KDK Archaeology Ltd

Archaeological Strip, Map and Sample and Observation and Recording Report

Old Palace Lodge

Church Street

Dunstable

Bedfordshire

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Quality Check

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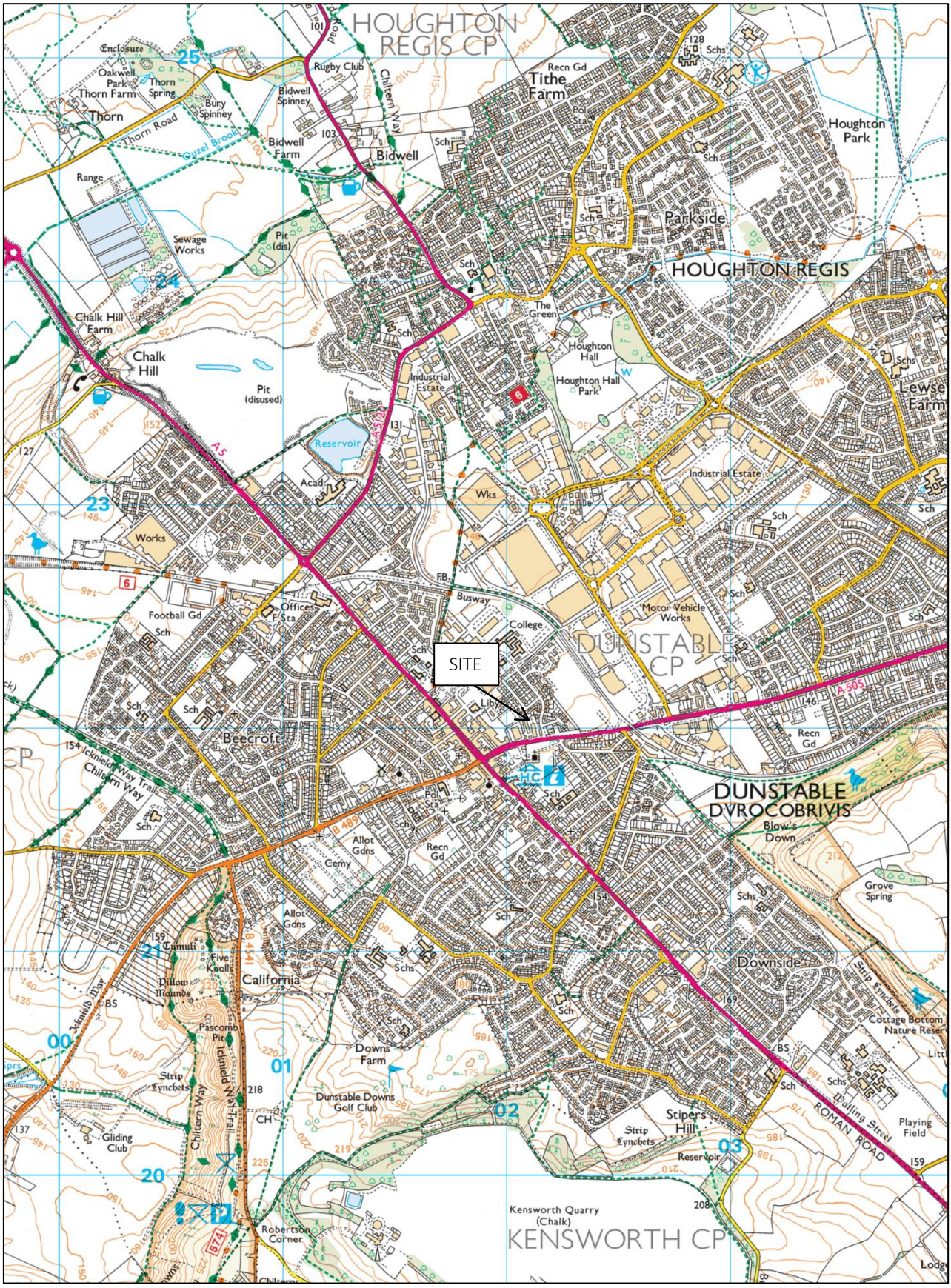


Figure 1: General location (scale 1:25,000)

Summary

Between September and November 2016, a programme of Archaeological Strip, Map and Sample Excavation was carried out at the Old Palace Lodge, Church Street, Dunstable, Bedfordshire, prior to the construction of a three-storey rear extension to the Old Palace Lodge Hotel. On completion of the site strip, Romano-British (1st-2nd century) archaeological features were revealed, including a human grave, a series of boundary ditches, gullies, pits, post-holes, a stone surface, and also post-medieval features consisting of a well, pits, post-hole and pos. gully, garden feature and building foundation.

1 Introduction

1.1 In September and November 2016 KDK Archaeology Ltd undertook a programme of Strip, Map and Sample excavation at the Old Palace Lodge Hotel, Church Street, Dunstable, Bedfordshire. The project was commissioned by MGM Hotels Ltd, and was carried out according to a Written Scheme of Investigation prepared by KDK (Summerfield-Hill 2015), and approved by Central Bedfordshire Council Archaeology Team (CBCAT), Archaeological Advisor (AA) to the Local Planning Authority (LPA), Central Bedfordshire Council. The relevant planning application reference is CB/13/02729/REN.

1.2 *Planning Background*

This project has been required under the terms of National Planning Policy Framework (NPPF) as a condition number 2 of planning permission for the development of the site.

1.3 *The Site*

Location
The site is in the town and parish of Dunstable, in the administrative district of Central Bedfordshire. It is located within the Dunstable Conservation Area and is centred at National Grid Reference TL 0212 2198 (Fig. 1).

Description
The Old Palace Lodge Hotel is a Grade II Listed Building, situated on the northern side of Church Street on the edge of the town centre. The site is rectangular in plan with the hotel to the front of the site and car parking to the rear. The site is surrounded by residential properties to the west, north and to the east is the site of the former Norman King public house. Church Street is to the south providing site access (Fig. 2).

Geology & Topography
The sites bedrock geology derives from the *Holywell Nodular Chalk Formation* and *New Pit Chalk Formation*, whilst none of the superficial deposits have been recorded (http://mapapps.bgs.ac.uk/geologyofbritain/home.html). The site is at an elevation of 140m.

The Development
The development entailed the erection of a three-storey rear extension to provide 18 double/twin en-suite bedrooms to the Old Palace Lodge Hotel (Fig. 3).

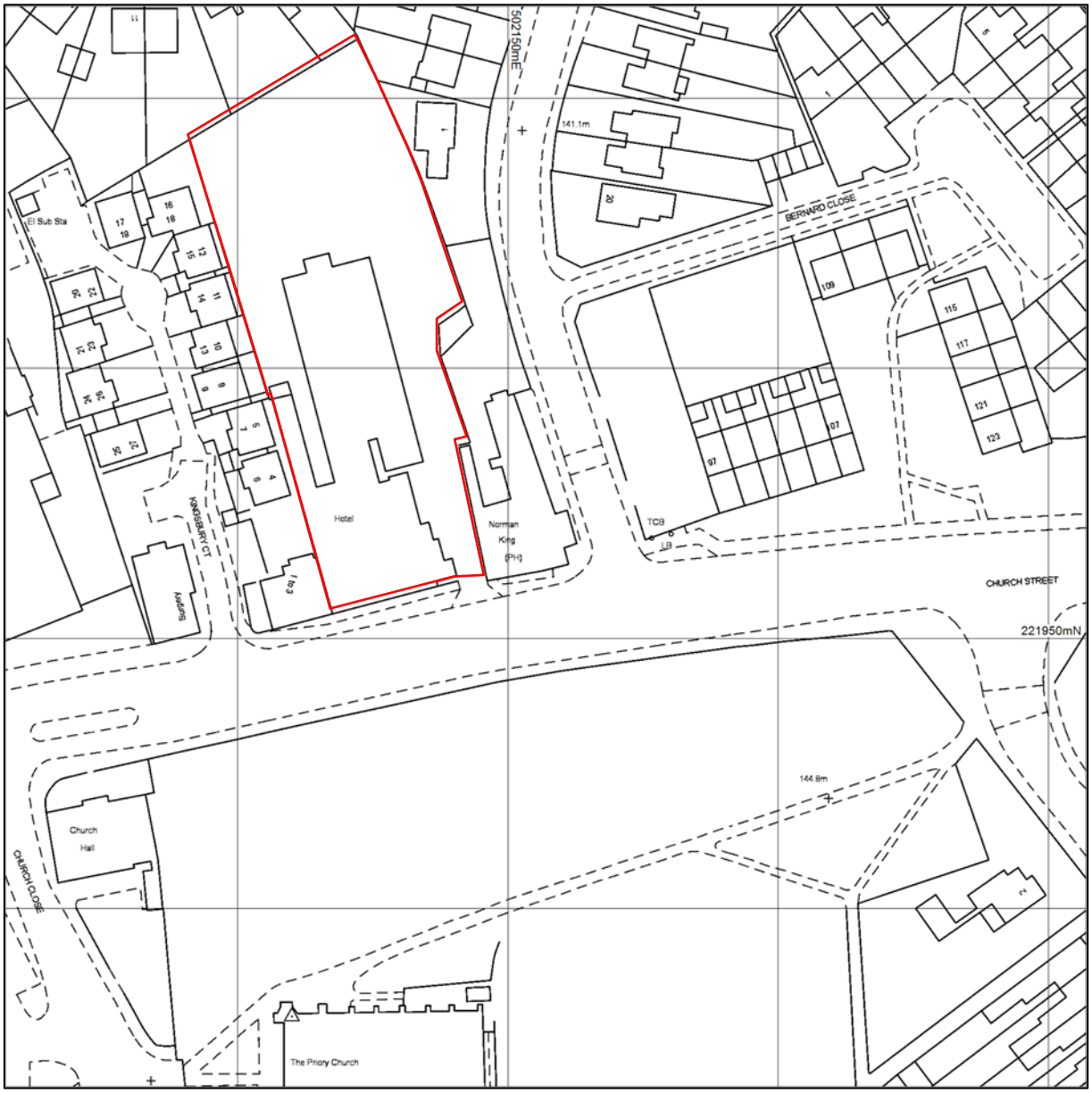


Figure 2: Site location (scale 1: 1250)

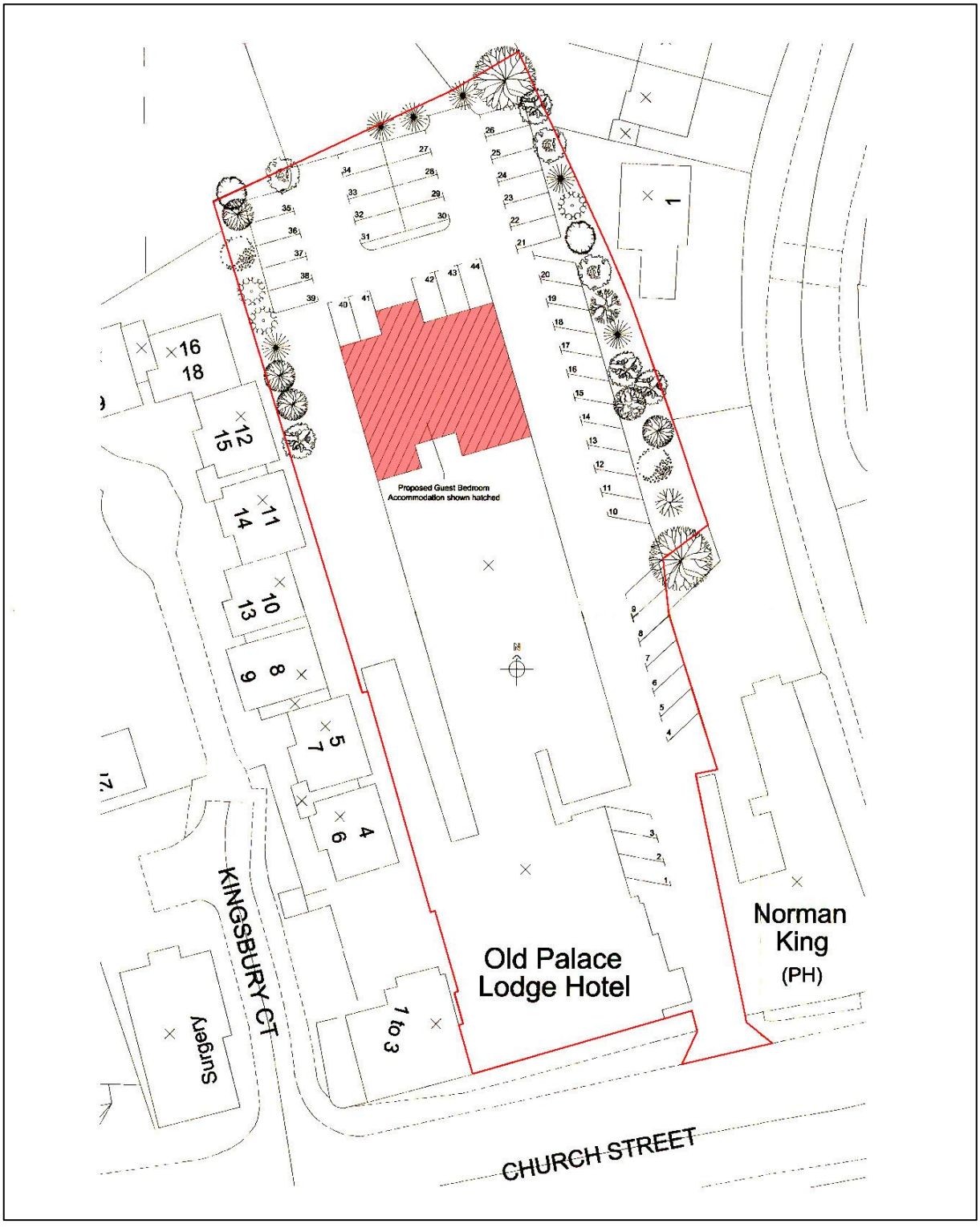


Figure 3: The development area (not to scale)

2 Aims & Methods

2.1 The aims of this project as defined in the approved WSI (Summerfield-Hill 2015) were:

- To establish the date, nature and extent of activity or occupation within the development area
- To establish the relationship of any remains found to the surrounding contemporary landscape
- To recover palaeo-environmental remains to determine local environmental conditions

In addition, the development site is considered to have the potential to contain archaeological deposits relating to the Roman, medieval and post medieval development of Dunstable. The research aims therefore included:

- the importance of Roman towns, their origins and development, and their inter-relationships with their hinterlands (Going and Plouviez 2000, 21)
- the origins and development of small towns, their inter-relationships with their hinterlands and early town planning from the Saxon through to the early Post medieval periods (Ayers 2000, 27-32, Going and Plouviez 2000, 21, Oake et al 2007, 11 and 14 and Medlycott 2011, 47-48, 58, 70 & 79)
- the potential of the site to provide further information about the location of the medieval Royal residence documented as being on Church Street
- the character of the medieval town at Dunstable

2.2 *Methods*

In line with the requirements of the WSI, the methods used were as follows:

- A Strip, Map and Sample excavation carried out within the footprint of the new extension, measuring *c.*11 m in length and *c.*17m in width (Fig. 3).
- Archaeological monitoring of associated service trenches.

2.3 *Standards*

The work conformed to the following requirements:

- The WSI
- The relevant sections of the Chartered Institute for Archaeologists' *Standard & Guidance Notes* (CI*f*A 2014)
- The Chartered Institute for Archaeologists' *Code of Conduct* (CI*f*A 2014)
- Current English Heritage guidelines (HE 2015, EH 2008)
- The Association of Local Government Archaeological Officers East of England Region *Standards for Field Archaeology in the East of England* (ALGAO 2003)
- The Central Bedfordshire Council Archaeological Brief

3 Archaeological and Historical Background

3.1 The development site lies within the defined core of both the Roman town (HER 135) and medieval town of Dunstable (HER 16986) and is considered to have the potential to contain archaeological deposits dating from these periods as well as from post-medieval times. It is also partly within an area which is suggested to be the location of a Royal residence built by King Henry I (HER 148; CBCAT 2015).

Dunstable (*Durocobrivae*) began as a Roman settlement, though when the Romans departed Britain in the 5th century AD the area was apparently abandoned until a town was founded there by Henry I *c.*1119. The meaning of the name Dunstable (*Dunestaple*) may be derived from 'boundary post (stapol) of a man called Dun(n)' (Mills 1991: 112) or from a combination of hill (dun) and wooden post (staple) which may have been used to mark the site of a market during the Middle Ages (Lambert 2014).

The Old Palace Lodge Hotel is late 18th century 2-storey Grade II listed building (HER 4355, NHLE 1114582) formerly known as Kingsbury House having been divided in two since 1934.

This section has been compiled with information from the Central Bedfordshire Historic Environment Record (HER, search reference number 201516/211), the Extensive Urban Survey for Bedfordshire (Albion 2003), the design brief (CBCAT 2015), reliable web sites and KDK's own library.

3.2 ***Prehistoric*** *(before 600BC)*

Few prehistoric sites/artefacts have been found in the historic core of Dunstable, and most of the evidence for this period has been located in the surrounding area, particularly the Downs to the south, but the town itself has revealed relatively little material from this period.

The 19th century antiquarian Worthington G Smith discovered Lower Palaeolithic tools/debitage at numerous sites in Caddington Parish, and at Ashton Grammer School, although these artefacts were likely to have been imported in from Caddington (HER 12286). Evidence for the seasonal occupation in the area during the Mesolithic period is based on scatters of flint artefacts found in the area around Dunstable (Albion 2003: 19). Neolithic settlements, ritual burial and field monuments have been found in the general area, such as at the Maiden Bower causewayed camp (HER 666, NHLE 1015593), and the Icknield Way (HER 353) was a major communication and trade route, which crossed the Dunstable area. Smith also found Neolithic artefacts in the Mount Pleasant area (HER 13570, 13576-77) and later discoveries were made in fields north of the Icknield Way between Dunstable and Leagrave (HER 1444); Caddington (HER 13564) and in pits at Puddlehill Quarry (Albion 2003: 19).

Bronze Age barrows and burials have been found within Dunstable at Marina Drive (Albion 2003: 19) where an Anglo-Saxon cemetery was interpreted as centred on a Bronze Age barrow; Lancot Hill (HER 125); Union Street (HER 129); Edward Street (HER 128); Albion Street (HER 150), and a beaker base (HER 7733) was discovered on the site of Rollings Whiting Works. To the south of the town is Five Knolls (HER 138, NHLE 1009892), a barrow cemetery reputed to be the finest group of burial mounds in the Chilterns.

3.3 ***Iron Age*** *(600BC-AD43)*

Iron Age settlement evidence was recovered during excavation work at Puddlehill Quarry. Excavations at Pond Cottage, Bull Pond Lane in 1990 revealed some Iron Age pottery, suggesting there may have been an Iron Age occupation site in this area of Dunstable (Hudspith 1991: 34). The area around Dunstable lay with in the territory of the hillfort at Maiden Bower at this time (HER 666, Albion 2003: 20). A combination of excavation and geophysical surveys on and around

the monument has identified significant features and activity dating from the Neolithic through to the Roman period.

3.4 ***Roman*** *(AD43-c.450)*

The Roman settlement of *Durocobrivis* or *Durocobrivae* (HER 135, 11270 and 11284) was situated at the crossing of the prehistoric routeway Icknield Way (HER 353) and Watling Street (HER 5508), which ran from London to Chester. The core of the Roman town appears to have extended some 400 metres beyond the crossroads (underlying West Street-Church Street and High Street North-High Street South). It is not clear what role the town had in the Roman period and there is no evidence for a military presence, which would suggest that the town may have been a form of staging post or *mansio* or even an administrative centre or *pagus*. (CBCAT 2015: 4-5; Albion 2003: 20).

Roman material has been found in all four quadrants of Dunstable, in an area similar in size to that of the medieval town (i.e. *c.* 14ha), with most of the archaeological evidence from the south-west quadrant which was apparently intensively occupied between the 1st and the 4th centuries. Roman features include, but are not limited to burials/cemetery (HER 122, 11284, 14964); cobbled streets; boundary ditches (HER 11281); wells and/or cess-pits (HER 16077, 11273); coins; pottery; roads; 'refuse pits' (HER 11276, 11277); industrial activity; and a possible farmstead (HER 1341; Albion 2003: 21-24).

Roman features including ditches, pits and wells have been found to the west and north-west of the development site (HER 11270, HAT 2000 and OA 2006). Roman activity has also been found at the development site itself including a small amount of hammerscale suggestive of industrial activity (Warren 1998 and 1999, Heritage Network 2007 and 2013; CBCAT 2015: 5; HER 15008; HER 14965).

3.5 ***Saxon*** *(c.450-1066)*

The Roman town appears to have been largely deserted following the Roman withdrawal in the 5th century, but Saxon settlement evidence has been found in the northwest quadrant, consisting of sunken featured buildings and a pagan Anglo-Saxon cemetery (HER 152; Albion 2003: 24). At present, there does not appear to have been any continuity between the Roman and Saxon settlements (CBCAT 2015: 5).

3.6 ***Medieval*** *(1066-1500)*

The medieval town (HER 16986) was established by Henry I *c.*1119 using the existing crossroads as a basis for a planned market town. The burgage plots appear to have survived to some extent within the town, particularly along High Street South. By 1123, Henry had built himself a residence at 'Kingsbury' (HER 148) on the north side of Church Street, and 8 years later he founded an Augustinian Priory dedicated to St Peter (HER 131, NHLE 1004676). The residence was granted to the Priory in 1204. The priory complex was located between the High Street South and Church Street, the surviving remains of which are the church of St Peter (HER 132, NHLE 1114581), part of the gatehouse (HER 6329, NHLE 1321391 and 1004676) and the undercroft at Priory House (HER 6311, NHLE 1114593). There is evidence of the remnants of significant associated structures below ground in the vicinity of the extant buildings. In 1983, the remains of what were probably the bake house and brew house cellars associated with the priory were located to the rear of the Saracen's Head, around 280m to the south of the development site. The priory was dissolved in 1539 and after which the, above mentioned, cellars were converted for lime production (Albion 2003: 10, 27). The location of the medieval cemetery is unknown, but it is possible that it lay to the north of the Priory and close to the King's residence. In 1994, the remains of at least two skeletons (HER 16165) buried in E-W

graves were found in the garden of a property in Kingsway during the construction of an extension (CBCAT 2015: 5).

Historical documentation indicates that Henry I had a royal residence (HER 148) in Dunstable, which is often referred to as a "palace" and this is even reflected in the name of the site (the Old Palace Lodge). However, it is as possible that the building was more simply a sumptuous house, and probably combining both masonry and timber framing. Henry I spent Christmas in 1122 in Dunstable and the Pipe Rolls of 1129-30 show that there was a keeper of the house at Dunstable, who was paid the rate of one penny a day (CBCAT 2015: 6). By 1277, the Priors were engaged in building a "great chamber" within the precinct of the Priory for the King to stay in, so it would seem that the Royal residence was by then not considered appropriate for Royalty. By the time of the Dissolution of the Priory, the Royal residence or at least its site had become a farm known as "Kingsbury" and the Totternhoe stone, which was the predominant building material of the more significant priory buildings, was clearly robbed from the site for use elsewhere in the town (*ibid*.).

3.7 *Post-Medieval* *(1500-1900)*

Dunstable prospered during the 17th century and, particularly, the 18th century as a coaching town and numerous inns were established to cater for the travellers, for it is only one or two days' ride by horse from London (51 km) and make a convenient stop for resting overnight (Albion 2003: 35).

In the 17th century the 'King's residence' was converted to a farmhouse and the earliest known cartographic source for Kingsbury Farm (1762) depicts a fairly substantial farmstead with barns and outbuildings projecting back from the main house and the Church Street frontage (CBCAT 2015: 6). An early 19th century engraving (sketched 1812, dated 1815) shows the Church Street elevations of the property and elements of what was to become Kingsbury House/Court, the Old Palace Lodge and the Norman King are easily recognisable (*ibid*.). Ordnance survey mapping dating from 1880 onwards shows Kingbury House as the main residence with associated gardens and the farm buildings (to the east) arranged akin to a courtyard.

3.8 *Modern* *(1900-present)*

The 19th century saw the straw hat making industry come to Luton and a subsequent decline in Dunstable, to be replaced in the early 20th century by the printing and motor vehicle industries, with companies such as Waterlow's and Vauxhall Motors respectively. The Bedford Dunstable plant came into production in 1942 to support the British Army in World War II. It continued commercial truck and bus manufacture until 1992 when the main factories closed and manufacturing, in general, has declined in the area.

Kingsbury continued as a farm until the early 20th century. Between the end of WWI and 1924, extensive remodelling of Kingsbury took place, including the erection of the eastern extension (now part of the Old Palace Lodge). In 1927, the barn was converted for use as a town museum and library, and from 1934-1937 the whole property was divided into the Old Palace Lodge (HER 4355, NHLE 1114582), Kingsbury Stables (the Norman King) and Kingsbury Court/House (a private residence; HER 4355. The Old Palace Lodge was acquired by Creasey Hotels in 1959 and became a hotel in 1960 (CBCAT 2015:6).

3.9 Site Specific Archaeological Evidence

Medieval and Roman pottery, as well as the remnants of a large robbed-out buttress, were recovered from the new foundation trenches of an extension to the Old Palace Lodge Hotel in 1981 (Manshead Archaeological Society, 1981).

In 1987 and 1988, prior to the construction of Kingbury Court, excavations discovered features associated with the post-medieval and Georgian Kingsbury property that included latrines, foundation trenches and cobbled surfaces. No evidence for the medieval Royal residence was found (Warren 1988 and 1989; CBCAT 2015: 6; HER 15008).

In 2007, an archaeological field evaluation was undertaken for an additional extension to the Old Palace Lodge Hotel which demonstrated the presence of archaeological deposits dating to the Roman, medieval and post-medieval periods. Trenches 1 and 2 were located within the footprint of the present development. Disturbance was noted to the north-west and a ditch containing both Roman and post-medieval was found in Trench 1. Trench 3, to the south-west of the new extension recovered worked Totternhoe stone carved with floral motifs and thought to date from the mid-13th century. Its design suggests it may have originated from a high-status building and recent analysis indicates similarities to some of the stonework on the west front of St Peter's Church (Heritage Network 2007 & 2013 and Hall 2014; CBCAT 2015: 7; HER 14965).

In 2012, excavation in the vicinity of Trench 3 produced further evidence for Roman and medieval activity, including more worked stone, a quantity of medieval window lead, and evidence for small scale metal working. A large medieval boundary ditch, running parallel with Church Street was also recorded. Environmental material recovered during the investigation indicated that the site may have been located on the edge of the both the Roman and medieval towns within an area that may have been used for small scale industrial working, possibly established as such during the Roman period. These works may have supplied both the Royal residence and the Priory (Heritage Network 2012, 2013; CBCAT 2015: 7).

More recently in 2017 a Strip, Map and Sample excavation was carried out immediately to the west of this project prior to the construction of new staff accommodation for the hotel (Dodd, Forthcoming). This project exposed pits, post-holes and ditches. Finds were lacking in the features but where they were recovered the majority of the features were post-medieval in date.

4 Results

4.1 *Site Stripping*

The Strip, Map and Sample area measured 228.94 sq. m and the Soakaway was 25.9 sq. m. A service trench measuring 16.3m in length and 0.3m in width and 1.3m in depth was also monitored. The areas were mechanically stripped of topsoil and overburden under close archaeological supervision, as required in the WSI (Fig. 4; Plates 1-7). The general site stratigraphy comprised:

- Modern (01) – 0.15m deep of tarmac and brick, sandy gravel in places.
- Made-ground (02) – 0.2m deep of red brick rubble acting as a base layer for the modern carpark
- Made-ground (64) – 0.13m deep of dark brownish black, soft, silty clay with moderate <20mm sub-angular chalk and stones found along the western side of the site.
- Made-ground (03) – 0.4m deep of dark greyish brown, fairly firm, silty clay with frequent <50mm sub-angular stones and <20mm sub-angular chalk and flecks and fragments of ceramic building material (CBM). Layer covers all archaeological features.

The underlying natural strata comprised compact chalk (18).

Terminology Note: Grp = Group number, SF = Small Find.

4.2 *Sampling Strategy*

On completion of the site strip, Romano-British (1st-2nd century) archaeological features were revealed, principally a human grave, a series of boundary ditches, gullies, pits, post-holes, and a stone surface. Post-medieval features consisting of a well, pits, post-hole and possible gully, garden feature and building foundation were also uncovered (Figs. 4-21; Plates 1-7, 53-58). Following consultation with the AA, it was agreed that subsequent excavation would follow the sampling strategy outlined in the Brief.

The overall archaeology plan is presented in Figs. 4&5, the archaeology phasing plan in Fig. 6, and detailed archaeology plans and sections in Figs. 7-21. Appendix 1 contains a full context descriptions and Appendix 4-16 are specialists' reports.

4.3 *Archaeology*

Grave (Figs. 4-8; Plates 8-10)

A single human grave was excavated and, subsequently radiocarbon dated to 129 cal AD.

Grave [57] SK56 was found towards at the southern side of the area, consisting of an elongated oval cut, orientated E-W. The grave contained (SK056), a mature adult female, more than 75% complete. Her head was at the eastern end of the grave and resting on its right side, whilst the body positing was extended and prone. Her right arm was flexed at the elbow and the right hand was palm up and the fingers clenched round. Her left arm was straight with the left-hand palm faced down and the fingers clenched inward. Her legs were straight and the lower legs very close together. A complete pottery vessel was found resting on top of the left elbow (SF1, Appendix 8). The grave contained no traces of a coffin, and the shape of the grave cut, and the closeness of the lower legs may also suggest that this was not a coffin burial, but rather, the individual may have been simply wrapped. The grave was backfilled with a single fill (58). A carbon date of the bone and the pottery dating suggests the burial occurred during the mid-late 2nd century.

Ditches (Figs. 4-7, 9-17, 19; Plates 11-24, 33, 49)

A total of ten ditches were excavated throughout the area that probably formed a series of boundaries.

Ditch Grps [69, 100, 110 and 111,] were roughly parallel features in the southwest corner of the site. The pottery assemblage recovered from Grp [69] was Roman but too small to date the feature more precisely, whilst Grp [100] and Grp [110] could be broadly dated to the 2nd century. The construction of these ditches may relate to different phases of the site's formation or it may be that these ditches were all open in mid-2nd century. Grp [111] forms a reasonably convincing arc and could represent some form of curvilinear feature, the extent of which is not known. As Grp [111] was found cutting Ditch Grp [50] and Gully [146] which are potentially Iron Age or early Roman, there is the possibility that this is also an early feature, though 5 sherds of Roman pottery were recovered from two separate upper fills, and may be intrusive (Figs. 4-6, 9-10, 13-15, 17, 19; Plates 11-16, 33).

Once the curvilinear and modern features are removed from the overall plan of archaeology, the remaining features give the site a more regular appearance, perhaps in keeping with what might be expected on a predominantly Roman site (Fig. 24).

Ditches [136] and [138] were located in the soakaway, 10m to the northwest of the main site. They were orientated northwest-southeast, and had been backfilled. These ditches may have turned or terminated on the north end of the excavated area, though Ditch [78] may be a continuation of these one of features. Finds of a ferrous object and pottery were recovered from [136]. There was insufficient pottery recovered to securely date these features but it has been assumed they are the same as [78] which was dated stratigraphically to being late Roman (Figs. 4-6, 14, 16; Plate 17-19).

Ditch Grps [70] and [71] were located in the centre of the site, were relatively short in length and orientated northwest-southeast. The pottery and CBM recovered from the excavated slots in these features suggest they are probably late 1st – early 2nd century in date. Finds of animal bone, flint, slag and oyster shell were also recovered (Figs. 4-6, 9-12; Plate 20-21, 33).

Ditch Grp [50] spanned the width of the southern side of the site, was orientated east-west, and continued beyond the limit of excavation in both directions. Its full width could not be ascertained as its southern side lay beneath the extant footings of the hotel. However, it was recorded in the adjacent excavation to the southwest as being 1.9m wide, and tentatively assigned a medieval date base on stratigraphic relationships, location and nature of fills (Jones, 2012). It ran parallel to gully Grp [146] which widens and possibly merges with Grp [50] beyond the limit of excavation. It contained finds of animal bone, CBM and a ferrous object, but there was not enough pottery recovered from this feature to provide a secure date. Some post-medieval material was recovered, though this was probably intrusive (Figs. 4-6, 9, 23; Plates 22-23, 49). It is likely that this ditch represents a boundary of some sort which ran parallel to what is now Church Street, 67m south of the site.

Grp [50] has been assigned an early date on the basis that it is on the same alignment, and possibly a continuation of one recorded on the Ashton St Peters site c. 70m to the west, Ditch [592] (Fig. 25). It is noted it the excavation report that [592] was cut near the eastern end of the trench by pit a containing 24 sherds of mid – late 1st century pottery. It is therefore possible that Ditch [592] was late Iron Age in origin (Allen, 2018). Small archaeological interventions have been recorded at Kingbury Court, between the two sites, though not on the projected path of this feature.

Ditch Grp [220] was located at the northern end of the site, orientated north-south, with the northern end of the ditch continuing beyond the limit of excavation. Initially this ditch was

obscured by Ditch Grps [69], [100], and [111]. Two sherds of late 3rd - 4th century pottery, along with animal bone was recovered from this feature, but as it was cut by the earlier dated ditches [69], [100] and [111], it is likely these sherds were intrusive (Figs. 4-6, 10, 15; Plate 24).

Gullies (Figs. 4-6, 14, 16-18; Plates 19, 25-32, 39)

A total of nine gullies, one possible Gully [172] and one Gully/Pit [11] were found throughout the site, six in the main excavation area, and three in the soakaway. They were probably used for land drainage purposes, and despite limited finds, stratigraphically they were associated with the other Romano-British features in the immediate vicinity. The possible gully was most likely post-medieval in date. Whilst no finds were recovered from this feature, its fill was similar to those that were securely dated to this period, and the Gully/Pit was post-medieval in date also.

Gully [40] was found at the eastern side of the main excavation area, orientated northeast – southwest and extended beyond the limit of excavation at the northeast end. It was cut by previous evaluation trench at the southwest end. The gully was shallow and had filled by natural silting with no finds (Figs. 4-6, 17; Plates 25-26).

Gully [72] was found in the central part of the site towards the southern end. It was orientated southeast-northwest with steep sides and an irregular base, and was cut by Ditch Grps [70] and [71]. It had naturally silted and contained a single sherd of pottery possibly dating to the LIA - late 1st century and possibly later, and two fragments of CBM, one also dating to the LIA – late 1st century (Figs. 4-6, 9; Plate 21).

Three gullies were found in the soakaway [130], [132] and [134] all of which were orientated northwest-southeast. Gully [130] contained a fragment of Romano-British pottery, and Gully [132] contained a fragment of mid 1st - 2nd century pottery, but not enough to date the feature securely. All appear to either terminate or turn before reaching the main excavation area *c*.10m to the south (Figs. 4-6, 16; Plates 27-28).

Gully Grp [146] was found partly along the western side of the main excavation area, orientated east – west and extending beyond the limit of excavation at its western end. It was parallel to Ditch Grp [50], widening and possibly merging or terminating beyond the limit of excavation, as it is not recorded in the within the footprint of the new gym 4m to the west (Jones, 2012). Its eastern end appeared to have been truncated either by modern footings or Ditch Grp [70]. It had been backfilled and no finds were recovered, and was cut by Ditch Grp [111] (Figs. 4-6, 17, 21; Plates 29-30). This feature has been assigned the same phase as Ditch Grp [50] as it is in close proximity, on the same alignment and possible forms part of the same structure cut beyond the western limit of excavation. However, as with Grp [50] this is conjectural.

Gully [176] was located at the western side of the site, orientated north-south. The southern end continued beyond the limit of excavation whilst the northern end was cut by Gully Grp [221]. It had been backfilled but no finds were recovered, however, it was stratigraphically early in date (Figs. 4-6, 18; Plates 31-32, 39).

Gully Grp [219] was adjacent to and cut Ditch Grp [111], and continuing beyond the limit of excavation at its northeast end whilst terminating at the southwest end. It is likely that this gully is associated with the larger features of Ditch Grps [69, 100, 111 and 221], in terms of its function. The gully was shallow and backfilled with no finds recovered (Figs. 4-6, 14; Plate 16).

Gully Grp [221] was situated at the western side of the main excavation area, orientated north-northeast by south-southwest and continued beyond the limit of excavation at its south-southwest end. Its north-northwest terminus had been truncated by a modern service trench.

As with Gully Grp [219], it had a similar alignment to Ditch Grps [69, 100, and 110], and probably had an associated function. The gully was filled with natural silting and no finds were recovered (Figs. 4-6, 18; Plate 19).

Possible Gully [172] was found at the western end of the main excavation area, cutting through Gully Grp [221] and Pit [167]. It was roughly on an east-west alignment which then curved to a more northwest-southeast orientation. At the eastern end it continued beyond the limit of excavation, whilst at the southeast end it was cut by foul service pipe. The feature was shallow and had been backfilled with material that was comparable to a number of post-medieval features found on the site, though no finds were recovered (Figs. 4-6, 18; Plates 31, 39).

Gully/Pit [11] was found in the central southern side of the main excavation area. Its full shape in plan and profile was not fully seen as the feature extended beyond the limit of excavation and was also cut by possible Building Foundation Grp [51]. The feature cut through Ditch Grp [50], and had been backfilled by (23) which contained post-medieval pottery, CBM, an iron nail and clay pipe.

Pits (Figs. 4-6, 9, 13-14, 17-20; Plates 26, 31, 33-36, 37-40)

A total of seventeen discrete pits were excavated throughout the area, four of which were Roman or probably Roman **[42], [73], [94] and [201]**, though only two contained finds. CBM and glass were recovered from the fill of Pit [73], along with pottery dated to the mid - late 1st century. The glass consisted of two small undiagnostic sherds weighing a total of 17g and therefore were not sent for specialist analysis. Pottery from Pit [94] was dated to the same period, and animal bone and flint was also recovered. The dating of Pits [42] and [201] was on a stratigraphic basis in relation to other dated features, as no finds were recovered (Figs. 4-6, 9; Plates 21, 33, 34).

Eight pits were dated to the post-medieval period **[14], [38], [108], [118], [152], [191], [195] and [199]**, two of which contained datable artefacts. Pit [38] contained 18th - 19th century pottery, CBM, and clay pipe. Pit [191] contained post-medieval CBM and clay pipe. The remaining pits were assigned a post-medieval date on the basis of their fill colour and consistency being the same as known post-medieval features (Figs. 4-6, 13-14, 17, 19-20; Plates 26, 35-37).

Five pits contained no dateable artefacts **[19], [167], [174], [182] and [197].** However, due to either their stratigraphic relationship with other features or the nature of the fill, they have been phased as probably Roman. (Figs. 4-6, 16-18; Plates 31, 38-39, 40).

Post-holes (Figs. 4-6, 14-15, 21; Plates 41-45)

A total of eight discrete post-holes were excavated.

Post-hole **[116]** contained no finds but was truncated by possibly Iron Age or early 1st century Ditch Grp [111]. A further two post-holes **[06] and [189]** were probably Roman based on either a few pot sherds being recovered or the nature of the backfill (Figs. 4-6, 14-15, 21; Plates 11, 41).

A post-medieval post-hole **[76]** was also excavated containing glass fragments, and cutting into Ditch Group [70] (Figs. 4-6, 21; Plate 42).

Post-holes **[04], [35], [193] and [242]** contained no dating evidence but were phased on their fill types being similar to those of dated features or stratigraphic relationships, with [04] and [193] being Roman, [35] being Post-medieval, and [242] being possibly Iron Age or earlier (Figs. 4-6, 19; Plates 43-44).

Stone Surface (Fig. 4-6, 15; Plate 46-47)

A very rough, irregular shaped, stone surface [67] was exposed at the northern central part of the area, measuring 2.85m in width, more than 5.2m in length and 0.17m in depth. It was orientated north-south and consisted of a concentration of sub-rounded stones/pebbles 100mm or less in diameter, in a matrix of mid greyish brown, fairly firm, silty clay. No bonding material was used. Its shape and fragmentary nature made it difficult to assess its function, though it was possibly a yard surface or pathway. Animal bone and iron nails were recovered from the surface. Whilst no secure dating evidence was associated with this feature, its stratigraphic relationships with adjacent and underlying cuts suggests it was probably late Roman.

Spread (Figs. 4-6; Plate 29)

A deposit (86) was observed in the southwest corner of the site overlying part of Ditch Grps [50] and [111] and Gully Grp [146]. It measured 1.84m in width, more than 1.96m in length, and 0.1m in depth, and extended beyond the limit of excavation. This deposit appeared to have no associated cut, and was comparable to the fills noted in Ditch Grp [111]. This part of the site appears to be at a lower level than the rest and it could be that the spread represents natural silting. It contained finds of pottery dating to the mid-1st -2nd century and animal bone, probably derived from the dumping of domestic refuge.

Well (Figs. 4-6, 22; Plate 48)

A well [211] was found towards the northwest corner of the site that extended beyond the western limit of excavation. It was probably 2m in diameter and was constructed of an outer layer of chalk nodules beneath which was flint, which stepped down to a lining. The stones were bonded with a loose sandy material. The well had been backfilled and contained finds of residual mid 1st - 2nd century pottery, and post-medieval CBM.

Wall Foundation (Figs. 4-6, 9; Plates 49-50)

The remains of a clunch wall foundation [08] constructed of large undressed stone and brick was found in the southeast corner of the site, orientated north-south. It was just over a metre in length, and was located within Ditch [31], the principal cut of Grp [50]. The northern end of the wall appeared to respect the ditch edge whilst the southern end was truncated by the extant hotel footing. The wall contained red brick that appear to be handmade with spanish inclusions, which would suggest an 18th or early 19th century date. There was a higher concentration of red brick at the top of the wall which may suggest that the clunch was used as foundations and the wall above was brick. A sandy limestone mortar covered the top of the foundation but the lower part of the wall was un-mortared.

Possible Garden Feature (Figs. 4-6, 22; Plate 51)

A sub-circular feature [33] was found towards the northeast end of the main excavation area that was 2.95m wide, 2.55m long and 0.19m deep. It had been backfilled and contained numerous pottery sherds, dating between 16th - 20th century, and 17th - 18th century ceramic building material, nails and animal bone. The nails recovered were found at intervals around the edges of the cut .It is likely that this represents a feature from the large formal gardens which once occupied the site.

Possible Building Foundation (Figs. 4-6, 23; Plates 49, 52)

A rectangular feature, Grp [51], was located in the southeast corner of the site. It was orientated north-south with the southern edge being truncated by the extant hotel. It was 3.2m wide, more than3.6m long and 0.25m deep, and had been backfilled. The fill contained pottery dating from a range of periods from Romano-British into the 20th century, and similarly for the CBM. Animal

bone, slag, ferrous objects and oyster shell were also present. The feature cut through the Romano-British Ditch Grp [50]. The rectangular shape of this feature and its straight sides and flat base may suggest that it was a construction cut for possibly an outbuilding associated with the Old Palace Lodge.

4.4 *Phasing*

Broad phasing for the site has been established by combining artefactual dating and stratigraphic relationships. However, it is recognised that the phase plan presented is one of several that could be applied using the evidence available (Fig. 7). There were relatively few features that could be securely dated using the recovered pottery, but Table 1 presents the data used.

4.4.1 *Phase 1: Possible Iron Age or earlier*

The features within this phase are mainly allocated on the basis of their stratigraphic relationship with other features. The dating has been derived from the position and alignment of Ditch Grp [50] and possibly Gully Grp [146] being such that it could convincingly be the same feature recorded as one on the adjacent Ashton St Peters site to the west, Ditch [592] which was cut by a pit probably of mid – late 1st century date (Allen, 2018). It is therefore possible that ditch is from an earlier period.

4.4.2 *Phase 2: Possibly Iron Age to early 1st century*

Ditch Grp [111] is the only feature assigned to this phase. Despite 9 slots being excavated through it, only 5 sherds of 2nd to 4th century pottery were recovered, which were not enough to date the feature, and there is a likelihood that they were intrusive. Grp [111] cuts possibly early dated features on the site, and is cut by and overlain by Roman features of indeterminate date.

4.4.3 *Phase 3: Late 1st – Early 2nd century*

Phase 3 consisted of a small number of centrally located features. Whilst there were not many of them, they provided dating evidence that was sufficiently tight to allow them to be phased separately.

4.4.4 *Phase 4: 2nd century*

Three features were assigned to this phase; Ditch Grps [100] and [110], and Grave [57]. The almost complete pot which was buried with the woman and the carbon date of her bone readily place this feature in Phase 4.

4.4.5 *Phase 5: Late Roman*

The most notable features in Phase 5 are two adjacent ditches recorded in the soakaway to the northwest of the site, that possibly terminated within the main excavation area. The other feature was a rough stone surface, though this was dated by its stratigraphic relationship with other features.

4.4.7 *Phase 6: Post-medieval/Modern*

Phase 6 also consisted of a number of features scattered throughout the excavation, including a clunch wall, possible building foundation, gullies, posthole, garden features and a well.

Many of the features contained pottery from 16th to 20th centuries, but some features were assigned to this phase on the basis of their fill colour and consistency being the same as known post-medieval features.

4.4.8 *Probably Roman*

Some features were categorised as Probably Roman on either their stratigraphic relationships or that their fills contained Roman pottery but of an insufficient quantity to provide a secure date.

Context No.	Fill No.	No. of Sherds	Feature Date	Comment
[94]	95	5	Not Enough Data	L1-E2
	101	5	NED	M1-2
[167]	168	0	NED	
	169	0	NED	
[176]	177	0	NED	
G[220]	188	0	NED	
	204	0	NED	
[42]	43	0	NED	
G[50]	23	1	NED	P-Med
	24	0	NED	
	26	0	NED	
	28	2	NED	19th-20th
	32	1	NED	L1/M-L2
	37	0	NED	
	48	0	NED	
	49	0	NED	
	65	0	NED	
	66	0	NED	
	83	0	NED	
	84	0	NED	
	121	0	NED	
	122	0	NED	
	126	0	NED	
	127	0	NED	
G[70]	30	278		E 2
	47	1	NED	M1-2
	53	12		M-L1
	97	20		L1-E2
G[71]	22	0	NED	
	55	36		L1
	69	0	NED	
	90	3	NED	M-L1
[72]	68	1		LIA-L1st?+
[146]	103	0	NED	

	143	0	NED	
G[69]	62	3	NED	M-L1
	206	0	NED	
G[100]	60	2	NED	M1-2
	92	4	NED	L2-3+
	99	13		E-L2
G[110]	81	0	NED	
	107	75		M-L2
	149	0	NED	
G[111]	85	0	NED	
	105	0	NED	
	113	2	NED	M-L2-3
	129	0	NED	
	141	0	NED	
	145	0	NED	
	147	0	NED	
	155	0	NED	
	156	0	NED	
	162	0	NED	
	204	3	NED	L3-4
G[219]	115	0	NED	
	218	0	NED	
G[221]	171	1	NED	
	178	2	NED	
	179	3	NED	
[67]	67			Pos RB
[73]	74	5		M-L1
	75	0	NED	
[78]	79	1	NED	E/M2-E/M3
86	86	0	NED	Pos RB
[8]				18-19th
[14]	15	1	NED	L1-2
[33]	34	86		17-19th
[38]	39	4		18-19th
G[51]	25	0	NED	
	27	0	NED	
	45	6		Mixed R-P-M
[108]	109			P-M
[118]	119	0	NED	
[152]	153	0	NED	
[172]	173	0	NED	

[193]	194	0	NED	
[199]	200	0	NED	
[211]	211	15		R-P-M
[6]	7	2	NED	R
[116]	117	0		
[189]	190	0		
[242]	243	0		
[130]	131	1	NED	R
[132]	133	1	NED	M1-2
[134]	135	0	NED	
[136]	137	2	NED	M/L1-M/L2
[138]	139	0	NED	

Table 1. Pottery dates taken from original data set

Plate 1: Strip, Map and Sample area, pre-excavation, looking SW (2x1m scale)

Plate 2: Strip, Map and Sample area, pre-excavation, looking SW (2x1m scale)

Plate 3: Strip, Map and Sample area, pre-excavation, looking S (1m scale)

Plate 4: General stratigraphy of Strip, Map and Sample area, looking N (2x1m scale)

Plate 5: Soakaway, pre-excavation, looking SW (2x1m scale)

Plate 6: General stratigraphy of soakaway, looking SW (2x1m scale)

Plate 7: Service trench, looking N (2x1m scale)

Plate 8: Grave [57] (SK56), looking SSE (1m scale)

Plate 9: Grave [57] (SK56), looking N (1m scale)

Plate 10: Complete pottery vessel (SF1) found in Grave [57], looking SE (200mm scale)

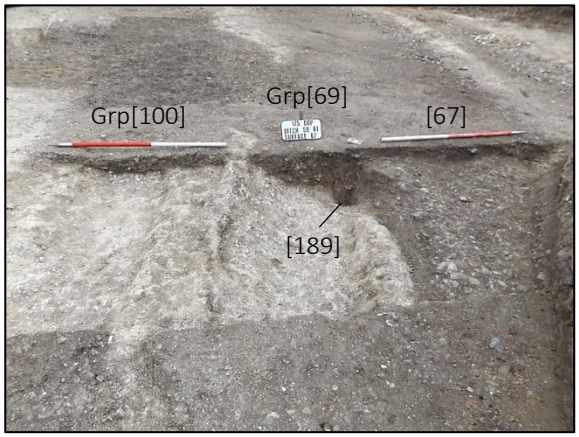


Plate 11: NE facing section of Ditches Grp[100], Grp[69] , Post-hole [189] & Surface [67] (2x1m scale)

Plate 12: NE facing section of Ditches Grp[100], Grp[69],Grp[111], Grp[220], & Post-hole [189] (2x1m scale)

Plate 13: General shot of Ditch Grp[100], looking NE (1m scale)

Plate 14: General shot of Ditch Grp[110], looking NE (500mm & 2m scale)

Plate 15: SW facing section of Ditch Grp[110] (500mm scale)

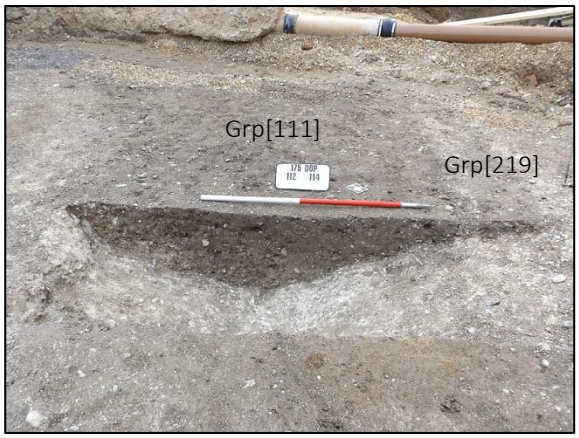


Plate 16: NE facing section of Ditch Grp[111] & Gully Grp[219] (1m scale)

Plate 17: Overall shot of Ditches [136] & [138] and Gullies [130], [132] & [134], looking NW (2x1m scale)

Plate 18: SE facing section of Ditches [136] & [138] (500mm scale)

Plate 19: SW facing section of Ditch terminus [78]
(1m scale)

Plate 20: General shot of Ditch Grp[70] & G[71], looking NW (1m scale)

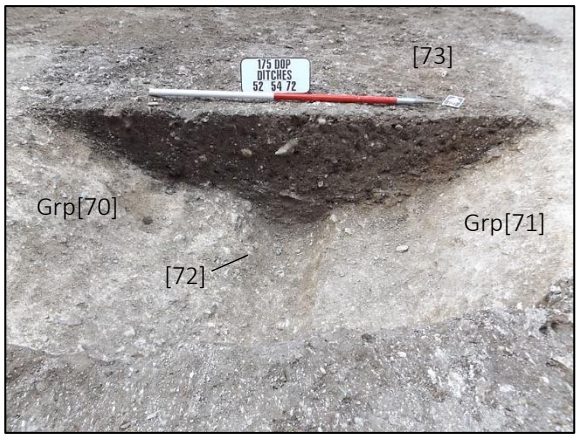


Plate 21: SE facing section of Ditch Grp[70] & G[71], Gully [72] and Pit [73] (1m scale)

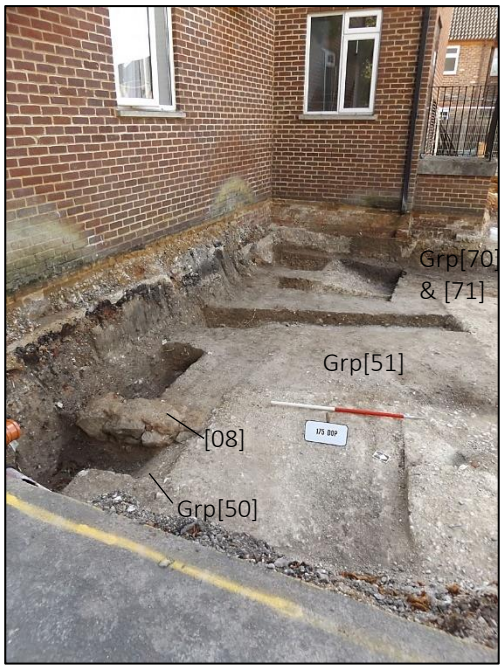


Plate 22: Overall shot of the SE corner of the Strip, Map and Sample area (1m scale)

Plate 23: E facing section of Ditch Grp[50] (500mm scale)

Plate 24: S facing section of Ditch Grp[220] (2x1 scale)

Plate 25: NE facing section of Gully Grp[40] (500mm scale)

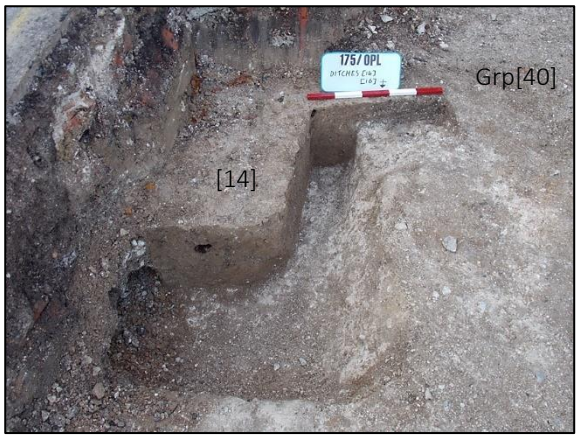


Plate 26: Gully Grp[40] cut by Pit [14], looking S (500mm scale)

Plate 27: SW facing Section of Gully [130] (500mm scale)

Plate 28: SE facing section of Gullies [132] & [134] (500mm scale)

Plate 29: Pre-ex shot of SW corner of the Strip, Map and Sample area – Gully Grp[146], Spread (86), Ditch Grp[50] (1m scale)

Plate 30: E facing section of Gully Grp[146] (500mm scale)

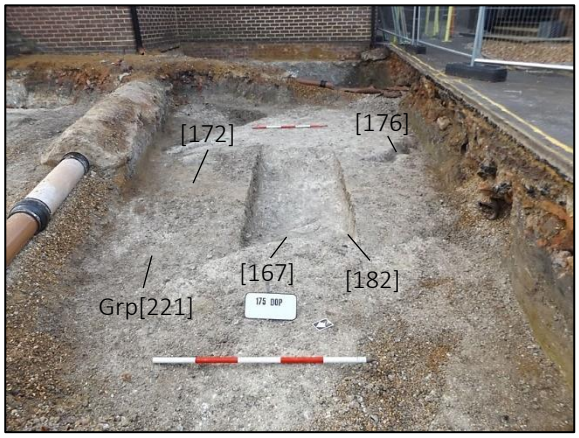


Plate 31: West side of the Strip, Map and Sample area looking SE (2x1m scale)

Plate 32: E facing section of Gully [176] (500mm scale)

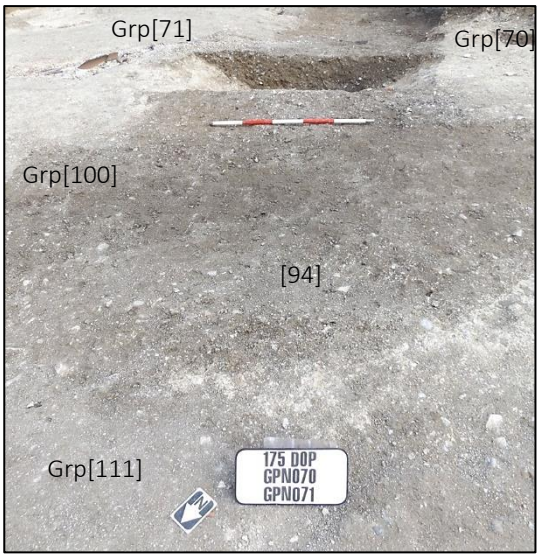


Plate 33: Pre-ex shot of Pit [94] with Ditch Grps [70], [71], [100], [111], looking SE (1m scale)

Plate 34: Pit [94] cut by Ditch Grp[100], looking NE (1m scale)

Plate 35: NE facing section of Pit [38] (500mm scale)

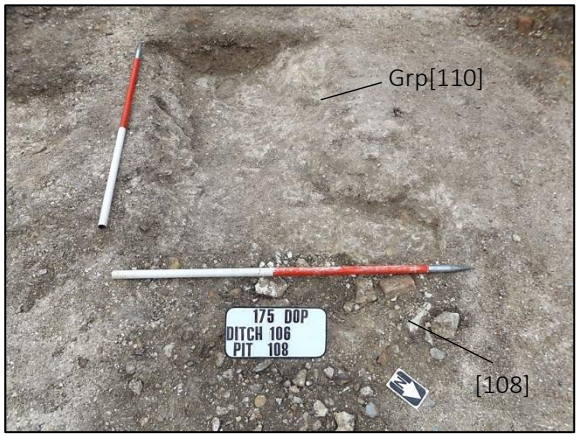


Plate 36: Pit [108] cutting Ditch Grp[110] looking SW (1m scale)

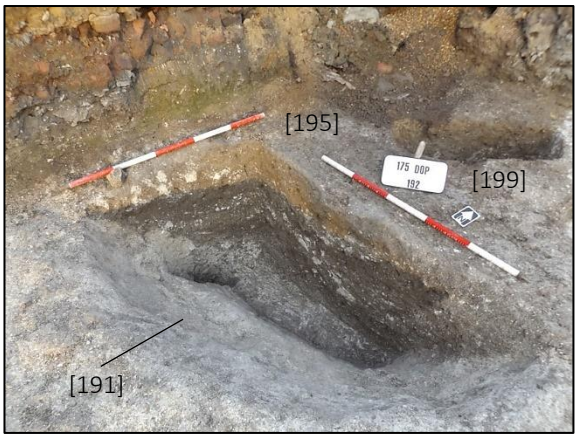


Plate 37: Pits [191], [195] & [199], looking NW (2x1m scale)

Plate 38: N facing section of Pit [19] (500mm scale)

Plate 39: Pits [167], [182], Gullies [172], Grps [221] & [176], looking WSW (1m scale)

Plate 40: S facing section of Pit [197] (2x1m scale)

Plate 41: NE facing section of Post-hole [06], looking SW (500mm scale)

Plate 42: Post-hole [76], looking NNW (500mm scale)

Plate 43: SW facing section of Post-hole [04] (500mm scale)

Plate 44: NW facing section of Post-hole [35], looking SE (500mm scale)

Plate 45: Post-hole [193], looking SW (500mm scale)

Plate 46: Stone surface [67], looking SW (2x1m scale)

Plate 47: Detail of Stone surface [67], looking S (1m scale)

Plate 48: Well [211], looking SW (1m scale)

Plate 49: Clunch wall [08], Ditch Grp[50] and pos. Building Foundation, looking SE (2x1m scale)

Plate 50: NE facing section of Clunch Wall [08] (1m scale)

Plate 51: Pos. Garden Feature [33], looking W (2x1m scale)

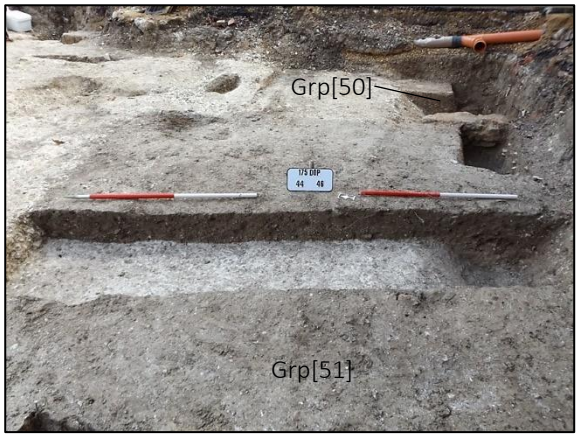


Plate 52: Pos. Building Foundation [51] & Ditch Grp[50], looking ENE (2x1m scale)

Plate 53: Strip, Map and Sample area, post-excavation, looking SE (1m scale)

Plate 54: Strip, Map and Sample area, post-excavation, looking NE (2x1m scale)

Plate 55: Strip, Map and Sample area, post-excavation, looking SE (1m scale)

Plate 56: Strip, Map and Sample area, post-excavation, looking SW (1m scale)

Plate 57: Strip, Map and Sample area, post-excavation, looking SW (1m scale)

Plate 58: Strip, Map and Sample area, post-excavation, looking E (1m scale)

Plate 59: Strip, Map and Sample area, post-excavation, looking E (2x1m scale)

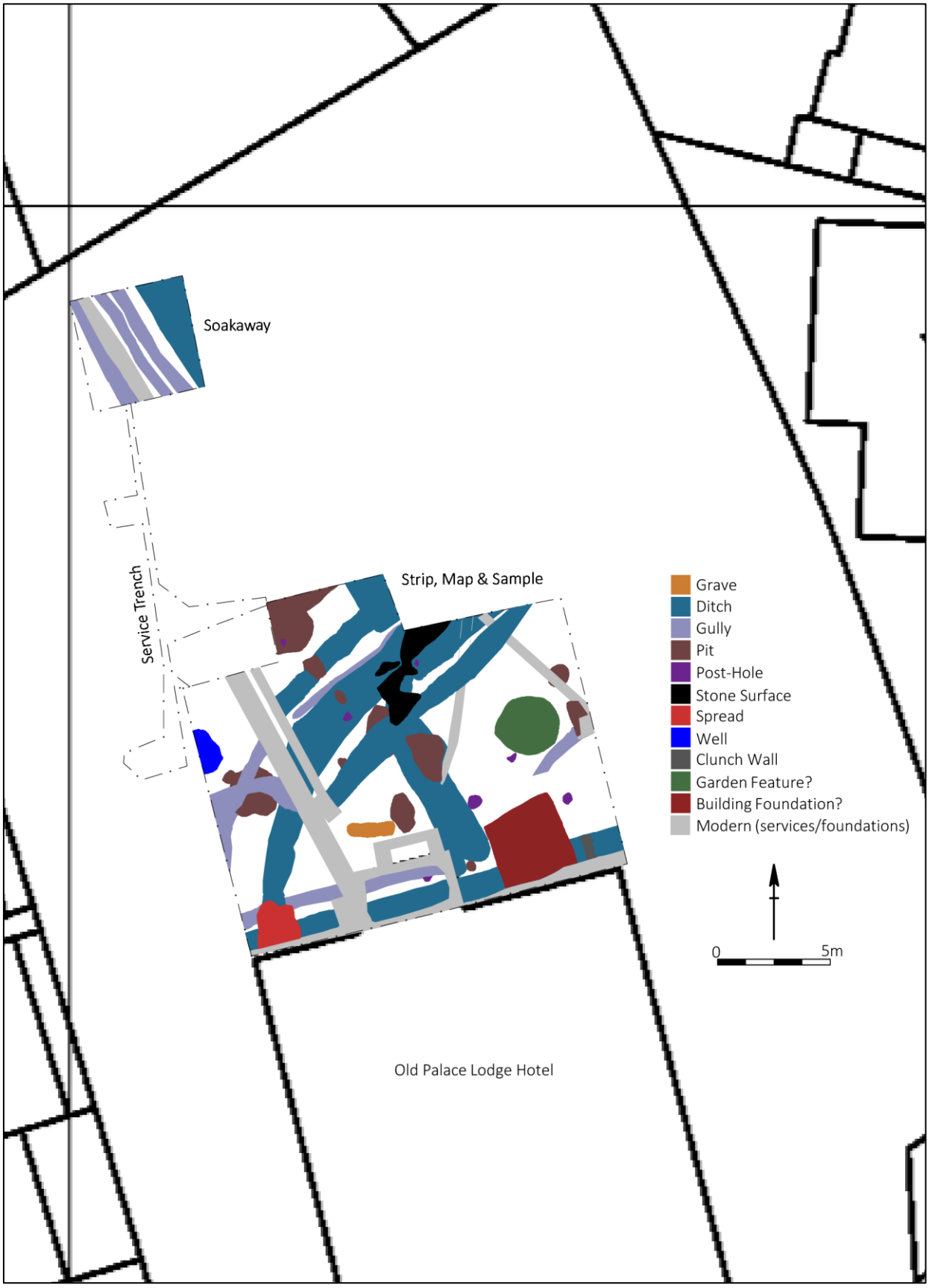


Figure 4: Site plan and archaeology (scale 1:250)

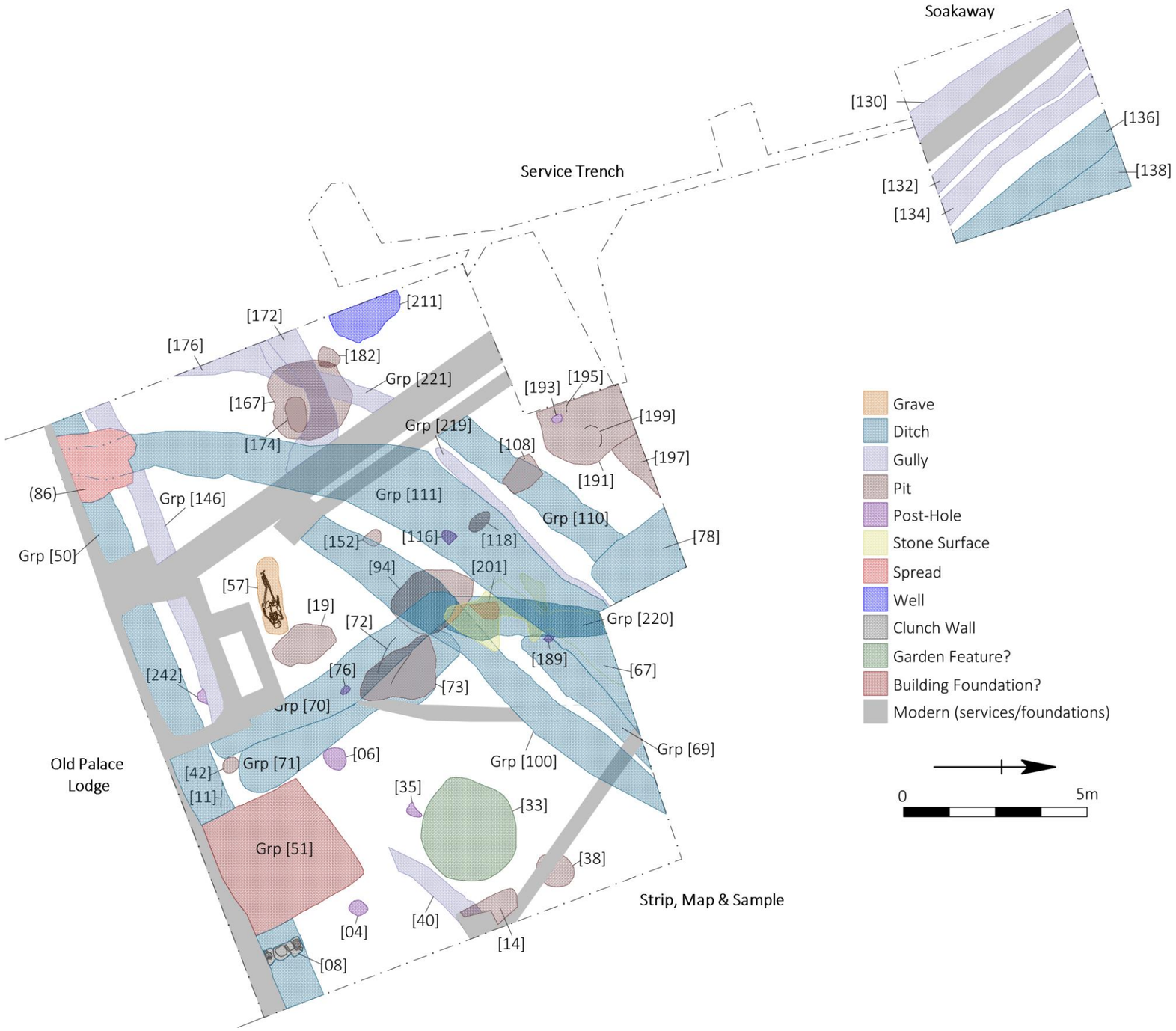


Figure 5: Archaeology Plan (scale 1:125)

Figure 6: Excavated slots plan (scale 1:125)

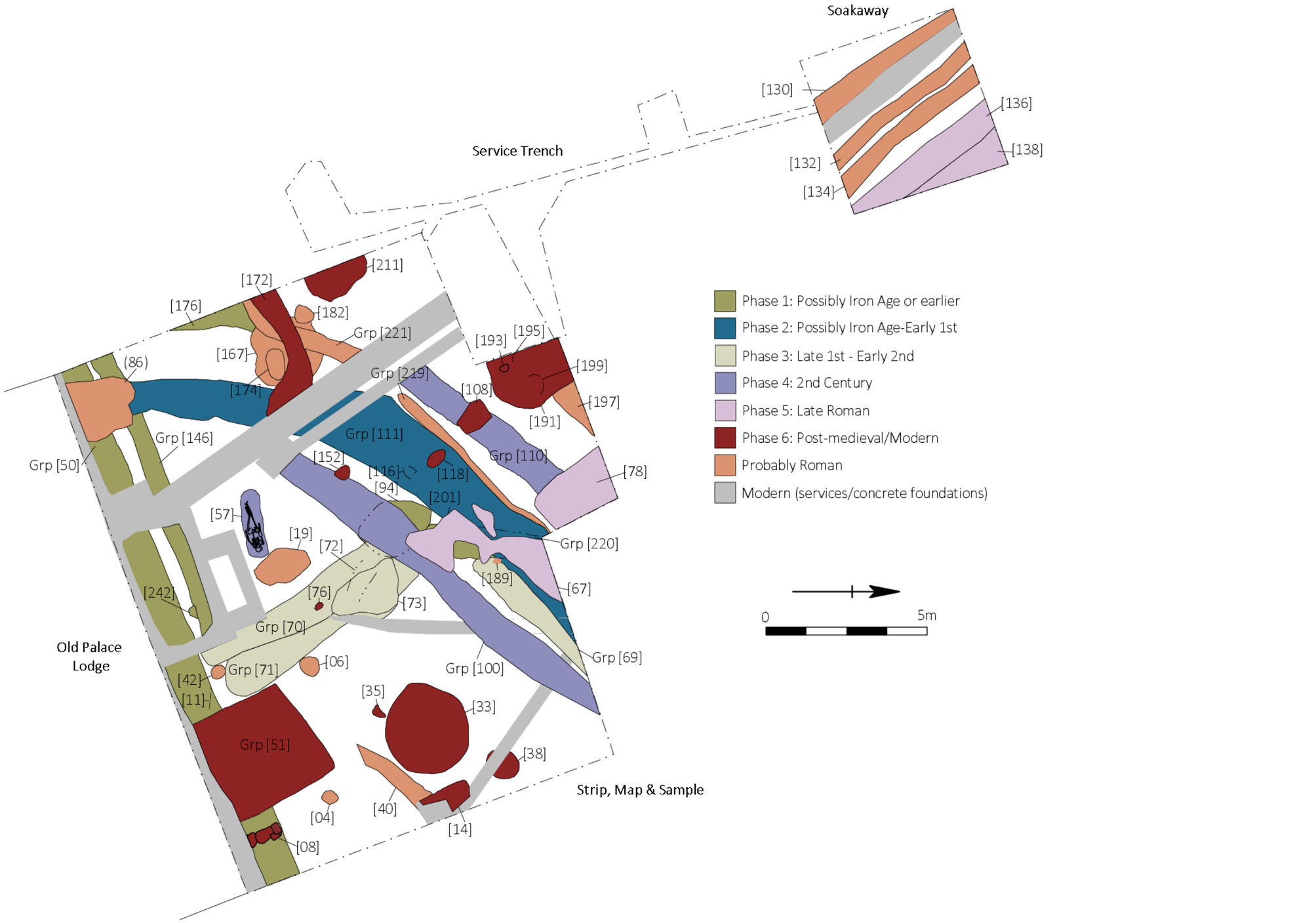


Figure 7: Archaeology Phasing Plan (scale 1:125)

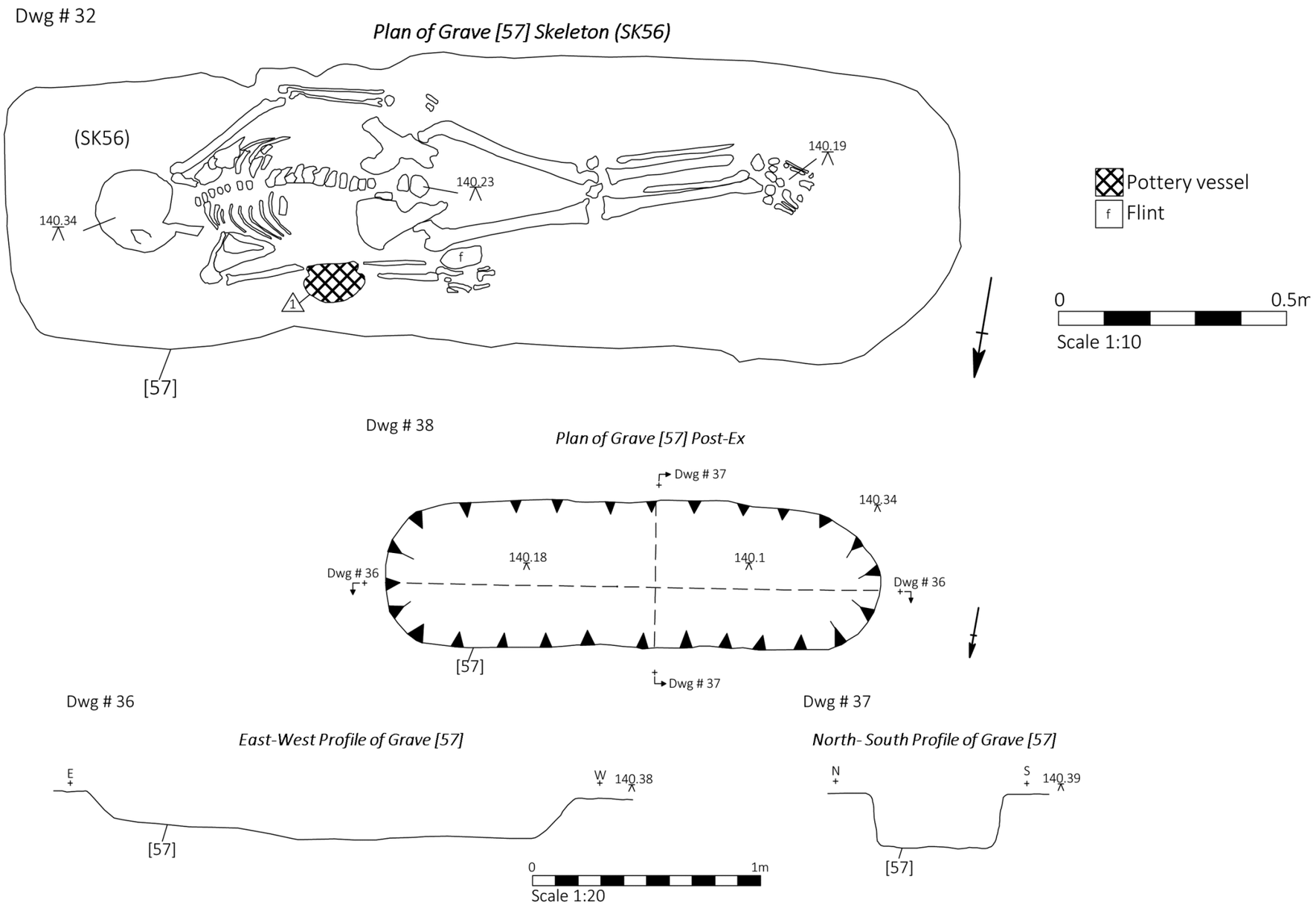
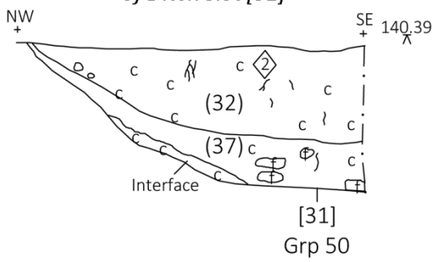


Figure 8: Plans & sections - Grave [57] (scale as shown)

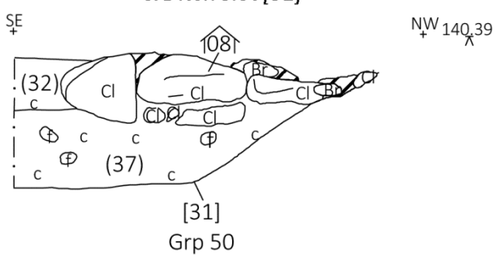
Dwg # 19
Group No - 50

SW Facing Section of Ditch Slot [31]



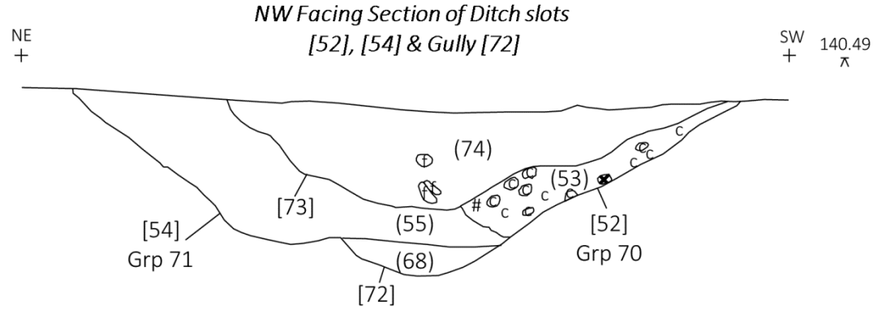
Dwg # 18
Group No - 50

NE Facing Section of Wall [08] & Ditch Slot [31]



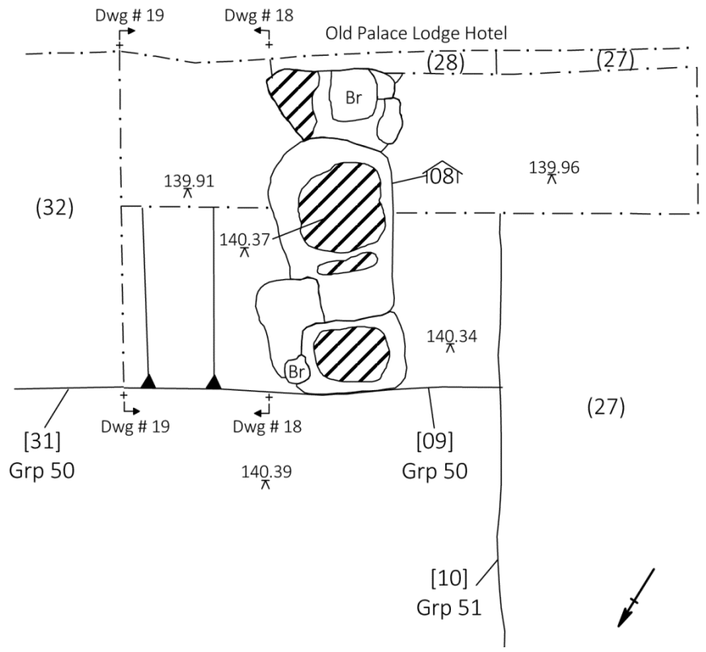
Dwg # 39
Group No's - 70 & 71

NW Facing Section of Ditch slots [52], [54] & Gully [72]



Dwg # 15
Group No's - 50 & 51

Plan of Ditch slot [31] & [09], Wall [08] & Building Foundation Slot [10]



Dwg # 62
Group No's - 100 & 70

SW Facing Section of Ditch Slots [98], [96] & Pit [94]

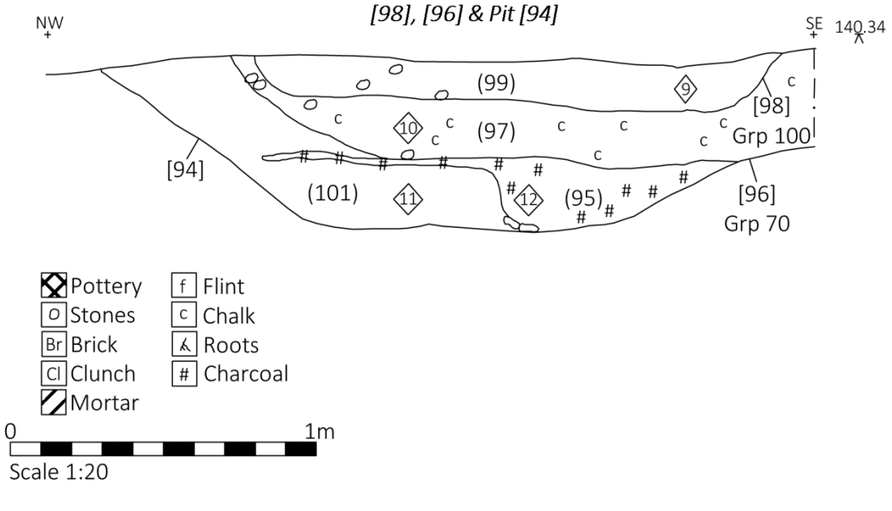


Figure 9: Plan & sections - ditch Grp 50, 70, 71, 100 & pit [94] (scale as shown)

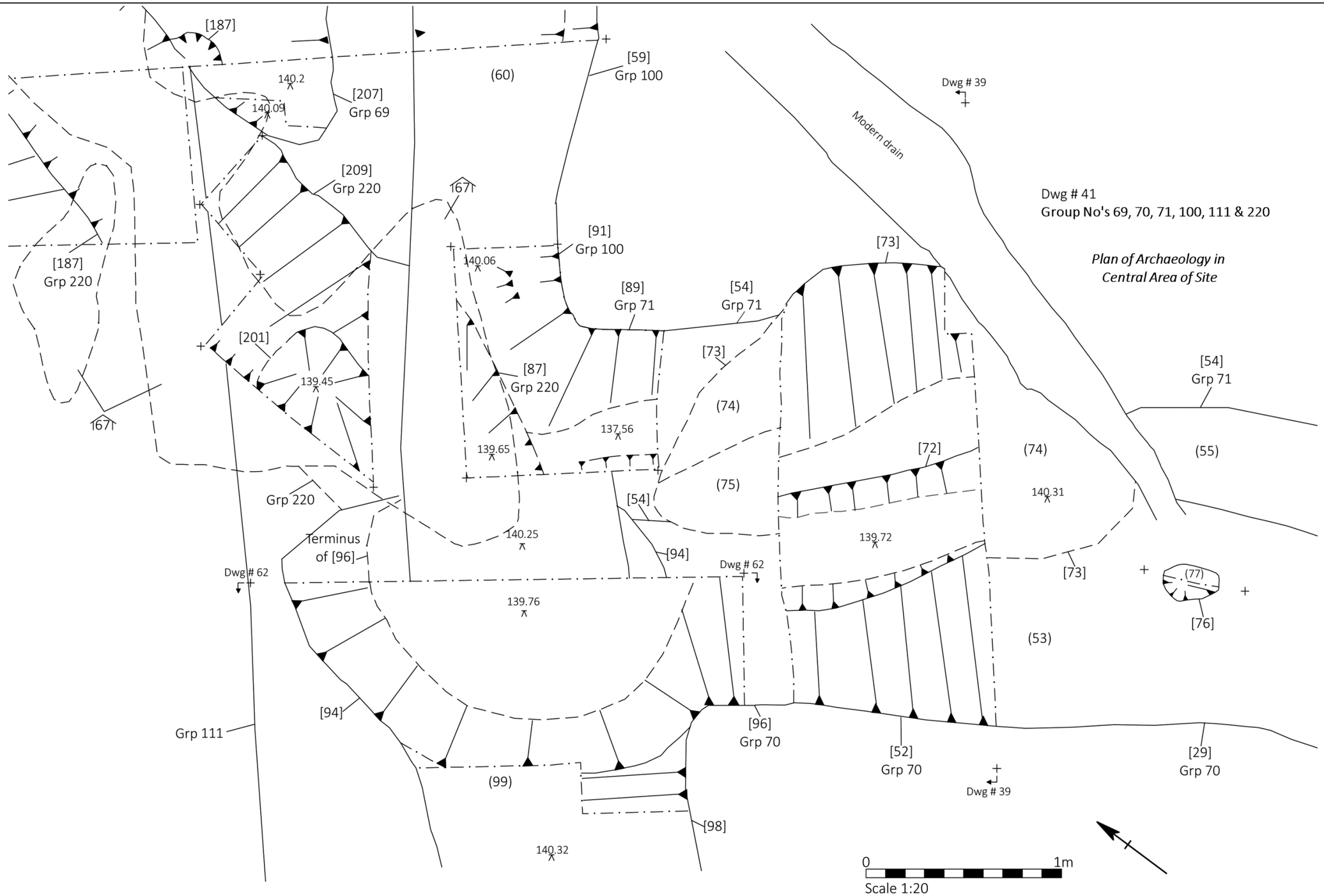
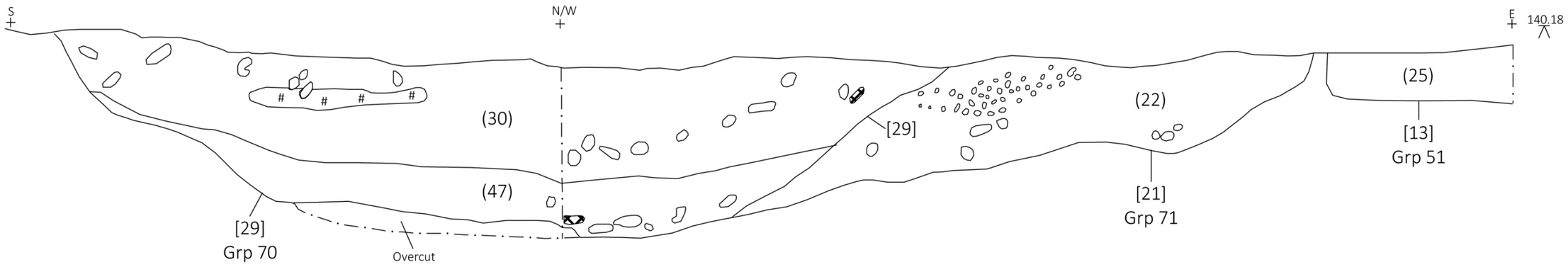


Figure 10: Plan - archaeology in central area of site (scale as shown)

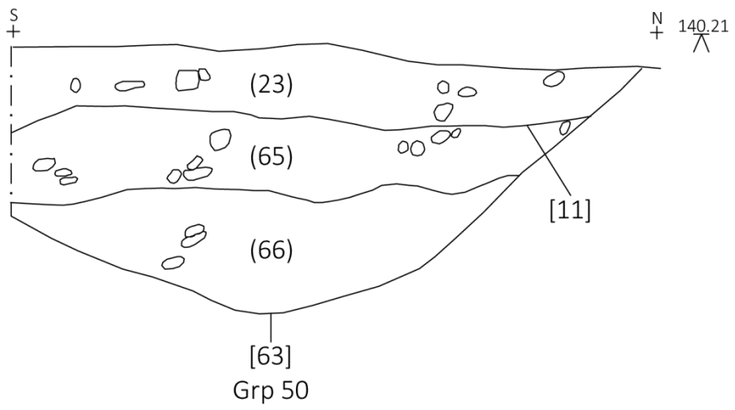
Dwg #28
Group No - 70, 71 & 51

Multi-facing Section of Ditches [21] &[29] and Building Foundation Slot [13]



Drawing #33
Group No - 50

East Facing Section of Ditches [63] & [11]



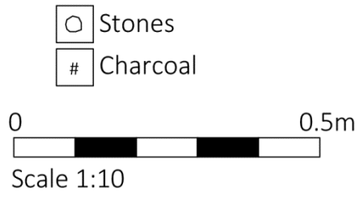


Figure 11: Sections – Ditch slots [21] and [21] Grp's 70 and 71 (scale as shown)

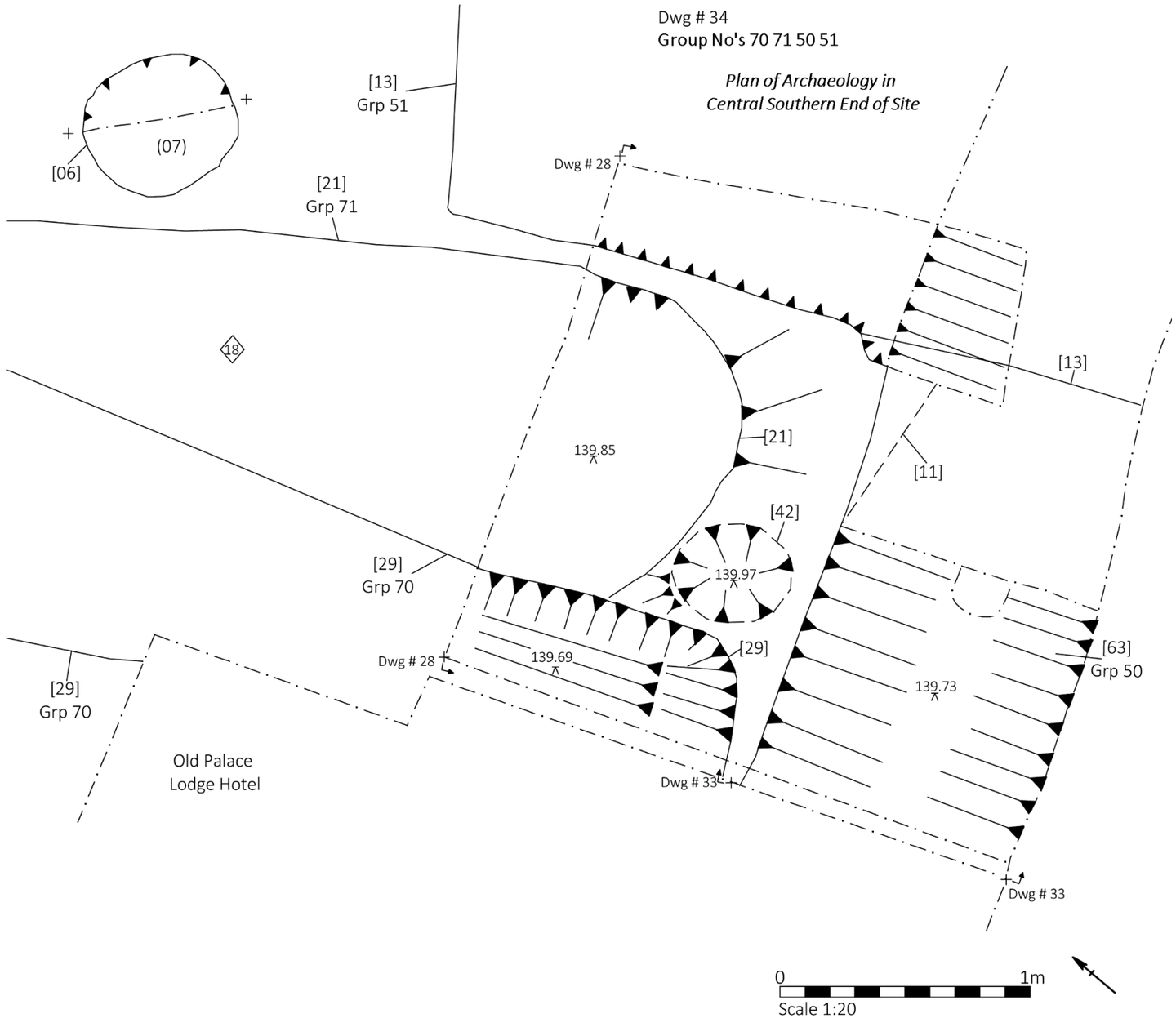
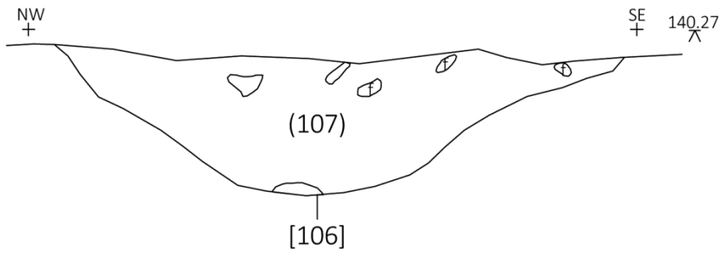


Figure 12: Plan – Ditch slots [29] and [21] Grp's 70 and 71 (scale as shown)

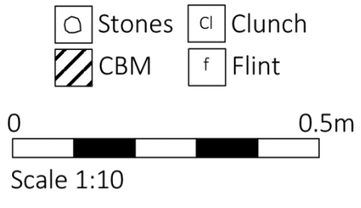
Dwg # 56
Group No - 110

SW Facing Section of Ditch Slot [106]



Dwg # 55
Group No - 110

NE Facing Section of Ditch Slot [106] & Pit [108]



Dwg # 57
Group No - 110

Plan of Ditch Slot [106] & Pit [108]

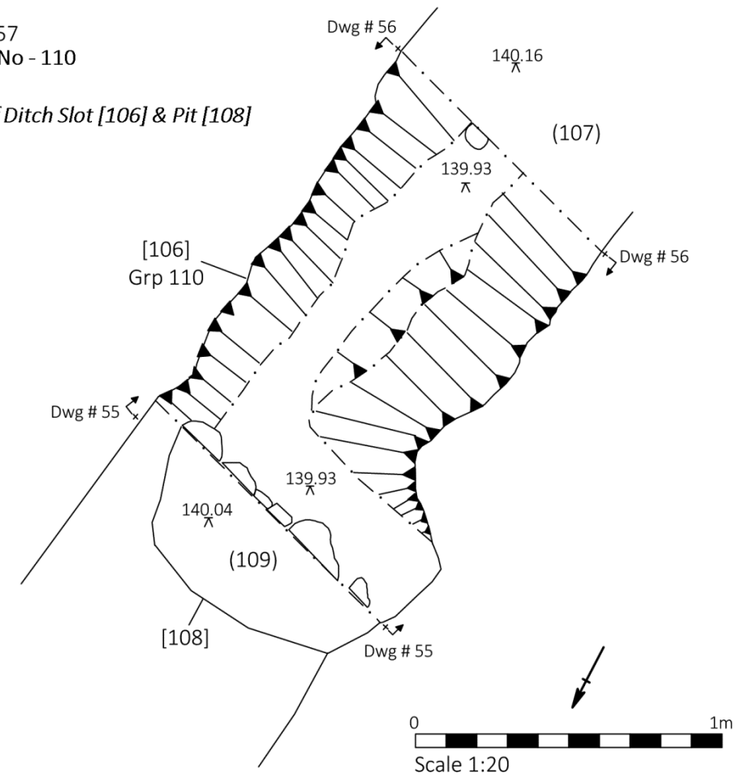
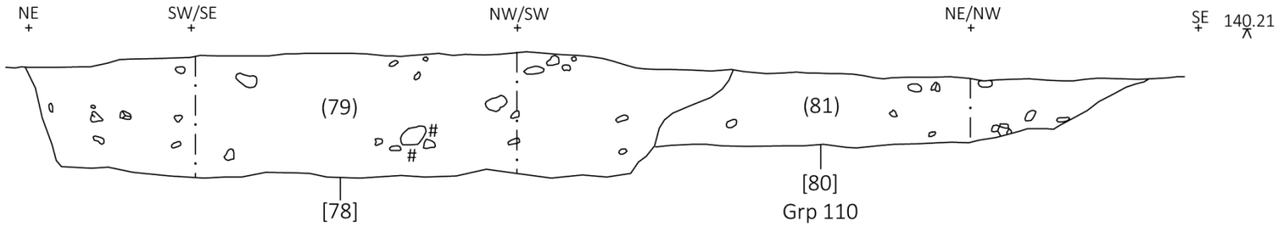


Figure 13: Plan & sections - Ditch Grp 110 & Pit [108] (scale as shown)

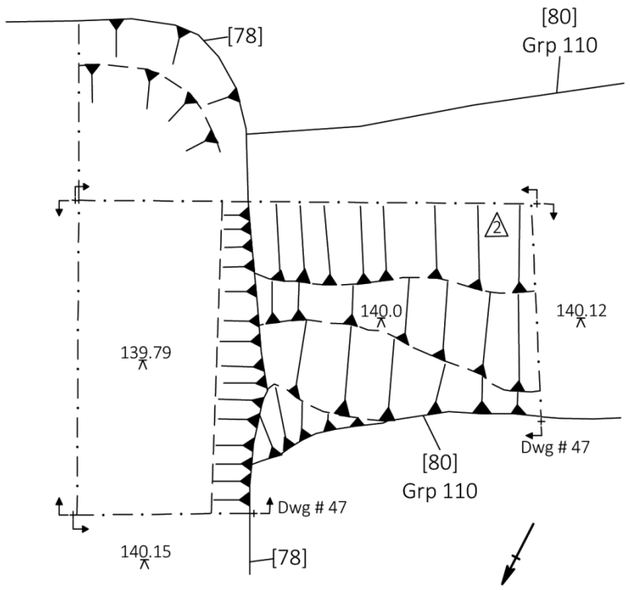
Dwg # 47
Group No - 110

Multi Facing Section of Ditch slots [78] & [80]



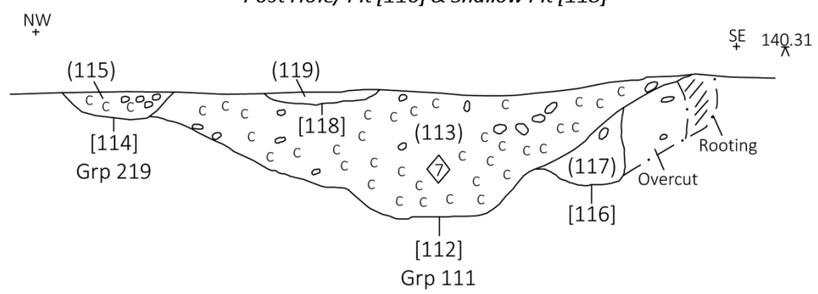
Dwg # 48
Group No - 110

Plan of Relationship Between Ditch Slot [78] & [80]



Dwg # 58
Group No's - 219 & 220

S Facing Section of Ditch slot [112], Gully slot [114], Post Hole/ Pit [116] & Shallow Pit [118]



Dwg # 59
Group No's - 111 & 219

Plan of Ditch Slot [112], Gully Slot [114], Post-Hole [116] & Pit [118]

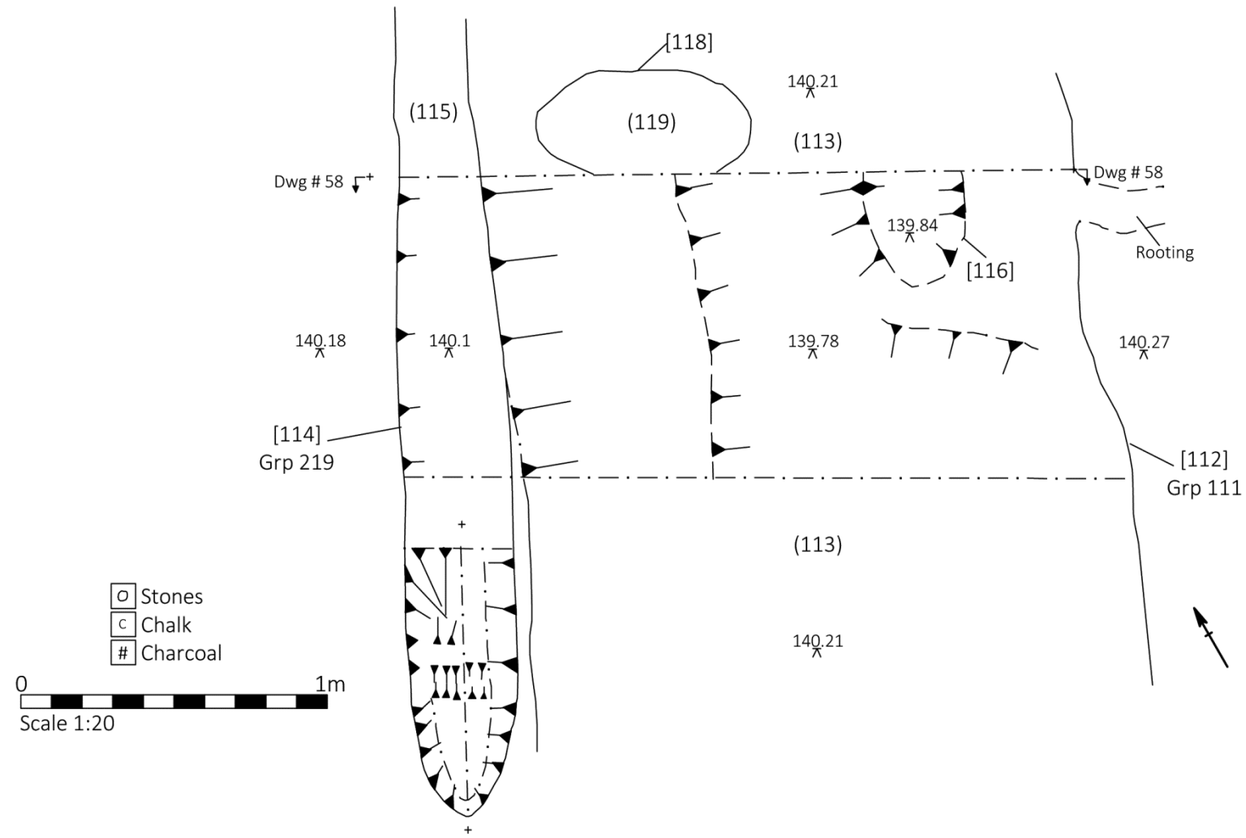
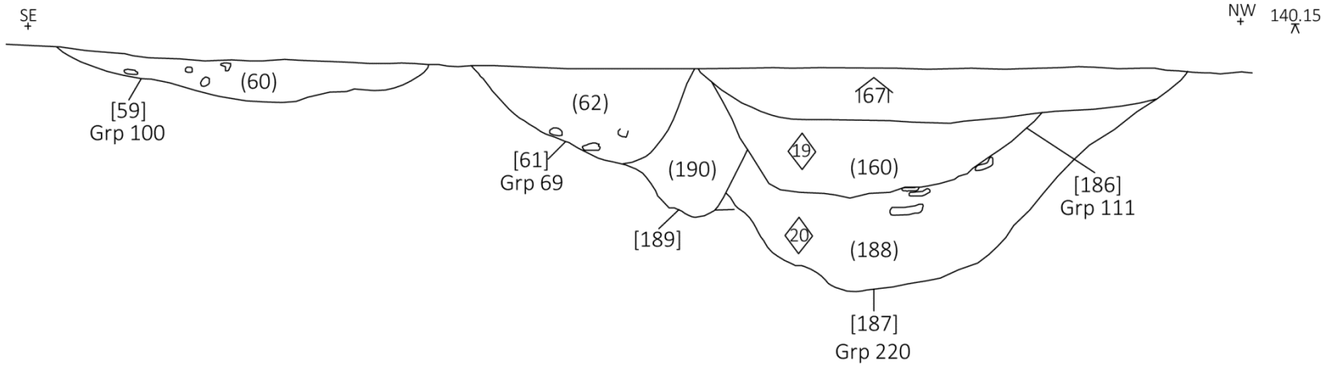


Figure 14: Plans & sections – Ditch Grp 110, 111, Ditch [78], Gully Grp 219 & Pit [118] (scale as shown)

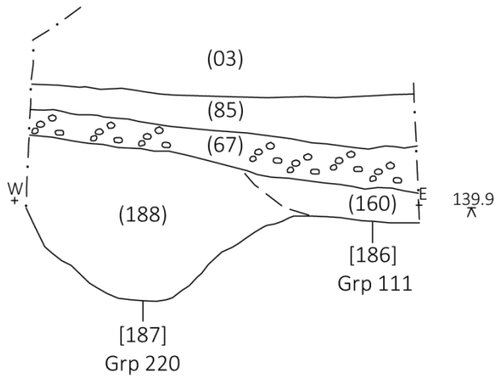
Dwg # 94
Group No's - 69, 100, 111, 220

NE Facing Section of Ditches Slots [59] [61] [186] [187], Post-Hole [189] & Surface [67]



Dwg # 106
Group No's - 111 & 220

S Facing Section of Ditches Slots [187] & [186]



Dwg # 93
Group No's - 69, 100, 111, 219, 220

Plan of Ditches Slots [59] [61] [186] [187] & Post-Hole [189]

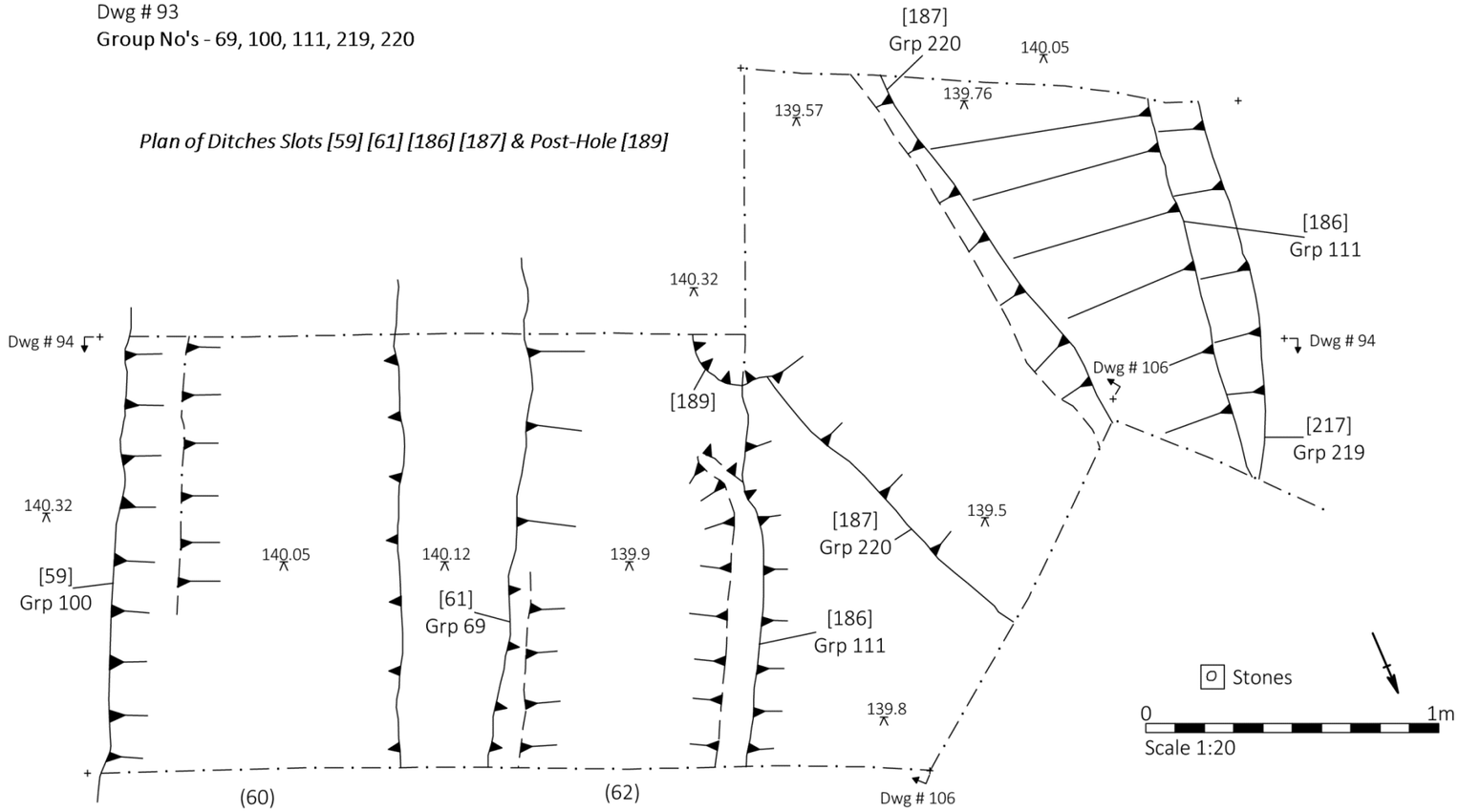
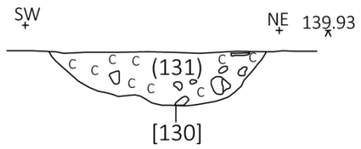


Figure 15: Plan & sections – Ditch Grp 69, 100, 111, 220, Gully Grp 219 & Post-hole [186] (scale as shown)

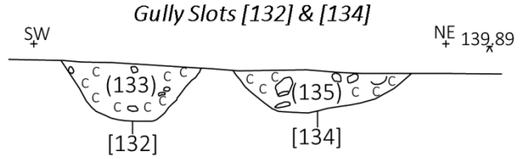
Dwg # 69

SE Facing Section of Gully Slot [130]



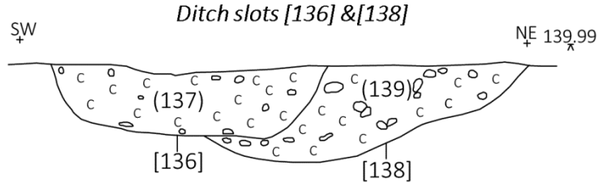
Dwg # 71

SE Facing Section of Gully Slots [132] & [134]



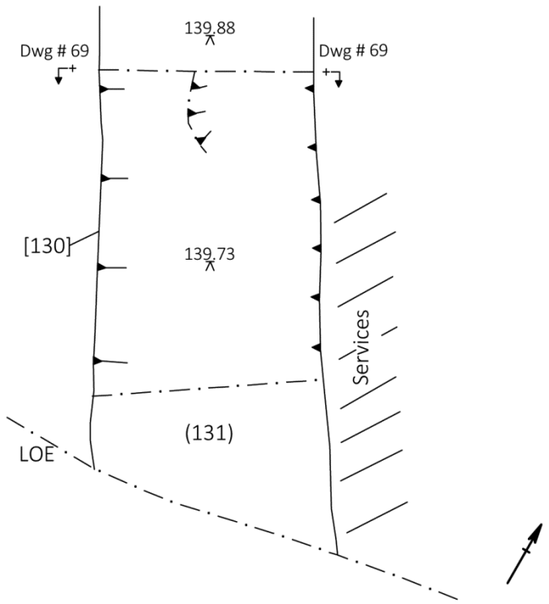
Dwg # 73

SE Facing Section of Ditch slots [136] &[138]



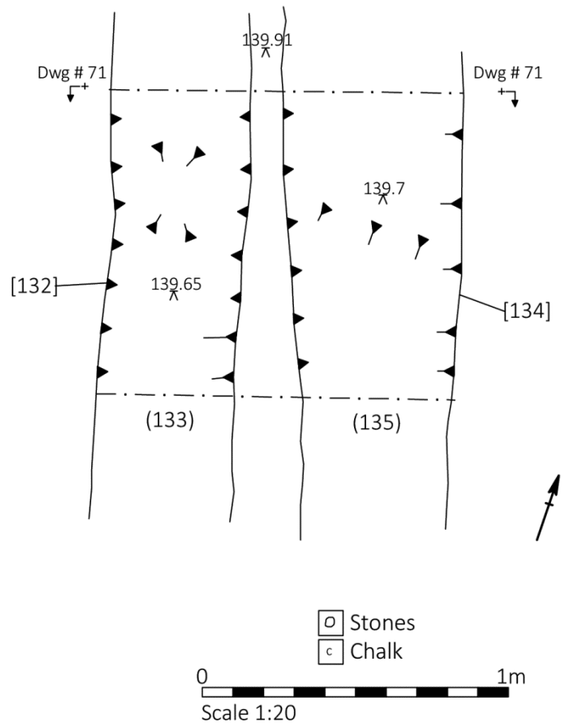
Dwg # 70

Plan of Gully Slot[130]



Dwg # 72

Plan of Gully Slots [132] & [134]



Dwg # 74

Plan of Ditch Slots [136] & [138]

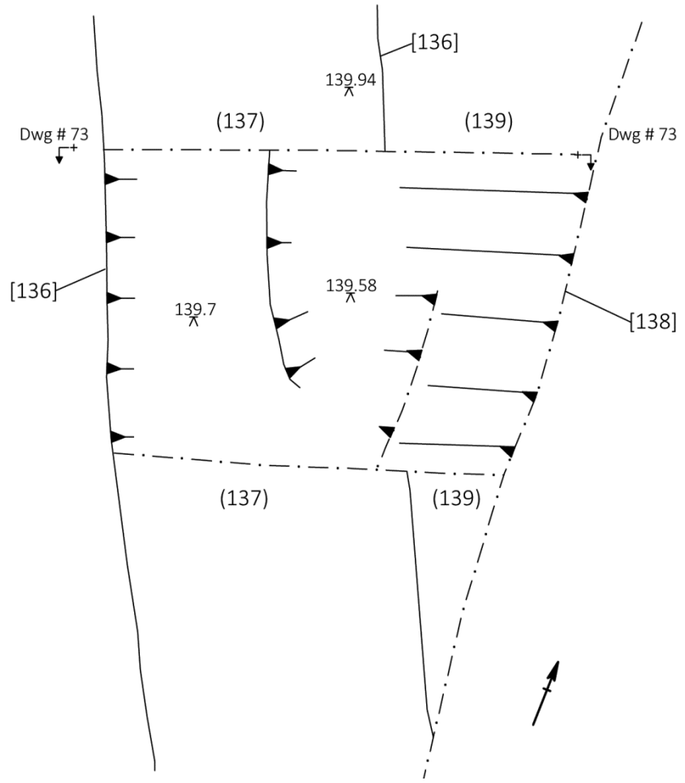
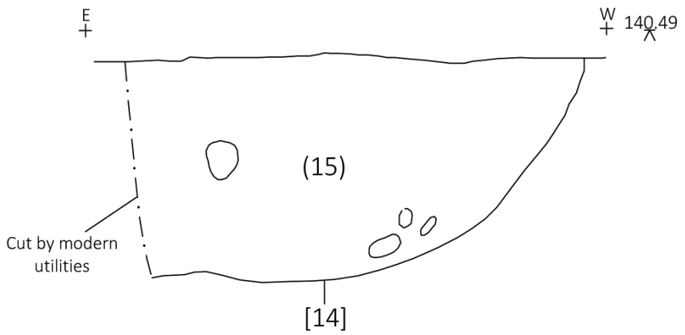


Figure 16: Plans & sections – archaeology in soakaway (scale as shown)

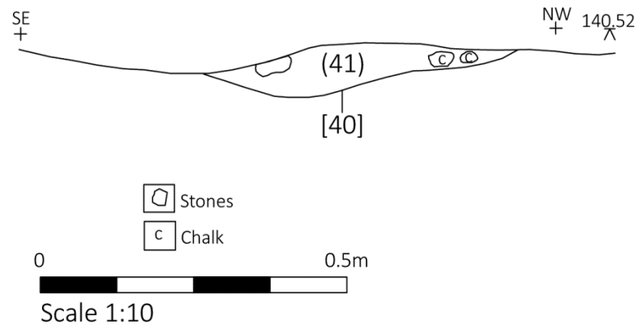
Dwg # 5

N Facing Section of Pit [14]



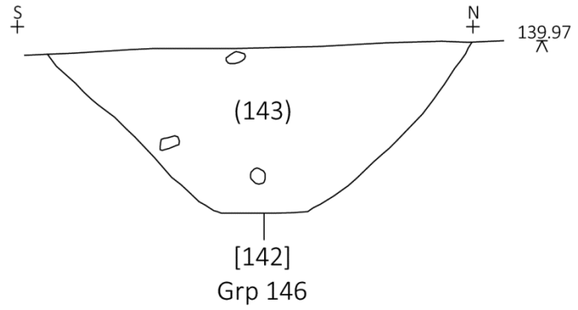
Dwg # 24

NE Facing Section of Gully slot [40]



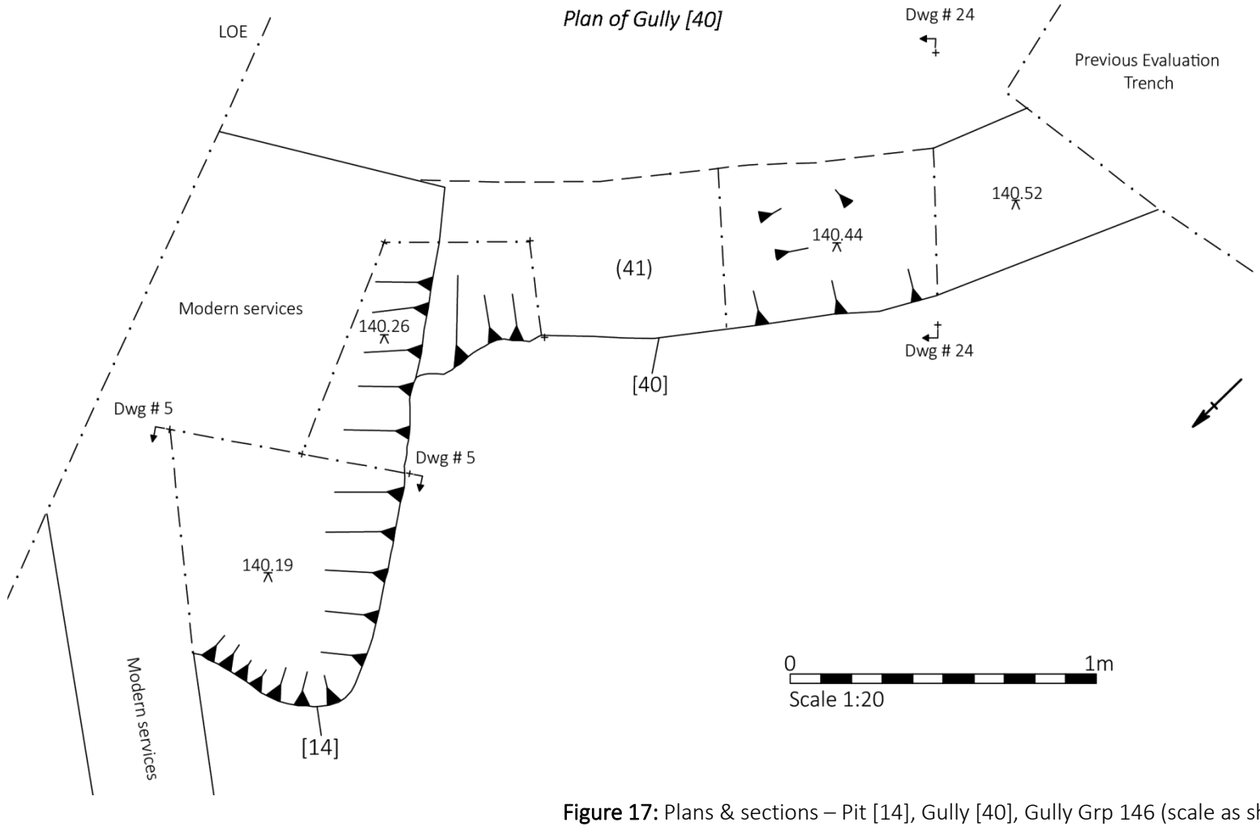
Dwg # 68
Group No - 146

E Facing Section of Gully Slot [142]



Dwg # 25

Plan of Gully [40]



Dwg # 75
Group No - 146 & 111

Plan of Gully Slot [142] & Ditch Slot [140]

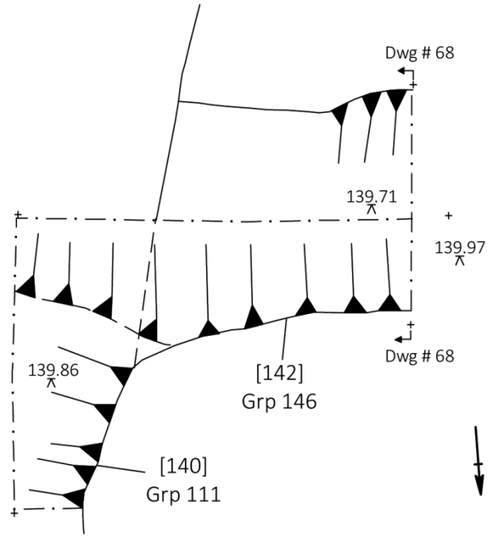
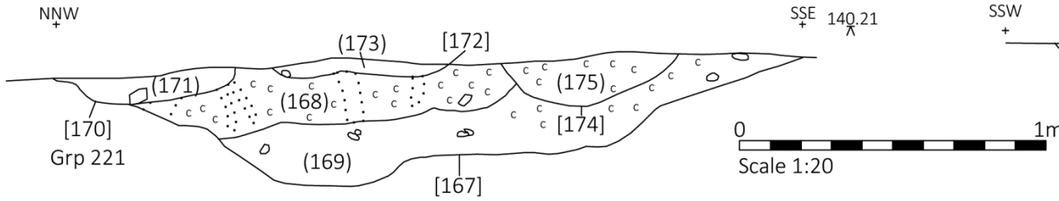


Figure 17: Plans & sections – Pit [14], Gully [40], Gully Grp 146 (scale as shown)

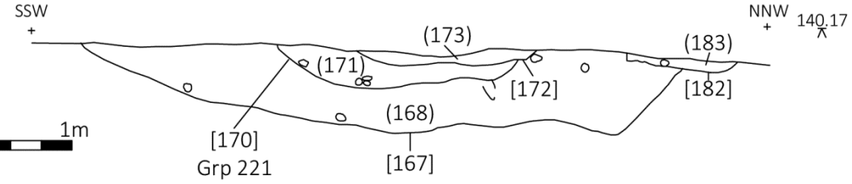
Dwg # 87
Group No - 221

SSW Facing Section of Pits [167], [174], Gullies[170], [172] & [176]



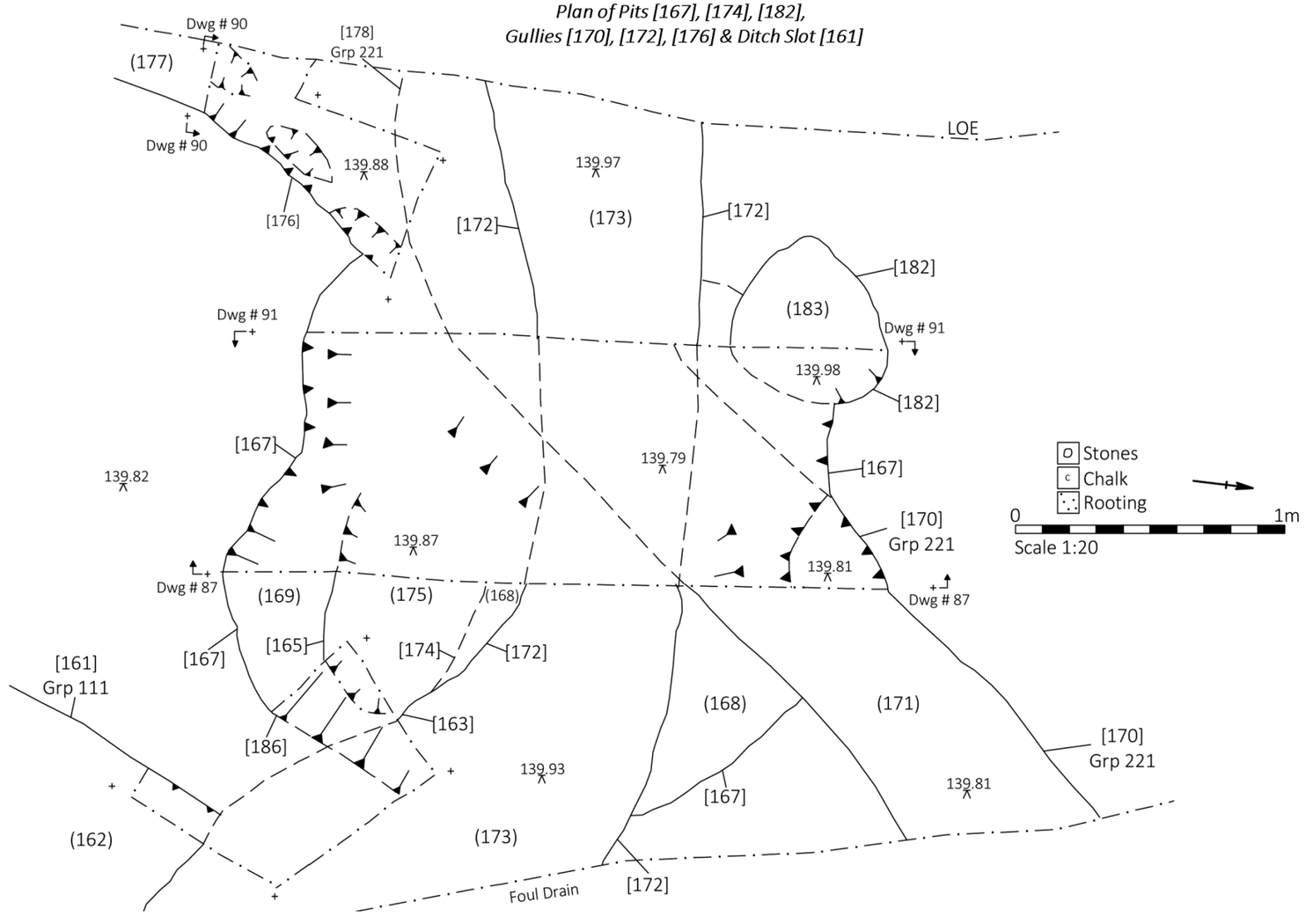
Dwg # 91
Group No - 221

NNW Facing Section of Pits [167], [182], Gullies [170] & [172]



Dwg # 88
Group No's - 221 & 111

Plan of Pits [167], [174], [182], Gullies [170], [172], [176] & Ditch Slot [161]



Dwg # 90

North Facing Section of Gully [176]

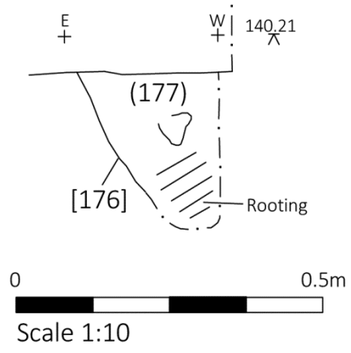
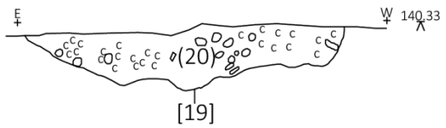


Figure 18: Plan & sections – Pits [167], [174], [182] & Gullies [170], [172], [176] (scale as shown)

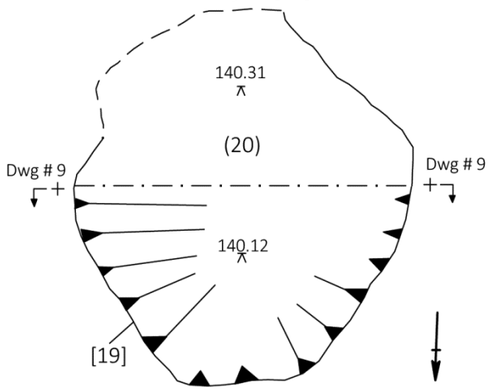
Dwg # 9

N Facing Section of Pit [19]



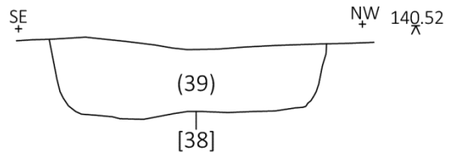
Dwg # 10

Plan of Pit [19]



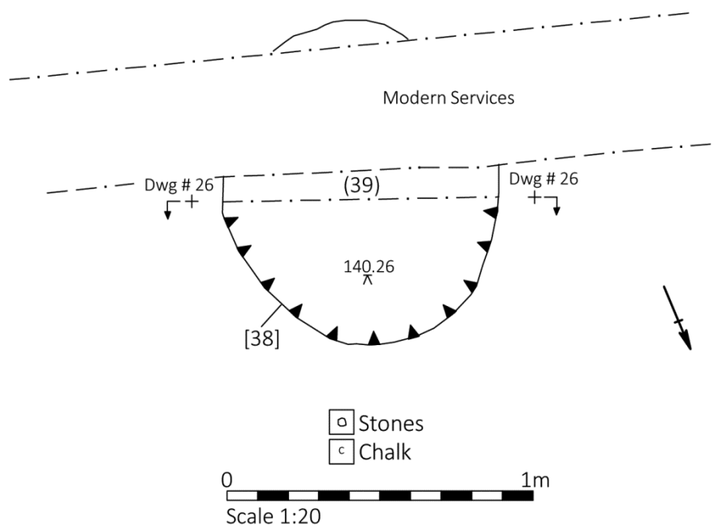
Dwg # 26

NE Facing Section of Pit [38]



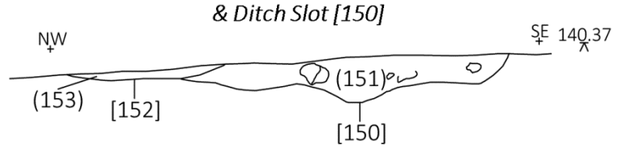
Dwg # 27

Plan of Pit [38]



Dwg # 81

SW Facing Section of Shallow Pit [152] & Ditch Slot [150]



Dwg # 82
Group No - 100

Plan of of Shallow Pit [152] & Ditch Slot [150]

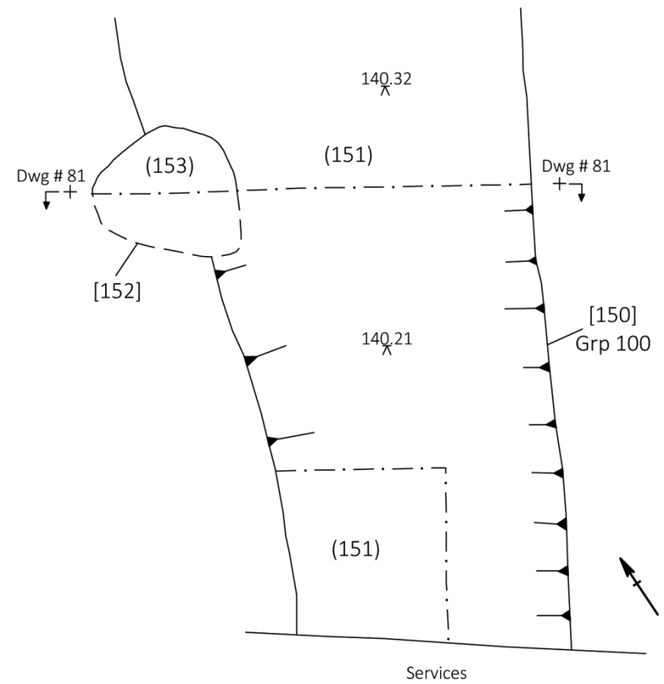
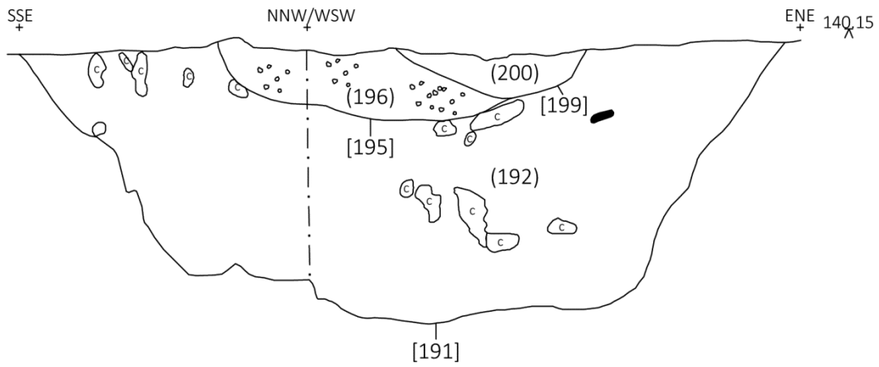


Figure 19: Plans & sections – Pits [19], [38], [152] & Ditch Grp 100 Slot [150] (scale as shown)

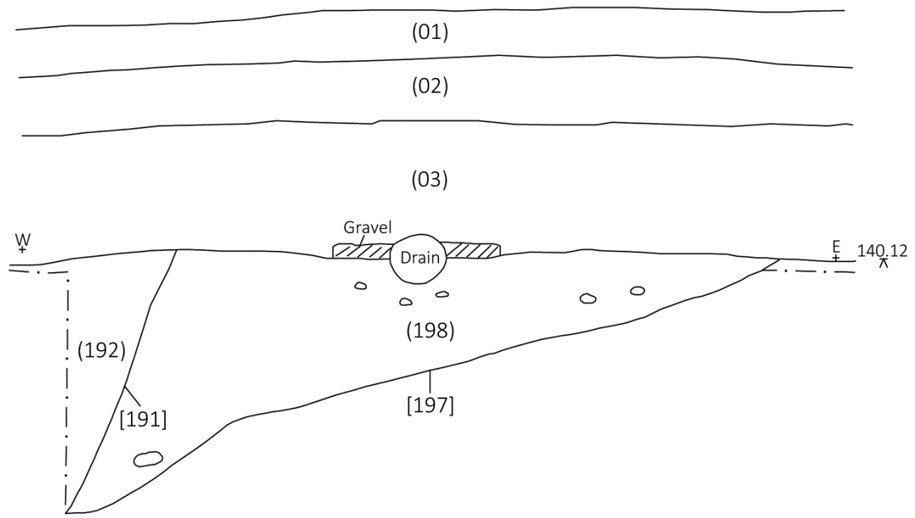
Dwg # 99

Multi-facing Section of Pits [191], [195] & [199]



Dwg # 103

S Facing Section of Pits [197] & [191]



Dwg # 100

Plan of Pits [191], [197], [195], [199] & P/H [193]

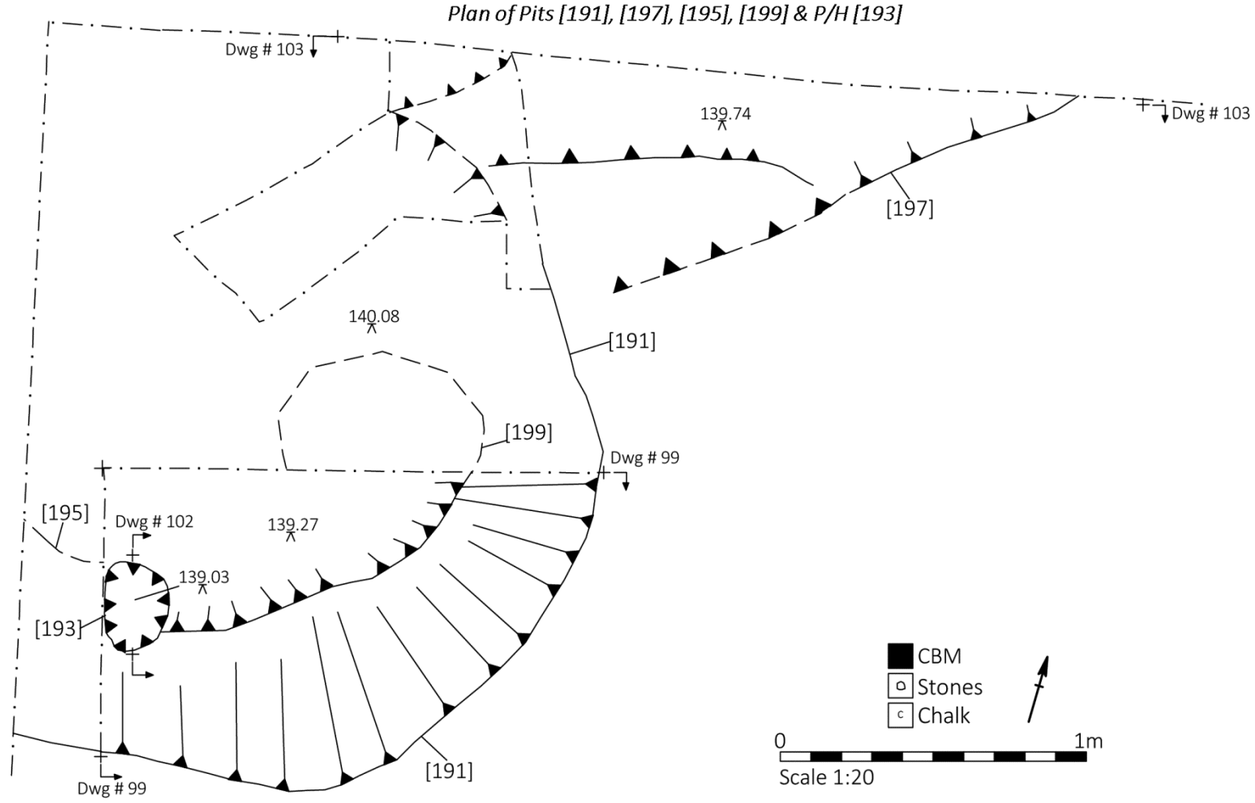
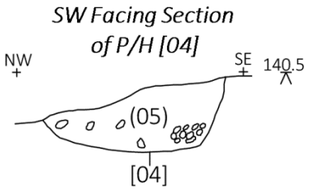
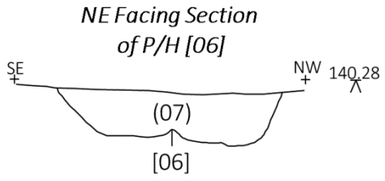


Figure 20: Plan & sections – Pits [191], [197], [195], [199] & Post-hole [193] (scale as shown)

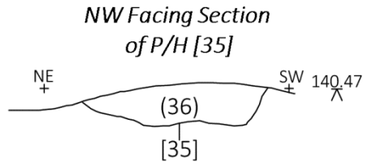
Dwg # 3



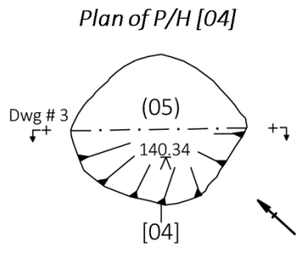
Dwg # 1



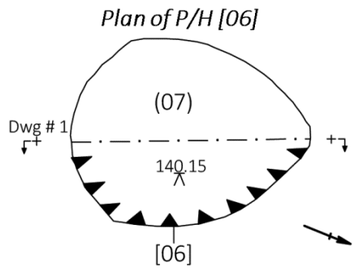
Dwg # 22



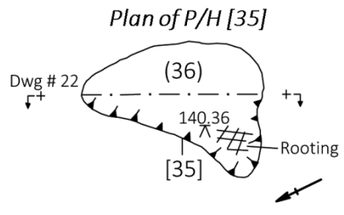
Dwg # 4



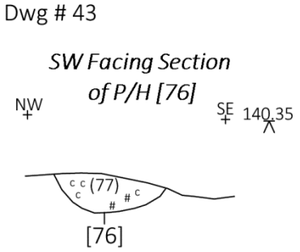
Dwg # 2



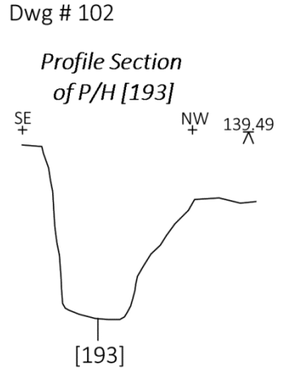
Dwg # 23



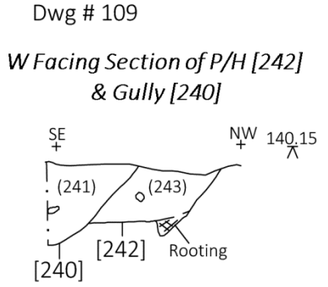
Dwg # 43



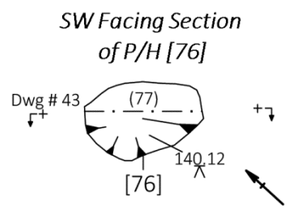
Dwg # 102



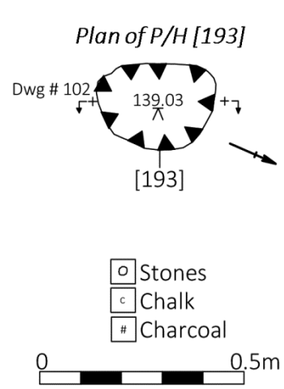
Dwg # 109



Dwg # 41



Dwg # 100



Dwg # 110

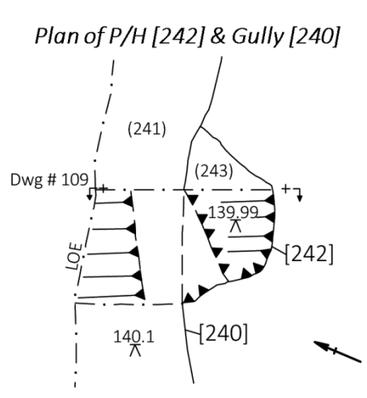
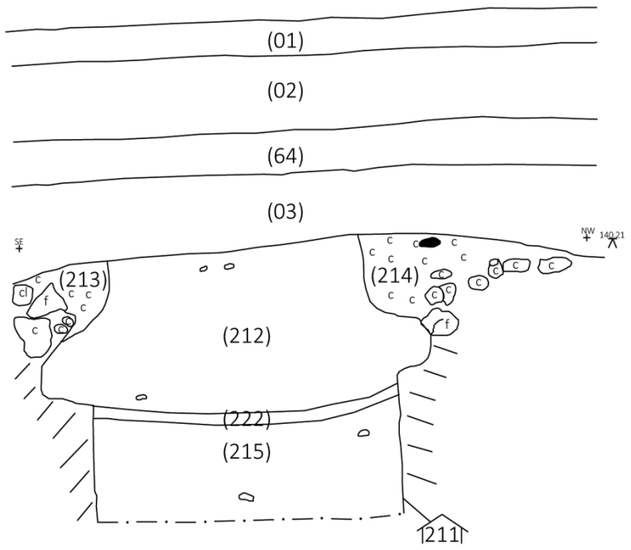


Figure 21: Plans & Sections – Post-holes [04], [06], [35], [76], [193] & [242] (scale 1:15)

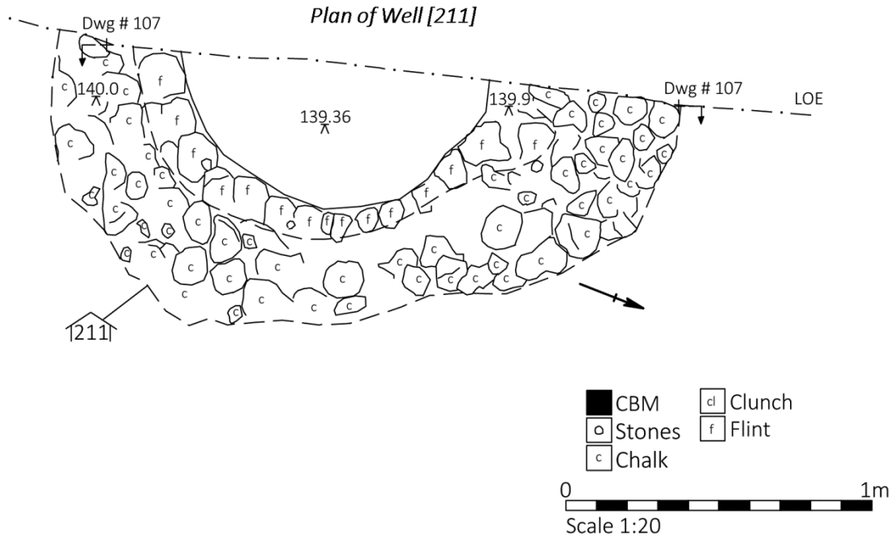
Dwg # 107

ENE Facing Section of Well [211]



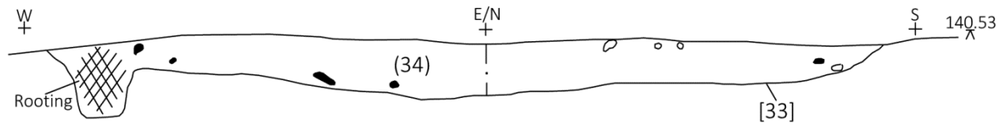
Dwg # 108

Plan of Well [211]



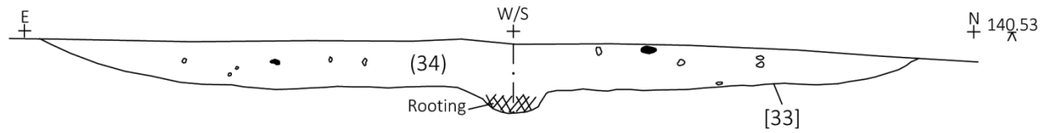
Dwg # 21

Multi-Facing Section of Garden Feature [33] Quad 1



Dwg # 20

Multi-Facing Section of Garden Feature [33] Quad 2



Dwg # 29

Plan of Garden Feature [33]

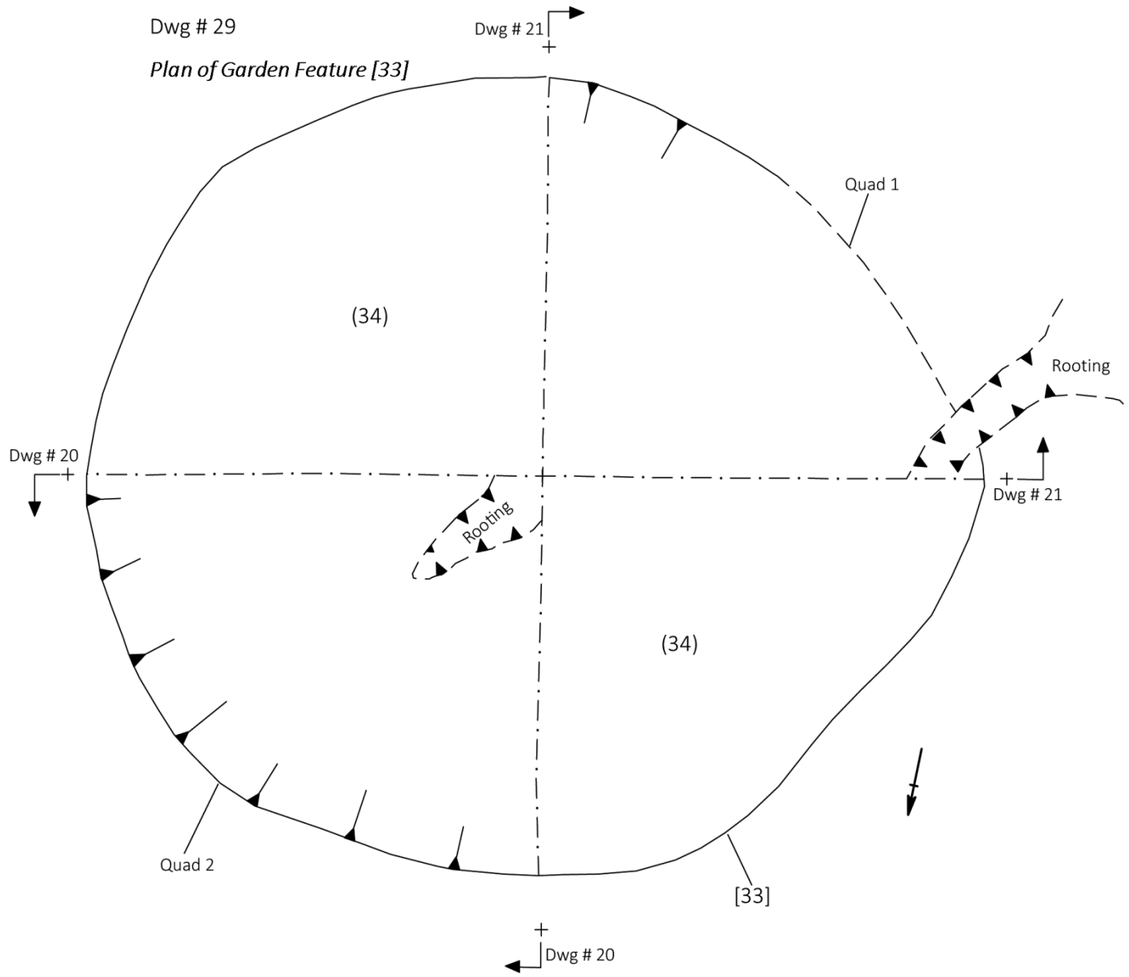


Figure 22: Plans & sections – Well [211] & Garden Feature [33] (scale as shown)

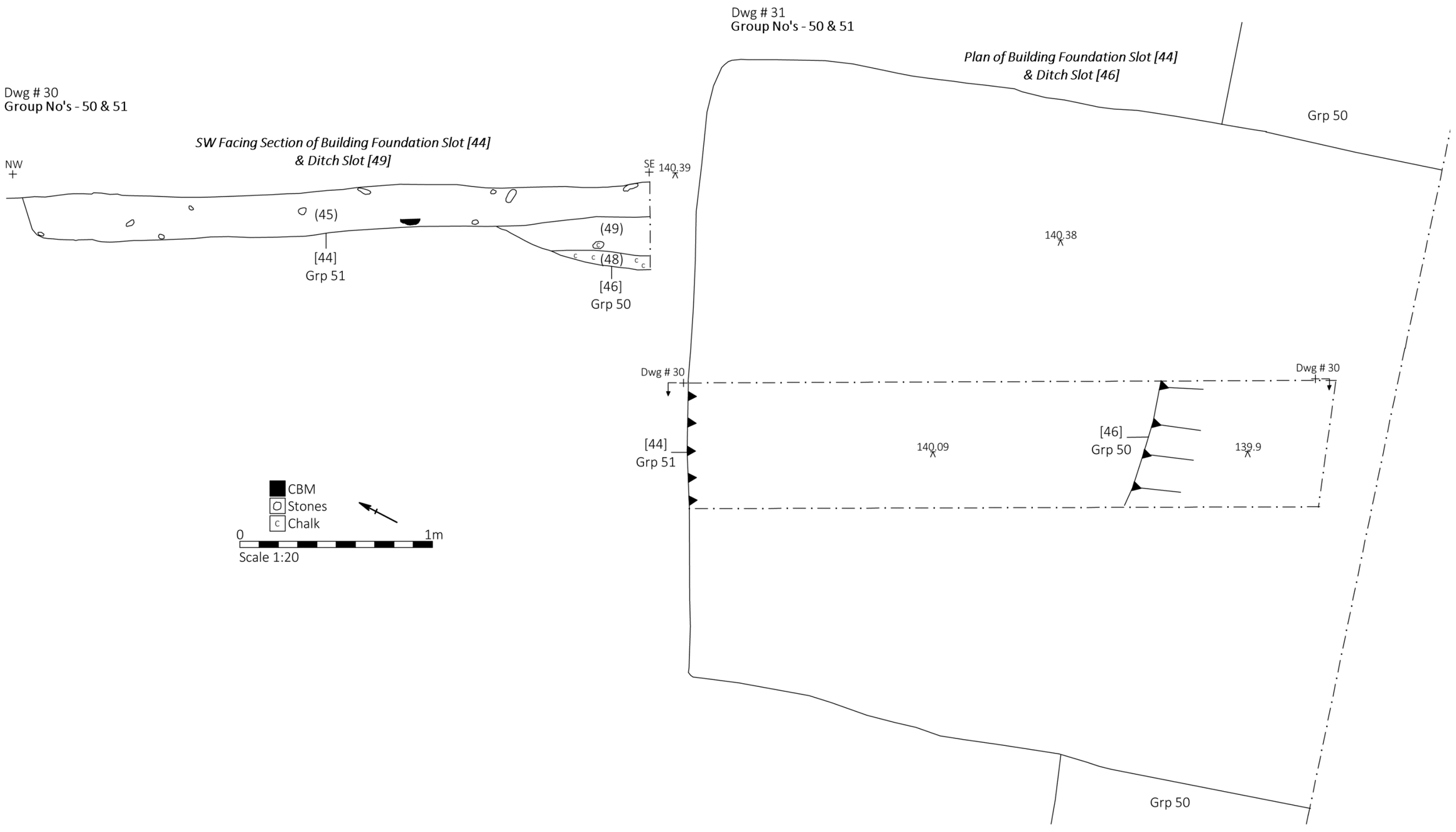


Figure 23: Plan & section – building foundation Grp 51 (scale as shown)

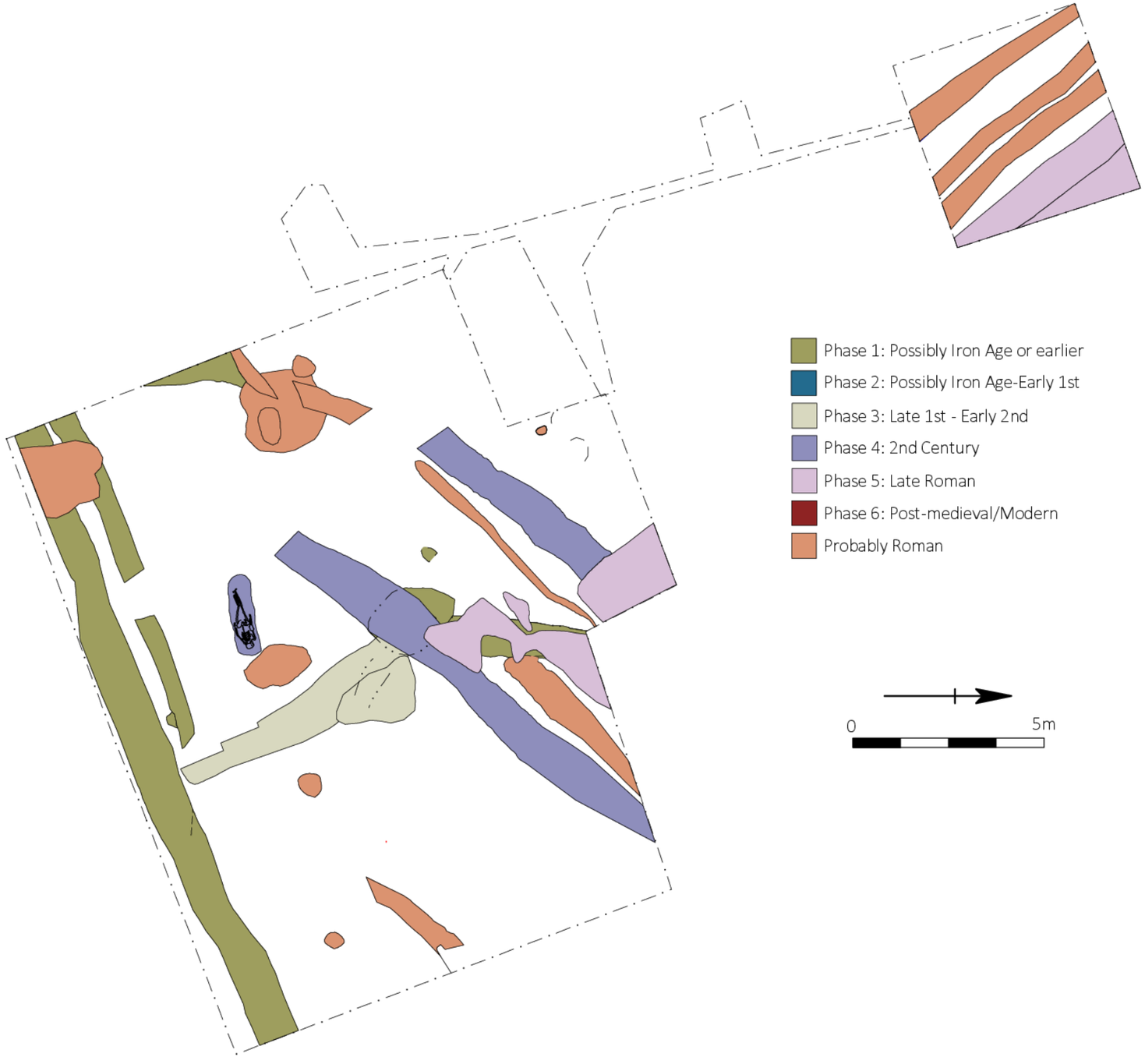


Figure 24: Plan of site with curvilinear ditches (Phase 2) removed (scale 1:125)

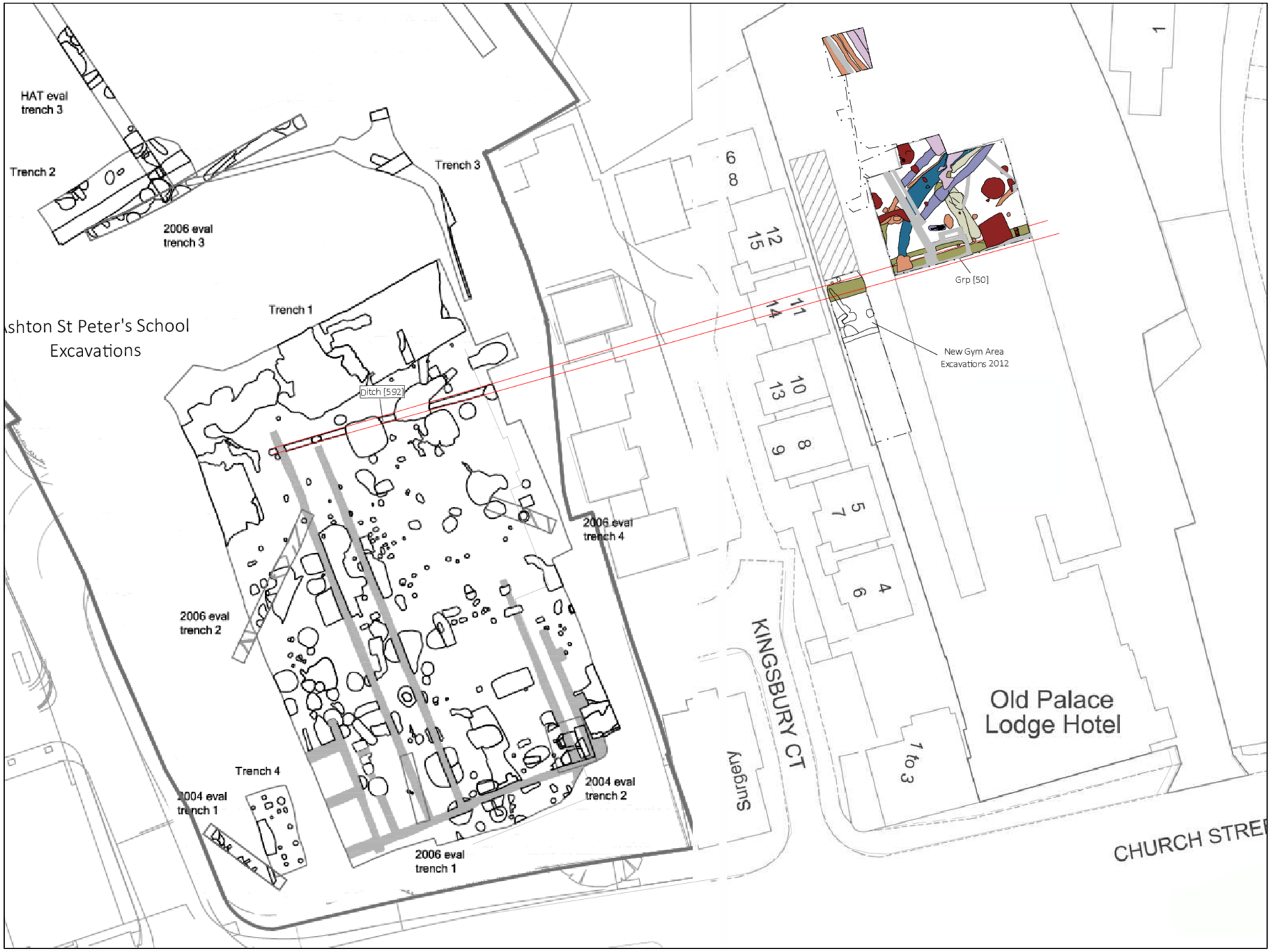


Figure 25: Excavations in relation to Ashton St Peter's site (scale 1:50

5. Specialists' Summary

Human Osteology

The single human grave of an older adult Caucasian female was excavated and radiocarbon dated to the 2nd century. The individual was a healthy, older woman, buried in a prone position with a single pot located by her left elbow. Both hands were clenched, though the right hand faced upwards and the left hand downwards. It is possible that she was holding something at the time of interment, but if this was the case whatever she was clasping was of an organic nature and no trace of it has survived. The position of her legs, in particular, suggests she may have been wrapped in a shroud of some sort, but no pins or brooch were recovered from the excavation.

Although it is difficult to draw conclusions regarding the population in the area the grave does give us an example of good health being present within this community as this individual lived to an older age with relatively few pathological conditions and was also above the mean height for stature from this period. The individual was also buried with a complete pottery vessel suggesting an element of wealth. This vessel was a small jar that was dated to possibly mid/late 1st to early 2nd century. Residue analysis was subsequently carried out on the inside surface of the pot which indicated that the vessel contained fatty material deriving from animal fats rather than plant oils or aquatic fats. The presence of ruminant diary fat was also found, probably milk or butter. Evidence also seems to suggest that some of the fats in the vessel had been heated, although not necessarily in the vessel itself.

The diet of this individual was also assessed by looking at stable isotope analysis. This suggested she had a typical terrestrial plant and animal protein diet with very little, if any, C4 plants consumed (C4 plants grown in warmer, drier climates), and limited marine products. This is also supported by a small quantity of oyster shell recovered (15 pieces). She probably grew up locally or in a climate similar to that of central and southeast England.

Animal Bone

The Roman animal bone assemblage consisted of common Romano-British faunal assemblages of horse, cattle, sheep/goat, pig and chicken. The assemblage did contain a relatively abundance of horse, which is more often seen on military or more rural sites rather than urban settlements. However, there is no evidence for a military presence within Dunstable and as such the site is not thought to have been linked to military activity. Agricultural activity would certainly be taking place in the vicinity and the presence of horse is likely attributed to such activity, and also as a means of transport. The horses possibly represent scattered burials of animals that had completed their working lives that may have become dumped in ditches and fills and could have tipped the balance of frequency in favour of this species. Considering the small sample size and the limited number of excavated contexts this could have easily happened.

A small animal bone assemblage was also recovered from a number of the post-medieval features. Domestic sheep/goat and cattle are common in assemblages from this period and therefore their presence at Dunstable is unsurprising.

From both time periods there were occasional signs of butchery marks and fire exposure to sheep/goat from the Roman period and cattle bones from the post-medieval period hinting that some of the remains represent butchery and/or food waste.

Overall the animal bone assemblage was small but it is possible that the site is on the periphery of the settlement, beyond those areas where most of the butchery and food preparation may have taken place. The pH of the soils on site does not appear to be too much of an adverse factor affecting the general survival of bone, as attested by the condition of the inhumation.

The assemblage also showed frequent signs of gnawing by carnivores indicating that the remains may have been deposited some distance from their source.

Pottery

The pottery assemblage indicates the most intense period of occupation was between the late 1st and mid 2nd century, but does continue up until the later 2nd century and thereafter a single context of late Roman date. The assemblage was waste derived from a domestic settlement. There was a general absence of finewares and other regional imports suggesting a lack of high status occupation. However, there were hints of status as an imported beaker and Romano-British mica-dusted wares were identified.

A post-Roman assemblage was also found containing a single sherd of abraded residual medieval pottery along with a quantity from 16th-20th century.

Ceramic Building Material

The Roman CBM assemblage contains both roofing and structural CBM. The quantities of which along with their condition and distribution indicate that the structure(s) from which they derive were not thought to have been within the immediate vicinity of the site. One possibility is that the fragments were discarded onto the site after being reused for some purpose.

Post-medieval CBM was also found on the site that is likely associated with structural changes to the Old Palace Lodge area.

Metal objects

The metal objects recovered from the excavations consisted of iron nails along with undiagnostic iron fragments deriving from both Romano-British features and Post-medieval, a copper alloy coin, pin and a cooper alloy hoop, thought to have been a fitting, were also recovered from Roman contexts.

Iron Slag

A small assemblage of Iron slag pieces was found on the site that was undiagnostic. They derived from both Romano-British and Post-medieval contexts, and this probably represents re-deposited material.

Lithics

The flint recovered from the site was very irregular, the majority of which was patinated and thermally fractured with edge damage and abraded. The assemblage indicates there was no careful preparation of cores. A number of pieces were utilised with slight or crude retouching of edges and edge damage caused by use. However, there were no clear tools found. The nature of the assemblage suggests that it dates to the later prehistoric period as the characteristics of the pieces can be attributed to that period.

Environmental – Plant Microfossil Remains

The environmental material analysed contained charred cereals and legumes that most likely represent domestic waste, small batches of final processing of cereals, or loss during food preparation. Puffed and fragmented material was present which may indicate cereal waste was used as fuel in either an oven or hearth. Ferrous debris was also recovered from the samples which may suggest metalworking within the vicinity. During the Roman period oven and fires would have had multifunctional uses being used for both food preparation and light industrial activities, therefore this mixture of food and industrial waste does not seem out of the norm. The environmental data concludes that the material recovered indicates agricultural, horticultural, light industrial and domestic activities were taking place in the vicinity.

6 Conclusions

The principal features recorded during the excavation were probably 1st – 2nd century in date, or possibly earlier, with the site being dominated by a broad swath of ditches orientated northeast-southwest. Ditch groups [69], [100], [110] and [219], were straight and all terminated within the site. Where possible these features have been assigned a phase and date, and it seems they may have formed the same function over a relatively long period. However, it remains possible that they were contemporaneous as there appears to be little sign that any of them have been significantly re-cut in order to widen or deepen them, perhaps suggesting each one had a separate purpose whilst effectively forming part of a wider feature. The most likely function for the ditches as a collective, is as a boundary, perhaps for an enclosure.

The other dominant feature is Ditch Grp [111]. Its curvature could suggest that it could form part of ring ditch c.31m in diameter. No dating material was recovered from this ditch, and there is a tantalising possibility that it could be late Iron Age or early Roman based on it cutting Ditch Grp [50], which, if it is the same ditch recorded on the adjacent site to the west, is cut by a very early Roman pit, and being itself cut by a late 1st - early 2nd century ditch Grp [189], although it is acknowledged that there were only a few sherds of pottery to date this feature. If Ditch Grp [111] is a ring ditch, only approximately one fifth of it has been exposed with northwest and southwest parts, including the centre, being under the extant hotel and the remaining parts under access road to the east, so the size and location of this potential feature is such that it did not extend into any of the neighbouring excavations at the Old Palace Lodge Hotel.

It is acknowledged that this notion has no additional evidence to support it, and it is perhaps more likely that Ditch Grp [111] is part of the boundary represented by Grps [69], [100], [110] and [219]. This being the case, it is like to be of Roman date.

Grps [69], [100], [110] and [111], could have been a re-establishment of a series of boundaries and drainage, possibly for enclosures, with occupation of the same area. Ditch Grps [100], [110] and [69] also included termini which may represent entrances. These features also appeared to have been backfilled which may suggest that the features represent boundaries for an area of activity that shifted over a shorter period of time.

If Ditch Grp [50] does continue onto the Ashton St Peter's Lower School site to the west of the excavation it would be least 94m long, widening to the east, and orientated almost parallel to Church Street, and therefore whatever date it may subsequently prove to be, it would have been a significant feature within the landscape of the time. As it appears to have been backfilled rather than silted, it was probably a boundary ditch.

The other straight ditches on the site are neither parallel nor perpendicular to Ditch Grp [50], though this does not necessarily preclude them from being associated.

Of the ditches present in the soakaway [130], [132] and [134] all appear to turn or terminate at some point between that area and the main excavation, whereas [136] and [138] are on an alignment that could suggest cut [78] may represent the terminus of these features. It is likely that they represent the remnants of Roman field boundaries, suggesting the site may be of a more agricultural nature and outside the core settlement for that period. The remaining Roman cut features are probably later in date and consist of pits and post-holes, with the pits probably being associated with domestic activity but the post-holes being of indeterminate function. No recognisable structure could reasonably be formed from the layout of the recorded post-holes.

The human burial was probably the most intriguing feature recorded during this excavation. The individual was a healthy, older woman, buried in a prone position with a single pot located

by her left elbow. Both hands were clenched, though the right hand faced upwards and the left hand downwards. It is possible that she was holding something at the time of interment, but if this was the case whatever she was clasping was of an organic nature and no trace of it has survived. The position of her legs, in particular, suggests she may have been wrapped in a shroud of some sort, but no pins or brooch were recovered from the excavation. The residue analysis from the pot suggests the contents were more of a food nature rather than cosmetic, though the precise details are somewhat enigmatic.

It is unclear whether she is part of a larger cemetery, possibly being an outlying burial, or simply a solitary grave of a relatively well-off elderly woman. The remains were dated to the early 2nd century and appear to be contemporary with ditch Grps [100] and [110] which may have formed a boundary/enclosure for a wider cemetery with the remaining burials located to the south beneath the extant hotel. However, if this were the case it would seem that the grave is an outlier, or that the density of the burials within the potential cemetery is very low, at least in that vicinity. It is worth noting that Roman cemeteries were not permitted within the town, more commonly being found on the edge of settlement. The grave found at the Old Palace Lodge is certainly in close proximity to other features, but rather than being in the main part of the settlement it may be more on the periphery.

However, there is also the possibility that the burial is a single, isolated event and possibly represents the resting place of a fairly wealthy woman who may have interred close to where she lived. Whilst Roman burials were often within cemeteries, it is not uncommon to find individual or low numbers of graves scattered throughout, or on the fringes of, an occupation area.

A facial reconstruction of the woman was also carried out and the resulting image can be seen in Appendix 5.

The artefactual analysis of the site suggests the site was utilised throughout the Roman period and possibly earlier, with a hint of high status living in the vicinity, if not actually on the site itself. There is also some evidence for industrial activity related iron smelting, though no associated structural features were recorded.

The other archaeological period represented on the site was Post-medieval. Most of the features recorded related to this period are probably associated with garden features from Kingsbury House.

There were hints of medieval activity on the site from the earlier evaluation (Kaye 2007), a few medieval features recorded during the excavation related to the hotel's gym extension (Jones 2012) and multiple features at Ashton St Peter's Lower School on the adjacent site to the west (Allen 2018). It may be that the activity related to this period diminishes further eastwards or simply that the site was of such a size that it fell between features.

There was no activity relating to the Saxon period on any of the afore mentioned sites.

Primarily the site has uncovered further evidence for the Romano-British period with similar feature types and dating to that of the excavation carried out at the former Ashton St Peter's Lower School, *c*.86m west.

Little in the way of domestic occupation was recorded there for what is thought to have been a roadside settlement along a major Roman road, with no evidence of structures, though this could have been lost due to later activity. It has therefore been interpreted that this site may have been a peripheral part of *Durocobrivae* with settlement activity focussed along the road itself and areas further away from the road representing enclosures and field boundaries associated with agricultural activity. This is likely to be the case at the Old Palace Lodge Hotel also, as no structures were found here, and the ditches and gullies may suggest more

agricultural activity as enclosures and drainage. A higher amount of pottery and CBM was recovered from the site may suggest that although this site may have been on the periphery it was still closer to more intense occupation.

This is supported by other excavations in the area. During the 1960s the Manshead Archaeological Society also carried out excavation in the north-east quadrant around the now Quadrant shopping centre, 215m east of the development site. Here Roman wells, part of a ditched and metalled road, a walled building, sunken-featured buildings and pits were excavated (Matthews 1963, 1964). It suggests that this area was closer to the core of occupation stemming from the crossroads with more evidence for structures compared with the features found at the Old Palace Lodge, again suggesting a more peripheral position of more of an agricultural nature.

A further site in the north-east quadrant is Queensway, some 270m northwest of the development site that was excavated in 2000. It contained ditches that included a rectilinear enclosure and a segmented ditch, gullies and pits dating to the later part of the 1st century AD. No evidence for structures or settlement related structures were found, however, the quantity of the pottery indicates that there was occupation in the immediate vicinity. The site is more set back from Watling Street and has been interpreted as possibly being part of an initial layout of settlement that may have been abandoned and a change in land use (Mudd 2004, 141-158). Also, an excavation to the north of the Queensway site at New Venue have identified a 1st/2nd century Roman cemetery (AOC 2006). The excavations carried out in this area, are partly contemporary with activity at the Old Palace Lodge, as at the Old Palace Lodge we are looking at primarily 1st - 2nd century activity.

Despite the limited size of the excavation it was possible to identify, and assess the function of most of the features exposed on the site and date many of them, providing some clues as to the nature of the wider settlement activities, particularly in relation to the Roman period. It may have added to a wider picture of the Roman town's development, possibly even a fraction of the Iron Age to Roman transition. However, it was unable to develop our understanding of Saxon occupation of Dunstable or offer anything substantive about the location of the medieval Royal residence, other than it was almost certainly not on this site.

For such a small area, the excavation was rich in archaeological features, but unfortunately only provided a key hole into what is undoubtedly an archaeologically fascinating part of Dunstable.

7 Acknowledgements

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8 Archive

8.1 The project archive will comprise:

1. Brief
2. Written Scheme of Investigation
3. Initial report
4. Monitoring sheets
5. Site drawings
6. Client's site plans
7. List of photographs
8. B/W prints & negatives
9. Specialist reports
10. CDROM with copies of all digital files.

8.2 The archive will be deposited with Luton Culture (2017/19)

9 References

Standards & Specifications

ALGAO 2003 *Standards for Field Archaeology in the East of England.* East Anglian Archaeology Occasional Paper 14.

Allen J. L. & Holt A. St J. 1986 (with later updates) *Health & Safety in Field Archaeology.* London: Federation of Archaeological Managers & Employers.

Brickley M. & McKinley J. I. 2004 *Guidelines to the Standards for Recording Human Remains*. Reading: Chartered Institute for Archaeologists' Technical Paper.

CIfA 2014 *Chartered Institute for Archaeologists' Standard & Guidance* documents *(Desk-Based Assessments, Watching Briefs, Evaluations, Excavations, Investigation and Recording of Standing Buildings, Finds, Archiving)*.

CIfA 2014 *Chartered Institute for Archaeologists' Code of Approved Practice for the Regulation of Contractual Arrangements in Field Archaeology*. Reading: Chartered Institute for Archaeologists.

CIfA 2014 *Chartered Institute for Archaeologists' Code of Conduct.* Reading: Chartered Institute for Archaeologists.

CIfA 2014 *Standards & Guidance for Archiving Archaeological Projects*. Reading: Chartered Institute for Archaeologists.

EH 2008 *The Management of Research Projects in the Historic Environment. PPN3: Archaeological Excavation.* London: English Heritage.

EH 2011 *Environmental Archaeology: a guide to the theory and practice of methods from sampling and recovery to post-excavation.* London: English Heritage.

Ferguson L. M. & Murray D. M. 1997 *Archaeological Documentary Archives: Preparation, Curation and Storage.* Manchester: Chartered Institute for Archaeologists' Paper 1.

Gurney D. 2003 *Standards for Field Archaeology in the East of England.* East Anglian Archaeology Occasional Paper 14.

HE 2015 *The Management of Research Projects in the Historic Environment.* London: Historic England.

SMA 1995 *Towards an accessible archaeological archive - the transfer of archaeological archives to museums: guidelines for use in England, Northern Ireland, Scotland and Wales.* London: Society for Museum Archaeologists.

Summerfield-Hill, C 2015 *Written Scheme of Investigation for Archaeological Strip, Map and Sample Excavation Old Palace Lodge, Church Street, Dunstable, Bedfordshire, LU5 4RT*. KDK Archaeology 175/DOP/1.1.

Walker K. 1990 *Guidelines for the preparation of excavation archives for long-term storage.* United Kingdom Institute for Conservation, Archaeology Section (London).

Watkinson D. & Neal V. 1998 *First Aid for Finds.* Hertford & London: Rescue.

Secondary Sources

Albion Archaeology 2003 *Extensive Urban Survey for Bedfordshire: Dunstable Archaeological Assessment.*

Allen, M 2018 *Roman, Medieval and Post-Medieval activity at Ashton St Peter's Lower School, Dunstable, Bedfordshire*. Oxford Archaeology South. Forthcoming.

AOC Archaeology 2006 *The Excavation of a 1st-2nd Century Cemetery at New Venue, Court Drive, Dunstable*. Grey literature report.

British Geological Society: http://mapapps.bgs.ac.uk/geologyofbritain/home.html.

Brown, N & Glazebrooke J 2000 *Research and Archaeology: A Framework for the Eastern Counties – 2 Research Agenda and Strategy* East Anglian Archaeology Occasional Paper 8.

English Heritage 2012 *The Norman King, Case Reference 472519: Advice Report*. Unpublished delisting report.

Kaye, D 2007 Old Palace Lodge Hotel, Church Street, Dunstable: Heritage Network Archaeological Evaluation Report. Grey literature report HN644.

Jones, G 2012 Old Palace Lodge, Church Street, Dunstable: Archaeological Assessment Report. Report No. 719.

Jones, G 2013 Old Palace Lodge Hotel, Church Street, Dunstable: Archaeological Evaluation Report. Grey literature report HN978.

Hertfordshire Archaeological Trust (2000) *Land to the rear of the Quadrant Centre (Ashton St Peter's Lower School), Dunstable, Bedfordshire: An Archaeological Evaluation*. Unpublished report 790.

Lambert T 2014 *A brief history of Dunstable*. http://www.localhistories.org/dunstable.html Accessed 7th November 2014.

Matthews, C L 1963 'The Roman Well' *Manshead Journal* 12, 3-6.

Matthews, C L 1964 'Site Director's Report: Roman Dunstable' *Manshead Journal* 14.

Medlycott, M (ed) 2011 *Research and Archaeology Re-visited: e revised framework for the East of England* East Anglian Archaeology Occasional Paper 24.

Mills, A.D. 1991 *A Dictionary of English Place Names* Oxford: Oxford University Press.

Mudd, A 2004 Early Roman Occupation on the site of the former Queensway Hall, Dunstable in *Bedfordshire Archaeology*, Volume 25, 141-158.

Oake, M et al 2007 *Bedfordshire Archaeology-Research and Archaeology: resource assessment, research agenda and strategy* Bedfordshire Archaeology 9.

Oxford Archaeology (2006) *Ashton St Peter's Lower School, Church Street, Dunstable: Archaeological Evaluation*. Unpublished report 3368.

Stratascan 2013 *Geophysical Survey Report: The Norman King, Church Street, Dunstable.* Unpublished GPR survey report, reference SOR005544.

Turner I 2014 Central Bedfordshire College, Kingsway, Dunstable, Bedfordshire, Archaeological Field Evaluation. CBC2338, Document: 2014/60. Albion Archaeology, Bedford.

Warren, D 1988 Kingsbury Court 1987. *Manshead Magazine* 28, 11-14.

Warren, D 1989 Kingsbury Court 1988. *Manshead Magazine* 29, 12-21.

Williams, A & Martin GH 2002 *Domesday Book: a complete translation* London: Penguin.

Specialist Reports

Human Osteology:

Acsádi G and Nemeskéri J 1970 *History of Human Life Span and Mortality*. Akadémiai Kiadó, Budapest.

Baker R. K 1984 *The Relationship of Cranial Suture Closure and Age Analyzed in a Modern Multi-Racial Sample of Males and Females.* MA thesis, Dept. of Anthropology, California State University, Fullerton.

Berry A. C and Berry R. J 1967 Epigenetic Variation in the Human Cranium. *Journal of Anatomy 125: 23-37.*

Brickley M & McKinley M 2004 Guidelines to the standards for recording of human remains. *Institute for Archaeologists Paper* 7.

Brooks S.T & Suchey J.M 1990 'Skeletal Age Determination Based on the *Os Pubis*: A Comparison of the Ascadi-Nemeskeri and Suchey-Brooks Methods' *Human Evolution* 5, 227-238.

Brothwell D. R 1981 *Digging up Bones*. Cornell University Press, Ithaca, New York.

Buikstra J. E and Mielke J. H 1985 Demography, Diet and Health. In Gilbert R. I, Jr and J. H Mielke (eds) *Analysis of Prehistoric Diets*. Academic Press, New York, pp359-422.

Buikstra J.E & Ubelaker D.H 1994 *Standards for Data Collection from Human Skeletal Remains*. Arkansas 118/BCB99 Archaeological Survey Research Series 44.

Dar, G. Masharawi, Y. Peleg, S. Steinberg, N. May, H. Medlej, B. Peled, N. & Hershkovitz, I. 2010. *Schmorl's nodes distribution in the human spine and its possible etiology. Eur Spine J* 19:670-675.

Jantz R.L Hunt D. R & Meadows L 1994 Maximum Length of Tibia: How did Trotter Measure It? *American Journal of Physical Anthropology* 93:525-528.

Kingle, D (Dr) 2016 *pers comm.* (Osteoarchaeologist, Osteoarchaeology Initiatives, Cambridge).

Finnegan M 1978 Non-Metric Variation of the Infracranial Skeleton. *Journal of Anatomy* 125, 23-37.

Hillson S 1986 *Teeth*. Cambridge, Cambridge University Press.

Hillson S 1996 *Dental Anthropology*. Cambridge University Press.

Lovejoy C.O, Meindl R.S, Pryzbeck T.R & Mensforth R.P 1985 'Chronological metamorphosis of the auricular surface of the ilium: A new method for the determination of adult skeletal age at death'. *American Journal of Physical Anthropology* 68, 15-28.

Lewis, M 2007. *The Bioarchaeology of Children: Perspectives from Biological and Forensic Anthropology.* Cambridge University Press. Cambridge.

Mann R. W, Symes S. A & Bass W. M 1987 Maxillary Suture Obliteration: Aging the Human Skeleton Based on Intact or Fragmentary Maxilla. *Journal of Forensic Sciences* 32, 148-157.

Meindl R. S & and Lovejoy C. O 1985 Ectocranial Suture Closure: A Revised Method for the Determination of Skeletal Age at Death Based on the Lateral-Anterior Sutures. *American Journal of Physical Anthropology* **68**, 57-66.

Milner G. R 1992 Determination of Skeletal Age and Sex: A Manual Prepared for the Dickson Mounds Reburial Team. Ms. On file, Dickson Mounds Museum, Lewiston, Illinois.

Phenice T 1969 A Newly Developed Visual Method of Sexing in the Os Pubis. *American Journal of Physical Anthropology* **30**, 297-301.

Roberts C & Connell 2004 Guidance of recording paleopathology In Brickley M and McKinley J.I *Guidelines to the Standards for Recording Human Remains* IFA Paper No. 7, 34-39.

Roberts C & Cox M 2003 *Health and Disease in Britain*. Sutton Publishing Ltd.

Roberts C & Manchester K 2005 *The Archaeology of Disease*. Third Edition, Sutton Publishing Ltd.

Rogers J & Waldron T 1995 *A Field Guide to Joint Disease in Archaeology*. Chichester, John Wiley & Sons, 32-45.

Schaefer M, Black S and Scheuer L 2009 *Juvenile Osteology A Laboratory and Field Manual*. Elsevier Inc.

Schwartz J. H 1995 *Skeleton Keys*. Oxford University Press (Oxford).

Smith, B.H 1984 Patterns of molar wear in hunter-gatherers and agriculturalists. *American Journal of Physical Anthropology* ***63***, 39-56.

Stewart, T. D. 1979. *Essentials of Forensic Anthropology.* Charles C. Thomas. Springfield. Illinois.

Stewart-Macadam P 1989a Porotic hyperostosis: relationship between orbital and vault lesions. *American Journal of Physical Anthropology* **80**: 187-93.

Todd T.W 1921a Age Changes in the Pubic Bone. I: The Male White Pubis. *American Journal of Physical Anthropology* **3,** 285-334.

Todd T. W 1921b Age Changes in the Pubic Bone. III: The Pubis of the White Female. IV: The Pubis of the female white-negro hybrid. *American Journal of Physical Anthropology* **4**, 1-70.

Todd T. W & Lyon D. W. Jr 1924 Endocranial Suture Closure, Its Progress and Age Relationship. Part I. Adult Males of White Stock. *American Journal of Physical Anthropology* **7**, 325-384.

Todd T. W & Lyon D. W. Jr 1925a Cranial Suture Closure, Its Progress and Age Relationship. Part II. Ectocranial Closure in Adult Males of White Stock. *American Journal of Physical Anthropology* 8, 23-45.

Todd T. W & Lyon D. W. Jr 1925b Cranial Suture Closure: Its Progress and Age Relationship. Part III. Endocranial Closure in Adult Males of Negro Stock. *American Journal of Physical Anthropology* **8**, 47-71.

Todd T. W & Lyon D. W. Jr 1925c Cranial Suture Closure: Its Progress and Age Relationship. Part IV. Ectocranial Closure in Adult Males of Negro Stock. *American Journal of Physical Anthropology* **8**, 149-168.

Trotter M and Gleser G. C 1952 Estimation of stature from long bones of American whites and negroes. *American Journal of Physical Anthropology* 10:463-514.

Trotter M and Gleser G. C 1958 A re-evaluation of stature based on measurements taken during life and of long bones after death. *American Journal of Physical Anthropology* 16: 79-123.

Trotter M 1970 Estimation of stature from intact limb bones; *in* TD Stewart (ed.) *Personal identification in mass disasters*. Washington Smithsonian Institute, 71-83.

Turner C.G, Nichol C. R and Scott G. R 1991 Scoring Procedures for Key Morphological Traits of the Permanent Dentition: The Arizona State University Dental Anthropology System. In Kelly, M and Larsen, C. S (eds): *Advances in Dental Anthropology*. Chichester, Wiley-Liss, pp.13-21.

Ubelaker D. H 1989 Estimation of age at death from immature human bone. In Işcan M. Y (ed): *Age markers in the human skeleton*. Springfield, IL, Charles C. Thomas, pp 55-70.

White T. M and Folkens P. A 2005 *The Human Bone Manual*. Elsevier Academic Press.

Waldron, T 2009. *Palaeopathology*. Cambridge University Press. Cambridge.

Human Facial Reconstruction:

Briggs, C. A. (1998) 'Anthropological assessment.' *Craniofacial Identification in Forensic Medicine*: 49-61.

Caldwell, D. H., Hall, M. A., & Wilkinson, C. M. (2010). *Lewis Chessmen Unmasked*. NMS Enterprises.

Cartmill, M. (1998) 'The status of the race concept in physical anthropology.' *American Anthropologist*, *100*(3): 651-660.

Clement, J. G., & Ranson, D. L. (1998) 'Craniofacial identification' in *Craniofacial identification in forensic medicine.* London: Arnold Publishers.

Davy-Jow, S. (2013) 'The devil is in the details'. *Science and Justice* 53 (2013): 230-235.

Fedosyutkin, B. A. and Nainys, J. V. (1993) 'The relationship of skull morphology to facial features'. In Iscan, M. Y. and Helmer, R. P. (eds.), *Forensic Analysis of the Skull*. New York: Wiley-Liss Inc., 199-213.

Gerasimov, MM (1955) *The Reconstruction of the Face from the Basic Structure of the Skull*, trans. W. Tshernezky (1975) Russia: Publishers unknown.

Helmer, R. (1984) *Schadelidentifizierung durch elektronische bildmischung*. Heildelberg, Kriminalistik-Verlag.

Krogman, W. M., & Iscan, M. Y. (1986). *The human skeleton in forensic medicine*. Springfield: Charles C. Thomas.

Lee, W. J., Wilkinson, C. M., & Hwang, H. S. (2012) 'An Accuracy Assessment of Forensic Computerized Facial Reconstruction Employing Cone-Beam Computed Tomography from Live Subjects.' *Journal of forensic sciences*, *57*(2), 318-327.

Littlefield, A., Lieberman, L., Reynolds, L. T., Azevêdo, E. S., Beals, K. L., Brace, C. L., ... & Wolfe, L. D. (1982) 'Redefining Race: The Potential Demise of a Concept in Physical Anthropology' [and Comments and Reply]. *Current Anthropology*, 641-655.

Mahoney, G., and Wilkinson, C. 'Computer-generated facial depiction' in Wilkinson, CM and Rynn, C (Eds) (2012) *Craniofacial Identification*. Cambridge University Press, 222-237.

Novotny, V., Iscan, M. Y., & Loth, S. R. (1993) 'Morphologic and osteometric assessment of age, sex, and race from the skull.' *Forensic Analysis of the Skull*: 71-88.

Rynn, C., Balueva, T., and Veselovskaya, E. 'Relationships between the skull and face' in Wilkinson, CM and Rynn, C (Eds) (2012) *Craniofacial Identification*. Cambridge University Press, 193-202.

Rynn C, Wilkinson CM, Peters H (2009) 'Prediction of nasal morphology from the skull.' *Forensic Sci Med Pathol* (2010) 6:20–34.

Sauer, N. J. (1992) 'Forensic anthropology and the concept of race: If races don't exist, why are forensic anthropologists so good at identifying them?' *Social Science & Medicine*, *34*(2), 107-111.

Williams, B. A., & Rogers, T. L. (2006) 'Evaluating the accuracy and precision of cranial morphological traits for sex determination.' *Journal of forensic sciences*, 51(4), 729-735.

Wilkinson, CM, Rynn, C, Peters, H, Taister, M, Kau CH and Richmond, S. (2006) 'A blind assessment of computer-modelled forensic facial reconstruction using Computed Tomography data from live subjects.' *Journal of Forensic Science, Medicine & Pathology* 2 (3) 179-187.

Wilkinson, C. M. and Mautner, S. A. (2003) 'Measurement of eyeball protrusion and its application in facial reconstruction.' *Journal of Forensic Science* 48, 4.

Wilkinson, C.M. and Whittaker (2002) 'Juvenile Forensic Facial Reconstruction – a detailed accuracy study.' Proceedings of the 10th meeting of the International Association of Craniofacial Identification (IACI), Bari, Italy 98-110.

Wilkinson, CM. (2004/2008) *Forensic Facial Reconstruction*. Cambridge University Press.

Wilkinson, CM and Rynn, C (Eds) (2012) *Craniofacial Identification*. Cambridge University Press.

Stable Isotopes:

Sealy J Armstrong R & Schrire C 1995 Beyond Lifetime Averages: Tracing Life Histories Through Isotopic Analysis of Different Calcified Tissues From Archaeological Human Skeletons. *Antiquity 69:263,* 290-300.

Schwarcz H. P & Schoeninger, M. J 1991 Stable Isotope Analysis in Human Nutritional Ecology. *American Journal of Physical Anthropology 34,* 283-321.

Tykot, R. H. 2004 'Stable Isotopes and Diet: You are what you eat' In: Martini, M Milazzo, M and Piacentini, M (eds) *Proceedings of the International School of Physics "Enrico Fermi" Course CLIV.* Iso Press, Amsterdam.

Complete Pottery Vessel:

Fawcett, A. R., 2016, 'The pottery' in *Excavations at Old Palace Lodge, Church Street, Dunstable*, KDK Archaeological Report, DOP 175.

Going, C. J., 1987, *The Mansio and other sites in the south-eastern sector of Caesaromagus: The Roman pottery*, Chelmsford Archaeological Trust Report No 3.2/CBARR 62, Chelmsford and London.

Pollard, J & Baker, P., 1999, 'Early Roman activity at Keely Lane Wootham' in Bedfordshire Archaeology Vol 23, 90-97.

Stead, I. M & Rigby, V., 1986, *Baldock: The excavation of a Roman and pre-Roman settlement, 1968-72*, Britannia Monograph 7, London.

Tomber, R and Dore, J., 1998, *The national Roman fabric reference collection: A handbook*, MoLAS Monograph 2, London, Museum of London Archaeology Service.

Waugh, K., 1999, 'Roman coarse pottery' in Going, C. J & Hunn, J. R. *Excavations at Boxfield Farm, Chells, Stevenage, Hertfordshire,* Archaeological Trust Report No 2.

Wilson, M. G., 1984, 'The other pottery' in Frere, S. S. *Verulamium excavations III*, University of Oxford Committee, Archaeological Monograph 1, Oxford.

Complete Pot Residue Analysis:

Bull, I.D., Van Bergen, P.F., Nott, C.J., Poulton, P.R. and Evershed, R.P. 2000. Organic geochemical studies of soils from the Rothamsted classical experiments - V. The fate of lipids in different long-term experiments. *Organic Geochemistry,* 31: 389-408.

Charters, S., Evershed, R.P., Goad, L.J., Leyden, A., Blinkhorn, P.W. and Denham, V. 1993. Quantification and distribution of lipid in archaeological ceramics: implications for sampling potsherds for organic residue analysis and the classification of vessel use. *Archaeometry,* 35: 211-223.

Dudd, S.N. and Evershed, R.P. 1998. Direct demonstration of milk as an element of archaeological economies. *Science,* 282: 1478-1481. DOI: 10.1126/science.282.5393.1478.

Dudd, S.N., Regert, M. and Evershed, R.P. 1998. Assessing microbial lipid contributions during laboratory degradations of fats and oils and pure triacylglycerols absorbed in ceramic potsherds. *Organic Geochemistry,* 29: 1345-1354.

Dunne, J., Evershed, R.P., Salque, M., Cramp, L., Bruni, S., Ryan, K., Biagetti, S. and di Lernia, S. 2012. First dairying in green Saharan Africa in the fifth millennium BC. *Nature,* 486: 390-394. DOI: 10.1038/nature11186.

Evershed, R.P. 1993. Biomolecular archaeology and lipids. *World Archaeology,* 25: 74-93. DOI: 10.1080/00438243.1993.9980229.

Evershed, R.P. 2008a. Experimental approaches to the interpretation of absorbed organic residues in archaeological ceramics. *World Archaeology,* 40: 26-47. DOI: 10.1080/00438240801889373.

Evershed, R.P. 2008b. Organic residue analysis in archaeology: the archaeological biomarker revolution. *Archaeometry,* 50: 895-924. DOI: 10.1111/j.1475-4754.2008.00446.x.

Evershed, R.P., Dudd, S.N., Copley, M.S., Berstan, R., Stott, A.W., Mottram, H.R., Buckley, S.A. and Crossman, Z. 2002. Chemistry of archaeological animal fats. *Accounts of Chemical Research,* 35: 660-668.

Evershed, R.P., Stott, A.W., Raven, A., Dudd, S.N., Charters, S. and Leyden, A. 1995. Formation of long-chain ketones in ancient pottery vessels by pyrolysis of acyl lipids. *Tetrahedron Letters,* 36: 8875-8878.

Fontecha, J., Goudjil, H., Rios, J.J., Fraga, M.J. and Juárez, M. 2005. Identity of the major triacylglycerols in ovine milk fat. *International Dairy Journal,* 15: 1217-1224.

Gunstone, F.D. 2004. *The Chemistry of Oils and Fats: sources, composition, properties and uses,* Oxford: Blackwells.

Heron, C. and Evershed, R.P. 1993. The analysis of organic residues and the study of pottery use. *In:* Schiffer, M. (ed.) *Archaeological Method and Theory. Vol. 5*. Tuscon: University of Arizona Press. 247-284.

Jaffé, R., Elisme, T. and Cabrera, A.C. 1996. Organic geochemistry of seasonally flooded rain forest soils: molecular composition and early diagenesis of lipid components. *Organic Geochemistry,* 25: 9-17.

Killops, S. and Killops, V. 2005. *Introduction to Organic Geochemistry, 2nd*, Oxford: Blackwells.
Lima, A.L.C., Farrington, J.W. and Reddy, C.M. 2005. Combustion-Derived Polycyclic Aromatic Hydrocarbons in the Environment—A Review. *Environmental Forensics,* 6: 109-131. DOI: 10.1080/15275920590952739.

MAFF 1998. *Fatty Acids. Seventh supplement to the fifth edition of McCance & Widdowson's The Composition of Foods,* London, UK: Royal Society of Chemistry and the Ministry of Agriculture, Fisheries and Food.

Mirabaud, S., Rolando, C. and Regert, M. 2007. Molecular criteria for discrimination adipose fat and milk from different species by NanoESI MS and MS/MS of their triacylglycerols: application to archaeological remains. *Analytical Chemistry,* 79: 6182-6192.

Mukherjee, A.J., Berstan, R., Copley, M.S., Gibson, A.M. and Evershed, R.P. 2007. Compound-specific stable carbon isotopic detection of pig product processing in British Late Neolithic pottery. *Antiquity,* 81: 743-754. DOI: 10.1017/s0003598x00095703.

Oros, D.R., Mazurek, M.A., Baham, J.E. and Simoneit, B.R.T. 2002. Organic tracers from wild fire residues in soils and rain/river wash-out. *Water, Air and Soil Pollution,* 137: 203-233.
Otto, A. and Simpson, M.J. 2007. Analysis of soil organic biomarkers by sequential chemical degradation and gas chromatography - mass spectrometry. *Journal of Separation Science,* 30: 272-282.

Padley, F.B., Gunstone, F.D. and Harwood, J.L. 1994. Occurrence and characteristics of oils and fats. *In:* Gunstone, F. D., Harwood, J. L. & Padley, F. B. (eds.) *The Lipid Handbook.* London: Chapman & Hall. 47-223.

Peters, K.E., Walters, C.C. and Moldowan, J.M. 2005. *The Biomarker Guide, 2nd*, *Vol. 1: Biomarkers and isotopes in the Environment and Human History*, Cambridge: CUP.

Raven, A.M., van Bergen, P.F., Stott, A.W., Dudd, S.N. and Evershed, R.P. 1997. Formation of long-chain ketones in archaeological pottery vessels by pyrolysis of acyl lipids. *Journal of Analytical and Applied Pyrolysis,* 40-41: 267-285.

Ravindra, K., Sokhi, R. and Van Grieken, R. 2008. Atmospheric polycyclic aromatic hydrocarbons: Source attribution, emission factors and regulation. *Atmospheric Environment,* 42: 2895-2921. DOI: https://doi.org/10.1016/j.atmosenv.2007.12.010.

Regert, M. 2011. Analytical strategies for discriminating archaeological fatty substances from animal origin. *Mass Spectrometry Reviews,* 30: 177-220.

Rogge, W.F., Medeiros, P.M. and Simoneit, B.R.T. 2007. Organic marker compounds in surface soils of crop fields from the San Joaquin Valley fugitive dust characterization study. *Atmospheric Environment,* 41: 8183-8204.

Rushdi, A.I., Al-Mutlaq, K.F., El-Mubarak, A.H., Al-Saleh, M.A., El-Otaibi, M.T., Ibrahim, S.M.M. and Simoneit, B.R.T. 2016. Occurrence and sources of natural and anthropogenic lipid tracers in

surface soils from arid urban areas of Saudi Arabia. *Environmental Pollution,* 208: 696-703. DOI: 10.1016/j.envpol.2015.10.049.

Steele, V.J., Stern, B. and Stott, A.W. 2010. Olive oil or lard? Distinguishing plant oils from animal fats in the archaeological record of the eastern Mediterranean using gas chromatography/combustion/isotope ratio mass spectrometry. *Rapid Communications in Mass Spectrometry,* 24: 3478-3484. DOI: 10.1002/rcm.4790. 13.

Animal Bone:

Albarella, U. and Davis, S. 1994. *The Saxon and Medieval animal bones excavated 1985-1989 from West Cotton*. London: English Heritage.

Albarella, U. with Pirnie, T. and Viner, S. (unpublished). *Animals of our past: a review of the zooarchaeology of central England.*

Backer, J.R. and Brothwell, D.R. 1890. *Animal Diseases in Archaeology: studies in Archaeological Science*. New York: Academic Press.

Barone, R. 1976. Anatomie comparée des mammifères domestiques. Tome 1, Osteologie, Fascicule 2 (Atlas). Paris, Vigot Freres.

Binford, L.R and Betram, J.B. 1977. Bone frequencies and attritional processes. In: Binford, L.R (ed), *For theory building in Archaeology*, 77-153. New York: Academic Press.

Boessneck, J. 1969. Osteological Differences between sheep (*Ovis aries* Linnè) and goat (*Capra hircus* Linnè). In: Brothwell D., Higgs E. editors. *Science in Archaeology. A Comprehensive Survey of Progress and Research*, 311-358. London: Thames & Hudson, 2nd edition.

Davis, S. 1980. Late Pleistocene and Holocene equid remains from Israel. *Zooarchaeological Journal of the Linnean Society*, 70 (3), pp. 289-312.

Grant, A. 1982. The use of tooth wear as a guide to the age of domestic ungulates. In: Wilson, B., Grigson, S. and Payne, S. (eds.) *Ageing and Sexing Animal Bones from Archaeological Sites*. Oxford: British Archaeological Reports, British Series.

Halstead, P., Collins, P. and Isaakidou, V. 2002. Sorting the Sheep from Goats: Morphological Distinctions between the Mandibles and Mandibular Teeth of Adult Ovis and Capra. *Journal of Archaeological Science* 2, 545-553.

KDK Archaeology LTD. 2015. *Written Scheme of Investigation for Archaeological Strip, Map, and Sample Excavation. Old Palace Lodge, Church Street, Dunstable, Bedfordshire, LU5 4RT*.

O'Connor, T. 1988. *Bones from the general accident site, Tanner Row*. London, Council for British Archaeology.

Payne, S. 1973. Kill-off patterns in sheep and goats: the mandibles from Asvan Kale. *Anatolian Studies,* 23, 281-303.

Payne, S. 1987 References codes for the wear state in mandibular cheek teeth of sheep and goats. Journal of Archaeological Science 14(6): 609–14.

Schmid, E. 1972. *Atlas of Animal Bones for Prehistorians, Archaeologists, and Quaternary Geologists,* Amsterdam, Elsevier Publishing Company.

Silver, I. A. 1969. The ageing of domestic animals. In: D. R. Brothwell and E. S. Higgs (eds.) *Science in Archaeology: A Survey of Progress and Research,* 282-302. London: Thames and Hudson.

Pottery & CBM:

Brodrib, G., 1987, *Roman brick and tile*, Sutton, Gloucester.

Brown, A., 1994, 'Detailed description of the pottery, mainly Harrold ware', in Brown, A. A Romano-British shell gritted pottery and tile manufacturing site at Harrold, Bedfordshire*, Bedfordshire Archaeology, Vol 21*, 51-78.

Brown, A., 1994, 'Tiles and bricks in shelly Harrold fabric' in Brown, A. A Romano-British shell-gritted pottery and tile manufacturing site at Harrold, Bedfordshire, *Bedfordshire Archaeology Vol 21,* 79-86.

Fawcett, A. R., 2002, 'The pottery' in Archaeological investigations at Ashton St Peters Lower School, Dunstable, Herts Archaeological Trust Report (HAT 477).

Fawcett, A. R, 2004, 'The Roman pottery' in Gardner, R. Archaeological investigations at 24 Friary Fields, Dunstable, Bedfordshire, *Bedfordshire Archaeology Vol 25*, 168-171.

Going, C. J., 1987, *The Mansio and other sites in the south-eastern sector of Caesaromagus: The Roman pottery*, Chelmsford Archaeological Trust Report No 3.2/CBARR 62, Chelmsford and London.

Matthews, C. L., 1981, A Romano-British inhumation cemetery at Dunstable, *Bedfordshire Archaeology Vol 15*, 1-73.

Stead, I. M & Rigby, V., 1986, *Baldock: The excavation of a Roman and pre-Roman settlement, 1968-72*, Britannia Monograph 7, London.

Tomber, R and Dore, J., 1998, *The national Roman fabric reference collection: A handbook*, MoLAS Monograph 2, London, Museum of London Archaeology Service.

Waugh, K., 1999, 'Roman coarse pottery' in Going, C. J & Hunn, J. R. *Excavations at Boxfield Farm, Chells, Stevenage, Hertfordshire,* Archaeological Trust Report No 2.

Webster, P., *1996, Roman Samian pottery in Britain, Practical Handbook in Archaeology 13,* CBA, York.

Wilson, M. G., 1984, 'The other pottery' in Frere, S. S. *Verulamium excavations III*, University of Oxford Committee, Archaeological Monograph 1, Oxford.

Lithics:

Albion Archaeology, 2003 *Extensive Urban Survey for Bedfordshire, Dunstable Archaeological Assessment*, Document 200/03, for Bedfordshire County Council and English Heritage.

Humphrey, J, 2007 'Simple tools for tough tasks or tough tools for simple tasks? Analysis and experiment in Iron Age flint utilisation' in Haselgrove, C. and Pope, R eds, *The Earlier Iron Age in Britain and the near Continent*.

Robins, P., 1996 'Worked flint' in Ashwin, T. 'Excavation of an Iron Age Site at Silifield, Wymondham, Norfolk, 1992-3', Norfolk Archaeol.XLII, 266-270.

Environmental:

Wallace, L. M. 2014 *The origin of Roman London.* Cambridge University Press.

Cappers, R.T.J., Bekker, R.M., and Jans, J.E.A. 2006 *Digital Seed Atlas of the Netherlands.* Second edition. Groningen Institute of Archaeology (GIA). Burkhuis.

Evans, J.G. 1972 *Land snails in archaeology*. Seminar Press. London and New York.

Hillman, G. 1981 'Reconstructing crop husbandry practices from charred remains of crops' in Mercer, R., *Farming practice in British prehistory.* Edinburgh University Press, 123-162.

Jacomet, S.,et al, 2006 *Identification of cereal remains from archaeological sites*. Second Edition. Archaeobotany Lab IPAS, Basel University.

Reynolds, P. 1981 'Deadstock and livestock' in Mercer, R., *Farming practice in British prehistory.* Edinburgh University Press, 97-122.

Stace, C.1997 *New Flora of the British Isles*. Second edition. Cambridge University Press.

Van der Veen, M. 1989 Charred grain assemblages from Roman-period corn driers in Britain. *The Archaeological Journal* 146 The Royal Archaeological Institute, 302-319.

Appendix 1: Excavation Summary Tables

Context Register

Cxt	Cxt Type	Dimensions (m) (Width, Length, Depth)			Description (colour/Texture/Consistency or Shape/sides/Base/Orientation								Fill of/Filled by	Cut/Cut by	Interpretation	Grp No
01	Layer			0.15											**Existing carpark:** modern tarmac and brick, also includes an earlier tarmac carpark underlying present carpark and mid brown/beige sandy/gravel underlay in places.	
02	Layer			0.20											**Modern made-ground:** consisting of red brick rubble possibly a levelling layer on which to build carpark.	
03	Layer			0.40	Dark	Greyish	Brown		Firm	Silty		Clay			**Modern made-ground:** covering all archaeological features.	
04	Cut	0.36	0.44	0.14	Circular	Concave	U-shaped	NE-SW					Filled by (05)		**Posthole:** discrete feature found towards the SE corner of the site, containing no finds.	
05	Fill	0.36	0.44	0.14	Dark	Grey			Friable	Chalky	Clay		Fill of [04]		**Fill of posthole:** backfilled with no finds.	
06	Cut	0.50	0.56	0.12	Circular	Concave	U-shaped	NE-SW					Filled by (07)		**Post-hole:** discrete feature found towards the centre of the site.	
07	Fill	0.50	0.56	0.13	Dark	Grey			Friable	Chalky	Clay		Fill of [06]		**Fill of posthole**: backfill containing pottery, CBM, flint and slag.	

08	Structure	0.43	1.05	0.23				N-S						Cut (32)& (37)	**Wall:** was found in the southeast corner of the site. It was located within Ditch [31]. The northern end of the wall appeared to respect the ditch edge whilst the southern end was truncated by the extant building. The wall was constructed of large undressed clunch stone measuring <0.04m, along with red brick that appear to be handmade with spanish, which would suggest an 18th or early 19th century date. There was a higher concentration of red brick at the top of the wall which may suggest that the clunch was used as foundations and the wall above was brick. A sandy limestone mortar covered the top of the foundation but the lower part of the wall was un-mortared. It was difficult to see an actual construction cut as the wall was found within the backfilled fills of Ditch [031], but as Ditch [031] was thought to have been Roman and the clunch wall was thought to have been later, a cut must have been present.	
09	Cut	0.39	>1.07	0.38	Linear	>45 degrees	U-shaped	E-W					Filled by (28)	Cut by [10] (27) grp 51	**Ditch:** found spanning the width of the site thought to represent a boundary. This particular slot was a relationship slot with possible building foundation Grp 51 so full profile and plan not visible.	50
10	Cut	>0.78	>0.38	0.27	Rectangular	<45 degrees	U-shaped	N-S					Filled by (27)	Cut [09](28) grp 50	**Pos. building foundation:** was found at the SE corner of the site. This feature thought may possibly be associated with the gardens that once occupied the land or an outbuilding to the rear of the hotel. Cut same as [44] & [13].	51

11	Cut	>1.0		0.11	Linear	Concave	Flat	E-W					Filled by (23)	Cut by [13] grp 51; Cuts grp 50	**Gully or Pit:** found at the southern side of the site, that appeared to be linear. However, the full shape in plan and profile was not fully seen as the feature extended beyond the limit of excavation.	
12	Cut	>1.10		0.34	Linear	>45 degrees	V-shaped	ENE-WSW					Filled by (26) (24)	Cut by Grp 51 [13]; [11]	**Ditch:** was found along the southern side of the area, thought to represent a boundary.	50
13	Cut	3.24	>3.6	0.17	Rectangular	Steep	Flat	SE-NW					Filled by (25)	Cut grp 50	**Possible building foundation:** found to the SE corner of the site.	51
14	Cut	0.82	>1.3	0.34	Sub-rectangular	Steep	Flat	N-S					Filled by (15)	Cut [16]	**Pit:** was found at the eastern side of the site. It extended beyond the limit of excavation and was also cut by modern services, therefore the full shape in plan was not observed.	
15	Fill	0.82	>1.3	0.34	Light	Yellowish	Brown		Firm	Sandy	Clay		Fill of [14]		**Fill of pit:** backfill containing finds of pottery, CBM, animal bone, flint and glass.	
16	Cut	0.40	>2.0	0.09	Linear	>45 degrees	V-shaped	NE-SW					Filled by (17)	Cut by [14]	**Gully:** found at the east side of the site that was likely used for drainage. Cut same as [40].	40
17	Fill	0.40	>2.0	0.09	Mid	Grey			Friable	Chalky	Clay		Fill of [16]	Cut by [14]	**Fill of gully:** naturally silted with no finds.	40
18	Layer				Light		White		Compact			Chalk			**Natural Strata**	
19	Cut	1.05	>1.3	0.18	Sub-circular	Steep	U-shaped	N-S					Filled by (20)		**Pit:** discrete feature found at the southern side of the site.	
20	Fill	1.08	1.30	0.18	Mid	Grey			Firm	Chalky	Clay		Fill of [19]		**Fill of pit:** backfill material containing no finds.	
21	Cut	0.90	>3.6	0.25	Linear	<45 degrees	Irregular	N-S					Filled by (22)	Cut by Grp 70 [29]	**Ditch terminus:** was observed in the central southern part of the site. The ditch was thought to have been a boundary associated with a settlement/farmstead.	71
22	Fill	0.90	<3.6	0.25	Mid	Reddish	Orange		Friable	Chalky	Clay		Fill of [21]	Cut by Grp 70 [29]	**Fill of ditch terminus**: backfill with no finds.	71

23	Fill	>1.0		0.11	Mid	Greyish	Brown		Firm	Silty		Clay	Fill of [11]		**Fill of gully or pit:** backfill containing pottery, CBM and an iron nail.	
24	Fill	>1.10	>0.5	0.11	Mottled	Yellowish	Brown		Friable		Silty	Clay	Fill of [12]	Cut by [11]	**Fill of ditch:** backfill material with no finds.	50
25	Fill			0.16	Mid	Greyish	Brown		Firm		Silty	Clay	Fill of [13]		**Fill of possible building foundation:** backfill with no finds.	51
26	Fill	>0.35	>0.5	0.07	Mid	Greyish	Brown		Compact	Chalky	Clay		Fill of [12]	Cut by [13] grp 51	**Fill of ditch:** backfill with no finds.	50
27	Fill	>0.78	>0.38	0.27	Mid	Grey	Brown		Soft	Silty		Clay	Fill of [10]		**Fill of possible building foundation:** backfill with no finds.	51
28	Fill	0.39	>1.07	0.38	Mid	Yellowish	Brown		Friable	Sandy	Clay		Fill of [09]	Cut by [10] grp 51; [08]	**Fill of ditch:** backfill containing pottery.	50
29	Cut	>0.8	>3.6	0.39	Linear	<45 degrees	U-shaped	N-S					Filled by (47) & (30)	Cut [21] grp 71	**Ditch terminus:** found in the central part of the site. The ditch was thought to represent a boundary associated with a settlement/farmstead.	70
30	Fill	>0.8	>3.6	0.20	Dark	Grey			Firm	Silty	Clay		Fill of [29]		**Fill of ditch terminus:** backfill material containing pottery, CBM, animal bone, oyster shell and slag.	70
31	Cut	>1.20	>1m	0.48	Linear	<45 degrees	Flat	E-W					Filled by (32) & (37)	Cut by [08]	**Ditch:** found along the southern side of the area.	50
32	Fill	1.09	>0.50	0.27	Mid	Yellowish	Brown		Friable	Clayey	Silt		Fill of [31]	Cut by [08]	**Fill of ditch:** backfill containing pottery, CBM and animal bone.	50
33	Cut	2.95	2.55	0.19	Circular	Concave	Flat						Filled by (34)		**Possible garden feature:** found towards the NE end of the site.	
34	Fill	2.95	2.55	0.19	Mid	Orangey	Brown		Soft		Silty	Clay	Fill of [33]		**Fill of possible garden feature:** backfill containing pottery, CBM, nails and animal bone. The nails recovered were found at intervals around the edges of the feature.	
35	Cut	0.44	0.24	0.10	Sub-circular	Concave	Irregular						Filled by (36)		**Possible posthole:** situated in close proximity to pos. garden feature [33]. Some irregularity was present that was due to rooting.	

36	Fill	0.44	0.24	0.10	Dark	Greyish	Brown		Soft		Silty	Clay	Fill of [35]		**Fill of posthole:** backfill with no finds.	
37	Fill	0.86	>0.52	0.26	Mid	Yellowish	Brown		Friable	Clayey		Silt	Fill of [31]	Cut by [08]	**Fill of ditch:** backfill containing no finds.	50
38	Cut	0.90	1.06	0.25	Circular	Steep	Flat						Filled by (39)		**Pit:** found at the eastern side of the site. A discrete feature cut by modern services.	
39	Fill	0.90	1.06	0.25	Mid	Orangey	Brown		Friable	Sandy		Clay	Fill of [38]		**Fill of pit:** backfill containing finds of pottery, CBM and animal bone.	
40	Group	0.50	>2.7	0.08	Linear	<45 degrees	Irregular	NE-SW					Filled by (41)		**Gully:** found at the eastern side of the site, thought to have been used for drainage. The gully was cut by previous evaluation trench.	40
41	Fill	0.50	>2.7	0.08	Mid	Greyish	Brown		Friable	Silty		Clay	Fill of [40]		**Fill of gully:** naturally silted with no finds.	40
42	Cut	0.50	0.50	0.22	Sub-circular	Steep	Irregular						Filled by (43)		**Pit:** found at the southern side of the area that was only discovered in plan once the area had been fully excavated. As such its stratigraphic relationship at to whether it was cutting or cut by ditches [29] and [21] was lost. It was, however, fill with comparable material as found in adjacent ditch [21] possibly suggesting that the two features are contemporary.	
43	Fill	0.50	0.50	0.22	Mid	Orangey	Brown		Friable		Chalky	Clay	Fill of [42]		**Fill of pit:** backfill with no finds.	
44	Cut	3.20	>3.6	0.25	Rectangular	Steep	Flat	N-S					Filled by (45)	Cut [46](49)	**Possible building foundation:** found in SE corner f the site. It was thought to have been associated with the gardens that once occupied the land or an outbuilding to the rear of the hotel.	51
45	Fill	3.20	>3.6	0.25	Dark	Greyish	Brown		Soft		Silty	Clay	Fill of [44]		**Fill of possible building foundation:** backfill containing finds of cbm, pottery, animal bone and slag.	51

46	Cut	>0.8	>0.6	0.30	Linear	Concave	V-shaped	ENE-WSW					Filled by (48) &(49)	Cut by grp 51	**Ditch:** found at southern end of site thought to represent a boundary.	50
47	Fill	>0.8	>3.6	0.19	Light	Bluish	Grey		Sticky	Silty	Clay		Fill of [29]		**Fill of ditch:** backfill containing pottery.	70
48	Fill	>0.5	>0.6	0.07	Light		White		Friable			Chalk	Fill of [46]		**Fill of ditch:** redeposited natural with no finds.	50
49	Fill	>0.8	>0.6	0.20	Mid	Orangey	Brown		Friable	Silty	Chalky	Clay	Fill of [46]	Cut by [44]	**Fill of ditch:** backfill with no finds.	50
50	Group	>1.1	>17	0.48	Linear	>45 degrees	U-shaped	E-W							**Boundary ditch:** spanning the width of the trench along the southern end of the site. Eight slots were excavated: slot [09] filled (28); slot [12] filled by (26) (24) (23); slot [31] filled by (32) (37); slot [46] filled by (48) (49); slot [63] filled by (65) (66); slot [82] filled by (83) (84); slot [120] filled by (121) (122); slot [125] filled by (126) (127). The ditch was filled with backfill material, and contained finds of pottery ranging from the mid to late 1st to mid to late 2nd century, animal bone, CBM and a ferrous object. Some of this material dated to the post-medieval period and was probably intrusive. The ditch was cut by clunch wall [08], rectangular post-medieval building foundation GN[51], possible gully/pit [11] and by ditch GN[111]. In the SW part of the site the ditch was partly covered by spread (86).	50

51	Group	3.20	>3.6	0.25	Rectangular	Steep	Flat	N-S							**Possible building foundation:** a rectangular cut feature was found at the SE corner of the site, orientated N-S, with its southern edge truncated by the extant hotel. Three slots were excavated slot [10] filled by (27), slot [44] filled by (45) & slot [13] filled by (25). It was filled with backfill contained finds of pottery dating from Romano-British (residual) into the 20th century, and similarly for the CBM. Animal bone, slag, ferrous objects and oyster shell were also present. The feature cut through the Romano-British Ditch Group [50]. It shape and profile suggests that it may have been a construction cut for possibly an outbuilding associated with the Old Palace Lodge.	51
52	Cut	<0.80	>1	0.40	Linear	<45 degrees	Irregular	N-S					Filled by (53)	Cut [54] grp 71; Cut by [73]	**Ditch:** was found in the central part of the site, orientated N-S with a terminus at either end. This slot was towards the northern end of the Ditch. Ditch [52] same as Ditch [29].	70
53	Fill	<0.80	>1	0.40	Dark	Brownish	Grey		Firm		Clayey	Silt	Fill of [52]	Cut by [73]	**Fill of ditch:** backfill material containing finds of pottery, CBM and animal bone.	70
54	Cut	0.95	>1	0.44	Linear	<45 degrees	Flat	N-S					Fill by (55)	Cut by [52] grp 70	**Ditch:** was found in the central southern part of the site. It was thought to have been a boundary associated with the settlement/farmstead occupying the site.	71
55	Fill	0.95	>1	0.44	Light	Yellowish	Brown		Friable		Clayey	Silt	Fill of [54]	Cut by [52] grp 70 & [73]	**Fill of ditch:** backfill material containing finds of pottery, CBM and a Fe nail.	71

56	Skeleton												Fill of [57]		**SK56:** was found in Grave cut [57] at the southern side of the area. The individual was laid out in an extended and prone position with the head at the eastern end of the grave. The individual was 75-100% complete, mature adult female. Her right arm was flexed at the elbow and the right hand was palm up with the fingers clenched round. The left arm was straight with the left hand palm faced down and the fingers clenched inward. Her legs were straight and the lower legs very close together. A complete pottery vessel (SF1) was found resting on top of her left elbow.	
57	Cut	0.60	2.15	0.23	Rectangular	Straight	Flat	E-W					Fill by (58) & SK56		**Grave:** was found at the southern end of the area, containing SK56. The shape of the grave cut was a more elongated oval shape which may suggest that SK56 was not placed in a coffin, but rather may have been simply wrapped.	
58	Fill	0.60	2.15	0.23	Mid	Greyish	Brown		Friable		Silty	Clay	Fill of [57]		**Fill of grave:** backfill material, containing SK56 and complete pottery vessel SF1.	
59	Cut	1.20	>1.5	0.14	Linear	Concave	Irregular	NE-SW					Fill by (60)	Cut grp 70 & 71	**Ditch:** was found in the central part of the area. The ditch may have been used for drainage or as a boundary associated with settlement/farmstead that occupies the site.	100
60	Fill	1.20	>1.5	0.14	Mid	Greyish	Brown		Friable	Silty		Clay	Fill of [59]		**Fill of ditch:** backfill material containing pottery, animal bone, Fe and flint.	100

61	Cut	1.10	>1	0.24	Linear	Concave	U-shaped	NE-SW					Fill of [62]	Cut grp 111	**Ditch:** found towards the central part of the site, adjacent to Ditch G[100] & G[111]. Feature thought to have been a boundary/drainage associated with Roman settlement/farmstead that occupies the site.	69
62	Fill	1.10	>1	0.24	Mid	Greyish	Brown		Friable	Silty		Clay	Fill of [61]		**Fill of ditch:** backfill containing pottery, cbm, animal bone, flint and a nail.	69
63	Cut	>1.1	>1.0	0.30	Linear	>45 degrees	V-shaped	E-W					Filled by (66) & (65)	Cut by [11]	**Ditch:** found at the southern end of the site. This slot was excavated adjacent to terminus of Ditch G[70] & G[71]. Ditch same as [09] [46] [12] [31] [82] [91] [120] [125].	50
64	Layer			0.13	Dark	Brownish	Black		Soft	Silty		Clay			**Modern made-ground:** found at the western side of the area.	
65	Fill	>1.1	>1.0	0.19	Light	Reddish	Grey		Firm	Clayey	Sandy		Fill of [63]	Cut by [11]	**Fill of ditch:** backfill material with no finds.	50
66	Fill	>1.1	>1.0	0.11	Mid	Red			Firm	Clayey	Sandy		Fill of [63]		**Fill of ditch:** backfill material with no finds.	50
67	Structure	2.85	>5.2	0.17											**Rough stone surface:** found at the northern side of the site, orientated N-S. The surface consisted of a concentration of rounded stones <100mm within mid-greyish brown, silty clay, fairly firm matrix containing finds of animal bone and Iron nails. The surface overlay ditch groups [220] & [111]. It was likely used as a yard surface or pathway.	
68	Fill	<0.50	>1	0.13	Light	Greyish	Yellow		Friable		Chalky	Silt	Fill of [72]		**Fill of gully:** appears to be the result of natural silting containing pottery and CBM.	

69	Group	1.10	>4.7	0.24	Linear	Concave	U-shaped	NE-SW							**Ditch:** found in the central part of the site, orientated NE-SW. Two slots were excavated slot [61] filled by (62) and terminus slot [207] filled by (206). It contained finds of pottery (LIA-E2nd), along with CBM (M-L1st), animal bone, ferrous objects and flint. The ditch was adjacent to and cutting ditch GN[111] and also adjacent to ditches GN[100] & GN[220].	69
70	Group	1.20	8.00	0.41	Linear	>45 degrees	U-shaped	NW-SE							**Ditch:** found in the central part of area, orientated NW-SE. Three slots were excavated, slot [29] filled by (47) & (30), slot [52] filled by (53) and slot [96] fill by (97). It contained finds of Roman pottery (ranging between AD100/E2nd), CBM (M-L1st-E2nd), animal bone, oyster shell, flint and slag. The ditch was adjacent to and cuts ditch G[71], and gully/channel [72] (68) and Pit [94] (101) (95). The ditch was cut by P/H [76], Pit [73], Ditch G[100] slot [98]. A terminus was found at the SE end of the ditch [29] and a terminus was also found at the NW end of the Ditch [96]. The ditch is thought to have been a boundary ditch associated with a settlement/farmstead.	70

71	Group	1.30	7.00	0.45	Linear	<45 degrees	Flat	NW-SE						**Ditch:** found in the central part of the area, orientated NW-SE. Three slots were excavated slot [21] filled by (22), slot [54] filled by (55) & slot [89] filled by (90). It contained finds of pottery (LIA-E2nd), CBM (L1st), animal bone and a Fe nail. The Ditch was adjacent to and was cut by Ditch G[70], and Ditch G[100]. The Ditch itself cut gully/channel [72] (68) and Ditch [87]. As with Ditch G[70] a terminus was found at the SE end of the Ditch [21] and at the NW end of the Ditch [89]. The Ditch was thought to have been a boundary associated with a settlement/farmstead.	71
72	Cut	<0.50	>1	0.13	Linear	Steep	Irregular	SE-NW					Filled by (68)	Cut by [52] & [54] Grp 70 & 71	**Gully:** found towards the southern end of the site, which may have been used for drainage.	
73	Cut	1.60	>1	0.33	Irregular		U-shaped						Filled by (74) & (75)	Cut [52] & [54] Grp 70 & 71	**Pos. Pit:** an irregular oval shaped feature that was found towards the central part of the area.	
74	Fill	1.60	>1	0.33	Light	Greyish	Brown		Compact		Clayey	Silt	Fill of [73]		**Fill of pit:** backfill containing pottery.	
75	Fill	0.75	>1	0.31	Light	Greyish	Brown		Compact		Clayey	Silt	Fill of [73]		**Fill of pit:** backfill with no finds.	
76	Cut	0.27	0.20	0.09	Sub-circular	>45 degrees	U-shaped						Filled by (77)		**Small modern posthole:** found beneath modern services.	
77	Fill	0.27	0.20	0.09	Dark	Brownish	Grey		Hard		Silty	Clay	Fill of [76]		**Fill of small posthole:** backfill containing modern glass	
78	Cut	0.55	1.50	0.40	Linear	Steep	Irregular	N-S					Fill by (79)	Cuts [80]	**Ditch terminus:** found towards the northern part of the site. From the orientation, N-S, this ditch may continue towards the soakaway situated at the far NW corner of the site.	

79	Fill	0.55	1.50	0.40	Mid	Greyish	Brown		Friable	Chalky	Silty	Clay	Fill of [78]		**Fill of ditch:** backfill containing pottery, CBM, animal bone, and Fe nails.	
80	Cut	0.57	1.48	0.24	Linear	Concave	U-shaped	E-W					Filled by (81)	Cut by [78]	**Ditch:** found towards the northern end of the site. This slot was excavated as part of a relationship slot with ditch [78]. Ditch thought to be a boundary ditch associated with Roman settlement/farmstead that occupies the site.	110
81	Fill	0.57	1.48	0.24	Mid	Greyish	Brown		Friable	Chalky	Silty	Clay	Fill of [80]	Cut by [78]	**Fill of ditch:** backfill containing finds of pottery, CBM and a small copper alloy ring fitting (SF2).	110
82	Cut	>0.95	>2.5	0.46	Linear	Steep	U-shaped	E-W					Filled by (83) & (84)		**Ditch:** found at the southern end of the site, thought to be a boundary ditch.	50
83	Fill	>0.95	>2.5	0.45	Mid	Brownish	Red		Firm	Sandy	Clay		Fill of [82]		**Fill of ditch:** backfill with no finds.	50
84	Fill	>0.95	>2.5	0.30	Light	Greyish	Brown		Friable	Silty	Clay		Fill of [82]		**Fill of ditch:** backfill with no finds.	50
85	Fill	1.60	>1.0	0.16	Dark	Greyish	Brown		Friable	Silty		Clay	Fill of [186]		**Fill of ditch:** backfill with no finds.	111
86	Deposit	1.84	>1.96	0.10	Dark	Grey			Firm	Silty	Clay				**Spread:** A deposit was observed in the southwest corner of the site overlying part of Ditch Groups [50] & [111] and Gully Group [146], and extending beyond the limit of excavation. This deposit appeared to have no associated cut, and was comparable to the fills noted in ditch grp 111. This part of the site appears to be lower and it could be that the spread represents natural silting. It contained finds of pottery dating to the mid-1st -2nd century and animal bone.	

87	Cut	1.15	>1.0	0.35		Steep	Flat	N-S					Filled by (88) & (93)	Cut by [89] & [91]	**Ditch:** thought to be a continuation of ditch grp 220.	220
88	Fill	1.00	>1.0	0.19	Light	Orangey	Brown		Soft	Chalky	Silty	Clay	Fill of [87]	Cut by [89] & [91]	**Fill of ditch:** backfill with no finds.	220
89	Cut	>0.7	>1.0	0.45	Linear	Steep	Flat						Filled by (90)	Cut [87]; cut by [91]	**Ditch terminus:** found at the southern end of the site.	71
90	Fill	>0.7	>1.0	0.45	Mid	Orangey	Brown		Friable	Silty	Chalky	Clay	Fill of [89]		**Fill of ditch terminus:** backfill with no finds.	71
91	Cut	>1.2	>1.0	0.23	Linear	Concave	Flat	NE-SW					Filled by [92]	Cut grp 70 & 71	**Ditch:** one of a series of ditches found in the central part of site. Fairly shallow thought to have been used as a boundary/drainage.	100
92	Fill	>1.2	>1	0.23	Dark	Greyish	Brown		Friable		Silty	Clay	Fill of [91]		**Fill of ditch:** backfill with no finds.	100
93	Fill	1.15	>1.0	0.19	Mid	Orangey	Brown		Friable		Silty	Clay	Fill of [87]		**Fill of ditch:** backfill with no finds.	220
94	Cut	>0.95	>1.65	>0.25	Circular	<45 degrees	Irregular						Filled by (101) & (95)	Cut by [96] & [98]	**Pit:** found at the junction between ditch grp 70, 71 & 100.	
95	Fill	0.26	1.56	0.25	Dark	Brownish	Grey		Plastic	Silty	Clay		Fill of [94]	Cut by [96] & [98]	**Fill of pit:** backfill containing pottery, animal bone and flint.	70
96	Cut	>0.68	>1.80	0.33	Linear	>45 degrees	Flat	SE-NW					Filled by (97)		**Ditch:** found in the centre of the site thought to have been a boundary associated with settlement/farmstead.	70
97	Fill	>0.68	>1.80	0.33	Mid	Brownish	Grey		Friable	Clayey	Silty		Fill of [96]		**Fill of ditch:** backfill containing pottery and CBM.	70
98	Cut	1.57	>0.80	0.17	Linear	Concave	U-shaped	NE-SW					Filled by (99)		**Ditch:** found in the central part of the area, thought to be a boundary associated with the Roman settlement/farmstead that occupies the site.	100
99	Fill	1.57	>0.80	0.17	Mid	Greyish	Brown		Firm	Clayey	Silty		Fill of [98]		**Fill of ditch:** backfill containing finds of pottery, animal bone, flint.	100

100	Group	0.96	>12	0.13	Linear	Concave	U-shaped	NE-SW						**Ditch:** found towards the central/northern part of the site. Three slots were excavated; slot [59] filled by (60), slot [91] filled by (92) & slot [98] filled by (99).The ditch extended beyond the limit of excavation to the NE and terminated at the SW end, although not fully visible due to modern services. It contained finds of pottery, animal bone, Fe and flint. The ditch was parallel to ditch grp 111 & 69 and cuts through ditch grp 70 & 71 and is cut by a very shallow post-med pit [152]. The ditch was thought to be associated with a Roman settlement/farmstead.	100
101	Fill	0.57	>0.87	0.27	Mid	Yellow	Brown		Friable	Clayey	Silty		Fill of [94]		**Fill of pit [94]:** backfill with no finds.	
102	Cut	0.47	>2	0.20	Linear	<45 degrees	Flat	E-W					Filled by (103)		**Gully:** very shallow, found parallel to ditch grp 50 at the southern end of the site. It was likely used for drainage.	146
103	Fill	0.47	>2	0.20	Mid	Brown			Friable	Silty	Clay		Fill of [102]		**Fill of shallow gully:** silty backfill with no finds.	146
104	Cut	0.90	>5	0.20	Linear	Steep	U-shaped						Filled by (105)	Cut by grp 146	**Ditch:** that curves from NNE- SSW to a more NE- SW direction across the site. It was likely used as a boundary for the Roman settlement/farmstead occupying the site.	111
105	Fill	0.90	>5	0.20	Dark	Grey			Friable	Silty	Clay		Fill of [104]		**Fill of ditch:** backfill material with no finds.	111
106	Cut	0.94	1.38	0.22	Linear	Concave	U-shaped	NE-SW					Filled by (107)	Cut by [108]	**Ditch:** found at the northern end of the site, same as ditch [80].	110
107	Fill	0.94		0.23	Light	Greyish	Brown		Friable	Silty	Sandy	Clay	Fill of [106]	Cut by [108]	**Fill of ditch:** backfill material containing pottery and animal bone.	110

108	Cut	0.92	0.90	0.14	Sub-rectangular	Sheer	Flat	NE-SW					Filled by (109)	Cuts [106]	**Possible pit/dumping:** found towards the northen end of the site, it contained frequent CBM, mortar and clunch pieces indicating a dumping of material.	
109	Fill	>0.95	>2.5	0.30	Dark	Yellowish	Brown		Soft	Silty	Sandy	Clay	Fill of [108]		**Fill of a possible pit/dumping:** backfill the majority of which consists of large pieces of clunch with signs of limestone mortar on them and occaisional pieces of CBM, also with mortar attached.	
110	Group	0.93	>6.20	0.23	Linear	Concave	U-shaped	NE-SW							**Ditch:** found at the northern part of the site. Three slots were excavated; slot [80] filled by (81), slot [106] filled by (107) & slot [148] filled by (149). The NE end of the ditch was cut by ditch [78] and the SW end was cut by modern services. The ditch contained finds of pottery, CBM, animal bone and part of a Cu ring. It was also cut by a possible post-med pit [108] and was also parallel to ditch [111].	110

111	Group	1.75		0.40	Curvilinear	Steep	U-shaped	NNE-SSW/N-S							**Ditch:** found in the central and SW parts of the site, from the NE end of the ditch it is orientated NNE-SSW, then curves round to a more N-S direction, and continues beyond the limit of excavation at both ends. Nine slots were excavated; slot [104] filled by (105), slot [12] filled by (113), slot [128] filled by (129), slot [140] filled by (141), slot [144] filled by (145) & (147), slot [154] filled by (155) & (156), slot [161] filled by (162), slot [186] filled by (85) and slot [203] filled by (204). The ditch contained finds of pottery, animal bone, CBM and slag. The NNE-SSW part of the ditch was parallel to ditches grp 100, grp 69, gully grp 219 and ditch grp 110. The ditch cuts ditch grp 220, pit/ph [116] (117), ph [189](190), gully grp 146, and ditch grp 50, and was cut by gully grp 219, v.shallow pit [118](119) and stone surface (67). Spread (86), in the SW corner of the site, overlies ditch grp 111. The curve of the ditch may suggest an enclosure associated with Roman settlement/farmstead that occupies the site.	111
112	Cut	1.80	>1.0	0.40	Linear	<45 degrees	Flat	NE-SW					Filled by (113)		**Ditch:** found in the central part of the site parallel with gully [114], ditch grp 110 & 100. Ditch same as ditch [104], [128], [144], [154], [161], [186] & [203].	111
113	Fill	1.80	>1.0	0.40	Mid	Greyish	Brown		Friable	Silty	Chalky	Clay	Fill of [112]		**Fill of ditch:** backfill containing pottery, cbm & a.bone.	111

114	Cut	0.28	>1.0	0.09	Linear	Concave	U-shaped	NE-SW					Filled by (115)	Cut by [112] grp 111	**Gully:** found parallel and cut by ditch slot [112] grp 111 towards the central part of the site. Gully thought to have been used for drainage.	219
115	Fill	0.28	>1.0	0.09	Mid	Greyish	Brown		Friable	Silty	Chalky	Clay	Fill of [114]	Cut by [112] grp 111	**Fill of gully:** backfill with no finds.	219
116	Cut	0.27	>0.34	0.21	Sub-circular	Straight	Flat						Filled by (117)	Cut by [112] grp 111	**Posthole:** found towards the northern end of the site.	
117	Fill	0.27	>0.34	0.21	Mottled	Greyish	Brown		Friable	Silty	Chalky	Clay	Fill of [116]		**Fill of posthole:** backfill with no finds.	
118	Cut	0.37	>0.3	0.04	Sub-circular	<45 degrees	Flat						Filled by (119)	Cut [112] (113)	**Shallow pit:** found towards the northern end of the site. The fill of which had the same appearance as the post medieval/modern features found on the site.	
119	Fill	0.37	>0.3	0.04	Light	Yellowish	Orange		Friable	Silty	Gravel	Sand	Fill of [118]	Cut [112] (113)	**Fill of shallow pit:** sandy backfill material, very different compared to the stratigraphy on site. This material thought to have been brought onto the site from elsewhere.	
120	Cut	>0.75	>2.5	>33	Linear	Steep	U-shaped	E-W					Filled by (121) & (122)		**Ditch:** found at the SW corner of the site, that was covered by spread (86). Possibly a boundary ditch associated with Roman settlement/farmstead that occupies the site. Ditch same as [09], [12], [31], [46], [63], [82] & [125].	50
121	Fill	>0.75	>2.5	0.18	Light	Greyish	Brown		Friable	Chalky	Clay		Fill of [120]		**Fill of ditch:** very stoney backfill material with no finds.	50
122	Fill	>0.75	>2.5	0.14	Mid	Grey			Firm	Silty	Clay		Fill of [120]		**Fill of ditch:** backfill material with no finds.	50

123	Cut	1.00	>2.5	0.18	Linear	<45 degrees	V-shaped	N-S					Filled by (124)	Cut grp 50	**Ditch:** found curving round the centre of the site. This slot was excavated in the SW corner of the site. Ditch forms one of series of boundary ditches associated with the Roman settlement/farmstead that occupies the site.	111
124	Fill	1.00	>2.5	0.18	Dark	Grey			Firm	Silty	Clay		Fill of [123]		**Fill of ditch:** backfill material with no finds.	
125	Cut	>0.75	>2.5	0.42	Linear	Steep	U-shaped	E-W					Fill by (126) & (127)		**Ditch:** found at the southern end of the site. Boundary ditch thought to be associated with Roman settlement/farmstead that occupies the site.	50
126	Fill	>0.75	>2.5	0.10	Light	Greyish	Brown		Friable	Chalky	Clay		Fill of [125]		**Fill of ditch:** backfill with no finds.	50
127	Fill	>0.75	>2.5	0.36	Light	Grey			Friable	Chalky	Clay		Fill of [125]		**Fill of ditch:** backfill with no finds.	50
128	Cut	0.80	>2.5	0.23	Curvilinear	<45 degrees	V-shaped	N-S					Filled by (129)	Cut grp 50	**Ditch:** found curving through the centre of the site. This slot was a relationship slot with ditch grp 50 at the SW corner of the site. Ditch one of a series of boundary ditches associated with the Roman settlement/farmstead that occupies the site.	111
129	Fill	0.80	>2.5	0.23	Dark	Grey			Firm	Silty	Clay		Fill of [129]		**Fill of ditch:** backfill with no finds.	111
130	Cut	0.70	>5	0.16	Linear	Concave	Irregular						Filled by (131)		**Gully:** found in the soakaway at the top NW corner of the site. The feature was likely used for drainage.	
131	Fill	0.70	>5	0.17	Mid	Greyish	Brown		Friable	Silty	Chalky	Clay	Fill of [130]		**Fill of gully:** backfill material containing one small fragment of pottery	
132	Cut	0.45	>5	0.18	Linear	Steep	Flat	SE-NW					Fill by (133)		**Gully:** found in the soakaway at the top NW corner of the site. Probably used for drainage.	

133	Fill	0.45	>5	0.18	Mid	Greyish	Brown		Friable	Silty	Chalky	Clay	Fill of [132]		**Fill of gully:** backfill contains a single sherd of pottery.	
134	Cut	0.57	>5	0.18	Linear		Flat	SE-NW					Filled by (135)		**Gully:** found in the soakaway at the top NW corner of the site. The feature was likely used for drainage.	
135	Fill	0.57	>5	0.13	Mid	Greyish	Brown		Friable	Silty	Chalky	Clay	Fill of [134]		**Fill of gully:** backfill with no finds.	
136	Cut	0.90	>5	0.21	Linear	Steep	Flat	SE-NW					Filled by (137)	Cuts [138]	**Ditch:** found in soakaway at the top NW corner of the site. Ditch thought to represent a boundary associated with the settlement/farmstead that occupies the site.	
137	Fill	0.90	>5	0.21	Mid	Orangey	Brown		Friable	Silty		Clay	Fill of [136]		**Fill of ditch:** backfill containing pottery and possible metal fitting.	
138	Cut	1.05	>5	0.31	Linear	Concave	U-shaped	SE-NW					Filled by (139)	Cut by [136]	**Ditch:** found in the soakaway at the top NW corner of the site. That's extends beyond the limit of excavation so full profile and plan not seen. Ditch likely represents a boundary associated with settlement/farmstead.	
139	Fill	1.05	>5	0.31	Light	Orangey	Brown		Friable	Silty	Chalky	Clay	Fill of [138]	Cut by [136]	**Fill of ditch:** backfill with no finds.	
140	Cut	1.00	>2.5	0.22	Linear	<45 degrees	V-shaped	N-S					Filled by (141)	Cuts [142]	**Ditch:** one of a series of ditches found in the central and SW part of the site orientated NNE-SSW then curves to a more N-S direction. The curve of the ditch may suggest that it was part of an enclosure associated with Roman settlement/farmstead that occupies the site.	111
141	Fill	1.00	>2.5	0.22	Dark	Grey			Soft	Silty	Clay		Fill of [140]		**Fill of ditch:** backfill with no finds.	111

142	Cut	0.65	>2.5	0.24	Linear	Steep	Flat	E-W					Filled by (143)	Cut by grp 111	**Gully**: found towards the southern side of the site parallel to ditch grp 50. It was likely used for drainage. Gully covered by spread (86).	146
143	Fill	0.65	>2.5	0.24	Mid	Reddish	Brown		Firm	Chalky	Clay		Fill of [142]	Cut by grp 111	**Fill of gully:** backfill with no finds.	146
144	Cut	1.00	>5	0.40	Linear	>45 degrees	V-shaped	NNE-SSW					Filled by (145) & (147)		**Ditch:** one of a series of ditches found in the central and SW part of the site orientated NNE-SSW then curves to a more N-S direction. The curve of the ditch may suggest that it was part of an enclosure associated with Roman settlement/farmstead that occupies the site.	111
145	Fill	0.95	>5	0.10	Dark	Grey			Sticky	Silty	Clay		Fill of [144]		**Fill of ditch:** backfill with no finds.	111
146	Group	0.60	>4.0	0.26	Linear	Steep	Flat	E-W							**Gully:** found at the SW corner of the site. Two Slots were excavated; slot [102] filled by (103) & [142] filled by (143). The gully was partly covered by spread (86) and cut by ditch grp 111. This feature was likely used for drainage.	146
147	Fill	0.80	>5	0.40	Mid	Grey			Friable	Chalky	Clay		Fill of [144]		**Fill of ditch**: backfill with no finds.	111
148	Cut	1.08	0.32	0.20	Linear	Convex	Flat	NE-SW					Filled by (149)		**Ditch**: boundary found at the northern part of the site, thought to form part of the Roman settlement/farmstead that occupies the site.	110
149	Fill	1.08		0.20	Mid	Greyish	Brown		Friable	Chalky	Silty	Clay	Fill of [148]		**Fill of ditch:** backfill containing animal bone.	110

150	Cut	1.00	>1	0.15	Linear		Irregular	NE-SW					Filled by (151)		**Ditch:** found in the central part the site. This slot was excavated to try to find a terminus, however the ditch was cut by modern services an did not continue beyond the disturbed area. As a result the terminus was lost due to modern service.	100
151	Fill	1.00	>1	0.15	Mid	Greyish	Brown		Friable	Silty	Chalky	Clay	Fill of [150]		**Fill of ditch:** backfill with no finds.	100
152	Cut	0.50	0.40	0.03	Sub-circular	<45 degrees	Flat						Filled by (153)		**Shallow pit**: found towards the central part of the site and filled with a more sandy backfill unlike the fills found in the majority of the earlier features. This shallow pit, therefore was thought to be a later more post-med/modern addition.	
153	Fill	0.50	0.40	0.03	Light	Orangey	Brown		Loose	Silty	Sand		Fill of [152]		**Fill of shallow pit**: backfill with no finds.	
154	Cut	1.24	0.56	0.39	Linear	>45 degrees	V-shaped	NE-SW					Filled by (155) & (156)		**Ditch:** one of a series of curvilinear ditches found in the central part of the site. This particular slot was excavated as the ditch appeared to widen out towards the SW end of the ditch (where it comes close to the foul drainage pipe), and the slot was used to determine whether a further feature may exist here. The slot revealed no further feature was present but clearly showed the ditch curving in a southern direction.	111
155	Fill			0.39	Mid	Greyish	Brown		Friable	Chalky	Silty	Clay	Fill of [154]		**Fill of ditch:** backfill with no finds.	111
156	Fill	0.66	>1.0	0.15	Light	Greyish	Brown		Friable	Chalky	Silty	Clay	Fill of [154]		**Fill of ditch**: backfill with no finds.	111

157 - 159	Void														
160	Fill	0.97	>1.0	0.27	Mid	Greyish	Brown		Firm	Clayey	Silt		Fill of [186]		**Fill of ditch**: found underlying stone surface [186]. The fill contained the remains of a cow, horse, pottery and slag.	111
161	Cut	0.44	>1.0	0.04	Curvilinear								Filled by (162)	Cut by [163]	**Ditch:** one of series of ditches found in the central part of the site. This particular slot did not show the full profile of the ditch as it was a relationship slot with [163].	111
162	Fill	0.45	>1.0	0.04	Mid	Greyish	Brown		Friable	Silty	Chalky	Clay	Fill of [161]	Cut by [163]	**Fill of ditch:** backfill with no finds.	111
163	Cut	0.50	>1.0	0.20	Irregular	<45 degrees	Flat	NE-SW					Filled by (164)	Cut [165], [184] & [161]	**Irregular feature:** found at the western side of the area. At the SW end this feature was more linear and uniform whilst the NE end was more irregular. It was thought to be post med/modern feature, as the fill was comparable to further post-med/modern features on the site being more of a sandy backfill.	
164	Fill	0.50	>1.0	0.20	Light	Brownish	Orange		Friable	Silty	Sandy		Fill of [163]		**Fill of irregular feature:** backfill sandy material not found in the general stratigraphy so brought into the area, with no finds.	
165	Cut	0.64	>0.6	0.20	Sub-circular	Concave	Flat						Fill by (166)	Cut by [163]/[172]	**Pit:** found at the western side of the site.	
166	Fill	>0.27	>0.3	0.20	Mid	Greyish	Brown		Friable	Silty	Chalky	Clay	Fill of [165]		**Fill of pit:** backfill with no finds.	
167	Cut	2.13	2.08	0.41	Circular	Concave	Irregular	NNE-SSW					Filled by (168) & (169)	Cut by [172], grp 221, [174] & [182]	**Pit:** found at the western side of the site.	

168	Fill	<0.9	1.15	0.15	Light	Greyish	Brown		Firm	Chalky	Clay		Fill of [167]	Cut by[172], grp 221, [174] & [182]	**Fill of Pit**: very leeched fill with no finds.	
169	Fill	1.40	<0.4	0.24	Light	Orangey	Brown		Friable	Chalky	Clay		Fill of [167]	Cut by [170], [172], [174]	**Fill of pit:** very leeched with no finds.	
170	Cut	0.72	>1.0	0.15	Linear	Concave	U-shaped	NNE-SSW					Filled by (171)	Cut [167], [176]; Cut by [172]	**Gully:** found at the western end of the area, likely used for drainage.	221
171	Fill	0.72	>1.0	0.15	Mid	Greyish	Brown		Sticky	Silty	Clay		Fill of [170]	Cut [167], [176]; Cut by [172]	**Fill of gully**: backfill with no finds.	221
172	Cut	0.63	>3.0	0.07	Irregular	Concave	Flat	E-W					Filled by (173)	Cut (171) grp 221 & (168)	**Pos. shallow gully:** found at the western side of the site. It was orientated roughly E-W then curved to a more NW-SE direction. The feature was the latest in the area but was truncated by a service pipe and edge of excavation so full extent was hidden.	
173	Fill	0.63	>1.05	0.07	Dark	Orangey	Brown		Firm	Sandy	Clay		Fill of [172]	Cut (171) grp 221 & (168)	**Fill of pos. shallow gully:** backfill sandy material not found in the general stratigraphy so brought into the area, with no finds.	
174	Cut	0.64	>0.60	0.16	Circular	Concave	U-shaped	NNE-SSW					Filled by (175)	Cut [167]	**Small pit:** found at the western side of the area.	
175	Fill	0.64	>0.60	0.16	Mid	Greenish	Brown		Friable	Clayey	Clay		Fill of [174]		**Fill of pit:** backfill with no finds.	
176	Cut	>0.34	>1.4	0.20	Linear	Steep	Irregular	N-S					Filled by (177)	Cut by [178]/[170], [180]	**Gully:** found along the western side of the area that continued beyond the limit of excavation so full profile not visible. Likely used for drainage.	

177	Fill	>0.34	>1.4	0.20	Mid	Greyish	Brown		Friable	Silty	Chalky	Clay	Fill of [176]	Cut by [178]/[170], [180]	**Fill of gully:** backfill with no finds.	
178	Cut	0.60	>1.0	0.13	Linear	Concave	Flat	N-S					Filled by (179)	Cut [176], [180]	**Pos. gully:** found the western side of the site, likely used for drainage.	221
179	Fill	0.60	>1.0	0.13	Mid	Greyish	Brown		Soft	Silty	Chalky	Clay	Fill of [178]		**Fill of ditch:** backfill with no finds.	221
180	Cut	2.13	2.08	>0.2	Sub-circular	Concave	Flat						Filled by (181)	Cut by [178] grp 221	**Pit:** found at the western side of the area.	
181	Fill	2.13	2.08	>0.2	Mid	Greyish	Brown		Soft	Silty	Chalky	Clay	Fill of [180]	Cut by [178] grp 221	**Fill of pit:** backfill with no finds.	
182	Cut	0.60	>0.49	0.03	Circular	Concave	U-shaped	NNE-SSW					Filled by (183)		**Small pit:** found at the western side of the area.	
183	Fill	0.60	>0.49	0.03	Dark	Grey			Soft	Silty			Fill of [182]		**Fill of small pit**: backfill with no finds.	
184	Cut	2.13	2.08	0.09	Sub-circular								Filled by (185)	Cut by [165] & [163]	**Pit:** found at the western side of the site. This was a relationship slot so full shape in profile not visible. Pit same as [180] & [167]	
185	Fill	2.13	2.08	0.09	Mid	Greyish	Brown		Friable	Silty	Chalky	Clay	Fill of [184]	Cut by [165] & [163]	**Fill of pit:** backfill with no finds.	
186	Cut	0.97	>1.0	0.27	Linear	>45 degrees	Flat	NE-SW					Filled by (160)	Cut [187]	**Ditch:** one of series of ditches found in the central part of the site. Thought to be boundaries associated with the Roman settlement/farmstead that occupies the site.	111
187	Cut	1.02	1.65	0.32	Linear	Concave	U-shaped	N-S					Filled by (188)		**Ditch:** found in the central part of the area. At the northern end it extended beyond the limit of excavation whist at its southern end a terminus was present.	220

188	Fill	1.02	1.65	0.32	Light	Brownish	Yellow		Firm	Clayey	Silty		Fill of [187]	Cut by [186]	**Fill of ditch:** backfill of ditch with no finds.	220
189	Cut	0.35	>0.18	0.47	Circular	Steep	U-shaped						Filled by (190)	Cut by [61] grp 69 & [186] grp 111; Cut [187]	**Posthole:** found at the base of ditch [61] grp 69, at the northern end of the site.	
190	Fill	0.35	>0.18	0.47	Light	Greyish	Brown		Firm		Silty	Clay	Fill of [189]	Cut by [61] grp 69 & [186] grp 111	**Fill of posthole:** backfill with no finds.	
191	Cut	>2.0	>2.5	0.86	Circular	Steep	Flat	N-S					Filled by (192)	Cut by [195] & [199]	**Large pit:** found at the northern end of the area. Pit thought to have been a rubbish pit.	
192	Fill	>2.0	>2.5	0.86	Mixed	Grey			Friable	Chalky	Silty	Clay	Fill of [191]	Cut by [195] & [199]	**Fill of large pit**: backfill containing finds of post-medieval cbm, animal bone and a clay pipe stem.	
193	Cut	0.22	0.19	0.41	Sub-circular	Sheer	Flat	N-S					Filled by (194)		**Small posthole:** found at the base of post-medieval rubbish pit [191]. The fill of the posthole appears to be the same as the backfill of pit [191] and it was thought that the two features were contemporary to one another and backfilled at the same time.	
194	Fill	0.22	0.19	0.41	Mixed	Grey			Friable	Chalky	Silty	Clay	Fill of [193]		**Fill of posthole:** backfill with no finds.	
195	Cut	>0.66	>0.54	0.18	Circular	Concave	U-shaped	N-S					Filled by (196)	Cut [191]; Cut by [199]	**Pit:** found at the northern end of the site.	
196	Fill	>0.66	>0.54	0.18	Mid	Orangey	Brown		Firm	Sandy	Clayey		Fill of [195]	Cut by [199]	**Fill of pit:** backfill containg post-medieval pottery.	
197	Cut	>0.66	>1.8	0.80	Irregular	<45 degrees	Flat	E-W					Filled by (198)	Cut by [191]	**Pit:** found at the northern part of the site and extended beyond the limit of excavation and as	

														such its full shape in plan and profile not visible.	
198	Fill	>0.66	>1.8	0.80	Mid	Greyish	Brown		Soft	Silty		Clay	Fill of [197]	Cut by [191]	**Fill of pit:** backfill with no finds.	
199	Cut	0.70	>0.40	0.13	Circular	Concave	U-shaped	N-S					Fill by (200)	Cut [195] & [191]	**Pit:** found towards the northern part of the area.	
200	Fill	0.70	>0.40	0.13	Dark	Grey			Firm	Silty	Clay		Fill of [199]		**Fill of pit:** backfill containing a fragment of Fe.	
201	Cut	>0.5	>0.8	0.10	Sub-circular	Concave	U-shaped						Filled by (202)	Cut by [209] grp 220	**Pit**: was found in the central part of the site, the full extent and profile was not observed.	
202	Fill	>0.5	>0.8	0.10	Mid	Greyish	Brown		Friable	Silty	Chalky	Clay	Fill of [201]	Cut by [209] grp 220	**Fill of pit:** backfill with no finds.	
203	Cut	>0.6	>1.0	0.40	Linear	>45 degrees	U-shaped	N-S					Filled by (204)	Cut [209] grp 220	**Ditch:** one of series of boundary ditches, this slot was excavated towards the NE part of the site.	111
204	Fill	>0.6	>1.0	0.40	Mid	Greyish	Brown		Friable	Silty	Chalky	Clay	Fill of [203]	Cut [209] grp 220	**Fill of ditch:** backfill with 3 sherds L3-4 pottery	111
205-6	Void															
207	Cut	0.64	>0.4	0.30	Linear	<45 degrees	Flat	NE-SW					Filled by (208)		**Ditch terminus:** one of series of boundary ditches curving round the site. This slot was excavated towards the SE part of the site, and was partly covered by rough surface [67].	69
208	Fill	0.64	>0.4	0.30	Mid	Greyish	Brown		Friable	Silty	Chalky	Clay	Fill of [207]		**Fill of ditch terminus:** backfill with no finds.	69
209	Cut	>0.8	>1.0	0.54	Linear	Concave	Flat	NNE-SSW					Filled by (210)	Cut by [203] grp 111; cuts [201] (202)	**Ditch:** found in the central part of the site, thought to have been a boundary associated with the Roman settlement/farmstead that occupies the site.	220

210	Fill	>0.8	>1.0	0.54	Dark	Greyish	Brown		Friable	Silty	Chalky	Clay	Fill of [209]	Cut by [203] grp 111	**Fill of ditch:** backfill with no finds.	220
211	Structure	2.00	>0.8	>0.85									Filled by (212-215 & 222)		**Well:** found at the NW part of the site. It was constructed at the top with an outer layer of chalk nodules ranging from 50mm-100mm, underneath which were flint nodules ranging from 50mm-120mm. This construction steps down to a flint nodule lining of the well. A light browny orange, loose sandy material was found between the stones as a bonding material. The well was not fully excavated.	
212	Fill	1.27	>0.4	0.50	Light	Greyish	Brown		Friable	Silty		Clay	Fill of [211]		**Fill of well:** backfill containing tile fragments.	
213	Fill	0.30	>0.5	0.23	Dark	Greyish	Brown		Friable	Silty		Clay	Fill of [211]		**Fill of well:** backfill containing tile fragments.	
214	Fill	0.70	>0.5	0.27	Dark	Greyish	Brown		Friable	Silty		Clay	Fill of [211]		**Fill of well:** backfill containing tile fragments.	
215	Fill	1.00	>0.4	>0.35	Dark	Greyish	Brown		Friable	Silty		Clay	Fill of [211]		**Fill of well:** backfill containing tile fragments, small sherds of pottery & a.bone.	
216-218	Void															
219	Group	0.28		0.09	Linear	Concave	U-shaped								**Gully:** found parallel to and cutting ditch G[111], at the NE end it continued beyond the limit of excavation whilst at the SW end it terminates. The gully contains a fill of backfill material with no finds. Two slots were excavated; slot [114] filled by (115) & [117] filled by (218). Gully likely used for land drainage associated Roman settlement/farmstead.	219

220	Group	1.40	>6.4	0.55										Linear ditch found in the central part of the site orientated N-S, contains backfill fill. Initially this ditch was obscured by Ditch G[100], G[69] G[111]. The ditch was cut by ditch G[111], ditch G[69], Post-hole [189]. The ditch is thought to form part of a boundary/drainage for Roman settlement/farmstead.	220
221	Group	0.60	>3.4	0.15	Linear	Concave	U-shaped							**Gully:** found at the western side of the site. Two slots were excavated; slot [170] filled by (171) & [178] filled by (179). It had been backfilled and contained no finds. Gully likely used for drainage. Feature cuts pit [167]and gully [176] and was cut by shallow pos. gully [172].	221
222	Fill	1.00		0.04	Mid	Greyish	Brown		Friable			Clay	Fill of (211)		**Fill of well:** backfill with no finds.	
240	Cut	>0.45	>3.6	0.20	Linear	>45	Flat	E-W					Filled by (241)	Cuts [242]	**Gully:** found at the southern end of the site. This slot was excavated in the area beneath the hotel staircase.	146
241	Fill	>0.45	>3.6	0.20	Mid	Reddish	Brown		Firm	Chalky	Clay			Cuts [242]	**Fill of gully**: backfill with no finds.	146
242	Cut	>0.23	>0.44	0.13	Sub-circular	>45 degrees	Flat						Filled by (243)	Cut by [240] grp 146	**Posthole:** found at the southern end of the site (area beneath hotel staircase).	
243	Fill	>0.23	>0.44	0.13	Mid	Greyish	Brown		Friable	Silty	Chalky	Clay	Fill of [242]	Cut by [240] grp 146	**Fill of posthole:** backfill with no finds	

Plan Register

Sheet No	Drawing No	Scale	Details
1	2	1:20	P/h [06]
1	4	1:10	P/h [04]
1	6	1:20	Ditch [14]
1	8	1:20	Ditches [14] & [16]
1	10	1:20	Pit [19]
2	15	1:20	Wall [08] & ditches [09], [10], [31]
3	23	1:10	P/h [35]
4	31	1:20	Rectangular feature [44] & ditch [46]
4	34	1:20	Ditch [63] (group 50)
5	25	1:20	Gully [40]
5	27	1:10	Pit [38]
5	29	1:20	Garden feature [33]
6	32	1:10	Skeleton 56
7	35	1:20	Stone surface 67
8	38	1:20	Grave [57] post-excavation
8	59	1:20	Ditch [112], gully [114] & pits [116], [118]
8	84	1:20	Ditch [154]
9	41	1:20	Ditches [52], [54], [98] & pits [73], [97]
10	46	1:20	Ditch [82] & spread (86)
10	54	1:20	Ditches [102], [104]
11	48	1:20	Ditches [78] & [80]
11	57	1:20	Ditch [106] & pit [108]
12	50	1:20	Pit [87] & ditches [89], [91]
12	52	1:20	Pit [94] & ditches [96], [98]
13	61	1:20	Ditches [120], [123]
13	65	1:20	Ditches [125], [128]
13	75	1:20	Ditches [140], [142]
14	63	1:20	Pit [94]
14	78	1:20	Ditch [146]
15	70	1:20	Gully [130]
15	72	1:20	Gullies [132], [134]
15	74	1:20	Ditches [136], [138]
16	80	1:20	Ditch [148]
17	82	1:20	Ditch [150] & pit [152]
17	92	1:20	Stone surface (67)
19	88	1:20	Pits [167], [174], [182] & Gullies [172], [170], [176]
19	108	1:20	Well [211]
20	94	1:20	Ditches [59], [61], [186], [187], p/h [189] & gully [217]
22	100	1:20	Pits [191], [199], [197] & p/h [193]
23	104	1:20	Pit [201] & ditches [203], [209], [207]
25	110	1:10	P/h [242] & gully [240]

Section Register

Sheet No	Drawing No	Scale	Details
1	1	1:10	SW facing section: p/h [06]
1	3	1:10	NE facing section: p/h [06]
1	5	1:10	N facing section: pit [14]

1	7	1:10	Relationship slot: ditches [14] & [16]
1	9	1:10	N facing section: pit [19]
2	11	1:10	SE facing section of relationship slot: [11], [12], [13], [21], [29]
2	12	1:10	SW facing section of relationship slot: [13], [12] & [11]
2	13	1:10	NW facing section of relationship slot: [11] & [12]
2	14	1:10	NE facing section of relationship slot: [11] & [12]
2	16	1:10	SW facing relationship slot: [109], [10] & [08]
2	17	1:10	NE facing relationship slot: [109], [10] & [08]
3	18	1:10	NE facing section of [08] wall
3	19	1:10	SW facing section: ditch [31]
3	20	1:10	Multi facing section: quad 2 of garden feature [33]
3	21	1:10	Multi facing section: quad 1 of garden feature [33]
3	22	1:10	SW facing section: p/h [35]
4	28	1:10	Multi facing section: ditches [13], [21], [29]
4	30	1:10	SW facing section: rectangular feature [44] & ditch [46]
4	33	1:10	E facing section: ditch [63]
5	24	1:10	NE facing section: gully [40]
5	26	1:10	NE facing section: pit [38]
6	39	1:10	NW facing section: [52], [54], & [72]
6	40	1:10	SE facing section: [52], [54], & [72]
7	42	1:10	NE facing section: ditches [59], [61] & surface (67)
8	36	1:10	E-W profile: grave [57]
8	37	1:10	N-S profile: grave [57]
8	58	1:10	SW facing section: ditch [112], gully [114], p/h [116], shallow pit [118]
8	76	1:10	NW facing section: gully terminus [114]
9	43	1:10	SW facing section: p/h [76]
10	44	1:10	W facing section: ditch [82]
10	45	1:10	E facing section: ditch [82]
10	53	1:10	Multi-facing section: [102] & [104]
11	47	1:10	Multi facing section: [78] & [80]
11	55	1:10	SW facing section: [106] & [108]
11	56	1:10	NE facing section: [106]
12	49	1:10	Multi-facing section: pit [87] & ditches [89], [91]
12	51	1:10	Multi facing section: pit [94] & ditches [96], [98]
13	60	1:10	Multi-facing sections: [120], [123]
13	66	1:10	Multi-facing section: ditches [125], [128]

13	67	1:10	Multi facing section: ditches [140], [142]
13	68	1:10	E facing section: [142]
14	62	1:10	SW facing section: pit [94]
11	64	1:10	SW facing section: ditch terminus [78]
14	77	1:10	SSW facing section: ditch [144]
15	69	1:10	SE facing section: gully [130]
15	71	1:10	SE facing section: gully [132] & [134]
15	73	1:10	SE facing section: ditch [136] & [138]
16	79	1:10	SW facing section: ditch [148]
16	83	1:10	SW facing section: ditch [154]
16	86	1:10	Multi-facing section: pit [165], ditch [165], irregular feature [163]
16	89	1:10	Multi-facing section: gully [176], ditch [178], pit 180]
16	90	1:10	N facing section: gully [176]
17	81	1:10	SW facing section: ditch [150], pit [152]
18	87	1:10	WSW facing section: [167], [170], [172], [174]
18	91	1:10	ENE facing section: [167], [170], [172], [182]
20	93	1:10	NE facing section: [187], [186], [189], [59] [61]
21	95	1:10	SW facing section: [61], [59], [186]
21	99	1:10	Multi-facing section: Pits [191], [193] & [195]
21	102	1:10	Profile of p/h [193]
21	106	1:10	S facing section: ditch [187]
20	101	1:10	NE facing section: ditches [186], [187]
22	103	1:10	S facing section: pit [197]
23	105	1:10	Multi-facing Section: ditches [203] & [209]
24	107	1:10	ENE facing section: well [211]
25	109	1:10	W facing section: p/h [242] & gully [240]

Small Finds Register

Small Find No.	Context No.	Material	Description
1	(58)	Pottery	Complete pottery vessel
2	(79)	Copper Alloy	Hoop fitting
3	(160)	Copper Alloy	Pin
4	(160)	Copper Alloy	Coin

Sample Register

Sample No	Context No	Sample Type	Quantity (Litres)
1	30	Fill of ditch [29]	40
2	32	Fill of ditch [31]	40
3	37	Primary fill of [31]	30
4	38	Pelvis area of skeleton (56) [57]	5
5	38	Head area of skeleton (56) [57]	20
6	38	General grave fill [57]	20
7	113	Fill of ditch [112]	40

8	107	Fill of ditch [106]	40
9	99	Fill of ditch [98]	20
10	97	Fill of ditch [96]	20
11	101	Primary fill of pit [94]	10
12	95	Secondary fill of pit [94]	10
13	95	Charcoal from (95)	<5
14	143	Fill of ditch [142]	20
15	115	Fill of gully [114] terminus	20
16	133	Fill of gully [132]	40
17	137	Fill of ditch [136]	40
18	55	Fill of ditch [54]	40
19	160	Fill of ditch [186]	40
20	188	Fill of ditch [187]	40
21	60	Fill of ditch [59]	40
22	192	Fill of pit [191]	20

Appendix 2: Finds Concordances

CONTEXT	POTTERY		A. BONE		CBM		Fe		SHELL		H. BONE		SLAG		WOOD		Pb / Cu		STONE		OTHER	
	No'	Weight	No'	Weight	No'	Weight	No'	Weight	No'	Weight	No'	Weight	No'	Weight	No'	Weight	No'	Weight	No'	Weight	No'	Weight
7	2	13g			2	22g							1	16g					flint x 2	9g		
28	2	3g		4g	3	53g	1	5g														
15	1	6g	1	17g	16	608g													flint x 3	22g	glass x 1	204g
21			2	23g															? Coal x 1	4g	c.pipe x 3	9g
23	1	3g			3	68g	1	7g													c pipe x 2	4g
30	282	4405g	16	67g	9	230g			oyst' x 2	8g			2	40g					flint x 4	62g		
32	1	8g	3	25g	2	15g																
34/Q1	4	22g	1	1g	34	1165g	2	5g														
34/Q2	11	64g	6	15g	17	591g															glass x 1	19g
38																			flint x 1	124g		
39	2	10g	4	10g	4	73g	1	4g	oyst' x 2	19g											c pipe x 1	1g
45	5	26g	5	99g	41	1039g	2	9g	oyst' x 11	14g			2	64g								
47	1	83g																				
53	12	201g	57	326g	3	33g																
55	36	243g			4	27g	1	3g														
56											587	3147g										
60	2	22g	2	10g			4	4g											flint x 1	1g		
62	3	6g	16	110g	1	29g	2	5g											flint x 1	7g		

67			9	66g			2	9g											flint x 1	1g		
68	1	28g			2	10g																
74	9	53g			3	33g															glass x 2	17g
77																					glass x 3	1g
79	1	17g	2	1g	7	93g	2	8g									Cu hoop x1	3g				
81			4	135g	13	255g																
86	5	99g	1	3g																		
88	1	10g																				
90	3	21g	4	41g																		
92	4	11g																				
95	5	17g	2	4g											charcoal	284g			flint x 1	6g		
97	20	302g	3	18g	2	127g													flint x 1	11g		
99	13	41g	51	217g			1	3g											flint x 1	11g		
101	5	89g													charcoal	33g			flint x 2	13g		
107	75	2940g	31	159g							1	4g										
113	2	29g	2	6g															b' flint x 1	13g		
131	1	1g																				
133	1	3g																				
137	3	10g					1	16g														
149			28	446g																		

160	50	603g	43	1665g	1	14g							4	91g			Cu Pin x1 Cu Coin x1	<1g 8g				
162			31	206g																		
190					1	479g																
192			2	33g	16	348g															c pipe x 1	2g
196	1	9g																				
200							1	10g														
204	3	40g	3	66g																		
212					6	97g																
215	2	5g	2	35g	15	389g																
U/S	3	30g	5	70g																		
53 <18>			1 poss' H	8g																		
58 <4>											12+	10g										
TOTALS	**573**	**9473g**	**336**	**3886g**	**205**	**5798g**	**22**	**93g**	**15**	**41g**	**600**	**3161g**	**9**	**211g**	**-**	**317g**	**3**	**12g**	**22**	**441g**	**14**	**257g**

Appendix 3: Photograph List

SITE NO/CODE: 175/DOP			Site Name: Old Palace Lodge, Church Street, Dunstable
Digital	B&W	View	Subject
1	1	E	Strip, Map and Sample area, general stratigraphy (1m scale)
2	2	N	Strip, Map and Sample area, general stratigraphy (2x1m scale)
3	3	W	Strip, Map and Sample area, general stratigraphy (2x1m scale)
4	4	SW	Strip, Map and Sample area, pre-excavation (2x1m scale)
5	5	SW	Strip, Map and Sample area, SE corner pre-excavation (1m scale)
6	6	SW	Strip, Map and Sample area, central part pre-excavation (1m scale)
7	7	S	Strip, Map and Sample area, central part pre-excavation (1m scale)
8	8	E	Strip, Map and Sample area, SW corner pre-excavation (1m scale)
9	9	S	Strip, Map and Sample area, W end pre-excavation (1m scale)
10	10	SE	Pre-excavation of wall [08] and ditch slots [09] & [10] (2x1m scale)
11	11	S	Pre-excavation of ditch slots [11], [12] & [13] (2x1m scale)
12	12	WSW	Relationship slot with wall [08], ditch slot [09] & pos. building foundation slot [10] (1m scale)
13	13	E	Wall [08] (500mm scale)
14	14	WSW	Ditch slots [11], [12], [13] & [21] (2x1m scale)
15	15	WSW	Relationship slot, ditch slots [11] & [12] (500mm scale)
16	16	ENE	Relationship slot, ditch slots [11] & [13] (500mm scale)
17	17	NW	Relationship slot, ditch slots [13] & [21] (500mm scale)
18		SE	Wall [08] and ditch slot [31] (2x1m scale)
19	18	SE	Wall [08] and ditch slot [31] (2x1m scale)
20	19	SW	NE facing section of wall [08] (1m scale)
21	20	NE	SW facing section of ditch [031] (1m scale)
22	21	W	Garden feature [33] (2x1m scale)
23	22	NNE	Quad 1 of garden feature [33] (2x1m scale)
24	23	SSW	Quad 2 of garden feature [33] (2x1m scale)
25	24	SE	NW facing section of Post-hole [35] (500mm scale)
26	25	SW	NE facing section of pit [38] (500mm scale)
27	26	SW	NE facing section of gully [40] (500mm scale)
28	27& 28	N	S facing section of ditch slots [13], [25] & [29] (1m scale)
29	29	W	E facing section of ditch slot [29] (1m scale)
30	30	ENE	WNW facing section of building foundation slot [44] and ditch slot [46] (2x1m scale)
31	31	SE	Grave [57] (SK56) (1m scale)
32		SE	Detail shot of (SK56) (500mm scale)
33		SE	Complete pottery vessel (SF1) in grave [57] with (SK56) (200mm scale)
34	32	W	E facing section of ditch slot [63] (500mm scale)
35		S	Overview of south side of Strip, Map and Sample area, post-excavation (1m scale)
36	33	NW	Ditches Grp[70] & Grp[71] (1m scale)
37	34	SE	Ditches Grp[70] & Grp[71] (1m scale)
38	35	SE	Ditch slots [52] & [54] and gully [72] (1m scale)
39	36	NW	SE facing section of ditch slots [52] & [54] and gully [72] (1m scale)
40	37	SE	NW facing section of ditch slots [52] [54] & gully [72] (1m scale)
41	38	SSW	Overview of SE corner of Strip, Map and Sample area, post-excavation (1m scale)
42		WSW	Overview of SE corner of Strip, Map and Sample area, post-excavation (1m scale)
43	39	SE	Overview of SE corner of Strip, Map and Sample area, post-excavation (1m scale)

SITE NO/CODE: 175/DOP			Site Name: Old Palace Lodge, Church Street, Dunstable
Digital	B&W	View	Subject
44	40	SW	NE facing section of ditch slots [59] & [61] and surface [67] (2x1m scale)
45		SW	NE facing section of surface [67] (1m scale)
46	41	NE	SW facing section of ditch slots [59] & [61] and surface [67] (2x1m scale)
47		SW	Overview of SW corner of Strip, Map and Sample area, pre-excavation (1m scale)
48	42	E	W facing section of ditch slot [82] (500mm scale)
49	43	W	E facing section of ditch slot [82] and spread (86) (500mm scale)
50	44	SE	Relationship slot of ditch slots [78] & [80] (2x1m scale)
51	45	NE	Relationship slot of ditch slots [78] & [80] (2x1m scale)
52	46	S	Relationship between gully slot [87] and ditch slots [89] & [91] (1m scale)
53		S	N facing Section of ditch [89] (500mm scale)
54		SW	NE facing section of gully slot [87] and ditch slots [89] & [91] (1m scale)
55		NW	SE facing section of gully slot [87] and ditch slots [89] & [91] (1m scale)
56		NE	SW facing section of ditch slot [91] (500mm scale)
57	47	SSE	Ditch Grp [70], Grp [71] & Grp [100] (2x1m scale)
58	48	SE	Ditch slots [96], [98] and pit [94] (1m scale)
59	49	NE	SW facing section of ditch slots [96], [98] and pit [94] (1m scale)
60	50	NW	SE facing section of ditch slots [96], [98] and pit [94] (1m scale)
61	51	SE	Ditch slot [106] and pit [108] (2x1m scale)
62	52	NE	SW facing section of pit [108] and ditch [106] (2x1m scale)
63	53	SW	NE facing section of ditch [106] and pit [108] (2x1m scale)
64	54	S	N facing section of ditch slots [102] & [104] (500mm scale)
65	55	W	E facing section of ditch slots [102] & [104] (500mm scale)
66	56	N	S facing Section of ditch slot [104] (500mm scale)
67	57	W	E facing section of ditch slot [102] (200mm scale)
68	58	NE	SW facing section of ditch slot [112], gully slot [114], Post-hole [116] and pit [118] (1m scale)
69	59	SW	NE facing section of ditch slot [112] and gully [114] (1m scale)
70	60	NE	Pit [94] (2x1m scale)
71	61	NE	SW facing section of pit [94] (1m scale)
72	62	S	N facing section of ditch slots [120] & [123] (500mm scale)
73	63	W	E facing section of ditch slots [120] & [123] (500mm scale)
74	64	NE	SW facing section of ditch terminus [78] (1m scale)
75	65	SW	Pre-excavation of soakaway (2x1m scale)
76		SW	Soakaway stratigraphy (2x1m scale)
77	66	E	W facing section of ditch slots [125] & [128] (500mm scale)
78	67	S	N facing section of ditch slots [125] & [128] (500mm scale)
79	68	NE	SW facing section of gully [130] (500mm scale)
80	69	NW	SE facing section of gullies [132] & [134] (500mm scale)
81	70	NW	SE facing section of ditches [136] & [138] (500mm scale)
82	71	S	N facing section of ditch slots [140] & [142] (500mm scale)
83	72	E	W facing section of ditch slots [140] & [142] (500mm scale)
84	73	W	E facing section of gully slot [142] (500mm scale)
85	74	SE	NW facing section of gully slot [114] (500mm scale)
86		SW	NE facing section of Post-hole [06] (500mm scale)
87		NE	SW facing section of Post-hole [04] (500mm scale)
88		S	N facing section of pit [14] (500mm scale)
89		S	N facing section of relationship between pit [14] & gully slot [16] (500mm scale)

SITE NO/CODE: 175/DOP			Site Name: Old Palace Lodge, Church Street, Dunstable
Digital	B&W	View	Subject
90		W	E facing section of gully slot [16] (200mm scale)
91		S	N facing section of pit [19] (500mm scale)
92		N	Skeleton (SK56) (1m scale)
93		E	Skeleton (SK56) (1m scale)
94		S	Skeleton (SK56) (1m scale)
95		N	Skeleton (SK56) (1m scale)
96		E	Skeleton (SK56) (1m scale)
97		E	Skeleton (SK56) (1m scale)
98		S	Skeleton (SK56) (1m scale)
99		SW	Skeleton (SK56) (1m scale)
100		S	Surface [67] (500mm scale)
101		E	Overview of Grave [57] (1m scale)
102	75	NW	Overview of soakaway, post-excavation (2x1m scale)
103	76	NNE	SSW facing section of ditch slot [144] (1m scale)
104	77	NE	SW facing section of ditch slot [148] (500mm scale)
105		NE	Ditch Grp [110] (500mm & 2x1m scale)
106	78	SW	Surface [67] (2x1m scale)
107		SW	Surface [67] (2x1m scale)
108		S	Surface [67] (2x1m scale)
109	79	NE	SW facing section of ditch slot [150] and shallow pit [152] (1m scale)
110		NW	Coin (SF 4) in-situ, from ditch slot [186] (20mm scale)
111	80	NE	SW facing section of ditch slot [154] (1m scale)
112		SW	Horse mandible, from ditch slot [186] (500mm scale)
113	81	N	S facing section of ditch slot [161], gully slot [163] & pit [165] (500mm scale)
114	82& 83	ENE	WSW facing section of pits [167], [174] & gully slots [170], [172] (1m scale)
115	84	NW	E facing section of gully slot [176], ditch slot [178] and pit slot [180] (500mm scale)
116		S	Gully slot [176], ditch slot [178] and pit slot [180] (500mm scale)
117	85	WSW	ENE facing section of pits [167], [174] and ditch slots [170], [172] (1m scale)
118	86	SW	NE facing section of ditch slots [59], [16], [186] & [187] (2x1m scale)
119	87	NE	SW facing section of ditch slots [59], [16], [186] & [187] (2x1m scale)
120		SW	Articulated animal ribs in ditch slot [187] (50mm scale)
121		SE	Overview of SW corner of Strip, Map and Sample area, post-excavation (1m scale)
122	88	SE	Overview of west side of Strip, Map and Sample area, post-excavation (2x1m scale)
123	89	NW	Pit [192] (2x1m scale)
124	90	SW	Post-hole [193] (200mm scale)
125	91	SW	Ditch slots [186] & [187] (2x1m scale)
126	92	SW	NE facing section of ditch slots [186] & [187] (1m scale)
127		E	Post-excavation of Post-hole [04] (500mm scale)
128		E	Post-excavation of Post-hole [35] (500mm scale)
129		E	Post-excavation of Post-hole [06] (500mm scale)
130		N	Post-excavation of Post-hole [76] (500mm scale)
131		S	Post-excavation of Post-hole [19] (500mm scale)
132	93	N	S facing section of pit [197] (2x1m scale)
133		NW	Pit [197] (2x1m scale)
134	94	NW	Relationship between pit [201] and ditch slots [203] & [204] (2x1m scale)
135	95	W	E facing section of pit [201] and ditch slots [203] & [204] (1m scale)
136	96	N	S facing section of ditch slot [203] (2x500mm scale)

SITE NO/CODE: 175/DOP			Site Name: Old Palace Lodge, Church Street, Dunstable
Digital	B&W	View	Subject
137	97	N	S facing section of ditch slot [187] (2x1m scale)
138	98-99, 101	NE	Overview of Strip, Map and Sample area, post-excavation (2x1m scale)
139	100	SE	Overview of SW corner of Strip, Map and Sample area, post-excavation (1m scale)
140	102	SW	Overview of Strip, Map and Sample area, post-excavation (1m scale)
141		SW	Overview of centre part of Strip, Map and Sample area, post-excavation (1m scale)
142		SW	Overview of north side of strip map, post-excavation (1m scale)
143		SE	Overview of centre part of strip map, post-excavation (1m scale)
144		N	Overview of service trench (2x1m scale)
145		N	Overview of service trench (1m scale)
146	103	SW	Well [211] (2x1m scales)
147		NW	Well [211] (1m scales)
148		SW	Well [211] (1m scales)
149		SE	Well [211] (1m scales)
150		NE	Well [211] with targets (1m scales)

Appendix 4: Human Osteology Report

Carina Summerfield-Hill MSc ACIfA

4.1 Introduction

A single articulated human skeleton (SK56) was excavated during development works at the site of the Old Palace Lodge, Church Street, Dunstable, Bedfordshire. The grave was oriented E-W, a clearly defined elongated oval grave cut was excavated [57], the body was laid out in an extended and prone position with the head at the eastern end of the grave. A complete pottery vessel was found resting on the top of the left elbow also. There were no traces of an actual coffin and it may have been that this individual was simply wrapped up and buried.

4.2 Methods

The skeletal remains were analysed and recorded following the recommendations set out by Brickley & McKinley (2004).

The skeleton was anatomically laid out, record photographs taken, and skeletal inventories compiled, using KDK Skeletal Recording spreadsheets produced in excel following the guidelines set out in Buikstra and Ubelaker 1994. The skeleton was also assessed pathologically and photographs taken of pathological or developmental conditions.

See section 4.5 below for skeletal catalogue.

Specifically, the following areas were examined:

Preservation & Completeness

The overall completeness of the skeleton was categorised as follows:

- 0-25% (less than a quarter of the skeleton present)
- 25-50% (quarter to half of the skeleton present)
- 50-75% (half to three quarters of the skeleton present)
- 75-100% (three quarters to the entire skeleton present)

The body was sub-divided into skull, axial skeleton, upper appendicular, upper extremities, lower appendicular, lower extremities and bone surface preservation, completeness (see above) and bone fragmentation was assessed.

Bone surface preservation was graded according to McKinley (Brickley and McKinley 2004, 16):

Grade	Description
0	Surface morphology clearly visible with fresh appearance to bone and no modifications
1	Slight and patchy surface erosion
2	More extensive surface erosion than Grade 1 with deeper surface penetration
3	Most of bone surface affected by some degree of erosion; general morphology maintained but detail of parts of surface masked by erosive action
4	All of bone surface affected by erosive action; general profile maintained and depth of modification not uniform across whole surface
5	Heavy erosion across whole surface, completely masking normal surface morphology, with some modification of profile
5+	As Grade 5 but with extensive penetrating erosion resulting in modification of profile

Bone fragmentation was categorised as follows:

Low (minimal fragmentation and able to record most osteological data)
Medium (approximately 50% of skeleton with minimal bone fragmentation, distal and/or proximal ends of bones damaged or missing, able to record some osteological data but not all)
High (highly fragmented, distal and/or proximal ends of long bones damaged or missing, unable to record majority of osteological data)

Demography –Age & Sex

The assessment of the age of the individual was based on epiphyseal fusion of the long bones (Schwartz 1995, 185-222, Schaefer, Black and Scheuer 2009, Ubelaker 1989), dental development and attrition (Ubelaker 1978, Buikstra and Ubelaker 1994, Brothwell 1981, and Smith 1984) and where possible the auricular surface (Lovejoy *et al.* 1985), pubic symphysis (Brooks and Suchey 1990, Todd 1921 a & b). Cranial suture closure was only referred to when no other methods could be applied to due to a lack of preservation as this method is somewhat lacking in accuracy (Baker 1984, Mann *et al* 1987, Meindl and Lovejoy 1985 and Todd and Lyon 1924, 1925a, 1925b, 1925c). The age categories are as follows:

- Fetal (0-38 weeks)
- Infant (birth to 1 year)
- Young Child (1 to 5 years)
- Old Child (6 to 12 years)
- Adolescent (13 to 17 years)
- Young adult (18-25 years)
- Prime adult (26-35 years)
- Mature adult (36-45 years)
- Older adult (46+ years)

Note: the term Adult (>18 yrs) is used when bones are fully fused and preservation does not allow a more precise age range to be assigned.

Assessment of the sex of the individuals was based, where possible, on the morphological characteristics of the skull and pelvic regions (Schwartz 1995, 280-281; Buikstra & Ubelaker 1994, Buikstra and Mielke 1985, Phenice 1969, Milner 1992, Acsadi and Nemeskeri 1970), and metric data (Stewart 1979). The sex categories are as follows:

- N/a (applies to sub-adults)
- Undetermined sex (due to a lack of preservation)
- Female
- Probable female
- Ambiguous sex
- Male
- Probable male

Normal Metric and Non-Metric Variation

Cranial and post-cranial measurements were taken where possible, following the standards set out by Buikstra and Ubelaker 1994.

Stature was calculated from long bone measurements using the method devised by Trotter and Gleser 1952, 1958, Trotter 1970 and Jantz *et al* 1994.

Cranial and postcranial non-metric traits were recorded to show variations in the morphological characteristics of the skeleton. The traits were categorised as: visibly present, visibly absent or

not recordable (Buikstra and Ubelaker 1994; Berry & Berry 1967; Finnegan 1978). Dental non-metric traits were also recording following Turner, Nichol and Scott 1991.

Heath and Disease

The human remains were analysed for any abnormal bone changes associated with either developmental or pathological conditions following standards set out by Buikstra and Ubelaker 1994 and Brickley and McKinley 2004.

Dental pathologies were recorded, following the above standards that included ante-mortem tooth loss, caries, abscesses and periodontal disease. Calculus was recorded following Brothwell 1981 (grade1= small, grade 2= moderate and grade 3=large amounts), Roberts and Connell 2004 were used to grade periodontal disease (grade 1= 2-3mm, grade 2= 3-5mm and grade 3= >5mm), and dental attrition was recorded after Smith 1984.

4.3 Results

Completeness and bone surface preservation

The individual was well preserved being 75-100% complete, with grade 1 for bone surface preservation (slight and patchy surface erosion) and low-moderate levels of bone fragmentation. The skeleton was also sub-divided into body area to fully assess the level of preservation, the majority of the elements, i.e skull, axial, upper appendicular and extremities and lower appendicular ranged in 75-100% completeness, grade 1 for bone surface preservation and moderate bone fragmentation for the skull, axial and upper appendicular and low fragmentation for the upper extremities and low-moderate for the lower appendicular. The lower extremities were 50-75% complete with grade 1 surface preservation and moderate bone fragmentation (Table 1&2).

Table 1: Overall skeletal completeness, preservation grade and fragmentation

Skeleton Number	Overall Completeness %	Overall Preservation Grade & Fragmentation
Sk56	75-100	Grade: 1 Fragmentation: moderate

Table 2: body element completeness, preservation grade and fragmentation

Skeleton Number	Skull %	Axial %	Upper Appendicular %	Upper Extremities %	Lower Appendicular %	Lower Extremities %
	Grade	Grade	Grade	Grade	Grade	Grade
	Frag	Frag	Frag	Frag	Frag	Frag
SK56	75-100	75-100	75-100	75-100	75-100	50-75
	1	2	1	1	1	1
	moderate	moderate	moderate	low	low-moderate	moderate

Demographic Attributes

The sex and age of the individual indicate that the skeletal remains derived from a female older adult (46+ yrs; Table 3).

Table 3: Skeletal age and sex of individual

Skeleton Number	Sex	Age
SK56	Female	Older Adult

Normal Metric and Non-Metric Variation

Stature

The stature for the individual was calculated based around the long bone measurement of the femur. The individual measured 5ft 6inches (168.214cm) in height (Table 4).

Stature averages by period have previously been determined by a study carried out by Roberts & Cox 2003: 396. The female mean stature for the Romano-British period was 159cm (5ft 2 inches). When comparing such data to the individual at Dunstable we see that SK56 was 168.214±3.72cm (5ft 6 inches ±1.46inches), indicating that this individual was just above the mean stature for this period.

Table 4: Stature of individual

Skeleton Number	Sex	Height in cm	Height in feet and inches
SK56	Female	168.214±3.72	5 ft 6 inches ±1.46inches

Non-metric Traits

Non-metric traits are variations in the morphological characteristic of the skeleton. The significance of such traits in contemporary studies is based on the knowledge that such variants show familial inheritance in humans. In particular dental nonmetric traits are more successfully used as skeletal indicators in assessing population affinity (White & Folkens 2005: 407-410). The cranial, postcranial and dental non-metric traits on the skeleton were analysed, the majority of which were visibly absent or not recordable. The following traits were present on the cranial and post-cranial of SK56:

Table 5: Non-metric traits present in the assemblage

Skeleton Number	Non-Metric Trait Present	Side
SK56	<u>Cranial</u> Supraorbital notch present (<1/2 occluded by spicules)	Left
	<u>Post-Cranial</u> Hypotrochanteric Fossa	Left & Right

Health and Disease

The health of the individual was investigated by assessing the bones and teeth for the presence of abnormalities attributed to developmental conditions, dental and bone pathologies. The following conditions were observed:

Developmental Conditions

Developmental conditions can affect both the skeleton and the soft tissue often having little impact upon the person's life. The mandible of SK56 showed the tooth socket for the RM_1 (no actual tooth present) had rotated.

Dental Health

Dental Attrition

Dentil attrition is dental wear, a direct result of masticatory stress upon the dentition that occurs on the occlusal surface of the teeth as the crowns of the teeth grind against each other (Roberts and Manchester 2005: 78).

The teeth of the individual were graded for dental attrition. The higher the grade the more wear on the teeth. The teeth for SK56 ranged between grades 5-6, indicated fairly heavy wear was present. As this individual is of older age such heavy tooth wear is to be expected.

Table 6: Dental attrition grades in the assemblage

Skeleton Number	Age	Dental Attrition Grade Range
SK56	Older Adult	5-6

Dental Calculus

Dental plaque is made up of micro-organisms that accumulate in the mouth and are found within a matrix that consists of not only the organisms themselves but from proteins in the saliva also. Dental plaque can become mineralized into dental calculus where crystallites of mineral are deposited in the plaque. Two types of calculus can be seen: supragingival which is above the gum and subgingival which is below the gum (Hillson, 1968: 284; Roberts and Manchester 2005:71-72; White and Folkens 2005:330).

The dentition of SK56 displayed evidence of supragingival calculus. Out of the 14 teeth present, 10 had traces of calculus, one tooth grade 2 (moderate amount - RP^1) and the remaining teeth grade 1 (small amount – RM^3, RP^1, LP_2, LP_1, LC, LI_1, RI_2, RC, RP_1, RP_2).

Dental Caries

Dental caries occur in the form of small opaque spots on the teeth surface or as cavities. An infectious and transmissible disease that is caused by the fermentation of food by bacteria that is present on the teeth in plaque. Two areas of the tooth may be affected: the crown of the tooth, and the roots, both of which can allow the accumulation of plaque to develop (Roberts and Manchester 2005:65-71; Hillson 1986: 287; White and Folkens 2005: 329).

SK 56 had a total of four carries on three of the teeth. Two interproximal surface caries were seen on LM^2, one was 6.40x4.43mm and the second was 7.41x3.63mm (Plate 1). A further interproximal surface carie was seen on the upper LC that measured 8x3.56mm, and finally a interproximal surface carie on the RM_3 that measured 5.1x3.33mm.

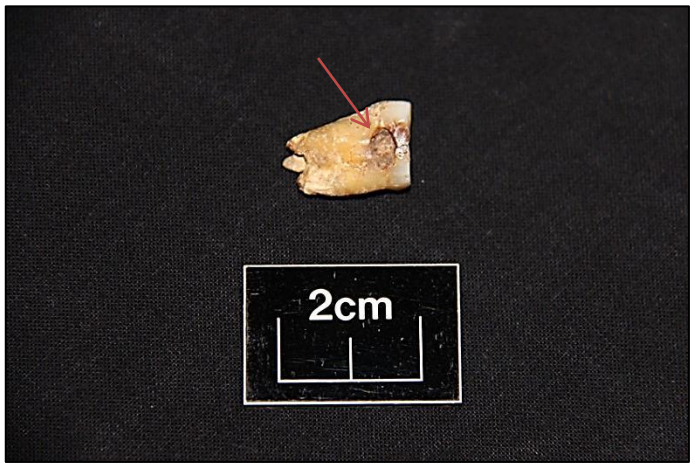

Plate 1: Interproximal tooth carie on the upper LM^2 (scale 2cm)

Ante-mortem Tooth Loss

Ante-mortem tooth loss (AMTL) is the loss of a tooth during lifetime, for non-adults it is a natural process for the deciduous teeth to fall out and be replaced by the permanent dentition. AMTL in adults on the other hand is a dental pathology that can be linked to the age, diet and oral hygiene of the individual (Roberts and Manchester 2005: 73-74).

SK56 also had AMTL to one of the teeth, RM_2. Here the socket showed new bone growth indicating that the tooth loss occurred some considerable time prior to death (Plate 2).

Plate 2: AMTL on the RM_2 (scale 2cm)

Enamel Hypoplasia

Enamel hypoplasia is a dental enamel defect that can occur as lines, pits or grooves on the enamel surface. Such defects occur in the earlier stages of life while the teeth are developing and remain on the teeth permanently. They can be broadly associated with hereditary anomalies, localized trauma and systemic metabolic stress for instance nutritional deficiency (Roberts and Manchester 2005: 75-76; White and Folkens 2005: 329).

The dentition of SK56 also displayed signs of hypoplasia seen as horizontal linear grooves on upper LC and the LM^2 (Plate 3).

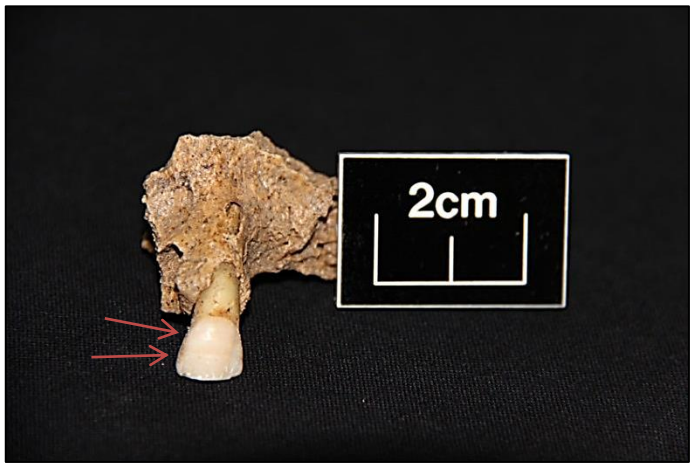

Plate 3: Linear hypoplasia on the upper LC (scale 2cm)

Pathological Conditions

Joint Disease

Degenerative joint disease (DJD) is associated with gradual bone deterioration commonly associated with advancing age or physical lifestyle. The disease will affect one or more of the joints, and the bone abnormalities observed are proliferative which can be bone formation, or erosive being bone destruction, or both can occur. Bone formation takes place in the form of bony outgrowths from joint surfaces and margins, known as osteophytes. Osteophytes are a direct result of the bodies attempt at spreading the load of the joint due to stress. The initial stages of joint disease will often involve the cartilage whereby repeated stress on the joint can lead to a breakdown of cartilage leading to bone exposure which in turn leads to the bone becoming hardened known as sclerosis and polished, termed eburnation. Bone can also be destroyed within the joint as with the destruction of cartilage the joint surface can become degenerative and porous. Degenerative joint disease is a milder form of osteoarthritis (OA) with the presence of either bone lipping/osteophytes or porosity. Osteoarthritis is defined as marginal osteophytes and/or new bone on the joint surface (lipping), pitting on the joint surface or alteration of the bony contour of the joint (eburnation). A joint is diagnosed with osteoarthritis when two out of the three conditions are displayed primarily eburnation (Roberts & Manchester 2005: 132-163; Rogers and Waldron 1995: 32-45).

Traces of DJD were seen on the left patella as slight macroporosity on the articular facets was observed. Further signs of DJD and osteoarthritis were seen on the left hand as the first metacarpal displayed eburnation and macroporosity at the proximal end. Eburnation was observed on the proximal phalanges at the proximal end and also on one of the middle phalanges at the distal end. Slight bony lipping was observed around the distal joint margin of two of the middle phalanges. The right hand displayed lipping around the distal joint margin of the third metacarpal (Plate 4).

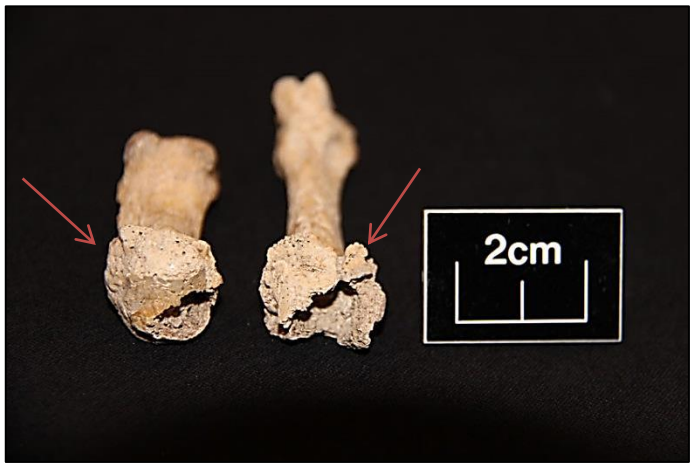

Plate 4: First left and third right metacarpal displaying eburnation and lipping indicative of osteoarthritis (scale 2cm)

Periostitis

Periostitis is a non-specific inflammation of the bone initially seen as fine pitting and longitudinal striation that leads to plaque-like new bone formation on the cortical surface. Such reactions are frequently associated with infection and trauma (Roberts and Manchester 2005: 172-174).

SK56 displayed minor periosteal reactions and macroporosity on the left acetabulum of the pelvis. A minor periosteal reaction was also seen at the distal end of the right tibia, as this part of the bone appeared to be slightly thicker in this area.

4.4 *Conclusions*

From a single skeleton it is not possible to make conclusions about any statistical data in terms of the demographic and health of the population in the area. What can be gained however is that we see evidence of good health within this community as this individual lived to an older age with relatively little pathological conditions displayed on the skeletal remains. This individual was also just above the mean height for this period again pointing to good health.

Out of the pathologies observed dental pathologies were the most common in the form of low traces of calculus, tooth caries, AMTL and hypoplasia. In the case of calculus, caries and AMTL this is attributed to age, diet and oral hygiene. The signs of hypoplasia on the teeth is an enamel defect occurring in the earlier stages of life whilst the teeth are developing that are broadly associated with hereditary anomalies, localized trauma and systemic metabolic stress for instance nutritional deficiency. The remains also showed evidence of osteoarthritis and degenerative joint disease particularly on the hands, the likely cause in this case was this ladies advancing age. Further common pathologies due to advancing age and also lifestyle are associated with the spine. The spinal column of this lady, however, was in fair condition with little evidence of extra bone growth typical of a more manual lifestyle with more strain being placed onto the back. The remains also indicate that this lady had been subject to minor bone infection possible due to trauma in the pelvis and possible the right tibia.

Finally, this individual was buried alongside a complete pottery vessel suggesting an element of wealth, who likely resided in the immediate area being part of the community associated with the Romano-British settlement/farmstead excavated.

4.5 Skeletal Catalogue

Dental abbreviations:

√	Present
NP	Not present (lack of preservation)
/	Post-mortem tooth loss/tooth out of socket
X	Ante-mortem tooth loss
*	Tooth present but socket missing
E	Erupting
U	Tooth unerupted
?	Unerupted and not visible in the jaw/possible congenital absence
B	Broken tooth (Post mortem)
Cr	Crown only
R	Root only
H	Hypoplasias
CA	Caries
CL	Calculus
P	Periodontal disease
PL	Periapical lesion

Skeleton No. 56
Burial type: Shroud?
Orientation: E-W
Age: Older Adult
Sex: Female
Completeness: 75-100%
Stature: 2.47x46.2+54.10±3.72cm=168.214-0.06= **168.154cm** (measurement taken from the right femur)
Dentition:

	Left							Right							
Maxillary	M^3	M^2	M^1	P^2	P^1	*C*	I^2	I^1	I^1	I^2	*C*	P^1	P^2	M^1	M^2	M^3
	NP	*	NP	NP	NP	P	P	NP	NP	NP	NP	P	NP	NP	NP	P
Grade (wear)		6				5						6				
Pathologies		CA X 2				H CA	H					CL				CA CL
Mandible	M_3	M_2	M_1	P_2	P_1	*C*	I_2	I_1	I_1	I_2	*C*	P_1	P_2	M_1	M_2	M_3
	NP	NP	NP	P	P	P	NP	NP	P	P	P	P	P	NP	X	NP
Grade (wear)				6	6	5			5	5	5	6	6			
Pathologies				CL	CL	CL			CL	CL	CL	CL	CL			

(Wear grading after Smith 1984)

Pathology:

- DJD on the left patella as slight macroporosity on the articular facets was observed.
- DJD and osteoarthritis on the left hand as the first metacarpal displayed eburnation and macroporosity at the proximal end. Eburnation was observed on the proximal phalanges at the proximal end and also on one of the middle phalanges at the distal end. Slight bony lipping was observed around the distal joint margin of two of the middle phalanges. The right hand displayed lipping around the distal joint margin of the third metacarpal.
- Minor periosteal reactions and macroporosity on the left acetabulum of the pelvis. A minor periosteal reaction was also seen at the distal end of the right tibia, as this part of the bone appeared to be slightly thicker in this area.

Non-Metric Traits:

- Cranial: Supraorbital notch present (<1/2 occluded by spicules) - left side.
- Post-Cranial: Hypotrochanteric Fossa – left and right sides.

CRANIOFACIAL ANALYSIS REPORT
Dunstable - Roman Female

06/07/2017

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BIOGRAPHY

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I have held the position of Director of Face Lab and Director of Liverpool School of Art & Design at the Liverpool John Moores University since October 2014. Before this I was Head of Human Identification at the award-winning Centre for Anatomy & Human Identification at the University of Dundee (2005-14), and Research Fellow and Manager of the Unit of Art in Medicine (2001-2005) at the University of Manchester. I am an accredited Level I Forensic Anthropologist (craniofacial specialism) with the Royal Institute of Anthropology (RAI) and I am also registered with the Centre for International Forensic Assistance (CIFA) as a facial anthropology expert. I am author of Forensic Facial Reconstruction, co-author of The Lewis Chessmen: Unmasked and co-editor of Craniofacial Identification. I have a BSc (Hon.) in Physiology, MSc in Medical Art and PhD in Facial Anthropology.

I currently have Directorial responsibility for Liverpool School of Art & Design. As Director of Face Lab I supervise and produce facial reconstructions from skeletal remains for both archaeological and forensic identification purposes, craniofacial superimpositions and post-mortem depictions. I have prepared facial photo-comparison reports and have produced expert witness statements for both the prosecution and defence in criminal courts. My reports have been used as evidence in British and South African criminal courts, and I have given evidence as an expert witness.

I have presented and published papers in the field of facial anthropology and forensic art at national and international symposia, and I have carried out research, specifically related to facial tissue depths, computerized craniofacial reconstruction and the facial reconstruction of children.

I am past-president of the International Association of Craniofacial Identification (IACI) 2008-10, past-president of the British Association of Human Identification (BAHId), a member and ex-Honorary Secretary (2002-2007) of the Medical Artists' Association of Great Britain (MAA), and a member of the British Association of Biological Anthropology and Osteo-Archaeology (BABAO).

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I am a PhD student between the Department of Computer Science and FaceLab at Liverpool John Moores University since May 2015. I hold a BSc (Hons) in Forensic anthropology and an MSc in Forensic Facial Identification both from the Centre for Anatomy and Human Identification (CAHID) at the University of Dundee (2009-2014). My current research is focused on Facial identification from on-line images for use in the prevention of child trafficking and exploitation.

I am a student member of the British Association of Human Identification (BAHId) and have presented in the field of facial anthropology at various symposia. As a researcher within Face Lab, I participate in the production of facial reconstructions from skeletal remains for both archaeological and forensic identification purposes, including the preparation of craniofacial analysis reports. I also have a Postgraduate Certificate in Learning & Teaching in Higher Education Continuing Professional Development.

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I am a Research and Teaching Assistant at Liverpool School of Art and Design and part of the Face Lab research group. I am also module leader for the Studio Practice, Research and Practice 2, and Major Project modules for the MA Art in Science programme at Liverpool School of Art and Design.

I graduated with BA (Hons) Illustration with Animation from Manchester School of Art, Manchester Metropolitan University and went on to specialise as a Medical Artist, having gained an MSc in Medical Art from the Centre for Anatomy and Human Identification, in collaboration with the Duncan of Jordanstone College of Art and Design at the University of Dundee. Medical Art is the study of anatomy, pathology, medicine and surgery with the aim of creating illustrations, animations, models and innovative designs that push the boundaries of education, communication and teaching with reliable accuracy. I have a postgraduate certificate in Teaching and Learning in Higher Education and I am also a fellow of the Higher Education Academy.

I specialise in visualising anatomy through 3D scanning, CT data reconstructions, 3D modelling and animations, created in software such as OsiriX, Geomagic Freeform, ZBrush and Autodesk Maya. My 3D modelling, texturing and animation skills, alongside knowledge of CT data reconstruction practice, 3D scanning and 3D printing are used to aid in Craniofacial Reconstruction and for presentation to public audiences and I have been involved with over 25 facial depiction projects, exhibited in public museums and galleries internationally.

I am a professional member of the IMI (Institute of Medical Illustrators), BIOMAB (Biological and Medical Art Belgium), AEIMS (Association Européenne des Illustrateurs Medicaux et Scientifiques) and an affiliate member of the MAA (Medical Artists Association of Great Britain)

1. BACKGROUND AND INSTRUCTIONS

Mark Roughley was contacted by David Kaye from KDK Archaeology LTD, Leighton Buzzard by email, on 08/11/2016. Face Lab was asked to prepare a facial depiction of a Roman female from skeletal remains. The remains were in fragments and fragile.

The context of the case is that KDK Archaeology LTD recently excavated a single burial at The Old Palace Lodge Hotel in Dunstable, Bedfordshire and they were interested in finding out what this individual would look like. Previous work carried out at the Old Palace Lodge Hotel had identified the potential for archaeological remains to be present within the footprint of a proposed extension to the hotel. The area was subject to a Strip, Map and Sample excavation which revealed a surprisingly high density of archaeological features, including several ditches, a pit complex and a solitary burial. Initial analysis of the skeleton suggests she was an older woman who was buried in a prone (face down) position, but she was also interred with a small pot by her left elbow. The contents of the pot have been recovered and will be analysed in due course. The pottery from the site indicates that it was in use during the late first to mid second century, and possibly earlier. The location of the features is towards the eastern limit of the known Roman archaeology in Dunstable, though more work is proposed on the site which may help to confirm this.

The remains were 3D scanned by Mark Roughley at KDK Archaeology's home office in Leighton Buzzard on 26/01/2017. The remains were 3D scanned with an Artec Spider 3D laser scanner https://www.artec3d.com/3d-scanner/artec-spider?keyword=artec%20spider&gclid=Cj0KEQjw-ezKBRCGwqyK0rHzmvkBEiQAu-_-LAb4zMIrn0DDGWlhOQhYJkSzDwUhcupAYQBTw5rmE2gaAiPX8P8HAQ and processed in Artec Studio 11 software to create a 3D model of the cranium and mandible. Accompanying photographs of the remains were also taken. The 3D models were then imported into Geomagic Freeform software for analysis and craniofacial reconstruction.

2. CRANIOFACIAL ANALYSIS

Due to the condition of the KM310 it was not possible to handle the skull directly, and the assessor was unable to determine the number of teeth.

The left side of the cranium was compressed separating the left zygomatic bone along the left zygomaticofrontal suture. Compression deformation was also observed around the left zygomaticomaxillary suture and the medial part of the left orbit across the left nasal bone, but this wasn't thought to be pathological. The back of the cranium including the left parietal, occipital and parts of the right parietal and left temporal were separated (or missing) from the cranium. Noticeable post-mortem fractures were observed along the left mandibular condyle, left mandibular body, and the right condyle, possibly due to compression from the left side. Fractures were also observed on the right frontal bone, also likely from the left side compression. The jaw was displaced from the cranium towards the right. The inferior nasal spine was missing, and the border around the nasal aperture was not defined.

KM310 is typically female and Causasoid with a moderately robust mesocephalic skull. Characteristics include mild brow ridges, vertical forehead, delicate zygomatic bones, and angular orbits, small mandible with an obtuse gonial angle. These details are consistent with a female, as suggested by

previous accepted research (Krogman & Iscan, 1986; Novotny *et al*, 1993; Clement & Ranson, 1998; Williams & Rogers, 2006).

The upright profile, along with the high pinched nasal root is consistent with an individual of Caucasoid ancestry, as suggested by previous accepted research (Krogman & Iscan, 1986; Briggs, 1998; Novotny *et al*, 1993; Clement & Ranson, 1998). This suggests origins from Europe, North Africa, Middle East or the Indian subcontinent. Ancestry estimation is often difficult and many publications suggest caution in relation to modern human remains (Littlefield *et al*, 1982; Sauer, 1992; Cartmill, 1998) due to the wide variation within ancestry groups and the similarities in traits between ancestry groups.

The morphology of the skull was consistent with that of an adult individual, an anthropology report was not enclosed with the documents.

3. SKULL ASSESSMENT IMAGES

Figure 1: Frontal view of skull

Figure 2.1: Lateral (Right) of the skull

Figure 2.2: Lateral (Left) view of skull

4. FACIAL FEATURE DETERMINATION

To prepare KM310 for a facial reconstruction, some positioning estimation of the skull was made. To reconstruct the left orbit shape, the left zygomatic bone and the left temporal bone was repositioned with reference from the intact right side. The overall cranial shape was reconstructed using reference from a similar skull shape (Caucasoid elderly female). Based on the distance between the reconstructed orbits, the left zygomatic arch and the left temporal bone were also repositioned. From the distance between the left and right temporal bones, the mandible was separated from the scan and repositioned, due to compression from the left side, it was also deformed to be slightly wider.

The anterior lacrimal crests and malar tubercles suggested horizontal eye fissures (Fedosyutkin & Nainys, 1993). The orbital depths suggested normal eyeball protrusion with drooping infra-orbital margins (Wilkinson & Mautner, 2003).

The brow ridge and supraorbital margins suggested arched eyebrows (Fedosyutkin & Nainys, 1993).

The nasal root was high and pinched and the nasal bones suggested a straight dorsal ridge (Rynn *et al*, 2009). From the remains of the nasal aperture position, it is estimated that this individual will mostly likely have a moderately wide nose with oval alae, rounded tip, and wide nasal root. The determination of the columella was not possible without the nasal spine, a horizontal columella was placed to fit the overall shape of the nose.

After separating the mandible from the maxilla, it was not possible to observe dentition of the maxilla, but judging by the mandible teeth alignment, it is most likely this individual would have had moderate lips with flat lip pattern with an edge to edge occlusion to teeth.

The shape of the maxilla suggested a narrow, pinched mouth with thicker lower lip and flat lip shape. The class III malocclusion suggested that the lower lip was more prominent than the upper lip (Fedosyutkin & Nainys, 1993).

The mandible suggested an angled jaw with prominent square chin. The canine fossae suggested slight nasolabial creases. The mastoid processes suggested large prominent adherent ears (Fedosyutkin & Nainys, 1993), and strong neck muscles.

5. FACIAL RECONSTRUCTION METHODOLOGY

The 3D models of the cranium and mandible were imported into Geomagic FreeForm Plus Version V2016.2.62 64 bit (http://www.geomagic.com/en/products/freeform-plus/overview) on Intel ® Core ™ i7-4790 CPU @ 3.60GHz processor with 32GB memory and 64 bit operating system PC and Windows 7 with ProLite B2480HS and HP191 monitors.

A 3D computerized facial reconstruction was then produced in Geomagic Freeform using the Touch X Desktop haptic interface (http://www.geomagic.com/en/products/phantom-desktop/overview), following the up-dated Manchester method (Mahoney and Wilkinson, 2012). Photographs of the original skull were used as a reference throughout the procedure.

Using the sex and age criteria, the appropriate set of tissue depth measurements were chosen. Adult White European female data was used in the 60+ year age group (modified from Helmer 1984, published in Wilkinson 2004/2008). Pegs were attached to the 3D skull model at ninety degrees to the bone surface at the appropriate anatomical points and the length of each peg was determined by the tissue depth data. In this way a set of guides for tissue depth across the face were attached to the surface of the 3D skull model.

Eyeball models of 24mm diameter were set into the eye sockets, at normal protrusion. Protrusion was taken as the cornea touching the tangent drawn from mid superior to inferior margins of the orbit (Wilkinson & Mautner, 2003).

The facial muscles were imported from a database and modified for size and shape (Mahoney and Wilkinson, 2012). The subcutaneous fat and skin layer was then added in virtual clay over the muscle structure to create the finished face model. During this process the tissue depth pegs were used as guides. Facial features were modelled following standards suggested by Rynn *et al* (2009) for the nose, Gerasimov (1955) for the mouth and Fedosyutkin & Nainys (1993) for the ears, eyes and eyebrows, with general reference to Rynn *et al* (2012). Lobed, prominent ears were modelled using the external auditory meatus, mastoid process and gonial angle to determine position.

Features were blended with the skin layer and the surface of the face was smoothed. A neck model was imported from a database and modified accordingly. Feature refinement and detailing completed the face model.

A screenshot in the frontal view was taken in Freeform and imported into Adobe Photoshop CC 2016. Appropriate digital image references, according to sex, age and features, were selected and imported into the working file as a series of layers. Layer masks were used to blend selected textures onto the face model to create a realistic and convincing appearance.

The 2D final depiction is presented as a coloured image, with a pale skin tone textured according to the estimated age and ancestry.

6. ACCURACY STATEMENT

Results of laboratory research employing blind studies (Wilkinson & Whittaker, 2002; Wilkinson *et al*, 2006; Lee *et al*, 2012) suggest that it is possible to reconstruct a face from the skull with enough accuracy to allow recognition by a close friend or family member.

However, facial reconstruction cannot produce a portrait and there are many facial details that cannot be determined from skeletal assessment, such as expression, facial wrinkles, skin colour, hair style, eye colour, BMI, soft tissue modifications (cosmetic surgery, tattoos, piercings etc.), clothing (glasses, hats etc.) or facial hair.

7. DIGITAL SKULL IMAGES

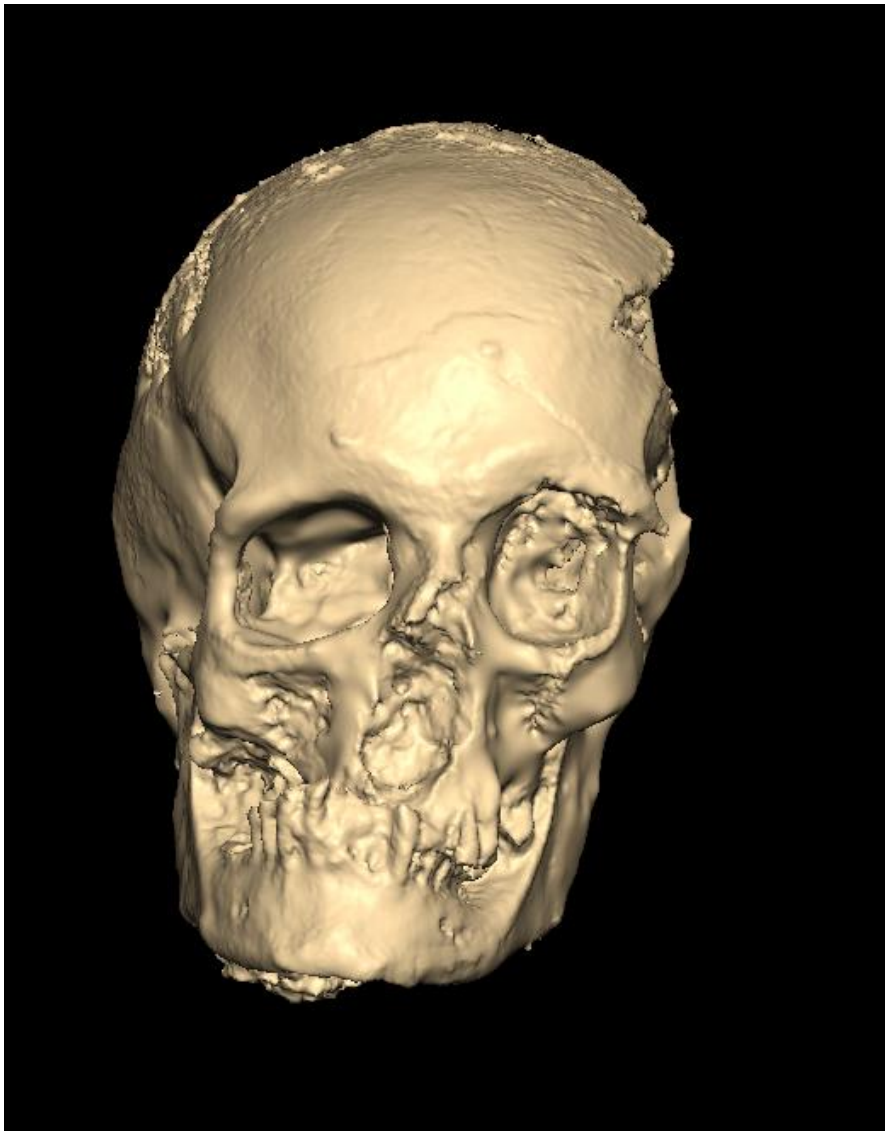


Figure 4

8. FACIAL RECONSTRUCTION IMAGES

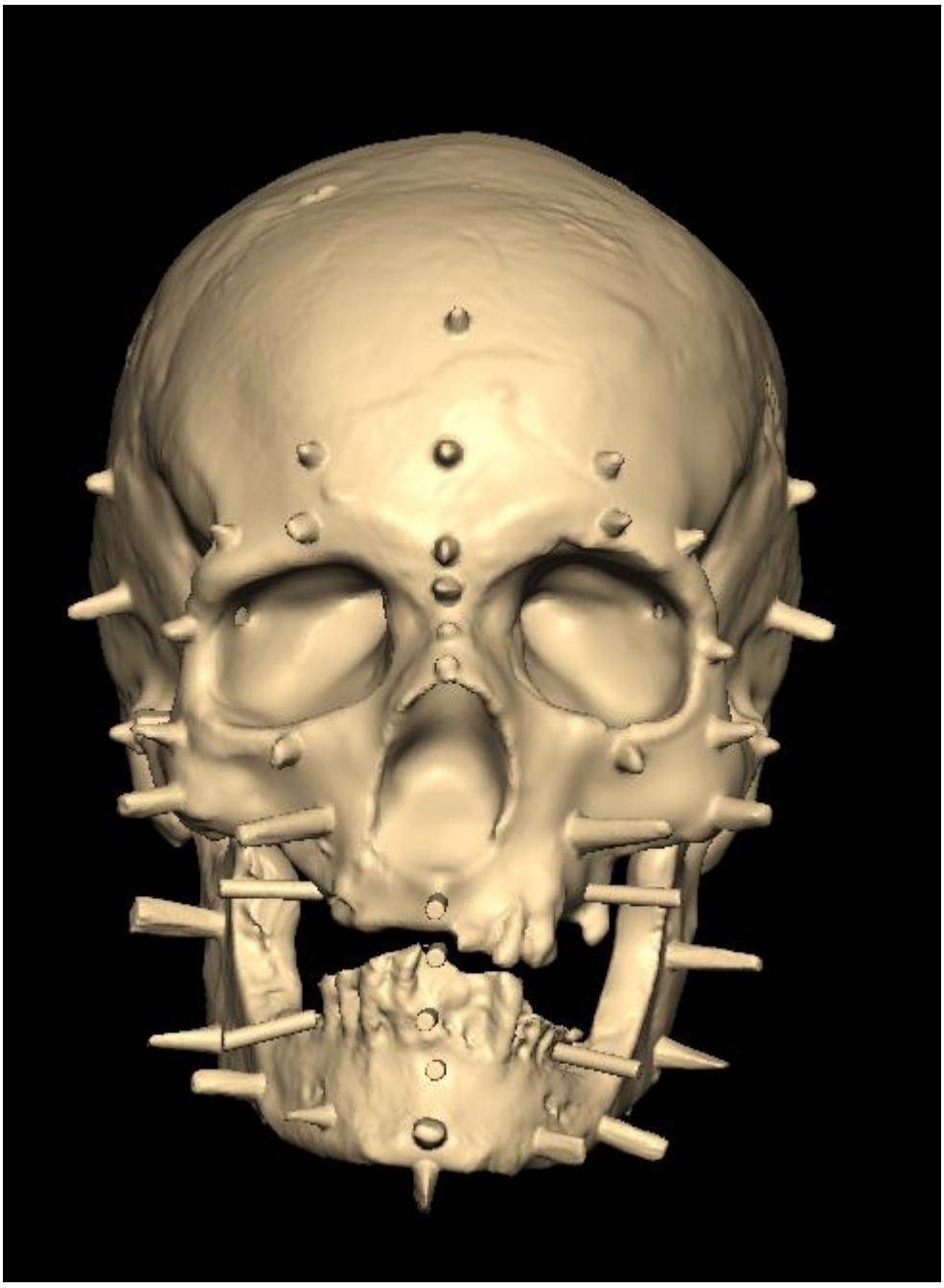


Figure 5: Frontal view of the skull reconstruction

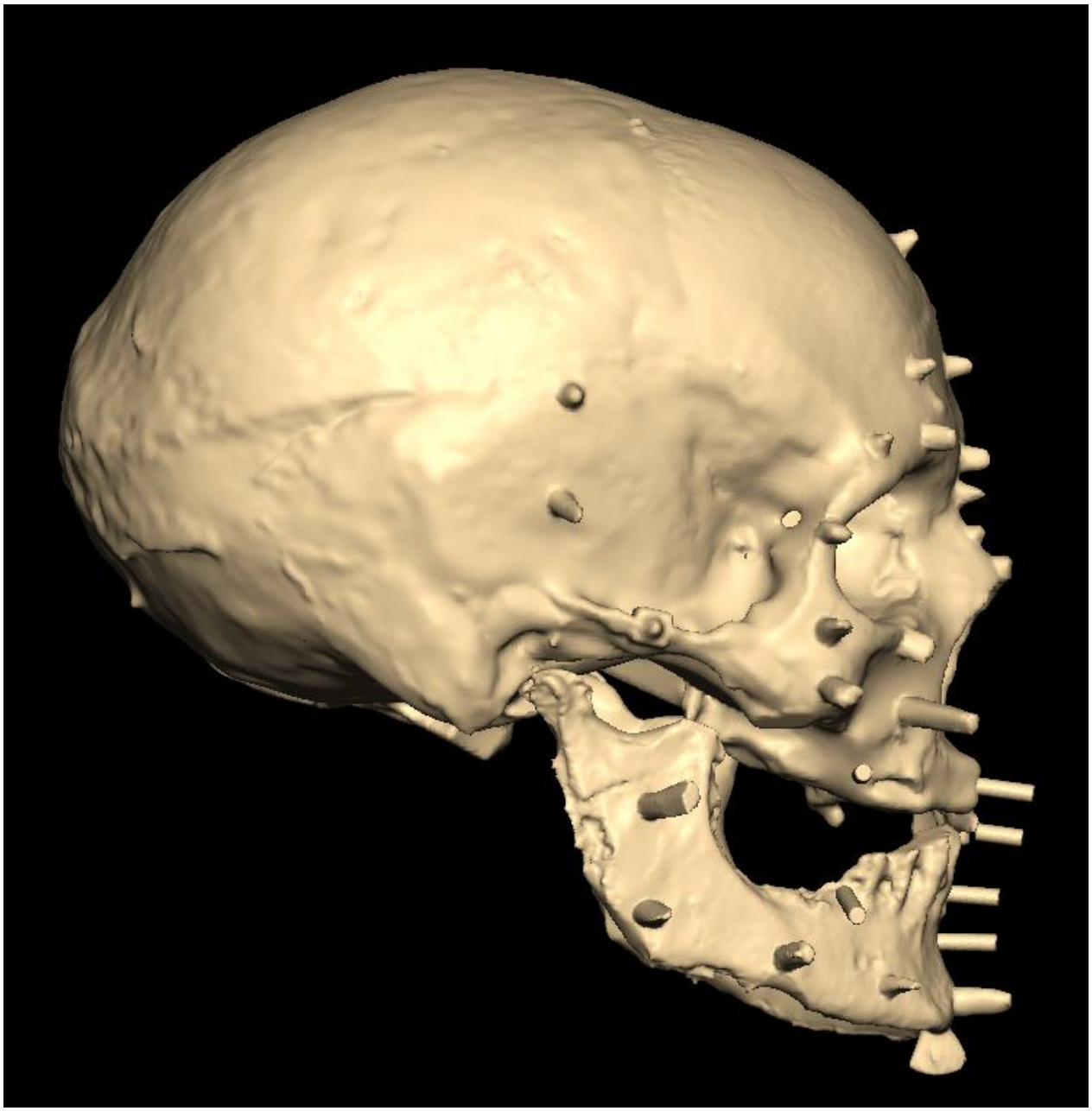


Figure 6.1: Lateral (Right) view of the skull reconstruction

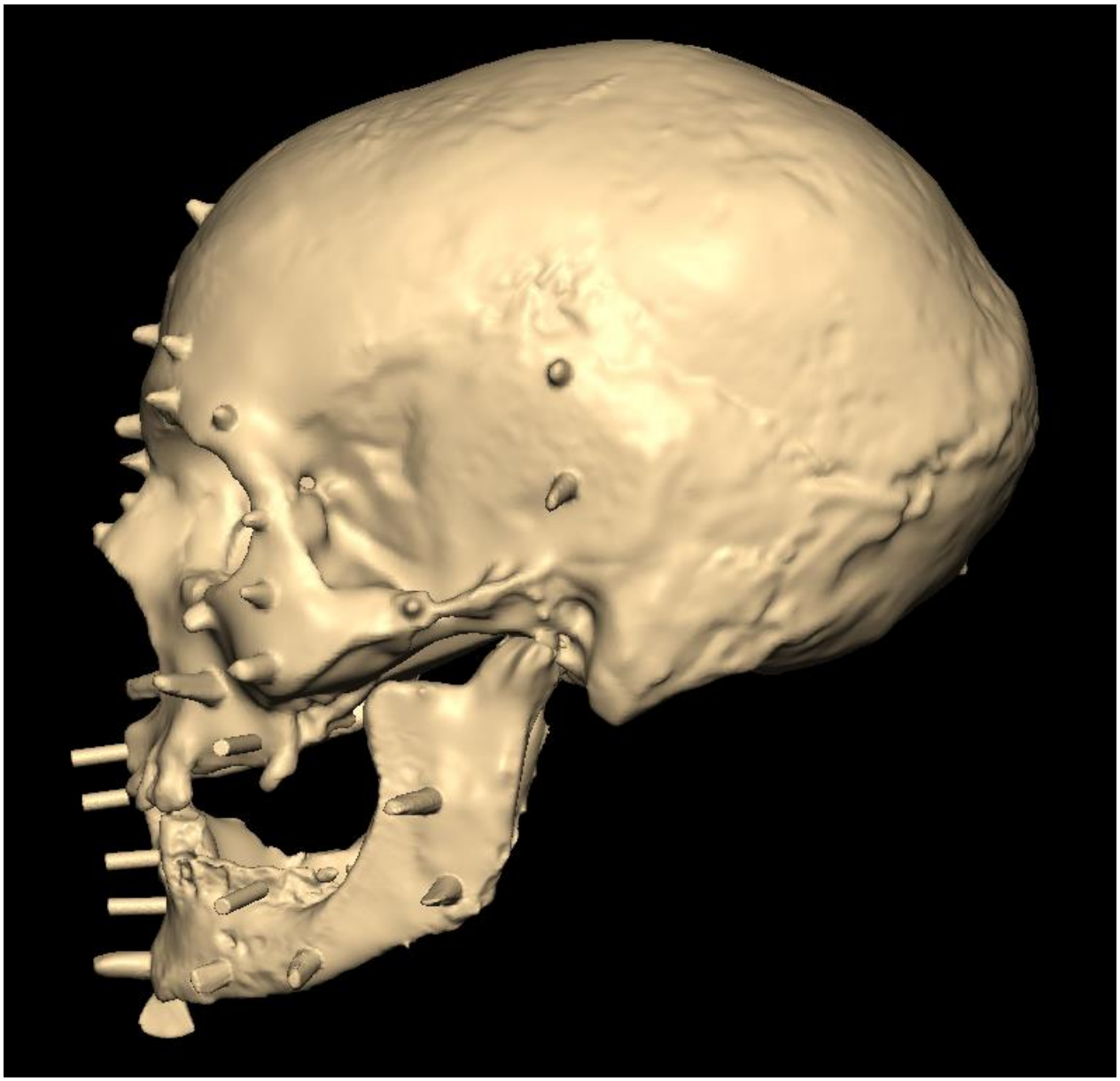


Figure 6.2: Lateral (Left) view of the skull reconstruction

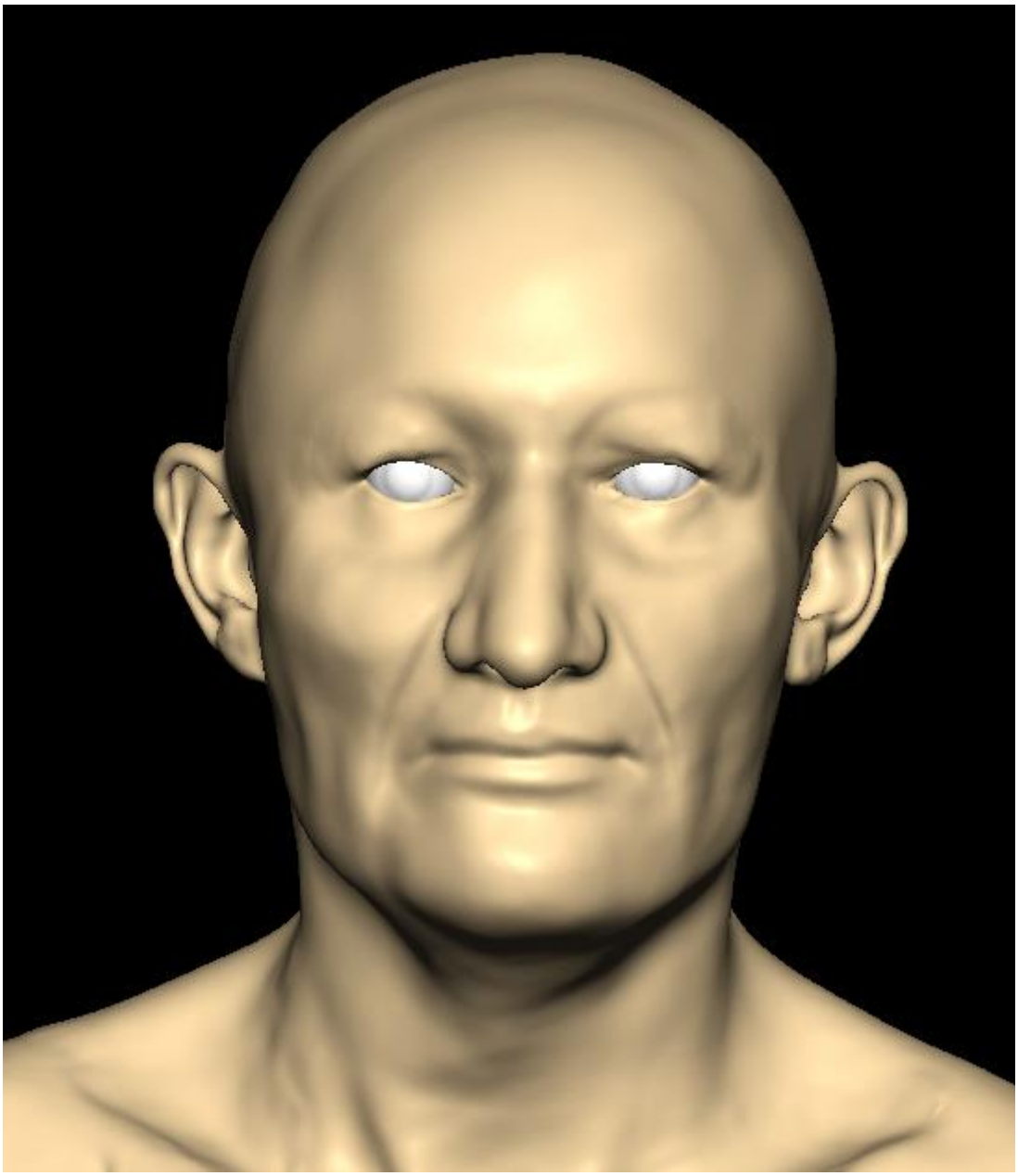


Figure 7: Frontal view of the facial reconstruction

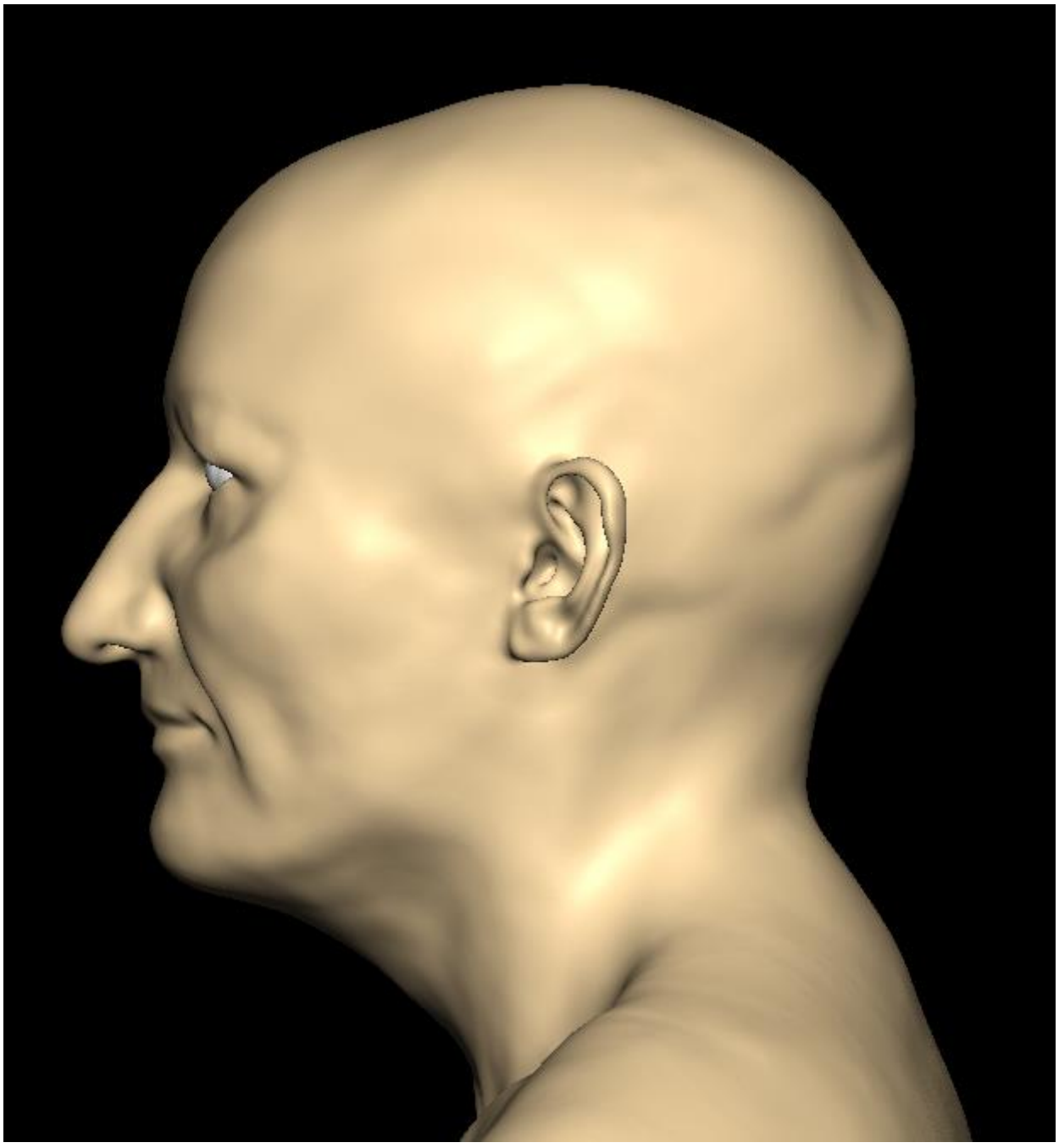


Figure 8: Lateral view of the Facial reconstruction

9. FACIAL DEPICTION IMAGES

Figure 7: Facial depiction in colour

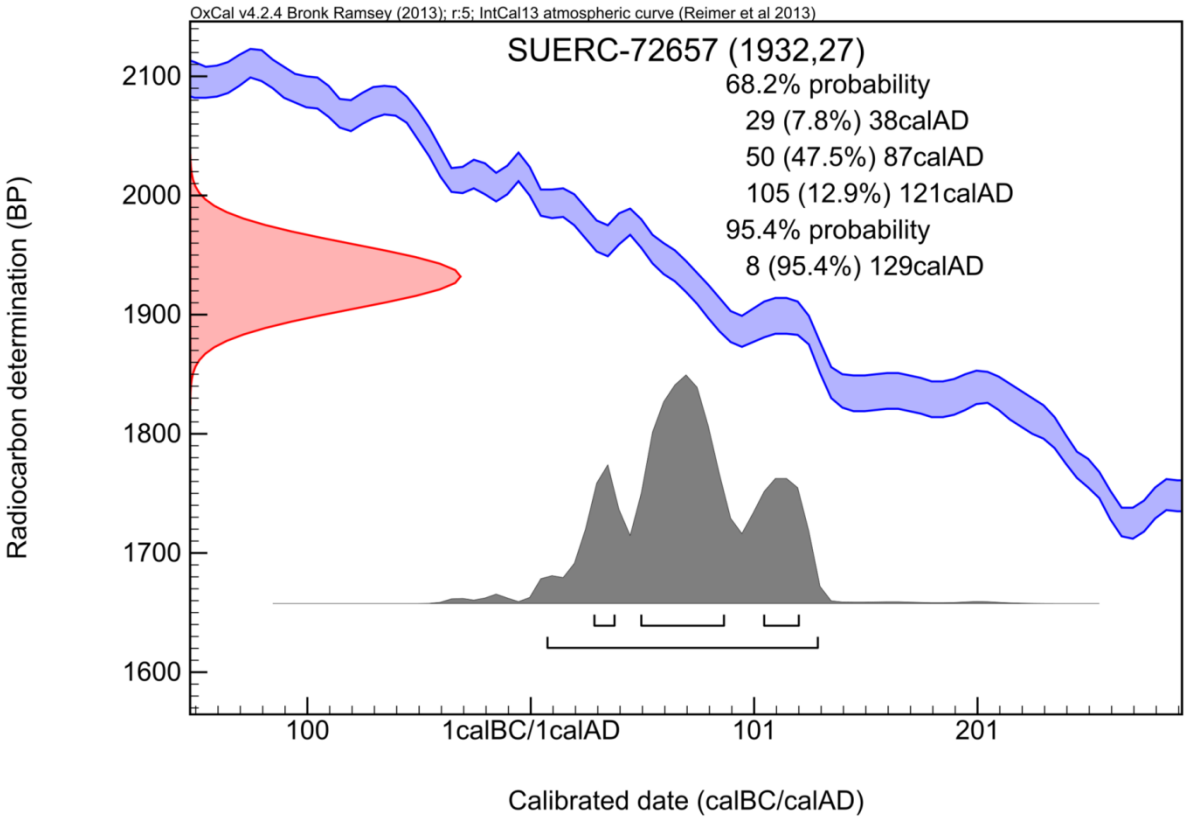
10. GLOSSARY OF TERMS

- anterior lacrimal crest – a ridge on the maxillary bone anterior to the lacrimal fossa and continuing inferiorly as the infraorbital margin of the orbit
- brow ridge – bony prominence above the orbits
- canine – pointed tooth between the incisors and premolars
- canine fossa – a depression external to and above the prominence on the surface of the superior maxillary bone caused by the socket of the canine tooth
- columella – the base of the nose between the nostrils
- cranium – the skull without the lower jaw (mandible)
- dorsal ridge – the nasal bridge in profile
- gonial angle – extended area of bone at the corner (angle) of the lower jaw (mandible) where the masseter muscles attach
- incisor - a narrow-edged tooth at the front of the mouth, adapted for cutting
- infraorbital – below the eye socket
- lacrimal fossa – a hollow where the nasolacrimal sac is housed on the orbital margin at the inner corner of the eye
- malar tubercle – small bony prominence on the zygomatic bone at the outer corner of the eye
- mandible – lower jaw
- mastoid processes – conical eminences projecting from the underside of the cranium behind the ear
- maxilla – paired facial bones forming the upper jaw
- maxillary – of the maxilla
- mesocephalic – cranium of moderate proportions
- molar – grinding tooth at the back of the mouth
- nasal root – the top of the nose between the eyes formed by the nasal bones
- nasal spine – bony prominence at base of nasal aperture
- nasolabial creases – two skin folds that run from each side of the nose to the corners of the mouth
- neurocranium - protective case around the brain (frontal bone, the sphenoid bone, the two parietal bones, the two temporal bones and the occipital bone)
- occipital bone – the bone which forms the back and base of the skull and encircles the spinal cord
- supraorbital margins – the margin at the top of the orbit

Appendix 6: Radiocarbon Dating Report

The left hand phalanx of SK56 was taken for C^{14} dating analysis and was carried out by SUERC – Scottish Universities Environment Research Centre. The results indicate that the individual had a Radiocarbon Age BP of 1932±27 (BP – before 1950 AD). The calibrated age range is a 95.4% probability of dating to 129 cal AD (2nd century; Table 1).

Table 1: Calibration Plot



Appendix 7: Human Isotope Analysis Report

Carbon (^{13}C) and Nitrogen (^{15}N) Stable Isotopic Analysis of an individual recovered from The Old Palace Lodge, Dunstable.

Laura Dodd MSc (KDK Archaeology)

Stable isotopic analysis of archaeological materials is becoming increasingly relevant in understanding the dietary habits, health, migratory patterns and childhood origins of an individual or group of individuals. Data of this kind can be collected from faunal and macrobotanical remains, pollen and phytoliths, pottery residue, coprolites and skeletal material.

Carbon (^{13}C) and Nitrogen (^{15}N) isotope ratios found within bone and dentine collagen indicates the protein component in diet suggesting what categories of foods are being consumed by an individual or group of individuals (Sealy et al 1995:290; Shwarcz & Schoeninger 1991:285). Bone collagen and bone apatite are constantly being resorbed and replenished so the dietary habits and movements of specific individuals can be mapped throughout their life.

Carbon isotopic ratios observed in human tissue are a representation of consumed plant goods and the terrestrial vertebrates that feed on them. There are generally two types of plants which are investigated; C_3 plants which are associated with cool, wet climates, i.e. cereal crops such as rice, wheat, barley, rye, oats and many trees and shrubs, and C_4 plants such as sugarcane, maize, sorghum etc., which are grown in warmer, drier climates (Tykot 2004:434). Atmospheric CO_2 is incorporated into plants during photosynthesis and nitrogen occurs during fixation or absorption. As well as being higher in nitrogen, the Carbon isotopic ratios for marine and freshwater organisms are more variable than terrestrial plants depending on ecological circumstances.; for example, humans who consume terrestrial plants and animals produce $\delta^{15}N$ values of between 6-10‰, whereas those who consume freshwater or marine fish and marine mammals may have $\delta^{15}N$ values of between 15-20‰. Using this data, comparisons can be made between different population groups and even different individuals.

Carbon and nitrogen stable isotopes analysis was attempted in conjunction with radiocarbon dating analysis. Collagen extraction was successful in the individual from Dunstable, Old Palace Lodge. The results produced a Carbon ($\delta^{13}C$) Isotopic value of δ-20.1‰ and a Nitrogen ($\delta^{15}N$) Isotopic value of δ11.1‰. The isotopic ratios for this particular individual were typical of a terrestrial plant and animal protein diet expected of a small Romano- British community with very little, if any, marine products and C4 plants being consumed. Unfortunately, only one individual was recovered from the excavation and therefore the dietary habits of this particular community is greatly underrepresented in this study.

Appendix 8: A Complete Roman Vessel from Grave [57]

A Roman vessel from Old Palace Lodge, Dunstable, Bedfordshire

Andy Fawcett (Freelance)

8.1 Introduction

A single, almost complete small jar was retrieved from Grave [57] (SK56) which has a weight of 407g, a rim eve of 0.63 and base eve of 1.00 (Plate 1).

The pot fabric has been examined at x 20 vision and its overall shape and decorative style has been researched for comparative types within the existing relevant published ceramic records.

The results of the research are presented in the discussion below.

8.2 Discussion

The fabric is Romanising (R07) and corresponds to Going's BSW category, a black surfaced/Romanising grey ware (1987). The break is dark grey (almost black) and is composed of abundant ill-sorted dense quartz alongside sparse fragments of predominantly brown grog; some lighter coloured pieces could also be seen. The surface of the vessel is almost entirely smothered by a compact covering of fill; however it appears to be dark grey and possibly burnished.

The vessel displays an everted beaded rim with a cordon on the neck and a single continuous groove at its girth. Its overall profile may be described as carinated finishing in a flat base.
In style the vessel is similar to No 17/18 at Keely Lane (Pollard & Baker 1999), Goings G19 range (1987), Verulamium type 2098 (Wilson 1984), Baldock forms 264/444 (Stead & Rigby 1986) and finally Thompson ranges B1/B1-5 (1982).

On first appearance the vessel appears stylistically like a late bowl-jar form however the combination of its carinated shape, and its fabric style shows that it is likely to be dated from the ?mid?/late 1st to early 2nd century.

A previous Roman pottery assemblage from the site examined by the author (Fawcett 2016) demonstrated that the most intense phase of activity on the site was from around late 1st to mid 2nd century. The date therefore of this current vessel fits in nicely with what was determined during the earlier analysis.

Plate 1: Complete pottery vessel (scale 10cm) – photo taken by KDK Archaeology

Appendix 9: Residual Analysis from Complete Pottery Vessel from Grave [57]

Organic residue analysis of a vessel associated with a Roman period burial from Bedfordshire

Dr Valerie Steele (University of Bradford)

9.1 Introduction

The aim of the analysis was to establish whether the vessel had been used prior to deposition in the grave and, if it had been used, what it might have contained. To achieve this, a sample was taken from the interior of the vessel and analysed for organic residues using gas chromatography-mass spectrometry (GC-MS). In order to confirm that any residues found represented the contents of the vessel and not contamination from the burial environment, a sample from the fill of the bowl was also analysed.

9.2 Methods

The vessel was still complete and wrapped in bubble wrap inside a plastic box. A plastic bag containing some of the fill excavated from the interior of the bowl after excavation was also present in the box. The vessel was unwashed with some soil/sediment still adhering and before sampling as much loose soil as possible was gently shaken out of the interior.

Some care was taken in deciding where to drill the sample from the interior of the vessel. It appeared quite fragile with many cracks, so areas of obvious cracking were avoided in order to minimize any damage. The ceramic was thickest at the base of the pot, making this the most obvious place to take the sample. However, the base is not always the optimum area for sampling a vessel, in particular one which may have been used for cooking. Any prolonged heating over a fire can deplete the residues remaining in the base of a vessel and, depending on exactly what a cooking pot is used for, the most abundant residues will be left around the body or the close to the rim (Charters *et al.*, 1993, Padley *et al.*, 1994, Gunstone, 2004). In addition, the base of the vessel was hard to reach with a modelling drill without constantly catching it against the rim causing extra vibration and risking further damage. As this is a complete vessel, the need to minimize any visual impact was also considered. In order to extract a sample while producing the least damage and visible impact, it was decided to drill an area of the interior just below the narrowest area of the neck. This proved to be very effective as the surface and core of the fabric was black and the appearance of the vessel was only minimally affected by the removal of the sample.

In order to prevent contamination during sampling and analysis, nitrile gloves were worn at all times, high purity solvents were use (Analar or HPLC grade) and all tools and glassware were triple washed in solvent. To detect any contamination introduced during sample preparation or analysis, a blank sample was prepared and analysed with the samples.

The sample was drilled from the interior of the vessel using a modelling drill (*Dremel*) with a tungsten carbide bit. The ceramic powder was accurately weighed (0.9112g) into a clean vial. A sample was taken from the fill of the vessel provided using a clean spatula. The sample was ground to powder using a clean agate pestle and mortar and accurately weighed (2.7872g).

The samples were extracted by sonication (15 minutes) with 4 ml dichloromethane:methanol mixture (2:1 v/v) followed by 5 minutes in a centrifuge at 2000 rpm to separate the liquid extract from the ceramic powder. Extracts were pipetted off into clean vials and the extraction was repeated twice more, combining the extracts. Solvent was evaporated from 2

the extracts under a stream of dry nitrogen with gentle heating (40°C) until the volume left was approximately 200 µl. The samples transferred to autosampler vials and then evaporated to dryness. Before analysis 10 µg internal standard (C34 *n*-alkane) was added to each sample to allow quantification of the results. The samples were derivatised by heating in closed vials at 60°C for 30 minutes with 30 µl *N*,*O*-Bis(trimethylsilyl)trifluoroacetamide with 1% trimethylchlorosilane (BSTFA). Excess BSTFA was evaporated off and the samples re-dissolved in dichloromethane for analysis by GC-MS.

GC-MS analysis was carried out on an Agilent 7890A series GC attached to an Agilent 5975C Inert XL mass selective detector. The splitless injector and interface were maintained at 300°C and 280°C, respectively. Helium was the carrier gas at constant inlet pressure. The column was inserted directly into the ion source of the mass spectrometer. The ionisation energy was 70eV and spectra were obtained by scanning between *m/z* 50 and 800. All samples were analysed using an Agilent DB5-ms-UI 30m x 2.5mm x 2.5 µm column. The oven temperature was programmed to be isothermal at 50°C for 2 minutes, followed by a rise of 10°C per minute up to 350°C and an isothermal hold for 10 minutes. Compounds were identified by comparison with the NIST library of mass spectral data and published data. Peak area measurements for quantification were carried out using the interactive RTE integrator within the Agilent Chemstation enhanced data analysis software. Abundances were calculated as µg of compound per gram of sherd or soil (µg/g).

9.3 Results

The vessel

The sample from the vessel yielded very high abundances of a range of fatty acids which had to be re-run at a reduced concentration to produce a good chromatogram (Figure 1). Both sets of results were analysed with the overloaded sample being useful for characterizing compounds at lower abundances which either disappeared or showed as very small peaks when the sample was diluted. The fatty acids comprised a range of saturated, odd, even and branched fatty acids from C10:0 to C30:0 dominated by palmitic and stearic acid (C16:0 and C18:0 respectively) and with even carbon numbers more abundant (Figure 2). The two dominant fatty acids, C16:0 and C18:0, were present at very high abundances (2000 µg/g and 3000 µg/g respectively). A range of isomers of the unsaturated fatty acid C18:1 was also present at low abundances compared with the saturated fatty acids (460 µg/g in total), and traces of several isomers of C20:1 were identified in the more concentrated sample along with a trace of the polyunsaturated C18:2 (Figure 3). Branched chain isomers of odd carbon numbered acids (C15:0, C17:0 and C19:0) were also present at low abundances (Figure 2b). Traces of oxo- and hydroxy- fatty acids were also present (9- and 10-oxo octadecanoic acid and 9-hydroxy octadecanoic acid) (Figure 2b). These are typical degradation products of unsaturated C18:1 isomers. Methyl esters of fatty acids were also present at much lower abundances than the trimethylsilyl esters (Figure 2). This may have been due to transmethylation during sample preparation.

In addition a range of mono- and diacylglycerols was present; monoacylglycerols from C4 to C20; diacylglycerols from C22 to C36 (Figure 4). These are complex molecules which arise from the degradation of triacylglycerols which are the main constituents of fresh fats (Gunstone, 2004, 1). Triacylglycerols (TAGs) (formed from glycerol and three fatty acids) are gradually broken down in the burial environment, first into diacylglycerols (DAGs) (a glycerol and two fatty acids), then monoacylglycerols (MAGs) (with one fatty acid) and finally into glycerol and free fatty acids (Evershed *et al.*, 2002, Mukherjee *et al.*, 2007, Evershed, 2008a). In this case the high abundances of MAGs and DAGs indicate that the sample was fairly well preserved. For example 1- and 2-monopalmitins together totalled 150 µg/g and the monostearins 160 µg/g. Again these

were dominated by molecules containing $C_{16:0}$ and $C_{18:0}$ but showed a wide range, including odd carbon numbered fatty acids. The MAGs showed a particularly wide range from C4 to C20, although C12 could not be identified due to the high abundances of $C_{18:0}$ and $C_{18:1}$ which elute in the same area of the chromatogram. The DAGs also show a wide range, from C22 to C36, and incorporated fatty acids from $C_{6:0}$ to $C_{18:0}$.

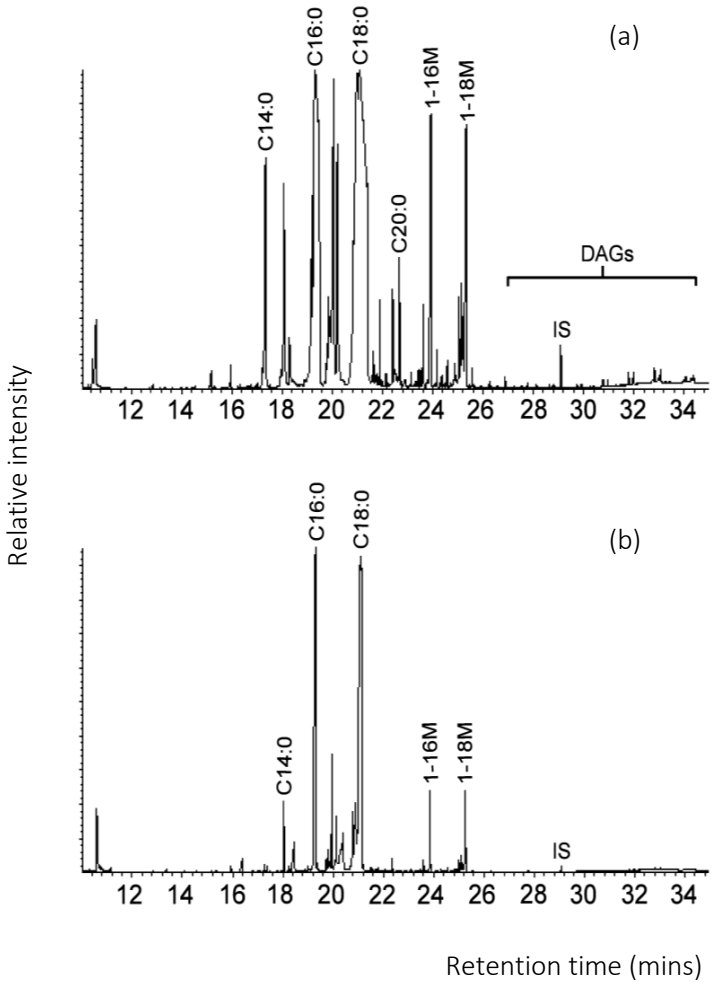


Figure 1: chromatograms produced by (a) overloaded and (b) diluted sample from the vessel. Key: $C_{x:y}$ – fatty acid with x carbon atoms and y double bonds; n-xM – monoacylglycerol with x carbon atoms in the fatty acid attached at position n; DAGs – diacylglycerols; IS – internal standard

Traces of mid-chain ketones with 29, 31 and 33 carbon atoms (14-nonacosanone, 16-hentriacontanone and 16-tritriacontanone) were also identified (Figure 2c).

A trace of the animal sterol cholesterol was also present (Figure 2c). Traces of compounds which are contaminants, such as phthalates, octadecenamide and tris-(2,4-di-tertbutylphenyl) phosphate from plastics, were also identified but were present at such low abundances (< 2 µg/g), that they are not significant.

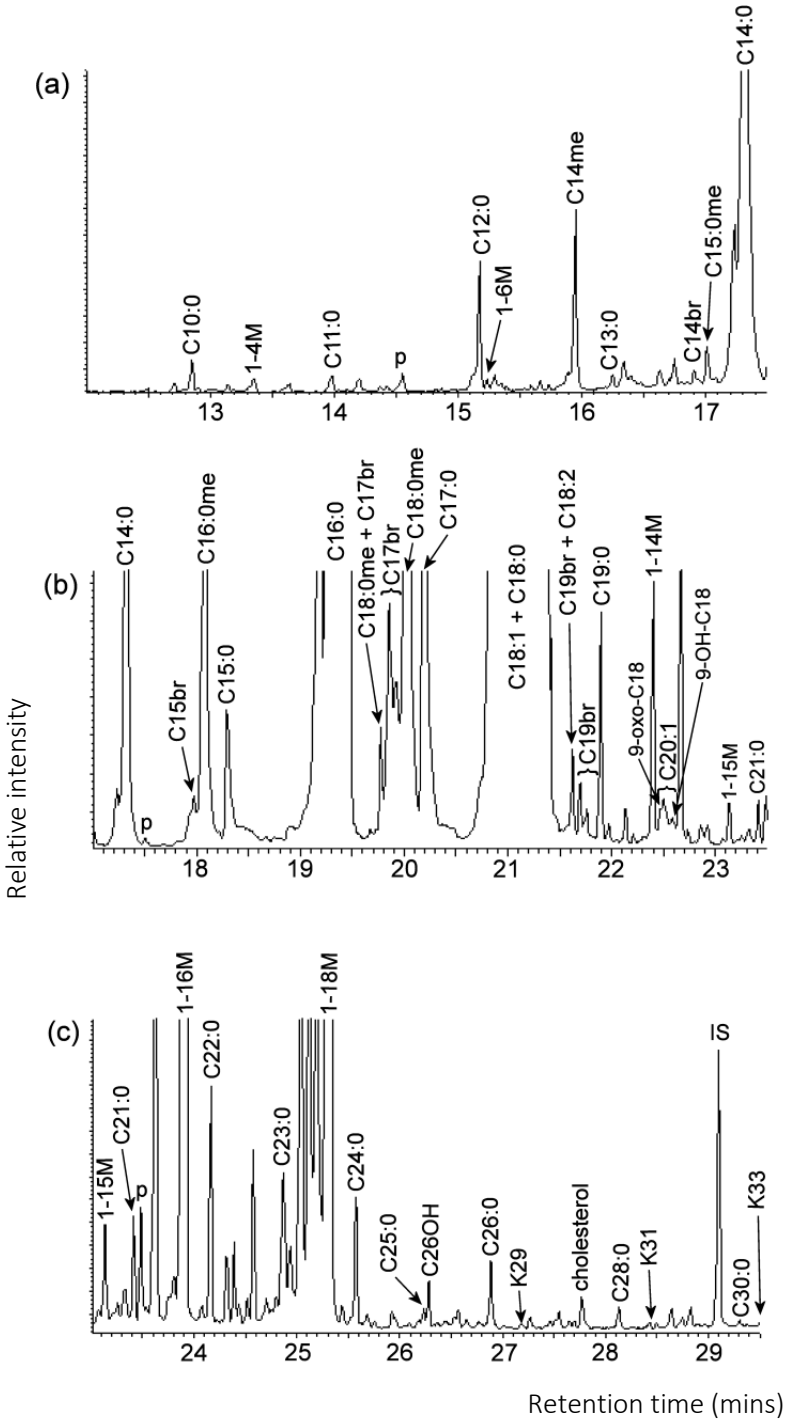


Figure 2: chromatogram produced by overloaded sample between (a) 11-17 minutes, (b) 17-23 minutes and (c) 23-30 minutes retention time. Key: x – number of carbon atoms as in Cx:y – fatty acid with x carbon atoms and y double bonds; Cxme – fatty acid methyl ester; Cxbr – branched fatty acid; 1-xM – monoacylyglycerol with x carbons in the fatty acid; CxOH – alcohol; y-oxo-Cx/y-OH-Cx – oxo- or hydroxyl fatty acid, oxo/hydroxyl group at carbon y; Kx – midchain ketone; p – plastic additive; IS – internal standard

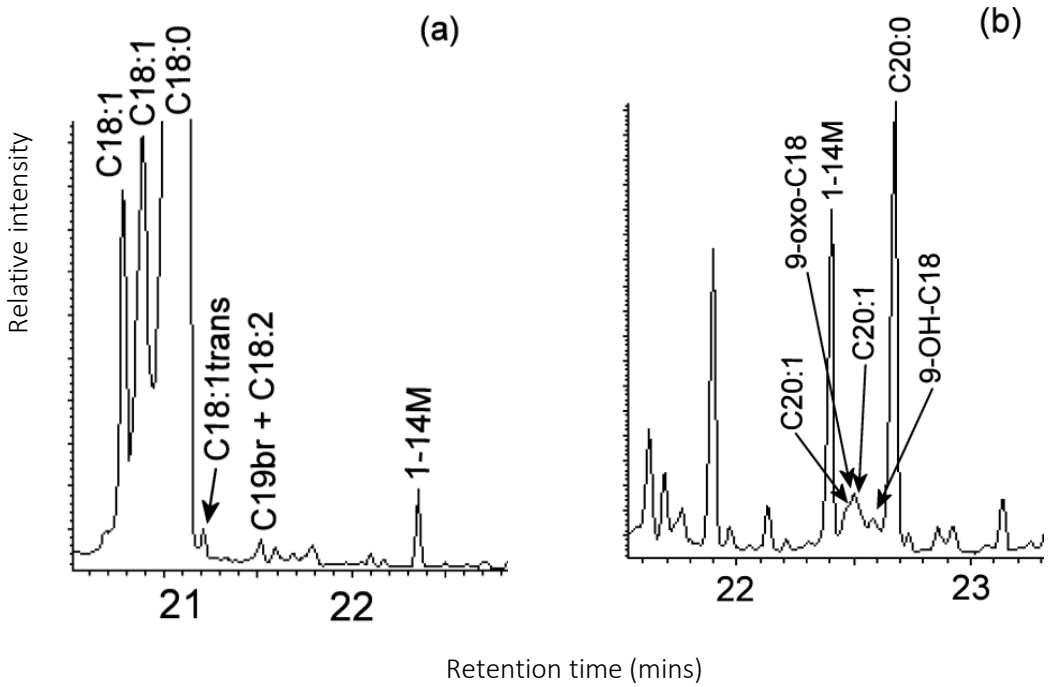


Figure 3: chromatograms (a) of diluted sample between 20 and 23 minutes and (b) overloaded sample between 21 and 23 minutes retention time showing range of unsaturated fatty acids. Key: x is number of carbon atoms as in Cx:y – fatty acid with x carbon atoms and y double bonds; trans – double bond in trans configuration; y-xM – monoacylglycerol with acid at 1 position; Cxbr – branched chain fatty acid; y-oxo-Cx and y-OH-Cx – oxo- and hydroxyl fatty acids, oxo/hydroxyl group at carbon y

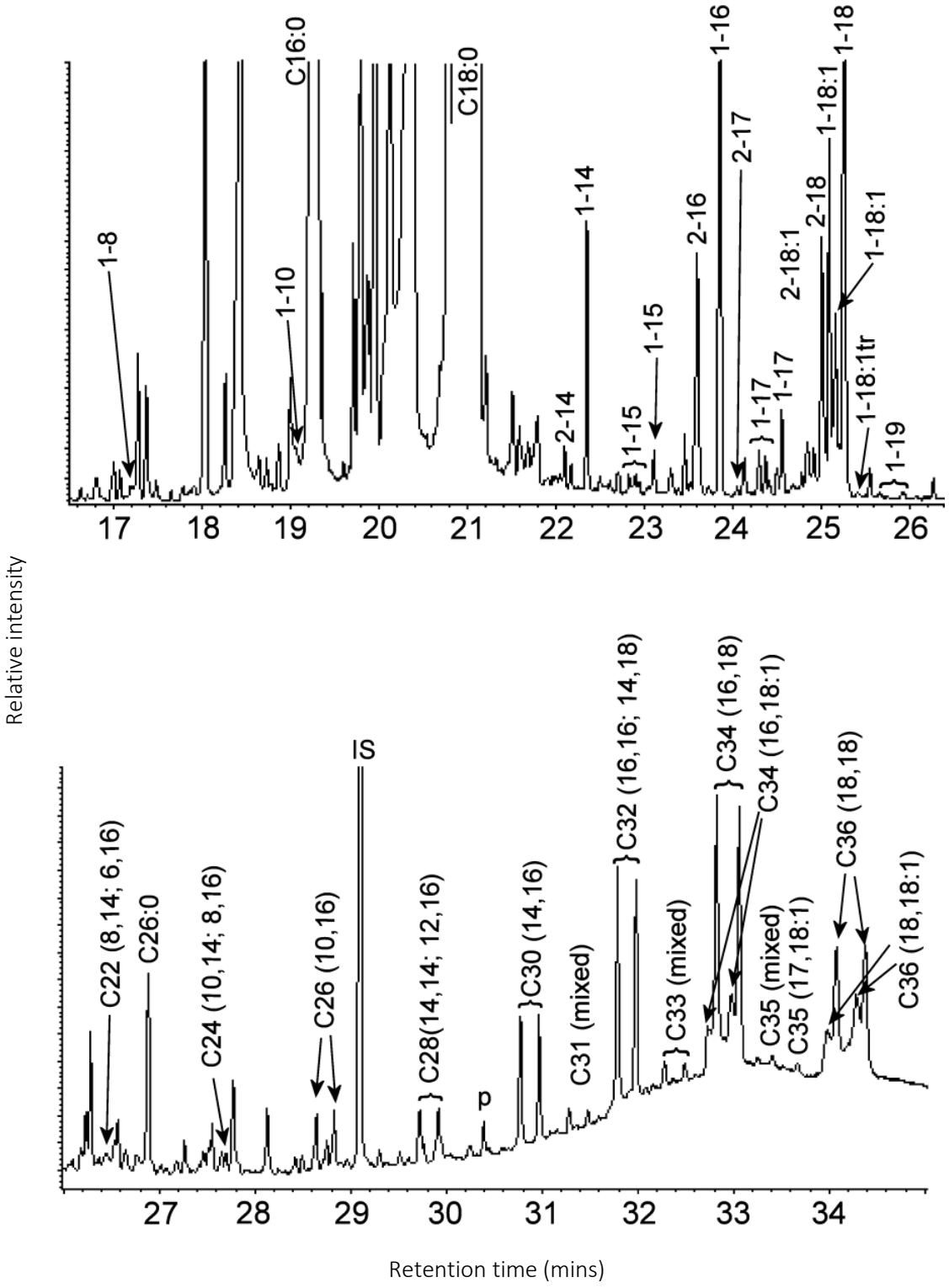


Figure 4: chromatogram produced by overloaded sample between (a) 17 and 26 and (b) 26 and 35 minutes retention time showing acylglycerols. Key: Cx:y – fatty acid with x carbon atoms and y double bonds; y-xM – monoacylglycerol with fatty acid of x carbon atoms attached at position y; Cx – diacylglycerol with x acyl (fatty acid) carbons; figures in brackets show acyl groups identified; IS – internal standard; p – plastic contaminant

The sediment or soil from the interior of the vessel

The analysis of the soil/sediment sample from the interior of the vessel yielded a very different range of compounds at entirely different abundances to those present in the sample from the vessel. No compounds were present at abundances of more than 5 µg/g.

A range of odd, even and branched, saturated fatty acids was present ($C_{9:0}$ to $C_{28:0}$) at low abundances (< 2 µg/g) (Figure 5). Also present was a range of alcohols with an even over odd preference (C18 to C36, max at C26); two ranges of alkanes – one odd carbon numbered (C23 to C35, max at C31), the other with no odd/even preference (C14 to C18), including the isoprenoids pristane and phytane which form from the degradation of chlorophyll (Killops and Killops, 2005, 206-207, Peters *et al.*, 2005, 28); and a wide range of polyaromatic hydrocarbons (PAHs), ranging from biphenylene (C12) to benzoperylene (C22). Traces of odd carbon-numbered 2-ketones (C17 to C21 and C19 to C23), cholesterol and the plant sterol β-sitosterol were also present, together with significant abundances of phthalate plasticizers and other plastic additives.

The method blank

The method blank yielded only background levels of fatty acids and plastic additives, none of which were present at significant abundances.

A detailed summary of the results is given in Table 1.

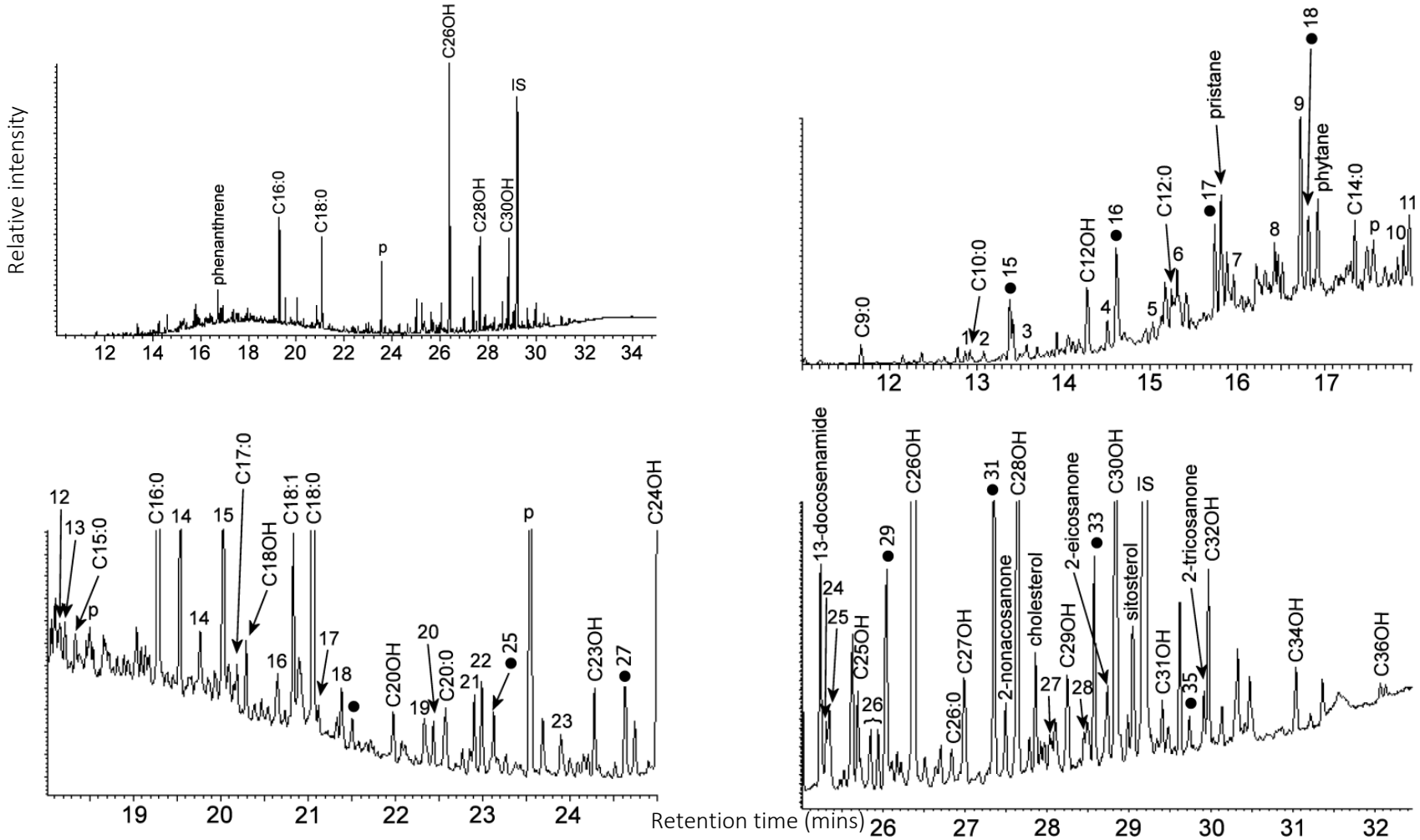


Figure 5: chromatogram produced by residue from fill of vessel; (a) total chromatogram; (b), (c) and (d) partial chromatograms between 11 and 18, 18 and 25 and 25 and 32 minutes retention time respectively. Key: Cx:y – fatty acid with x carbon atoms and y double bonds; CxOH – alcohol with x carbon atoms; ●x – alkane with x carbon atoms; IS – internal standard; numbers refer to polyaromatic hydrocarbons identified in Table 2.

9.4 Discussion

The high levels of free fatty acids and mono- and diacylglycerols in the residue from the vessel are characteristic of degraded fats of all kinds (Evershed, 1993, Heron and Evershed, 1993, Evershed, 2008b). The composition of most degraded fats is very similar due to the effects of degradation processes and dissolution in the burial environment and, without isotopic analysis of the individual fatty acids, it is often impossible to unambiguously assign the degraded fatty material present in a residue to a source (Evershed, 1993, Dudd and Evershed, 1998, Dudd *et al.*, 1998, Evershed *et al.*, 2002, Evershed, 2008b, Evershed, 2008a, Steele *et al.*, 2010). However, it is sometimes possible to gain an indication of what type of fatty material may have been present in the vessel from the compounds present. In this case, the animal sterol cholesterol was present and levels of unsaturated fatty acids were relatively low compared to saturated fatty acids both of which are indicative of animal fats rather than plant oils or aquatic fats (Padley *et al.*, 1994, Gunstone, 2004, 3-12, 18-23, Evershed, 2008b).

The presence of isomers of odd carbon numbered and branched-chain fatty acids is indicative of ruminant animal fats (Padley *et al.*, 1994, 147-149, Dudd and Evershed, 1998, Gunstone, 2004, 19, Rogge *et al.*, 2007, Dunne *et al.*, 2012). In addition, the presence of MAGs of short-chain fatty acids, down to C4:0, is strongly indicative of the presence of ruminant dairy fat. Fresh ruminant dairy fats are distinguished by a very wide range of TAGs incorporating short-chain fatty acids down to C4:0 (Padley *et al.*, 1994, MAFF, 1998, 39, Gunstone, 2004, 18-21, 53, Fontecha *et al.*, 2005, Mirabaud *et al.*, 2007, Regert, 2011). These are normally lost in archaeological samples as they degrade and the short-chain fatty acids are lost by evaporation and dissolution. However these TAGs, or their degradation products (MAGs and DAGs), sometimes survive in well-preserved residues such as this one (Dudd and Evershed, 1998, Mirabaud *et al.*, 2007). In this case it is difficult to conceive of another fatty material which would yield MAGs of short-chain fatty acids and which was in use during the Roman period in Britain. The only other materials with high levels of short-chain fatty acids are coconut oil and palm kernel oil, neither of which produce significant levels of $C_{4:0}$ and both of which have a large abundance of $C_{12:0}$ (Padley *et al.*, 1994, Gunstone, 2004, 3, 7). Neither of these characteristics was present in the vessel residue and both coconut and palm kernel oil are unlikely to have been in use in Roman Britain. The logical conclusion is that this residue contained at least some ruminant milk or butter.

The wide range of diacylglycerols, although not revealing acids as short at $C_{4:0}$, does support the identification of dairy in the residue as they can only arise from a wide range of original TAGs.

The identification of low levels of ketones with 29 to 33 carbons atoms is indicative of heating. These particular ketones form in fats which are heated to over 300°C in the presence of ceramic fabrics (Evershed *et al.*, 1995, Raven *et al.*, 1997, Evershed, 2008b, Evershed, 2008a). They are present at very low levels but do show that at least some of the fat in the vessel had been heated (although not necessarily in this vessel).

There was a clear difference between the residues recovered from the soil and those recovered from the vessel, both in the types of compounds present, abundances and distribution. This makes it highly unlikely that the residue present in the vessel came from contamination with compounds from the soil. Even in the case of fatty acids, which were present in the soil, they were present at such low levels that they were highly unlikely to have produced the abundances seen in the vessel residue. Most of the compounds found in the soil sample are typical of lipid material found in soils (Jaffé *et al.*, 1996, Bull *et al.*, 2000, Oros *et al.*, 2002, Otto and Simpson, 2007, Rogge *et al.*, 2007), including the ranges of alkanes, alcohols, fatty acids, and 2-ketones together with phytane, pristane and β-sitosterol. PAHs are generally formed during incomplete

burning of organic material or fossil fuels and are ubiquitous in many environments (Lima *et al.*, 2005, Ravindra *et al.*, 2008, Rushdi *et al.*, 2016). It is not unusual to find quite significant levels in soils, particularly in urban areas where vehicle exhausts and other uses of fossil fuels contribute to the soil burden. Plasticizers and other plastic additives are ubiquitous in archaeological samples and come from the storage of samples in plastic bags or boxes (Evershed, 1993).

9.5 Conclusions

The vessel yielded a residue which was very rich in fatty material and relatively well preserved. The contents of the pot were identified as animal fat, probably ruminant fat, with at least a proportion of ruminant milk or butter as one of the constituents. Analysis of the isotopic values of individual fatty acids would be necessary to determine whether the residue was all dairy fat or a mixture of dairy and adipose fats.

There were indications that least some of the fat from the vessel had been heated or cooked. The heating could have taken place in another ceramic vessel and the contents then transferred to this one or could have taken place *in situ*, although there were no visible signs of sooting or discoloration due to heating. It is not possible to determine which of these possibilities represents the actual history of this residue.

The residue from the vessel was quite different from the residue extracted from the soil, the latter yielding compounds typical of soils. This confirms that the residue extracted from the vessel represented the original contents and was not contamination from the burial environment.

Table 1: A summary of the results of the analysis of residues from the vessel and soil. Key: * - combination of both overloaded and more dilute runs of the vessel residue; Cx:y – fatty acid with x carbon atoms and y double bonds; x – always signifies number of carbon atoms; MAG – monoacylglycerol; DAG – diacylgycerol; 1- & 2-MAGs signify position of the fatty acid on the glycerol chain; Kx – ketone with x carbon atoms

Residue	Saturated fatty acids	Unsaturated fatty acids	Other fatty acids	Acylglycerols	Sterols	Alkanes	Alcohols	Other compounds
Vessel – interior surface*	range odd, even, branched, C10:0 – C30:0	C18:1 (*cis* and *trans*); C20:1 (several isomers); C18:2	traces 9- & 10-oxo-C18; trace 9-hydroxy-C18	1-MAGs (range odd and even C4:0 to C20:0); 2-MAGs (range odd and even C14:0 to C19:0); 1- & 2-C18:1 MAGs; DAGs (range odd and even C22 – C36, including short-chain acids down to C6:0)	low level of cholesterol and one oxidation product	traces in range C29 - C33 - not significant	traces even C26-C30; not significant	glycerol; methyl esters of fatty acids at low levels; traces of the following - mid-chain ketones (K29-K33); silanol, trimethyl-,phosphate; 1,4-benzene diacid; octadecenamide; traces silane,((2-ethyldecyl)oxy)trimethyl ; fluorene; phenanthrene; 2-heptadecanone, phthalates
Soil	traces of range odd, even, branched C9:0 - C28:0	trace C18:1	nd	nd	traces cholesterol; β-sitosterol	traces 2 ranges - no odd/even preference C15-C18 (including branched); odd/even preference C23 - C33	trace range C18 - C36, even/odd preference	traces of large range of PAHs from biphenylene to benzopyrene; range of ketones 2-hepta- to 2-tricosanone (odd dominant)
Method blank	extremely low levels fatty acids C12:0 - C18:0	traces C18:1 and C18:2	traces adipic acid (plastics); range diacids C8 to C11	nd	nd	nd	nd	traces 1,4 benzene diacid (methylated and TMS); phthalates

Table 2: identities of numbered polyaromatic hydrodarbons (PAHs) and other compounds in Figure 5. NB PAHs of the same molecular weight but different structure have very similar mass spectra and are sometimes impossible to differentiate on mass spectral data alone.

Number	Name of compound	Molecular weight
1	biphenylene	152
2	2,5-cyclohxadiene-1,4-dione, 2,6-bis(1,1-dimethyl-	220
3	phenol, 2,4-bis(1,1-dimethylethyl)-	278
4	fluorene	166
5	benzophenone	182
6	N-ethyl-2-methylbenzenesulfonamide (plastic additive)	398
7	N-ethyl-4-methylbenzenesulfonamide (plastic additive)	398
8	dibenzothiophene (found in petroleum)	184
9	phenanthrene/anthracene	178
10	2-methylphenanthrene	192
11	4-methylphenanthrene	192
12	1-methylphenanthrene	192
13	2-methylanthracene	192
14	fluoranthene	202
15	pyrene	202
16	1-methylpyrene/11H-benzo(b)fluorene	216
17	2-methylfluorene/1-methylpyrene	216
18	unidentified PAH	216
19	benzo(b)naphtho(2,1-d)thiophene	234
20	benzo(ghi)fluoranthene	226
21	benz(a)anthracene	228
22	triphenylene	228
23	1-methylchrysene	242
24 - 26	Isomers of benzopyrene	252
27	indenopyrene	276
28	benzoperylene	276

Appendix 10: Animal Bone Report

Animal bone from Old Palace Lodge, Church Street, Dunstable, Bedfordshire

Lenny Salvagno & Umberto Albarella (University of Sheffield)

10.1 Introduction

This report presents a brief analysis of the small animal bone assemblage recovered during excavations at the Old Palace Lodge, Church Street, Dunstable, Bedfordshire by KDK Archaeology.

The animal bones were recovered from a small number of contexts (Table 1), largely belonging to two broadly dated periods: Roman (AD 43-*c.*450) and Post-Medieval (1500-1900). Contexts belonging to these generically defined periods have been treated together (Table 1).

Sieving was carried out at the site for some contexts (30-32-107-97-1033-137-160-188-60-192). Not all of them have yielded identifiable specimens. Nevertheless, a number of smaller elements and remains from smaller species, which would have otherwise been lost, have been recorded.

Table 1: List of contexts which produced animal bones, with their chronologies. Yellow= Roman contexts; White= Post-Medieval contexts.

Phasing		
CTX NUMBER	CRONOL. PHASE	Dated to
160	Probably Roman	AD 43-c.450
81	Probably Roman	AD 43-c.450
149	Possibly Roman	AD 43-c.450
215	Probably Post-Medieval	1500-1900
204	Possibly Roman	AD 43-c.450
15	Probably Post-Medieval	1500-1900
30	Roman	AD 43-c.450; from pottery AD100/120 (early 2nd century)
192	Definitely Post-Medieval	1500-1900
60	Romano-British	AD 43-c.450
67	Probably Roman	AD 43-c.450
32	Possibly Post-Medieval	1500-1900
90	Definitely Romano-British	AD 43-c.450
97	Romano-British (from pottery)	AD 43-c.450
53	Probably Roman	AD 43-c.450
99	Containing Roman looking pottery	AD 43-c.450
162	Definitely Roman	AD 43-c.450
45	Definitely Post-Medieval	1500-1900

10.2 Background to the site (from KDK written scheme of investigation for Archaeological Strip, Map and Sample Excavation 2015)

The site appears to be located at the centre of both the Roman and Medieval town of Dunstable, and thus has the potential to give information about both these historical periods, as well as the Post-Medieval era. The town started as a Roman settlement, the role of which is still unclear, even though the lack of evidence of military presence points toward a staging post, a mansion, an administrative centre or a *pagus*. After the Romans left in the 5th century, the town appears to have been abandoned. There is some evidence of Saxon occupation in the northwest area of the site, but it is not in continuity with the Roman settlement. In c. 1119 Henry I founded the Medieval town using pre-existing infrastructures. From then on, Dunstable underwent a noticeable development, culminating with the construction of 'Kingsbury', the residence of Henry I, and the Augustinian Priory, which was dissolved in 1539. In the following centuries Dunstable bloomed, reaching its peak in the 17th-18th century, when it became a coaching town. The following centuries mark the decline of the town as a consequence of the development of the near town of Luton.

10.3 Methods

Identifications were made using the reference collection held at the *Tony Legge Zooarchaeology Laboratory* at the Department of Archaeology, University of Sheffield (UK), with the additional support of identification atlases and papers (e.g. Schmid 1972; Barone 1976; Prummel 1988; Boessneck 1969; Davis 1980). Most bones belonged to large mammals, with a very small number of bird, amphibian and rodent remains.

The material was recorded according to a selective diagnostic-zone recording protocol. This system involves the recording of a pre-defined set of skeletal parts, defined as 'countable', which are then used in the quantification of species and body parts (see attached recording protocol for more details). The Number of Identified Specimens (NISP) has been calculated for each species but no further types of quantification were performed, because the assemblage is too small. The NISP was obtained by tallying the number of 'countable' identified specimens for each identified taxon.

The fusion of post-cranial bones for all taxa was recorded following Albarella and Davis (1994). Mandibular jaws were used to gain information about the age at death of the animal. Teeth were attributed to an eruption or wear stage according to Payne (1973; 1987) for sheep/goat, and Grant (1982) for cattle and pig. Lower tooth series (with at least two teeth with recordable eruption/wear) were attributed to mandibular wear stages according to Payne (1973) for sheep/goat and O'Connor (1988) for cattle and pig.

Evidence of butchery, pathology and gnawing was recorded when present. Very few specimens could be measured, which was done according to von den Driesch (1976).

10.4 Results

10.4.1 The Roman assemblage

The Roman assemblage is very small, which restricts our ability to present a detailed analysis. A total of 35 specimens were identified (Table 2). The identified specimens comprise horse, cattle, sheep/goat, pig, chicken and a small rodent. All specimens were in medium/good state of preservation.

The small assemblage size does not allow commenting on the content of the different contexts. The majority of the bone comes from two contexts, 30 and 53, that form part of Ditch Grp 70, and contained Roman pottery.

Table 2: Numbers of identified Specimens (NISP) for each species for the Roman period.

Species		Post-Cranials	Cranials	Total
Horse	*Equus*	10	6	16
Cattle	*Bos taurus*	1	6	7
Sheep/Goat	*Ovis aries/Capra hircus*	3	4	7
Pig	*Sus*	2	1	3
Chicken	*Gallus gallus*	1	-	1
Small rodent		-	1	1
Total		17	18	35

Horse

Horse is the most represented species, it is well known that teeth, for their particular composition, survive better than postcranial bones (Binford and Betram 1977), and horse teeth are particularly robust. Horse postcranial elements were, however, also recovered, which means that preservation bias is an unlikely explanation for the predominance of horse remains.

The majority of the horse bones come from the above-mentioned context 53 and context 160, identified as the fill of a ditch. No butchery marks were noticed on the horse bones, which means that these animals are unlikely to have been consumed. Considering the nature of the contexts from which these remains come from and the absence of butchery it is possible that the horse bones derive from the rests of horse burials that became scattered by taphonomic processes or human activities. Context 160 produced a complete mandible, which was identified for certain as belonging to a horse – rather than donkey - according to the criteria proposed by Davis (1980). This has all of its teeth erupted (P_2-M_3), with the third molar only lightly worn, attesting to the presence of an adult animal. Two lower canines, probably belonging to the same animal, indicate the likely presence of a male (females rarely have canines).

Cattle

Cattle is represented only by seven fragments. These include a mandibular jaw with teeth, a distal tibia, a horncore and a number of loose teeth. The remains derive from contexts 32, 67, 99, 160 and 162.

As the assemblage is so small, very little information was available for ageing. The jaw has all its teeth erupted and a worn third molar. The distal tibia had its epiphysis fused; according to Silver (1969) this element fuses at between two and two and a half year in this species, thus this animal was an adult when slaughtered.

Sheep/goat

Seven specimens have been attributed to sheep/goat. Distinction between sheep and goat was not possible as the recovered elements were undiagnostic. They include the proximal articulation of a metatarsal, the proximal articulation of a metacarpal and the articular process of an ulna, which has traces of exposure to high temperatures (calcined). Three loose teeth and a maxilla fragment were also found. The remains derive from contexts 30, 32, 53, 90 and 99.

Pig

Pig is represented only by three bones: the neck of a scapula, the distal diaphysis of a humerus and a lower incisor (from the sieved sample), from contexts 30, 99 and 204. Since the humerus had no visible fusion lines, nothing can be said about the age of this specimen.

Chicken

This species is only represented by a complete tarsometatarsus which did not have a spur and is therefore more likely to belong to a female, deriving from context 30.

Sieving was undertaken for some contexts belonging to this chronological period (contexts 97 and 30). Some small bones were collected from sieving, including the incisor of a small rodent and the fragment of a bivalve shell. Unfortunately, it was not possible to identify the shell species as the fragment did not bear any diagnostic morphological trait. Burnt/calcined small fragments of bones and a bird diaphysis were also found among the sieved material.

10.4.2 The Post-Medieval Assemblage

For the Post-Medieval period, the number of identified specimens is 12 (Table 3). The species represented include cattle, sheep, sheep/goat, horse and frog/toad.

The small assemblage size does not allow commenting on the content of the different contexts or to discuss the relative importance of each species.

Table 3: Numbers of identified Specimens (NISP) for each species for the Post-Medieval period.

Species		Post-Cranials	Cranials	Total
Cattle	*Bos taurus*	4	1	5
Sheep/Goat	*Ovis aries/Capra hircus*	4	1	5
Horse	*Equus*	-	1	1
Frog/toad	*Rana/Bufo*	1	-	1
Total		**9**	**3**	**12**

Cattle

Cattle is represented only by five elements deriving from contexts 45, 192 and 215; the proximal articulation of a metacarpal, a first phalanx, a carpal bone, the *caput* of a femur and a loose maxillary premolar. The *caput femori* was fused indicating that this animal must have been at least three and half year old (Silver 1969). The first phalanx has a pathological condition (exostosis), which is usually caused by wear and tear in the course of the animal life. It could also be indicative of traction stress (Baker and Brothwell 1980), but this is difficult to determine with certainty.

Sheep/goat

Three post cranial bones have been identified as definitely belonging to sheep from contexts 15, 192 and 215 (rather than goat) following the morphological criteria proposed by Boessneck (1969). These elements are the distal articulation of a humerus and two first phalanges. Since the distal articulation of the humerus was recorded as 'fused/fusing', it can be said that this individual was probably older than 10 months (Silver 1969). No age information was available from the teeth.

Two specimens could only be identified as sheep/goat: the diaphysis of a radius and a deciduous lower incisor retrieved from the sieved samples from context 192.

Horse

Only a loose maxillary tooth has been attributed to this species, from context 45.

Frog/toad

Some small vertebrate bones were recovered from the sieved samples, including the humerus of a frog/toad from context 192. Unfortunately, this anatomical element does not bear diagnostic features useful for identification at species level. Another unidentified amphibian long bone diaphysis was also present.

10.5 Butchery and Gnawing – Roman and Post-Medieval Assemblages

In general, signs of food waste such as cut marks and chop marks on the bones were only occasionally recorded, and were found on sheep/goat from context 30 of Romano-British date and cattle bone deriving from context 215 of post-medieval date. Gnawing by carnivores was frequent, and found in Roman contexts on horse remains from context 53, pig from contexts 99 and 204, and cattle remains from context 32. Gnawing was also seen in the post-medieval context 15 on sheep/goat. The prevalence of gnawing indicates that most remains had not been subject to prompt burial, and therefore are unlikely to have been found in the place of their first discard.

10.6 Discussion

As far as the Roman assemblage is concerned, the presence of horse, cattle, sheep/goat, pig and chicken is unsurprising, as these domesticates tend to be common in Romano-British faunal assemblages. Horses are usually found, although not in such large numbers as cattle and sheep/goat. The relatively abundance of horse remains in this assemblage is therefore a-typical. We would in fact expect more horses in a military or rural site rather than an urban site. As mentioned above, scattered horse burials of animals that had completed their working lives may have become dumped in ditches and fills and could have tipped the balance of frequency in favour of this species. Considering the small sample size and the limited number of excavated contexts this could have easily happened.

Albeit limited, there was evidence of butchery marks and exposure to fire, leaving no doubt about the fact that some of these remains represent butchery and/or food waste.

Domestic sheep/goat and cattle are the most common animals recovered from Post-Medieval British sites and it is therefore no surprise that they also feature in this tiny assemblage. In this period sheep/goats and cattle were likely to be exploited for a variety of products, including dairy products, meat, wool (in the case of sheep) and leather, which would involve keeping a fair proportion of animals into adult age.

Overall, the very small size of both these assemblages has meant that the information that could be retrieved is very limited. However, the remains recovered here do fit, to a certain degree, within the wider patterns known for Romano-British and Post-Medieval sites in England.

Appendix 11: Pottery Report

Romano-British Pottery

Andy Fawcett

11.1 Introduction

A total of 550 sherds of Roman pottery with a combined weight of 9312g and an estimated vessel equivalent (R.eve) of 8.02 were recovered from the archaeological excavations at Old Palace Lodge, Church Street, Dunstable, Bedfordshire (a further twenty-four sherds weighing 125g with a r.eve of 0.32 are dated to predominantly the post-medieval and modern periods, these shall be touched upon later). Table 1 displays the quantities of pottery recovered each type of context from across the site. The table clearly demonstrates that over ninety percent of the overall assemblage was retrieved from ditch and pit fills.

Table 1. Pottery totals by context type

Feature	Sherd No	%	Weight/g	%	R.eve	%
U/s	3	0.5	30	0.5	0.07	1
Ditch	230	40	8829	47	3.29	39.5
Pit	303	52.5	191	48	4.92	59
Ditch/spread	5	1	99	1	-	-
Gully	4	0.5	26	0.5	0.01	Pres
P/hole	2	0.5	13	Pres	-	-
Well	2	0.5	5	Pres	-	-
Channel	1	Pres	28	0.5	-	-
Garden fill	15	2.5	86	1	-	-
Rectangular	9	1.5	166	1.5	0.05	0.5
Totals	**574**	**100**	**9473**	**100**	**8.34**	**100**

This report describes the methodology used to record the pottery assemblage and then goes on to discuss general aspects of the assemblage as a whole, such as the condition of the material. This is then followed by an analysis of the pottery from the site with particular attention paid to context 30, fill of ditch terminus 29 part of ditch grp 70. An overall discussion of the pottery assemblage forms the last part of the report.

11.2 Methodology

All of the pottery has been examined at x20 vision and thereafter assigned to fabric groups. Codes have been allocated to these groups for both fabric and form types, based upon the national system developed by Tomber and Dore (1998) and those employed at Chelmsford by Going (1987). These systems have been supplemented by fabric codes used as part of the Bedfordshire ceramic type series and a full breakdown of these (as well as other codes relating to form and abrasion) can be seen Appendix 1.

The pottery from each context has been recorded by sherd number, weight as well as by rim/base percentage (r.eve). Other types of data recorded include decoration and the level of abrasion. Each fabric (or form within it) has been given a date range, followed by an overall date range for the context as a whole. A full breakdown of the ceramic assemblage can be seen in Appendix 2.

11.3 The assemblage

Condition

Although as a whole the assemblage is of a reasonable size, the vast majority of sherds are in reality derived from just four of the thirty contexts containing pottery. These fills are Ditch terminus 30 (278 sherds), Ditch 55 (36 sherds), Ditch 107 (76 sherds) and Ditch 160 (50 sherds). Furthermore, twenty-three of the thirty contexts contain less than ten sherds and therefore cannot be considered as well dated.

However, despite the presence of quite often significant fragmentation within the assemblage as a whole, the vast majority of sherds display little or only slight abrasion. Within some of the larger contexts, for instance Ditch terminus fill 30 the average sherd weight is a good 15.5g and in Ditch context 107 (which contains the remains of a single jar) the average stands at 38.5g.

All of the best diagnostic data (rims and bases) has been derived from the previously mentioned larger groups, thereafter diagnostic pieces are few, and spread erratically amongst the remaining contexts as can be seen in Table 1.

Dating

When considering the dating of the assemblage as a whole (regardless of the number of sherds per fill) a significant number of contexts have a range of mid/late 1st to early 2nd (ten), and thirteen, despite the broad range being allocated them, appear no later than 2nd century. Only a very small number of contexts hint at a date that may be later than the 2nd century (four), but generally this is a range based upon either long-lived forms or fabrics from fills that contain few sherds.
The only context to be dated later than the 2nd century is Ditch fill 204. Despite containing only three sherds, all of these are dated to the late 3rd/4th century.

The post-Roman assemblage is small and is located in Pit contexts 23, 39, 196, Garden feature 34, and Rectangular feature 45.

This group contains a single abraded (residual) medieval sherd which was noted in Rectangular feature fill 45. It is an unprovenanced glazed ware (UPG) dated from the mid/late 12th to 14th century. The reminder of the post-Roman assemblage is dated from the 16th-20th century, although most appear to date from the 17th/18th century onwards. The most consistently dated groups are those recovered from the Garden feature quadrants 34 which are dated to the 17th/18th century. A full breakdown of these fabrics can be seen in Appendix 2.

Fabric and form

Outside of Ditch terminus fill 30 and Ditch fill 55 there are few continental finewares. They amount to four very small sherds of samian ware that originate from southern (LGF SA) and central Gaul (LEZ SA 2), none of which were diagnostic. No Romano-British finewares are present within these assemblages.

Romano-British coarsewares that have arrived from outside of the Bedfordshire region consist mainly of Verulamium white ware sherds (VER WH). This fabric originates from Hertfordshire and amounts to twenty sherds and is dated from the mid/late 1st-mid/late 2nd century. The only diagnostic sherd within this group belonged to a J.4 flagon, similar to Verulamium types 1947/54/55 (Wilson 1984) which was noted in Ditch fill 97. Two sherds of Hadham oxidised ware, also from Hertfordshire (HAD OX) were recorded in the late Roman Ditch fill 204. Both of these were part of C8 hemispherical bowl flange dated from the late 3rd-4th century. Ditch fills 92 and 113 contained a body sherd each of the Roman grog tempered ware PNK GT. This fabric

is unsourced but it is thought to have originated from around the Northamptonshire or Buckinghamshire area (Tomber and Dore 1998, 210) and is dated from the mid/late 2nd to at least the 3rd century.

The remainder of this part of the assemblage is made up of unsourced coarsewares, the principle fabrics being BSW (Black surfaced/Romanising grey wares), GRS (Unsourced sandy grey wares) and a small number of grog (SOB GT) and shell tempered fabrics (UNS/HAR SH). Their accompanying forms are chiefly made up of jars, with the occasional dish or beaker being present. However, the majority are simply too small to be identified beyond their general class of vessel.

Of note are two vessels, the first is an almost complete jar recorded in Ditch fill 107 in the local Harrold shell tempered fabric (HAR SH). It is a channelled rim type in Going's G5 category (1987) and has similar matches in Brown's kiln corpus (1994, No's 102/105) as well as at Verulamium (Wilson 1984, No 2304). It is dated from around the ?early?/mid to later 2nd century. It is a typical later version of the jar which displays a less prominent bead and more moulded rim with the channel itself barely visible. Although not unknown, but unusually this version displays no rilled decoration on its body.

The second vessel is also a jar in fabric GRS and was noted in Ditch fill 160. This is similar to Going's G11 type (1987) and has parallels at both Verulamium (Wilson 1984, No 2123) and Baldock (Stead & Rigby 1986, No 518). It is generally dated from around the early/mid to later 2nd century which is confirmed by the presence of fabrics LEZ SA 2 and VER WH. The jar has a bead rim and is neck-less and exhibits an acute lattice pattern on its body.

Table 2 depicts the overall form assemblage encountered at Old Palace Lodge and it clearly demonstrates firstly how few were encountered but also how limited the range of forms are. The number of forms associated with dining for instance, are very low and no food preparation types such as mortaria are present, the suite is dominated by jars.

Table 2. The site form assemblage

Form	Plate/dish	Dish	Bowl	Jar	Beaker	Flagon	Lid	Cup
Number	1	2	1	14	4	2	1	1

Ditch terminus fill 30

The pottery from this Ditch terminus fill forms the largest assemblage recovered from the site, accounting for between fifty and fifty-eight percent across sherd count, weight and r.eve calculations of the entire Roman assemblage. Table 3 shows a fully quantified breakdown of the pottery from this context.

Table 3. Pottery totals in Ditch terminus fill 30 (SOB GT St excluded in calculations due to weight)

Fabric	Sherd No	%	Weight/g	%	R.eve	%
LGF SA	2	0.5	8	Pres	0.02	0.5
LEZ SA 2	1	0.5	2	Pres	-	-
CNG CC	14	5	88	2	0.90	19.5
ROB MD	1	0.5	4	Pres	0.04	1
VER WH	7	2.5	79	2	-	-
UNS WH	20	7	238	6	-	-
UNS WS	5	2	26	0.5	0.13	2.5
UNS OX	8	3	128	3	-	-
BSW	136	49.5	2119	53	1.77	38

GRS	80	29	1303	32.5	1.79	38.5
SOB GT	1	0.5	17	0.5	-	-
SOB GT St	3	-	253	-	-	-
Totals	**275**	**100**	**4012**	**100**	**4.65**	**100**

The Ditch terminus fill is dated around AD100/120, this being derived from a combination of fabrics and forms which shall be described below.

The percentage presence of samian fabrics (and their sources) is similar to that already described from other Roman contexts across the site. Fragments from La Graufesenque (LGF SA) represent a possible cup (Drg 27 or 33) and a platter or dish of some description. However, of note within this fill are fourteen sherds of a roughcast beaker from central Gaul (CNG CC). It is in Going's H20 style (1987) and has a cornice style rim and displays a brown colour-coat with an orange/reddish interior. The fabric itself exhibits little in terms of inclusions, being very fine and white, its most obvious trait is the presence of common silver and sparse gold mica (fig xx, No 1). The vessel is dated from the mid/late to early 2nd, although it is likely that it is no earlier than the late 1st century. A joining sherd to this vessel was also recorded in the mixed Rectangular feature deposit 45.

A possible lid fragment in Going's K4 style (1987) represents the only Romano-British fineware within the pit group (ROB MD). The sherd is dated from the late 1st to early/mid 2nd century. Its fabric is oxidised with a grey core and contains abundant fine quartz and sparse calcite; the outer surface is covered with silver mica.

The only regional import recorded in this fill, were seven body sherds of Verulamium white ware (dated from the mid/late 1st-mid/late 2nc century).

The remaining fabrics within the fill are all unsourced. The white ware sherds (UNS WH) are all part of the lower portion of a jar. This displays rings just above the base that are similar in style to those found on ring-neck flagons. The five sherds of unsourced white slipped wares (UNS WS) contain a possible H6.1/2 beaker (poppy-head style) but are too small to be securely identified. However, also noted were three body sherds that exhibited barbotine dot decoration and are similar in style for instance to those produced at Highgate Wood (Tomber & Dore 1998, 136). As whole these sherds are likely to be dated from the late 1st to early/mid 2nd century.

The Romanising fabric (BSW) dominates the assemblage, and typically during assemblages dated this period outnumbers the sandy grey ware type fabrics (GRS). Fabric BSW contains the five jars, three of which are worth describing further.

The first of these jars has no direct match however it is comparable in style to No 325 at Baldock (Stead & Rigby 1986) although the decoration differs. This version has a beaded and everted rim with a raised notched cordon on the shoulder, and below this an acute lattice pattern which stretches down to the base area. The vessel is dated from around the late 1st to early 2nd century; sherds belonging to this vessel were also noted in the Rectangular feature fill 45.

The next jar is in Going's G16.2.1 style (1987) and a similar type can be seen at Baldcock (Stead & Rigby 1986, No 381) and is dated from the mid/late 1st to early 2nd century. The vessel displays cordon and bulge decoration on its shoulder.

The third jar is too small to be identified securely nevertheless it appears to be in the G19 style (Going 1987) with a cordon at the neck and is probably dated to the same period as the previous vessel.

Fabric GRS contains the remains of four vessels, perhaps the most significant of these, albeit fragmentary, is a B2/4 dish (Going 1987). This is dated from around AD100/120-later 2nd century

judging by its sharply triangular rim. Of the remaining three jars of note is G10.2 type (Going 1987) which has parallels at Verulamium (Wilson 1984, No's 2085/88) and is dated from around the late 1st to early/?mid 2nd century. This version has cordon and bulge (with vertical stripes) decoration on the shoulder.

A few notes should be added with regard to the assemblage in Ditch fill 55. Although fewer in sherd number (thirty-six), and in a much more fragmentary state in comparison to Ditch terminus fill 30 (6.75g), it is comparable in its range of fabrics and broadly similar in date. Two forms were recorded in this context, the first being a Verulamium white ware (VER WH) flagon, although to small to be identified accurately it is similar to Going's J3.2 style (1987) and Wilson's No 1926 (1984). It is probably dated from the ?mid?/late 1st to early 2nd century. The next vessel is a mica dusted beaker (ROB MD) in Going's H2.1.1 category (1987) and comparable to Verulamium No 2074 (Wilson 1984). It has a globular shape and a single groove on its body. The fabric is oxidised, silty and contains sparse grog with the surfaces covered in silver mica and is dated from the late 1st to mid 2nd century.

11.4 Conclusion

Despite the limitations of many of the contexts that contain Roman pottery (for instance the number of sherds in each fill) the assemblage as whole is mostly of a contemporary nature. Use of the site between the mid and late 1st century has not been entirely proven, however certainly between the late 1st and mid 2nd century Roman activity seems to be at its most intense which continues up until the later 2nd century. Thereafter a single context represents activity dated to the late Roman period.

Previous assemblages reported upon by the author within Dunstable, have consistently thrown up evidence for activity during the mid/late 1st to 2nd century, such as at St Peters Lower School and Friary Fields (Fawcett, 2002 & 2004).

The range of fabrics and forms that have been recorded show that the assemblage is likely to be waste from some form of domestic settlement. The generally low showing of finewares, and other regional coarseware imports, suggests that this activity is not of a particularly high status. However, the evidence from Ditch terminus fill 30 and perhaps too Ditch fill 55, slightly contradicts this with hints of status, by the presence of an imported beaker and Romano-British mica-dusted wares being noted.

The assemblage has perhaps been recovered from an area that is on the periphery of more substantial settlement, a fact hinted at by previous work undertaken in this area where metal working debris dated to the Roman period was recorded (see HER, this report).

11.5 Fabric and form codes

Roman pottery fabric codes (Bedfordshire codes in brackets)

LGF SA (R01b)	La Graufesenque samian ware
LEZ SA 2 (R01a)	Lezoux samian ware (category 2)
CNG CC (R04D)	Central Gaulish colour coated ware
ROB MD (R02)	Romano-British mica dusted ware
VER WH (R03a)	Verulamium white ware
UNS WH (R03)	Unsourced white ware
HAD WS (-)	Hadham white slipped ware
UNS WS (R06h)	Unsourced white slipped ware (reduced/oxidised)
HAD OX (R22a)	Hadham oxidised ware
UNS OX (R05a)	Unsourced oxidised ware
BSW (R06f)	Black surfaced/Romanising grey ware
GRS (R06)	Unsourced sandy grey wares
HAD RE 1 (R22b)	Hadham reduced ware (category 1)
HAR SH (R13)	Harrold shell-tempered wares
UNS SH (R13)	Unsourced shell-tempered wares
PNK GT (R09a)	Pink grog tempered ware
SOB GT (R35)	Southern British grog tempered ware

***** The letters 'St' after any fabric code denotes a storage jar version of the fabric

Post-Roman fabric codes

UPG (C)	Unsourced medieval glazed ware
GRE (P02)	Glazed red earthenware
IGBW (P03)	Black glazed earthenware
PMSW (P06)	Miscellaneous post-medieval slipped ware
TPW (P45)	Transfer printed ware
REFW (P55)	Refined white earthenware
YELW (P57)	Midland yellow ware
PMED (P)	Miscellaneous post-medieval wares

Roman pottery form codes

A/B = Platter/dish, B = Dish, C = Bowl, G = Jar, H = Beaker, J = Flagon, K = Lid, T = Cup

Abrasion codes

Ext = Extremely, Very = Very, Abr = Abraded, Sli = Slightly, Gd = Good

11.6 Pottery Catalogue

Contxt	Fabric	Form	No	Wgt/g	R.eve	B.eve	Decoration	Condition	Illustration	Fabric date	Context date
U/S			UNS OX	G nn tsm	1	16	0.07			2nd-4th	2nd?+
U/S			UNS OX	Body	1	10				M1st-2nd?+	
U/S			BSW	Body	1	4				M1st-2nd?+	
					3	**30**	**0.07**				
7	6	P/hole	GRS	Body	2	13				Roman	Roman
					2	**13**					
28	9	?Ditch	REFW	Body	2	3				19th-20th	19th-20th
					2	**3**					
15	14	Ditch	UNS OX	Body	1	6			Accute lattice	L1st-2nd?+	L1st-2nd?+
					1	**6**					
23	11	Pit	PMED	?T	1	3	0.21			P/Med/modern	P/Med/modern
					1	**3**	**0.21**				
30	29	Ditch	LGF SA	Base	1	7		0.23		M1st-E2nd	c AD100/E2nd
30	29	Ditch	?LGF SA	A or B	1	1	0.02			M-L1st/?E2nd	
30	29	Ditch	LEZ SA 2	Body	1	2				E-L2nd	
30	29	Ditch	CNG CC 1/2	H 20	14	88	0.90		R/cast	?M?/L1st-E2nd	
30	29	Ditch	UNS WH	Base	20	238		0.18	Grooved rings	M1st-2nd	
30	29	Ditch	ROB MD	K ?4	1	4	0.04			L1st-E/M2nd	

30	29	Ditch	VER WH	Body	6	76				M/L1st-M/L2nd	
30	29	Ditch	?VER WH	Body	1	3				M1st-L2nd	
30	29	Ditch	SOB GT	Body	1	17				?LIA-L1st	
30	29	Ditch	UNS OX	Body	1	1				Roman	
30	29	Ditch	UNS OX	Body	6	107				M1st-2nd?+	
30	29	Ditch	UNS OX	Base	1	20		0.08		M1st-2nd?+	
30	29	Ditch	UNS WS	H 6.1/2 style	1	5	0.13			L1st-E/M2nd	
30	29	Ditch	UNS WS	Body	4	21			3 x barb dots	L1st-M/L2nd	
30	29	Ditch	BSW	Body	98	1251				M1st-2nd?+	
30	29	Ditch	BSW	G Bal 325 style	23	440	0.52	0.58	Notched cordon/accute lattice	L1st-E2nd	
30	29	Ditch	BSW	G 16-21/Bal 381 style	6	290	0.52	1.00	Cordon and bulge	M/L1st-?E2nd	
30	29	Ditch	BSW	G ?19	5	111	0.40			M/L1st-E2nd	
30	29	Ditch	BSW	G nn tsm	1	7	0.26			M1st-2nd?+	
30	29	Ditch	BSW	G tsm	1	16	0.07			M1st-2nd?+	
30	29	Ditch	BSW	Body	2	4				M1st-2nd?+	
30	29	Ditch	GRS	Body	56	854			8 x gooving	Roman	
30	29	Ditch	GRS	B 2/4	1	6	0.07			cAD100/E2nd-E/M3rd	
30	29	Ditch	GRS	G nn tsm	4	26	0.16			L1st/2nd?+	
30	29	Ditch	GRS	G 16-19 style tsm	6	84	0.85			M1st-E2nd	
30	29	Ditch	GRS	G 10.2/Ver 20855/2088 style	5	192	0.71		Cordon and bulge/vertical stripe	L1st/AD100-E/?M2nd	
30	29	Ditch	GRS	Base	1	3		0.25		Roman	

45	44	Rectangular	BSW	Body	3	132				M1st-2nd?+	
45	44	Rectangular	GRS	Body	1	8				Roman	
30	29	Ditch	GRS	Base	1	7		0.05		Roman	
30	29	Ditch	GRS	Base	1	16		0.13		Roman	
30	29	Ditch	GRS	Base	1	11		0.11		Roman	
30	29	Ditch	GRS	Base	2	31		0.22		Roman	
30	29	Ditch	GRS	Base	1	51		0.58		Roman	
30	29	Ditch	GRS	Base	1	22		0.55		Roman	
30	29	Ditch	SOB GT St	Body	3	253			1 x combing	M1st-2nd?+	
		D			**282**	**4405**	**4.65**	**3.96**			
32	31	Ditch	VER WH	Base	1	8		0.11		M/L1st-M/L2nd	M/L1st-M/L2nd
					1	**8**		**0.11**			
34 Q1	33	Garden	GRE	Base	2	18		0.04		16th-18th	17th/18th
34 Q1	33	Garden	IGBW	Body	1	1				16th-18th	
34 Q1	33	Garden	PMSW	Body	1	3				17th-18th	
					4	**22**		**0.04**			
34 Q2	33	Garden	GRE	Body	3	39				16th-18th	c L18th?+
34 Q2	33	Garden	IGBW	Body	4	14				16th-18th	
34 Q2	33	Garden	TPW	Body	3	8				18th-20th	
34 Q2	33	Garden	REFW	Body	1	3				L18th-20th	
					11	**64**					
39	38	Pit	TPW	Body	1	9				18th-20th	L18th-19th
39	38	Pit	YELW	Body	1	1				L18th-19th	
					2	**10**					
45	44	Rectangular	CNG CC 1/2	Body	1	11			R/cast	?M?/L1st-E2nd	M/L1st-E2nd+ M12th-14th+ L18th-20th

45	44	Rectangular	VER WH	Body	1	1				M/L1st-M/L2nd	
45	44	Rectangular	UPG	C/pot	1	5	0.05			M/L12th-14th	
45	44	Rectangular	REFW	Body	2	9				L18th-20th	
					5	**26**	**0.05**				
47	29	Ditch	UNS OX	Body	1	83				M1st-2nd?+	M1st-2nd?+
					1	**83**					
53	52	Ditch	VER WH	Body	1	12				M/L1st-M/L2nd	M-L1st
53	52	Ditch	UNS OX	Body	1	3				Roman	
53	52	Ditch	GRS	Body	1	38				M1st-2nd?+	
53	52	Ditch	SOB GT	Body	9	148				LIA-L1st?+	
					12	**201**					
55	54	Ditch	LGF SA	Base	3	20		0.09		M1st-E2nd	c L1st
55	54	Ditch	ROB MD	H 2.1.1/Ver2074	12	87	0.34		Girth groove	L1st-E/M2nd	
55	54	Ditch	VER WH	J3.2/Ver1926 style	8	72	0.94			?M?/L1st-E2nd	
55	54	Ditch	UNS WH	Body	1	4				M1st-2nd	
55	54	Ditch	UNS WS	Body	2	3				M/L1st-2nd	
55	54	Ditch	UNS WS	Body	1	5				?L1st-L2nd	
55	54	Ditch	UNS OX	Body	1	1				Roman	
55	54	Ditch	BSW	Body	4	37				M1st-2nd?+	
55	54	Ditch	GRS	Body	3	7				Roman	

55	54	Ditch	SOB GT	Body	1	7				LIA-L1st	
					36	**243**	**1.28**	**0.09**			
60	59	Gully	SOB GT St	?G tsm	1	18	0.01			M1st-2nd?+	M1st-2nd?+
60	59	Gully	UNS SH	Body	1	4				?M1st-2nd?+	
					2	**22**	**0.01**				
62	61	Ditch	LGF SA	?T tsm	1	1	0.07			M1st-E2nd	M-L1st
62	61	Ditch	UNS OX	Body	1	1				Roman	
62	61	Ditch	SOB GT	Body	1	4				LIA-L1st	
					3	**6**	**0.07**				
68	72	Channel	SOB GT	Body	1	28				LIA-L1st	LIA-L1st?+
					1	**28**					
74	73	Pit	VER WH	Body	1	5				M/L1st-M/L2nd	M-L1st
74	73	Pit	UNS OX	Body	2	8				Roman	
74	73	Pit	BSW	Body	2	12				M1st-2nd?+	
74	73	Pit	SOB GT	Body	4	28				LIA-L1st	
					9	**53**					
79	78	Ditch	GRS	B 2/4	1	17	0.07			E/M2nd-E/M3rd	E/M2nd-E/M3rd
					1	**17**	**0.07**				
86	?82	Ditch/spread	GRS	Body	1	12				M1st-2nd?+	M1st-2nd?+

86	?82	Ditch/spread	SOB GT St	Body	4	87				M1st-2nd?+	
					5	**99**					
88	87	Pit	VER WH	Body	1	10				M/L1st-M/L2nd	M/L1st-M/L2nd
					1	**10**					
90	89	Ditch	UNS WS	Body	1	1				L1st/2nd	M-L1st?+
90	89	Ditch	GRS	Body	1	4				Roman	
90	89	Ditch	SOB GT	Body	1	16				LIA-L1st?+	
					3	**21**					
92	91	Ditch	UNS OX	Body	1	1				Roman	?M?/L2nd-3rd/?E4th
92	91	Ditch	PNK GT	Body	3	10				?M?/L2nd-3rd/?E4th	
					4	**11**					
95	94	Pit	LGF SA	Body	1	1				M1st-E2nd	M-L1st
95	94	Pit	VER WH	Body	2	9				M/L1st-M/L2nd	
95	94	Pit	SOB GT	Body	2	7				LIA-L1st	
					5	**17**					
97	96	Ditch	LGF SA	Body	1	2			Chevron	M1st-E2nd	L1st-E2nd?+
97	96	Ditch	VER WH	J 4/Ver 1947/1954/1955 style tsm	1	22	0.20			L1st-E/M2nd	
97	96	Ditch	VER WH	Body	2	10				M/L1st-M/L2nd	

97	96	Ditch	BSW	Body	2	3				M1st-2nd?+	
97	96	Ditch	GRS	Body	2	5			1 x barb dots	L1st-M/L2nd	
97	96	Ditch	HAR SH	G 5/Bro 44	1	38	0.07			L1st-E/M2nd	
97	96	Ditch	SOB GT St	Body	11	222				M1st-2nd?+	
					20	**302**	**0.27**				
99	98	Ditch	LEZ SA 2	Body	1	2				E-L2nd	E-L2nd
99	98	Ditch	VER WH	Body	3	8				M/L1st-M/L2nd	
99	98	Ditch	BSW	Body	4	15				M1st-2nd?+	
99	98	Ditch	UNS SH	Body	1	5				Roman	
99	98	Ditch	SOB GT ?St	Body	4	11				M1st-2nd?+	
					13	**41**					
101	94	Pit	VER WH	Body	3	25				M/L1st-M/L2nd	M/L1st-M/L2nd
101	94	Pit	SOB GT St	Body	2	64				M1st-2nd?+	
					5	**89**					
107	106	Ditch	UNS OX	Body	1	6				M1st-2nd?+	?E?/M-L2nd
107	106	Ditch	HAR SH	G 5.4/Bro 102/105/Ver 2304	74	2934	0.80	0.40		?E?/M-L2nd?+	
					75	**2940**	**0.80**	**0.40**			
113	112	Ditch	GRS	Body	1	10				Roman	?M?/L2nd-3rd/?E4th
113	112	Ditch	PNK GT	Body	1	19				?M?/L2nd-3rd/?E4th	

					2	**29**					
131	130	Gully	UNS SH	Body	1	1				Roman	Roman
					1	**1**					
133	132	Gully	BSW	Body	1	3				M1st-2nd?+	M1st-2nd?+
					1	**3**					
137	136	Ditch	VER WH	Body	2	6				M/L1st-M/L2nd	M/L1st-M/L2nd
137	136	Ditch	GRS	Body	1	4				M1st-2nd?+	
					3	**10**					
160	?186	?Ditch	LEZ SA 2	Base	1	7		0.16		E-L2nd	?E?/M-L2nd
160	?186	?Ditch	VER WH	Body/handle	4	27				M/L1st-M/L2nd	
160	?186	?Ditch	UNS OX	Body/handle	2	4				Roman	
160	?186	?Ditch	GRS	G 11/Ver 2123/Bal 518 style	41	555	0.58	1.00	Accute lattice	M-L2nd/?E3rd	
160	?186	?Ditch	SOB GT St	Body/handle	2	10				M1st-2nd?+	
					50	**603**	**0.58**	**1.16**			
196	195	Pit	GRE	Platter	1	9	0.06			16th-18th	16th-18th
					1	**9**	**0.06**				
204	203	Ditch	?HAD OX	C 8 tsm	2	22	0.12			L3rd-4th	L3rd-4th
204	203	Ditch	HAR SH	G Bro 244 style tsm	1	18	0.10			4th	
					3	**40**	**0.22**				

215	211	Well	BSW	Body	1	3				M1st-2nd?+	M1st-2nd?+
215	211	Well	GRS	Body	1	2				Roman	
					2	**5**					

Appendix 12: Ceramic Building Materials (CBM) Report

Andy Fawcett

12.1 Introduction

A total of 205 fragments of CBM with a combined weight of 5798g was recovered from Old Palace Lodge, Dunstable. Of this figure sixty-five pieces weighing 1591g were dated to the Roman period with the remainder dated to the post-medieval period.

This report sets out the methodology employed in the recording of the CBM. It then goes on to describe and discuss the groups from the Roman and post Roman periods and thereafter follows an overview of the entire assemblage.

12.2 Methodology

The assemblage has been divided by form and fabric, to which a form and fabric code (see Appendix 1), have been assigned. All of the fragments within these categories have been recorded by fragment number and weight.

The form codes, for the majority of fragments, directly reflect the actual form type, for example tegula. However, the category of flat tile (Flat), accounts for all of the tile pieces that cannot be accurately assigned to a certain tile type. Measurement of the depth of these fragments indicates that those with a range of broadly 14-28mm are highly likely to be tegula mid-sections (based upon average depths of actual tegula fragments). Those that fall between c 29/30-38mm are classed as flat/brick fragments, indicating that it is not certain whether these are roofing tile or structural tile/brick fragments. Pieces with depths of 39mm + are recorded as true brick fragments.

All of the fabrics, with the exception of unidentifiable fragments, have been identified at x20 vision and their codes are based upon the principle defining ingredients, for instance quartz sand and clay pellets (Mscp – see Appendix 1).

Apart from the measured depths of CBM fragments, other information which has been recorded includes the level of abrasion, joins, distinguishing marks/impressions and any pieces that appear to be over-fired or heat-affected. A full breakdown of the CBM assemblage can be seen in Appendix 3.

12.3 Roman

In general, the Roman CBM assemblage is fragmentary and displays on average a fair bit of abrasion. Furthermore, the pieces are distributed quite thinly and occur both within true Roman contexts as well as residually in post-medieval/modern fills. As Table 4 depicts the range of Roman CBM types is fairly limited.

Table 4. Roman CBM types

CBM type	Tegula	Flat	Flat/brick	Brick	Fragment	Daub
Number	2	20	2	8	22	8

Pit fill 15 and Pit fill 74 each contained one very small piece of tegula; none of the contexts contained imbrex fragments. Apart from unidentifiable fragments the next largest category of CBM was flat tile (see methodology) however as already described these are dotted around contexts in quite small numbers and are in a fragmentary state.

The fabrics relating to the Roman CBM are fairly typical being often fairly bright orange and medium sanded with predominantly clay pellets or occasionally iron rich inclusions, flint or calcite, or sometimes combinations of the last three ingredients.

The pottery section of the report highlighted the importance of Ditch terminus fill 30 (dated to around the early 2nd century). However, only a single heat affected brick fragment was noted in this fill. The fabric was purple/black and almost vitrified through burning.

Also present within this fill were eight very small and friable pieces of daub (13g). Some of the fragments displayed partial areas of flat/irregular surfaces and were made out of a medium sanded fabric with chalk (Msch). No other marks, such as impressions of rods and so on were noted therefore it is not possible to say if these fragments originated from walling or a structure, for instance such as an oven.

Ditch fill 55 was also briefly discussed within the ceramic report (dated to the late 1st century) however again only four small fragments of CBM were recorded. Two belonged to a flat/brick and two were unidentifiable pieces, all were shattered.

12.4 Post-Roman

Despite the fact that the post-medieval assemblage is of a larger size than the Roman, in general it is still quite fragmentary although the abrasion levels are better, being mostly only slight.

The assemblage is chiefly composed of peg tiles and occasional brick fragments. The best and most consistent assemblages were noted in the two quadrants of the Garden feature fill 34, dated to around the 17th/18th century which contained fifty-one pieces.

The peg tiles in these contexts are fairly representative of the whole, being either oxidised or deep red and high fired. They contained mostly medium sand alongside principally ferrous inclusions. Several fragments exhibit mortar on their surfaces, and a small number have the partial remains of peg holes.

The small number of recorded brick fragments, are generally composed of medium quartz sand and one example displays the remains of a black glaze on one surface. This is likely to date from the 16th-18th century.

12.5 Conclusion

The Roman CBM assemblage is mostly in a poor state of preservation and demonstrates little consistency in terms of its distribution. The form assemblage contains components of both roofing and structural CBM. However, the quantities, its condition and distribution all indicate that the structure or structures from which they originated was unlikely to be in the immediate vicinity of the current site. One interpretation might be that the fragments were deposited here after being reused for some other purpose and thereafter discarded.

Clearly there have been several structural changes around the Old Place Lodge area with the post-medieval period. However, the assemblage within the Garden feature quadrants (dated around the 17th/18th century) may possibly be debris related to for instance, the conversion of the main building into a farmhouse or other building work during this prosperous phase of the site.

12.6 Fabric and form codes

Ceramic building materials

Ms	Quartz sand fabric
Mscp	Quartz sand with clay pellets
Msf	Quartz sand and flint
Msc	Quartz sand and calcite
Msfe	Quartz sand and ferrous inclusions
Msch	Quartz sand and chalk

Rt = post-medieval roof tile, flat = flat tile, flat/brick = flat tile or brick, teg = tegula, frag = unidentifiable fragments

12.7 CBM Catalogue

Context	Form	Fabric	Depth	No	Wgt/g	Abrasion	Date	Context date
Us	Rt	Asb	6	1	24	Sli	Modern	2nd?+
7	Mort	Msl		1	20	Abr	Roman	Roman
7	Frag	Ms		1	2	Sli	?Roman	
				2	**22**			
28	Frag	Mscp		1	2	Abr	Roman	
28	Frag	Msf		1	6	Abr	Pmed	19th-20th
28	Frag	Msf	20	1	45	Abr/sli	Pmed	19th-20th
				3	**53**			
15	Frag	Ms		8	52	Abr/sli	Roman	L1st-2nd?+
15	Flat	Msf	19	1	13	Abr/sli	?Roman?	
15	Flat	Ms	18	1	5	Abr/sli	?Roman?	
15	Flat	Mscp	17	1	8	Abr/sli	Roman	
15	Flat	Mscp	17	1	6	Abr/sli	Roman	
15	Teg	Mscp	?	1	16	Very	Roman	
15	Flat	Msc	16	1	14	Abr	Roman	
15	Flat	Msf	23	1	88	Abr/sli	Roman	
15	Brick	Msfe	59	1	406	Abr/sli	?Roman?	
				16	**608**			
23	Frag	Ms		2	8	Abr	Roman/Pmed	Pmed
23	Rt	Msch	14	1	60	Sli	Lmed/Pmed	
				3	**68**			
30	Brick	Msc	42	1	217	Sli	Roman	c E2
30	Daub	Msch		8	13	Sli	Roman	
				9	**230**			
32	Frag	Ms		1	4	Sli	Roman	M1st-L2nd
32	Frag	Msc		1	11	Sli	Roman	
				2	**15**			
34 Q1	Rt	Msc	15-18	3	221	Sli	Pmed	17th/18th
34 Q1	Rt	Ms	17	1	54	Sli	Pmed	
34 Q1	Rt	Msfe	12 to 15	12	446	Sli	Pmed	
34 Q1	Brick	Msc	<39	1	26	Sli	Pmed	
34 Q1	Brick	Ms	60	1	113	Sli	Pmed	
34 Q1	Brick	Msc	<34	2	37	Abr/sli	Pmed	
34 Q1	Frag	Ms		14	268	Abr/sli	Pmed	

				34	**1165**			
34 Q2	Rt	Msfe	12 to 14	7	197	Abr/sli	Pmed	c 18th
34 Q2	Rt	Msc	13	1	10	Sli	Pmed	
34 Q2	Brick	Msfe	<39	1	159	Sli	Pmed	
34 Q2	Frag	Ms		8	225	Abr/sli	Pmed	
				17	**591**			
39	Rt	Msfe	12	2	43	Sli	Pmed	L18th/19th
39	Rt	Msc	14	1	29	Sli	Pmed	
39	Frag	Ms		1	1	Sli	Pmed	
				4	**73**			
45	Frag	Mscp		1	15	Abr	Roman	Mixed (Roman, Med, Pmed
45	Frag	Msch		1	8	Very	Lmed/Pmed	
45	Rt	Msfe	12 to 14	11	496	Abr/sli	Pmed	
45	Brick	Msfe	51	1	346	Sli	Pmed	
45	Frag	Ms		27	174	Abr/sli	Pmed	
				41	**1039**			
53	Flat	Msfe	9	2	32	Abr/sli	?Roman	M-L1st
53	Frag	Ms		1	1	Abr	?Roman	
				3	**33**			
55	Flat/brick	Mscp	35	2	25	Sli	Roman	c L1st
55	Frag	Ms		2	2	Sli	Roman	
				4	**27**			
62	?Brick	Mscp		**1**	**29**	Sli	Roman	M-L1st
68	?Brick	Msch		1	9	Sli	Roman	LIA-L1st
68	Frag	Ms		1	1	Sli	Roman	
				2	**10**			
74	?Teg	Msc		1	18	Sli	Roman	M-L1st
74	Frag	Ms		1	9	Sli	Roman	
74	Frag	Mscp		1	6	Sli	Roman	
				3	**33**			
79	Frag	Mscp		1	6	Abr	Roman	E/M2nd-E/M3rd
79	Flat	Ms	16	1	9	Abr	?Roman	
79	Rt	Ms	12	1	30	Sli	Pmed	
79	Rt	Msfe	14	2	43	Sli	Pmed	
79	Frag	Ms		2	5	Sli	Pmed	
				7	**93**			
81	Frag	Mscp		2	14	Abr	Roman, residual	No pot
81	Rt	Ms	12 to 13	2	44	Sli	Pmed	
81	Rt	Msfe	12 to 13	2	141	Sli	Pmed	
81	Rt	Mscp	13	1	16	Abr	Pmed	
81	Frag	Ms		6	40	Abr/sli	Pmed	
				13	**255**			
97	Flat	Msfe	22	**2**	**127**	Sli	Roman	L1st-E2nd?+
160	Flat	Msfe	12	**1**	**14**	Sli	Roman	M-L2nd
190	Natural	Chalk		**1**	**479**	Abr	Unknown	No pot
192	Rt	Msc	15	2	54	Abr	Lmed-Pmed	No pot

192	Rt	Ms	14	1	19	Sli	Lmed-Pmed	
192	Rt	Ms	12 to 15	10	246	Abr/sli	Pmed	
192	Rt	Ms	13	1	10	Abr	Pmed	
192	Frag	Ms		2	19	Sli	Pmed	
				16	**348**			
212	?Brick	Mscp		3	44	Sli	?Roman	No pot
212	Frag	Ms		1	11	Sli	?Roman	
212	Flat	Msfe	16	1	23	Sli	?Roman	
212	Flat	Msfe	8	1	19	Sli	?Pmed	
				6	**97**			
215	Flat	Ms	19	1	87	Sli	Roman	M1st-2nd?+
215	Flat	Ms	15	1	66	Abr	?Roman	
215	Flat	Ms	15	1	24	Sli	?Roman	
215	Flat	Ms	15	3	51	Sli	Roman	
215	Flat	Ms	18	1	51	Abr/sli	Roman	
215	Flat	Ms	15	1	21	Abr	?Roman	
215	Rt	Ms	13	1	19	Sli	Pmed	
215	Frag	Ms		6	70	Abr/sli	Roman/Pmed	
				15	**389**			

Appendix 13: Metal Objects Report

Carina Summerfield-Hill

13.1 Fe Nails/Undiagnostic Fragments

A total of 22 (93g) Fe Nails/Undiagnostic fragments were recovered from 14 contexts during the excavation, dating to both the Romano-British period and the Post-Medieval periods, details of which are presented in Table 1. Dating was derived from pottery analysis of the associated contexts. The nails were also X-rayed and depicted in Plate 1.

Table 1: Fe Nails/Undiagnostic Fragments

Context	No.	Nails: Measurements (mm)		Comments	Context Date
		Length	Width of Head		
09	1	48.11	-	Nail, shaft only.	Post-Medieval
23	1	37.41	-	Nail, shaft only.	Post-Medieval/Modern
34	2	1) 32.62	-	1) Nail, shaft only, bent up at the bottom end of the shaft. 2) Undiagnostic fragment of Fe material.	Post-Medieval
39	1	30.53mm		Nail, shaft only.	Post-Medieval
45	2	1) 32.47mm 2) -	1: 10.78 2: -	1) Nail, complete. 2) Nail, shaft only, bent so length measurement could not be taken.	Post-Medieval
55	1	-	10.67	Nail head only	*c.* L1st century
60	4	1) - 2) - 3) 8.43 4) -	1) 7.89 2) 8.93 3) 7.45 4) 9.47	1) Stud nail with a square head, shaft bent so length measurement could not be taken. 2) Stud nail with a square head, shaft bent so length measurement could not be taken. 3) Stud nail with a square head. 4) Stud nail, shaft only.	M1st-2nd?+
62	2	1) - 2) 14.81	1) 8.84 2) -	1: Nail, complete, shaft bent so length measurement could not be taken. 2: Nail, fragment of shaft only.	M-L1st
67	2	1) 51.20 2) 22.11	1) - 2) -	1) Nail, shaft only. 2) Nail, fragment of shaft only.	Roman
79	2	1) 46.65 2) -	1) - 2) -	1: Nail, shaft only. 2: Nail, shaft only, bent so length measurement could not be taken.	E/M2nd-E/M3rd
99	1	-	-	Undiagnostic fragment of Fe material.	E-L2nd

137	1	-	-	Undiagnostic fragment of flat Fe material, squared off at one end with a more rounded edge at the opposite end. Fragment measured 59.21mm in length, 17.80mm max in width.	M/L1st-M/L2nd
192	1	6.23	9.63	Nail, complete, square shaft	Late Medieval-Post-Medieval
200	1	31.16	9.31	Nail, complete	Post-Medieval
TOTAL	22				

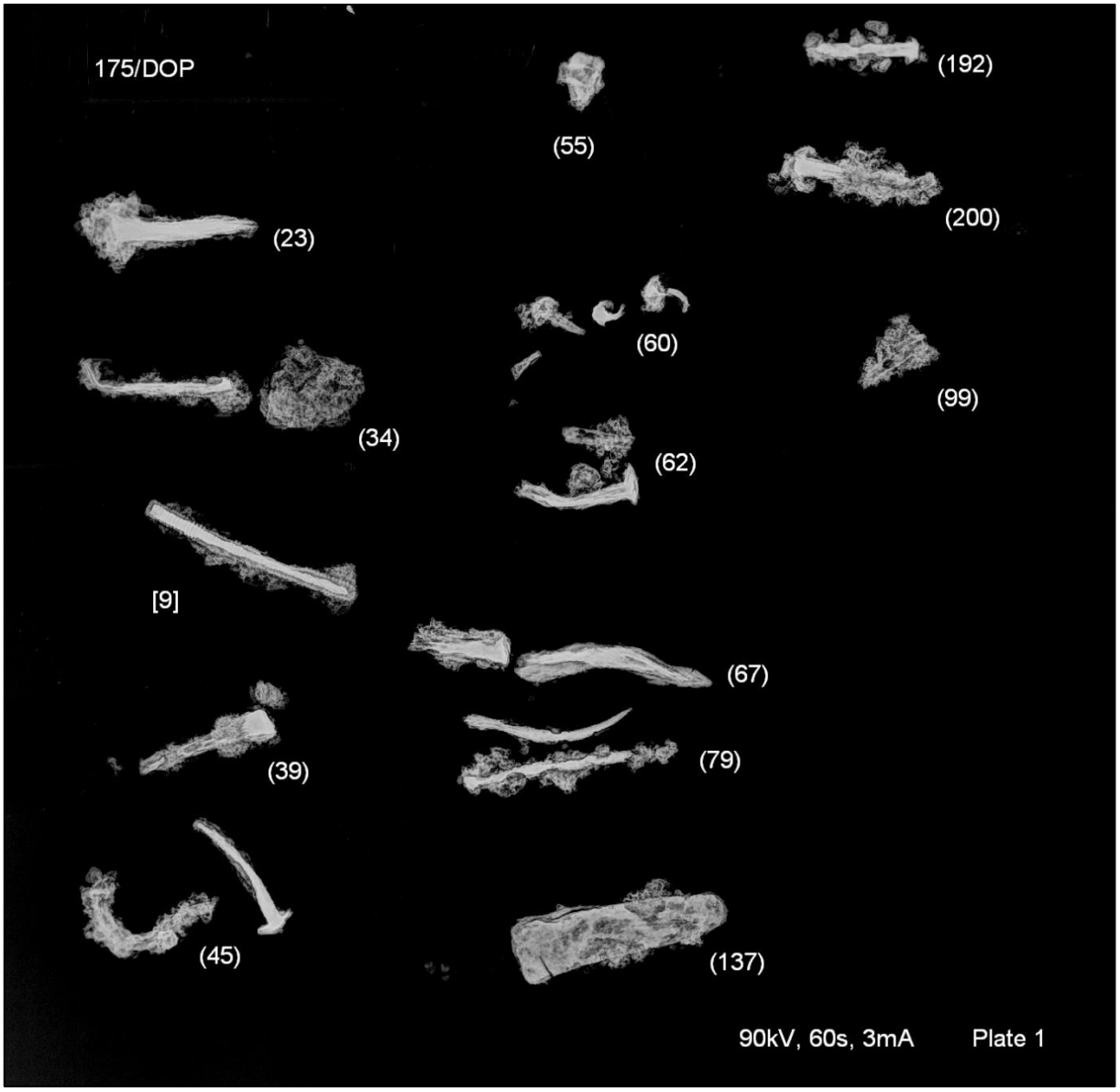


Plate 1: X-Rays of Fe Nails/Undiagnostic Fragments

13.2 Copper Alloy Coin

A single copper alloy coin (SF4) was found in Roman ditch grp [111] slot [186] fill (160). The coin was heavily degraded, but the faint outline of a head is visible. It measured 28.20 x 26.87mm in diameter. It is difficult to fully determine the date of the coin due to its preservation, but it may possibly be an 'as' coin of Emperor Nero or Vespasian dating to the 1st century AD, this is not certain though.

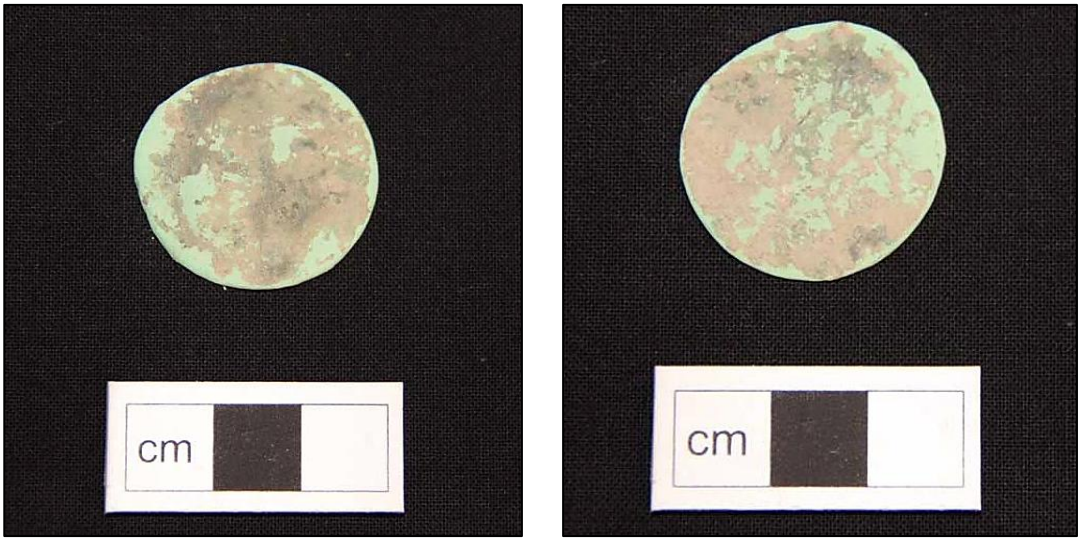


Plate 2: Copper alloy coin (3cm scale)

13.3 Copper Alloy Pin

A copper alloy pin (SF3) was also found in Roman ditch grp [111] slot [186] fill (160). The pin was incomplete and measured 28.47mm in length. One end of the pin was bevelled, whilst the opposite end had broken off.

Plate 3: Copper allow pin (3cm scale)

13.4 Copper Alloy Hoop

A copper alloy hoop (SF2) was found in Roman ditch slot [78] fill (79), that was incomplete. It measured 22.92 x 19.39mm. The hoop looks to be too thick to have been an item of jewellery, rather it may be a fitting of some sort.

Plate 4: Copper alloy hoop (3cm scale)

Appendix 14: Iron Slag Report

Report on the Iron Slag from Old Palace Lodge, Dunstable

Lynne Keys (Freelance)

14.1 Introduction

A very small quantity of material (238g), initially identified as slag, was recovered by hand on site; no material from soil samples was presented for separate examination. For this report it was examined by eye and tested with a magnet. The material was categorised on the basis of morphology. Each slag or other material type in each context was weighed; quantification data and details are given in the table below in which weight (wt.) is shown in grams.

Quantification table for the slag assemblage

cxt	slag type	wt.	comment
07	stone	38	Ore? Requires geological identification.
30	iron-rich undiagnostic	43	
45	iron lump	52	
45	stone	11	
160	iron-rich undiagnostic	47	
160	undiagnostic	47	
	Total wt. = 238g		

14.2 Explanation of terms and discussion of assemblage

Activities involving iron can take two forms, smelting or smithing:

Smelting is the manufacture of iron from ore and fuel in a smelting furnace. The products are a spongy mass called an unconsolidated bloom consisting of iron with a considerable amount of slag still trapped inside, and slag (waste).

No slags diagnostic of smelting were present in the Old Palace Lodge assemblage. There is, however, a piece of stone in context (07) which may possibly be ore; examination by a geologist would confirm this or rule it out.

Smithing involves the hot working (using a hammer) of the bloom to remove excess slag (primary smithing) or, more commonly, the hot working of one or more pieces of iron to create or to repair an object (secondary smithing: the type with which we are most familiar in modern times). As well as bulk slags, including the smithing hearth bottom (a plano-convex slag cake which builds up under the tuyère hole – the hottest part of the hearth - where the air from the bellows enters the hearth), smithing generates micro-slags; these can be hammerscale flakes from ordinary hot working of a piece of iron (making or repairing an object) and/or tiny spheres from bloom smithing or high temperature welding used to join or fuse two pieces of iron. Hammerscale, because of its tiny size, is usually only recovered by taking soil samples from fills and deposits, but it is very magnetic and its presence can be detected using a magnet; it is most prevalent (thickest) in archaeological contexts in the immediate area of smithing, i.e. in the vicinity of the anvil and between it and the smithing hearth.

Hammerscale was entirely absent from the Dunstable assemblage but, since no material from soil samples was presented for examination, it is not known whether hammerscale really was not present on site or whether fills were not sampled for this micro-slag.

No smithing hearth bottoms – or fragments that can be recognised as coming from them – were present.

The slag described as undiagnostic cannot be assigned to smelting or smithing either because of morphology or because it has been broken up during deposition, re-deposition or excavation.

The type of slag in the Dunstable assemblage was both undiagnostic and iron-rich undiagnostic slag. In view of its fragmentary nature, this undiagnostic slag is highly likely to re-deposited material and not indicative of any nearby ironworking activity. The absence of hammerscale further confirms the residual nature of the assemblage*.

Significance of assemblage

The material represents residual material which had been subject to re-deposition, abrasion and breakage over time.

Importance – locally, regionally, nationally

The assemblage is of purely local importance, and not particularly significant within that.

* *Hammerscale was identified in the environmental samples but in such small quantities that it was not considered unnecessary for further examination, as this would provide little additional information to the interpretation.*

Appendix 15: Lithics Report

Sarah Bates (Freelance)

15.1 Methodology

Each piece of flint was examined and recorded by context in an ACCESS database table. The material was classified by *category* and *type* (see archive) with numbers of pieces and numbers of complete, corticated and patinated pieces being recorded and the condition of the flint being commented on. Additional descriptive comments were also made.

15.2 The assemblage

A total of twenty-two lithic fragments were recovered during work at the site. Twenty-one fragments are of flint and there one small fragment of probable sandstone. One fragment of flint is burnt and a few other very small fragments might be burnt. Almost all of the flint is patinated and cortical surfaces are white or off-white in colour. Both these conditions are probably due to the chalky nature of soil in the area of the site. The material is summarised by type in Table 1 and listed by context in Table 2.

Table 1: Lithic material by type

Type	Number
shatter	1
retouched fragment	3
utilised fragment	5
non-struck fragment	12
burnt fragment	1
Total	**22**

Table 2: Flint by context

Context	Type	Quantity	Non-str.
7	non-struck fragment	0	1
15	retouched fragment	1	0
15	non-struck fragment	0	1
30	shatter	1	0
30	retouched fragment	1	0
30	non-struck fragment	0	2
60	non-struck fragment	0	1
62	utilised fragment	1	0
67	non-struck fragment	0	1
95	utilised fragment	1	0
97	utilised fragment	1	0
99	retouched fragment	1	0
101	utilised fragment	2	0
107	non-struck fragment	0	1
113	burnt fragment	1	0
133	non-struck fragment	0	5
TOTAL		**10**	**12**

A small irregular flake-like shatter piece has chalky cortex over one entire face and its other surface unpatinated [30]. It is quite freshly fractured. It might be from knapping but considering

the chalky/patinated nature of almost all the flint from the site it could be a recently fractured piece.

A small squat fragment, possibly an irregular flake, although probably of thermal origin, has possible slight retouch of an edge; there are a few small denticulations [15]. Another very irregular small irregular fragment has crude retouch along a quite thin steep edge [30], and a bulbous flake like fragment (of thermal origin) has very slight retouch of parts of its edges including forming a small spur [99].

Four other pieces have signs of possible utilisation of their edges. They include a small irregular shattered fragment [62], and three irregular thermal fragments [95], [101] and [97] (the latter of which is flake-like in appearance but probably of thermal origin). Another very irregular patinated thermal fragment may have one end utilised; a crude point, the tip of which may have broken [101].

Twelve fragments are thought to be non-struck pieces of thermal origin. They are mostly small and irregular and almost all of them are patinated white or very light grey. A few very small pieces from one context may be slightly burnt [133]. There is also one small fragment of reddish brown burnt flint [113]. A very small coarse-textured yellowish orange fragment of non-flint stone is probably sandstone.

15.3 Context of the flint

The flint was recovered from the fills of excavated features, mostly ditches, which were dated by pottery to the Roman period or later.

15.4 Conclusions

The flint is very irregular in nature. Almost all of it is patinated and most of it is thermally fractured and, subsequently, edge damaged and abraded. Although a few pieces have possible platforms and percussion bulbs suggesting that they might have been struck from ‘cores’, these characteristic features are not well-defined or certain. There is certainly no evidence for careful preparation of cores, for example for blade production or to produce regular flakes.

Some pieces, however, appear to have been utilised. This utilisation takes the form of slight or crude retouch of edges on a few pieces, and edge damage caused by use (referred to above and in catalogue as ‘utilisation’). There are no clearly diagnostic formal tools.

Not far to the south-east of Dunstable are chalk downs where extensive scatters of flint flakes have been found (Albion Archaeology 2003). It is assumed that flint, as a raw material, is available in the vicinity of the site although the present assemblage suggests that the opportunistic use of small surface-collected fragments occurred.

The irregular nature of the flint and absence of diagnostic debitage and tools suggests that, where it is humanly struck or modified, it dates to the later prehistoric period. Attributes including lack of core preparation, irregular cores and debitage, absence of diagnostic tools and the utilisation of surface-collected flint, including thermal fragments, have all been identified as characteristic of later Bronze Age or Iron Age flint-working (Humphrey 2007, Robins 1996).
It appears that much of the flint recovered from the site is not cultural in origin but comprises thermally fractured fragments which has been affected by the chalky nature of the local soils and edge damaged by natural processes.

Appendix 16: Environmental Report

Plant macrofossils

Anna West (Suffolk Archaeology)

16.1 Introduction and Methods

Twenty-two bulk samples were taken during the excavation from ditches and pits dating to the Roman period, along with a small number of features and a grave, which at the time of writing remained undated. Eighteen of the samples were processed in full in order to assess the quality of preservation of plant remains and their potential to provide useful data as part of the archaeological analysis.

The samples were processed using manual water flotation/washover and the flot was collected in a 300 micron mesh sieve. The dried flots were scanned using a binocular microscope at x10 magnification and the presence of any plant remains or artefacts are noted on Table 1 (see below). Identification of plant remains is with reference to *New Flora of the British Isles,* (Stace 1997).

The non-floating residues were collected in a 1mm mesh and sorted when dry. The residues were scanned using a magnet to recover any ferrous material present. All artefacts/ecofacts were retained for inclusion in the finds total.

The volumes of flot recovered from the samples were generally small. All were 100ml or less with the majority producing around 10 to 20ml; they were all scanned in full.
Quantification
For the purpose of this report, items such as seeds, cereal grains and small animal bones have been scanned and recorded quantitatively according to the following categories

= 1-10, ## = 11-50, ### = 51+ specimens

Items that cannot be easily quantified such as charcoal, magnetic residues and snail shells have been scored for abundance

x = rare, xx = moderate, xxx = abundant

16.2 Results and discussion

The majority of the flot volume consisted of terrestrial snail shells; no attempt to identify these has been made as part of this report, which focuses on the plant macrofossil remains. However, the Roman snail *Helix pomatia* L. (1758), *Cepaea* sp., *Helicella* sp., and *Cochlicopa* sp. all appeared to be present. Numerous other species were recovered but have not been identified within the remit of this report.

The preservation of the plant macrofossil remains was through charring and was fair to poor. Many of the cereal grains present were extremely puffed, fragmented and very friable, as though they had been exposed to high temperatures. Wood charcoal was present in the majority of the samples but in very small quantities and it was often highly comminuted, making it unsuitable for species identification or radiocarbon dating.

Cereal grains were present in most of the samples. The large majority of the grains were too puffed and distorted to identify beyond broad species level. Spelt wheat (*Triticum spelta* L.)

caryopses were most common, with a rounded 'bread wheat' type grain also being present, although in much smaller numbers, in many of the samples. Barley (*Hordeum* sp.) caryopses are rare, and possible oats (*Avena* sp.) were only tentatively identified within a single sample. This specimen, as with many of the grains, was fragmented and abraded, making positive identification as to whether this is a domesticated or a wild variety impossible.

Spelt glume bases were fairly common within eight of the samples. There were also a number of glume bases that were too abraded to identify and there is a possibility that some Emmer glume bases may be amongst them. Wheat spikelet forks were also present but again were too abraded to identify with any certainty; they are however most likely to be Spelt wheat. Rachis fragments were observed in three samples and appear to be from a free-threshing tetraploid wheat.

The presence of the heavy fractions of chaff suggests the material represents the later stages of cereal processing (Hillman stages 7 to 12). In wetter climates cereals were often stored in their spikelet form, in order to prevent spoiling, and processed through heating (or parching) and then pounding, in order to release them from their glumes. This was often carried out in small batches, possibly on a daily basis or as required (Hillman, 1981:138). The heavy fractions of chaff, particularly spelt glume bases, spikelet forks and smaller weed seeds were then cleaned from the grain through sieving and disposed of straight away on the fire (Hillman, 1981:136). The concentrations of spelt grains along with glume bases, spikelet forks and rachis fragments present in Samples 1, 10, 11, 12, 19 and 20, suggest that the final stages of processing, probably on a small domestic level, were taking place in the vicinity. The waste material was most likely to be disposed of within the domestic fire, becoming preserved through charring (Hillman 1981:136). Sometimes the waste from cereal processing was used as kindling or fuel, and it is possible that the exposure to the high temperatures this created, may have led to the puffed and friable condition of some of the cereal grains present.

The concentration of the material within the above samples suggests that the waste from domestic hearths or ovens may have been deliberately disposed of, possibly along with other domestic waste, within the features sampled. Many of the remaining samples from early Roman contexts contained similar material, but in far sparser quantities. This may be a result of material being mixed with other refuse before deposition, or being moved through the action of wind, water or trample before becoming incorporated into the contexts sampled.

Both small and large legumes were observed within three samples; again as with the cereal remains, the fragmented nature made positive identification impossible. Only a single fragment was identified as likely to be a 'Celtic' bean (*Vicia faba* L.). These remains may indicate the production and consumption of pulses within the vicinity of the site. Pulses provided an important source of protein both for humans and as animal fodder, however, as they do not require processing with heat in the way cereals often do they are less likely to be exposed to chance preservation through charring and are often under-represented in the archaeological record.

A small number of charred weed seeds were present within some of the flots, in the form of Cleavers (*Galium aparine* L.), Black Bindweed (*Fallopia convolvulus* L.), Docks (*Rumex* sp.), Knotgrasses (Polygonaceae) and Grasses (Poaceae). Again the fragmented and distorted nature of the majority of these specimens made positive identification impossible. On the whole charred weed seeds were rare within the samples and the species present may include those that were either cleaned from the grain by hand or through sieving, at the later stages of processing, or those, such as *Fallopia convolvulus* L, that may have been tolerated to some

degree within the grain as they would have no detrimental effect on the quality of the flour produced (Reynolds 1981:117).

Uncharred and unabraded weeds were rare within the samples and those present are considered to be part of background soil seedbank, and are likely to be intrusive within the contexts sampled.

Samples 8, ditch fill 107, and 18, ditch fill 55 both contained small numbers of ferrous spheroids within the flot material, and small fragments of slag-like material were recovered from the non-floating residue from Sample 14, ditch fill 143. Spheroids are produced when molten material is expelled during hot welding and their presence suggests that metal working may have taking place in the vicinity. No spheroid or flake hammerscale was recovered from any of the non-floating residues however. The material present was observed under the microscope during scanning and although its presence is noted here, due to the small and sparse nature of the material it is considered unnecessary for it to be subjected to further examination, as this would provide little additional information to the interpretation of the site.

16.3 Conclusions

The charred cereals and legumes observed within the scanned portions of the flots from this site are most likely to represent domestic waste, the final processing of cereals in small batches, or chance loss during food preparation. The puffed and fragmented material present within many of the flots may indicate cereal waste being used as fuel in an oven or hearth. The ferrous debris recovered suggests that metal working may have been taking place on or near the site.

Many ovens and fires would have had multifunctional purposes during the Roman period and may have been used for both food preparation and light industrial activities (Wallace 2014:136), and so a mixture of food and industrial waste is not uncommon.

On the whole, the material observed within these samples suggests that agricultural, horticultural, light industrial and domestic activities were likely to be taking place in the vicinity.

It is not considered necessary to carry out any further work on the plant macrofossils recovered from these samples; they should however be retained as part of the site archive.

Table 1: Environmental data

Sample No.	1	2	3	4	7	8	9	10	11	12	14	16	17	18	19	20	21	22
Context No.	30	32	37	58	113	107	99	97	101	95	143	133	137	55	160	188	60	192
Cut No.	29	31	31	51	112	106	98	96	94	94	142	132	136	54	186	187	59	191
Feature type	Ditch	Ditch	Ditch	Grave	Ditch	Ditch	Ditch	Ditch	Pit	Pit	Ditch	Gully	Ditch	Ditch	Ditch	Ditch	Ditch	Pit
Date	2nd C	1st-2nd C	NA	NA	2nd-3rd C	2nd C	2nd C	2nd C	1st C	1st C	NA	1st-2nd C	1st-2nd C	1st-2nd C	2nd C	NA	1st-2nd C	NA
Cereals and other food plants																		
Triticum spelta L.	##					#		##	#	###		#	##		##	##	#	
*Triticum aestivum/compactum/durum*sp.	#	#	#		#	#		#		#		##	#		#	#	##	#
Poss *Triticum* sp.									#									
Hordeum sp.	##							#							#		#	
Poss *Avena* sp.					#													
Cereal indent. (grains)	###	#	#		##	##	#	###		##		#	##	#	##	###	##	#
Vicia faba L.																	#	
Fabeaceae	#							#										
Chaff/Cereal waste																		
T. spelta L. glume base	##					#		###	##	##					#	##		
Unident glume base fragments	##								##	##		#			##	###		
Unident spikelet fork fragments	#							#	#	##					#			
Tetraploid *Triticum* sp. rachis fragments								#	#	#								
Weeds/other charred																		
Polygonaceae	#															#		
Rumex sp.															#			
Poaceae	##							##	##	##			#		#	##	##	
Galium aparine L.	#																	
Fallopia convolvulus L.	#																	
Solanaceae																	#	

Weeds/other un-charred																		
Thlaspi arvense L.	#																	
Saponaria sp.	#																	
Chenopodium sp.					#													
Lamium sp.												#						
Viola sp.													#					
Silene latifolia Poir															#			
Tree/shrub un-charred																		
Sambucus nigra L.						#	#	#				#	xx				#	
Betula. sp	#		#			#									#			
Rubus sp.												#	#					
Other plant macrofossils																		
Charcoal 0-5mm	xx	x	x	x	x	x	x	x	x	xx	x	xx	x	x	x	x	x	x
Charcoal 5-10mm	x																	
Charcoal >10mm		x																
Fibrous roots			x		x							x	x	x	x	x	x	
Other remains																		
Snails	xxx	xxx	xxx	###	xxx		xx	xx	xxx	xxx	xxx	xxx	xxx	xx	xxx	xxx	xxx	xxx
Bone fragments	#			#														
Fish bones	#																	
Amphibian/small mammal bones					#			#							#	#		#
Black tarry residues					#	#							#					
Coal fragments								#										
Ferrous spheroids						#								#				
Recovered from non-floating residue																		
Snails		#	x			#												
Poaceae								#										
Cereal grain fragments								#										
Slag fragments											#							

Sample volume (litres)	40	40	30	5	40	40	20	20	10	10	20	40	40	40	40	40	60	20
Volume of flot (ml)	50	100	40	5	10	10	10	20	10	20	20	40	40	10	30	10	40	10
% flot sorted	100%	100%	100%	100%	100%	100%	100%	100%	100%	50%	100%	100%	100%	100%	100%	100%	100%	100%

Appendix 17: OASIS and Site Data

PROJECT DETAILS			
Project Name & Address	Old Palace Lodge, Church Street, Dunstable, Bedfordshire	**Project Site Code**	175/DOP
OASIS reference	kdkarcha1-229678	**Event/Accession no**	2017/19
OS reference	CB/13/02729/REN	**Study area size**	286 sq. m
Project Type	Strip, Map and Sample	**Height (mAOD)**	140.23
Short Description	Between September-October 2016 a programme of Archaeological Strip, Map and Sample Excavation was carried out at the Old Palace Lodge, Church Street, Dunstable, Bedfordshire, prior to the construction of a three-storey rear extension to the Old Palace Lodge. On completion of the site strip, Romano-British (1st-2nd century) archaeological features were revealed; a human grave, a series of boundary ditches, gullies, pits, post-holes, a stone surface, and also post-medieval features consisting of a well, pits, post-hole and pos. gully, garden feature and building foundation.		
Previous work	Evaluation (Heritage Network 2013)	**Site status**	None
Planning proposal	Hotel extension	**Current land use**	Hotel carpark
Local Planning Authority	Central Bedfordshire Council	**Planning application ref.**	CB/13/02729/REN
Monument type	Ditches, pits, human burial, gullies, post-holes, surface	**Monument period**	Roman-post-medieval/modern
Significant finds	Skeleton, coin, pin, hoop, pottery, cbm, a.bone, flint, slag, Fe	**Future work**	Yes

PROJECT CREATORS			
Organisation	KDK Archaeology Ltd		
Project Brief originator	Hannah Firth (CBCC)	**Project Design originator**	KDK Archaeology Ltd
Project Manager	David Kaye BA ACI*f*A	**Director/Supervisor**	Carina Summerfield-Hill MSc ACI*f*A
Sponsor/funding body	Martin Murphy		

PROJECT DATE			
Start date	05.09.16	**End date**	15.11.16

PROJECT ARCHIVES		
	Location	**Content (eg. pottery, animal bone, files/sheets)**
Physical	Luton Culture (2017/19)	Skeleton, coin, pin, hoop, pottery, cbm, a.bone, slag, flint, Fe
Paper		Brief, WSI, report, fieldwork sheets and drawings, b&w photographs and negatives
Digital		CD containing all digital data: brief, WSI, development plans, report, fieldwork sheets, digital photographs

BIBLIOGRAPHY (Journal/monograph, published or forthcoming, or unpublished client report)			
Title	Strip, Map and Sample: Old Palace Lodge, Church Street, Dunstable, Bedfordshire		
Serial title & volume	175/DOP/2.1		
Author(s)	Carina Summerfield-Hill MSc ACI*f*A		
Page nos	196	**Date**	09.02.18