVW described by Webster (1976) but does fit the local geology. The River Leadon gravels and clays form largely from Devonian bedrocks but there is an element of the Triassic within it. In any case, the mineralogy of Triassic (E of Dymock) and Devonian sandstone is similar. What the thin sections (*Appendix 4*) do show is that the fabric came from riverine clays within a Red Sandstone matrix, strongly suggesting a local source.

The site overall contained a small but significant percentage of pottery that was not made locally but the three main types discussed above from [1046] (1042) formed a comparatively high percentage of the assemblage for the site overall, higher than normal, for sites of this type. This suggests again that they were made locally.

In summary, [1046] is considered to be a possible small surface-built kiln but the fill did not represent the final firing, containing the waste from a nearby kiln that lay beyond the edge of the excavation.

Hearth [1119] had burnt clay in the base but, at 0.9m × 0.4m, was rather small for a pottery kiln, with no evidence for fire boxes. The two small hearths, [1056] and [1072], to the S of hearth [1119] of Phase 1b, were also probably too small to have been used for the production of pottery and, unlike pit [1046], neither excavation nor sieving yielded large quantities of pottery. The lining (1057) of [1056] was similar to that used in possible kiln [1046] on the SE edge of the site. Whilst use of the hearth in grain-drying cannot be ruled out, the amount of charred grain recovered from the feature's fill (1058) was no more than from other features on the site and seems to have derived from kindling (*Appendix 11*).

The close proximity of hearth [1056], some 0.40m to the W of another small hearth feature [1072], and the similarity of form of these features, indicates that they were probably roughly contemporary and were used for a similar process, although no residues were present to indicate what this process might have been. As the lining was not vitrified, the process did not require a high-temperature and ceramic production can thus probably be ruled out. In addition, no large quantities of pottery were recovered, either by hand or from the sample. Feature [1065] had a large amount of charred brome grass and spelt wheat. Brome seeds are very similar to spelt wheat and it is thought brome grew in close proximity to spelt and may sometimes have been purposefully included in the crop. These two features could possibly have been small grain-drying hearths.

It was clear that insufficiently high temperatures had been attained in the hearths and kilns found on the site for ironworking to have taken place, with clay burnt but not vitrified, and, whilst iron slag was recovered from many of the features, this was in small quantities and was probably the result of secondary deposition, together with the disposal of domestic rubbish. The 3rd-century pottery found in fill (1024) at the N side of the site, together with large fragments of smelting slag, almost certainly postdates the cessation of major ironworking in the town by some time. The almost complete absence of hammerscale (very small quantities were found in posthole [1121], one of the southernmost features, and in posthole [1041] to the N), together with the lack of fired clay from furnace structures, further indicates that the site lay at some distance from the furnaces. The small quantity of slag recovered at Kyrleside (Williams 2011) also reinforces the impression that this activity took place elsewhere in Dymock and at some distance from the site.

With the exception of the bowl furnaces and smithing furnace mentioned by the Malvern Research Group found at unrecorded locations, no structures associated with the industry have been identified in Dymock. Although Catchpole (2007b, 236) suggests that the ephemeral nature of the structures may mean that these have not been identified on excavated sites, it seems likely that the quantities of slag recovered from the sites so far are insufficient to indicate the presence of ironworking. Although the Forest of Dean industry was not on a scale comparable to that of the Weald, with 'enormous slag and refuse tips' (Cleere 1981, 26), there is evidence that the Forest of Dean industry also operated on a considerable scale. There is thus far no evidence that slag was removed from the area and used in the road (Catchpole *et al.* 2007a, 135).

No byproducts of metallurgical processes were recovered from samples from the smaller hearths, [1119], [1056] [1072], although use in a lower temperature metallurgical process cannot be conclusively ruled out. With the exception of a single fragment of a piece of a mould recovered from the N end of ditch [1028], found in a context

with mid-3rd -century pottery, no debris associated with the casting of bronze or other copper alloy material was recovered from the site.

Samples from the majority of the features showed evidence for burning, including charcoal and fired clay, but, with the exception of the hearth or kiln features, this was not in large quantities. The small quantity of Roman CBM recovered would appear to be consistent with the introduction of such material for purposes such as oven bases; the presence of *imbrex* is unusual in such an assemblage and the piece may have originally been used to form a watertight or heat-resistant channel (*Appendix 5*). It appears that the majority of activity on the site may be of a single phase, resulting from the rapid increase in activity during the period immediately following the Conquest and associated with the exploitation of the area's mineral wealth. Based on the lack of evidence for earlier activity on the site, construction of the possible pottery kiln almost certainly resulted from the 'boom-time' expansion of the town and happened fairly suddenly. Conversely, it is also likely that, as a marginal part of the industrial town, the site was one of the first areas to go out of use, either when the settlement declined or its focus shifted. Indeed, deposition of pottery on the site peaked in the middle to the end of the 1st century AD, with a marked decline after AD 70. This early date for the cessation of activity is confirmed by the fact that the pottery included very little Dorset Black Burnished ware, a fabric that became common in the mid-2nd century.

The industrial activity, as revealed on the site, appears to have been peripheral to the main settlement area and was probably focused on providing utilitarian products, such as pottery, in response to an increased level of postconquest demand. This component of the settlement would, therefore, be particularly vulnerable to any decline in settlement activity.

The excavation confirmed the supposition from earlier excavations that pottery was manufactured in Dymock (Timby 2007, 163, 167). It is suggested that the greywares were an introduced, Roman-style product intended to satisfy a demand for Romanised pottery, although native-style wares apparently remained in production. The pottery used on the site was markedly different from that used elsewhere in Dymock, with only 17 per cent consisting of oxidised wares and only 14 per cent of these being Severn Valley Ware (*Appendix 2*). At the Sewage Works site, the largest component of the assemblage was oxidised Severn Valley Ware (Timby 2007, 163) and at Kyrleside, this fabric accounted for 29 per cent of the total (Williams 2011, 17). It is very likely that the calcareous ware found in features (72) and (82) on Kyrleside was manufactured on the Western Way site.

The fact that pottery production was taking place on the site clearly influenced the results, with both greyware and native-style calcareous-tempered wares overrepresented because of their presence in dumps. However, the early date and limited timespan may also have had an influence, together with the marginal nature of the occupation. Only one fragment of *amphora* - from evaluation excavation pit [2006] - was recovered from the site and with the lack of samian ware, the pottery assemblage is thought to be typical of a rural site. The fact that the majority of the animal bones were of sheep/goat and that the native-type wares continued to be produced probably indicates the continuation of a pre-Roman economy, as increased consumption of cattle is considered an indicator of Romanization (*Appendix 10*). Interestingly, the N end of ditch [1028], where the pottery was of a later date, also contained proportionally more cattle bones.

The possible kiln itself was almost certainly heavily truncated during later ploughing, as, at a depth of only 0.29m, the firing chamber would otherwise have been very shallow. Truncation might explain the absence of a flue;

however, with the presence of a clay lining, it was not dissimilar to an early Roman kiln described by Sturdy and Young (1976, 58).

Enclosure ditch (1081) appeared to have been backfilled soon after excavation. As it cut a feature containing 1st - to 2nd -century pottery, it was almost certainly one of the latest on the site. It contained noticeably less pottery than features to the E and the fills were very clean. It is possible that pottery from it might be residual and re-deposited, particularly as, although the ditch contained 1st to 2nd -century pottery, the earliest 1st -century material was found in the latest fill. No features of later date were present within the enclosure. There was no silting in the base, suggesting that the feature was open for a short time only or was backfilled more or less immediately with material removed from it. It may be therefore that the ditch was dug at roughly the same time as the remainder of the site went out of use and the feature was considered no longer necessary and was deliberately backfilled.

The Belgic element from the pottery assemblage shows the inhabitants had links to people using this pottery in the Cotswolds (*Appendix 2*).

Following the cessation of the pottery industry, the site reverted to agricultural use. It is possible that this formed the lower subsoil (1005), as well as truncating the upper parts of features on the site. Shallower and more ephemeral features may have been removed completely. The presence of a lower subsoil deposit is similar to that identified on the sites at the Rectory, Rose Cottage and Winserdine (Simmonds 2007, 221)

7.2 Conclusions

The excavation confirmed the results of the evaluation, indicating the presence of an area on the periphery of the Roman town, used for a brief period in the 1st century AD. The decline of Dymock as a manufacturing town in the 2nd century would have first affected the marginal areas, explaining the short period of activity on the site. The discovery of a [1046], considered to represent the remains of a possible surface-built kiln, may support earlier suppositions that pottery was made in the vicinity. Whilst no *in-situ* pottery was found within this feature, it seems likely that the 1st to early 2nd century reduced, oxidized and calcareous wares could have been made on-site. The pottery produced on the site would have served a local market, the decline of which would have reduced demand for the kiln products. That occupation continued nearby is shown by the use of the N end of ditch [1028] for the dumping of rubbish well into the 3rd century and also that this feature remained open, probably used as a field boundary.

Although major industrial activity was not encountered, further information has been obtained relating to the layout of the Roman small industrial town of Dymock.

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9 Appendices

9.1 Appendix 1 Context Register

CONTEXT	DESCRIPTION
(1000)	Compact but soft mid/dark brown silt clay; occasional stones, black flecks roots and modern CBM; measures 0.2m thick across site. Overlies (1001).
<i>INTERPRETATION:</i>	<i>Topsoil</i>
(1001)	Firm pink brown silt clay; occasional CBM flecks, occasional black flecks & occasional stone. Moderately compact light grey brown silt clay; occasional CBM; measures 0.25m thick across site. Overlies post-Roman subsoil (1005), underlies topsoil (1000).
<i>INTERPRETATION:</i>	<i>Post-medieval subsoil</i>
(1002)	Firm/hard mottled pink green clay; occasional degraded stone, occasional/frequent manganese flecks. Physically underlies (1005)
<i>INTERPRETATION:</i>	<i>Natural clay. Archaeological features cut into this deposit</i>
(1003)	Firm pink clay mottled yellow; one piece of flint with evidence of retouch. Fills [1004], underlies (1001)
<i>INTERPRETATION:</i>	<i>Fill of land drain- re-deposited natural. The flint find had semi-abrupt retouch along one lateral edge & may have been used as an expedient scraper; however, as found out of context, it is un-datable.</i>
[1004]	Cut; linear in plan; measures 0.29m deep, 0.20m wide; aligned N/S. Cuts (1005), filled by (1003)
<i>INTERPRETATION:</i>	<i>Land drain</i>
(1005)	Firm mid grey brown/buff silty clay; moderate charcoal flecks, frequent manganese flecks, moderate CBM flecks & Roman pottery; 0.20m deep; extended site-wide. Seals archaeological horizon
<i>INTERPRETATION:</i>	<i>Post Roman subsoil/plough-soil</i>
[1006]	Context VOID.
(1007)	Context VOID
(1008)	Context VOID
(1009)	Context VOID
(1010)	Context VOID
[1011]	Cut; linear in plan; measures > 5m long × 0.50m wide; sides vertical; aligned NE/SW. Cuts (1005), filled by (1012)
<i>INTERPRETATION:</i>	<i>Cut for land drain</i>
(1012)	Firm red brown clay silt; manganese flecks, stones in base. Fills [1011]. Underlies (1001)
<i>INTERPRETATION:</i>	<i>Fill of land drain</i>
(1013)	Re-deposited natural clay, rubble in base, 1 × <i>imbrex</i> fragment. Underlies (1001), fills [1013]
<i>INTERPRETATION:</i>	<i>Fill of land drain</i>
[1014]	Cut; linear in plan; measures 0.28m wide × 0.49m deep; sides straight. Cuts (1005), filled by (1013)
<i>INTERPRETATION:</i>	<i>Cut for land drain</i>
(1015)	Soft red pink clay; one fragment of charcoal. Fills [1016], underlies (1001)
<i>INTERPRETATION:</i>	<i>Fill of land drain</i>
[1016]	Cut; linear in plan; measures 0.48m deep. Cuts (1005) filled by (1015)

CONTEXT	DESCRIPTION
<i>INTERPRETATION:</i>	<i>Cut for land drain</i>
[1017]	Cut/hollow; sub-circular in plan; measures 0.40m × 0.30m × 0.10m. Cuts (1002), filled by (1018)
<i>INTERPRETATION:</i>	<i>Shallow pit or natural scoop</i>
(1018)	Dark brown with red mottles and a single fragment of slag. Fills [1017], underlies (1015)
<i>INTERPRETATION:</i>	<i>Fill of pit or scoop [1017]</i>
(1019)	Context VOID
[1020]	Context VOID
(1021)	Loose, friable dark brown silt clay, red mottling; occasional charcoal, small stones; measured 1.20m × 1.00m × 0.30m. Underlies (1005), overlies (1002)
<i>INTERPRETATION:</i>	<i>Irregular base and blurring of edges - tree bole</i>
(1022)	Firm mid red brown clay; occasional charcoal, single fragment of post-medieval pottery. Fill of [1023] underlies (1001). No ceramic pipe present
<i>INTERPRETATION:</i>	<i>Fill of land drain</i>
[1023]	Cut; linear in plan; measured <0.38m wide and 0.26m deep; aligned N/S; extends full length of trench; sides near vertical, base flat. Cuts (1005), filled by (1022)
<i>INTERPRETATION:</i>	<i>Relict land drain.</i>
(1024)	Compact/firm mid to dark brown friable silt loam, darker concentration at top of the deposit; pottery, animal bone, moderate charcoal, occasional flint & moderate flat stones. Underlies (1005), cut by land drain [1030], fill of [1028]
<i>INTERPRETATION:</i>	<i>Upper fill of Roman ditch</i>
[1025]	Cut; linear in plan; aligned N/S; sides gently sloping, slightly stepped on E side, base tapering. Cuts (1002), filled by (1026). 0.35m/0.45m wide × 0.35m deep
<i>INTERPRETATION:</i>	<i>Roman (?) boundary ditch</i>
(1026)	Loose to moderately compact red brown silt clay; occasional small stones concentrated on E side of cut, charcoal lumps. Contains pottery and animal bone. Fill of [1025], underlies (1005)
<i>INTERPRETATION:</i>	<i>Fill of shallow N/S -aligned ditch</i>
(1027)	Compact red loamy clay; occasional pottery, animal bone, charcoal and slag. Underlies (1024), fill of [1028] max 0.23m deep
<i>INTERPRETATION:</i>	<i>Basal fill of ditch [1028]</i>
[1028]	Cut; linear in plan; aligned N/S; sides steeply sloping sides and a flat base. >1.20m wide × 0.60m deep. Cuts (1002), filled by (1027) (1024), (1033)
<i>INTERPRETATION:</i>	<i>Roman (?) boundary ditch</i>
(1029)	Compact pink, green and brown loamy clay. Fill of [1030], underlies (1001). No ceramic pipe
<i>INTERPRETATION:</i>	<i>Fill of relict land drain</i>
[1030]	Cut; linear in plan; sides vertical, base narrow 'U'-shape. Cuts (1005), filled by (1029); physically cuts (1024)
<i>INTERPRETATION:</i>	<i>Relict land drain</i>
(1031)	Compact dull purple brown silty clay; very occasional medium-sized stones, charcoal flecks, a fragment of slag and moderate pottery, 2 × <i>imbrex</i> fragments. Overlies (1027), fill of [1028] underlies (1005) 0.38m deep
<i>INTERPRETATION:</i>	<i>= (1024) but cleaner to the S</i>
[1032]	Cut; linear = [1025]; 1.70m wide, 0.50m deep, still slightly stepped on E side. Filled by (1026)
<i>INTERPRETATION:</i>	<i>Continuation to S of boundary ditch [1025]</i>

CONTEXT	DESCRIPTION
(1033)	Moderately compact mid reddish-brown clay silt; occasional flecks of charcoal, animal bone fragments, occasional pottery; measured 2.50m wide × 0.73m deep. Fills [1028], underlies (1005);
<i>INTERPRETATION:</i>	<i>Single fill of ditch [1028] to S</i>
[1034]	Cut; linear in plan; aligned NE/SW; measured 0.21m wide × 0.42m deep; sides steeply sloping, base flat. Cuts (1005). Filled by (1035). Physically cuts (1033)
<i>INTERPRETATION:</i>	<i>Land drain</i>
(1035)	Loose dark grey brown silt clay; frequent medium stones, post-medieval bottle rim, 8 fragments of a hand-shaped, dry-mould brick (C14–C16). Fill of [1034] underlies (1001)
<i>INTERPRETATION:</i>	<i>Fill of land drain</i>
(1036)	Loose dark grey brown silty clay; moderate charcoal, two fragments of modern glass, patch of re-deposited natural
<i>INTERPRETATION:</i>	<i>Single fill of posthole [1041] - root disturbance possibly incorporated modern glass</i>
(1037)	Loose dark grey brown silty clay; frequent charcoal & burnt roots, C19 + pottery; measured 0.90m × 0.60m × 0.10m. Underlies (1005), overlies (1002)
<i>INTERPRETATION:</i>	<i>Modern root clearance feature - possibly part of same episode as (1036)/[1041]</i>
(1038)	Very firm & compact light reddish-brown silty clay; manganese flecks, occasional charcoal, Roman pottery; measured 0.12m deep. Underlies (1005), fills [1039]
<i>INTERPRETATION:</i>	<i>Fill of possible posthole</i>
[1039]	Cut; oval in plan; measured 0.60m × 0.50m × 0.12m; sides 45°, base flat. Cuts (1002), filled by (1038)
<i>INTERPRETATION:</i>	<i>Possible posthole - similar to others on site</i>
(1040)	Firm dark brown silt clay; moderate charcoal. Underlies (1001), within (1005)
<i>INTERPRETATION:</i>	<i>Bioturbation within (1005)</i>
[1041]	Cut (?); circular; measured 0.29m diameter, 0.24m deep; sides vertical, curving to flat base. Surrounded by irregular area of bioturbation. Feature as whole measured 0.75m × 0.45m. Cuts (1002)- (?) underlies (1005)
<i>INTERPRETATION:</i>	<i>Possible root clearance feature but was not obviously visible in or overlies (1005). Or posthole surrounded by bioturbation</i>
(1042)	Firm/compact red loamy clay, small dark brown patches; frequent pottery & charcoal; measured 0.28m thick × 0.88m wide. Underlies (1005), overlies (1043), fills [1046]
<i>INTERPRETATION:</i>	<i>Dump of pottery</i>
(1043)	Compact but soft light yellow/grey clay loam; occasional manganese. Underlies (1042) fill of [1046]
<i>INTERPRETATION:</i>	<i>Lining of possible surface-built kiln [1046]</i>
[1044]	Cut (?); irregular in plan; measures 1.50m × 1.05m × 0.18m. Cuts (?) (1005), filled by (1045)
<i>INTERPRETATION:</i>	<i>Ploughed-out tree bole - truncated by a number of plough furrows</i>
(1045)	Firm & compact dark grey brown silt clay; concentrations of charcoal (burnt roots (?)). Fill of [1044], underlies (1005)
<i>INTERPRETATION:</i>	<i>Tree bole fill</i>
[1046]	Cut; oval in plan; measures 1.04m × 1.32m × 0.29m. Cuts (1002), filled by (1042) and (1043)
<i>INTERPRETATION:</i>	<i>Cut for possible surface-built kiln</i>
(1047)	Context VOID
[1048]	Context VOID

CONTEXT	DESCRIPTION
(1049)	Context VOID
(1050)	Context VOID
(1051)	Context VOID
(1052)	Firm mid grey silt clay; frequent charcoal, occasional burnt clay, animal bone, pottery & slag. Beneath (1005), fill of [1054]
<i>INTERPRETATION:</i>	<i>Fill of waste pit</i>
(1053)	Moderately compact mid brown silt clay, small red mottles. Fill of [1055], underlies (1005)
<i>INTERPRETATION:</i>	<i>Fill of waste pit; frequent pottery</i>
[1054]	Cut; sub-circular in plan; measured 1.32m wide, base flattish. Cuts (1002), filled by (1052).
<i>INTERPRETATION:</i>	<i>Cut for waste pit - encountered in evaluation as [2008]</i>
[1055]	Cut; oval in plan; sides steeply sloping, base flat. Filled by (1053), cuts (1002)
<i>INTERPRETATION:</i>	<i>Cut of shallow waste pit</i>
[1056]	Cut; sub-circular in plan; sides & base bowl-shaped; measured 0.80 × 0.60m × 0.23m. Cuts (1002), filled by (1057), (1061)
<i>INTERPRETATION:</i>	<i>Cut for possible industrial feature</i>
(1057)	Firm/hard bright orange clay silt; measured 30-50mm thick; underlies (1061) overlies [1056]
<i>INTERPRETATION:</i>	<i>Lining of kiln/furnace</i>
(1058)	Soft but compact mid/dark greyish-brown silt clay; moderate charcoal flecks & burnt clay; measured 0.19m deep. Underlies (1005), overlies (1061)
<i>INTERPRETATION:</i>	<i>Secondary fill of industrial feature [1056]</i>
(1059)	Very firm, compact dark greyish-brown silt clay; very organic, frequent charcoal; measured 7.0m × 4.0m × 0.25m
<i>INTERPRETATION:</i>	<i>Midden deposit including possible waster-dump</i>
[1060]	Cut; rectilinear in plan; measured 2.0m × 0.5m. Cuts (1000).
<i>INTERPRETATION:</i>	<i>Cut and subsequent deposit associated with recent test-pitting;</i>
(1061)	Soft dark greyish-brown (black) charcoal silt; moderate burnt clay lumps; Measured 0.50m thick. Underlies (1058) overlies fill of (1056)
<i>INTERPRETATION:</i>	<i>Charcoal basal fill of pit [1056]</i>
(1062)	Context VOID
(1063)	Soft mid-dark greyish-brown silt loam; occasional burnt bone & Roman pottery (including an unusual c. C1 BC – AD 70 jar in a 'Belgic' grog-tempered fabric with an atypical form); measured 0.22m long × 0.14m wide × 0.02m deep.
<i>INTERPRETATION:</i>	<i>Bioturbation; similar to e.g. (1064)</i>
(1064)	Soft reddish-brown silt clay; charcoal & burnt bone flecks. Underlies (1005), overlies (1002)
<i>INTERPRETATION:</i>	<i>Bioturbation; similar to (1063)</i>
[1065]	Cut; oval in plan; measured 7.0m × 4.0m × 0.25m; sides gentle to very gently sloping, base flat & irregular.
<i>INTERPRETATION:</i>	<i>Shallow cut for possible midden deposit - shape would suggest deliberate cut</i>
(1066)	Pink re-deposited natural mixed with fill from (1059). Fill of [1073]
<i>INTERPRETATION:</i>	<i>Fill of land drain - exposed to confirm</i>
(1067)	Pink re-deposited natural mixed with fill from (1059). Fill of [1074] underlies (1001)
<i>INTERPRETATION:</i>	<i>Fill of land drain - exposed to confirm</i>
(1068)	Pink re-deposited natural mixed with fill from (1059). Fills [1074]
<i>INTERPRETATION:</i>	<i>Fill of land drain - exposed to confirm</i>

CONTEXT	DESCRIPTION
(1069)	Firm greyish-brown silt clay; moderate fired clay, frequent charcoal, white flecks & burnt stone. Underlies [1081] fill of [1072]
<i>INTERPRETATION:</i>	<i>Dirty fill of kiln/pit [1071] - industrially derived</i>
(1070)	Moderately compact mid orange-brown silty clay; occasional charcoal flecks & Roman pottery; measured 0.14m x 0.38m. Fill of [1080], underlies (1005)
<i>INTERPRETATION:</i>	<i>Fill of Roman ditch</i>
(1071)	Hard bright orange silty clay; measured 30mm deep. Underlies (1069); fill of [1072]
<i>INTERPRETATION:</i>	<i>Burnt natural clay around limit of cut [1072] - similar in form to better preserved (1057) probably kiln lining</i>
[1072]	Cut; circular/sub-circular in plan; sides curving to base; measured (as excavated) 0.70m x 0.40m x 0.15m. Cut on E side by ditch [1081]
<i>INTERPRETATION:</i>	<i>Bowl-shaped cut for possible kiln or other industrial feature, similar to [1056]</i>
[1073]	Cut; linear; aligned NW/SE; sides steep. Filled by (1066). Cuts (1005)
<i>INTERPRETATION:</i>	<i>Narrow cut for land drain (1066)</i>
[1074]	Cut; linear; aligned NW/SE; sides steep. Filled by (1067). Cuts (1005)
<i>INTERPRETATION:</i>	<i>Narrow cut for land drain (1067)</i>
[1075]	Cut; linear; aligned NE/SW; extends across site. Filled by (1068). Cuts (1005)
<i>INTERPRETATION:</i>	<i>Narrow cut for land drain (1068)</i>
(1078)	Moderately compact mid reddish-brown silt clay; frequent angular and sub-angular stones. Fill of [1079], underlies (1001)
<i>INTERPRETATION:</i>	<i>Post-medieval land drain fill - stone suggests French drain;</i>
[1079]	Cut; linear in plan; aligned E/W; measured 0.30m wide x 0.25m deep; base flat base. Filled by (1078), cuts (1005)
<i>INTERPRETATION:</i>	<i>Land drain</i>
[1080]	Cut; linear in plan; aligned NW/SE; flattened 'U'-shaped profile; measured 0.80m wide x 0.14m deep. Filled by (1070), cuts (1002)
<i>INTERPRETATION:</i>	<i>Cut for shallow ditch; possible boundary</i>
[1081]	Cut; linear in plan; aligned NNW/SSE >38m (extending beyond trench to N & W); measured 1.7m wide and 1.0m deep; sides steeply sloping, base slightly rounded. Cuts (1069), filled by (1089), (1102), (1082), (1105), (1086) & (1090)
<i>INTERPRETATION:</i>	<i>Enclosure ditch - clear turn to W at S end</i>
(1082)	Soft greyish-brown silt clay; frequent manganese, occasional burnt clay flecks, abraded Roman pottery; measured 0.70m deep. Overlies (1089) underlies (1086), fills [1081]
<i>INTERPRETATION:</i>	<i>Fill of Roman ditch</i>
[1083]	Cut; sub-circular in plan; aligned E/W; measured 0.16m x 0.52m x 0.12m; break of slope top sharp, sides near vertical, break of slope base sharp, base fairly flat. Filled by (1084) cuts (1065)
<i>INTERPRETATION:</i>	<i>Possible posthole - depression 0.13m x 0.16m may be position of a post.</i>
(1084)	Loose mid orange-brown silt clay; rare charcoal flecks, occasional small stones, sherds of pottery & fragments of animal bone. Fill of [1083], underlies (1059)
<i>INTERPRETATION:</i>	<i>Fill of posthole cutting/associated with midden [1065]</i>
(1085)	Very firm compact dark brown silt clay; large deposits of manganese; measured 2m NE/SW, 0.10m deep. Underlies (1070), fill of [1080]
<i>INTERPRETATION:</i>	<i>Primary fill of ditch [1080], probably formed through natural silting</i>

CONTEXT	DESCRIPTION
(1086)	Fairly soft pink silt clay; moderate green, occasional black blotches & rounded stones. Fill of [1081]. overlies (1082), underlies (1090)
<i>INTERPRETATION:</i>	<i>Re-deposited natural clay in ditch [1081]</i>
[1087]	Cut; oval in plan; measured 0.95m × 0.48m × 0.10m; sides steep, base concave. Filled by (1088), cuts (1002)
<i>INTERPRETATION:</i>	<i>Shallow cut for fire waste pit</i>
(1088)	Loose mid orange brown charcoal-rich silt clay; occasional burnt clay. Fills [1087], cut by [1093]
<i>INTERPRETATION:</i>	<i>Fill of fire waste pit.</i>
(1089)	Firm reddish-brown silt; moderate burnt bone, fired clay & charcoal flecks. Fills [1081], underlies (1082)
<i>INTERPRETATION:</i>	<i>Basal/primary fill of [1081]</i>
(1090)	Firm mid yellow/greyish-brown clay silt; occasional greenish stone & manganese flecks; measured 0.70m wide, 0.30m deep. Underlies (1005), overlies (1086), fills [1081]
<i>INTERPRETATION:</i>	<i>Part of capping of (?) Roman ditch; greyer than (1086) but also possible patch in that deposit</i>
[1091]	Cut; oval in plan; aligned NW/SE; measured 2.12m × 0.65m × 0.12m; sides gently sloping, base concave. Filled by (1092)
<i>INTERPRETATION:</i>	<i>Pit of uncertain function</i>
(1092)	Loose mid grey brown silt clay; occasional charcoal flecks, pottery sherds, very occasional animal bone. Fill of [1091], cut by [1096]
<i>INTERPRETATION:</i>	<i>Fill of pit of uncertain function</i>
[1093]	Cut; linear in plan; aligned NE/SW; measured 0.27m wide × 0.06m deep; sides gradually sloping, base concave. Cuts (1088) and (1097), filled by (1094)
<i>INTERPRETATION:</i>	<i>Plough furrow of unknown extent</i>
(1094)	Loose light grey brown silt clay; moderate charcoal (where cuts features). Fills [1093], underlies/part of (1005)
<i>INTERPRETATION:</i>	<i>Fill of plough furrow</i>
(1095)	Context VOID: variation in natural
[1096]	Cut; oval in plan; aligned NE/SW; sides moderately sloping concave, base flat; measured 0.95m × 0.40m × 0.13m. Filled by (1097), cuts (1092)
<i>INTERPRETATION:</i>	<i>Cut of a hearth or fire pit</i>
(1097)	Loose mid brown-red charcoal-rich silt clay; very frequent charcoal (evidence for burning in-situ). Cut by (1093), fill of [1096]
<i>INTERPRETATION:</i>	<i>Fill of a fire-pit</i>
(1098)	Moderately compact mid-dark brown silt loam; occasional charcoal flecks; measured 70mm–130mm deep and 0.50m diameter.
<i>INTERPRETATION:</i>	<i>Tree bole - undulating base with no uniformity</i>
(1099)	Compact/firm mid red brown silty clay; occasional manganese flecks. Underlies (1001) cuts (1005)
<i>INTERPRETATION:</i>	<i>Plough furrow - re-deposited natural clay</i>
(1100)	Very firm dark greyish-brown silty clay; large flecks of degraded local stone, very frequent charcoal. Underlies (1005), fill of [1101]
<i>INTERPRETATION:</i>	<i>Fill of shallow pit or posthole; stones suggestive of post-packing</i>

CONTEXT	DESCRIPTION
[1101]	Cut; circular; sides steeply sloping, base irregular; measured 0.70m × 0.70m × 0.15m. Cuts (100020, filled by (1100)
<i>INTERPRETATION:</i>	<i>Although shallow possibly a posthole(?) associated with [1104] and [1108]</i>
(1102)	Soft dark red silt clay; frequent green /yellow natural sandstone; occasional charcoal; measured 0.86m wide × 0.43m deep. Fills (1081)
<i>INTERPRETATION:</i>	<i>Ditch fill probably deliberate backfill due to the amount of re-deposited bedrock</i>
(1103)	Very firm dark grey black silt clay; very frequent charcoal & stones. Fill of [1104]
<i>INTERPRETATION:</i>	<i>Fill for shallow pit or posthole; frequent stones may suggest post-packing</i>
[1104]	Cut; sub-circular in plan; aligned N/S; sides sharply sloping, base irregular/flat; measured 0.70m × 0.60m × 0.15m deep. Filled by (1103)
<i>INTERPRETATION:</i>	<i>Posthole; similar to [1101]</i>
(1105)	Moderately compact red clay, green mottling; measured 36mm wide, 9mm deep. Underlies (1086) overlies (1089), fill of [1081]
<i>INTERPRETATION:</i>	<i>Slumping of side into ditch [1081]-seen in section</i>
[1106]	Cut; linear in plan; aligned N/S; sides vertical and narrow, base curved; measured 40m × 0.28m × 0.63m. Cuts (1005), filled by (1107)
<i>INTERPRETATION:</i>	<i>Land drain</i>
(1107)	Fairly compact mid brown sandy loam. Fill of [1106], underlies (1101)
<i>INTERPRETATION:</i>	<i>Fill of land drain</i>
[1108]	Cut; circular in plan; sides vertical, base gently rounded; measured 0.25m diameter × 0.18m deep. Cuts (1002), filled by (1109)
<i>INTERPRETATION:</i>	<i>Posthole - possibly related in use to [1101] and [1104] to its W.</i>
(1109)	Firm to hard mid greyish-brown silt clay; frequent charcoal (c 10mm). Underlies (1005), fill of [1108]
<i>INTERPRETATION:</i>	<i>Fill of posthole; although dissimilar in form and fill could possibly be associated in use with [1101] and [1104] - a fragment of worked stone and a sherd of black coarse ware were found upright on the N edge of the cut and may comprise post-packing.</i>
(1110)	Very firm and compact dark grey brown silt clay; frequent charcoal; some surface spreading of about 0.30m. Fill of [1111], underlies (1105)
<i>INTERPRETATION:</i>	<i>Single fill of small refuse pit; fairly similar to fills of [1101] and [1104] but fewer stones.</i>
[1111]	Cut; circular in plan; sides irregular steep, base irregular; measured 0.60m × 0.70m × 0.15m deep. Cuts (1002), filled by (1110)
<i>INTERPRETATION:</i>	<i>Cut for shallow pit or posthole. Aligned with similar features in area</i>
(1112)	Firm mid greyish-brown silt clay; frequent substantial (up to 10mm) charcoal flecks. Underlies (1005) fill of [1113]
<i>INTERPRETATION:</i>	<i>Fill of heavily truncated posthole</i>
[1113]	Cut; (?) circular/oval in plan; measured 0.40m E/W × 0.30m N/S × 0.10m; sides & base concave (?) (heavily truncated by land drain [1114]). Cuts (1002), filled by (1112)
<i>INTERPRETATION:</i>	<i>Heavily truncated, possibly bowl-shaped posthole. Highly dissimilar to [1101] & [1104] with which it is aligned. Close to [1108] and probably associated in use</i>
[1114]	Cut; linear in plan; aligned NE/SW; measured 0.30m wide extending outside N & S section. Filled by (1115) cuts (1005)
<i>INTERPRETATION:</i>	<i>Land drain</i>
(1115)	Firm mid greyish-brown silt clay, small patches of re-deposited natural; occasional modern pottery. Underlies (1001), fill of [1114]

CONTEXT	DESCRIPTION
<i>INTERPRETATION:</i>	<i>Fill of land drain</i>
(1116)	Very compact dark greyish-brown ashy clay; very frequent charcoal & fired clay, occasional slag & pottery. Fill of [1118] underlies (1005)
<i>INTERPRETATION:</i>	<i>Fill of rubbish pit; possibly industrial in origin - one area with no inclusions other than manganese apparently represents root disturbance</i>
(1117)	Fairly loose mid brown silt clay; moderate charcoal, very frequent clay mould or <i>briquetage</i> (>10% of fill).
<i>INTERPRETATION:</i>	<i>Fill, largely comprising collapsed superstructure, of small kiln - fragments curved and show form of superstructure</i>
[1118]	Cut; irregular sub-circular in plan; measured 1.15m × 1.40m × 0.23m (stepped on N & E edge); base flat. Cuts (1002) filled by (1116)
<i>INTERPRETATION:</i>	<i>Shallow irregular rubbish pit</i>
[1119]	Cut; 'keyhole' -shaped in plan; aligned E/W; measured 0.90m × 0.40m × 0.08m; base bowl-shaped (in main part of structure). Filled by (1117), cuts (1002)
<i>INTERPRETATION:</i>	<i>Cut for probable industrial feature of unknown purpose - edges of flue uncertain.</i>
[1121]	Cut; sub-circular in plan; sides steeply concave, base rounded; measured 0.20m × 0.16m × 0.17m. Filled by(1122), cuts (1002)
<i>INTERPRETATION:</i>	<i>Cut for small isolated feature, possibly a posthole - no finds but regular form suggests a feature rather than rooting.</i>
(1122)	Firm mid brown silt clay; moderate charcoal, very rare burnt clay, occasional burnt bone. Underlies (1005), fill of [1121]
<i>INTERPRETATION:</i>	<i>Fill of possible posthole on S side of site. Burnt bone and clay in fill indicated that this was a feature, despite its isolation</i>
[1123]	Cut; linear in plan; aligned NE/SW; measured 0.42m wide and 0.25m deep, length unknown. Cuts (1005), filled by (1124).
<i>INTERPRETATION:</i>	<i>Cut for land drain</i>
(1124)	Firm red clay; flecks of green sandstone. Fill of [1123] underlies (1001)
<i>INTERPRETATION:</i>	<i>Fill of land drain</i>
(1125):	Very compact/hard brick, tile, concrete rubble; measured 0.20–0.30m deep. Underlies (1000) overlies (1001)
<i>INTERPRETATION:</i>	<i>Modern levelling in waterlogged area on E side of site</i>

9.2 Appendix 2 Roman Pottery Assessment

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9.2.1 Introduction - Factual data

There were 4716 sherds, weighing 62.25kg, of pottery with a minimum number of rims (MNR) of 311 presented for assessment from the site. Some 53 (255g) of these sherds were of samian ware and 19 were sherds of Class Z, medieval or post-medieval. There were 4591 sherds from stratified contexts, weighing a total of 61.163kg and with an MNR of 300.

There were also a further 321 sherds, weighing 2.926kg with an MNR of 20 from the previous evaluation, including a sherd of CG samian, catalogued by J. Timby (BA 2013, 21-3) reproduced with a fabric concordance in Appendix B. This latter material has not been included in the quantitative part of this assessment, although it is qualitatively referred to as appropriate.

9.2.2 Dating

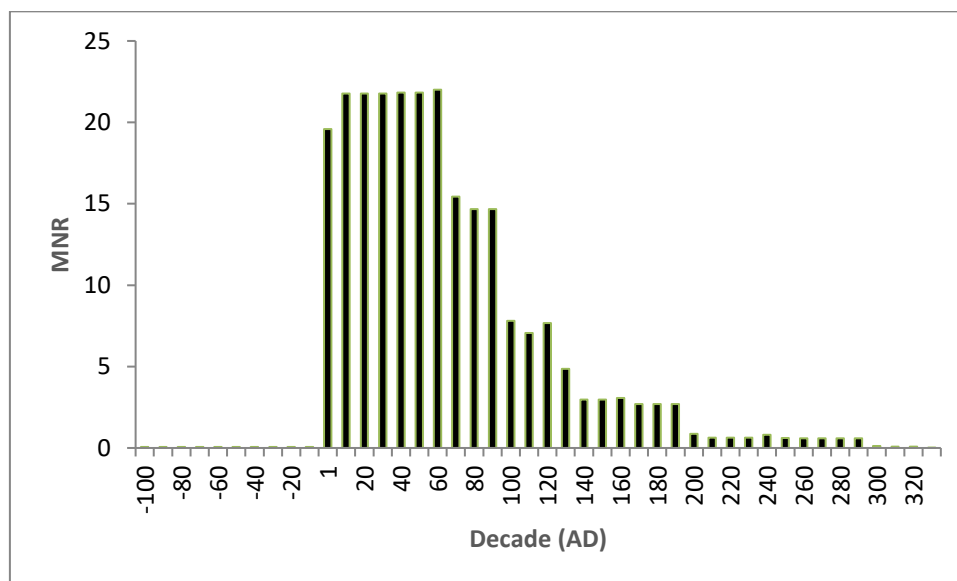


Fig. 1: Date distribution of pottery with a date range of less than 200 years

A date distribution, showing only values for pottery with a date range of less than 200 years, by MNR, is shown in Fig. 1. There is a very slight earlier mid Iron Age component, with a major increase in the early 1st century AD and levels remain high until c. AD 70. This peak may be exaggerated given the extreme friability of the main fabric dated to this period (C00) and a distribution based on rim equivalent should counter this. There is, however, an important contribution from the class E 'Belgic' wares (usually very rare in this area) contributing to this earlier peak. The pottery deposition declines in the later 1st century, with a further marked decline in pottery deposition in the mid-2nd century, with no significant presence in the 3rd century or later.

The earliest pottery is represented by Barrel Jars in class P from (1059) NE and SW quadrants, including an import with no siltstone in its matrix (P20 from NE quad). There is also a Barrel Jar in the handmade calcareous fabric from (1059) NW quadrant. There is an unusual jar in a Belgian grog-tempered fabric, but not a typical Belgian form, with a suggested date of 1st century BC–AD 70 from (1063). There is a concentration of Class E, from dump (1059) mainly in typically Belgian forms (dating AD 1–70) but with some possible earlier example (perhaps 1st century BC – AD70). There is a Belgian jar from (1053), with an AD 1–70 date, and a necked jar of similar date from (1027) Slot 4. A number of other examples occur residually in (1026), (1070) (1116) and (1005).

There is a substantial number of thick jars/storage jars in a handmade calcareous-tempered fabric, which has been assigned a 1st century AD date, which would appear to have been produced on this site, at the same time as the organically-tempered grey ware vessels.

Conversely, the grey ware products, which had originally been assigned dates based on parallels in Alcester of late 1st -early 2nd -century date, would appear to be late 1st -century products at this site.

There are jars in Savernake tradition ware, if not actually Savernake, from (1024) and (1026) with a 1st -century AD date.

There are a number of early forms in Severn Valley Ware (SVW), as would be expected in the area. These include an early SVW 1st -century beaker from (1026) A/B, jars from (1024) Slot 4, and a 1st -century tankard from (1033).

There are a couple of very unusual incipient bead and flange rim bowls in Malvernian Metamorphic tempered ware, dating from the early–mid-3rd century, from (1024).

The latest Roman material includes fragments of Oxfordshire whiteware *mortarium* c. AD 240 –300 from (1024), East Gaulish Black slip Rhenish ware (F42) of AD 200–250 date from (1024), as well as a sherd of Oxfordshire colour-coated ware from the same context. Finally, there is a 3rd to early 4th -century SVW tankard from (1024), alongside two late 2nd -3rd -century SVW tankards from the same context.

Table 1 shows a seriation of the contexts in spot-date order. This shows that Class C material dominated the earlier contexts but is still found in the same sort of quantity as the early grey wares in the kiln backfill (1042). This suggests that both the common calcareous-tempered ware and the early grey wares R32.1 and R32.2 were produced on site, although, perhaps, the class C vessels were manufactured from a slightly earlier date and continued in production alongside the early grey ware vessels.

9.2.3 Supply

The breakdown of the excavated assemblage by ware type is shown in Table 2. The proportions of common fabrics within those groups are shown in Table 2.

There were no *amphorae* from the excavation assemblage, although an unidentified *amphora* sherd from evaluation context (2006) was noted. This is consistent with a basic-level rural settlement (Evans 2001) and parallels the low (0.4 per cent) proportion of *amphorae* from Stallards Place (Booth 2010).

Black-Burnished wares at one per cent are very low for the region and far less, for example, than the 19 per cent at Stallards Place (Booth 2010, Table 1). This is most likely a result of the early end date of the site, consistent with little or no activity after the early 2nd century.

Class C, calcareous-tempered wares, form the second most abundant fraction, at 34 per cent by NoSh. The majority is a handmade calcareous late Iron Age tradition fabric at 33 per cent. The large quantity of this material, as well as its presence in the kiln backfill and dumps, suggest that is one of the locally-made products (along with the organic and grog-tempered grey ware R31.1. and R31.2). There is a possible source of limestone in terms of Silurian rock outcrop some 5km NE of the site. Class E, Belgic wares are high for the region at eight per cent, (there are no equivalent fabrics reported from Stallards Place) and would be unusual even given the late Iron Age to 1st century focus of activity on the site. Table 2 shows that most of these wares were grog-tempered, but included a small quantity that were sand-tempered. The majority were wheel-made, but a few handmade examples were identified. There was also an interesting subgroup with a distinctive black surface finish (E20 and E25). It seems probable that the inhabitants of the site were an outlying cultural group with links to the Belgic pottery-using groups of the Cotswolds.

Fine-wares and samian are at a very low level at one per cent, consistent with an early basic-level rural site. The majority is made up of samian, with less than 0.1 per cent being colour-coated fine-wares, as might be expected given the date range of the site. The colour-coated wares appear to be a late scatter – one example of F06, Oxfordshire colour-coated ware from upper ditch fill (1024), and one example of F46, East Gaulish black slip ware (Rhenish ware), from (1024) Slot 7. The majority of the samian (0.9 per cent) could be readily identified as Central Gaulish, with the rest being possibly East Gaulish.

Class G, being all Malvernian rock-tempered ware, is present at 0.6 per cent, considerably lower than Stallards Place (seven per cent by NoSh (Booth 2010, Table 1)), which again emphasises the sharp decline of activity here in the 2nd century AD.

Mortaria at 0.1 per cent (NoSh) are similar to Stallards Place (0.2 per cent), although here they are Oxford products (rather than Mancetter) and all are from the upper ditch fill (1024) (two from Slot 2 and one from Slot 7).

Context	Spot date	B	C	E	F	G	M	O	P	R00	R10	R31.1	R31.2	R76	R80	S	W	Z	NoSh
1064	AD C1		100%																3
1084	AD C1		100%																5
1088	AD C1		100%																3
1103	AD C1		100%																1
1059	AD 1-70		78%	19%								1%							1164
1063	C1 BC - AD 70		69%	15%						15%									13
1061	AD 1 - 70			100%															3
1052	AD 1 - 70		70%	17%				13%											23
1092	AD 1-100		67%	33%															6
1042	AD C1-E C2		42%	2%				10%				43%	3%						245
1033	AD 70-E C2	2%		4%		1%		36%		1%		9%	46%	1%					102
1082	AD 120 -200	4%	15%	1%				27%			1%	17%	32%	1%		1%			81
1027	160 -200	1%	9%	2%				36%				27%	20%	3%		1%			124
1090	AD C1							100%											1
1053	AD C1 -C2		74%	3%		3%		6%				1%					13%		95
1031	AD C1-E C2		8%					35%		4%		19%	31%					2%	48
1070	L C1		7%	2%				26%		1%		43%	21%		1%				475
1026	L C1 -	1%	26%	4%		1%		15%		1%		10%	41%	1%			1%		625

Context	Spot date	B	C	E	F	G	M	O	P	R00	R10	R31.1	R31.2	R76	R80	S	W	Z	NoSh
1038	L C1-E C2											100%							1
1058	L C1-E C2			29%				29%				43%							7
1069	LC1-E C2												50%	50%					2
1089	L C1-E C2							14%				86%							7
1100	L C1-E C2		80%									20%							5
1109	L C1-E C2		20%					7%				73%							15
1110	LC1-EC2		14%					57%					29%						7
1116	L C1-E C2		47%	24%				9%					20%						45
1086	L C1-M C2			17%				42%					42%						12
1024	E C3-M C3	3%	7%	6%		1%		26%		1%		11%	39%			5%			1035
1045	MED, LC1-C2		50%					21%						7%	7%			14%	14
1036	Post-medieval? L C1-E C2 Roman material							13%					88%						8
1005	Post-Roman; mid C2	2%	25%	1%		1%		23%			1%	13%	32%	1%		1%		1%	391

Table 1: Seriation by date order

Class O, Oxidised wares, stand at 17 per cent (NoSh), with 14 per cent being SVW (most of which could be characterised as 'early' SVW). This is much lower than would normally be expected within the region, contrasting with the 48 per cent (NoSh) in the class, 47 per cent SVW from Stallards Place, or any of the other recent excavations at Dymock (Booth 2010, Table 3). This again is consistent with the early 2nd-century abandonment of the site.

Class P, Reduced Iron Age -tradition wares, are present at 0.1 per cent, which was evenly split between quartz-tempered and calcareous-tempered fabrics.

Class R, Reduced wares, at 38 per cent, are the largest component of the assemblage. This is much higher than would normally be expected for the region and may be explained by the early date of the site, as well as the production of grey wares on site. The bulk of them were early organic and siltstone/grog-tempered wares: R31.1, wheel-made, at 14 per cent and R31.2, handmade, at 22 per cent. This may equate with Booth's (2010) fabric R60 from Stallards Place at three per cent. It would seem probable that these were the products of the kiln. Other grey wares noted included 0.5 per cent of R76, Savernake or 'Savernake tradition' fabric (not reported from Stallards Place) and the micaceous R80, Gloucester fabric TF5, at 0.2 per cent. (*cf.* R85 from Stallards Place at 0.7 per cent)

There is a small component of whiteware at 0.3 per cent. This group is noticeably absent from Stallards Place, although the datable forms here are early, comprising butt-beakers from (1026) Slot 1/2 and (1053), as well as an early odd campanulate jar from (1026) 1/2.

Intrusive medieval and later pottery is present at 0.3 per cent.

Code	Ware type	No%	Wt%	MNR%
B	Black Burnished	1.0%	0.5%	1.0%
C	Calcareous	33.7%	32.5%	21.7%
E	Belgic	8.0%	7.8%	16.7%
F	Fine	0.0%	0.0%	0.3%
G	Gritted	0.6%	1.3%	4.3%
M	Mortaria	0.1%	0.1%	0.7%
O	Oxidised	16.8%	13.6%	24.7%
P	Prehistoric	0.1%	0.0%	0.7%
R	Reduced	38.0%	43.5%	26.0%
S	Samian	1.1%	0.4%	1.7%
W	Whiteware	0.3%	0.1%	0.7%
Z	Post-Medieval	0.3%	0.2%	1.7%
N		4591	61163	300

Table 2: Main ware types

Fabric	Common Name	No%	Wt%	MNR%
B01	(Tomber and Dore 1998) DOR BB1	1.0%	0.5%	1.0%
C00	LIA tradition handmade, calcareous temper	33.4%	31.8%	21.7%
E00	Belgic grog-tempered	3.6%	4.2%	8.7%
E05	Belgic sand-tempered	0.1%	0.1%	0.0%
E10	Belgic grog-tempered with grey surfaces	0.4%	0.7%	0.7%
E20	Belgic grog-tempered with black surfaces	3.8%	2.7%	7.0%
E25	Belgic sand-tempered with black surface	0.0%	0.0%	0.0%
E50	Handmade Terra Nigra copy?	0.1%	0.1%	0.3%
F06	(Tomber & Dore 1998) OXF RS	0.0%	0.0%	0.0%
F42	(Tomber & Dore 1998) EG BS	0.0%	0.0%	0.3%
G44	(Tomber & Dore 1998) MAL RE	0.6%	1.3%	4.3%
M25	(Tomber & Dore 1998) OXF WH	0.1%	0.1%	0.7%
O00	Oxidised	2.6%	1.2%	2.7%
O20	(Tomber & Dore 1998) SVW OX	14.2%	12.4%	22.0%
P00	Handmade IA, siltstone	0.0%	0.0%	0.3%
P20	Imported IA handmade	0.0%	0.0%	0.3%
R00	Reduced ware	1.1%	0.9%	1.7%
R10	Sandy greyware	0.1%	0.1%	0.0%
R31.1	Organic temper, wheel made	13.8%	13.3%	6.7%
R31.2	Organic temper, hand made	22.3%	28.4%	16.7%
R76	(Tomber & Dore 1998) SAV GT	0.5%	0.8%	1.0%
R80	Gloucester TF5 (Timby 1999)	0.2%	0.1%	0.0%
S00	Samian	0.2%	0.0%	0.0%
S20	(Tomber & Dore 1998) CG SAM	0.9%	0.4%	1.7%
W00	Whiteware	0.3%	0.1%	0.7%
Z20	Medieval	0.2%	0.1%	1.3%
Z30	Post -med	0.1%	0.1%	0.3%
N		61163	300	4591

Table 3: breakdown of the assemblage by common fabric

9.2.4 Function

The approximate functional analysis of the stratified excavated assemblage is shown in Table 4. Jars overall are at 62 per cent, with table wares at 11 per cent, consistent with a basic-level rural settlement (Evans 2001). Storage jars at 25 per cent are much higher than the national average and much higher than would be encountered in the N or E of the country.

The pre-conquest material shows that high storage-jar levels here start in the Iron Age and continue into the early Roman period. This may be part of a sub-regional trend, shared with the Cotswold edge.

Function	F	CJ	SJ	J	WMJ	BK	Cup	M	B	D	L	O	N
MNR%	-	2.0	24.7	46.0	1.3	2.0	-	0.7	8.0	2.7	1.0	1.3	300 rims

Table 4: Approximate functional analysis of the assemblage by minimum numbers of rims

The data in this assessment are collected from a rapid scan of the material during spot-dating.

9.2.5 Discussion

There is a small amount of evidence of late Iron Age activity or possible pre-Conquest activity in the fill (1088) of a fire waste pit [1087] and the fill (1103) of posthole [1104]. Other deposits, suggested by the matrix, would be of the range of AD 1-70. The seriation of the pottery fabrics suggests that there is an initial phase of calcareous-tempered pottery, possibly manufactured on the site. The presence of the early grey ware R31 alongside this fabric in the backfill of (1042) strongly suggests that production of vessels in both fabrics was established fairly rapidly. The high level of class E wares for the region implies that this is a 1st-century foundation, possibly by a group previously associated with the Cotswolds.

The subsequent rapid decline of activity on this site must be related to the establishment of the larger settlement centred on the modern rectory and sewage treatment works (Booth 2010; Simmonds 2007; Catchpole 2007) which has been dated to the last third of the 1st century AD. Later activity seems to be restricted to early-to-mid-3rd - century material deposited in ditch fill (1024) and would appear to be associated with agricultural activity around a field boundary.

9.2.6 Bibliography

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9.2.7 Appendix A: Spot-dating

The spot dates given are to serve as *termini post qua* for succeeding deposits. They are based on the latest material in each deposit. Dates are arrived at from the pottery without regard to the stratigraphic sequence.

9.2.7.1 Context Summary

Context	Slot	Spot Date
(1001)	0	Post-medieval
(1002)	0	Post-medieval
(1003)	0	Modern
(1005)	0	Post-Roman
(1005)	Machine	Roman
(1005)	S2	AD 120 - 200
(1005)	S3	AD C1
(1005)	SD	AD 120+
(1010)	0	AD C1
(1013)	0	Modern
(1015)	0	Modern
(1022)	0	AD C18 - C19
(1024)	0	E C3 - M C3
(1024)	S2	AD 240 – 300
(1024)	S3	AD 170 – 200
(1024)	S4	AD E C3- M C3
(1024)	S4	AD C1 -C2, Post-medieval intrusive handle
(1024)	S7	AD E C3- M C3

Context	Slot	Spot Date
(1024)	SBULK	AD C1+
(1026)	0	AD L C1
(1026)	S1/2	AD L C1 - E C2, Poss. C3
(1026)	S3	AD C1 -E C2
(1026)	S5	AD C1 - E C2+
(1026)	S6	AD 120+
(1026)	S7	AD C1+
(1027)	0	AD 160 – 200
(1027)	S2	AD L C1 - E C2
(1027)	S3	AD C1 -E C2
(1027)	S4	AD 1 – 70
(1029)	0	Post-medieval
(1031)	S5	AD C1 -E C2, Intrusive Medieval
(1033)	0	AD 70 - E C2
(1033)	S6	AD 120 – 200
(1036)	0	Post-medieval? With AD L C1 - E C2
(1038)	0	AD L C1 - E C2
(1042)	0	AD 50 – 100
(1045)	0	MED, L C1-C2
(1052)	0	AD 1 - 70+
(1053)	0	AD C1 - C2
(1058)	0	AD L C1 - E C2
(1059)	0	AD 1-70
(1059)	NE	AD 1-70
(1059)	NW QU	AD 1 – 70
(1059)	SE	AD 1 – 70
(1059)	SW	AD 1-70
(1061)	0	AD 1 – 70
(1063)	0	C1 BC - AD 70
(1064)	0	AD C1
(1069)	0	AD L C1 - E C2
(1070)	0	AD L C1 (R80 intrusive?)
(1070)	NE end	AD L C1 - E C2

Context	Slot	Spot Date
(1070)	0	AD L C1 - E C2
(1070)	TERMI	AD L C1 - E C2
(1082)	0	AD 120 – 200
(1082)	S6	AD 120 – 200
(1082)	SI	AD L C1 - E C2
(1082)	SX	AD C1
(1084)	0	AD C1
(1086)	0	AD L C1-M C2
(1088)	0	AD C1
(1089)	0	AD L C1 - E C2
(1089)	SVI	AD L C1 - E C2
(1090)	0	AD C1
(1092)	0	AD 1 – 100
(1094)	0	Post-medieval
(1098)	0	1750+
(1100)	0	AD L C1 - E C2
(1103)	0	AD C1
(1109)	0	AD L C1 - E C2
(1110)	0	AD L C1 - E C2
(1116)	0	AD L C1 - E C2
(1207)	0	AD L C1 - E C2

9.2.7.2 Detailed Spot-Dating

Context	Slot	Fabric	Function	Date	NoSh	Wt.	MNR
(1001)	0	O20	J	Roman	1	6	1
(1001)	0	R00	B	Roman	1	11	1
(1001)	0	R00	J	Roman	3	32	3
(1001)	0	R00	SJ	Roman	4	166	4
(1002)	0	Z20	L	AD C13+	1	20	1
(1005)	0	B01	D	AD 120+	1	5	1
(1005)	0	C00	J	AD C1	5	44	4
(1005)	0	E10	B	AD 1-70	1	94	1
(1005)	0	G44	J	AD C1-E C2	1	23	1
(1005)	0	G44	O	Roman	1	157	1
(1005)	0	O00	J	Roman	1	4	1

Context	Slot	Fabric	Function	Date	NoSh	Wt.	MNR
(1005)	0	O20	B	AD C1-C2	1	18	1
(10050)	0	O20	J	AD C1-C4	1	5	1
(1005)	0	O20	J	AD M C2-L C3	5	99	1
(1005)	0	O20	WMJ	AD C1-C3	53	1247	1
(1005)	0	R00	J	AD C1-C4	1	9	1
(1005)	0	R31.2	J	AD C1-E C2	2	30	2
(1005)	0	R31.2	SJ	AD C1-E C2	7	318	6
(1005)	0	R76	SJ	AD C1	1	21	1
(1005)	0	Z20	B	Medieval	1	6	1
(1005)	0	Z20	J	Medieval	1	7	1
(1024)	0	C00	J	AD C1	2	16	2
(1024)	0	E00	J	AD 1-70	1	9	1
(1024)	0	G44	J	AD C1-E C2	1	13	1
(1024)	0	G44	L	Roman	1	18	1
(1024)	0	O00	J	Roman	1	3	1
(1024)	0	O20	CJ	AD C1-C4	1	9	1
((1024)	0	O20	Ta	AD C1-M C2	3	17	3
(1024)	0	R31.1	J	AD C1-C2	2	13	1
(1024)	0	R31.2	J	AD C1-C2	1	1	1
(1024)	0	R31.2	SJ	AD C1-E C2	7	389	6
(1024)	S2	B01	D	AD 120+	1	21	1
(1024)	S2	C00	J	AD C1	4	21	1
(1024)	S2	M00	M	AD 240-300	1	21	1
(1024)	S2	M00	M	AD C2/C3	1	18	1
(1024)	S2	O00	J	AD C1-C4	1	4	1
(1024)	S2	O20	CJ	AD C1-C4	1	7	1
(1024)	S2	O20	Ta	AD C1-C4	1	1	1
(1024)	S2	O20	Ta	AD C3-E C4	1	8	1
(1024)	S2	R31.1	J	AD C1-C2	3	9	3
(1024)	S2	R31.2	SJ	AD C1-E C2	1	22	1
(1024)	S3	O00	J	Roman	1	4	1
(1024)	S3	O20	Ta	AD C1-C4	1	1	1
(1024)	S3	O20	Ta	AD C1-E C2	1	6	1
(1024)	S3	O20	Ta	AD C1-M C2	1	2	1
(1024)	S3	R76	SJ	AD C1	2	80	1
(1024)	S4	C00	J	AD C1	1	10	1
(1024)	S4	E00	J	AD 1-70	1	1	1
(1024)	S4	O00	Ta	AD C1-E C2	1	2	1
(1024)	S4	O20	J	AD C1	2	19	2
(1024)	S4	O20	J	AD C1-C4	1	3	1
(1024)	S4	O20	J	Roman	1	5	1

Context	Slot	Fabric	Function	Date	NoSh	Wt.	MNR
(1024)	S4	O20	Ta	AD L C2-C3	2	18	2
(1024)	S4	O20	Ta	Roman	2	7	2
(1024)	S4	R00	D	Roman	1	2	1
(1024)	S4	R31.1	J	AD C1-C2	2	7	1
(1024)	S4	R31.2	BK	AD C1-E C2	1	2	1
(1024)	S4	R31.2	J	AD C1-E C2	1	9	1
(1024)	S4	R31.2	SJ	AD C1-E C2	1	17	1
(1024)	S4	O20	J	AD C1-C4	1	3	1
(1024)	S4	O20	J	Roman	1	1	1
(1024)	S4	O20	Ta	AD C1-C2	1	2	1
(1024)	S4	O20	WMJ	AD C1-C2	1	7	1
(1024)	S7	C00	SJ	AD C1	1	13	1
(1024)	S7	F42	BK	AD 200-250	1	1	1
(1024)	S7	G44	J	AD C1-C2	1	13	1
(1024)	S7	O20	B	AD C1-C2	1	43	1
(1024)	S7	O20	CJ	AD C1-C4	1	6	1
(1024)	S7	O20	J	AD C1-C2	2	65	1
(1024)	S7	O20	J	Roman	2	113	1
(1024)	S7	O20	Ta	AD C1-E C2	1	30	1
(1024)	S7	O20	WMJ	AD C1-M C2	2	47	2
(1024)	S7	R31.1	J	AD L C1-C2	1	13	1
(1024)	S7	S20	B	AD 120-200	1	7	1
(1024)	S7	S20	D	AD 120-200	1	1	1
(1024)	S7	S20	dr31	AD 120-200	1	8	1
(1026)	0	C00	SJ	AD C1	1	37	1
(1026)	S1/2	C00	SJ	AD C1	1	8	1
(1026)	S1/2	E00	J	AD 1-70	2	9	2
(1026)	S1/2	E20	J	AD 1-70	3	12	2
(1026)	S1/2	G44	L	Roman	1	8	1
(1026)	S1/2	O00	CUP	AD C1	1	26	1
(1026)	S1/2	O20	B	AD C3	1	20	1
(1026)	S1/2	O20	BK	AD C1	4	12	1
(1026)	S1/2	O20	Ta	Roman	1	5	1
(1026)	S1/2	R31.1	J	AD L C1-C2	2	7	1
(1026)	S1/2	R31.2	SJ	AD C1-E C2	3	122	2
(1026)	S1/2	W00	BK	AD 1-70	1	10	1
(1026)	S1/2	W00	J	AD C1	1	12	1
(1026)	S3	C00	J	AD C1	1	16	1
(1026)	S3	C00	SJ	AD C1	2	43	2
(1026)	S3	E00	B	AD 1-70	1	14	1
(1026)	S3	O20	J	Roman	1	8	1

Context	Slot	Fabric	Function	Date	NoSh	Wt.	MNR
(1026)	S3	R00	J	Roman	2	25	2
(1026)	S3	R31.1	J	Roman	1	7	1
(1026)	S3	R31.2	J	AD C1-E C2	1	8	1
(1026)	S3	R76	J	AD C1	1	53	1
(1026)	S6	E00	J	AD 1-70	1	7	1
(1026)	S6	E20	J	AD 1-70	1	3	1
(1026)	S6	R31.1	J	AD C1-E C2	1	8	1
(1027)	0	O20	Ta	AD C1-M C2	1	3	1
(1027)	0	S20	D	AD 160-200	1	12	1
(1027)	S3	R31.2	SJ	AD C1-C2	1	91	1
(1027)	S4	E20	J	AD 1-70	1	1	1
(1029)	0	O20	CJ	AD C3-C4	1	38	1
(1031)	S5	O20	B	AD C1-C2	1	20	1
(1031)	S5	O20	J	Roman	1	15	1
(1031)	S5	O20	SJ	Roman	1	20	1
(1031)	S5	O20	Ta	AD C1-C2	1	12	1
(1031)	S5	R31.1	J	AD C1-C2	1	6	1
(1031)	S5	R31.2	SJ	AD C1-E C2	1	74	1
(1033)	0	G44	O	Roman	1	106	1
(1033)	0	O20	Ta	AD C1	2	171	1
(1033)	0	O20	Ta	AD C1-C2	1	11	1
(1033)	0	R00	D	AD 70+	1	3	1
(1033)	0	R31.2	SJ	AD C1-E C2	4	260	4
(1033)	S6	B01	D	AD 120-200	1	9	1
(1033)	S6	O20	J	AD C1-C4	1	3	1
(1033)	S6	O20	Ta	AD C1-M C2	2	27	2
(1033)	S6	R31.1	J	AD C1-C2	1	7	1
(1033)	S6	R31.2	SJ	AD C1-E C2	1	55	1
(1036)	0	R31.2	SJ	AD C1-E C2	4	216	2
(1042)	0	C00	J	AD C1	1	7	1
(1042)	0	R31.1	J	AD C1-C2	1	100	1
(1042)	0	R31.1	J	AD C1-E C2	35	1089	1
(1042)	0	R31.2	SJ	AD C1-E C2	4	1070	1
(1045)	0	C00	B	AD C1	1	98	1
(1045)	0	O20	CJ	Roman	1	20	1
(1045)	0	O20	J	Roman	1	11	1
(1045)	0	Z20	J	Medieval	1	21	1
(1053)	0	C00	J	AD C1	1	5	1
(1053)	0	C00	SJ	AD C1	3	68	3
(1053)	0	E20	J	AD 1-70	1	7	1
(1053)	0	O20	Ta	AD C1-C2	1	7	1

Context	Slot	Fabric	Function	Date	NoSh	Wt.	MNR
(1059)	0	C00	J	AD C1	7	167	6
(1059)	0	E00	B	AD 1-70	1	12	1
(1059)	0	E00	J	AD 1-70	2	30	1
(1059)	0	E20	B	AD 1-70	2	46	1
(1059)	NE	C00	J	AD C1	4	82	3
(1059)	NE	C00	SJ	AD C1	3	47	2
(1059)	NE	E00	J	AD 1-70	2	34	2
(1059)	NE	E20	J	AD 1-70	5	27	3
(1059)	NE	G44	O	Roman	2	181	2
(1059)	NE	O20	Ta	AD C1-C2	1	8	1
(1059)	NE	P20	J	IA	2	17	1
(1059)	NW QU	C00	B	AD 1-70	2	214	1
(1059)	NW QU	C00	J	AD C1	7	73	6
(1059)	NW QU	C00	SJ	AD C1	2	31	1
(1059)	NW QU	E00	CUP	AD 1-70	1	17	1
(1059)	NW QU	E00	J	AD 1-70	4	107	4
(1059)	NW QU	E10	J	AD 1-70	1	41	1
(1059)	NW QU	E20	J	AD 1-70	5	80	4
(1059)	NW QU	R31.1	J	AD C1-C2	1	2	1
(1059)	NW QU	R31.1	J	Roman	1	1	1
(1059)	NW QU	Z30	D	AD C15+	1	11	1
(1059)	SE	C00	J	AD C1	9	133	3
(1059)	SE	C00	SJ	AD C1	1	17	1
(1059)	SE	E00	J	AD 1-70	2	14	1
(1059)	SE	E20	J	AD 1-70	2	111	2
(1059)	SE	G44	J	Early Roman	1	9	1
(1059)	SE	G44	J	Roman	1	2	1
(1059)	SW	C00	B	AD C1	1	167	1
(1059)	SW	C00	J	AD C1	3	19	3
(1059)	SW	C00	SJ	AD C1	24	520	12
(1059)	SW	E00	J	AD 1-70	6	146	5
(1059)	SW	E20	J	AD 1-70	4	41	4
(1059)	SW	G44	B	AD C1-E C2	1	11	1
(1059)	SW	P00	B	MIA	1	5	1
(1061)	0	E20	B	AD 1-70	1	14	1
(1063)	0	E00	J	C1 BC - AD 70	2	13	1
(1069)	0	R31.2	SJ	AD L C1-E C2	1	5	1
(1070)	0	O20	B	Roman	4	54	1
(1070)	0	O20	J	AD L C1-E C2	1	45	1
(1070)	0	O20	J	Roman	2	8	2
(1070)	0	O20	Ta	AD C1-C2	2	8	2

Context	Slot	Fabric	Function	Date	NoSh	Wt.	MNR
(1070)	0	O20	Ta	Roman	1	3	1
(1070)	0	R31.1	J	Roman	6	29	2
(1070)	0	R31.2	SJ	AD C1-E C2	10	1499	8
(1070)	NE end	C00	J	AD C1	1	8	1
(1070)	NE end	E00	B	AD 1-70	2	27	1
(1070)	NE end	O20	B	AD C1-C2	2	16	1
(1070)	NE end	O20	Ta	AD C1-C2	2	19	1
(1070)	NE end	R31.1	J	AD C1-E C2	3	7	1
(1070)	NE end	R31.2	SJ	AD C1-E C2	3	619	3
(1070)	0	C00	J	AD C1	3	18	1
(1070)	0	G44	J	AD C1-M C2	2	142	1
(1070)	0	O00	BK	AD 1-70	1	5	1
(1070)	0	O20	BK	AD 1-70	1	4	1
(1070)	0	O20	Ta	AD C1-C2	1	9	1
(1070)	0	R31.2	SJ	AD C1-E C2	3	462	3
(1082)	0	O20	CJ	AD C1-C4	1	9	1
(1082)	0	R31.1	J	AD C1-E C2	2	21	2
(1082)	0	R31.2	SJ	AD C1-E C2	1	46	1
(1082)	0	S20	D	AD 120-200	1	3	1
(1086)	0	O20	J	AD C1-M C2	1	17	1
(1088)	0	C00	SJ	AD C1	1	2	1
(1090)	0	O00	J	AD C1	1	16	1
(1092)	0	E50	B	AD 1 - 100	2	11	1
(1110)	0	R31.2	SJ	AD C1-E C2	2	53	1
(1116)	0	C00	J	AD C1	2	12	2
(1116)	0	C00	SJ	AD C1	1	11	1
(1116)	0	E00	B	AD 1-70	1	4	1
(1116)	0	E00	J	AD 1-70	2	17	2
(1116)	0	E20	J	AD 1-70	1	1	1
(1116)	0	O20	J	AD C1	1	7	1
(1116)	0	R31.2	SJ	AD C1-E C2	1	42	1
(1207)	0	O20	J	Roman	1	24	1
(1207)	0	R31.2	SJ	AD C1-E C2	1	40	1

9.2.8 Appendix B: Evaluation Pottery

Context	Fabric	Equivalent	Form	Wt.	No	Rim	Comment
(2006)	AMP	A01		26	1	0	
(1004)	DORBB1	B01	dish	32	1	2	
(1006)	LIME	C00		4	1	0	
(1011)	MALREB	C22	jar	59	11	1	

Context	Fabric	Equivalent	Form	Wt.	No	Rim	Comment
(5002)	MALREB	C22		6	2	0	
(5004)	MALREB	C22		6	1	0	
(2006)	GROG	E00?		2	1	0	
(2003)	GABTR1C	F00	C8	7	0	1	
(2006)	OXIDFCC	F00		8	2	0	
(1006)	OXIDCC	F06	CUP	2	0	1	as C56 black int. slip
(1006)	MALREB	G44	jar	67	77	1	
(2006)	MALREB	G44		19	4	0	
(2007)	MALRT	G44	bowl?	65	17	1	voids
(1004)	SVWOX	O20	jar	80	10	1	
(1006)	SVWOX	O20	jar	146	19	1	
(1011)	SVVWOX	O20	tankard	89	2	1	
(2003)	SVWOX17	O20		75	5	0	
(2003)	SVWOX	O20		75	6	0	
(2006)	SVWOX	O20		126	8	0	
(2007)	SVWOX	O20	car bowl	171	18	1	
(5002)	SVWOX	O20	tankard	43	6	1	
(5002)	SVWOX	O20	jar	6	0	1	
(5004)	SVWOX	O20		41	4	1	
(1006)	GYMISC	R00		5	1	0	
(5004)	SVWRE17	R00		64	4	0	
(1004)	SVWRE17	R20	storage jar	135	2	1	Glos TF17
(1006)	SVWRE17	R20	jar	176	25	1	
(1006)	SVWRE17	R20		10	1	0	
(1011)	SVWRE17	R20		393	18	0	
(1011)	SVWREGR	R20		128	2	0	
(2006)	SVWRE17	R20		123	15	0	
(2007)	SVWRE17	R20	car bowl	138	1	3	
(2007)	SVRE17	R20		244	20	0	
(3000)	SVWRE17	R20	storage jar	144	7	1	
(5002)	SVWRE17	R20		203	27	0	
(1006)	SAVGT	R71		7	1	0	
(1004)	LEZSA	S20		1	1	0	

9.3 Appendix 3 Roman Pottery Analysis (1042)

Rob Perrin M.Litt MCIfA FSA

Following completion of the pottery Assessment report (*Appendix 2*), a further phase of Analysis was recommended and undertaken to assist in establishing the function of a shallow oval feature [1046] provisionally interpreted as the remains of a small up-draught pottery kiln.

This shallow oval [1046] measured 1.04m × 0.29m. No evidence was found in or around the oval of any of the features, material or debris associated with pottery production – stokehole, flue, fire bars, kiln chamber structure, ash and burnt soil. Some types of surface-built kilns of late Iron Age to early Roman date, however, did not have any substantial permanent walling or lining and the stokehole or stoking area could have been situated above the level of the furnace chamber (Swan 1984, 55). Regularly ploughing could, therefore, remove much of the evidence. The Dymock site was ploughed and the oval was located relatively close to the ground surface. The oval feature could be the remains of a surface-built kiln but, because this is by no means certain and the feature should be described as possibly rather than definitely a kiln.

Fill (1042) contained a dump of Roman pottery together with burnt clay and charcoal and the report states that it is likely that this ‘represents the abandonment of the kiln, together with wasters, following the final firing’. A number of factors suggest this interpretation is incorrect.

The burnt clay mentioned (*Plate 2, main report*) is not apparently very different from the natural clay (*Plates 8-10, main report*). A final firing *in-situ* dump would almost certainly include pieces of kiln material, such as a pedestal, firebars, firing debris, such as ash and fired clay and, probably, complete but broken pots. None of this was recovered and none of the pottery from the dump is an obvious waster. Moreover, the pottery includes both oxidised and reduced wares, which could not have been fired at the same time, and one of the reduced ware jars has three post-firing grooves cut in its rim.

The pottery could have been derived from production in other kilns in the vicinity but the pottery does not represent the residue of firing, final or otherwise, in the oval feature. The pottery report suggests that three fabrics are likely to have been locally produced – two reduced ware variants and a calcareous ware. This interpretation is based on the percentages of these fabrics which were recovered from the site as a whole and is a reasonable conclusion to draw. The petrological analysis of sample sherds of the oxidised and the two reduced fabrics may help to provide evidence for local manufacture or links to known kilns in the region (e.g. Ledbury – Swan 1984, 138) and Severn Valley Ware production.

9.3.1 The pottery from fill (1042).

The pottery assessment report (Mills & Evans 2014) has five fabric entries for the fill (*op. cit.*, Table 1) – calcareous (C), Belgic (E), oxidised (O) and reduced (RD1.1 and RD1.2). The composition of the oxidised and reduced fabrics is superficially similar, with a hackly matrix (i.e. large and generally angular irregularities in a broken section) and

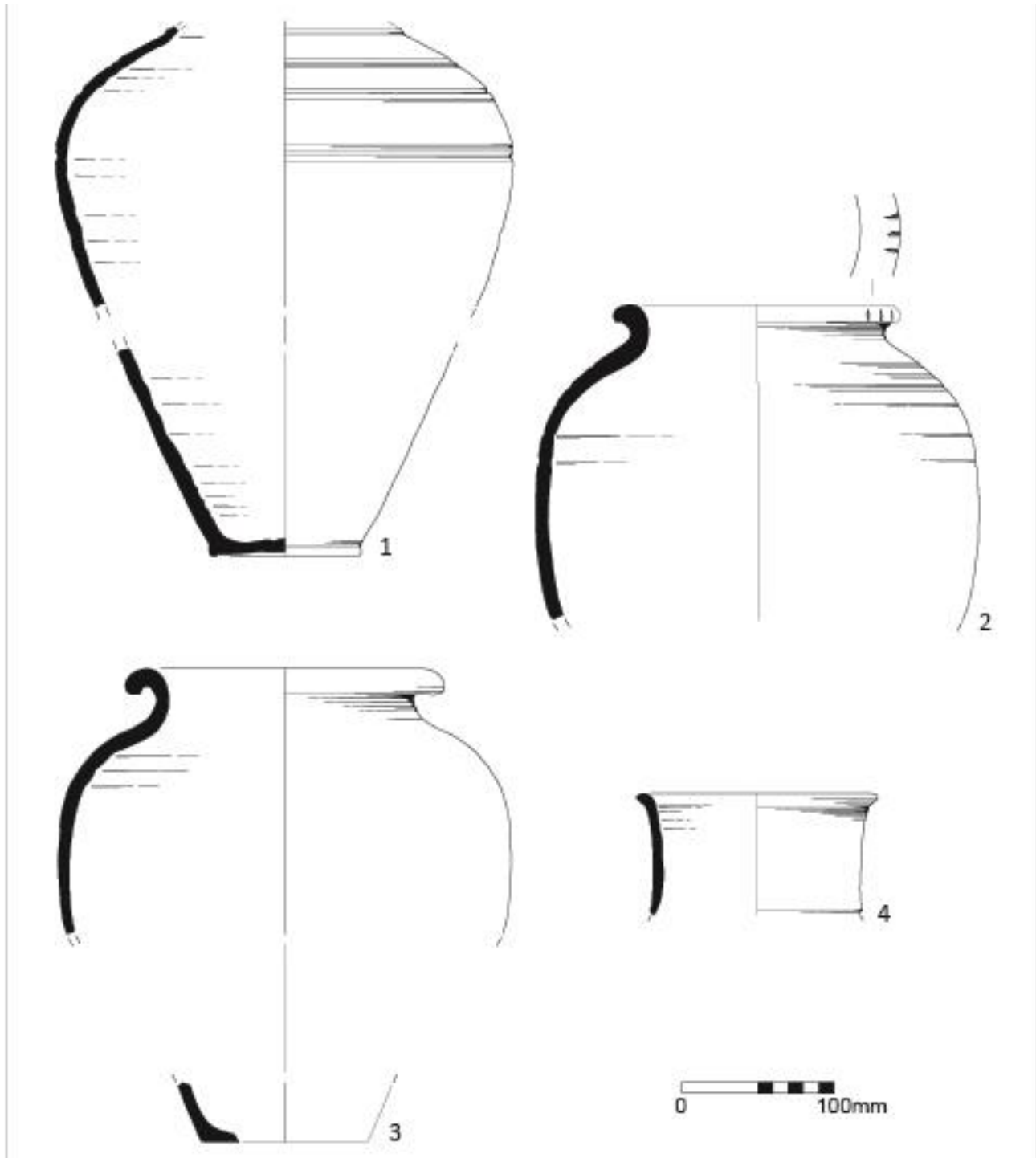
apparent organic inclusions, as well as, possibly, some grog. The sherds, some large, in the oxidised fabric are reddish-yellow with a grey core and comprise a substantial part of a large jar with shoulder and girth grooves and burnished lattice decoration between the shoulder groove and the neck; no part of the rim survives (*fig. 1*).

Two jars in the reduced fabrics are both globular in form with a girth much wider than the rim and a short neck. One of the jars is lead-grey in colour and has three post-firing grooves cut in its rim; much of the upper part of the vessel survives (*fig. 2*) (BA 2014, *fig. 11*, 'broken vessel', *Plate 2*).

The other jar is a darker grey in colour and has traces of a darker burnished surface (*fig. 3*). A large part of this vessel survives, including all of the rim, mostly as small sherds, but with some larger fragments. Another vessel in the darker grey, burnished, fabric occurs comprising a large rim and wall fragment from a straight-sided, possibly carinated, bowl or tankard (*fig. 4*). Only small sherds survive of the Belgic and calcareous fabrics; the inclusions in the latter have leached out.

The oxidised and reduced wares are related to the Severn Valley pottery industry. The form of the oxidised ware jar is easily paralleled (e.g. Webster 1976, *fig. 1*, 1) and a vessel similar to the reduced ware globular jars was recovered from previous excavations in Dymock (Timby 2011, 17, (6.1.2.5) & *fig. 10*, 20). Two vessels from the previous excavations are also similar to the straight-sided reduced ware vessel (*op. cit.* *fig. 10*, 9, 14), although in an oxidised fabric.

9.3.2 Illustrations



Figs. 1-4: Jar. Reddish-yellow fabric with a grey core (fig. 1), Jar. Lead-grey fabric (fig. 2), Jar. Dark grey fabric with traces of a darker burnished surface (fig. 3), Carinated bowl or tankard. Dark grey fabric with traces of a darker burnished surface (fig. 4).

9.3.3 Recommendations for petrological analysis (see Appendix 4)

A sherd from each of:

- Jar in reddish-yellow fabric with a grey core.
- Jar in lead-grey fabric.
- Jar in dark grey fabric with traces of a darker burnished surface.

9.3.4 References

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9.4 Appendix 4 Petrological Analysis

Imogen Wood BA MA PhD AlFA

9.4.1 Samples

Following recommendations for petrological Analysis contained within the pottery Analysis report (*Appendix 3*), three sherds from context (1042) were submitted for analysis. These were:

Sample 1: Jar in reddish-yellow fabric with a grey core.

Sample 2: Jar in lead-grey fabric.

Sample 3; Jar in dark grey fabric with traces of a darker burnished surface.

Samples 1 and 2 were successfully mounted on covered slides; unfortunately, despite several attempts, this process failed with regard to Sample 3, due to the soft nature of the fabric, although some comments can be made on this fabric.

9.4.2 Geology

Dymock sits within the Vale of Leadon in Gloucestershire which is underlain by the Devonian mudstones and sandstones of the Mercia Mudstone Group, more specifically the Raglan Mudstone formation of siliciclastic argillaceous rocks. There are outcrops of Upper Ludlow Shales to the W and Bromsgrove sandstone formation to the E.

9.4.3 Aims of analysis

Two covered thin-section (TS) slides were produced for petrographic analysis, selected to determine the character and/or validity of variations observed within the macroscopically classified groups, in association with a possible kiln site of Romano-British date.

9.4.4 Methodology

The thin-sections were analysed using a polarizing petrographic microscope (Zeiss Axioskop 40) with a range of ×50-100 magnification. The minerals and rock fragments listed below are in order of frequency within the matrix, ranging from abundant, through common, scatter and sparse to rare.

9.4.5 Results

9.4.5.1 *Thin Section 1 Sample 1*

Temper 25% moderately sorted fabric, oxidised with a reduced core.

Quartz, common in clay matrix, sub-angular in shape, generally less than 1 mm in size.

Red Sandstone, scatter, epiclastic well-sorted texture of quartz grains, with trace of muscovite in a dark brown matrix. Generally rounded in shape and 1mm and less in size.

Limonite, scatter, iron-rich, black, well-rounded, ranging from 2mm to less than 1mm in clay matrix.

Mudstone, sparse, reddish-brown in colour, well-rounded tabular in shape 1mm in size.

Grog, rounded, sparse. Similar fabric for the sherd, has ring-shaped shrinkage around pieces, some relic vessel surfaces visible. 1mm in size

Rock Fragment, rare, composed of quartz and plagioclase feldspar, well-rounded in shape and 1mm in size

Organic matter, rare, black linear shaped pieces, shrinkage void surrounding it, 1mm in size.

Clay Matrix

Quartz rich clay with some muscovite mica and presence of limonite (iron rich) pellets.

9.4.5.2 *Comments*

The abundance of quartz and presence of mudstone and Red Sandstone strongly suggests this a locally-derived clay. The presence of Limonite, an iron-rich mineral naturally-forming often as a result of waterlogged conditions, would suggest a riverine source.

The fabric has been tempered with sandstone and mudstone pieces, possibly as coarse graded sand, along with the addition of grog (crushed pottery). The rounded shape suggests it was not crushed for the purpose of immediate inclusion and could have been added accidentally. The differential firing of individual pieces of grog suggests it derived from more than one vessel. The presence of organic matter may be accidental but considering the other fabrics analysed it could be intentional.



Plate 1: Thin Section 1 Sample 1

9.4.5.3 *Thin section 2 Sample 2*

Temper 20% moderately sorted fabric, reduced grey fabric.

Quartz, abundant in clay matrix, sub-angular to sub-rounded in shape, some rare rounded grains, generally less than 1 mm in size

Organic matter, common, visible as linear voids with some dark residue for burning. size ranges from 2mm-1mm and less.

Grog, common, well-rounded, merged boundaries, although some have shrinkage voids around them. Size from 2mm.

Limonite, iron-rich pieces, sparse, black, rounded, generally less than 1mm.

Red Sandstone, rare, sub-rounded and tabular in shape 2mm

Clay Matrix

Quartz rich smooth clay with limonite.

9.4.6 Comments

The abundance of quartz and presence of some Red Sandstone strongly suggests this a locally-derived clay. The presence of Limonite, an iron-rich mineral which forms naturally, often as a result of waterlogged conditions, would suggest a riverine source.

The fabric has been tempered with grog and organic material. The higher degree of rounding and merged boundaries of the pieces of grog suggests it had been around for some time and enabled it to breakdown in the pottery fabric during production. Some of the pieces of grog have been fired at a higher temperature to the fabric of the vessel, suggesting other types of vessel. The organic material used is most likely chopped grass, seen as grass impressions on the exterior and interior of the vessel surfaces. The condition of the grass does not suggest mastication and its addition as animal manure. The lamella structure with some curved pieces are all aligned with the vessel sides.



Plate 2: Thin Section 2 Sample 2

9.4.7 Sample 3 comments

After carrying out a microscopic examination of the surfaces and cross-section, evidence of grass-marking and the presence of possible grog pieces suggests a similar fabric to the samples analysed above.

9.4.8 Kilns and Dating

The fabrics are a close match to organic-tempered Severn Valley Ware, which can be in oxidised or reduced grey in appearance, the date of which is thought to span the mid-1st -4th century (Evans & Bryant 2004). This is the most common type in Romano-British pottery assemblage in the area, although Timby (1990, 248) has suggested some production from the late Iron Age in the Gloucestershire area.

The nearest known Romano-British Kiln site is at Marley Hall, Ledbury, some 9.5km N of the site at Dymock. Swan has suggested a non-specialist kiln (Swan 1984, Mb Appendix 5, 11) (a more up-to-date version on line is hosted by SGRP).

A kiln assemblage excavated at Newland and Hopfields 32km S of the site, identified 'wood-temper' or charcoal as the dominant fabric and a 'grass-tempered' fabric 09. David Williams' (2000, 18) petrographic analysis suggested that this was a reduced variant; a quite vesicular fabric in appearance, it also included clay pellets. This fabric dated to between 2nd and 3rd century.

9.4.9 Bibliography

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Roman kiln map <http://romankilns.net/map.php?lat=51.982025582232204&lng=-2.4137306213378906&z=13>

Williams, D., 2000, 'Pottery Fabrics', in Evans, J. and L. Jones (Eds.) *Newlands Hopfields: Archaeological excavations at a Romano-British kiln site at North End Farm, Malvern Link, Hereford and Worcester, 1992, 1994*. BAR British Series **313**, 12-20.

9.5 Appendix 5 Fired Clay and Ceramic Building Materials

Philip Mills BSc PhD MCIfA

9.5.1 Introduction

There were 148 fragments offered for study, weighing 3311g. This comprised 43 fragments (361g) of fired clay, 95 fragments (1602g) of Roman ceramic building material (CBM), two fragments (10g) of medieval or later tile, and eight fragments (1178g) of medieval or later brick.

9.5.2 Taphonomy

Table 1 shows the breakdown of all material by context type, excluding subsoil deposits. The majority of material comes from ditches, which is in line for the deposition of CBM on rural sites. It can be noted that the material from 'midden' rubbish layers is much smaller than any other deposit type, consistent with material disposed of as part of general refuse and suggesting a different deposition pathway than the material ending up in ditch fills, but similar to the material from (1005).

Context Class	No%	Wt%	Cnr%	MSW
Ditch	76%	51%		18.3
Drain	15%	45%	100%	83.5
Midden	7%	2%		9.3
Abandonment	2%	1%		15.5
N	101	2760	1	

Table 1: Breakdown of all material by context type

9.5.3 Fired clay (D00)

The majority of the 43 fragments of fired clay could not be identified to function. There were a few possible fragments of kiln or oven lining:

(1027) weighing 33g

(1026) Slot 1/2 weighing 47g with a thickness of 180mm

(1059) fragments weighing 156g

9.5.4 Ceramic Building materials

9.5.4.1 Roman (T00)

The largest concentrations of Roman CBM came from ditches (1031) and (1022). Most pieces were small unidentifiable fragments; however, fragments of *imbrex* and *tegula* were identified. All pieces were in an oxidized fabric, belonging to the range of Severn Valley Wares.

1031 Slot 5 2 fragments of *imbrex*, weighing 69g 150mm thick

1013 *Imbrex* fragment, weighing 17g

1024 2 fragments of a *tegula* flange, hand-shaped with internal convex face and straight external face, *tegula* body is 200mm thick and flange height is 400 mm, weighing 165g.

1031 Slot 5

11 probable *tegula* body fragments, weighing 543 g, with thickness 20-22mm

1 *tegula* cutaway fragment – Warry (2006) Cutaway A.2 or C.4 date AD 40 – 120 or AD 160-260

9.5.4.2 Medieval or later

9.5.4.2.1 Brick (LZ00)

(1035) There were 8 fragments of a hand shaped, dry mould brick, with extant width of 80 mm (3 1/3 inches) and thickness of 42mm (1½in). Probably C14–C16

9.5.4.2.2 Drain (TZ00)

(1029) fragment of horseshoe type drain, weighing 49g. C19?

9.5.4.2.3 Tile (TZ00)

(4001) 1 fragment of flat tile, 20mm thick weighing 121g

9.5.5 Discussion

There is a small amount of fired clay recovered and it seems probable that the majority of it was produced as a byproduct of the pottery-firing activities on the site.

The small quantity of Roman CBM is in line with that of a low-status rural site, where typically a small quantity of CBM would be brought in for purposes other than for roofing, such as oven bases. The presence of an *imbrex* is unusual in such an assemblage and the piece may originally have been used to form a watertight or heat-resistant channel. The majority of tile is associated with the small amount of later Roman (early 3rd century) activity on the site and is consistent with agricultural activity during that period. Tile is also present in (1026), (1024)=(1031) and (1070), all of which have a small amount of (possibly intrusive) later pottery (Evans & Mills 2014) and therefore suggest that these contexts were at least disturbed during the final Roman phase of activity on the site. Dump

(1116) only has late 1st -early 2nd -century pottery but the small amount of tile from there may indicate a late date or disturbance.

The medieval and later ceramic building material is typical of that found in later rural assemblages, being associated with land management or present as refuse.

9.5.6 Bibliography

Warry, P., 2006, *Tegulae: Manufacture, typology and use in Roman Britain*, BAR British series **417**

9.5.7 Appendix – The coded catalogue

Context	Sample No	Fabric	CBM Frm	No	Wt. (g)	Width	Length	Thickness	Cnrs	Comments
(1001)		T00		1	22	0	0	0		
(1003)		D00		1	3	0	0	0		
(1005)		T00	B/T	2	31	0	0	0		
(1013)		D00		1	3	0	0	0		
(1013)		T00		5	9	0	0	0		
(1013)		T00	Imbrex	1	17	0	0	0		
(1022)		T00	B/T	10	77	0	0	0		
(1024)		T00	Tegula	2	165	0	0	20		Flange frs2/0
(1024)	Slot 7	D00		1	5	0	0	0		
(1024)	Slot 7	D00		3	17	0	0	0		
(1024)	Slot 7	D00		1	4	0	0	0		one face burnt
(1024)	Slot 7	D00	Fired Clay	1	13	0	0	0		
(1024)	slot2	D00		1	11	0	0	0		
(1026)		D00		2	9	0	0	0		
(1026)	Slot 1/2	D00	Lining	1	47	0	0	18		
(1027)		D00	Lining	1	33	0	0	0		kiln furniture?
(1029)		TZ00	Drain	1	49	0	0	0		
(1031)	Slot 5	T00	B/T	50	522	0	0	0		
(1031)	Slot 5	T00	Imbrex	1	21	0	0	15		
(1031)	Slot 5	T00	Imbrex	1	48	0	0	0		
(1031)	Slot 5	T00	teg?	3	40	0	0	22		
(1031)	Slot 5	T00	teg?	8	503	0	0	20		
(1031)	Slot 5	T00	Tegula	1	28	0	0	0		cutaway a.2 or c.4

Context	Sample No	Fabric	CBM Frm	No	Wt. (g)	Width	Length	Thickness	Cnrs	Comments
(1035)		LZ00	Brick	8	1178	80	0	42	2	sand mould C16-C18
(1059)		D00		2	12	0	0	0		
(1059)	NE Quad	D00		3	1	0	0	0		
(1059)	NE Quad	D00		6	49	0	0	0		
(1059)	NW Quad	d00		1	9	0	0	0		
(1059)	SE Quad	D00	lining	15	133	0	0	0		
(1059)	SE Quad	d00		2	14	0	0	0		
(1070)		T00		1	7	0	0	0		
(1086)		D00		1	9	0	0	0		
(1092)		D00		1	5	0	0	0		
(1109)		D00		2	7	0	0	0		
(1116)		T00		4	42	0	0	0		
(4000)		T00	B/T	2	47	0	0	0		
(4001)		TZ00	Tile	1	121	0	0	20		

9.6 Appendix 6 Assessment of Metalworking Debris

David Starley Alfa

9.6.1 Summary

Archaeological investigations produced a total of 11.4kg of metalworking debris. Assessment showed that all diagnostic material derived from the smelting of iron using a slag-tapping furnace consistent with the Roman date of most archaeological features on the site.

9.6.2 Excavation background

Dymock has an abundance of evidence for Romano-British settlement, lying on a Roman Road, but with evidence of continued occupation through the Anglo-Saxon and medieval periods (Williams 2008), although no finds or features from this excavation are considered to be of medieval date.

Material examined in this assessment represents the entire assemblage of bulk finds recovered from the archaeological investigation. The debris had been washed prior to being seen by the assessor. Soil samples were also taken from the site but none of the residues was examined by the specialist.

9.6.3 Methodology

Two boxes of debris containing 11.4kg of bulk slag were visually examined. This material was classified into the standard categories based on those used by the former English Heritage Ancient Monuments Laboratory. Visual observation of the exterior was supported by examination of fresh fracture surfaces, the use of a geological streak plate and magnet. The detailed breakdown of debris by context is attached as Appendix A. Table 1 presents a summary of these findings, based on the categories used and the metalworking or other activities from which the debris derives. These data are further divided between those contexts provisionally assigned to the Roman period and all others, whether later or undated.

Some visually categorised types of slag are diagnostic, providing unambiguous evidence for a specific metallurgical process. At Dymock, the only industry identified in this way was iron smelting. However, other material is less clear as to its process of origin. Depending on the level of inference, this was classed as un-diagnostic ironworking debris or possible metalworking waste. Some of this might derive from another activity, such as iron smithing, but without unambiguous evidence for such an activity, it would seem most likely that the bulk of this, at least, is also the waste product of iron smelting.

It was reported that soil samples from two contexts, (1022) and (1036), produced small quantities of hammerscale. However, this material was not seen by the specialist and the identification cannot be confirmed.

Activity	Classification	Weight (g) & number of contexts		
		Roman	Post Roman/ unknown	All contexts
Iron smelting 7864g	Tap slag	2189 (6)	445 (4)	2634 (10)
	Dense slag	2514 (4)	342 (2)	2856 (6)
	Slag rods	722 (2)	0 (0)	722 (2)
	Fayalitic run slag	341 (2)	38 (2)	379 (4)
	Furnace bottom	765 (1)	0 (0)	765 (1)
	Potential ore	461 (3)	47 (1)	508 (4)
Undiagnostic ironworking 3245g	Undiagnostic ironworking slag	2907 (7)	338 (4)	3245 (11)
Metalworking or other high- temperature process 202g	Vitrified hearth/ Furnace lining	32 (3)	0 (0)	32 (3)
	Cinder	75 (2)	5 (1)	80 (3)
	Fired clay	90 (2)	0 (0)	90 (3)
Fuel 6g	Coal	0 (0)	1 (1)	1 (0)
	Clinker	5 (1)	0 (0)	5 (1)
Not Metallurgical 56g	Stone	41 (2)	10 (1)	51 (3)
	Ceramic	5 (1)	0 (0)	5 (1)
Total		10152	1221	11373

Table 1. Summary of Dymock bulk slag by activity, typology and phase

9.6.4 Explanation of classification terms used for industrial debris

9.6.4.1 Diagnostic – iron smelting

Iron smelting slag is predominantly of fayalitic (iron silicate) composition. It is formed as a result of a reaction between some of the iron and the silica-rich ‘gangue’ materials in the ore. Because it has a melting range below that of the hotter regions of the furnace, it is formed as a liquid and flows towards the base of the furnace. Although it results in the loss of some iron from the process, it effectively removes the major, stony impurities from the ore.

In different structural variations of furnaces, slag is physically removed either by collecting in a hollow directly below the furnace - the more common variation in Iron Age and Anglo-Saxon England – or in furnaces of Roman and later medieval periods; the excess slag is tapped through a small opening in the front of the furnace. This gives rise to a range of diagnostic slag types. The most characteristic form of the tapped slag furnace is ‘tap slag’ which comprised about 25 per cent of the Dymock assemblage. It is easily distinguished by an upper flowed surface. Two similarly flowed types, ‘slag rods’ and ‘fayalitic run slag’, were present. The formation of ‘slag rods’ may be explained in two ways: first, slag which has flowed into the air inlet or *tuyère* of the furnace and second, and more widely accepted, a stick or rod has been pushed through the tapping arch at the base of the furnace to release the

slag, some of which has then solidified within this cylindrical void. 'Fayalitic run slag' comprises the smaller dribbles of slag which may have solidified within or outside the furnace.

A single mass of slag was classified as a 'furnace bottom'. Although less obvious to interpret, such masses can resemble smithing hearth bottoms; however, the high density of this piece would tend to point to smelting. It is also considered to be too small and shallow to be interpreted as the slag block from beneath a non-tapping furnace. Another large category of material was 'dense slag', which has similar uniformity and low vesicularity to the above categories, strongly suggesting iron smelting rather than smithing. However, the lack of distinctive morphology, sometimes due to fragmentation, provides less certainty of interpretation. Finally, a number of fragments were classified as 'potential ore' due to apparently high iron content, although physico-chemical analysis would be needed to determine their actual viability. An orange streak suggests a limonite-type ore.

9.6.4.2 *Un-diagnostic – ferrous metalworking*

The largest and most widespread category of material found during the excavations at Dymock was that recorded as 'un-diagnostic ironworking slag'. Such irregularly-shaped, often vesicular, fayalitic slag is produced by both iron-smelting and iron-smithing processes and it is not possible visually to be certain of their origin. It should, however, be emphasised that the most usual diagnostic bulk smithing slag - smithing hearth bottoms - were entirely absent from the assemblage, suggesting that the un-diagnostic material also derives from iron smelting.

9.6.4.3 *Un-diagnostic – 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. In the absence of any coloration suggesting non-ferrous metal production, the material listed as 'vitrified hearth/furnace lining' is likely to derive from iron-working, given the remaining assemblage, iron-smelting. 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. It generally shows 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, or another source of silica, such as the sand sometimes used as a flux during smithing. The 'fired clay' without any surface vitrification found within the assemblage could have derived from structures associated with metallurgical purposes, or from those used for other high-temperature activities; however, the grey coloration suggests reducing conditions of heating, a requirement of smelting.

9.6.4.4 *Fuel*

The only fuel and burned fuel residues found were single small fragments of coal and its waste product clinker. However, until beyond the end of the medieval period, charcoal was used exclusively for iron-smelting, although there is clear evidence for the use of coal for the working of iron in the Roman period (Dearne & Branigan 1995).

9.6.4.5 *Non-metallurgical*

A few small stones and a ceramic sherd have no apparent link to metalworking

9.6.5 Interpretation

Examination of the small quantities of ironworking debris (11.4kg) recovered during the archaeological excavation at Dymock positively identified iron smelting. The technology is that of a slag-tapping furnace, consistent with the Roman date of the majority of the provisionally dated contexts. The iron-smelting slag assemblage shared many similarities with the material recovered from the site of Kyrleside, Dymock (Young & Kearns 2010). However, it lacked the further evidence of copper-alloy casting, silver refining and iron smithing found at Kyrleside.

The absence of the latter activity is perhaps the most unexpected, as some consolidation of the newly-smelted iron, i.e. bloom-smithing, might have been expected to have been carried out. It may be worth considering whether this is partially at least due to biases in the data. One of the surest ways of identifying iron-smithing is by examination of the micro slag hammer-scale (Starley 1995). However, the bulk slags had been washed clean of any adhering soil that might have provided this evidence (or suggested its absence). It was reported that very small amounts of hammer-scale had been found in soil samples from two contexts, (1036) and (1022). It might be noted that neither of these contexts produced any bulk slag and none of the highly characteristic smithing hearth bottoms were recovered from the site.

The Forest of Dean is well known as an important area of iron production (Hart 1971, 1-3) from the Roman period onwards. Given the large area investigated and the small quantity of slag recovered, it would seem unlikely that any major ironworking industry took place within the site boundaries. Any organised industry would have produced sizable quantities of such debris. The focus of the activity could, therefore, have been elsewhere in the vicinity, with debris re-deposited in contexts such as ditch fill (1024). The relative paucity of less robust debris, such as furnace-lining, may suggest these contexts were not primary depositions. A significant 'background' count of debris in the subsoil also points to subsequent disturbance.

9.6.6 References

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Soil Survey of England and Wales, 1983

Williams, P., 2008, *Dymock Character Appraisal*, Forest of Dean District Council Supplementary Planning document

9.6.7 Appendix A Full listing of metalworking debris by context

Context	Slot	Slag type	Mass (g)	Comments	Provisional Phase
(1001)		Dense slag	245		Post-medieval
(1001)		Fayalitic run slag	35		Post-medieval
(1001)		Ironstone: potential ore	47	Orange streak - limonite?	Post-medieval
(1001)		Tap slag	294		Post-medieval
(1001)		Undiagnostic ironworking slag	49		Post-medieval
(1005)		Cinder	5		Post Roman
(1005)		Clinker	5		Post Roman
(1005)		Coal	1		Post Roman
(1005)		Tap slag	64		Post Roman
(1005)		Undiagnostic ironworking slag	172		Post Roman
(1015)		Tap slag	8		Modern
(1018)		Dense slag	210		Roman?
(1024)	1	Ceramic	5	Grey (reduced fired) 'BAG 119'	Roman
(1024)	1	Fayalitic run slag	27		Roman
(1024)	1	Stone: Not potential ore	17	Shale	Roman
(1024)	1	Tap slag	685		Roman
(1024)	1	Undiagnostic ironworking slag	88		Roman
(1024)	2	Slag rod (s)	48		Roman
(1024)	2	Tap slag	282		Roman
(1024)	2	Undiagnostic ironworking slag	354		Roman
(1024)	3	Cinder	50		Roman
(1024)	3	Tap slag	377		Roman
(1024)	3	Undiagnostic ironworking slag	369		Roman
(1024)	4	Dense slag	359		Roman
(1024)	4	Fayalitic run slag	34		Roman
(1024)	4	Undiagnostic ironworking slag	114		Roman
(1024)	7	Dense slag	101		Roman
(1024)	7	Undiagnostic ironworking slag	179		Roman
(1024)	4 extension	Dense slag	57		Roman
(1024)	4 extension	Undiagnostic ironworking slag	31		Roman
(1024)		Dense slag	760		Roman
(1024)		Fayalitic run slag	255		Roman
(1024)		Slag rod (s)	52		Roman
(1024)		Tap slag	25		Roman
(1024)		Undiagnostic ironworking slag	943		Roman
(1026)	2	Undiagnostic ironworking slag	16		Roman
(1026)	5	Ironstone: potential ore	270	Orange streak - limonite?	Roman
(1026)	5	Tap slag	386		Roman
(1026)	7	Fired Clay	52	Grey (reduced fired)	Roman
(1026)		Dense slag	57		Roman
(1026)		Hearth/furnace lining	12		Roman
(1026)		Ironstone: potential ore	36	Orange streak - limonite?	Roman
(1026)		Undiagnostic ironworking slag	61		Roman
(1027)	4	Tap slag	108		Roman
(1027)	4 extension	Fayalitic run slag	25		Roman
(1029)	2	Undiagnostic ironworking slag	8		Post-medieval
(1029)		Fayalitic run slag	3		Post-medieval
(1029)		Tap slag	79		Post-medieval
(1031)	5	Hearth/furnace bottom	765	(150 × 130 × 45mm)	Roman
(1033)	6	Slag rod (s)	622		Roman
(1033)		Tap slag	184		Roman
(1052)		Fired Clay	38	Light pink/grey (reduced fired)	Roman
(1059)		Undiagnostic ironworking slag	105		Roman
(1069)		Stone: Not potential ore	24	Not ore	Roman

Context	Slot	Slag type	Mass (g)	Comments	Provisional Phase
(1082)		Ironstone: potential ore	14	Orange streak - limonite?	Roman?
(1082)		Tap slag	54		Roman?
(1082)		Undiagnostic ironworking slag	5		Roman?
(1086)		Ironstone: potential ore	141	Orange streak - limonite?	Roman?
(1089)		Undiagnostic ironworking slag	30		Not known
(1116)		Tap slag	88		Roman
(2007)		Hearth/furnace lining	10		Roman
(4001)		Dense slag	97		
(5002)		Stone: Not potential ore	10		
(5002)		Undiagnostic ironworking slag	136		
(5004)		Hearth/furnace lining	10		Roman
(1004)	Evaluation	Dense slag	970		Roman
(1004)	Evaluation	Undiagnostic ironworking slag	480		Roman
(1006)	Evaluation	Cinder	25		Roman
(1006)	Evaluation	Undiagnostic ironworking slag	105		Roman
Total			11373		

9.7 Appendix 7 Lithics

Caroline Rosen BSc MA

Seven pieces of struck flint were recovered from six different contexts. The flints were recovered from *in-situ* Roman features and are therefore considered to be residual.

All seven items were examined using a hand lens and are catalogued in Table 1.

Item number	Context	Type	Comments
1	(1003)	Misc. retouched flake	1/3 rd cortex remaining. Post-depositional damage
2	(1005)	Flake	1/10 th cortex remaining
3	(1005)	Broken chip	-
4	(1024)	Flake	-
5	(1070)	Broken blade distal end remaining	Lightly patinated, post-depositional breakage
6	(1103)	Flake	Post-depositional damage
7	(1110)	Broken blade, proximal end remaining	Heavily patinated, post-depositional breakage, negative scars indicate bladelet removal

Table 1: Catalogue of flints recovered

Amongst the small collection of flints, only one piece showed evidence of retouch. This item (Item 1) had semi-abrupt retouch along one lateral edge and may have been used as an expedient scraper. Scrapers are difficult to situate chronologically, particularly when found out of context, and, as such, this piece remains un-datable. The remaining collection consists of pieces of debitage.

Chronologically, Item 7 would fit comfortably into a Mesolithic assemblage due to the fine uniform character of the piece, evidence of previous bladelet removal from the negative scars and its heavy patination. Item 5 is also a blade, possibly suggesting either a Mesolithic or Early Neolithic date; however, this item is cruder than Item 7 and blades of this nature are also known from later periods.

9.8 Appendix 8 Assessment of Stone Artefacts

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9.8.1 Introduction

This report summarises the findings arising out of the petrographic assessment undertaken by Quaternary Scientific (University of Reading) on stone artefacts discovered at Western Way. The archaeological evaluation, followed by full excavation, revealed the presence of a Roman settlement (*Table 1*). The small-sized assemblage of petrological samples (10 examples, 1.7kg) was assessed in order to (1) identify (under binocular microscope) the fabric of the stone to determine its geological character and source and (2) make comment on the form of the quern stone and other worked stone.

Context	Description	Provisional Date	Evaluation	Excavation
(2007)	Pit fill of [2008]; domestic rubbish incl. pot, animal bone, stone and slag.	Roman	✓	
(5002)	Subsoil; residual finds (pottery, slag).		✓	
(1100)	Fill of shallow pit/posthole [1101]; frequent stones suggestive of post-packing.	Roman		✓
(1005)	Subsoil/abandonment layer; frequent Roman finds, occasional later finds indicative of disturbance/ploughing. Overlies Roman features.	Post-Roman		✓
(1033)	Single fill of possible boundary ditch [1028] Slot 8.	Roman?		✓
(1059)	Midden deposit; domestic & pottery production waste.	Roman		✓
(1109) (SF15)	Fill of posthole [1108]	Roman		✓
(1026) (SF2)	Fill of shallow ditch [1025].	Roman		✓

Table 1: Context information

9.8.2 Methodology

The stones were examined using the specialist's own reference collection of geological samples from southern and western England. Treatment of dilute hydrochloric acid determined whether or not the rock had a calcareous composition. The fabric was examined at ×20 magnification using a long-arm stereomicroscope or hand lens (Gowland ×10). Consultation of local geological memoirs (Worssam *et al.* 1989) provided an additional source of reference material. Results are displayed in Table 2.

9.8.3 Local geology

The site lies within in an area of complex stratigraphy consisting of old hard Palaeozoic (Silurian-Devonian) sediments bounded to the E by younger softer Permian (Haffield Breccia; Bridgnorth Sandstone) and Triassic (Sherwood Sandstones) desert sandstones and conglomerates (BGS Sheet 216; Worssam *et al.* 1989). Many of these rocks are hard enough to be worked into portable utilitarian stone objects (such as whetstones and quern-stones). Additional sources of material to be considered are river gravels brought into the area from the N and W by the River Leadon, a tributary of the River Severn, as well as material shipped upstream from the River Severn.

9.8.4 Petrology

Despite the site's accessibility to many local hard rocks, only three different materials had been used for use in the portable stone.

9.8.4.1 Quern-stone

A hard angular coarse even-grained surface is required to grind grain into coarse flour. Two stone material types (Type 1 and Type 2) fulfil this criterion at Dymock. Both materials were recorded from the Roman midden (1059) and an example of T2 was seen from the possible post-Roman abandonment layer (1005).

9.8.4.1.1 Type 1 Quartz Conglomerate Basal Upper Devonian source possibly Forest of Dean (at least 15km to S)

Parts of the edge and an upper surface of a 33mm-thick rotary quern (SF9) were made from this very coarse angular purple-brown quartz coarse gritstone to conglomerate. This also consisted of fractured quartz pebbles up to 8mm across, together with exotic inclusions of black and white volcanoclastic or igneous debris and old red sandstone and ironstone fragments set within a very hard sandy matrix. No reaction with dilute hydrochloric acid was observed. The presence of fractured quartz and old red sandstone fragments are indicative of quartz conglomerates from the basal Upper Old Red Sandstone of the Forest of Dean, South-East Wales, Bristol, Thornbury and Somerset (Source Areas 1-5 of Shaffrey 2006, 5). Defining a more precise source is fraught with difficulty due to similarities between outcrops and lateral variability within a single outcrop. In all probability, this material comes from the closest definable source in the Forest of Dean.

9.8.4.1.2 Type 2 Haffield Breccia Basal Permian local source (3km from site)

Part of a heavily worn, very dense quern fragment some 50mm thick came from (1059) (SF7), with a second fragment from (1005). This was made from an entirely separate type of conglomeratic material. The material was a hard, dark grey/purple breccia consisting of small (2-5mm) imbedded sub-angular quartz fragments set within a very hard crystalline siliceous cement. Supplementary pink 'acid' granite fragments and possibly black 'basic' igneous materials were also observed. This bears some comparison with the Haffield Breccia, a Permian sediment 3km to the N of Dymock containing very hard sub-angular clasts of Pre-Cambrian Malvernian basement rocks (sheared pink-brown granite and dark green diorite) (Worssam *et al.* 1989, 22).

9.8.4.1.3 Whetstones

A hard, fine, durable stone-type is an ideal material for a whetstone or rub-stone to sharpen tools or weapons. At Dymock, two very smooth stones were identified as being used for this purpose from the fill (1026) of a shallow Roman ditch [1025] (SF2) and the fill (1109) of a Roman posthole [1108] (SF15). Both are made from purple-red very fine sandstones or siltstones, with ripple-marks on the bedding plane, a rock comparable to the coarser members of the underlying Lower Devonian Raglan Mudstone Formation (Worssam *et al.* 1989, 14-15).

The profile from (1026) is a more typical flattened rectangular form a whetstone, whilst the stone tool from (1109) is a very flat (23mm) worn profile.

9.8.4.1.4 Natural – slabs and water worn pebbles

The remainder of the assemblage, (1033), (1100) and (5002), consists of river-worn pebbles and natural slabs from the underlying Lower Devonian Raglan Mudstone Formation. Like the whetstones, these have ripple-marks.

Finally, there is a river-worn grey very hard quartzite pebble from a Roman pit fill (2007) from the evaluation phase. This is merely local sandstone from the Raglan Mudstone Formation brought into the area by river action.

9.8.5 Summary

Hand-specimen petrological analysis of 10 fragments of worked quern-stone, whetstones and unworked stone from Roman levels at Dymock has revealed three main material types: (1) local Lower Devonian siltstones and sandstones from Raglan Mudstone Formation for whetstones and natural background material, (2) a very hard conglomerate (most likely being the Haffield Breccia – Permian 3km to N) in quern and (3) a Basal Upper Devonian Quartz conglomerate in a second quern. The abundance of geologically old hard Palaeozoic and Mesozoic rocks did not require material to be brought in from afar, the exception being the Quartz Conglomerate; this stone formed part of a much wider network of quern-stone supply (Shaffrey 2006).

Given that the site was rural and probably remote from the main networks of stone supply in the Roman period, it was sufficient to utilise suitable rocks from the immediate environs.

9.8.6 References

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Context	Stone SF Number	Number	Wt.	Type of object	Stone Type	Geological Source
(1005)	-	1	97	Probable very worn quern edge fragment	Extremely hard very dense dark-grey purple gritty-conglomerate, silica cement surrounding 2-5mm sub-angular quartz; pink granite fragments, possibly basic igneous rocks	Possibly Haffield Breccia (Basal Permian) 3km NE of Dymock
(1026)	2	1	84	Flat rectangular whetstone 27mm across by 12mm thick	Fine quite soft purple-red compact siltstone	Local - Silty unit of the Raglan Mudstone Formation (Lower Devonian)
(1033)		1	75	River worn fine pebble	Fine quite soft purple-red compact siltstone-fine sandstone ripple marks at base	Local - Silty unit of the Raglan Mudstone Formation (Lower Devonian)
(1059)	7	1	650	Probable part of a very worn quern edge fragment	Extremely hard very dense dark-grey purple gritty-conglomerate, silica cement surrounding 2-5mm sub-angular quartz; pink granite fragments, possibly basic igneous rocks	Possibly Haffield Breccia (Basal Permian) 3km NE of Dymock
(1059)	9	1	186	Quern edge fragment 33mm thick tapering at 55 degrees smooth upper surface and edge	Softer Purple-brown gritstone-f quartz conglomerate in a purple brown matrix occasional older fractured quartz, black and light igneous fragments, ironstone and Old Red Sandstone fragments	Possibly a quern from the Quartz Conglomerate (Basal Upper Old Red sandstone) 10-15km south of site
(1059)	-	1	144	Part of the upper surface of quern fragment 23mm thick	Finer version of 1059 SF9 with more mica	Possibly a quern from the Quartz Conglomerate (Basal Upper Old Red sandstone) 10-15km south of site
(1100)	-	1	70	Natural not worked	Fine quite soft Purple-red compact siltstone	Local - Silty unit of the Raglan Mudstone Formation (Lower Devonian)
(1109)	15	1	180	Rubstone flat 23mm thick	Fine quite soft Purple-red compact siltstone-fine sandstone ripple marks at base	Local - Silty unit of the Raglan Mudstone Formation (Lower Devonian)
(2007)	-	1	43	River worn pebble	Grey fine sandstone – quartzite	Possibly local or river derived from the Lower Devonian sandier units of Raglan Mudstone Formation

Context	Stone SF Number	Number	Wt.	Type of object	Stone Type	Geological Source
(5002)	-	1	119	Natural not worked	Fine quite soft Purple-red compact siltstone ripple marks at base	Local - Silty unit of the Raglan Mudstone Formation (Lower Devonian)

Table 2: Stone catalogue

9.9 Appendix 9 Assessment of Glass

H.E.M. Cool BA PhD

All glass was examined visually to determine the type of glass and the type of artefact.

9.9.1 A small fragment of slightly curved pale blue-green glass (1.0–1.3mm thick) (1024).

Some bubbles visible in glass, with no apparent surface corrosion. The fragment is too small to determine the overall form and it is difficult to be certain whether it is Roman or modern.

9.9.2 Rim and part of neck from a bottle (1035)

A dark green glass with some slight surface corrosion (iridescence). No mould lines, indicating that the bottle was either free-blown or blown in a simple 'dip' mould. The rim is clearly applied in a separate operation after the bottle was formed. The neck is steep and suggests that the bottle was made in the late 18th century (or possibly the early 19th century).

9.9.3 Fragment 1 (1036)

Very pale blue-green glass with shiny surfaces. Flat glass 2.9mm thick with flat and parallel surface. Probably synthetic soda window glass. Possibly plate glass (18th -20th century) or float glass (1960 onwards).

9.9.4 Fragment 2 (1036)

Very small fragment of colourless glass. Difficult to be certain with such a small fragment but probably flat glass (2.8mm thick). Possibly float window glass.

9.9.5 Green glass, flat, 1.5–1.7mm thick (1066)

Window glass (16th -18th century)

9.9.6 Green glass, slightly curved, 1–2mm thick with one fire-polished edge (1099)

Possibly the rim of a vessel or the edge ('selvedge') of broad window glass (16th -18th century).

9.10 Appendix 10 Assessment of Vertebrate Remains

Deborah Jaques
Palaeoecology Research Services Ltd

9.10.1 Introduction

Vertebrate material was mainly recovered from ditch fills and from the fill of a shallow cut/natural hollow of Roman date. One box of hand-collected vertebrate remains (approximately 30 litres) was submitted to Palaeoecology Research Services (PRS) Limited, Kingston upon Hull, for an assessment of its bioarchaeological potential.

9.10.2 Methods

Subjective records were made of the state of preservation, colour of the bone fragments and the appearance of broken surfaces ('angularity'). Other information, such as fragment size, dog-gnawing, burning, butchery and fresh breaks, was noted where applicable. Where fragments of the same bone could be confidently refitted, the pieces were recorded as a single element.

Where possible, fragments were identified to species or species group using the PRS modern comparative reference collection. Remains that could not be identified to species were described as the 'unidentified' fraction. Within this fraction, fragments were grouped into a number of categories: large mammal (assumed to be cattle, horse or large *cervid*), medium-sized mammal (assumed to be *caprovid*, pig or small *cervid*) and completely unidentifiable.

Nomenclature for mammals follows Corbet and Southern (1977).

9.10.3 Results

Vertebrate remains amounted to 1398 fragments, representing 19 contexts. Where information was available, the bones were primarily recovered from ditch fills of Roman date (six), in particular from contexts (1024) and (1027) (Ditch [1028]) and context (1026) (Ditch [1025]), with the greatest accumulation of material from a refuse dump (1059), representing the fill of a shallow cut or natural hollow [1065]. A subsoil layer (1005) of post-Roman date produced four fragments, whilst an additional 13 bones came from a post-medieval land-drain fill. Deposits (1001, 1002, 1029, 1045, 1052, 1064, 1084, 1092, 1094 & 1116) with no information or dating available produced 68 fragments, most (46) of which could not be closely identified. A further 170 fragments came from five contexts from the initial evaluation phase.

Details of the bone-bearing contexts and species identified can be found in Tables 1 to 3 (*Appendix A*) and the results are summarised by period in the following text sections, with the material recovered during the evaluation presented separately at the end.

9.10.3.1 Roman

The assemblage of animal bones recovered from the Roman ditch fills and the midden deposit (1059) amounted to 1313 fragments. Preservation of the remains was generally recorded as 'fair' or 'good', with only the material from (1031) being in rather poor condition. The most noticeable characteristic of the assemblage, particularly from (1024), (1026) and (1059), was the high degree of fragmentation. This was reflected in the large proportion (~75 per cent) of bones which could not be identified to species or family group (although some differentiation by size was possible) and also in the small size (mostly less than 35 mm in maximum dimension) of the unidentified bones from (1024). Whilst between 20 per cent and 50 per cent of the fragments from (1024) and (1059) were affected by fresh breakage; this damage was only seen on between 10 per cent and 20 per cent of the remains from (1026). In this last case, some of the remains must have been broken before being dumped or perhaps re-deposited in the ditch from elsewhere.

Small numbers of burnt and dog-gnawed bones were observed throughout and evidence of butchery was apparent on some of the fragments from the larger assemblages but was, overall, minimal in extent. Butchery marks were typically seen as chops on cattle shaft fragments, with longitudinally split metacarpal fragments from (1027) and (1033) and a split radius fragment from (1059). The only example of the use of knives was knife-marks on a cattle distal humerus fragment. Acid etching was recorded on a *caprovid* calcaneum and a fragment of a cattle second phalanx, both from (1026); this could be the result of ingestion by dogs.

As can be seen from Table 2, a very limited suite of species was identified, with *caprovid* and cattle remains clearly predominant. Pig bones were also relatively numerous, with most of these recovered from (1026) (21) and (1059) (22). Also present within the assemblage were a small number of *equid* remains, which were likely to be horse. Four *equid* astragalus fragments from (1024) were damaged by fresh breakage and could possibly have represented a single bone, these remains perhaps over-emphasizing the presence of *equid* bones within the deposits. One chicken radius fragment was also recorded from (1059).

As a result of the extensive fragmentation, isolated teeth were quite numerous, particularly for cattle and *caprovids*. Cattle remains from (1070) were exclusively fragments of tooth enamel. It was also the case, that mandibles were the most commonly occurring skeletal elements for *caprovids* within the material from (1059) (24 of the 56 *caprovid* fragments recorded). Skeletal element representation suggested that, for cattle, *caprovids* and pigs, all parts of the body were present; however, the unidentified fraction from (1026) and (1059) showed a prevalence of medium-sized mammal bones, shaft fragments in particular, whilst remains from (1024) showed a greater proportion of large mammal bones.

Twenty-six of the fragments were measurable and there were 21 mandibles with teeth *in-situ*; these would be of use for providing biometrical and age-at-death data. Some of the isolated teeth may also give some indications of age-at-death.

9.10.3.2 Post-Roman/Post-Medieval

Subsoil/abandonment layer (1005) was of post-Roman date and there was evidence for disturbance of the deposit, possibly by ploughing. Four fragments of bone were recovered, of which only one, a pig humerus shaft fragment,

could be identified. Of the three unidentified fragments, one was a piece of tooth enamel, which may have been from a cattle tooth, and two were medium-sized mammal shaft fragments.

Thirteen bones from a post-medieval land-drain fill (1078) were all classified as unidentified, but included a large mammal scapula blade fragment that had been chopped or sawn through; some of the other fragments may have been part of the same scapula.

9.10.3.3 Modern or undated

Very few of the deposits in this category produced more than three fragments. The assemblage totaled 68 fragments, of which 46 were unidentified. Most of the fragments from nine of these deposits were identified as pieces of tooth enamel, with an occasional complete tooth (e.g. from (1002) and (1052)). These remains seemed to represent both large (probably cattle) and medium-sized mammals (probably *caprovids*). Material from (1045), the fill of a ploughed-out tree bowl, was slightly different, but mandibles for cattle and *caprovids* were prevalent, with the unidentified component being primarily large mammal mandible and shaft fragments. This small assemblage was reminiscent of the remains from (1059), albeit on a much smaller scale.

9.10.4 Evaluation material

Details of the vertebrate material recovered from the evaluation, by context, can be found in Table 3. Approximately one third of the remains were identifiable, with those of *caprovids* the most commonly occurring. Probable cattle tooth enamel fragments provided the bulk of the identified remains from (2007), with the unidentified component being burnt fragments, most of which represented medium-sized mammals. Vertebrate remains from (5004) were also mainly unidentified, with medium-sized mammal shaft fragments being most common. A single *caprovid* maxillary third molar was identified.

Contexts (1004), (1006) and (1011) gave larger and more diverse assemblages, with horse, cattle, *caprovid* and pig remains identified. As seen from some of the Roman deposits from the excavation phase, mandibles, particularly of *caprovid* ((1011), and isolated teeth (1004) and (1006) were prevalent. Split cattle humerus (1006) and metapodial (1011) fragments were noted, possibly indicating marrow extraction. Small burnt fragments were recovered from both (1006) and (1011).

9.10.5 Discussion

The assemblage of vertebrate material recovered from excavations at Western Way Dymock was of small to moderate size but a high degree of fragmentation, largely (but not exclusively) the result of fresh breakage damage, had reduced the number of identifiable and measurable fragments.

Preservation of the remains was, in general, quite good, but a number of the deposits produced small collections of fragile fragments, most of which were pieces of tooth or tooth enamel.

Only a very restricted suite of species was identified, limited to the main domestic mammals (cattle, *caprovid* and pig), with a very few horse bones and a single chicken radius fragment. Overall, from the Roman deposits, *caprovid* remains, and medium-sized mammal fragments within the unidentified fraction, were prevalent, with cattle remains being almost as numerous. Pig bones were relatively common and were mainly concentrated in two contexts, a ditch fill and a refuse dump within a hollow. These deposits, together with the fills of boundary ditch [1028], provided the bulk of the material and the vertebrate assemblages recovered from them were made up of primary butchery refuse (e.g. mandibles and teeth) and waste from secondary carcass preparation (minor meat-bearing bones and ribs).

Various interventions have been undertaken in Dymock providing brief glimpses of the Roman settlement which is believed to have developed along a Roman road through the village (Catchpole *et al.* 2007). Vertebrate remains recovered from some of the excavations in the area have suggested that *caprovid* remains were, generally, the most abundant species represented (e.g. at Sewage Treatment Works, Dymock; Ingrem 2007). Material from Stallards Place Dymock (Strid 2010) showed a somewhat different picture, with cattle remains being prevalent. In the latter case, it was suggested that this change in husbandry practices may reflect increasing Romanisation of the area.

9.10.6 References

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9.10.7 Appendix A: Tables

Context	Context description	Date	Total fragments
(1001)	-	-	3
(1002)	-	-	2
(1005)	subsoil/abandonment layer – disturbance/ploughing	post-Roman	4
(1024)	fill of linear ditch [1028]	Roman	197
(1026)	fill of shallow ditch [1025]	Roman	395
(1027)	lower fill of linear ditch [1028] – natural build-up	Roman	46
(1029)	-	-	2
(1031)	upper fill of boundary ditch [1028] = same as [1024]	Roman	13
(1033)	single fill of boundary ditch [1028]	Roman	8

Context	Context description	Date	Total fragments
(1045)	fill of [1044], ploughed out tree bowl, animal disturbance	non-archaeological	18
(1052)	-	-	10
(1059)	single fill of [1065], refuse dump within shallow cut/natural hollow	Roman	630
(1064)	-	-	4
(1070)	fill of shallow ditch	Roman	24
(1078)	land drain fill	post-medieval	13
(1084)	-	-	2
(1092)	-	-	8
(1094)	-	-	4
(1116)	-	-	15
(2007)	Evaluation	-	34
(5004)	Evaluation	-	11
(1004)	Evaluation	-	12
(1006)	Evaluation	-	63
(1011)	Evaluation	-	50

Table 1: Western Way, Dymock, Gloucestershire: Contexts, with information where available, from which the hand-collected vertebrate remains were recovered

Species		Roman	post-Roman	post-medieval	UD/NI	Total
<i>Equus f. domestic</i>	horse	11	-	-	-	11
<i>Sus f. domestic</i>	pig	52	1	-	-	53
<i>Bos f. domestic</i>	cow	111	-	-	10	121
<i>Caprovid</i>	sheep/goat	131	-	-	12	143
<i>Gallus f. domestic</i>	fowl	1	-	-	-	1
Unidentified		1007	3	13	46	1069
Total		1313	4	13	68	1398

Table 2: Western Way, Dymock: Hand-collected vertebrate remains by period. Key: 'UD/NI' = undated or no information available

Species		2007	5004	1004	1006	1011	Total
<i>Equus f. domestic</i>	horse	-	-	1	-	-	1
<i>Sus f. domestic</i>	pig	-	-	-	2	-	2
<i>cf. Bos f. domestic</i>	?cow	19	-	-	-	-	19
<i>Bos f. domestic</i>	cow	-	-	3	2	8	13
Caprovid	sheep/goat	1	1	1	11	11	25
Unidentified		14	10	7	48	31	110
Total		34	11	12	63	50	170

Table 3: Western Way, Dymock, Gloucestershire: Hand-collected vertebrate remains from the evaluation, by context

9.11 Appendix 11 Palaeoenvironmental Assessment

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9.11.1 Summary

9.11.1.1 The project

This report presents the results of palaeoenvironmental assessment of 32 bulk samples taken during the archaeological works. The works were commissioned by Border Archaeology, and conducted by Archaeological Services Durham University.

9.11.1.2 Results

Bulk soil samples from ditch, pit, posthole and possible kiln features dating predominantly to the Roman period were examined. These mostly contained limited assemblages of charred plant remains and charcoal with the samples appearing characteristic of domestic waste. Charred remains comprised cereal grains, weed seeds and a few hazel nutshell fragments. The cereal grains identifiable to species were predominantly wheat (with spelt wheat glume bases noted in several contexts) and barley.

9.11.2 Project background

9.11.2.1 Location and background

Archaeological works were conducted by Border Archaeology at Land at Western Way Dymock Gloucestershire. This report presents the results of palaeoenvironmental assessment of 32 bulk samples deriving from a variety of features including ditches, possible kiln and hearth features, postholes and waste deposits. The majority of the contexts were of Roman origin, although one was of post-Roman origin and two were of uncertain origin, potentially deriving from Roman or later periods.

9.11.2.2 Objective

The objective of the scheme of works was to assess the palaeoenvironmental potential of the samples, establish the presence of suitable radiocarbon dating material, and provide the client with appropriate recommendations.

9.11.2.3 Dates

Samples were received by Archaeological Services on 17th October 2013. Assessment and report preparation was conducted between 29th October 2013 and 16th January 2014.

9.11.2.4 Personnel

Assessment and report preparation was conducted by Dr. Carrie Drew. Sample processing was by Cameron Clegg and Carrie Drew.

9.11.3 Methods

The bulk samples were manually floated and sieved through a 500µm mesh. The residues were examined for shells, fruitstones, nutshells, charcoal, small bones, pottery, flint, glass and industrial residues, and were scanned using a magnet for ferrous fragments. The flots were examined at up to x60 magnification for charred and waterlogged botanical remains using a Leica MZ6 stereomicroscope. Identification of these was undertaken by comparison with modern reference material held in the Environmental Laboratory at Archaeological Services Durham University. Plant nomenclature follows Stace (1997). Habitat classifications follow Preston *et al.* (2002).

The transverse, radial and tangential sections were examined at up to x600 magnification using a Leica DMLM microscope. Identifications were assisted by the descriptions of Schweingruber (1990) and Hather (2000), and modern reference material held in the Environmental Laboratory at Archaeological Services Durham University.

The works were undertaken in accordance with the palaeoenvironmental research aims and objectives outlined in regional resource assessments (Webster 2007). In particular, this project addresses the need for further palaeoenvironmental studies in order to provide a wide base of information on Roman agriculture across South West England (*ibid.*).

9.11.4 Results

Many of the bulk samples contained evidence of domestic waste with small quantities of animal bone and tooth fragments, pottery and fired clay present. Most of the feature types produced evidence of burning, with the flots and residues including varying quantities of charcoal and/or low numbers of charred plant remains. Quantities of fired clay and clinker/cinder were noted in a number of the kiln features with fired clay particularly abundant from samples deriving from 'kiln' feature [1056]. While the number of pot fragments was generally low, context (1042) contained a larger amount of pottery, with 85 fragments recovered. From the other kiln samples only small numbers of pot fragments were present and limited quantities of fired clay and pot fragments were noted in the residues of samples from other feature types. Fragments of iron nail and/or other metal fragments were present in ditch and posthole fills (1026) and (1036). A number of fragments of glass were also recovered from posthole fill (1036). A few uncharred seeds and insect/beetle remains were noted in several of the samples, although the well-drained nature of the site and the presence of modern roots suggest these are recent introductions. Posthole fill (1036) provided the only indication of waterlogged preservation on the site. The results are presented in Appendices A-E.

9.11.4.1 Ditches

The few charred plant remains recovered from the ditch fills included low numbers of cereal grains (barley and wheat), as well as hazel nutshell fragments in (1026) and (1024). Charred weed seeds from these contexts included members of the grass, cabbage and pea families, all of which can derive from a wide range of habitats. The ditch contexts contained generally small amounts of charcoal in many of the contexts including fragments of hazel, oak and cherries (blackthorn, wild cherry or bird cherry).

9.11.4.2 'Kiln' features

In general, charred plant remains were more prevalent in contexts deriving from kiln features than from other feature types, although quantities remained mostly limited. No charred plant remains were noted in possible kiln [1046] lining context (1043). Charcoal fragments were noted in all contexts, with species including oak, cherries, *Maloideae* (hawthorn, apple and whitebeams) and hazel. While most of the contexts contained only limited charred plant assemblages, two of the contexts from feature [1056]. (1057, 1061), contained large assemblages of charred grass caryopses, predominantly brome grass. The kiln features also contained some charred cereal grains, mostly indeterminate to species with barley and wheat grains also noted. Spelt wheat glume bases were present in (1042), (1057), (1061) and (1069), and a single *cf.* bread wheat grain was noted in (1042). A charred hazel nutshell fragment from (1042) and an elder fruit-stone from (1061) were present. The fired clay in some of the kiln deposits may derive from daub used within the structure of the kiln.

9.11.4.3 Postholes

Posthole context (1036) provided the only indication of waterlogged preservation on the site. Uncharred seeds were common in this fill and included dead-nettle, common nettle, chickweed, goosefoot, thistle and dock. Elder, bramble and wild raspberry fruit-stones were also present. No charred plant remains were present from this feature, although trace amounts of oak charcoal were noted. The other posthole or possible posthole features comprised of small quantities of charred plant remains, with none noted from (1109) or (1112). These plant remains were predominantly cereal grains, with indeterminate cereal grains, barley and wheat grains noted in contexts (1103) and (1100). Fragments of hazel nutshell were also present in several contexts. Charcoal fragments were abundant from posthole/shallow pit fill (1103), and predominantly comprised oak.

9.11.4.4 Pit and waste features

The quantities of charred plant material in pit and waste features was low. Charred plant remains again comprised of cereal grains, including barley and *cf.* spelt wheat, and also fragments of hazel nutshell from (1059). A few charred weed seeds were noted, including dock, vetch, goosefoot and members of the grass family. No charred plant remains were identified from (1052) and (1116). Charcoal was present in only small concentrations in the pit and waste features, with species present including *Maloideae*, cherries, hazel, oak and birch.

9.11.4.5 Other features

From other features, only hearth or fire pit fill (1097) contained any charred plant remains. These comprised a small number of wheat glume bases, some of which were identifiable as spelt wheat, and a few wheat grains and indeterminate cereal grains. Charcoal deriving from a range of species was also noted in this context, with species including oak, *Maloideae* and hazel, as well as a few fragments of round-wood deriving from the cherry family.

9.11.5 Discussion

The samples comprise domestic waste with evidence that spelt wheat and barley were the main crops used at the site. While barley dates from the Neolithic to the present, spelt wheat first appears in England during the middle to late Bronze Age (Greig 1991) and is commonly associated with Roman sites. The occurrence of some spelt wheat chaff may indicate crop-processing at or near to the site. The samples assessed during the evaluation phase of this site produced similar results, with low quantities of pottery, bone and fired clay recorded, and charred plant remains including wheat grains and hazel nutshell fragments present (Archaeological Services 2013).

The small assemblages of charred wild taxa recorded, such as grasses and vetches, are likely to represent weeds of arable fields, although some may also derive from the local site environs. The most abundant of the weeds are grasses, many of which were identified as brome. These may be difficult to remove during winnowing or sieving due to their similar size to the grains. Brome grass is frequently associated with spelt wheat and is believed to have been brought to Britain in imported spelt (Godwin 1975). It has been suggested that this large grass seed was deliberately included to bulk-up harvests (Jones 1984). Its particular prevalence in the kiln deposits alongside spelt chaff may indicate the disposal of waste or may tentatively indicate the use of waste crop-processing material as kindling or fuel in the kiln (Van der Veen 1989). The function of the kilns remains uncertain and although grain-drying may have been one of the uses, significant quantities of grain or other crops are lacking from the fills, with the numbers of charred grains present being similar to other feature types across the site.

Charred fragments of hazel nutshell and a small number of charred elder fruit-stones suggest wild-gathered foods were also utilized at the site. Uncharred remains of bramble, wild raspberry and elder were recorded in the waterlogged posthole fill (1036), confirming the local presence of these fruit bushes/small trees in either the Roman or post-medieval period. The other waterlogged plant remains from this context were ruderal weeds which probably inhabited areas of waste, disturbed ground at the site. The remains suggest damp conditions within this feature but there is no evidence for standing water.

The predominance of oak, hazel, cherries and *Maloideae* charcoal within the samples suggests such taxa were a readily available resource, although the small fragment size of the charcoal prevents further conclusions. Both stemwood and round-wood fragments were noted within the samples.

9.11.6 Sources

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9.11.7 Appendix A: Data from palaeoenvironmental assessment - ditch features

Sample	3	4	5	6	7	20	22	25	26
Context	1026	1024	1027	1033	1026	1070	1082	1082	1089
Feature	ditch	ditch	ditch	ditch	ditch	ditch	ditch	ditch	ditch
Feature number	1025	1028	1028	1028	1025	1080	1081	1081	1081
Phasing	Roman	Roman	Roman	Roman?	Roman	Roman	Roman	Roman	Roman
<i>Volume processed (l)</i>	20	35	36	40	20	39	26	29	30
<i>Volume of flot (ml)</i>	155	320	35	50	90	100	15	30	45
<i>Volume of flot assessed (ml)</i>	155	320	35	50	90	100	15	30	45
<i>Residue contents</i>									
Bone (burnt) indet. frags	-	-	-	-	-	(+)	-	-	-
Bone (calcined) indet. frags	+	+	+	+	-	+	+	-	-
Bone (unburnt) indet. frags	++	++	++	+	-	-	-	-	-
Charcoal	-	-	-	-	(+)	+	-	-	-
Clinker / cinder	-	-	-	-	-	+	-	-	-
Fired clay	++	-	-	+	-	-	(+)	-	-
Metal-based fuel waste	(+)	+	-	-	(+)	-	-	(+)	-
Glass (number of fragments)	-	-	-	-	-	-	-	1	-
Nail (number of fragments)	1	-	-	-	-	-	-	-	-
Pot (number of fragments)	12	28	15	1	3	37	4	-	1
Tooth (number of fragments)	-	7	-	-	25	-	-	-	-
<i>Flot matrix</i>									
Bone (calcined) indet. frags	-	-	+	-	(+)	-	(+)	-	-
Bone (unburnt)	-	++	-	-	-	-	-	-	-
Charcoal	+	+	+	+	-	+	-	+	(+)
Clinker / cinder	-	-	+	+	+	+	-	+	-
Coal / coal shale	-	+	+	(+)	-	-	-	+	-
Earthworm egg case	-	(+)	(+)	+	-	+	-	-	-
Insect / beetle	+	+	+	+	(+)	+	-	-	(+)
Roots (modern)	+++	++++	++	+++	+++	+++	+	++	+
Uncharred seeds	(+)	+	+	(+)	+	(+)	(+)	+	(+)
<i>Charred remains (total count)</i>									
(c) Cerealia indeterminate grain	2	-	-	-	-	1	2	-	1
(c) Hordeum sp (Barley species) grain	1	-	-	-	-	1	-	-	-
(c) Triticum sp (Wheat species) grain	-	-	-	-	-	2	1	-	1
(t) Corylus avellana (Hazel) nutshell frag.	2	2	-	-	-	-	-	-	-
(x) Brassicaceae undiff. (Cabbage family) seed	-	1	-	-	-	-	-	-	-
(x) Fabaceae undiff. (Pea family) seed	-	-	1	-	-	-	-	-	-
(x) Poaceae undiff. <1mm (Grass family) caryopsis	-	1	-	-	-	-	-	-	-
(x) Vicia sp (Vetches) seed	-	1	-	-	-	-	-	-	-

9.11.8 Appendix B: Data from palaeoenvironmental assessment – ‘kiln’ features

Sample	10	11	14	15	16	19
Context	1042	1043	1058	1061	1069	1057
Feature	kiln	kiln	industrial dump relating to kiln	kiln / ash dump	pit / kiln	kiln deposit
Feature number	1046	1046	1056	1056	1072	1056
Phasing	Roman	Roman	Roman	Roman	Roman	Roman
<i>Volume processed (l)</i>	37	17	18	8	9	10
<i>Volume of flot (ml)</i>	55	45	30	50	15	60
<i>Volume of flot assessed (ml)</i>	55	45	30	50	15	60
<i>Residue contents</i>						
Bone (calcined) indet. frags	++	(+)	+	+	++++	(+)
Bone (unburnt) indet. frags	+	-	-	-	-	-
Charcoal	(+)	(+)	-	+	-	-
Clinker / cinder	-	-	-	-	-	(+)
Fired clay	++	-	++	+++	+++	++++
Flint	-	1	-	-	-	-
Pot (number of fragments)	85	1	2	2	1	1

Sample	10	11	14	15	16	19
Context	1042	1043	1058	1061	1069	1057
Feature	kiln	kiln	industrial dump relating to kiln	kiln / ash dump	pit / kiln	kiln deposit
Feature number	1046	1046	1056	1056	1072	1056
Phasing	Roman	Roman	Roman	Roman	Roman	Roman
Tooth (number of fragments)	-	-	20	-	-	-
<i>Flot matrix</i>						
Bone (calcined)	(+)	-	(+)	-	(+)	-
Bone (unburnt)	(+)	-	-	-	-	-
Charcoal	++	(+)	++	+++	(+)	++
Clinker / cinder	-	+	-	-	-	(+)
Coal / coal shale	-	-	+	-	-	-
Earthworm egg case	-	(+)	-	-	-	(+)
Insect / beetle	-	-	+	-	-	-
Roots (modern)	+++	++	++	-	+	++
Uncharred seeds	+	(+)	-	+	(+)	-
<i>Charred remains (total count)</i>						
(a) <i>Bromus</i> sp (Bromes) caryopsis	-	-	3	>200	-	130
(c) Cerealia indeterminate grain	1	-	3	4	1	3
(c) Cerealia indeterminate twisted awn frag.	2	-	-	-	-	-
(c) <i>Hordeum</i> sp (Barley species) grain	-	-	2	2	5	-
(c) <i>Hordeum</i> sp (Barley species) hulled grain	-	-	-	-	1	-
(c) <i>Triticum</i> cf. <i>aestivum</i> (cf. Bread Wheat) grain	1	-	-	-	-	-
(c) <i>Triticum spelta</i> (Spelt Wheat) glume base	4	-	-	14	1	1
(c) <i>Triticum</i> sp (Wheat species) grain	4	-	2	4	-	4
(t) <i>Corylus avellana</i> (Hazel) nutshell frag.	1	-	-	-	-	-
(t) <i>Sambucus nigra</i> (Elder) fruitstone	-	-	-	1	-	-
(x) Poaceae undiff. <1mm (Grass family) caryopsis	3	-	-	-	-	-
(x) Poaceae undiff. >1mm (Grass family) caryopsis	4	-	-	25	-	16
(x) <i>Vicia</i> sp (Vetches) seed	1	-	-	-	-	-
(x) Indeterminate seed	-	-	-	1	-	-

9.11.9 Appendix C: Data from palaeoenvironmental assessment - posthole or possible posthole features

Sample	8	27	28	29	31	34
Context	1036	1100	1103	1109	1112	1122
Feature	posthole	posthole / shallow pit	posthole / shallow pit	posthole	posthole	posthole?
Feature number	1041	1101	1104	1108	1113	1121
Phasing	Roman / post-med?	Roman	Roman	Roman	Roman	Roman?
Volume processed (l)	23	20	18	5	1	2
Volume of flot (ml)	660	190	225	30	10	20
Volume of flot assessed (ml)	220	190	225	30	10	20
<i>Residue contents</i>						
Bone (calcined) indet. frags	(+)	++	(+)	-	-	+
Bone (unburnt) indet. frags	+	-	-	(+)	-	-
Charcoal	(+)	-	++++	-	-	-
Coal	(+)	-	-	-	-	-
Coal shale	(+)	-	-	-	-	-
Fired clay	+	+	(+)	-	+	-
Flint	-	-	-	-	-	1
Glass	38	-	-	-	-	-
Hammerscale (ball / flake)	(+)	-	-	-	-	(+)
Heat affected geology	-	+	+	-	-	-
Metal object (number of fragments)	2	-	-	-	-	-
Nail (number of fragments)	1	-	-	-	-	-

Sample	8	27	28	29	31	34
Context	1036	1100	1103	1109	1112	1122
Feature	posthole	posthole / shallow pit	posthole / shallow pit	posthole	posthole	posthole?
Feature number	1041	1101	1104	1108	1113	1121
Phasing	Roman / post-med?	Roman	Roman	Roman	Roman	Roman?
Pot (number of fragments)	-	14	-	28	-	-
Tooth (number of fragments)	-	3	-	-	-	-
<i>Flot matrix</i>						
Bone (calcined)	-	(+)	-	-	-	-
Charcoal	(+)	-	+++	-	++	(+)
Clinker / cinder	-	+	-	+	+	-
Coal / coal shale	+	+	-	+	-	-
Earthworm egg case	(+)	-	(+)	-	-	+
Insect / beetle	++	-	+	-	-	-
Roots (modern)	-	++	+++	+++	++	++
Uncharred seeds	+++	(+)	(+)	(+)	-	-
Uncharred vegetative material	++	-	-	-	-	-
Wood	++	-	-	-	-	-
<i>Charred remains (total count)</i>						
(c) <i>Cerealia</i> indeterminate grain	-	1	5	-	-	-
(c) <i>Hordeum</i> sp (Barley species) grain	-	2	5	-	-	-
(c) <i>Triticum</i> sp (Wheat species) grain	-	-	2	-	-	-
(r) <i>Galium aparine</i> (Cleavers) seed	-	1	-	-	-	-
(t) <i>Corylus avellana</i> (Hazelnut) nutshell frag.	-	4	2	-	-	4
<i>Waterlogged remains (abundance)</i>						
(a) <i>Aethusa cynapium</i> (Fool's Parsley) fruit	1	-	-	-	-	-
(r) <i>Lamium</i> sp (Dead-nettles) nutlet	2	-	-	-	-	-
(r) <i>Stellaria media</i> (Common Chickweed) seed	1	-	-	-	-	-
(r) <i>Urtica dioica</i> (Common Nettle) achene	4	-	-	-	-	-
(t) <i>Rubus fruticosus</i> agg. (Bramble) fruitstone	2	-	-	-	-	-
(t) <i>Rubus idaeus</i> (Wild Raspberry) fruitstone	1	-	-	-	-	-
(t) <i>Sambucus nigra</i> (Elder) fruitstone	3	-	-	-	-	-
(x) <i>Chenopodium</i> sp (Goosefoots) seed	4	-	-	-	-	-
(x) <i>Cirsium / Carduus</i> sp (Thistles) achene	4	-	-	-	-	-
(x) <i>Rumex</i> sp (Docks) nutlet	2	-	-	-	-	-

9.11.10 Appendix D: Data from palaeoenvironmental assessment- pits and waste features

Sample	12	13	17	18	21	30	32
Context	1052	1053	1059	1084	1088	1110	1116
Feature	?waste pit	?waste pit	refuse dump	pit	fire waste pit	small refuse pit	refuse dump
Feature number	1054	1055	1065	1083	1087	1111	1118
Phasing	Roman	Roman	Roman	Roman	Roman	Roman	Roman
Volume processed (l)	18	18.5	38	26	18	18	20
Volume of flot (ml)	150	80	250	60	20	55	135
Volume of flot assessed (ml)	150	80	250	60	20	55	135
<i>Residue contents</i>							
Bone (burnt) indet. frags	-	-	(+)	-	-	-	-
Bone (calcined) indet. frags	+	++	+	+	+	+	++
Bone (unburnt) indet. frags	-	(+)	+++	++	(+)	-	-
Charcoal	(+)	++	-	-	-	-	-
Clinker / cinder	+	-	-	-	-	-	-
Fired clay	-	-	+	+	+	+	+
Flint	-	-	-	-	1	-	1
Metal-based fuel waste	-	-	-	-	-	-	(+)
Pot (number of fragments)	4	>50	69	40	1	7	14
Tooth (number of fragments)	48	-	3	-	-	-	-
<i>Flot matrix</i>							
Bone (calcined)	-	-	-	-	(+)	-	-

Sample	12	13	17	18	21	30	32	
Context	1052	1053	1059	1084	1088	1110	1116	
Feature	?waste pit	?waste pit	refuse dump	pit	fire waste pit	small refuse pit	refuse dump	
Feature number	1054	1055	1065	1083	1087	1111	1118	
Phasing	Roman	Roman	Roman	Roman	Roman	Roman	Roman	
Bone (unburnt)	-	(+)	+	-	-	-	-	
Charcoal	+++	++	++	-	+	++	++	
Clinker / cinder	-	(+)	+	+	-	+	+	
Coal / coal shale	-	-	+	+	+	+	+	
Earthworm egg case	-	-	+	-	-	+	+	
Insect / beetle	+	-	(+)	-	-	-	+	
Roots (modern)	+++	++	++	++	+	+++	+++	
Uncharred seeds	-	-	+	++	+	(+)	+	
<i>Charred remains (total count)</i>								
(a) <i>Bromus</i> sp (Bromes)	caryopsis	-	-	-	-	-	2	-
(c) <i>Cerealia</i> indeterminate	grain	-	-	2	1	1	1	-
(c) <i>Hordeum</i> sp (Barley species)	grain	-	-	5	1	-	-	-
(c) <i>Triticum spelta</i> (Spelt Wheat)	glume base	-	-	1	-	-	-	-
(c) <i>Triticum</i> sp (Wheat species)	grain	-	-	6	-	1	2	-
(r) <i>Plantago lanceolata</i> (Ribwort Plantain)	seed	-	-	-	-	1	-	-
(t) <i>Corylus avellana</i> (Hazelnut)	nutshell frag.	-	-	3	-	-	-	-
(x) <i>Chenopodium</i> sp (Goosefoot)	seed	-	-	-	-	1	-	-
(x) Poaceae undiff. >1mm (Grass family)	caryopsis	-	1	-	2	1	-	-
(x) <i>Rumex</i> sp (Docks)	nutlet	-	-	-	-	2	-	-
(x) <i>Vicia</i> sp (Vetches)	seed	-	1	-	-	3	-	-

9.11.11 Appendix E: Data from palaeoenvironmental assessment - other features

Sample	1	23	24	33	
Context	1005	1092	1097	1117	
Feature	layer	hearth or fire pit	hearth/fire	hearth	
Feature number	-	1096	1096	1119	
Phasing	post-Roman	Roman	Roman	Roman	
Volume processed (l)	20	8	17	9	
Volume of flot (ml)	140	30	100	25	
Volume of flot assessed (ml)	140	30	100	25	
<i>Residue contents</i>					
Bone (calcined)	indet. frags	-	(+)	++	+
Bone (unburnt)	indet. frags	-	+	-	-
Coal		-	-	-	(+)
Fired clay		-	(+)	+	++++
Glass (number of fragments)		-	-	-	1
Pot (number of fragments)		-	4	23	-
<i>Flot matrix</i>					
Bone (calcined)		-	-	(+)	-
Bone (unburnt)		-	(+)	-	-
Charcoal		+	+	+++	(+)
Clinker / cinder		+	+	-	+
Coal / coal shale		(+)	+	(+)	+
Earthworm egg case		(+)	-	-	+
Fired clay		-	-	-	++
Insect / beetle		-	+	+	-
Roots (modern)		++++	+	++	+++
Straw / chaff (modern)		+	-	-	-
Uncharred seeds		(+)	(+)	+	(+)
<i>Charred remains (total count)</i>					
(c) <i>Cerealia</i> indeterminate	grain	-	-	2	-
(c) <i>Triticum spelta</i> (Spelt Wheat)	glume base	-	-	1	-
(c) <i>Triticum</i> sp (Wheat species)	glume base	-	-	2	-
(c) <i>Triticum</i> sp (Wheat species)	grain	-	-	9	-

[c-cultivated. (+): trace; +: rare; ++: occasional; +++: common; ++++: abundant. (⊗) may be unsuitable for dating due to size or species]

9.12 Appendix 12 Bone Needle

Nina Crummy FSA

A fragment of a bone needle (*Plate 7*), length 45 mm, was found in (1026) in ditch [1025]. The lower end of the shaft is missing and the top has broken off at the base of the eye. The shaft tapers gradually from the eye towards the tip and its regularity, together with the absence of any expansion around the eye, provides a date for the needle within the Romano-British period. The form of needles varied little over this period (Crummy 1983, 65-7) and no closer date can be assigned to this fragment.

9.12.1 Reference

Crummy, N., 1983, *The Roman small finds from excavations in Colchester 1971-9*, Colchester Archaeological Report **2**

9.13 Appendix 13 Clay Tobacco Pipes

D. A. Higgins PhD

Two fragments of clay tobacco pipe stem were recovered from a land-drain trench that had been cut into (1026), the fill of a shallow N/S ditch [1025] of Roman date.

The fragments are both relatively thin and about 45mm in length, suggesting that they have not been subjected to intensive modern ploughing. They probably both come from long-stemmed pipes. The slightly thicker piece has a stem bore of 5/64" and most likely dates from the later 18th or early 19th century, while the slightly thinner piece has a stem bore of 4/64" and is probably of very late 18th or 19th -century date. Long-stemmed pipes became less fashionable from the 1840s onwards and so this deposit is most likely to date from the very end of the 18th century or the first part of the 19th century.

This provides a useful *terminus post quem* for the cutting of the land drain across this part of the site.

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