

ARCHAEOLOGICAL SCHEME OF WORKS:

LAND AT 10 ST JAMES LANE, WINCHESTER, HAMPSHIRE

Planning Application: 10/01088/FUL
NGR: SU 4751 2936
AAL Site Code: WISJ 10
OASIS Reference Number: allenarc 1-129449



Report prepared for
Mr Peter Armitage

By
Allen Archaeology Limited
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Contents

Summary	1
1.0 Introduction	2
2.0 Site Location and Description	2
3.0 Planning Background	2
4.0 Archaeological and Historical Background	3
5.0 Methodology	4
6.0 Excavation Results	4
6.1 Natural Deposits	5
6.2 Phase 1: Roman	5
6.3 Phase 2: Late Saxon to Saxo-Norman	5
6.4 Phase 3: Medieval	5
6.5 Phase 4: Post-Medieval	8
6.6 Phase 5: Post-Medieval to Modern	10
7.0 Discussion and Conclusions	11
7.1 Phase 1: Roman	11
7.2 Phase 2: Late Saxon to Saxo-Norman	11
7.3 Phase 3: Medieval	11
7.4 Phase 4: Post-Medieval	12
7.5 Phase 5: Post-Medieval to Modern	12
8.0 Effectiveness of Methodology	12
9.0 Acknowledgements	12
10.0 References	13

List of Appendices

Appendix 1: Colour Plates	14
Appendix 2: Pottery Report	16
Appendix 3: The Ceramic Building Material	31
Appendix 4: Other Finds	36
Appendix 5: The Animal Bone	46
Appendix 6: The Palaeoenvironmental Report	63
Appendix 7: Context Summary List	70

List of Figures

- Figure 1:** Site location at scale 1:25,000, with site shown in red
- Figure 2:** Location plan at scale 1:1000 site boundaries outlined in red. Numbers in squares denote locations of sections not appearing on detailed plan (Figure 3)
- Figure 3:** Plan of excavations of a scale 1:100. Numbers in squares denote section numbers (see Figures 4 and 6)
- Figure 4:** Sections at scale 1:50
- Figure 5:** Sections at scale 1:50
- Figure 6:** Sections at scale 1:50 and 1:100
- Figure 7:** Approximate site location on map of c.1300 at scale 1:2,500 (after Keene 1985), with line of possible defensive ditch shown in blue
- Figure 8:** Approximate site location on map of c.1550 at scale 1:2,500 (after Keene 1985), with line of possible defensive ditch shown in blue

List of Plates

- Plate 1:** Overall view of the site following removal of the garden topsoil. Looking south-east
- Plate 2:** Phase 1 posthole [170] and Phase 2 posthole [172] and pit [168]. The western limit of the excavation shown here is a temporary limit. Looking north-west, 1m and 0.5m scales
- Plate 3:** Phase 2 postholes and gullies in the south-western corner of the excavation area. The western limit of the excavation shown here is a temporary limit. Looking south-west, 2 x 1m scale and 1 x 0.5m scale
- Plate 4:** Phase 2 gullies [180] and [178]. Looking north-west, with 1m, 0.5m and 0.1m scales
- Plate 5:** Phase 2 ditch [117] and recut ditch [184] looking north-east, with 2x1m scales
- Plate 6:** Phase 4 Ditch [123] looking north, with 2 x 1m scales

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Executive Summary

- Allen Archaeology Limited was commissioned by Mr Peter Armitage to undertake an archaeological scheme of works on land at 10 St James Lane, Winchester, Hampshire in advance of the construction of a new extension.
- The results of the excavation indicate that the area nearest to the existing house had suffered severe truncation in the 19th century, during the construction of the house, which was terraced into the hillside. Elsewhere on the site, archaeological remains relating to five phases of activity were revealed.
- The earliest activity on the site was represented by a small collection of abraded Roman pottery and building material, although no features relating to this period were encountered.
- The earliest feature on the site was a posthole of probable Saxo-Norman date; however as the feature occurred in isolation its function is uncertain. A modest assemblage of artefacts from the period was also recovered from later features, which could indicate that further features from the period survive in the near vicinity.
- The majority of archaeological features encountered at the site were of 13th – 15th century date, reflecting an increase in activity at the site during this period. The most substantial of the features was a large north-west to south-east orientated ditch, the size of which suggests that it formed part of a previously unrecorded defensive feature on the western side of the nearby castle. A series of gullies, pits and postholes encountered at the site also date to this broad period of activity and may be indicative of small enclosures and structures close to the larger ditch.
- By the 17th century the substantial medieval ditch had been largely filled in, although at least part of its route was recut by a second substantial ditch. The ditch is probably of 17th century origin and may have formed part of the town's Civil War defences. It was subsequently backfilled towards the end of the 17th or the early 18th century.
- A small number of features revealed at the site post-date the filling of the ditch and are of 18th – 21st century date, and relate to the development of the existing housing on the site and in the surrounding area.

1.0 Introduction

- 1.1 Allen Archaeology Limited was commissioned by Mr Peter Armitage to carry out an archaeological scheme of works comprising a programme of strip, map and record on land at 10 St James Lane, Winchester, Hampshire.
- 1.2 The excavation, recording and reporting conforms to current national guidelines, as set out in the Institute for Archaeologists '*Standards and guidance for archaeological field evaluations*' (IfA 1999), English Heritage documents '*Management of Research Projects in the Historic Environment*' (English Heritage 2006) and '*Management of Archaeological Projects*' (English Heritage 1991), and a specification prepared by this company (Allen 2010).
- 1.3 The archive will be submitted to the Winchester Museum Service within twelve months of the completion of the report where it will be stored under the museum accession code WINCM AY 444.

2.0 Site Location and Description

- 2.1 The development site is situated to the west of central Winchester, north of St James Lane and West Hill Cemetery. It comprises a sub-rectangular block of land, containing the existing house and gardens of 10 St James Lane. Two excavation areas were investigated; Area 1 was located to the rear of the existing property and formed an irregularly shaped block enclosing approximately 132m². Area 2 was a square area, measuring approximately 6m x 6m, which was located to the front of the existing property. The overall development site is centred on NGR SU 4751 2936.
- 2.2 The bedrock geology of the area is Lewes Nodular Chalk Formation, with no superficial geology recorded (<http://mapapps.bgs.ac.uk/geologyofbritain/home.html>).

3.0 Planning Background

- 3.1 A planning application was submitted in 2010 for a two storey extension including garaging at 10 St James Lane, Winchester (Planning Application Reference 10/01088/FUL).
- 3.2 Planning permission was subsequently granted subject to conditions, including the undertaking of a programme of archaeological investigations and recording in advance of development, to fully characterise the nature and extent of the surviving archaeological resource.
- 3.3 The approach adopted is consistent with the guidelines that are set out in *Planning Policy Statement 5 (PPS5)* (Department for Communities and Local Government 2010) which was in place when the planning condition was issued, and with the guidelines set out in the National Planning Policy Framework which superseded PPS5 in March 2012 (Department for Communities and Local Government 2012).

4.0 Archaeological and Historical Background

- 4.1 The earliest activity identified within the vicinity of the site comprises a group of Bronze Age burials to the north of Mews Road, north of the site (National Monuments Record Reference Number 230802).
- 4.2 The site lies c.250m south-west of the middle Iron Age defensive enclosure of Oram's Arbour, that was occupied from the third to first centuries BC (Winchester Historic Environment Record (hereafter WHER) Reference: MWC 6597). Following the Roman conquest the eastern half of the enclosure was obliterated by the new Roman town and the western circuit was adapted for other purposes during the Roman and later periods (Qualmann et. al. 2004, 93-95). The site at St James Lane is situated c.80m to the west of the south-west corner of the Roman town defences.
- 4.3 Excavations outside the defences of the Roman town have found evidence for suburban settlements and burial areas. Roman buildings with tessellated floors have been identified c.250m to the north of the site (WHER Reference: MWV 6500) and cremations and inhumations are recorded near to Barracks Wall off St James Lane (WHER Reference: MWV 6657).
- 4.4 A timber castle was constructed in Winchester soon after the Norman Conquest and was rebuilt in stone in the 12th century, but little of the castle now survives. The western limits of the outer defences of the castle were located approximately 80m to the east of the current site. The suburbs of the medieval town would have extended into the area where the site lies and the former St James church, which gives the current road its name, was located approximately 150m to the south-east of the excavation area. The church was in existence from at least 1114 and could date back to 970 AD (WHER Reference: 7197). By 1399 the church is documented as a chapel and by 1589 it was demolished with its cemetery continuing to be used by other local churches.
- 4.5 To the north-east of the site twelve inhumations were uncovered in 1974 near to Crowder Terrace (WHER Reference: MWV 6834). These burials were orientated east – west and may relate to a further group of inhumations that were observed in Mews Lane in 1955. These groups of burials may form part of a 13th century Jewish cemetery that is known to have existed in this area (Keene 1985, 1028-37).
- 4.6 From the end of the 12th century Winchester's position was starting to decline and by the 13th century its importance was much reduced, a combination of the Treasury and Exchequer moving to London, disruptions to trade caused by the Hundred Years War and outbreaks of plague in the 1340s, 1360s and 1370s.
- 4.7 The city saw several military actions during the Civil War, changing hands on a number of occasions. The town's fortunes began to improve with the restoration of Charles II in 1660 and royal interest in the city saw the planning and construction of Charles II palace on the site of the medieval castle (Beaumont James 2008, 125 and 129). Despite plans for development beyond the extent of the former medieval town, the development site still lay amongst arable land in 1683, when it is documented as being held by the Dean and Chapter and rented out at a cost of £4 (Keene 1985).

- 4.8 Population growth continued throughout the 18th and 19th centuries and new tenements were soon built in the low-lying areas of the city, in areas outside the former walls of the town, including the area of the current site (Beaumont James 2007, 150).

5.0 Methodology

- 5.1 The fieldwork was undertaken by a team of two experienced field archaeologists over a period of five days between Wednesday 2nd and Tuesday 8th March 2011.
- 5.2 Machine excavation was carried out using a tracked excavator fitted with a 1m wide toothed bucket to remove a former retaining wall, garden steps and paths. A 1.6m wide toothless ditching bucket was used to remove all remaining modern overburden and deposits of no archaeological significance, under the direction of an experienced archaeologist.
- 5.3 The overburden was removed in spits not exceeding 0.1m in depth until the first archaeologically significant horizon was encountered. All further excavation was carried out using hand tools.
- 5.4 A full written record of the archaeological deposits was made on standard AAL context recording sheets. Archaeological features were recorded, in plan and section at an appropriate scale, and related to a site grid which could be transformed to Ordnance Survey coordinates. Photography formed an integral part of the recording strategy, with photographs incorporating scales, an identification board and directional arrow. A selection of these images has been included in Appendix 1.
- 5.5 Each deposit, layer or cut was allocated a unique 3 digit identifier (context number), and accorded a written description, a summary of these are included in Appendix 16. Within this report, 3 digit numbers within square brackets reflect cut features (e.g. pit [136]).

6.0 Results

6.0.1 The results of the excavation have been separated into broad phases of activity, which are described from the earliest to the latest. A total of five phases of activity were identified in Area 1, with only geological deposits and modern garden soil revealed in Area 2. The phases of activity encountered can be summarised as follows:

- Phase 1: Roman (mainly 3rd to 4th century AD)
- Phase 2: Late Saxon to Saxo-Norman (9th to late 11th century)
- Phase 3: Medieval (12th to 15th century)
- Phase 4: Post-medieval (17th to 18th century)
- Phase 5: Late post-medieval to modern (19th to 21st century)

6.1 Natural deposits

6.1.1 The natural chalk geology 105 was the earliest deposit revealed within the excavation areas. In Area 1, the chalk sloped down from a height of 74.67mOD around the northern corner of the area, to 74.40mOD in the south-western corner and 73.38mOD in the south-east corner, to form a distinct south-east facing slope. In Area 2, natural chalk occurred from a height of 72.65m OD and sloped down slightly to the north.

6.2 Phase 1: Roman (mainly 3rd to 4th century)

6.2.1 The earliest evidence of human activity at the site consisted of four abraded Romano-British coarseware pottery sherds, a single glass beaker fragment of Roman or medieval date and ten fragments of tile that included tegula, imbrex and floor or hypocaust tile. There is no suggestion that any of these finds reflect the origin of any of the cut features at the site as all were recovered from deposits containing later material.

6.3 Phase 2: Late Saxon to Saxo-Norman (9th to late 11th century)

6.3.1 The earliest feature recorded on site was a circular posthole [170], encountered close to the western limit of the excavation area, which measured approximately 0.4m in diameter and 0.35m deep. It was filled with a moderately compact medium grey silty sandy silt 71 with chalk rubble inclusions. Within this fill were nine joining sherds from a Saxo-Norman cooking pot and burnt animal bone that included pig and sheep. A palaeoenvironmental sample taken from the deposit produced charred cereal grains from oat, barley and wheat.

6.4 Phase 3: Medieval (13th to 15th century)

6.4.1 A sub-square, steep sided, flat based pit [136] was exposed close to the south-western corner of the excavation area. It measured 1.1m wide and 0.7m deep and contained a primary silting fill 183 comprising moderately compact, dark brown sandy silt and two further fills, 182 and 137, containing frequent chalk rubble. The uppermost of the fills, 137, produced two sherds of 13th – 15th century pottery, one from a South Hampshire red ware cooking pot, the other from a common white ware jug. A single, unidentified animal bone was also present. Analysis of a palaeoenvironmental sample taken from fill 137 identified small quantities of charred cereal grains along with frequent charcoal and other burnt organic material possibly representing scattered domestic refuse.

6.4.2 To the south-east, a similar pit [140] had been partially truncated, probably during the construction of the existing house and adjacent passageway at the site. This pit was 1.2m wide and 0.45m deep with vertical sides and a flat base. Its fill 141 consisted of moderately compact medium brown chalky silty sand, with flint nodule inclusions. Two sherds of medieval pottery were recovered, one from a 13th – 15th century unglazed sandy ware cooking pot, the other from a 12th – 13th century South Hampshire red ware jug. A palaeoenvironmental sample taken from the the fill contained low quantities of charred cereal grains, pulses and charcoal.

- 6.4.3 A small square posthole [172] which measured 0.2m across and 0.18m deep was encountered c.4m to the north of pit [140]. It cut Saxo-Norman posthole [170] and had itself been truncated by a larger pit [168] which measured 1.4m by 0.8m and 0.2m deep. The larger pit contained a moderately compact, medium brown sandy silt with flint nodule inclusions 169. Both features were undated but the larger pit was similar in form to pits [136] and [140] located a short distance to the south, and therefore both it, and the square posthole, have been assigned to this phase of activity.
- 6.4.4 A sub-circular posthole [160] was encountered a short distance to the south-west of pit [168]. It measured 0.6m in diameter and 0.15m deep and had steep sides and a flat base. Its single fill 161 comprised moderately compact medium brown sandy silty clay and contained a large burnt ashlar fragment of Quarr Limestone that could have been used as post-packing. This fill also contained a single body sherd from a 13th – 15th century South Hampshire red ware cooking pot and a number of sheep bones. Three further postholes, [158], [162] and [164], were revealed to the south-east of posthole [160], their proximity to posthole [160] suggesting a possible association. Each measured 0.4m in diameter and depths varied between 0.08m and 0.12m. No finds were recovered from the brown sandy silty clay fills of the postholes but they have assigned to this phase of activity on the basis of their possible association with pit [160].
- 6.4.5 An approximately east to west orientated gully [144], which joined a second gully [150] that extended to the south-west, was encountered at the south end of the excavated area. Gully [144] measured 0.5m wide and 0.2m deep, whilst gully [150] measured 0.65m wide and 0.15m deep. Both had steep sides but their bases differed, with gully [144] having a flat base and gully [150] having a concave base. The fills of the gullies were indistinguishable from one another, most likely an indication that they were contemporary. Three sherds of 13th – 15th century pottery from a common white ware cooking pot and a further cooking pot made in an unglazed sandy ware were recovered from fill 145, the fill of gully [144]. Mammal and fish bone were also present. A palaeoenvironmental sample taken from the fill identified charred barley grains and large quantities of six-row barley.
- 6.4.6 An alignment of four postholes, [142], [152], [154] and [156], which may have been part of a fenceline, was encountered along the northern edge of gully [144]. The postholes measured 0.3m – 0.5m in diameter and 0.1m – 0.2m deep. The fills of the postholes were similar in composition, each being a mid brown sandy silty clay, but only fill 155, the fill of posthole [154], produced any finds; a single sherd from a South Hampshire red ware jug with speckled green external glaze, a type of jug common in the 13th – 15th centuries. The easternmost posthole in the alignment, posthole [142], truncated pit [140], the posthole inserted only after the pit had been filled in. This relationship suggests that the posthole alignment, and possibly the gully that it appears to respect, are likely to post-date the pit. A palaeoenvironmental sample taken from [142] produced charred cereals grains, including oat and barley.
- 6.4.7 Two lengths of parallel gully [178] and [180], on a broadly north-west to south-east orientation, were recorded in the central part of the excavation area, both ending in rounded terminals. Gully [180] measured 4m long by 0.3m wide and was 0.15m deep. It had steep near vertical sides and a flat base and was filled with a compact medium-dark brown sandy silt, 181, which produced two Saxo-Norman jar fragments and three medieval sherds, one from a quartz tempered jug and two from cooking pots. All of the medieval pottery recovered dated to the 12th – 15th centuries. A thin strap from the fitting of a casket or box was also recovered from the

fill, along with three pieces of ironwork from the branch of a horseshoe and an associated horseshoe nail. Organic finds included bones from cattle, domestic fowl and birds and three oyster shells. Analysis of a palaeoenvironmental sample taken from the fill revealed the presence of some charred wheat grains.

6.4.8 Gully [178] measured 2.5m in length by 0.3m wide and was 0.35m deep and had a similar profile and fill to gully [180]. Its fill, 179, produced a single sherd from a 13th – 15th century red ware jug, along with a small number of sheep bones.

6.4.9 A short distance to the north-east of gullies [178] and [180], gullies [123] and [125] probably represent the remains of a single feature, the north-western end of which broadened and deepened to form a contemporary pit, [166]. In total the feature measured 8.6m long by an average of 0.5m wide and 0.2m deep, increasing to 0.8m wide and 0.6m deep at the north-western end. It had steep, near vertical sides and a flat base, and contained two identical fills, 125 in the majority of the feature and 167 in the deeper north-west terminal. Fill 125 produced one sherd from a Saxo-Norman cooking pot and five sherds of 13th – 15th century pottery from a cooking pot and a jug. The fill also produced two fragments of burnt Quarr Limestone and a small quantity of animal bone that included cattle, sheep, domestic fowl and fallow deer along with oyster shells. Analysis of a palaeoenvironmental sample taken from the fill revealed large quantities of unidentified charred cereal grains. Fill 167 at the north-west end of the feature produced three Saxo-Norman pottery sherds along with five sherds from 13th – 15th century cooking pots and jars. Six pieces of West Country roofing slate were also recovered along with a burnt fragment from a Lower Greensand ashlar block. A relatively large animal bone assemblage was recovered from the fill which included cattle, sheep, pig, domestic fowl, rabbit and roe and fallow deer and oyster shells. Analysis of a palaeoenvironmental sample taken from the fill identified charred oat, barley and wheat grains along with large quantities of six-row barley.

6.4.10 The remains of a substantial ditch, [117], were revealed in the eastern corner of the site, truncated by later ditch [123]. Only the western edge of the ditch was visible within the excavation area and the base of the feature lay beyond the limits of the excavation. The ditch was at least 1.5m wide, but as less than half of its profile was visible it is likely to have been considerably wider and it was at least 2.5m deep, although its full depth may have been considerably more. The visible edge of the feature within the excavation area suggests that the ditch was orientated approximately north-west to south-east however no trace of it was recorded to the north-west, probably having been truncated away by ditch [123]. The primary fill of the ditch comprised a 0.15m thick deposit of moderately compact light grey sandy silt 121 intermixed with chalk and flint fragments. Finds from the deposit included two pottery sherds from a Saxo-Norman cooking pot along with three sherds from 13th – 15th century cooking pots. A single piece of Roman tegula roof tile was also recovered along with a single corroded iron object. Animal bone included cattle, sheep and pig but analysis of a palaeoenvironmental sample taken from the fill did not produce any cereal or food plant remains.

6.4.11 The secondary fill of the ditch 120 was a 0.3m thick deposit of very compact light-medium brown chalky silt with flint nodules. A single small fragment from a lime washed piece of wall plaster was recovered and a palaeoenvironmental sample taken from the fill produced large quantities of charred oat grains along with hazel and walnut tree macrofossils.

6.4.12A 0.2m thick deposit of compact dark brown sandy silty clay 185 with inclusions of chalk and flint rubble sealed the secondary fill and was itself sealed by a 0.5m thick fill, 119, comprising compact medium brown silty sand. Fill 119 contained two sherds of Roman pottery, eight Saxo-Norman sherds and twenty-two sherds from medieval cooking pots and jugs dating to the 13th – 15th centuries. A small assemblage of building material, including two fragments of Roman tegula was also recovered along with two pieces of decorated 14th – 15th century window glass, seven iron nails, a fiddle-key horseshoe nail and an iron billet fragment. Animal bone from cattle, sheep, pig, domestic fowl and goose and a small number of oyster shell fragments. Analysis of a palaeoenvironmental sample taken from the fill identified charred barley grains and large quantities of hazel tree macrofossils.

6.4 Phase 4: Post-Medieval (Late 17th to early 18th century)

6.4.1 The approximate line of medieval ditch [117] was continued to the north-west by a substantial ditch, [123], which was partially visible within the excavation area, upslope of where ditch [117] was investigated.

6.4.2 The primary fill of ditch [123] comprised a 0.15m thick deposit, 135, of very compact medium brown sandy silty clay with flint and chalk rubble. Finds from this fill were limited to two iron nails. The secondary fill was a 0.4m thick deposit of compact dark brown silty sandy clay 134. A sherd of Saxo-Norman pottery, along with two pottery sherds from 13th – 15th century cooking pots and five sherds from the base of a late 17th – 18th century glazed red earthenware platter/dish were recovered from the fill. A single Roman imbrex, three peg tiles and a single glazed roof ridge were also recovered from the fill, along with a burnt Portland Stone ashlar fragment. The bone assemblage from the fill included part of an articulated dog skeleton as well as bone from cattle, sheep, pig, and a crow. Analysis of a palaeoenvironmental sample identified charred cereal grains.

6.4.3 A 0.35m thick deposit of moderately compact medium brown silty sandy clay 133 partially overlay the secondary fill, 134. It produced a handle from a 12th – 13th century South Hampshire red ware jug along with five sherds from a post-medieval red ware vessel of 18th century date and a further five base sherds from the same 17th – 18th century glazed red earthenware platter/dish found in the underlying fill 134. Building material from the fill included two Roman tegula fragments, five peg tiles, a single glazed roof ridge and three pieces of West Country roofing slate. Two fragments of an early 18th century wine bottle were also recovered, along with a stamped stem from a locally produced clay tobacco pipe of early 18th century date. An assemblage of animal bone from the fill consisted of cattle, sheep, pig and domestic fowl and four oyster shells.

6.4.4 Fill 132, a 0.75m thick deposit of dark brown silty sandy clay sealed fill 133. It produced a pottery assemblage comprising eleven sherds of 13th – 15th century pottery along with a sherd from a 17th – 18th century red ware chamber pot and rim and body fragments from a platter/dish, other sherds from which were recovered from fills 133 and 134. Building material from the fill included eight fragments of peg tile and one glazed ridge tile, whilst the bone assemblage included remains from cattle, sheep, pig and domestic fowl.

- 6.4.5 Fill 132 had been partially sealed by a further fill, 131 of moderately compact medium brown sandy silty clay. A single sherd of Roman grey ware, two sherds of 12th – 15th century pottery and three pieces of a single pancheon of late 17th – 18th century date were recovered from the fill, along with the substantial part of the glazed red earthenware platter/dish encountered within three earlier fills (132 – 134). Building material consisted of three peg tiles and a glazed ridge tile, whilst other finds included a single iron nail and a plain abraded clay tobacco pipe fragment. The animal bone assemblage from the fill included cattle, sheep, pig and horse.
- 6.4.6 Fill 130 sealed fill 131 and consisted of a 0.5m thick deposit of dark brown sandy silty clay with chalk inclusions. The pottery assemblage from the fill comprised a single sherd from a Saxo-Norman cooking pot, five 13th – 15th/16th century sherds and a single burnt 17th – early 18th century tin glazed dish sherd. Building material included a fragment of Roman tegula, four fragments of 18th century peg tile and brick and two pieces of West Country roofing slate whilst the bone assemblage included sheep, pig, horse and domestic fowl. Analysis of a palaeoenvironmental sample taken from the fill identified large quantities of carbonised cereal grains and hazel tree macrofossils.
- 6.4.7 The orientation, size and depth of ditch [123] indicate that it most likely extended into the eastern corner of the excavation area, and it is likely to have truncated medieval ditch [117]. A ditch on this alignment identified during excavation of the medieval ditch was assigned the cut number [184]. A sequence of fills which can be broadly equated to the sequence within ditch [123] were also identified in [184], and although the bulk of the finds produced by these fills date to the 13th - 15th century it is likely that these are residual finds derived from the underlying, earlier ditch [117]. Residual Roman to medieval finds were also well represented in cut [123].
- 6.4.8 The primary fill of ditch [184] comprised moderately compact chalky sandy silt 122 that contained five sherds of Saxo-Norman pottery and nineteen sherds from 13th – 15th century cooking pots, jars and jugs. An assemblage of building material was also recovered from the fill which included two peg tile fragments, a single glazed ridge tile, two small brick fragments and five fragments of West Country roofing slate. The fill also produced two iron nails, an iron scale-tang knife with accompanying antler handle and a lead window came. The bone assemblage included fragments of cattle, sheep, pig and a cat and a palaeoenvironmental sample taken from the deposit identified large quantities of charred cereal grains.
- 6.4.9 Fill 122 was sealed beneath a 0.1m thick deposit, 118, comprising dark brown sandy silt. It contained four sherds of 13th – 15th century pottery, the bowl from a clay tobacco pipe of a style common in the period of 1630 – 1640, an iron horseshoe nail and an iron strip from a casket or box. A single peg tile fragment and a sheep tooth were also recovered. Sealing fill 118 was a 0.5m thick deposit of medium brown silty clay, 103. A finds assemblage which included three sherds of Saxo-Norman pottery, ten sherds of 13th – 15th century pottery, a single Roman imbrex, three peg tile and glazed roof ridge tile fragments, two pieces of West Country roofing slate and a single Welsh slate were recovered from the fill. Bone recovered from the deposit included fragments from cattle, sheep, pig, horse and fallow deer and five oyster shells.

6.5 Phase 5: Post-Medieval to Modern (18th to 21st century)

- 6.5.1 A number of features and deposits encountered at the site have been assigned to this period of activity but are of low archaeological significance. They are therefore only summarised here.
- 6.5.2 The south-western terminal of a gully or pit [129] was encountered against the eastern edge of the Area 1 excavation area, cut into the top of the post-medieval ditch [123]. A small assemblage of finds, which included pottery sherds of Saxo-Norman, medieval and 18th – 19th century date was recovered from the feature, along with a fragment of Roman tegula and later building material. An undated posthole [116] and a steep sided pit [114] had been cut into the top of post-medieval ditch [184].
- 6.5.3 A garden soil or agricultural soil, 111, began to develop within a slight hollow left by post-medieval ditch [184] after posthole [116] had been infilled. The deposit was truncated by construction cut [112] for the boundary wall of the existing garden. A series of garden soils, 102 and 106 – 108 subsequently developed against the garden wall and extended across the excavation area.
- 6.5.4 Three further features, which were encountered in the central part of the Area 1 excavation area, have been assigned to this phase of activity. An undated posthole, [174], was encountered a short distance to the west of Phase 4 ditch [123]. It could conceivably date to any period of activity at the site but has been assigned to this phase on the basis of its proximity to the features cut into the top of ditch [123]. A north-west to south-east orientated pipe trench, [176], which contained part of a metal pipe, was encountered to the south of posthole [174]. The orientation of the pipe suggests that it was probably the remains of a defunct service leading to 12 St James Lane.
- 6.5.5 The third feature was a possible pit, [138], which was visible in part within the excavation area and had been partially truncated by the retaining boundary wall that surrounded the existing house and external passageway. It had steep vertical sides, a flat base and measured 1m wide and 0.4m deep. It contained a single fill, 139, which comprised moderately compact medium brown silty sandy clay and chalk rubble. A sherd from the base of a 13th – 15th century pink quartz tempered ware jug was recovered from the fill, along with a sherd from an 18th – 19th century red ware panchion and four sherds from unglazed red earthenware garden pots of 19th century date. Two 19th century peg tile fragments and two bricks of similar date were also recovered. The pit has been assigned to this phase of activity on the basis of the later pottery sherds and building material within its finds assemblage but it is very similar in form to the Phase 3 pits [136], [140] and [168] and its location potentially forms the north-eastern point of a regular, square pattern; the three other pits forming the remaining three points. Given the disturbance to the feature caused by the construction of the adjacent wall, the possibility that the later finds from the pit are intrusive resulting from this disturbance, is acknowledged and the possibility that the pit dates to the medieval period and is contemporary with the three similar pits nearby cannot be completely dismissed.
- 6.5.6 The only deposit of anthropogenic origin in excavation Area 2, located in the front garden of the existing house was a garden soil, 101, which produced a Roman pottery sherd, a sherd from a 13th – 15th century cooking pot and two pottery sherds of 19th – 20th century date.

7.0 Discussion and Conclusions

7.1 Phase 1: Roman (mainly 3rd to 4th century AD)

7.1.1 The discovery of four residual sherds of Roman pottery and ten fragments of Roman roof and floor tile was not surprising as the site lies within the area that has been characterised as part of Roman Winchester's western cemetery (Beaumont 1998, 37-40 and WHER Reference: MWV 6657/6834). This was the earliest evidence for activity on the site and the abraded nature of the pottery sherds and the majority of the tile pieces are consistent with material recovered from cultivation soils. Despite the area's characterisation as part of the Roman western cemetery no evidence for burial was encountered during the excavation.

7.2 Phase 2: Late Saxon to Saxo-Norman (9th to late 11th century)

7.2.1 Posthole [170] probably represents the earliest feature encountered at the site. A large portion of a Late Saxon to Saxo-Norman cooking pot was recovered from the feature and although the posthole was revealed in close proximity to later features, in the absence of later pottery it is reasonable to propose a Late Saxon to Saxo-Norman date for its origin. The absence of other features from the period does however limit the interpretive potential.

7.2.2 Twenty-seven sherds of pottery from contemporary vessels were recovered as residual artefacts within later contexts. Their presence may be an indication that earlier features at the site have been disturbed in antiquity or perhaps survive in the near vicinity.

7.3 Phase 3: Medieval (13th to 15th century)

7.3.1 A number of features at the site have been assigned to this broad phase of activity. The most significant of the features was the substantial ditch, [117], encountered in the eastern corner of the site. Despite only partly extending into the excavation area it was evident that the ditch was a substantial feature, far larger than expected for a field boundary or drainage ditch. Given its size, the ditch may have had a defensive function and it is possible that it relates to previously unrecorded western defences for the nearby castle. It is also of note that the alignment of the ditch is broadly parallel to the line of an un-named predecessor to St James Lane, shown on 14th and 15th century plans of the area (Figures 7 and 8). The ditch is not however shown on the early plans, seemingly indicating that by the time that the first plan was drawn around 1300 the ditch may have already been at least partly filled in. Pottery recovered from the ditch broadly supports this hypothesis, suggesting that the ditch was filling up in the 13th – 15th century although this does not necessarily indicate the date of origin of the ditch.

7.3.2 A series of gullies or shallow ditches encountered to the west of the major ditch seem to represent the remains of boundaries or drainage ditches, some of which may have been appended to the much larger feature, others broadly respecting its alignment. The gullies may have formed small enclosures or parcels of land, a possible fenceline along the edge of one of the gullies reinforcing the impression of small enclosures defined by boundaries or drainage ditches.

7.3.3 A series of larger pits and postholes in an area defined by gullies may be the remains of a small post-built structure but this could not be proved within the confines of the excavation area.

7.4 Phase 4: Post-Medieval (Late 17th to early 18th century)

7.4.1 At some time, probably during the 17th or early 18th century, a second substantial ditch was constructed at the site, or perhaps more likely the earlier medieval ditch was recut. Although not on the same scale as the earlier medieval ditch, the later ditch was still well over 3m wide and at least 2.1m deep, and given its size it may be related to Civil War defences around the town. An unworn bowl from a clay tobacco pipe with stamped initials dated to the period around 1630 – 1640 was recovered from the ditch, and similar examples have been recorded in contexts relating to the Civil War destruction of Basing House in Hampshire (Allen 1999).

7.4.2 The ditch was rapidly filled in at some time around the end of the 17th or early 18th century but the site does not seem to have subsequently been developed as the area appears to have remained open space.

7.5 Phase 5: Post-Medieval to Modern (18th to 21st century)

7.5.1 The building of the current houses along St James Lane occurred during the middle of the 19th century. No 10 St James Lane was clearly constructed on a flat terrace that was cut into the sloping hillside, which has likely resulted in the destruction of any archaeological remains in this area. The construction trench and wall of the rear boundary wall was partially examined during the investigations along with a pit, posthole and levelling terraces associated with the development of the surrounding gardens. Buried garden soils immediately overlying the earlier features suggest that a degree of truncation to the underlying features is likely to have occurred from landscaping and gardening activities associated with the existing property.

8.0 Effectiveness of Methodology

8.1 The archaeological scheme of works methodology was appropriate to the scale and nature of the proposed development. The north and western parts of the site show a continuous sequence of land use of the site since the Saxo-Norman and medieval periods. The discovery of two major unknown ditches that could relate to the defences of the medieval castle and later Civil War defence of the town has important local significance to the town of Winchester. The investigations have shown that the late 19th and 20th century activities on the site relating to the construction and development of the present house have truncated a large proportion of the area.

9.0 Acknowledgements

9.1 Allen Archaeology Limited would like to thank Mr Peter Armitage for this commission and the groundworkers Kevin Pratt and Pat Barnes for their advice and support during the fieldwork programme. For the post-excavation stage, Helen Rees from Winchester Museums Service is thanked for providing access to the Winchester pottery type series and to unpublished forthcoming publications regarding the ceramics from in and around the city.

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Appendix 1: Colour Plates



Plate 1: Overall view of the site following removal of the garden topsoil. Looking south-east



Plate 2: Phase 1 posthole [170] and Phase 2 posthole [172] and pit [168]. The western limit of the excavation shown here is a temporary limit. Looking north-west, 1m and 0.5m scales



Plate 3: Phase 2 postholes and gullies in the south-western corner of the excavation area. The western limit of the excavation shown here is a temporary limit. Looking south-west, 2 x 1m scale and 1 x 0.5m scale



Plate 4: Phase 2 gullies [180] (foreground) and [178]. Looking north-west, with 1m, 0.5m and 0.1m scales



Plate 5: Phase 3 ditch [117] and recut ditch [184]. Looking north-east, with 2 x 1m scales



Plate 6: Phase 4 ditch [123] looking north, with 2 x 1m scales

Appendix 2: Pottery Report

By Kevin Trott

Introduction

The excavations produced 225 sherds of pottery, representing no more than 159 different vessels and weighing 1.786kg in total. The pottery ranges in date from the Roman period to the 19th century and within this range includes several groups of 13th – 15th century pottery, of which some was residual, although a late Saxon to Saxo-Norman group was present within a single pit. Residual un-abraded sherds of late Saxon date were present across the site both in medieval and post-medieval features. A small group of post-medieval wares of late 17th – early 18th century date were recovered from several fills within a substantial re-cut ditch.

The pottery suggests that there was very little activity on the site in the Roman period and the excavated occupation sequence really starts in the Late Saxo-Norman period and continues into the high medieval period (c.1400 – 1600 AD) where there is a break in activity until the late 17th – 18th century.

Detailed study of the pottery indicates that much of it probably came from local sources throughout the five phases of occupation on the site. No imports or wider regional wares were present within the earlier assemblages although a single base from a Low Countries jug of late 17th – 18th century date was recovered.

Fabrics and Forms

The following attributes were recorded: fabric type, vessel type, form of component parts, glaze/slip, decoration and rim diameter. Fabrics have been distinguished by the character of the clay matrix and the range and character of the inclusions (see Orton *et. al.* 1993, 231ff) and reference has been made to the Winchester Pottery Type Series held by Hampshire County Council, Charlotte Matthews 18th century pottery report (Matthews 1983, 191-200) and the use of an English Heritage (unpublished) volume regarding the pottery excavated from the suburbs and defences of Winchester (Denham, Holmes and Mathews in preparation).

The pottery assemblage includes 4 Romano-British sherds in 3 fabric types (Table 2); 38 Saxo-Norman in 11 fabric types (Table 3); 118 medieval in 19 fabric types (Table 4) and 63 Post-Medieval pottery fragments in 10 fabric types (Table 5). The alphabetic reference letters describing vessel fabrics, vessel forms and decoration types are part of the regional type series for the Winchester area. The Winchester type series comprises a continuous letter sequence that relates to area in the city that the various fabrics occur, hence the gaps within the alphabetical sequencing of this report. Where fabrics, forms, or decoration types new to this series have been identified (i.e. Post-Medieval fabrics), brief descriptions have been made to assist the local curators/specialists with the future inclusion of these examples within the Winchester fabric series. Table 1 shows the quantities of each fabric type and minimum number of vessels represented, while Tables 2-5 shows the phased fabrics by context with the number of sherds and minimum number of vessels included (i.e. 118/94 depicting the number of sherds/minimum number of vessels represented).

Fabric, Form and City Location Codes

Roman Fabrics

JMZ New Forest brown slipped, variant (Fulford 1975, 24, fabric 1a)

WCA Orange fabric with medium sand, black iron oxides up to 1.5mm and grog or clay pellets

ZF Grey Ware: Dense fine sands: Common iron oxides up-to 0.3mm. Generally reduced light or dark grey

Saxo-Norman Fabrics

- MAQ Coarse Grained Sandy Ware with Flint: Large sands in dense matrix, 0.5-1mm. Flint 2-3mm. Iron oxides
- MAV Chalk Tempered Ware with some Flint: Abundant chalk temper. Fairly Common Quartz (0.1-0.3mm) and flint inclusions. Some iron oxides
- MBE Chalk Tempered Ware: Heavily tempered with chalk, up-to 5mm. Some flint inclusions, up-to 6mm. Occasional iron oxides
- MBN Portchester Ware: Fairly common sands 0.2-1mm in a clayey matrix. Some flints, 0.5-1mm (Cunliffe 1975)
- MBX Chalk Tempered Ware: Heavily tempered with chalk, 1mm. Some iron oxides. Rare flint or quartz inclusions
- MCC Coarse flint tempered ware: Hard, rough-textured fabric with frequent inclusions of sub-angular quartz grains up to .6mm. Scatter of angular black flint fragments up to 1.8mm. Dark grey throughout
- MFA Flint Tempered Sandy Ware: Abundant medium sands, with some coarser sands approximately 0.5mm. Iron oxides. Scattered flint temper. Oxidised surfaces, grey core
- MGV Organic Tempered Ware: Clayey matrix with scattered fine to medium water worn sands. Abundant organic inclusions
- MOE Coarse Grained sandy Ware: Abundant sands, ranging in size from 0.2-1.8mm. Iron oxides, reduced throughout
- MSH Late Saxon Sandy Ware: Generally reduced light grey through to black. Occasionally an oxidised patch-red to dark brown. Dense transparent sands well levigated 0.3mm. Common iron oxidise. External surface often heavily burnt and sooted. Scale on some internal surfaces (Biddle and Collis 1978)
- MTE Flint tempered ware with calcareous inclusions: Moderate flint usually around 2mm, abundant rounded and sub-rounded calcareous inclusions of all sizes from 0.1 to 1mm and occasional quartz

Medieval Fabrics

- MDG Late Medieval Red Ware: Hard light grey micaceous sandy fabric with orange-brown surfaces. Sparse to moderate temper of black and red sub-rounded ironstone up-to 1mm. Very rare burnt organic material. Fine to medium sands, generally up-to 0.2mm. Unglazed or partially glazed (spots of glaze)
- MDH Late Medieval Sandy Ware: Similar to Fabric MDG, but the surface are generally reduced grey, often with buff or orange margins
- MDJ Pink quartz tempered ware: Slightly soft, uniform orange red sandy fabric. Few visible inclusions except for sparse sub-rounded red and black ironstone up to 1mm
- MGR Late medieval red ware: Hard grey micaceous fabric with oxidized surfaces. Moderate temper of sub-rounded grey and white quartzite up to 0.5mm, with rare rounded black ironstone and calcareous material to the same size
- MKP This is similar to the flint tempered ware with calcareous inclusions MTE in the thinness of its walls and the brittleness of its firing, but the calcareous inclusions are absent. Moderate flint up to 2mm and fairly common quartz 0.1-0.3mm
- MMG Pink Quartz Tempered Ware: Fine sands, up-to 0.2mm. Iron Oxides. Often pink or orange in colour, glazed amber or green
- MMH Common White Ware: Fine to medium sands, up-to 0.4mm. Reduced grey, black oxides. Green glaze

- MMI South Hampshire red ware: Fine and occasional medium sands 0.1mm-2mm. Common iron oxides. Pinkish buff fabric, often with grey core and oxidised surfaces and margins. Generally oxidised, with amber or green glaze
- MMJ South Hampshire Red Ware: Fine sands, generally less than 0.2mm. Iron Oxides. Orange core, grey external margins and surfaces. Often with greenish purple glaze, can also be amber-brown
- MMN Sandy glazed or partially glazed ware: Similar to fabric MMG, but with medium sands up to 0.4mm. Usually oxidised, often with a grey core. Iron Oxides. Generally green glazed
- MMS Red Ware with Grey Core: Slightly coarse grey sandy micaceous fabric with orange red surfaces. Moderately heavy temper of grey and white sub-angular quartzite up-to 0.5mm, with rare rounded red and black ironstone up-to 1mm
- MNB Local coarse ware: Slightly coarse grey fabric with finely pimpled greyish orange-brown surfaces. Moderately heavy temper of sub-angular red, black and grey quartzite and with some ironstone, all up to 1mm, with rare flint of the same size
- MNC Unglazed Sandy Ware: Unglazed or coarse ware. Fairly coarse grey sandy fabric with variegated grey and orange surfaces. Heavy temper of sub-rounded grey, orange and white quartzite up-to 0.5mm and some sub-rounded black ironstone up-to 1mm
- MND Quartz Tempered ware: Hard, slightly coarse grey fabric with an orange outer surface. Very heavy temper of sub-angular grey and white quartzite between 0.5-1mm. sparse red and black ironstone up-to 1mm
- MNE Quartz tempered ware: Coarse grey fabric with orange surfaces. Heavy temper of sub-rounded grey and white quartzite up to 0.5mm, with rare black ironstone of the same size
- MNG South Hampshire red ware: Slightly soft, sandy brick red fabric with a grey core. Moderate temper of sub-rounded red and black ironstone up to 1mm, with rare quartzite and calcareous material up to the same size
- MNI Pink quartz tempered ware: Hard, uniform orange red sandy fabric. Moderate temper of very fine sub-angular grey and white quartzite and red and black ironstone invisible to the naked eye. Rare rounded red and black ironstone up to 1mm
- MNW White quartz tempered white ware: Fine pale grey sandy fabric with buff surfaces. Moderate temper of black ironstone and white and grey quartzite which is invisible to the naked eye
- MXN Red quartz tempered white ware: Hard, slightly gritty orange buff fabric with a grey core. Fairly heavy temper of sub-rounded black, orange and grey quartzite up to 1mm. rare flecks of red and black ironstone

Post-Medieval Fabrics

- PB Red to reddish brown, with sands and iron oxidise in varying concentrations. Generally glazed orange-brown, usually internally. These may be a product of the Fareham industries, which had a tradition of pottery manufacture, although no kilns are known. Alternatively, kilns in the Graffam area of West Sussex appear to have been producing a similar type of pottery (Barton, 1985, 118; Aldsworth and Down, 1990, 124)
- Pearl Ware: Produced in the kilns of Staffordshire and Worcestershire
- PL Low Countries Stoneware (Hurst, Neal and Van Beuningen 1986, 221-225)
- POB Post-medieval red ware. Fine sands, 0.1mm. Orange-red fabric. White slip over surfaces, yellow or brown glaze. Probably a red ware imported from the Low Countries, but it may be a local fabric
- PV Verwood Type Ware: Pale buff to pink, with abundant inclusions of clear and pink quartz, iron oxides and occasional inclusions of white clay. Generally glazed green (Algar *et al*, 1979)
- Transfer Printed Ware: Produced in the Stoke-on Trent Kilns in Staffordshire
- URE: Unglazed red earthenware: Garden plant pots

Roman (Phase 1)

The four Romano-British pottery fragments, consisting of 1.7% of the total number of sherds recovered or 2.5% of the minimum number of vessels represented were all residual in post-Roman deposits (Phase 2 context 119 and Phase 3 contexts 101 and 131). The average sherd weight was 5 grams and this tiny collection was slightly abraded suggesting the fragments had been disturbed possibly during continued cultivation activities.

The fabric types (JMZ, WCA and ZF) belong to the New Forest industry (JMZ and ZF) and to the localised Hampshire Grog tempered kilns (WCA). These sherds are typical of vessels common during the late 3rd – 4th century period within Winchester and along the Central Southern Counties.

Late Saxon to Saxo-Norman (Phase 2)

Eleven ware fabrics dating between the Late Saxon and Early Medieval periods (pre-12th century) were present on the site. The majority of the 38 sherds (16.8%) from 28 vessels (17.6%) were residual although nine refitting sherds from a single cooking pot were recovered from a single stratified pit [170]. The average sherd weight of the Saxo-Norman assemblage was 8.9 grams and there was little abrasion noted on the excavated collection.

The most common fabric present was the Coarse Grained Sandy Ware (MAQ) with 10 sherds representing 9 vessels. This fabric was encountered within 6 residual deposits: 103, 119, 121, 122, 134 and 167. Chalk Tempered Ware (MBE) was the next most common ware present, although the refitting 9 sherds found in a single Phase 1 stratified context 171 bias the overall total of sherds/fabric.

Five sherds from 4 vessels in Coarse Flint Tempered Ware (MCC) were recovered from residual contexts, 119, 122 and 124. This fabric was closely followed by the Organic Tempered Ware (MGV) where all 3 sherds from three vessels were encountered in two contexts 119 and 130. Flint Tempered Sandy Ware (MFA) constituted 2 sherds from two vessels in contexts 119 and 124. Two further sherds of Chalk Tempered Ware (MBX) were found in 103 and 121.

The remainder of the Saxo-Norman sherds consisted of single residual sherds and fabrics in Chalk Tempered Ware with Chalk (MAV), 102; Portchester Ware (MBN), 119; Coarse Grained Sandy Ware (MOE), 167; Late Saxon Sandy Ware (MSH) and Flint Tempered Ware with Calcareous Inclusions (MTE) from Context 181.

The majority of the pottery vessels of pre-12th century date (of Phase 2 date) came from cooking pots and jars. A limited number of sherds in the assemblage had been used for boiling water (Fabric MAQ, Contexts 103). Some sherds like the Coarse Grained Sandy Ware with Flint (MAQ) exhibited sooted exteriors (Contexts 167). The single sherd from a Portchester Ware jar (MBN) from context 119 is a useful addition to the Saxo-Norman assemblage and is of interest in the wider understanding for the distribution of this fabric type.

Medieval (Phase 3)

The majority of the pottery recovered from the site dates from the 13th to the 15th century and was recovered from stratified deposits and residual contexts. The pottery assemblage from the site consists of 118 sherds (52.4%) from 94 vessels (59.1%) in 19 fabric types. The average sherd weight was between 10.8 grams.

The medieval pottery assemblage was considerable, considering the location of the site outside the western walled defences of the town and castle, which was in turn situated adjacent to a major medieval Jewish cemetery and within an area documented by Keene (1985) as open ground. The most prolific fabric type encountered consisted of 36 sherds from 24 vessels in Unglazed Sandy Ware (MNC) that was found in fourteen contexts (102, 103, 118, 119, 121, 122, 124, 126, 130, 132, 134, 141, 155 and 167). Nineteen sherds from 14 vessels in South Hampshire Red Ware fabric (MNG) was the second most common fabric encountered on the site. This was recovered from nine contexts (103, 119, 124, 126, 130, 131, 132, 137 and 161). Pink Quartz Tempered Ware (MMG) was represented by 12 sherds from eight vessels in Contexts 103, 119, 122, 132 and 139, with Red Ware with grey core (MMS) accounting for 11 sherds from eleven vessels in contexts 101, 118, 119, 122, 124, 128, 130 and 179.

South Hampshire Red Ware (MMJ) was represented by 9 sherds from eight vessels (102, 122, 124, 128, 131, 133, 141 and 145). Common White Ware jugs (MMH) and Late Medieval Red Ware cooking pots (MDG) both were present as 7 sherds from seven (MDG) and six vessels (MMH) respectively. Sandy Glazed or Partially Glazed Ware jugs (MMN) and Late Medieval Sandy Ware cooking pots (MDH) were present on site as three sherds each from 3 cooking pots (118 and 119) and 2 jugs (103 and 132). Two vessels from 2 cooking pots made from Pink Quartz Tempered Ware (MDJ) were recovered from contexts 103 and 119. A further cooking pot in a similar fabric (MNI) was found in context 122.

Nine fabric types were present in eight contexts as single vessel sherds. Late Medieval Red Ware (MGR) was found in context 103 with South Hampshire Red Ware (MMI) from context 119. Local Coarse Ware (MNB) was present in context 102 along with Quartz Tempered Ware (MND and MNE) in 118 and 121. A cooking pot in Pink Quartz Tempered Ware (MNX) was recovered in context 132. The final two fabric types were found in the fill of a gully [180] and consisted of a Flint Tempered Ware cooking pot with Calcareous Inclusions (MKP) and White Quartz Tempered White Ware jug (MNW).

Sixty-one percent of the medieval sherds came from cooking pots and jars (54 vessels) with sagging bases and everted beaded rims with flattened tops. Thirty-eight percent of 38 vessels were derived from jugs with rod and strap handles and all exhibiting various external glazings. A small proportion of the cooking vessels had traces of sooting on the exterior (fabric MNE in context 121, fabric MNC and MDH in contexts 132 and 167 respectively and fabric MNC in context 134). A limited number of sherds in the assemblage had applied strip thumb decoration (fabric MMC in context 102, fabric MMH in context 167 and fabric MMJ in contexts 124 and 133) and external scratching (fabric MNC in contexts 103, 132 and 167, fabric MDH in context 132 and fabric MNG in contexts 124, 132 and 161).

Post-Medieval (Phases 4 and 5)

Sixty-three sherds (28%) from 34 vessels (21.3%) in ten fabrics were recovered from the site, with an average sherd weight of 14.6g. The vast majority of the fabric types were dominated by Glazed Red Earthenwares (PB), 39 sherds from 13 vessels. The vast part of a large platter with brown internal glaze and yellow and green slip decoration was recovered from four fills (fills 131 – 134) within the Phase 3 ditch [123]. This type of platter has been identified from various sites within Winchester and beyond (Matthews 1983, 191-200) and it was produced in kilns not yet substantiated in the south Midlands. The second most common fabric consisted of Unglazed Red Earthenware (URE) that consisted of 11 sherds from nine garden pots. Five of these pots were recovered from the upper garden soils of 101 and 102 although four vessels were found within pit [138].

Post-Medieval Red Wares (PO; POB and POD) were present in contexts 102 and 133 and consisted of dishes and cooking vessels. Verwood Type Wares (PV) were found in contexts 101, 102 and 128 these sherds being from a panchion, jar and jug.

Table wares were present in the Phase 4 assemblage and a single burnt Tin Glazed plate fragment was found in context 130. The base sherd from a Low Countries Sgraffito jug was found in context 109 along with a fragment from a Pearl Ware jug. The final ceramic fabric encountered on the site was three Blue Transfer Printed Ware plate fragments of a style attributed to the 19th and early 20th century.

Discussion of the Pottery

Roman Pottery (Phase 1)

The Roman pottery assemblage consisted of 1.7% of the total number of sherds to be recovered from the site that made up a total of 2.5% of the minimum number of vessels represented. The sherd size was small and the condition was abraded indicating these fragments of pottery had probably derived from discarded broken sherds of pottery that had become mixed within organic material following their dispersal onto arable fields.

The assemblage included late 3rd and 4th century wares that were represented by local domestic utilitarian cooking vessels from the kiln centres in the New Forest and southern Hampshire basin.

Late Saxon to Saxo-Norman Pottery (Phase 2)

The vast majority (76%) of the Saxo-Norman pottery from the site was residual and weighed between 4-20 grams, although 23% of the assemblage was found in a single stratified pit [170]. A large proportion of the residual Saxo-Norman pottery was recovered in both Phase 2 and 3 features and overlying layers/deposits.

The vast bulk of the pottery recovered from the site was made from Chalk Tempered Ware with Flint (MAV) with smaller quantities of Coarse Grained Sandy Wares (MAQ). A small quantity of sherds in these fabrics and other Saxo-Norman wares exhibited sooted exteriors from contact with hearths.

Pit [170] produced in its fill, 171 a small collection of nine fresh looking large Saxo-Norman cooking pot fragments that included two large rim sherds and conjoining neck and body sherds that weighed 66 grams. The vast bulk of residual Saxo-Norman sherds were recovered from the upper surviving fill, 119 of the Phase 2 ditch [117] and the primary fill, 122 of Phase 3 intercutting ditch [184].

Medieval (Phase 3)

The majority of the pottery recovered from the site dates from the 13th to the 15th century and 41% of the Phase 3 assemblage was recovered from stratified deposits apart from the residual sherds that totalled the remaining 58%. The pottery assemblage from the site was recovered from two fills, 119 and 121 in ditch [117] and four pit fills 137 in [136]; 141 in [140]; 161 in [160] and 167 in [166]. The single posthole [154], 155 produced sherds of pottery along with the gully fills of [125], 126; [144], 145; [178], 179 and [180], 181.

The medieval assemblage was substantial (52% of a total 47%) when compared with the total number of sherds recovered from the site, and of these 118 sherds from 19 fabric types the average sherd weight was between 3-108 grams. The stratified groups of pottery broadly contained fresh looking sherds from a limited number of utilitarian vessels (61%) and slightly fewer glazed jug sherds (38%) from local kiln sources.

The most prolific assemblage was recovered from the upper surviving layer, 119 of ditch [117] that produced seven different ware types that included the most prolific ware consisting of Unglazed Sandy Ware (MNC). The vast majority of both the utilitarian cooking pots/jars and glazed jug sherds were present as single sherds weighting an average of 10-12 grams.

Post-Medieval (Phases 4 and 5)

There was a modest assemblage of Post-Medieval pottery recovered from the site that consisted of 28% of the overall total pottery of 72%. The pottery consisted of one 17th century Tin Glazed Earthen Ware plate sherd that was burnt and recovered from the upper fill of the Phase 3 ditch [123]. The remainder of the collection was 18th-early 20th century in date and this was mainly recovered from successive fills of ditch [123]. The first four fills, overlying the primary fill, of this ditch, had accumulated to a depth of c.1.40m and contained the fragments from a single large platter with brown internal glaze and yellow and green slip decoration. The presence of a single ceramic item in successive fills would suggest the deliberate in-filling of this ditch feature in the early part of the 18th century.

The remainder of the Post-Medieval pottery recovered from the site was consistent with later Post-Medieval/Industrial urban assemblages that contain both local garden and household earthenware's and fine/utilitarian vessels from the mass-production kiln sites located in Dorset/Hampshire and the Staffordshire counties.

Summary and Recommendations

All of the material is stable and poses no problems for long-term storage. No further work is required on the assemblage.

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Table 1: Pottery Summary Table

Context	Fabric Name	Form Type	Sherds	Minimum Vessel Count	Weight (grams)	Rim %	Part	Description	Date
101	WCA	Cooking Pot	1	1	7		BS		Late 3 rd -4 th century
101	MMS	Cooking Pots	2	2	12		BS		13 th -15 th century
101	PV	Pancheon	1	1	18		Base		18 th -19 th century
101	URE	Garden Pot	1	1	10	15%	Rim		19 th -20 th century
102	MAV	Cooking Pot	1	1	14		Base		Late Saxon and Early Medieval
102	MMJ	Jug	1	1	4		BS	Burnt with dark green glaze	13 th -15 th century
102	MMC	Cooking Pot	1	1	5		BS	External applied strip decoration	13 th -15 th century
102	MMB	Cooking Pots/Jar	1	1	2		BS		13 th -15 th century
102	Transfer Printed	Plate	1	1	4	3%	Rim		18 th -20 th century
102	Transfer Printed	Bowl	1	1	4		BS		18 th -20 th century
102	PV	Jar	1	1	41		BS		19 th -20 th century
102	PB	Pancheon	1	1	104		BS		18 th -19 th century
102	PB	Chamber pot	2	2	35		BS		18 th -19 th century
102	PB	Jar	1	1	4		BS		18 th -19 th century
102	POB	Cooking Pot	1	1	180	11%	Rim		19 th -20 th century
102	URE	Garden Pots	4	4	26	10%	Rim-Body		19 th -20 th century
103	MMG	Jug	1	1	11		Neck	Dark splashed green glaze	13 th -15 th century
103	MNC	Cooking Pot	1	1	8		Base		13 th -15 th century
103	MAQ	Cooking Pot	1	1	11		BS		Late Saxon and Early Medieval
103	MNG	Jugs	3	3	22		BS	Dark green and olive splashed glaze	13 th -15 th century
103	MNC	Cooking Pot/Jar	1	1	5		BS		13 th -15 th century
103	MBX	Cooking Pot/Jar	1	1	1		BS		Late Saxon and Early Medieval
103	MAQ	Cooking Pot/Jar	1	1	14		BS	Kettle fur on internal surface	Late Saxon and Early Medieval
103	MNC	Cooking Pot/Jar	1	1	4		BS	External scratched surface	13 th -15 th century
103	MDH	Cooking pot	1	1	19		Base		13 th -15 th century
103	MDJ	Cooking Pot	1	1	4		BS		13 th -15 th century
103	MGR	Jug	1	1	6		Base		13 th -15 th century
107	Transfer Printed	Plate	1	1	3		Base		18 th -20 th century
109	PL	Jug	1	1	10		BS		Late 17 th century
109	Pearlware	Bowl	1	1	5		BS		Late 18 th century
118	MND	Cooking Pot	1	1	5		BS		13 th -15 th century
118	MMN	Jug	1	1	2		BS		13 th -15 th century
118	MMS	Jug	1	1	2		BS		13 th -15 th century

Context	Fabric Name	Form Type	Sherds	Minimum Vessel Count	Weight (grams)	Rim %	Part	Description	Date
118	MNC	Cooking pot	1	1	3		BS		13 th -15 th century
119	ZF	Cooking Pot/Jar	1	1	1		BS		3 rd -4 th century
119	MMN	Cooking Pots	2	2	14		BS-Base	Splashed internal green glaze	13 th -15 th century
119	MDJ	Jug	1	1	6		Neck		13 th -15 th century
119	MMG	Jug	2	1	25		BS-Base		13 th -15 th century
119	MMI	Jug	1	1	10	9%	Rim		13 th -15 th century
119	MFA	Cooking Pot	1	1	60	7%	Rim		Late Saxon and Early Medieval
119	MNC	Cooking Pot	1	1	108	16%	Rim		13 th -15 th century
119	MCC	Cooking Pot/Jar	1	1	1		BS		Late Saxon and Early Medieval
119	MAQ	Cooking Pot	2	1	21	7%	Rim-Neck		Late Saxon and Early Medieval
119	MGV	Cooking Pot	2	2	11		Base & BS		Late Saxon and Early Medieval
119	MNC	Cooking Pot/Jar	3	1	16		Neck & BS		13 th -15 th century
119	MBE	Cooking Pots	1	1	5		BS		Late Saxon and Early Medieval
119	MMG	Jug	3	1	26		BS		13 th -15 th century
119	JMZ	Beaker	1	1	1		BS		Late 3 rd -4 th century
119	MNC	Cooking Pot	2	2	23		BS		13 th -15 th century
119	MBN	Cooking Pot/Jar	1	1	1		BS		Late Saxon and Early Medieval
119	MMS	Jug	1	1	9		BS		13 th -15 th century
119	MNG	Cooking pots	6	4	24		BS		12 th -13 th century
121	MNC	Cooking pots	2	2	10		BS		13 th -15 th century
121	MAQ	Cooking Pot	1	1	2		BS		Late Saxon and Early Medieval
121	MBX	Cooking Pot	1	1	13		BS		Late Saxon and Early Medieval
121	MNE	Cooking Pot	1	1	6		BS	External sooting	13 th -15 th century
122	MDG	Cooking Pots	3	3	36		BS		13 th -15 th century
122	MCC	Cooking Pots	3	2	25		BS		Late Saxon and Early Medieval
122	MMS	Jug	1	1	5		BS		13 th -15 th century
122	MNC	Cooking Pots	5	2	78	2%	Rim-Base		13 th -15 th century
122	MAQ	Cooking Pot	2	2	3		BS		Late Saxon and Early Medieval
122	MMG	Jug	2	2	11		BS		13 th -15 th century
122	MMJ	Jug	2	1	10		BS		13 th -15 th century
122	MNC	Jar	3	1	18		Neck-BS		13 th -15 th century
122	MMH	Jug	1	1	7	3%	Rim		13 th -15 th century
122	MNI	Cooking Pot	1	1	12		Neck		13 th -15 th century
122	MMS	Jug	1	1	101	18%	Rim-handle	External dark green glaze	13 th -15 th century
124	MFA	Cooking Pot	1	1	28	10%	Rim		Late Saxon and Early Medieval
124	MCC	Cooking Pot	1	1	9		BS		Late Saxon and Early Medieval
124	MMS	Jug	1	1	5		BS	External splashed orange glaze	15 th -16 th century
124	MMH	Jug	1	1	8		Neck	External speckled green glaze	13 th -15 th century
124	MNC	Jug	2	1	10		BS		13 th -15 th century
124	MNJ	Jug	1	1	17		BS	External applied strip and glazed	13 th -15 th century

Context	Fabric Name	Form Type	Sherds	Minimum Vessel Count	Weight (grams)	Rim %	Part	Description	Date
124	MMS	Jug	1	1	7		BS	Dark green decoration	15 th -16 th century
124	MNG	Cooking Pot	2	1	20		BS	Scratched	13 th -15 th century
126	MNC	Cooking Pot	3	1	70	17%	Rim-BS		13 th -15 th century
126	MNG	Jug	2	1	26		BS-Handle	Rod handle & applied decoration	13 th -15 th century
126	MBE	Cooking Pot	1	1	4		BS		Late Saxon and Early Medieval
128	MMS	Jug	1	1	2		BS	External olive green glaze	13 th -15 th century
128	MMJ	Jug	1	1	3		BS	External dark green glaze	13 th -15 th century
128	PV	Jug	1	1	3		BS	External brown splashed glaze	18 th -19 th century
130	MGV	Cooking Pot	1	1	6		BS		Late Saxon and Early Medieval
130	MNG	Cooking Pot	1	1	6		BS		13 th -15 th century
130	MNC	Cooking Pot	2	1	23	4%	Rim-BS	External applied decoration	13 th -15 th century
130	MMS	Jug	1	1	15		Handle	Stabbed rod type	13 th -16 th century
130	MDS	Cooking Pot	1	1	5		BS		13 th -15 th century
130	Tin Glazed	Dish	1	1	8		Base	Burnt (lost tin slip)	17 th -18 th century
131	MNG	Cooking Pot	1	1	1	1%	Rim		12 th -13 th century
131	ZF	Jug	1	1	11		Base		Late 3 rd -4 th century
131	MMJ	Jug	1	1	11		BS	Splashed green glaze	13 th -15 th century
131	PB	Panchion	3	1	137		BS & Base		Late 17 th -18 th century
131	PB	Dish	15	1	79	26%	Rim-BS	Internal yellow glaze	Late 17 th -18 th century
132	MNX	Cooking Pot/Jar	1	1	2		BS		13 th -15 th century
132	MML	Cooking Pot	1	1	2		BS		13 th -15 th century
132	MNC	Cooking Pot	2	1	8		BS & Base	Scratched and sooted	13 th -15 th century
132	MMH	Jug	1	1	14		BS	Impressed and dark green glaze	13 th -15 th century
132	MDH	Cooking Pot/Jar	2	1	11		BS	Scratched and sooted	13 th -15 th century
132	MNG	Cooking Pot	2	1	20	2%	Rim-BS	Scratched	13 th -15 th century
132	MMG	Jug	2	1	10		BS	Splashed olive glaze	13 th -15 th century
132	PB	Dish	3	1	17	3%	Rim-BS	Yellow glaze	Late 17 th -18 th century
132	PB	Chamber Pot	1	1	9		BS		Late 17 th -18 th century
133	MMJ	Jug	1	1	24		Handle-BS	Applied decoration	12 th -13 th century
133	PO	Jar	2	1	3		BS		Late 17 th -18 th century
133	POD	Dish	1	1	8	3%	Rim-Base	Yellow and brown slip	Late 17 th -18 th century
133	PB	Mug	1	1	2		BS		Late 17 th -18 th century
133	PB	Dish	1	1	17		Base		Late 17 th -18 th century
133	PB	Dish	5	1	20		Base	Yellow and brown slip	Late 17 th -18 th century
134	MAQ	Cooking Pot	1	1	11	5%	Rim		Late Saxon and Early Medieval
134	MNC	Cooking Pot	2	1	29	7%	Rim-BS	Sooted	13 th -15 th century
134	PB	Dish	5	1	27		Base		Late 17 th -18 th century
137	MNG	Cooking Pot	1	1	15	4%	Rim		13 th -15 th century
137	MMH	Jug	1	1	5		Neck	Green glaze	13 th -15 th century
139	MMG	Jug	1	1	3		Base		13 th -15 th century

Context	Fabric Name	Form Type	Sherds	Minimum Vessel Count	Weight (grams)	Rim %	Part	Description	Date
139	PB	Panchion	1	1	33		Base		18 th -19 th century
139	URE	Garden pot	6	4	110	23%	Rim-BS	'ULWFLLN'	19 th -20 th century
141	MNC	Cooking Pot	1	1	1		BS		13 th -15 th century
141	MMJ	Jug	1	1	1		BS		12 th -13 th century
145	MMH	Cooking Pot	2	1	11		BS		13 th -15 th century
145	MNC	Cooking Pot	1	1	1		BS		13 th -15 th century
155	MMJ	Jug	1	1	2		BS	External green speckled glaze	12 th -13 th century
161	MNG	Cooking Pot	1	1	11		BS	Scratched	13 th -15 th century
167	MNC	Cooking Pot	1	1	37	9%	Rim	Sooted	13 th -15 th century
167	MDH	Jar	1	1	7	6%	Rim		13 th -15 th century
167	MMH	Cooking Pot	1	1	11		BS	Applied strip decoration	13 th -15 th century
167	MNC	Cooking Pots	2	1	39		BS	Sooting & Scratched	13 th -15 th century
167	MOE	Cooking Pot	1	1	5		Neck		Late Saxon and Early Medieval
167	MAQ	Cooking Pot	2	2	22		BS	Sooted	Late Saxon and Early Medieval
171	MBE	Cooking Pot	9	1	66	19%	Rim		Late Saxon and Early Medieval
179	MMS	Jug	1	1	3		BS		13 th -15 th century
181	MNW	Jug	2	1	2		BS	Splashed green glaze	13 th -15 th century
181	MTE	Jar	1	1	3		Base		Late Saxon and Early Medieval
181	MSH	Jar	1	1	1		BS		Late Saxon and Early Medieval
181	MDH	Cooking Pot	2	2	24		BS		13 th -15 th century
181	MKP	Cooking Pot	1	1	1		BS	Splashed olive internal glaze	12 th -13 th century
Totals			225	159	2466	230%			

Table 2: Phase 1 Roman Fabrics by Contexts with Number of Sherds and Minimum Number of Vessels

Roman	101	102	103	107	109	118	119	121	122	124	126	128	130	131	132	133	134	137	139	141	145	155	161	167	171	179	181	Totals
Fabric Name																												
JMZ							1/1																					1/1
WCA	1/1																											1/1
ZF							1/1							1/1														2/2
Totals	1/1						2/2							1/1														4/4

Table 3: Phase 2 Saxo-Norman Fabrics by Contexts with Number of Sherds and Minimum Number of Vessels

Saxo-Norman	101	102	103	107	109	118	119	121	122	124	126	128	130	131	132	133	134	137	139	141	145	155	161	167	171	179	181	Totals
Fabric Name																												
MAQ			2/2				2/1	1/1	2/2								1/1							2/2				10/9
MAV		1/1																										1/1
MBE							1/1				1/1														9/1			11/3
MBN							1/1																					1/1
MBX			1/1					1/1																				2/2
MCC							1/1		3/2	1/1																		5/4
MFA							1/1			1/1																		2/2
MGV							2/2						1/1															3/3
MOE																								1/1				1/1
MSH																										1/1	1/1	
MTE																										1/1	1/1	
Totals		1/1	3/3				8/7	2/2	5/4	2/2	1/1		1/1				1/1							3/3	9/1		2/2	38/28

Table 4: Phase 3 Medieval Fabrics by Contexts with Number of Sherds and Minimum Number of Vessels

Medieval	101	102	103	107	118	119	121	122	124	126	128	130	131	132	133	134	137	139	141	145	155	161	167	171	179	181	Totals
Fabric Name																											
MDG								3/3				1/1											1/1			2/2	7/7
MDH			1/1											2/1													3/2
MDJ			1/1			1/1																					2/2
MGR			1/1																								1/1
MKP																										1/1	1/1
MMG			1/1			5/2		2/2						3/2				1/1									12/8
MMH								1/1	1/1					1/1			1/1		2/1			1/1					7/6
MMI						1/1																					1/1
MMJ		1/1						2/1	1/1		1/1		1/1		1/1				1/1	1/1							9/8
MMN					1/1	2/2																					3/3
MMS	2/2				1/1	1/1		2/2	2/2		1/1	1/1													1/1		11/11
MNB		1/1																									1/1
MNC		1/1	3/3		1/1	6/5	2/2	8/3	2/1	3/1		2/1		1/1		2/1			1/1		1/1		3/2				36/24
MND					1/1																						1/1
MNE							1/1																				1/1
MNG			3/3			6/4			2/1	2/1		1/1	1/1	2/1			1/1					1/1					19/14
MNI								1/1																			1/1
MNW																										1/1	1/1
MNX														1/1													1/1
Totals	2/2	3/3	10/10		4/4	22/16	3/3	19/13	8/6	5/2	2/2	5/4	2/2	10/7	1/1	2/1	2/2	1/1	2/2	3/2	1/1	1/1	5/4		1/1	4/4	118/94

Table 5: Phase 4 and 5 Late 17th – 20th Century Fabrics by Contexts with Number of Sherds and Minimum Number of Vessels

Late 17 th -20 th Century	101	102	103	107	109	118	119	121	122	124	126	128	130	131	132	133	134	137	139	161	167	171	179	181	Totals	
Fabric Name																										
PB		4/4												18/2	4/2	7/3	5/1		1/1							39/13
Pearl ware					1/1																					1/1
PL					1/1																					1/1
PO																2/1										2/1
POB		1/1																								1/1
POD																1/1										1/1
PV	1/1	1/1										1/1														3/3
Transfer Printed ware		2/2		1/1																						3/3
Tin glazed ware													1/1													1/1
URE	1/1	4/4																	6/4							11/9
Totals	2/2	12/12		1/1	2/2								1/1	1/1	18/2	4/2	10/5	5/1		7/5						63/34

Appendix 3: Ceramic Building Material Report

By Kevin Trott

Introduction

The archaeological investigations at 10 St. James Lane produced a small quantity (72 pieces, weighing 5484 grams) of mainly medieval ceramic building material of which eight fragments (484 grams) were from two stratified medieval (Phase 3) contexts. The remainder of the tile assemblage was recovered from Phase 4 and 5 features and layers.

Methodology

The analysis of the ceramic building material comprised: the initial quantification by weight (grams) and fragment count of all tile by type; the detailed analysis and examination of fabric and form, accidental markings (footprints and finger prints), deliberate marks (graffiti, finger signatures and decoration), condition and evidence of reuse. Only limited fabric analysis was undertaken with the aim of providing a guide to the range of fabrics present.

Roman Tile

Classification and fabrics

The identified tile types were based on primary function and comprised roof tile tegulae, imbrices and hypocaust tile/brick fragments. The fabrics present consisted of five types:

Type R1: Sandy coarse fabric. Colour Munsell 4/3 %YR reddish brown and 5/6 2.5YR red. Abundant quartz sand; sub-angular-sub rounded grains mainly less than 0.1-0.3mm with moderate scatter of larger grains up to 0.6mm. Flint: small angular inclusions of white flint mostly 0.1-0.2mm across. Iron oxides; abundant scatter of angular pellets of dark brown ferrous inclusions, mostly 0.3-0.7mm diameter.

Type R2: Sandy fabric. Colour Munsell 6/6 2.5YR light red. Abundant quartz sand with sub-angular grains mainly 0.1-0.4mm. Iron oxidise: moderate scatter of elongated dark brown pellets of ferruginous ironstone mostly 0.2-0.4mm in diameter although sparse collection can range up to 0.8mm in this fabric. Clay tabular argillaceous inclusions; these dominate the fabric and some rounded argillaceous pellets can measure up to 1.2mm diameter.

Type R3: Sandy fabric. Colour Munsell 7/8 5YR reddish yellow. Abundant quartz sand; sub-angular-sub-rounded grains mainly less than 0.1-0.2mm with moderate scatter of dark brown elongated pellets of ferruginous ironstone mostly 0.1-0.3mm in diameter. Occasional Clay tabular argillaceous inclusions up to 0.2-4mm.

Type R4: Sandy Fabric. Colour Munsell 6/6 5YR reddish yellow. Moderate quartz sand with grains up to 0.1-2mm diameter. Iron oxidise: moderate scatter of elongated dark brown pellets of ferruginous ironstone mostly 0.2-0.4mm in diameter. Moderate scatter of reddish coloured clay tabular argillaceous inclusions up to 0.2-4mm.

Type R5: Very abundant sandy fabric. Colour Munsell 5/4 5YR reddish brown. Abundant quartz sand; sub-angular-sub rounded grains mainly less than 0.1-0.3mm with moderate scatter of larger grains up to 0.6mm. Flint: small angular inclusions of white flint mostly 0.1-0.2mm across. Moderate scatter of reddish coloured clay tabular argillaceous inclusions up to 0.1mm diameter.

Summary of the Romano-British Tile by Type

Roofing Tile-Tegula and Imbrices

Roof tile made up of 10.1% tegula fragments and 2.1% imbrex pieces of the ceramic building material assemblage recovered from the site. The fragments consisted of both un-abraded and abraded pieces of

Roman ceramic building material. The tegulae, which are large flat flanged tiles and imbrices, which are the corresponding curved tiles did not produce any fragments with nail holes or any finger impressed patterns, which are usually interpreted as tiler marks or finger signatures (Brodribb 1987, 99-138). The two fragments of tegula from the fill of the Phase 1 and 2 ditches [117] and [123] both exhibited flange cut-aways of Brodribb (1987, 16-17) Type 1 (133) and Type 4 (199).

The tegula and imbrex assemblage from the excavations at 10 St James Lane consisted of small fragments in five fabric types that are indicative of locally produced Hampshire tiles.

Tile from Hypocaust Systems

The floor tile/bricks made up 1.4% of the CBM assemblage. The floor tile was fragmentary but in a good state of preservation. The tile has been attributed to floor tile that was utilised in the construction of floors or *pilae* for hypocausts.

Medieval and Post-Medieval Tile

Classification and fabrics

The identified tile types were based on primary function, comprised roof tile-tegulae; imbrices and hypocaust tile/brick fragments. The fabrics present consisted of thirteen types:

Type M1: Very abundant quartz sandy fabric: Colour Munsell 6/6 5YR reddish yellow. Abundant angular quartz sand up to 0.1-0.2mm; Small inclusions of white flint mostly 0.1-0.3mm diameter. Oxidised surfaces and reduced pinkish grey core and ridge tiles exhibit a thick olive green glaze on exterior.

Type M2: Abundant quartz sandy fabric: Colour Munsell 6/6 5YR reddish yellow. Moderate-frequent angular quartz grains up to 0.1-0.2mm: Small inclusions of black sub-rounded ironstone up to 0.5mm. Oxidised throughout fabric with ridge tiles exhibiting an external kaki patchy wiped glaze.

Type M3: Abundant sandy quartz fabric: Colour Munsell 6/6 5YR reddish yellow. Frequent angular quartz grains up to 0.1-0.3mm. Frequent inclusions of dark brown sub-rounded ironstone up to 0.7mm. Frequent scattered mica. Oxidised surfaces and reduced light grey core with ridge tiles exhibiting a thin olive green glaze on exterior.

Type M4: Sandy coarse fabric; Colour Munsell 5/8 5YR yellowish red. Abundant quartz sand with sub-angular/sub rounded grains mainly less than 0.1-0.3mm with moderate scatter of larger grains up to 0.6mm. Flint: small angular inclusions of white flint mostly 0.1-0.5mm across. Inclusions of small rounded tabular argillaceous clay pellets 0.1-0.3mm across; Oxidised throughout fabric.

Type M5: Hard sandy coarse fabric, same as Type M4 with streaky tabular argillaceous clay pellets.

Type M6: Sandy quartz fabric: Colour 6/6 5YR reddish yellow. Abundant angular quartz sand up to 0.1-0.2mm; Small inclusions of white flint mostly 0.1-0.3mm diameter. Frequent inclusions of dark brown sub-rounded ironstone up to 0.7mm. Oxidised surfaces and reduced grey-blue core.

Type M7: Sandy coarse quartz fabric, same as Type M6 without the ironstone inclusions.

Type M8: Hard fired sandy coarse quartz fabric, same as M7 with streaky tabular argillaceous clay pellets.

Type M9: Course quartz sandy fabric: Colour 5/8 5YR yellowish red. Abundant angular sandy quartz grains up to 0.1-0.3mm; frequent burnt flint up to 0.1mm diameter. Oxidised throughout fabric.

Type M10: Course sandy fabric: Colour 6/6 5YR reddish yellow. Abundant quartz grains up to 0.1-0.2mm; frequent streaks of tabular argillaceous clay. Oxidised external surfaces (upper wiped) with reduced and oxidised sandwiched interior core.

Type M11: Course sandy fabric, same as M10, oxidised throughout fabric.

Type M12: Hard fired coarse sandy fabric: Colour Munsell 5/6 5YR yellowish red. Abundant sandy angular quartz grains up to 0.1mm diameter, occasional brown ironstone inclusions. Oxidised throughout fabric with wiped upper face.

Type M13: Sandy coarse fabric: Colour Munsell 6/6 7.5YR light brown. Abundant sandy angular quartz temper up to 0.2mm; occasional burnt flint and clay tabular argillaceous inclusions up to 0.1mm diameter. Oxidised throughout with upper face exhibiting impressed organics that has been subsequently wiped.

Summary of the Medieval Tile by Type

Peg Tile

Flat, often perforated peg tile made up 65.2% of the ceramic building material recovered from the site. The assemblage consisted of small un-abraded and un-glazed fragments in three fabric types with five examples exhibiting perforated peg-holes that were slightly tapering and circular in section with an average diameter of 11mm. One example from Phase 3 ditch fill 119 contained two opposing parts of the crescent shaped holes that survived (60mm apart) along an old fracture that was refitted from a piece within the secondary fill, 118 of Phase 4 ditch [184]. Phase 4 ditch fill 133 had a tile fragment with peg-hole that did not penetrate the tile and was partially filled with lime mortar.

Only three fragments of peg tile of 13th-15th century date occurred in a stratified Phase 3 context - ditch [117], fill 119. The remainder of the assemblage of medieval peg tile in 13 fabric types was encountered alongside post-medieval examples in Phase 4 fills and Phase 5 layers across the site.

Ridge Tile

The curved ridge or hip tiles were often crenulated and glazed and made up 14.4% of the total assemblage. These tile types were generally slightly thinner than the medieval peg tiles and each fragment recovered displayed either splashed olive green, khaki or lime green external glaze. Only a single fragment from the fill 119 of the Phase 3 ditch [117] was stratified (13th-15th century date) with the remainder of the collection recovered from later Phase 4 fills and Phase 5 layers. The similarity of the fabrics in residual contexts to the example from fill 119 suggests they were all from ridge tiles produced in the 13th-15th century.

Of the nine curved glazed tile fragments found, none are from definite hip tiles, suggesting that only ridge tiles were present. The fragments of ridge crenulations recovered from Phase 4 fills, 124 and 134 exhibited shallow triangular crenulations (c.10mm high x c.52mm long x c.1.9mm wide) separated by an impressed finger (134) or angled knife trimmed (124).

Post-Medieval Brick

Brick

Eleven small and medium fragments of post-medieval brick totalling 14.4% of the sites ceramic building material assemblage was recovered from the site in Phase 4 fills and layers. The brick fragments were slightly abraded with two examples (128 and 130) displaying mortar on both faces and broken elements. Only three fragments retained their overall dimensions of 55-60mm in thickness and 105mm in width. These bricks were made from a coarse sandy fabric with occasional orange clay pellets up to 1mm diameter. A single fragment from Phase 4 fill 133 contained inclusions of crushed coal and highly fired iron ferrous inclusions up to 5mm diameter.

Discussion

The quantity of tile recovered can be regarded as a small amount for the size of the excavated area within the outskirts of the walled urban area. The Roman tile consisted of five fabrics that suggest the tile is local in its manufacture. Without further analysis of the material from the known Crookhorn tilery, Hampshire and elsewhere (Betts & Foot 1994, 21-34) we can only postulate that the tiles derived from unknown local kilns located within the environs of the Hampshire Basin.

The assemblage of Medieval tile recovered from various features across the site was accompanied with local stone rubble and window glass elements, suggesting that the ceramic building material had derived from a medieval structure that had been demolished within the environs of the site and disposed of within the ditch fills and subsequent layers.

The small quantity of brick and later peg tile fragments recovered from Phase 4 features and Phase 5 layers were probably associated with the disposal of building waste associated with the construction works of the adjacent house and its environs.

Summary and Recommendations

All of the material is stable and poses no problems for long-term storage. No further work is required on the assemblage.

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Table 1: The Ceramic Building Material and Phases

Context	Tegula	Imbrex	Floor Tile	Peg Tile	Roof Ridge	Brick	Phase	Weight
101					1		5	22 g
103		1					5	85 g
103				3			5	84 g
103					3		5	68 g
118				1			4	29 g
119	1						3	183 g
119	1						3	59 g
119			1				3	41 g
119				3			3	121 g
119					1		3	30 g
121	1						3	50 g
122				2			4	187 g
122					1		4	11 g
122						2	4	99 g
124				7			5	386 g
124					1		5	47 g
124						1	5	47 g
128	1						5	37 g
128				4			5	227 g
128						2	5	305 g
130	1						4	11 g
130				4			4	277 g
130						1	4	77 g
131				3			4	112 g
131						2	4	1616 g
132					1		4	13 g
132				8			4	204 g
133	2						4	126 g
133				5			4	372 g
133					1		4	8 g
134		1					4	87 g
134				3			4	219 g
134					1		4	114 g
139				2			5	49 g
139						2	5	54 g
Totals	7	2	1	45	10	10		
%	10.1	2.8	1.4	65.2	14.4	14.4		5484 g

Appendix 4: Other Finds

By Kevin Trott

Wall Plaster

Introduction

A single fragment (10 grams) from a lime washed piece of wall plaster was recovered from the secondary fill, 120 of the Phase 3 ditch [117]. This fragment of wall plaster survives in a fresh condition and exhibits a weak off-white lime wash that adheres to a well finished light yellowish brown granular surface. The plaster matrix was 7mm thick and created from a compact red and orange rounded quartz gritted fabric with occasional coal slivers and rounded grains of limestone and held together with lime mortar. No further work is recommended on the piece, which is stable and should be stored with the project archive.

Worked Stone and Slate

Introduction

The excavations at 10 St. James Lane have produced a number of fragments of architectural and worked pieces of stone. These pieces contain regional examples and localised stone (sourced within 30 miles of the site). The presence of localised chalk and flint (obtained from the surrounding geology) was not included in this report as no worked pieces were identified.

Table 1: Summary of Stone

Context	Phase	Stone Type	Source	Specific Source	Number
101	5	Quarr Limestone	Local	Isle of Wight	1
103	5	Welsh Slate	Regional	North-West Wales	1
103	5	West-Country Slate	Regional	Devon/Cornwall	2
119	3	Portland Stone	Regional	Dorset	3
119	3	West-Country Slate	Regional	Devon/Cornwall	10
122	4	West-Country Slate	Regional	Devon/Cornwall	5
124	5	West-Country Slate	Regional	Devon/Cornwall	1
126	3	Quarr Limestone	Local	Isle of Wight	2
128	5	West-Country Slate	Regional	Devon/Cornwall	4
130	4	West-Country Slate	Regional	Devon/Cornwall	2
133	4	West-Country Slate	Regional	Devon/Cornwall	3
134	4	Portland Stone	Regional	Dorset	1
161	3	Quarr Limestone	Regional	Isle of Wight	1
167	3	Lower Greensand	Local	Isle of Wight	1
167	3	West-Country Slate	Regional	Devon/Cornwall	6
Totals					43

The first group of stone of medieval date consisted of three ashlar fragments of burnt Portland stone recovered from fill 119 of Phase 3 ditch [117]. The second stone items consisting of Quarr Limestone were recovered from the fills 126 and 161 of gully [125] and pit [160] respectively. The large fragment from pit [160] displayed a single surviving chisel dressed edge from a larger ashlar block that was slightly discoloured by contact with heat. A further discoloured stone was recovered from the fill 167 of pit [166]. This fragment of stone consisted of a Lower Greensand ashlar fragment with a chiselled face surviving on one side.

The second group of stone from the later Phase 4 deposits consisted of a fragment of chiselled Portland Stone from the secondary fill 134 of ditch [123]. This ashlar fragment was discoloured by heat like the group of similar stone recovered from the Phase 3 ditch [117] and this stone is probably residual in this

Phase 3 ditch fill. The second item of stone recovered from the upper garden soil, 101 was a complete keystone from an arch made from a dressed piece of Quarr Limestone. This example is probably either late medieval or post-medieval in date.

Both Phases 3 and 4 produced pieces of perforated West Country roofing slate that was originally derived from the Totness/Dartmouth areas in Devon and Falmouth/Lizard Peninsular in Cornwall (Born 1988). These were recovered from eight contexts 103 (buried garden soil), 119 (fill of ditch [117]), 122 (primary fill of ditch [184]), 124/128 (upper and lower fills of pit/gully [131]), 130/133 (fills of ditch [123]) and 167 (fill of pit [166]).

The presence of West Country slate in Winchester is known and was widely traded during the medieval period to fortifications, ports and ecclesiastical houses along the Channel coast (Holden 1989 and Rose 2006). Several excavated sites in Winchester have produced West Country slate (Beaumont James 2008).

Discussion

The excavated assemblage generally comprises worked off-cut pieces of stone and incomplete architectural pieces recovered from various contexts across the site.

The presence of Portland Stone off-cuts in the medieval (Phase 3) contexts were associated with local Greensand and Quarr Limestone sourced from quarries on the Isle of Wight (Bird 1997, 103-112). The collection is indicative that the stone was damaged following contact with a heat source and subsequently discarded along with small quantities of West Country roofing slate that exhibited some heat discolouring.

The presence of larger quantities of West Country roofing slate in Phase 4 contexts may indicate the longevity of slate roofs on older buildings that survived into the post-medieval period. The keystone from the garden topsoil had green discolouration from moss on three sides suggesting it has been exposed to the elements for a period of time and was originally placed in the garden as a decorative feature, of which there are several other extant examples scattered across the garden.

The stone assemblage has been recorded and catalogued and offers no further potential for study, and as such could be discarded.

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Glass

Introduction

The excavations at 10 St. James Lane Winchester retrieved a small assemblage of medieval and post-medieval glass fragments. In total two pieces of medieval window glass were recovered from the latest fill 119 of Phase 3 ditch [117] along with a single body fragment from a glass vessel. Two fragments from a single post-medieval bottle were subsequently found within fill 133 of Phase 4 ditch [123].

The medieval window glass was originally made from poorly durable potash glass that was plain with painted images, but now these have totally blackened surfaces with devitrified edges. The glass fragments are 3mm thick and were part of larger quarries that have broken in antiquity. One side has traces of painted decoration that utilised a dark reddish-brown pigment (probably iron oxide) on a yellow stained outline. The two pieces depict different designs potentially from a single decoration. The smallest fragment (1 gram) illustrates part of a stick leaf foliage motif on a plain background and is broadly parallel with a fragment from Hyde Street in Winchester (Seagar-Smith 2004, 104 and fig 22). The second fragment (3 grams) illustrates part of a foliate border design on a plain background that is not dissimilar to another fragment recovered from the Hyde Street excavations (Seager-Smith 2004, 104 and fig 11).

Both fragments exhibit painted designs that are similar to examples excavated from 14th and 15th century dumping deposits encountered within excavations in Hyde Street located north of the medieval town. The Hyde examples were probably removed from the adjacent Abbey at Hyde after the Dissolution (Birbeck and Moore 2004). The two examples from 10 St. James Lane probably relate to the lead window came (SF16) that was recovered with Phase 2 artefacts redeposited in the primary fill 122 of the Phase 4 ditch [184].

The discovery of medieval painted window glass at this site is interesting as these pieces may either derive from the former church of St. James that was in existence close to the site from at least 1114 and subsequently demolished in 1589, or from a high status domestic building like those encountered in Sussex Street or Victoria Road in Winchester (Cool 2008, 297-299).

A small (2 gram) fragment from either the body or the neck of a finely blown white transparent vessel with iridescence and weak flow banding was recovered within the fill, 119 of Phase 3 ditch [117]. The type and form of vessel that this fragment derives from is speculative considering its small size. Only the overall form of the piece indicates it is from an elongated vessel (Cool 2008, 253-257 & Tyson, 2000).

The dark green basal kick and the body fragment (32 grams) from a single post-medieval wine bottle of a style found in excavations both at Basing House (Allen & Anderson 1999, 76-78) and Oyster Street in Portsmouth (Fox & Barton, 1986, 223-230) are of a style common c.1700-1720.

These fragments of glass are generally stable and should be stored wrapped in acid free tissue in a plastic Stewart box with a humidity indicator.

References

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Clay Tobacco Pipe

Introduction

The excavations at 10 St. James Lane Winchester recovered a total of ten clay tobacco pipe fragments (33gms) from eight contexts relating to the fills of the Phase 4 ditches [184] and [123], buried garden soil 111, construction trench for eastern wall [112], pit [129] and the topsoil layer 102.

The earliest tobacco pipe fragment recovered from the site was from a plain bowl weighing 7 grams from fill 118 of Phase 4 ditch [184]. The bowl is little abraded suggesting it is in its primary decontextsit and is polished with no signs of moulding marks on its exterior. The bowl and foot project forward from the broken stem and its style corresponds to an Oswald (1975) Southern England Type 1 dated to c.1620-1660. The foot has a heart-shaped relief with 'FT' within this relief. The maker's mark is currently unidentified, although this type of pipe with its heart-shaped relief and maker's initials has been recovered from the upper layers of the east ditch, 461 of Basing House, and thought to be a product of Winchester dated to the period of c.1630-1640 (Allen and Anderson 1999, 52, 80 and fig. 52).

A single stamped stem (4 grams) was recovered from fill 133 along with a plain abraded stem (3 grams) from the fill 131 of Phase 4 ditch [123]. The stamped stem has part of the maker's name 'WILLIA-(M)' surviving on the excavated fragment. It was created utilising a rectangular stamp that impressed the initials onto the upper distal portion of the stem adjacent to the missing bowl, and this type of stamp was common during the early-middle of the 18th century (Oswald 1975, 76-83). The name William was a common name on Hampshire tobacco pipes and Oswald (1975, 171-174), Fox and Hall (1979, 15-50), Fox and Barton (1986, 185-223) note at least eight Williams producing clay tobacco pipes in Hampshire within this time frame. The fact that the surname is missing precludes further identification to a particular manufacturer or their place of work, although further study on impressed William initials with other excavated Winchester clay pipes may refine this unanswered conclusion.

A single slightly abraded plain stem (4 grams) of late 17th century date was recovered from the Phase 5 buried garden soil 111. This soil was cut by the construction trench [112] that also produced a plain 18th – 19th century plain stem (1 gram) from its fill 109.

A Phase 5 pit or linear [129] cut into the upper portion of ditch [123] contained two slightly abraded plain pipe stems (4 grams each) in its primary fill, 128, with two further abraded plain stems (3 & 1 gram) from its sealing fill 124. All four stems are of a size typical of 18th-19th century tobacco pipes.

The last tobacco pipe fragment recovered from the site was a fragment (3 grams) from adjacent to the mouth piece of a plain 19th century pipe recovered from the topsoil 102. This fragment shows little signs of abrasion and has potentially not moved around in this layer since it was discarded.

The material requires no further study. It is stable and poses no problems for long term storage.

References

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Metalwork

Introduction

Twenty-four items of iron were discovered at Winchester along with a single lead came. The window lead came (SF 16) was recovered in two pieces and totalling 12g in weight. It was twisted and discarded in the primary fill, 122 of Phase 4 ditch [184]. The came belonged to Knight's type D (1985, 154-156, fig.48, 2d) probably milled in a toothless mill and characteristic of a style employed in the early 15th – 16th centuries.

The iron objects are mainly small and medium nails that have been recovered from Phase 3 and 4 features and layers on the site. A small proportion of these nails from Phase 3, context 119 have large rectangular heads (SFs 7 and 9), with two others having large circular off-centre heads (SFs 11, 12 and 19) and were bent suggesting they had either hit knots in the wood or were bent over on the opposing protruding side. The remainder of the assemblage from both Phases 3 and 4 exhibit small centralised rectangular or circular heads. Two nails (SFs 10 and 23) from context 119 and 135 were bent and twisted suggesting they had been pulled from a piece of wood and discarded.

Three nails associated with the attachment of horseshoes were recovered from fill 119 of ditch [117], fill 118 of ditch [184] and fill 181 of gully [180]. The earliest example consists of a D-shaped nail (SF 6) from context 119, used in shoes with countersunk holes (these are sometimes known as 'fiddle-key nails'). The nails recovered from 118 and 181 (SFs 3 and 25) have a 'winged head' with a short shank and were used in shoes with non-countersunk rectangular holes.

The single horse shoe branch fragment (SF 18) was recovered from fill 181 of Phase 3 gully [180]. This example has a tapering branch that thickens at the tip to form a calkin. A near-complete piercing is evident at its broken corroded ends. The style of this horse shoe is noted in Winchester within 13th – 15th century deposits (Rees et. al. 2008, 292-296).

A scale-tang knife (SF 13) was found in fill 122 in Phase 3 ditch [184]. This knife had two opposing red deer antler plates pierced three times with iron rivets that held the iron knife tang in place, forming a rectangular cross-sectioned knife handle with rounded butt-end. The blade was largely missing although it has two opposing gun metal shoulder plates. This type of knife is similar to several examples illustrated and described from various Winchester excavations (Rees et. al. 2008, 2008, 311-325) and although its overall style cannot be matched the characteristics relate to knives encountered in contexts dating from the 15th – 17th century.

A strip of iron or billet (SF 14) that was rectangular at one end and widened towards the other was found within the latest fill 119 of Phase 3 ditch [117]. Similar examples to the fragment from context 119 have been recovered in Winchester (Rees et. al. 2008, 179-181, fig 965) and are associated with metalworking waste.

A small fragment from an iron strip (SF 24) was recovered from fill 181 of Phase 3 gully [180]; a second strip fragment (SF 4) was recovered from the fill 118 of Phase 3 ditch [184]. Similar thin rectangular-in-section strips are known from excavations in Winchester and have been interpreted as hinges or other fittings for boxes and caskets (Rees et. al. 2008, 267-272) of medieval date.

Catalogue

Lead Objects

(122) **16** Twisted and distorted window came (broken into two conjoining pieces). This came was 0.08m wide, 15.2m in length. Weight 12 grams.

Iron Objects

(102) **1** Iron nail. Handmade small square-sectioned shank; length 41mm; width 4mm, with rectangular head; 12mm x 4mm. Weight 4 grams.

(102) **2** Iron nail. Handmade small square sectioned shank; surviving length 38mm; width 4mm, with rectangular head. Weight 3 grams.

(118) **3** Iron winged horseshoe nail. Handmade small rectangular shank; length 17mm; width 4mm, rectangular head 14mm long x 4mm wide. Weight 1 gram.

(118) **4** Iron strip from a box or casket. Rectangular in section; length 28mm; width 9mm; thickness 5mm. Weight 2 grams.

(119) **5** Iron nail. Handmade square sectioned shank 63mm in length; width 4mm, with rectangular head 15mm long x 5mm wide. Weight 8 grams.

(119) **6** Iron fiddle-key horseshoe nail. Handmade small square sectioned shank; length 37mm; width 3mm, with rectangular head 17mm in length; 9mm wide. Weight 5 grams.

(119) **7** Iron nail. Handmade small square sectioned shank; length 27mm; width 5mm; Off-set flat rectangular head 14mm long; 12mm wide. Weight 6 grams.

(119) **8** Iron nail. Handmade rectangular shank; surviving length 40mm; width 3mm; head corroded. Weight 4 gram.

(119) **9** Iron nail. Handmade small square sectioned shank (bent); length 34mm; width 4mm; off-set flat rectangular head 19mm long; 9mm wide. Weight 6 grams.

(119) **10** Iron nail. Handmade square sectioned shank (twisted); surviving length 41mm; width 4mm corroded flat head. Weight 6 grams.

(119) **11** Iron nail. Handmade small square sectioned shank (bent); 41mm in length; width 4mm; rounded (flattened) head 17mm. Weight 7 grams.

(119) **12** Iron nail. Handmade square sectioned shank; 43mm in length; width 3mm; rounded flattened head 15mm diameter. Weight 6 grams.

(119) **13** Iron scale-tang knife with antler handle; length 142mm; Handle thickness 13mm; handle width 25mm; blade width 12mm; Weight 78 grams.

(119) **14** Billet; rectangular in section; 81mm in length; 17mm wide; 9mm thick. Weight 56 grams.

(121) **20** Corroded fragment; Weight 2 grams.

(122) **15** Iron nail. Handmade square sectioned shank; 62mm in length; 3mm wide; corroded rectangular head. Weight 8 grams.

(122) **19** Iron nail. Handmade square sectioned shank; 38mm in length; 2mm wide; rounded (flattened) head 16mm. Weight 3 grams.

(128) **21** Iron nail head. Handmade circular head 13mm diameter. Shank broken.

(131) **17** Iron nail shank. Handmade square sectioned shank; 53mm in length; 3mm wide; 1mm thick. Weight 6 grams.

(135) **22** Iron nail. Handmade rectangular sectioned shank; 89mm in length; 8mm wide; rectangular head (same as shank). Weight 11 grams.

(135) **23** Iron nail. Handmade square sectioned shank; 45mm in length; 3mm wide; Corroded square head. Weight 2 grams.

(181) **18** Iron horseshoe branch fragment; length 59mm; width 5mm – 27mm; Weight 27 grams.

(181) **24** Iron strip from a box or casket. Rectangular in section; length 19mm; width 5mm; thickness 2mm. Weight 2 grams

(181) **25** Iron nail. Handmade small square sectioned shank; surviving length 38mm; width 4mm, with rectangular head 8mm in length; 3mm wide. Weight 3 grams.

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Marine Shell

Methods

The molluscan fauna from the excavations was not superabundant considering all complete and fragmented shell was retained from the site. Therefore the shells were considered by context or contexts grouped by phases into sufficient numbers for the analysis (table 1). The oyster shells were sorted into left and right valves and length and width measured (table 2). The oysters were also examined for infestation by marine worms, sponges, barnacles and other organisms and for the attachment of young oysters. The condition and any unusual characters of the shells were also recorded together with the presence of notches or cut marks (after Winder 1992).

The percentage of all measured shells with each infestation or character was calculated (table 2). The most useful dimension for comparison is the largest diameter, either width or length, of the left, cupped valve. This gives the maximum size of the live oyster as the flat, right valve lies inside it. This measurement (left valve maximum diameter, (LVMD) is used for the survey of modern oyster populations. For each group the mean maximum left valve diameter and standard deviation were calculated to compare the groups.

The general shape of the oysters was quantified simply by dividing the width by length so that those with a ratio of more than one were classified as broad, those less than one as long. The proportion of long shells was calculated. The relationship of width to length was examined by calculating the regression line for representative groups. The numbers of shells measured for each group of contexts, the minimum number (the largest number of either left or right valves totalled for the group including broken shells), and the percentage of broken un-measurable shells were recorded. This data would assist in whether human foraging activities had influenced population size frequency distributions thus implying an impact on shellfish resources.

Results

Oysters

Oysters (*Strea edulis*) made up 100% of the shellfish diet from the assemblage retained from the site, with 60% from Phase 3 (medieval) contexts and 40% deriving from Phase 4 and 5 (Post-Medieval) contexts.

Attaching via calcareous cement the oysters attains the form of the substrate on which they reside and due to this they can 'exhibit a great variability size and other characteristics' (Cox & Herne 1991). Generally the oysters occur in dense beds in creeks and estuaries and also grow sub-littorally this is commonest in the south-east and west of the United Kingdom waters (Yonge 1949 and Haywood *et al.*, 1996).

Oysters can regularly grow up to 4 inches in diameter (9.7cm) but those recovered from the site were generally smaller than this. The size range for the Phase 3 assemblage was between 27 - 86cm and the Phase 4 average was 33 - 78cm. The lower shell halves (right valves) from the sample were generally flat indicating a very low energy fine sediment habitat. The growth lines (Winder 1980, 121-127) on the valves from all phases appeared to have developed very rapidly indicating favourable climate and nutrients.

The assemblage also showed signs of infestation caused by invertebrates that attack the oyster, or attach themselves to the shell, and have specific ecological requirements and sometimes distinct distributions in nature. Evidence of infestation of oyster shells may indicate the location of the oyster beds being fished. Animal encrustations on the inner surface show that the shell has been lying on the sea bed after the death of the oyster which is therefore probably the result of natural causes rather than dredging practices. Examples of this were recovered from the Phase 3 context, 167 from the right valve of an oyster.

Freshly-dredged live oysters are frequently covered by all manner of organisms including soft-bodied animals, like sea squirts and sponges, and seaweeds. In the oyster shells recovered from the site the only evidence to survive comes from those creatures that have left characteristic marks such as bore-holes in the shell or have left hard parts attached to the valves. The occurrence of these types of evidence was recorded for each measurable valve.

The pattern of infestation in the shells helps substantiate the idea that variability in appearance can be used to determine the location of the beds from which they were fished and can reflect changes in the substrates of the Harbour/bay or sea bed. There were four main types of evidence for infestation and encrusting organisms. These were burrows of the worms *Polydora ciliate* and *Poly hoplura*; the honey-comb borings of the sponge *Cliona celata* and the bore-holes of gastropod molluscs such as *Ocenebra ernacea*.

Polydora ciliate and *Poly hoplura* are two marine polychaete worms that are responsible for distinctive burrows in the oyster valves that create small burrows over the general outer shell surface and the latter usually causing larger U-shaped burrows and mud-filled blisters upon the inner edges of the shells. The two species have different geographical distributions and habitat preferences. *Poly hoplura* is found mostly in the south-west of England where it thrives in oysters on soft ground in still warm conditions such as the head waters of creeks or inlets. The oysters displaying this infestation were recovered from Phase 3-5 contexts. *Polydora ciliate* has a wider distribution and is found predominantly on hard sandy or clay grounds, particularly in warm shallow waters. This type of infestation was noted on Phase 3-5 oyster valves.

Cliona celata was noticed on Phase 3-5 oyster valves along with *Ocenebra ernacea* and in modern oyster assemblages it is marginally more frequent in the harbour specimens (Winder, 1992).

Discussion

The assemblage from the site at St. James Lane indicate the oysters derived from a hard sandy or clay substrate and combined with the regular growth lines, size and overall flattish-profile of each oyster, it would indicate that the oysters had probably been recovered from the mouth of the Southampton Estuary.

Phase 3 and 5 oyster valves were broadly similar in size, growth and geographical indicators. The morphology of the shells recovered are broadly similar to modern samples recovered by the author, during oyster seasonal oyster dredging off Stanwood Bay located to the west of Calshot Point in the Western Solent. The presence of *Poly hoplura* would suggest that oysters were also recovered from the head waters like the Itchen and Hamble in Southampton Water or further afield like the Beaulieu River.

The shellfish remains from 10 St James Lane site indicate a strong preference for oysters with little consumption of other mollusc species. The average size of the oysters consumed at the site reflected medium sized oysters were harvested although smaller oysters were also recovered. The ratio of right and left valves was broadly equal in Phase 3 with double the amount of right valves discarded during Phase 4. The right valves are usually associated with food preparation waste and the left valves that contain the meat are indicative of consumed food waste (Somerville, 1997, 167-169). This would indicate both food preparation and post-consumption waste were integrated together prior to disposal in both Phase 3 and 4/5 periods.

The source of the molluscs recovered from the site were likely to have been collected from a natural population occurring within the shallower waters along the northern shores of the Solent and its riverine tributaries, there is an indication that some oysters were obtained from the intertidal lower shore zone when tides were suitable. The results of a study of both medieval and post-medieval marine molluscs from Southampton by Winder (1980), has shown that the Winchester marine molluscs are similar in both size ratios and ecological environmental habitats as the Southampton molluscs. This information would support

the documented sources for the medieval fishmongers of Southampton described in Bettey 1986, 26-7 where Southampton Quay (and probably Itchen River facilities in earlier periods) was the first port of call for these fishermen prior to exporting the fish and molluscs to the hinterland markets like Winchester. It is possible that the Southampton fishmongers became prosperous and highly influential companies that elevated themselves to supply the regional hinterland areas like examples in medieval London (Milne, 2003, 105-108).

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Context	Oyster	Phase
103	5	5
119	6	3
122	10	4
124	5	5
126	12	3
128	1	5
130	2	5
133	4	4
134	2	4
167	22	3
181	3	3
TOTALS	71	

Table 1: Context, Species and Phases

Appendix 5: Animal Bone Report

By Jennifer Wood

Introduction

A total of 619 (4664g) refitted fragments of animal bone were recovered by hand during a program of archaeological works undertaken by Allen Archaeology Ltd, at Land at 10 St James Lane, Winchester, Hampshire. A further 43 (20g) fragments were recovered from sieved environmental samples.

Five phases of activity have been identified within the site:

Phase 1: Roman

Phase 2: Late Saxon to Saxo-Norman

Phase 3: Medieval (13th to 15th century)

Phase 4: Post-medieval (late 17th to early 18th century)

Phase 5: Post-medieval to modern (18th to 21st century)

Methodology

The entire assemblage has been fully recorded into a database archive. Identification of the bone was undertaken with access to a reference collection and published guides. All animal remains were counted and weighed, and where possible identified to species, element, side and zone (Serjeantson 1996). Also fusion data, butchery marks (Binford 1981), gnawing, burning and pathological changes were noted when present. Ribs and vertebrae were only recorded to species when they were substantially complete and could accurately be identified. Undiagnostic bones were recorded as micro (rodent size), small (rabbit size), medium (sheep size) or large (cattle size). The separation of sheep and goat bones was done using the criteria of Boessneck (1969) and Prummel and Frisch (1986) in addition to the use of the reference material. Where distinctions could not be made the bone was recorded as sheep/goat (S/G).

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

The quantification of species was carried out using the total fragment count, in which the total number of fragments of bone and teeth was calculated for each taxon. Where fresh breaks were noted, fragments were refitted and counted as one.

Tooth eruption and wear stages were measured using a combination of Halstead (1985), Grant (1982) and Levine (1982), and fusion data was analysed according to Silver (1969). Measurements of adult, that is, fully fused bones were taken according to the methods of von den Driesch (1976), with asterisked (*) measurements indicating bones that were reconstructed or had slight abrasion of the surface.

Results

Condition

The overall condition of the bone was good, averaging at grade 2 on the Lyman criteria (1996). For the hand collected remains within Table 1, there appears to be little variation between in condition of the bone between each phase. The sieve collected remains represented within Table 2 were of a slightly poorer condition, averaging at grade 3, albeit still fairly consistently between the phases.

Table 1, Summary of Hand Collected Bone Condition, by Phase

Condition	Phase				Total
	2	3	4	5	
1	3	3	1	2	9
2	4	150	286	42	482
3	2	49	46	22	119
4	1	2		6	9
N=	10	204	333	72	619

Table 2, Summary of Sieved Collected Bone Condition, by Phase

Condition	Phase		Total
	3	4	
2	2	5	7
3	21	10	31
4		5	5
N=	23	20	43

Butchery

A total of 18 fragments of bone displayed evidence of butchery. The majority of the butchered remains (39%) were recovered from Phase 4 NW-SE orientated ditch [123]. The remaining assemblage was recovered from Phase 3 ditch [117]; gully [125] and Phase 4 buried garden soil (103), construction cut [112], ditch [184] and pit [129]. The majority of the cut marks appear to be consistent with the disarticulation, jointing of the carcass and meat removal.

Gnawing

A total of 14 fragments of bone displayed evidence of gnawing, 46% of the gnawed assemblage was recovered from Phase 3 pit [166]. The majority of the gnawing appears to be carnivore in origin, with one example of sheep/goat tibia recovered from Phase 3 pit [166] displaying evidence of rodent gnawing along the broken edges. The limited scavenger gnawing on the remains may suggest that the remains were rapidly buried after disposal.

Burning

A total of 10 fragments of burnt bone were recovered from Phase 2 post hole [170], Phase 3 ditch [117], Phase 4 ditches [123] and [184] and Phase 5 topsoil (102) and probably represent incidental burning events.

Pathology

A total of 5 fragments of bone from a single articulated dog skeleton recovered from Phase 4 ditch [123] displayed evidence of pathology. The left mandible displayed pre-mortem loss of the lower 3rd and 4th premolars, with some resorption of the alveolar bone. It is not apparent if the tooth loss was a result of trauma, periodontal disease or excessive wear. The ventral articular surface of the sacral centrum and the corresponding caudal surface of the fifth lumbar vertebra, display evidence of osteophytic lipping on the margins. Osteophytic lipping on the articular surface is often formed as a stress response to strain on the joint, where extra bone is produced to spread prolonged pressure. On both radii there is a pit at the ligament insertion point which connects the ulna, which may have been a result of trauma/constant strain on the ligaments.

Species Representation

Table 2 summarises the number of fragments of bone identified to species or taxon by phase. The majority of the animal bone assemblage was recovered from deposits from Phase 4.

Sheep/Goat were the most abundant species identified within the assemblage. Sheep were positively identified within the assemblage, no evidence of goat was noted although due to the overlapping morphology between sheep and goat it is possible that goat remains may have still been present but hitherto undistinguished from sheep. Dog remains are the next most abundant species, with cattle remains as the next abundant species identified closely followed by pig. Small numbers of *Equid* (Horse family) cat, goose, domestic fowl, *Corvid* (crow family), fallow deer (*Dama dama*), roe deer (*Capreolus capreolus*), rabbit (*Oryctolagus cuniculus*) and fish were also identified within the assemblage.

Table 3, Identified Taxa from the Hand Collected Assemblage, by Phase

Taxon	Phase				Total
	2	3	4	5	
<i>Equid</i> (Horse Family)			2	2	4
Cattle		28	12	8	48
Sheep/Goat	3	39	28	11	81
Sheep		3	1		4
Pig	1	17	15	6	39
Dog			54*		54
Cat			1	1	2
Goose (<i>Anser Sp.</i>)		1		1	2
Domestic Fowl (<i>Gallus Sp.</i>)		4	4	2	10
<i>Corvid</i> (Crow Family)			1		1
Bird		2		1	3
Fallow Deer (<i>Dama dama</i>)		3			3
Fallow Deer?				1	1
Roe Deer (<i>Capreolus capreolus</i>)		2			2
Rabbit (<i>Oryctolagus cuniculus</i>)		2		1	3
Large Mammal	1	44	26	20	91
Medium Mammal	4	24	56	10	94
Small Mammal		1	72		73
Unidentified	1	34	61	8	104
N=	10	204	333	72	619

*Includes a single articulated skeleton

Table 4, Identified Taxa from the Sieve Collected Assemblage, by Phase

Taxon	Phase		Total
	3	4	
Sheep/Goat		1	1
Pig		1	1
Bird		2	2
Fish	1		1
Large Mammal	2	2	4
Medium Mammal	5	3	8
Micro Mammal	1	1	2
Unidentified	14	10	24
N=	23	20	43

Minimum number of individuals (MNI) was calculated for the assemblages from each phase that produced an animal bone assemblage, to remove the potential bias of species abundance that can be produced by the presence of complete skeletons within the assemblage (Table 5).

Table 5, Minimum Number of Individuals (MNI)

Phase	2	3	4	5
<i>Equid</i> (Horse Family)	0	0	1	1
Cattle	0	3	1	0
Sheep/Goat	1	3	3	2
Pig	1	2	1	2
Dog	0	0	1	0

As can be seen from the MNI calculations, sheep/goat and pig remains were in equal ratios within the Phase 2 assemblage. Sheep/goat and cattle remains were equally represented within the Phase 3 assemblages with a slightly smaller number of pigs. Within Phase 4 sheep/goat were the most abundant species with the other main domestic species represented in smaller ratios. In Phase 5, sheep/goat and pigs were represented in equal ratios with a smaller number of equids present. Although dog remains are well represented within the Phase 4 assemblage, the MNI calculations indicate that the remains represented a single individual.

The smaller assemblages may not provide a true representation of species ratios due to the limited number of fragments. For the two phases with the most abundant fragments, Phase 3 and Phase 4, the ratios are slightly more varied. From Phase 3 the main domestic animals utilised for food, are represented in almost equal quantities. Within Phase 4 sheep/goat remains are represented in higher ratios than the other main domestic species, which may suggest an emphasis on sheep/goat husbandry during this period.

Sheep/goat

Sheep/goat remains were the most abundant species identified within the assemblage. The MNI calculations suggest that there is not too much emphasis on the utilisation of sheep/goat for the majority of phases, with the exception of Phase 4, which seems to have contained a larger ratio of sheep/goat remains in comparison to cattle and pig.

No complete remains were available to provide measurements for withers height estimations.

Aging data was very limited within the assemblage. Two mandibles from animals aged 10-20 months were recovered from Phase 3 pit [166] and gully [125]. A mandible recovered from an animal aged 20-30 months was recovered from Phase 3 gully [178]. Two mandibles from animals aged 3-5 years were recovered from Phase 3 pit [166] and Phase 5 pit/gully terminal [129].

The epiphyseal fusion data (Appendix 1) compliments to the rather limited tooth wear data. In Phase 2 all of the observable remains were from skeletally mature individuals. Within Phase 3, 50% of the scorable animals reached skeletal maturity (3.5 years +), with the remaining animals being slaughtered between 2-3 years of age. In Phase 4, only 33% of the remains were from animals aged over 2-3 years and within Phase 5 only 50% of the assemblage was older than 1-2 years.

The emphasis of younger animals within the assemblage suggests that the main focus of husbandry practices supplying the site was for meat production, possibly with a few animals being retained to an older age for wool production.

Cattle

Cattle are the second most abundant species identified within the assemblage. However, when taking into consideration the minimum number of individuals calculations; the ratio of cattle appears to be slightly less than the number of individual sheep/goat identified in Phases 2 and 3. In Phase 3, the number of

cattle and sheep/goat are represented in equal ratios. Due to the size of these animals, the majority of the meat provision for the site is most likely to have been from cattle.

None of the remains were complete enough to provide measurements for withers height estimation calculations.

Tooth wear score age data was limited for the assemblage. A total of two mandibles recovered from Phase 3 gully [125] were able to provide tooth age scores of 18- 30 months.

The epiphyseal fusion data (Appendix 1) adds to the rather limited tooth wear data. In Phase 3 approximately 50% of the scorable animals reached skeletal maturity (4 years +), with the remaining animals being slaughtered between 2-3 years of age. Within Phases 4 and 5 the remains were all from skeletally mature animals.

In combination with the tooth wear; the aging data from the assemblage from Phase 3 would suggest that cattle husbandry was based particularly on meat production. Within Phases 4 and 5, the epiphyseal fusion data suggests that the animal were retained to an older age indicating that the emphasis was no longer based purely upon meat production, but on secondary products such as milk production and traction.

Pig

Pig remains are not as well represented within the assemblage as sheep/goat or cattle. Where possible to assess the remains are predominantly from sub-adult animals. A single mandible from a sub-adult animal was recovered from Phase 3 pit [166].

The limited epiphyseal fusion data (Appendix 1) generally supports the toothwear age scores, with all of the scorable of the remains recovered from animals below 1 year.

Pigs produce little in the form secondary products and are therefore commonly slaughtered at a young age for meat, with a few animals retained to adulthood for breeding purposes.

Dog

An articulated skeleton of an adult male dog was recovered from Phase 4 ditch [123]. The skeleton displayed several pathological conditions as discussed above. The accumulation of several pathological conditions within one individual may suggest that the animal was of an advanced age. Dogs were often utilised as working animals, for guarding, hunting and herding or sometimes kept as pets or present as scavengers.

Cat

A single fragment of cat was recovered from Phase 4 ditch [184] and Phase 5 topsoil (102). Cats would have been present as working animals kept for hunting vermin, as pets or as natural scavengers.

Equids

A total of four fragments of *equid* (horse family) remains were recovered from Phase 3 gully [125] and Phase 5 buried garden soil (103) and pit [129]. Equids would have been present as working animals utilised for traction and riding, although many may have been processed for meat and bone once no longer useful.

Birds

Fragments of domestic fowl, goose and *corvid* (crow family) were identified within the assemblage. Domestic fowl were present within the assemblages from Phases 3, 4 and 5; goose was present within the

Phase 3 and 5 assemblages. Domestic fowl and goose were often retained as a source of meat, eggs and feathers. *Corvidae* are generally a scavenger species and are rarely considered as a food resource.

Wild Species

Fallow deer, roe deer and rabbit remains were recovered from the Phase 3 assemblage, from gully [125] and conjoining Pit [166]. Venison is a food often associated with status. In the medieval period the control of hunting and distribution of venison was considered as a perk of office, which was often gifted as a demonstration of royal or aristocratic largesse and should not be bought or sold (Birell, 1992:14). The law forbidding the sale of venison was not abolished until 1831, although by the latter period the law was largely flouted (J. Fletcher. *Pers.Comm*).

Rabbits, like deer, were a controlled species during the post-Norman period. The animals were purposely farmed to be utilised as a luxury item providing both meat and fur. As rabbits acclimatised to the British habitat, the animals were able to thrive and the luxury status started to decline. By the 16th century, feral colonies of rabbits were reputed to be numerous (Sykes and Curl, 2010:125).

The presence of these animals within the Phase 3 assemblage may suggest that assemblage represented high status food refuse. However, there is always the possibility that the presence of these animals could be as a result of poaching. According to the published synthesis of environmental remains recovered from medieval Winchester (Serjeantson 2009: 179), there was little evidence of inclusion of fallow deer and rabbit within the diet economy of Winchester until the 13th century, which is generally consistent with findings from St James Lane.

Fish

A single fragment of unidentified fish vertebra was recovered from the sieved assemblage from Phase 3 gully [144]. Fish would have commonly been used to supplement diet, especially during times of fasting from meat.

Micro Mammals

Two fragments of micro mammal remains were recovered the sieved assemblages from Phase 3 ditch [117] and gully [125]. Micro mammals usually represent small scavenger species such rodents and shrews, and were commonly present on site as scavengers attracted to deposited refuse.

Skeletal Element Representation

Most skeletal elements are well represented within the assemblage, suggesting that the entire carcass was probably present and processed on site. When observed by phase, most of the assemblages contain skeletal elements which would suggest a mixture of both butchery and food waste refuse were present.

Discussion

The animal bone assemblage recovered from 10 St James Lane, Winchester was of small to moderate size and of general good overall condition.

The assemblage, although too small to provide meaningful data on age at death profiles, has some potential to provide data on the general underlying trends on animal utilisation and husbandry practices. Most of the assemblages from each phase of activity seem to mainly consist of animals of prime meat weight age, with only a few animals reaching skeletal maturity. This would suggest that the site represented a consumer community, where animals were raised elsewhere and then brought to site and slaughtered for meat. No evidence of any craft industry, such as bone, horn working or tanning was noted within the assemblage.

Skeletal elements represented in the assemblage were a mixture of remains commonly associated with both butchery and domestic food waste and most likely represented general domestic activity.

The diet economy for most phases of activity for the site was not particularly high status; however, the Phase 3 assemblage appears to be the exception. The assemblage is well represented by domesticated animals of prime meat bearing age, with sheep/goat, cattle and pig all well represented. In addition to these prime meat age domestic species, the assemblage contained remains from hunted species such as fallow deer, roe deer and rabbit, all of which were considered as luxury items during the medieval period due to the controlled nature of the raising and distribution of these animals. Due to the close proximity of the castle defences to the excavation site, it is not inconceivable that some high status residences and hence refuse may be present locally to the excavation site.

Recently published syntheses of animal remains from Winchester (Serjeantson and Rees 2009) have provided an excellent base line for the animal husbandry practices that were influencing the sites within the medieval and post-medieval Winchester suburbs. However, due to the small size of the assemblage from each Phase of activity at St James Lane and the slightly anomalous “high status” refuse included within the Phase 3 assemblage, little comparison can be made with the generalised patterns gained from the Winchester suburb animal bone synthesis.

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Animal Bone Archive

Ctxt	Sample No	Taxon	Element	Side	Z 1	Z 2	Z 3	Z 4	Z 5	Z 6	Z 7	Z 8	Prox	Dist	Path	Butch	Worked	Burnt	Gnaw	Fresh Break	Assoc'd	Measured	Tooth Wear	Surface	Condition	No	(g)	Notes
101	0	Large Mammal	Long Bone	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	2	1	18	
101	0	Cattle	Mandible	R	N	N	N	N	N	Y	N	Y	X	X	N	N	N	N	N	Y	N	N	N	X	2	1	91	With broken M3 in occlusion
101	0	Sheep/Goat	Radius	L	N	N	Y	Y	Y	Y	N	N	X	X	N	N	N	N	N	N	N	N	N	X	3	1	9	
102	0	Cat	Mandible	L	N	N	Y	Y	Y	N	N	N	X	X	N	N	N	N	N	Y	N	N	N	X	3	1	2	
102	0	Large Mammal	Scapula	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	Y	N	Y	N	N	X	3	1	25	partially charred black
102	0	Large Mammal	Rib	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	Y	N	N	N	N	X	3	1	6	Burnt white
102	0	Large Mammal	Long Bone	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	Y	N	N	N	N	X	3	2	11	Burnt grey
102	0	Sheep/Goat	Metacarpal	L	Y	Y	Y	Y	Y	Y	N	N	F	X	N	N	N	N	N	N	N	Y	N	X	2	1	20	
102	0	Fowl	Femur	R	Y	Y	Y	Y	Y	Y	Y	F	F	N	N	N	N	N	N	N	N	Y	N	X	3	1	4	
103	0	Pig	Femur	R	N	N	N	N	Y	Y	N	N	X	U	N	N	N	N	N	N	N	N	N	X	2	1	25	
103	0	Pig	Tibia	R	N	N	Y	Y	Y	Y	N	N	X	U	N	N	N	N	N	N	N	N	N	R	1	1	26	
103	0	Large Mammal	Rib	R	N	N	N	N	N	N	N	N	X	X	N	Y	N	N	Y	N	N	N	N	X	2	1	38	Knife cuts on the lateral side of the blade. Possible carnivore tooth marks on the blade
103	0	Large Mammal	Mandible	X	N	N	Y	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	3	1	9	
103	0	Large Mammal	Long Bone	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	3	3	30	
103	0	Medium Mammal	Long Bone	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	3	4	9	
103	0	Medium Mammal	Long Bone	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	Y	N	N	N	N	X	4	1	4	Carnivore gnawing on the shaft
103	0	Medium Mammal	Rib	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	2	1	3	
103	0	Cattle	Phalanx (I)	L	Y	Y	Y	Y	Y	Y	Y	F	F	N	N	N	N	N	N	N	Y	N	N	X	3	1	13	
103	0	Fallow Deer?	Radius	L	N	N	N	N	Y	Y	N	N	X	U	N	N	N	N	N	N	N	N	N	R	2	1	10	
103	0	Sheep/Goat	Tibia	R	N	N	N	N	Y	Y	Y	Y	X	F	N	N	N	N	N	N	N	Y	N	X	2	1	28	
103	0	Sheep/Goat	Tibia	R	N	N	N	N	Y	Y	N	N	X	X	N	N	N	N	N	N	N	N	N	X	2	1	4	
103	0	Sheep/Goat	Metatarsal	R	Y	Y	Y	Y	N	N	N	N	F	X	N	N	N	N	N	N	N	Y	N	R	3	1	8	
103	0	Medium Mammal	Innominate	R	N	Y	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	4	1	8	
103	0	Cattle	Humerus	L	N	N	Y	Y	Y	Y	N	N	X	X	N	N	N	N	N	N	N	N	N	R	4	1	30	
103	0	Cattle	Ulna	R	N	N	Y	Y	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	R	4	1	20	
103	0	Large Mammal	Mandible	L	N	N	N	Y	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	2	1	14	
103	0	Equid	Phalanx (I)	L	Y	Y	Y	Y	Y	Y	Y	F	F	N	N	N	N	Y	Y	N	Y	N	N	X	3	1	76	Carnivore gnawing on the midshaft. Marked muscle attachments.
103	0	Pig	Femur	R	N	N	Y	Y	Y	Y	N	N	U	U	N	N	N	N	N	N	N	N	X	3	1	0	Neonatal	
103	0	Unidentified	Unidentified	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	4	2	2	
109	0	Rabbit	Humerus	R	N	N	N	N	Y	Y	Y	Y	X	F	N	Y	N	N	Y	N	N	N	X	2	1	1	possible knife cuts on the lateral side of the distal posterior shaft, possible gnawing on the distal condyle	
109	0	Sheep/Goat	Humerus	R	N	N	Y	Y	Y	Y	Y	Y	X	F	N	N	N	N	N	N	N	Y	N	X	2	1	15	
118	0	Sheep/Goat	Tooth	R	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	2	1	7	Upper M2
119	0	Cattle	Calcaneus	L	Y	N	Y	N	Y	Y	N	N	X	X	N	N	N	N	N	Y	N	N	N	X	3	1	26	
119	0	Pig	Humerus	L	N	N	Y	Y	Y	Y	N	N	X	X	N	N	N	N	N	N	N	N	N	X	2	1	13	
119	0	Pig	Radius	R	N	N	N	N	Y	Y	N	N	X	U	N	N	N	N	N	N	N	N	N	X	2	1	8	
119	0	Sheep/Goat	Calcaneus	R	Y	Y	Y	Y	Y	Y	Y	N	U	X	N	N	N	N	N	N	N	N	N	R	3	1	4	
119	0	Pig	Tooth	L	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	3	1	3	lower female canine
119	0	Large Mammal	Caudal	B	N	N	N	N	N	N	N	N	F	X	N	N	N	N	Y	N	N	N	N	X	4	1	1	Burnt white
119	0	Large Mammal	Vertebra	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	2	1	9	Neural arch
119	0	Large Mammal	Long Bone	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	3	8	46	
119	0	Cattle	Patella	L	N	N	N	N	N	N	N	N	X	X	N	N	N	N	Y	N	N	N	N	X	3	1	25	Possible carnivore gnawing on the surface. Mostly complete

Ctxt	Sample No	Taxon	Element	Side	Z 1	Z 2	Z 3	Z 4	Z 5	Z 6	Z 7	Z 8	Prox	Dist	Path	Butch	Worked	Burnt	Gnaw	Fresh Break	Assoc'd	Measured	Tooth Wear	Surface	Condition	No	(g)	Notes	
119	0	Large Mammal	Skull	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	2	2	8		
119	0	Cattle	Phalanx (I)	L	Y	Y	N	N	N	N	N	N	F	X	N	N	N	N	N	N	N	N	Y	N	X	3	1	11	
119	0	Medium Mammal	Long Bone	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	3	6	12		
119	0	Sheep/Goat	Radius	R	Y	N	Y	N	N	N	N	N	F	X	N	N	N	N	N	N	N	N	N	X	3	1	2		
119	0	Cattle	Tooth	R	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	3	1	24	Upper M3	
119	0	Sheep/Goat	Mandible	L	N	N	N	N	N	N	Y	N	X	X	N	N	N	N	N	N	N	N	N	X	3	1	2	3	
119	0	Cattle	Tooth	R	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	3	1	4	Lower PM3	
119	0	Sheep/Goat	Tooth	L	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	3	1	4	Upper Molar	
119	0	Sheep/Goat	Tooth	L	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	2	1	4	Upper M1	
119	0	Goose	Tibio-tarsus	L	N	N	N	N	Y	Y	Y	Y	X	F	N	N	N	N	N	N	N	N	Y	N	X	2	1	2	
119	0	Fowl	Tibio-tarsus	R	N	N	N	N	Y	Y	Y	Y	X	F	N	N	N	N	N	N	N	N	Y	N	X	3	1	1	
119	0	Unidentified	Unidentified	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	2	6	25		
119	0	Bird	Phalanx (II)	R	Y	Y	Y	Y	Y	Y	Y	Y	F	F	N	N	N	N	N	N	N	N	N	X	2	1	0		
119	1	Medium Mammal	Vertebra	L	N	N	N	N	N	N	N	N	X	F	N	N	N	Y	N	N	N	N	N	X	3	1	1	Burnt white	
119	1	Large Mammal	Long Bone	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	3	1	0		
119	1	Large Mammal	Rib	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	3	1	0		
119	1	Unidentified	Unidentified	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	3	8	3		
119	1	Micro Mammal	Humerus	L	N	N	Y	Y	Y	Y	Y	Y	U	F	N	N	N	N	N	N	N	N	N	X	2	1	0		
121	0	Medium Mammal	Rib	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	3	1	3		
121	0	Cattle	Calcaneus	L	N	N	N	N	N	N	N	Y	F	X	N	N	N	N	N	N	N	N	N	X	2	1	13		
121	0	Pig	Tibia	R	N	N	Y	Y	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	2	9	0		
121	0	Cattle	Mandible	L	N	N	Y	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	3	1	28	Broken M1 in occlusion	
121	0	Large Mammal	Long Bone	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	3	1	6		
121	0	Cattle	Radius	R	Y	N	Y	N	N	N	N	N	F	X	N	N	N	N	N	N	N	N	N	X	3	1	20		
121	0	Sheep/Goat	Tooth	L	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	3	1	3	Broken upper molar	
121	0	Pig	Humerus	L	N	N	N	N	Y	Y	Y	Y	X	F	N	Y	N	N	N	N	N	Y	N	X	3	1	39	Single knife cut on the medial side of the distal shaft	
121	0	Sheep/Goat	Tooth	R	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	Y	X	2	1	5	Lower M3=g	
121	0	Large Mammal	Rib	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	2	1	2		
121	0	Unidentified	Unidentified	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	2	1	2		
122	0	Medium Mammal	Long Bone	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	3	9	16		
122	0	Medium Mammal	Rib	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	2	2	1		
122	0	Large Mammal	Long Bone	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	3	3	20		
122	0	Large Mammal	Scapula	X	N	N	N	N	N	N	N	N	X	X	N	Y	N	N	N	N	N	N	N	X	2	3	20	Chopped though all three fragments	
122	0	Cattle	Mandible	L	Y	Y	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	2	1	22		
122	0	Cattle	Phalanx (III)	L	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	R	3	1	12	tip missing	
122	0	Pig	Tooth	L	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	2	1	2	Lower incisor	
122	0	Pig	Tooth	R	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	2	1	2	lower PM	
122	0	Pig	Tooth	L	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	2	1	2	lower PM	
122	0	Pig	Phalanx (I)	L	N	N	Y	Y	Y	Y	Y	Y	U	F	N	N	N	N	N	N	N	N	N	R	3	1	2		
122	0	Pig	Metacarpal (III)	R	Y	Y	Y	Y	Y	Y	N	N	F	U	N	N	N	N	N	N	N	N	N	X	3	1	5		
122	0	Pig	Humerus	L	N	N	N	N	Y	Y	Y	Y	X	F	N	N	N	N	Y	N	N	Y	N	R	2	1	23	Carnivore tooth puncture marks on the condyles	
122	0	Pig	Ulna	R	N	N	Y	Y	Y	Y	N	N	X	X	N	N	N	N	N	N	N	N	R	2	1	11			
122	0	Large Mammal	Thoracic	B	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	2	1	3	Spinous process	
122	0	Cat	Ulna	L	Y	Y	Y	Y	Y	Y	N	N	F	X	N	N	N	N	N	Y	N	N	N	X	2	1	2		
122	0	Cattle	Tooth	R	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	2	1	2	Lower incisor	
122	0	Cattle	Tooth	R	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	2	1	2	Lower incisor	

Ctxt	Sample No	Taxon	Element	Side	Z 1	Z 2	Z 3	Z 4	Z 5	Z 6	Z 7	Z 8	Prox	Dist	Path	Butch	Worked	Burnt	Gnaw	Fresh Break	Assoc'd	Measured	Tooth Wear	Surface	Condition	No	(g)	Notes	
122	0	Sheep/Goat	Radius	L	N	N	Y	Y	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	3	1	7		
122	0	Sheep/Goat	Humerus	R	N	N	N	N	Y	Y	Y	Y	X	F	N	N	N	N	N	N	N	N	Y	N	R	3	1	11	
122	0	Sheep/Goat	Radius	R	N	N	Y	Y	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	3	1	2		
122	0	Sheep/Goat	Tooth	R	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	2	1	7	Upper M3	
122	0	Sheep/Goat	Tooth	L	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	2	1	1	Upper PM	
122	0	Sheep/Goat	Tooth	R	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	Y	X	3	1	5	Broken lower M3	
122	0	Sheep/Goat	Tooth	R	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	2	1	3	Un worn lower M1	
122	0	Unidentified	Unidentified	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	2	3	22		
122	4	Large Mammal	Long Bone	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	2	1	1		
122	4	Large Mammal	Rib	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	2	1	1		
122	4	Medium Mammal	Long Bone	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	3	1	1		
122	4	Medium Mammal	Scapula	R	N	N	N	N	Y	N	N	N	X	X	N	N	N	Y	N	N	N	N	N	X	4	1	1	Burnt grey	
124	0	Cattle	Radius	L	Y	Y	Y	Y	N	N	N	N	F	X	N	Y	N	N	N	N	N	Y	N	X	2	1	80	Chopped and snapped through the proximal shaft, single knife cut on the medial shaft	
124	0	Sheep/Goat	Tibia	L	Y	Y	N	N	N	N	N	N	F	X	N	N	N	N	N	N	N	Y	N	X	3	1	18		
124	0	Sheep/Goat	Metacarpal	L	N	N	N	N	Y	Y	N	N	X	U	N	N	N	N	N	N	N	N	N	X	1	1	8		
124	0	Pig	Skull-zygomatic	R	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	2	1	8		
124	0	Cattle	Phalanx (I)	R	Y	Y	Y	Y	Y	Y	Y	Y	F	F	N	N	N	N	N	N	N	Y	N	X	3	1	23		
124	0	Cattle	Patella	R	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	2	1	19	Mostly complete	
124	0	Medium Mammal	Rib	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	2	2	3	4	
124	0	Pig	Scapula	R	Y	Y	N	N	N	N	N	N	F	X	N	Y	N	N	N	N	N	N	N	X	3	1	8	Chopped diagonally through the neck	
124	0	Pig	Humerus	L	N	N	N	N	Y	Y	N	N	X	X	N	N	N	N	N	N	N	N	N	X	2	1	8		
124	0	Medium Mammal	Rib	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	2	1	1		
124	0	Cattle	Metatarsal	L	Y	Y	N	N	N	N	N	N	F	X	N	N	N	N	N	N	N	N	N	X	2	1	12		
124	0	Sheep/Goat	Innominate	L	N	N	N	N	N	N	Y	N	X	X	N	N	N	N	N	N	N	N	N	X	2	1	2		
124	0	Sheep/Goat	Tooth	R	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	2	1	4	Upper PM	
124	0	Large Mammal	Long Bone	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	2	9	70		
124	0	Sheep/Goat	Mandible	R	N	Y	Y	Y	N	N	N	N	X	X	N	N	N	N	N	N	Y	N	N	Y	R	2	1	17	
124	0	Bird	Long Bone	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	2	1	1		
124	0	Equid	Astragalus	L	Y	Y	Y	Y	Y	Y	Y	Y	X	X	N	N	N	N	N	N	N	Y	N	X	2	1	58		
124	0	Fowl	Femur	R	N	N	Y	Y	Y	Y	N	N	X	X	N	N	N	N	N	N	N	N	N	X	2	1	1	Juvenile	
124	0	Goose	Femur	R	N	N	N	N	Y	Y	Y	Y	X	F	N	Y	N	N	N	N	N	N	N	X	2	1	3	Juv, knife cut on the posterior midshaft and at the medial distal condyle	
124	0	Unidentified	Unidentified	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	2	6	30		
126	0	Fallow Deer	Radius	L	N	N	N	N	Y	Y	Y	Y	X	F	N	N	N	N	N	N	N	Y	N	X	2	1	40		
126	0	Sheep/Goat	Metatarsal	R	N	N	Y	Y	Y	Y	N	N	X	X	N	N	N	N	N	N	N	N	N	R	3	1	12		
126	0	Large Mammal	Lumbar	B	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	2	1	5	Spinous process	
126	0	Large Mammal	Vertebra	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	2	1	6	neural arch	
126	0	Cattle	Tooth	R	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	2	1	24	Upper PM	
126	0	Medium Mammal	Rib	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	2	1	1		
126	0	Large Mammal	Long Bone	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	3	1	24		
126	0	Sheep/Goat	Tibia	L	Y	Y	Y	Y	N	N	N	N	F	X	N	N	N	N	N	N	N	Y	N	X	2	1	16		
126	0	Cattle	Innominate	L	N	Y	Y	Y	N	N	N	N	X	X	N	Y	N	N	N	N	N	N	N	X	2	1	55	Single knife cut on the ilium	
126	0	Large Mammal	Rib	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	2	2	6		
126	0	Medium Mammal	Long Bone	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	2	1	2		
126	0	Sheep	Mandible	R	Y	Y	Y	Y	N	N	N	N	X	X	N	N	N	N	N	N	N	N	Y	X	2	1	12		

Ctxt	Sample No	Taxon	Element	Side	Z 1	Z 2	Z 3	Z 4	Z 5	Z 6	Z 7	Z 8	Prox	Dist	Path	Butch	Worked	Burnt	Gnaw	Fresh Break	Assoc'd	Measured	Tooth Wear	Surface	Condition	No	(g)	Notes
126	0	Fowl	Tarso-metatarsus	R	Y	Y	N	N	N	N	N	N	F	X	N	N	N	N	N	N	N	Y	N	X	2	1	1	
126	0	Cattle	Mandible	L	Y	Y	Y	Y	Y	Y	N	N	X	X	N	N	N	N	N	Y	N	N	Y	X	2	1	221	
126	0	Cattle	Mandible	R	Y	Y	Y	Y	Y	Y	Y	Y	X	X	N	N	N	N	N	Y	N	N	Y	X	2	1	229	
126	0	Sheep/Goat	Mandible	R	N	N	N	N	Y	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	2	1	3	
126	0	Large Mammal	Innominate	L	N	N	N	N	Y	N	N	N	F	X	N	N	N	N	N	N	N	N	N	X	3	1	9	
126	5	Unidentified	Unidentified	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	3	2	1	
130	0	Large Mammal	Rib	X	N	N	N	N	N	N	N	N	X	X	N	Y	N	N	N	N	N	N	N	X	3	1	15	Chopped both sides of the blade
130	0	Medium Mammal	Rib	X	N	N	N	N	N	N	N	N	X	X	N	Y	N	N	N	N	N	N	N	X	3	1	3	Chopped both sides of the blade
130	0	Medium Mammal	Long Bone	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	3	1	4	
130	0	Large Mammal	Long Bone	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	3	2	40	
130	0	Sheep/Goat	Mandible	L	N	Y	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	3	1	6	
130	0	Pig	Scapula	R	N	N	N	Y	N	Y	N	N	X	X	N	Y	N	N	N	N	N	N	N	X	2	1	12	Deep cut mark at the neck
130	0	Pig	Skull-occipital	L	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	2	1	6	
130	0	Medium Mammal	Skull	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	2	1	1	
130	0	Sheep/Goat	Tooth	R	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	2	1	0	Upper pM
130	0	Fowl	Humerus	L	N	N	Y	Y	Y	Y	Y	Y	X	F	N	N	N	N	N	N	N	Y	N	X	3	1	2	
130	0	Sheep/Goat	Radius	L	Y	Y	N	Y	N	N	N	N	F	X	N	N	N	N	N	Y	N	N	N	X	2	1	4	
130	0	Fowl	Tibio-tarsus	L	Y	Y	Y	Y	N	N	N	N	U	X	N	N	N	N	N	N	N	N	N	X	2	1	1	Juv
130	0	Equid	Metacarpal	L	N	N	N	N	Y	Y	Y	Y	X	F	N	N	N	N	N	N	N	Y	N	X	2	1	99	
130	7	Medium Mammal	Long Bone	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	R	3	1	1	
130	7	Unidentified	Unidentified	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	4	4	1	
131	0	Large Mammal	Long Bone	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	3	2	72	
131	0	Sheep/Goat	Tibia	L	N	N	N	N	Y	Y	Y	Y	X	F	N	Y	N	N	N	Y	N	N	N	X	2	1	14	Chopped and snapped midshaft
131	0	Equid	Tooth	L	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	2	1	8	lower incisor
131	0	Cattle	Tooth	L	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	2	1	4	Upper PM
131	0	Medium Mammal	Rib	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	2	1	1	
131	0	Pig	Tooth	L	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	2	1	5	Upper M1
131	0	Sheep/Goat	Scapula	L	N	N	N	N	N	Y	N	N	X	X	N	N	N	N	N	N	N	N	N	X	2	1	5	
131	0	Sheep/Goat	Innominate	L	Y	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	2	1	5	
131	0	Sheep/Goat	Mandible	X	N	N	Y	N	N	N	N	N	X	X	N	N	N	N	N	Y	N	N	N	X	2	1	2	no teeth in occlusion
131	0	Unidentified	Unidentified	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	2	1	2	
132	0	Pig	Humerus	R	N	N	Y	Y	Y	Y	N	N	X	X	N	N	N	N	N	N	N	N	R	2	1	16		
132	0	Sheep/Goat	Metacarpal	L	Y	Y	N	N	N	N	N	N	F	X	N	N	N	N	N	N	N	Y	N	X	2	1	6	
132	0	Medium Mammal	Rib	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	R	3	1	5	
132	0	Cattle	Mandible	R	Y	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	2	1	16	
132	0	Large Mammal	Long Bone	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	R	2	3	20	
132	0	Large Mammal	Rib	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	2	3	9	Blade fragments
132	0	Sheep/Goat	Metatarsal	R	Y	Y	Y	Y	Y	Y	N	N	F	X	N	N	N	N	N	N	N	Y	N	X	2	1	10	
132	0	Sheep/Goat	Calcaneus	L	Y	Y	Y	Y	Y	Y	Y	Y	F	X	N	N	N	N	N	N	N	Y	N	R	2	1	5	
132	0	Sheep/Goat	Tooth	L	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	2	1	5	Upper M3
132	0	Large Mammal	Long Bone	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	Y	N	N	N	N	X	3	1	3	Burnt brown/black
132	0	Cattle	Tooth	L	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	2	1	4	Lower PM3
132	0	Sheep	Horncore	R	N	N	N	N	Y	Y	Y	Y	X	X	N	N	N	N	N	N	N	N	N	X	2	1	6	
132	0	Large Mammal	Scapula	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	Y	N	N	N	X	2	1	12	Blade fragment
132	0	Fowl	Humerus	R	N	N	Y	Y	Y	Y	N	N	X	X	N	N	N	N	N	N	N	N	N	X	3	1	1	
132	0	Medium Mammal	Long Bone	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	3	1	1	
132	0	Cattle	Nav-Cuboid	L	N	Y	N	Y	N	Y	N	Y	X	X	N	N	N	N	N	N	N	N	N	X	3	1	11	
133	0	Cattle	Calcaneus	L	Y	Y	Y	Y	Y	Y	Y	Y	F	X	N	N	N	N	N	N	N	Y	N	X	3	1	135	
133	0	Large Mammal	Rib	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	2	4	23	

Ctxt	Sample No	Taxon	Element	Side	Z 1	Z 2	Z 3	Z 4	Z 5	Z 6	Z 7	Z 8	Prox	Dist	Path	Butch	Worked	Burnt	Gnaw	Fresh Break	Assoc'd	Measured	Tooth Wear	Surface	Condition	No	(g)	Notes	
133	0	Large Mammal	Long Bone	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	3	1	7		
133	0	Cattle	Humerus	L	N	N	N	N	N	N	N	N	X	X	N	Y	N	N	N	N	N	N	N	X	2	1	40	Chopped on the midshaft	
133	0	Pig	Calcaneus	R	N	Y	N	N	Y	Y	N	N	X	X	N	N	N	N	N	N	N	N	N	X	2	1	4		
133	0	Medium Mammal	Long Bone	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	3	2	3		
133	0	Pig	Tibia	L	N	N	Y	Y	N	N	N	N	U	X	N	N	N	N	N	N	N	N	N	X	2	1	11		
133	0	Cattle	Metatarsal	L	Y	Y	N	N	N	N	N	N	F	X	N	N	N	N	N	N	N	N	N	X	2	1	7		
133	0	Sheep/Goat	Phalanx (I)	R	Y	Y	Y	Y	Y	Y	Y	Y	F	F	N	N	N	N	N	N	N	Y	N	X	2	1	1		
133	0	Pig	Phalanx (III)	R	Y	Y	Y	Y	Y	Y	Y	Y	X	X	N	N	N	N	N	N	N	N	Y	N	X	2	1	2	
133	0	Sheep/Goat	Metatarsal	R	Y	Y	Y	Y	N	N	N	N	F	X	N	N	N	N	N	N	N	N	Y	N	X	2	1	10	
133	0	Sheep/Goat	Tooth	L	N	N	N	Y	N	N	N	N	X	X	N	N	N	N	N	N	N	N	Y	X	2	1	3	Lower M2=f	
133	0	Sheep/Goat	Metatarsal	L	N	N	Y	Y	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	3	1	5		
133	0	Fowl	Coracoid	L	N	N	N	N	Y	Y	Y	Y	X	F	N	N	N	N	N	N	N	N	N	X	2	1	1		
133	0	Unidentified	Unidentified	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	3	5	13		
134	0	Small Mammal	Rib	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	Y	N	N	X	2	2	24	From small dog skeleton
134	0	Dog	Sacrum	B	Y	Y	Y	Y	Y	Y	Y	Y	F	F	Y	N	N	N	N	N	N	Y	N	N	X	2	1	4	Osteophytic lipping on the ventral surface of the sacral centrum.
134	0	Medium Mammal	Lumbar	B	N	N	N	N	N	N	N	N	F	F	Y	N	N	N	N	N	N	Y	N	N	X	2	6	17	Osteophytic lipping on the caudal face of the centra, corresponding with the sacrum
134	0	Medium Mammal	Cervical	B	N	N	N	N	N	N	N	N	F	F	N	N	N	N	N	N	N	Y	N	N	X	2	3	6	
134	0	Medium Mammal	Thoracic	B	N	N	N	N	N	N	N	N	F	F	N	N	N	N	N	N	N	Y	N	N	X	2	3	12	
134	0	Dog	Atlas	B	Y	Y	Y	Y	Y	Y	Y	Y	F	F	N	N	N	N	N	N	N	Y	Y	N	X	2	1	3	
134	0	Dog	Axis	B	Y	Y	Y	Y	Y	Y	Y	Y	F	F	N	N	N	N	N	N	N	Y	N	N	X	2	1	3	
134	0	Medium Mammal	Thoracic	B	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	Y	N	N	X	2	5	1	Spinal process
134	0	Medium Mammal	Vertebra	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	Y	N	X	2	7	1	Neural arches
134	0	Dog	Femur	L	Y	Y	Y	Y	Y	Y	Y	Y	F	F	N	N	N	N	N	N	Y	Y	Y	N	X	2	1	13	
134	0	Dog	Femur	R	Y	Y	Y	Y	Y	Y	Y	Y	F	F	N	N	N	N	N	N	Y	Y	Y	N	X	2	1	14	
134	0	Dog	Tibia	R	Y	Y	Y	Y	Y	Y	Y	Y	F	F	N	N	N	N	N	N	Y	Y	Y	N	X	2	1	12	
134	0	Dog	Tibia	L	Y	Y	Y	Y	Y	Y	Y	Y	F	F	N	N	N	N	N	N	Y	Y	Y	N	X	2	1	12	
134	0	Dog	Humerus	R	Y	Y	Y	Y	Y	Y	Y	Y	F	F	N	N	N	N	N	N	Y	Y	Y	N	X	2	1	12	
134	0	Dog	Humerus	L	Y	N	Y	Y	Y	Y	Y	Y	F	F	N	N	N	N	N	N	Y	Y	Y	N	X	2	1	12	
134	0	Dog	Ulna	L	Y	Y	Y	Y	Y	Y	N	N	F	X	N	N	N	N	N	N	N	Y	N	N	X	2	1	5	
134	0	Dog	Ulna	R	N	N	N	Y	Y	Y	N	N	X	X	N	N	N	N	N	N	N	Y	N	N	X	2	1	3	
134	0	Dog	Radius	L	Y	Y	Y	Y	Y	Y	Y	Y	X	F	Y	N	N	N	N	N	Y	Y	Y	N	X	2	1	5	Pit at the site of the muscle attachment for ulna
134	0	Dog	Radius	R	N	N	Y	Y	Y	Y	Y	Y	X	F	Y	N	N	N	N	N	Y	Y	Y	N	X	2	1	4	Pit at the site of the muscle attachment for ulna
134	0	Dog	Os Penis	B	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	Y	N	N	X	2	1	1	Male
134	0	Dog	Scapula	R	Y	Y	N	N	N	N	N	N	F	X	N	N	N	N	N	N	N	Y	N	N	X	2	1	2	
134	0	Dog	Sternum	B	Y	Y	Y	Y	Y	Y	Y	Y	X	X	N	N	N	N	N	N	N	Y	N	N	X	2	1	0	
134	0	Dog	Caudal	B	N	N	N	N	N	N	N	N	F	F	N	N	N	N	N	N	N	Y	N	N	X	2	3	1	
134	0	Dog	Phalanx (I)	X	Y	Y	Y	Y	Y	Y	Y	Y	F	F	N	N	N	N	N	N	N	Y	N	N	X	2	8	2	
134	0	Dog	Phalanx (II)	X	Y	Y	Y	Y	Y	Y	Y	Y	F	F	N	N	N	N	N	N	N	Y	N	N	X	2	2	0	
134	0	Dog	Carpal/Tarsal	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	Y	N	N	X	2	5	2	
134	0	Dog	Calcaneus	R	Y	Y	Y	Y	Y	Y	Y	Y	F	X	N	N	N	N	N	N	N	Y	Y	N	X	2	1	2	
134	0	Dog	Calcaneus	L	Y	Y	Y	Y	Y	Y	Y	Y	F	X	N	N	N	N	N	N	N	Y	Y	N	X	2	1	2	
134	0	Dog	Innominate	R	Y	Y	Y	Y	Y	N	Y	N	F	X	N	N	N	N	N	N	N	Y	Y	N	X	2	1	9	

Ctxt	Sample No	Taxon	Element	Side	Z 1	Z 2	Z 3	Z 4	Z 5	Z 6	Z 7	Z 8	Prox	Dist	Path	Butch	Worked	Burnt	Gnaw	Fresh Break	Assoc'd	Measured	Tooth Wear	Surface	Condition	No	(g)	Notes
134	0	Dog	Innominate	L	Y	Y	Y	Y	N	N	Y	Y	F	X	N	N	N	N	N	Y	Y	N	N	X	2	1	8	
134	0	Dog	Scapula	L	N	Y	N	Y	N	N	N	N	X	X	N	N	N	N	N	N	Y	N	N	X	2	1	1	
134	0	Dog	Astragalus	R	Y	Y	Y	Y	Y	Y	Y	Y	X	X	N	N	N	N	N	N	Y	Y	N	X	2	1	1	
134	0	Dog	Mandible	L	Y	Y	Y	Y	Y	Y	Y	Y	X	X	Y	N	N	N	N	N	Y	N	N	X	2	1	15	PM3 and PM4 absent, some alveolar resorption
134	0	Dog	Mandible	R	N	Y	Y	Y	Y	Y	N	Y	X	X	N	N	N	N	N	Y	Y	N	N	X	2	1	14	
134	0	Dog	Metacarpal (I)	R	Y	Y	Y	Y	Y	Y	Y	Y	F	F	N	N	N	N	N	N	Y	Y	N	X	2	1	1	
134	0	Dog	Metacarpal (IV)	R	Y	Y	Y	Y	Y	Y	Y	Y	F	F	N	N	N	N	N	N	Y	Y	N	X	2	1	1	
134	0	Dog	Metacarpal (II)	L	Y	Y	Y	Y	Y	Y	Y	Y	F	F	N	N	N	N	N	N	Y	Y	N	X	2	1	1	
134	0	Dog	Metacarpal (IV)	L	Y	Y	Y	Y	Y	Y	Y	Y	F	F	N	N	N	N	N	N	Y	Y	N	X	2	1	1	
134	0	Dog	Metacarpal (V)	R	Y	Y	Y	Y	N	N	N	N	F	X	N	N	N	N	N	N	Y	N	N	X	2	1	1	
134	0	Dog	Metacarpal (V)	L	Y	Y	Y	Y	Y	Y	Y	Y	F	F	N	N	N	N	N	N	Y	Y	N	X	2	1	1	
134	0	Dog	Metatarsal (III)	R	Y	Y	Y	Y	Y	Y	Y	Y	F	F	N	N	N	N	N	N	Y	Y	N	X	2	1	1	
134	0	Dog	Metatarsal (III)	L	Y	Y	Y	Y	Y	Y	Y	Y	F	F	N	N	N	N	N	Y	Y	Y	N	X	2	1	1	
134	0	Dog	Metatarsal (II)	R	Y	Y	Y	Y	Y	Y	Y	Y	F	F	N	N	N	N	N	N	Y	Y	N	X	2	1	1	
134	0	Dog	Metatarsal (II)	L	Y	Y	Y	Y	N	N	N	N	F	X	N	N	N	N	N	N	Y	N	N	X	2	1	1	
134	0	Dog	Metacarpal (III)	L	Y	Y	Y	Y	Y	Y	Y	Y	F	F	N	N	N	N	N	N	Y	Y	N	X	2	1	1	
134	0	Dog	Metacarpal (III)	R	Y	Y	Y	Y	N	N	N	N	F	X	N	N	N	N	N	N	Y	N	N	X	2	1	1	
134	0	Unidentified	Unidentified	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	Y	N	N	X	2	2	13	
134	0	Sheep/Goat	Femur	L	Y	N	N	N	N	N	N	N	U	X	N	N	N	N	Y	N	N	N	N	X	3	1	2	Carnivore tooth puncture marks on the caput
134	0	Large Mammal	Rib	X	N	N	N	N	N	N	N	N	X	X	N	Y	N	N	N	N	N	N	N	X	2	1	25	Chopped and snapped through the midblade
134	0	Medium Mammal	Rib	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	1	1	1	
134	0	Sheep/Goat	Radius	R	N	N	Y	Y	Y	N	N	N	X	U	N	N	N	N	N	N	N	N	N	X	2	1	17	
134	0	Sheep/Goat	Radius	R	N	N	Y	Y	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	3	1	3	
134	0	Cattle	Tooth	L	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	3	1	14	Upper PM
134	0	Medium Mammal	Long Bone	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	2	1	2	
134	0	Pig	Radius	R	Y	Y	Y	Y	N	N	N	N	F	X	N	N	N	N	N	N	N	Y	N	R	2	1	10	
134	0	Sheep/Goat	Scapula	R	Y	Y	N	Y	Y	N	N	N	F	X	N	Y	N	N	N	N	N	Y	N	X	2	1	10	knife cuts on circling the neck of the scapula
134	0	Sheep/Goat	Phalanx (I)	L	Y	Y	Y	Y	Y	Y	Y	Y	F	F	N	N	N	N	N	N	N	Y	N	X	2	1	1	
134	0	Corvid	Carpometacarpus	R	Y	Y	Y	Y	Y	Y	Y	Y	F	F	N	N	N	N	N	N	N	Y	N	X	2	1	1	Crow/small corvid
134	8	Bird	Phalanx (I)	L	Y	Y	Y	Y	Y	Y	Y	Y	F	F	N	N	N	N	N	N	N	N	N	X	3	1	0	
134	8	Sheep/Goat	Tooth	R	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	3	1	1	Upper PM
134	8	Pig	Tooth	L	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	2	1	1	Lower PM
134	8	Unidentified	Unidentified	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	3	5	2	
134	8	Unidentified	Unidentified	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	Y	N	N	N	N	X	3	1	0	Burnt white

Ctxt	Sample No	Taxon	Element	Side	Z 1	Z 2	Z 3	Z 4	Z 5	Z 6	Z 7	Z 8	Prox	Dist	Path	Butch	Worked	Burnt	Gnaw	Fresh Break	Assoc'd	Measured	Tooth Wear	Surface	Condition	No	(g)	Notes
134	8	Micro Mammal	Tibia	R	N	N	Y	Y	Y	Y	N	N	U	U	N	N	N	N	N	N	N	N	N	X	2	1	0	Rodent
134	8	Bird	Long Bone	X	N	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	2	1	1	
137	0	Medium Mammal	Innominate	R	N	Y	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	3	1	7	
145	14	Medium Mammal	Vertebra	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	3	1	1	Neural arch
145	14	Medium Mammal	Long Bone	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	3	1	1	
145	14	Unidentified	Unidentified	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	3	1	0	
145	14	Fish	Vertebra	B	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	3	1	0	
161	0	Sheep/Goat	Tibia	R	N	N	Y	Y	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	2	1	9	
161	0	Medium Mammal	Vertebra	B	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	2	1	1	Spinous process
161	0	Sheep	Metatarsal	R	Y	Y	Y	Y	Y	Y	Y	Y	F	F	N	N	N	N	N	N	N	Y	N	X	2	1	17	
161	0	Sheep/Goat	Metatarsal	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	2	1	3	Shaft fragment
167	0	Medium Mammal	Rib	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	2	5	12	
167	0	Pig	Innominate	R	N	Y	Y	Y	N	N	Y	Y	F	X	N	N	N	N	N	N	Y	N	N	R	3	1	24	
167	0	Roe Deer	Mandible	L	N	Y	Y	Y	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	2	1	12	
167	0	Large Mammal	Long Bone	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	2	6	106	
167	0	Fallow Deer	Calcaneus	R	Y	Y	Y	Y	Y	Y	Y	Y	F	X	N	N	N	N	N	N	N	Y	N	X	2	1	39	
167	0	Fallow Deer	Radius	R	N	N	N	Y	Y	Y	Y	Y	F	F	N	N	N	N	N	N	N	Y	N	X	2	1	78	
167	0	Pig	Skull-maxilla	L	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	2	1	20	
167	0	Pig	Mandible	R	N	N	Y	Y	Y	Y	N	N	X	X	N	N	N	N	N	N	N	N	Y	X	3	1	53	
167	0	Fowl	Humerus	L	Y	Y	Y	Y	Y	Y	Y	Y	F	F	N	N	N	N	N	N	N	Y	N	X	2	1	2	
167	0	Sheep/Goat	Radius	R	Y	Y	Y	Y	N	N	N	N	F	X	N	N	N	N	N	Y	N	N	X	2	1	7	Carnivore tooth puncture marks in the proximal shaft	
167	0	Sheep/Goat	Tibia	R	N	N	N	N	Y	Y	Y	Y	X	F	N	N	N	N	N	N	N	Y	N	X	2	1	17	
167	0	Sheep/Goat	Radius	R	Y	N	Y	Y	Y	Y	N	N	X	X	N	N	N	N	N	N	N	N	N	R	2	1	13	
167	0	Sheep/Goat	Tibia	L	N	N	Y	Y	N	N	N	N	U	X	N	N	N	N	N	Y	N	N	X	2	1	17	Rodent gnawing on the broken edge on the proximal shaft	
167	0	Roe Deer	Tibia	L	N	N	Y	Y	Y	Y	N	N	X	X	N	N	N	N	N	N	N	N	X	3	1	20		
167	0	Sheep/Goat	Tibia	R	N	N	Y	Y	N	N	N	N	X	X	N	N	N	N	N	N	N	N	R	3	1	17		
167	0	Sheep/Goat	Metacarpal	L	Y	Y	Y	Y	Y	Y	N	N	F	X	N	N	N	N	N	N	N	Y	N	X	2	1	9	
167	0	Cattle	Femur	L	N	N	N	N	N	N	N	Y	X	F	N	N	N	N	N	N	N	N	N	X	2	1	100	Carnivore gnawing on the condyles
167	0	Cattle	Humerus	L	Y	Y	N	N	N	N	N	N	U	X	N	N	N	N	N	N	N	N	N	X	2	1	62	
167	0	Cattle	Skull-premaxilla	L	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	2	1	7	
167	0	Cattle	Humerus	R	N	N	Y	Y	Y	Y	N	N	X	X	N	N	N	N	N	N	N	N	N	X	3	1	42	
167	0	Cattle	Calcaneus	R	Y	Y	Y	Y	Y	Y	N	X	X	N	N	N	N	N	Y	N	N	N	N	X	2	1	35	Carnivore gnawing on the proximal end
167	0	Sheep/Goat	Skull-maxilla	L	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	Y	N	N	X	2	1	6		
167	0	Cattle	Atlas	B	Y	Y	Y	Y	N	N	Y	Y	F	X	N	N	N	N	N	N	N	N	N	X	2	1	70	
167	0	Sheep/Goat	Metacarpal	R	N	N	N	Y	Y	Y	N	N	X	X	N	N	N	N	N	N	N	N	N	X	3	1	6	
167	0	Sheep	Metacarpal	L	N	N	N	N	N	N	N	Y	X	F	N	N	N	N	N	N	N	Y	N	X	2	1	7	
167	0	Cattle	Skull-frontal	R	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	2	1	36	
167	0	Large Mammal	Skull	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	2	9	38	
167	0	Cattle	Skull-occipital	R	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	2	1	18	
167	0	Sheep/Goat	Skull-zygomatic	L	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	2	1	3	
167	0	Sheep/Goat	Skull-occipital	L	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	2	1	3	
167	0	Sheep/Goat	Skull-	L	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	Y	N	N	X	2	1	4	no teeth in occlusion

Ctxt	Sample No	Taxon	Element	Side	Z 1	Z 2	Z 3	Z 4	Z 5	Z 6	Z 7	Z 8	Prox	Dist	Path	Butch	Worked	Burnt	Gnaw	Fresh Break	Assoc'd	Measured	Tooth Wear	Surface	Condition	No	(g)	Notes	
			maxilla																										
167	0	Large Mammal	Cervical	L	N	N	N	N	N	N	N	N	U	U	N	N	N	N	N	N	N	N	N	X	2	1	23		
167	0	Cattle	Femur	L	N	Y	N	N	N	N	N	N	U	X	N	N	N	N	N	N	N	N	N	X	2	1	16		
167	0	Large Mammal	Atlas	X	N	N	N	N	Y	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	2	1	12		
167	0	Large Mammal	Rib	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	2	1	15		
167	0	Large Mammal	Thoracic	B	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	2	1	5		
167	0	Large Mammal	Vertebra	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	2	3	22	neural arch fragments	
167	0	Cattle	Metatarsal	R	N	N	Y	N	Y	Y	N	N	X	X	N	N	N	N	Y	Y	N	N	N	X	2	1	59	Carnivore gnawing on the distal end	
167	0	Cattle	Metacarpal	L	N	N	N	N	Y	Y	N	N	X	U	N	N	N	N	Y	N	N	N	N	X	2	1	28	Possible carnivore gnawing on the shaft	
167	0	Cattle	Mandible	L	N	N	Y	Y	N	Y	N	N	X	X	N	N	N	N	N	N	N	N	N	X	2	1	47	No teeth in occlusion	
167	0	Cattle	Tooth	L	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	Y	X	2	1	33	lower M3=g
167	0	Medium Mammal	Thoracic	B	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	2	1	1	Spinous process	
167	0	Sheep/Goat	Skull-mastoid	L	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	Y	N	N	N	X	2	1	11		
167	0	Medium Mammal	Long Bone	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	2	6	14		
167	0	Medium Mammal	Rib	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	2	1	1		
167	0	Large Mammal	Scapula	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	3	2	20	Blade fragments	
167	0	Pig	Skull-frontal	L	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	2	1	4		
167	0	Cattle	Phalanx (II)	R	N	N	N	N	N	N	Y	Y	X	F	N	N	N	N	N	N	N	N	N	X	4	1	9		
167	0	Sheep/Goat	Radius	L	Y	N	Y	N	N	N	N	N	F	X	N	N	N	N	N	N	N	N	N	X	2	1	2		
167	0	Sheep/Goat	Radius	L	Y	N	Y	N	N	N	N	N	F	X	N	N	N	N	Y	N	N	N	N	X	3	1	4	Carnivore gnawing on the proximal end	
167	0	Sheep/Goat	Tooth	L	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	2	1	6	Upper M3	
167	0	Sheep/Goat	Tooth	L	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	2	1	5	Upper M2	
167	0	Sheep/Goat	Tooth	L	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	2	1	4	Upper M1	
167	0	Sheep/Goat	Tooth	L	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	2	1	1	Upper PM	
167	0	Sheep/Goat	Tooth	L	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	2	1	3	Upper M1	
167	0	Sheep/Goat	Tooth	L	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	2	1	3	Upper M2	
167	0	Sheep/Goat	Tooth	L	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	2	1	4	Upper M3	
167	0	Sheep/Goat	Tooth	R	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	3	1	4	Lower M1=Broken	
167	0	Sheep/Goat	Mandible	R	Y	Y	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	2	1	4		
167	0	Sheep/Goat	Mandible	R	N	N	Y	Y	Y	Y	N	Y	X	X	N	N	N	N	N	N	N	N	Y	X	2	1	30		
167	0	Sheep/Goat	Mandible	L	Y	Y	Y	Y	Y	N	N	Y	X	X	N	N	N	N	N	N	Y	N	Y	X	2	1	27		
167	0	Rabbit	Radius	L	N	N	Y	Y	Y	Y	Y	N	X	U	N	N	N	N	N	N	N	N	N	X	2	1	1		
167	0	Rabbit	Metacarpal (V)	L	Y	Y	Y	Y	Y	Y	Y	Y	F	F	N	N	N	N	N	N	N	N	N	X	1	1	0		
167	0	Unidentified	Unidentified	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	2	7	41		
167	15	Medium Mammal	Long Bone	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	Y	N	N	N	X	3	1	0		
167	15	Unidentified	Unidentified	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	3	2	1		
171	0	Medium Mammal	Vertebra	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	2	1	2	Neural arch	
171	0	Large Mammal	Thoracic	B	N	N	N	N	N	N	N	N	X	F	N	N	N	N	N	N	N	N	N	X	2	1	6		
171	0	Medium Mammal	Long Bone	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	1	2	3		
171	0	Medium Mammal	Rib	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	R	4	1	1	Heavily rootlet etched	
171	0	Pig	Skull-zygomatic	R	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	3	1	3		
171	0	Sheep/Goat	Phalanx (I)	L	Y	Y	Y	Y	Y	Y	Y	Y	F	F	N	N	N	N	N	N	N	Y	N	X	1	1	2		
171	0	Sheep/Goat	Tooth	L	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	Y	X	2	1	4	Lower M2=d	
171	0	Sheep/Goat	Metatarsal	L	N	Y	N	N	N	N	N	N	F	X	N	N	N	N	Y	N	N	N	N	X	3	1	2	Partially charred black	

Ctxt	Sample No	Taxon	Element	Side	Z 1	Z 2	Z 3	Z 4	Z 5	Z 6	Z 7	Z 8	Prox	Dist	Path	Butch	Worked	Burnt	Gnaw	Fresh Break	Assoc'd	Measured	Tooth Wear	Surface	Condition	No	(g)	Notes	
171	0	Unidentified	Unidentified	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X		2	1	1	
179	0	Sheep/Goat	Skull- nasal	L	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X		1	1	2	3
179	0	Small Mammal	Rib	R	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X		3	1	1	
179	0	Sheep/Goat	Mandible	R	Y	Y	Y	Y	N	N	N	N	X	X	N	N	N	N	N	N	N	N	Y	X		1	1	19	
181	0	Bird	Femur	R	N	N	N	N	Y	Y	N	N	X	U	N	N	N	N	N	N	N	N	N	X		3	1	1	Juv
181	0	Fowl	Tibio-tarsus	L	N	N	N	N	Y	Y	N	N	X	U	N	N	N	N	N	N	N	N	N	X		2	1	1	Juv
181	0	Cattle	Mandible	R	Y	Y	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X		3	1	13	
181	0	Cattle	Phalanx (I)	L	Y	Y	Y	Y	Y	Y	Y	Y	F	F	N	N	N	N	N	N	N	Y	N	R		3	1	16	
181	17	Medium Mammal	Vertebra	L	N	N	N	N	N	N	N	N	U	X	N	N	N	N	N	N	N	N	N	X		2	1	1	
181	17	Unidentified	Unidentified	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X		3	1	0	

Appendix 6: Palaeoenvironmental Report

By Val Fryer

Introduction

Excavations at Winchester, undertaken by Allen Archaeology Ltd, recorded pits, ditches, gullies and post-holes of medieval and post-medieval (seventeenth to eighteenth century) date. Samples for the retrieval of the plant macrofossil assemblages were taken from across the excavated area and seventeen were submitted for assessment.

The samples were processed by manual water flotation/washover and the flots were collected in a 300 micron mesh sieve. The dried flots were scanned under a binocular microscope at magnifications up to x 16 and the plant macrofossils, mollusc shells and other remains noted are listed in Tables 1 and 2. Nomenclature within the tables follows Stace (1997) for the plant macrofossils and Kerney and Cameron (1979) for the mollusc shells. With the exception of two indeterminate mineral replaced seeds, all plant remains were charred. Modern fibrous roots and seeds were present throughout.

The non-floating residues were collected in a 1mm mesh sieve and sorted when dry. All artefacts/ecofacts were retained for further specialist analysis.

Results

Cereal grains and seeds of common weeds were present within all but three of the samples studied, although rarely as more than one specimen per assemblage. Preservation was generally very poor, with many of the grains and seeds being both severely puffed and distorted, and fragmentary.

Oat (*Avena* sp.), barley (*Hordeum* sp.) and wheat (*Triticum* sp.) grains were recorded along with a number of other cereals, which were too poorly preserved for close identification. Possible asymmetrical lateral grains of six-row barley (*H. vulgare*) were noted within the assemblages from samples 14 (medieval gully [144]) and 15 (medieval pit [166]). The only other possible food plant remain recorded was a single cotyledon fragment of an indeterminate large pulse (Fabaceae), also from sample 15.

Weed seeds were rare, occurring within only ten of the assemblages studied. All were of common field weeds including corn cockle (*Agrostemma githago*), small pulses (Fabaceae), black bindweed (*Fallopia convolvulus*), goosegrass (*Galium aparine*), corn gromwell (*Lithospermum arvense*) and field madder (*Sherardia arvensis*). Hazel (*Corylus avellana*) nutshell fragments were noted within samples 1 and 2 (medieval ditch [117]), sample 7 (post-medieval ditch [123]) and sample 15. Sample 2 also contained a single minute fragment of possible walnut (*Juglans regia*) nutshell. Charcoal/charred wood fragments were present within all but sample 17, although rarely at a high density. Other plant macrofossils were scarce, although occasional pieces of charred root or stem were also recorded.

The fragments of black porous and tarry material, which were present within most assemblages, were mostly probable residues of the combustion of organic remains at very high temperatures, although some pieces were very hard and brittle and were possible bi-products of the combustion of coal. Coal fragments were present throughout. Other remains occurred less frequently, but did include fragments of bone (some of which were burnt), pieces of eggshell, fish and small mammal/amphibian bones and vitreous globules.

Terrestrial mollusc shells were present within all seventeen samples, often being the main component within the assemblages. However, whilst most shells were abraded and fragmented, suggesting that they were most likely to be contemporary with the features from which the samples were taken, others were very well preserved, possibly indicating that they were later contaminants. Three of Evans (1972) ecological

groups of land taxa were represented, with open country species occurring most frequently. However, shade loving and catholic species were also recorded, especially within the fills of ditch [117] (samples 1, 2 and 3).

Discussion

Of the seventeen samples taken, twelve are from features of probable medieval date (Table 1). The assemblages from ditch [117] contain very few plant macrofossils, but do include a large number of mollusc shells, particularly those of woodland and shade loving species, with specimens of *Discus rotundatus* being especially abundant. The composition of these assemblages would appear to indicate that that this feature, which although probably situated within an open grassland environment was at least partly shaded or overgrown, was largely peripheral to any focus of human activity. Similarly, the assemblages from gullies [125] (sample 5), [144] (sample 14) and [180] (sample 17) contain relatively few cereals or seeds, although two (from samples 14 and 17) do include large quantities of both charcoal/charred wood fragments and pieces of coal, probably indicating that both are derived from small deposits of hearth waste. The pit and post-hole assemblages are slightly more diverse, although even here, the overall density of material is quite low, and it would appear very unlikely that any of the remains are in a primary context. It is tentatively suggested that all are derived from scattered domestic refuse, some or all of which may have been accidentally included within the feature fills.

The five assemblages from features of seventeenth or eighteenth century date (Table 2) contain a very low density of plant macrofossils or other remains, although mollusc shells are still abundant. However, it is possibly of note that although remains are scarce, the composition of the assemblages is broadly similar to those of medieval date, and it is suggested that some of the material within these later samples may be derived from residual remains, which were disturbed during the cutting of features during the post-medieval period. The abundance of woodland/shade loving mollusc shells within these assemblages may indicate that many features on the site were overgrown by this time.

Conclusions

In summary, the assemblages are generally small and sparse, with many of the recorded remains probably being derived from either scattered refuse or residual detritus. The mollusc evidence suggests that the area was largely covered with short-turfed, dry, open grassland throughout both the medieval and post-medieval periods, although some features, particularly the ditches and gullies, were at least partly overgrown or filled with damp leaf litter or similar material. The low density of plant remains may suggest that the excavated features were largely peripheral to any main areas of activity, although some limited disposal of domestic refuse may be indicated.

As none of the assemblages contain a sufficient density of material for quantification (i.e. 100+ specimens), no further analysis is recommended at this stage. However, a written summary of this assessment should be included within any publication of data from the site.

References

- Evans, J. 1972. *Land Snails in Archaeology*. London
- Kerney, M.P. and Cameron, R.A.D. 1997. *A Field Guide to the Land Snails of Britain and North-West Europe*. Collins
- Stace, C. 1997. *New Flora of the British Isles*. Second edition. Cambridge University Press

Key to Tables

x = 1 – 10 specimens xx = 11 – 50 specimens xxx = 51 – 100 specimens xxxx = 100+ specimens
 cf = compare fg = fragment b = burnt ph = post-hole m = mineral replaced

Sample No.	1	2	3	5	10	11	12	13	14	15	16	17
Context No.	119	120	121	126	137	140	141	143	145	167	171	180
Feature No.	117	117	117	125	136	140	140	142	144	166	179	180
Feature type	Ditch	Ditch	Ditch	Gully	Pit	Pit	Pit	ph	Gully	Pit	ph	Gully
Cereals and other food plants												
<i>Avena</i> sp.		xcf				x	xcf	x		x	x	
<i>Hordeum</i> sp. (grains)	x				xcf			x	x	x	x	
<i>H. vulgare</i> L. (asymmetrical lateral grain)									xcf	xcf		
<i>Triticum</i> sp. (grain)						x	xcf			x	x	x
Cereal indet. (grains)				xfg	x	x	x	x		x	x	
Large Fabaceae indet.										x		
Dry land herbs												
<i>Agrostemma githago</i> L.								xcf				
Brassicaceae indet.								x				
Fabaceae indet.	x				x		x	x		x		x
<i>Fallopia convolvulus</i> (L.)A.Love								x				
<i>Galium aparine</i> L.						x			x	x		
<i>Lithospermum arvense</i> L.											x	
Small Poaceae indet.											x	
<i>Sherardia arvensis</i> L.						xcf						
Tree/shrub macrofossils												
<i>Corylus avellana</i> L.	xcf	x								xx		
<i>Juglans regia</i> L.		x										
Other plant macrofossils												
Charcoal <2mm	xxx	x	x	x	xxx	xx	xx	xxx	x	xxx	xxxx	
Charcoal >2mm	x	x	x		xx	x	x	x	x	xx	xxx	

Sample No.	1	2	3	5	10	11	12	13	14	15	16	17
Context No.	119	120	121	126	137	140	141	143	145	167	171	180
Feature No.	117	117	117	125	136	140	140	142	144	166	179	180
Feature type	Ditch	Ditch	Ditch	Gully	Pit	Pit	Pit	ph	Gully	Pit	ph	Gully
Charcoal >5mm											x	
Charred root/stem											x	
Other remains												
Black porous 'cokey' material	x		x	x	xxx	x	x		xxxx	xxx	xx	xxxx
Black tarry material			x	x	xx	x	x	x	xxx	xx	xx	xxxx
Bone	x	x xb	xx	x						x		
Brick/tile			x									
Burnt/fired clay					x							
Eggshell		x				x						
Fish bone	x		x									
Mineralised/faecal concretion		x										
Small coal frags.	xx	x	xx	x	xx	xx	x	x	xxxx	xxx	x	xxxx
Small mammal/amphibian bones	x	x	x		x				x	x		x
Vitreous material		x	x		x		x	x	x	x	xxx	x
Molluscs												
Woodland/shade loving species												
<i>Acanthinula aculeata</i>	x		x									
<i>Aegopinella</i> sp.	x	xx	x									
<i>A. nitidula</i>		x	x									
<i>Clausilia</i> sp.		xcf										
<i>Discus rotundatus</i>	x	xxx	xx	x	x					x		x
<i>Macrogastera rolphii</i>	x	xcf	xcf									
<i>Oxychilus</i> sp.	x	x	x	x					x	x		
<i>Punctum pygmaeum</i>					x							
<i>Trichia striolata</i>	xcf			x								
<i>Vitrea</i> sp.				x	x							
<i>Vitrina pellucida</i>	x											

Sample No.	1	2	3	5	10	11	12	13	14	15	16	17
Context No.	119	120	121	126	137	140	141	143	145	167	171	180
Feature No.	117	117	117	125	136	140	140	142	144	166	179	180
Feature type	Ditch	Ditch	Ditch	Gully	Pit	Pit	Pit	ph	Gully	Pit	ph	Gully
Zonitidae indet.	x	xx	x	x					x		x	x
Open country species												
<i>Candidula intersecta</i>	xcf											
<i>Helicella itala</i>	xx	x	x	xcf	x		x	x	x		x	x
Helicidae indet.	xx	x		x	x	x	x		x	x	x	x
<i>Pupilla muscorum</i>	x	x		x	x	x	x	x	x	x	x	x
<i>Truncatellina cylindrica</i>		xcf										
<i>Vallonia</i> sp.	xx	x			x	x		x		x		x
<i>V. costata</i>	x		x	x	x	x	x	x	x		x	
<i>Vertigo pygmaea</i>	x											
Catholic species												
<i>Cepeaea</i> sp.	x	x	x							x	x	x
<i>Cochlicopa</i> sp.	x	x	x	x	x	x	x			x		x
<i>Helix</i> sp.	x	xcf										
<i>Trichia hispida</i> group	xx	x	x	x	x	x	x	x	x	x	x	
Sample volume (litres)	14	14	14	14	14	14	14	14	14	14	14	14
Volume of flot (litres)	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1
% flot sorted	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Sample No.	4	6	7	8	9
Context No.	122	128	130	134	135
Feature No.	184	129	123	123	123
Feature type	Ditch	Pit	Ditch	Ditch	Ditch
Cereals					
Cereal indet. (grain)	xcffg		xfg	x	
Dry land herbs					
<i>Galium aparine</i> L.				x	
Tree/shrub macrofossils					
<i>Corylus avellana</i> L.			xcf		
Other plant macrofossils					
Charcoal <2mm	xx	xx	xx	xxx	xx
Charcoal >2mm	x	x	x	xx	x
Charred root/stem			x	x	
Indet.seeds	xm		xm		
Other remains					
Black porous 'cokey' material	x	xx	x	x	x
Black tarry material	x	xx			
Bone	x		x xb	x	
Burnt/fired clay			x		
Eggshell		x	x		
Fish bone			x		x
Marine mollusc shell			x		
Small coal frags.	x	xxx	x	x	x
Small mammal/amphibian bones	x		x	x	
Vitreous material				x	x
Molluscs					
Woodland/shade loving species					
<i>Acanthinula aculeata</i>			x		
<i>Aegopinella</i> sp.			xx		x

Sample No.	4	6	7	8	9
Context No.	122	128	130	134	135
Feature No.	184	129	123	123	123
Feature type	Ditch	Pit	Ditch	Ditch	Ditch
<i>A. nitidula</i>	x				
<i>Carychium</i> sp.	x		x		
<i>Clausilia</i> sp.					xcf
<i>Discus rotundatus</i>	xx		xx	x	xx
<i>Ena</i> sp.				x	
<i>Macrogastera rolphii</i>	xcf	xcf	x		x
<i>Oxychilus</i> sp.	x		xcf		x
<i>Trichia striolata</i>	xcf	xcf	xcf	xcf	xcf
<i>Vitrea</i> sp.	x		x		x
<i>Vitrina pellucida</i>			x		x
Zonitidae indet.			xx		
Open country species					
<i>Helicella itala</i>	x	xcf	x	xcf	x
Helicidae indet.	x	xx	xx	x	x
<i>Pupilla muscorum</i>	x	x	x		x
<i>Vallonia</i> sp.	x	xx	xx	x	
<i>V. costata</i>	x	xx	xx	x	x
<i>Vertigo pygmaea</i>		x			x
Catholic species					
<i>Cepeaea</i> sp.	x		x		
<i>Cochlicopa</i> sp.		x	x	x	
<i>Nesovitrea hammonis</i>			xcf		
<i>Trichia hispida</i> group	x	x	x	x	x
Sample volume (litres)	14	14	14	14	14
Volume of flot (litres)	0.1	<0.1	0.1	<0.1	<0.1
% flot sorted	100%	100%	100%	100%	100%

Appendix 7: Context Summary List

Context No.	Type	Description	Interpretation
101	Layer	Moderately compact dark brown silty clay with small chalk inclusions	Topsoil
102	Layer	Moderately compact dark brown silty clay with small chalk inclusions	Topsoil
103	Layer	Friable medium brown silty clay with occasional chalk flecks	Buried garden soil
104	Layer	Moderately compact medium grey silty sand with chalk marl inclusions	Buried topsoil
105	Deposit	White compact chalk	Natural chalk
106	Layer	Friable orange gravel with crushed concrete inclusions	Gravel bedding of former patio
107	Layer	Moderately compact dark brown clinker rich sandy silt with small inclusions of Welsh slate, peg tile and concrete	Levelling layer
108	Layer	Compact dark brown sandy silt with chalk and brick inclusions	Lens of demolition material
109	Fill	Moderately compact dark brown silty sand with chalk rubble and chalk marl inclusions	Fill of [112]
110	Deposit	Compact orange gravel	Basal fill of [112]
111	Layer	Moderately compact medium grey silty sand with chalk marl inclusions	Buried garden soil
112	Cut	Steep concave western side with flat tapering base 1.80m wide x 0.35m deep	Construction cut for eastern boundary wall
113	Fill	Friable medium brown sandy silt	Fill of [114]
114	Cut	Steep sided with flat base 0.25m deep x 0.80m wide	Pit
115	Fill	Friable medium brown sandy silt	Fill of [116]
116	Cut	Vertical sided, tapering rounded base 0.50m deep x 0.20m diameter	Posthole
117	Cut	Steep slightly undulating southern side of a ditch 3m+ in length x 4m+ wide x 1m+ deep (not fully excavated)	Ditch orientated north-west to south-east
118	Fill	Moderately compact medium-dark brown silty sandy silt with occasional chalk marl inclusions	Secondary fill of [184]
119	Fill	Moderately compact medium brown silty sandy silt with frequent chalk and flint inclusions	Fourth fill of [117]
120	Fill	Compact light-medium brown silty chalky silt with frequent flint and chalk inclusions	Second fill of [117]
121	Fill	Moderately compact light grey sandy silt with chalk and flint inclusions	Primary fill of [117]
122	Fill	Moderately compact chalky sandy silt with occasional flint nodules	Primary fill of [184]
123	Cut	Steep sided slightly concave profile southern side 10m+ in length x 4m+ wide x 2.10-2.50m+ deep (not fully excavated)	Ditch orientated north-west to south-east
124	Fill	Moderately compact dark brown silty sandy clay with chalk marl inclusions	Upper third fill of [129]
125	Cut	Steep near vertical sides, flat base 7m+ in length x 0.20m deep x 0.50m wide	Gully orientated north-west to south-east
126	Fill	Moderately compact medium brown sandy clayey silt with chalk inclusions	Fill of [125]
127	Fill	Moderately compact brownish-grey sandy clay with flint nodule and chalk rubble inclusions	Secondary fill of [129]
128	Fill	Moderately compact medium brown sandy clay with chalk rubble inclusions	Primary fill of [129]
129	Cut	Shallow tapering upper sides, steepening towards concave lower sides, flattish base 3.10m diameter x 0.55m deep	Gully/Pit
130	Fill	Moderately compact medium-dark brown sandy silty clay with chalk marl inclusions	sixth fill of [123]
131	Fill	Moderately compact medium brown silty sandy clay with chalk rubble inclusions	Fifth fill of [123]
132	Fill	Compact dark brown sandy silty clay with chalk marl inclusions	Fourth fill of [123]
133	Fill	Moderately compact medium brown silty sandy clay with flint nodules and chalk rubble inclusions	Third fill of [123]

Context No.	Type	Description	Interpretation
134	Fill	Compact dark brown silty sandy clay with chalk rubble inclusions	Secondary fill of [123]
135	Fill	Very compact medium brown sandy silty clay with flint nodules and large chalk rubble fragments	Primary fill of [123]
136	Cut	Steep slightly tapering sides, rounded basal corners, flat base 1.10m square x 0.70m deep	Pit
137	Fill	Moderately compact medium brown-grey sandy silty clay with chalk rubble and flint nodule inclusions	Upper fill of [136]
138	Cut	Sub-circular in plan with vertical sides, flat base 1m wide x 0.40m deep	Pit
139	Fill	Moderately compact medium brown silty sandy clay with chalk rubble and marl inclusions	Fill of [138]
140	Cut	Sub-rectangular in plan with vertical sides, rounded basal corners and flat base 1.20m wide x 0.45m deep	Pit
141	Fill	Moderately compact medium brown silty sand with flint nodule inclusions	Fill of [140]
142	Cut	Circular in plan with steep tapering sides and narrow rounded base 0.50m diameter x 0.60m deep	Posthole
143	Fill	Moderately compact medium-dark brown silty sand with small chalk rubble inclusions	Fill of [142]
144	Cut	Steep slightly tapering sides, flat base 0.50m wide x 0.20m deep	Gully orientated east to west
145	Fill	Moderately compact medium brown sandy silt with chalk rubble inclusions pea-grit along base	Fill of [144]
146	Layer	Moderately compact dark brown sandy silt	Turf layer
147	Layer	Friable orange gravel	Former gravel bedding
148	Layer	Moderately loose dark brown chalky rubble with plaster and metal inclusions	Levelling layer
149	Layer	Moderately compact dark brown silty sandy clay with brick, plastic, metal inclusions mainly located in the southern part of this excavated layer	Buried garden soil
150	Cut	Steep slightly tapering sides, flat base 0.65m wide x 0.15m deep	Gully orientated north-east south-west
151	Fill	Moderately compact medium brown sandy silt with chalk rubble inclusions pea-grit along base	Fill of [150]
152	Cut	Circular in plan with steep sides and flat base 0.30m diameter x 0.18m deep	Posthole
153	Fill	Moderately compact medium brown sandy silty clay	Fill of [152]
154	Cut	Circular in plan with steep sides and flat base 0.40m diameter x 0.12m deep	Posthole
155	Fill	Moderately compact medium brown sandy silty clay	Fill of [154]
156	Cut	Circular in plan with steep sides and flat base 0.40m diameter x 0.12m deep	Posthole
157	Fill	Moderately compact medium brown sandy silty clay	Fill of [156]
158	Cut	Circular in plan with steep sides and flat base 0.40m diameter x 0.12m deep	Posthole
159	Fill	Moderately compact medium brown sandy silty clay	Fill of [158]
160	Cut	Circular in plan with steep sides and flat base 0.60m diameter x 0.15m deep	Posthole
161	Fill	Moderately compact medium brown sandy silty clay	Fill of [160]
162	Cut	Circular in plan with steep sides and flat base 0.40m diameter x 0.10m deep	Posthole
163	Fill	Moderately compact medium brown sandy silty clay	Fill of [162]
164	Cut	Circular in plan with steep sides and flat base 0.40m diameter x 0.08m deep	Posthole
165	Fill	Moderately compact medium brown sandy silty clay	Fill of [164]
166	Cut	Sub-rectangular in plan with steep tapering sides, flat base 0.80m mwide x 0.60m deep x 2m in length	Pit
167	Fill	Moderately compact light grey-brown silty sandy silt with frequent flint nodules and large chalk rubble fragments	Fill of [166]
168	Cut	Sub-circular in plan with steep concave sides, flat base 1.40m long	Pit

Context No.	Type	Description	Interpretation
		x 0.80m wide x 0.20m deep	
169	Fill	Moderately compact medium brown sandy silty silt with occasional flint inclusions	Fill of [168]
170	Cut	Circular in plan with steep slightly tapering sides, rounded base 0.40m diameter x 0.35m deep	Posthole
171	Fill	Moderately compact medium grey silty sand with chalk rubble inclusions	Fill of [170]
172	Cut	Square in plan with vertical sides and flat base 0.20m square x 0.18m deep	Posthole
173	Fill	Moderately loose chalk rubble	Fill of [172]
174	Cut	Circular in plan with steep sides, flat base 0.30m diameter x 0.10m deep	Posthole
175	Fill	Loose medium brown silty chalk with flint nodules (post packing)	Fill of [174]
176	Cut	Steep concave sides, flat base	Service trench orientated east-south-east to west-north-west
177	Fill	Moderately loose dark brown sandy silty silt	Fill of [176]
178	Cut	Steep tapering sides, rounded base 2.50m long x 0.30m wide x 0.35m deep	Gully orientated east-south-east to west-north-west
179	Fill	Moderately compact medium-dark brown sandy silt with chalk rubble inclusions	Fill of [178]
180	Gully	Steep near vertical sides, flat base 4m in length x 0.30m wide x 0-15m deep	Gully orientated east-south-east to west-north-west
181	Fill	Moderately compact medium-dark brown sandy silt with chalk rubble inclusions	Fill of [180]
182	Fill	Moderately loose chalk rubble	Secondary fill of [136]
183	Fill	Moderately compact dark brown sandy silt with chalk rubble inclusions	Primary fill of [136]
184	Cut	Shallow tapering upper southern edge, increasing in depth at a steeper angle (not fully excavated)	Ditch orientated north-west to south-east
185	Fill	Moderately compact dark brown sandy silty clay with Flint nodules and chalk marl inclusions	Third fill of [117]

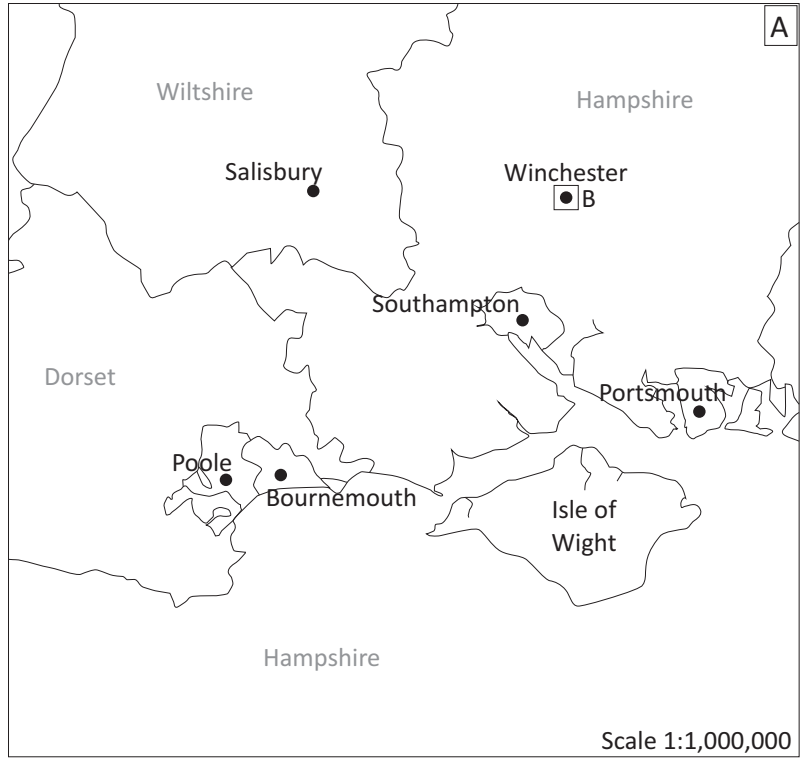
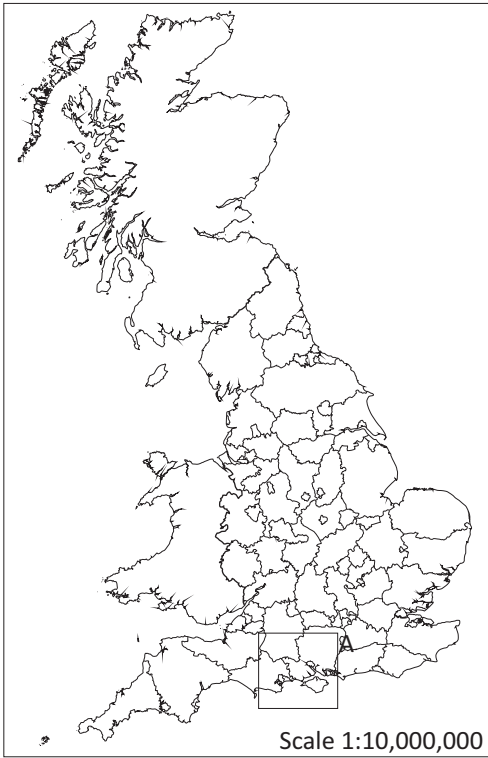


Figure 1: Site location at scale 1:25,000, with site shown in red
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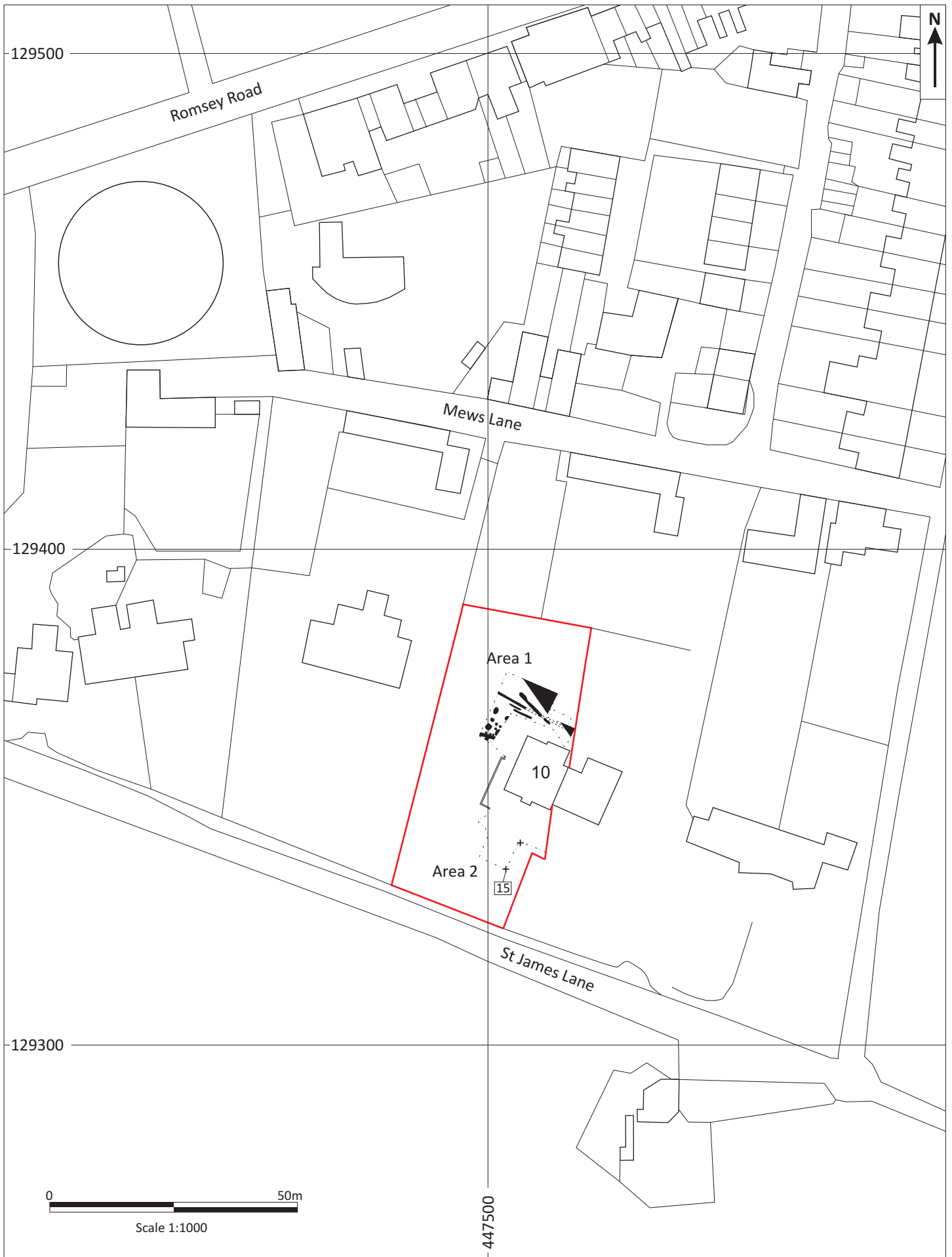


Figure 2: Location plan at scale 1:1,000 with the site outlined in red and archaeological features in black. Location of Section 15 indicated and shown on Figure 5

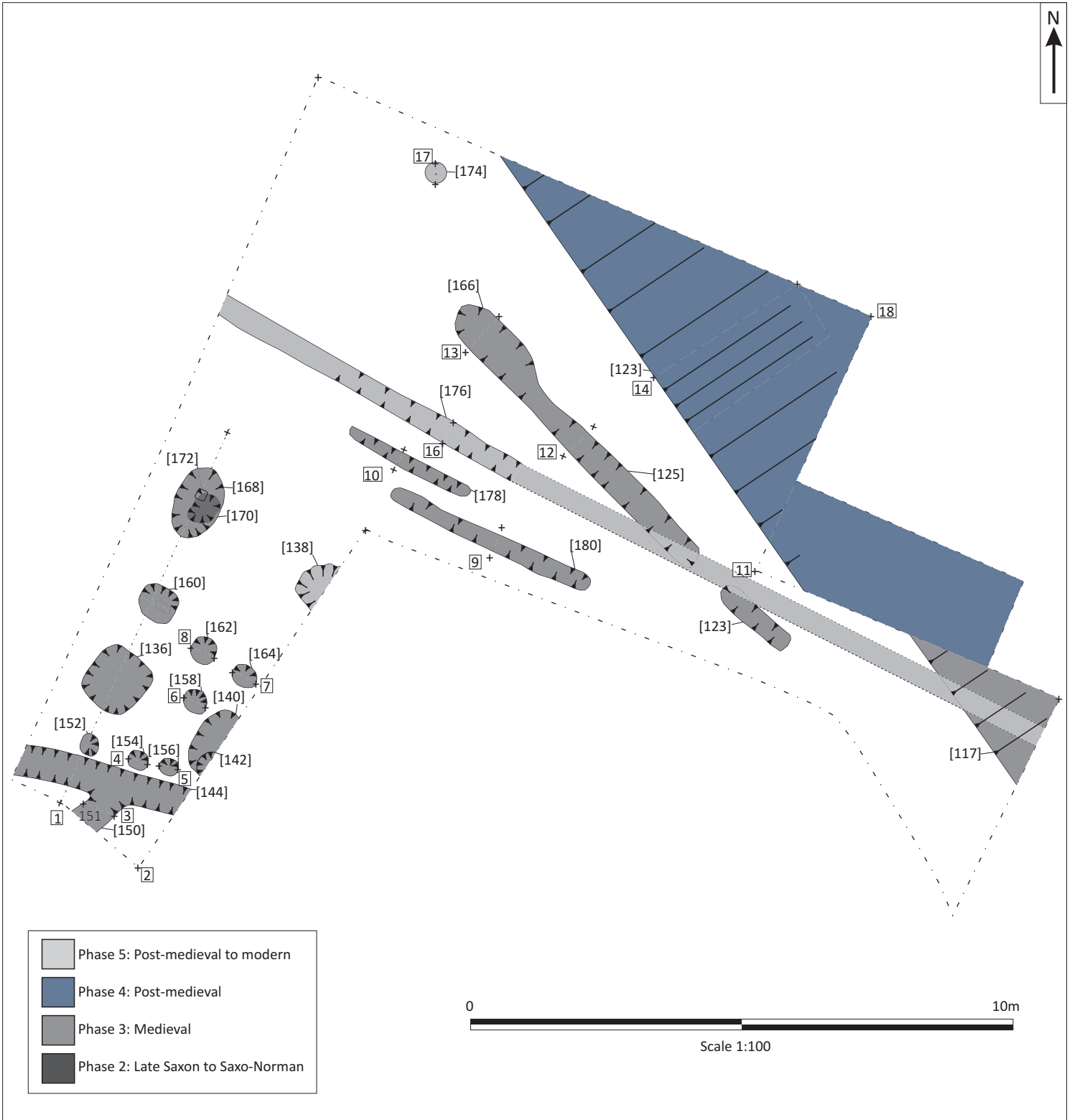


Figure 3: Site plan at scale 1:100. Numbers in squares denote sections shown on Figures 4 to 6

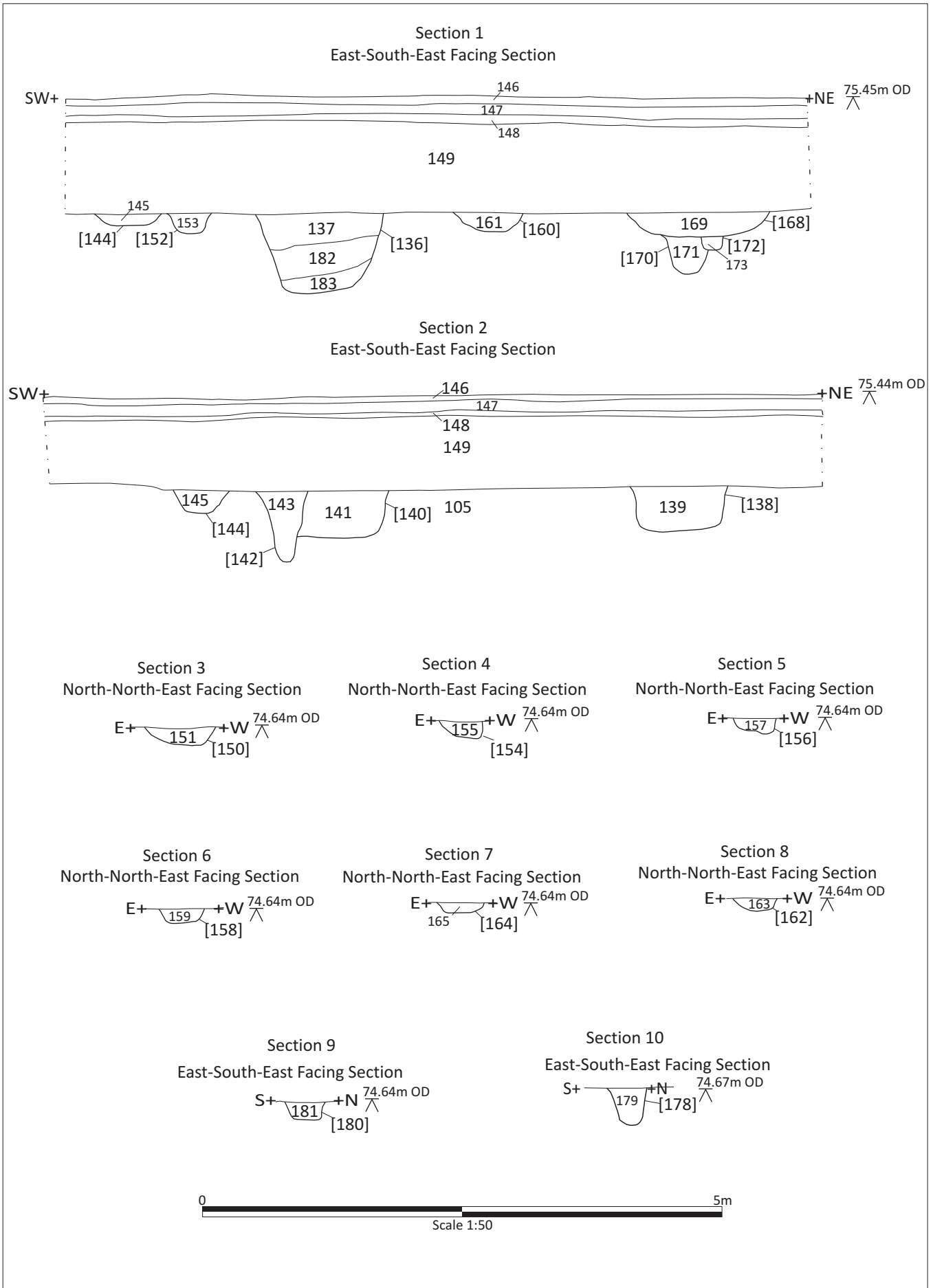


Figure 4: Sections at scale 1:50. Located on Figure 3

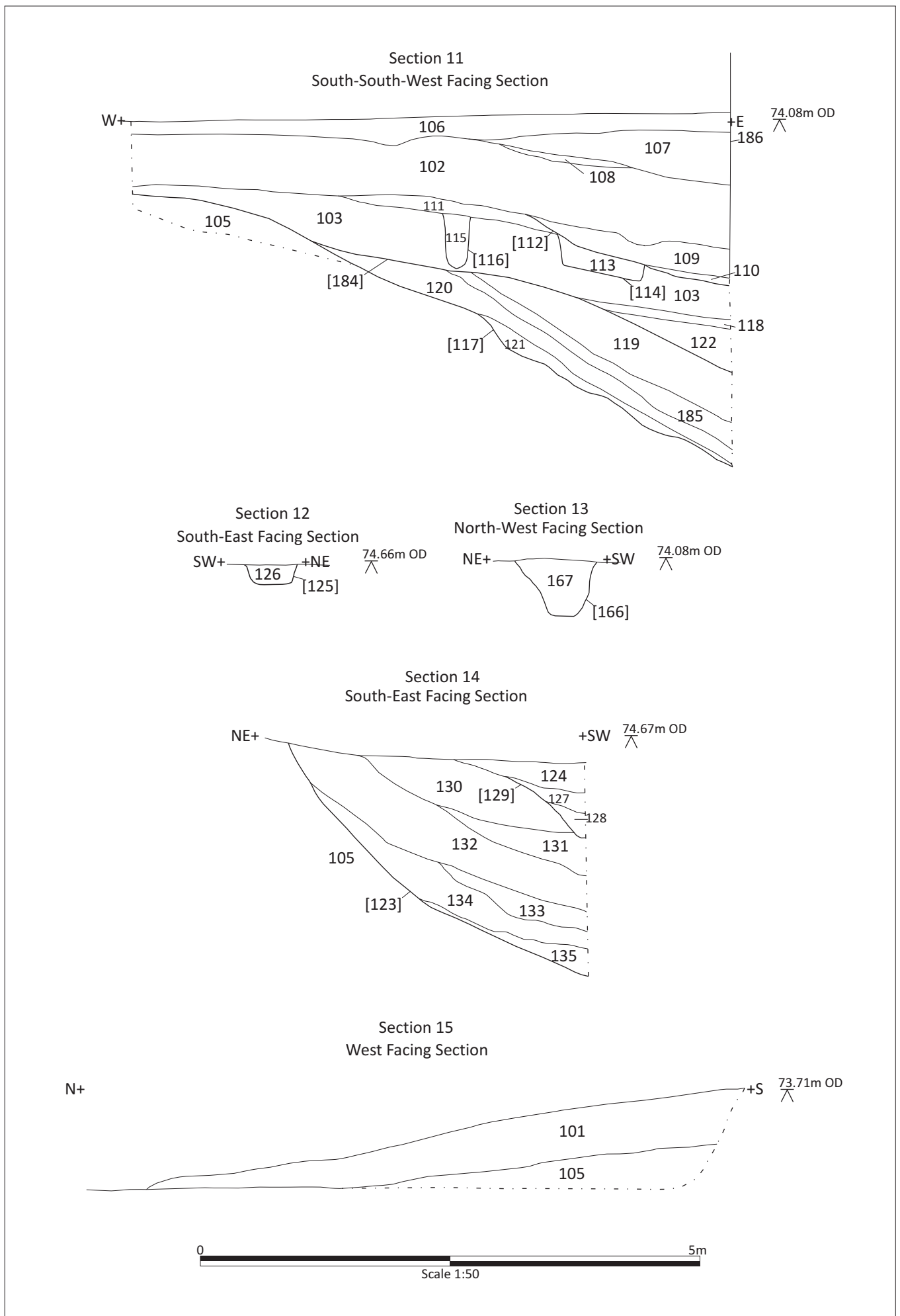


Figure 5: Sections at scale 1:50. Sections 11 to 14 located on Figure 3, Section 15 located on Figure 2

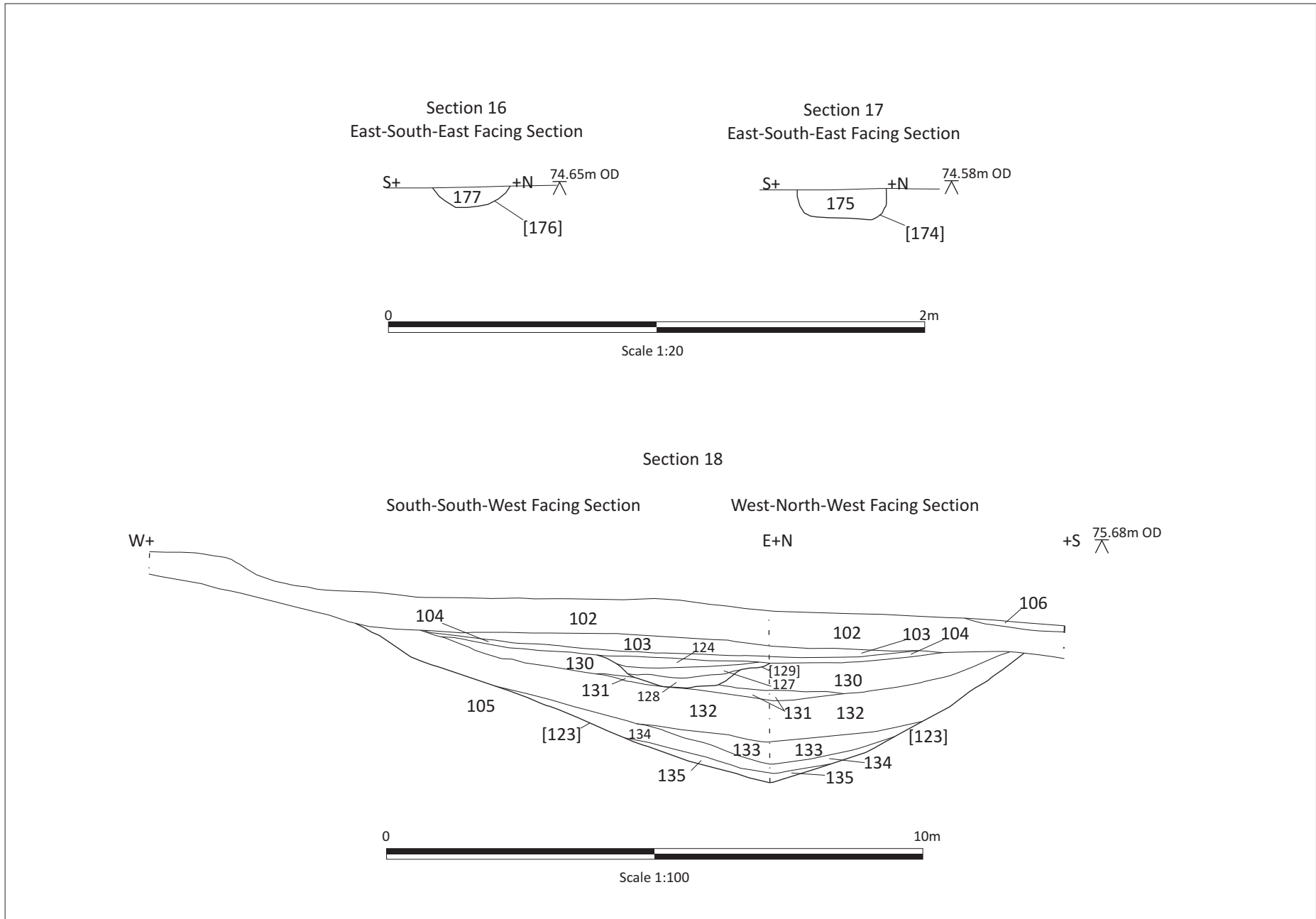


Figure 6: Sections 16 and 17 at scale 1:20 and Section 18 at scale 1:100. Located on Figure 3

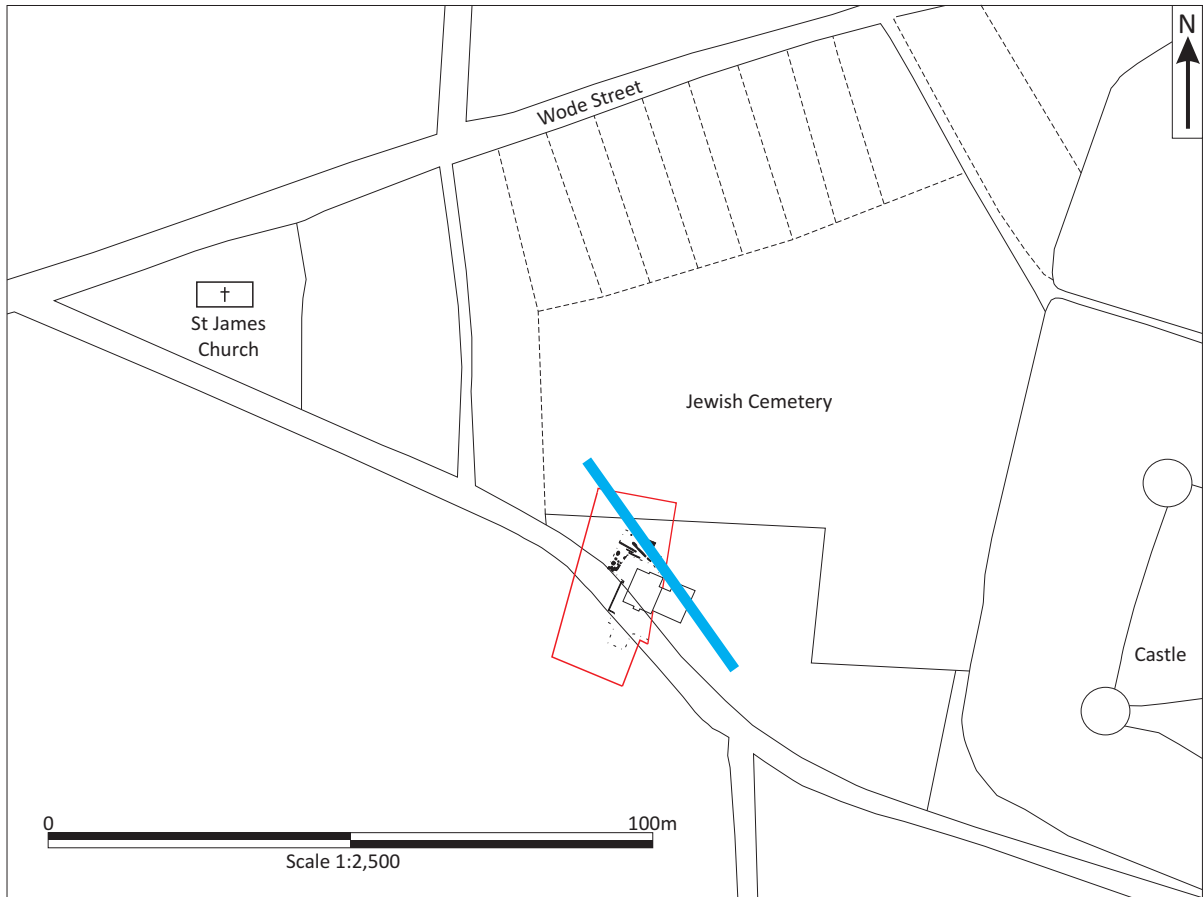


Figure 7: Approximate site location on map of c.1300 at scale 1:2,500 (after Keene 1985), with line of possible defensive ditch shown in blue

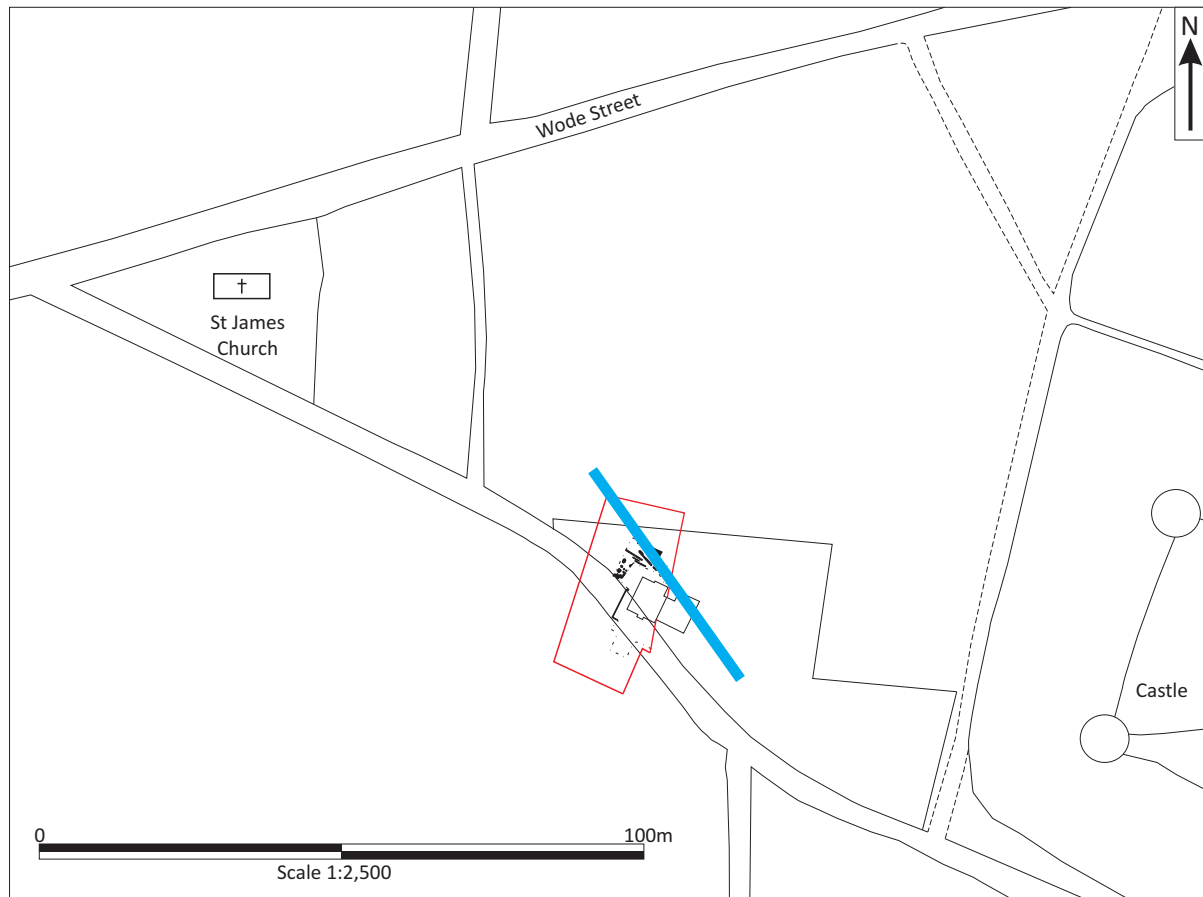


Figure 8: Approximate site location on map of c.1550 at scale 1:2,500 (after Keene 1985), with line of possible defensive ditch shown in blue



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