Love Lane Building Mansfield College Oxford

Archaeological Excavation Report

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Prepared by:	Andrew Simmonds (Senior Project Manager) and Toby Martin (Project Officer)
Checked by:	Andrew Simmonds (Senior Project Manager)
Edited by:	Leo Webley (Head of-Post-Excavation)
Approved for Issue by:	Leo Webley (Head of-Post-Excavation)
Signature:	

OA South
Janus House
Osney Mead
Oxford
OX2 0ES

t. +44 (0)1865 263 800

OA East
15 Trafalgar Way
Bar Hill
Cambridge
CB23 8SG

t. +44 (0)1223 850 500

OA North
Mill 3
Moor Lane Mills
Moor Lane
Lancaster
LA1 1QD
t. +44 (0)1524 880 250

e. info@oxfordarch.co.uk
w. oxfordarchaeology.com
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Love Lane Building, Mansfield College, Oxford

Archaeological Excavation Report

Written by Andrew Simmonds and Toby Martin

With contributions from Leigh Allen, Edward Biddulph, Paul Blinkhorn, Lee Broderick, Sharon Cook, John Cotter, Michael Donnelly, Cynthia Poole, Ian Scott and Elizabeth Stafford, and illustrations by Magdalena Wachnik and Charles Rousseaux

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Summary

An archaeological excavation was undertaken by Oxford Archaeology on behalf of Mansfield College Developments at the site of a proposed new residential block at the Love Lane site, Mansfield College, Oxford. The excavation uncovered evidence for Roman settlement and part of the city's Civil War defences.

The Roman remains comprised a ditched boundary dating from the second half of the 1st century and a large pit and boundary ditches of late 3rd-4th century date. It forms part of an extensive settlement that had previously been uncovered to the north and north-east at the Institute for American Studies, the Chemistry Research Laboratory and Halifax House.

The location of the site corresponded with a re-entrant angle in the inner line of Oxford's Civil War defences, constructed in August 1642. On the south side of the site, the rampart survives as a bank that stands to a height of 2.4m and defines the southern boundary of the College. The excavation revealed the ditch that fronted the rampart and showed that after it had been backfilled, most likely when the defences were slighted by Parliamentary forces during September 1642, it was recut, presumably as part of the refortification during the second Royalist occupation between October 1642 and the siege of Oxford in 1646.

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The project was managed for Oxford Archaeology by Ken Welsh. The fieldwork was directed by John Boothroyd, who was supported by Ashley Strutt and Jeremy Mordue. Survey and digitising was carried out by Conan Parsons and Ben Brown. Thanks is also extended to the teams of OA staff that cleaned and packaged the finds under the management of Leigh Allen, processed the soil samples under the management of Rebecca Nicholson and prepared the archive under the management of Nicola Scott.

1 INTRODUCTION

1.1 Scope of work

1.1.1 Oxford Archaeology (OA) was commissioned by Mansfield College Developments to undertake an archaeological excavation at the site of a proposed new residential block at the Love Lane site, Mansfield College, Oxford.

1.1.2 The work was undertaken in accordance with a Written Scheme of Investigation (OA 2013) and with the Chartered Institute for Archaeologists' *Standard and Guidance for Archaeological Excavation* (revised 2008) and local and national planning policies.

1.2 Location, topography and geology

1.2.1 The site was located at Mansfield College, on the east side of Love Lane, Oxford, at NGR SP 5162 0673 (Figs 1 and 2). It was situated on a geology of second (Radley/Summertown) gravel terrace. Prior to excavation, the site comprised a terraced garden/court area of the College.

1.3 Archaeological and historical background

1.3.1 The site was situated within the Science Park Area, where a number of archaeological investigations have taken place. Most immediately, excavations have been carried out adjacent to the north side of the site at the Institute for American Studies (Booth and Hayden 2000) and 70m north-west at the Chemistry Research Laboratory (Bradley *et al*. 2005). The science area lies outside the historic core of the city but has nevertheless revealed important evidence for activity pre-dating the expansion of the city into this area and for the city's Civil War defences.

1.3.2 An extensive complex of prehistoric funerary and ritual monuments has been identified in this part of the city from aerial photographic evidence and by excavation, including a henge monument beneath Keble College and St John's College, *c* 300m north-west of the site (Beckley and Radford 2012a; Lambrick 2013, 14-18). During the Bronze Age, a linear barrow cemetery was constructed immediately north of the henge and further barrows have been discovered at several locations around the city centre, including the Gene Function Centre and Rex Richard Building, *c* 250m north of the site (Boston *et al*. 2003; Parkinson *et al*. 1997). A linear ditch of Neolithic or Bronze Age date was recorded at the Chemistry Research Laboratory, 70m north of the site (Bradley *et al*. 2005) and Neolithic pits were recorded both here and at the Institute for American Studies, immediately adjacent to the site (Booth and Hayden 2000).

1.3.3 Evidence for an extensive Romano-British settlement has been uncovered at the Institute of American Studies, the Chemistry Research Laboratory and Halifax House (Booth and Hayden 2000; Anthony 2005; Bradley *et al*. 2005; Beckley and Radford 2012b). This comprised the remains of at least one structure, a sequence of ditched enclosures and a decapitated burial. The precise character of the settlement is uncertain, although it was undoubtedly rural in nature and there appears to have been some rationalisation of the boundaries during the later Roman period (Bradley *et al*. 2005, 195-6). A hiatus in activity

during the 3rd century was noted at the Institute for American Studies but was not evident at the Chemistry Research Laboratory.

1.3.4 The location of the site corresponded with a re-entrant angle in the inner line of Oxford's Civil War defences (Beckley and Radford 2012c). The remains of the rampart survive as a bank that extends along the west side of Love Lane and turns eastward to define the south boundary of the College grounds. The ditch that fronted the rampart had previously been recorded to the east of the site at New College School in 1959 (Munby and Simons 2005, 199) and within the grounds of Mansfield College in an evaluation during 1992 and a watching brief in 2005, both in advance of construction of accommodation blocks (Bell 1993; Oxford Archaeology 2006a). The rampart itself has been investigated further to the east at Savile House (Oxford Archaeology 2014). The northward return of the ditch has been recorded at Rhodes House garden (Munby and Simons 2005, 199), Rothermere Library Memorial Garden (Oxford Archaeology 2006b) and immediately north of the Love Lane Building at the Institute for American Studies (Booth and Hayden 2000). At the latter site only the eastern edge of the ditch was within the excavation area, extending along the western baulk.

2 AIMS AND METHODOLOGY

2.1 Aims

2.2 General

2.2.1 The aim of the investigation, as set out in the WSI, was to identify and record any significant archaeological features or deposits which will be affected by the development.

2.3 Specific aims and objectives

2.3.1 The specific aims and objectives of the excavation were to:

i. establish the date and character of any prehistoric ritual, burial or settlement remains and relate the results to the existing body of excavated data from the surrounding Neolithic and Bronze Age ritual/funerary landscape;
ii. record any evidence for Iron Age/Roman domestic settlement. Establish the date, character, status and economic basis of occupation and investigate its relationship to the known settlement evidence to the north;
iii. establish the chronology, layout and development and economic function (eg arable/pastoral) of any identifiable field system(s) and associated features (eg crop processing or storage areas);
iv. record any evidence of Civil War period activity, bearing in mind the presence of the Royalist inner defence line ditch in this location and the possibility of associated features. Establish the extent form and construction detail of the Civil War ditch and any counterscarp bank/outer fence line, noting any variations in form of east-west and north-south sections and at the junction. Establish whether there is any evidence for an earlier phase of ditch and whether the ditch would have been waterlogged/boggy in the 1640s;
v. relate any discoveries to the known period evidence/landscapes and any relevant information in the resource assessments for both Oxford City (Oxford City Council 2012) and for the wider region (Hey and Hind 2014).

2.4 Methodology

2.4.1 The excavation encompassed an area of 750m^2 (Fig. 3). The excavation area was stripped using a mechanical excavator fitted with a toothless ditching bucket under close archaeological control. Following machine excavation, the areas were cleaned as necessary and all archaeological features were recorded on plan. Three hand-dug sections were excavated across the Civil War ditch, comprising two across the N-S part of the ditch and one across the E-W part, and a machine-dug section was also excavated across the E-W part. 20% of all linear features were excavated and pits and tree-throw holes were half-sectioned. Recording was undertaken in accordance with the OA Fieldwork Manual (Wilkinson 1992).

2.4.2 A watching brief was maintained during subsequent groundwork but no further archaeological remains were identified.

3 RESULTS

3.1 Prehistoric period

3.1.1 Prehistoric activity was represented only by three flint tools that were recovered from Roman and later features, comprising a borer, an awl or piercer and a notched flake or blade.

3.2 Roman period

3.2.1 A small number of features were firmly dated to the Roman period by their finds and stratigraphic relationships. The pottery recovered from these features indicated a 1st-century phase and a subsequent late 3rd-4th century phase.

3.2.2 Early Roman activity was represented by two ditches (1092, 1094) that comprised successive phases of a linear boundary at the north-east corner of the site. The earlier ditch (1092) was only partially exposed within the trench but was more than 1.5m wide and 0.37m deep. No finds were recovered from its single fill. Ditch 1094, which truncated it, had a steeper profile but similar dimensions and yielded a modest amount of pottery indicating a date in the second half of the 1st century AD.

3.2.3 Following an apparent hiatus in activity, a large pit (1139) was dug south of the earlier ditches. The feature measured 4.3 x 4.0m and 1.55m deep and had steep, though somewhat irregular sides and a flat base (Fig. 4; Plate 1). There was no evidence that the pit had a lining or water-lain lower fills but the depth of the feature may indicate a function as a well or waterhole. The pit contained numerous fills, but there is little to suggest whether these were rapid or gradual. Large sherds of pottery dating from the 4th century were recovered, as well as a small number of potentially earlier sherds and some animal bone and shell.

3.2.4 Two ditched boundaries lying at right angles were subsequently established, one of which (1138) cut through the middle of pit 1139. The ditch extended on NW-SE alignment and continued beyond the limits of the site in both directions. It measured 1.5m wide and 0.65m deep and had steep sides and a V-shaped profile with a sharpness that may indicate it was not in use for very long before being backfilled. Ditch 1003 extended into the site from the south-west and had been truncated by Civil War ditch 1140. About 4.3m of its length survived, being just over 1m wide and only 0.18m deep. Despite its very shallow depth, ditch 1003 nevertheless yielded more than 2kg of pottery sherds. Both ditches contained 4th century pottery, the latest item being a necked bowl from ditch 1138 that dated from after AD 340.

3.2.5 A further feature of probable late Roman date was represented by gully 1143, a slightly irregular, curving feature, 0.3m wide and 0.1m deep, that lay in the southern part of the excavation area and contained a large sherd from a mortarium dated after *c* AD 240, as well as a few other Roman sherds.

3.3 Civil War defences

3.3.1 The location of the site corresponded with a re-entrant angle in Oxford's Civil War defences, which appeared in the excavation as two substantial ditches that extended along the west and south edges of the trench (1140, 1141).

3.3.2 Ditch 1140 extended along the western edge of the site but only a small portion of its total width was exposed. Excavation revealed the eastern slope and its junction with the base,

which lay at a depth of 0.76m (Fig. 5). The multiple fills of the feature indicate some initial slippage of the sides (1104), followed by deliberate backfilling and then a gradual accumulation of sedimentation. The dating evidence included small quantities of clay tobacco pipe and pottery with dates ranging between the 16th and 18th centuries, with the latest ceramics coming from the uppermost fill.

3.3.3 A much greater proportion of ditch 1141 lay within the excavation area, allowing a more complete profile to be recorded, although the southern slope lay beyond the trench (Fig. 6; Plates 2 and 3). The ditch was more than 7m wide and up to 1.8m deep, with steep sides and a distinctly flat bottom. Following a series of side collapses and silty sedimentations (1057, 1058 in section 116; 1111, 1112 in section 122), the ditch was backfilled with a series of deposits of soil and gravel, presumably representing the material that had been excavated when the earthwork was created. The composition of this material was quite variable; the sequence in the western intervention was notable for a large body of gravel (1162), whereas the fills in the eastern intervention, only 6m away, were relatively stone-free. As with ditch 1140, the dating evidence was limited, comprising a modest quantity of mid-16th century pottery and clay pipe from both interventions, as well as a very small amount of residual medieval and Roman pottery. The ditch was subsequently recut (1109 in section 122; 137 in section 116). The full dimensions of the recut ditch could not be established, since it extended beyond the southern edge of the site and in both sections the base was obscured by the stepped profile of the excavation. Nevertheless, the excavation demonstrated that it was at least 3.3m wide and 1.25m deep and that the north face lay *c* 2m south of the corresponding slope of the original ditch. The recut yielded a small quantity late 17th-century pottery and clay pipes as well as some residual 16th-century sherds.

3.4 Modern features

3.4.1 Two pits cut Civil War ditch 1141, one of which (1042) contained the articulated skeleton of cow. A shallow linear depression (1142) only 0.09m deep, with much evidence for root activity, was probably the base of a flower bed or hedgeline.

4 DISCUSSION

4.1 Prehistoric

4.1.1 The small size of the assemblage of flint tools is likely to indicate that the site was peripheral to the activities represented by the early Neolithic pit excavated at the Institute for American Studies and the single late Neolithic pit at the New Chemistry Laboratory. Indeed, it is notable that there is a clear drop-off in the number of flints recovered from north-east to south-west, with 303 from the New Chemistry Laboratory, 18 from the Institute for American Studies and only 3 from the Love Lane Building (Lamdin-Whymark 2000, 318; 2005, 151). The recovery of only eight pieces dated to the Neolithic/Bronze Age at Halifax House (Anthony 2005, 132), to the east of the concentration at the Institute for American Studies and New Chemistry Laboratory, may further indicate that the activity was quite localised.

4.2 Roman

4.2.1 The excavation revealed a further area of the settlement that had been uncovered by previous investigations within the Science Area, particularly those at the Institute for American Studies, the New Chemistry Laboratory and Halifax House. Occupation began the second half of the 1st century AD, when an E-W boundary was established that was defined in successive phases by ditches 1092 and 1094, extending across the north-eastern corner of the excavation area. The absence of further early Roman features from the rest of the site may indicate either that the boundary represented the southern limit of occupation during this period or that this area was situated away from the focus of settlement.

4.2.2 No features or artefacts were found that certainly dated from the middle Roman period, and this is consistent with similar evidence for a hiatus in activity at the Institute for American Studies (Bradley *et al*. 2005, 196), which presumably indicates a relocation or shrinking of the settlement during the 2nd and 3rd centuries. This was followed by a subsequent expansion of activity at both sites during the late 3rd and 4th centuries, represented at the Love Lane Building by the digging of pit 1139 and the establishment of part of a rectilinear arrangement of boundaries indicated by ditches 1003 and 1138. Pit 1139 was unlike the features uncovered by the other nearby excavations, where pits were very shallow. Its substantially greater depth clearly indicates a special function and it is possible that it was dug as a well, although it lacked any evidence for a stone or timber lining or for the basal accumulation of water-lain sediment that usually characterises such features. It was subsequently used as a receptacle for the disposal of domestic refuse, hence the large quantities of pottery and animal bone that were recovered. The new arrangement of boundary ditches established during the 4th century, represented by ditches 1003 and 1138, evidently involved a change in orientation from the earlier arrangement represented by ditches 1092 and 1094. A similar change from an original arrangement of boundaries broadly aligned E-W and N-S to one based on a main boundary aligned NE-SW was observed at the New Chemistry Building (Bradley *et al*. 2005, 195), but at the Institute for American Studies the evidence for such a change in alignment was less certain. Curving gully 1143 has a less regular form and lies on an oblique orientation to the other boundaries; comparable 'haphazard' alignments were recorded among the more regular boundaries at the Institute for American Studies and the New Chemistry Laboratory (Bradley *et al*. 2005, 195).

4.2.3 The precise extent and character of the settlement are still uncertain, although the Love Lane Building evidently lay on the periphery. Similarly, the features at the Institute for American Studies and New Chemistry Laboratory appeared to be petering out to the north (Bradley *et al.* 2005, 195), suggesting that these areas comprised paddocks and fields on the periphery of the settlement. The greatest density of features was situated at the southern end of the excavation area at the New Chemistry Building and may indicate that the main focus of occupation lay in this vicinity, south-east of the excavated areas and extending beneath the main college buildings. Thus far, the only direct evidence for buildings is provided by the decidedly unprepossessing structure at the Institute for American Studies and a possible beamslot at the south-eastern limit of the New Chemistry Building; a piece from a box flue tile found at the former site may be an indication that a more substantial building lay somewhere nearby, but the tile could alternatively have been used in a structure such as a kiln or oven. The settlement certainly does not extend far east of the College, since a number of archaeological investigations undertaken east of Mansfield Road have recorded little or no Roman archaeology (Booth and Hayden 2000, 330). The artefactual evidence from the Love Lane Building is consistent with that from the previous excavations in indicating a low-status rural settlement; the pottery included a relative abundance of fine and specialist wares, including mortaria, amphorae, white-slipped wares and white wares, that might indicate that it attained a higher status during the later Roman period, although it is uncertain whether this is an accurate indication of the settlement's status or should instead be attributed to its proximity to production sites (Biddulph 2005, 164)

4.2.4 The settlement is likely to have formed one element of a more extensive enclosed landscape, part of which has been recorded as cropmarks of boundaries and enclosures in the University Parks *c* 500m to the north. Evidence for settlement foci in the intervening area has been provided by pottery, coins and at least one fibula found during construction of the University Museum (Munby 1972, 50), a substantial ditch excavated at the Radcliffe Science Library Extension (Hassall 1972) and a quern found at 2 South Parks Road, since so bulky an object is unlikely to have been transported far from its place of use (Munby 1972, 50). Further excavation of the Science Park area would be required to establish whether these locations represent neighbouring farmsteads or part of a single more extensive settlement.

4.3 Civil War defences

4.3.1 Between the Roman period and the construction of the city's Civil War defences, the site lay beyond the city limits, in what was presumably agricultural land. The earliest map of the city, Ralph Agas' *Oxonia Antiqua Instaurata* (1578), shows it lying in open ground, bounded to the west by one of a group of large rectangular fields that fronted onto Parks Road. No features dating from this period were uncovered during the excavation and it is likely that the small assemblages of medieval pottery and probably pre-Civil War glazed bricks that were recovered from the Civil War ditches derive from manuring during the medieval period.

4.3.2 The Civil War ditches uncovered at the Love Lane Building form part of the inner line of defences and represent the earlier phase of the town's fortification (Kemp 1977). This earthwork, comprising a rampart and ditch, was constructed by royalist forces in August 1642 but was slighted only a few weeks later when the city fell into Parliamentarian hands. The royalist garrison was restored on 29 October and the defences were remade, subsequently being replaced by an outer trace, comprising a more regular arrangement of alternating

bastions and re-entrants, which was constructed during 1644-45. A contemporary depiction of the arrangement of the two lines of defences survives in a plan drawn in 1645 by the royalist engineer Sir Bernhard de Gomme, while David Loggan's 1675 map of Oxford records the condition of the earthworks 30 years after the war. The two sources are generally consistent, and both show a re-entrant angle at the site of the Love Lane Building, as confirmed by the excavation. This line is better understood than its successor, since its alignment survives as a bank that extends along the west side of Love Lane, turning eastward at the southern end to define the south boundary of the College grounds, continuing to St Cross Road. De Gomme additionally shows a diagonal line that extends south-eastward from the junction of Love Lane and South Parks Road to join the surviving bank approximately where it is now crossed by Mansfield Road. This alignment appears to be an error, however, since it makes little practical sense in relation to the rest of the arrangement of the defences and no evidence was found for such an earthwork at the Institute for American Studies, where the excavation area crossed the alignment.

4.3.3 The excavation at the Love Lane Building sectioned the ditch but did not sample the associated bank, which lies to the south, within the grounds of New College School. The ditch was found to be a steep-sided feature with a flat base and measured more than 7m wide and up to 1.8m deep, dimensions that correspond almost exactly with those recorded in 1992 during an evaluation a short distance to the east (Bell 1993). The fills provided no certain evidence that the ditch held water during its time as a fortification, although Loggan appears to indicate that this was the case 30 years later. The earthwork behind it would typically have comprised a timber-faced rampart that provided the defenders with a raised platform for muskets, protected by a parapet.

4.3.4 The sequence of digging, backfilling and recutting exhibited by ditch 1141 has not been observed in previous investigations of the defences but corresponds well with the historically attested construction, slighting and reinstatement of the earthwork. This may therefore represent the first direct evidence for the successive actions of the Royalist and Parliamentarian forces.

4.3.5 The earthwork may have been left to decay once it was it was rendered obsolete by the construction of the outer line, and would certainly not have been maintained after the war. The artefactual material from the fills of the recut ditch suggest that it infilled over the course of the second half of the 17th century and the early part of the 18th century, the glass providing particularly important dating evidence, including a sherd possibly from a late 17th-century 'globe and shaft' wine bottle and three sherds from late 17th- or early 18th-century squat bottle forms. The molluscs from the ditch fills suggest the feature infilled in a grazed grassland environment, which is consistent with Loggan's depiction of the rampart reduced to a bare bank and water-filled ditch serving as a boundary between cultivated ground within the defences and pasture beyond.

APPENDIX A FINDS REPORTS

A.1 Roman pottery

By Edward Biddulph

A.1.1 Some 558 sherds weighing 16,017g were recovered from the site. The assemblage was recorded in accordance with standard OA and Study Group for Roman Pottery guidelines (Booth 2014; PCRG, SGRP, MPRG 2016). Reference was also made to regional and other typologies, in particular Young's corpus of the Oxford region pottery industry (Young 1977). A summary of pottery by ware is presented in Table 1.

Table 1: Quantities of pottery by ware

Ware	Description	Sherds	Weight (g)	MV	EVE
B11	Dorset back-burnished ware category 1	7	259	2	0.34
B30	Wheel-made black-burnished ware imitations	12	412	5	0.44
C10	Unsourced shelly ware	15	137		
C11	Late Roman shelly ware	61	1284	6	1.2
C20	Limestone-tempered ware	1	75		
F51	Oxford red/brown colour-coated ware	49	921	12	1.51
F52	Nene Valley colour-coated ware	1	8	1	0.13
F53	New Forest colour-coated ware (Fulford 1975 fabric 1a)	2	7		
F60	Unsourced colour-coated ware	7	28	1	0.1
M22	Oxfordshire white ware mortaria	48	3615	21	2.7
M41	Oxford red/brown colour-coated ware mortaria	2	64		
O11	Oxford oxidised ware	5	47	1	0.05
O21	Oxford sandy oxidised ware	6	173		
O81	Pink grogged ware	4	981	1	0.14
Q21	Oxford white-slipped oxidised ware	2	95		
R11	Oxford fine reduced ware	22	347	3	0.61
R20	Sandy reduced ware	4	73	1	0.06
R30	Medium sandy reduced wares (mainly Oxford)	266	6483	33	4.8
R90	Coarse-tempered reduced ware	1	206		
S30	Central Gaulish samian ware (Lezoux)	2	65	1	0.07
W11	Oxford parchment ware	7	103	3	0.27
W12	Oxford fine white ware	3	66	1	0.2
W21	Verulamium-region white ware	2	21		
W22	Oxford sandy white ware	8	165		
W23	Oxford burnt white ware	19	344	3	0.84
W50	Miscellaneous white ware	2	38		
TOTAL		558	16,017	95	13.46

MV – minimum number of vessels; EVE – estimated vessel equivalent (0.34 EVE = 34% of the rim circumference survives)

A.1.2 A single group of pottery, recovered from the fill of ditch 1094, was dated to the early Roman period. The group comprised 15 sherds of pottery, of which one was identified as limestone-tempered ware (C20), another as Oxfordshire sandy oxidised ware (O11), and the remainder as shelly ware (C10).

A.1.3 The majority of the assemblage, 89% by sherd count, was collected from contexts dated to the late Roman period. The composition of the late Roman assemblage is summarised in Table 2. Reduced (R) wares took the largest share of the assemblage, with medium sandy wares (R30) dominating. These were available mainly as necked jars (type CD). Oxfordshire white ware mortaria (M22), identified as Young type M22 and to a lesser extent type M17, also made an important contribution to the assemblage. Compared with contemporaneous assemblages elsewhere in the region, for example at Yarnton (Booth 2011, table 14.20), ware group M22 is over-represented. This was also the case at the adjacent site at the Institute for American Studies, where M22 accounted for 12.5% by estimated vessel equivalent (EVE) and at the Chemistry Research Laboratory, where a value of 19.1% was recorded (Booth 2000, 313; Biddulph 2005, table 5). The phenomenon may be explained by the presence of a nearby pottery production site (Booth 2000, 313), although none of the mortaria at the current site displayed evidence of production damage such as spalling or distortion, which might be expected in pottery found close to its source. However, it is worth noting that production damage was recorded on three vessels in R30 ware – a necked bowl, a necked jar or bowl and a base sherd – providing tentative support for production close by.

Table 2: Pottery by form and ware from contexts phased to the late Roman period. Quantification by EVE

Form	B11	B30	C11	F51	F52	F60	M22	O81	R11	R30	S30	W11	W12	W23	Total	% Total
BA				0.1											0.1	0.8
C									0.15	0.68					0.83	6.4
CD										0.87			0.2	0.84	1.91	14.6
CG										0.14		0.1			0.24	1.8
CK			1.2												1.2	9.2
CM				0.12					0.33						0.45	3.4
CN								0.14		0.09					0.23	1.8
D										0.14					0.14	1.1
DC									0.13	1.34					1.47	11.3
ED				0.35		0.1									0.45	3.4
H				0.1	0.13										0.23	1.8
HA										0.14		0.17			0.31	2.4
HB										0.13					0.13	1
HC				0.13											0.13	1
HD				0.1						0.67					0.77	5.9
I				0.11											0.11	0.8
IA		0.22								0.06					0.28	2.1
IB										0.03					0.03	0.2

Form	B11	B30	C11	F51	F52	F60	M22	O81	R11	R30	S30	W11	W12	W23	Total	% Total
JA	0.27	0.14								0.11					0.52	4
JB	0.07	0.08		0.5						0.3	0.07				1.02	7.8
KE							2.5								2.5	19.2
Total	0.34	0.44	1.2	1.51	0.13	0.1	2.5	0.14	0.61	4.7	0.07	0.27	0.2	0.84	13.05	-
% Total	2.6	3.4	9.2	11.6	1	0.8	19.2	1.1	4.7	36	0.5	2.1	1.5	6.4	-	-

For the key to forms, see Table 3. Wares not represented by rim and excluded from the table: C10, F53, M41, O11, O21, Q21, R90, W21, W22

Table 3: Roman pottery types (Booth 2014) encountered in late Roman groups

Form code	Description
BA	Small flagons with rims up to 60mm in diameter
C	Indeterminate jars
CD	Medium-mouthed jars, usually necked
CG	Globular jars
CK	'Cooking pot' type jars
CM	Wide-mouthed jars
CN	Storage jars
D	Indeterminate jars or bowls
DC	Necked jar or bowl
ED	Globular beaker, usually funnel-necked
H	Indeterminate bowls
HA	Carinated bowls
HB	Straight-sided, flat-based bowls
HC	Curving-sided bowls
HD	Necked bowls
I	Indeterminate bowls or dishes
IA	Straight-sided bowls or dishes
IB	Curving-sided bowls or dishes
JA	Straight-sided dishes
JB	Curving-sided dishes
KE	Mortaria with tall beads and stubby flanges, eg Young 1977, type M17 and M22

A.1.4 It should be noted that the rim of one M22 from Love Lane was burnt, while another was burnt on the interior surface. The surfaces of a third mortarium were grey, rather than white or cream, again suggesting the application of heat. Such evidence of burning was also recorded at the Institute and Laboratory sites (Biddulph 2005, 163) and appears to suggest that such vessels were placed in close proximity to heat, possibly having been used as cooking vessels. As Booth (2000, 313) suggests, the over-representation of mortaria may have led the vessels to be put to non-standard use. An alternative explanation for the burning is that it is a product of firing, and that the discolouring should be regarded as firing flaws, along with spalling and distortion, but the question cannot be resolved here.

A.1.5 In addition to mortaria, Oxfordshire white wares were represented by burnt white ware (W23), parchment ware (W11), fine white ware (W12) and sandy white ware fragments (W22). In the burnt white ware, necked jars (Young types BW2 and GW3,

the latter normally ascribed to gritted white ware but seen here in W23) were present, the parchment ware products here included a carinated bowl (type P24) and a globular bowl or jar (type P34), and the fine white ware was represented by a necked jar (type W33). The sandy white ware fragments were not identified to form. Oxfordshire red/brown colour ware (F51) was another important component of the late Roman assemblage. Vessels included a disc-rimmed flagon (Young type C4), a wide-mouthed necked jar (type C18), a globular beaker (type C25), dishes (types C45 and C48), a flanged bowl (type C51), and a necked bowl with painted decoration (type C77). The last is the latest of the identified forms, pointing to deposition after *c* AD 340. Globular beakers were additionally present in New Forest colour coated ware (F53) and a colour-coated fabric (F60) not identified to source, but probably of local or regional manufacture.

A.1.6 Shelly ware (C11) was conspicuous, accounting for almost 10% of the late Roman assemblage. Some of the pottery, represented by wheel-made cooking jars (CK) with rilled decoration on the upper body, have a Midlands source, probably Harrold in Bedfordshire. Other cooking jars, however, are handmade with fingertip decoration on the shoulder, and are likely to have had a different, possibly local, origin.

A.1.7 Black-burnished ware from Dorset (B11) was available in the form of plain-rimmed dishes. A wider range of black-burnished ware, however, was available in wheel-made imitation wares (B30). Plain-rimmed dishes were present alongside dishes with grooves below a plain rim and dropped flange dishes or bowls. The plain-rimmed dishes date to the mid-2nd century onwards, but the flanged vessels are characteristic of the late Roman period.

A.1.8 Returning to the assemblage as a whole, with mean sherd weight (weight/sherd count) of 28.7g, the pottery was well preserved, with many large pieces present. While the dominance of relatively heavy mortaria may have inflated the value to some extent, a revised value of 24.3g, which excludes M22 ware, remains comparatively high. Its condition suggests that the pottery has not undergone repeated episodes of disturbance and redeposition, and was recovered close to areas of use and original discard. The view is supported by the context of the pottery. Over half the total assemblage (53% by EVE) was recovered from late Roman well 1139 and included a near-complete reduced ware (R30) jar. A further 23% of pottery by EVE was recovered from late Roman ditch 1138. No near-complete vessels were obviously present, but the mean sherd weight remained high – 23g, compared with 30g for the well; there is no significant difference in the condition of the pottery between the two features, suggesting that the pottery had a similar depositional history.

A.1.9 The small early Roman pottery component at Love Lane (2.7% by sherd count) is in contrast to the assemblages from the Chemistry Research Laboratory and Institute for American Studies sites. Early Roman pottery from the Chemistry site accounted for 25.9% by sherd count, and 14.9% at the Institute site (Biddulph 2005, table 5; Booth 2000, table 3). Among the late Roman phase, however, the composition of the assemblages is very similar. For example, fine and specialist wares, which encompass fine wares, mortaria, amphorae, white-slipped wares and white wares (Booth 2004), account for 28.1% by sherd count at Love Lane, 28.8% at the Institute site and 33.1% at the Laboratory site.

A.1.10 The difference in chronology and similarity in late Roman composition suggest that the Love Lane site forms part of the same settlement represented by the remains at the other two sites, but that the area of occupation had expanded by the late period, extending to areas not previously available for pottery deposition.

Catalogue of illustrated pottery (Fig. 7)

1. Rim of cauldron, R30. A skeuomorphic lug handle, plate, rivets and rivet hole have been applied to mimic a metal vessel. Context 1090, fill of 1082, well 1139. Late Roman.

2. Base sherd of dish or bowl, R30. Small X-graffito cut in centre of external surface of base after firing. Context 1136, fill of 1077, ditch 1138. Late Roman.

3. Disc-rimmed flagon, F51. As Young 1977 type C4, except that the disc has a 'pulley-wheel' groove. Context 1076, fill of 1072, well 1139. Late Roman.

4. Cooking pot (CK), C11. Handmade, with fingertip decoration on the shoulder. Context 1004, fill of ditch 1003. Late Roman.

5. Necked jar or bowl (DC), R30. Near-complete rim, which in plan is oval, as if the rim had been pressed or squeezed during manufacture. Context 1083, fill of 1082, well 1139. Late Roman.

A.2 Medieval and post-medieval pottery

By Paul Blinkhorn

A.1.11 The post-Roman pottery assemblage comprised 109 sherds with a total weight of 1610g. Twenty-five sherds (300g) were residual Romano-British wares. The medieval material was recorded using the conventions of the Oxfordshire County type-series (Mellor 1994), as follows:

OXAM:	Brill/Boarstall Ware, 1200-1600. 6 sherds, 155g.
OXBF:	North-East Wiltshire Ware, 1050-1400. 1 sherd, 17g,
OXBX:	Late Medieval Brill/Boarstall Ware, 15th-early 17th century. 5 sherds, 63g
OXCL:	Cistercian Ware, 1475-1700. 1 sherd, 7g.

A.1.12 The post-medieval wares were recorded using the conventions of the Museum of London Type-Series (eg Vince 1985), as follows:

BORDG:	Green-glazed Border Ware, 1550-1700. 19 sherds, 133g.
CHPO:	Chinese Porcelain, 1650+. 1 sherd, 2g.

CREA:	Creamware, 1740-1830. 1 sherd, 9g.
FREC:	Frechen Stoneware, 1550-1750. 3 sherds, 39g.
LONS:	London Stoneware, 1680 +. 1 sherd, 2g.
METS:	Metropolitan-type Slipware, 1600-1800. 1 sherd, 35g
PMR:	Post-medieval Redware, 1550+. 39 sherds, 852g.
RAER:	Raeren Stoneware, 1480-1600. 1 sherd, 27g.
STMB:	Staffordshire-type Mottled Ware, 1680-1800. 1 sherd, 6g.
TGW:	English Tin-Glazed Ware, 1600-1800. 4 sherds, 26g.

A.1.13 The pottery occurrence by number and weight of sherds per context by fabric type for the post-Roman contexts is shown in Table 4. Each date should be regarded as a *terminus post quem*. The range of fabric types is typical of sites in the region. Most of the pottery is post-medieval, with very little earlier material present. All the medieval pottery is residual, and it would appear that either there was very little medieval activity at the site, or medieval strata were more or less completely removed during the post-medieval period.

A.1.14 Most of the context-specific assemblages comprise a few fairly small sherds and appear to be the product of secondary deposition. The only real exceptions were the collection of PMR sherds from fill 1069 of ditch 1141, which are all from a single bowl, a typical product of the tradition, and the group of BORDG from fill 1126 of ditch 1141, which are mostly from a single dish or plate, again a typical product of the tradition.

***Table 4**: Pottery occurrence by number and weight (in g) of sherds per context by fabric type*

	RB		OXBF		OXAM		OXBX		OXCL		RAER		PMR		BORDG		FREC		METS		TGW		STMB		LONS		CHPO		CREA		
Cntxt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	Date
1008													4	103																	M16thC
1010																											1	2	1	9	M18thC
1062					1	12							1	28																	M16thC
1064	22	270	1	17	1	42	1	39					3	155			1	30							1	2					L17thC
1066	2	25			1	19													1	35											17thC
1069													23	417																	M16thC
1071																	1	3													M16thC
1105							1	6									1	6			1	8	1	6							L17thC
1106					2	72	3	18	1	7			3	50							3	18									17thC
1119													1	67																	M16thC
1125					1	10																									13thC
1126	1	5													19	133															M16thC
1127													4	32																	M16thC
1131											1	27																			L15thC
Total	25	300	1	17	6	155	5	63	1	7	1	27	39	852	19	133	3	39	1	35	4	26	1	6	1	2	1	2	1	9	

A.3 Clay tobacco pipes

By John Cotter

A.1.15 A total of 22 pieces of clay pipe weighing 127g were recovered from eight contexts (Table 5). These have been catalogued and recorded on an Excel spreadsheet. The catalogue records, per context, the spot-date, the quantity of stem, bowl and mouth fragments, the overall fragment count, weight, and comments on condition and any makers' marks or decoration present. The minimum number of bowls per context was also recorded. Full details remain in the archive. Pipe bowls can be paralleled with those published from excavations in St Ebbe's, Oxford (Oswald 1984) or with those of Atkinson and Oswald's (1969) London pipes typology. Where the latter has been used, bowl types are assigned to an abbreviated code (eg. AO22). Apart from burnishing on some pieces, and one instance of a milled rim, none of the pipes here is decorated or has a maker's mark. None has therefore been illustrated.

A.1.16 The assemblage is fairly small and unremarkable and only significant for its dating value. In total there are two pieces of pipe bowl from a minimum of two bowls, and 20 stem fragments, but no mouth-pieces. The condition of most pieces is fairly fresh but fragmentary. A few pieces are fairly worn or weathered. Stem fragments up to 103mm long were recorded and many pieces were over 50mm. Nearly all the material (19 pieces) dates from the 17th and 18th centuries, with a strong emphasis (albeit mostly based on stem fragments) on the later 17th and first half of the 18th century. There is a single small piece of stem from fill 1010 of ditch 1140 datable to around the late 18th or early 19th century and this is the latest piece in the assemblage. The latter date is compatible with the pottery dating from this context (mid 18th century+) and the pipe dates from other contexts are also compatible with the pottery dating, and sometimes help refine it. No context produced more than six pieces of clay pipe (1066, late 17th to early 18th century?). Fill 1064 of ditch 1141 is dated, probably, to the late 17th to mid 18th century on the basis of a stem fragment. It also produced the only two pipe bowls. The earlier of these is a complete (residual) stubby spurred bowl of London Type A09 dating to *c* 1640-1660; the later piece is a damaged bowl profile of Oxford Type C dating to *c* 1690-1720.

***Table 5**: Catalogue of clay tobacco pipes*

Context	Spot-date	Stem	Bowl	Mouth	Tot sherds	Wt/g	Comments	MNV Bowls
1008	L17-M18C?	1			1	10	Fresh stem. Burnished 103mm long. Stem bore (SB) diameter *c* 2.6mm. Possibly L17 to M18C rather than later?	
1010	L18-E19C?	1			1	3	Fresh stem. 32mm long. Stem bore (SB) diameter *c* 2.1mm	
1064	L17-M18C?	2			2	8	Fresh stems. Including 1 chunky burnished stem 52mm long with SB *c* 2.6mm, probably L17C to M18C? Smaller stem with SB *c* 2.8mm probably 17C	
1064	L17-M18C?		1		1	8	Damaged bowl profile of Oxford Type C (*c* 1690-1720). Burnished. Bottered rim. Damaged heel. Bowl largely complete but only *c* 15% of rim circumference present. No evidence of smoking	1

Context	Spot-date	Stem	Bowl	Mouth	Tot sherds	Wt/g	Comments	MNV Bowls
1064	L17-M18C?		1		1	10	Complete bowl of London Type AO9 (*c* 1640-1660) with short stubby spur and deeply cut milling all around the rim. Small chip missing from rim. Fairly weathered/worn. Smoked	1
1066	L17-E18C	6			6	37	Fairly fresh stems up to 77mm long. The longest 2 (incl 1 burnished and 63mm long) have SBs of *c* 2.8mm so are probably L17C to E18C. The 4 others with SBs of *c* 3-4mm are 17C (3 burnished)	
1105	L17-E18C	1			1	3	Fresh stem 38mm long. Weak burnish, SB *c* 2.8mm	
1106	M17-E18C	5			5	32	Fresh chunky stems up to 80mm long. 1 or 2 with poor burnish. Two have have SBs of *c* 2.8mm so might be L17C to E18C (or just variants?) but the other 3 with SBs of *c* 3mm are probably mid/late 17C.	
1126	17C	3			3	10	3x chunky stems. Incl 2 joining pieces with combined length of 75mm. SBs *c* 3mm	
1131	17C	1			1	6	Fresh chunky stem 52mm long. Burnished	
TOTAL		**20**	**2**		**22**	**127**		**2**

A.4 Metalwork and worked bone

By Ian Scott and Leigh Allen

A.1.17 A small assemblage of 12 metal objects and one worked bone object was recovered from the excavation. The metalwork comprises five copper alloy objects and seven iron objects. They are in very poor condition and were x-rayed to aid identification.

A.1.18 The only notable finds are two fragments from Roman copper alloy bracelets. The first, from fill 1081 of late Roman ditch 1138, is a short length (42mm) from a thin cable-twist bracelet, made from three strands of wire twisted to form a cable. The second, from fill 1043 of modern pit 1042, is a fragment (74mm) from a ribbon-twist bracelet formed by winding a strip or wire around a metal core. Roman bracelets are most common in the 3rd and 4th centuries, when they were fashionable wear for women although there are some examples, including cable-twist bracelets, from earlier centuries. A fragment from a cable-twist bracelet/armlet (SF 131) was recovered from excavations at the Chemistry Research Laboratory in 2001 (Allen 2005, 170).

A.1.19 The remaining copper alloy objects are a pin with a wire-wound head (common finds in post-medieval contexts), a possible drape ring and a strip/rod with a circular section. The iron objects are an incomplete iron loop (possibly a link from a chain), a sub-triangular plate with a small square-headed rivet through it, four nails and a miscellaneous fragment of sheet. The majority of these objects were recovered from contexts associated with the Civil War ditch 1141 and modern pit 1042.

A.1.20 An ivory handle from a whittle-tang implement was recovered from fill 1063 of Civil War ditch 1141. The handle is damaged and in poor condition and the implement of

which it was a handle is missing. It has a circular section, flaring slightly towards the butt, which is cut straight with a slight raised ridge at the very end. The surviving surface shows traces of high polish.

A.5 Glass

By Ian Scott

A.1.21 The glass was all from the fills of the Civil War ditches (1140 and 1141) and recuts of those ditches. The glass from ditch 1140 comprises one sherd of window glass and five sherds from wine bottles. The glass from Group 1141 comprises four sherds from wine bottles and seven sherds of undiagnostic vessel glass.

Civil War ditch 1140

Ditch cut 1005

A.1.22 There is a small quantity of glass from contexts 1008 and 1010 in ditch cut 1005. The glass includes a single piece of olive green window glass (context 1008) which is probably post-medieval in date. From context 1010 there are three pieces of wine bottle, two (non-refitting) body sherds in the same olive green glass, probably from the same relatively thin-walled wine bottle. Although not closely datable, a late rather than early date seems most likely for these sherds, possibly as late as the later 19th or 20th century. The third body sherd is in light green glass and from a thick-walled early wine bottle. However, even the earliest English wine bottles certainly post-date the Civil War. The production of green glass bottles seems to have begun in about 1650 or perhaps a little earlier (Biddle and Webster 2005, 266). Only a very small number of bottle seals can be dated before 1660 (ibid., 295; Biddle 1988). There is a cache of 'globe and shaft' wine bottles with seals, which may very probably date to *c* 1650 or even before, which was recovered from the basement of Chastleton House near Chipping Norton. The bottles have the initials 'H I' for Henry Jones who succeeded his father Walter in 1633 and who died in 1656 (Marshall 1996).

Ditch cut 1103

A.1.23 Two more pieces of wine bottle were recovered from context 1106. One sherd was part of the base of a squat wine bottle in dark green glass with a low domed kick and a probable vessel diameter of *c* 140mm. The form of the kick suggests this was from a so-called 'onion' bottle of very late 17th- or very early 18th-century date. The second sherd is of green glass and thick-walled and probably of similar date.

A.1.24 The glass, limited though it is in quantity, suggests that the ditch may have remained opened and largely unsilted for some years after the Civil War.

Civil War ditch 1141

A.1.25 Twelve sherds of vessel glass were recovered from this ditch group. However, all the sherds, except one, were from the fills of recut 1137.

Ditch cut 1056

A.1.26 A single sherd from the neck/shoulder junction of a wine bottle was recovered from context 1062. It is not closely datable but could be from an early 18th-century bottle of squat form.

Ditch recut 1137

A.1.27 The glass from recut 1137 comprises seven sherds from context 1164 and three sherds from context 1166. The glass from context 1164 includes a body sherd in very dark green glass possibly from a late 17th-century 'globe and shaft' wine bottle and three body sherds from late 17th- or early 18th-century squat bottle forms. In addition, there was a body sherd from a small vessel of uncertain form, and three refitting de-vitrified sherds, again from a vessel of indeterminate form. The glass from fill 1166 includes two partly de-vitrified refitting sherds, again from a vessel of indeterminate form, and a heavily weathered and partly de-vitrified sherd again undiagnostic to form. Some of the weathered and de-vitrified sherds could be re-deposited medieval glass.

A.6 Ceramic building material and fired clay

By Cynthia Poole

Introduction and methodology

A.1.28 A small assemblage of ceramic building material (CBM) and fired clay amounting to 31 fragments (2.3 kg) was recovered from Roman, Civil War and later post-medieval phases, almost exclusively from ditches except for one piece from the fill of a Roman pit. The assemblage contains material of Roman, medieval and post-medieval date. The material is quite fragmentary with an overall mean fragment weight of 74g and thickness being the only complete dimension measurable on most pieces. Much of the material was fairly fresh with few heavily abraded pieces.

A.1.29 The assemblage has been fully recorded on an Excel spreadsheet in accordance with guidelines set out by the Archaeological Ceramic Building Materials Group (ACBMG 2007). The record includes quantification, fabric type, form, surface finish, forms of flanges, cutaways and vents, markings and evidence of use/reuse (mortar, burning etc). The record forms part of the archive. Fabrics were characterised with the aid of x20 hand lens and post-Roman material has been assigned to the Oxford fabric series.

Roman tile and fired clay

A.1.30 The Roman assemblage comprised two pieces of CBM (226g) and six pieces of fired clay (136g). Most of the material was found in Roman features apart from a brick fragment in a Civil War period ditch and a fired clay object in gully 1143. The CBM included a fragment of brick (1064) 48mm thick with evidence of burning on the surfaces and made in a fine sandy laminated clay fabric. The second tile (1086) was a fragment of flue tile, probably box flue, made in a fine sandy fabric and measuring 23mm thick. It was identified by the keying in the form of two bands of combing which intersected: one survived as a single tooth mark, the other measured 31mm or more

wide and had 7+ teeth each *c* 4mm wide and flat ended. The tile had burning on both inner and outer surfaces.

A.1.31 The fired clay comprised oven structure and furniture. From fill 1004 of ditch 1003 came a piece 20mm thick with a roughly moulded concave surface and three wattle impressions on the back 11, 16 and 19mm in diameter. This was made in a sandy fabric and probably derives from an oven structure, whilst an associated thinner fragment with a smoother surface and made in a chaff tempered fabric may be oven lining.

A.1.32 Part of a circular disc with flat undulating smooth surfaces and a curving edge measured 29mm thick and over 75mm long (from gully 1143). It is made in an orange fine sandy clay and probably formed a circular disc or plate of the type commonly found on late Iron Age and Roman sites in Oxfordshire and the East Midlands. Their function is uncertain but evidence suggests they were utilised as oven or hearth furniture or in some cases kiln furniture.

A.1.33 Other pieces of fired clay were of indeterminate function, either amorphous or with a single moulded surface and made in a sandy clay fabric.

A.1.34 The assemblage is typical of rural settlement, where tile would have been obtained in small quantities for re-use in ovens or hearths and fired clay represents domestic or crop-processing activity. The assemblage is similar to that found in earlier excavations nearby, which also produced a fragment of combed flue tile and probable fired clay plates (Booth and Hayden 2000, 318).

Post-Roman CBM

A.1.35 The post-Roman ceramic building material amounted to 23 fragments weighing 1937g and consisted of flat roof tile and brick. It was all found in ditches assigned to the Civil War phase of activity.

A.1.36 The roof tile comprised flat fragments of indeterminate form measuring 11-19mm thick and with a fairly neat regular finish. Whilst flat roof tile is usually assumed to be peg tile, there is no evidence for this from any pieces and there are hints from the knife trimming of some edges that this could be ridge tile, a supposition supported by the thickness, which was mostly over 14mm. The roof tile was made in standard Oxford fabrics VIIA (one example), IIIB/VIIB (four examples), IIIB (two examples), the IIIB St Giles variant (two examples) and IVa/b (one example), which represent use dating between late 13th and 16th centuries.

A.1.37 The bricks comprised 12 fragments (1522g) representing five individual bricks. Two bricks were made in sandy fabrics containing a high density of coarse quartz sand and fired red, similar to tile fabric IIIB. A third brick was probably made in the same fabric but it was overfired and the characteristics not easily distinguished. Another was made in a pale yellow-orange coarse sandy fabric that was strongly laminated and contained coarse fragments of unwedged clay 15-20mm in size. The final example was made in a uniform fine sandy clay fabric fired reddish orange.

A.1.38 The bricks had a fairly regular finish and measured 56-57mm and 60-61mm thick. Nearly all had some evidence of grey vitrified surfaces, either patchy or in some cases quite extensive and glassy in character. This glaze was probably a result of the addition

of salt during the firing of the bricks for use in diaper work, which was most common during the Tudor-Stuart period, dying out during the 17th century. The bricks broadly date to the 16th to early 18th century.

A.1.39 No buildings are recorded in the immediate vicinity of the site during the late medieval and early post-medieval periods. It is likely the material was incorporated in deposits as a result of agricultural activity or infilling of the Civil War features.

A.7 Worked flint

By Michael Donnelly

A.1.40 A very small assemblage of three struck flints, all of which were tools, was recovered from Roman and later deposits. The flints were general early in date and may all date to the same period, most likely the Neolithic period. Alternatively, as stray finds, they may date to a number of early periods spanning the Mesolithic to the early Bronze Age. An assemblage solely comprising tools from scattered contexts must be viewed as unusual. However, this is far more likely to represent excavator recovery bias than any ritual aspect to prehistoric depositional practices here.

A.1.41 Context 1043 contained a borer on a side trimming flake, context 1063 contained an awl or piercer on a large inner blade and context 1083 contained a probable notch on a regular flake or blade segment. All the flints were thin and displayed regular parallel negative scars indicative of early prehistoric knapping.

A.1.42 Previous excavations at the Institute of American Studies (Booth and Hayden 2000) and the New Chemistry Laboratory (Bradley *et al.* 2005) yielded assemblages of 18 and 303 flints respectively. This latter excavation included the discovery of two late Neolithic pits that accounted for 275 of the flints, while the former also identified a pit of Neolithic date containing scrapers and a microdenticulate as well as an early Neolithic arrowhead recovered from a medieval context. Both assemblages were relatively tool heavy, comprising 33% of the assemblage at the Institute of American Studies and 8.6% at the New Chemistry Laboratory. Diagnostic tools tended to be Neolithic in date, with some early forms from the Institute of American Studies and a largely late Neolithic assemblage from the New Chemistry Laboratory. Neolithic ritual monuments are known from central Oxford (Wallis 2014) as well as numerous Bronze Age barrows and it is likely that associated settlement, isolated pits, pit clusters and domestic spreads of finds/middens would also have been a part of the Neolithic landscape. The assemblage from the Love Lane Building fits in well with these assemblages and highlights the likelihood of a tool-heavy component at this locality related to the pits identified earlier, and most likely in association with surface spreads or midden deposits.

APPENDIX B ENVIRONMENTAL REPORTS

B.1 Animal bone

By Lee G Broderick

Introduction

B.1.1 If Roman remains are rarely discovered in Oxford, those sites producing fauna of this period are even rarer. All of the sites containing Roman archaeology so far are near the Love Lane site, those excavated up until 1971 being summarised in the Radcliffe Science Library extension report (Hassall 1972). The animal bone assemblages recovered from this period are from the more recent excavations and have generally been small (Charles 2000; Anthony 2005; Evans 2005). The Radcliffe Science Library and Chemistry Research Laboratory excavations also uncovered sections of the Civil War defensive ditch around Oxford. The Chemistry Research Laboratory is the most similar site to Love Lane, featuring small assemblages from the late Roman period and from Oxford's Civil War ditch (no animal bone was mentioned in the Radcliffe Science Library extension rescue excavations).

B.1.2 Although these components may be the most significant parts of the assemblage, the largest part actually came from a deposit described as a modern 'animal burial' by the excavators, and this was assessed in line with recent guidelines (English Heritage 2014). It was found to contain a single dog (*Canis familiaris*) bone along with those of domestic cattle (*Bos taurus taurus*) (Table 6). All epiphyses from this deposit, including vertebrae, were fused, suggesting that the animal was at least five years of age at death (Silver 1969). Associated Bone Groups (ABGs) of this period are usually assumed to be the result of disposal of deadstock but in this example that is demonstrably not the case. Cut marks were observed on the hyoid, consistent with slaughter by cutting the animal's throat. Further cut marks were also observed on a metatarsal and on ribs, demonstrating that the animal had been butchered.

B.1.3 The material recovered from earlier phases on the site was recorded and analysed in full, using Oxford Archaeology's reference collection and standard identification guides and a diagnostic zone system (Serjeantson 1996). In all, this was 341 specimens, of which 321 (94.1%) were recovered by hand and 20 were from environmental samples. Given the small size of the assemblage, NISP figures will be used throughout this report as providing the best indication of importance on the site.

B.1.4 The late Roman assemblage largely originated from a single feature, a deep pit interpreted as a possible well (1082) which contained 172 specimens – 76.11% of the material recovered from this phase. As far as is possible to tell when comparing this feature with the other late Roman deposits, there was no particular patterning, although four of the eight dog specimens from this period (along with the small mammal specimens – ribs, which may also have been dog) were from ditch 1028 and may represent an ABG. The micro-mammal (including vole) and fish bones (reported separately) were also from the environmental samples taken from ditch 1138. Although environmental samples were taken from the putative well, the only faunal material recovered in them was a cattle tooth.

B.1.5 Overall, the late Roman assemblage was dominated by cattle bones, comprising 38 specimens from at least two individuals. Given that these remains outnumber those of horse (*Equus caballus*) by a factor of more than 12:1 it seems fair to assume that the 133 large mammal fragments that make up the bulk of this assemblage are also largely from cattle. Although a small NSP, this pattern is similar to those recovered from Halifax House and the Chemistry Research Laboratory, with cattle bones making up the majority of the material recovered (excepting two ABGs recovered from the Chemistry Research Laboratory site).

B.1.6 Elsewhere in the country, large assemblages from the Usk/Severn and, nearer Oxford, the Thames Valley river systems have painted a picture of specialist cattle rearing sites in similar seasonally wet locations (Meddens and Beasley 2001; Strid forthcoming). It is possible to suggest that the rich pastures provided by the Thames and Cherwell floodplains on the edge of the Oxford gravel terraces would have provided the perfect environment for cattle pastoralism, but caution must be exercised in basing any interpretation on such small numbers – it has been demonstrated on more than one occasion that the remains of larger mammals, including cattle, are more likely to be recovered by archaeologists than smaller ones (Payne 1972). As such, it will be interesting to see if any future excavations in the area uncover a larger assemblage which may help support this hypothesis or counter it. It may be worth noting, in light of this interpretation, that while Roman military and urban sites are characterised by a more-or-less standardised industrial butchery of cattle characterised by heavy chop-marks (Maltby 2007), the butchery observed here, by contrast, consists largely of cut-marks related to disarticulation by following the skeletal joints (Table 7).

B.1.7 The Civil War assemblage is even smaller than the late Roman one (Table 6) but is still much larger than that recovered from the adjacent Chemistry Research Laboratory site. Employing the same qualifiers regarding sample size, the two assemblages do bear some similarities and are far more catholic in nature than the earlier phase. Rather than being dominated by the remains of a single species, domestic cattle and caprines (definitely including sheep [*Ovis aries*] but the possibility of goat [*Capra hircus*] being present as well cannot be ruled out) are present in equal quantities, whilst pig (*Sus scrofa domesticus*) and cat (*Felis cattus*) occur in smaller amounts. Given the heterogeneous nature of the assemblage, including elements as well as species, it is likely that it results from a variety of activities cleared from elsewhere in the city and dumped in the ditch as a matter of expediency.

B.1.8 Butchery evidence for this phase on the site came from 17 specimens (Table 7). Three caprine specimens had cut-marks (a fourth, a sheep horncore, had been chopped through), whilst five domestic cattle specimens and eight large mammal ribs or vertebrae had been chopped through. This shows a clear difference in approach to butchering these two different sized animals, with cattle being broken down into portions which are appropriate for household cooking and consumption by a butcher (the chops through vertebrae are probably due to splitting of a carcass, for example), whereas the smaller caprines were probably sold as meat on the bone. The smaller bones of this species naturally lends itself to smaller portions in this way and the cut-marks on, for example, the humerus could result from boning a joint in the kitchen or at the table. The horncore and metatarsal more likely relate to industrial waste (horning and tanning, respectively) and so lie outside of this consideration.

B.1.9 In summary, the Love Lane assemblage, when added to the data assembled previously from other sites in the Mansfield College area, can begin to point the direction for

understanding the economy and role of settlement in Oxford during the Roman period. Future excavations in the area will be instrumental in testing the hypothesis presented here of specialist cattle rearing dependent upon seasonally productive floodplain pastures. The excavations also added to our understanding of life in Oxford during the Civil War, painting a picture of continuing industrial activities and diversified butchery practices.

Table 6: NISP (Number of Identified Specimens) and NSP (Number of Specimens) figures for each phase of occupation on the site (note that the material from the modern period came from one feature and was recorded differently to the rest of the assemblage, see text)

	Late Roman	Civil War		Modern
Domestic cattle	**38**	**12**		**42**
Caprine	**6**	**11**		
Sheep		1		
Pig	1	**4**		
Horse	3			
Dog	**8**			**1**
Domestic cat		2		
Bank vole/field vole/common vole	3			
Micro mammal	2			
Small mammal	3			
Medium mammal	2	1		
Large mammal	133	57		
Total Mammal	199	88		43
Total Fish	1	0		0
Total NISP	199	88		43
Total NSP	226	115		996

Table 7: Butchery marks recorded in the Roman and Civil War assemblage.

Period	Species	Element	Butchery type	Butchery
Late Roman	Cattle		astragalus	cut	oblique cut-marks on medial side
Late Roman	Cattle		mandible	cut & chop	oblique cut-marks on lateral side and chop through olecranon
Late Roman	Cattle		mandible	cut	oblique cut-marks on buccal side behind tooth row
Late Roman	Cattle		radius	chop	oblique chop on medial side of shaft
Late Roman	Cattle		scapula	cut	oblique cut-marks below vane
Late Roman	Cattle		ulna	cut	axial cut-marks on and around articular surface
Late Roman	Large mammal		rib	cut	oblique cut-marks on medial side
Late Roman	Large mammal		rib	cut	cut-mark on lateral
Civil War	Cattle		humerus	chop	oblique chop through distal articulation
Civil War	Cattle		metacarpal	cut & chop	multiple oblique cut-marks to medial side & superficial oblique chop-mark to cranial side of shaft
Civil War	Cattle		metatarsal	cut	oblique cut-marks on caudal side of distal end of shaft
Civil War	Cattle		pelvis	chop	oblique cut and chop-marks to (and through) lateral
Civil War	Cattle		radius	chop	oblique chop through distal end

Civil War	Large mammal	indet.	chop	
Civil War	Large mammal	rib	cut & chop	oblique cuts to medial side and oblique chop through from lateral side
Civil War	Large mammal	rib	cut	cut-marks on medial side; blown [pathology]
Civil War	Large mammal	rib	chop	oblique chop through rib from lateral side
Civil War	Large mammal	rib	chop	oblique chop through rib from lateral side
Civil War	Large mammal	rib	chop	oblique chop through rib from lateral side
Civil War	Large mammal	vertebra	chop	axial chop through centre; fused
Civil War	Large mammal	vertebra	chop	axial chop through centre; unfused
Civil War	Sheep	horncore	chop	chopped through at base
Civil War	Sheep/goat	humerus	cut	oblique cut-marks on caudal side of shaft
Civil War	Sheep/goat	metatarsal	cut	oblique cut-mark on medial side near distal end
Civil War	Sheep/goat	pelvis	cut	oblique cut-marks across lateral of ischium and pubis near acetablulum

B.2 Charred plant remains and charcoal

By Sharon Cook

Introduction

B.2.1 Five 40 litre bulk soil samples were processed by water flotation using a modified Siraf-type machine, with the flots collected in a 250µm mesh and heavy residues in a 500µm mesh. Samples <100> (1083) and <101> (1081) are both dated as broadly Roman, with sample <100> coming from the fill of pit/waterhole 1082 and sample <101> from the fill of the later ditch 1138.

B.2.2 Samples <102> (1071), <103> (1061) and <104> (1057) were all taken from the fills of Civil War ditch 1056, with <102> being from the fill of a possible re-cut, <103> from an earlier phase of the ditch and <104> from the base of the ditch fill.

Method

B.2.3 The flot material was sorted using a low power (x10) binocular microscope to extract cereal grains and chaff, smaller seeds and other quantifiable remains. Identifications were carried out using standard morphological criteria (eg Jacomet 2006; Cappers *et al*. 2006; Cappers and Bekker 2013) and by comparison with modern reference material. Classification and nomenclature of plant material follows Stace (2010).

Results

B.2.4 The majority of flot volume consists of modern plant material with only a small proportion of charred plant material present (Table 8).

B.2.5 The samples from the Roman features contained very little charred material, comprising small numbers of seeds and infrequent and small-sized charcoal. Although taken from a possible well or waterhole, there was no evidence of waterlogging in sample <100> although there are a number of unburnt seeds present within the flot from sample <101>, from the later ditch, the majority of which are alternate-flowered water-milfoil (*Myriophyllum*

verticillatum), which thrives in damp areas especially ditches; these are robust seeds which may have survived preferentially in a partially waterlogged deposit. The few charred seeds of wild plants including the two charred rush (*Juncus* sp.) seeds in sample <101> may have come from burnt floor sweepings, deriving from rushes used as flooring or turves used as roofing. A single hazelnut shell fragment in sample <101> is extremely small and abraded and the condition of the few charred cereal grains and wild seeds is largely poor.

B.2.6 The samples taken from the Civil War ditch also contain very limited charred material. Apart from a few charred seeds the flots contain small quantities of small-sized charcoal. Sample <104> contained very little charcoal and no other charred remains. The few cereal grains are in poor condition, mostly fragmented and lacking exterior details. Sample <102> also includes molluscs, with *c* 20ml of the flot comprising snail shells.

Discussion

B.2.7 Excavations at the nearby Chemistry Research laboratory produced much richer assemblages of charred and waterlogged plant remains from Roman and Civil War ditch deposits (Challinor 2005), with the Roman charred plant remains indicating the dumping of crop processing waste. The range of charred plant material recovered from the Roman samples at the Love Lane Building (wheat, barley and glume wheat chaff, hazelnut shell) is similar to that recovered from the Chemistry Research Laboratory, but the volume of plant remains here is very small. The excavations at the Institute for American Studies also produced rich assemblages of charred plant remains from deposits dating to the 3rd-4th century. Cereals included lax-eared six rowed and possibly two-rowed barley (*Hordeum vulgare*) and both spelt (*Triticum spelta*) and short-grained emmer (*T. dicoccum*) wheat, and occasional oats (*Avena fatua* type), as well as cultivated legumes and other seeds of wild plants (Pelling 2000). The paucity of plant remains at the Love Lane Building is probably a reflection of the location of the excavated features, presumably away from areas of crop processing activity and refuse disposal.

B.2.8 Although waterlogged seeds were fairly abundant in deposits taken from the Civil War ditch at the Institute for American Studies (Pelling 2005), this was not the case at the Love Lane Building.

Table 8: Charred and uncharred plant remains

Sample No		**100**	**101**	**102**	**103**	**104**
Context No		1083	1081	1071	1061	1057
Group No		1139	1138	1141	1141	1141
Feature		Well fill	Ditch fill	Ditch fill	Ditch fill	Ditch fill
Phase		Late Roman	Late Roman	Civil War	Civil War	Civil War
Soil volume (L)		40	40	40	40	40
Flot volume (ml)		100	100	150	50	30
Cereal grain						
Triticum sp		1		1		
cf Triticum sp.				1		
cf Hordeum sp.			1			

Cerealia	indet. cereal	4*	10*	4*	1	
Chaff						
Triticum dicoccum/spelta	emmer/spelt glume base	4*				
Legumes, fruits & nuts						
Corylus avellana	hazelnut shell		1*			
Pisum/Lathyrus sp.	legume >4mm		1*			
Wild species						
Myriophyllum verticillatum	alternate-flowered water-milfoil		56#			
Vicia/Lathyrus sp. <2 mm	vetch/vetchling/tare, etc		3			
Plantago sp.	plantain		1			
Juncus sp.	rushes		2			
Poaceae undiff.	grass, small		2			
Other						
Indet.	seed/fruit		2			

*denotes number of fragments

#=uncharred seeds

B.3 Molluscs from Civil War ditch 1141

By Elizabeth Stafford

B.3.1 Mollusc shell was well preserved in sample <102> (1071), with 300-400 identifiable individuals. The assemblage was dominated by the catholic species *Trochulus hispidus* along with open-country snails Vallonidae (*Vallonia excentrica* and *Vallonia costata*) and *Pupilla muscorum*. Smaller numbers of open-country species included *Helicella itala* and occasional *Vertigo pygmaea*. There were occasional other catholic species such as *Cochlicopa* and *Punctum pymaea*, along with snails that require some shade (*Aegopinella nitidula* and *Oxychilus cellarius*). Sample <103> (1061) produced a flot of similar character but with fewer shells, at *c* 60 individuals.

B.3.2 Overall the character of the assemblages suggests the feature infilled in a relatively open, dry grassland environment, perhaps lightly grazed with areas of slightly longer grass. There is no evidence to suggest the feature contained water at any time or was overgrown with vegetation.

B.4 Marine shell

By Rebecca Nicholson

B.4.1 A small collection of exclusively oyster shell (*Ostrea edulis*) weighing 345g was recovered by hand from several Roman features and from fills of the Civil War ditch (Table 9). All have been catalogued and notes made for the archive regarding condition and modifications by humans or by parasites such as the marine polychaete worm *Polydora ciliata*. Where possible valves have been measured following Winder (2011).

B.4.2 The oyster valves are in variable condition and include large and fairly small specimens in both late Roman and post-medieval contexts. There is no consistent difference in shape, size or condition between shells from late Roman and post-medieval contexts but some of the shells in late Roman pit fills (1083) and (1085) were irregularly shaped, thickened and with chalky deposits internally which is typical of oysters from estuarine environments (MacDonald 2011), the thickness of the shell indicating old individuals which would suggest native rather than managed beds. Late Roman ditch fill (1004) included an example of an oyster exhibiting extensive tunnelling by *Polydora ciliata*. This worm is widely distributed below mid-tide level around the coast of Britain and Ireland today, burrowing into rocks or other substrates such as shells that contain calcium carbonate; shells with traces of infestation have been recovered from other Roman sites such as Dorchester County Hospital, Dorset (Wyles undated).

Table 9: Quantification of marine shell

Context no.	Weight (g)	Period	Feature	Left valve	Right valve
1004	40	Late Roman	Ditch 1003		3
1008	43	Civil war	Ditch 1140	1	3
1010	2	Civil war	Ditch 1140		
1029	6	Late Roman	Ditch 1138	1	
1030	7	Late Roman	Ditch 1138		1
1063	4	Civil war	Ditch 1141		
1064	53	Civil war	Ditch 1141	1	1
1066	23	Civil war	Ditch 1141	1	
1083	38	Late Roman	Pit 1139	2	
1085	60	Late Roman	Pit 1139	1	2
1105	40	Civil war	Ditch 1140	2	1
1106	10	Civil war	Ditch 1140	1	
1126	19	Civil war	Ditch 1141	1	

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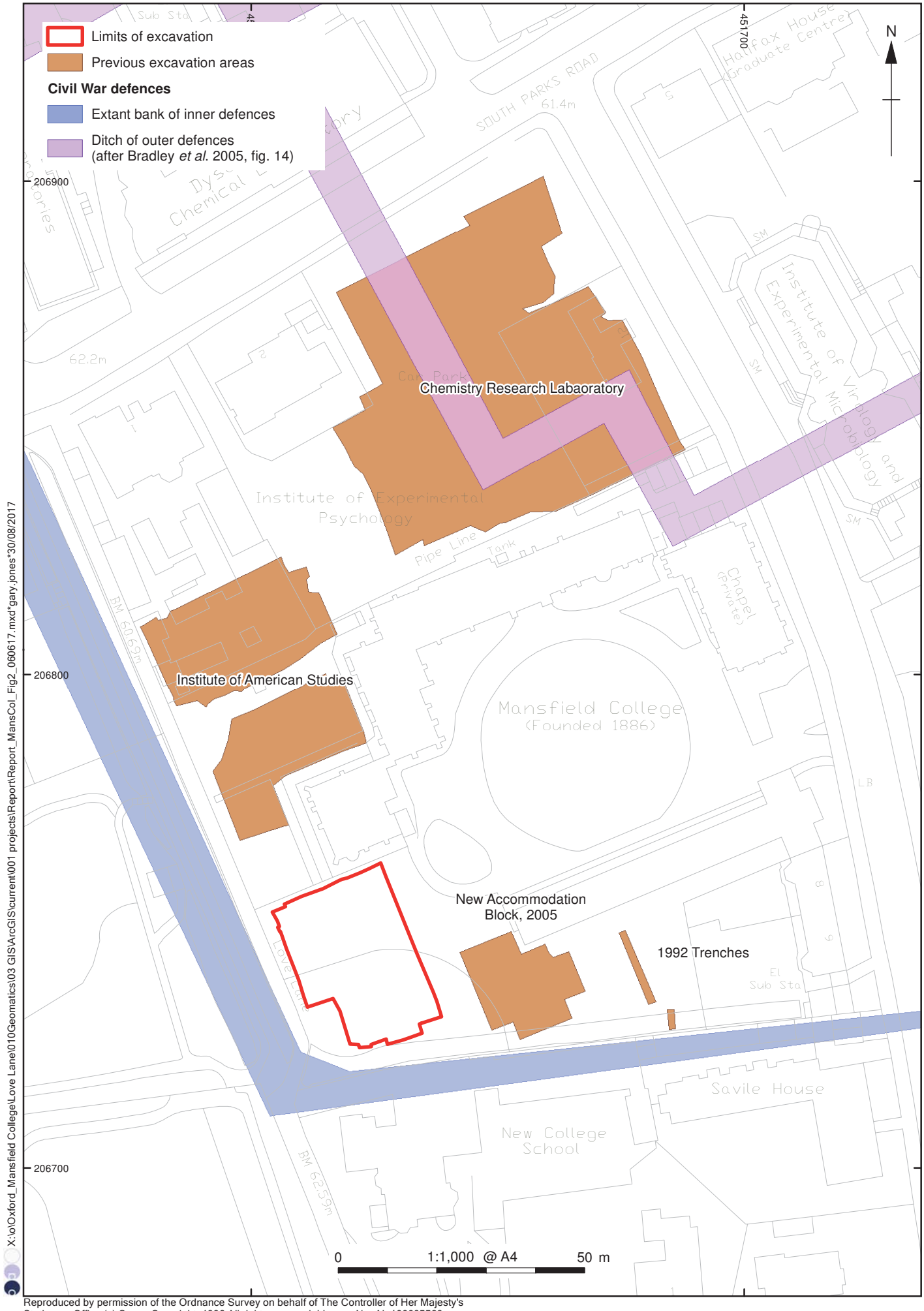
APPENDIX D SITE SUMMARY DETAILS

Site name:	Love Lane Building, Mansfield College, Oxford
Site code:	OXLX16
Grid reference	SP 5162 0673
Type:	Excavation
Date and duration:	25/1/2016-19/2/2016
Summary of results:	An archaeological excavation was undertaken by Oxford Archaeology on behalf of Mansfield College Developments at the site of a proposed new residential block at the Love Lane site, Mansfield College, Oxford. The excavation uncovered evidence for Roman settlement and part of the city's Civil War defences. The Roman remains comprised a ditched boundary dating from the second half of the 1st century and a large pit and boundary ditches of late 3rd-4th century date. It forms part of an extensive settlement that had previously been uncovered to the north and north-east at the Institute for American Studies, the Chemistry Research Laboratory and Halifax House. The location of the site corresponded with a re-entrant angle in the inner line of Oxford's Civil War defences, constructed in August 1642. On the south side of the site, the rampart survives as a bank that stands to a height of 2.4m and defines the southern boundary of the College. The excavation revealed the ditch that fronted the rampart and showed that after it had been backfilled, most likely when the defences were slighted by Parliamentary forces during September 1642, it was recut, presumably as part of the refortification during the second Royalist occupation between October 1642 and the siege of Oxford in 1646.
Area of site:	750m^2
Location of archive:	The archive is currently held at OA, Janus House, Osney Mead, Oxford, OX2 0ES, and will be deposited with Oxfordshire County Museum Service in due course, under accession number OXCMS:2016.24

Figure 1: Site location



X:\o\Oxford_Mansfield College\Love Lane\010Geomatics\03 GIS\ArcGIS\current\001 projects\Report\Report_MansCol_Fig2_060617.mxd*gary.jones*30/08/2017

Figure 2: Location of the excavation area

Figure 3: Plan of archaeological features

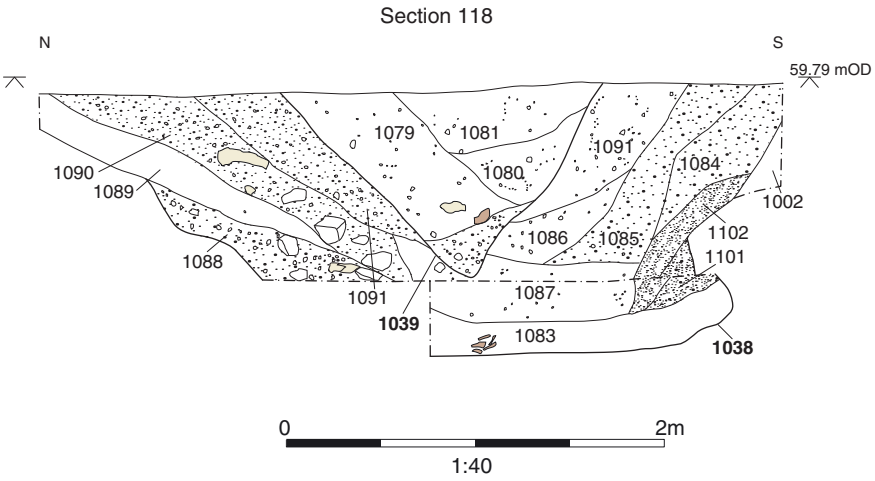


Figure 4: Section through late Roman pit 1139 and ditch 1138

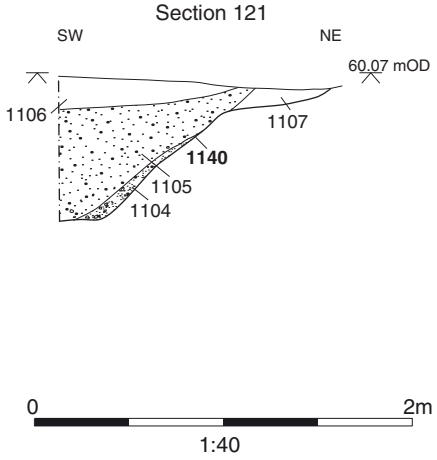


Figure 5: Section through Civil War defensive ditch 1140

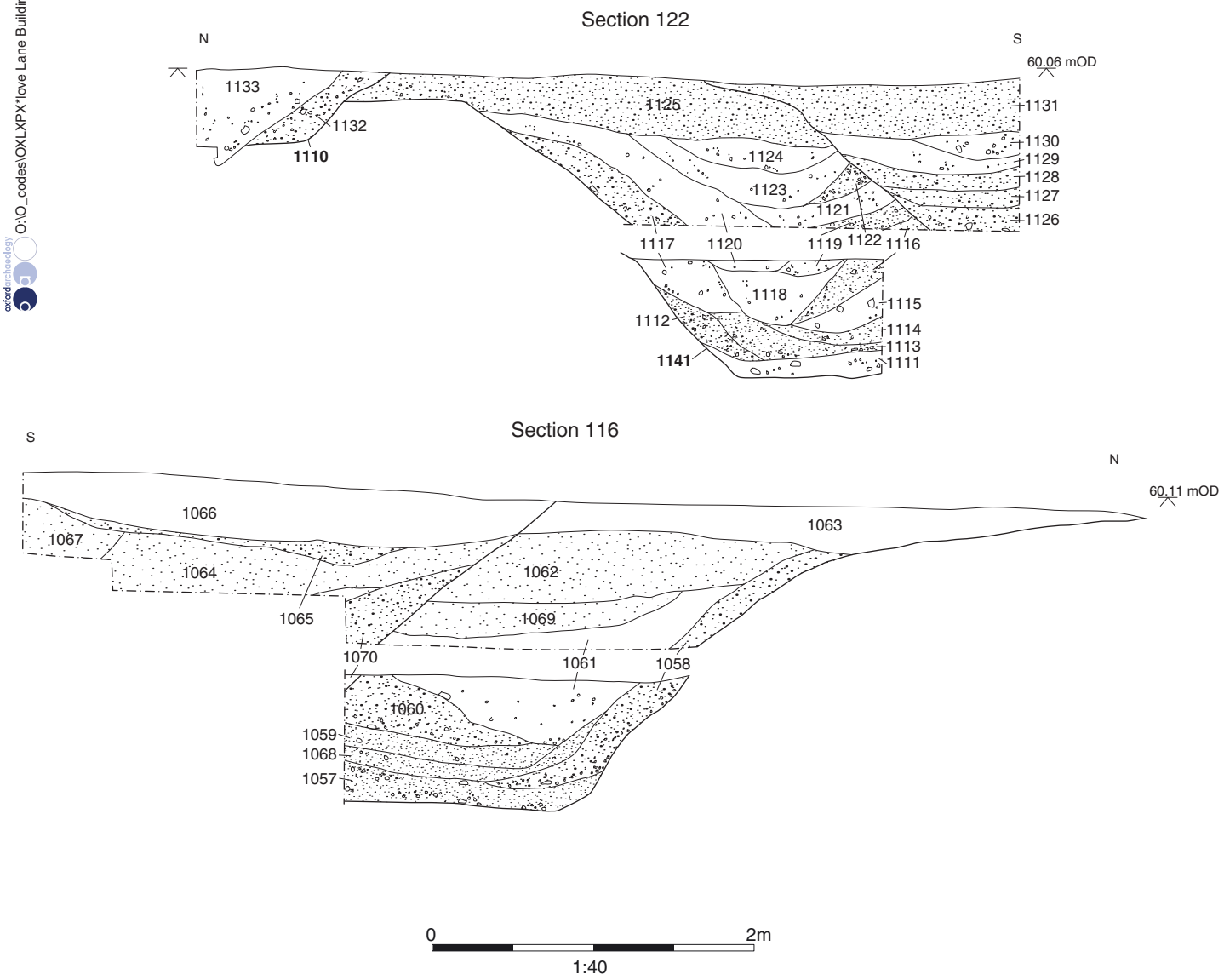


Figure 6: Sections through Civil War defensive ditch 1141

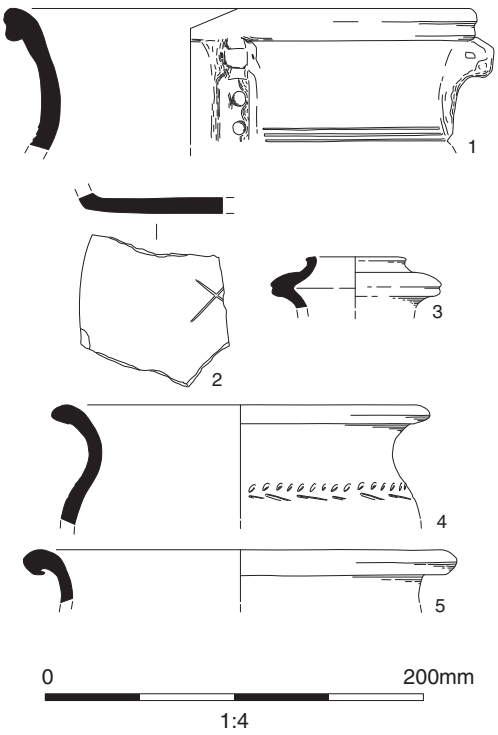


Figure 7: Roman pottery

Plate 1: Late Roman pit 1139

Plate 2: Section 116 through Civil War ditch 1141

Plate 3: Section 122 through Civil War ditch 1141

oxfordarchaeology

Head Office/Registered Office/ OA South

Janus House
Osney Mead
Oxford OX2 0ES

t: +44 (0) 1865 263 800
f: +44 (0) 1865 793 496
e: info@oxfordarchaeology.com
w: http://oxfordarchaeology.com

OA North

Mill 3
Moor Lane
Lancaster LA1 1QD

t: +44 (0) 1524 541 000
f: +44 (0) 1524 848 606
e: oanorth@oxfordarchaeology.com
w: http://oxfordarchaeology.com

OA East

15 Trafalgar Way
Bar Hill
Cambridgeshire
CB23 8SQ

t: +44 (0) 1223 850500
e: oaeast@oxfordarchaeology.com
w: http://oxfordarchaeology.com