The Pilgrims' School Cathedral Close Winchester Hampshire

Archaeological Evaluation Report - Scheduled Ancient Monument Hants 585

Oxford Archaeology

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The Pilgrims' School, Cathedral Close, Winchester, Hampshire.

NGR SU 4829 2905

Archaeological Evaluation Report

The Pilgrims' School, Cathedral Close, Winchester, Hampshire.

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ARCHAEOLOGICAL EVALUATION REPORT

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Abbreviations

AD: *Anno Domini*
bgl: Below Ground Level
OA: Oxford Archaeology
m OD: metres above Ordnance Datum

SUMMARY

Between July - August 2005, Oxford Archaeology undertook an archaeological evaluation at The Pilgrims' School, Winchester in order to provide information concerning the impact of the proposed development upon potential archaeological remains. Three trenches were excavated revealing that deeply stratified, dry and waterlogged, archaeological deposits survive below deep accumulations of post-medieval dumping and garden soils. The finds and environmental evidence retrieved from the waterlogged deposits showed excellent preservation. The water table was observed between 31.62 and 31.64m OD.

Trench 1, measured 8m x 2m and was located against the southern limit of the site. It showed that the latest significant archaeological levels fell away sharply towards the north from 32.80m OD to 31.66m OD. Two phases of Roman defences were revealed - a later defensive wall superseded an earlier earthen/turf rampart. A possible post-Roman intra-mural track was seen to run adjacent to the wall. A medieval cess/rubbish pit lined with oak boards (with exceptional preservation of organic remains) was also found. The existing Close wall was constructed upon the foundations of the demolished Roman defensive wall, during the 12th-13th century or later. Later Medieval soils were dumped in the area. Extensive 18th Century dumps of building rubble (containing medieval architectural fragments) overlay the medieval sequence, which were in turn sealed by successive garden soils.

Trench 2, was 1.5m square and situated within a restricted area towards the north of the site. Significant archaeological levels were not reached and lay below the base of excavations at 32.00m OD. The post-medieval building rubble dumps observed in Trench 1 were seen to extend into Trench 2 and contained, of note, a fragment of 14/15th Century stone basin/font.

Trench 3, measured 8.8m x 2 and was located near to the northern perimeter of the site. Significant archaeological levels were reached at 31.45m OD. Naturally deposited river gravels were encountered at 30.56m OD and were overlain with thin organic silts and sands that contained pottery datable to AD 150-200. These deposits suggest a shallow water/flooded landscape, with indicators of slow-moving or even stagnant, nutrient-rich water. Of note in this phase of works was the absence of the 'Fen Peat' located some 40 metres to the SW during previous work (COAS 1999) at a depth of 30.55m OD and thought to have formed between c.6,500 BP and 2,000BP. This would indicate that the prehistoric deposits and environmental regime in the valley floor is varied. Sealing these earlier silts was a layer comprised mainly of flint and chalk demolition[?] 'rubble' that contained fragments from a diverse range of tile forms and painted plaster, well-preserved constructional iron nails and fittings, parts of leather shoes, and several coins dating to the later 3rd Century. This deposit represented deliberate dumping derived from a high status building, possibly in the vicinity and probably in an attempt to reclaim the low-lying land in the valley bottom. From the late Roman period a thick accumulation of organic silts developed, implying the area remained too damp for permanent habitation. Preserved within these deposits were a number of small timber posts, and clusters of stakes, perhaps part of a fish trap. The area remained susceptible to seasonal flooding possibly until the 17th century. There was an absence of the later rubble layers seen in Trenches 1 and 2, and successive garden soils were seen instead.

1 INTRODUCTION

1.1 Location and scope of works (Fig. 1)

1.1.1 The Pilgrims' School intends to submit a planning application to extend their buildings and leisure/sports facilities. In advance of these they appointed Oxford Archaeology (OA) as the archaeological contractor to undertake an archaeological evaluation of the proposed impact area. The work was carried out to a Written Scheme of Investigation WSI (OA Aug 2005), based upon a *Brief* (Crook 2005) and in consultation with Dr Crook, the Archaeological Consultant for Winchester Cathedral and Tracy Matthews, Sites and Monuments Officer for Winchester City Council.

1.1.2 The building project forms part of a wider programme of proposed building works within the Cathedral Close, which are subject to the overall discipline of a 'Close Plan' (previously known as the 'Close Masterplan'), currently being drawn up in consultation with representatives of the Planning Department of Winchester City Council, English Heritage, and the Cathedrals Fabric Commission (England).

1.2 Site location topography and geology

1.2.1 The site (Fig. 1) lies within the SE corner of Winchester Cathedral Close, a Scheduled Ancient Monument (Hants 585) in gardens located within the eastern part of the curtilage of Pilgrims' School (centred on National Grid Reference SU 4829 2905). It is bounded to the south by the Close Wall, to the west by the existing school classrooms, to the north by the Deanery Garden and to the east by a strip of land forming part of the school's garden adjacent to The Mill Stream. The site is situated on the valley floor to the west of the River Itchen that flows from north to south.

1.2.2 The site currently forms a largely flat garden area to the east of the main school buildings (Stancliffe Building, Millennium Building and Selwyn Building) at c.33m OD. Contained within the southern part there are a swimming pool and a tennis court/hard-play area, elsewhere there are flower beds, gardeners sheds, party walls and fence lines and associated pathways and gates.

1.2.3 The geology comprises Upper Chalk of the Cretaceous Epoch overlain by floodplain gravels dating from the late Quaternary period (BGS sheet 299D) which are in turn overlain by peat and floodplain silts.

1.3 Archaeological background

1.3.1 The archaeological and historical background has been detailed in an archaeological assessment (Crook 2005) and the concise summary from the brief is reproduced in full below.

1.3.2 Previous archaeological investigations of the Pilgrims' School curtilage, which vary in extent, depth, and quality, have been restricted to an area to the west of the proposed new construction works with a Watching Brief during augering for shallow post-holes north of the new site (Crook 2005). Only the observations made prior to and during the construction of the Millennium Building, located immediately west of the site of the proposed new works, provide any information that may tentatively be extrapolated eastwards (Teague 2001).

1.3.3 **Late Pleistocene**: The site lay in the valley bottom, where the incipient river systems that were to become the River Itchen cut through the chalk downs. At the end of the last Ice Age (Late Pleistocene, c. 20,000 to 10,000 BP) periglacial conditions led to the formation of gravel bars over the flood plain, above the eroded surface of the Upper Chalk. No evidence for human occupation of the site, but a flint spall and flake of probable Mesolithic date were discovered in a borehole (UAD 1866, BH 1: see Figure 4) suggesting some human activity in the area.

1.3.4 **Mesolithic to Mid-Late Iron Age**: With warmer conditions, layers of peat were formed from decaying vegetation on the river margins. The environment was continuously wet and unsuitable for human habitation, though the marsh might have provided a site for hunting and gathering.

1.3.5 **Mid-Late Iron Age**: The site was located below the Iron Age enclosure at Oram's Arbour. A change in climatic conditions led to the deposition of further sediments. These include Iron Age pottery fragments, mussel shells, bone, and charcoal: domestic rubbish, which was deposited into the valley bottom in the period prior to the Roman occupation.

1.3.6 **Roman**: The site lay within the Roman defensive circuit; first an earthen rampart (*agger*), followed by a second phase of earthen rampart, and finally, from the 3rd century, a flint and mortar wall. The lower lying parts of the settlement were probably progressively drained as the settlement expanded eastwards, the Itchen being diverted outside the eastern boundary. Initially the floodplain may have been deemed adequate for defensive purposes. The limits of the Roman *civitas*, including the site under discussion, were certainly established by the late 2nd century, and probably earlier.

1.3.7 **Post-Roman**: Reversion of the area to floodplain conditions. The pre-Roman river system re-established itself over the site, laying down alluvial silts similar to those before the Roman occupation.

1.3.8 **Saxon**: The site lies within the walls of the Saxon city. From the time of the monastic reforms of the 960s (and possibly earlier) the site formed part of the precincts of Old Minster, a cathedral priory (the Priory of St Swithun).

1.3.9 **Medieval**: Continued use as part of the precincts of St Swithun's Priory until the Dissolution of 1539. The site of the proposed works lay within the Prior's garden, an area used for recreational horticulture.

1.3.10 **Post-Medieval to present day**: The site continued in use for horticulture, forming part of the garden of the Dean of a cathedral of Henry VIII's 'New Foundation'. It now forms part of the recreational area and gardens of The Pilgrims' School.

1.4 Aims of the Investigation

1.4.1 To establish the presence/absence of archaeological remains within the area designated for archaeological evaluation.

1.4.2 To determine the extent, condition, nature, character, quality and date of any archaeological remains present.

1.4.3 To establish the ecofactual and environmental potential of archaeological deposits and features.

1.4.4 The evaluation will add to existing knowledge of the pre-history and historical development of a site recognised as of national importance. In particular it will attempt to address the following research aims:

- Characterise the post-glacial development of the area
- Locate the pre-Roman course of the River Itchen and any evidence for its management during the Roman and later periods
- Establish any evidence for pre-Roman use of the site and/or its suitability for habitation or other uses during this period.
- When was the area suitably drained to allow for habitation during the Roman period and what was its nature and development?
- The date of the Roman *agger* and town wall.
- Evidence for Roman intramural street and/or other streets and for the buildings that flanked them.
- Establish the post-Roman nature of the site, particularly for evidence of the breakdown of the Roman drainage infrastructure.
- Is their any evidence for early-middle Saxon use of the site, particularly given the proximity of the site to the Old Minster and the Saxon Bishop's palace?
- Evidence for the establishment of the Saxon Burgh, particularly for the refurbishment of the town defences.
- Did the 9th century street grid extend into this quarter of the walled city, and is there evidence for an intramural street, (possibly located upon the Roman *agger*?).
- Is there is any evidence for the incorporation of the site into the monastic precinct?
- What was the monastic use of the site and if horticultural, what type of plants were grown?

1.4.5 The evaluation results will enable informed decisions to be made on a strategy for mitigating the potential negative affects of the proposed design on the archaeological resource identified, which will ensure that, important buried remains are preserved in situ where possible and preserved by record in all other instances.

1.4.6 To enable a revision of the objectives and research aims for any future archaeological excavation strategy and inform the methodology for that strategy.

1.4.7 To make available the results of the investigation.

2 EVALUATION METHODOLOGY

2.1 Scope of fieldwork (Fig. 2)

2.1.1 The evaluation comprised three trenches as shown in Fig. 2. These were positioned within the development area as proposed by the Brief with minor amendments as agreed with the relevant parties.

2.2 Fieldwork methods and recording

2.2.1 Trenches 1 and 3 were excavated using a 1.5 tonne mini-digger fitted with a toothless ditching bucket to remove the modern overburden. A small area of overburden was hand excavated in these trenches in order to assist in the identification of any possible stratification, and for controlled recovery of artefacts and ecofacts. A suitably experienced archaeologist supervised all machine work. Trench 2 was entirely hand-excavated.

2.2.2 Spoil from machined overburden was scanned by eye for artefacts.

2.2.3 Care was taken not to compromise the integrity of archaeological features or deposits, which might better be excavated under conditions pertaining to full excavation.

2.2.4 All trenches exceeded a depth at which unsupported excavation could safely continue and therefore shoring using steel trench sheets was employed in order to examine the deeper stratigraphy. At these depths significant water seepage occurred and therefore necessitated the use of pumps to remove excess water. Acting on the advice of the Environment Agency hay-bales were used to filter silt out of the pumped water prior to discharging into the Mill Stream.

2.2.5 The depth and complexity of the deposits across the whole site was assessed. Written and drawn records were produced documenting the stratigraphy of all trenches. Test pits (sondages) were excavated at the end of both Trenches 1 and 3 to assess deep stratigraphy. In Trench 2 excavation ceased at a depth of 1.5m b.g.l. with the agreement of Tracy Matthews (SMR Officer, Winchester City Council).

2.2.6 A unique site/accession code WINCM:AY234 was agreed with Winchester Museums Service.

2.2.7 The general methodology for excavation and recording and post-excavation conformed to the *OA Standard Fieldwork Methodology* but not withstanding the specific methodologies stated in the Brief. A separate matrix diagram for each trench was maintained during the fieldwork.

2.2.8 A programme of soil sampling to recover palaeobotanical, palaeozoological and pedological evidence was undertaken as appropriate.

2.2.9 Finds were recovered by hand during the course of the excavation. Finds of special interest were given a unique small find number. The use of a metal detector was employed when necessary.

2.2.10 Trenches were back-filled with the excavated material.

3 RESULTS

3.1 Stratigraphic Results

Introduction

3.1.1 The following trench descriptions indicate all levels as m OD for clarity. Context numbers are presented within parentheses. A context inventory can be found in Appendix 1.

3.1.2 The findings in each trench are described in stratigraphic order where possible, commencing with the earliest deposits first.

Trench 1 (Fig. 3)

3.1.3 Trench 1, measuring 8m x 2m, was located in area of lawn and flanking gravel path, perpendicular and adjacent to the Close Wall that defines the southern boundary of the site. The trench was excavated to the top of (150) and (152) from which two further sondages, that measured 2m x 0.8m and 1.8 x 0.9m were further excavated.

3.1.4 A clean and firm dark organic silt/possible peat deposit (151) was reached at 31.33m OD (2.04m b.g.l) within the northern sondage and at 31.23m OD within the southern sondage. Within the northern sondage, was a timber stake (146), its tapered end driven into the organic silt/peat. Two further stakes ((147) and (148) - left in-situ), were located 0.8m to the east, all three of which formed an east-west line.

3.1.5 Above the organic silt/possible peat, within the southern sondage, were two thin spreads of decayed turf (154), almost black in colour, supported on light greyish silt, possibly representing stacked sods, totalling a maximum of 0.24m in thickness (see 4.2.4). This was overlaid by a 0.13m thick dump of loose light greyish white fine sandy silt (153) and then by a thin, fairly compact and clean dark grey-brown clay-silt (152). Overlying the timbers and peat within the northern sondage was a homogenous moderately compact grey-brown clay-silt (150), 0.38m thick, probably the same deposit as (152) to the south.

3.1.6 Located on the southern end of the trench and constructed through (152), was a substantial E-W aligned wall footing (117), almost certainly representing the Roman town wall (Plate 1). It was well -constructed, comprising of coursed flint (un-knapped nodules measuring 0.11 - 0.22m in size) bonded by hard pale yellowish mortar, surviving at 32.41m OD at its highest point. It survived to a maximum height of seven flint courses, and was at least 1.15m wide upon a slightly off-set footing that was approximately 0.23m thick (its southern extent lay below the existing close wall, which was built directly above it). It was built free standing within a construction trench, 0.31m deep and greater than 1.55m wide. The construction trench was filled with a dark grey clay loam (143 and 144) that contained mortar and mottled brown clay patches.

3.1.7 Sealing (and slumping into) the wall construction trench was a spread of tightly packed flint nodules (137) that lay immediately adjacent, and parallel to the northern face of wall (117). The spread was 2.0m wide and seemingly formed a surface that ran alongside the wall. Between surface (137) and the wall was a narrow gully [138] 0.35-0.40m wide and 0.42m deep that was filled with a mottled orange grey-brown clay loam (139). The purpose of the gully is unclear, although it could have served as

a robber trench immediately before the construction of the existing Close wall - although no evidence was found for the removal of the face of wall (117). Alternately, it may have acted as a drainage gully for surface (137).

3.1.8 Wall (117) appears to have been demolished to the contemporary ground level and the existing Close wall constructed immediately upon its remains (no construction trench was evident). The footing comprised of a single course of mortared roughly squared chalk blocks overlain by two courses of knapped flint facing visible. Above, the facing corresponds with the visible wall which also has a whitish render. Abutting the existing wall was a loose bank of silty mortar rubble (101), up to 0.52m thick, that contained fragments of slate. It extended for distance of 1.7m from the wall and probably represents debris associated with its construction or later repairs. The deposit also contained sherds of 12th-13th century pottery, fragments of glazed medieval floor tile and an early peg-tile. This was overlain by a dump up to 0.8m thick of mid-grey/brown silt (100). This deposit contained mortar and tile rubble that extended 4.4m from the wall. It also contained a few sherds of 17th-18th century pottery and clay-pipe stems, although it was possible that these finds were mixed in from the overlying layers. This more substantial deposit is likely to represent dumping from elsewhere on the site rather than debris associated with the maintenance of the existing close wall. Further dumping of gravel rich mid grey-brown silt (116) followed. This extended the 'bank' northwards for a distance in excess of 6.2m from the close wall. This deposit contained pottery dated to *c*. AD1475-1550 and a 13th-14th century medieval decorated floor tile.

3.1.9 Apparently cutting into (116), close to the northern limit of the bank, was a small timber-lined pit (118) (Plate 2). Sub-rectangular in shape, it measured 1.27m x 0.80m and was 1.3m in depth. It was lined on each side by timber planks (124-26, 130-35) that had been driven in vertically. There was no evidence for horizontal bracing. The primary fill of this pit comprised a thick soft anaerobic dark brown cessy deposit (122) and sherds from vessel of ?11th - 12th century date. Above was a further, but more compact dark brown cessy fill (120) that contained a large sherd of a Tripod Pitcher dateable to the 11th-12th century. Its uppermost fill (121) consisted of compact chalk and mortar rubble, presumably used to cap the pit. Sealing the pit and silt (116) was a thin, but firm, mid grey silt (102), 0.18m thick that contained late 14th - mid 15th century pottery, possibly soil or turf that had developed on the 'bank'.

3.1.10 Above (102) was a substantial deposit of loose mortar, flint and chalk rubble (103), in excess of 0.92m thick and contained late 18th-19th century pottery, clay pipes and glass. Further dumps of mortar rich silts (104 and 110) followed, which resulted in the levelling of the 'bank'. Shallow pit [112] had been dug and infilled with mortar and rubble rich silt (111) between the deposition of (104) and (110).

3.1.11 The latest deposits (modern) included the existing topsoil (109 and 105) with evidence of two phases of flower beds located adjacent to the Close wall and an earlier version [113] of the existing gravel path.

Trench 2 (Fig. 3)

3.1.12 Trench 2, measuring 1.5m square was situated within a restricted area between the fence of the hard-play area, a brick wall, and a shed. It was positioned in order to avoid a pipe that drained the swimming pool. The trench was excavated to a depth of 1.50m b.g.l (31.95m OD) - the level at which water seepage occurred.

3.1.13 The earliest deposit (210) encountered at 32.00m OD comprised a light-mid grey-brown silty sand that contained rare inclusions of rounded chalk or limestone fragments in the SW part of the trench. Only the top 0.05m of this deposit was excavated, to the lowest level of the trench, and there was no dating evidence.

3.1.14 Above was a 0.53m thick chalk rubble layer (209) that extended across the trench that contained fragments of worked limestone, tile, 17th-18th century bottle glass and pottery. This supported a 0.22m thick, cleaner and more compact chalk rubble (208), possibly an attempt to level off the underlying rubble. This was overlaid by a further 0.22m thick dump of rubble (207) that contained predominately broken brick and tile and much 17th - 18th century pottery. This supported a 0.26m thick deposit of clean but loose mid-light greyish brown sandy silt containing 19th century pottery (206), probably a further episode of deliberate dumping rather than accumulation.

3.1.15 Above (206) was a 0.04m thick spread of yellowish mortar (212) that seemed to represent the final episode of levelling in order to form a level surface. This supported a gravel path (203) located on the western side of the trench and was abutted to its north by a 0.18m thick accumulation of mid grey-brown sandy silt (211). Cutting into 211 was a shallow brick pad (204) that may have supported a gatepost or similar feature.

3.1.16 The latest levels of the trench comprised top-soils (200 and 201).

Trench 3 (Fig. 4)

3.1.17 Trench 3, measuring 8.8m x 2m, was located towards the north of the site in an open area currently laid to lawn. At its eastern end a 2m length of trench was fully excavated to geologically derived deposits. Near to its west end, a 1.9m length was excavated to the top of rubble layer (319). Between the two sondages (a length of 3.5m), excavations ceased close to the base of silts (307/308), the maximum depth safely possible without shoring.

3.1.18 At a depth of 2.7m b.g.l (30.56m OD), 'natural' river gravel (324) was reached, its surface sloping slightly away to the west. It comprised a firm-hard orange sand and rounded-flint gravel. Above it lay a loose layer of sand and grit (323), 0.08m thick that probably formed a sand bar - a submerged ridge of alluvial sand in shallow water. This was in turn overlaid by (322), a firm mid green-grey organic silt-sand, 0.12m thick that contained 25% flint nodules, and a complete top pulley rim flagon and Samian datable to AD150-200. This deposit was reached within the eastern slot only at 30.73m OD.

3.1.19 Above was a compact layer of flint and chalk rubble (319), 0.20m thick that contained late 2nd - 4th century pottery, fragments of Roman ceramic building material and several Roman coins of late 3rd century date. The top of this deposit was reached at a depth of 2.2m b.g.l (31.03m OD) within the eastern sondage and at 30.97m OD within the western sondage where it remained unexcavated. This may represent deliberate dumping which appeared to have been compacted to form a surface. Driven through (319) into the underlying rubble were two tapered timber posts (320 and 321) 0.12m and 0.14m in diameter.

3.1.20 Above the previous sequence were two organic silt deposits (309 and 310), see section 4.2.9. These were 0.52m thick within the eastern sondage and thinned out to 0.32m within the western sondage. Its upper horizon was encountered between

31.45m OD and 31.40m OD. The lower deposit (310), which was firm in compaction, was mid reddish-brown in colour and contained lenses of green-brown fine silt. It contained sherds of late Roman pottery, a single sherd of a ?14th-15th century glazed jug and a possible bone ice-skate or bucket handle. The upper peat (309), slightly thinner, was darker in colour, almost black, again firm in compaction but homogeneous in composition, and contained fragments of 2-3 baluster jugs (15th century?), a leather sole and a leather seam.

3.1.21 Contained within the lower deposit (310), close to the NE corner of the eastern sondage were a group (305) of 5 timber stakes (311, 313, 314, 315 and 317), with diameters in the range of 0.020-0.025m. A sixth timber (326) was located further west away from the group. The stakes ranging in length from 0.18-0.30m and with tapered points had been driven vertically into peat. Two further timbers (312 and 316) lay horizontally on the surface of the lower peat (310) in an approximate E-W orientation. One piece (312) was a possible lathe, the other tapered at each end. A preliminary interpretation of these timbers is that they may have formed part of a fish trap.

3.1.22 Above the peat was succession of fine silts, possibly of alluvial origin, that were present throughout the trench. Earliest (318), 0.15m thick, comprised a clean mid green-brown silt that contained slate fragments. Above was a mottled greyer silt (308), 0.44m thick, that contained 10% chalk fragments and 1% fragments of tile, slate and mortar patches, suggestive a episodes of dumping during its accumulation. This layer thinned out towards the west of the trench where it became levelled with 307, a clean light grey silt. The upper silt (306), 0.21-0.30m thick, overlying both 307 and 308, was a darker grey. The earliest contained fragments of 14th-14th century glazed jugs while the later silt contained fragments of wares dated to silts contained fragments of 14th - ?early 16th century pottery.

3.1.23 The surface of the latest silt (306) was uneven and had been levelled with thin spread of brick rubble (304) that supported an accumulation of dark grey topsoil (303), perhaps deliberately dumped. A further dump of brick rubble and mortar rubble (302) followed, possibly to aid drainage to the existing topsoil (300 and 300). These deposits contained pottery dated to the late 17th - early 18th centuries and later.

3.2 Finds Results

Roman pottery

by Edward Biddulph (OA)

3.2.1 A total of 147 sherds of Roman pottery was recovered from ten contexts. Coarse reduced wares, oxidised wares, fine wares and samian wares were encountered. Reduced wares included ubiquitous grey wares and black-burnished-types wares. The latter were available as cooking jar and dish types; a near-complete BB1-type jar with perforated base from context (319) was of particular interest. Other reduced wares included products of the Alice Holt industry, which supplied the region throughout the Roman period (cf Hawkes 1985, 69), and Hampshire grog-tempered ware, whose flanged dishes were deposited after c AD 280 (cf Fulford 1975a, 286-91). Oxidised wares from contexts (322) and (323) were probably of local origin and reached the site as flagons, among other forms. New Forest colour-coated ware was recovered from three contexts (205, 319 and 322). No forms were identified, but sherds were thin-walled and likely to have derived from beakers. These arrived during or after the late 3rd century (Fulford 1975b). Samian was reasonably common, being recovered

from six contexts, albeit as residual sherds. Wares from southern central and eastern Gaulish factories appear to have been represented and therefore span the later 1st to mid 3rd centuries AD. Forms included cup forms Drag. 27 and 33, dish form Drag. 31, platter Drag. 15/17 and decorated bowl Drag. 29.

3.2.2 Just three contexts dated to the Roman period. The latest pottery dated contexts (319) and (322) to AD 270 or later; a flagon rim from context (323) joined a handle from (322) and must be of identical date. The remaining pottery, though residual in medieval and post-medieval deposits, included material of 1st to late 3rd/4th century date, and points to activity occurring in the vicinity throughout the Roman period.

Post-Roman pottery

by John Cotter (OA)

3.2.3 The assemblage comprises a total of 273 sherds of medieval and post-medieval pottery out of a combined Roman and post-Roman total of 420 sherds weighing 8618g (Table 1).

Table 1: All pottery by context

Context	Spot-date	Sherds	Weight (g)	Comments
100	c1680-1725	6	150	Small bodysherd (bs) tin-glazed Nevers blue from highly dec moulded small ?cup/vase with white & blue painted dec. Verwood-type ware deep bowl/jar rin. Border ware. PMRE. Also 17-18C pipe stems
101	c1200-1250	22	362	Glazed ?early Laverstock jug rim & bss. 1x fine sandy ?London-type or ?S.Hants strip jug bs w diagonal red strips. 1x green-glazed pale grey flinty ?Newbury A/B. 2x msu fine sandy cpot bss. Mostly rims & bss from 2 oxidised flint-tempered (ug f) ?jars (or 1 poss a bowl) & 1 reduced ug f cpot rim (large, fresh, L12/E13C). 1x ug q (sandy + organic/calcite?) 11-12C jar rim. Non-pot incl frag early peg tile, 2x glazed flint-temp floor tile. Frags v thick unglz flint-temp ?floor tiles 25-28mm thick
102	c1475-1550	11	234	German Raeren stoneware mug bs. Rim local orange sandy jug (like Kent M10) w reduc greenish splash glz. Other med & LM jug bss. 13-14C jug strap handle. 1x 11-12C flinty ug f. Non pot. 1x corner medieval decorated floor tile 13-14C - red fabric with inlaid white slip fleur-de-lys. Deep keying under. (1sh, 180g)
103	c1775-1875/1900	11	342	Rim LPM5 Yelloware chamberpot w blue banding. Rest = 17-18C wares incl Surrey/Hants Border ware tripod pipkin base. Iron-mottled ?Border cup base. Verwood bs. 1x ug cq 11-12C. 1x ug c 9-12C. 17-E18C pipe stems and bottle glass in context
109	L18-19C	2	26	Also in context 1x bs white opaque glass - prob 19C (1sh, 6g) & 1x frag med glazed crested ridge tile - prob 13-16C (1 sh, 110g). Pot = miniature Creamware dish w moulded dec c1770-1800? 1x Border ware 17-E18C
110	17-E18C	1	20	Yellow Border skillet rim with short horizontal solid handle
116	c1475-1550	10	232	Incl Raeren stoneware mug base & 2x unglz Guys-type redwares - 1 v corrugated. Bss LM white/pink smooth ware - speckled green glz. 1-2 Msu?

Context	Spot-date	Sherds	Weight (g)	Comments
120	11-12C	1	78	Large tripod pitcher ware (tpw) sherd with complex rouletted dec & decayed glaze
122	9-12C	5	196	Prob 11-12C? 1 vessel, chalk & flint-tempered (ug c/f) jar bss, fresh joining sherds
201	c1850-1900	2	8	Staffs-type LPM14 whiteware jug rim w blue transfer print. Mod flowepot rim
205	19-E20C	3	106	Non Pot incl 1x mod bottle glass & mod iron nut & bolt. Pot incl 17-E18C Border pipkin rim. Raeren mug rim c1475-1550. 1x Roman New Forest CC c270+
206	c1830-1900	8	260	1x mod stoneware flagon handle. 17-18C wares inc Border, Verwood-type, tin-glazed ware. Large int glazed red earthenware jar with trace of cross-in-circle stamped dec, warped rim - poss local product/second
207	c1680-1725	60	1552	NB. JOINS WITH (208). Assorted 17-18C wares, coarse & fine. Incl ?Bristol tin-glazed (TG) punchbowl w 'chinaman among grasses' design c1680-1720. Scrap TG Nevers blue c1680-1710. TG drug jars. German stonewares incl Westerwald highly dec mug & jug bss & Frechen 'Bellarmine'. Border ware incl pipkin rim. Verwood incl large jar rim & poss early large ?flowerpot base w peripheral perforations Also Verw collared jar. Few bss local smooth white & pink wares 15-16C. 2x Roman incl ?BB1 'pie dish' & grog-temp jar rim
208	c1680-1725	5	234	NB. JOINS WITH (207). Rim Westerwald stoneware mug. Base white TG drug/ointment jar. Border ware incl large frag of chafing dish (plate-warmer) rim with handle & knob, tripod pipkin base
209	c1675-1750?	3	234	?Verwood collared rim bowl. 2x redware bss. Also 17-18C bottle glass
300	c1880-1940	6	344	Mod English stoneware hot water bottle & 19C blacking bottle. Residual wares incl Creamware, Westerwald, Border
301	c1680-1725/50	9	230	Large TG drug jar base w blue bands. White TG chamberpot handle.Westerwald mug or jug rim w combed dec. Border & Verwood. 2x local 15-16C v fine smooth pink wares w copper green glaze
303	c1650-1750	6	136	Black/brown glazed redware tankard etc. Border incl sieve bs. Brown int-glazed 15-16C dripping pan rim/spout. 1x 13C green-glz fine white scale jug bs - ?French or ?Laverstock
304	c1690-1730	5	88	Date on clay pipe bowl with pronounced spur & Dutch-style stem milling. Pot incl 17-E18C Border jar rim & ba. Raeren stoneware mug rim c1475-1550. 1x med jug bs
306	16-17C	21	270	1x prob mid 16C-17C bs glazed red eathenware. Mainly 15-E16C local glazed smooth pink wares incl tripod-footed ?jug base. 1x Surrey/Hants Cheam-type green-glazed jug bs. Residual wares: 3-4x tripod pitcher ware (tpw) - 11-12C incl rim & handle; large jar sherd fine sandy ware (ug q with sparse organic); 3x late Saxon chalk-tempered bss 9-12C (ug c); flint-tempered jar rim 9-12C (ug f); 4x Roman incl rim grog-tempered 'pie dish'

Context	Spot-date	Sherds	Weight (g)	Comments
307	13-14C+?	15	292	Mostly green-glazed/speckled jug bss in S.Hants redware but poss few LM smooth cream & pink fabrics MMS? Incl strip jugs. 1x Kingston 14C-style jug rim w rod handle. 3x msu. 2x resid ug c/f. 1x Roman Samian
308	14-15C?	21	446	NB. 1x ?intrusive 17-18C slipware dish (?Donyatt). Bulk med/late med. ?S. Hants buff-red fairly sandy ware baluster jug rim/neck. Other bss smooth orange-red jugs incl rim & rod handle, 1bs w notched strip. 2x LM-looking smooth cream ware incl bs w int & ext copper green glz & frilled jug base. 1x Roman Samian
309	14-E16C?	15	328	Poss 15C? Frags 2-3 baluster jugs w reduced metallic purplish-brown glaze, copper-green in places. Incl strip jug & incised lines. Poss local copies of Cheam-type. Incl green-glazed cream/pink smooth ware & ?late S. Hants red. 1x msu. 2x Roman - grog-temp & Samian
310	14-15C?	4	44	1x bs fine pale grey sandy (reduced whiteware?) jug lower wall with glaze specks, poss late med? Or msu-related? 3x Roman c270+. (worked bone ?ice-skate or ?bucket handle also in context)
318	14-15C?	31	372	Mostly green-glazed/speckled jug bss in smooth cream & pink fabrics MMS? Incl strip jugs & combed dec. Cheam influences? 4x msu
319	c270+	74	1272	Mainly Roman 2ndC but some later 270+ incl New Forest CC & later ?contamination (small sherds) incl 1x 17-18C bottle glass, 1x 13-15C glazed jug, 1x 9-12C Late Sax chalk-temp, 2x 9-12C flint-temp. Roman (larger sherds) incl near-complete BB1 copy jar w perforated base. Samian incl fresh Drag 29, 31 & 33 plus worn stamp 'BIGA./…' ?Drag 27small cup - Central Gaulish Lezoux c120-50 (P. Booth). Alice Holt. Mortarium rim etc (J. Timby)
322	c270+	51	494	1x small bs New Forest CC. Mainly c150-200 (Ed Biddulph). Samian incl S & C Gaulish Drag 24/5, 33, ?15/17 dish forms & 1x poss E Gaulish. Greywares incl BB1 jar copies 1-2 whitewares, fine & coarse. 1x flint-tempered ?Late Iron Age/early Roman
323	c150-200	12	268	Complete top pulley rim flagon (JOINS handle in 322). BB1 type sherds. S & C Gaulish Samian (Ed Biddulph)
TOTALS		**420**	**8618**	

3.2.4 Medieval and post-medieval pottery appears to occur in roughly equal proportions although the post-medieval sherds are generally larger and better preserved. Apart from the Roman pottery the earliest wares present on the site are handmade Late Saxon and early medieval local wares covering the period from the 9C through to the start of the 13C. These include chalk, flint, and sand-tempered wares. Most of these are residual in medieval or later contexts. The medieval pottery (13C to early 16C) comprises local unglazed sandy cooking pot fabrics and wheel-thrown glazed jugs, some with applied strip decoration. These are predominantly south Hampshire redwares together with a late medieval pale buff or pink ware, which may be a more local product. A few sherds of possible Laverstock (Wiltshire), Surrey-type and London-type glazed jugs have also been identified. In general the glazed medieval jugs are quite fragmentary. Late medieval imports include one or two salt-glazed Raeren stoneware drinking mugs from the Rhineland - a common import of the

period *c*. 1475-1550. Most of the post-medieval pottery occurs in just one or two contexts, probably rubbish dumps, and includes types closely datable to *c*. 1680-1725 or to 1750. The sherds are, in several cases, large and fresh. These include local and regional glazed coarsewares including (?local) glazed red earthenwares, Verwood-type ware (Hampshire/Dorset) and Surrey/Hampshire Border whiteware. Notable pieces include a redware storage jar rim with a trace of a cross-in circle (or square?) stamp on the shoulder. This may be a product of the Graffham kilns in West Sussex. The Border whitewares include a large portion of a chafing dish - a kind of portable stove or plate-warmer. The finewares in the assemblage include tin-glazed earthenwares from Bristol and probably London, among these drug or ointment jars, dishes, chamberpots and a punchbowl. Common German stoneware imports of the period include sherds of brown 'bellarmine' bottles in Frechen stoneware and mugs and jugs in highly decorated Westerwald stoneware. A few sherds of Staffordshire-type white earthenwares (late 18-19C) and English stoneware ink and hot water bottles complete the list of post-medieval wares.

Animal bone

by Lena Strid (OA)

Quantity of material and recording methodology

3.2.5 The animal bone assemblage consisted of 1605 fragments. The assessment consisted of an overview of the material on a context by context basis recorded in a *Microsoft Access* database. Context wide data such as number of fragments and overall weight of bone fragments, bone condition, fragment size, species present were described. More specific information such as butchering marks and pathologies were recorded as present or absent. The number of bones and mandibles that were possible to age, sex and/or measure were recorded.

3.2.6 A record of the assemblage can be found with the site archive.

Recovery

3.2.7 The animal bone was recovered through hand collection during excavation and from wet sieved bulk samples (processed using 500 µm residue mesh and 250 µm flot mesh). 51% of the assessed bones derive from hand-retrieved contexts, and 49% from sieved contexts. Most of the bones from the sieved contexts were rather small (5.4% of the total weight) and mainly unidentifiable to species. They were, however, a good source for fish bones.

Table 2: Number of hand retrieved and sieved animal bones

	Hand retrieved bones	**Sieved bones**	**Total**
Roman	393	420	813
Medieval	235	365	600
Post-medieval	187		187
Modern	5		5
Identifiable to species	318	86	404
Total fragment count	**820**	**785**	**1605**
Total weight (g)	*17518*	*1004*	*18522*

Methodology

3.2.8 The bones were identified to species using a comparative reference collection, as well as osteological books and articles. Sheep and goat were not identified to species at this stage, but rather classified as 'sheep/goat'. Ribs and vertebrae, with the exception for atlas and axis, were classified by size: 'large mammal' representing cattle, horse and deer, 'medium mammal' representing sheep/goat, pig and large dog, and 'small mammal' representing small dog, cat and hare.

3.2.9 The condition of the bone was graded using criteria stipulated by Lyman (1996). Grade 0 being very well preserved bone and grade 5 indicating that the bone had suffered such structural and attritional damage as to make it unrecognisable.

3.2.10 For ageing, mandibles with two or more recordable teeth (Grant 1982), cattle horncores (Armitage (1982) and fused and unfused epiphyses (Habermehl 1975) were noted. Sex estimation was carried out on cattle metapodials and pelves, sheep pelves, and pig canine teeth, using data from Boessneck et al (1964), McCormick and Murphy (1997), Prummel and Frisch (1986), Schmid (1972) and Vretemark (1997). Measurable bones were noted according to von den Driesch (1976).

Preservation

3.2.11 The preservation level for the assemblage was quite good in most phases

Table 3: Preservation level of animal bone assemblage.

	N	0	1	2	3	4	5
Roman	4			100.0%			
Medieval	11			66.7%	33.3%		
Post-medieval	7			85.7%	14.3%		
Modern	2				100.0%		

Species

3.2.12 The assessed assemblage consisted of 820 fragments, of which 318 (38.8%) could be determined to species (see Table 3). The species present included cattle, sheep/goat, pig, horse, deer, roe deer, dog, cat, hare, fowl, goose, duck, partridge and human. Some indeterminable bird and fish bones were also found.

3.2.13 The four phases are dominated by the cattle, sheep/goat and pig. The small number of horse, dog, cat and wild mammals are to be considered normal. Of the birds, fowl dominate the assemblage, followed by goose and duck. The presence of a few human bones is not unusual.

Table 4: Identified animal bone species for all phases

x = present

Species	Roman	Medieval	Post-medieval	Modern
Cattle	x	x	x	
Sheep/goat	x	x	x	x
Pig	x	x	x	
Horse	x			
Deer		x		

Species	Roman	Medieval	Post-medieval	Modern
Roe deer	x		x	
Dog	x	x		
Cat	x			
Hare		x		
Rodents	x	x		
Fowl	x	x	x	
Goose		x	x	
Duck		x	x	
Indet. bird	x	x	x	
Fish	x	x		
Amphibians		x		
Human		x	x	
Medium mammal	x	x	x	
Large mammal	x	x	x	
Identifiable to species	150	106	60	2
Total fragment count	**813**	**600**	**187**	**5**
Total weight (g)	*11360*	*4206*	*2902*	*54*

Identified species/context for all phases of the AY234 assemblage. x = present.

Ageing, sexing and measuring data

3.2.14 Several bones provided useful information on ageing, sexing and biometrical data. These figures would not only give information on the age and sex profile of the herds, but also add to the subsequent discussion on animal husbandry strategies, trade, breeding, nutrition etc from the Roman period and onwards.

Table 5: Mandibles and bones providing data for ageing, sexing and measuring data

	Roman	Medieval	Post-medieval	Modern
Ageable mandibles	3	2		
Ageable bones	52	54	38	2
Sexable bones		6	3	
Measureable bones	46	55	24	2

Butchering marks

3.2.15 Bones with butchering marks were found in two Roman, five Medieval and four Post-medieval contexts. The long continuity of the site would make it possible to study any changes in butchering practices. Such changes have been suggested for Roman Portchester versus Saxon Hamvic (Bourdillon and Coy 1980:97) as well as between early Medieval and high Medieval Lincoln (O'Connor 1982:16).

Pathology

3.2.16 Pathological conditions were present in three medieval contexts. Despite the small frequency, an analysis of pathological conditions present in the assemblage will add to the general discussion on animal husbandry and utilisation of animals.

Worked bone

by Rose Grant (OA)

3.2.17 Two worked bone objects were recovered from excavations at Pilgrims School.

Table 6: Worked bone

Context No	SF No	Length (mm)	Description	Parallel
310		164	Cattle Metacarpal. At one end there is a highly polished cutaway. The other end has a similar cutaway. At this end the knuckles has been broken off through wear. The object is possibly a handle of some type.	
319	17	30	Bone pin. Point end of pin missing. The pin has a conical head with 3 transverse groves below. The shaft is cylindrical.	Crummy, 1983,p21 fig 18 no159.

Ceramic and stone building materials

by J Tibbles

Introduction and methodology

3.2.18 Examples of brick and tile (414 fragments) were recovered from 25 contexts with a total weight of 45995 gm. A further 10 fragments of stone weighing 316 gm within the assemblage was also provisionally examined. Assessment of the assemblage was based on a visual scan of all the retained material. Information regarding the dimensions, shape and fabric of the material was recorded and were possible, compared with existing regional brick and tile typologies.

3.2.19 It should be noted that the diversity of size and colour within brick and tile caused during the manufacturing process must be taken into consideration when comparing examples within collected assemblages and local typologies. The varying sizes and

colours can be attributed to the variation in the clays used, shrinkage during drying, firing within the kiln or clamp and the location of the brick/tile within the kiln. The dating of ceramic building material can be highly contentious due to its re-usable nature.

3.2.20 Bricks and tiles alone cannot provide a firm date because of their re-usable nature but it is possible to date types of brick and roof tile by their earliest occurrence within dated contexts. The identification of new brick or tile types would supplement the existing regional typology and there is potential for comparison with CBM assemblages from elsewhere in the region. The presence or absence of hip and ridge tile suggests a variety of roof forms.

3.2.21 The assemblage was examined using a x15 magnification lens were applicable to aid dating, though fabric analysis was not undertaken as was considered beyond the scope of this assessment. Information regarding the dimensions, shape and fabric (were applicable) was recorded and catalogued accordingly and a Munsell colour code has been incorporated where appropriate. The presence of the original surfaces was also taken into consideration to aid identification

3.2.22 Of the total assemblage, 50% of the ceramic fragments were of Romano-British forms and/or fabrics. The remainder comprised of ceramic building materials of medieval to modern date.

Assemblage Analysis

Table 7: Quantification of ceramic and stone building materials

	No of Fragments	Weight (gm)
Brick	55	15,225
Roof tile	132	13,365
Not identified	6	60
Romano-British material	212	14,913
Miscellaneous	9	2,432
Stone	10	316
Total	**424**	**46,311**

The Medieval/Post Medieval Assemblage

Bricks

3.2.23 Of the fifty-five fragments of brick within the assemblage recovered from 7 contexts) only one complete example (9 ½" x 4 ½" x 2") was recorded from dump (103). The remainder of the brick assemblage shows seven part bricks displaying width and thickness and twenty fragments displaying thickness only (28-65mm). Twenty-three fragments displayed no diagnostic traits and twenty fragments bore evidence of mortar. All the assemblage, with one exception from context (302) (19th century) appeared to be of medieval date of manufacture.

3.2.24 The majority of fragments (71%) were manufactured in fabric F1 the remainder in fabrics F2, F4, F8 and F9.

Flat roof tile

3.2.25 One hundred and nineteen fragments of flat roof tile were identified within the assemblage of which twenty-eight fragments could be classified into three site types (1, 2 & 3). The remaining fragments although diagnostic did not have sufficient diagnostic qualities to be classified other than flat roof tile (FRT). Diagnostic qualities included the varying methods of suspension, length, width and thickness. Six fragments (3 joining) displayed a width and thickness and two displayed suspension holes. The remaining tile thicknesses ranged between 10mm-22mm with the majority of the tiles displaying a 15mm-17mm range. Ten different fabrics were recorded (F1, F2, F3, F4, F5, F6, F7, F8, F10 & F12) of which F1 dominated the assemblage (46%).

3.2.26 A single fragment from (102) displayed burning and twenty-nine mortar stains/adhesions. Three fragments displayed mortar over surfaces and broken edges suggesting their use as course levelling material.

Site medieval flat roof tile typology

Type 1
Dimensions: L. ?mm x W. 157mm x Th. 12-22mm
Suspension: Two circular punched holes 11-18mm in diameter approximately 40mm apart.
Manufacture: Moulding sand and moulding lips evident.
Fabrics: F1, 2, 3, 4, 6, & 10

Type 2
Dimensions: L. ?mm x W. 157mm x Th. 12-22mm
Suspension: Single finger-pulled nib centrally placed with nail hole to right of nib.
Manufacture: Moulding sand and moulding lips evident.
Fabrics: F2 & 8

Type 3
Dimensions: L. ?mm x W. 158mm x Th. 12-16mm
Suspension: Two square punched holes 12-13mm wide and 40mm apart.
Manufacture: Moulding sand and moulding lips evident.
Fabrics: F1, 4, & 10

Ridge tiles

3.2.27 Thirteen fragments of ridge tile were provisionally identified within the assemblage from 3 contexts of which none were complete. The general thickness ranged between

3.2.28 18mm-25mm with a mean thickness of 22mm.

3.2.29 Four fragments from contexts (101), (150) and (318) displayed glazes with a colour range of dark olive (5Y/3/2) to a strong brown (5Y/4/4). A further fragment of possible ridge tile displaying a dark yellow brown (10YR/4/6) was recorded within context (318). Evidence of mortar was recorded on seven fragments from context (101). The fragment from context (150) was found to be heavily abraded.

3.2.30 Approximately 62% of the ridge tile were of F6 fabric the remaining fragments F1, F2, F3 and F7. (See appendix I)

Floor tiles

3.2.31 Two fragments of floor tile were recorded from contexts (101) and (102). The fragment from (101) showed a plain yellowish brown (10YR/5/8) glaze. The fragment from (102) was 25mm thick with 60º bevelled edges with residual mortar. Upper surface showed white elliptical pattern sealed by a yellowish red (5YR/4/6) glaze.

Miscellaneous Medieval Material

3.2.32 From within contexts (101), (102) and (304) four fragments of Welsh roofing slate were recorded varying in thickness between 4mm-10mm. The fragment from (304) still retained its suspension hole 12mm x 10mm. One fragment displayed residual mortar stains. Although the blue-slate trade of western England and Wales was thriving in the medieval period (Jope & Dunning 1954) the material examined appears to be of a post-medieval character.

3.2.33 A small fragment (15g) of material from context (309) has a pottery appearance but within a ceramic building material fabric (F1) and may represent a fragment of roof finial.

3.2.34 A single non-diagnostic fragment of baked clay displaying a single flat surface was recorded within flood silts (308).

3.2.35 Single fragment of lime mortar (13g) was recovered from flood silts (307). Dark white fabric with frequent black inclusions <1mm. Reactive to diluted hydrochloric acid. Probable medieval in date.

3.2.36 Fragment of sandstone (?) 11mm thick displaying burning. Context (304).

3.2.37 Two fragments of brown/green glazed pottery. Context (322).

Non-identifiable material

3.2.38 Six fragments of unidentifiable ceramic building material were recorded from within context (319). Fabric was F1.

The Medieval/Post Medieval Assemblage Discussion

3.2.39 The diversity of brick/tile colour and size caused during manufacture must be allowed for when making comparisons with typologies. The brick assemblage shows typical evidence of hand-made and machine-made brick manufacture utilising alluvial clays. At least four fabrics (F1, F2, F4 & F10) have been provisionally identified in both medieval and Roman material.

3.2.40 The majority of the brick assemblage was of a medieval date with two post-medieval/modern exceptions from rubble dump (103) and topsoil (300). The former displaying the residual elements of manufacturers stamp. The example from topsoil (300) was identified as a machine-made firebrick suggesting a late 19th-20th century date.

3.2.41 Only one complete brick was recorded from context (103) with dimensions of 240mm x 115mm x 50mm (9½"x 4 ½"x 2"), its size and general characteristics suggest a date

of c. 15th century and would be residual within this context. The part bricks were classified adopting a best-fit policy based on surviving dimensions, fabrics and general characteristics. The remainder of the brick assemblage shows part bricks ranging in width between 102--115mm (4"-4 ½") and thickness of 50-65mm (2-2 ½"). Based upon the surviving diagnostic traits all appear to be of a medieval date.

3.2.42 Ten fragments of medieval brick were recorded within the RB rubble dump (319) and although all display thickness only and an F1 fabric similar to that of some RB material, they have been provisionally identified as medieval. (Medieval roof tile was also recorded within this context)

3.2.43 From within contexts (103), (304) and (319) the upper surfaces of some fragments were found to display a relatively smooth appearance created from their incorporation within an internal floor or threshold. Also from (304) non-diagnostic fragment showed upper surface wear and may represent a quarry tile. Other fragments from contexts (102) and (318) were of abraded appearance.

3.2.44 A possible tilers tally mark (Type 2) consisting of two parallel indentations within the bricks surface was recorded within context (102). Examples of this type are known from 14th-15th century contexts in Yorkshire (Tibbles (a) forthcoming).

3.2.45 The majority of the medieval building material assemblage (70%) is of ceramic roofing tile. The range recorded showed two different types of roof tile: flat and ridge. The flat roof tile could be broken down into three further site types 1, 2 and 3 (See site typology). Peg tiles with one or two suspension holes had become almost universal in the south east of England by the start of the 14th century (Drury 1981). However, Lewis (1987) suggests that nibbed tiles were in use by the 12th century and pegtiles by the mid 13th century. Ridge tiles including glazed ridge tiles have been recorded from late 12th century deposits at Beverley (Tibbles (b) forthcoming) and by the early 13th century in Southampton (Dunning 1975)

3.2.46 Fifteen fragments of medieval flat roof tile were provisionally identified and one fragment positively identified of Type 1 medieval flat roof tile was made suggesting intrusion or contamination within flood silts (318). A further 15 medieval fragments were also provisionally identified from dump (319).

3.2.47 Provisional identification of the floor tile fragments from layers (101) and (102) would suggest a 14th-15th century date although a more precise origin and date may be obtained by a more detailed analysis.

The Romano-British Material

3.2.48 An assemblage of two hundred and twelve fragments of Romano-British ceramic building material, with a combined weight of 14913g was recovered from seven contexts. Fabrics varied between soft abraded material to hard fabric and were of a colour range of Reddish Yellow (5YR/6/8) to light brown (7.5YR/6/3).

3.2.49 Four forms were identified, brick, roof tile, hypocaust material and tesserae. Of the assemblage, 25% was not identifiable by form, however the majority of the fragments were of Romano-British fabric.

Brick

3.2.50 An assemblage of thirty-five fragments of bricks, with a total weight of 8143gm was recovered from four contexts. Two forms were provisionally identified, bessales (27 fragments) and pedales (8 fragments). Thickness ranges of >25mm to 38mm and 40mm to 50mm respectively were recorded. However, identification is heavily biased towards thickness and must be treated with caution.

3.2.51 Within the assemblage one fragment of bessalis/pedalis from (310) and five fragments from dump (319) were heavily abraded, possibly water action. Also three fragments from (310) and seven from (319) displayed mortar adhesions.

Roof Tile

3.2.52 A total of sixty-eight fragments, with a combined weight 4781gm were recovered from five contexts. Three types were identified, tegulae, imbrices and ridge. However, the similarities between imbrix and ridge thickness on small fragments may affect identification and therefore quantities must be treat with caution.

Tegulae

3.2.53 Thirty-five fragments from 5 contexts were identified within the assemblage, of which seven were diagnostic. This material displayed means of suspensions in the form of finger smoothed or knife-trimmed flanges, upper and/or lower cut-aways.

3.2.54 Six part flanges were identified, maximum flange height 33mm. Only one fragment bore knife-trimmed lower cut-away of which was unidentifiable by form due to breakage in antiquity. Six fragments were found to be underfired and a further three fragments heavily abraded. A single fragment from (319) displayed a smooth worn upper surface suggesting it had been re-used as a floor or yard surface. Thickness ranged between 15mm -26mm.

Imbrices

3.2.55 Twenty-one fragments of imbrices were identified from 5 contexts within the assemblage. This material had a combined weight of 1005gm and was recovered from five contexts. The tiles had a thickness range of >12mm to 20mm.

Box-Flue Tiles (Tubulus)

3.2.56 Seventeen fragments of box-flue tiles, with a combined weight of 980 gm, were recovered from five contexts. A thickness range of 12mm to 25mm was recorded. Heat discoloration was noted on some internal surfaces, probably from original use. One fragment from context (310) was abraded.

3.2.57 Of the assemblage, ten fragments displayed diagnostic features in the form of characteristic combing/scoring, the keying element for the adhesion of plaster or mortar. Where possible the number of tines per comb recorded ranged from 4 to 6.

Unidentifiable by Form

3.2.58 Five contexts produced an assemblage of fifty-six fragments of ceramic building material, unidentifiable by form. This material had a total weight of 2528gm

3.2.59 Although forty-two fragments were non-diagnostic where complete dimensions allowed, a thickness range of 14mm to 42mm was recorded, indicating the identification of some fragments as tiles and bricks respectively. The assemblage included abraded material and underfired examples.

The Romano-British Material Discussion

3.2.60 The majority of the assemblage consisted of the range of Romano-British forms that would have been used in the various aspects of building construction, including hypocaust materials. Although possible underfired material and seconds were noted within the assemblage, overall, the material appeared to represent quality materials.

3.2.61 Secondary use was also evident in the form of smooth original and broken surfaces. This material may have been possibly used within floors, hard standing or metalled surfaces.

3.2.62 The similarities in the material from the medieval wall (102), organic silts (309), (310) and the earlier Roman deposits tend to suggest dumping of the material from the same site. Alternately the Roman material may have been re-used and incorporated with medieval structures or deposits prior to final deposition.

3.2.63 The diverse range of forms suggests a 'high status' building(s) with al least one hypocaust in operation within the vicinity of the evaluation. The presence of decorated wall plaster and tesserae add to this premise. It is likely that the assemblage represents residual elements of this/these building(s).

Romano-British Individual Finds of Intrinsic Interest

Context 319	Roman rubble dump	10g
	Fragment of wall plaster Red (7.5R/5/8) render/paint	
Context 319	Roman rubble dump	40g
	Fragment of tile disc 15mm thick. Fabric F16	

The Objects/Artefacts

3.2.64 Two limestone? Tesserae were noted from the Roman rubble dump (319) and a further tesserae from the sand bar (323). Thickness' were 22mm and 15mm respectively.

3.2.65 A further thirty-four tesserae were recorded from four contexts (309, 310, 319, 322) manufactured from tile. Remnants of white mortar were recorded on the lower 'bed' surface and edges either from original use or within floor. The tesserae had originated from within a floor; the upper surface and edges were smooth and rounded, footworn.

Architectural stone

by Julian Munby (OA)

3.2.66 Four architectural stone items were recovered. They all came from context (209), a 0.53m thick rubble make-up/dump layer that also contained 17th-18th century pottery and glass

3.2.67 All pieces are of fine limestone, with well-finished faces showing tool marks; all are likely to be medieval.

Table 8: Architectural stone

Small Find Number	Context No.	Description
1	209	Rim of part-octagon with external moulding and internal curve. Probably part of font or similar stone basin. Date 14th/15th-century.
2	209	Block of ashlar with chamfered edge and rebate. Possibly window mullion or door/cupboard jamb.
3	209	Block of ashlar with chamfered edge. Door jamb or possibly corbel table.
4	209	Block of ashlar with chamfered edge. Door jamb or possibly corbel table.

Metalwork

by Leigh Allen and Paul Booth (OA)

3.2.68 A total of 159 metal objects were recovered from the excavation at the site of Pilgrims School, Winchester. The assemblage comprises 7 copper alloy objects (including 4 coins) and 152 iron objects (including 107 nails and 39 hobnails). The metal work assemblage is in reasonable condition although many of the iron objects are covered with corrosion products. Material recovered from waterlogged contexts (319) and (322) is much better preserved and easily identifiable. The assemblage has not been x-rayed at this stage, but it is recommended that this be carried out before the full report stage in order to check the preliminary identifications made in this assessment report and for archive purposes. The majority of the assemblage comprises nails recovered from rubble dumps and make up layers of both Roman and Post Roman date. Other identifiable objects include 4 Roman coins, a horseshoe arm and two structural iron objects; a hasp and a wall hook.

Table 9: Metal objects

Context	SF No	Object	Material	Pottery spot date	Description
100	-	Nail	Iron	1680-1725	
103	-	Nail	Iron	1775-1875/19	
103	-	Horseshoe	Iron	1775-1875/19	Curved fragment from the arm of a horseshoe
103	-	Wall hook	Iron	1775-1875/19	
120	-	Nails (x2)	Iron	11-12C	

Context	SF No	Object	Material	Pottery spot date	Description
205	-	Bolt	Iron	19-20C	Large bolt with a hexagonal head and a thick circular section shank
206	-	Nails (x2)	Iron	-	
207	-	Nail	Iron	1680-1725	
208	-	Nails (x3)	Iron	1675-1725	
209	-	Nails (x3)	Iron	1675-1750	
301	-	Fitting	Iron	1680-1725/50	
304	-	Nails (x2)	Iron	1690-1730	
306	-	Nail (x4)	Iron	16-17C	
306	-	Hasp	Iron	16-17C	An incomplete figure of eight shaped hasp
307	-	Nails (x6)	Iron	13-14C	
308	-	Nails (x4)	Iron	14-15C	
318	-	Nails (x3)	Iron	-	
318	-	Object	Iron	-	Very corroded object requires x-ray for identification
319	-	Nail (x7)	Iron	RB	
319	-	Hobnails (x21)	Iron	RB	15 small dome headed hobnails with rectangular section shanks
319	-	Nail shanks (x17)	Iron	RB	
319	-	Nail (x5)	Iron	RB	
319	-	Hobnail	Iron	RB	Dome headed hobnail
319	-	Sheet	Copper alloy	RB	An irregularly shaped fragment of sheet
319	-	Strip	Copper alloy	RB	A thin strip of copper alloy (looks like an off cut)
319	19	Nail	Iron	RB	
319	16	Nail	Iron	RB	
319	9	Nail	Iron	RB	
319	-	Nails (x17)	Iron	RB	
319	10	Coin	Copper alloy	RB	
319	12	Coin	Copper alloy	RB	
319	15	Coin	Copper alloy	RB	
319	20	Coin	Copper alloy	RB	
322	-	Nail (x3)	Iron	RB	
322	-	Nail shanks (x10)	Iron	RB	

Context	SF No	Object	Material	Pottery spot date	Description
322	-	Hobnails (x17)	Iron	RB	17 small dome headed hobnails with rectangular section shanks
322	-	Nails (x13)	Iron	RB	
322	-	Misc	Copper alloy	RB	A solid amorphous lump of melted copper

Copper alloy objects

3.2.69 Four coins were recovered in the evaluation, all from context (319). All are of late 3rd century date and in moderate to good condition.

SF 10. IMP C TETRICUS P F AUG. Rev, PA[X AUG, Pax left. Irregular. AD 270-273 or later.

SF 12.] TETRICUS [. Rev, standing figure. Irregular. AD 270-273 or later.

SF 15. IMP C CARAUSIUS AUG. Rev, MO]NET AUG, Moneta left. AD 286-293.

SF 20.] C CLAUDIUS [. Rev, ?MARTI [, Mars left. AD 268-270.

3.2.70 The issues of Claudius II and Carausius appear to be regular, though on the latter coin the dies are quite imperfectly located on the large flan. The two certainly irregular coins could date as late as c AD 295.

3.2.71 The remaining 3 copper alloy objects all recovered from Roman contexts comprise a miscellaneous fragment of sheet, a thin strip that could have been cut/trimmed from a larger sheet and an amorphous lump of melted copper possibly waste from copper working.

Iron objects

3.2.72 A total of 106 nails were recovered from the excavation 75 of these were from Roman waterlogged contexts (319) and (322). Complete examples conform to Manning Type 1B, with a square-sectioned tapering shank and a circular head (Manning 1985, 132-137, fig 32, No.1b) and is the most common form of Roman nail. A total of 39 hobnails were also recovered from Roman contexts they have domed heads and square sectioned tapering shanks they range in length from 10-12mm. The Post Roman objects comprise 32 nails, less well preserved than the Roman examples but many with rectangular/square slightly domed head, and in general more robust than the earlier type. The wall hook from context (103) has a rectangular section tang for inserting into timber or masonry and a hook that separates from the shank before the end, a type that does not occur before the 13th century Goodall 1990, 328). The horseshoe arm from the same context has a slender web, plain outline, but no holes are visible through the corrosion. A fragment from a figure of eight shaped hasp was recovered from context (306).

Leather

by Quita Mould

Methodology

3.2.73 The leather was wet and washed when examined and recorded. It is currently packed in double self-sealing polythene bags in an air-tight plastic storer OA 1026. A basic record of the leather for archive is provided in appendix 1 and a summary is provided below.

3.2.74 Leather species were identified by hair follicle pattern using low powered magnification. Where the grain surface of the leather was heavily worn identification was not always possible. Shoe soles and repair pieces are presumed to be of cattle hide unless stated otherwise. The distinction between immature (calfskin) and mature cattle hides is not always easy to determine and the term bovine leather has been used when in doubt.

Summary

3.2.75 Leather was recovered from three contexts (309, 319, 322) in Trench 3. At least two shoe of nailed construction and a shoe of one-piece construction along with a very small amount of waste leather were recovered from Roman deposits (319, 322). Shoe parts of medieval date were found in a deposit of organic silts (309) tentatively dated to the 14th-early 16th century.

Roman c. AD 270+

3.2.76 A piece of secondary waste cattle hide (SF21) and part of the bottom unit of a shoe of nailed construction (SF22) were found in organic silts (322) along with coarse pottery and Samian datable to AD150-200. The nailed shoe (SF22), of adult size, had nailing of van Driel-Murray type 3A (2001, fig 21) and type 2 constructional thonging. Highly fragmentary remains of a shoe of one-piece construction (SF11 part, SF 00 part), the bottom unit of a shoe of nailed construction (SF 13) and primary waste leather were found in a layer of flint and chalk rubble (319) lying directly above organic silts (322). The primary waste included three hide edges of bovine leather.

Medieval

3.2.77 A fragment of seam from a turnshoe sole, a large clump repair piece and a length of rand were found in the upper layer of peat along with a fragment of baluster jug. These shoe parts are of medieval date supporting the ceramic evidence.

Basic record of leather recovered

Context (309) Medieval turnshoe parts
SF 7
- large clump repair piece, worn away down the right side, with tunnel stitching on flesh side along the surviving left edge. Adult size. Length 120, width 79mm.
- Curving piece with edge/flesh seam, stitch length 6mm, broken from the seat of a turnshoe sole. Length 68, width 17mm

SF 8
- length of rand with edge/flesh seam, stitch length 6-7mm. Length 140, width 8mm

Context (319) Roman shoe parts and waste leather
SF 11
- Compacted fragment with all edges torn, no grain pattern visible 68x55x1mm
- Delaminated and compacted fragment with a grain/flesh seam, stitch length 5mm along one edge, other edges torn
- Folded fragment with a cut sides, torn into two pieces 62x15(folded)x1mm bovine leather

SF 13
- Lower tread and waist area from a bottom unit of shoe of nailed construction comprising an insole and middle lamina joined with constructional thonging type 2. Fragment of constructional thong is present 5mm wide. Holes from widely-spaced nailing present, no hobnails present. Length 95mm, width 63mm. Insole worn calfskin. Also small fragments broken from the bottom unit components

In separate bag
- Fragment with grain/flesh seam and small area of second seam at right angles. The fragment is curved and likely to be the seat area of a one-piece shoe. The grain/flesh shoe is similar to that in SF11. Height 58mm, width 46mm. Leather delaminated 1mm thick.
- Fragment of compacted leather with an awl made hole present. 54x47x1.5mm
- Hide edge cattle hide 72x60x4.5mm
- Hide edge bovine 87x40x1mm
- Hide edge bovine 141x35x2mm
- Six fragments with cut and torn edges
- Nine fragments with all edges torn including one with a folded edge as seen in SF11

Context (322) Roman shoe parts and waste leather
SF 21
- elliptical piece of secondary waste with all edges cut 136x27x5mm cattle hide

SF 22
- Waist and lower tread area of bottom unit of shoe of nailed construction comprising an insole and middle joined by constructional thonging. A fragment of thong is present 5mm wide. No hobnails present but holes from a single line on one side and a double row along the other with infilling at the waist, van Driel-Murray type 3A. Impression from upper lasting margin overlaps the sides of the middle layer. Insole cattle hide 3.5mm thick. Length 102mm, width 76mm

Slag

by Lynne Keys

Table 10: Slag quantification

context	slag	wt. (g)	len. (mm)	br. (mm)	dep. (mm)	comment
116	smithing hearth bottom	392	110	70	40	
205	glass-making slag?	6				
305	run slag	26				magnetic
305	undiagnostic	214				
318	smithing	204	104	70	50	

context	slag	wt. (g)	len. (mm)	br. (mm)	dep. (mm)	comment
	hearth bottom					
318	undiagnostic	90				
319	undiagnostic	230				
207	run slag	30				
207	undiagnostic	70				

3.2.78 The only diagnostic slag were the two smithing hearth bottoms. The run slag could be produced by either smithing or smelting. The undiagnostic iron slag also could not be assigned to smelting or smithing. The slag described as possibly from glass-making was a deep black glass-like run of a type frequently encountered in glass-making (rather than glass-working) assemblages; it could however have been produced by some activity using silica, very high temperatures, and possibly a fuel like coal.

Waterlogged timbers and wooden small finds

by Steven J Allen

Introduction

3.2.79 Thirty pieces of waterlogged wood were delivered to the Wet Wood Laboratory on 20th September 2005 for assessment. The assemblage includes some very interesting pieces of timber and two 'small finds'.

Aims and Objectives

3.2.80 This report aims to meet the requirements of MAP2, Phase 3, Assessment of Potential for Analysis, (English Heritage, 1991). The work carried out has been the cleaning and examination of the objects submitted and an assessment of their condition. An evaluation of the potential for further investigation is included, with recommendations and costs for long term stabilisation.

Condition

3.2.81 Each piece of wood has been preserved through burial in a waterlogged anoxic environment and it appears that these conditions were maintained in all contexts in which the material survived up to the time of excavation. Minimal recent surface damage was present suggesting what damage is present was the result of actions before or during burial. Several of the larger boards had fragmented as in their current condition they are unable to support their own weight. Some timbers had suffered slightly from being at the very margin of the local water table where those parts at or above the water table had been eroded and rotted. None the less, overall the wood was exceptionally well preserved with many pieces retaining crisp tool signature marks.

Listing

3.2.82 All species identifications follow Schweingruber (1982)

Table 11: Wooden structural timbers

ID	Comment	Species identification
122 (I)	Radially faced board. Edges hewn to create slightly concave plan. Remains of one through hole in face at each corner. Some minor surface damage. 317 l, 125 w, 10 th.	*Quercus spp.*
122 (ii)	Radially faced board. One complete and one partial though hole at the two surviving original corners. Badly fragmented and incomplete -in eight refitting fragments. 220 l, 121 w, 10 th.	*Quercus spp.*
122 (iii)	Section of boxed heart stake point. Four hewn facets with good axe signatures cut to create sub rectangular cross section tip. End of tip missing. Some longitudinal shrinkage cracks. 281 l, 72 w, 54 th.	*Alnus viridis DC*
122 (iv)	Offcut from radially faced heartwood. Abraded surfaces. 348 l, 51 w, 26 th.	*Quercus spp.*
122 (v)	Offcut from radially faced heartwood. Abraded surfaces. 298 l, 47 w, 35 th.	*Quercus spp.*
122 (vi)	Offcut from radially faced heartwood. Abraded surfaces. 218 l, 54 w, 25 th.	*Quercus spp.*
122 (vii)	Offcut from radially faced heartwood. Abraded surfaces. 154 l, 33 w, 30 th.	*Quercus spp.*
124	Radially faced board. Both edges hewn to create point at one end. Other end eroded. Faces hewn with good axe signature (>120mm w) preservation. Sapwood present on one edge. One detached and refitting fragment near knot on other edge. 877 l, 299 w, 14 th.	*Quercus spp.*
125	Tangentially faced board. One end and both faces hewn, with good axe signature preservation. .Other end eroded. Badly fragmented and incomplete –in eight refitting fragments. 832 l, 407 w, 12 th.	*Quercus spp.*
126	Radially faced board. One end hewn roughly square, other end eroded. Axe hewing marks on face. Single through nail hole towards one edge. In three refitting sections. 837 l, 258 w, 16 th. Hole 08 dia.	*Quercus spp.*
130	Radially faced board. One end hewn roughly square, other end eroded. Good axe signature (c. 140w) preservation. Badly fragmented and incomplete -in five refitting sections. 686 l, 224 w, 14 th.	*Quercus spp.*
131	Radially faced board. One end bevelled with good axe signature preservation. Other end broken. Single through hole in face towards bevelled end. 306 l, 109 w, 14 th.	*Quercus spp.*
132	Radially faced board. Faces hewn with good axe signature (>180 w) preservation. One end hewn roughly square, other end eroded. Sapwood on one edge. In two refitting sections. 826 l, 276 w, 20 th.	*Quercus spp.*
133	Radially faced board. Both edges hewn to create tip at one end. Other end slightly eroded. Hewing marks on faces with good axe signature (>115 w) preservation. Badly fragmented –in eight refitting fragments. 947 l, 295 w, 15 th.	*Quercus spp.*

ID	Comment	Species identification
134	Radially faced board. One end hewn roughly square, other end eroded. Hewing marks on faces with good axe signature preservation. Sapwood on one edge. Sapwood on one edge. Very fragmented and incomplete –in six refitting fragments. 734 l, 274 w, 15 th.	*Quercus spp.*
135	Radially faced board. Both edges hewn to create point at one end. Faces hewn with good axe signature (c. 238 w) preservation. Other end eroded. Sapwood on one edge. Partially fragmented -in five refitting sections. 809 l, 299 w, 16 th.	*Quercus spp.*
146	Radially faced stave. Both edges hewn to create sub rectangular cross section tip. Sapwood on one edge. Surfaces abraded, slight excavation damage to surface. Tip in two refitting sections, some parts missing. 647 l, 106 w, 25 th.	*Quercus spp.*
150 (I)	Radially faced stake point cut entirely from sapwood. One edge and both faces hewn to create sub rectangular cross section tip. Abraded surfaces, some ancient woodworm damage. In three refitting sections. 168 l, 31 w, 25 th.	*Quercus spp.*
150 (ii)	Offcut from radially faced board. Abraded surfaces, no working marks. 44 l, 61 w, 19 th.	*Quercus spp.*
150 (iii)	Offcut from radially faced timber. Sub rectangular cross section, no working marks. 163 l, 82 w, 40 th.	*Quercus spp.*
311	Roundwood stake point, bark present. Single hewn facet cut to create chisel tip. In three refitting sections, end of tip missing. 264 l, 24 dia.	*Corylus avellana L.* 5 annual rings, Summer cut.
312	Roundwood stake point, bark present. Single hewn facet cut to create chisel tip. In two refitting sections. 292 l, 26 dia.	*Corylus avellana L.* 5 annual rings, Spring cut.
313	Roundwood stake point, bark present. Single hewn facet cut to create chisel tip. In three refitting sections. 227 l, 21 dia.	*Corylus avellana L.* 8 annual rings, Winter cut.
314	Roundwood stake point, bark present. Single hewn facet cut to create chisel tip. 184 l, 25 dia.	*Corylus avellana L.* 7 annual rings, Winter cut.
315	Roundwood stake point, bark present. Single hewn facet cut to create chisel tip. 321 l, 23 dia.	*Corylus avellana L.* 8 annual rings, Winter cut.
316	Roundwood stake point, bark present. Single hewn facet cut to create chisel tip. 139 l, 16 dia.	*Corylus avellana L.* 5 annual rings, Winter cut.

ID	Comment	Species identification
317	Roundwood stake point, bark present. Single hewn facet cut to create chisel tip. In three refitting sections. 362 l, 20 dia.	*Corylus avellana L.* 5 annual rings, early Spring cut.
320	Boxed heart post section. Faint hewing marks on faces and edges. Some damage to lower end. Upper end eroded with very sharp division between eroded and uneroded wood. Abraded surfaces. 637 l, 120 w, 85 th.	*Quercus spp.*
321	Boxed heart post section. Both faces and both edges hewn to create taper towards lower end which terminates in a blunt sub rectangular cross section tip. Sapwood present on one face. Abraded surfaces. 551 l, 140 w, 95 th.	*Quercus spp.*
326	Roundwood stake point, bark present. Five hewn facets cut to create sub hexagonal cross section tip with axe signatures present. Tip detached but refitting. 224 l, 38 dia.	*Corylus avellana L.* 11 annual rings, Spring cut

Table 12: Wooden small finds

ID	Comment	Species identification
319, SF 23	Radially faced staff terminal. One end broken and missing, other end shaped o a regular cone with prominent shoulder. Much surface damage. 97 l, 29 dia.	*Acer campestre L.*
319, SF 24	Box quartered peg. Sub rectangular cross section with even taper on all four faces/edges towards tip. Tip finished with single hewn facet cut at steep angle. 86 l, 15 w, 12 th.	*Quercus spp.*

Acer campestre L. Field Maple
Alnus viridis DC.- Green Alder.
Corylus avellana L. Hazel
Quercus spp.- Oak. Sub species not determinable

Discussion

3.2.83 What at a first reading appeared to be a fairly unremarkable assemblage of timbers has proved to be of very great interest once cleaned and examined. The preservation of the worked surfaces of the medieval planks, such as those on timbers (133) and (135), is exceptional. The crispness of the tool signatures and the lack of any woodworm damage to the sapwood edges indicates that these timbers were placed in their burial context immediately after being worked and have not subsequently been moved until the date of the excavation. With good tool signature preservation it ought to be possible to compare signatures on different boards and work out whether they were cut with the same tool, or whether several tools were used in their fabrication.

3.2.84 These same boards also have good dendrochronological potential. They are wide, radially faced ,with sapwood on one edge and consequently ought to be able to provide an estimated felling date for the tree(s) they were cut from. The condition of

the boards indicates they were placed in the ground very shortly after felling and have not been reused. Thus the date of the boards should approximate the date of the feature of which they formed a part. One further possibility is that, given the straightness of their grain and their width, these boards may not be English in origin.

3.2.85 The condition of the wood provides an indication of the long term height of the local water table which may be of interest for studies of the local topography and drainage patterns.

3.2.86 Finally the two small finds are worth retaining especially if, as appears from the notes supplied, they are from a Roman context. The shaft terminal is an example of the wood surviving without the metal to which it was joined. Usually the metal component is recovered and the wood survives only as mineral preserved organic. The peg may well be another example of a type used in roofing, to fasten slates or tiles in place, rather than deriving from a joint.

Glass

by Dr Hugh Willmott

Introduction

3.2.87 A small assemblage of glass from the Pilgrims School, consisting of 66 fragments from a number of vessels or windows, was submitted for assessment (summarised below). All is post-medieval in date and relatively stable, requiring no further specialist conservation or treatment.

The Assemblage

3.2.88 With the exception of three, possibly intrusive, fragments from contexts (205), and (206) the assemblage dates entirely to the late 17th or early 18th centuries. These later fragments are from two press-moulded bottles and a single window. The earlier glass consists almost entirely of early wine bottles, and although these have not been accurately quantified, there are reasonable numbers of early onion and mallet types present. The remaining glass comes either from windows and there is a single fragment of early mirror or plate glass from (306).

Table 13: Summary of the glass

Context	No Frags	Description	Date
105	1	Wine bottle	Late 17th-early 18th century
109	1	Wine bottle	Late 17th-early 18th century
205	1	Press-moulded bottle	Late 19th-early 20th century
206	4 1 1	Wine bottle Press-moulded bottle Window	Late 17th-early 18th century Late 19th-early 20th century Late 19th-early 20th century
207	41	Wine bottles	Late 17th-early 18th century
208	10	Wine bottles	Late 17th-early 18th century
209	1	Wine bottle	Late 17th-early 18th century
301	2	Wine bottles	Late 17th-early 18th century
306	1	Window	Late 17th-early 18th century
306	1	Mirror/plate glass	Late 17th-early 18th century
319	1	Wine bottle	Late 17th-early 18th century

Shell

by Rose Grant (OA)

3.2.89 A total of 67 fragments of oyster shell were recovered for the site. The table below gives the quantification for each context.

Table 14: Summary of the shell

Context Number	Fragment Count	Weight (g)
116	1	1
150	2	70
205	1	13
206	15	142
207	34	425
208	5	52
209	3	44
319	1	2
322	5	128

Clay tobacco pipes

by John Cotter (OA)

3.2.90 The excavation produced a total of 98 fragments of clay pipe weighing 459g. These have been spot-dated and a given a basic catalogue. The catalogue records, per context, the quantity of stem, bowl and mouth fragments, the overall sherd count, weight, and comments on condition and any makers' marks or decoration present. The collection is not particularly large or impressive but it does include a small number of interesting stamped pipes.

Table 15: Clay tobacco pipes

Context	Spot-date	Stem	Bowl	Mouth	Tot sherds	Tot Wt	Comments
100		4	0	0	4	25	Stem bores 2.5-3mm
103	17-E18C	2	0	0	2	10	Stem bores 2.5-3mm. Incl frag flat heel prob 17C
201	17-E18C	1	0	0	1	5	Stem bore 2.5mm
206	L17-18C?	5	0	1	6	21	Stem bores incl 1x c2mm, mostly 2.5-3mm
207	c1690-1730	50	11	2	63	299	Min 9 pipe bowls: 1x 1690-1730, 2x 1690-1710, 1x 1680-1710, 2x 1660-80 both with heart-shaped stamps on heels (1 with initials TR;, other poss figurative/heraldic), both unidentified. 1x 1600-40 with mailed gauntlet stamp on heel. ILLUS/PUBLISH stamped pipes?
208	17-E18C	9	0	2	11	37	1x frag flat heel. Wide stem bores 2.5-3mm
300	17-E18C	4	0	0	4	17	Wide bores

Context	Spot-date	Stem	Bowl	Mouth	Tot sherds	Tot Wt	Comments
301	17-E18C	3	1	0	4	22	Short spurred bowl frag. Wide bores
303	17-E18C	1	0	0	1	5	Wide bore
304	c1690-1730	0	1	0	1	16	Pronounced spur. Dutch-style milling (diagonal) on stem
306	17-E18C	0	0	1	1	2	Wide bore 4mm
TOTAL		**79**	**13**	**6**	**98**	**459**	

3.2.91 The largest number of fragments came from context (207) (63 fragments), which produced the widest range of datable pipes including all three stamped examples. Pipe bowls from this context range in date from c. 1600-40 to c. 1690-1730. Context (207) has a concentration of 4 pipe bowls of the late 17C to early 18C. There are no pipe bowls from the site which are later than this and all the stem fragments from the site have wide bores suggestive of 17C to early 18C dates.

3.2.92 The three stamped pipes from context (207) are all 17C types which must be residual to varying degrees in this context. Nevertheless the stamps or makers' marks are of considerable interest and should be published. One of the stamps has general parallels in Oswald 1975 (see below), the other two are unidentified. The stamps occur on the broad oval heels of the pipes and are briefly described as follows:

1. *Bowl type c. 1600-1640*. Mailed gauntlet stamp parallel to stem. This is paralleled by a slightly different stamp on a pipe from Salisbury dated c. 1650-60 (Oswald 1975, fig. 8.3) and also (with initials) on a pipe from Worcestershire (*ibid*., pl.III.7). Gauntlet stamps are found in London, Wiltshire and Somerset (ibid., 63) and another example has recently been identified from Oxford (OXCLA 05 (6)).

2. *Bowl type c. 1660-80*. Heart-shaped stamp enclosing initials TR with a pellet above each initial.

3. *Bowl type c. 1660*. Heart-shaped stamp with uncertain figurative/heraldic details. Divided by a horizontal line with two opposing spirals above line (one in each lobe). Details below line unclear - possibly a bird, or a plant.

3.2.93 One other pipe bowl of c. 1690-1730 from context (304) has traces of Dutch-style milled decoration on the stem. Apart from these examples all the remaining pipe bowls and stems are plain.

3.3 Environmental Results

Plant remains

by *Wendy Carruthers*

Introduction

3.3.1 An evaluation was carried out by Oxford Archaeology in advance of construction work at The Pilgrim's School, Winchester during 2005. The school lies within the Cathedral Close, on the valley floor to the west of the River Itchen. The geology consists of Upper Chalk, overlain by floodplain gravels, overlain by peat and floodplain silts (OA Evaluation Report, September 05).

Methods

3.3.2 Environmental samples were taken by OA staff from a number of features dating from the Roman to Medieval (C14th-C15th) periods. The range of deposits sampled included flood silts, peat deposits, a Roman rubble dump, Roman ramparts and a Saxon-Norman cess pit [118]. The samples were processed by OA staff using standard methods of floatation and wet-sieving (using a wash-over technique). In some cases, where it was uncertain whether deposits were waterlogged or not, soil samples were both floated and wet sieved. Where they were available, both dry flots and waterlogged wash-overs were assessed for this report. This has proved to be useful in some cases, as discussed below.

Results

3.3.3 Seventeen samples were sent to the author for assessment from trenches 1 and 3, as listed in Table 16. The results of the assessment are presented in the table, together with indications of the potential for further analysis.

Table 16: Plant remains

Bulk sample	Context No	Description	Spot Date	sample size (litres) W-wet sieved; F - floated	Plant Remains
5	120	Fill of Pit 118	11-12C	W1 F40	Rubus++, Rumex+, Atriplex p/p, Raphanus raph+, Aethusa+, Fumaria+, Prunus sloe/damson+
6	122	Fill of Pit (cess?) 118	9-12C	W2 F20	abundant bran, Agrostemma frags = waterlogged cess
53	150	Roman ?Rampart		W1 F39	Frequent henbane+++, Urtica dioica, Conium maculatum, Sambucus+, Carex+
52	154	Roman ?Rampart (?turf)		F40	occ small wood frags, occ sedge seed (Carex) & aquatic buttercup (Ranunculus sg.Batrachium)
48	307	Flood Silt?	13-14C+?	F40	occ seeds, prob some organic decay: cf. raspberry+; spike-rush (Eleocharis)+, sedge (Carex)

Bulk sample	Context No	Description	Spot Date	sample size (litres) W-wet sieved; F - floated	Plant Remains
1	308	Flood Silt?	14-15C?	F40	several & diverse taxa - Carex++, Urtica dioica, Viola, Fumaria, Sambucus, Carduus/Cirsium, Henbane, Aethusa
46	308	Flood Silt?	14-15C?	F10	as above, also Rubus sp., Ran Batrachium
3	309	Upper peat	14-E16C?	W1	Med box - polyg aviculare++, Agrostemma+, apple endocarp, sedge, Prunella, cereal, Juncus, Poaceae. Mosses
4	310	Lower peat	14-15C?	F40	freq & diverse - Potamogeton, Eleocharis, Lapsana, Agrostemma, Poaceae, Prunella, Carex, Sambucus, Rumex Urtica
50	310	Lower peat	14-15C?	W1	nil
2	318	Flood Silt?		W1	sev Cyperaceae, Atriplex, Ranunc r/a/b, Juncus, cf. apple endocarp, Anthemis cotula
44	318	Flood Silt?		F10	occ charred cereals, wl fig, sedge, potamogeton, ranunculus r/a/b, crucifer
7	319	Roman rubble dump	c270+	W1 F30	freq & varied seeds, sloe, HNS, sambucus, ranunculus Batrachium, ranunculus r/a/b, walnut shell, apple, rubus, cf. damson
41	319	Roman rubble dump	c270+	F10	sev ranunculus r/a/b, sambucus, persicaria, carex, fig, urtica dioica
8	322	Silty ?peat	c270+	F40	potamogeton, fallopia, urtica urens, carex, HNS, walnut shell, ranunculus r/a/b, Lycopus europaeus, fig, onopordum, plum/damson
42	322	Silty ?peat	c270+	F10	charred spelt gl base, wl sambucus, HNS, polygonum, barbarea, rumex, stellaria, polygonum hydropiper, fig
39	323	Sand bar	c150-200	F20	sev ranunculus r/a/b, HNS, persicaria, fumaria, rumex, cf. bullace

Discussion

3.3.4 *State of preservation* – The state of preservation of the wet (wash-over) flots was variable, ranging from poor (e.g. sample 39, context (323)) to good (eg. sample 8, context (322)). Poorly preserved samples that have remained partially waterlogged often produce predominantly woody, thick walled fruits and seeds, such as elderberry seeds, bramble seeds and sloe stones. The flots often contain frequent charcoal and decaying wood fibres. Plant macrofossil evidence from these types of contexts will be biased towards woody-seeded taxa, so it is not a reliable source of environmental information. However, the presence and decay of organic remains in these deposits can be beneficial in firstly protecting charred plant remains from crushing and weathering, and then concentrating it into a more manageable soil sample size. Only a few charred plant remains were recovered from the Pilgrim's School samples, but the concentrating effect of carrying out floatation on a deposit that had probably been

partially waterlogged, e.g. the Roman Rampart layer (150) (sample 53), may prove to be useful for some of the waterlogged assemblages (see discussion below), providing that the effects of differential preservation are borne in mind.

Trench 1

3.3.5 Two sondages were excavated down to deposit (151) in this trench. One sample in the northern sondage was assessed for this report :

3.3.6 Sample 53, context (150) - This homogeneous, moderately compact grey-brown clay silt was thought to have possibly formed the Roman rampart (OA Evaluation report). Wooden stakes driven into the peat were recovered, demonstrating that organic survival was reasonable at least in the lower levels.

3.3.7 Both wet and dry flots were assessed by the author. They contained frequent molluscs, some charcoal and bone, peaty fragments and large fragments of wood. A narrow range of plant taxa was observed in the 3 boxes of waterlogged flot, but the drying out of the floated sample concentrated the seeds into a more easily scanned assemblage of damp and nutrient-rich wasteground taxa. Henbane (Hyoscyamus niger) seeds were particularly frequent. This is an indicator of nitrogen-rich habitats such as farm yards and middens. Other taxa of nutrient-rich soils included stinging nettle (Urtica dioica) and elderberry (Sambucus nigra). Sedges (Carex sp(p).) and hemlock (Conium maculatum) reflected the damp nature of the local environment. These taxa are commonly recovered from damp ditches and wasteground. Hemlock seeds are sometimes abundant in Roman and medieval deposits alongside faecal waste (e.g. the Saxo-Norman defensive ditch at Aldgate, London; Carruthers 2001), and there is the possibility in some cases that they had been used for medicinal purposes (Moffat, 1987).There is some potential for more detailed information to be recovered from this deposit, as additional taxa would be identified if detailed analysis was undertaken. In addition, the recovery of food plants and quantification might help to determine whether any of the plants had been exploited.for their medicinal properties, or whether they were simply growing locally as weeds. If the latter interpretation is accepted, this vegetation is more likely to represent an abandonment phase, since tall plants such as hemlock would not be left to obstruct an actively used defensive ditch.

3.3.8 In the southern sondage a sample was examined from above the peat:

Sample 52, layer (154) - This consisted of thin spreads of decayed ?turf, possibly representing stacked sods from the Roman rampart. Abundant molluscs, frequent worm cocoons, chalky fragments, peat lumps and occasional small charcoal were present in the dried flot. No waterlogged flot was available, but the presence of a few uncharred seeds and wood fragments in sample 52 indicated that the deposit had been fairly anaerobic for most of its history. Only a few 'damp to wet ground' plant remains were observed in the dry flot, consisting of sedge nutlets and aquatic buttercups (Ranunculus subg. Batrachium). Since thin-walled grass seeds do not preserve well even in fully anaerobic conditions, these few seeds probably represent turves cut from damp to wet grassland, such as probably existed along the Itchen valley.

3.3.9 Two fills from a small Saxon-Norman timber-lined pit [118] from Trench 1 were also assessed;

Sample 6, context (122) – primary fill, a thick, soft anaerobic dark brown cessy deposit (OA Evaluation report). C9th-C12th spot date.
Waterlogged flots comprised well-preserved layers of matted straw interleaved with frequent fly puparia. Mineralised (Green, 1979) concretions consisting of cereal bran, straw and fly puparia were recovered from the dried samples and a damson-type (*Prunus* sp.) stone was present. These remains are typical of concentrated, *in situ* cess deposits, with the straw probably having been used as toilet paper and/or dumped in the pit to help dampen odours. The abundant fly puparia and mineralisation demonstrate that the deposit was nutrient-rich, moist to wet, and probably very smelly.

Sample 5, context (120) – above (122), more compact, dark brown cessy fill, spot date C11th-C12th (OA Evaluation report). Wet and dry flots produced wood fragments, molluscs, charcoal, insect pupae, fish bones and mineralised cess concretions containing bran, corn cockle impressions (see Carruthers, 2005) and straw. A wider range of waterlogged fruits and seeds was present in the wet flots from sample 5 than in context (122), including some edible taxa such as bramble and sloe/plum stones. The seeds of several general ruderal weeds (e.g. docks, fumitory, orache) were also common. Perhaps the pit was more open to the elements at this later date, or a wider range of waste was being dumped in the pit. Full analysis of both of these deposits is recommended, since more direct evidence of diet will undoubtedly be obtained, including information that could be compared to Middle Saxon Hamwic and to C9th-C12th cess pits at Northgate House, Winchester (OA, ongoing). Changes in the environment and waste disposal may be investigated, particularly if insect remains are also analysed.

Trench 3

3.3.10 A sondage in this trench was excavated down to the 'natural' river gravel (324). The sequence of overlying deposits assessed for this report is described below using stratigraphic information from the OA Evaluation report (September 2005);

Sample 39, context (323) – overlying the 'natural' river gravel, consisting of a loose layer of sand and grit that probably formed a sand bar. Spot date c. AD 150-200.
A wet flot and some hand-picked dry items (bark, charcoal, sloe stone, hazelnut shell) were assessed. Although frequent wood fragments were present, the range of plant taxa was narrow and mainly tough-coated seeds were present, suggesting there may have been some drying out of the deposit from time to time. Terrestrial buttercups (*Ranunculus repens/acris/bulbosus*), docks (*Rumex* sp.) and fumitory (*Fumaria* sp.) were observed, and these are the type of plants that were probably growing in disturbed grassland areas along the river. The presence of hazelnut shell and a possible bullace (*Prunus* sp.) stone suggest that human waste may also have been deposited nearby, although the presence of sewage was not confirmed. Better-preserved samples higher up the profile from later Roman activity do appear to have contained faecal waste, so this type of material was probably being discharged into the river during the Roman period. It should be remembered that any of the water-lain deposits contain a mixed assemblage that may include plant remains washed in from some distance away from the sampling point.

Samples 8 and 42, context (322) – a firm mid-green/grey peaty silt/sand above (323). Spot date c. AD 270+. Contained flint nodules and RB pot.
The wet flot contained frequent wood fragments, several small charcoal fragments, occasional bone and leather fragments. The dried flot also contained a charred spelt

wheat glume base (chaff fragment, *Triticum spelta*), molluscs and chalky lumps, and insects were more visible than in the large, organic wet flots. The waterlogged plant assemblage included a few seeds of aquatic and waterside plants (e.g. pondweed (*Potamogeton* sp.; gipsywort (*Lycopus europaeus*)) either representing plants that were growing in and around local pools or seeds that had been washed into the area during flooding episodes. A few ruderal weeds indicated that disturbed habitats occurred locally (e,g, docks, nettles). The presence of several food remains, including imported luxury fruits and nuts such as fig (*Ficus carica*) and walnut (*Juglans regia*), indicated that faecal material was present. The origin of this may have been sewage discharged into the river that had been washed into the deposit during episodes of flooding, or more locally deposited waste. Further analysis of these samples would provide information about foods being consumed during this period, and more detailed information about the local habitat.

Samples 7 and 41, context (319) – a compact layer of flint and chalk rubble above 322. Spot date c. AD 270+. Contained RB pot, building material and coins. Appears to represent deliberate dumping to make a useable surface. Timber posts cut into this layer.
Frequent large charcoal fragments, bone, molluscs, wood and moss were present in the dry and wet flots. A similar range to context (322) of aquatic/semi-aquatic plants (including aquatic buttercups (*Ranunculus* subg. *Batrachium*), ruderal weeds (e.g. stinging nettle, persicaria) and food plants (fig, walnut, apple, cf. damson)) was observed in the flots, probably deriving from the same types of flooding episodes. As with (322), a more detailed examination might show whether or not any changes to the diet, waste deposition or the environment had taken place over time

Samples 4 and 50, context (310) – lower orgainc silt, above 319. Spot date ?C14th-C15th. Firm, mid reddish brown with lenses of green-brown fine silt. Contained sherds of late Roman pot and a ?14th-15th century sherd. Timber stakes were contained within the lower peat, perhaps representing a fish trap.
The wet plant remains consisted of fragments of matted ?reeds, molluscs, wood fragments, buds, charcoal and a wide range of fruits and seeds. Aquatics (pondweed), marsh plants (spike-rush, sedges), ruderals (nettles, docks), arable weeds (corn cockle, nipplewort) and grassland plants (Poaceae) were all represented in the assemblage. The presence of tree buds and wood in addition to marsh plants suggests that a fen-type of vegetation may have existed locally, but this suggestion needs to be confirmed by full analysis of different types of environmental evidence, particularly pollen. The input of ruderal weeds and a few arable weeds may again be due to sewage deposition. Further analysis is required to determine how intensive this was, and to provide evidence of food plants during this period.

One tentative observation concerning the trench 3 samples is that the exotic food remains such as fig and walnut and cultivated plums (including bullace and damson-type *Prunus* sp.) do not appear to have been present in the post-Roman deposits, apart from a trace of fig in context (318). More detailed work is obviously required to confirm this suggestion. Native hedgerow fruits such as hazelnuts, apples and blackberries were recorded, however, along with other indicators of sewage such as small fragments of corn cockle seed coat, so faecal waste was obviously still being deposited, but the diet of the local population appears to have become more limited. It will be useful to compare these tentative observations with results from Northgate House.

Sample 3, context (309) – upper peat, above 310. Spot date C14th-eC16th? Darker in colour, firm, homogenous. Contained ?15th century pot and leather fragments.

A similar range of plant remains was present in the wet-sieved sample to the lower peat sample, including matted ?reeds, apple endocarp ('scales' from the core), ruderals and marsh plants. No true aquatics were noted this time, so perhaps fewer wet pools existed. However, this may simply be due to the chance positioning of the sample. Pollen analysis would help to determine if conditions had become drier. Identification of the frequent moss fragments interleaved with ?reeds may also assist in characterising the habitat. The matted material should be identified, if possible, during full analysis.

Samples 2 and 44, context (318) – fine silt, possibly of alluvial origin - ?flood silt, above the organic silts of context (309). Mid green-brown silt containing slate fragments.
Once again, matted ?reeds were present and sedge nutlets were quite frequent. Rushes were also present, as were wood and twigs. The range of other plant remains in this silt, however, was not as great as in the peat samples, perhaps because of poorer conditions of preservation or perhaps because of the dilution effect of the silts being washed into the deposit. As before, sewage and/or domestic waste was still a component of the assemblage, with occasional charred cereals, a few fig seeds and apple endocarp comprising the evidence for this suggestion.

Samples 1 and 46, context (308) – mottled grey silt with 10% chalk fragments and 1% tile, slate and mortar patches suggesting episodes of dumping. Above (318). Spot date C14th-C15th?
Only dried flots were available from this deposit, although the presence of uncharred fruits and seeds indicated that it had once been waterlogged. The plant remains were fairly frequent and diverse, but the flots were small so a limited amount of information was recovered. Most of the taxa present represent disturbed and often nutrient-enriched habitats, e.g. fumitory, stinging nettle and henbane. The presence of sedges and thistles could indicate a damp, grazed meadow-type of environment, since thistles often become abundant where livestock grazes. No further work is recommended for these samples.

Sample 48, context (307) – a clean light grey silt. ?flood silt above 308. C13th-C14th +.
As with context (308), only a dry flot was assessed from this deposit. Although some organic remains had survived, these silts had probably dried out to some extent from time to time, perhaps in the summer months when the area could have been dry enough to provide lush floodmeadow grazing. The presence of remains from marsh/damp ground plants such as spike-rush and sedges could represent the habitat in the damper winter months, or the remains may have been washed into the silts during seasonal flooding episodes. A raspberry seed (*Rubus idaeus*) is slight evidence that human sewage may still have been washed into the area, or perhaps that 'night soil' had been deposited to fertilise the fields. The presence of slag, fish bone, bone, coal and large charcoal fragments in the sample demonstrates that domestic waste was a notable component of the deposit. No further work is recommended for this deposit.

Insect Remains

by David Smith (The Institute of Archaeology & Antiquity, The University of Birmingham)

Introduction

3.3.11 The insect remains discussed are from a series of samples recovered from palaeochannel deposits at Pilgrims' School, Winchester during the evaluation. The sequence of deposits dates from between c. 2nd century AD to the 15th century. They are from the flood plain of the River Itchen and are initially associated with the Roman Town. It is thought that during the medieval period this area of Winchester was open (probably gardens). The nature of the material sampled is quite variable ranging from sandy silts to organic 'peat'.

3.3.12 This assessment was carried out in order to establish the following:

- Are insect remains present? And if so, are the faunas of interpretative value?
- Do the insect remains from these samples contain information on the nature of the environment in the area at the time of the deposits formation?
- What were the water conditions in the palaeochannel?
- Is there any evidence for the dumping of domestic and settlement material in the area?

Methods

3.3.13 The samples were processed using the standard method of paraffin flotation as outlined by Kenward et al. (1980). The weights and volumes of the individual samples are included in Table 17. Insect remains were then sorted from the flot and examined under a low-power binocular microscope. The system for 'scanning' faunas as outlined by Kenward et al. (1985) was followed in this assessment.

3.3.14 When discussing the faunas recovered, two considerations should be taken into account:

1) The identifications of the insects present are provisional. In addition, many of the taxa present could be identified to species level during a full analysis, producing more detailed information. As a result, these faunas should be regarded as incomplete and possibly biased.

2) The various proportions of insects suggested are very notional and subjective.

Results

3.3.15 The insect taxa recovered from the flots are listed in Table 17. The taxonomy used for the Coleoptera (beetles) follows that of Lucht (1987). Trichopteran (caddis fly) remains were also found.

3.3.16 The numbers of individuals present is estimated using the following scale: * = 1-2 individuals ** = 2-5 individuals *** = 5-10 individuals **** = 10+ individuals.

Table 17: Insect remains

Sample No.	**39**	**43**	**40**	**45**	**51**	**49**	**47**
Processed Weight (kg.)	7	6.5	9	5.5	6	7.5	6.5
Processed Volume (L.)	5	5	6	5	5	6	5
COLEOPTERA							
Carabidae							
Nebria salina Fairm. Lab.	+	-	-	-	+	-	-
Dyschirius globosus (Hbst.)	-	+	-	-	-	-	-
Trechus spp.	+	-	-	-	-	-	-
Bembidion spp.	+	-	-	-	+	-	-
Agonum spp.	-	+	-	-	-	-	-
Amara spp.	+	+	-	-	-	-	-
Calathus spp.	+	-	-	-	-	-	-
Hydraenidae							
Hydraena spp.	-	-	-	-	+	-	-
Octhebius minimus (F.)	-	-	-	-	+	-	-
Octhebius spp.	-	-	-	-	+	-	-
Helophorus spp.	+	-	-	-	+	-	-
Limnebius spp.	-	+	-	-	-	-	-
Hydrophilidae							
Coelostoma orbiculare (F.)	+	-	-	-	+	-	-
Cercyon spp.	-	-	-	-	-	+++	-
Cercyon spp. (Aquatic)	+	-	-	+	-	-	-
Laccobius spp.	+	-	-	++	-	-	-
Cymbiodyta marginella (F.)	++	-	-	-	-	-	-
Orthoperidae							
Coryopholous cassidoides (Marsh.)	-	-	-	-	-	+	-
Staphylinidae							
Omalium spp.	-	-	-	-	-	+	-
Lesteva spp.	-	+	-	-	+	-	-
Trogophloeus spp.	-	+	-	-	-	-	-
Oxytelus spp.	+	++	-	-	+	++	-
Platystethus arenarius (Fourc.)	+	-	-	-	-	-	-
Stenus spp.	++	-	-	-	-	+	-
Xantholinus spp.	-	-	-	-	-	++	-
Lathrobium spp.	-	-	-	-	+	+	-
Tachyporus spp.	-	-	-	-	+	+	-
Helodidae							
Helodidae gen & spp. indet	-	-	-	-	+	-	-
Dryopidae							
Dryops spp.	-	+	-	-	-	-	-
Elmis aenea (Müll)	+	++	-	-	+	-	-
Oulimnius spp.	-	++	-	-	+	-	-
Nitidulidae							
Brachypterus spp.	+	-	-	-	-	-	-

Sample No.	**39**	**43**	**40**	**45**	**51**	**49**	**47**
Cucujidae							
Oryzaephilus surinamensis (L.)	+	-	-	-	-	-	-
Cryptophagidae							
Cryptophagus spp.	-	-	-	-	-	+	-
Lathridiidae							
Enicmus minutus (Group)	-	++	-	-	-	-	-
Corticaria spp.	-	-	-	-	-	+	-
Mycetophagidae.							
Typhaea stercorea (L.)	-	-	-	-	-	+	-
Endomychidae							
Mycetaea hirta (Marsh.)	-	-	-	-	-	+	-
Anobiidae							
Anobium punctatum (Geer.)	+	+	-	-	+	+	-
Ptinidae							
Ptinus spp..	+	-	-	-	-	-	-
Anthicidae							
Anthicus spp.	-	-	-	-	-	+	-
Scarabaeidae							
Trox scaber (L.)	+	-	-	-	-	-	-
Geotrupes spp.	+	+	-	-	-	-	-
Onthophagus spp.	+	-	-	-	-	-	-
Oxyomus silvestris (Scop.)	+	+	-	-	-	-	-
Aphodius spp.	++	+	-	-	+	-	-
Phyllopertha horticola (L.)	+	-	-	-	+	-	-
Chrysomelidae							
Chaetocnema spp.	-	-	+	-	-	-	-
Scolytidae							
Scolytus spp.	+	-	-	-	-	-	-
Leperisinus varius (F.)	+	-	-	-	-	-	-
Curculionidae							
Apion spp.	+	-	-	-	++	-	-
Sitona spp.	++	-	-	-	-	+	-
Tanysphyrus lemnae (Payk.)	-	-	-	-	+++	++	-
Bagous spp.	++	+	-	-	-	-	-
Sitophilus granarius (L)	+						
Ceutorhynchus spp.	++	-	-	-	+	-	-
Tricoptera	++	++	++	++	++	-	-

Discussion

Are insects present and are the faunas interpretable?

3.3.17 Moderately sized but diverse faunas of beetles were recovered from samples 39 (context 322) and 43 (context 319). These are from the peat and silts dated to the 2nd and 3rd century AD. Samples 40 (context 319) and 45 (context 318) from the overlying Roman flood silts produced very small insect faunas and are not interpretable. Samples 51 (context 310) and 49 (context 309) from the Medieval 14th-15th century AD peat produced reasonably large and diverse insect faunas. No insects were recovered from sample 47 (context 319) at the top of the sequence. Where insect faunas were recovered they are interpretable.

What is the environmental setting and land use during deposit formation?

3.3.18 The insect remains from samples 39 and 43 from the Roman peat suggest that the local landscape was open grassland with some pasture. This is suggested by the presence of Aphodius, Geotrupes and Onthophagus dung beetles. Open grassland is also suggested by the presence of Phyllopertha horticola whose larvae is associated with old pasture and meadows, where they feed on the roots of grass (Jessop 1996). The Apion, Sitona and Ceutorhynchus species of weevil usually feed on a range of grassland and waste ground vegetation. There is little indication for trees in the insect fauna with only isolated fragments of the tree dependant scolytid 'bark beetles' recovered. This suggests that the landscape was probably open and essentially treeless by this time.

3.3.19 The Medieval samples 51 and 49 produced an essentially similar fauna, again suggesting the presence of open ground. However, these faunas are much smaller than those in Roman period and the evidence is consequently more equivocal.

What were the water conditions within the palaeochannel?

3.3.20 The water beetles (the aquatic hydrophilids and the hydreanids) recovered from the samples from both the Roman and Medieval periods are all associated with vegetated, stagnant, slow moving or standing waters (Hansen 1987; Nilsson and Holman 1995). The exception to this is the relatively small numbers of elmid 'riffle beetles' recovered in the samples from the Roman peat. Elmids are normally associated with faster flowing waters. This might suggest that there were either areas of fast flowing water locally or that this material may represent a flood deposit with an origin in the main channel of the Itchen. In the Medieval deposits the weevil Tanysphyrus lemnae is present in some numbers. This species feeds exclusively upon duckweed (Lemna spp.) (Koch 1992), which is a classic indicator plant for very slow water conditions. There is however, little evidence from the insect remains from both the Roman and the Medieval periods for the presence of waterside vegetation, suggesting that the channel probably remained relatively clear of dense stands of reed bed.

Is there any evidence for the dumping of domestic and settlement material in the area?

3.3.21 Both the Roman and Medieval deposits from this section contain a number of insects that indicate that domestic material was dumped into this area or that settlement was nearby.

3.3.22 Perhaps the clearest indication for this is from the Roman sample 39 which contained the remains of the 'granary weevil' Sitophilus granarius and the 'saw toothed grain beetle' Oryzaephilus surinamensis. Both of these species are only associated with grain and granary waste and are not found in the natural environment. Similarly deposits from both periods do contain species such as Lathridius minutus, Cryptophagus spp., Mycetea hirta, and Typhaea stercorea that are common in settlement deposits and waste in the archaeological record (Hall and Kenward 1990; Kenward and Hall 1995). Equally the 'woodworm' Anobium punctatum is usually associated with settlement timbers.

Conclusions

3.3.23 This assessment of the insect remains from the Pilgrim's School, Winchester suggests that these deposits do contain reasonably large and interpretable faunas. However, the faunas are comparatively small and probably function best as an additional line of evidence to any pollen and plant macrofossil studies from these deposits. They clearly suggest that during the Roman period the area was open and probably periodically flooded. It also appears to have had settlement waste dumped onto it.

3.3.24 A similar pattern is also suggested for the Medieval deposits, though there is clearer evidence for a body of very slow still water.

Diatoms

by Nigel G Cameron (University College London)

Introduction

3.3.25 A diatom assessment was carried out on ten slides prepared from sediment samples taken from the site at Pilgrim's School Winchester (Wincmay 234). These slides were selected by Gem Swindle (Royal Holloway, University of London) from a larger group of twenty-six slides prepared from the site for diatom evaluation. The aims of this assessment are to determine if diatoms are present and the potential for percentage analysis of the diatom assemblages. Comments are made about a number of sample characteristics including: diatom valve concentrations, the quality of diatom preservation, the diversity of taxa, the types of diatom assemblage and the environmental preferences of those diatoms present.

Methods

3.3.26 Sediment sampling, diatom sample and slide preparation was carried out by Gem Swindle, Department of Geography, Royal Holloway, University of London. Diatom preparation involved the following procedures:

- Treatment of the sub-sample (0.2g) with Hydrogen peroxide (30%) to remove organic material and Hydrochloric acid (50%) to remove remaining carbonates
- Centrifuging the sub-sample at 1200 for 5 minutes and washing with distilled water (4 washes)
- Removal of clay from the sub-samples in the last wash by adding a few drops of Ammonia (1%)
- Two slides prepared, each of a different concentration of the cleaned solution, were fixed in mounting medium of suitable refractive index for diatoms (Naphrax)

3.3.27 Slides were scanned at magnifications of x400 and x1000 under phase contrast illumination. Diatom floras used to assist with diatom identification include Krammer & Lange-Bertalot (1986-1991) and Hartley et al. 1996. A semi-quantitative assessment of species abundance was made by making a skeleton count of diatom valves for each sample.

Results & Discussion

3.3.28 The semi-quantitative assessment of relative diatom abundance within each sample is presented in the archive (Excel file) which show diatom species counts. These data are presented as raw counts rather than as percentages because the total count for each sample is low. A summary of the assessment results is presented below in Table 18.

3.3.29 In addition a rapid scan (phase contrast x400 magnification) was made of the 16 remaining samples prepared from the site. These samples and their context numbers are listed in Table 19.

Table 18: Summary of diatom assessment

Sample No.	Context	Description	Diatom valve concentration	Quality of preservation	Diversity	Comments on Assemblage Type	Potential for percentage counting
11	319	Roman rubble dump	high	good to moderate	moderately high	non-plankton, attached & benthic	good
12	319	" "	high	good to moderate	moderately high	non-plankton, attached & benthic	good
13	319	" "	high	good to moderate	moderately high	non-plankton, attached, benthic less *Fragilaria* sp.	good
14	319	" "	high	good to moderate	moderately high	non-plankton, attached, benthic less *Fragilaria* sp.	good
17	310	Lower peat	high	good to poor	moderately high	higher proportion of epiphytes rheophilous species	good
18	310	Lower peat	high	good to poor	moderately high	higher proportion of epiphytes rheophilous species	good
19	309	Upper peat	moderate	good to poor	moderately high	non-plankton, attached & benthic	good
20	309	Upper peat	moderate	good to poor	moderately high	non-plankton, attached & benthic	good
23	318	Flood silt?	moderate	moderate to poor	moderate	higher proportions of *Nitzschia* spp.	good
24	308	Flood silt?	moderate	moderate to poor	moderate	higher proportions of *Gomphonema* spp.	good

Table 19: Samples for which a rapid scan for diatoms was made

Sample Number	Context Number
9	323
10	323
15	319
16	300
21	318/309
22	318
25	308
26	308
27	308
28	308
29	308
30	306
31	306
32	306
33	306

Sample Number	Context Number
34	306

3.3.30 In most of these samples diatoms are present in relatively low concentrations, in some diatoms were very sparse, and species diversity is low (sample numbers 9, 10, 16, 21; 25-34 inclusive). There are moderate numbers of diatoms in sample numbers 15 and 22. However, in the latter species diversity is low. In addition in several of these rapidly scanned samples the most common diatom component is of aerophilous, semi-terrestrial diatoms that are common in soils and damp aerial habitats as opposed to true aquatic environments. These types of diatoms can also be present in the atmosphere. Such diatoms are therefore almost ubiquitous and can be found in many terrestrial environmental samples (although they can in some contexts be useful indicators of eroded or in-washed sediment in aquatic sediments). True aquatic diatom species are rare in this group of samples and were in low concentrations.

3.3.31 The ten samples for which a full diatom evaluation was carried have high or moderately high concentrations of diatom valves. The quality of valve preservation is generally good or moderately good, but a varying number of poorly preserved valves are also present. In particular in the postulated 'flood silt' samples (23 and 24) there are a greater number of poorly preserved diatoms that show evidence of valve breakage and silica dissolution. Species diversity is moderately high, but again in sample numbers 23 and 24 the diversity is slightly reduced compared with other samples. All ten samples have very good potential for percentage diatom counting and more detailed environmental reconstruction (e.g. the use of a diatom-water chemistry transfer function) to be carried out. From the results of the skeleton counts carried out for sample numbers 11-14, 17-20, 23 and 24 some general comments on the environments represented can be made.

3.3.32 All ten samples are dominated by non-planktonic diatoms with a mixture of attached (e.g. epiphytic and epilithic) and benthic (e.g. epipelic, mud-surface) species. Planktonic (open water) diatoms are rare with only occasional occurrences of planktonic diatoms such as *Cyclotella meneghiniana* and poorly preserved valves of *Stephanodiscus sp*. However, species such as *Melosira varians* and some *Fragilaria spp*. are tychoplanktonic and may have a stage of their life cycle in open water. The habitats represented are therefore of shallow water where these non-planktonic diatoms are able to remain attached to or move on surfaces within the photic zone.

3.3.33 There is a component of diatoms specifically associated with flowing water (rheophilous diatoms) represented by *Melosira varians* (common in several samples) and *Meridion circulare*. Whilst the component of aerophilous diatoms (a diatom community described above for the rapidly scanned samples) is very small. Therefore diatoms derived from terrestrial habitats are rare but there are occasional occurrences of aerophiles such as *Hantzschia amphioxys*.

3.3.34 Sample numbers 11 to 14 are derived from context (319) (age AD270+ and interpreted from other evidence as Roman rubble dump deposits). These samples have in common a range of non-planktonic aquatic species. The species include the consistent presence of a number of *Fragilaria* taxa (*F. brevistriata, F.construens var. venter, F. lapponica, F. pinnata*) which are early colonisers of new and ephemeral aquatic habitats. However, there is a diverse range of other diatom types in this group of samples and the assemblage does not show evidence for mixing of diatoms from disparate sources. Other common species include *Achnanthes minutissima*, *Amphora pediculus* and *Cocconeis placentula* and its varieties. *Amphora pediculus* is particularly common in samples 13 and 14 along with *Cymbella sinuata* in sample 14.

These and other common taxa may grow either as epiphytes or as benthic species. However, the presence of relatively high numbers of *Achnanthes* species (*A. lanceolata* and its varieties, *A. minutissima, A. lauenburgiana*) probably reflects the presence of a large aquatic macrophyte habitat. Further, from the skeleton counts of common taxa there appear to be changes in the relative numbers of these species.

3.3.35 Diatom assemblages derived from peat are often poorly preserved. However, the quality of diatom preservation is excellent in the samples from contexts associated with peat formation (numbers 17, 18, 19, and 20). The presence of rheophilous diatoms in some samples has been noted, e.g. *Melosira varians* is particularly common in sample 17. Maxima of *Cocconeis placentula* occur in this group of samples. This species is commonly epiphytic. Also of note is the common occurrence of *Achnanthes hungarica* (samples 18 and 19). This diatom is particularly associated with the water plant *Lemna* and moderately high levels of nutrients.

3.3.36 The samples from the probable flood deposits (number 23 and 24) again have a range of non-planktonic diatoms. The quality of preservation in these samples is poorer and there is more silt visible on the diatom slides. There are also some indications from the diatom composition that the assemblages are derived from flooding. The dominant components of the assemblage have changed compared with the underlying levels. For example *Achnanthes minutissima* is common in sample 23, *Amphora veneta*, and *Fragilaria vaucheriae* in both 23 and 24. A range of *Nitzschia taxa* (*N. amphibia, N. frustulum, N. palea* and undifferentiated *Nitzschia spp*.) also become more common. These Nitzschia spp. are often found growing where nutrient levels are moderately high. This is also supported by the consistent occurrences of *Gomphonema spp. (G. angustatum var. productum, G. clavatum, G. minutum, G. parvulum, G. truncatum*) in sample 24. These attached diatoms are often associated with higher nutrient levels.

Conclusions

3.3.37 Diatoms are present in all ten samples evaluated. They occur in moderately high concentrations, are generally well preserved and species diversity is moderately high. The concentrations of valves, their quality of preservation and species diversity is somewhat reduced in the probable flood deposits (sample numbers 23 and 24). All ten samples have very good potential to make percentage diatom counts. The remaining sixteen samples prepared for diatom analysis, with few exceptions, have poorer diatom assemblages and where diatoms are present they are often from the ubiquitous aerophilous diatom community. Skeleton counts of ten selected samples show consistent diatom assemblages within the contexts examined with no clear evidence for mixing of disparate community types (as might be anticipated in dump deposits for example). More subtle changes in composition within the context types are also indicated from the skeleton counts. All the diatom assemblages are dominated by non-planktonic diatoms with only rare occurrences of planktonic diatoms. This reflects the shallow water origins of the diatoms. Benthic (mud) and attached (e.g. epiphytic) diatom communities are represented in the diatom assemblages along with some occurrences of species associated with flowing water. Percentage diatom counts to further investigate the species composition and possible environmental reconstruction using a transfer function (e.g. Birks *et. al.* 1995) may be of relevance here.

Acknowledgements

3.3.38 Thanks to Gem Swindle (RHUL) and Rebecca Nicholson (OAU) for preparing slides for diatom assessment and for details of the site and samples.

Microstratigraphy (Soil Micromorphology and Complementary Chemistry, Magnetic Susceptibility and Pollen Investigations)

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Introduction

3.3.39 The sediments and archaeological sequence at Pilgrims School was investigated by Oxford Archaeology (Project Manager, Ben Ford) in the summer of 2005, and this included trenching and coring of samples through the Roman to medieval deposits. A number of cores/monoliths were received for the assessment of their microstratigraphy from Seren Griffiths (Oxford Archaeology), namely monolith samples 36, 37, 38 and core BH1. At Pilgrims School, microstratigraphic assessment entailed soil micromorphology and complementary chemistry, magnetic susceptibility and pollen investigations (Table 20, below).

Samples and methods

3.3.40 Parts of the monoliths were selected for thin section/bulk chemistry and microfossil/pollen sampling (in all 11 bulk and 36 pollen samples). Depths of these samples were measured and contexts identified (Table 20), according to information (pil school context database and spot dates) received from Oxford Archaeology (Seren Griffiths and Steve Teague). In all, 5 thin section, 2 bulk chemistry and 8 palynological (pollen) samples were selected for assessment.

Chemistry and magnetic susceptibility

3.3.41 Analysis was undertaken on the fine earth fraction (i.e. <2 mm) of the samples. Phosphate-Pi (inorganic phosphate) and phosphate-Po (organic phosphate) were determined using a two-stage adaptation of the procedure developed by Dick and Tabatabai (Dick and Tabatabai, 1977) in which the phosphate concentration of a sample is measured first without oxidation of organic matter (Pi); and then on the residue following alkaline oxidation with sodium hypobromite (Po).

3.3.42 In addition to χ (low frequency mass-specific magnetic susceptibility), determinations were made of χmax (maximum potential magnetic susceptibility) by subjecting a sample to optimum conditions for susceptibility enhancement in the laboratory. χconv (fractional conversion), which is expressed as a percentage, is a measure of the extent to which the potential susceptibility has been achieved in the original sample, viz: (χ/χmax) x 100.0 (Scollar et al., 1990; Tite, 1972). In many respects this is a better indicator of magnetic susceptibility enhancement than raw χ data, particularly in cases where soils have widely differing χmax values (Crowther, 2003; Crowther and Barker, 1995). A Bartington MS1 meter was used for magnetic susceptibility measurements. χmax was achieved by heating samples at 650°C in reducing, followed by oxidising conditions. The method used broadly follows that of Tite and Mullins ((Tite and Mullins, 1971), except that household flour was mixed with the

soils and lids placed on the crucibles to create the reducing environment (after Graham and Scollar, 1976; Crowther and Barker, 1995). LOI (loss-on-ignition) was determined by ignition at 375oC for 16 hours (Ball, 1964) – previous experimental studies having shown that there is no significant breakdown of carbonate at this temperature. Pb, Zn and Cu were determined by atomic absorption spectrophotometry following extraction with 1N hydrochloric acid.

Palynology

3.3.43 Eight pollen samples (Table 21) were sent to the University of Wales, Lampeter, for pollen preparation where the chemical preparation methods and methods for determining pollen concentrations were carried out and described according the literature (Moore et al., 1991; Stockmarr, 1971). The prepared pollen slides were scanned, the observed pollen types were noted and a qualitative appraisal of the frequency of taxa was made. Additional notes were also made on pollen concentrations and pollen preservation.

Soil Micromorphology

3.3.44 After the monoliths had been subsampled for bulk and pollen analyses monolith 36 and layer 323 from monolith 37 were impregnated with a crystic resin mixture, cured and prepared for selective thin section manufacture (Goldberg and Macphail, 2006). Impregnated blocks were selectively cut up into five 75 x 50 mm size blocks (Table 20; Figs 1 and 2)(Goldberg and Macphail, 2006). These blocks were sent to Quality Thin Sections, Tucson, Arizona for thin section manufacture (Murphy, 1986). Remaining impregnated material was retained for further work and/or archiving. Thin sections were analysed under plane polarised light (PPL), crossed polarised light (XPL), oblique incident light (OIL) and using fluorescent microscopy (blue light – BL), at magnifications ranging from x1 to x200/400. Thin sections were briefly described and their geoarchaeological character assessed (Bullock et al., 1985; Courty et al., 1989; Goldberg and Macphail, 2006; Stoops, 2003).

3.3.45 Overall, the microstratigraphy was assessed in the light of a 2005 assessment of Staples Gardens, Winchester (Macphail et al., 2005) and results from small English settlements and towns, including Roman and medieval London, for example (Atkinson and Preston, 1998; Macphail, 2001, 2002; Macphail et al., 2004, In press).

Results

Chemistry and magnetic susceptibility

3.3.46 The analytical data are presented in Table 20. In the absence of control samples, the results have been characterised on the basis of criteria used in the interpretation of previous analytical data from the nearby Staple Gardens excavation, Winchester (Crowther, 2005). According to these criteria, neither of the present samples shows clear signs of phosphate-P enrichment – though this characterisation will need to be re-assessed if further samples are analysed from the Pilgrims' School site. It should also be noted that the χ max values recorded are both very low. This is indicative of a low Fe content, which could be attributable to Fe loss through gleying. The notable features of the two samples are as follows:

Sample 309

- organic rich

- likely Pb enrichment

Sample 310

- very strong magnetic susceptibility enhancement – though this may need to be interpreted with caution if the context has been subject to post-depositional gleying

Palynology

3.3.47 Pollen concentrations in Monolith 36 are very variable, from rich (parts of 309 and 318) to sparse (310 and also within 309). Preservation is also equally variable. Pollen scanning found overwhelming grassland pollen types, and few trees. Even though cereals can be abundant, there are few 'supporting' arable weeds present. There are therefore indications of 'grazing' with inputs from stabling materials. Some samples have a very high potential, others have a good potential, whereas some can be counted with difficulty if important questions need answering. Sample BH1 (33 cm) is uncountable.

Soil micromorphology

3.3.48 Findings from the four thin sections are given in Table 4, and illustrated in Figures 1-11. Although mixed, M323 appears to shows inputs of constructional, latrine, cooking and animal management waste (Figs 4-7). Mixed layers also appear in thin section samples M310A, 309B and M309A, with characteristics of constructional debris (Figs 8-9), and animal husbandry waste (Figs 2-3, 10-11), but there is very little evidence of domestic or industrial waste being deposited. Importantly, the good preservation shows possibly clearly distinctive inputs of stabling waste that probably underwent weathering (on the manure heap?) and some charring/burning, whilst other microstratigraphic units (e.g., within 309B) appear to be layers of a) raw stabling crust (Figs 10-11) and b) possible 'unused' fodder/bedding.

Discussion

Roman (AD 150-200 + earlier):

3.3.49 Context (323) from monolith 37 was chosen for assessment because of its humic content. There is concordance between the palynology and soil micromorphology assessments; materials of mixed provenance are present. It is suggested that a full pollen species list is produced alongside full soil micromorphological analysis, in order to characterise this example of Roman rubbish disposal, in terms of both domestic, latrine and animal husbandry waste. It certainly has a stronger domestic component than the post-Roman deposits assessed so far, and will act as a useful comparison. The deposits can be compared to those analysed from Anderida Fort (Pevensey), Heybridge small town, Essex and No 1 Poultry, urban London, for example, where roadside and other urban middening was characterised by major inputs of stabling waste ((Hill and Rowsome, In prep; Macphail et al., 2004; Macphail and Linderholm, In press; Rowsome, 2000).

Post-Roman 'peat' (Contexts 310-309):

3.3.50 It is clear from the chemistry (evidence of burning, moderately high phosphate and Pb enrichment in places) and soil micromorphology that the organic deposits are not peat-like. Equally, there are some anomalous pollen characteristics (e.g., lack of dominant wetland plants) also arguing against the deposits being peat. In fact, the 'peats' appear to have a strongly anthropogenic character and probably reflect local 'urban' land use/use of space in this part of Winchester (near the Cathedral). Although constructional debris may be present (cf. outside space in front of medieval Magdeburg Cathedral; (Goldberg and Macphail, 2006), there appears to be a dearth of domestic, industrial and latrine waste here (cf. Early Medieval London Guildhall; (Macphail et al., In press). Instead, waste from animal husbandry appears to dominate (Goldberg and Macphail, 2006). Moreover, there appears to be two types of waste present that needs to be investigated; a) charred and mixed material that seems to have come via the dung heap (not common at the London Guildhall)(Bakels, 1988; Mücher et al., 1990) and b) raw stabling waste and possible 'unused' fodder and bedding material (Macphail et al., 2004). Clearly the following questions can be addressed:

- How was this area of Winchester was used?
- How was animal husbandry waste managed – in contrast to the London Guildhall site was dung being managed for local manuring; was this an area of dung heaps?
- In the examples of raw stabling waste and possible fodder/bedding, the exact components of the animal foddering regimes/grazing practices may be addressed from a combined soil micromorphological, chemical and palynological study.

3.3.51 According to the dating, these deposits may act as useful comparisons to the assessed domestic and industrial 'floor' deposits at Staple Gardens.

3.3.52 Thin section M310B and further pollen samples should be processed and analysed to attempt to fine tune the suggested hypotheses concerning the understanding these deposits, supported by an extra bulk study.

Medieval silts (Context 318):

3.3.53 These deposits, as shown by their limited soil micromorphological study (top of M309A; Figs 1-2) and pollen assessment, do not simply appear to be overbank flood silts. Their anomalous character includes a rich pollen content including cereal type, but without associated arable weeds types, which does not seem consistent with upstream erosion of arable land. Instead, the assessment indicates the deposit appears to be influenced by localised activities, which as yet remain enigmatic, but certainly seem different from those found in the underlying contexts (309-310). It is therefore suggested that contexts (318) and (308) should be studied in order to understand better exactly what is going on in this area. This can be achieved through a series of bulk (x4), pollen (x3) and thin section (x2) studies.

Acknowledgements

3.3.54 The authors acknowledge pollen preparation by Sarah Jones (University of Wales, Lampeter) and thin section manufacture by Quality thin Sections (Arizona).

Table 20: Microstratigraphy: Bulk analytical data

Sample	LOI (%)	Phosphate-P_i (mg g^{-1})	Phosphate-P_o (mg g^{-1})	Phosphate-$P^{\$}$ (mg g^{-1})	Phosphate-P_i:P (%)	Phosphate-P_o:P (%)	χ (10^{-8} SI)	χ_{max} (10^{-8} SI)	χ_{conv} ¶ (%)	Pb† (µg g^{-1})	Zn† (µg g^{-1})	Cu† (µg g^{-1})
309	34.4	3.372	0.545	3.92	86.1	13.9	10.1	25	4.13	736 *	84.5	47.4
310	8.69	2.889	0.330	3.22	89.7	10.3	36.8	12	28.5** *	371	55.9	27.9

Notes – Provisional interpretation based on previous samples analysed from Staple Gardens Excavation:

§ **LOI:** Sample 309 (highlighted) is organic-rich

$ **Phosphate-P:** Moderately high values, but may not be indicative of enrichment (critical threshold = 5.00 mg g^{-1})

¶ **χ:** Figures highlighted in bold show signs of magnetic susceptibility enhancement: * = enhanced (χ_{conv} = 5.00-9.99%), ** = strongly enhanced (χ_{conv} = 10.0-19.9%), *** = very strongly enhanced ($\chi_{conv} \geq$20.0%)

† **Pb, Zn and Cu:** Figure highlighted in bold and asterisked for Pb would appear to show signs of enrichment

Table 21: Pollen assessment

(Nomenclature follows Moore *et al*.,1991; Stace, 1991, Bennet *et al*., 1994)

SAMPLE	234/36	36	36	36	36	36	BH1	37
Height(m OD)/depth on core	31.12	31.20	31.22	31.30	31.34	31.45	33cm	44cm
Context	***310***	***310***	***310***	***309***	***309***	***318***	***?***	***323***
TALL WOODY TAXA								
Acer		*						
Betula								*
Corylus t.		*	*		*			
Lonicera (?)					*	*		
Quercus	*	*			*			
Salix		*						
Sambucus								*
HERBACEOUS TAXA AND DWARF SHRUBS								
Cereal t.			**	***		***		*
Achillea t.	*			*	*	*		*
Calluna					**	*		
Caryophyllaceae		*						

SAMPLE	234/36	36	36	36	36	36	BH1	37
Centaurea nigra t.				*				*
Chenopodiaceae					*			*
Galium t.			*		*	*	*	
Lactuceae	*	*	*	*	**	**		*
Lotus t.		*						
Plantago lanceolata	*			*			*	*
Plantago maj/media				*				*
Poaceae	***	**	***	***	**	***	*	**
Polygonum t.						*	*	
Rumex acetosa t.	*			*				*
Rumex oxyria t.			*	*	*		*	*
Sinapis t.	*	*						
Solidago virgaurea t.						*		
Stachys sylvatica t.	*							
Trifolium t.	*							*
Umbelliferae				*				
Urtica t.								*
Veronica t.			*				*	
Vicia t.				*				
MOIST SOIL & AQUATIC TAXA								
Caltha t.					*	*		
Cyperaceae		*	*					
Equisetum			*					
Filipendula	*		*	*				
Ranunculus t.	**		**	*		*		*
Myriophyllum	**							
SPORES								
POLYPODIACEAE					*			
NOT IDENTIFIED						*	*	
UNIDENTIFIABLE	*		*	*	**	*	*	*
POLLEN CONCENTRATIONS	++	+	+	+++	+	+++	-/+	+
POLLEN PRESERVATION								
Normal	**	**	***	***	**	***	**	**
Crumpled	*	*	*	*	*	*		
Corroded	*	*				*	*	*
Degraded	*	*	**	**	**	**	*	*
Split	*	*	**	*	*	*	*	*

Key 1. Frequency of pollen types and pollen preservation categories

*** Abundant
** Frequent
* Present

Key 2. Pollen concentrations

++++ Very rich (eg. stabling/floor crust, rich peat/lake sediments)
+++ Rich
++ Countable
+ Countable with difficulty
- Not countable

Table 22: Microstratigraphy assessment

Thin section sample (Core sample)	Chief characteristics: soil micromorphology (SM), bulk data (BD) and palynology.	Preliminary Interpretation
(36)	Palynology @ 31.45 m OD (Lower 318): rich pollen concentrations of moderately well preserved pollen, predominantly cereal type and Poaceae (and Calluna present); some things in common 31.30 m(??).	Medieval (Lower 318) Chalky silts (from core description) (Rich countable pollen)
M309A (36)	31.41-31.335 m OD (0.50-0.57.5 m) SM: Lowermost (318): moderately well sorted chalky silts with few fine plant fragments; minor phosphatisation of chalk clasts and matrix, including both amorphous Fe/Ca/P (?) and vivianite; minor burrowing and sedimentary (muddy?) alluvial fine laminae. Junction between (309) and (318) marked by concentration of coarse woody debris and large chalk fragments, wood charcoal and large piece of burned bone and ubiquitous burned eggshell. Upper 309: very poorly sorted mixture of large chalk, slate(?), wood fragments, with coarse sand-size chalk, amorphous organic matter fragments, rare examples of strongly burned bone, partially charred amorphous organic coprolite set in ash and fine charcoal; calcitic and phosphate-stained ashey fine fabric in addition to fine biologically mixed chalky mineral and finely fragmented amorphous and charred organic matter.	Junction of Post-Roman peat (309 upper) and lowermost medieval (318) Unlikely to be simple chalky silt alluviation/overbank (Sedimentation containing organic fragments – deposits affected by nearby/later cess disposal, but overall landuse unclear.) Over – Wood and chalk building debris (also including included burned food waste)? Mixed organic dumps containing both wood and constructional(?) debris, alongside minor kitchen waste, in a sediment dominated by charred and unburned stabling waste that may also include pig dung(?). (Backyard animal husbandry?)
M309B (36)	31.35-31.26 m OD (0.57.5-0.65 m) SM: Layered organic 'peaty' and minerogenic 'peats', BD (x309lower): 34.4% LOI, 3.92 mg g^{-1} phosphate-P, 10.5 x 10^{-8} SI χ, 4.13% χ_{conv}, 736 µg g^{-1} Pb, 84.5 µg g^{-1} Zn, 47.4 µg g^{-1} Cu ("Stony peat") Coarse chalk, wood charcoal, flint, pottery, brickearth, slate? and mortar-rich layer with burned eggshell, biogenic calcite (earthworm granules), plant fragments, fine amorphous and charred organic matter (in patches), with ashes, fungal material and occasionally articulated phytoliths. Palynology @ 31.34 m OD: sparse pollen and relatively poor preservation, yet containing interesting presence of woody taxa pollen types and Calluna, in addition to grassland pollen types. Layered horizontally oriented blackened long lengths of Poaceae plant fragments, often intercalated with fine mineral material; with few pot, chalk and flint stones. Two layers, a basal layer of Layered	Post-Roman peat (309 lower) (Overall very organic {LOI], moderately phosphate-rich. Origins of strong Pb signal is unclear – possibly from concentrated stabling waste)?? Mixed constructional and burned organic debris (animal husbandry?)? (Interesting and countable pollen) Dominantly dumped raw stabling waste? Dumps of unused bedding and fodder(?) and raw stabling waste? (Good countable pollen)

Thin section sample (Core sample)	Chief characteristics: soil micromorphology (SM), bulk data (BD) and palynology.	Preliminary Interpretation
	horizontally oriented blackened long lengths of Poaceae plant fragments, often intercalated with fine mineral material; overlain by layered Poaceae, but containing plant cells and organ fragments. Palynology @ 31.30 m OD: rich pollen concentrations; very abundant grasses and cereal types, and herbaceous taxa; probable mixed pollen preservation.	
M310A (36)	31.26-31.185 m OD (0.65-72.5cm) SM: Base of (309): similar to (310), biologically worked but more humic, more fine burned material – mineral and charcoal; Palynology @ 31.22 m OD (309): sparse, countable with difficulty; mixed pollen preservation (very good to very poor); mainly grasses and cereal type. 310: moderately heterogeneous poorly sorted mixture of frequent stone size flint and chalk, with very few coarse charcoal and wood fragments; occasional land snail shell, biogenic earthworm granules and slug plates present; many fine charcoal and wood fragments, and inclusions of 'humic' soil; example of burned eggshell – all set within a calcitic (includes some ash crystals and some secondary calcite formation) fine fabric containing mainly finely charred organic matter; many amorphous (dung?, including possible pig as well as herbivores) fragments, fungal bodies, phytoliths, diatoms present; after thin burrowing by mesofauna there was secondary calcite, possible patches of secondary amorphous P formation. BD (x310): 8.69% LOI, 3.22 mg g^{-1} phosphate-P, 36.8 x 10^{-8} SI χ, 28.5% χ_{conv}, 371 µg g^{-1} Pb, 55.9 µg g^{-1} Zn, 27.9 µg g^{-1} Cu Palynology @ 31.20 m OD (310): sparse (countable with difficulty), moderately well preserved pollen; with frequent Poaceae, but also with several tree pollen types present.	Post-Roman peat (junction of 309-310) 309: similar to below, but with higher organic content. 310: Deposition/dumping of burned (% χ_{conv}) poorly ferruginous (calcareous) residues of organic waste (LOI) – possibly mainly of stabling waste origin (dominance of fine charcoal, amorphous organic matter; presence of fungal material, phytoliths, ash (Pb?); dung heap (phosphate-P) worked by mesofauna, earthworms and slugs, burned and dumped into site (?) – small number of diatoms reflecting its wet character. (Countable and useful pollen potential)
(36)	Palynology @ 31.12 m OD (Lower 310): countable, reasonably well-preserved pollen – predominantly grassland types.	(310): Post- Roman peat (Countable and useful pollen potential)
M323 (37)	0.38.5-0.46.0 mm SM: heterogeneous mixture of poorly sorted silt to small stone-size chalk, weathered chalk, flint, mortar, pot, bone, charcoal, wood/bark, shell (landsnail), coprolites including coarse fragments; with a calcitic fine fabric characterised by very abundant amorphous and fine charred organic matter; many and diverse diatoms are present; rare fungae; possible fragments of amorphous organic	AD150-200 + earlier Moderately biologically worked mixed mainly minerogenic building and occupation debris and waste (e.g., latrine and kitchen), with organic content possibly indicating inputs of charred stabling waste into a 'very wet' (given the variety and numbers of diatoms present) environment. (Pollen countable with difficulty but should prove informative)

Thin section sample (Core sample)	**Chief characteristics: soil micromorphology (SM), bulk data (BD) and palynology.**	**Preliminary Interpretation**
	matter/stabling waste present with phytoliths; abundant thin and medium size burrowing and biological mixing. Palynology @ 44.00 cm: pollen concentrations are low, although a wide variety of reasonably well preserved pollen types were noted; mainly grassland types, but also cereal type.	
BH1 (BH1)	Palynology @ 33 cm: Very low pollen concentrations, on which it would be difficult to carry out a full count; few pollen present are of grassland type.	Unclear context – compacted core sample of silty clay. (Further analysis probably not warranted)

3.4 Environmental summary and discussion

Rebecca Nicholson

3.4.1 The sedimentary sequence at Pilgrims School was sampled extensively for a range of palaeoenvironmental indicators, including charred and waterlogged plant remains, insects, and diatoms. Additionally, several monoliths and, where sampling from the trench became impossible, a borehole was taken for pollen and sedimentary analysis, including soil micro-morphology. Sampling was targeted on the Roman, post-Roman and medieval sequences from Trench 3, through layers interpreted as the Pre-Roman/early Roman river gravels and alluvial sands, later Roman dumping and "peat" formation, medieval alluvium and later medieval - post-medieval dumping and garden soils. The major aim of the sampling in Trench 3 was to investigate landscape and environmental change in the floodplain of the River Itchen, particularly relating to the proposed Roman drainage of the floodplain and diversion of the Itchen.

3.4.2 In addition, several bulk samples were taken from key contexts in Trench 1, from the fills of timber lined pit [118] and rampart layers (150) and (154) etc.

Trench 1

Roman Rampart

3.4.3 Sample 53, from context (150) was taken from the Roman rampart and was found to contain abundant indicators of nitrogen-rich waste-ground habitats such as middens and farmyards, as well as indicators of damp ground. Preliminary indications suggest the vegetation may relate to an abandonment phase of the ditch.

3.4.4 The plant remains from sample 52, context (154) were consistent with turf cut from damp-wet grassland, possibly representing turves stacked from the rampart.

Saxo-Norman Pit (118]

3.4.5 Sample 6 is consistent with a cess origin, while the upper fill of the feature represented by sample 5 appears to contain a domestic rubbish component as well as human faecal waste.

Trench 3

3.4.6 Generally preservation of all the environmental indicators was very variable, with several contexts providing little information while others contained well-preserved and significant assemblages of charred and waterlogged seeds, insects, diatoms and pollen. In all cases, preservation of the remains has resulted from the anaerobic conditions within the lower levels of Trench 3, though the deposits described as peat would be more accurately termed organic silts, since in no case was true peat formation encountered.

Roman sands and gravels

3.4.7 Context (323) from the base of the Trench 3 sequence contained sparse ecofactual evidence; however both insect remains, seeds and pollen were well preserved in the upper levels of this layer, and particularly into context (322) where an organic-rich layer had formed within the sand. Almost all the evidence from these deposits is

indicative of a shallow water, flooded landscape, with indicators of slow-moving or even stagnant, nutrient-rich water. Aquatic and waterside plant remains seem likely to have been transported in floodwater, since there is little evidence in the insect assemblage for the presence of reed beds, and a domestic/occupation component is likely to represent waste washed in from elsewhere. Context (323) contained the only evidence for faster flowing water - a small elmid "riffle" beetle component may represent a flood deposit from the main channel of the Itchen or else the proximity of a fast-flowing river channel.

Later Roman Dumping.

3.4.8 Despite being interpreted as a dumping layer, most of the environmental evidence from context (319) indicates a shallow water environment with conditions similar to those represented in the underlying deposit (322). Diatom preservation was fair-good, and generally indicative of standing water. Only sample 15 was dominated by aerobic, semi-terrestrial taxa suggesting some in-washed sediment. As a whole, the assemblages suggest almost permanent flooding, although some inwashed faecal matter was indicated by the plant assemblage. It is likely that the rubble was dumped into this wet surface to make a useable surface.

Post-Roman Peat Formation.

3.4.9 Contexts (309) and (310) do not represent true peat but rather organic silts typical of bodies of slow moving water or marshland. All lines of evidence indicate that (310) represents a period when the land was very wet and nutrient-rich, probably under standing water, with a fen-type vegetation. The formation of (309) appears to have taken place as the land dried out somewhat, with the formation of reedswamp and marsh. Soil micromorphological analysis indicated the possibility that the deposit contained a significant component deriving from animal waste (possibly pig) and stabling, and the plant remains assessment too considered a faecal component likely.

Medieval

3.4.10 Contexts (306), (307), (308) and (318) appear to represent a drier landscape. Diatoms were sparse and the plant remains were indicative of a damp possible seasonally flooded meadow, fertilised with domestic waste.

4 DISCUSSION AND INTERPRETATION

4.1 Reliability of field investigation

4.1.1 The integrity of the overall stratigraphic evidence encountered during the evaluation is judged to be good. There had been no recent disturbances and the full depth of stratigraphy survived in each trench, and archaeological levels are protected by thick layers of post-medieval dumping and garden soils. The total depth of stratigraphy, as revealed Trench 3, is 2.7m.

4.1.2 As the consequence of the difficult waterlogged conditions, especially during the excavation of the peat and underlying levels in Trench 3, where significant water seepage occurred, an element of mixing when retrieving bulk finds was inevitable.

4.2 Interpretation by period

Pre-Roman

4.2.1 River gravels were reached in Trench 3, almost certainly representing a pre-Roman course of the River Itchen. Later second century pottery from a sand bar (323) above the gravels would imply that this part of the trench was still within the river channel during the second half of the 2nd century. At some point shortly afterwards a silty 'peat' had began to accumulate (322) implying that the course of the river had changed. It is believed that during this time the main channel of the River Itchen was diverted to its present course, located immediately to the east of the town defences.

Roman

4.2.2 Evidence for the defensive Roman rampart was found in Trench 1, overlying 'peat' (151). The construction of the rampart could not presumably have began until the area had been sufficiently drained. The 'peat', although not dated, may be contemporary with the formation of the peaty silt (322) in Trench 3 although it occurs at a level of 0.50-0.60m above it. This could imply that Trench 1 lay on higher marshy ground away form the river channel. The rampart, its base constructed of re-deposited river silt and turf, probably up-cast from the nearby ditch, conforms to other sites excavated along the eastern defences. Although no dating evidence was found within the limited area excavated, this earthwork has been dated elsewhere to the late 2nd century, when the defences were extended over the former floodplain. Undoubtedly the full height of the rampart had not survived and appears to have been slighted at some point before the laying down of medieval surface (137).

4.2.3 The Roman defensive wall (117) was found to cut into the rampart, its construction trench containing mottled patches of brown clay, perhaps derived from the upper levels of the slighted defensive rampart. Previous archaeological evidence elsewhere in the town has shown that the defensive wall is subsequent to the construction of the rampart. The wall would have been cut into the front of the rampart and the shallow nature of its foundation offers further evidence of the rampart's slighting.

4.2.4 Rubble (319) found in Trench 3 appears to represent dumping rather than in-situ evidence for structures, possibly an attempt to raise levels above underlying dump conditions. Similar rubble has been identified further west during earlier archaeological work on the site and is perhaps derived from buildings located on the west of the school or from the extensive buildings that were excavated at Wolvesey Palace to the east. It is possible that timber posts (320) and (321) may have formed part of a structure founded on the rubble although no associated occupation spreads were found. Alternatively they could have formed an element of a land drainage system. As such, the evaluation has shown that within areas investigated, conditions remained too damp for sustained habitation during the Roman period.

Saxon - Medieval

4.2.5 The formation, within Trench 3, of thick deposit of 'peats' (309 and 310) from as early as the late Roman period suggests that the area continued to be wet, probably within a floodplain marsh. This situation appears to have persisted well into medieval times, assuming that the later medieval ceramics found within the later 'peat' (309) are not intrusive. If the interpretation of timber group (305) as a possible fish trap is

correct, then this would imply the existence of stream or pond in the immediate vicinity.

4.2.6 The possible track (137) located alongside of the Roman town wall in Trench 1 probably dates from this period, post-dating the slighting of the Roman rampart. Such intramural lanes or tracks are a well known feature of the late Anglo Saxon and medieval town and allowed easy access to the defences for repair or in times of conflict. Its position on top of the surviving Roman rampart would have avoided the rather damp conditions prevalent below.

4.2.7 The construction of The Close wall upon the stub of the demolished Roman wall implies that the earlier wall (117) had been in a poor state of repair. Evidence for the total rebuild of the Roman town wall has been recognised on previous sites within the town. This perhaps pertains to the siege of AD 1216-17, which resulted in significant damage to the walls, after which a series of murage grants beginning from AD 1228 appears to indicate a period of substantial repairs or rebuilding (Keene 1985). Pottery of 12th - 13th century date from mortar rubble (101), dating to immediately after the construction of the medieval wall, would appear to corroborate this.

4.2.8 Timber lined pit (118), if it served as a cess-pit, is located some distance west of the nearest known medieval structures (Teague 2000). Its close proximity to the town wall, and its somewhat small size, suggests that it may have been only used occasionally or for a relatively short period of time.

4.2.9 The thick 'water-born silts' (307, 308, 318) overlying the organic silts within Trench 3 and possibly at the base of Trench 2 (210) implies that the area remained subject to flooding until at least to the end of the medieval period. A conjectural plan of the Cathedral Close, based upon the Parliamentary Survey of AD 1649 indicates the area fell within the 'Dean's small orchard and piece of meadow' (Crook 2005, Fig. 8).

Post-medieval

4.2.10 The evidence from all trenches suggests that from the 17th century, efforts were made to level up the site by the dumping of rubble presumably in order to aid drainage for the existing garden.

4.3 Impact assessment of proposed development

4.3.1 The evaluation of shown that archaeological levels on the site are protected by a thick accumulations of post-medieval make-up layers and garden soils. Discussions with Tracy Matthews, Site and Monuments Officer, Winchester City Council and Richard Massey of English Heritage have agreed levels to which *significant* archaeological deposits occur within each trench. It should be emphasised that such levels will be subject to variation across the proposed development area, outside the area of the evaluation trenches.

4.3.2 Near the north side of Trench 1 these levels lie at 31.66m OD (at the top of Roman rampart (150)), and rise to 32.80m OD at its south end (at the top of construction debris 101).

4.3.3 Within Trench 2, *significant* archaeological levels where not reached and lie below 32.00m OD (silt 210).

4.3.4 Within Trench 3, the latest significant archaeological horizon is taken to be the upper peat (309), which occurs at 31.40m OD at the west end of the trench, rising to 31.45m OD at its east end.

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6 APPENDICES

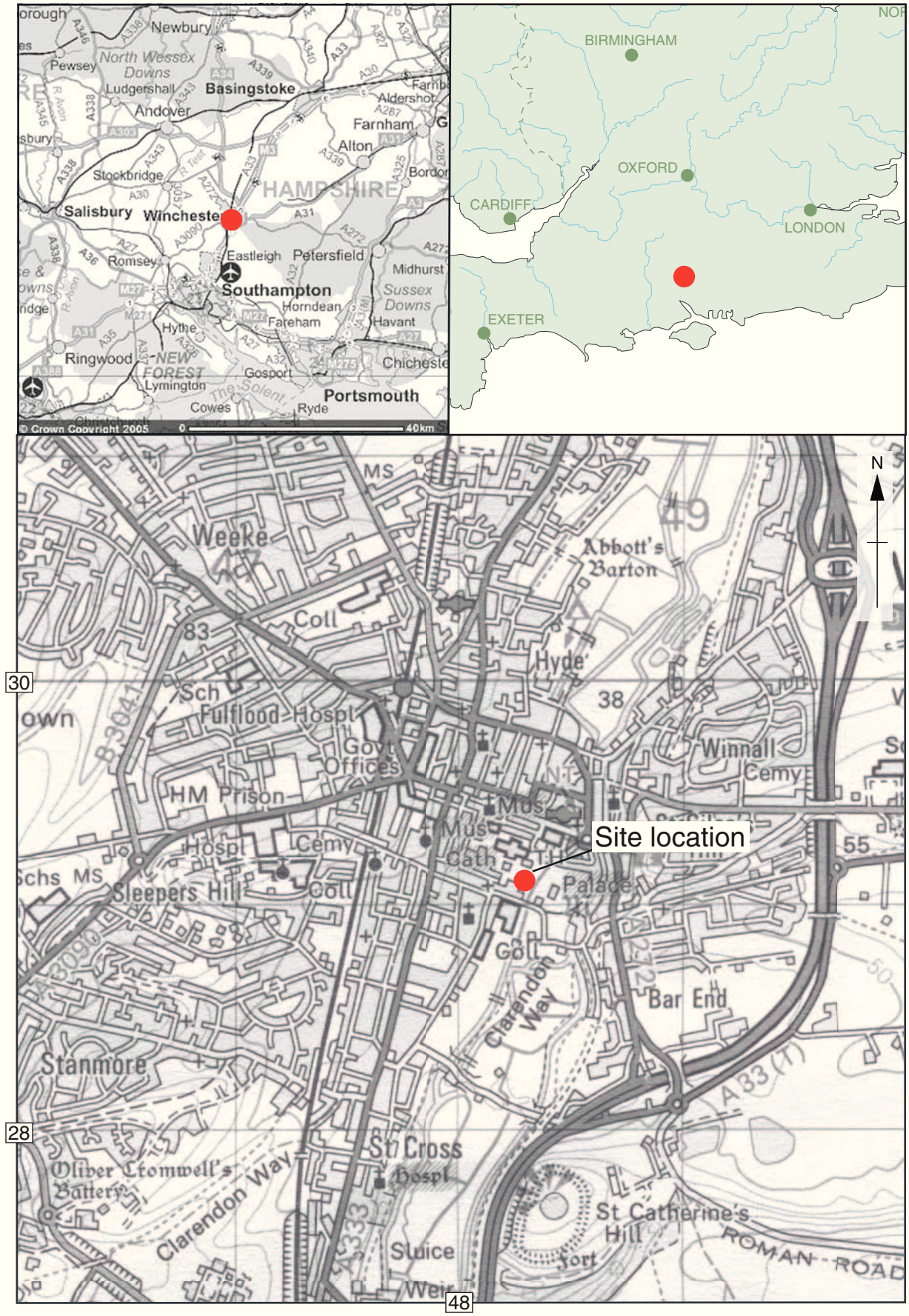
6.1 Appendix 1: Archaeological Context Inventory

Context No	*Type*	*Description*	*Spot Date*
Trench 1 (8x2m)			
100	Layer	Soil dump?	c1680-1725
101	Layer	Medieval Wall Construction debris	c1200-1250
102	Layer	Disuse?	c1475-1550
103	Layer	Rubble dump/makeup	c1775-1875/1900
104	Layer	Rubble dump/makeup	
105	Layer	Soil dump	
106	Fill	Fill of flower bed 115	
107	Fill	Fill of flower bed 114	
108	Fill	Path	
109	Layer	Topsoil	L18-19C
110	Layer	Makeup	17-E18C
111	Fill	Fill of Pit	
112	Cut	Cut of Pit	
113	Cut	Cut for Path	
114	Cut	Cut for flower bed	
115	Cut	Cut for flower bed	
116	Layer	Dump	c1475-1550
117	Wall	Roman Town Wall	
118	Cut	Cut of timber-lined Pit	
119	Group	Group No for timbers in Pit 118	
120	Fill	Fill of Pit 118	11-12C
121	Fill	Fill of Pit 118	
122	Fill	Fill of Pit (cess?) 118	9-12C
123	Layer	Trample?	
124	Wood	Part of timber-lined pit 118	
125	Wood	Part of timber-lined pit 118	
126	Wood	Part of timber-lined pit 118	
127	Cut	Cut of ?Posthole	
128	Fill	Fill of ?Posthole	
129	Void	Voided context	
130	Wood	Part of timber-lined pit 118	
131	Wood	Part of timber-lined pit 118	
132	Wood	Part of timber-lined pit 118	
133	Wood	Part of timber-lined pit 118	
134	Wood	Part of timber-lined pit 118	
135	Wood	Part of timber-lined pit 118	
136	Layer	Trample?	
137	Layer	Flint surface? Track?	
138	Cut	Cut of ?Robber Trench	
139	Fill	Fill of ?Robber Trench 139	
140	Cut	Cut of slot	
141	Fill	Fill of slot	
142	Layer	Trample?	
143	Fill	Fill of construction trench 145	
144	Fill	Fill of construction trench 145	
145	Cut	Cut for Roman wall construction trench	

Context No	*Type*	*Description*	*Spot Date*
146	Wood	Timber stake	
147	Wood	Timber stake	
148	Wood	Timber stake	
149	Layer	Dump	
150	Layer	Roman ?Rampart	
151	Layer	Pre-Roman Peat	
152	Layer	Roman ?Rampart	
153	Layer	Roman ?Rampart	
154	Layer	Roman ?Rampart (?turf)	
Trench 2 (1.5x1.5)			
200	Layer	Topsoil	
201	Layer	Gravelly topsoil	c1850-1900
202	Layer	Mortar spread	
203	Layer	Gravel Path	
204	Wall	Brick wall or pad	
205	Layer	Brick rubble	19-E20C
206	Layer	Soil ?dump	
207	Layer	Brick rubble makeup	c1680-1725
208	Layer	Chalk levelling	c1680-1725
209	Layer	Limestone & chalk rubble dump/makeup	c1675-1750?
210	Layer	Flood Silts? (unexcavated)	
211	Layer	Soil dump	
212	Layer	Mortar rubble dump/levelling	
Trench 3 (8.8x2m)			
300	Layer	Topsoil	c1880-1940
301	Layer	Garden soil	c1680-1725/50
302	Layer	Rubble dump	
303	Layer	Buried topsoil	c1650-1750
304	Layer	Rubble dump	c1690-1730
305	Group	Group No for timbers 311-17	
306	Layer	Flood Silt?	16-17C
307	Layer	Flood Silt?	13-14C+?
308	Layer	Flood Silt?	14-15C?
309	Layer	Upper peat	14-E16C?
310	Layer	Lower peat	14-15C?
311	Wood	Timber stake	14-15C?
312	Wood	Timber stake	
313	Wood	Timber stake	
314	Wood	Timber stake	
315	Wood	Timber stake	
316	Wood	Timber stake	
317	Wood	Timber stake	
318	Layer	Flood Silt?	
319	Layer	Roman rubble dump	c270+
320	Wood	Timber post	
321	Wood	Timber post	
322	Layer	Silty ?peat	c270+
323	Layer	Sand bar	c150-200
324	Layer	Natural river gravel	
325	Group	Group No for timbers 320-21	
326	Wood	Timber stake	

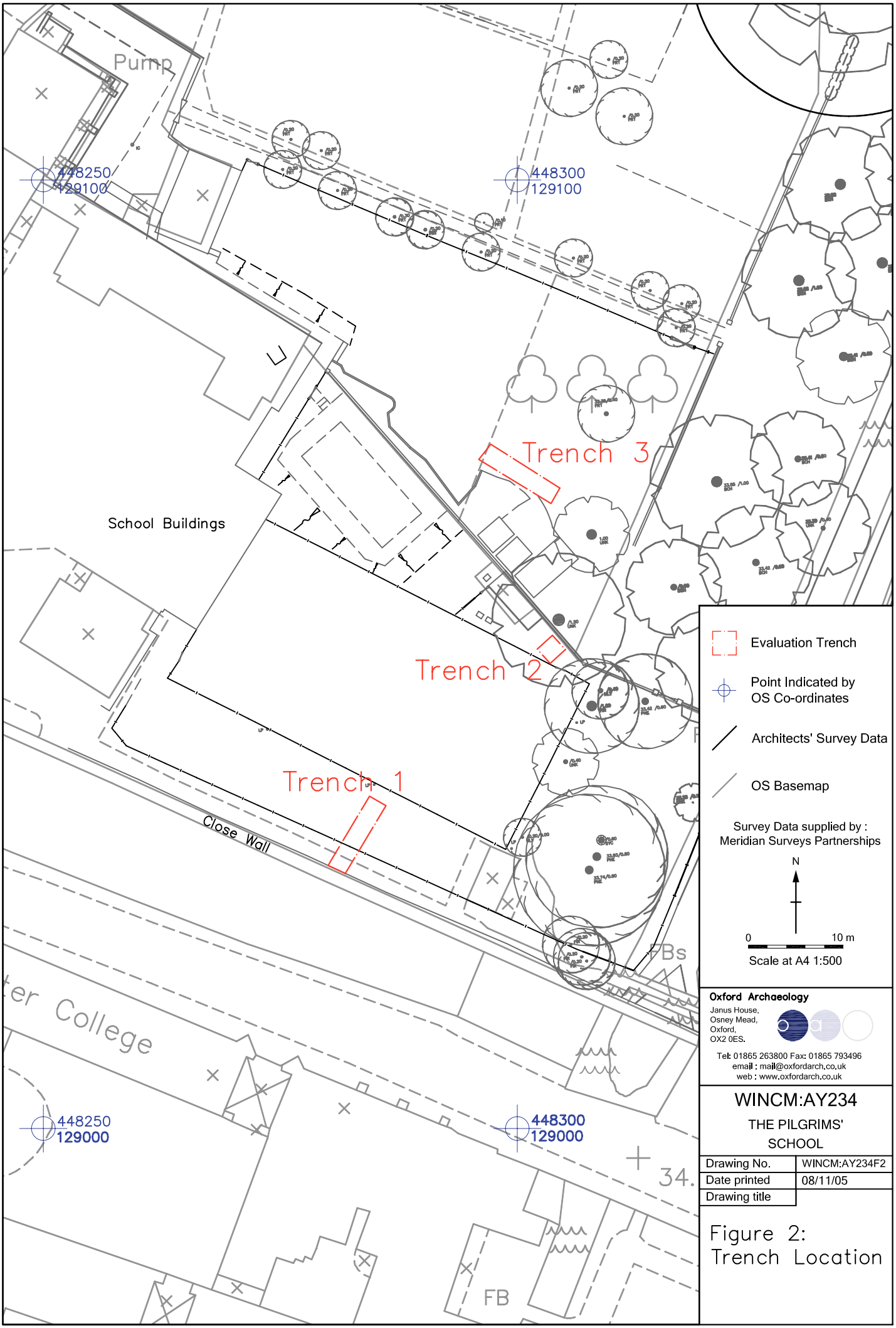
6.2 Appendix 2: Finds Compendium

Finds Compendium						
Site Code:	**Invoice Code:**	**Site Name:**			**Accession No:**	**OA No:**
WINCM:AY 234	WINPILEV	Winchester Pilgrims' School			WINCM:AY 234	
Material	**No of boxes**	**No of contexts**	**No of sherds**	**Total Weight (g)**	**Box Sizes**	**Box Numbers**
Animal Bone	2	5	428	10124	1 x Winchester Large, 1 x Winchester mixed	B.01, B.02, MISC 0.03
CBM	8	24	650	45203	3 x Winchester, 5 x Winchester	BM.01, BM.02, BM.03, BM.04, BM.05, BM.06, BM.07, BM.08, MISC.03 mixed box
Clay Pipe		12	94	461		MISC.01 - mixed box
Copper Alloy		1	7	0		FE.01
Flint		8	111	795		MISC.01 - mixed box, MISC.03 - mixed box
Glass		13	77	2013		MISC.01 - mixed box, MISC.03 - mixed box
Iron		17	165	0		FE.01
Leather	1	3	7	0	1 x Plastic size 8	L.01
Mortar		2	2	50		MISC.01 - mixed box
Pottery	2	31	912	15011	2 x Winchester	P.01, MISC.03 - mixed box
Shell		15	171	1210		MISC.01 - mixed box, MISC.03 - mixed box
Slag		11	54	1399		MISC.02 - mixed box, MISC.03 - mixed box
Stone	4	5	25	3125	4 x Unboxed	ST.01, ST.02, ST.03, ST.04, MISC.02 - mixed box
Wall Plaster		1	1	0		BM.06
Worked Bone	1	2	2	0	1 x Size 4	WB.01
Totals:			**2,707**	**79391g**		
Total No of Boxes:	19 boxes and 3 miscellaneous boxes				Miscellaneous boxes	Box Size
					MISC 0.01	Winchester Large
					MISC 0.02, MISC 0.03	Winchester Small



Scale 1:25,000

Figure 1: Site location



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THE PILGRIMS' SCHOOL

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Figure 2:
Trench Location

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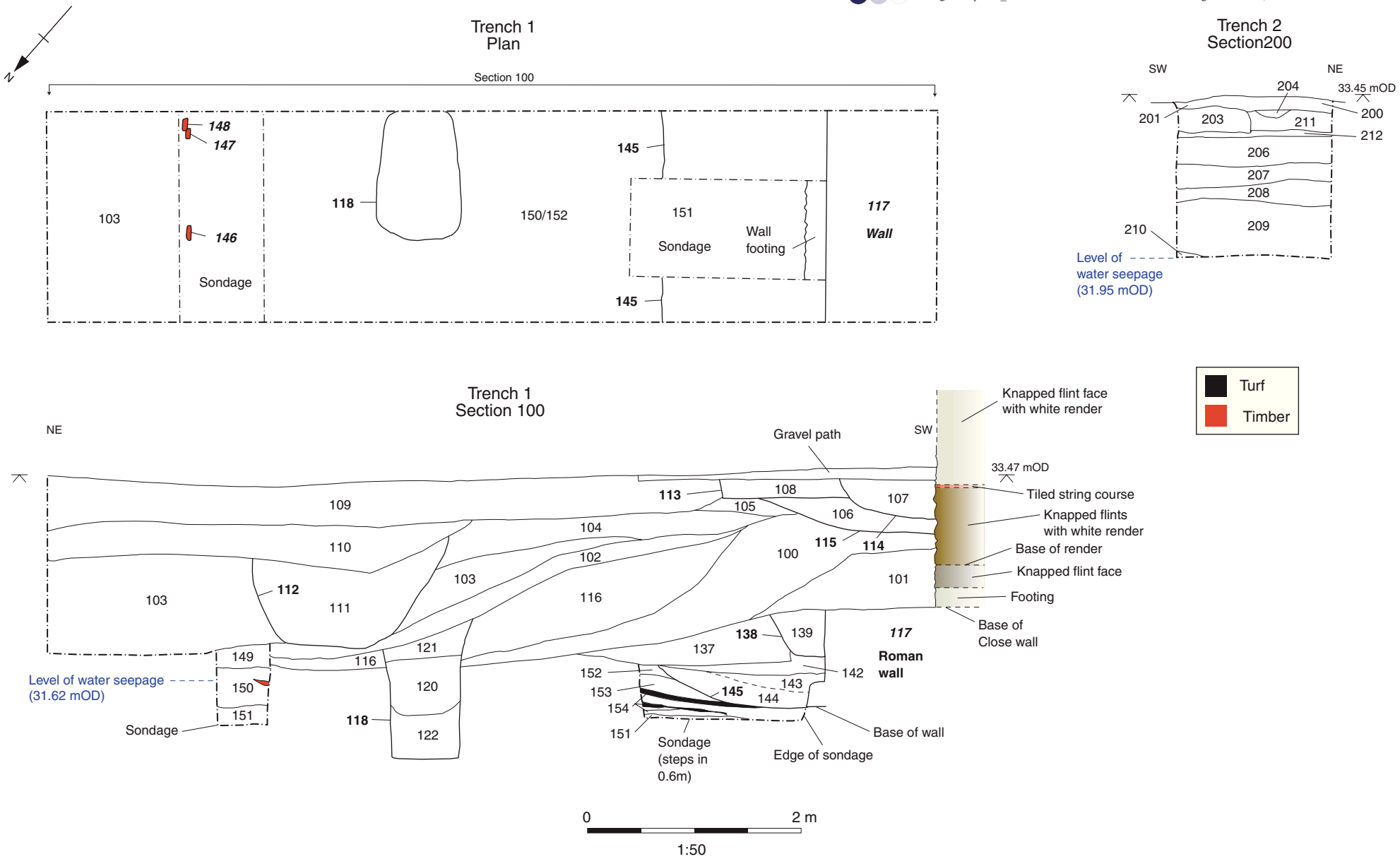

Figure 3: Trench 1 and 2, plan and sections

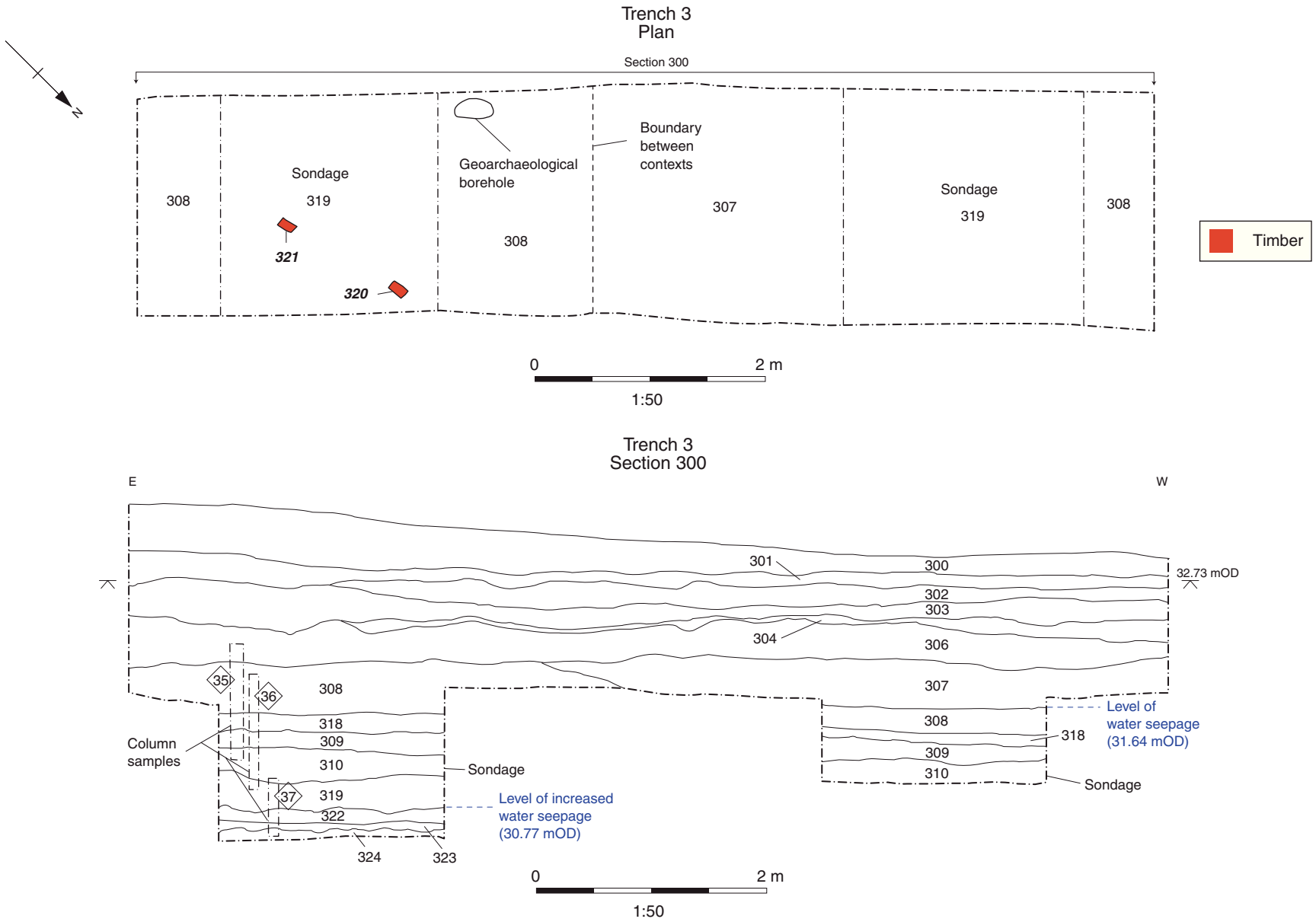

Figure 4: Trench 3, plan and section

Plate 1: Tr 1: Roman town wall 117 (looking south)

Plate 2: Tr 1: Medieval timber-lined cess pit 118 (vertical view)

Plate 3: Tr 3: Roman rubble dump 319 overlain by organic silts 309/310