LATE PRE-ROMAN IRON AGE ACTIVITY AND EARLY ROMANO-BRITISH ENCLOSURES AT RADCLIFFE SCHOOL, WOLVERTON, MILTON KEYNES

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with contributions by
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In 2007 archaeological investigations on the playing fields of Radcliffe School, Wolverton, located Late Pre Roman Iron Age features, perhaps defining agricultural activity peripheral to a small rural settlement, and the ditches of two Romano British (RB) enclosures. Finds suggest that the first RB enclosure was established in the latter part of the 1st century AD, but its ditches silted relatively swiftly and ditches of a second slightly larger enclosure were dug during the 2nd century AD. Little structural evidence was identified, which may suggest that settlement foci lay further to the west, beyond the limits of the excavated area. Two large pits were dug near the centre of the excavated area during the latter part of the 1st century AD, and similar pits continued to be dug in this area throughout the life of the RB enclosures. The function of the pits remains uncertain, but could have been extraction of clay for production of pottery or other fired clay objects. The ditches of the second enclosure also silted relatively rapidly, and RB activity in the latter part of the 2nd century was confined to excavation of a few shallow pits. The area then seems to have been little used until the early-mid Anglo Saxon (AS) period, when four small pits were dug at the west end of the excavated area. The AS pits probably define peripheral activity associated with the mid AS enclosure located slightly to the west at Wolverton Turn. The site was subsequently used as agricultural land until the school was built and playing fields established during the latter part of the 20th century.

Introduction

In the autumn of 2007 Archaeological Services & Consultancy (ASC) completed open-area excavation of approximately 0.7 hectares of land located in the northwest part of the playing field of Radcliffe School, Wolverton, Milton Keynes. The excavation was required by Milton Keynes Council Senior Archaeological Officer after archaeological evaluation (Hancock 2007a; Wilson 2007) had identified Late Pre Roman Iron Age (LPRIA) and early Romano-British pits and enclosure ditches, and was carried out in accordance with a project design prepared by ASC (Zeepvat 2007). The work was commissioned by NJL Consulting on behalf of Milton Keynes Council and Radcliffe School, in advance of mixed development at the fringes of the playing field and the redevelopment of the school. The project archive will be deposited with Buckinghamshire County Museum: the accession number is AYCBM 2007.72.

Excavation of an Anglo-Saxon cemetery c.500m south-east of this site, carried out by ASC in 2007–2008, is to be the subject of a separate report in a forthcoming edition of *Records.*

Topography and Geology

The excavated area lies *c.*1km to the south of the river Great Ouse (Fig. 1); the modern ground surface sloped gradually from 84m OD at the south to 81.7m OD at the north. The natural soils of the

area are of the *Badsey 1 Association*, (Soil Survey, 1983, 511h); the soils overlie a poorly sorted Pleistocene glaciofluvial deposit of silty clay containing pockets of sand and gravel, which covers the solid geology of white limestone.

Archaeological Background

Agriculture and settlement expanded from an earlier riverine focus onto areas with heavier soils during the mid-Iron Age (Croft & Mynard 1993). The closest recorded example of this phenomenon is a middle Iron Age farmstead located *c*.2km to the east at Bancroft (Williams & Zeepvat 1994). By the late Iron Age large numbers of farmsteads were present in a wide variety of locations (Kidd 2009), and settlement continuity into the post conquest period is often evident (Radford & Zeepvat 2009).

Roman villa estates were established shortly after the conquest at this part of the Great Ouse valley, perhaps influenced by proximity to the Roman road known as Watling Street. The closest villa complexes are located at Bancroft (Williams & Zeepvat 1994) and at Cosgrove, *c*.1.5km to the northwest (Quinell *et al* 1991). Other villas are recorded *c*.4km to the west at Deanshanger (Brown 2006), *c*.4km to the east at Stantonbury (Mynard 1987, 97–104) and *c*.4km to the east-northeast at Stanton Low (Woodfield 1989).

Early Saxon finds in the vicinity of the excavated area (e.g. Williams & Zeepvat 1994; Thorne 2005) are interpreted as identifying ephemeral settlement activity showing no continuity with the earlier pattern. However, aggregated settlement was re-established during the mid-Saxon period; the closest evidence of this phenomena is the Wolverton Turn enclosure (Preston *et al* 2007), located *c*.160m to the southwest of the excavated area. The place-name "Wolverton" probably originated at this time and has been translated as 'Wulfhere's Tun', or 'Wulfhere's estate' (Croft & Mynard 1993, 191). The settlement appears to have shifted northward during the latter part of the Saxon period, to the area which was to become the medieval village of Wolverton.

Results

The excavation revealed finds and features which are interpreted as defining seven phases of use. The earliest features identified Late Pre Roman Iron Age agricultural and funerary activity. The area was subsequently enclosed by ditches during the second half of the 1st century AD and the enclosure layout was redefined in the first half of the 2nd

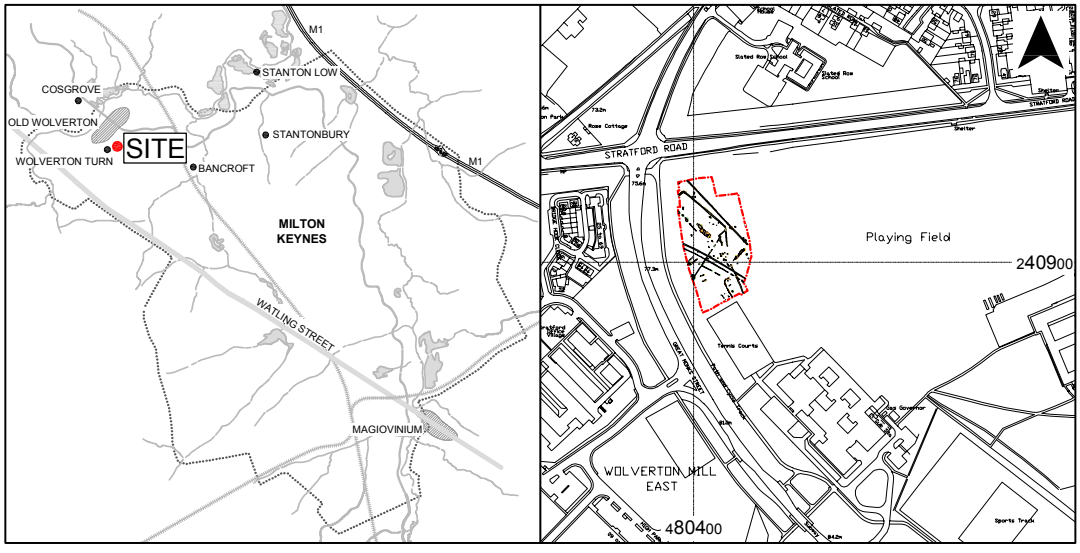

Figure 1 Location of excavated area

century AD. A group of large intercutting shallow pits located near the centre of the excavated area suggest that extraction of raw material commenced during the latter half of the 1st century AD, continued intermittently throughout the life of the Romano-British enclosures and ceased toward the end of the 2nd century.

The area seems to have seen little use during the latter part of the Roman and the early Saxon periods, when it was probably open agricultural land. Four shallow intercutting Saxon pits were present at the eastern margin of the excavation, but mid Saxon activity at the Wolverton Turn enclosure, *c.*120m to the west, had no other visible impact. The site was incorporated into Wolverton's open field system during the medieval period and was inclosed during the post-medieval period. It then continued in use as agricultural land until construction of Radcliffe School during the 1960s.

The longstanding arable agricultural use and groundwork during construction of the school had contributed to significant truncation of the surviving archaeological features and function and phasing is largely based on relatively broadly dated ceramic finds, which is a cause for caution. The following sections set out the evidence in chronological order.

Phase 1: Late Pre-Roman Iron Age Activity

Three shallow, perpendicular truncated gullies (G1, G2 and G3) were located at the southern half of the excavated area. The gully fills contained a few sherds of Belgic pottery, but environmental evidence was not recovered. The gully layout may suggest that this area was subdivided into part of a coaxial field system during the first half of the first century (Fig. 2).

An inhumation burial (I1) was present approximately 4m northwest of the intersection of two of the proposed coaxial field system gullies. The burial was of a 9 – 12-year-old child, interred on its right side with legs flexed, hands resting on the thighs, head to the north east and feet to the south west. Analysis identified two pathological conditions: a very slight periosteal reaction affecting part of the lower left leg, typical of infection/infectious disease, ill health, or the result of trauma; and an unexplained enlargement of the right tibia soleal line (a muscle attachment site) relative to the left. Bone preservation was good, but the skeleton was only 50–75% complete as the shallow burial had been truncated by later ploughing. The burial was not dated by finds, but a calibrated radiocarbon date (SUERC-19600: GU-16925) shows that this individual died between AD15 – AD85 (1s) or 20BC – AD130 (2s). The dates span phases 1, 2 and 3, but the rite, *i.e.* inhumation rather than cremation, and the position of the burial within the subsequent Romano-British enclosure, suggests that the child may have died and been buried during phase 1.

The final features assigned to this phase were ten isolated, mostly shallow and concave profiled pits. Four have been phased solely through stratigraphic relationships, but six contained small assemblages of Belgic grogged pottery. The best preserved pit [314] was 0.5m deep with near vertical sides and a slightly concave base. A small assemblage of cattle bone and fifteen unabraded sherds of Belgic grogged pottery were recovered from its fill (313). The only environmental evidence recovered from the fill of this pit was a single grain of barley.

Phase 2: Mid-Late 1st Century Romano-British Enclosure

By the middle of the 1st century the west of the excavated area had been enclosed by ditches D1 and D2 (Fig. 2). The best preserved of the enclosure ditches (D1) had steep sides and a slightly concave base with maximum surviving dimensions of *c.*1.5m wide and *c.*0.5m deep. It entered the northwest of the excavated area on a northeast-southwest alignment, then returned after *c.*6.6m to run northwest-southeast for *c.*56m. The majority of the pottery assemblage recovered from the single fill of the ditch comprised Belgic grogged, black surfaced and sandy grey ware, although a small amount of shell tempered ware and one sherd of a Verulamium white ware flagon was also present. A small assemblage of undiagnostic heated clay was recovered from the ditch terminus.

The other enclosure ditch (D2) was much shallower. It entered the south of the excavated area and terminated 1.9m before the terminus of ditch D1. The function of the gap between enclosure ditches D1 and D2 is uncertain as its narrowness may have discouraged regular use as an entrance way. Additionally, two *c.*1.8m diameter and *c.*0.4m deep intercutting pits [462 and 464], were dug *c.*3.6m east of the gap between the enclosure ditches during this phase, and their presence would

have impeded direct approach. Appended to the western side of ditch D2 immediately to the south of the gap was a shallow L-shaped gully (G4) which contained a similar pottery assemblage and perhaps defined a phase 2 stock pen.

An urned cremation burial (C1) of a single adult was interred at the extreme northwest of the excavated area. The cremation was located *c.*8m north of ditch D1, it was contained in a shell tempered jar and was accompanied by a small unsourced white ware flagon. The pots are broadly dated to the 1st to the early 2nd century AD and this could place the cremation burial in the subsequent phase. However, it is tentatively assigned to phase 2 as it is located within the subsequent phase 3 enclosure, which is inconsistent with contemporary funerary practice.

Two large extractive pits were dug within the enclosed area during this phase. The pits were located *c.*2m apart and the bigger of the two [251], was ovoid, with dimensions of 5.4m x 2.4m and a 0.48m deep concave profile. Nineteen sherds of sandy grey ware, a few fragments of cattle and sheep bone and three grains of barley were recovered from its primary fill (250). Its second and final fill contained one hundred and twenty sherds of Belgic grogged and sandy grey ware pottery, one sherd of a La Graufesenque samian bowl, and occasional blocks of blue-grey plastic clay. The second pit [577] was 0.4m deep with a steep sided, flat bottomed profile; it may have been sub-circular with a diameter of *c.*2.8m when opened, but this was uncertain as it was cut by two later pits. The primary fill (576) of the pit contained six sherds of Belgic grogged and shell tempered ware and the secondary fill (575) contained twenty six sherds of shell tempered and sandy grey ware. Nineteen cereal grains, including spelt wheat and barley, two fragments of wheat chaff and a few fragments of animal bone were recovered from environmental samples of the pit fills. Seeds of non-crop species, many commonly found on disturbed ground or as crop weeds, were also present.

Located near the centre of the excavated area was a group (P1: Fig. 2) of ten small pits and post holes which are assigned to this phase. Nine of the pits had shallow concave profiles containing single sandy fills; five were not dated by artefacts, but four contained a few sherds of Belgic grogged and sandy grey ware pottery. The remaining pit [167] had steep sides breaking sharply to a flat base, and was the most substantial of the group with dimensions of 0.95m wide and 0.40m deep. A Belgic girth beaker with a rounded body and corrugated neck (Form G4: Thompson 1982; Fig. 5) had been placed in an inverted position at the base of this pit. A bulk environmental sample of the pit fill contained only two seeds of ivy-leaved speedwell, which is often found on disturbed ground and can occur as a crop weed.

The use of cereal crops during this phase is illustrated by evidence recovered from parallel gullies G5 and G6, located at the southwest end of the excavated area. One of the gullies was undated, but a single sherd of unsourced oxidised ware was recovered from gully G6, which also cut a phase 1 pit. The dark organic fill of G6 contained abundant charred spelt wheat grain, abundant wheat chaff and limited barley grain, which suggests proximity to an area of crop processing.

The location of an agricultural outbuilding of this phase is probably identified by two parallel alignments of three closely spaced, shallow post holes (S1), located at the southwest end of the excavated area. Five of the post holes were undated, but a single sherd of unabraded La Graufesenque samian was recovered from post hole [261].

Six dispersed pits are also assigned to this phase; five contained single pot sherds or are phased as a consequence of stratigraphic relationships, but the best preserved, pit [336], contained a few sherds of Belgic grogged and sandy grey ware, plus the majority of a large storage jar in shell tempered fabric (Fig. 5). Only one grain of barley and two weed seeds were present in a bulk sample of the pit fill.

Phase 3: Early 2nd Century Romano-British Enclosure

The ditches of the phase 2 enclosure appear to have infilled relatively quickly and ditches D3, D4 and D5 were then dug to create a slightly realigned and perhaps enlarged phase 3 enclosure (Fig. 3). The longest section of enclosure ditch (D3) entered the north of the excavated area and ran for *c.*122m before terminating approximately 2.5m before the eastern edge of the excavated area. The ditch was U-shaped with maximum surviving dimensions of c.1.2m wide and c.0.5 m deep, and the pottery assemblage was similar to that of the previous phase, although regional and continental imports such as Verulamium white ware and La

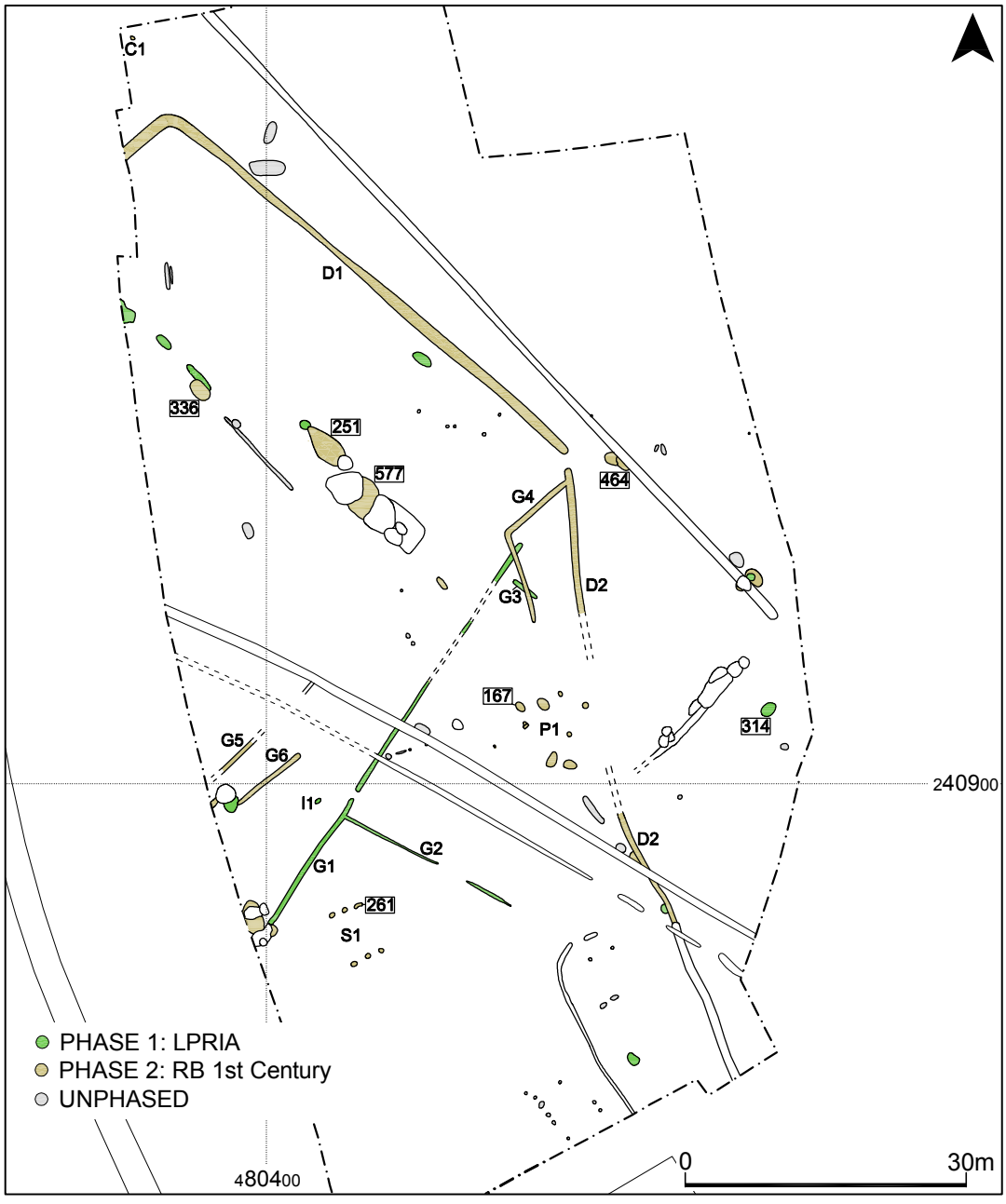

FIGURE 2 LPRIA and 1st-century Romano-British features

Graufesenque samian were more prevalent. The remaining parts of the enclosure boundary were defined by a short shallow ditch (D4), which ran perpendicular to ditch D3 and contained sherds of Verulamium white ware, and a 0.25m deep U-shaped recut (D5) of part of the phase 2 enclosure ditch, which contained a few abraded sherds of Belgic grogged and sandy grey ware. A gully (G7) located *c*.11m to the west of ditch D5 delimited an internal phase 3 enclosure: its fill contained sherds of Belgic grog tempered, sandy grey ware, shell tempered ware and two sherds of La Graufesenque samian. A few charred wheat grains and a small amount of wheat chaff were also present. A less confidently identified recut (D6) of part of the phase 2 enclosure ditch may have internally subdivided the phase 3 enclosure.

Two large pits were dug during this phase to continue extractive activity near the centre of the excavated area. The largest pit [599] was probably sub-rectangular when opened, but its northwest margin had been cut by a later pit and this is uncertain. The surviving part of the pit had dimensions of 7.6m x 1.7m, steep sides and a slightly concave base with a maximum depth of 0.6m. A small assemblage of shell tempered ware, sandy grey ware and one sherd of Lezoux samian pottery was recovered from its single fill. The second pit [581] was dug *c*.1.6m northwest of pit [599]; it was sub-circular with a diameter of *c*.3.4m, steep sides and an irregular base which intersected outcropping white limestone at a depth of *c*.0.8m. It cut the northwestern side of phase 2 extractive pit [577], and a small assemblage of Belgic grogged and sandy grey ware pottery plus 1.66kg of heat-affected clay, including a small, incomplete sub-rectangular slab with dimensions of 150mm x 110mm x 50mm, were recovered from its primary fill (578). The heat-affected clay lacked diagnostic features and was very fragmented: it remains uncertain whether it derived from structural features such as ovens, or if it is the remnant of quickly made functional objects such as loomweights. Five wheat grains, including spelt, and fourteen weed seeds were present in an environmental sample of the primary fill (578).

The final features assigned to this phase were two shallow pits [253 and 390]; one [253] cut phase 2 extractive pit [251] and the other [390] respected part of the phase 3 enclosure ditch, but neither contained dating evidence.

Phases 4 & 5: Later 2nd Century Romano-British Pits

Intermittent extractive activity continued near the centre of the excavated area during the latter part of the 2nd century (Fig. 3). Phase 4 pit [596] partially truncated phase 2 and 3 extractive pits [577] and [599]; it was sub-circular with a diameter of *c*.1.5m, a steep U-shaped profile and a maximum depth of 0.6m. Elsewhere, a large, shallow sub-rectangular phase 4 pit [599] was dug through part of phase 3 enclosure ditch D4. Its primary fill (510) contained a small assemblage of perhaps residual shell tempered and sandy grey ware, two fragments of wheat grain and one fragment of wheat chaff. Its function is uncertain, but the paucity of cultural material suggests that it may have been dug for extraction rather than to deposit waste. A smaller undated pit [374] located to the southwest of pit [599] also truncated phase 3 enclosure ditch [378], and is assigned to phase 4 on the basis of this stratigraphic relationship.

Phase 5 comprised nine small, usually shallow and often intercutting sub-circular pits: five of the pits were focused at the two areas of extraction previously discussed. Little environmental evidence and few artefacts were recovered from the majority of the pit fills, although the deepest (0.4m) pit [508] contained nine sherds of 1st - 2nd century Baetican amphora and pits [171] and [523] contained sherds of 2nd-4th century pink grog tempered pottery. Pit [171] also contained charred grains of wheat and barley, wheat chaff, frequent charcoal and amorphous fragments of heat affected clay.

Phase 6: Anglo Saxon Pits

Four shallow pits [348, 350, 352, 550] were dug at the southwest end of the excavated area during this phase (Fig. 4). The *c*.0.3m deep fills of the two largest pits [348] and [350] contained small assemblages of undecorated early-mid Saxon pot sherds. Environmental evidence was not present in bulk samples collected from the pit fills and their function remains uncertain.

Phase 7: Post-Medieval Agriculture

Two parallel west northwest – east southeast aligned ditches crossed the southern half of the excavated area (Fig. 4). The only find recovered was the base of a brown glass bottle from the fill of the deeper (*c*.0.5m) northern ditch. A recon-

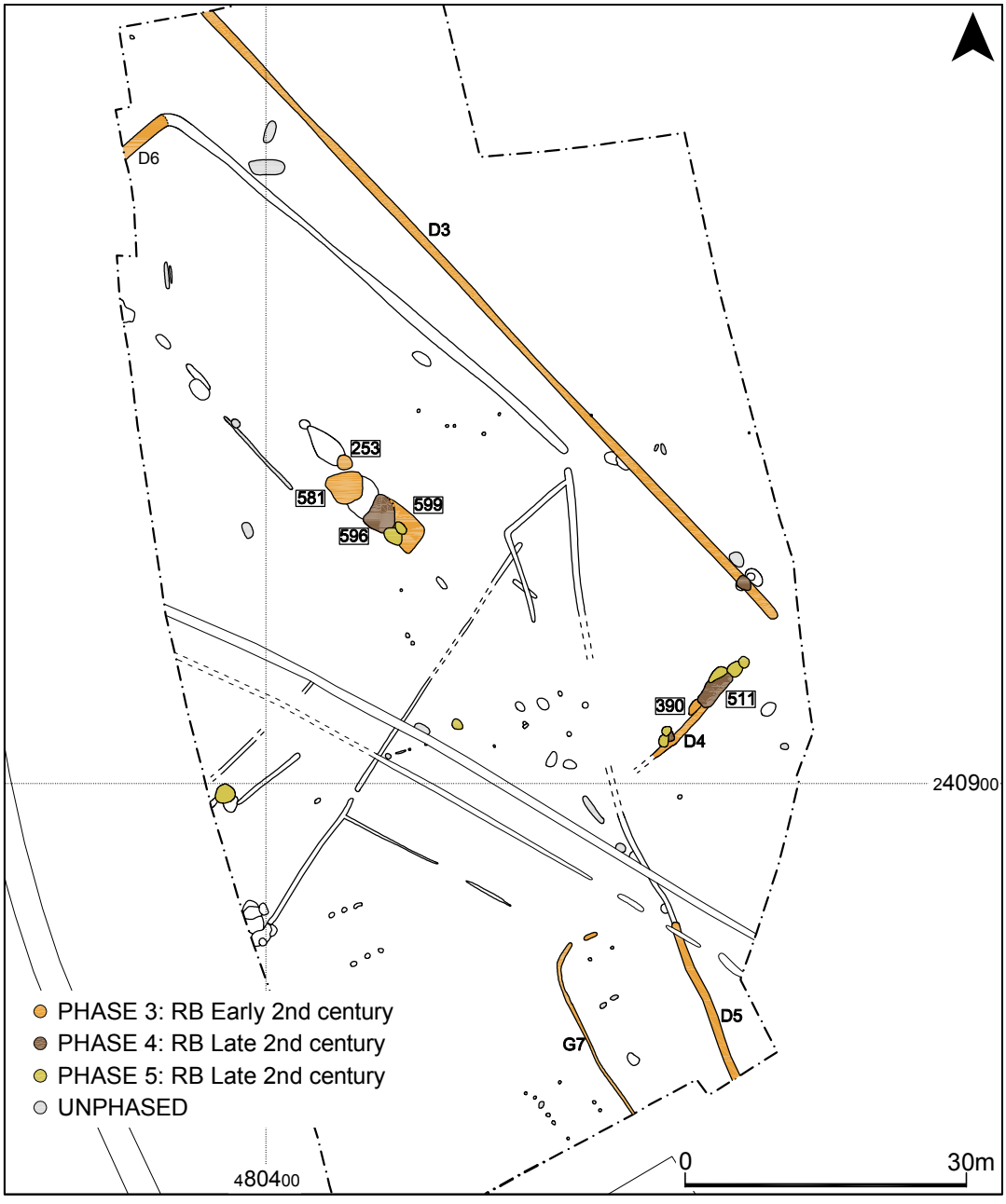

FIGURE 3 2nd century Romano-British features

struction of the 1742 estate map (Croft & Mynard 1993; Fig. 76) records a field boundary and footpath approximating the location and alignment of the excavated ditches. The field boundary was probably established during pre-parliamentary enclosure of the parish by the Longville family, and it may have preserved the boundary of a furlong of the medieval open field system (Croft & Mynard 1993, Fig. 77). The field boundary is subsequently shown on 19th and early 20th century Ordnance Survey mapping and is visible on aerial photographs until construction of the school in the 1960s. Intermittent remnants of similarly aligned but otherwise undated shallow furrows were present to the northeast, and in greater numbers to the southwest of the field boundary ditches.

The Pottery
by Andy Fawcett and Alastair Hancock

Introduction

The pottery assemblage comprised 1138 sherds with a total weight of 20257g. The majority of the assemblage was of early 1st century AD to late 2nd century AD date, but a few sherds were of early-mid Saxon date. The pottery was classified using the Milton Keynes Archaeological Unit type series for Roman and Belgic pottery (Marney 1989) and the Medieval Pottery Research Group's Guide to the Classification of Medieval Ceramic Forms (MPRG 1998). All fabrics are well documented elsewhere and detailed fabric descriptions are not reproduced.

Assemblage Composition

The condition of the pottery was good, most sherds displaying only slight signs of abrasion. Two pits and one cremation burial produced substantially complete vessels, but the majority of contexts produced small quantities of sherds. The diagnostic element of the assemblage was good with a number of easily identified forms; jars, particularly the channel rim type predominated, but a few bowls, cups, beakers and a single mortarium were present.

Late Pre-Roman Iron Age

The majority of this material was of Belgic grogged (46a) and shell tempered (1a) fabrics: most occurred as single or small groups of sherds incorporated within the fills of widely dispersed pits. Lid seated jars were the predominant diagnostic form, and much of this assemblage may date toward the middle part of the 1st century, *c.*AD 25–60.

Roman

The larger part of the later 1st-century assemblage also consisted of Belgic grogged (46a) and shell tempered (1a) fabrics, but black surfaced grey ware and lid seated jars in unsourced sandy grey fabrics (3c and 9a) had been introduced. The majority of the black surfaced and sandy grey ware was recovered from fills of the ditch of enclosure E1, with a single body sherd of a Verulamium white ware flagon (fabric 18g) also present. One pit [167] of a group (P1) of ten pits and post holes located near the centre of the excavated area contained a near complete inverted Belgic girth beaker (G4: Thompson 1982; Fig. 5) in fabric 46a, with others of the pit group containing a few sherds of black surfaced, sandy grey or shell tempered ware. Other near complete vessels comprised a large storage jar in shell tempered fabric 1a (Fig. 5) , which was recovered from pit [336], and a jar also in fabric 1a, which was used as a cremation urn and was accompanied by an unsourced white ware flagon.

The early 2nd century saw the introduction of limited continental imports, comprising two sherds of central Gaulish samian from a Lezoux 2 Drg37 bowl, five sherds of La Graufesenque samian (Drg27 and Drg33 cups; two Drg18 dishes) from southern Gaul and a few sherds of a Baetician Dressel 20 amphora from southern Spain. Romano-British regional ware is represented by a few sherds of unsourced white ware and Verulamium white ware (18g). The majority of local ware was now produced in sand tempered fabrics 3c and 9a, although a small amount of "Belgic" grogged (46a) and coarse shell tempered (1a) pottery is still present. The majority of the imported and regional pottery occurred within the fills of the ditch of enclosure E3, the shallow ditch of stock pen E4 and a large extractive pit [599]. However, at the southwest end of the excavated area a single sherd of samian was recovered from pit [376], another sherd of samian from one of six post holes of a post built structure (S1), and a sherd of Verulamium white ware mortaria (4g) was recovered from gully [519].

Activity at the excavated area seems to have become sporadic by the latter part of the 2nd century. The pottery assemblage comprises only a few sherds of sand tempered (3c, 9a), soft pink grogged (2a) and shell tempered (1a) pottery. The

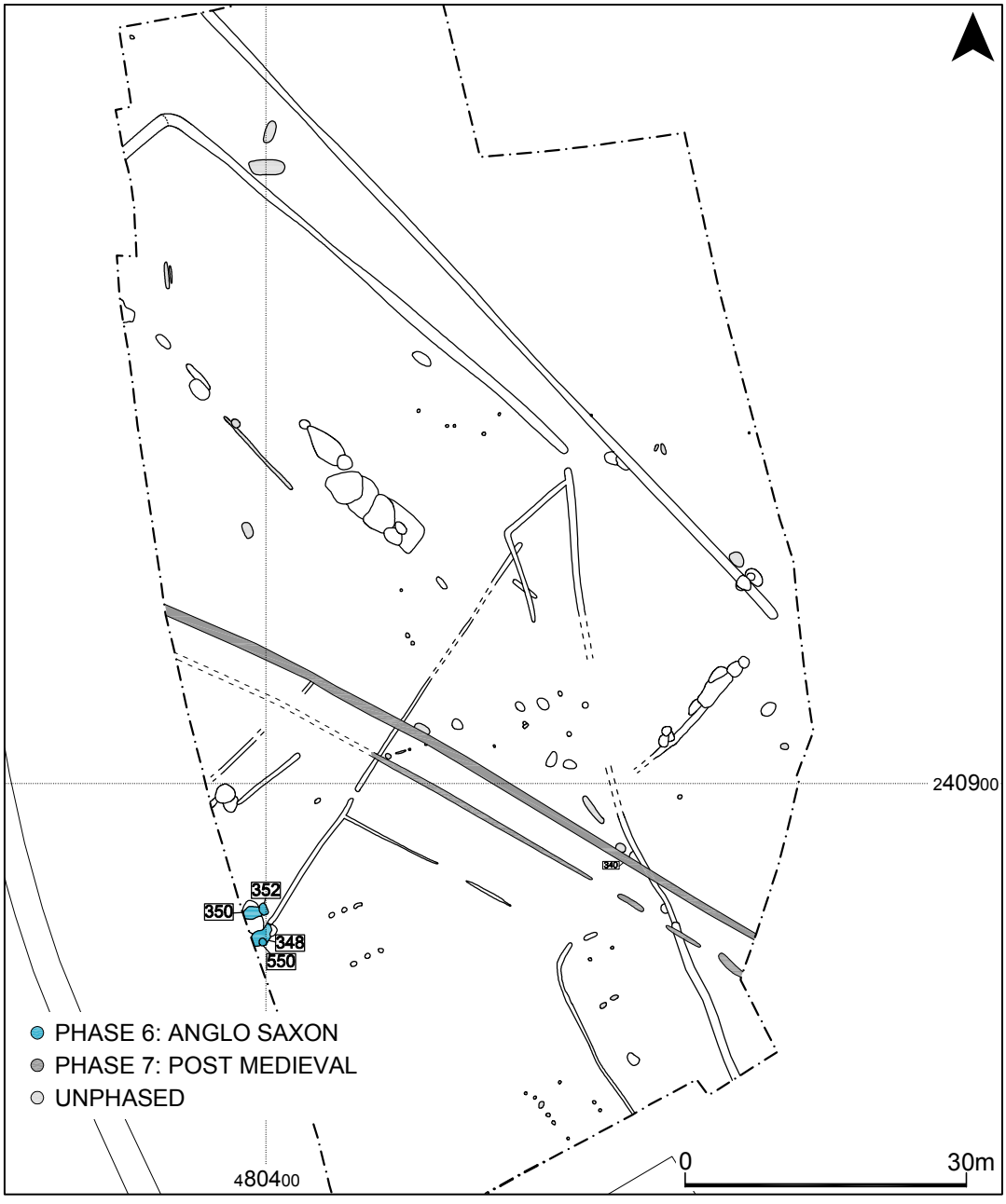

FIGURE 4 Anglo Saxon and post-medieval features

majority of this 2nd century material occurred in pits, which spread across the centre of the excavated area and often cut earlier features.

Saxon

Four body sherds of handmade early-mid Saxon pot were recovered from a group (P5) of shallow pits located at the southwestern edge of the excavated area. The sherds were undecorated and in fabrics F1 and F2.

Conclusions

The pottery through all of the LPRIA and Roman phases (in both fabric and form) represents low-status rural activity that gradually increased in intensity throughout the 1st century and then the first half of the 2nd century AD, before ceasing around the end of the 2nd century AD. However, all phases suffer from the same chronological problems, as the paucity of fine wares means that dating has relied on combinations of mostly unsourced and long-lived coarse wares, and in many instances contexts contained only small numbers of sherds.

The Human Remains

Summary of report by Harriet Anne Jacklin

Introduction

A summary of the analysis of one inhumation (SK203) and one cremation (CR102) burial, is presented here: the full analysis is presented in the assessment report (Hancock 2011). The age, sex, dentition, dental health, cranial and post cranial metrics, non-metric traits and stature of all skeletal material were assessed and recorded were possible. Pathological analysis was also undertaken.

Inhumation Burial: SK203 (I1)

The individual was orientated north east (head) – south west, and lay on their right side. The legs were flexed at the knee with hands resting on the thighs. Finds were not recovered during the excavation, but a calibrated radiocarbon date (SUERC-19600) shows that this individual died between AD15 – AD85 (1s) or 20BC – AD130 (2s). Bone preservation was good, but the burial had been disturbed and the skeleton was only 50–75% complete.

Age:

The age at death was 9 to 12 years (child). The age estimation of SK203 is based on epiphyseal fusion and long bone length (Scheuer & Black 2000). No other age indicators were available for study.

Sex:

The sex of the individual was uncertain as the sexually dimorphic bones used to determine sex are not fully formed in non- adult human remains. It is possible to estimate the sex of non-adult human remains using craniofacial morphology and the sciatic notch index. Unfortunately the cranium was absent and the sciatic notch was damaged, and neither method was applicable.

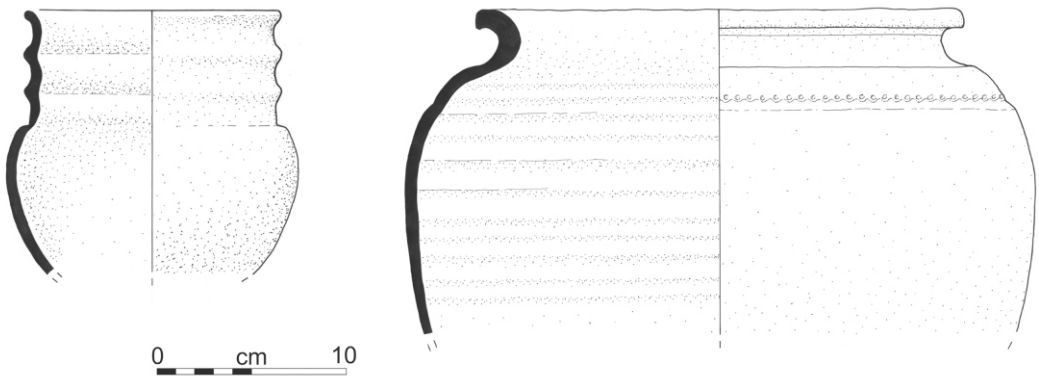

FIGURE 5 Belgic girth beaker (left) and shell tempered storage jar (right)

Pathological Analysis:
A very slight periosteal reaction affected the medial mid diaphysis of the left tibia. Periostitis is a condition affecting the periosteum; the outer layer of bone. The condition represents part of, or a reaction to, pathological changes to the underlying bone. It can be indicative of infection/infectious disease, ill health, or as a secondary condition to trauma. Periosteal reaction can be found almost anywhere on a skeleton, but is commonly found affecting the tibia, as the periosteum is close to the skin's surface. The periosteal reaction exhibited by SK203 was too slight to ascertain the cause of the condition. The right tibia soleal line (a muscle attachment site) was substantially larger than the left. It could not be determined if this was due to activity or trauma (muscle strain).

No other pathological signs of ill-health were present on the surviving skeletal material; there was no evidence of metabolic or endocrine disorders and no congenital/developmental variants.

Cremation Burial: CR102
The cremation burial probably comprised the remains of a single individual aged between 17 and 50. The cremated bone was place in a pottery jar which was interred along with a single pottery flagon. The burial is dated to the 1st- 2nd centuries AD by its urn and the accessory vessel.

Fragmentation and Weight
The cremated bone had a total weight of 169g. The bone was divided into three groups based on fragment size: 1<5mm fragments, 5<10mm fragments and 10+mm fragments. The total weight of the cremated bone shows that only a fraction of the skeletal material was present. It has been suggested (McKinley 2000, 408) that often less than 50% of the cremated skeletal material is gathered from the pyre to be included in the cremation burial and of that only 30–50% may be identifiable to a specific skeletal element.

Oxidization
The majority of the cremated material had reached a temperature of >*c*.600˚C (full oxidization). A small number of fragments showed full oxidization affecting the outer bone but only partial oxidization of the inner bone, which reached a temperature of <*c*.300˚*C*. A small number of inner bone fragments (trabecular bone) were unaffected

FIGURE 6 SK203 during excavation

by oxidization (unburnt). This indicates that the body was placed on the pyre intact, and shows that secondary burning did not take place.

Demographic and Pathological Data

The cremated remains seem to represent one individual as there is no duplication of skeletal elements, and all identifiable fragments seem to be consistent in size and age. The overall weight of the assemblage has also been taken into account. Only one fragment of bone survived which may be used for a possible age estimate: the right femoral head of the individual was fully fused and therefore gives an age of over 17 years (Scheuer & Black 2000). There were no age-related changes affecting the bone (for example osteoarthritis), and the surviving epiphyses were in good condition.

The dimensions of the right femoral head (Bass 1995) suggest that the individual may have been a female, but this estimate should be regarded with great caution, as a sex estimation based on one element alone is inadvisable. It should also be stated that this indicator is regarded as not as reliable as other methods of sex estimation as bone shrinkage tends to occur during the cremation process (Lange *et al* 1987, 19).

The cremated remains were examined for pathological conditions, but none were found.

The Heat-Affected Clay by Alastair Hancock

Twenty eight fragments of heat-affected clay weighing 2.4kg were recovered during the excavation. Parts of a large sub-rectangular slab weighing 0.9kg and other fragments with flat surfaces weighing 0.74kg came from the primary fill (578) of phase 3 extractive pit [581]; the rest was recovered from phase 1 enclosure ditch D1 and the fills of five smaller pits distributed across the excavated area.

The heat-affected clay occurred in a range of poorly-prepared orange fabrics, occasionally micaceous, or with quartz or flint pebbles, but sometimes containing large fragments of fossil shell. Some of the amorphous fragments could be burnt daub from the fire-destruction of wattle and daub structures, but none displayed perforations or impressions indicating wattle. The distinctive feature of the larger fragments is the occurrence of roughly smoothed flat and occasionally slightly concave surfaces, and better-preserved examples are from rectangular slabs (*c*.30–40mm thick) with right-angled or slightly curved sides and edges (e.g. from 140, 150 and 578). It is possible that the fragments with flattened surfaces are parts of bricks, but the small quantity recovered during the excavation suggests that it was not being used for large structural features such as walls or floors, but for smaller features such as hearths, ovens or corn driers.

The Environmental Evidence

Summary of report by Alistair Hill

Introduction

This report presents a summary of the full analysis, which was presented in the assessment report (Hancock 2011). During the excavation 56 bulk samples were taken from a range of contexts securely dated to the Late Pre Roman Iron Age (13 samples), Roman (40 samples) and Anglo-Saxon (3 samples) periods. Waterlogged deposits were not present at the site.

Method

The samples were processed by flotation utilising 4mm, 2mm and 1mm sieves, with the flotation fraction (flot) collected on a 500micron (0.5mm) mesh. The flots were processed by scanning and 100% sorting using a binocular microscope with magnification settings of between x7 and x40. The carbonized plant remains (except charcoal) were separated from the flots and stored separately as either cereal grain, chaff and weed seeds, prior to being identified further. The University of Leicester's environmental laboratory's modern seed reference collection and reference manuals (e.g. Anderberg 1994, Berggren 1969, 1981: Cappers *et al* 2006) were then used to identify the macro plant remains. Numerical quantification by species of the grains, chaff and seeds from each sample was carried out following the methodology of van der Veen (1992). The plant names and order follow Stace (1997).

Preservation

The survival and quality of plant material at archaeological sites is mainly determined by the taphonomic conditions present. The archaeobotanical remains from the excavations at Radcliffe School were preserved through carbonization.

The Plant Remains

Charred plant remains were found in 48 of the 56 samples. However, the majority (30) of the productive samples contained less than 10 items with a low density of items/litre of soil ranging from 0.1 to 0.9. The low seed density is representative of the type of archaeobotanical scatter usually associated with slow accumulation over time.

Thirty-two of the productive samples contained cereal or cereal chaff remains. The most common cereals found were spelt wheat (*Triticum spelta*), wheat (*Triticum* sp.) and barley (*Hordeum*). Oat (*Avena* sp.) was also present in four of the samples (two samples dated to phase 1 (LPRIA), and two samples dated to phase 2 (late 1st century AD). The size of the oat grains and the quantities involved were small, and it is possible that they are representative of a wild variety growing as a weed in the main crop.

All the samples contained seeds from weeds and/or wild plants. The *New Flora of the British Isles* (Stace 1997) and the tables of weed occurrence (van der Veen 1988 & 1992) were used as reference guides. The identifiable charred weeds seeds included a number of species associated with disturbed ground, and as such are typical arable weeds. These included goosefoots (*Chenopodium* sp.), knotgrass (*Polygonum aviculare* L.), common sorrel (*Rumex acetosa* L.), docks (*Rumex* sp.), eyebrights (*Euphrasia* sp.), ivy-leaved speedwell (*Veronica hederifolia* L.), stinking chamomile (*Anthemis cotula* L.) and sedges (*Carex* sp.). Also present were vetches (*Vicia* sp.) and small legumes (*Medicago/Melilotus/Trifolium*) as well as brome grass (*Bromus hordeaceus/secalinus* L.). Brome grass has a large seed and is often found in archaeobotanical cereal grain assemblages (Jones 1981).

Many of the samples also contained a number of uncharred seeds. These were also identified and included fumatory (*Fumaria* sp.), goosefoot (*Chenopodium* sp.), oraches (*Atriplex* sp.), pinks family (Caryophyllaceae), knotweeds (Polygonaceae), and docks (*Rumex* sp.), all common weeds of disturbed ground. Also present were spurges (Euphorbiaceae), fools parsley (*Aethusa cynapium* L.), elder (*Sambucus nigra* L.), and sow-thistle (*Sonchus* sp.).

Results for each phase are presented below.

Phase 1: Late Pre-Roman Iron Age

A very small number of charred plant remains were found in the thirteen samples attributed to this phase. Samples 4, 31 and 43, respectively from the primary fill of large extractive pit [251] and the single fills of shallow pits [244] and [206], contained 10 or more items and were subject to further analysis. The relatively high weed to grain ratio in sample 4 and the presence of chaff in sample 31 could suggest that these assemblages are representative of cereal processing. The frequency of weed seeds in sample 4, could also suggest cereal crop-sieving residues, but this is uncertain as these weeds may have become established locally on the large amount of upcast derived from the large pit [251]. Some of the *Vicia* sp. (vetches) may have been gathered for food or could represent cultivated plants, but this remains uncertain due to the low number of vetch seeds present. Overall the low seed density suggests that the recovered seeds identify slow accumulation of archaeobotanical material over a period of time.

Phase 2: Late 1st century Roman Enclosure

Nine of the twenty samples from features of this phase contained 10 or more items. Unlike the phase 1 samples, four of the samples (13, 40, 41, 49), respectively from shallow pit [292] and fills of ditch D1 of the phase 2 enclosure, contained a proportionally greater percentage of grain (spelt wheat and barley) to weed seed, and had an average weed to grain ratio of 1.26. The assemblage probably represents cleaned / sorted grain, an interpretation supported by the low glume base to grain ratio value. The weed seeds present were common with those of the previous phase.

Phase 3: Early 2nd century Romano-British Enclosure

Of the 14 samples of this phase that contained charred/carbonized plant remains, only six contained 10 or more items. Generally, the low density of items per litre of soil would suggest that the recovered assemblage is indicative of a slow accumulation of archaeobotanical material. However, samples 77 and 79, respectively from gully (G6) and a fill of ditch D4 of the phase 3 enclosure, with high seed densities of 26.5 and 14.1 items per litre and low weed to grain ratio of 0.4 and 0.3, could suggest primary deposition of cereals that had been cleaned/hand sorted prior to food preparation. The presence of one spelt wheat spikelet fork in each sample could also suggest that part of the assemblage may have been the result

of the storage of semi-cleaned spikelets prior to de-husking. Like the earlier phases, the assemblage contained evidence of both spelt wheat and barley. The weed assemblage was consistent with those of earlier phases.

Phases 4 & 5: Late 2nd century Roman Pits
None of the six samples from phase 4 and 5 features contained 10 or more items. Cereal was present in three of the samples and chaff in two, but the limited number of seeds precludes any interpretation other than that they represent a scatter of gradually accumulated archaeobotanical material.

Phase 6: Anglo Saxon
The three samples from pits of this phase contained only three cereal grains (one identified as wheat and two indeterminate cereal grains), a few small legume, grass and arable weed seeds. The assemblage can only be regarded as evidence of a gradually accumulated low density scatter.

Conclusions
The archaeobotanical remains are typical of the Late pre Roman Iron Age, early / mid Romano-British periods in rural southern Britain and are comparable with other rural settlements in the region e.g. Shillington, Kempston (Scaife, 2004), Broughton and Haddenham (Hill 2008a and 2008b). The cereal grains are dominated by wheat with limited evidence of barley. However, the scarcity of barley in the archaeobotanical assemblage does not necessarily reflect the level of importance that it may have had as a cereal crop and its role in the region's agricultural economy.

The majority of the identified chaff, across all phases, was of spelt, illustrating a continuity of cereal crop. There was no definitive evidence to suggest either the introduction of free threshing wheat or large legumes over the periods covered by the analysis. The weed seeds from all phases were typical of those found in arable/disturbed soil conditions and are representative of common crop contaminants.

The archaeobotanical assemblages from the Late Pre-Roman Iron Age phase show small-scale crop cleaning was taking place. During the Romano-British phases the elements of the assemblages indicate that a level of storage as well as crop cleaning was occurring and crop cleaning may have increased during the 2nd century. Overall it can be said that the analysed assemblages identify both domestic and cereal processing waste/residues.

Animal Bone

Summary of report by Dr Stephanie Vann (ULAS)

Introduction
A total of 493 animal bone fragments weighing 4736g was recovered during hand excavation and from bulk environmental samples taken from 56 ditch, gully and pit fills of LPRIA and early Roman date. The majority of the assemblage originated from the Roman phases, and comprised the usual domesticated species: cattle, sheep, pig, horse and dog, but there were also examples of bird and roe deer.

Preservation
Preservation of the animal bone was moderate to good. Fragmentation and surface abrasion was moderate with bone exhibiting signs of erosion, weathering and other taphonomic damage in some instances. Fragmentation was the result of both old and fresh breaks.

Method
The animal bone, including that retrieved from environmental samples, was subject to macroscopic examination. Species identification was undertaken using the comparative reference collection of modern specimens at the School of Archaeology and Ancient History, University of Leicester. Tooth wear was recorded to calculate age for the three main domestic species, cattle, sheep/goat and pig. Fused and unfused elements and measurable bones were also recorded as was evidence of pathology or butchery. Fragments of mammal bone that could not be attributed to a taxonomic group equal or lower than genus were categorised as either 'large mammal' or 'medium mammal. Tooth wear was recorded for the mandibles complete enough to permit it, following Grant (1982). This is a widely used, published procedure that records the stage of tooth eruption and wear based on a series of defined stages, enabling an age to be assigned to individual animals and thus analysis of age at death patterns to be undertaken.

Results
The total number of fragments was 493, of which 134 (27 %) were identifiable. The species present

were cattle, ovicaprid (sheep/goat), horse, pig, dog, roe deer, rodent and bird (most likely domestic fowl). There was no evidence of fish remains. Evidence for butchery was low with four examples of cut and chop marks, and canid gnawing was noted on 19 bones and 3 burned bone fragments. Only one example of pathology was identified.

Following the York System, the mandibles for which it was possible to calculate ages would appear to have belonged to immature to adult animals. Five mandibles still have the deciduous (dp4) premolar present and one mandible from context 313 shows the M2 permanent molar in the process of erupting (stage E). This suggests that these animals might have been slaughtered before reaching full maturity, perhaps for their meat. In contrast, other examples such as the mandibles from contexts 164, 150 and 575, show the M3 permanent molar in wear to stage f or above. These would be classified as A3 Adult animals using the York System. Species such as cattle and sheep can also be reared for their secondary products such as milk and wool or, in the case of cattle, used for traction. Such uses could explain the presence of adult animals within the assemblage.

Only six elements at this site showed unfused epiphyses. These were from cattle, birds or medium mammals comparable in size to sheep. The first of these was the proximal epiphysis of a cattle calcaneus from context 313. There is some debate about the precise age at which fusion occurs in different species and the extent to which modern species are comparable to their prehistoric forebears. Proximal calcaneum are, however, generally considered to be middle fusing bones, fusion believed to be complete in cattle between 36–42 months (Reitz & Wing 1999, table 3.5). Proximal cattle radii, such as that from context 421, on the other hand, are early fusing bones; fusion is believed to be complete in cattle between 12–18 months (*ibid.*). Proximal femora, such as that from context 313, are late fusing bones. In sheep, the animal most comparable in size to the example from context 313, fusion is believed to be complete between 30–42 months (*ibid.*). The skeletal maturity data is, therefore, compatible with the ageing data based upon tooth wear; both indicate the presence of both immature and adult animals at the site.

Three bird bones, most likely from domestic fowl, also came from immature individuals. Only limited data are available on chicken long bone growth. However, osteometric analysis of immature chicken bones from the Romano-British ritual complex at Uley in Gloucestershire indicates that adult dimensions are not achieved before 15–20 weeks (Brothwell 1997, 331). The presence of the immature individuals at Wolverton suggests that domestic fowl may have been bred at the site.

While the only evidence of canids within the faunal assemblage itself came from twelve bones found in contexts 136 and 413, the presence of gnawing upon several elements confirms the presence of these at the site on at least some occasions. The dog radius, one of the few bones complete enough for measurement within the assemblage, had a greatest length of 160mm. This gives the individual an estimated height at the shoulder of 289.8mm (Kouldeka 1885) and puts it at the smaller end of the range of shoulder heights from dogs from late Iron Age Britain as given by Clark (2006: fig. 4.1).

The only evidence for pathology also came from the canid remains. This was a dog tibia from context 413, to which the distal end of the fibula had become fused. This was most likely a long-term condition that was inactive at the time of death as the fusion was almost complete, although the line of fusion was still visible, and there was no evidence for secondary infection or inflammation in the form of periostosis, that is "abnormal bone formation on the periosteal layer" (Vann 2008, 214). There is also no evidence for a fracture or other trauma that might have triggered the fusion, though such evidence might have been erased over time as the bone healed.

Evidence of butchery was found on sheep/goat and cattle. A cattle femur from context 232 had had the medial distal condyle cleanly removed by chopping, whilst a cattle pelvis from context 313 exhibited a chop mark on the illium. A sheep/goat tibia from context 119 was neatly chopped through the diaphysis, and a long bone fragment from a medium mammal comparable in size to a sheep displayed five diagonal cut marks upon the shaft. The latter may be indicative of filleting, whilst the rest are most likely due to dismemberment of the carcass and marrow extraction (Binford 1981).

Conclusion

The hand-recovered bones numbered 493, of which 134 (27 %) were identifiable to taxa. The

assemblage does not therefore achieve the 300 cattle, sheep/goat or pig bones suggested as a minimum for reliable analysis (Hambleton 1999) and the dataset is reduced even further if examined by phase. Consequently it is difficult to draw any significant conclusions from the recovered animal bone, although there is nothing about the assemblage that is in any way extraordinary for a rural settlement of these periods. Sheep/goat and cattle were regularly exploited throughout the Iron Age and Romano-British periods, as were horse and pig, albeit not generally in the same numbers (Maltby 1981). The infrequency of wild species such as roe deer suggests that they were utilised only intermittently for meat and skins and is comparable to the data from sites such as Causeway Lane in Leicester (Gidney 1999), Thorpe Thewles in Cleveland (Rackham 1987) and Dragonby in north Lincolnshire (Harman 1996).

Conclusions

The excavation defined an area of LPRIA agricultural activity which was subsequently enclosed by ditches during the latter half of the 1st century AD. The pottery assemblage suggests that the ditches of this enclosure silted up relatively swiftly but the area was subsequently re-enclosed during the 2nd century AD by ditches dug on a slightly different alignment. A subsequent negative trenched evaluation of the remainder of the school playing field (Brown 2008), and the absence of significant structural evidence at the excavated area, suggest that the LPRIA and RB settlement foci probably lay further to the west, lending weight to the suggestion that some of the ditches excavated at the mid Anglo Saxon Wolverton Turn enclosure may have had a Romano-British origin (Preston *et al* 2007).

Faunal evidence from a wide range of sites types and locations, such as Bancroft (Williams & Zeepvat 1994, 211) and Wavendon Gate (Williams *et al* 1996, 206), show that cattle were the most common animals kept, followed by sheep and goats, pigs, horses and domestic fowl, and that cereal, perhaps predominantly spelt wheat, was cultivated. The excavated finds, environmental and faunal evidence from the LPRIA phase were very sparse, but the evidence from the Romano-British phases suggest that the enclosures formed part of small, self-sufficient rural settlements with mixed agrarian economies, consistent with those of contemporary settlements known from the Milton Keynes area.

The settlement activity culminated with the excavation of a small number of pits during the latter part of the second century AD, and the area then seems to have been little used until the Anglo Saxon period, when four small pits were dug at its west end. The impact of the Anglo Saxon settlement located slightly to the west at Wolverton Turn was otherwise limited, and the site may have been used as open agricultural land from the mid Roman period until Radcliffe School was built and playing fields established during the latter part of the 20th century.

Acknowledgements

The excavation was commissioned by NJL Consulting Ltd and funded by Milton Keynes Council and Radcliffe School. The project was monitored by the Milton Keynes Council Senior Planning Archaeologist, Nick Crank, on behalf of the local planning authority. . Thanks are due to the following specialists for their analysis and reporting: Andy Fawcett, pottery; Alistair Hill, macro plant; Harriet Anne Jacklin, human remains; Dr Stephanie Vann, animal bone. The field team comprised Ralph Brown, Zoe Clarke, Jennifer Richards, Janice Mcleish and Chris Swain. The project was managed for ASC by Alastair Hancock who also led the fieldwork and produced this report. Illustrations were prepared by Mike Hawkes (pottery) and Alastair Hancock.

Bibliography

Anderberg A-L 1994 *Atlas of seeds and small fruits of Northwest-European plant species with morphological descriptions. Part 4 – Resedaceae – Umbelliferae*. Swedish Museum of Natural History (Stockholm).

Berggren G 1969 *Atlas of seeds and small fruits of Northwest-European plant species with morphological descriptions. Part 2 – Cyperaceae*. Swedish Natural Science Research Council (Stockholm).

Berggren G 1981 *Atlas of seeds and small fruits of Northwest-European plant species with morphological descriptions. Part 3 – Salicaceae – Cruciferae*. Swedish Museum of Natural History (Stockholm).

Brothwell DR 1981 *Digging up Bones. The Excavation, Treatment and Study of Human Skeletal Remains. British Museum / Cornell University Press (Ithica).*

Brown J 2006 The Roman Villa at Deanshanger, Northamptonshire: Excavations 2004–2005. *Northants Archaeol* **34**, 63–80.

Brown J 2008 *Archaeological Trial Trench Evaluation of the Sports Field at Radcliffe School, Wolverton, Milton Keynes*. Northants Archaeology Report ref. 08/190.

Cappers RTJ, Bekker RM & Jans JEA 2006 *Digital seed atlas of the Netherlands*. Barkhus Publishing & Groningen University Library (Zuurstukken).

Clark KM 2006 Dogs and wolves in the Neolithic of Britain *in* D Serjeantson & D Field (eds) *Animals in the Neolithic of Britain and Europe*. Neolithic Studies Group Seminar Papers **7**, 32–41. Oxbow Books (Oxford).

Croft RA & Mynard DC 1993 *The Changing Landscape of Milton Keynes*. Bucks Archaeol Soc. Monograph Series **5** (Aylesbury).

Gidney L 1999 The animal bones, *in* A Connor & R Buckley, *Roman and Medieval Occupation in Causeway Lane, Leicester: Excavations 1980 and 1991*. Leicester Archaeol Monographs **5**, 310–328 (Leicester).

Grant A 1982 The use of tooth wear as a guide to the ageing and sexing of domestic animals, *in* B Wilson, C Grigson & S Payne (eds) *Ageing and Sexing Animal Bones from Archaeological Sites*. Brit Archaeol Reps **109**, 91–108 (Oxford).

Hambleton E 1999 *Animal husbandry regimes in Iron Age Britain: a comparative study of faunal assemblages from Iron Age sites*. Brit Archaeol Reps **282** (Oxford).

Hancock A 2007 *Geophysical Survey, Radcliffe School Site, Wolverton, Milton Keynes*. ASC report ref. 884/WRS/02.

Hancock A 2011 *Assessment and Updated Project Design: Site 1, Radcliffe School, Wolverton, Milton Keynes*. ASC report ref: 984/WRS/03.

Harman M 1996 Mammalian bones, *in* J May *Dragonby: Report on excavations at an Iron Age and Romano-British settlement in North Lincolnshire*. Vol 1. Oxbow Monograph **61**, 141–161. Oxbow Books (Oxford).

Hill AJ 2008a *Broughton Northern Infill: the charred plant remains from the Roman to medieval contexts*. ULAS report ref. 2008–096.

Hill AJ 2008b *Ely WT to Haddenham WT: an assessment of the plant remains from mid-1st to mid-4th century Roman contexts*. ULAS report ref. 2008–145.

Kouldeka F 1885 *in* R Müller *Der Tierknochenfunde aus den spätrömischen Siedlungsshichten von Lauriacum, II. Wild- und Haustierknochen ohne die Rinder* (München).

Kidd S 2009 Later Bronze Age and Iron Age Buckinghamshire, *in* D Thorpe (ed.) *An Archaeological Research Framework for Buckinghamshire. Collected papers from the Solent-Thames Research Framework*. Bucks Papers **15**. Bucks Archaeol Soc (Aylesbury)

Maltby M 1981 Iron Age, Romano-British and Anglo-Saxon animal husbandry – a review of the faunal evidence, *in* M Jones & G Dimbleby (eds) *The Environment of Man: the Iron Age to the Anglo-Saxon Period*. Brit Archaeol Reps **87**, 155–203 (Oxford).

Marney PT 1989 *Roman and Belgic Pottery from Excavations in Milton Keynes, 1972–82*. Bucks Archaeol Soc Monograph Series **2** (Aylesbury).

McKinley JL 2000 The Analysis of Cremated Bone, *in* M Cox and S Mays (eds) *Human Osteology. Greenwich Medical Media,* 403–421 (London).

MPRG 1998 *Minimum Standards for the Processing, Recording, Analysis and Publication of Post-Roman Ceramics*. Medieval Pottery Research Group Occasional Paper **2**.

Mynard DC (ed.) 1987 *Roman Milton Keynes: Excavation and Fieldwork 1971–1982*. Bucks Archaeol Soc Monograph Series **1** (Aylesbury).

Preston S 2007 Bronze Age occupation and Saxon features at the Wolverton Turn enclosure, near Stony Stratford, Milton Keynes: Investigations by Tim Schadla-Hall, Philip Carstairs, Jo Lawson, Hugh Beamish, Andrew Hunn, Ben Ford and Tess Durden, 1972 to 1994. *Recs Bucks* **47.1**, 81–118.

Quinell H 1991 The Villa and Temple at Cosgrove, *Northants Archaeol* **23**, 4–66.

Rackham DJ 1987 The animal bone, *in* DH Heslop *The excavation of an Iron Age settlement at Thorpe Thewles, Cleveland, 1980–1982*. CBA Research Report **65**, 99–109 (London).

Radford D & Zeepvat RJ 2009 Roman Buckinghamshire, *in* D Thorpe (ed.) *An Archaeological Research Framework for Buckinghamshire. Collected papers from the Solent-Thames*

Research Framework. Bucks Papers **15**. Bucks Archaeol Soc (Aylesbury)

Reitz EJ & Wing ES 1999 *Zooarchaeology*. Cambridge Manuals in Archaeology. Cambridge University Press (Cambridge).

Scaife RG 2004 Paleoenvironmental Evidence, in M Dawson (ed.) *Archaeology in the Bedford Region*. Brit Archaeol Reps **373**, 267–290. Archaeopress (Oxford).

Scheuer L & Black S 2000 *Developmental Juvenile Osteology*. Academic Press (London).

Stace C 1997 *New Flora of the British Isles* (second edition). Cambridge University Press (Cambridge).

Soil Survey 1983 *1:250,000 Soil Map of England and Wales, and accompanying legend* (Harpenden).

Thompson I 1982 *Grog-Tempered "Belgic" Pottery of South Eastern England*. Brit Archaeol Reps **108** (Oxford).

Thorne A 2005 Wolverton, Wolverton Mill, Great Monks Street, *South Midlands Archaeol*. **35**, 19–20.

van der Veen M 1988 Carbonized grain from a Roman granary at South Shields, North-East England, *in* H Küster (ed.) *Der Prähistorische Mensch und SeineUmwelt. Forschungen und Berichte zur Vor- und Frühgeschichte in Baden-Württemberg,* Band 31, 353–365. Theiss (Stuttgart).

van der Veen M 1992 Crop Husbandry Regimes: an Archaeological Study of Farming in Northern England 1000BC – AD 500. Sheffield Archaeological Monographs **3**. JR Collins (Sheffield).

Vann S 2008 *Recording the Facts: A Generic Recording System for Animal Palaeopathology*. University of Leicester: doctoral thesis.

Williams RJ & Zeepvat RJ 1994 *Bancroft: a late Bronze Age/early Iron Age settlement, Roman villa and temple-mausoleum* (2 vols). Bucks Archaeol Soc Monograph Series **7** (Aylesbury).

Wilson N 2007 Archaeological Evaluation at Radcliffe School, Wolverton, Milton Keynes. ASC report ref. 906/WRS/02.

Woodfield C & Johnson C 1989 A Roman Site at Stanton Low, on the Great Ouse, Buckinghamshire. *Archaeol J* **146**, 135–378.

Zeepvat RJ 2007 *Project Design for Archaeological Excavation: Radcliffe School Site, Wolverton, Milton Keynes*. ASC doc. ref. 984/WRS/01.