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THE WALLED GARDEN, BARTLOW PARK, CAMPS ROAD, BARTLOW, CAMBRIDGESHIRE

ARCHAROLOGICAL MONITORING AND RECORDING AND ARCHAEOLOGICAL EXCAVATION REPORT

CHER No. ECB 3764

Authors: Antony RR Mustchin (report) Gareth Barlow (fieldwork and report) Illustrations: Dr John Summers	
NGR: TL 5855 4504	Report No. 4470
District: South Cambs	Site Code: AS1490
Approved: Claire Halpin MIfA	Project No. P4812
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OASIS SUMMARY

Project details			
Project name	*The Walled Garden, Bartlow Park, Camps Road, Bartlow, Cambridgeshire*		
Between July and September 2013, Archaeological Solutions Ltd (AS) conducted an archaeological excavation at The Walled Garden, Bartlow Park, Camps Road, Bartlow, Cambridgeshire (centred on NGR TL 5855 4504). The excavation was required in compliance with a planning condition attached to planning approval for the construction of a new dwelling, garage/ store and swimming pool, the conversion of an outbuilding and alterations to existing vehicular access (South Cambs. DC Ref. S/1866/11). An earlier archaeological evaluation (Quinn 2012) had encountered Romano-British remains. *In October 2013 a complementary programme of archaeological monitoring and recording was undertaken by AS along the line of a new site access road and within the formal walled garden immediately west of the excavation area. The archaeological monitoring was commissioned to comply with a condition attached to planning consent for the new vehicular access and for the reinstatement of the formal walled garden.* *The excavation chiefly revealed archaeological remains dating to the Romano-British period (Phase 2), comprising a series of linear ditches/ gullies, quarry pits and possible quarry features. Smaller pits, several layers and a well were also present. The associated pottery is largely 4th century AD in character. Other Phase 2 finds attest to occupation and/ or demolition activity, possibly linked to the later use/ abandonment of a nearby villa. Romano-British activity at the site appears to significantly post-date the construction of the Bartlow Hills Tumuli. The Phase 2 quarrying activity may however be linked to the construction of later, funerary earthworks surrounding these monuments. Phase 2 was preceded by an earlier Neolithic phase (Phase 1) and was succeeded by moderate post-medieval agricultural/ horticultural activity (Phase 3).* *Within the formal walled garden the monitoring and recording identified sections of the original cruciform pathways. No archaeological material was present along the line of the new site access road.*		
Project dates (fieldwork)	*29/07/2013 – 06/09/2013 & 09/10/2013*		
Previous work (Y/N/?)	*Y*	Future work (Y/N/?)	*N*
P. number	*P4812*	Site code	*AS1490*
Type of project	*Archaeological Excavation*		
Site status	*NA*		
Current land use	*Walled garden/ grassland*		
Planned development	*New dwelling, detached garage/ store, conversion of outbuilding, formation of swimming pool and alteration to vehicular access*		
Main features (+dates)	*Earlier Neolithic:* *Romano-British:* *Post-medieval:*		*Layer, pits* *Well, layers, pits, quarry pits/ possible quarry features, ditches/ gullies* *Ditches, linear features, pits*
Significant finds (+dates)	*Earlier Neolithic:* *Late prehistoric/ Romano-British* *Romano-British:* *Romano-British:*		*Struck flints* *Quern stone fragment* *Pottery* *Bone hair pin of Crummy's Type 3*
Project location			
County/ District/ Parish	*Cambridgeshire*	*South Cambridgeshire*	*Bartlow*
HER/ SMR for area	*CCC HER*		
Post code (if known)	CB21 4PP		
Area of site	*c. 1620m^2 (excavation); 13100m^2 (monitoring and recoding)*		
NGR	TL 5855 4504		
Height AOD (max/ min)	*c. 50m AOD*		
Project creators			
Brief issued by	*Cambridgeshire County Council Historic Environment Unit*		
Project supervisor/s (PO)	*Gareth Barlow; Antony RR Mustchin*		
Funded by	*David Reed Homes Ltd*		
Full title	*The Walled Garden, Bartlow Park, Camps Road, Bartlow, Cambridgeshire. Archaeological Monitoring and Recording and Archaeological Excavation Report*		
Authors	*Antony RR Mustchin; Gareth Barlow*		
Report no.	*4470*		
Date (of report)	*11th December 2013*		

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THE WALLED GARDEN, BARTLOW PARK, CAMPS ROAD, BARTLOW, CAMBRIDGESHIRE

ARCHAEOLOGICAL MONITORING AND RECORDING AND ARCHAEOLOGICAL EXCAVATION REPORT

SUMMARY

Between July and September 2013, Archaeological Solutions Ltd (AS) conducted an archaeological excavation at The Walled Garden, Bartlow Park, Camps Road, Bartlow, Cambridgeshire (centred on NGR TL 5855 4504). The excavation was required in compliance with a planning condition attached to planning approval for the construction of a new dwelling, garage/ store and swimming pool, the conversion of an outbuilding and alterations to existing vehicular access (South Cambs. DC Ref. S/1866/11). In October 2013 a complementary programme of archaeological monitoring and recording was undertaken by AS along the line of a new site access road and within the formal walled garden immediately west of the excavation area. The archaeological monitoring was commissioned to comply with a condition attached to planning consent for the new vehicular access and for the reinstatement of the formal walled garden.

According to the Cambridgeshire Historic Environment Record (CHER) the site is located within a rich archaeological landscape, dominated by a series of very large, nationally important Romano-British burial mounds (Bartlow Hills Tumuli; CHER 09838; SAM 33355). The site of a villa (CHER 06164) is present c. 125m to the south-east of the site and two Romano-British inhumation cemeteries (CHER 06132A and MCB16319) were also discovered between c. 62m and 125m to the south-east. An earthwork located immediately to the north-east of the walled garden (CHER 06178) may be associated with these monuments.

The site has previously been subject to archaeological evaluation (Quinn 2012). Trial trenching identified two pits (F1004 and F1014) and a single layer (L1003) of Romano-British (early 2nd century AD) date and three undated pits (F1006, F1008 and F1010). The roman features yielded finds of a domestic nature. Sparse oyster shell from undated Pits F1008 and F1010 was similar to material from Romano-British Layer L1003 and Pit F1004, and may therefore suggest a similar date for these features. Undated Pit F1006 contained sparse flint.

In the event the excavation principally revealed archaeological remains dating to the Romano-British period (Phase 2). These comprised a series of linear ditches/ gullies, quarry pits and possible quarry features, mostly within Area 1 of the site. Smaller pits, several layers and a well were also assigned to this period. The Phase 2 pottery assemblage is largely early to mid 4th century AD in character. Other finds, including a sizable CBM assemblage, attest to possible occupation and/ or demolition activity. This may relate to the later use and subsequent abandonment of a nearby villa (CHER 06164). Romano-British activity at the site appears to significantly post-date the construction of the Bartlow Hills Tumuli, which are 1st to 2nd century AD in date. However, Phase 2 quarrying activity at the site may tentatively be linked to the construction of later, funerary earthworks surrounding the

tumuli. Phase 2 was preceded by an earlier Neolithic phase (Phase 1) and was succeeded by moderate post-medieval agricultural/ horticultural activity (Phase 3).

Within the formal walled garden the programme of monitoring and recording identified sections of the original cruciform pathways. These ran east to west between corresponding gateways and southwards from the extant glasshouse. The pathway surfaces comprised compacted brown/ yellow chalky clay with small to medium angular and sub-angular flints. No archaeological features/ contexts or finds were encountered along the line of the new site access road.

1 INTRODUCTION

1.1 Between July and September 2013, Archaeological Solutions Ltd (AS), conducted an archaeological excavation at The Walled Garden, Bartlow Park, Camps Road, Bartlow, Cambridgeshire (centred on NGR TL 5855 4504; Figs. 1-2). The excavation was required in compliance with a planning condition attached to planning approval for the construction of a new dwelling, garage/ store and swimming pool, the conversion of an outbuilding and alterations to existing vehicular access (South Cambs. DC Ref. S/1866/11). The requirement followed a trial trench evaluation of the site (Quinn 2012). In October 2013 a complementary programme of archaeological monitoring and recording was undertaken by AS along the line of a new site access road and within the formal walled garden to the immediate west of the excavation area (Fig. 2.1). The archaeological monitoring was commissioned to comply with a condition attached to planning consent for the new vehicular access and for the reinstatement of the formal walled garden.

1.2 The excavation was undertaken in compliance with a brief issued by Cambridgeshire County Council Historic Environment Team (CCC HET), dated 20/02/2013, and a specification prepared by AS, dated 04/03/2013. The brief required a programme of archaeological investigation comprising a full open area excavation of the areas of new build (Planning Ref. S/1866/11). The project adhered to appropriate sections of Gurney's (2003) *Standards for Field Archaeology in the East of England*. The excavation was also conducted according to the Institute for Archaeologists' *Code of Conduct* and *Standard and Guidance for Archaeological Field Excavation* (2008).

1.3 The primary objective of the excavation was to preserve the archaeological evidence contained within the site by record and to attempt a reconstruction of the history and use of the site. Two principle research themes were identified:

The early development of Bartlow village (Romano-British)

- The excavation will allow a rare opportunity to understand the formation of this part of Bartlow in the early Romano-British period, and understand the function of the site in the contemporary 1st-2nd century landscape.

Environmental reconstruction

- Using the spectrum of environmental techniques appropriate for this aspect of the investigation, an attempt will be made to model the landscape and its transformation brought about by the settlement's inhabitants and natural events.

1.4 The subsequent programme of archaeological monitoring and recording adhered to the IfA's *Code of Conduct* and *Standard and Guidance for Watching Briefs* (2008). The project also adhered to appropriate sections of Gurney's (2003) *Standards for Field Archaeology in the East of England*.

1.5 The aims of the monitoring and recording were to:

Generally:

- Ensure the archaeological monitoring of all aspects of the development programme likely to affect buried archaeological remains;

- Secure the adequate recording of any archaeological remains revealed by the development programme;

- Secure the full analysis and interpretation of the site archive and the appropriate publication of the project results, if required; and

- Secure the analysis, long-term conservation and storage of the project archive

Specifically:

- Identify evidence for the earlier use/ occupation of the site

Planning policy context

1.6 The National Planning Policy Framework (NPPF 2012) states that those parts of the historic environment that have significance because of their historic, archaeological, architectural or artistic interest are heritage assets. The NPPF aims to deliver sustainable development by ensuring that policies and decisions that concern the historic environment recognise that heritage assets are a non-renewable resource, take account of the wider social, cultural, economic and environmental benefits of heritage conservation, and recognise that intelligently managed change may sometimes be necessary if heritage assets are to be maintained for the long term. The NPPF requires applications to describe the significance of any heritage asset, including its setting that may be affected in proportion to the asset's importance and the potential impact of the proposal.

1.7 The NPPF aims to conserve England's heritage assets in a manner appropriate to their significance, with substantial harm to designated heritage assets (i.e. listed buildings, scheduled monuments) only permitted in exceptional circumstances when the public benefit of a proposal outweighs the conservation of the asset. The effect of proposals on non-designated heritage assets must be balanced against the scale of loss and significance of the asset, but non-designated

heritage assets of demonstrably equivalent significance may be considered subject to the same policies as those that are designated. The NPPF states that opportunities to capture evidence from the historic environment, to record and advance the understanding of heritage assets and to make this publicly available is a requirement of development management. This opportunity should be taken in a manner proportionate to the significance of a heritage asset and to impact of the proposal, particularly where a heritage asset is to be lost.

2 THE SITE

2.1 Site description

2.1.1 Bartlow is located *c.* 7.7km north-east of Saffron Walden and *c.* 18km to the south-east of Cambridge. The excavation site at Bartlow Park comprises a rectangular plot of grass/ scrub (Fig. 2.1; DP 1). A narrow rectangular peach house is located in the central western part of the site and a small area of woodland is located in the south-western area. A garage is present in the north-eastern corner of the site. An east to west aligned driveway skirts the southern boundary of the site and separates a triangular patch of grass and woodland.

2.1.2 The area of archaeological monitoring and recording comprises the formal walled garden to the immediate west of the excavated area (Fig. 2.1). This large, sub-square plot, now characterised by neglected, overgrown grass/ scrub (DP 2), is enclosed on all sides by a high redbrick wall. A large glasshouse exists within the central northern area of the garden, and the east to west element of an original cruciform pathway is distinguishable as a clear grassy track linking corresponding gateways. The new line of the site access road cuts through an area of deciduous woodland to the south-south-west of the formal garden (Fig. 2.1).

2.2 Topography, geology and soils

2.2.1 The site is located *c.* 62m south of the River Granta at the base of the river valley (*c.* 50m AOD). The land rises steadily to the south and north of the site. The solid geology of the area comprises (Cretaceous) Upper Chalk (British Geological Survey 1978), and the overlying soils are of the Swaffham Prior Association, described as ‘well drained calcareous coarse and fine loamy soils’ and ‘deep non-calcareous loamy soils in places’ (Soil Survey of England and Wales 1983, 8).

2.3 Archaeological Background

Prehistoric

2.3.1 A Palaeolithic handaxe (CHER 06134) and Mesolithic flint implements (CHER 06170 and 11148) have been found to the west (*c.* 10-60m) and south-east (*c.* 250m) of the site respectively. A Neolithic arrowhead (CHER 09845) was also found at Bartlow Hills Roman cemetery (CHER 09838; SAM 33355) *c.* 200m to the south-east of the site.

Romano-British

2.3.2 Romano-British remains are abundant in the area of the site. Bartlow Hills Tumuli (CHER 09838, SAM 33355), a short distance to the east/ south-east, comprise two parallel rows of large Roman barrows, numbering seven in total. Excavations in the mid-19th century revealed regular walled graves at the centre of these mounds, and grave goods suggested a 1st to 2nd century AD date. Subsequent archaeological investigations (ECBs 2538, 1956 and 2052) revealed numerous anomalies (Astin *et al.* 2007; Hay 2004). Two cores from Mound VII at the site (ECB3154) revealed a central collapse feature and a possible revetment (Eckardt *et al.* 2009a).

2.3.3 The site of a Roman villa (CHER 06164), originally excavated by Neville in the 19th century (ECB554), is located *c*. 125m to the east-south-east of the site. The building comprised a pair of heated rooms (*ibid.*), and coins from a pit at the site suggested a long period of occupation ending *c.* AD 350 (*ibid.*). Another excavation (ECB2881) recorded a late Roman pit containing a substantial quantity of animal bone, shell, building material and pottery (Eckardt and Clarke 2007). A linear (east to west aligned) earthwork recorded *c.* 70m north-west of the villa site (CHER 06178), also runs through woodland directly north-east of The Walled Garden at Bartlow Park. This is thought to form part of a large rectilinear earthwork enclosing the Bartlow Hills Tumuli.

2.3.4 An extensive geophysical and topographical survey (ECB2556) was conducted to examine the landscape surrounding the Bartlow Hills Tumuli, in particular the enclosing earthwork (CHER 06178) and Roman villa (CHER 06164) (Eckardt 2007). An eastern extension of the earthwork was identified by magnetometer and resistivity survey in the southernmost part of Bartlow Park, directly north-east of The Walled Garden, although the nature and location of its assumed north to south turn was obscured by later boundary features and recent landscaping. A double ditched feature, possibly representing part of the same enclosing earthwork was also identified at Hill Paddock Farm, *c*. 400m to the south-east of the current site.

2.3.5 A number of rectilinear features were surveyed in the area of the Roman villa, *c.* 125m to the south of the site. Three large enclosures were also found in fields *c.* 125m to the north-east (MCB17490) and *c*. 250m to the south-east of the site (MCB17488), and possibly relate to nearby Iron Age or Romano-British occupation. A large circular feature surveyed *c.*150m to the south-east of the site, immediately east of the Bartlow Hills Tumuli, may represent the remains of an eighth funerary barrow.

2.3.6 In addition to the above, two Romano-British inhumation cemeteries (CHER 06132A; MCB16319) are recorded c. 62-125m to the south-east of the site (Beauchamp and Macaulay 2004; ECB 1858). Pottery scatters (CHER 1114A; MCB 17489) were also found *c.* 200-300m to the south-east, within 100m of the Bartlow Hills Tumuli. Isolated Romano-British finds from the area comprise a coin of Hadrian (CHER 06135) found at the Rectory, *c*. 62m to the north of the site, and an enamelled vessel (CHER 06177) found *c*. 450m to the east.

Anglo-Saxon

2.3.7 Anglo-Saxon remains are scarce within the vicinity of the site with the exception of a possible cemetery (CHER 06132) *c*. 125m to the south-east, evidenced by the mid-19th century discovery of an iron shield boss.

Medieval

2.3.8 Medieval archaeological remains within the wider area have been discovered at Linton, *c*. 2km to the west, and include a 13th century chapel and priory (CHER 06101), a tile kiln and pit (CHERs 06128), a pottery scatter (CHER 10141) and wall foundations (CHER 06044). Medieval remains in the immediate vicinity are scarce with the exception of the 13th century parish church of St Mary (CHER 06068; LB 51241).

Post-medieval and modern

2.3.9 The 16th century Old Hall (CHER 06180), located *c*. 300m to the north-east of the site, was owned by the Dayrell family from *c.* 1751 to 1898. Bartlow House (CHER 06180), located *c*. 60m to the north of the site, was constructed in the mid 19th century. The grounds originally associated with house comprise parkland to the east (CHER 12275) and walled kitchen gardens, including the current site, to the south (LB492994; MCB17807). The excavation site comprises an early 'eastern' garden directly adjacent to a later (20th century) 'western' garden (subject to archaeological monitoring and recording). The latter was a gridded formal garden incorporating a central glasshouse with basement boiler. A magnetometer survey identified anomalies in the south-east corner of the eastern garden thought to be associated with a demolished outhouse (Eckardt and Clarke 2007). Bartlow House and grounds was purchased by the Rev. Charles Henry Brocklebank in 1899. The house itself was destroyed in a fire in 1947 and was replaced in 1962 by a Neo-Georgian house named Bartlow Park Hall (MCB18528), constructed *c*. 250m to the north of the current site (MCB17807) and directly west of Bartlow Park (CHER 12275). A peach house was built in the eastern garden at this time. The railway line to the south/ south-east of the site (CHER 06326; MCBs 16590-694) opened in 1819 and was a branch of The Great Eastern railway (Garwood 2005).

Cartographic sources

2.3.10 The 1845 Tithe map (Fig. 3) shows the River Granta running west to east through Bartlow village. Camps Road follows a parallel course to the north. Bartlow House (plot 156), owned by Anna Maria Cotton, is depicted to the south of Camps Road and described in the tithe apportionment as a mansion, offices and pleasure garden valued at one acre, two roods and 36 perches. The excavation site (plot 159) is depicted as rural land bounded by woodland to the north and a road or path to the east, and was also owned by Anna Maria Cotton.

2.3.11 The 1886 Ordnance Survey (OS) map (Fig. 4) shows the excavation site as woodland with a building in its north-eastern quarter. The surrounding landscape had also undergone some changes. Development is evident to the north-west of the site and part of the Great Eastern railway (CHER 06326) is present to the south of

the village. The completed railway line and the Sawston and Haverhill branch line are present on the 1904 OS map (Fig. 5). The latter also shows Bartlow Station to the south-west of the site and residential development to the north, along the line of Camps Road. The Bartlow Hills Tumuli are also depicted to the south-east of the site and a gravel pit is present to the north-west. The building in the north-eastern part of the excavation site appears enlarged/ added to by 1904.

2.3.12 The western walled garden, subject to archaeological monitoring and recording, with its glasshouse and cruciform paths is shown on the 1921 OS map. An additional rectangular building is also present within the confines of the excavation site. Both buildings are missing from the 1960 OS map and were likely ruinous or demolished by this time.

3 THE ARCHAEOLOGICAL EVALUATION

3.1 The excavation site has previously been subject to archaeological evaluation (Quinn 2012). Trial trenching identified a small number of Romano-British features, comprising two pits (F1004 and F1014) and a single layer (L1003), as well as three undated pits (F1006, F1008 and F1010). Domestic finds including pottery were present within the Romano-British features. Sparse oyster shell from undated Pits F1008 and F1010 was similar to material from Romano-British Layer L1003 and Pit F1004, and may therefore suggest a similar date for these features. Sparse flint was yielded by undated Pit F1006.

4 RESEARCH DESIGN

4.1 Regional research issues are suggested by Glazebook (1997), Brown and Glazebrook (2000), Medlycott and Brown (2008) and Medlycott (2011). Medlycott (2011, 47) identifies regional variation and tribal distinctions as underlying themes for research in the Romano-British period. Research topics for the Romano-British period previously set out by Going and Plouviez (2000, 19-22) include analysis of early and late military developments, further analysis of large and small towns, evidence of food consumption and production, further research into agricultural production, landscape research (in particular further evidence for potential woodland succession/ regression and issues of relict landscapes, as well as further research into the road network and bridging points), further research into rural settlements and coastal issues. Medlycott (2011, 47-8) states that these research areas remain valid and presents updated consideration of them. To these themes, Medlycott and Brown (2008) and Medlycott (2011, 47-8) add rural settlements and landscapes, the regional process of *Romanisation*, the evidence for the Imperial Fen Estate, and the Roman/ Saxon transition.

4.2 The material encountered by the forerunning evaluation (Quinn 2012) has the potential to help further characterise local Romano-British activity and to contribute to an overall picture of landscape utilisation it this time. Further work will also contribute to the existing corpus of information regarding the Romano-British period in Cambridgeshire.

4.3 Romano-British evidence from this site may also contribute to the study of regional rural settlement (Medlycott 2011, 47). Further work has the potential to reveal more about onsite depositional processes as well as the overall character of the activity represented. Based on the archaeology encountered by the trial trench evaluation it appears likely that further work at this site will contribute to questions about the form of farms and farming settlements and contribute to studies regarding settlement variation in terms of density, location and type (*ibid.*). The recovery of further faunal remains and the gathering and analysis of further environmental samples will allow further insight into the agricultural regimes practised by the site's inhabitants. It may then be possible to use this data in conjunction with the stratigraphic information to contribute to an understanding of the relationship between agricultural regime and field size; this is an important research subject associated with Romano-British agriculture in the eastern region (*ibid.*).

Environmental archaeology
Dr John Summers

4.4 Palaeoenvironmental sampling (during the excavation) is expected to predominantly provide palaeoeconomic data in the form of carbonised plant macrofossils.

4.5 It is expected that carbonised macrofossils of Romano-British date will also be recovered. The main research aims for such material will be to understand the scale of cereal cultivation and processing at the site in relation to trade and exchange in the broader Roman economy of the fenland area of the East of England (e.g. Upex 2008, 155-210). Potential evidence of agricultural intensification and extensification during the Romano-British period will be considered in detail in order to provide insights into patterns of land-use.

4.6 Some mineralised items may be present at the site. Mineralisation occurs in highly organic deposits, including those rich in faecal material (e.g. Carruthers 2000). Such material can provide detailed evidence not provided by other classes of remains, including direct insights into human or animal diet. In addition, should suitable material be encountered, sources of palaeoenvironmental data (pollen, molluscs and insects) will be sampled and analysed to facilitate the investigation of local vegetation and the potential impact of human activity on the environment (e.g. woodland clearance and/ or management). This is important in light of the potential agricultural intensification associated with the Romano-British period.

5 METHODOLOGY

Archaeological excavation

5.1 The brief required formal, single-context archaeological excavation of the area of the new house plot, garage/ store, swimming pool and new driveway.

5.2 Mechanical stripping of these areas was undertaken under close archaeological supervision using a tracked mechanical 360º excavator fitted with a toothless ditching bucket. Thereafter, all investigation was undertaken by hand.

Exposed surfaces were cleaned and examined for archaeological features and finds. Deposits were recorded using *pro forma* recording sheets, drawn to scale and photographed as appropriate. Excavated spoil was checked for finds.

Archaeological monitoring and recording

5.3 The brief and specification required the recovery of a record of archaeological deposits that may be damaged or removed by any development (in particular new foundations and services). The stripping of the new access road and four small trenches within the walled garden (1.20 x 3.00-3.50m) was undertaken under close archaeological supervision using 360^{o} mechanical excavators fitted with toothless ditching buckets.

5.4 Exposed sections were cleaned by hand and examined for archaeological features. Deposits were recorded using *pro forma* recording sheets, drawn to scale and photographed as appropriate. Excavated spoil was checked for finds.

6 DESCRIPTION OF RESULTS

Archaeological excavation

6.1 Introduction

6.1.1 Three chronological phases of activity have been interpreted based on the recorded stratigraphy and an evaluation of the datable pottery/ finds assemblage. The principal period of activity, the Romano-British Period (Phase 2) was preceded by an earlier Neolithic phase (Phase 1) and was succeeded, indirectly, by post-medieval activity (Phase 3). A number of undated features, lacking either the finds evidence or stratigraphic relationships to allow allocation to one of the three chronological phases, were also encountered. A summary of the phasing is presented in Table 1.

Chronological Phase	Period	Date
Phase 1	Earlier Neolithic	4300 to 3300 BC
Phase 2	Romano-British	Early to mid 4th century AD
Phase 3	Post-medieval	*c.* 18th to 19th century AD

Table 1: Chronological phasing

6.2 Phase 1: Earlier Neolithic (4300 to 3300 BC)

6.2.1 A summary of the Phase 1 archaeology is presented in Table 2.

Feature	Context	Grid square	Plan/ profile/ base (dimensions)	Fill	Spot date	Primary relationships
Pit F2045	L2046	B9	Sub-circular/ gentle/ irregular (5.40 x 2.40+ x 0.28m[1])	Firm, light grey yellow silty sand	Earlier Neolithic	Cut L2002; sealed by L2001
Pit F2117	L2118	D6-E6	Sub-circular/ gentle/ concave (0.44 x 0.35 x 0.10m)	Friable, mid black brown sandy silt	-	Cut L2153; sealed by L2001
Pit F2119	L2120	D6	Sub-circular/ gentle/ concave (0.50 x 0.38 x 0.05m)	Friable, mid blackish brown sandy silt	-	Cut L2153; sealed by L2001
Pit F2121	L2122	D6	Sub-circular/ gentle/ concave (0.42 x 0.30 x 0.04m)	Friable, mid black brown sandy silt	-	Cut L2153; sealed by L2001
Pit F2123	L2125[S]	D6	Sub-circular/ moderate/ concave (0.74 x 0.60 x 0.20m)	Firm, mid brown grey sandy silt	-	Cut L2153; sealed by L2001
	L2124[P]			Friable, dark brown black sandy silt	-	
Hollow 2154	Layer L2153	NW part of Area 1	Irregular/ moderate/ flattish (34.00+ x 14.00+ x 0.16m)	Friable, mid to dark grey brown sandy silt	Earlier Neolithic	Above L2002; Cut by F2066, F2068, F2109, F2111, F2113, F2115, F2117, F2119, F2121, F2123, F2126, F2128, F2149, F2151, F2155, F2157

Table 2: Phase 1 features; P = primary fill; S = secondary fill. Spot dated have been assigned based on struck flint typologies

6.2.2 Phase 1 features/ contexts were confined to the north-western part of Area 1 and Area 2 (Fig. 6). Layer L2153 was stratigraphically early within the Area 1 sequence and was contained by natural Hollow F2154, a 0.16m deep depression in the surface of Natural L2002 (Figs. 6 and 9). L2153 was truncated by various Phase 1-3 and undated features in this part of the site. Finds from this layer comprise Roman pottery spanning the 2nd to 4th centuries AD (17 sherds; 191g), animal bone (156g), oyster shell (14g), burnt flint (167g) and struck flint (241g). Struck flint from this context is earlier Neolithic in character. L2153 was cut by Phase 1 Pits F2117, F2119, F2121 and F2123.

6.2.3 The four Phase 1 pits in Area 1 (F2117, F2119, F2121 and F2123) were tightly clustered (Grid Squares D6-E6; Fig. 6). These features were all sub-circular in plan and, bar Pit F2123, all displayed very shallow, gentle profiles and concave bases (Fig. 8). Pits F2117, F2119 and F2121 also contained identical sandy silt fills. In contrast, F2123 contained two fills (L2124 (primary) and L2125 (secondary)) and

[1] Feature dimensions are presented throughout as: length x width x depth

was also the largest Phase 1 pit in this area, measuring 0.74 x 0.60 x 0.20m (compared with a mean of 0.53 x 0.41 x 0.10m). Of these pits, only F2117 (L2118) and F2123 (L2125) yielded finds, comprising undiagnostic struck flints weighing 11g and 8g respectively (one blade-like tertiary flake and a blade). As such these features were only tentatively assigned to Phase 1. Pits F2119 and F2121 were phased based on their similarities to Pit F2117 and the clear, overall grouping of these features.

6.2.4 Area 2 of the excavation contained a single Phase 1 pit (F2045; Fig. 6). Pit F2045 was Sub-circular in plan with a gentle profile and irregular base (5.40 x 2.40+ x 0.28m; Fig. 8). This feature truncated Natural L2002 and was sealed by Subsoil L2001. The single fill of this feature (L2046) yielded burnt flint (121g) and struck flint (85g) only.

6.3 Phase 2: Romano-British (early to mid 4th century AD)

6.3.1 A summary of the Phase 2 archaeology is presented in Tables 3-5.

Area 1 (south)

6.3.2 Three distinct areas of Romano-British activity were encountered (Fig. 6). The first of these, in the southern part of Area 1, contained evidence spanning the 2nd to 4th centuries AD (Fig. 10). An early to mid 4th century date for all Phase 2 activity is most likely however, based on the overall character of the Roman pottery assemblage (see Peachey, *The Roman Pottery* (Appendix 2)). Possible Quarry Pit F2086 (Grid Square *c.* F3) yielded seven sherds of mid 1st to 2nd century AD (in addition to 3rd/ 4th century material), although these appear to be residual (*ibid.*). F2086 was sub-oval in plan with steep sides and an irregular base (that part exposed; Fig 8). The total pottery assemblage from this feature comprises seven mid 1st to 2nd century sherds (63g), 35 mid 3rd to 4th century sherds (210g), 40 4th century sherds (329g) and two Roman sherds of unknown date (18g). Other finds from the two fills of this feature (L2088 (primary) and L2089 (secondary)) comprise animal bone (244g), oyster shell (140g), Fe (32g) and residual struck flint (143g). F2086 truncated Natural L2002 and was cut in turn by Phase 2 Quarry Pit F2043 and undated Pit F2103.

6.3.3 Subsequent Romano-British activity in the southern part of Area 1 was largely characterised by possible quarrying and ditch digging. Layer L2090 (Grid Square D4-E4; Fig. 6) was stratigraphically early within this sequence and yielded 43 sherds (632g) of late 3rd to 4th century Roman pottery, animal bone (186g), oyster shell (3g), mussel shell (4g) and worked stone (721g). L2090 appeared to comprise a shallow (0.41m) buried soil sealing Natural L2002 in this part of the site (Fig. 7); it was cut by Phase 2 features F2009, F2052 and F2097.

6.3.4 Layer L2090 was truncated to the south by broad Ditch/ possible Quarry Feature F2009 (Grid Square D3-E3 and D4-F4), and to the north by Ditch F2052 (Grid Square D4-E4; Fig. 6). Both features were aligned west-north-west to east-south-east and were separated by a distance of *c.* 3.40-4.00m. It is possible that these features partially delineated a trackway or similar. The orientation of F2009 and F2052 was mirrored by Ditch F2050, a possible recut of F2052 (see below), and

four Phase 2 gullies in the northern part of Area 1 (Fig. 6). Ditch/ possible Quarry Feature 2009 had moderately sloping sides and a flattish base (Fig. 7). The three fills of this feature (L2060 (primary), L2059 (secondary) and L2010 (tertiary)) yielded 313 sherds (2647g) of Roman pottery (spanning the 2nd to 4th centuries AD), CBM (1176g), animal bone (1037g), burnt bone (10g), oyster shell (225g), mussel shell (1g) possible mayen lava (341g), ferrous metal (Fe; 118g), charcoal (1g), burnt flint (20g) and residual struck flint (172g). Tertiary Fill L2010 also contained a worked bone hair pin (SF1) of Crummy's Type 3 (see Cooper, *The Small Finds* (Appendix 2); Plate 1), while secondary Fill L2059 contained a single fragment of quern stone (SF2). The latter is a fragment of saddle or rotary quern of later prehistoric or Romano-British date and is probably residual (see Cooper, *The Small Finds* (Appendix 2)). F2009 was truncated by the north-western edge of Phase 2 Quarry Pit F2043.

6.3.5 Ditch F2052 (Grid Square D4-E4; Fig. 6) had gentle to steep sides and concave base (Fig. 8). The single fill of this feature (L2053) yielded animal bone (2g), Fe (11g), charcoal (2g), slate (1g) and residual struck flint (12g). Despite lacking datable material F2052 was stratigraphically secure within Phase 2. This ditch was truncated along its northern edge by Ditch F2050, a possible recut of F2052 that ran between the eastern and western edges of Area 1 (Fig. 3), perhaps serving to define separate 'activity' areas. F2050 had steep sides, a concave base and contained two fills (L2058 (primary) and L2051 (secondary)). Primary Fill L2058 comprised a redeposited gravelly material and was devoid of finds. Upper Fill L2051 yielded 27 sherds (570g) of Roman pottery (spanning the mid 2nd to 3rd centuries AD), CBM (10g), animal bone (107g), oyster shell (84g), Fe (8g), slag (9g), burnt stone (12g) and residual struck flint (106g).

6.3.6 Most of the later Phase 2 features in the southern part of Area 1 yielded 3rd to 4th century AD pottery. These comprised a natural hollow (F2047), one layer (L2015) and five pits (F2054, F2091, F2093, F2097 and large Quarry Pit F2043). The majority of these features were also stratigraphically late within the Phase 2 sequence (Fig. 10). Natural Hollow F2047 (Grid Square F3-F4) was recorded as a depression in the surface of Natural L2002 (Fig. 3). This feature was sub-oval in plan with gently sloping sides and a flattish base (Fig. 8). The uppermost (secondary) fill of F2047 (L2048) contained 15 sherds (253g) of Roman pottery (spanning the 3rd to 4th centuries AD), CBM (14g) animal bone (30g), oyster shell (25g), Fe (12g) and residual struck flint (9g). Primary Fill L2049 was devoid of finds. Hollow F2047 was cut by the north-eastern edge of Phase 2 Quarry Pit F2043.

6.3.7 Large Quarry Pit F2043 truncated Hollow F2047, Ditch/ possible Quarry Feature F2009 and Hollow F2086 (see above; Fig. 6). Within the confines of Area 1 F2043 appeared ovoid in plan with moderate to steep sides and a flattish base (that part exposed; Figs. 7-8). Three fills were excavated (L2061=2073 (primary), L2072 (secondary) and L2044 (tertiary)), although earlier fills may have survived; F2043 was excavated to a depth of *c.* 1.20m below the surface of uppermost Fill L2044. The fills of F2043 yielded 478 sherds (4040g) of Roman pottery (spanning the mid 3rd to 4th centuries AD), CBM (939g), animal bone (2629g), oyster shell (357g), mussel shell (3g), possible mayen lava (14g), Fe (72g), slag (12g), burnt flint (104g) and residual struck flint (298g). The pottery from this feature was distributed

throughout the excavated fills. Uppermost Fill L2044 was sealed by mid 3rd to 4th century Layer L2015.

Feature	Context	Grid square	Plan/ profile/ base (dimensions)	Fill	Spot date	Primary relationships
-	Layer L2015	-	(17.50+ x 8.30+ x 0.12m)	Friable, mid grey brown silty sand	Mid 3rd to 4th C AD	Sealed L2044; cut by F2054, 2084
Ditch/ ?Quarry F2009	L2010[I]	D3-E3 and D4-F4	Linear/ moderate/ flattish (14.70+ x 5.30 x 0.99)	Friable, light greyish brown sandy silt	Late 3rd to 4th C AD	Cut L2090; Cut by F2043
	L2059[S]			Friable, mid orange brown sandy silt	3rd to 4th C AD	
	L2060[P]			Friable, light orange brown sandy silt	2nd to 3rd/ 4th C AD	
Quarry Pit F2043	L2044[I]	F2, D3-F3 and E4-F4	Ovoid/ moderate to steep/ ?flattish (*c.* 30.00m+ x 3.84+ x 1.20+m)	Firm, light grey brown sandy silt	Late 3rd to 4th C AD	Cut L2010, L2048, L2083; sealed by L2015
	L2072[S]			Firm, mid orange brown sandy silt	Mid 3rd to 4th C AD	
	L2061= L2073[P]			Firm, light yellow brown chalky sandy silt	-	
Hollow F2047	L2048[S]	F3-F4	Sub-oval/ gentle/ flattish (4.20+ x 3.20 x 0.20m)	Firm, mid yellow brown sandy silt	3rd to 4th C AD	Cut L2002; cut by F2043
	L2049[P]			Firm, light yellow brown sandy silt	-	
Ditch F2050	L2051[S]	D4-G4	Linear/ steep/ concave (10.00+ x 1.34 x 0.40m)	Firm, mid orange brown sandy silt	Mid 2nd to 3rd C AD	Cut L2053; cut by F2056
	L2058[P]			Friable, mottled white/ yellow/ brown gravel/ sandy silt	-	
Ditch F2052	L2053	D4-E4	Linear/ gentle to steep/ concave (6.00+ x 0.83+ x 0.27m)	Firm, mid orange brown sandy silt	-	Cut L2090; cut by F2050
Pit F2054	L2055	D4	Sub-oval/ moderate/ concave (1.50 x 0.85 x 0.26m)	Friable, dark grey brown sandy silt	Late 3rd to 4th C AD	Cut L2015; sealed by L2001
Quarry Pit F2086	L2089[S]	F3	?Sub-oval/ steep/ irregular (? x 5.80 x 0.44+m)	Firm, mid orange brown sandy silt	Roman	Cut L2002; cut by F2043, F2103
	L2088[P]			Friable, mid red brown sandy silt	Mid 1st to 2nd C AD	
-	Layer L2090	D4-E4	(? x ? x 0.41m)	Friable, mid yellow grey silty sand	Late 3rd to 4th C AD	Sealed L2002; cut by F2009, F2052, F2097
Pit F2091	L2092	D4	Oval/ steep/ flattish (2.90 x 2.10 x 0.25m)	Friable, mid grey brown sandy silt	Late 3rd to 4th C AD	Cut L2096; sealed by L2001
Pit F2093	L2096[I]	D4	Oval/ steep/ concave (1.95 x 1.00+ x 0.36m)	Friable, grey brown sandy silt	Roman	Cut L2098; cut by F2091
	L2095[S]			Friable, light brown grey	Late 3rd to 4th C AD	

				sandy silt		
	L2094[P]			Friable, mid orange brown sandy silt	Late 3rd to 4th C AD	
Pit F2097	L2098	D4	Sub-circular/ gentle, concave (0.78 x 0.88 x 0.28m)	Friable, light grey brown sandy silt	Roman	Cut L2090; cut by F2093

Table 3: Phase 2 features in the south of Area 1; P = primary fill; S = secondary fill; T = tertiary fill

6.3.8 Layer L2015 (not planned) was recorded as sealing Phase 2 Quarry Pit F2043 (Fig. 7). This layer comprised a friable, mid grey brown silty sand with moderate small to medium sub-rounded chalk, moderate small to medium sub-angular to angular flint, occasional large sub-angular flint and occasional charcoal (17.50+ x 8.30+ x 0.12m). High levels of bioturbation were evident throughout L2015. Finds from this layer, mostly recovered from the area overlying F2009, comprise 1021 sherds (8413g) of Roman pottery (mostly spanning the mid 3rd to mid 4th centuries AD), CBM (3698g), animal bone (2767g), oyster shell (585g), mussel shell (3g), possible mayen lava (68g), Fe (168g), charcoal (1g), slag (46g), worked stone (2191g), burnt flint (184g) and residual struck flint (228g). The majority of this material appears domestic in nature. The north-western part of L2015 was truncated by Phase 2 Pit F2054.

6.3.9 Pit F2054 (Grid Square D4; Fig. 6) was sub-oval in plan with moderately sloping sides and a concave base (Fig. 7). The single fill of this pit (L2055) yielded 58 sherds (528g) of Roman pottery (spanning the late 3rd to 4th centuries AD), CBM (31g), animal bone (356g), oyster shell (150g), Fe (51g), burnt flint (23g) and residual struck flint (12g). This feature truncated Phase 2 Layer L2015 and was in turn sealed by Subsoil L2001.

6.3.10 A 'cluster' of three intercutting Phase 2 pits (F2091, F2093 and F2097) was present to the north of Ditch/ possible Quarry Feature F2009 and immediately south of the ditch alignment marked by F2050 and F2052 (Grid Square D4; Fig. 6). The stratigraphically earliest of these (Pit F2097) was sub-circular in plan with gentle sides and a concave base (Fig. 8). The single fill of this feature (L2098) contained six sherds (113g) of Roman pottery (not closely datable) and CBM (61g). Despite lacking closely datable pottery F2097 cut late 3rd to 4th century Layer L2090 and was in turn truncated by late 3rd to 4th century Pit F2093.

6.3.11 Pit F2093 was oval in plan with steep sides and a flattish base (Fig. 7). This feature contained three fills (L2094 (primary), L2095 (secondary) and L2096 (tertiary)), the lower two of which yielded late 3rd to 4th century AD pottery (totalling 22 sherds; 480g). Uppermost Fill L2096 contained three sherds (29g) of Roman pottery (not closely datable). Other finds from F2093 comprise CBM (40g), animal bone (315g), oyster shell, (15g), worked stone (3249g) and residual struck flint (2g). This feature truncated the western edge of Pit F2097 and was cut in turn by late 3rd to 4th century Pit F2091. Like F2093, Pit F2091 was oval in plan with steep sides and a flattish base (Figs. 6-7). The single fill of this feature (L2092) yielded 40 sherds (647g) of late 3rd to 4th century AD pottery as well as CBM (139g), animal bone (224g) and oyster shell (15g). The fill of F2091 was sealed by Subsoil L2001.

Area 1 (north)

6.3.12 One of the earliest Phase 2 features in the northern part of Area 1 was Well F2130 (Grid Square G5-6; Figs. 6 and 11). F2130 was circular in plan and had near-vertical sides; no form of revetment was present (Fig. 8). For reasons of health and safety, the base of this feature was not reached. Four fills were excavated (L2131 (primary), L2132 (secondary), L2133 (tertiary) and L2134 (quaternary), although earlier fills may survive *in situ* below the excavated level. The earliest identified fill (L2131) yielded late 2nd to early 3rd century AD Roman pottery (24 sherds; 276g), while the combined pottery assemblage from this feature (53 sherds; 718g) spanned the mid 2nd to 4th centuries AD, possibly indicating a prolonged period of use and subsequent backfilling. Alternatively, the earliest material from this feature may be residual. Other finds from F2130 comprise CBM (746g), animal bone (130g), oyster shell (114g), Fe (5g), possible mayen lava (331g) and residual struck flint (23g). F2130 was cut into Natural L2002 and its uppermost fill was sealed by Phase 2 Layer L2143.

6.3.13 A group of three parallel, intercutting Phase 2 gullies (F2137, F2139 and F2141) was present *c.* 2.00m to the south of Well F2130 (Fig. 6). The west-north-west to east south-east alignment of this group matched Phase 2 Ditches F2050 and F2052 in the south of Area 1 and Gully F2135 *c.* 2.20-3.00m to the north. The stratigraphically earliest of this group (Gully F2139; Grid Square E5-G5) was linear in plan with steep sides and a concave base (Fig. 8). The single fill of this feature (L2140) yielded 13 sherds (197g) of Roman pottery (spanning the 2nd to 3rd centuries AD), animal bone (31g), oyster shell (2g) and Fe (12g). Gully F2139 cut Natural L2002 and was truncated in turn by F2137, a ?partial recut of this feature.

6.3.14 Gully F2137 (Grid Square E5-G5) was similar in plan and profile to Gully F2139 and truncated the northernmost edge of the latter (Figs. 6 and 8). It is possible that F2137 comprised a partial recut of F2139. The single fill of this gully (L2138) yielded 27 sherds (201g) of Roman pottery (mostly of 4th century AD date) and residual struck flint (37g). The south-eastern edge of F2137 was truncated by F2141 (Grid Square F5-G5), the stratigraphically latest gully forming this intercutting group. Gully F2141 was linear in plan with steep sides and a flat base (Fig. 8). The single fill of this feature (L2142) was devoid of finds. Despite this lack of datable material the association of F2141 with earlier Phase 2 Gullies F2173 and F2139 was obvious.

6.3.15 The single fill of Phase 2 Gully F2141 was sealed by Layer L2143 (Grid Square F5-G5 and F6-G6; Figs. 6 and 8). L2143 comprised friable, light brown/ grey sandy silt with frequent, medium to large sub-rounded and sub-angular flints. Finds from this layer include 32 sherds (399g) of Roman pottery (late 3rd to 4th century AD in date), CBM (875g), animal bone (294g), oyster shell (141g), possible mayen lava (3g), a fragment of copper alloy (Cu) (2g; see Cooper, *The Small Finds* (Appendix 2)), slag (7g) and residual struck flint (56g). Seven sherds (86g) of intrusive post-medieval pottery were also recovered from L2143. It is possible that L2143 represented a levelling or possible 'demolition' event in this part of the site, post-dating the abandonment and backfilling of Well F2130 and Gully F2141 (see above). The northern edge of Layer L2143 was truncated by Gully F2135.

Feature	Context	Grid square	Plan/ profile/ base (dimensions)	Fill	Spot date	Primary relationships
Pit F2079	L2081[S]	F6	Sub-rectangular/ gentle/ concave (2.70 x 1.12 x 0.34m)	Friable, mid grey brown sandy silt	Mid 2nd to 4th C AD	Cut fill of unnumbered solution hollow; sealed by L2001
	L2080[P]			Friable, mid orange brown sandy silt	Mid 3rd to 4th C AD	
Pit F2105	L2106	F6	Irregular/ steep/ concave (1.76 x 0.69 x 0.23m)	Firm, mid grey brown sandy silt	Late 3rd to 4th C AD	Cut L2002; sealed by L2001
Ditch F2126	L2127	E7	Linear/ moderate to steep/ concave (4.60 x 0.57 x 0.19m)	Firm, mid orange brown sandy silt	Mid 2nd to 4th C AD	Cut L2153; sealed by L2001
Well F2130	L2134[Q]	G6	Circular/ near-vertical/ ? (1.12 x 1.38 x 1.14+)	Firm, dark yellow grey sandy silt	-	Cut L2002; Sealed by L2143
	L2133[T]			Firm, light yellow grey sandy silt	Late 3rd to 4th C AD	
	L2132[S]			Firm, light brown grey sandy silt	Mid 2nd to 3rd C AD	
	L2131[P]			Firm, light grey orange sandy silt	Late 2nd to early 3rd C AD	
Gully F2135	L2136	E6-G6	Linear/ steep/ flat (13.00+ x 0.58 x 0.15m)	Firm, light brown grey sandy silt	Late 3rd to 4th C AD	Cut L2143, L2146; sealed by L2001
Gully F2137	L2138	E5-G5	Linear/ steep/ concave (13.00+ x 1.14 x 0.32m)	Firm, light brown grey sandy silt	4th C AD	Cut L2140; Cut by F2141
Gully F2139	L2140	E5-G5	Linear/ steep/ concave (13.00+ x 0.63+ x 0.20m)	Firm, mid orange brown sandy silt	2nd to 3rd C AD	Cut L2002; cut by F2141, F2147
Gully F2141	L2142	F5-G5	Linear/ steep/ flat (*c.* 10.00 x 0.48 x 0.22m)	Firm, light yellow brown sandy silt	-	Cut L2138, L2140; sealed by L2143
-	Layer F2143	F5-G5 and F6-G6	(*c.* 10.00 x 4.71 x 0.14m)	Friable, light brown grey sandy silt	Late 3rd to mid 4th C AD	Sealed L2134, L2142; cut by F2135
Pit F2145	L2146	F6	Sub-rectangular/ moderate/ flat (2.00+ x 1.23 x 0.24m)	Friable, dark brown black sandy silt	Roman	Cut L2002; cut by F2135
Gully F2149	L2150	E7-F6	Linear/ gentle/ concave (5.68 x 0.48 x 0.13m)	Friable, light yellow grey sandy silt	Mid 3rd to 4th C AD	Cut L2153; sealed by L2001

Table 4: Phase 2 features in the North of Area 1; P = primary fill; S = secondary fill; T = tertiary fill; Q = quaternary fill

6.3.16 Gully F2135 (Grid Square E6-G6) mirrored the alignment of Phase 2 Gullies F2137, F2139 and F2141 in the northern part of Area 1 (*c.* 2.20-3.00m to the south), although was not directly contemporary with the use of these features (Figs. 6 and 11). F2135 was linear in plan with steep sides and a flat base (Figs. 8-9). The single fill of this feature (L2136) contained 15 sherds (86g) of Roman pottery (mostly 4th century AD in date), CBM (2g), animal bone (225g), oyster shell (18g), slag (1g)

and residual struck flint. This feature truncated the northern edge of Phase 2 Layer L2143 and Pit F2145.

6.3.17 Phase 2 Pit F2145 (Grid Square F6) cut Natural L2002 and was truncated by Gully F3135 (Fig. 6). This shallow pit was sub-rectangular in plan with moderately sloping sides and a flat base (Fig. 8). The single fill of F2145 (L2146) yielded three sherds (13g) of Roman pottery (not closely datable), CBM (37g) and animal bone (223g).

6.3.18 A 'pair' of Romano-British gullies (F2126 and F2149) was located close to the north-western corner of Area 1. Both features were cut through Phase 1 Layer L2153 and both were aligned approximately north to south (Fig. 6). Gully F2126 (Grid Square E7) was linear in plan with moderate to steep sides and a concave base (Fig. 8). The single fill of this feature (F2127) yielded 15 sherds (212g) of Roman pottery (mostly mid 3rd to 4th century in date), CBM (535g), animal bone (1529g), oyster shell (85g), slag (6g), burnt flint (49g) and residual struck flint (12g). Gully F2149 was similar in profile to F2126 (Fig. 9) and also contained a single fill (F2150). Finds from this feature include seven sherds (30g) of Roman pottery (mostly mid 3rd to 4th century in date), CBM (91g), animal bone (21g), oyster shell (19g) and residual struck flint (21g). F2149 also yielded 12 sherds (64g) of intrusive post-medieval pottery. Despite the contradictory dating evidence from F2149, this gully was more similar in terms of its plan and profile to Phase 2 Gully F2126 than is was to nearby Phase 3 linear features (i.e. F2109, F2111, F2113 and F2115; Figs. 6 and 8). The fills of both Gullies F2126 and F2149 were sealed by Subsoil L2001.

6.3.19 The final pair of Phase 2 features in Area 1 were Pits F2079 and F2105 (Grid Square F6; Fig. 6). Pit F2079 was sub-rectangular in plan with gently sloping sides and a concave base (Fig. 8). The two fills of this feature (L2080 (primary) and L2081 (secondary)) contained a total of 11 sherds (208g) of Roman pottery (spanning the mid 2nd to 4th centuries AD) and animal bone (23g). F2079 truncated the fill of an unnumbered solution hollow and its fill was sealed by Subsoil L2001. Pit F2105, *c.* 1.30m to the west, was irregular in plan with steep sides and a concave base (Fig. 8). Its single fill (L2106) yielded six sherds (34g) of Roman pottery (late 3rd to 4th century in date), animal bone (40g) and oyster shell (10g). F2149 was cut into Natural L2002 and its fill was sealed by Subsoil L2001.

Area 2

6.3.20 Area 2 of the site contained three Phase 2 features (Fig. 6). Gully F2011 (Grid Square A9) was stratigraphically early within this sequence, being truncated to the north by Phase 2 Ditch F2013 (see below). The latter may have represented a partial recut of this gully. F2011 was linear in plan (oriented *c.* north to south) with steep sides and a concave base (Fig. 7). The single fill of this feature (L2012) contained two sherds (17g) of Roman pottery (not closely datable), animal bone (11g), CBM (547g) and a single piece of residual struck flint (8g).

Feature	Context	Grid square	Plan/ profile/ base (dimensions)	Fill	Spot date	Primary relationships
Gully F2011	L2012	A9	Linear/ steep/ concave (3.50+ x 0.45 x 0.15m)	Friable, mid grey brown silty sand	Roman	Cut L2002; cut by F2013
Ditch F2013	L2014	A9	Linear/ gentle/ flat (4.50+ x 1.20 x 0.09m)	Firm, dark grey brown sandy silt	3rd to 4th C AD	Cut L2012; sealed by L2001
Ditch F2039	L2040	A9	Linear/ gentle/ flat (1.50+ x 1.05 x 0.06m)	Firm, mid grey brown sandy silt	-	Cut L2002; cut by unnumbered modern feature

Table 5: Phase 2 features in Area 2

6.3.21 'L'-shaped Ditch F2013 (Grid Square A9) partially recut Gully F2011 and ran *c.* north to south/ east to west across the north-west corner of Area 2 (Fig. 6). Although shallow, F2013 may tentatively have defined the corner of an enclosure or other delineated space, the majority of which was obscured by the excavation edge. The north to south section of this feature ran parallel to Phase 2 Ditch F2039, *c.* 2.50m to the east, and the two were potentially associated. Both displayed gentle profiles, flat bases and contained identical fills (Fig. 7). Fill L2014 of F2013 yielded 11 sherds (230g) of Roman pottery (3rd to 4th century AD in date), animal bone (663g), oyster shell (23g) and residual struck flint (169g). The fill of Ditch F2039 (L2040) was devoid of finds. This feature was assigned to Phase 2 based solely on its similarities to Ditch F2013. Both features were sealed by Subsoil L2001.

6.4 Phase 3: post-medieval (c. 18th to 19th century AD)

6.4.1 A summary of the Phase 3 archaeology is presented in Table 6.

Feature	Context	Grid square	Plan/ profile/ base (dimensions)	Fill	Spot date	Primary relationships
Pit F2003	L2004	G7	Oval/ steep/ concave (5.70 x 1.50 x 0.62m)	Firm/ friable, mid grey brown silty sand	19th to 20th C AD	Cut L2008; sealed by L2001
Ditch F2016	L2017	F1	Linear/ steep/ concave (4.50+ x 1.50 x 0.40m)	Firm, orange grey/ brown clay silt	Post-medieval	Cut L2002; Sealed by L2000
Pit F2018	L2019	A9-B9	Oval/ gentle to moderate/ concave (2.55 x 1.00+ x 0.39)	Firm, dark black brown sandy silt	Post-medieval	Cut L2002; sealed by L2001
Linear F2023	L2024	F2	Linear/ moderate/ flat (4.00+ x 0.76 x 0.04m)	Friable, mid grey brown sandy silt	-	Cut L2002; sealed by L2001
Linear F2025	L2026	F2	Linear/ moderate/ flat (4.00+ x 0.38 x 0.02m)	Friable, mid grey brown sandy silt	-	Cut L2002; sealed by L2001
Linear F2027	L2028	F2	Linear/ moderate/ flat (4.00+ x 0.59 x 0.03)	Friable, mid grey brown sandy silt	-	Cut L2002; sealed by L2001
Linear F2029	L2030	F2	Linear/ moderate/ flat (4.00+ x 0.75 x 0.06)	Friable, mid grey brown	-	Cut L2002; sealed by

				sandy silt		L2001
Linear F2031	L2032	F2	Linear/ moderate/ flat (4.00+ x 0.70 x 0.04)	Friable, mid grey brown sandy silt	-	Cut L2002; sealed by L2001
Linear F2033	L2034	F2	Linear/ moderate/ flat (4.00+ x 0.75+ x 0.03m)	Friable, mid grey brown sandy silt	-	Cut L2002; sealed by L2001
Pit F2035	L2036	F2	Sub-oval/ moderate/ irregular (1.64 x 0.65 x 0.08m)	Friable, mid yellow brown sandy silt	-	Cut L2002; sealed by L2001
Pit F2037	L2038	F3	Sub-circular/ gentle/ flat (1.06 x 0.62+ x 0.05m)	Friable, mid orange brown sandy silt	Post-medieval	Cut L2002; sealed by L2001
Pit F2056	L2057	D4-E4	Circular/ steep/ flattish (1.06 x 0.94 x 0.13m)	Firm, light brown yellow sandy silt	Post-medieval	Cut L2051; sealed by L2001
Pit F2062	L2063	E4	Circular/ steep/ flattish (0.68 x 0.58 x 0.14m)	Firm, white brown chalky sandy silt	Post-medieval	Cut L2002; sealed by L2001
Pit F2064	L2065	E4	Circular/ moderate to steep/ flattish (0.76 x 0.66 x 0.17m)	Firm, white brown chalky sandy silt	Post-medieval	Cut L2002; sealed by L2001
Pit F2066	L2067	E4-E5	Sub-circular/ gentle to steep/ flattish (0.72 x 0.66 x 0.15)	Firm, mid orange brown sandy silt	Post-medieval	Cut L2153; sealed by L2001
Pit F2074	L2075	F4-G4	Oval/ gentle/ flat (1.19 x 1.10 x 0.08m)	Friable, mid grey brown sandy silt	Post-medieval	Cut L2002; sealed by L2001
Pit F2101	L2102	F6	Circular/ steep/ flat (0.51 x 0.50 x 0.09m)	Friable, mid grey brown sandy silt	Post-medieval	Cut L2002; sealed by L2001
Linear F2109	L2110	E6	Linear/ moderate to steep/ concave (5.20 x 0.55 x 0.08m)	Friable, mid grey brown sandy silt	-	Cut L2153; sealed by L2001
Linear F2111	L2112	E6	Linear/ moderate to steep/ concave (6.70 x 0.45 x 0.08m)	Friable, mid grey brown sandy silt	-	Cut L2153; sealed by L2001
Linear F2113	L2114	E6	Linear/ moderate to steep/ concave (5.80 x 0.46 x 0.04m)	Friable, mid grey brown sandy silt	-	Cut L2153; sealed by L2001
Linear F2115	L2116	E6	Linear/ moderate to steep/ concave (6.55 x 0.52 x 0.11m)	Friable, mid grey brown sandy silt	-	Cut L2153; sealed by L2001
Pit F2128	L2129	E7	Circular/ near-vertical/ flat (1.11 x 1.11 x 0.10m)	Firm, dark grey brown sandy silt	Post-medieval	Cut L2153; sealed by L2001
Ditch F2155	L2156	E5-E6	Linear/ gentle/ concave (5.00+ x 1.00 x 0.14m)	Firm, light yellow grey sandy silt	Post-medieval	Cut L2153; sealed by L2001

Table 6: Phase 3 features

Area 1

6.4.2 Phase 3 features were distributed across the excavated area. Ditch F2016 (Grid Square F1; Fig. 6) was located in the far south of Area 1. This feature was linear in plan with steep sides and a concave base (Fig. 7). The single fill of F2016 (F2017) yielded 19 sherds (212g) of post-medieval pottery, CBM (266g), animal bone (22g), Fe (29g) and residual struck flint (22g). The east to west alignment of

this feature matched that of the disused railway line, immediately to the south of the site, and plot boundaries marked on the 1845 Tithe map and later cartographic sources (Figs. 3-5). The position of Ditch F2016 appeared to more directly relate to the latter. This feature cut Natural L2002 and its fill was sealed by Topsoil L2000.

6.4.3 A group of six intercutting linear features (F2023, F2025, F2027, F2029, F2031 and F2033) was present *c.* 2.50m to the north of Ditch F2016 (Grid Square F2; Fig. 6). These features were identical in plan and profile, displaying moderately sloping sides and flat bases (Fig. 7), and each contained an identical individual fill (see Table 6). The combined finds assemblage from these features comprises just two sherds (83g) of post-medieval pottery and residual Roman CBM (40g) from the fills of F2023 (L2024), F2025 (L2026) and F2029 (L2030). The *c.* north to south alignment of these features was perpendicular to nearby Phase 3 Ditch F2016 and loosely respected plot boundaries depicted on the 1845 Tithe map and later cartographic sources (Figs. 3-5). These features were cut into Natural L2000 and their fills were sealed by Subsoil L2001. It is possible that this group represented post-medieval ploughing activity or similar.

6.4.4 Two Pits were identified *c.* 2.00m and *c.* 7.50m to the north of the above group. Pit F2035 (Grid Square F2) was sub-oval in plan with moderately sloping sides and an irregular base (Figs. 6-7). The single fill of this feature (L2036) was devoid of finds. However, the long axis of this pit was aligned with the Phase 3 linear features to the immediate south and it was tentatively assigned a post-medieval date. Shallow Pit F2037 (Grid Square F3) was sub-circular in plan with gently sloping sides and a flat base (Fig. 7). The single fill of this feature (L2038) contained two sherds (5g) of post-medieval pottery, residual Roman CBM (81g), slag (2g), slate (2g) and charcoal (2g). Pits F2035 and F2037 were both cut into Natural F2001 and their fills were sealed by Subsoil L2001.

6.4.5 A loose alignment of five Phase 3 pits (F2056, F2062, F2064, F2066 and F2074) was recorded running *c.* east to west across the southern part of Area 1 (Grid Square D4-G4; Fig. 6). These pits were shallow and generally similar in plan, with average dimensions of 0.88 x 0.79 x 0.13m (Fig. 8). All contained identical fills which yielded small amounts of post-medieval pottery, totalling 13 sherds (50g). Other finds from these features comprise animal bone (5g), slag (5g) and residual struck flint (30g). Pits F2062, F2064 and F2074 were cut into Natural L2002, while Pit F2066 truncated Phase 1 Layer L2153 and F2056 cut the northern edge of Phase 2 Ditch F2050. The fills of all five features were sealed by Subsoil L2001.

6.4.6 A second group of Phase 3 linear features (F2109, F2111, F2113 and F2115) was present in the northern part of Area 1 (Grid Square E6; Fig. 6). Like those further south (see above), these close-set features were aligned *c.* north to south and shared identical profiles and fills; each was shallow with moderate to steeply sloping sides and a concave base (Fig. 8). The only find from these features is a clay pipe stem from the fill of F2113 (L2114). These features lay to the east of the extant peach house and their alignment matched that of the western garden (excavation site) boundary. It is possible that they related directly to the post-medieval, horticultural use of the site. All of these features truncated Phase 1 Layer L2153 and were sealed by Subsoil L2001. Linear Feature F2109 had been disturbed by rooting midway along its length.

6.4.7 Phase 3 Ditch F2155 ran *c.* north-east to south-west across Grid Squares E5 and E6 (Fig. 6). This feature was linear in plan with gently sloping sides and a concave base (Fig. 9). The single fill of this ditch (L2156) contained five sherds (28g) of post-medieval pottery and slate (4g). Like the nearby group of four Phase 3 linear features (*c.* 4.00m to the north), F2155 truncated Phase 1 Layer L2153 and its fill was sealed by Subsoil L2001.

6.4.8 Pit F2101 (Grid Square F6) was circular in plan with steep sides and a flat base (Figs. 6 and 8). The single fill of this feature (L2102) yielded just two sherds (8g) of post-medieval pottery. F2101 was cut into Natural L2002 and its fill was sealed by Subsoil L2001.

6.4.9 Pit F2128 (Grid Square E7) was circular in plan with near-vertical sides and a flat base (Figs. 6 and 8). In addition to three sherds (14g) of post-medieval pottery, the single fill of this feature (L2129) contained glass (1g), Fe (43g), charcoal (2g) and residual struck flint (9g). F2128 was cut into Phase 1 Layer L2153 and its fill was sealed by Subsoil L2001.

6.4.10 Large, irregular Pit F2003 (Grid Square G7) was the northernmost Phase 3 feature encountered within Area 1 of the excavation (Fig. 6). F2003 had steep sides and a concave base (Fig. 7). Finds from the single fill of this feature (L2004) include 14 sherds (586g) of 18th to 19th century pottery, residual Roman CBM (104g), animal bone (9g), glass (3g), slag (1g), slate (1g) and residual struck flint (17g). This feature also yielded three sherds (18g) of residual Roman pottery (not closely datable). The southern edge of F2003 truncated the fill of undated Pit F2007 (L2008) and its fill was sealed by Subsoil L2001.

Area 2

6.4.11 Pit F2018 (Grid Square A9-B9) was the only Phase 3 feature present in Area 2 of the excavation. This feature was oval in plan with gentle to moderately sloping sides and a concave base (Figs. 6-7). Its single fill (L2019) contained five sherds (13g) of post-medieval pottery, CBM (94g) and residual struck flint (54g). F2018 was cut into Natural L2002 and its fill was sealed by Subsoil L2001.

6.5 Undated

6.5.1 Fourteen of the excavated features could not be assigned to one of the three dated phases on the basis of stratigraphic or finds evidence (Table 7). Furthermore, no obvious spatial patterning was noted between these features and any of the dated features. The only material from any of the undated features was 3g of charcoal from the primary fill of Posthole F2076 (L2077).

Feature	Context	Grid square	Plan/ profile/ base (dimensions)	Fill	Spot date	Primary relationships
Pit F2005	L2006	G7	Sub-oval/ near-vertical/ flat (0.86 x 0.41 x 0.52m)	Firm, mid grey brown sandy silt	-	Cut L2002; cut by F2007
Pit F2007	L2007	G7	Sub-oval/ steep/ flat (0.50+ x 0.64 x 0.54m)	Firm, mid grey brown sandy silt	-	Cut L2006; cut by F2003
Pit F2041	L2042	B9	Sub-circular/ gentle/ concave (0.70 x 0.55 x 0.08m)	Friable, mid grey brown silty sand	-	Cut L2002; sealed by L2001
Pit F2068	L2069	E5	Oval/ moderate to steep/ concave (0.54 x 0.42 x 0.13)	Friable, dark grey brown silty sand	-	Cut L2153; sealed by L2001
Pit F2070	L2071	E5	Circular/ gentle/ concave (0.52 x 0.52 x 0.07m)	Friable, mid orange brown sandy silt	-	Cut L2002; sealed by L2001
Posthole F2076	L2078[S]	E4	Oval/ steep/ pointed (0.23 x 0.17 x 0.17m)	Friable, mid grey brown sandy silt	-	Cut L2002; sealed by L2001
	L2077[P]			Friable, mid orange brown sandy silt	-	
Pit F2082	L2083	E3	Sub-circular/ steep/ concave (0.96 x 0.45 x 0.25m)	Friable, light grey brown sandy silt	-	Cut L2002; cut by F2043
Pit F2084	L2085	F3	Sub-circular/ steep/ concave (0.72 x 0.64 x 0.14m)	Firm, mid grey brown silty clay	-	Cut L2015; sealed by L2001
Pit F2099	L2100	F6-F7	Oval/ gentle to steep/ concave (0.82 x 0.63 x 0.30m)	Friable, mid grey brown sandy silt	-	Cut L2002; sealed by L2001
Pit F2103	L2104	F3	?oval/ steep/ ? (*c.* 3.50+ x 0.38+ x 0.44+m)	Firm, mid orange brown silty sand	-	Cut L2089; sealed by L2001
Pit F2107	L2108	F6	Sub-circular/ near-vertical/ concave (0.76 x 0.60 x 0.33m)	Friable, dark grey brown sandy silt	-	Cut L2002; sealed by L2001
Pit F2147	L2148	F5	Sub-circular/ gentle/ flat (2.10+ x 1.80 x 0.17m)	Friable, mid brown grey sandy silt	-	Cut L2140; sealed by L2001
Pit F2151	L2152	E8	Sub-circular/ steep/ flat (0.54 x 0.48 x 0.08m)	Friable, light yellow grey sandy silt	-	Cut L2153; sealed by L2001
Pit F2157	L2158	E5	Sub-square/ near-vertical/ flat (0.30 x 0.40 x 0.50m)	Friable, mid brown grey sandy silt	-	Cut L2153; sealed by L2001

Table 7: Undated features

Archaeological monitoring and recording

6.6 New site access road

6.6.1 Sample sections (6 and 7) of the stratigraphy encountered along the access road were recorded:

Sample Section 6 Southwest facing	*(DP 17)*	
0.00 – 0.27m	L3000	Topsoil – Friable, dark grey brown sandy silt with frequent tree roots and occasional small and medium angular and sub-angular flints.
0.27m+	L3001	Subsoil – Firm, mid orange brown sandy silt with frequent tree roots and occasional small and medium angular and sub-angular flints.

Sample Section 7 North facing	*(DP 18)*	
0.00 – 0.34m	L3000	Topsoil – As above
0.34 – 0.72m	L3001	Subsoil – As above
0.72m+	L3002	Natural deposits – Firm, pale-mid brownish orange sandy silt, and patches of loose white chalk, with occasional small and medium angular and sub-angular flints.

6.6.2 The majority of the new access road was only stripped down to the top of Subsoil L3001. The exception was the southernmost section (*c.* 6m in length) where chamfering was necessary to meet the level of the existing access road (DP 19). No archaeology was encountered.

6.7 Formal walled garden

6.7.1 Four small trenches (1.20 x 3.00-3.50m) were cut within the walled garden for the sole purpose of establishing the presence and alignment of the former, cruciform pathways (as depicted on the 1921 OS map) (Fig. 2.1). Stripping ceased at the uppermost surfaces of these paths (Cuts F3004 and F3006). Path fills (L3005 and L3007) were not excavated.

6.7.2 The topsoil within the formal garden (L3003) comprised friable, dark grey brown organic sandy silt with occasional small angular and sub-angular flints.

Trenches 1 and 3 (Fig. 2.1)

The east to west aligned path (Cut F3004) was encountered at a depth of 0.15m in Trench 1 and 0.22m in Trench 3, and ran between corresponding gateways. The path comprised compact, very pale brownish yellow chalky clay with moderate small and medium angular and sub-angular flints (L3005).

Trenches 2 and 4 (Fig. 2.1; DP 20)

The north to south aligned path (Cut F3006) was encountered at a depth of 0.38m in Trench 2 and 0.28m in Trench 4, and ran southwards from the extant glasshouse door. The path comprised firm, pale yellow brown chalky clay with occasional small and medium angular and sub-angular flints and medium sub-rounded chalk (L3007).

7 CONFIDENCE RATING

7.1 During the excavation and within the parameters of monitoring during groundworks, it is not felt that any factors restricted the identification of archaeological features or the recovery of finds.

8 DEPOSIT MODEL

8.1 Five sample sections were recorded around the edges of the excavation (Areas 1 and 2). Uppermost was Topsoil L2000, comprising friable, dark grey/ brown clayey silt with moderate small to medium angular and sub-angular flints (0.26-0.42m thick). L2000 sealed Subsoil L2001, comprising firm, mid orange/ brown clayey silt moderate small to medium angular and sub-angular flints and occasional chalk flecks (0.25-0.42m thick). The basal layer, Natural L2002, comprised firm, pale yellow/ brown silt with mid orange/ brown clayey silt mottles.

8.2 During the monitoring and recording, two sample sections were recorded along the line of the new site access road. Uppermost was Topsoil L3000, comprising friable, dark grey/ brown sandy silt with frequent tree roots and occasional small to medium angular and sub-angular flints (0.35m thick). In Sample Section 7, at the southern end of the new access road, L3000 sealed Subsoil L3001, comprising firm, mid orange/ brown sandy silt with frequent tree roots, occasional small to medium angular and sub-angular flints and chalk flecks (0.40m thick). The basal layer in this area was natural L3002, comprising pale to mid brown/ orange sandy silt with patches of loose chalk, with occasional small to medium angular and sub-angular flints.

9 DISCUSSION

9.1 The archaeological excavation revealed a clearly stratified series of features and layers dating between the earlier Neolithic (Phase 1) and the post-medieval/ early modern period (Phase 3). The principal phase of activity at the site was the Romano-British period (Phase 2) and was chiefly defined by features dating to the early to mid 4th century AD.

Phase 1: Earlier Neolithic (4300 to 3300 BC)

9.2 Some of the earliest identified features were four pits (F2117, F2119, F2121 and F2123) truncating Phase 1 Layer L2153. Finds from these features comprise two pieces of struck flint (one blade-like tertiary flake and one blade; totalling 19g) from the fills of F2117 (L2118) and F2123 (L2124) respectively. Although not diagnostic in themselves, these flints conform to the homogenous nature of the overall Phase 1 assemblage (focussed on Layer L2153), which reflects a predominantly blade-based technology of earlier Neolithic date (Peachey, *The Struck Flint* (Appendix 2)). Phase 1 Pit F2045 (L2046) in area 2 of the site also yielded a quantity of struck flint (totalling 18 pieces; 85g) – the only diagnostic material form this feature – also including a number of blades (*ibid.*). In themselves, the Phase 1 pits represent little more than occasional (possibly seasonal) or transient use of the

site. It is also possible that the flints from F2117 and F2123 are residual and that these features, although comparatively isolated, were later in date.

9.3 Layer L2153 comprised an accumulation of material on the surface of Natural L2002. L2153 was cut by numerous features belonging to all three phases and, as a result, finds from this layer represent all periods of the site's occupation. Most significant however is the flint assemblage from this context (totalling 27 pieces (162g)), representing a homogenous, earlier Neolithic group (Peachey, *The Struck Flint* (Appendix 2)). Particularly notable is a long (100mm) backed knife with a modified butt (possibly for hafting) (*ibid.*). The preparation of a core capable of producing such a long blade represents a significant investment in terms of time (*ibid.*). This blade-based technology predominates within the assemblage and Layer L2153 may have represented the surviving remnant of a flint knapping area (*ibid.*), truncated by later features.

9.4 A Neolithic arrowhead (CHER 09845) is known from the Bartlow Hills cemetery *c.* 200m to the south-east of the site.

9.5 Environmental sampling of Phase 1 Pit Fill L2046 (F2045) yielded a single wheat grain, tentatively alluding to sedentary agriculture in the vicinity, whilst the contemporary vegetation cover – based on mollusc remains from Layer L2153 – appears to have comprised tall, moist vegetation (Summers, *The Environmental Samples* (Appendix 2)), typical of a cleared river valley environment. A preliminary scan of the Phase 1 animal bone assemblage did not identify notable material and full recording/ analysis was not carried out (Cussans, *The Animal Bone* (Appendix 2)).

Phase 2: Romano-British (early to mid 4th century AD)

9.6 The Romano-British period was chiefly characterised by a series of seven parallel ditches and gullies (aligned *c.* west-north-west to east-south-east) in Area 1 of the excavation (including Ditch/ possible Quarry Feature F2009). Two Romano-British ditches and a single gully were also encountered in Area 2. The largest feature, however, was Quarry Pit F2043, partially exposed in the south-western part of the site. Other features of note included Well F2130 in the northern part of Area 1. Although spot dates from the Phase 2 features span the 1st to 4th centuries AD (Appendix 1), the overall character of the Roman pottery assemblage indicates the rapid disposal of 'domestic' material in the early to mid 4th century AD (Peachey, *The Roman Pottery* (Appendix 2)). The major pottery groups from the site are from Ditch/ possible Quarry Feature F2009, Layer 2015 and Quarry Pit F2043 (*ibid.*).

9.7 The dominant features in the immediate Romano-British landscape are the Bartlow Hills Tumuli (CHER 09838, SAM 33355), a double alignment of seven funerary barrows located to the east/ south-east of the site (Fig. 2). Mound IV of this group is situated directly to the east of Area 1. However, these richly furbished funerary monuments were constructed in the 1st to 2nd centuries AD (after Eckardt *et al.* 2009b, 66) and thus considerably pre-date Phase 2 activity. Although mid 1st to 2nd century pottery was present in the primary fill of possible Quarry Pit F2086 (L2088), most of the pottery from this context (89% by sherd count and 87% by weight) was mid 3rd to 4th/ 4th century in date. This feature was also comparatively

shallow (0.44+m) and may have had a different primary function. During the excavation, it was thought that large Quarry Pit F2043 may have been associated with the construction of the neighbouring Tumuli – this substantial feature was most probably intended for chalk extraction – although its fills produced late 3rd to 4th century pottery and it was stratigraphically later than similarly dated features/ layers (Fig. 10).

9.8 Further funerary evidence in the immediate area, including four cremation burials and later inhumations excavated to the east of the current site (Beauchamp and Macaulay 2004, 7ff) and 15 inhumations unearthed by railway works to the south (after Eckardt *et al.* 2009b, 71), alludes to the presence of a substantial cemetery surrounding the Bartlow Hills Tumuli, possibly continuing in use well into the later Romano-British period. Cremation was the predominant early Roman funerary rite but was gradually superseded by inhumation in the provinces between the 2nd and mid 3rd centuries AD (Toynbee 1996, 40). An inhumation recorded *c.* 100m to the east of the site was dated between the 2nd and 4th centuries AD (Beauchamp and Macaulay 2004, 7). The site of a possible mausoleum, between the rows of tumuli, was also excavated in the 19th century (Gage 1836; after Eckardt *et al.* 2009b, 71). As such, although Phase 2 features at the site post-dated the Bartlow Hills Tumuli themselves, they may have been contemporary to elements of a Romano-British cemetery that grew up around these monuments. The tumuli have been described as 'symbolically charged statements about power and identity' (Eckardt *et al.* 2009b, 65) and would certainly have provided a highly visible focus for later, local activity.

9.9 The primary nature of Phase 2 activity is more difficult to interpret. The ditches and gullies in both areas of the site may have represented elements of a trackway (i.e. between F2009 and F2052) and associated enclosures. Geophysical survey has identified similar features in the immediate area (Eckardt and Clarke 2007), and the alignment of these features broadly matched elements of a linear (east to west aligned) earthwork (CHER 06178) recorded to the north of the site, thought to enclose the tumuli and associated cemetery.

9.10 Although not associated with the construction of the Bartlow Hills Tumuli, the encountered Phase 2 quarry features (i.e. F2009 and F2043) may have supplied material for the construction of similar, later monuments, albeit on a lesser scale. Beauchamp and Macaulay (2004, 7) identified remains of a possible funerary barrow covering 2nd century AD and later burials to the east of the site, and suggested that much [possibly similar] evidence in this area had been lost due to the later landscaping of the Bartlow Park gardens (*ibid.*, 12).

9.11 Other local Romano-British evidence includes a flint-built villa excavated by Neville in 1852 (CHER 06164), located some 127m to the east of Area 1 (villa location taken from Beauchamp and Macaulay 2004, 7, fig. 1). This site appears to have had a long occupation, ending *c.* AD 350 and, as such, was possibly linked to activity at the current site. A second, more opulent villa is known at Linton *c.* 0.3km to the north-west (Beauchamp and Macaulay 2004, 4). The presence of these villas and their respective estates is consistent with the nature of the Roman pottery assemblage from the site, which indicates 'moderate to high status consumption with a focus on 'table ware' vessels' (Peachey, *The Roman Pottery* (Appendix 2)). This

assemblage, predominantly made up of vessels of the Horningsea industry, is paralleled by 4th century AD urban assemblages from Cambridge (Hull and Pullinger 1999) and Great Chesterford (Miller 1995), and is also notable for its numerous regional imports (after Peachey, *The Roman Pottery* (Appendix 2)). The focussed pattern of supply and consumption evidenced by the assemblage may therefore reflect the later occupation of Neville's villa (CHER 06164) prior to the end of the Romano-British period.

9.12 Well F2130 may also have been part of the broader villa landscape. It is likely to have functioned in a domestic or agricultural, rather than an industrial capacity, as the slag assemblage from the site does not imply significant metallurgical activity within the confines of the excavated area (Newton, *The Slag* (Appendix 2)) and no other form of industrial activity is evidenced. A well was also identified to the immediate north of Neville's villa (CHER 06164), to the south-east of the site and the two may have been loosely (functionally) related. It is possible that Well F2130 was used to water livestock; the Phase 2 animal bone assemblage was dominated by domestic species including cattle, sheep/ goat, horse and pig (Cussans, *The Animal Bone* (Appendix 2)).

9.13 Two of the three Phase 2 layers (L2015 and L2143) were stratigraphically late (Fig. 10) and may also have related to the later occupation/ abandonment of Neville's villa; a major 4th century AD pottery group was recovered from Layer L2015 (Peachey, *The Roman Pottery* (Appendix 2)). These layers were compositionally similar and contained a mix of midden-type material, CBM and medium to large sub-rounded and sub-angular flints. The larger flints from these layers may tentatively be associated with the demolition of the neighbouring flint-built villa. A collection of Fe nails was also recovered from the site and alludes to the presence of timber-built structures in the immediate vicinity (Cooper, *The Small Finds* (Appendix 2)). No further evidence of such structures was encountered however.

9.14 The Phase 2 environmental evidence is typical of regional Romano-British sites. The cereal assemblage, although limited, is dominated by spelt wheat, while barley and oats are also represented, albeit to a lesser extent (Summers, *The Environmental Samples* (Appendix 2)). Remains of wheat and arable weeds from L2044 (the tertiary fill of Quarry Pit F2043) allude to the latter stages of crop processing (cereal fine-sieving) (*ibid.*). The small finds assemblage includes a single fragment of saddle or rotary quern (possibly of Romano-British date; Cooper, *The Small Finds* (Appendix 2)), indicating at least a domestic level of crop processing somewhere in the immediate landscape. Examples of pea/ bean from L2010, the secondary fill of Ditch/ possible Quarry Feature F2009, may also represent a cultivated foodstuff (Summers, *The Environmental Samples* (Appendix 2)). The charcoal from Phase 2, although only present in limited quantities, is typical of domestic fuel wood waste (*ibid.*). Overall, the floral assemblage suggests that the site was peripheral to core domestic/ agricultural activities in the immediate area. The Phase 2 molluscan assemblage implies damp grassland conditions on the site, with both taller and shorter species present (*ibid.*), perhaps representing patchy 'scrubland' or similar. The site was not wooded during the Romano-British period (Summers *pers. comm.*).

9.15 The Phase 2 animal bone assemblage, although relatively small, appears to mostly represent domestic refuse most probably deriving from the nearby villa site (Cussans, *The Animal Bone* (Appendix 2). Domestic mammal species, chiefly cattle and sheep, dominate the assemblage while other taxa including birds and fish are also present (*ibid.*). The domestic mammal species include individuals of prime meat age as well as older individuals, perhaps used for their secondary products, e.g. milk, wool and traction (*ibid.*), which suggests the raising/ keeping of livestock in the near vicinity rather than just the importing of slaughtered beasts. It is possible that some of the Phase 2 linear features comprised elements of enclosures used for the corralling of livestock. A small number of dog bones were also recorded in the Phase 2 assemblage and canid gnawing was present on a number of fragments, perhaps alluding to the keeping of working animals or pet dogs in the immediate vicinity.

9.16 The Phase 2 shell assemblage was dominated by native oyster shell which reflected local consumption and, to a lesser extent, some craft-type activity (Cussans, *The Shell* (Appendix 2)).

Phase 3: Post-medieval (c. 18th to 19th century AD)

9.17 Phase 3 was represented by a variety of linear and non-linear features distributed across Areas 1 and 2 of the excavation. Twentieth century features (cuts and surfaces associated with pathways) were also recorded by monitoring and recording within the formal walled garden to the west of the excavation. Ditch F2016 in the far south of Area 1 was parallel with/ perpendicular to boundaries marked on the early cartographic sources. The Phase 3 features to the north of this line were most probably related to agricultural/ horticultural use of the site, the latter probably associated with the landscaping/ use of the Bartlow Park gardens. Two clusters of parallel, linear features in Area 1 of the excavation may have related to post-medieval ploughing activity or similar. A rough alignment of Phase 3 pits was also recorded running east to west across area 1 of the site, although the broad spacing of these features did not appear structural.

9.18 No environmental samples were collected from Phase 3 features. The post-medieval animal bone assemblage comprised just a single pig bone and three large mammal bones, including one instance of possible red deer (Cussans, *The Animal Bone* (Appendix 2). It is tentatively possible that some or all of this assemblage was transported to the site with agricultural/ horticultural manure or mulch.

10 CONCLUSIONS

10.1 In contrast to the expectations of the project's original research themes (Section 1.3), Romano-British (Phase 2) activity at the site post-dated the 1st to 2nd century AD construction and use of the Bartlow Hills Tumuli (CHER 09838; SAM 33355). Instead, the encountered material appeared to relate more to the later use and abandonment of the neighbouring villa site (CHER 06164). The primary use of some features, e.g. Quarry Pit F2043, may however have been linked to the construction of lesser, later funerary monuments in the area surrounding the Bartlow

Hills Tumuli. Nonetheless, the general character of the Phase 2 site appears peripheral to nearby (4th century AD) agricultural/ high-status domestic activity.

10.2 The character of the Phase 2 pottery assemblage, which is predominantly early to mid 4th century in date and includes numerous regional imports, suggests that the surrounding area comprised an 'economically affluent node in the network of [regional] Roman occupation' (Peachey, *The Roman Pottery* (Appendix 2)). It is likely that this material is directly linked to the nearby villa site (CHER 06164), a prominent feature of the local, later Romano-British landscape. A particularly fine bone hair pin of Crummy's Type 3 (Cooper, *The Small Finds* (Appendix 2) also suggests high-status domestic activity in the immediate vicinity.

10.3 Strong evidence of earlier Neolithic activity was also identified across Areas 1 and 2 of the site, with the homogenous (blade-based) lithic assemblage – predominantly from Phase 1 Layer L2153 – alluding to the existence of a dedicated flint knapping area.

10.4 Molluscan evidence from Phases 1 and 2 suggests the prevalence of a cleared, moist grassland environment, typical of the site's river valley location. While evidence of Neolithic agriculture is tentative, the Romano-British economy of the surrounding area appears to have included a broad-based agricultural regime – as expected for the East of England. The Romano-British animal bone assemblage reflected the rearing of livestock, principally cattle and sheep, for meat and secondary products and was broadly synonymous with domestic refuse, probably deriving from the neighbouring villa site. A variety of fuel woods, typical of domestic consumption, was also identified from the Phase 2 environmental samples.

10.5 Encountered Phase 3 (post-medieval) activity was mostly 18th to 19th century in date and, at least in part, appeared associated with the landscaping and use of Bartlow Park. The small animal bone assemblage recovered from Phase 3 features may (tentatively) derive from manuring or mulching practices. Monitoring and recording within the 20th century formal walled garden identified contemporary pathway alignments.

11 DEPOSITION OF THE ARCHIVE

The Cambridgeshire County Archaeology Store will be the depository for the resulting project archive. The archive will be quantified, ordered, indexed, cross-referenced and checked for internal consistency. In addition to the overall site summary, it will be necessary to produce a summary of the artefactual and ecofactual data.

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APPENDIX 1 CONCORDANCE OF FINDS

Feature	Context	Seg.	Description	Spot Date	Pottery	CBM (g)	Animal Bone (g)	Other
	2001		Subsoil	Roman	(8) 141g	14	4	Struck flint (1) - 1g
2003	2004		Pit fill	Roman	(3) 18g	63		Struck flint (1) - 17g Slate - 78g Slag - 1g
		B		18th-19th C	(14) 586g	41	9	Glass (1) - 3g
2009	2010	A	Ditch/ ?quarry fill	Late 3rd to early/ mid 4th C	(141) 1532g	629	159	?Mayen lava - 341g Mussel shell - 1g Oyster shell - 172g Fe. frag (16) - 91g **SF 1** Bone pin - 3g Charcoal - 1g Struck flint (16) - 75g
		B		Late 3rd to 4th C	(48) 600g	217	104	Struck flint (2) - 4g Oyster Shell - 15g Fe. Frag (1) - 27g
	2059	A	Ditch fill	3rd to 4th C	(4) 43g		275	Struck flint (2) - 9g Burnt bone - 10g
		B		4th C	(25) 325g	188		Struck flint (5) - 83g
		D		Mid 3rd to 4th C	(10) 71g	42	337	Oyster Shell - 13g **SF 2** Quern stone - 1042g
	2060	A	Ditch fill	Mid 3rd to 4th C	(8) 76g	100	159	Struck flint (2) - 14g Oyster shell - 25g
		B		2nd to 3rd C	(5) 100g		3	Burnt flint - 20g Struck flint (1) - 1g
2011	2012	A	Gully fill	Roman	(1) 4g	105		Struck flint (1) - 8g
		B		Roman	(1) 13g	547	11	
2013	2014	A	Ditch fill	3rd to 4th C	(6) 151g		43	Struck flint (1) - 28g
		B		4th C	(5) 79g		620	Oyster shell - 23g Struck flint (2) - 141g
	2015		Layer	Mid 4th C	(251) 2642g	791	1239	Burnt flint - 184g Struck flint (54) - 187g ?Mayen lava - 68g Shell - 4g Charcoal - 1g Slag (2) - 20g Oyster shell - 378g Worked stone - 2191g Fe. frags (5) - 51g
		A		Early/ mid 4th C	(644) 4546g	1457	1234	Fe. frags (11) - 120g Slag (8) - 26g
		B		Early/ mid 4th C	(66) 638g	1002	1060	Fe. frag (1) - 15g Oyster shell - 24g Struck flint (2) - 36g
		E		Late 3rd to mid 4th C	(48) 461g	448	134	Struck flint (3) - 8g Oyster shell - 166g Mussel shell - 3g

		F		Mid 3rd to 4th C	(12) 126g			Oyster shell - 17g
2016	2017		Ditch fill	Post-medieval	(19) 212g	266	22	Struck flint (1) - 22g Fe. frag (1) - 29g
2018	2019		Pit fill	Post-medieval	(5) 30g	94		Struck flint (2) - 54g
2023	2024		Linear fill	Post-medieval	(1) 3g			
2025	2026		Linear fill	Post-medieval	(1) 80g			
2029	2030		Linear fill			40		
2037	2038		Pit fill	Post-medieval	(2) 5g	81		Charcoal - 2g Slag (1) - 2g Slate - 2g
2043	2044	A	Pit fill	Late 3rd to 4th C	(239) 1750g	244	460	Fe. frag (1) - 3g Struck flint (3) - 7g Mussel shell - 3g Oyster shell - 120g
		B		Mid 4th C	(108) 854g	336	946	Burnt flint - 84g Oyster shell - 59g Struck flint (5) - 14g
		C		4th C	(34) 367g	263	379	Fe. frag (1) - 25g Struck flint (6) - 173g Slag (1) - 12g Oyster shell - 44g
		D		Late 3rd to 4th C	(41) 483g		644	Fe. frag (2) - 24g Oyster shell - 64g ?Mayen lava - 14g Struck flint (2) - 10g
		E		Late 3rd to 4th C	(17) 107g		76	Charcoal - 1g
	2072		Pit fill	Roman	(8) 68g		2	Struck flint (1) - 14g
		C		Mid 3rd to 4th C	(25) 344g	96		Fe. frag (1) - 8g Oyster shell - 38g Plaster - 45g Struck flint (3) - 24g
		D		Late 3rd to 4th C	(6) 67g		122	Burnt flint - 20g Fe. frags (2) - 12g Oyster shell - 32g
	2073	C						Burnt flint - 36g
2045	2046		Pit fill					Struck flint (18) - 85g Burnt flint - 121g
2047	2048		Hollow fill	3rd to 4th C	(15) 253g	14	30	Struck flint (1) - 9g Oyster shell - 25g Fe. frag (1) - 12g
2050	2051		Ditch fill	Mid 2nd to mid 3rd C	(8) 469g		12	Struck flint (2) - 16g Oyster shell - 22g Fe. frag (1) - 8g
		B		Roman	(6) 40g	10	22	Burnt stone - 12g Oyster shell - 62g Struck flint (8) - 60g
		C		3rd C	(13) 61g		73	Slag (1) - 9g Struck flint (4) - 30g
2052	2053		Gully fill					Charcoal - 2g Fe. frag (1) - 11g Slate - 1g
		B					2	Struck flint (3) - 12g

2054	2055		Pit fill	Late 3rd to 4th C	(58) 528g	31	356	Burnt flint - 23g Fe. frags (2) - 51g Oyster shell - 150g Struck flint (2) - 12g
2056	2057		Pit fill	Post-medieval	(2) 3g			Struck flint (3) - 27g
2062	2063		Pit fill	Post-medieval	(2) 11g			Slag (4) - 4g Struck flint (2) - 3g
2064	2065		Pit fill	Post-medieval	(6) 11g			
2066	2067		Pit fill	Post-medieval	(2) 2g			
2074	2075		Pit fill	Post-medieval	(1) 23g		5	Slag (3) - 1g
2076	2077		Posthole fill					Charcoal - 3g
2079	2080		Pit fill	Mid 3rd to 4th C	(6) 45g		23	Worked stone (3) - 9123g
	2081		Pit fill	Mid 2nd to mid 4th C	(5) 163g			
2086	2088	A	Pit fill	Mid 3rd to 4th C	(35) 210g	188	244	Struck flint (2) - 32g Oyster shell - 116g Fe. Frags (2) - 32g
		B	Pit fill	Mid 1st to 2nd C	(7) 63g			Oyster shell - 24g Struck flint (10) - 93g
	2089	A	Pit fill	4th C	(40) 329g	292	424	Oyster shell - 36g
	2089	B	Pit fill	Roman	(2) 18g			Struck flint (4) - 14g
	2090		Layer	Late 3rd to 4th C	(43) 632g		186	Mussel shell - 4g Oyster shell - 3g Worked stone - 721g
2091	2092		Pit fill	Late 3rd to 4th C	(40) 647g	139	224	Fe. frag (1) - 17g Oyster shell - 15g
2093	2094		Pit fill	Late 3rd to 4th C	(6) 200g		18	Worked stone (2) - 3249g
	2095		Pit fill	Late 3rd to 4th C	(16) 280g	40	288	Oyster shell - 15g
	2096		Pit fill	Roman	(3) 29g		9	Struck flint (1) - 2g
2097	2098		Pit fill	Roman	(6) 113g	61		
2101	2102		Pit fill	Post-medieval	(2) 8g			
2105	2106		Pit fill	Late 3rd to 4th C	(6) 34g		40	Oyster shell - 10g
2113	2114		Linear fill					Clay pipe stem (1) - 5g
2117	2118		Pit fill					Struck flint (1) - 11g
2123	2125		Pit fill					Struck flint (1) - 8g
2126	2127		Ditch fill	Mid 3rd to mid 4th C	(13) 196g	535	555	Oyster shell - 70g Slag (2) - 6g Struck flint (2) - 12g
		A					10	Burnt flint - 49g Struck flint (1) - 14g
		B		Mid 2nd to 4th C	(2) 16g		688	Oyster shell - 15g
		C					276	Fired clay - 1g
2128	2129		Pit fill	Post-medieval	(3) 14g			Charcoal - 2g Fe. frags (2) - 43g Glass (1) - 1g Struck flint (3) - 9g
2130	2131		Well fill	Late 2nd to early 3rd C	(24) 276g	360	63g	Oyster shell - 27 Struck flint (2) - 3g
	2132		Well fill	Mid 2nd to 3rd C	(8) 158g		9	Oyster shell - 17g

	2133		Well fill	Late 3rd to 4th C	(21) 284g	386	58	Fe. frag (1) - 5g Oyster shell - 70g ?Mayen lava - 331g Struck flint (2) - 20g
2135	2136	A B C	Gully fill	4th C Late 3rd to 4th C	(11) 56g (4) 30g	2	110 115	Slag (1) - 1g Struck flint (2) - 3g Oyster shell - 18g
2137	2138	A B C	Gully fill	Roman 4th C Roman	(1) 3g (23) 143g (3) 55g			Struck flint (4) - 28g Struck flint (2) - 9g
2139	2140	A B C	Gully fill	Roman Roman 2nd to 3rd C	(2) 10g (1) 39g (10) 148g	 15	 27 4	 Fe. frag (1) - 12g Oyster shell - 2
	2143	 A	Layer	Post-medieval Late 3rd to mid 4th C	(7) 86g (32) 399g	875	294	 Cu. alloy frag (1) - 2g Oyster shell - 141g ?Mayen lava - 3g Slag (4) - 7g Struck flint (6) - 56g
2145	2146		Ditch fill	Roman	(3) 13g	37	223	
2149	2150	 A B	Gully fill	Post-medieval Mid 3rd to 4th C Roman	(12) 64g (4) 6g (3) 24g	91	20 1	Oyster shell - 2g Struck flint (2) - 8g Oyster shell - 17g Struck flint (1) - 13g
	2153	 A B C	Layer	Late 3rd to 4th C 3rd to 4th C 2nd to Late 3rd C	(8) 122g (4) 21g (5) 48g		 156	Burnt flint - 163 Struck flint (27) - 162g Burnt flint - 4g Oyster shell - 14g Struck flint (3) - 36g Struck flint (4) - 21g Struck flint (4) - 22g
2155	2156			Post-medieval	(5) 28g			Slate - 4g
	U/S			Mid 1st to 3rd C	(4) 199g	82		Struck flint (15) - 201g

APPENDIX 2 SPECIALIST REPORTS

The Roman Pottery
Andrew Peachey

Excavations recovered a total of 2281 sherds (22124g) of Roman pottery and 68 sherds (1049g) of post-medieval pottery (Table 8). The Roman pottery appears to entirely date to the late Roman period, within the late 3rd to 4th centuries AD. However only sparse sherds appear to originate in the 3rd century AD and the bulk of the Roman pottery assemblage including three substantial diagnostic groups in a ditch, a pit and an occupation layer appear to date to the early to mid 4th century AD.

The assemblage is dominated by products of the Horningsea pottery industry, notably bead-and-flange rim dishes but these are supplemented by a range of regional imports, in particular fine oxidised wares and mortaria from Hadham (Hertfordshire), mortaria from Oxfordshire, Mancetter-Hartshill (Warks.) and the Lower Nene Valley. Other late Roman imports include amphorae from Gaul and Baetica, as well as rare black-burnished ware 1 from Dorset and fine black-slipped ware (Moselkeramik) from Trier. The assemblage is well-preserved with a relatively low degree of abrasion, albeit with a higher degree of fragmentation. The combination of fabric and form types, discrete pottery groups and preservation suggest the pottery assemblage was deposited as refuse from a substantial domestic setting in the immediate vicinity, probably closely adjacent to the site.

The post-medieval pottery dates to the late 18th to 19th centuries and is predominantly comprised of un-glazed red earthen wares, with English stone ware and willow-pattern white earthen ware also present. Beyond the dating of features, the post-medieval pottery has limited analytical value and is not discussed further.

Methodology

The pottery was quantified by sherd count and weight (g), with fabrics analysed at x20 magnification, and all data entered into a Microsoft Excel spreadsheet that forms part of the site archive. Samian ware forms reference Webster (1996). For the purposes of brevity, references to the form type series for the Horningsea kilns (Evans et al *forthcoming*), the Lower Nene Valley (Perrin 1999) and Colchester (Symonds and Wade 1999) have been abbreviated to *Horningsea*, *Perrin and Cam.* respectively. The pottery fabrics are described, below, and quantified (Table 8).

Fabric Descriptions

Samian ware and fine ware

LEZ SA2	Lezoux samian ware 2 (Tomber and Dore 1998, 32)
RHZ SA	Rheinzabern samian ware (Tomber and Dore 1998, 43)
TRI SA	Trier samian ware (Tomber and Dore 1998, 41)
MOS BS	Moselkeramik Black-slipped ware (Tomber and Dore 1998, 60)
LNV CC	Lower Nene Valley colour-coated ware (Tomber and Dore 1998, 118)
HAD OX	Hadham oxidised ware (Tomber and Dore 1998, 151)
OXF RS	Oxfordshire red-slipped ware (Tomber and Dore 1998, 177)

OXF1	Fine oxidised ware 1. Mid red-orange surfaces over a slightly darker core, with inclusions of common fine quartz (<0.1mm), sparse fine mica, and sparse red and white clay pellets (0.25-2.5mm). Probably a Lower Nene Valley product

Coarse ware

HOR RE	Horningsea reduced ware (Tomber and Dore 1998, 116; Evans 1991, 35). Mid to dark grey surfaces with a reduced mid-grey core and sometimes oxidised margins. Inclusions comprise common quartz (0.1-0.5mm) with sparse limestone and grog/ironstone (generally <2mm) and occasional flint (0.5-5mm)
HOR OX	Horningsea oxidised ware (Tomber and Dore 1998, 116; Evans 1991, 35). Mid-dark orange surfaces contrasting with a mid-orange or grey core. Inclusions comprise common quartz (0.1-0.5mm) with sparse limestone and grog/ironstone (generally <2mm) and occasional flint (0.5-5mm)
HOR BS	Horningsea black-surfaced-ware (Evans forthcoming: R04),black-slipped variant of HOR RE, typically imitating black-burnished ware forms
GRS1	Sandy grey ware 1. Mid grey surfaces over a lighter/pale grey core. Inclusions comprise common quartz (0.1-0.25mm), sparse fine mica and sparse black iron rich grains (0.25-1.5mm). A hard fabric with a slightly abrasive to smooth feel.
ROB SH	Romano-British shell-tempered ware (Tomber and Dore 1998, 212), wheel-made with common, moderately sorted shell (0.5-3mm)
LNV WH	Lower Nene Valley white ware (Tomber and Dore 1998, 119)
DOR BB1	(South-east) Dorset Black-burnished ware 1 (Tomber and Dore 1998, 127)
OXF WS	Oxfordshire white-slipped ware (Tomber and Dore 1998, 176)

Mortaria

OXF WH (M)	Oxfordshire white ware mortaria (Tomber and Dore 1998, 176)
HAD OX (M)	Hadham oxidised ware mortaria (Tomber and Dore 1998, 151)
LNV WH (M)	Lower Nene Valley white ware mortaria (Tomber and Dore 1998, 119)
MAH WH (M)	Mancetter-Hartshill white ware mortaria (Tomber and Dore 1998, 190)

Amphora and transport vessels

BAT AM2	Baetican (Late) amphorae 2 (Tomber and Dore 1998, 85)
GAL AM1	Gaulish amphorae 1 (Williams 2005; Tomber and Dore 1998, 93)
STOR	Storage Jar fabric 1. Mid orange-brown surfaces fading to a thick dark grey core. Inclusions comprise common angular grog - reduced in the core/oxidised on the surfaces (0.25-2.5mm), quartz (0.1-0.25mm) and sparse-occasional chalk (0.5-4mm). A hard fabric with a slightly soapy feel.

Distribution

The distribution of pottery across the site demonstrates a strong bias, including three major concentrations, four smaller groups and a sparse distribution in other features (Table 9). In line with the total assemblage, the three main groups: Layer L2015, Quarry Pit F2043 and Ditch/ possible Quarry Feature F2009 are dominated by Horningsea fabrics (HOR RE, HOR BS and HOR OX), in particular represented by a plethora of bead and flange rim dishes (*Horningsea* B6.1), supplemented by common shallow plain rim 'dog' dishes (*Horningsea* D1.1) and fragmentary everted bead rim jars, with other Horningsea form types rare. The composition of these groups is summarised below, however, although no cross-joins were identified between vessels it appears numerous individual vessels may represented in more than one group, notably between Layer L2015 and Ditch/ possible Quarry Feature F2009. This suggests that a single episode or event of deposition, possibly connected with the abandonment or re-development of a building may be

responsible for the bulk of the assemblage, thus explaining the apparently narrow chronological range of the Roman pottery.

Fabric	Sherd Count	Weight (g)	R.EVE
LEZ SA2	5	35	0.00
RHZ SA2	5	49	0.10
TRI SA2	8	68	0.10
MOS BS	4	9	0.00
LNV CC	75	587	0.47
HAD OX	311	1819	0.85
OXF RS	5	30	0.00
OXF1	7	71	0.00
HOR RE	995	8546	5.79
HOR OX	136	1606	0.25
HOR BS	329	3343	4.22
GRS1	210	1788	0.1
ROB SH	97	910	0.70
LNV WH	12	95	0.10
DOR BB1	3	74	0.15
OXF WS	1	49	0.15
OXF WH (M)	6	176	0.12
HAD OX (M)	2	78	0.12
LNV WH (M)	3	111	0.15
MAH WH (M)	4	138	0.10
BAT AM2	6	504	0.50
GAL AM1	1	145	0.10
STOR	56	1893	0.05
Post-medieval	68	1049	n/a
Total	*2349*	*23173*	*14.3*

Table 8: Quantification of pottery

Feature Group	No. of features	Sherd Count	Weight (g)	R.EVE
Layer L2015	1	1021	8413	5.39
Quarry Pit F2043	1	478	4040	2.69
Ditch/ possible Quarry Feature F2009	1	241	2747	1.95
Well F2130	1	53	718	0.25
Pit F2054	1	58	528	0.40
Pit F2091	1	40	647	0.45
Buried Soil Layer L2090	1	43	632	0.45
Other Ditches/ Gullies	12	154	1964	0.90
Other Pits	15	99	1656	0.92
Other Layers	5	150	1488	0.80
Un-stratified	n/a	12	340	0.10
Total		*2349*	*23173*	*14.3*

Table 9: Distribution of pottery in feature groups

In addition to the common Horningsea ware form types, Layer L2015 also included a HOR RE jar with a down-turned bead rim (*Horningsea* J6.2) and a HOR BS dish with a bead rim (*Horningsea* B5.1), form types that declined in the mid 4th century AD. Other common fabrics in the group were GRS1, ROB SH, STOR, LNV CC, HAD OX, with rare sherds of MOS BS, DOR BB1, OXF RS, LNV WH, east Gaulish samian ware (RHZ SA & TRI SA) and OXF WH (M). The samian ware, including a TRI SA cup (O&P LV13) and RHZ SA bowl (Dr.31), as well as the MOS BS and DOR BB1 were unlikely to have been imported much after the mid 3rd century AD but may have

remained in circulation; while a HAD OX handled beaker, heavily worn OXF WH (M) mortaria and the OXF RS are indicative of a date in the 4th century AD. The latest vessel in the group comprises an LNV CC flagon with a bead rim and ring-neck, typically associated with the mid 4th century AD or later (*Perrin* 193), while an LNV CC Castor box and beaker, and ROB SH jars with drooping triangular bead rims are also typical of the late Roman period in the region. Therefore the formation of the layer would appear to be consistent with pottery deposited in the second quarter of the 4th century AD or shortly after.

The bulk of the pottery in Quarry Pit F2043 is broadly consistent with a late 3rd to 4th century AD date, but crucially includes fragments of a GRS1 bowl with Romano-Saxon decoration, comprised of circular bosses and inscribed/burnished oblique lines. This vessel was probably produced at Hadham, which also produced the HAD OX common in this group. It was also the source of the HAD OX (M), which includes a wall-sided mortaria with a devolved bat-shaped spout, typical of the 4th century AD. Other mortaria in the group include LNV WH (M) and OXF WH (M), while other fabrics present include ROB SH, STOR, LNV WH and rare MOS BS, suggesting a date contemporary with Layer L2015.

The Roman pottery in Ditch/ possible Quarry Feature F2009 was principally distributed in L2010 Seg.A, with lesser quantities elsewhere in L2010, and in L2059 and L2060. Ditch/ possible Quarry Feature F2009 contained a HOR BS jar with a down-turned bead rim (*Horningsea* J6.2), which declined in the mid 4th century AD, in addition to a lid-seated jar and narrow neck jar (*Horningsea* J4.1 and CJ1.4). Other non-Horningsea fabrics common in the group included GRS1 and HAD OX, with the latter including a s-profile bowl and an everted bifid-frilled rim, probably from a face-pot, while LNV CC, ROB SH, DOR BB1, OXF RS1 and BAT AM2 occur as rare sherds. The DOR BB1 may be part of the same dish that is in Layer L2015. Closely comparable to Layer L2015, this combination of fabric and form types indicated a date in the first half of the 4th century AD.

The diagnostic forms in the minor Roman pottery groups: Well F2130, Pits F2054, F2091 and Buried Soil Layer L2090 are very limited, clearly post-date the late 3rd century AD and not conflicting with the chronology of the major groups, although Well F2130 (L2132) contained a LNV WH jar with a lid-seated rim (*Perrin* 319) that is more typical of the 2nd to early 3rd centuries, possibly indicating the lifespan of the well. The remaining features include isolated vessels of intrinsic interest, which are discussed below, by fabric group.

Commentary by Fabric Group

Imported fabrics

Continental imports to the site comprise low quantities of samian ware from central Gaul (LEZ SA2), samian ware and fine ware from east Gaul (RHZ SA, TRI SA and MOS BS), and amphora from Gaul (GAL AM1) and Baetica (BAT AM2). The import of LEZ SA2 to Britain declined and ceased by the end of the 2nd century AD, and the sparse, small non-diagnostic body sherds of this fabric have survived into the 3rd century AD, and represent some of the earliest pottery in this assemblage, albeit probably residual. In contrast the east Gaulish samian ware industries did not

decline until the mid 3rd century AD, and it appears highly likely that the RHZ SA shallow bowl (Dr.31) and TRI SA cup with a hooked rim (O&P LV13) in Layer L2015, and the RHZ SA conical cup (Dr.33) in Gully F2135 represent vessels that survived in circulation and use from the mid to late 3rd century AD, and became contemporary with occupation on the site, possibly even into the 4th century AD. Similar to the east Gaulish samian ware, the import of MOS BS, also probably produced at Trier, declined in the latter half of the mid 3rd century AD and a similar survival pattern may be assumed for the glossy black drinking vessels in this fine ware. No diagnostic rim or large body sherds of MOS BS were recorded, but the small body sherds all appear derived from beakers with indented bodies and rouletted band decoration (Symonds 1992, 49: groups 32-5), characteristic of 3rd century AD production at Trier.

Other continental imports to the site were limited to rare sherds of amphorae, none of which would have been imported after the 3rd century AD, but amphorae often had secondary uses and 'life-cycles' following their primary use as transport containers. Ditch F2050 contained a triangular rim with a slight internal ledge of a Dressel 20 amphora from Baetica, southern Spain (BAT AM2) that would originally have been used to transport olive oil. Further BAT AM2 body sherds, probably from the same vessel, were contained in Ditch/ possible Quarry Feature F2009 (L2060 Seg.B). The remaining amphorae comprised the well-preserved bead rim, short curved neck and strap handle stump of a Gauloise 4 amphorae (GAL AM1) amphorae, recovered as un-stratified material. This type of amphorae was produced in the Narbonne region before being used to transport wine, and has a relatively common distribution in Roman Britiain until the end of the 3rd century AD, including at Cambridge (Pullinger 1999, 113), where BAT AM2 was the most common type.

Horningsea Fabrics

The single largest fabric group, accounting for *c*.62% of the assemblage by sherd count (*c*.58% by weight) may be regarded as the coarse ware products of the Horningsea kilns (HOR RE, HOR OX & HOR BS), which are situated *c*.20km to the north. Of the related Horningsea fabrics HOR RE accounts for the bulk (Table 8) with HOR BS over represented by diagnostic rim sherds (R.EVE), suggesting the slip may have been abraded and removed from some body sherds. HOR OX has only a sparse presence, largely accounted for by body sherds from storage jars, often with combed decoration, and in contrast to the range of forms common in HOR RE and HOR BS. The predominance of the Horningsea coarse ware in the assemblage is also evident in all the substantive groups from individual features, although there is a clear bias in the form types deposited (Table 10). By R.EVE quantification, bead and flange rim dishes (*Horningsea* B6.1) are twice as common as jars with everted bead rims, a miscellaneous category that may mask several form types. This type of dish does not develop until the late 3rd century AD, continuing to the end of Roman occupation, therefore as a near ubiquitous diagnostic component in the assemblage is a crucial chronological marker. The bulk of the bead and flange dished are burnished with closely comparable rim profiles in a similar size range with rim diameters, typically between 16 and 24cm, and only occasionally larger or smaller. Due to the parallels between individual vessels and the fragmentation in the major pottery groups, it appears likely the quantification over-estimates the number of this

for and others, with non-cross-joining rim sherds form individual vessels occurring in different deposits.

Form Type	Form Description	*Horningsea* form type	Fabric type by R.EVE (MNV)		
			HOR RE	HOR OX	HOR BS
Dish	Bead and flange rim	B6.1	2.12 (18)	0.15 (1)	2.37 (22)
Dish	Shallow, plain rim	D1.1	0.15 (2)		1.25 (17)
Dish	Bead rim	B5.1	0.25 (2)		0.15 (1)
Bowl	Flanged rim, carinated body	B3.4	0.35 (1)		
Jar	Angluar lid-seated	J4.1	0.25 (2)		0.05 (1)
Jar	Down-turned bead rim	J6.2	0.25 (2)		0.10 (1)
Jar	Down-turned, bifid rim	J2.2		0.10 (1)	
Jar	Narrow-necked, bead rim	CJ1.4	0.15 (1)		0.20 (1)
Jar	Everted plain rim, miscellaneous	n/a	2.20 (16)		0.10 (1)
Storage Jar	Strongly everted plain rim	SJ1.1	0.07 (1)		
Total			*5.79 (45)*	*0.25 (2)*	*4.22 (44)*

Table 10: Form types in Horningsea fabrics, quantified by R.EVE and minimum number of vessels (MNV)

Also common are shallow plain rim 'dog' dishes (*Horningsea* D1.1), particularly in HOR BS, probably representing the attempts of the industry to copy black-burnished ware forms (i.e. DOR BB1). The same may be said of bead rim dishes (*Horningsea* B5.1) in HOR RE and HOR BS, which tend to have robust, thick rounded beads that are closely comparable to black-burnished ware types. The low quantities of bead rim dishes and other bowl types (*Horningsea* B3.4) is pertinent as these types declined in the late 3rd century AD as they were superseded by bead and flange rim dishes, and had all but disappeared by the mid 4th century AD, as in this assemblage.

The degree of fragmentation has limited the definition of jar types in the assemblage, with two types clearly present, but probably in lesser numbers to the miscellaneous types clearly present only as everted bead rims without any body sherds to define profile, cordons or decoration. Nevertheless, the jars, mainly in HOR RE are notable for including a type with a down-turned bead rim (*Horningsea* J6.2), which declines in the mid 4th century AD, while isolated examples of a narrow neck jar and a bifid rim jar (Horningsea CJ1.4 and J2.2) confirm the cessation of their production after the 3rd century AD. The remaining jar types, including the lid-seated type (Horningsea J4.1) remain common through the 4th century AD. Only a single HOR RE storage jar was identified, and although body sherds indicate the presence of several further examples, the presence of the relatively common STOR fabric in the assemblage suggests that the characteristic Horningsea storage jars were in competition with vessels from another source (possibly Essex) during this period.

Other coarse ware and storage jar fabrics

Of the coarse wares produced by other industries, only GRS1 and ROB SH have a consistent presence in the assemblage. The sandy grey wares (GRS1) represent the products of several industries within the region, including kilns in and around Cambridge and at Hadham, with the latter probably arriving with the fine oxidised wares and mortaria from the same industry. ROB SH is known to have been produced at Harrold, Bedfordshire, and probably in the Lower Nene Valley.

Diagnostic sherds in these fabrics are limited, with GRS1 including two bead rim dishes, with one example in Layer L2153 that exhibits burnished lattice decoration (i.e. *Cam*.37/38A) and a quartz petrology that suggests Colchester/Essex as a possible source. The most notable GRS1 vessel was contained in Quarry Pit F2043 and comprises a body sherd of a bowl with 'Romano-Saxon' decoration that includes a circular boss and oblique incised/burnished lines. This type of vessel would have been produced between the mid 4th and early 5th centuries AD with the fabric suggesting Hadham as a probable source (Tomber and Dore 1998: HAD RE2) comparable to vessels at Wimpole (Lucas 1994: fig.15.61), although similar slightly coarser vessels are known to have been produced in Norfolk and Essex. The ROB SH vessles have a more consistent presence, typical of late Roman assemblage in the region and entirely comprised of jars. These vessels include a single lid-seated vessel (*Perrin* 467) in Quarry Pit F2043, with six other jars with drooping triangular bead rims, including four examples from Layer L2015. This type of jar was produced throughout the later Roman period, but was particularly common in the mid 4th to early 5th century AD kiln deposits at Harrold (Brown 1994, 77) where a consistency in size was noted, evident here with rim diameters between 18 and 22 cm. The general lack of other ROB SH vessels and the consistency in size may suggest these vessels travelled as containers of a particular product, with the late Roman jars also common at Wimpole (Lucas 1994, 53) and Cambridge (Hull and Pullinger 1999, 142).

The remaining coarse wares comprise low quantities or regionally imported vessels, principally LNV WH, but also including DOR BB1 and OXF WS. The LNV WH and OXF WS include jar types that are anomalous against the backdrop of the total assemblage, with Well F2130 containing a LNV WH lid-seated variant (*Perrin* 319) typical of the 3rd century AD, and Ditch F2013 containing an OXF WS jar with a grooved rim (Young 2000: type P8.4) characteristic of the 4th century AD. Both fabrics were imported with other fabric and vessel types from their respective industries, including fine colour-coated ware and mortaria, in contrast to DOR BB1, which is represented by dish fragments in Ditch/ possible Quarry Feature F2009 and Layer L2015. The dish is shallow with a plain rim, at least one handle and with burnished intersecting arcs on the exterior (*Cam*.39A), comparable to types that decline at the end of the 3rd century AD, suggesting that like the continental imports this outlier fabric from Dorset may be a vessel that survived in use into the 4th century AD.

In addition to the imported amphorae, the heavily grog-tempered storage jar fabric (STOR) has a consistent presence in the assemblage, occurring in all the substantive feature groups, especially Layer L2015. The STOR in Layer L2015 included a thick 'golf club' rim of a storage jar (Cam.273), a form type that persisted throughout the Roman period but is particularly common Essex, including at Chelmsford and Colchester, but not at Cambridge where the characteristic Horningsea storage jars are more common (Hull and Pullinger 1999), suggesting that Bartlow was drawing on the supply of a staple product from the south-east in Essex as well as from the Fen-edge.

Regional fine wares

The fine wares are dominated by the highly burnished red-orange HAD OX, manufactured in the area of Much Hadham, Hertfordshire c.30km to the south in the 3rd to 4th centuries AD. The range of form types is dominated by s-profile bowls (*Cam*.299), but includes a range of beakers, samina ware imitation vessels and a possible face-pot. The handled beaker with a cordoned rim (*Cam*.124) contained in Layer L2015 is particularly notable as it was not produced after the mid 4th century AD, while a dish imitating samian form Dr.36 (*Cam*.317) is comparable to mid to late 4th century AD example at Wimpole (Lucas 1994, 53: fig.14.43). A second samian imitation vessel, a semi-hemispherical bowl comparable to Dr.38 (*Cam*.316) was contained in secondary Pit Fill L2089 (Seg.A) (F2086), while a bifid, frilled rim in Ditch/ possible Quarry Feature F2009 (L2060) suggests the presence of a face pot although further decorative sherds were absent.

The second major source of fine wares was the Lower Nene Valley, c.70km to the north-west, although these were not as common as may be expected, possibly reflecting the chronology of the site and/or the proximity of the Hadham industry. Form types present are typical of the late 3rd to 4th century AD repertoire of the industry, including shallow plain rim dishes (*Perrin* 233-4) and body sherds from beakers with rouletted and white-painted decoration. The vessels in Layer L2025 are of intrinsic interest, including a flagon with a bead rim and single neck ring (*Perrin* 193), which is one of the latest defined products of the industry, not pre-dating the mid 4th century AD, in association with a roulette decorated Castor box and lid (i.e. *Perrin* 206, 213). The remaining fine wares are limited to isolated body sherds, with OXF RS appearing to represent beakers, and OXF1 possibly a flagon of Lower Nene Valley origin, but both are consistent with kilns functioning in the 4th century AD.

Mortaria

The mortaria are principally comprised of vessels that may have been imported alongside fine wares from the major late Roman industries in Oxfordshire (OXF WH (M)), Hadham (HAD OX (M)) and the Lower Nene Valley (LNV WH (M)), potentially in that order although quantities are insufficient for meaningful statistical comparison. This pattern of supply closely mirrors that observed for mortaria in the 4th century AD at Cambridge (Hartley 1999, 201). However a single vessel from Mancetter-Hartshill (MAH WS (M)) in the west Midlands is of particular interest. Although the kilns at Mancetter-Hartshill produced a range of pottery for local consumption, they are principally known as specialist mortaria kilns with their vessels achieving a sparse distribution across Roman Britain, including a minor supporting role in supplying Cambridge (Hartley 1999, 201). Cross-joining sherds from a single MAH WS (M) mortarium were contained in Pits F2093 and F2097. The mortarium has a hammer head rim comparable to an example from Lincoln (Darling and Hartley 1999, 110: fig.43.567) and the very hard fabric is heavily worn with few trituration grits left intact. The fabric and form type are indicative of a 3rd century AD date, but such heavy wear of a vessel that is noticeably harder than the other mortaria in the assemblage suggests it is quite plausible it remained in use into the 4th century AD.

The consumption of mortaria on the site clearly required vessels of high quality, as in addition to the strikingly hard, white MAH WS (M), the mortaria in OXF WH (M) and HAD OX (M) exhibit forms of decoration, suggesting they were used to serve at table as well as for processing food-stuffs and sauces. OXF WH (M) is present as moderately worn mortaria with an upright bead and undercut flange (Young 2000: type M6) in Layer L2015, and with a squat, grooved flange (Young 2000: type M22.14) in Pit Fill L2089 (Seg.A) (F2086) comparable to 4th century mortaria from Cambridge (Hartley 1999, 205: vessels 73-7). The former has red painted lines over the flange, while the latter has extensive red-painted hoops over the rim and exterior of the upper body, both techniques known but not standard on these mortaria types. The HAD OX (M) wall-sided mortaria contained in Quarry Pit F2043 was decorated with a devolved lion or bat spout in imitation of samian form Dr.45 and is a distinctly 4th century AD form type. Comparable vessels have been recorded at Colchester (Symonds and Wade 1999: fig.4.20.3) and were also produced by the Oxfordshire industry (Young 2000: type C97), and in all cases the decorative nature of the spout is evident as in contrast to the samian ware antecedent there is no perforation in the wall of the mortaria to allow the spout to function. The remaining mortaria comprise LNV WH (M) reed-rimmed types with a slightly in-turned bead (*Perrin* M38) in Quarry Pit F2043 and Layer L2090, typical of late 3rd to 4th century AD types and the most common mortaria in the region in the later Roman period, including at Cambridge (Hartley 1999: plate CXLII).

Discussion

The distribution of Roman pottery combined with the supply of form and fabric types to the focus of occupation that deposited it, give the assemblage a quite singular character that appears to result from the rapid disposal of domestic material in the early to mid 4th century AD. Three principal concentrations of Roman pottery were recovered from the potentially inter-related Layer L2015, Quarry Pit F2043 and Ditch/ possible Quarry Feature F2009, accounting for the bulk of the assemblage and conforming to a rigid model that suggests moderate to high status consumption with a focus on 'table ware' vessels that would be consistent with the presence of substantial domestic occupation.

The primary supplier to the site was the Horningsea industry, which supplied high proportions of bead-and-flange rim and shallow plain rim 'dog' dishes to the site alongside common jars, occasional bowls and storage jars. Supplementing the Horningsea industry an important supplier to site also appears to be the Hadham kilns, which produced the most common fine ware on the site, as well as mortaria and further reduced wares, probably including a bowl with 'Romano-Saxon' decoration. In addition to the highly burnished orange-red Hadham fine wares, further fine colour-coated vessels, mainly beakers but including flagons, a Castor box and lid, arrived from the Lower Nene Valley, Oxfordshire and from east Gaul, notably Trier. Evidence for the quality of living of the occupants is enhanced by the presence of a range of mortaria, including decorated examples, as well as by the presence of a wine amphora from Gaul, alongside the more common olive oil amphorae from Baetica, southern Spain. The converging chronologies of the vessel types in the assemblage suggest a date in the early to mid 4th century AD, with several vessel types appearing to represent survivals from the late 3rd century,

suggesting the accumulation of a substantial suite of domestic pottery followed by a rapid single episode of deposition.

This pattern of supply and consumption is closely comparable to 4th century AD pottery groups recorded at Cambridge (Hull and Pullinger 1999) and Great Chesterford (Miller 1995, 40-41), both associated with urban settings, while the assemblage from the ribbon settlement on Ermine Street at Wimpole (Lucas 1994) also contains many close parallels. It has previously been observed that in northern Cambridgeshire the divide between urban and rural assemblages may be obscured with very high levels of table ware apparent, possibly because the close proximity of a pottery industry allowed the market to be saturated at low cost (Evans 2001, 30-31). A similar phenomenon may be observed at Bartlow, with the burnished Horningsea coarse ware bead-and-flange rim dishes taking the place of the colour-coated ware in north Cambridgeshire. However the presence of numerous regional imports, notably fine ware, mortaria and amphorae serves to highlight that the settlement at Bartlow comprised an economically affluent node in the network of Roman occupation to the south of the Fens, benefiting from easy access to road and river trade networks, closely linked to urban centres such as Cambridge and Great Chesterford nearby.

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The Ceramic Building Materials
Andrew Peachey

Excavations recovered a total of 89 fragments (9201g) of Roman CBM, 15 fragments (564g) of Roman opus signinum, plaster and daub, and three fragments (442g) of post-Roman CBM (Table 11). The Roman CBM is generally in a substantially fragmented and moderately abraded condition, and probably represents debris scattered from the construction, re-development or demolition of a major structure such as a villa in the near vicinity.

Methodology

The CBM was quantified by fragment count and weight with fabrics examined at x20 magnification and all data entered into a Microsoft Excel spreadsheet that will be deposited as part of the archive. Roman CBM forms were identified using the conventions defined by Brodribb (1987).

CBM type	Fragment Count	Weight (g)
Roman CBM		
Tegula roof tile	59	3506
Imbrex roof tile	3	505
Bessalis brick	16	4737
Box flue tile	3	386
Miscellaneous	8	67
Opus Signinum/Plaster	5	110
Daub	10	454
Post-Medieval & Modern CBM	3	442
Total	*107*	*10207*

Table 11: Quantification of CBM by fragment count and weight (grams)

Roman CBM fabric descriptions

Three fabric types were recorded in the Roman CBM assemblage, with Fabric 1 accounting for almost the entirety of the assemblage (Table 12) and probably representing the products of a local kiln that was operated during and for the construction of the villa or other building constructed in the vicinity. Fabric 2 is limited to low quantities of box flue tile, and may represent the work of a specialised producer, while the shell-tempered Fabric 3 was probably produced at the Harrold kilns in Bedfordshire (Brown 1994, 79-83) and may have been imported with shell-tempered pottery vessels to the site, possibly to facilitate repairs. The three fabrics can be described as:

Fabric 1 Orange to orange-red, with inclusions of common to abundant fine quartz (<0.2mm), sparse to common fine mica, and sparse red/cream rounded clay pellets (0.25-0.75mm). A hard fabric with a smooth to slightly powdery feel.

Fabric 2 Red-brown surfaces fading to a thin grey core. Inclusions comprise abundant fine quartz (<0.1mm) with sparse polycrystaline grains (<0.5mm), common fine mica and sparse red clay pellets (<1mm or present as streaks)

Fabric 3 Red-brown surfaces fading to a grey core, with inclusions of common-abundant plate-like shell.

Fabric Group	Tegula Roof tile		Other Roman Tile		Roman Brick		*Total*	
	F	W	F	W	F	W	*F*	*W*
Fabric 1	59	3506	10	541	16	4737	*85*	*8784*
Fabric 2			3	386			*3*	*386*
Fabric 3			1	31			*1*	*31*
Total	*59*	*3506*	*14*	*958*	*16*	*4737*	*89*	*9201*

Table 12: Quantification of Roman CBM fabric types

Discussion

Roman CBM is only present in limited quantities on the site, highlighted by the two minor concentrations in Occupation Layer L2015 (33 fragments, 3698g) and Pit F2043 (19 fragments, 939g), both of which amount to significantly less than the pottery recovered from the respective features.

The Roman CBM is dominated by Fabric 1 tegula roof tile and bessalis brick, but these form types are only present in a very partial state. The tegula are typically 20mm thick, with a relatively narrow flange that has a slightly curved internal slope, above a single or double finger-inscribed groove on the body of the tile. Of the tegula fragments in the assemblage, only eleven had an extant flange, all of which

were contained in either Occupation Layer L2015 or Pit F2043. The tegula would have been overlain by the rare fragments of imbrex to interlock and form the roof of a building, with a small imbrex fragment in Fabric 3 contained in Pit F2054 (L2055) suggesting the repair or embellishment of a roof formed of other-wise locally-manufactured components.

The bessalis bricks in the assemblage vary between 35 to 40mm thick, and may have been used to form the pilae of hypocaust heating systems or to form bonding courses in walls. One bessalis fragment in Ditch F2126 (L2127) exhibits sooting around its sides, but not its upper or lower surfaces, indicating the former function was probably present. A hypocaust heating system would also have needed to use the Fabric 2 box flue tile, entirely contained in Well F2130 (L2133). The variation in fabric may indicate these more fragile tiles were entrusted to a specialist craftsman at another location, or that greater care was taken in clay preparation to reduce the degree of breakage. Box flue tile would have channelled hot air through the walls of a building, concealed behind rendering and plaster. To aid the adherence of such materials, the flue tile exhibit a knife-inscribed acute lattice on their 'external' face.

In addition to CBM, floors and walls may have been contructed of opus signinum, a form of pounded Roman concrete formed of lime mortar with common-abundant inclusions of crushed red brick/tile. Small fragments of this material were contained in Pit F2043 (L2072) and Hollow F2047 (L2048), with the former exhibiting a plaster-skimmed surface covered with red paint, a common simple decorative element in Roman villas and bath houses. These types of structure were often partially supported by masonry and timber-framing, with the latter filled with panels of dried clay, tempered with chalk, such as the daub contained in Occupation Layer L2015 and Pit F2097 (L2098). In total the CBM assemblage appears typical of the scattered remnants of a substantial building, but does not nearly approach the quantities that would be indicative of a demolition deposit, therefore may have been scattered a moderate distance from the principal structure, or represent minor construction, redevelopment or repair work conducted around the building.

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The Small Finds
Nicholas J. Cooper

Introduction

A total of 45 finds were submitted for analysis, one of bone, one of stone, one of copper alloy and 42 of iron. All the metal work has been x-rayed by Dr Graham Morgan for archive purposes and to aid identification. The report is arranged in accordance with Nina Crummy's functional categories (1983).

Objects of personal adornment and dress

1) SF1 (L2010 (Segment A)), tertiary fill of late 3rd to early/ mid 4th century date (Ditch/ possible Quarry Feature F2009). Animal bone. Near-complete hair pin of Crummy's Type 3 with spherical head and shaft swollen, and with just the tip of the shaft missing (Plate 1). The head is balloon-shaped with a slight point at the top. The junction with the shaft has a slight constriction. Shaft polished through use. Length 85mm.

This is the most common later Roman bone pin type with a swollen shaft and this is a particularly slender and well-made example. The type is likely to have developed *c.* AD 200 and carried on through the 3rd and into the 4th century and is therefore contemporary with this context (Crummy 1983, 21, and see fig.19.268 for a close, but not as finely-made, parallel).

Household utensils

Saddle or rotary quern

2) SF2 (L2059 (Segment D)), secondary fill of mid 3rd to 4th century date (Ditch/ possible Quarry Feature F2009). Flat fragment of triangular shape with a rounded apex and lower edge broken, as if representing one end of a damaged saddle quern. Lower surface flat and smooth but modified to have one side bevelled. Upper surface flat and smooth but not noticeably concave through wear. Part of rounded apex is straight-sided and possibly tooled and may have formed the skirt of the original object if a rotary quern. The quern is manufactured in a fine, grey sandstone with quartz grains ranging from 0.1-0.5mm. Clearly a much used and modified piece which may be Later Prehistoric or Roman in date and probably residual in this context. Length 120mm, width across break 150mm, thickness 43mm.

Fasteners and fittings

Copper alloy sheet

3) (L2143). Small, flat, rectangular fragment of undecorated copper alloy sheet. 20mm x 11mm x 0.5mm.

Iron Strip Fittings

A number of broken fragments of iron sheet strips, some with perforations (visible on x-ray) were recovered from the tertiary fill of Ditch/ possible Quarry Feature F2009 (L2010), Layer L2015, the tertiary fill of Quarry Pit F2043 (L2044) and the primary fill of Pit F2086 (L2088), collectively spanning the mid 3rd to 4th centuries. These were probably used to bind or support wooden objects or structures, using nails which were also associated in the same contexts.

4) L2010 (Segment A). Loop. A length of iron strip of rectangular section and even width, formed into a loop and with the two ends brought back together but not

closed. Length 64mm. width 12mm, thickness 3mm. Not a looped spike for attachment to a wall or timber.

5) L2010 (Segment A). Suspension ring. Diameter 35mm, thickness up to 3mm.

6) L2015. Length of curved sheet strip with single perforation. Length 55mm, width 27mm, width of perforation (from x-ray) 5mm.

7) L2015. Three roughly triangular sheet fragment, the largest with a perforation. Length of largest 87mm, width 40mm, diameter of perforation 7mm.

8) L2044 (Segment D). Two lengths of strip of similar width with one end curved over with a rounded terminal. Length of longest 60mm, width 15mm.

9) L2088 (Segment A). Length of slightly curving strip with perforation. Length 65mm, width 22mm, diameter of perforation 7mm.

Iron Nails

A total of 33 complete or fragmentary nails were recovered from feature fills (predominantly of Romano-British date) and Phase 2 Layers L2015 and L2143. All belong to Manning's Type 1 (Manning 1985, 134 fig.32) the standard nail type used in Roman timber construction with a flat head (conical on larger ones) and a tapering square-sectioned shaft. Most fall into the shortest category of Manning's Type 1B (40-70mm), and the most prolific in the hoard from the demolition of the legionary fortress at Inchtuthil (Manning 1985, 134), and complete examples were recorded from Layers L2015 (Segment A) at 68mm, and L2143 (Segmnent A) at 62mm. Larger complete examples include one from the tertiary fill of Quarry Pit F2043 (L2044 (Segment C)) at 96mm.

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The Struck Flint
Andrew Peachey

Excavations recovered a total of 264 pieces (1985g) of struck flint and 27 fragments (826g) of burnt flint (Table 13), generally in an un-patinated, sharp condition. The blade-based technology of the group, exhibited on cores, implements and debitage, presents a very homogenous group of earlier Neolithic character that appears to have a focal point in Layer L2153. The struck flint includes both bi-polar and single platform blade cores with debitage flakes presenting evidence of core trimming and platform preparation that suggest in-situ flint knapping on the site. Implements including a backed knife may have been products of this process and/ or may be

directly associated with earlier Neolithic occupation or other preparatory activities on the site.

Implement/ Flake Type	Frequency	Weight (g)
Core	4	369
Core Fragment	2	26
Core Trimming Flake	1	80
Platform Rejuvenation Flake	3	89
Backed Knife	1	35
Scraper	6	101
Denticulate	1	17
Serrated Blade	1	7
Blade	22	133
Bladelet (debitage/ micro-blade)	53	64
Debitage (blade-like)	160	822
Debitage (core trimming?)	10	242
Burnt Flint	27	826
Total	*291*	*2811*

Table 13: Quantification of struck flint implement and flake types

Methodology and terminology

The flint was quantified by fragment count and weight (g), with all data entered into a Microsoft Excel spreadsheet that will be deposited as part of the archive. Flake type (see 'Dorsal cortex,' below) or implement type, patination, colour and condition were also recorded as part of this data set, along with free-text comments.

The term 'cortex' refers to the natural weathered exterior surface of a piece of flint, and the term 'patination' to the colouration of a flaked surface exposed by human or natural agency. Dorsal cortex is categorised after Andrefsky (2005, 104 and 115) with 'primary flake' referring to those with cortex covering 100% of the dorsal face; 'secondary flake' with 50-99%; 'tertiary' with 1-49% and 'un-corticated' to those with no dorsal cortex. A 'blade' is defined as an elongated flake whose length is at least twice as great as it's breadth, often exhibiting parallel dorsal flake scars (a feature that can assist in the identification of broken blades that, by definition, have an indeterminate length/ breadth ratio). Terms used to describe implement and core types follow the system adopted by Healy (1988, 48-9).

The core technology of the assemblage

The range of struck flint present in the assemblage allows a clear picture of the knapping process and core reduction to be reconstructed, beginning with careful selection of high quality raw flint. The flint utilised for knapping is uniformly dark grey in colour, or slightly lighter close to the cortex, which is typically off-white or very pale orange (iron-stained) with a slightly chalky finish. This type of flint was sourced from the Cretaceous Upper Chalk that underlies south-east Cambridgeshire, outcropping in the Granta Valley or present in secondary glacial deposits. The careful selection of flint in the earlier Neolithic is a trait inherited from the Mesolithic period, and the value placed upon this raw material is reflected in the utilisation of blades and elongate flakes to produce implements, with extant cortex often incorporated into their 'design' as backing.

In the earlier Neolithic core preparation was undertaken systematically, with substantial areas of cortex deliberately trimmed from a nodule to allow for blade production to be started from a striking platform. These flakes were removed using a hard hammer (direct percussion) and the limited quantities of primary and secondary debitage flakes in the assemblage are classic examples of this flake type. Furthermore, a single large core trimming flake recovered as un-stratified material, exhibits the systematic dorsal scars of these removals, after which this flake was carefully removed to create a regular striking platform. This process would have resulted in the creation of a single platform core, comparable to three examples in the assemblage, form which blades of comparable size could be repeatedly removed. To aid the regularity of this process small vertical ridges or overhangs may have been created around the striking platform by abrasion or the removal of smaller blades, a process evident of the flake scars of the recorded cores and which probably produced the bulk of the bladelets/ micro-blades in the assemblage. These small blades may have been utilised, but more importantly allowed for the controlled, predictable removal of the blades and blade-like/ elongate flakes that dominate the assemblage, and from which were manufactured implements.

The careful maintenance of the striking platform could not prevent the fracture of the flint increasing the angle of the platform, and several un-corticated debitage flakes appear to represent the removal of overhangs in order to lessen this and maximise the potential of the striking platform. However, when platform maintenance was no longer viable, new platforms could be created by the removal of a flake from the opposing end of the core, thus creating a bi-polar blade core, a process represented by a single core and platform rejuvenation flakes in the assemblage. Following further blade removal, the core could subsequently be rotated back to its original orientation and a tablet flake removed to generate a new parallel platform, or a rejuvenation flake removed to create a perpendicular platform; thus the size of the core was reduced until it was exhausted, reflected in the weight of two of the cores recorded (*c*.35g). This method of core reduction and blade production is characteristic of later Mesolithic and earlier Neolithic flint work (Butler 2005, 84 and 121), with the absence of microliths and burins indicating the latter date, but the presence of a bi-polar core, bladelets and such careful platform maintenance suggesting the assemblage was manufactured close to the transition between the two periods (*c*.3500BC).

Distribution

The highest concentrations of struck flint are in two layers of material (Table 14), of which L2153 is of prehistoric date, while the struck flint in the remaining layer and all other small groups has been re-deposited as part of Roman activity. Layer L2153 was cut by four possibly prehistoric pits that contained minimal quantities of struck flint, but the presence of consistent blade-based technology throughout the re-deposited material suggests that Roman activity (development, occupation or landscaping) may have significantly truncated stratigraphy of earlier Neolithic date, possibly a layer of which Layer L2153 is the final remnant, as there is little artefactual evidence in pre-Roman discrete features.

Feature	Core	Blade/ Bladelet	Implement	Debitage	*Total*
Layer L2153	0	12	2	24	*38*
Layer L2015	0	14	1	44	*59*
Pit F2043	1	3	0	16	*20*
Pit F2045	0	7	0	11	*18*
Pit F2086	0	3	0	11	*14*
Ditch/ ?Quarry F2009	0	15	0	13	*28*
Ditch F2050	0	4	1	9	*14*
21 Other features	2	10	5	38	*55*
Topsoil/ Subsoil	1	7	0	10	*18*
Total	*4*	*75*	*9*	*176*	*264*

Table 14: Distribution of struck flint in features

Discussion of core, implement and flake types

Of the four cores recorded in the assemblage, three examples (in Ditch F2013, Pit F2018 and un-stratified) are single platform blade cores, while one example (in Pit F2043) is a bi-polar core. The single platform cores all had striking platforms created by a hard-hammer removed flake, after which flakes were removed all the way around (Type A1), after which bladelet removals appear to have been used to shape the platform and optimise the production of larger, regular blades, leaving small intermittent scars that terminate just under the platform edge. The single-platform cores in Pit F2018 and un-stratified weigh 36-42g with a near pyramidal shape (maximum dimensions: 30-40mm) indicating these have been worked to exhaustion and discarded when further blade removals or platform rejuvenation was no longer viable. The core in Ditch F2013 weighs 139g (maximum dimensions: 50mm) appears to have proportions that allow potential continued reduction, but a mis-hit or the natural angle of fracture may have resulted in an acutely angled platform and led the knapper to abandon in favour of a more viable core. The three single-platform cores have all been heavily reduced and it is possible this has removed evidence of previously exploited platforms, such as those evident on the bipolar core in Pit F2043. Both platforms on the bi-polar core (Type B1) were formed by tablet removal, after which the striking platforms were utilised in the same manner as the single platform cores. The bi-polar core has a weight of 152g (maximum dimensions: 50mm) with an approximately cylindrical profile that appears to remain viable for further blade production, therefore it may represent casual loss as no reason for deliberate discard is evident.

Further evidence of core preparation is presented by rare core trimming and platform rejuvenation flakes, as well as on general debitage flakes. Only one definite core trimming flake could be identified, in the un-stratified material, while three primary and four secondary debitage flakes with a broad profile and the hard-hammer struck characteristics probably represent trimming flakes amongst the stratified material. The un-stratified trimming flake, also a secondary flake has a regular profile with aligned dorsal scars where cortex is not extant, suggesting the raw nodule was systematically rotated to enable careful trimming with minimal wastage, and making the production of secondary and tertiary flakes more likely than primary flakes. The longest dimension of this flake is 70mm, suggesting that while the original core was of significant size (probably *c.*100mm) and definitely not a 'pebble' core, it had been 'quartered' from a much larger natural nodule of chalk-derived flint. This sizing is supported by the fact that only the backed blade (length 100mm) exceeds the length of this flake, with most blades and implements c.40-60mm in length, and debitage

<50mm. The platform rejuvenation flakes include a single tablet flake, consistent with the bi-polar core, in Ditch/ possible Quarry Feature F2009 (L2010 Seg.A) with the remainder, in Occupation Layer L2015 and un-stratified comprising wedge-shaped un-corticated flakes struck to remove overhangs from striking platforms. Like the core trimming flakes, at least seven un-corticated blade-like debitage flakes may also have been removed for this purpose although the evidence is not conclusive.

Perhaps reflecting the predominance of blade-based technology, the number of retouched implements in the assemblage is limited (Table 15). The largest investment of time may have gone into the backed knife in Layer L2153, mainly into the careful preparation of a large core to produce a long blade (length 100mm), after which one lateral edge was blunted by abrupt retouch, with the opposing edge left as an acute-angled, very sharp cutting edge. A narrow strip of cortex running along the length of the blade may have been deliberately left to facilitate grip.

Backed Knife	1	35
End Scraper	3	55
Side Scraper	2	25
Nosed Scraper	1	21
Denticulate	1	17
Serrated Blade	1	7

Table 15: Re-touched implement types

The other retouched implements were all formed on similarly sized blades or elongate flakes (*c.*10-20g), also with only a narrow band of cortex remaining, with the exception of one end scraper in Pit F2018 (L2019) formed on a primary flake. The end scrapers all had proportions of 50-55mm (length) and 25mm (width) abrupt retouch applied to the distal end of, in Occupation Layer L2015 a blade, and in Pit F2018 (L2019) and Pit F2086 (Seg.A) (L2088) to elongate flakes. The side scrapers in Layer L2153 and Ditch F2050 (L2051) were similarly formed with retouch extending along the length of one lateral edge, although on the former example the retouch was semi-invasive, having been pressure-flaked perpendicular to the edge, possibly related to the intended function. A particular function may also have been the driver for the manufacture of the nosed scraper in Layer L2143. The 20mm wide projection at the distal end of this flake was formed by the application of semi-invasive retouch to create notched into the corners of the distal end, possibly to allow the projection to act as a graver or similar tool to carve a channel or incision into a softer material. The remaining implements, a serrated blade and a denticulate were formed by the contrasting creation of fine and coarse notches along one lateral edge. The serrated blade in Pit F2128 (L2129) exhibits fine retouch on one lateral edge, with the opposing edge backed by cortex, presumably to create a small hand tool. In contrast, the denticulate in Pit F2003 (L2004) comprises an elongate flake with a series of coarse notches worked into one edge to create a saw-toothed edge, with the opposing edge blunted by abrupt retouch, thus creating a possibly complementary tool to the serrated blade for the cutting and finishing of materials, similar to the different weights of hammer stone used by flint-knappers.

The assemblage included a total of 22 blades and 53 bladelets, classified by their proportions, parallel sides and length (bladelets <20mm in length). The blades are typically 35-50mm in length, with occasional examples ranging to between 30-65mm.

The blades were removed using a soft-hammer, with a large proportion exhibiting a slightly narrowed butt end where the striking platform was deliberately prepared, with dorsal scars suggesting this was by the removal of bladelets to create a small projection. Such blades may have been used as hand-tools, dual component tools (handle plus blade) or in composite tools (many blades), with examples in Ditch/ possible Quarry Feature F2009 (L2010), Well F2130 (L2131) and Layer L2153 exhibiting the deliberate removal of the bulbar end to create a flatter profile, suggesting at least the limited presence of modification in this process, although significantly less that that required for burins or microliths. The three truncated blades, as well as examples in Pit F2045 (L2046) and a second blade in Layer L2153 exhibit traces of wear on one lateral edge confirming they were utilised for cutting/ scraping. The bladelets in the assemblage may also have been utilised like the blades, but it appears more likely they represent fine debitage from the production of blades, during the preparation of striking platforms by creating small projections that ensured the production of predictable, regular blades that maximised the potential of the raw material.

The careful and systematic preparation of cores and production of blades produced a homogenous group of debitage that also characterise this process, with *c*.94% comprised of blade-like tertiary and un-corticated flakes that were, where definable, almost entirely removed using a soft hammer, with numerous butts comparable to the blades removed from prepared platforms. This suggests that the level of care in maintaining and preparing the cores was as great as when producing the blades, and that perhaps these flakes were produced with the potential to be utilised, such as the implements described above. The remaining debitage flakes are accounted for by the probable core trimming flakes described above, further highlighting that not even debitage flakes were produced without the high degree of control and skill that was required for this systematic process.

Conclusion

The high level of systematic skill associated with the controlled production of the blades, implements and debitage leave no doubt that this assemblage represents the location of a prehistoric flint-knapping site. Unfortunately, it appears that Layer L2153 is the sole in situ remnant of this activity in the area of landscape recorded by archaeological investigation (the date of Pits F2117, F2119, F2121 and F2123 remains tentative), with the remainder of the assemblage predominantly re-deposited in Roman features, probably by the construction and development of enclosures and buildings during that period.

The struck flint assemblage attests to every stage in the production and use of flint tools, form the preparation and maintenance of blade cores, to the regular production of blades and elongate flakes, and their utilisation and wear as implements. This blade-dominated flint industry is characteristic of the earlier Neolithic period (*c*.3500-2500BC) (Butler 2005, 121), particularly in East Anglia (Healy 1988, 46) where high quality flint was relatively plentiful but remained a carefully exploited raw material. However, the presence of a bi-polar core, core tablet flake, and such careful platform preparation is a more characteristic trait of the preceding later Mesolithic (Butler 2005, 84), and their presence may indicate a continuation of technology close to the transition between the two periods (*c*.3500BC).

Both technological styles were identified at Spong Hill, Norfolk, where the distinction between the two was often unclear, and it was also acknowledged that contrasts in technology may alternatively represent the varying skills of individual knappers in the earlier Neolithic (Healy 1988, 45-46). Most importantly the apparent continuation of slightly different blade-based technologies may highlight that the differentiation of the two periods and associated activities (seasonal hunters/ settled farmers) is an entirely analytical construct that masks a gradual and oscillating technological progression (Edmonds *et al* 1995, 22). Nonetheless, the assemblage appears to represent earlier Neolithic activity, closely comparable to that evidenced in the significantly larger and more diverse assemblage from Kilverstone, Norfolk (Beadsmore 2006, 55 and 58) as well as in the Cambridgeshire fenlands, such as at Ramsey (Edmonds 1999, 53). Groups from these assemblages include comparable components of blade-based technology: predominantly single platform with some bipolar (opposed) platforms that were carefully and systematically worked, although sometimes cores and dorsal scars were less consistent, again perhaps indicating a variation in skill.

The predominance of blades in the assemblage, combined with the general blade-like character of the other implements including a backed blade (knife), denticulate and scraper suggest that the flint-knapping on the site served a narrow range of activities, potentially domestic, as there is no evidence of higher status items such as axes or hunting pieces (arrowheads/ microliths), supporting the theory that limited sedentary settlement may have been established in small clearings while some seasonal mobility was maintained (Edmonds 1995, 23).

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The Slag

Andrew A. S. Newton

Introduction

A total of 30 pieces of slag, originating from 10 contexts, were recovered during archaeological excavation of The Walled Garden, Bartlow Park, Bartlow, Cambridgeshire. The slag was identified on morphological grounds by visual examination.

Results

F2003 (L2004): *3 fragments*, *>1g*. Black, slightly glittery, hard, granular material. No response to magnet. Possibly coal or charcoal.

L2015: *2 fragments, 20g*. Light to mid grey dull, rough, slightly mammilated outer surface. Small, burnt stones are present. Fractures reveal darker interior with occasional to moderate small (>1mm) air pockets and some larger (<2mm) air pockets. Slight to moderate response to magnet.

L2015 A: ***8*** *fragments, 26g*. Five of these fragments are coke or coal, or possibly fuel ash slag. Of the remaining three pieces, one has a light yellow grey upper surface and a dark grey porous, vesicular interior. Layering or striations evident in the interior are reminiscent of blast furnace slag but this material does not have the glassy, vitrified characteristics of such material. It gives only a slight response to the magnet. The second piece has a rough, dull outer surface and a dark grey interior. It is fairly dense with occasional air pockets (<2mm). The final piece is similar in appearance but is much less dense with frequent very small air pockets. Both give only a low response to the magnet.

F2037, L2038: *1 fragment, 2g*. Dark grey to black granular/ vesicular material (very small air pockets). Possibly burnt charcoal or coke, possibly fuel ash slag.

F2043, L2044 C: *1 fragment, 12g*. Highly porous/ vesicular material with extensive air pockets 1-2mm in diameter. Outer surface is light grey with extensive yellow-white staining. Clean, angular fracture reveals dark grey interior with some very small pockets of orange-brown material. Very slight response to magnet.

F2050, L2051 C: *1 fragment, 9g*. Light to mid grey dull, rough, slightly mammilated outer surface. Some possible impressions of charcoal or fibrous, straw-like material. Fractures reveal darker interior with small (>1mm) air pockets and some larger (<2mm) air pockets. Slight response to magnet.

F2062, L2063: *4 fragments, 4g*. 2 fragments are black slightly glittery, hard, granular material. No response to magnet. Possibly coal or charcoal. The remaining 2 fragments are dull dark grey to black porous/ vesicular material. No response to magnet. Light in weight. Possible fuel ash slag or exhausted coke/ charcoal.

F2074, L2075: *3 fragments*, *1g*. Black, slightly glittery, hard, slightly vesicular (air pockets >0.5mm) material. No response to magnet. Possibly coal or charcoal.

F2126, L2127: *2 fragments, 6g*. Outer surfaces are a dull light grey. Interior is very dark grey to black with some reddish-purple patches. Material is light and frothy with extensive air pockets. Medium to strong response to magnet.

F2135, L2136: *1 fragment*, *>1g*. Black, slightly glittery, hard, granular material. No response to magnet. Possibly coal or charcoal.

L2143: *4 fragments, 7g.* All fragments appear to be broken from the same material. Outer surfaces, where present, are a dull light grey. Interior is very dark grey to black. Material is light and frothy with extensive air pockets. Gives slight response to magnet.

Discussion

The slag assemblage recovered from this site is small and a large proportion of it comprises possible coke or coal, although this material may represent fuel ash slag. The other elements of the assemblage clearly derive from the smelting or refining/ smithing of iron. However, all of the pieces in this assemblage are small and give little indication as to the process from which they derived and how and where (within the furnace or hearth) they were formed. The small size of the assemblage indicates that iron working was not a major part of the economy here but, clearly, it must have been practised in the vicinity.

The Animal Bone
Dr Julia E. M. Cussans

Introduction

A small selected animal bone assemblage is examined. This appears to represent domestic waste dominated by cattle and sheep remains; other species are present in small numbers.

Method

Context selection

Due to budgetary and time restraints the entire excavated animal bone assemblage could not be recorded and hence specific contexts were selected for analysis. From examination of the bone scan data three features were determined to be of particular importance with regards to the animal bone assemblage. These were Ditch/ possible Quarry Feature F2009, Layer F2015 and Pit F2043, all from Phase 2 where the vast majority of the bone derived from. These features encompassed a large portion of the identifiable bone assemblage and gave a nice spread of feature types for comparison. A very small amount of bone derived from Phase 3 and this will be briefly discussed below.

Recording

Individual bones were, where possible, identified to element, species, part and body side and recorded into an MS Access database using codes provided by NABONE (NABO 2008). Data on bone zone (Dobney and Rielly 1988), fragment size, fusion state, butchery, burning, gnawing, sex, pathology and tooth wear were also gathered where possible. Bone identifications were made using the in house reference collection at Archaeological Solutions Ltd and identification guides such as Cohen and Serjeantson (1996). Bone fusion, butchery, burning and gnawing was recorded following the NABONE guidelines. Tooth eruption and wear was recorded following Grant (1982). Tooth eruption and wear age stages were assigned following Halstead (1985) for cattle and Payne (1973) for sheep.

Results

Phase 2: Romano-British (early to mid 4th century AD)

Taphonomy

In the main the contexts selected for recording had been rated as having ok to good preservation with a reasonable quantity of material that could be identified to species. The bones showed some signs of abrasion and a relatively high frequency of fresh breaks, owing to their friable nature; where possible these were fitted back together during recording. Several taphonomic indicators were recorded during analysis, these were fragment size, gnawing and burning. Butchery was also recorded and will be discussed separately below.

The distribution of bone fragment sizes is shown in Chart 1. This shows that the majority of bone fragments were between 2 and 10 cm in length. Approximately 10% of the bones were over 10cm in size and only a very small proportion of the assemblage was under 2cm, all of which came from Layer F2015. Other than this there was little distinction between the three different deposit types in terms of bone fragment size.

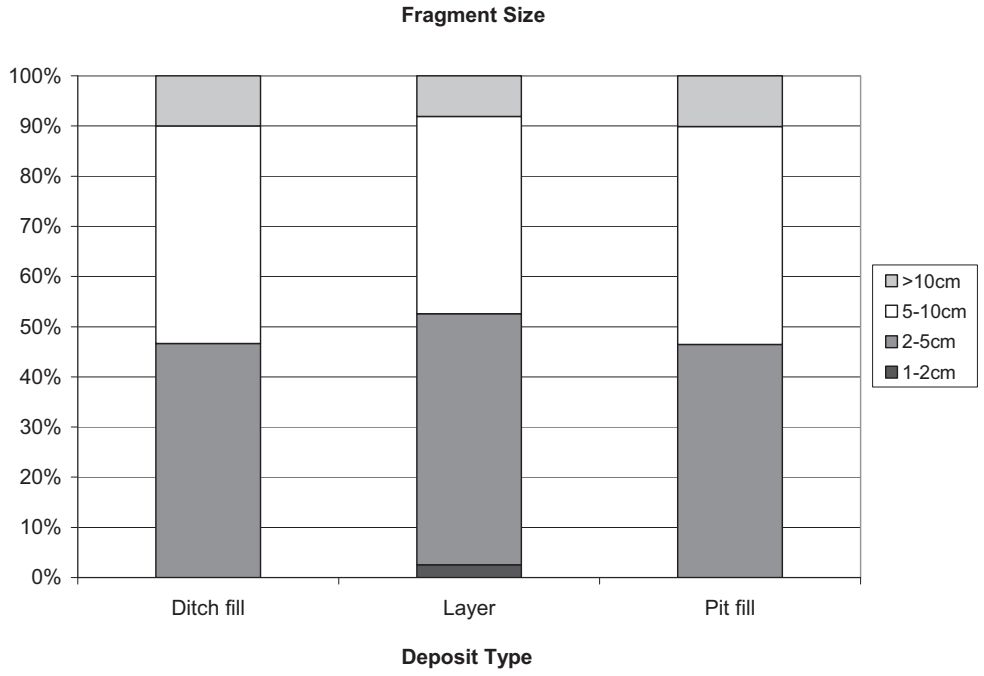

Chart 1: Distribution of bone fragment size by feature type

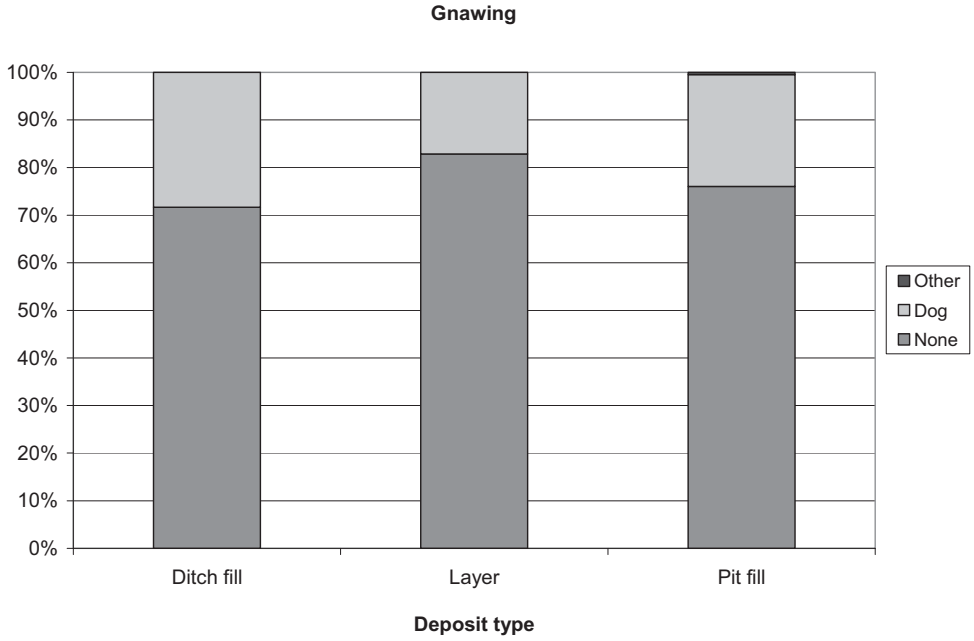

Chart 2: Distribution of gnawed bone by feature type

Some canid gnawing was present throughout the assemblage and was found on between approximately 15 and 30% of the recorded assemblage, depending on feature type (Chart 2). The highest incidence of gnawing was from the fills of Ditch/ possible Quarry Feature F2009 and the lowest from Layer F2015. Almost all of the gnawing was thought to originate from dogs, with one possible example of cat or fox gnawing (much small puncture marks) from Pit F2043.

A very small number of burned bones were present in the assemblage, one from Ditch/ possible Quarry Feature F2009 and three from Layer F2015. None of these bones were fully burned and were recorded as scorched only.

Species present and quantification

The animal bone assemblage was dominated by domestic mammal remains (Table 16). Cattle and sheep/ goat were fairly evenly represented and small numbers of pig, horse and dog were present. A single horn core was identified as sheep; no bones were positively identified as goat. A large proportion of the assemblage could only be recorded as large (cattle or horse sized) or medium (sheep or pig sized) mammal, together with unidentified bone this accounted for over two thirds of the assemblage. A small number of bones were identified as small mammal. One of these was a pelvis fragment thought most likely to belong to a fox and an ulna was thought to belong to a small dog or a fox.

A small number of bird bones were present; these included a chicken sternum fragment, a duck ulna and a tarsometatarsus, probably belonging to a pheasant. A juvenile coracoid bone was of about the correct size to belong to chicken or duck but could not be identified to species due to a lack of juvenile reference sources.

Taxon	Ditch fill	Layer	Pit fill	Grand Total
Cattle	10	28	25	63
Sheep/goat	8	30	24	62
Pig	2	3	2	7
Horse	2	7	2	11
Dog	2			2
Large mammal	20	97	83	200
Medium mammal	13	90	60	163
Small mammal		3	1	4
Chicken		1		1
Duck	1			
? Pheasant		1		
Bird indet.			1	3
Fish indet.		1		1
Unidentified mammal	2	89	15	106
Grand Total	*60*	*350*	*213*	*623*

Table 16: Number of identified specimens (NISP) by feature type

A single fish bone was also recovered; this was a dentary belonging to a Gadidae (cod family) fish.

The proportional representation of the domestic mammal species was compared between the deposit types (Chart 3). Cattle and sheep are fairly evenly represented in all three deposit types. Dogs were only present in the ditch deposits and horses are best represented in the layer. Horses and pigs are fairly evenly represented in both pits and ditches. Any apparent changes in species proportions between the deposit types must be treated with caution given the small sample sizes being examined.

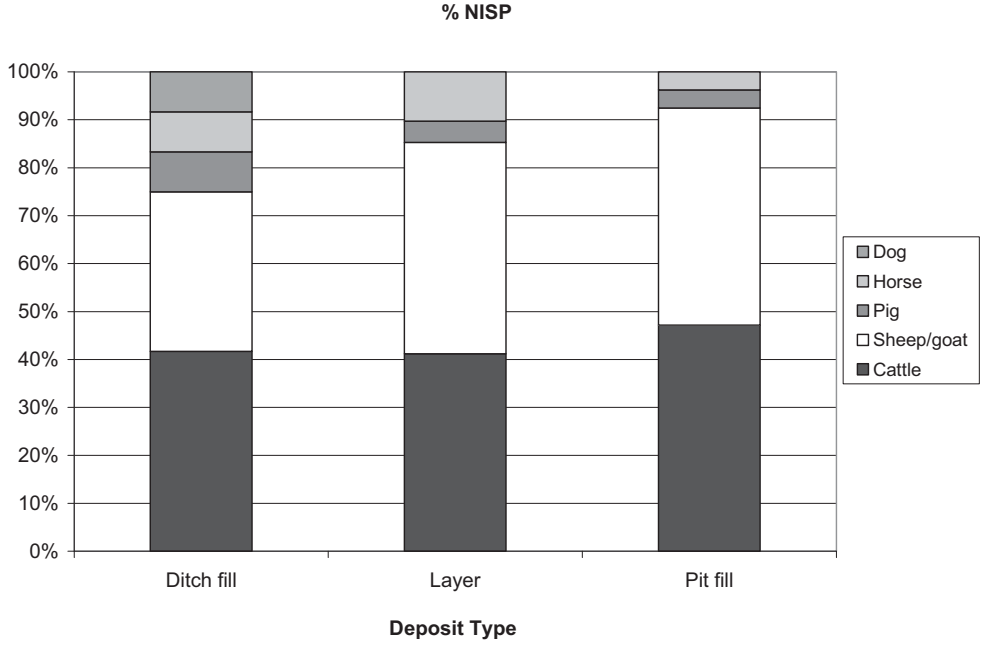

Chart 3: Percentage representation of domestic mammal species by feature type

Animal age and sex

A small amount of ageable material was available for cattle and sheep. For sheep a number of ageable teeth and jaws were present. Six sheep jaws or teeth could be assigned to age stages following Payne (1973). One of these was assigned to Stage D with a suggested age of 1-2 years, one to Stage E (2-3 years), three were assigned to Stages G or H (4-6 or 6-8 years) and one was assigned to Stage H (6-8 years). A further mandible fragment which had the deciduous 4th premolar (dp4) in wear but was broken in front of the first molar (M1) was deemed to be no older than the Stage D mandible and most likely a little younger. It appears therefore that the majority of animal were adult and most likely used for wool and mutton; a small number of younger animals may have been used for prime meat.

Only three cattle mandibles and teeth were available for aging. These gave age stages of E (30-36 months), G (adult) and I (senile) (Halstead 1985), showing a spread of ages present including some prime meat animals and some likely breeding or traction stock. The sparse amount of bone fusion data available for cattle would generally agree with this, although no very old animals were represented.

The only sex data available was for pig and was a single female canine found as part of a maxilla fragment.

Butchery and body part representation

A significant proportion of the bones from Bartlow had been butchered; these included both large blade chop marks and knife cuts. The proportions of butchered cattle, sheep, large and medium mammal bones are shown in Chart 4. The larger animals show higher frequencies of butchery, probably owing to the need to break their carcasses up into a greater number of pieces to fit into a cooking pot or make sensible sized portions. Chop marks are less common than knife marks and are present on all four taxa in Chart 4. Butchery marks included evidence of skinning, dismemberment, and of filleting of meat off the bone.

Two other butchered bones were present. The duck radius had fine diagonal cuts all down the shaft, possibly resulting from skinning the bird. A dog skull fragment had a chop into the rear of the skull; possibly an attempt at decapitation.

Body part representation for cattle and sheep was examined and is displayed in Tables 17 and 18 and Charts 5 and 6. Some distinct differences can be seen between the two species. For sheep there is a very high incidence of head elements and the fore and hind limbs are poorly represented. For cattle there is a much greater representation of fore and hind limbs, although head and foot elements still make up a large proportion of the assemblage. Of additional interest in the sheep assemblage is the much better representation of forelimb over hind limb elements. This may suggest that there has been some removal of hind limbs from the site, or that they have been deposited in other features not examined here or that they have not been broken up into as many pieces as the forelimbs. The high proportion of head and to some extent foot elements would tend to suggest that more meaty parts were being exported away from the site, or possibly just being deposited elsewhere close by. For cattle however it appears that whole carcasses are being butchered

and deposited at the site with some possible distinction between feature types for butchery and consumption waste.

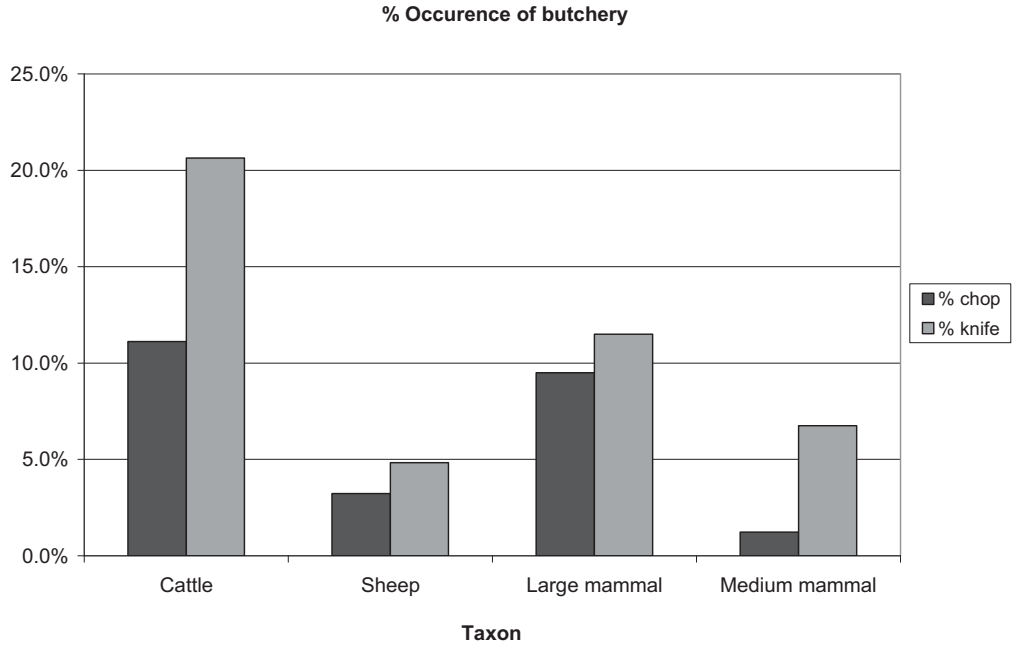

Chart 4: Occurrence of butchery as a percentage of NISP

Body Area	Element	Ditch fill	Layer	Pit fill	All deposits
	Horn core	0	2	0	2
	Temporal	0	1	0	1
	Zygomatic	0	2	1	3
	Mandible	1	5	1	7
	Molar	3	6	2	11
	Premolar	0	0	1	1
Head	*Total*	*4*	*16*	*5*	*25*
	Scapula	1	1	2	4
	Humerus	0	1	0	1
	Radius	2	2	2	6
	Radioulna	0	0	1	1
	Ulna	1	0	0	1
Forelimb	*Total*	*4*	*4*	*5*	*13*
	Pelvis	0	0	0	0
	Femur	0	1	3	4
	Tibia	0	1	2	3
Hind limb	*Total*	*0*	*2*	*5*	*7*
	Astragalus	0	1	1	2
	Calcaneus	0	0	0	0
	Metacarpal	0	0	2	2
	Metatarsal	1	0	1	2
	Phalanx 1	0	5	4	9
	Phalanx 2	1	0	1	2
	Phalanx 3	0	0	1	1
Feet	*Total*	*2*	*6*	*10*	*18*
	Grand Total	*10*	*28*	*25*	*63*

Table 17: Cattle body part distribution

Body Area	Element	Ditch fill	Layer	Pit fill	All deposits
	Horn core	0	1	0	1
	Maxilla	2	1	1	4
	Mandible	1	8	4	13
	Incisor	0	1	0	1
	Molar	1	6	9	16
	Premolar	0	3	0	3
Head	*Total*	*4*	*20*	*14*	*38*
	Scapula	0	0	1	1
	Humerus	1	1	1	3
	Radius	0	3	1	4
	Ulna	0	0	0	0
Forelimb	*Total*	*1*	*4*	*3*	*8*
	Pelvis	1	0	1	2
	Femur	0	0	0	0
	Tibia	0	1	0	1
Hind limb	*Total*	*1*	*1*	*1*	*3*
	Astragalus	0	0	0	0
	Calcaneus	0	0	1	1
	Metacarpal	0	2	2	4
	Metatarsal	1	3	3	7
	Metapodial	1	0	0	1
	Phalanx 1	0	0	0	0
	Phalanx 2	0	0	0	0
	Phalanx 3	0	0	0	0
Feet	*Total*	*2*	*5*	*6*	*13*
	Grand Total	*8*	*30*	*24*	*62*

Table 18: Sheep body part distribution

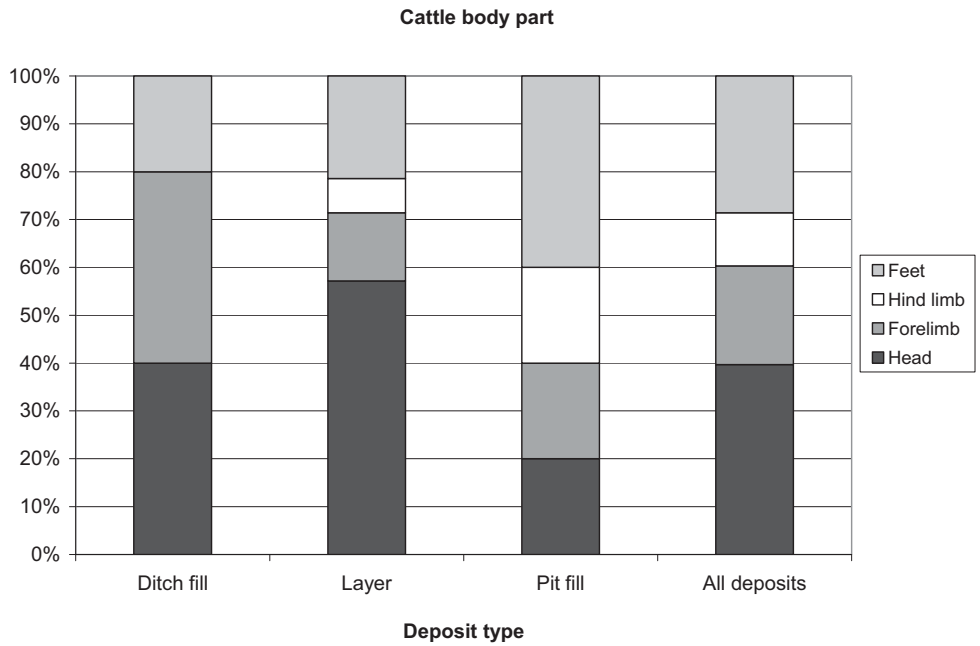

Chart 5: Cattle body part representation by deposit type

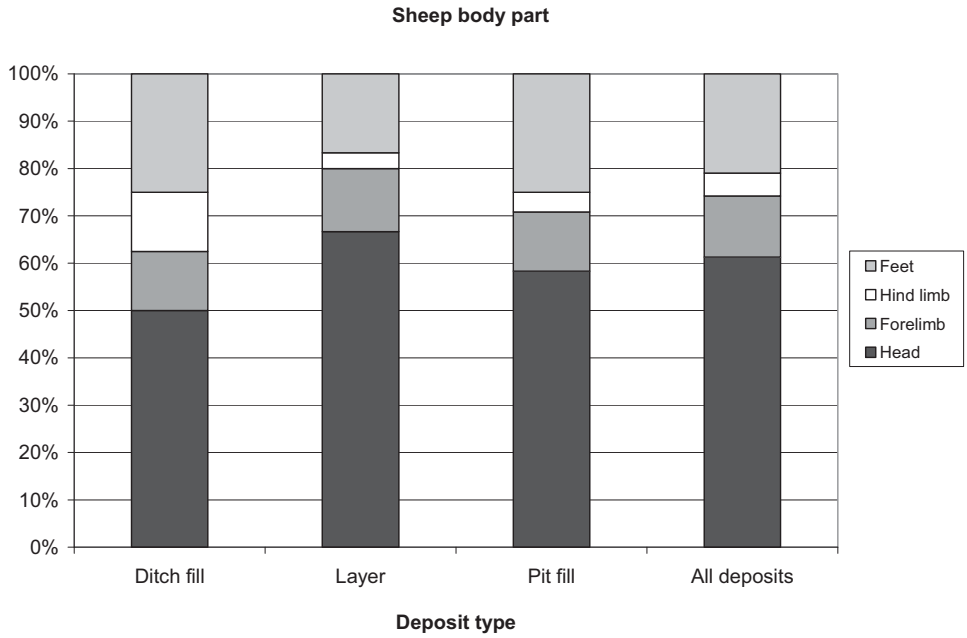

Chart 6: Sheep body part representation by deposit type

Pathology

A very small number of pathological features were noted during recording. Three cattle elements were noted as pathological. These were an upper premolar displaying some dental calculus, a first phalanx displaying eburnation, grooving, extension and exostosis on the proximal articulation likely resulting from osteoarthritis (Baker and Brothwell 1980), and a second phalanx that showed some very slight lipping around the proximal articulation. A horse ulna had a small osteophyte formation on the tip of the proximal articulation. Dental calculous was present on two loose sheep teeth and a mandible. This mandible also had a miss-alignment of the teeth with the premolars being pushed out to the buccal side and the wear on the M1 being uneven. A further sheep mandible showed porousness in the bone just below the gum line along the buccal side which was particularly concentrated in the area of the P4; there was also some loss and smoothing of the bone at this point on the lingual side and smoothing of the bone on the buccal.

Phase 3: Post-medieval (c. 18th to 19th century AD)

The post-medieval bone assemblage was extremely small and included a single pig bone and three large mammal bones, one of which was a distal radius, thought to possibly belong to red deer. No other bones were assigned to this phase.

Conclusions

This small bone assemblage appears to represent domestic waste most likely deriving from the nearby villa. The assemblage is dominated by domestic mammals, particularly cattle and sheep but also includes the remains of birds and fish. Some of the animals appear to have been slaughtered at prime meat age while others have been kept until later in life possibly providing wool, traction, breeding potential and mutton. It is possible that some of the sheep hind limbs were traded away from the

site, but the small sample size and time restrictions on analysis make it impossible to say this with any certainty.

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The Shell
Dr Julia E. M. Cussans

Introduction

A small assemblage of hand collected shells is examined. The assemblage is dominated by oysters and contains evidence of human and parasitic modifications.

Method

Shells were recorded on a context by context basis on a shell scan form. This took account of shell preservation, rated from very poor through to excellent and a semi-quantitative assessment of the presence of abraded shells and fresh breakages (none, few, some, many). Shells were identified to species where possible and counted using the following scheme: for bivalves left and right or upper and lower valves with umbos present were separated and counted, any remaining fragments were also noted. No gastropods were present. The presence of shells bearing any signs of human modification, parasites or disease, or any complete enough to be measured were noted on a semi-quantitative scale (none, few, some, many). Notes were made on any points of interest within each context.

The data were entered into an Excel spreadsheet and sorted by feature description. Minimum numbers of individuals (MNI) were calculated for each species and feature type. For bivalves this was whichever was the greatest of the number of left or right valves; no valve pairing was attempted. The number of countable valves to deposit (context or segment) ratio for all shells was also calculated for each feature type to indicate if the frequency of shells changed between features.

Results

In total just over 200 fragments of marine shell were recovered by hand during excavations at Bartlow Park. A small number (six fragments from two contexts) of these came from undated or post-medieval contexts and are not reported on here. The remainder all came from Phase 2 deposits of Romano-British date and are examined as a single assemblage. Shell preservation was mostly rated as ok with small numbers of contexts being rated as poor or good. Shell abrasion and fresh breakages were present at some level in the majority of deposits, but overall the shells were relatively robust.

The vast majority of the shells were native oyster (*Ostrea edulis*) with a small number of mussels (*Mytilus edulis*) also being present. A single fragment of an indeterminate bivalve shell was also found.

Oysters were represented by both upper and lower valves (Table 19), with slightly higher numbers of upper valves being present. A total MNI of 68 was calculated. Mussels were represented by one left and two right valves (Table 19). The valve to deposit ratio (Table 19) shows that the highest concentration (although this is on a per-deposit not a per-volume basis) of shells to be from the Layer L2015 (excavated as a number of separate segments). Relatively high concentrations of shells were also found in pits, ditches and layers.

Description	Oyster				Mussel				Indet. bivalve	No. of deposits	Total Countable	Value to deposit ratio
	lower	upper	frag	MNI	left	right	frag	MNI	frag			
Buried Soil			1	0		1		1		1	1	1.0
Depression		1		1						1	1	1.0
Ditch	13	11	16	13			1			9	24	2.7
Gully	1		2	1						2	1	0.5
Layer	15	19	25	19	1			1	1	5	35	7.0
Pit	17	26	31	26		1	2	1		12	48	4.0
Spread	4	4	3	4						3	8	2.7
Well	4	1	3	4						3	5	1.7
Total	54	62	81	68	1	2	3	3	1	36	119	3.3

Table 19: Shell quantification by deposit type

Human modifications of oyster shells came in a variety of forms and were present in 14 of the 36 deposits examined. There were at least three examples of upper valves displaying cut marks, presumably made through detaching the oyster from its shell. There were some marks that may have been notches in the edges of valves caused by the opening of oysters; however none of these were as clear as those seen by the author in other assemblages (e.g. Cussans and Phillips forthcoming). A final modification that was noted a number of times, was the drilling or punching of holes into or through the oyster valves. The clearest example of such working came from Layer L2015, where an upper valve had been worked into a rough circle and had a

hole made in the centre (*c.* 5mm in diameter). Two other lower valves had similar sized holes made in them but were not otherwise worked; these came from Fill L2014 of Ditch F2013 (Segment A) and Fill L2044 of Quarry Pit F2043 (Segment A).

Twenty of the 36 deposits contained oyster shells that had been subject to some form of parasitic infestation or predatory attack. These took a variety of forms including barnacles, polychaete worm burrows and *Bryozoa* (sea mat). Some of these are not likely to have affected the oyster during life, while others may have had a more deleterious effect (Winder 2011). An upper valve bearing two small holes (< 2mm diameter) drilled into the outer surface of the shell is likely to have suffered an attack from a predatory gastropod, a number of species of which are know to predate oysters (Winder 2011). In this case the attack does not seem to have been successful as neither of the holes penetrates the full depth of this particularly thick valve.

A small number of measurable oyster valves were present; these were found in 15 of the 36 deposits examined. The total number of valves (upper and lower) for these 15 deposits was only 79. Bearing in mind that the quantity of measurable valves in each of these deposits was only ever rated as 'few', indicating that only one or two valves may be measurable and that the upper and lower valves would have to be considered separately, the sample sizes would be far too small for useful statistical analyses to be made.

Summary

This small assemblage is dominated by oyster shells a number of which have clear signs of human modification and others which have signs of parasitic or predatory attack.

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The Environmental Samples
Dr John Summers

Introduction

During excavations at The Walled Garden, Bartlow, 33 bulk soil samples were taken and processed for environmental archaeological investigation. Of these, two were from Phase 1 (earlier Neolithic) deposits, 30 were from Phase 2 (Romano-British) deposits and one was from an unphased feature. This report presents the results from the analysis of the bulk sample light fractions and discusses these results in their wider archaeological context.

Methods

Samples were processed at the Archaeological Solutions Ltd facilities in Bury St. Edmunds using a Siraf style flotation tank. The light fractions were washed onto a mesh of 250µm (microns), while the heavy fractions were sieved to 500µm. The dried light fractions were scanned under a low power stereomicroscope (x10-x30 magnification). Botanical remains were identified and fully quantified, while molluscan remains were recorded using a semi-quantitative scale (X = present; XX = common; XXX = abundant). Reference literature (Cappers *et al.* 2006; Jacomet 2006; Kerney and Cameron 1979; Kerney 1999) and a reference collection of modern seeds was consulted where necessary. Potential contaminants, such as modern roots, seeds and invertebrate fauna were also recorded in order to gain an insight into possible disturbance of the deposits.

Results

The data from the bulk sample light fractions are presented in Table 20.

Phase 1: Earlier Neolithic (4300 to 3300 BC)

Two samples were recorded from Phase 1 deposits, which only contained small quantities of environmental archaeological remains.

Plant macrofossils

Charred plant macrofossils were only recorded in Pit Fill L2046, in the form of a single wheat grain (*Triticum* sp.) and a further indeterminate cereal grain.

Charcoal

Only a trace amount of charcoal >2mm was present in the Phase 1 samples.

Terrestrial molluscs

The limited molluscan fauna from Layer L2153A indicated tall, moist vegetation, with *Cochlicopa* sp., *Oxychilus* sp., *Helicella itala* and *Vallonia* sp. all recorded.

Phase 2: Romano-British (early to mid 4th century AD)

Samples from Phase 2 were more plentiful (30 samples) and contained a wider range of material. However, the concentration of remains was still quite limited.

Plant macrofossils

Carbonised plant macrofossils were common in the Phase 2 samples, with charred cereal remains present in 25 of the 30 samples. However, the density of material was generally low, with most samples producing fewer than 15 items and less than 1 item per litre. The exception to this was sample 21 of Pit Fill L2095 (F2093), which produced 115 specimens from 20 litres of sediment (5.75 items per litre).

The assemblage was dominated by cereal remains, the most abundant being wheat caryopses, many of which were identifiable as glume wheat type (*T. dicoccum/ spelta*). Associated with these were occasional glume bases and spikelet forks, most of which were identified as spelt wheat (*T. spelta*), which was the dominant wheat variety grown in most of Roman Britain (e.g. Murphy 2003; Carruthers 2008; Stevens 2009; Campbell 2008; Pelling 2008). In addition to wheat were barley grains (*Hordeum* sp.), some of which could be identified as a hulled variety, although preservation was generally poor. A small number of oat grains (*Avena* sp.) were also present but it was not possible to determine whether a wild or cultivated form was represented. A single barley rachis fragment was present in Gully Fill L2012B and culm nodes were recorded in L2012B and Quarry Pit Fill L2044A, which may be remains from early crop processing stages. A pea/ bean seed (large Fabaceae) was recorded in Ditch Fill L2010A and may also represent a cultivar, although preservation was insufficient for an accurate identification.

The richest sample from L2044A contained glume wheat and barley grains, with wheat the dominant taxon (90%). A single germinated barley grain was present, which probably represents limited spoilage of the crop. The non-cereal assemblage was dominated by black bindweed (*Fallopia convolvulus*), along with small amounts of dock (*Rumex* sp.) and goosefoot (*Chenopodium* sp.). These are typical arable weeds of fertile soils and the additional presence of a wheat tail grain and spelt wheat glume bases indicates that at least part of this deposit derived from cereal fine-sieving by-products.

Charcoal

Charcoal was present in a number of the samples, although only in limited concentrations. A range of ring- and diffuse-porous vessel patterns were noted in the transverse sections, along with some oak (*Quercus* sp.). This suggests a fairly diverse pattern of fuel wood exploitation, which is to be expected for a domestic fuel waste assemblage. The concentration of material was too low to merit full analysis of the charcoal assemblage.

Terrestrial molluscs

The molluscan fauna, although not fully quantified, are quite typical of damp grassland. Taxa such as *Cochlicopa* sp., *Discus rotundatus*, *Oxychilus* sp., *Trichia hispida* group and *Vertigo* sp. have a preference for the sheltered, wetter conditions provided by taller vegetation. Other taxa, such as *Helicella itala*, *Pupilla muscorum* and *Vallonia* sp. are more characteristic of shorter, more disturbed vegetation.

Contaminants

Modern rootlets and modern burrowing molluscs (*Cecilioides acicula*) were common to abundant in most samples and could have caused some movement of small archaeological remains within the deposits. Occasional earthworm egg capsules were also noted. Worms could also have contributed to bioturbation (as noted throughout Phase 2 Layer L2015 for example).

Discussion

The range of taxa is quite typical of a Romano-British site, with spelt wheat dominating the assemblage, accompanied by barley and trace amounts of oat and pulses (e.g. Murphy 2003; Carruthers 2008; Stevens 2009; Campbell 2008; Pelling 2008). The limited non-cereal assemblage is composed of likely arable weeds associated with the cereal crops.

The weed taxa and occasional chaff elements suggests that cereal processing was taking place in the vicinity of the site, although few of the features were directly receiving carbonised by-products from this process. The low density of remains from both phases is largely representative of low-level refuse disposal and a general background scatter of charred, wind-blown debris. This suggests that the excavated features were not closely associated with cereal use and processing and were generally not receiving significant amounts of domestic debris in the form of hearth ash. The only exception is the material from Pit Fill L2095 (F2093), which is likely to represent domestic debris containing cereal waste from daily use and processing, along with associated fuel debris. This indicates that the excavated features are likely to have been peripheral to the nearby villa and any associated activity.

Conclusions and statement of potential

The carbonised plant remains from The Walled Garden, Bartlow contained a fairly typical assemblage of crop taxa for a Romano-British site. The concentration of material indicates that the excavated area was peripheral to any domestic occupation and agricultural activities that may have existed nearby.

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									Cereals			Non-cereal taxa		Charcoal		Molluscs		Contaminants				
Site code	Sample number	Context	Feature	Feature type	Phase	Volume (litres)	Flot (ml)	% processed	Cereal grains	Cereal chaff	Notes	Seeds	Notes	Charcoal>2mm	Notes	Molluscs	Notes	Roots	Molluscs	Modern seeds	Insects	Earthworm capsules
Phase 1																						
AS1490	10	2046	2045	Fill of Pit	1	20	60	100%	X	-	Trit (1), NFI (1)	-	-	X	-	-	-	XXX	X	X	-	-
AS1490	38	2153A		Layer	1	10	70	50%	-	-	-	-	-	X	-	XX	*Cochlicopa* sp., *Oxychilus* sp., *H. itala*, *Vallonia* sp.	XXX	X	-	-	-
Phase 2																						
AS1490	1	2012A	2011A	Fill of Gully	2	10	20	50%	X	-	E/S (1), Trit (2), NFI (4)	X	*Rumex* sp. (1), *Vicia/ Lathyrus* sp. (1)	X	-	X	*Vallonia* sp.	XX	-	X	-	-
AS1490	2	2014A	2013A	Fill of Ditch	2	10	5	50%	X	-	Trit (1), NFI (3)	X	*Chenopodium* sp. (2)	X	-	-	-	XX	X	X	-	-
AS1490	3	2012B	2011B	Fill of Gully	2	20	25	100%	X	X	Hord (1), Trit (1), NFI (4), Hord rachis (1), Spelt GB (1), Culm (1)	X	*Chenopodium* sp. (2), *Festuca/ Lolium* sp. (1)	XX	Diffuse porous (cf. Salix/ Populus)	X	*Vallonia* sp.	XX	-	X	-	-
AS1490	4	2014B	2013B	Fill of Ditch	2	10	20	50%	X	X	NFI (3), E/S GB (2)	X	Medium Poaceae (1)	X	-	-	-	XX	-	X	-	-
AS1490	5	2015A		Occupation Layer	2	30	145	75%	X	-	Trit (1), Oat (1), NFI (3)	X	*Festuca/ Lolium* sp. (1)	XX	Ring porous, *Quercus* sp.	XX	*Cochlicopa* sp., *Oxychilus* sp., *P. muscorum*, *T. hispida* gp., *Vallonia* sp.	XXX	XXX	-	-	X
AS1490	6	2010A	2009A	Fill of Ditch/ ?Quarry	2	10	100	50%	X	-	E/S (2), Trit (1), NFI (1)	X	Large Fabaceae (1)	XX	Diffuse porous	XX	*Oxychilus* sp., *P. muscorum*, *T. hispida* gp., *Vallonia* sp.	XXX	XX	-	-	X

AS1490	7	2088A	2086A	2nd Fill of Pit	2	20	100	100%	X	-	Hord (1), E/S (1), Trit (1), NFI (2)	-	-	X	Diffuse porous	XX	*H. itala*, *P. muscorum*, *T. hispida* gp., *Vallonia* sp.	XXX	XX	X	-	X
AS1490	8	2089A	2086A	Layer	2	20	60	100%	X	-	Hord (1), E/S (3), Trit (1), NFI (4)	-	-	X	Diffuse porous	XX	*Oxychilus* sp., *P. muscorum*, *T. hispida* gp., *Vallonia* sp.	XXX	XX	X	-	X
AS1490	9	2044A	2043A	Fill of Pit	2	20	80	50%	X	X	E/S (2), Trit (3), NFI (9), Culm (1)	X	Small Poaceae (1)	XX	Diffuse porous (cf. Maloideae/ Prunus), Ring porous	XX	*H. itala*, *P. muscorum*, *T. hispida* gp., *Vallonia* sp.	XXX	X	X	-	-
AS1490	11	2048	2047	Fill of Hollow	2	10	20	100%	-	-	-	-	-	-	-	XX	*P. muscorum*, *T. hispida* gp., *Vallonia* sp.	XXX	X	X	-	-
AS1490	12	2051	2050	Fill of Ditch	2	10	50	50%	-	-	-	-	-	-	-	XX	*H. itala*, *P. muscorum*, *T. hispida* gp., *Vallonia* sp.	XXX	X	X	-	-
AS1490	14	2055	2054	Fill of Pit	2	10	100	50%	X	-	NFI (1)	X	*Chenopodium* sp. (1), Medium Poaceae (1)	X	Diffuse porous	XX	*P. muscorum*, *T. hispida* gp., *Vallonia* sp., *Vertigo* sp.	XXX	XX	X	-	-
AS1490	15	2060	2009	Fill of Ditch/ ?Quarry	2	20		50%	X	-	E/S (1)	-	-	X	-	XX	*Cochlicopa* sp., *H. itala*, *P. muscorum*, *T. hispida* gp., *Vallonia* sp.	XXX	X	-	-	-
AS1490	16	2059	2009	Fill of Ditch/ ?Quarry	2	20		50%	-	-	-	-	-	-	-	XXX	*Cochlicopa* sp., *H. itala*, *P. muscorum*, *T. hispida* gp., *Vallonia* sp.	XXX	XX	X	-	-
AS1490	17	2080	2079	Fill of Pit	2	10	40	50%	-	-	-	-	-	XX	*Quercus* sp., Ring porous	XX	*H. itala*, *Vallonia* sp.	XXX	XX	X	-	-

AS1490	19	2044B	2043B	Fill of Pit	2	20	50	100%	XX	-	Hord (2), E/S (3), Trit (3), NFI (4)	X	Large Poaceae (1)	XX	Diffuse porous	XX	*H. itala*, *P. muscorum*, *T. hispida* gp., *Vallonia* sp.	XXX	XX	-	-	-
AS1490	20	2092	2091	Fill of Pit	2	40	60	100%	XX	X	E/S (8), Trit (7), NFI (10), E/S SF (1)	X	*Fallopia convolvulus* (1), *Rumex* sp. (1)	XX	Diffuse porous	XX	*D. rotundatus*, *Oxychilus* sp., *P. muscorum*, *Vallonia* sp.	XXX	XX	X	-	X
AS1490	21	2095	2093	Fill of Pit	2	20	90	100%	XX	X	Hord (4 + 1 germ), E/S (20), Trit (23 + 1 tail), NFI (39), Spelt GB (2)	XX	*Chenopodium* sp. (1), Chenopodiaceae (1), *Fallopia convolvulus* (21), *Rumex* sp. (2)	XX	Diffuse porous - woodworm attack	XX	*Oxychilus* sp., *P. muscorum*, *T. hispida* gp., *Vallonia* sp.	XXX	XX	X	-	X
AS1490	22	2090		Buried Soil Layer	2	20	60	50%	X	-	E/S (4), NFI (3)	-	-	XX	Diffuse porous (cf. Maloideae/ Prunus + cf. Corylus)	XX	*Discus rotundatus*, *Oxychilus* sp., *T. hispida* gp., *Vallonia* sp.	XXX	XX	X	-	-
AS1490	23	2098	2097	Fill of Pit	2	20	45	66%	X	-	Hord (2), Oat (1), NFI (1)	X	*Fallopia convolvulus* (1)	X	-	XX	*Cochlicopa* sp., *P. muscorum*, *Vallonia* sp.	XX	XX	X	-	-
AS1490	24	2088B	2086B	2nd Fill of Pit	2	20	130	50%	X	-	NFI (2)	-	-	X	-	XX	*Oxychilus* sp., *P. muscorum*, *T. hispida* gp., *Vallonia* sp.	XXX	XX	X	-	-
AS1490	25	2127A	2126A	Fill of Ditch	2	10	40	50%	X	-	Hord (1)	-	-	-	-	-	-	XXX	XX	-	-	-
AS1490	26	2127B	2126B	Fill of Ditch	2	10	40	50%	X	-	Hord (1), NFI (3)	-	-	XX	Diffuse porous	X	*P. muscorum*, *Vallonia* sp.	XXX	XX	X	-	-
AS1490	27	2132	2130	Fill of Well	2	10	20	50%	X	-	Trit (1)	-	-	X	Diffuse porous	XX	*P. muscorum*, *T. hispida* gp., *Vallonia* sp.	XXX	XX	-	-	-

AS1490	28	2131	2130	Fill of Well	2	20	50	100%	X	-	Hord (1), E/s (2), Trit (2), NFI (5)	-	-	X	Ring porous, *Quercus* sp.	XX	*Cochlicopa* sp., *T. hispida* gp., *Vallonia* sp.	XXX	XX	-	-	X
AS1490	29	2136A	2135A	Fill of Gully	2	10	70	50%	X	-	HB (1), E/S (2), Trit (1), NFI (5)	X	*Vicia/ Lathyrus* sp. (1), *Bromus* sp. (1)	X	-	XX	*T. hispida* gp., *Vallonia* sp.	XXX	X	X	-	-
AS1490	31	2146	2145	Fill of Ditch	2	10	50	50%	X	-	Trit (2), NFI (1)	-	-	X	-	X	*P. muscorum*, *Vallonia* sp.	XXX	XX	-	-	-
AS1490	32	2138B	2137B	Fill of Gully	2	10	10	50%	-	-	-	-	-	-	-	X	*H. itala*, *P. muscorum*	XX	XX	-	-	-
AS1490	35	2150A	2149A	Fill of Gully	2	10	30	50%	X	-	HB (1)	-	-	X	Diffuse porous	XX	*Cochlicopa* sp., *P. muscorum*, *Vallonia* sp.	XXX	XX	X	-	-
AS1490	36	2150B	2149B	Fill of Gully	2	10	60	50%	X	-	Trit (1)	-	-	X	Diffuse porous	XX	*Cochlicopa* sp., *T. hispida* gp., *Vallonia* sp.	XXX	X	-	X	-
Unphased																						
AS1490	18	2069	2068	Fill of Pit	-	10	10	100%	-	-	-	-	-	X	-	X	*Vallonia* sp.	XX	XX	-	-	-

Table 20: Results from the assessment of bulk sample light fractions from Bartlow; abbreviations: HB = hulled barley (Hordeum sp.); Hord = barley (Hordeum sp.); Spelt = (Triticum spelta); E/S = emmer/ spelt wheat (Triticum dicoccum/ spelta); Trit = wheat (Triticum sp.); Oat (Avena sp.); GB = glume base; SF = spikelet fork; NFI = not formally identified (Cereal indet.)

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Plate 1: Bone hair pin of Crummy's Type 3 from Phase 2 Ditch/ possible Quarry Feature F2009 (L2010 (Segment A))

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DP 3. Northern end of new access road (general shot; pre-monitoring), looking SE

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DP 5. Sample Section 2, looking E

DP 6. Sample Section 3, looking N

DP 7. Sample Section 4, looking S

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DP 9. Phase 1 Pit F2123, looking NW

DP 10. Phase 2 Ditch F2050C, looking W

DP 11. Sections through F2009B (bottom R), F2043B (top L) and Layer L2015 (uppermost), looking SW

DP 12. Detail of F2043B, looking W

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DP 19. Southern end of new access road (post-monitoring), looking NE

DP 20. Trench 4 of the archaeological monitoring and recording, looking N

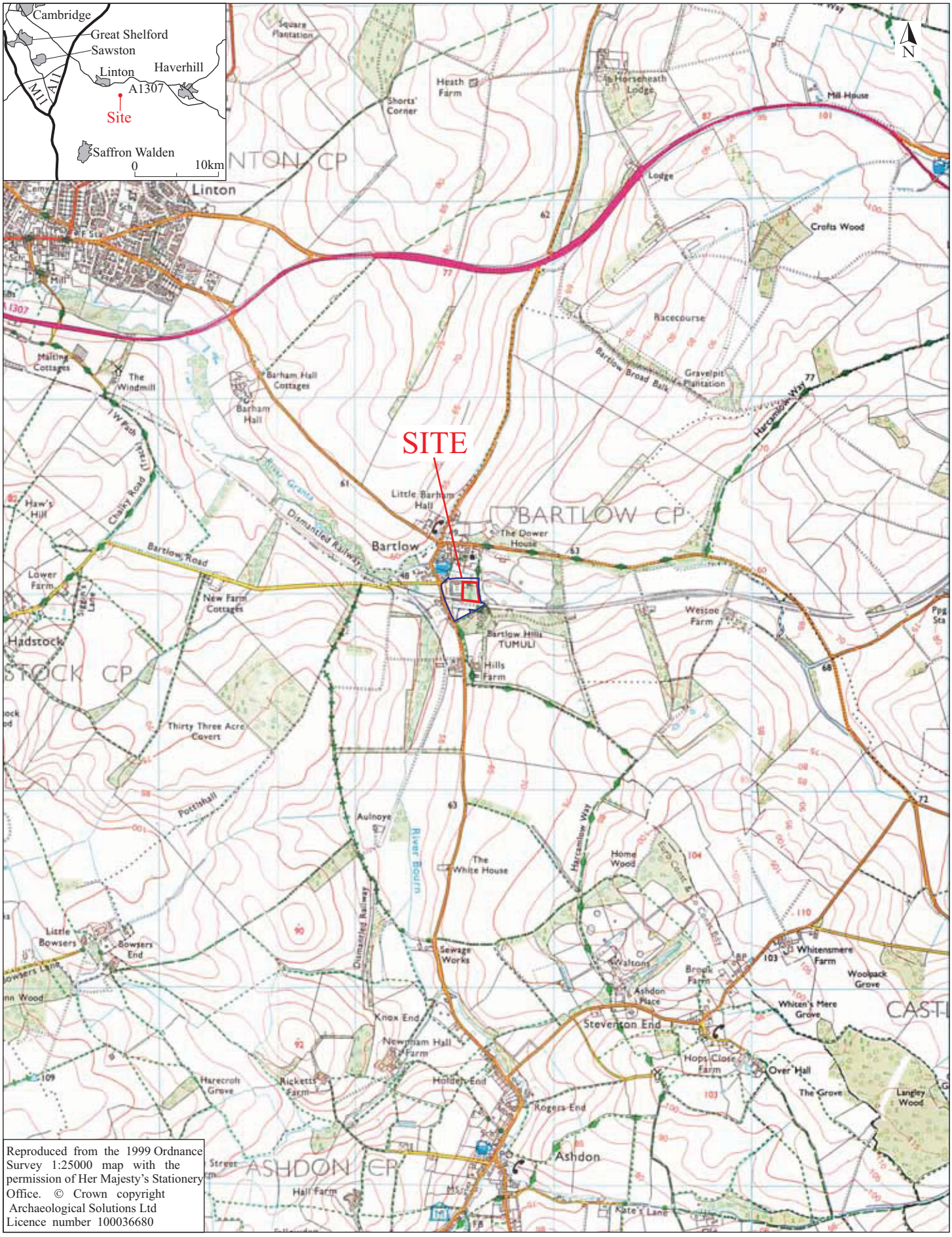

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Fig. 1 Site location plan

Scale 1:25,000 at A4

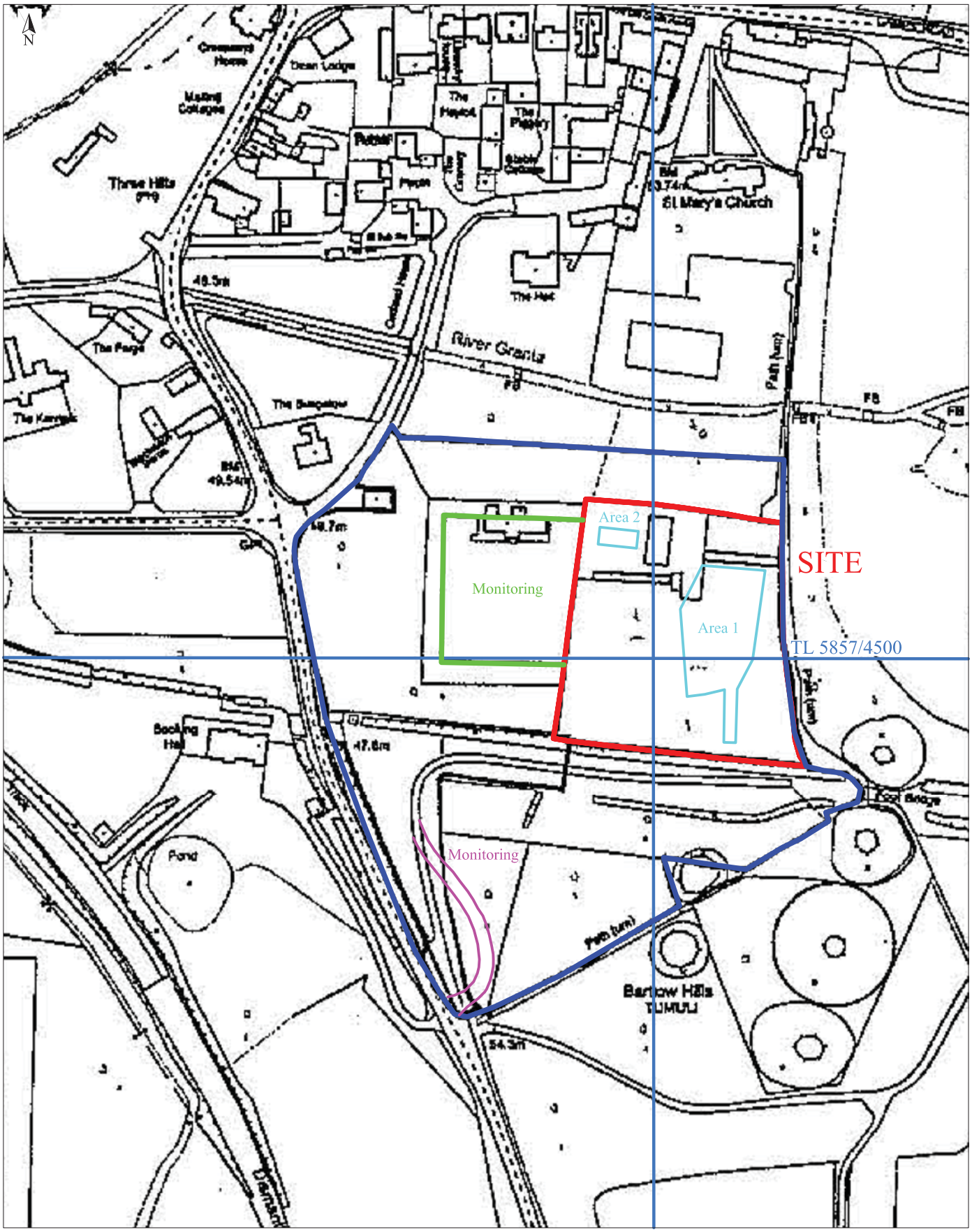

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Fig. 2 Detailed site location plan

Scale 1:2000 at A4

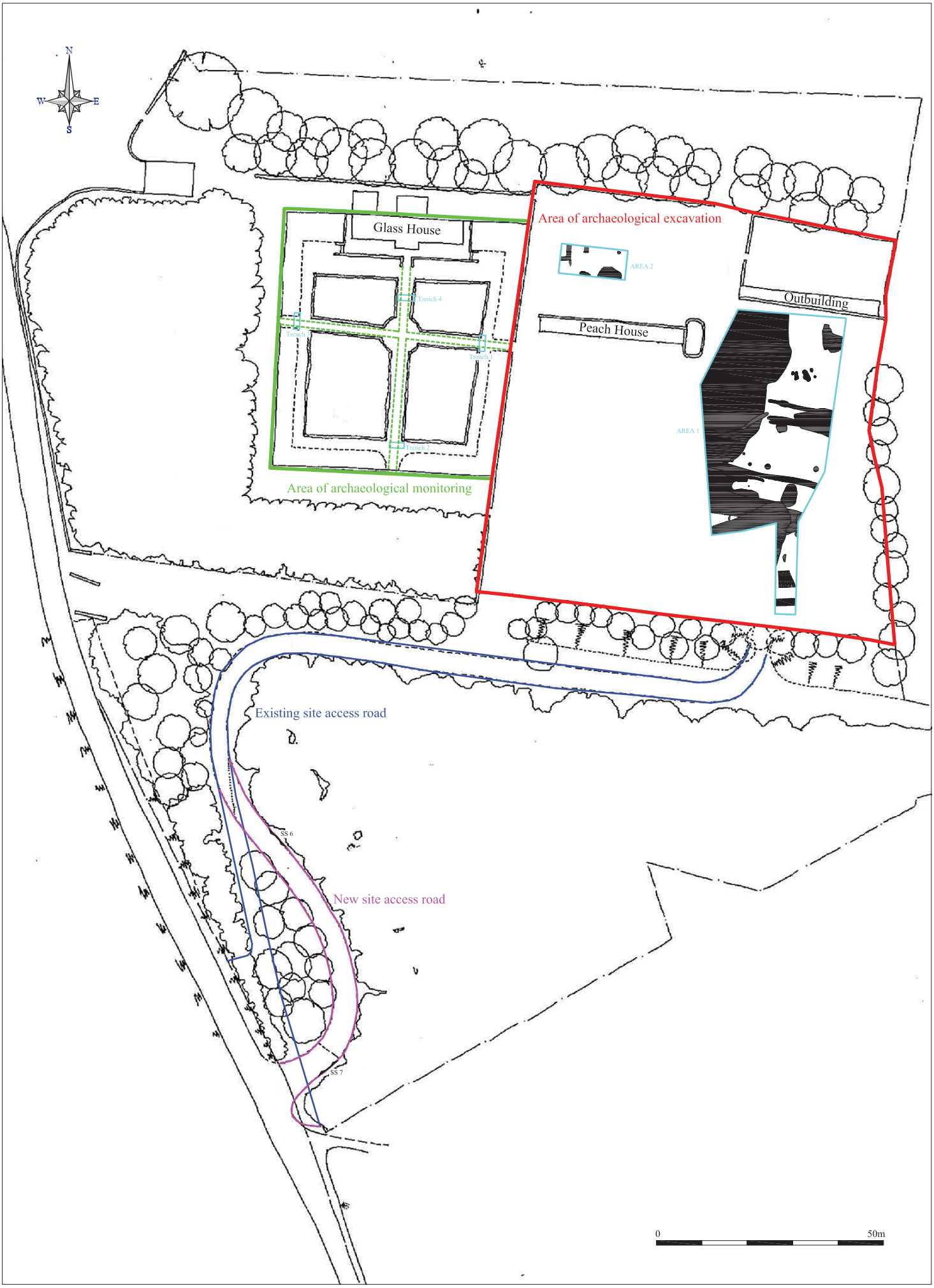

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Fig. 2.1 Trench location plan

Scale 1:750 at A3

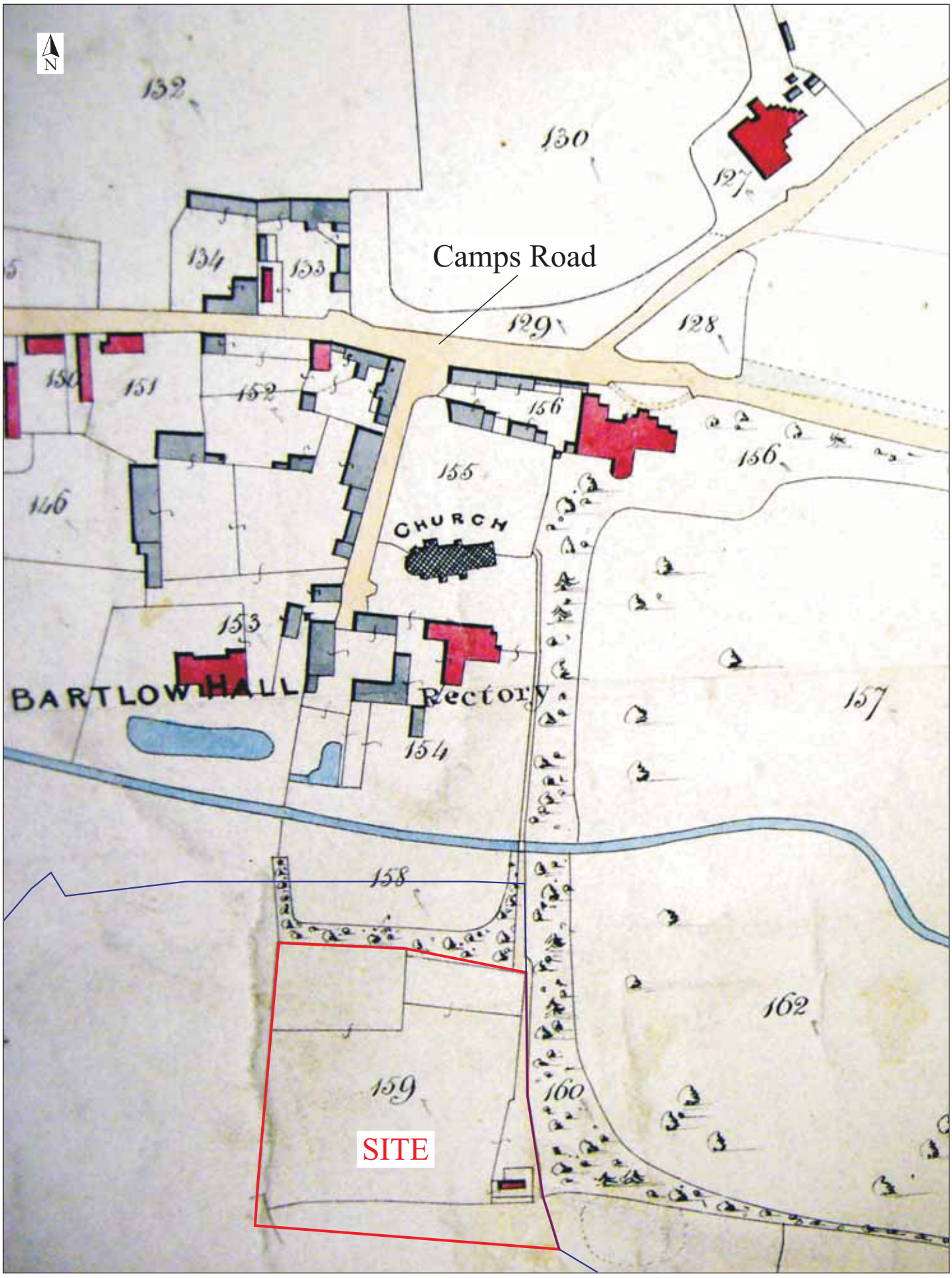

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Fig. 3 1845 Tithe map
Not to scale

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Fig. 4 OS map, 1886

Not to scale

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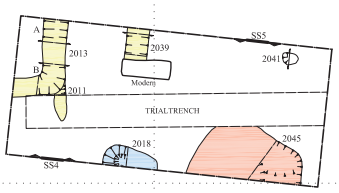
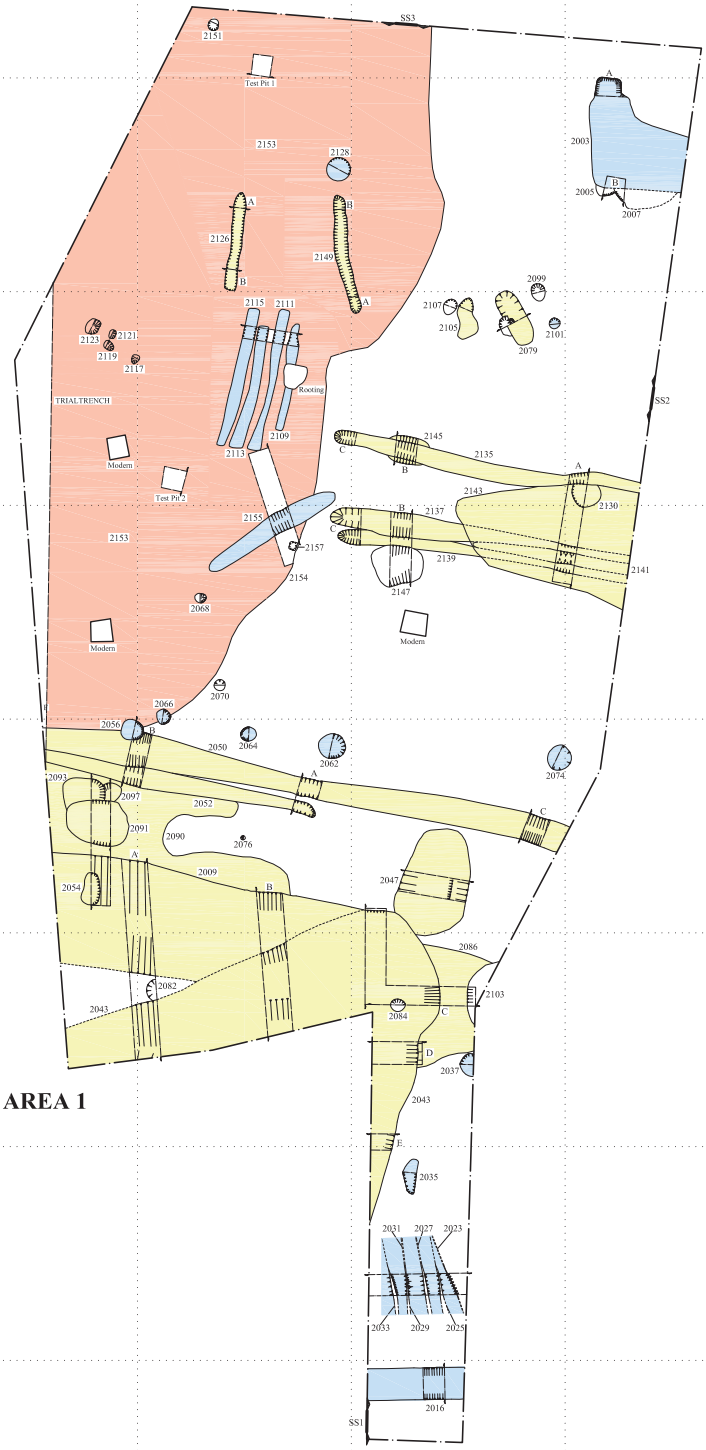
Fig. 5 OS map, 1904

Not to scale



AREA 2



AREA 1

Phase 1 - Prehistoric
Phase 2 - Romano-British
Phase 3 - Post-medieval
Un-phased

0 15m

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Fig. 6 All features plan

Scale 1:250 at A3

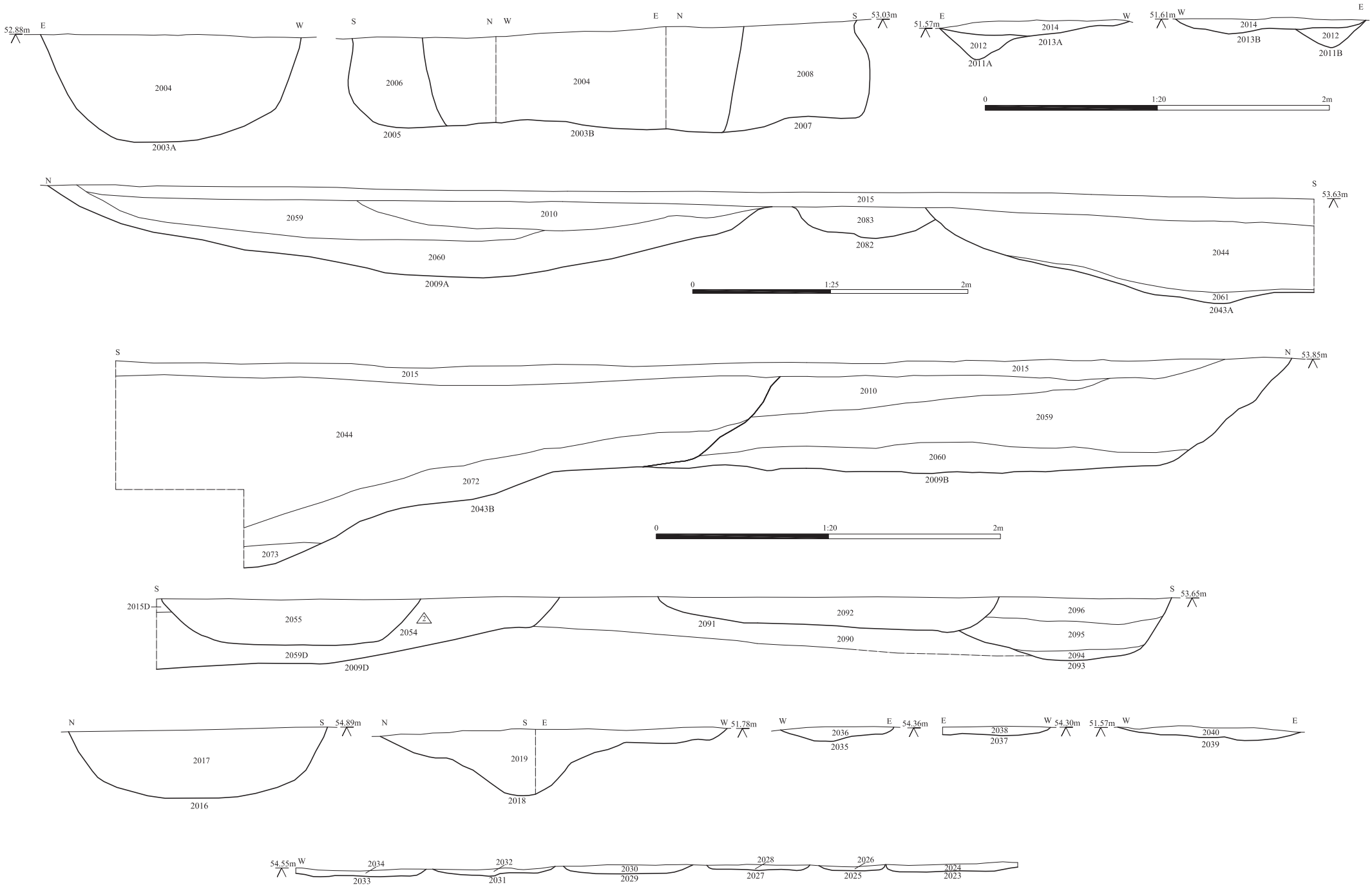

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Fig. 7 Sections

Scale 1:20 and 1:25 at A3

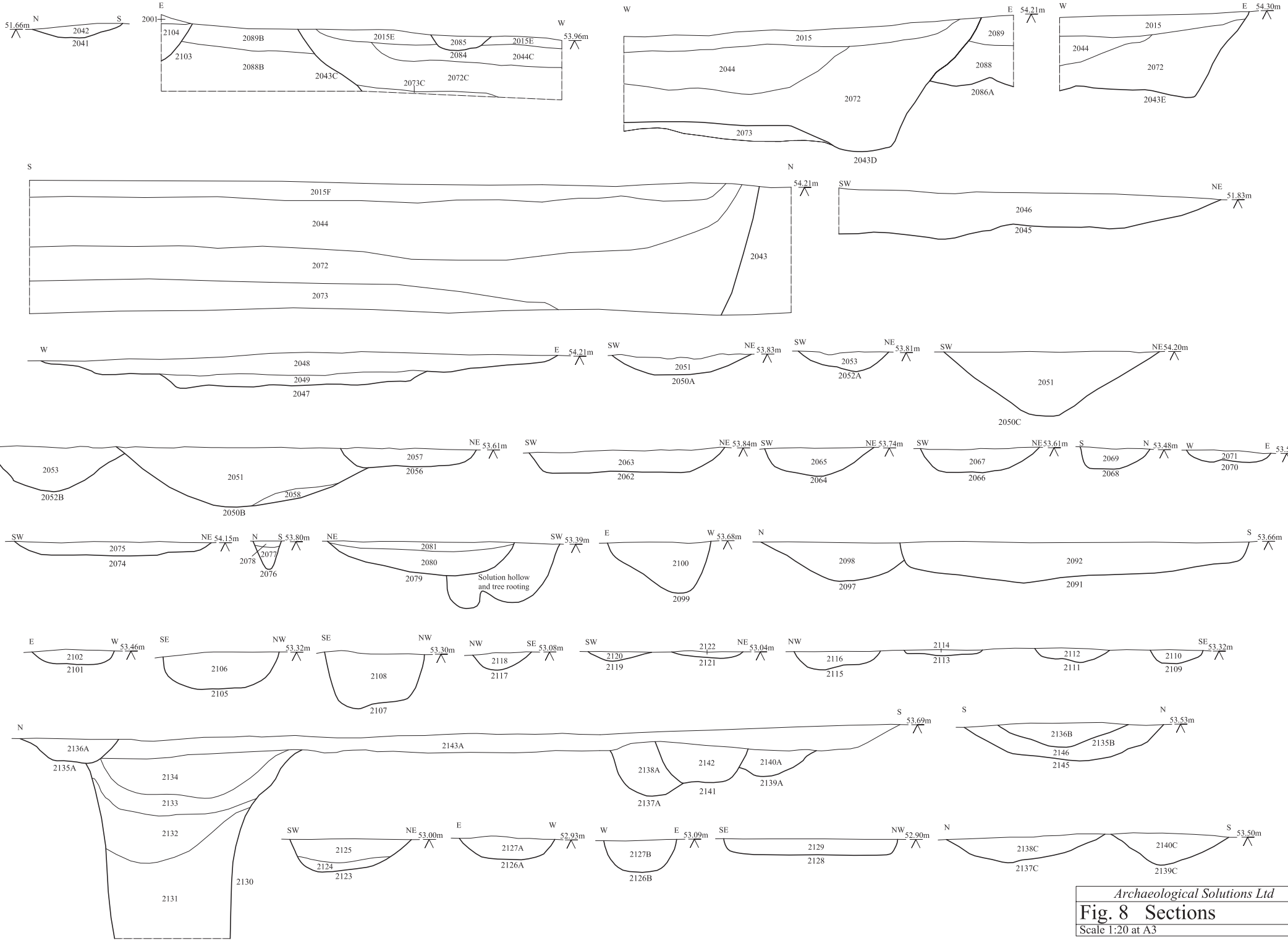

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Fig. 8 Sections	
Scale 1:20 at A3	

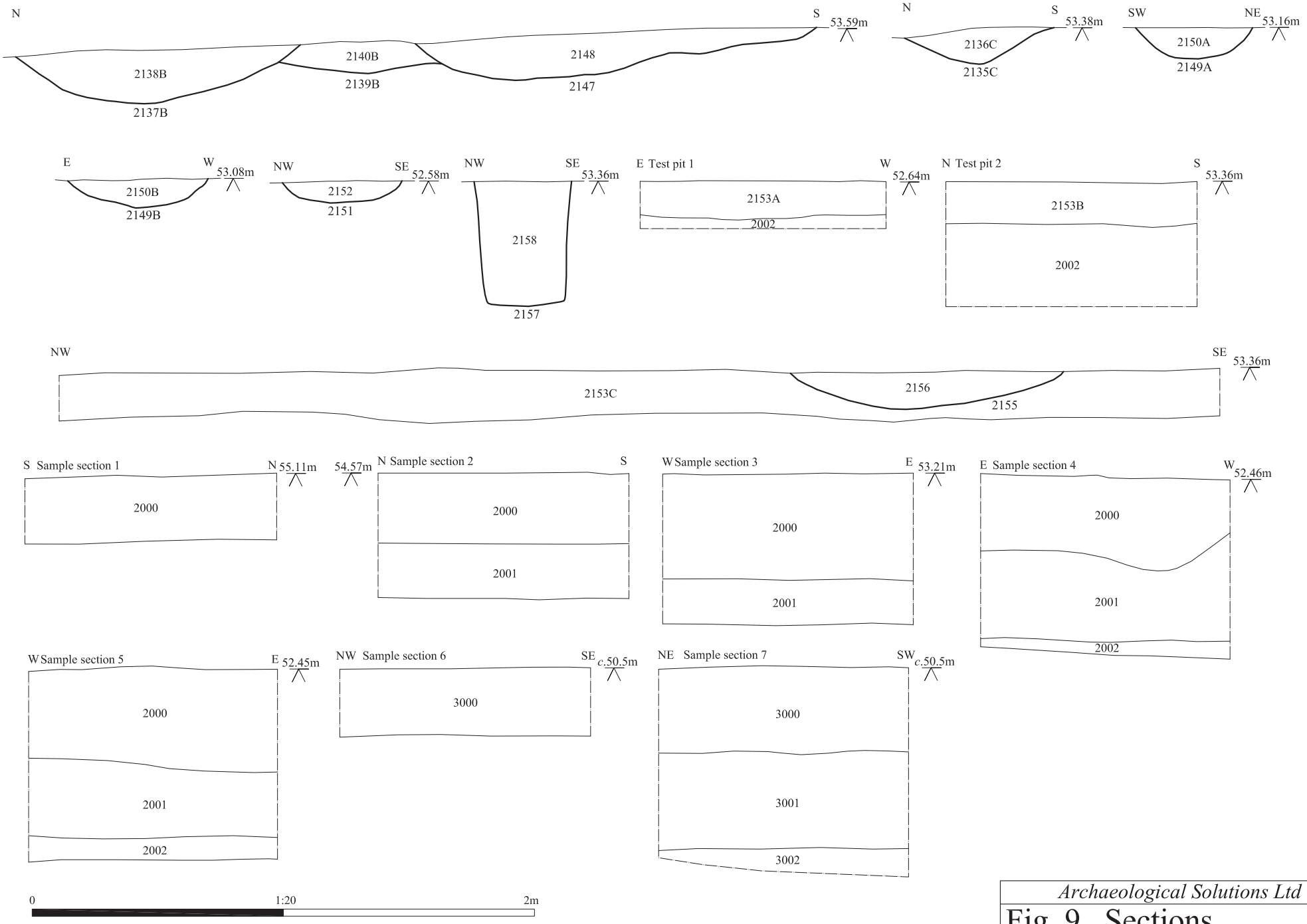

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Fig. 9 Sections

Scale 1:20 at A4

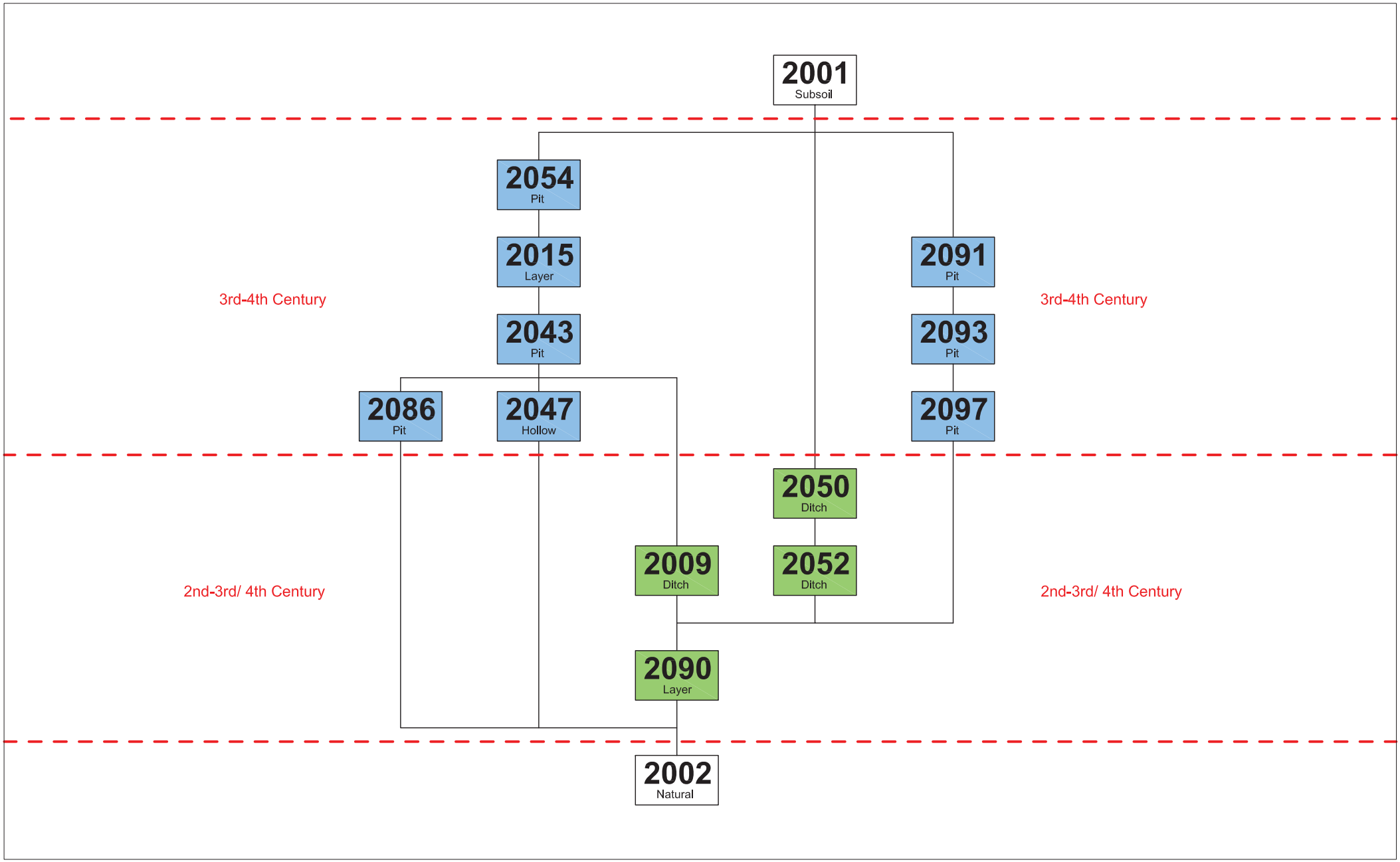

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Fig. 10 Phase 2 features/ layers (Area 1 South)

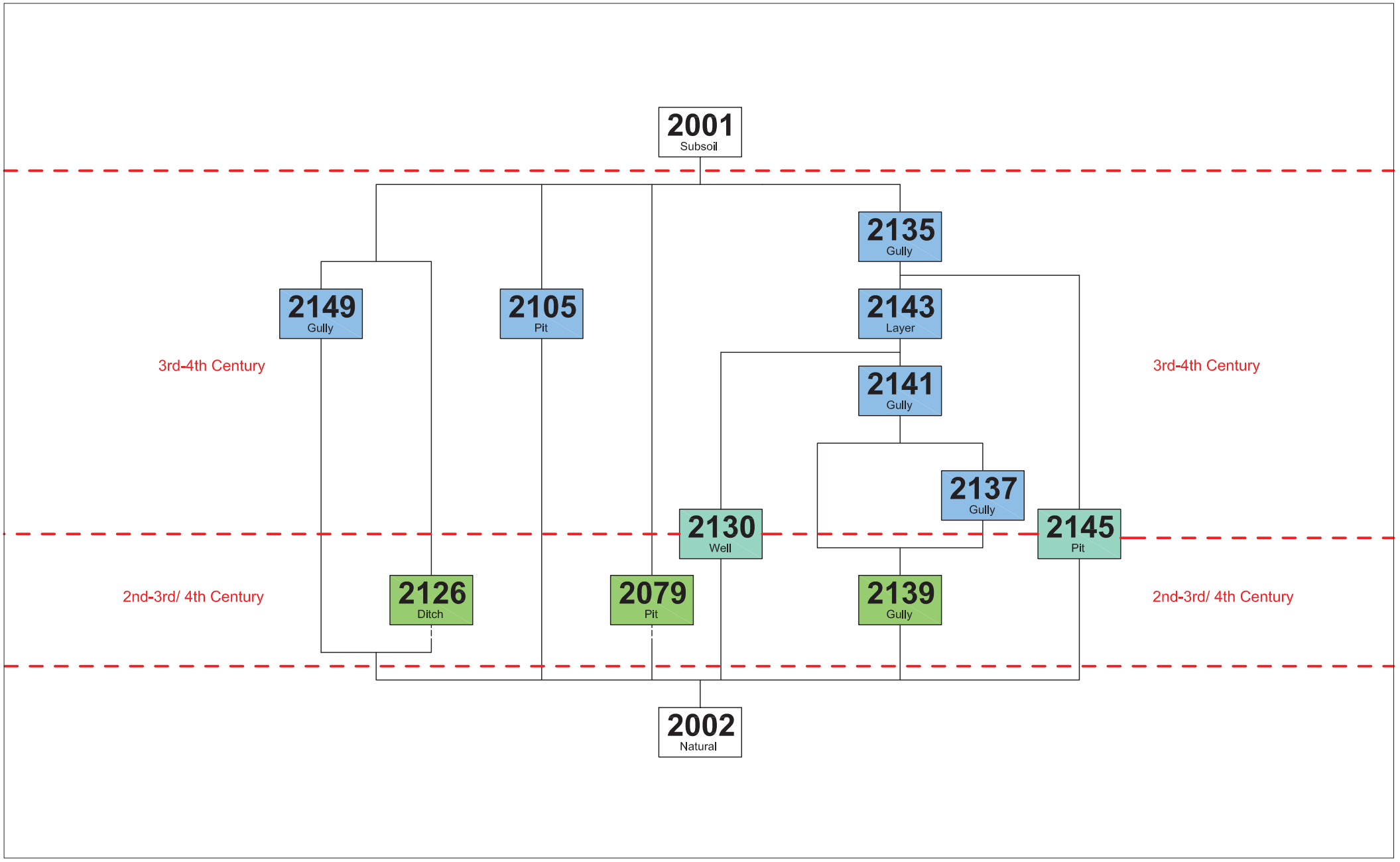

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Fig. 11 Phase 2 features/ layers (Area 1 North)