LAND AT SPELTHORNE LEISURE CENTRE, STAINES-UPON-THAMES, SURREY.

NGR: 504334 171151

ARCHAEOLOGICAL EXCAVATION AND WATCHING BRIEF

January 2025

Report No. 1656

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POST-EXCAVATION ASSESSMENT

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SUMMARY

Between 19th October 2021 and 4th April 2024 Foundations Archaeology undertook a programme of archaeological excavation and watching brief on land at Spelthorne Leisure Centre, Staines-Upon-Thames, Surrey (NGR: 504334 171151). The project was commissioned by Emma Ward of Gleeds Management Services on behalf of Spelthorne Council.

The archaeological works were undertaken in advance of and during the construction of a new leisure centre.

The investigations at Spelthorne Leisure Centre revealed archaeological remains intermittently spanning a period of some 3,500 years. The earliest occupation within the site was evidenced by a cluster of three small pits, which were dated to the Middle Neolithic. A small amount of residual Beaker pottery provided limited evidence for activity of this period in the general vicinity. At some point in the Early Bronze Age the site saw the construction of two barrows, which survived as shallow ring ditches, one of which possibly cut through an earlier field ditch or boundary. The other barrow was associated with an inverted collared urn cremation burial, which contained the remains of at least three human juvenile individuals, all of whom were aged less than 8 years of age. A probable Mesolithic flint core was incorporated into the cobble packing fill around the cinerary urn. A former river or stream channel located a short distance to the south of the barrows was possibly an open feature in the Prehistoric period.

The site appeared to have been agricultural/hinterland in the Iron Age and Roman periods; although, generally residual Roman finds were present and the recovery of an Iron Age gold *stater* (coin) of Tasciovanus was an interesting and rare find. There was some, albeit limited, evidence for Saxon settlement in the form of ditches, pits and a possible fire-pit, whilst pierced Late Roman coins may have been parts of amulets, which were possibly related to a nearby Anglo-Saxon burial ground. A single silver penny (*sceat*) provided limited evidence for Middle Saxon activity in the general vicinity. The site was most likely given over to agriculture from the Medieval period onwards.

An interesting metal finds assemblage was present, which included gold, silver, copper and lead objects, as well as coins, which were datable to the Iron Age, Roman, Saxon, Medieval and Post-medieval periods. A 17th century silver *fede* ring (Small Find 36) has been designated treasure trove. Other finds from the site comprised a probable Mesolithic flint core, Neolithic flints including a strike-a-light, a polished discoidal knife and chisel arrowheads, as well as part of at least one, but possibly two, Neolithic polished axes; Early Prehistoric pottery, including Beaker ware and a Collared Urn; Roman, Saxon and Medieval pottery; Roman, Medieval and Post-medieval CBM; animal bone and oyster shell.

This assessment report presents the findings from the site and sets out a strategy for the production of a final archive report and appropriate publication.

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GLOSSARY OF ARCHAEOLOGICAL TERMS AND ABBREVIATIONS

Archaeology

For the purpose of this project, archaeology is taken to mean the study of past human societies through their material remains from prehistoric times to the modern era. No rigid upper date limit has been set, but AD 1900 is used as a general cut-off point.

CBM

Ceramic Building Material.

Medieval

The period between AD 1066 and AD 1500.

Natural

In archaeological terms, this refers to the undisturbed natural geology of a site.

NGR

National Grid Reference from the Ordnance Survey Grid.

OD

Ordnance datum; used to express a given height above sea-level. (aOD above Ordnance Datum).

Oppidum

A type of late pre-Roman Iron Age settlement associated with substantial linear earthworks. They were commonly associated with trade and/or high-status industry, such as metal working and coin minting. Larger examples ('territorial oppida') include Verlamion at St Albans, Hertfordshire.

OS

Ordnance Survey.

Post-medieval

The period between AD 1500 and AD 1900.

Prehistoric

The period prior to the Roman invasion of AD 43, which can be sub-divided into; *Palaeolithic* – c. 500,000 BC to c. 12,000 BC; *Mesolithic* – c. 12,000 BC to c. 4,000 BC; *Neolithic* – c. 4,000 BC to c. 2,500 BC; *Copper Age (Chalcolithic)* – c. 2,500 BC to 2,200 BC; *Bronze Age* – c. 2,200 BC to c. 800 BC; *Iron Age* – c. 800 BC to AD 43.

Roman

The period traditionally dated AD 43 until AD 410.

Saxon (Early Medieval)

The period between AD 410 and AD 1066.

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1 INTRODUCTION

1.1 This report presents the findings of a programme of archaeological excavation and watching brief undertaken by Foundations Archaeology between 19th October 2021 and 4th April 2024 on land at Spelthorne Leisure Centre, Staines-Upon-Thames, Surrey (NGR: 504334 171151). The project was commissioned by Emma Ward of Gleeds Management Services on behalf of Spelthorne Council

1.2 The archaeological works were conducted in accordance with an approved Written Scheme of Investigation – WSI (Foundations Archaeology 2021) and the following regulations, standards and guidance issued by the Chartered Institute for Archaeologists (CIfA):

- *Standards and guidance for archaeological excavation/watching Brief* (2020);
- *Standard and guidance for the collection, documentation, conservation and research of archaeological materials* (2020);
- *Standard and guidance for the creation, compilation, transfer and deposition of archaeological archives* (2020).

1.3 The CIfA code of conduct was adhered to throughout.

2 PROJECT BACKGROUND

2.1 Planning permission (Ref: **20/01486/FUL**) was granted for the construction of a new leisure centre at Spelthorne, Staines-Upon-Thames. A programme of archaeological works was required as part of the planning permission, in accordance with the general principles of the National Planning Policy Framework (NPPF19), as well as the archaeological policies of Surrey County Council and Spelthorne Borough Council.

2.2 The study area is situated in Spelthorne District, approximately 850m southeast of the centre of Staines-Upon-Thames. The site is located on land immediately east of the existing Spelthorne Leisure Centre and west of the offices of Spelthorne Borough Council. Knowle Green Road is located immediately to the south and Knowle Green playing fields are located to the north. The wider area is characterised by moderate density urban development. The excavation area comprised an irregularly shaped parcel of land, which encompassed a total area of 0.4ha, with two watching brief areas to the west and east. At the time of the excavation, the site consisted of an area of grass with perimeter trees and bushes. The land within and immediately around the site is essentially flat, at around 14-15m aOD. The underlying geology is recorded as *London Clay Formation* – clay, silt and sand, which is overlain by *Shepperton Gravel Member* – sand and gravel (BGS Online Viewer). The River Thames is located approximately 630m to the east of the site and the River Ash is situated approximately 250m to the northeast.

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2.3 A Heritage and Archaeological Statement was produced for this proposal by Foundations Heritage (2020). The conclusions of this statement are summarised thus:

2.3.1 *There are no applicable Scheduled Monuments, Registered Parks and Gardens, Registered Battlefields, or World Heritage Sites in close proximity to the site. There are a significant number of designated assets in the form of Grade II Listed buildings and one Grade II* Listed building within the 1km study area, however they lie predominantly within the historic core of Staines. Two Grade II assets present are within 500m of the site. Locally listed buildings and other undesignated assets are present within 500m of the site.*

2.3.2 *The assessment has considered the potential for heritage assets with an archaeological interest to be present on the site, based on the known archaeological remains that are presently recorded in the vicinity. The known resource in the vicinity shows that there is a low potential for assets of Prehistoric to Medieval date and a negligible to low potential for assets of the Post-medieval period onwards. This assessment of potential for the site is presented despite the wealth of archaeological material in and around the centre of Staines, approximately 500m to the northwest of the site. The main potential for the presence of archaeological activity is for features relating to agricultural usage of the site and for isolated findspots.*

2.3.3 *The undeveloped nature of the eastern block of the site does, however, give rise to the potential for the recovery of archaeological finds, features or deposits of a coherent nature, despite the low potential for assets.*

2.3.4 *The Roman town of Pontibus is recorded at Staines in the 4th century AD Antonine Itinerary. Roman settlement may, however, have originated very early in the Conquest; it has been postulated that Claudius' invasion force crossed the Thames at this point. A later Roman road between London and Silchester is known to have crossed the river here and a thriving settlement grew up around it. The full extent of the Roman settlement however is currently unknown.*

2.3.5 *Saxon settlement activity is known from Staines, including a 5th-6th century settlement, an inhumation cemetery and possible bridge foundations. The earliest documentary mention of Staines (as Stana) dates to AD 969 but is likely a forgery. A Minster church is recorded as being present, probably on or near the site of the current St. Mary's church, and an estate of no small value may be assumed and Staines may have had the status of a burh in the later Saxon period.*

2.3.6 *The Domesday Book of 1086 mentions Staines (as Stanes) as a valuable estate worth £35, but the status of the settlement as a town dates from the late 12th century and the Medieval bridge is likely to have dated from this time; certainly, it was in place by 1222.*

2.3.7 *The town of Staines continued to grow throughout the Post-medieval period and saw a particular boost with the replacement of the old bridge across the Thames*

and the coming of the railway in 1848. Cartographic evidence from the 19th century onwards shows rapid growth throughout this period, with extensive building taking place outside of the historic core to create the area of the present-day town.

2.3.8 *Staines transferred to Surrey in 1965 following the London Government Act 1963; the town has continued to grow during this period, with much Modern redevelopment within the last 20 years.*

2.3.9 *The fringes of the well-mapped Prehistoric, Roman, Saxon and Medieval settlements of Staines are present just within 500m to the north and northwest of the site. Features from the closest sites clearly indicate that occupation of the area during these periods is not likely to have extended further south. Staines was sited upon gravel islands, with little settlement on the alluvial deposits around the islands. The site lies partly on alluvium and partly on gravel and lack of archaeological investigation around the site may provide a false picture of its archaeological potential; however, it is still not considered likely that the settlement of Staines extended as far south as the site area. Isolated farmsteads, though, cannot be entirely ruled out.*

2.3.10 *Mapping evidence shows that the site was orchard, field or playing fields until 1967 when the lido was built on the west half of the site. The east half of the site has remained undeveloped and no below-ground impact, beyond disturbance from past agricultural usage. It is also important to note that historic mapping indicates that the area to the north of the site may be prone to flooding and consequently the site may have been subject to intensive drainage runs leading south towards Sweep's Ditch.*

2.4 In March and April 2021 an archaeological evaluation was undertaken by Foundations Archaeology. The evaluation revealed the presence of a single large posthole or pit, which contained 12th to 14th century pottery, and an adjacent possible undated pit or posthole. The presence of intact and undisturbed subsoils within the trenches suggested that further archaeological features and deposits within the study area would likely be well preserved. However, the evaluation trenches across the remainder of the site were devoid of archaeological finds or features, which resulted in an assessment of a generally low archaeological potential.

2.5 The site therefore contained a potential for archaeological features and deposits, predominately dating from the Medieval period. This did not prejudice the works against evidence relating to other periods.

3 AIMS

3.1 The aims of the archaeological excavation were to gather high quality data from the direct observation of archaeological deposits, in order to provide sufficient information to establish the nature, extent, preservation and potential of any surviving archaeological remains; as well as to make recommendations for

management of the resource, including further archaeological works if necessary. In turn, this would allow reasonable planning/mitigation decisions to be taken regarding the archaeological provision for the areas affected by the development.

3.2 These aims were achieved through pursuit of the following specific objectives:

i) to define and identify the nature of archaeological deposits on site, and date these where possible;

ii) to attempt to characterise the nature and preservation of the archaeological sequence and recover as much information as possible about the spatial patterning and extent of features present on the site;

iii) to recover a well-dated stratigraphic sequence, which will attempt to determine the complexity of the horizontal and vertical stratigraphy present, and to recover coherent artefact, ecofact and environmental samples;

iv) to determine the potential of the site to provide palaeoenvironmental and/or economic evidence and the forms in which such evidence may be present;

v) to integrate the results of the fieldwork into relevant local and regional research frameworks;

vi) to confirm the nature and extent of the Medieval activity within the study area. Is there evidence of Medieval settlement away from the historic core of Staines?

4 METHODOLOGY

4.1 An excavation area was mechanically stripped, as shown in Figure 2, and two subsequent watching briefs were undertaken to the east and west of the excavation area.

Excavation

4.2 Non-significant overburden was removed using a suitable mechanical excavator, which was equipped with a toothless grading bucket, whilst under constant archaeological direction. Thereafter, all further archaeological investigation was conducted manually by archaeologists. Where necessary, revealed archaeological features and deposits were hand-cleaned to aid identification, interpretation and planning. Archaeological features, deposits and interventions were mapped by use of a high precision GPS and, where appropriate, detailed hand-drawn plans. Interventions were recorded in section. All archaeological excavation and recording was undertaken in accordance with

the approved WSI and Foundations Archaeology Technical Manual 3: Excavation Manual.

4.2.1 A systematic metal detector survey was conducted during the mechanical strip of the excavation area.

4.2.2 In order to maximise finds recovery, ring ditches 1 and 2, ditch 1 and the pits/postholes detailed in Table 1 were manually excavated to 100% sample level, after the completion of section recording.

[1003]	[1043]	[1145]
[1008]	[1057]	[1156]
[1010]	[1060]	[1159]
[1014]	[1062]	[1170]
[1024]	[1090]*	[1172]
[1034]	[1092]	[1185]
[1037]	[1096]	[1196]
[1039]	[1098]	[1198]
[1041]	[1100]	[1202]

Table 1: list of pits excavated to 100% sample
*burial pit

4.2.3 A total of three sections were mechanically excavated into the palaeochannel.

4.2.4 Cinerary urn (1091) and the cremation burial (1102) contained therein were remove intact from the site and the cremation deposits were subsequently excavated by a human osteologist at Oxford Archaeology's Heritage Burial Services Laboratory.

Watching Brief

4.3 In relation to the excavation of the attenuation tank at the east of the site, the associated mechanical strip was conducted whilst under constant archaeological observation. The excavation was achieved by use of suitable plant equipped with a toothless grading bucket. Identified features were subject to appropriate recording. The watching brief at the west of the site was conducted in an area of known services and other Modern interventions and, as such, this area was subject to limited and intermittent monitoring. Due to the presence of concrete and other hard deposits, the excavations in this area were conducted by use of plant which was variously equipped with a toothed and toothless grading bucket. Where present, archaeological features were appropriately recorded.

4.4 Due to the fragile and sensitive nature of the revealed features, it was agreed on site that a school visit and a public display board were not appropriate. As part of Foundations Archaeology's outreach commitment, multiple lectures relating to the site were given to numerous societies and conferences, after the completion of the site work.

5 STRATIGRAPHIC EVIDENCE

5.1 A full description of all contexts recorded during the course of the fieldwork is presented in Appendix 1. Relevant specialist reports are given in Appendices 2 to 8, a miscellaneous finds list is presented in Appendix 9 and the radiocarbon certificate for cremation burial (1102) is shown in Appendix 10. The project WSI and an OASIS form comprise Appendices 11 and 12 respectively. A summary of the results of the archaeological fieldwork is given below.

5.2 The general stratigraphic sequence was relatively uniform across the investigation area. The top of the natural sand clay and gravel substrates was present at an average depth of 0.49m (13.91m aOD) below the Modern ground surface. The natural was sealed by a soft silt sand clay subsoil (1002)/(103), which was, on average, 0.22m thick. The subsoil was subsequently overlain by a clay silt topsoil (1001)/(102), which was, on average, 0.27m thick. An area of Modern hardstanding (101), which was up to 0.30m thick, was present above the topsoil in the north part of the attenuation tank watching brief area. There was generally very little disturbance at the subsoil level or below, although, a Modern service had been cut into the top of the natural deposits at the north of the excavation area, and most of the watching brief area at the west had been subject to Modern disturbance. Preservation conditions in the excavation area and the attenuation tank watching brief area were, therefore, relatively good; although, the presence of a clearly truncated cinerary urn indicated that the site had probably suffered a degree of plough damage at some point. Visibility conditions at the level of the subsoil were very poor, becoming good at top of the natural. Archaeological features were thus visible cut into the top of the natural substrates.

5.3 The following section summarises the site features in an approximate chronological order (Figure 19). However, it should be noted that, due to a low number of stratigraphic relationships and a general paucity of finds, some of the postulated feature dates are highly tentative.

Middle Neolithic Activity

5.4 **Pits [1156], [1159]** and **[1172]** were situated in the central part of the site, approximately 7m north of ring ditch 2. They formed a small cluster of pits, which were all sub-circular in plan, with steep sides and flat to slightly rounded bases. Pits [1156] and [1172] were cut into the top of the natural substrates. Pit [1159] was cut into the top of feature [1170], which was possibly an earlier pit. However, the clay sand gravel fill (1171) of this feature was devoid of finds and it is considered more likely that feature [1170]/(1171) was a natural deposit, which contained rare intrusive charcoal flecks.

5.4.1 Pits [1156], [1159] and [1172] contained relatively dark charcoal-rich basal fills (1157), (1160) and (1174), which were subsequently overlain by soil in-fills (1158), (1161) and (1173). Conjoins between lithic material derived from different pit fills indicated that the three pits were very likely to have been

contemporary and that relatively little time would have elapsed between the deposition of the basal and upper fills within the pits.

5.4.2 The pits yielded a relatively rich finds assemblage, as detailed in Table 2, which included lithics datable to the Middle Neolithic period (*circa* 3,300 – 2,900 BC), as well as a single sherd of Early Prehistoric/Neolithic pottery from basal fill (1174) of pit [1172] and undiagnostic animal bone fragments from pits [1159] and [1172]. The lithics assemblage included flint scrapers, edge retouched flakes, a serrated flake, a strike-a-light, a polished discoidal knife and chisel arrowheads. In addition, to the flint tools, the blade end of a polished stone axehead, which was visually identified as Group VII from Graig Lwyd, North Wales, was recovered from pit [1156], and two spalls from the butt end of an axe of the same raw material were recovered from pit [1172].

PIT	LITHICS lower/upper fill	POTTERY lower/upper fill	BONE lower/upper fill	BONE? lower/upper fill
[1156]	7 / 9	0 / 0	0 / 0	0 /0
[1159]	30 / 6	0 / 0	29 / 33	0 /0
[1172]	78 / 131	1 / 0	1 / 2	0 / 1
TOTAL	**261**	**1**	**65**	**1**

Table 2: the finds from Middle Neolithic pits [1156/59/72]

Early Prehistoric Activity?

5.5 **Pit/posthole [1206]** was located approximately 12m to the southwest of the Middle Neolithic pits. It was a sub-circular pit [1206] with steep sides and a flat base, which contained soil fill (1207) and possible soil post-pipe [1289]/(1208), which was situated roughly central within the pit. A total of 16 sherds/fragments of Early Prehistoric pottery and fired clay were recovered from the fill (1207) of the pit. The pit appeared to be a relatively isolated feature and there was no evidence to demonstrate that it was related to the Middle Neolithic pit cluster to the northeast. However, on the basis of the recovered ceramics, the pit has been assigned an Early Prehistoric date.

5.5.1 **Pit-like feature [1077]** was cut by, and therefore earlier than, ring ditch 1. It was a small sub-circular pit with a rounded profile. The pit fill (1083) was devoid of artefacts, but did contain rare charcoal flecks, which may have been intrusive material. It was not entirely clear if pit [1077] was of archaeological or natural origin; however, it remained a possibility that it represented evidence for pre-ring ditch archaeological activity at this location.

5.5.2 **Ditch 1** was 17m long, up to 0.35m wide and up to 0.09m in depth, and it consisted of a northeast – southwest aligned ditch with a very shallow rounded profile. The ditch dissipated at the northeast, and it extended beyond the southwest limit of excavation. Ditch 1 was entirely devoid of finds and therefore it remained undated. However, it appeared to be stratigraphically earlier than ring ditch 1. It is, therefore, possible that ditch 1 represented further evidence

for pre-ring ditch activity within the site. The function of the ditch remained unclear, and it was not demonstrably associated with any other features.

5.5.3 **Pit [1202]** contained seven struck flints and it was possibly of broad Prehistoric date; although, it was unclear if it related to pre-ring ditch activity or was a later feature. **Pit [1140/43]** yielded two Prehistoric struck flints, as well as a fragment of dog/fox bone. However, given the potential for artefact residuality, this feature was considered to be undated.

Early Bronze Age Ring Ditches and Cremations

5.6 **Ring ditch 1** was located in the southeast part of the excavation area. It had an internal diameter of 18-19m and it was broadly circular in plan; although, its northwest edge, nearest to ring ditch 2, appeared to be flattened, possibly indicating that this part of the ditch had been dug to avoid the adjacent ring ditch, which at its nearest point was located less than 1m to the northwest. Ring ditch 1 had a generally steep rounded profile, with an occasionally flat base, and it was between 0.36m and 0.75m wide and 0.23m and 0.35m in depth. It contained sand soil fills, which often showed evidence for at least one ditch re-cut, which had a generally rounded profile. The finds from ring ditch 1 were all recovered from the fill of the primary ditch cut, with over 90% of the finds present in the north part of the ring ditch, in the vicinity of Section 033. The finds assemblage comprised 28 Prehistoric struck/burnt flints, 40 sherds of Early Prehistoric pottery, one sherd of Early Bronze Age pottery and two cattle bone fragments. The pottery assemblage included a single body sherd of (cinerary?) 'urn', which came from ditch cut [1016], fill (1017). There was no surviving evidence for any associated mounds or banks. The area defined by the ring ditch contained eight pits; all but one of which were entirely devoid of finds and none of which could be related to the ring ditch. No burials were directly associated with ring ditch 1.

5.6.1 **Ring ditch 2** was located in the central part of the excavation area. It had an internal diameter of 13-14m and it was broadly circular in plan; although, its southwest edge was markedly flattened for a length of approximately 5m. Ring ditch 2 had a generally 'V' shaped profile, and it was between 0.50m and 0.91m wide and 0.34m and 0.59m in depth. It contained sand soil fills, which consistently showed evidence for at least one ditch re-cut, which had a generally rounded to steep rounded profile. The finds from ring ditch 2 were recovered from the fills of both the primary ditch cut and subsequent re-cut and they were distributed across most of the length of the ring ditch; although, a greater number of finds were recovered from the east. The finds assemblage comprised 49 Prehistoric struck/burnt flints, ten sherds of Early Prehistoric pottery, six sherds of Beaker pottery, one sherd of Early Bronze Age pottery, one cattle bone fragment and seven undiagnostic animal bone fragments. One of the pottery sherds from ring ditch 2 (fill (1108)) was of a decorated urn, which was similar to cinerary urn (1091), whilst a further single body sherd of (cinerary?) 'urn' material came from ring ditch cut [1266], fill (1111). There was no surviving evidence for any associated mounds or banks. The area defined by the ring ditch contained a total of five pits. Pit [1090] was situated just off-centre to the

northwest, and it contained an urned cremation burial (1102). The remaining four pits, which were located to the southeast, were all entirely devoid of finds, and they could not be confidently related to the ring ditch.

5.6.2 **Posthole [1145]** was present within the eastern part of ring ditch 2 (Figure 7 and Figure 13; Sec 055). It was cut through the primary fill (1104) of the ring ditch and it was stratigraphically earlier than the subsequent ditch re-cut [1116]. The posthole had shallow, near vertical sides and a flat base. It contained two charcoal-rich fills (1146/7), which possibly represented the remains of a burnt post; although, this was not entirely certain. No similar or related features were revealed elsewhere within the ring ditch cut and the function of the possible wooden post remained unclear.

5.6.3 **Burial pit [1090]** was 0.79m long, 0.58m wide and 0.27m in depth and it consisted of a sub-oval pit with a steep rounded profile (Figure 10). The pit was located within the area defined by ring ditch 2, just off-centre to the northwest, and it is presumed to be broadly contemporary with the ring ditch. Pit [1090] contained a flint cobble packing fill (1079), which was situated beneath, and around the exterior face of inverted ceramic cinerary urn (1091). It was clear that the deposition of the packing fill and the placement of the inverted urn represented a singular and carefully performed event. The packing fill contained a Prehistoric flint flake and a total of three Prehistoric flint cores, one of which was of probable Mesolithic date. The upper part (as buried) of the cinerary urn had been truncated, probably by plough action. The urn was located roughly centrally within the burial pit. It survived to a depth of approximately 190mm and it had a diameter of around 300mm. Provisional assessment of the cinerary urn indicates that it is a decorated bipartite collared urn, dating to the mid-2nd millennium BC.

5.6.4 **Cremation deposit (1102)** was contained within urn (1091) and it consisted of a light brown silt sand, which contained rare small stones and rare charcoal flecks, as well as occasional patches of burnt/cremated bone. An assessment of the bone fragments has indicated the remains of at least three human juvenile individuals, all of whom were less than 8 years of age. A radiocarbon determination from one of the cremated bone fragments returned a date range of 1736 – 1542 calBC (SUERC11156; 95% probability).

An Iron Age gold coin

5.7 A gold *stater* of Tasciovanus (SF 50) was recovered from topsoil (1001) during the mechanical strip in the excavation area. This type of coin is traditionally ascribed to the Catuvellauni tribe, and it was probably struck at the *oppidum* of Verlamion (St Albans) in *circa* 25 BC – AD 10. No on-site features could be related to this period of activity.

Roman Activity?

5.8 A total of four **pits [1196/8], [1217], [1223]** and **[105]** contained small amounts of Roman pottery and/or CBM, as well as animal bone, whilst pit [1039] yielded

a Late Roman coin. The pits were dispersed across the excavation and attenuation tank watching brief areas. It should be noted that, due to a potential for artefact residuality, especially in relation to Roman finds derived from the nearby Roman town, the Roman period features are only tentatively dated.

5.8.1 An assemblage of 56 Roman coins were recovered from subsoil (1002) during the mechanical strip in the excavation area. The coins consisted of a mix of low value copper alloy denominations of the 1st to 4th centuries AD and are fairly typical of that to be found near Roman settlements. Further Roman metal finds from the subsoil comprised two fragments of copper alloy Roman bow brooch (SF 38 and SF 65). A sherd of Late Roman *mortarium* pottery was also retrieved from the subsoil.

Saxon Activity

5.9 A total of 11 features could be tentatively dated to the Saxon period. These included at least one, but possibly two curvilinear ditches, a small fire-pit with a possibly associated gully and seven pits.

5.9.1 **Ditch 2** was approximately 12.5m long by up to 0.51m wide and 0.17m in depth and it comprised a northeast – southwest aligned ditch with a relatively shallow rounded profile. The ditch dissipated at the northeast, whilst at the south it turned towards the southeast, for a distance of approximately 1.5m, where it was subsequently cut by pit [1175]. There was no evidence for the ditch further to the southeast, beyond the pit. Ditch fills (1240) and (1242) yielded a small finds assemblage, which consisted of a fragment of burnt flint, three fragments of Roman CBM and ten sherds of Saxon pottery.

5.9.2 **Curvilinear ditch [1179]** was located approximately 1.50m to the east of ditch 2. It was 3.20m long, 0.69m wide and up to 0.10m in depth and it consisted of the ephemeral possible remains of the corner of a ditch. Ditch [1179] was devoid of finds and it was therefore difficult to date; however, in light of their proximity and shared alignment, it is possible that ditch [1179] was broadly related to ditch 2.

5.9.3 **Fire-pit [1185]** was 1.20m long by 0.47m wide and 0.11m in depth and it was a linear to sub-oval pit with a shallow rounded profile. The southwest half of the base of the pit was discoloured red, which was probably caused by *in-situ* burning. The pit contained a soil in-fill (1186), which contained frequent charcoal flecks and occasional patches of charcoal, as well as occasional lumps of fired/burnt clay and occasional burnt stone. Finds from fill (1186) consisted of one sherd of Saxon pottery and five fragments of diagnostic Saxon fired clay. The southern edge of fire-pit [1185] cut undated posthole [1272]; however, there was no evidence to suggest that the fire-pit and the posthole had anything other than a stratigraphic relationship.

5.9.4 **Curvilinear gully [1189]** was located approximately 0.50m to the southeast of fire-pit [1185]. It was 1.40m long by 0.30m wide by 0.20m in depth and consisted of a curvilinear gully with a steep rounded profile. It contained a sand

silt fill (1190), which yielded 15 sherds of Beaker pottery from a single vessel, which provisionally indicated a broadly Early Bronze Age date for the feature. However, the gully also contained frequent charcoal flecks and this, along with its proximity, suggested that it may have been related to fire-pit [1185] and that the Beaker pottery was present as residual material. The function of the gully remained uncertain.

5.9.5 **Pit [1175]** was approximately 1m in diameter and up to 1.09m in depth and was a sub-circular pit with a near vertical, shaft-like profile. The pit was cut through ditch 2 into the top of the natural substrates. Finds from pit [1175] consisted of a fragment of Roman CBM and a single sherd of Saxon pottery, along with 14 fragments of animal bone, one of which was identifiable as cattle. There was no definitive evidence for the function of the pit, although, its shaft-like profile may suggest that it was dug for access to the underlying water table.

5.9.6 **Pits [1227], [1248], [1250]** and **[1255]** were located to the north of ditch 2. They were all relatively small and shallow and they each contained one sherd of Saxon pottery. Pit [1248] also contained a residual fragment of Roman CBM and a fragment of unidentified animal bone, and pit [1255] yielded 14 fragments of unidentified animal bone.

5.9.7 **Pit [1213]** was located in the southwest part of the excavation area and it was cut through the edge of the palaeochannel, into the top of the natural substrates. The pit was 2.28m long, by 1.70m wide and 0.33m in depth and it comprised a sub-oval to amorphous pit with a shallow rounded to uneven profile. Finds from the pit consisted of a single Prehistoric struck flint and three sherds of Saxon pottery.

5.9.8 **Pit [1219]** was located at the west of the excavation area. The pit was 2.23m long, 1.45m wide and 0.08m in depth and it consisted of a sub-oval pit with a very shallow flat profile. Finds from the fill (1220) of the pit comprised two residual fragments of Roman CBM, along with a sherd of Saxon pottery.

5.9.9 An Early Medieval silver penny (*sceat*) (SF 2) was present within the excavation area subsoil (1002). The coin belongs to the Danish Series X, and was minted at Ribe in AD 715-50. Further hints at Saxon activity within or near to the site were present in the form of six Late Roman *antoniniani* and *nummi* coins (SFs 16, 35, 42, 75-76, 86), which were also recovered from the subsoil. They had been deliberately pierced with a small round hole, presumably for suspension. It is possible that these pierced coins represent *objets trouvées* converted into amulets for the deceased; a practice well-attested from Anglo-Saxon and Frankish inhumations of the fifth to seventh centuries. A crumb of possible Saxon pottery was recovered from the subsoil (103) in the attenuation tank watching brief area.

Medieval/Post-medieval Activity

5.10 **Evaluation pit [602]**, which was present at the south of the excavation area, represented the only datable Medieval feature. **Pits [1024], [1057], [1130]** and

[1153] were present scattered within the central southern part of the excavation area. Each of these pits contained Post-medieval CBM fragments, and they therefore represented relatively recent activity. A small amount of residual Roman and Saxon material, along animal bone and part of an oyster shell was recovered from pit [1024], whilst an iron nail was present in pit [1130].

5.10.1 Numerous metal finds dating to the Medieval and Post-medieval period were retrieved from the excavation area subsoil (1002), during the metal detector survey. Recovered coinage and tokens included a single Medieval coin and four Post-medieval coins, one of which was counterfeit, a Post-medieval token and four jettons of Medieval and Post-medieval date. Further Medieval/Post-medieval metal finds included copper alloy, lead and silver objects, including a complete Post-medieval silver *fede ring*, which has been designated treasure trove, all of which are detailed in Appendix 5.

The Palaeochannel

5.11 **Palaeochannel [1007]** and **[1221]** was 36m long by up to 8.27m wide and 1.20m in depth and it consisted of the northeast edge of a northwest – southeast aligned linear cut feature, which had a gently sloping profile. The channel was located in the southwest part of the excavation area. It extended beyond the northwest, southeast and southwest limits of excavation and it was not possible to expose its entire profile. The palaeochannel contained numerous fills, the lowest of which (1012) and (1222) consisted of black decayed organic material. No finds were present within the lowest fills of the palaeochannel. The upper fills consisted of a mixture of clay and sand soils, which contained small amounts of Roman CBM, Saxon pottery and animal bone. Although currently poorly dated, the feature was most likely to be a Prehistoric water course, and a fragment of Roman brick recovered from palaeochannel fill (1022) indicated that it was an open feature into the Roman period. Saxon pottery from upper fill (1023) suggested that it had not entirely in-filled until the Saxon period, but probably not much later.

Undated features

5.12 A total of 43 pits/postholes, as well as a truncated possible ditch [1229] were devoid of datable finds and/or stratigraphic associations, and they remained of uncertain date and function. The undated pits are listed in Table 3.

Pit	Pit	Pit	Pit	Pit
[604]*	[1055]	[1100]	[1202]	[1237]
[1003]	[1060]	[1140]/[1143]	[1204]	[1243]
[1008]	[1062]	[1162]	[1211]/[1285]	[1245]
[1010]	[1064]/[1209]	[1167]	[1215]	[1252]
[1014]	[1067]	[1181]	[1225]	[1257]
[1034]	[1092]	[1183]	[1231]	[1260]
[1037]	[1094]	[1191]	[1232]	[1262]
[1041]	[1096]	[1194]	[1235]	[1272]
[1043]	[1098]	[1200]		

Table 3: the undated pits *evaluation feature

The environmental evidence

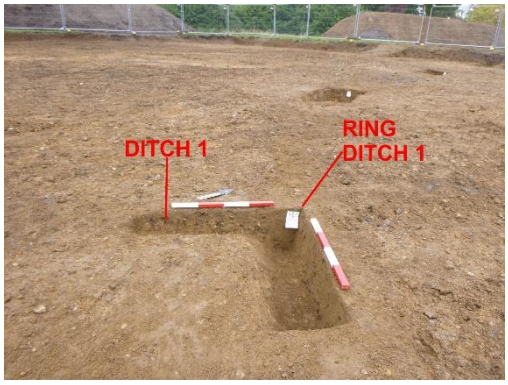
5.13 The Middle Neolithic pits yielded charred plant remains, which included crab apple seeds and fruit flesh, hazel nutshell fragments, a seed of redshank/pale persicaria and a grain of emmer wheat. Wood charcoal fragments, which included diffuse porous and ring porous taxa, were also present. The fills of Bronze Age ring ditch 2 yielded a limited amount of environmental evidence, which comprised a single barley grain, some hazel nutshells and grass stems. Wood charcoal fragments included diffuse porous and ring porous taxa. Unfortunately, no meaningful environmental evidence was recovered from the bulk soil sample taken from the palaeochannel.

6 DISCUSSION

6.1 The probable Mesolithic flint core recovered from the packing fill (1079) associated with Bronze Age cremation burial (1102) was the earliest evidence for activity within or near to site. Relatively dispersed Mesolithic flint scatters and occasional pits are well attested from the wider landscape (Framework Archaeology n.d., 1). It was uncertain if the inclusion of the Mesolithic flint core within a much later burial was accidental, or the result of the intentional selection of what would have probably been a recognisably ancient artefact.

6.2 The small cluster of Middle Neolithic pits [1156], [1159] and [1172] were the earliest datable features within the investigation area. They contained charcoal-rich basal fills, overlain by soil fills; however, there was no evidence for *in-situ* burning within or around the pits, and their function was not immediately clear. Finds from the pits comprised mainly lithics, as well as relatively small amounts of pottery and animal bone. Provisional assessment of the lithics has indicated that the artefacts had been specifically selected for deposition, whilst some were intentionally burnt/broken prior to placement. This suggested that the pits were unlikely to have been 'mundane' refuse pits and that their excavation and in-filling represented symbolic, or commemorative acts. Similar small clusters of broadly dated Middle and Later Neolithic pits with placed artefacts were found near to the Stanwell Cursus/Bank Barrow, approximately 3km to the north of the site (Framework Archaeology n.d., 2). These pits were thought to be the physical remains of 'rituals that sealed agreements over family rights to a particular clearing or plot of land'. On this basis, it seems most likely that the Middle Neolithic pits at Spelthorne were probably the remnants of an occupation site, or part thereof.

6.3 No other features could be demonstrably related to the Neolithic phase of activity within the site. However, ditch 1 appeared to pre-date ring ditch 1 and, as such, it possibly dated to the Early Bronze Age, or earlier (Photograph 1). It is thought that the emergence of the first field boundaries in this locale occurred between 2000 BC and 1700 BC (Framework Archaeology 2006, p82), which suggests that ditch 1 may have been a very rare example of an early field ditch or boundary subsequently cut through by a barrow ring ditch.



Photograph 1: intersection between ditch 1 and ring ditch 1

6.4 Pits [1077] and [1206] could only be assigned a broad Early Prehistoric date and it was uncertain if these features related to Neolithic or Bronze Age activity; although, given the funerary nature of the Bronze Age activity within the site, these pits were perhaps more likely to be Neolithic. A small amount of Beaker pottery, which occurred as residual material in later features, represented the only evidence for Beaker period activity within, or near to the site.

6.5 Ring ditches 1 and 2 were most likely constructed during the Early Bronze Age and, on the basis of their form and size, they probably represented the remains of former funerary barrows (Hey and Robinson 2011, p313 and Fig. 13.2), which had subsequently been heavily truncated.

6.6 The finds from ring ditch 1 consisted of Prehistoric struck/burnt flints, sherds of Early Prehistoric/Bronze Age pottery and cattle bone fragments, all of which were entirely consistent with that to be expected from a barrow ditch. The ring ditch was not associated with any burials; however, it was unclear if this absence of evidence reflected a true absence of internment, or was merely a product of subsequent plough truncation, whereby any former burials would have been entirely obliterated. Although ring ditch 1 was probably broadly contemporary with ring ditch 2, the flattening of the ditch at the northwest suggested that ring ditch 1 had been dug after and in respect to ring ditch 2.

6.7 Ring ditch 2 contained broadly similar finds to ring ditch 1; although, the recovered Early Prehistoric/Bronze Age pottery assemblage included six sherds of Beaker pottery. The ring ditch was markedly flattened at the southwest. There was no evidence to explain this flattening, although, it is possible that the ring ditch had been excavated so as to avoid a formerly extant feature or monument, no trace of which survived.

6.8 Cremation burial (1102) was situated within the area defined by ring ditch 2, just off centre to the northwest, and it is considered to have been broadly contemporary with the ring ditch. The cremation deposit contained the remains of at least three human juveniles, all of whom were aged 8 years or less at time of death. The cremated remains were not associated with any grave goods. However, the utilisation of a decorated cinerary urn and the deliberate packing of selected cobbles within the burial pit suggested that these individuals had

been buried with some reverence. The reason for the inversion of the ceramic urn during the burial process is currently poorly understood; however, it is likely to have been associated with a potentially potent symbolism. Cremation burials containing multiple individuals are rare in Britain, and where multiple individuals are present, these are most likely to be an adult with a juvenile, or more rarely, multiple juveniles (McKinley 1997, p142; McKinley 2013, p153). The multiple juvenile burial at Spelthorne is, therefore, a rare discovery. However, it should be noted that the lower part of the cinerary urn had been entirely obliterated by plough action and, therefore, we cannot be certain as to original contents of the urn. Bronze Age juvenile cremation burials in inverted urns are known, but they are also rare. The radiocarbon date (1736 – 1542 calBC) obtained from the cremation burial is situated towards the latter end of the expected date range for the use of collared urns.

6.9 Limited evidence for the former existence of other burials associated with the ring ditches was present within the upper fill (1108) of ring ditch 2, in the form of a rim of an urn of similar profile and decoration to urn (1091), as well as a small amount of other 'urn'-like material from both ring ditches 1 and 2. It should be noted, however, that some, if not all of this material, was potentially derived from the truncation of urn (1091).

6.10 The barrows and associated cremations at Spelthorne Leisure Centre were situated within a broader landscape, which contained other similar burial monuments. Barrows containing collared urn cremation burials in this locale are thought to have been important elements in the landscape and they were possibly associated with 'making a claim to land' (Framework Archaeology n.d. 3).

6.11 There was no evidence that the site contained any significant Iron Age or Roman settlement remains and thus the site area is likely to have formed part of the agricultural land to the east of the Roman town. The relatively high number of Roman coins recovered from the excavation area subsoil is likely to be a product of the systematic metal detecting survey, rather than being indicative of any particular focus of activity in the Roman period. The Iron Age gold *stater* coin is an interesting and relatively rare find. It was recovered from the topsoil and its presence could be the result of a casual loss, but it nonetheless provides limited evidence for Iron Age, potentially high-status, activity within or near to the site.

6.12 The interpretation of the Saxon remains within the site was somewhat problematic. A total of 31 sherds of Saxon pottery/fired clay were recovered from the excavation and attenuation tank watching brief areas, with nine features containing only Saxon pottery, or Saxon pottery with earlier material. However, the majority of these features were only associated with one sherd of Saxon pottery; the exceptions being fire-pit [1185], which contained five sherds; pit [1213], which contained three sherds and ditch 2, which contained ten sherds. It is, therefore, tempting to postulate that many of the Saxon-dated features are not actually securely dated; however, it is suggested that Saxon artefacts have a generally lower potential for residuality and, as such, it seems

plausible that at least some of the identified Saxon features do indeed represent evidence for settlement activity within the site. Due to the limited and ephemeral nature of the remains, little further can be said as to the nature of the settlement.

6.13 Further interesting and potentially significant evidence for Saxon activity in the vicinity of the site was present in the form of six pierced Late Roman coins, which are thought to be parts of amulets that potentially derived from Anglo-Saxon graves. The silver penny (*sceat*) recovered from the subsoil could be the result of a casual loss, but it nonetheless provides limited evidence for Middle Saxon activity within or near to the site.

6.14 A single Medieval pit and a total of four pits of Post-medieval date constituted the only features datable to these periods. As such, there was no evidence that significant Medieval or Post-medieval settlement had occurred within the site, which is likely to have been agricultural land. This accords with the early historic mapping, which shows the site occupying part of a field located to the south of Gresham Farm.

6.15 The metal detecting survey recovered an interesting array of Medieval and Post-medieval metal finds. Given the lack of evidence for any particular focus of activity within the site, it is presumed that the relatively high number of Medieval/Post-medieval metal finds was a product of the systematic metal detecting survey.

7 CONCLUSION

7.1 The investigations at Spelthorne Leisure Centre have revealed archaeological remains intermittently spanning a period of some 3,500 years. The earliest occupation within the site was evidenced by a cluster of three small pits, which were dated to the Middle Neolithic. A small amount of residual Beaker pottery provided limited evidence for activity of this period in the general vicinity. At some point in the Early Bronze Age the site saw the construction of two barrows, which survived as shallow ring ditches, one of which possibly cut through an earlier field ditch or boundary. The other barrow was associated with an inverted collared urn cremation burial, which contained the remains of at least three human juvenile individuals, all of whom were aged less than 8 years of age. A probable Mesolithic flint core was incorporated into the cobble packing fill around the cinerary urn. A former river or stream channel located a short distance to the south of the barrows was possibly an open feature in the Prehistoric period.

7.2 The site appeared to have been agricultural/hinterland in the Iron Age and Roman periods; although, generally residual Roman finds were present and the recovery of an Iron Age gold *stater* (coin) of Tasciovanus was an interesting and rare find. There was some, albeit limited, evidence for Saxon settlement in the form of ditches, pits and a possible fire-pit, whilst pierced Late Roman coins may have been parts of amulets, which were possibly related to a nearby Anglo-Saxon burial ground. A single silver penny (*sceat*) provided limited evidence

for Middle Saxon activity in the general vicinity. The site was subsequently probably given over to agriculture from the Medieval period onwards.

7.3 An interesting metal finds assemblage included gold, silver, copper and lead objects, including coins, which were datable to the Iron Age, Roman, Saxon, Medieval and Post-medieval periods. A 17th century silver *fede* ring (Small Find 36) has been designated treasure trove. Other finds from the site comprised a probable Mesolithic flint core, Neolithic flints including a strike-a-light, a polished discoidal knife and chisel arrowheads, as well as part of at least one, but possibly two, Neolithic polished axes; Early Prehistoric pottery, including Beaker ware and a Collared Urn; Roman, Saxon and Medieval pottery; Roman, Medieval and Post-medieval CBM; animal bone and oyster shell.

7.4 The site contained interesting and significant archaeological features and finds of multiple periods, and it clearly warrants full reporting and publication in an appropriate archaeological journal.

8 NATURE OF THE RECORD

8.1 The stratigraphic archive for the site consists of the following elements:

Context Sheets
Record Sheets
Plans
Sections
Digital photographs
Shapefile geospatial vector data

8.2 The following context types were represented:

Ditch/gully/linear pit;
Pit/posthole;
Ring ditch;
Burial pit/cremation;
Palaeochannel;
Fire-pit;
Fill.

8.3 The methodologies used to recover this evidence were set out in the project WSI. In summary the following excavation methods were utilised. A mechanical excavator was used to remove overburden onto the surface of archaeological deposits, thereafter an appropriate sample of selected deposits was removed by manual excavation. All contexts were recorded on a pro-forma context sheet and principal deposits were recorded in plan and section. Further spatial data, as well as heights above Ordnance Datum, were captured digitally by use of a precision GPS survey system. These are available in the archive. Photographs were taken of all excavated features and sections. A metal detecting survey was conducted during the mechanical reduction works.

8.4 Following the completion of the fieldwork an ordered, indexed, and internally consistent site archive was compiled, in accordance with MoRPHE (Historic England 2015).

9 STATEMENT OF POTENTIAL AND UPDATED PROJECT DESIGN

9.1 Of the specific objectives set out in the WSI, the following have been achieved;

i) *to define and identify the nature of archaeological deposits on site, and date these where possible.* This has broadly been achieved. However, due to a lack of artefacts and/or stratigraphic associations, some features remained undated.

ii) *to attempt to characterise the nature and preservation of the archaeological sequence and recover as much information as possible about the spatial patterning and extent of features present on the site.* This has been achieved.

iii) *to recover a well-dated stratigraphic sequence, which will attempt to determine the complexity of the horizontal and vertical stratigraphy present, and to recover coherent artefact, ecofact and environmental samples.* This has mostly been achieved, although, there were only a small number of stratigraphic associations within the site and some features remained undated.

iv) *to determine the potential of the site to provide palaeoenvironmental and/or economic evidence and the forms in which such evidence may be present.* This has been achieved; the recovered finds and bulk soil samples have allowed for assessment of artefacts, human remains and environmental data.

v) *to integrate the results of the fieldwork into relevant local and regional research frameworks.* This has been achieved; the updated project design specifically references the potential for the findings from the site to integrate into relevant research frameworks.

vi) *to confirm the nature and extent of the Medieval activity within the study area. Is there evidence of Medieval settlement away from the historic core of Staines?* This has been achieved; there was no substantive evidence for Medieval settlement within the site. However, there was limited evidence for Saxon activity.

9.2 Updated Project Design

9.3 The Middle Neolithic pits represent important evidence for occupation within the site and they have a potential to contribute to relevant sections of the Solent Thames Research Framework (Hey and Hind 2014):

a/ Neolithic / Early Bronze Age, Chronology, sect. 8.2.6: *full analysis of well-dated lithic assemblages*

b/ Neolithic / Early Bronze Age, Settlement, sect. 8.4.1: *establishing the extent and character of settlement away from monument complexes*

c/ Neolithic / Early Bronze Age, Settlement, sect. 8.4.4: *better characterisation of settlement sites – what they are and what they should look like?*

d/ Neolithic / Early Bronze Age, Links with the outside world, sect. 8.8.1: *investigate the potential long distance links with the region via the movement of artefacts*

9.3.1 A suitable bone fragment from fill (1173) of pit [1172] should be subject to radiocarbon determination. The resulting date should be incorporated into the subsequent lithics analysis.

9.3.2 Further lithics analysis and reporting should be undertaken, as detailed in Appendix 2. This should include a catalogue of additional artefacts recovered from the environmental processing; technological analysis of Levallois debris; technological analysis of chisel arrowhead manufacture; characterisation of potential structured deposition and appropriate illustrations. If possible as part of this work an attempt should be made to confirm the providence of the polished stone axehead from pit 1156.

9.3.3 The Prehistoric pottery from pit [1172], as well as the other Prehistoric pottery from the site, should be analysed and reported upon by an appropriate specialist in Early Prehistoric Pottery. The report should include detailed fabric descriptions, illustration of appropriate sherds and research into local/regional parallels.

9.3.4 The charred plant remains/wood charcoal from the Middle Neolithic pits should be appropriately analysed and reported on, as detailed in Appendix 8.

9.4 There is currently no potential for further analysis of ditch 1, which pre-dated ring ditch 1. However, comparative Early Bronze Age ditches/boundaries should be sought within the wider literature to inform the final report/publication.

9.5 The Early Bronze Age barrows and associated burials are significant features, and they have a potential to contribute to relevant sections of the Solent Thames Research Framework:

a/ Neolithic / Early Bronze Age, Chronology, sect. 8.2.4: *better refinement of early Bronze Age chronologies, for example the dating of early Bronze Age 'Wessex' burials – linking burials and settlement evidence, where this exists*

b/ Neolithic / Early Bronze Age, Landscape and landuse, sect. 8.3.2: *examining direct evidence for cultivation, for example ard marks below barrows.* Ditch 1 was cut by ring ditch 1 and is therefore relevant here; however, the potential for further analysis of this poorly dated, shallow and highly truncated ditch is negligible.

c/ Neolithic / Early Bronze Age, Links with the outside world, sect. 8.8.2: *Isotope analysis on both human and animal bones (eg C, N, Pb, Sr) and creation of a wider database of isotope results in order to address the issue of the origin and mobility of individuals, communities and their animals*

9.5.1 A radiocarbon determination obtained from cremation (1102) has provided an adequate absolute date for the burial, and by extension, to the associated ring ditches. No further radiocarbon dating is recommended.

9.5.2 A relevant specialist(s) should assess if isotope/aDNA analysis of cremated human remains (1102) has a potential to provide meaningful information related to the diet, hereditary and mobility of the buried individuals. If it is considered that such analysis is warranted then this should be undertaken, and the results included within the final report.

9.5.3 The assessment of cremation (1102) (Appendix 4) has concluded that '*Sufficient data has been obtained from cremation deposits from Spelthorne, allowing where possible, observations to be made regarding pyre technology, funerary rite and demography. No further osteological analysis of these fragments is recommended.*'

9.5.4 The cinerary urn (1091) is a significant find and it should be analysed and reported upon by an appropriate specialist in Early Prehistoric pottery. The report should include detailed fabric descriptions, illustration of appropriate sherds and research into local/regional parallels. Further work should also be undertaken to attempt to establish if the other 'urn'-like material from the ring ditches was derived from urn (1091), or was indicative of the presence of further urns in the vicinity of the ring ditches.

9.5.5 The charred plant remains/wood charcoal derived from fills associated with the barrows should be appropriately analysed and reported on, as detailed in Appendix 8.

9.6 There is no scope for further meaningful analysis of the Iron Age/Roman finds from the site; although, a full specialist report on the recovered coins, tokens and jettons should include a discussion on the Iron Age/Roman coins, along with an appropriate catalogue. Appropriate coins, including the Iron Age stater (SF50) should be illustrated.

9.7 The evidence for possible Saxon activity within the site, although currently somewhat slight, has a limited potential to contribute to relevant sections of the Solent Thames Research Framework:

a/ Early Medieval Period, Chronology, sect. 14.3: *the traditional reliance on pottery for dating is problematic for this period…The refinement of existing artefact-based chronologies remains a high priority for the region, supported by the systematic use of scientific dating techniques*

b/ Early Medieval Period, Settlement, sect. 14.5.3: *more work is needed on the dating of settlements, using scientific dating methods where suitable samples are available*

9.7.1 The possible Saxon activity within the site is currently uncertain and poorly dated. As such, it is recommended that a radiocarbon determination is obtained from cattle bone recovered from the fill (1176) of possible Saxon pit [1175]. This will help to test the provisional date for the pit, and it will potentially provide an absolute chronological basis for the Saxon pottery recovered from the site.

9.7.2 The assemblage of Saxon pottery, although relatively small, is of some significance and, as such, it should be analysed by an appropriate period specialist and a short report on the findings should be included within the final site report.

9.7.3 The specialist report on the recovered coins, tokens and jettons from the site should include a discussion on the silver penny '*sceat'* (SF2) and especially the Late Roman pierced coins, which were possibly repurposed as amulets, derived from a Saxon burial(s). These artefacts represent potentially important evidence for a nearby burial ground, and they therefore warrant illustration, further consideration and comparison in the wider literature.

9.8 The Medieval and Post-medieval potential from the site is largely derived from the metal finds recovered from the subsoil.

9.9 The possible Prehistoric palaeochannel is currently poorly dated. Understanding when this was an open water course will be important for the interpretation of the site as a whole; however, due to a lack of suitable charred/organic material within the bulk soil sample from the basal fill of the palaeochannel, there is no potential to obtain a radiocarbon date for this feature.

9.10 The final archive report will need to describe and discuss the findings of the site work and post-excavation analysis, including specialist reporting. It will seek to provide appropriate wider comparisons for each period/feature type represented and it will tie the site into its local and regional contexts.

10 PRESENTATION, PUBLICATION AND ARCHIVING

10.1 Subsequent to completion of the recommended further analysis detailed above, the final archive report will be produced and submitted to Surrey County Council Archaeological Service for approval, prior to deposition with the HER.

10.2 The results of the fieldwork clearly justified the implementation of the site works and the site is of sufficient quality to warrant a short publication in *Surrey Archaeological Collections*. It is envisaged that the publication report will include a summary of the fieldwork results, specialist analyses, appropriate illustrations and a discussion.

10.3 A full OASIS record with attached reports will be created. A full report of the excavations will be posted on the internet at the Foundations Archaeology website (http://www.foundations.co.uk).

10.4 The digital site archive for the project will be submitted to ADS upon completion of the final report.

10.5 The physical site archive is currently held at the offices of Foundations Archaeology, but will be deposited with Spelthorne Museum under Accession Code: SMXSP:2021.01.

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12 ACKNOWLEDGEMENTS

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APPENDIX 1: Stratigraphic Data

CXT	L(m)	W(m)	D(m)	DESCRIPTION	CUTS/LATER THAN	CUT BY/EARLIER THAN
				Excavation Area: up to 93m long by 60m wide (0.4 ha). Natural = variable beige orange light brown soft sand clay and gravel. Present at average 0.58m (14.07m aOD) below the Modern ground surface.		
1001	n/a	n/a	0.31	Topsoil: dark grey brown friable clay silt, which contained occasional Modern detritus.	1002	n/a
1002	n/a	n/a	0.27	Subsoil: grey brown soft silt sand clay.	natural	1001
[1003]	1.0	0.97	0.13	Sub-circular pit with a shallow flat profile. Contained 1004.	natural	1004
1004	1.0	0.97	0.13	Fill of [1003]: orange brown clay sand, which contained occasional gravel, as well as rare charcoal flecks.	[1003]	1002
[1005]	>1.20	0.51	0.29	Northwest – southeast aligned ditch with a steep rounded profile. Contained 1027. Part of **Ring Ditch 1**.	natural	1027
1006	?	0.34	0.15	Fill of [1279]: grey orange brown clay sand, which contained occasional gravel and rare charcoal flecks.	[1279]	1002
[1007]	>10.0	8.20	1.20	Northwest – southeast aligned cut feature with a sloping northeast edge. Contained 1012, 1013, 1022, 1023 and 1264. Part of the **Palaeochannel**.	natural	1012, 1264
[1008]	0.83	0.54	0.10	Sub-oval pit with a shallow flat to slightly uneven profile. Contained 1009.	natural	1009
1009	0.83	0.54	0.10	Fill of [1008]: orange brown sand silt gravel.	[1008]	1002
[1010]	0.93	0.80	0.11	Sub-circular pit with a shallow flat to slightly uneven profile. Contained 1011.	natural	1011
1011	0.93	0.80	0.11	Fill of [1010]: light orange brown sand silt gravel.	[1010]	1002
1012	?	3.53	0.17	Fill of [1007]: black soft humic silt sand.	[1007]	1013
1013	?	3.30	0.23	Fill of [1007]: mottled grey orange sand silt.	1012	1022
[1014]	1.45	0.70	0.11	Sub-oval pit with a shallow flat profile. Contained 1015.	natural	1015
1015	1.45	0.70	0.11	Fill of [1014]: orange brown sand silt gravel.	[1014]	1002
[1016]	>1.20	0.75	0.35	Northeast – southwest aligned ditch with a shallow sloping northwest edge, which descended to steep sloping to near vertical ditch profile with a flat base. Contained 1017. Part of **Ring Ditch 1**.	natural	1017
1017	?	0.75	0.35	Fill of [1016]: light orange grey brown silt sand gravel.	[1016]	1002
[1018]	>1.10	0.65	0.21	East – west aligned ditch with a sloping profile. Contained 1019. Part of **Ring Ditch 1**.	natural	1019
1019	?	0.65	0.21	Fill of [1018]: light grey brown silt sand gravel.	[1018]	1002
[1020]	>1.10	0.55	0.21	Northwest – southeast aligned ditch with steep sloping sides and a flat base. Contained 1021. Part of **Ring Ditch 1**.	natural	1021
1021	?	0.55	0.21	Fill of [1020]: light orange grey brown silt sand gravel.	[1020]	1002
1022	?	6.71	0.49	Fill of [1007]: mottled light brown grey sand silt clay and gravel, which contained occasional charcoal flecks.	1013	1023

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CXT	L(m)	W(m)	D(m)	DESCRIPTION	CUTS/LATER THAN	CUT BY/EARLIER THAN
1023	>10.0	8.20	0.48	Fill of [1007]: grey brown sand, which contained occasional charcoal flecks.	1022, 1264	1002
[1024]	0.94	0.90	0.28	Sub-circular pit with a rounded profile. Contained 1025 and 1026.	1002	1026
1025	?	0.90	0.06	Fill of [1024]: dark brown silt sand gravel.	1026	1001
1026	?	0.85	0.23	Fill of [1024]: grey brown silt sand gravel, which contained rare charcoal flecks.	[1024]	1025
1027	?	0.51	0.13	Fill of [1005]: grey brown sand gravel, which contained rare charcoal flecks.	[1005]	[1279]
[1028]	>1.0	0.75	0.29	North – south aligned ditch with a steep rounded profile. Contained 1029. Part of **Ring Ditch 1**.	natural	1029
1029	?	0.75	0.09	Fill of [1028]: grey brown sand gravel, which contained rare charcoal flecks.	[1028]	[1280]
1030	?	0.63	0.20	Fill of [1280]: grey brown clay sand, which contained rare gravel and rare charcoal flecks.	[1280]	1002
[1031]	>1.0	0.36	0.30	Northeast – southwest aligned ditch with a steep sloping southeast edge. Contained 1032. Part of **Ring Ditch 1**.	natural	1032
1032	?	0.36	0.11	Fill of [1031]: grey brown sand gravel, which contained rare charcoal flecks.	[1031]	[1281]
1033	?	0.51	0.29	Fill of [1281]: grey brown clay sand, which contained rare gravel and rare charcoal flecks.	[1281]	1002
[1034]	0.97	0.90	0.35	Sub-circular pit with a steep rounded profile. Contained 1035 and 1036.	natural	1035
1035	?	0.90	0.23	Fill of [1034]: dark grey brown silt sand gravel, which contained rare charcoal flecks.	[1034]	1036
1036	?	0.85	0.15	Fill of [1034]: grey brown silt sand, which contained rare charcoal flecks.	1035	1002
[1037]	2.50	1.23	0.48	Northeast – southwest aligned linear/sub-oval pit with steep sloping sides and a flat base. Contained 1038.	natural	1038
1038	2.50	1.23	0.48	Fill of [1037]: brown sand silt, which contained occasional gravel and rare charcoal flecks.	[1037]	1002
[1039]	0.60	0.53	0.10	Sub-circular pit with a shallow slightly uneven profile. Contained 1040.	natural	1040
1040	0.60	0.53	0.10	Fill of [1039]: orange grey brown sand silt gravel.	[1039]	1002
[1041]	1.40	0.91	0.13	Sub-oval pit with a shallow flat profile. Contained 1042.	natural	1042
1042	1.40	0.91	0.13	Fill of [1041]: grey brown silt sand gravel.	[1041]	1002
[1043]	0.92	0.51	0.07	Sub-oval pit with a shallow flat profile. Contained 1044.	natural	1044
1044	0.92	0.51	0.07	Fill of [1043]: grey brown sand silt gravel.	[1043]	1002
[1045]	>0.47	0.30	0.07	Northeast – southwest aligned ditch with a very shallow profile. Contained 1046. Part of **Ditch 1**.	natural	1046

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CXT	L(m)	W(m)	D(m)	DESCRIPTION	CUTS/LATER THAN	CUT BY/EARLIER THAN
1046	?	0.60	0.07	Fill of [1045]: grey brown sand gravel, which contained rare charcoal flecks.	[1045]	[1047]
[1047]	>0.65	0.43	0.23	Northwest – southeast aligned ditch with a steep sloping to rounded southwest edge. Contained 1048. Part of **Ring Ditch 1**.	1046	1048
1048	?	0.43	0.23	Fill of [1047]: orange grey brown clay sand, which contained rare gravel and rare charcoal flecks.	[1047]	1002
[1049]	0.40	0.29	0.14	Sub-circular possible posthole with steep to near vertical sides and a flat base. Contained 1050.	natural	1050
1050	0.40	0.29	0.14	Fill of [1049]: grey brown silt clay sand, which contained occasional patches of beige chalk sand, as well as rare charcoal flecks.	[1049]	1002
[1051]	>0.60	0.35	0.08	Northeast – southwest aligned ditch with a very shallow profile. Contained 1052. It is possible that ditch [1051] was a terminus, however, it is more likely that the ditch dissipated at the northeast due to subsequent truncation. Part of **Ditch 1**.	natural	1052
1052	?	0.35	0.08	Fill of [1051]: grey brown sand silt gravel, which contained rare charcoal flecks.	[1051]	1002
[1053]	>0.67	0.25	0.09	Northeast – southwest aligned ditch with a very shallow profile. Contained 1054. It is possible that ditch [1053] was a terminus, however, it is more likely that the ditch dissipated at the southwest due to subsequent truncation. Part of **Ditch 1**.	natural	1054
1054	?	0.25	0.09	Fill of [1053]: grey brown sand silt gravel, which contained rare charcoal flecks.	[1053]	1002
[1055]	1.10	0.51	0.09	Sub-oval pit with a shallow flat to slightly sloping profile. Contained 1056.	natural	1056
1056	1.10	0.51	0.09	Fill of [1055]: brown orange sand silt gravel.	[1055]	1002
[1057]	1.10	1.07	0.18	Sub-circular pit with a shallow sloping profile. Contained 1058 and 1059.	1002	1058
1058	?	0.69	0.11	Fill of [1057]: orange brown silt sand clay, which contained rare charcoal flecks.	[1057]	1059
1059	?	1.02	0.17	Fill of [1057]: dark grey brown clay sand, which contained occasional charcoal flecks.	1058	1001
[1060]	0.55	0.41	0.05	Sub-circular pit with a shallow sloping profile. Contained 1061.	natural	1061
1061	0.55	0.41	0.05	Fill of [1060]: grey brown silt sand clay, which contained occasional gravel and rare charcoal flecks.	[1060]	1002
[1062]	1.15	0.75	0.33	Sub-oval pit with a steep rounded profile. Contained 1063.	natural	1063
1063	1.15	0.75	0.33	Fill of [1062]: orange brown silt sand.	[1062]	1002
[1064]	1.65	1.45	0.27	Sub-circular pit with a shallow rounded profile. Contained 1065 and 1066. Equivalent to [1209].	natural	1065
1065	?	0.71	0.05	Fill of [1064]: dark grey brown silt sand gravel, which contained rare charcoal flecks.	[1064]	1066
1066	?	1.15	0.21	Fill of [1064]: variable beige orange brown silt clay sand, which contained rare gravel and rare charcoal flecks.	1065	[1285]
[1067]	0.83	0.61	0.09	Sub-oval pit with a shallow rounded profile. Contained 1068.	natural	1068
1068	0.83	0.61	0.09	Fill of [1067]: orange brown clay sand.	[1067]	1002

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[1069]	>1.10	0.75	0.35	North – south aligned ditch with a steep rounded profile. Contained 1070. Part of **Ring Ditch 1**.	natural	1070
1070	?	0.75	0.09	Fill of [1069]: dark grey brown sand gravel, which contained rare charcoal flecks.	[1069]	[1284]
1071	?	0.60	0.30	Fill of [1284]: orange grey brown silt clay sand, which contained rare charcoal flecks.	[1284]	1002
[1072]	>0.90	0.64	0.32	Northwest – southeast aligned ditch with a steep rounded profile. Contained 1073 and 1074. Part of **Ring Ditch 1**.	natural	1073
1073	?	0.28	0.03	Fill of [1072]: dark grey gravel.	[1072]	1074
1074	?	0.64	0.29	Fill of [1072]: dark brown silt sand, which contained occasional charcoal flecks.	1073	1002
[1075]	>1.0	0.69	0.35	East – west aligned ditch with a steep rounded profile. Contained 1076. Part of **Ring Ditch 1**.	natural	1076
1076	?	0.69	0.35	Fill of [1075]: orange grey brown silt sand, which contained occasional charcoal flecks, as well as a lens of charcoal.	[1075]	1002
[1077]	0.85	0.65	0.29	Sub-circular pit with a steep rounded profile. Contained 1083.	natural	1083
[1078]	>0.95	0.38	0.33	Northwest – southeast aligned ditch with a steep sloping to rounded southwest edge. Contained 1084. Part of **Ring Ditch 1**.	natural	1084
1079	0.78	0.58	0.27	Fill of [1090]: irregular flint cobbles contained within a grey brown silt clay matrix. Packing fill, which occurred beneath, and around the exterior face of inverted ceramic cinerary urn (1091). Appeared to have been carefully placed into pit [1090] at the same time as the urn.	[1090]	1002
[1080]	>1.03	0.58	0.31	Northeast – southwest aligned ditch with a rounded profile. Contained 1081. Part of **Ring Ditch 1**.	natural	1081
1081	?	0.58	0.31	Fill of [1080]: dark grey brown gravel sand, which contained rare charcoal flecks.	[1080]	[1282]
1082	?	0.81	0.23	Fill of [1282]: grey brown silt sand clay, which contained rare gravel and rare charcoal flecks.	[1282]	1002
1083	0.85	0.65	0.29	Fill of [1077]: orange grey brown clay sand, which contained occasional gravel and rare charcoal flecks.	[1077]	[1283]
1084	?	0.37	0.09	Fill of [1078]: dark grey brown gravel sand, which contained rare charcoal flecks.	[1078]	[1283]
1085	?	0.63	0.34	Fill of [1283]: dark grey brown silt clay sand, which contained rare gravel and rare charcoal flecks.	[1283]	1002
[1086]	>2.44	0.28	0.04	Northeast – southwest aligned ditch with a very shallow profile. Contained 1087. Part of **Ditch 1**.	natural	1087
1087	?	0.28	0.04	Fill of [1086]: grey brown sand gravel, which contained rare charcoal flecks.	[1086]	1002
[1088]	>2.90	0.31	0.07	Northeast – southwest aligned ditch with a very shallow rounded profile. Contained 1089. Part of **Ditch 1**.	natural	1089
1089	?	0.31	0.07	Fill of [1088]: grey brown sand gravel, which contained rare charcoal flecks.	[1088]	1002
[1090]	0.79	0.58	0.27	Northeast – southwest aligned sub-oval pit with a steep rounded profile. Contained packing fill (1079) and inverted cinerary urn (1091). Situated just off-centre, within the area defined by Ring Ditch 2.	natural	1079/1091
1091	0.33	0.31	0.19	Fill of [1090]: inverted ceramic cinerary urn. Situated roughly central within pit [1090] and surrounded by flint cobble packing fill 1079. The upper part of the urn (as buried) had been truncated, such that the lower part and base of the vessel did not survive. Contained cremation deposit 1102.	[1090]	1102

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CXT	L(m)	W(m)	D(m)	DESCRIPTION	CUTS/LATER THAN	CUT BY/EARLIER THAN
[1092]	0.60	0.49	0.23	Sub-circular pit with steep sloping sides and a flat base. Contained 1093.	natural	1093
1093	0.60	0.49	0.23	Fill of [1092]: dark grey brown sand silt, which contained occasional charcoal flecks.	[1092]	1002
[1094]	0.58	0.47	0.12	Sub-circular pit with a shallow rounded profile. Contained 1095.	natural	1095
1095	0.58	0.47	0.12	Fill of [1094]: grey brown clay silt.	[1094]	1002
[1096]	0.65	0.61	0.14	Sub-circular pit with a shallow rounded profile. Contained 1097.	natural	1097
1097	0.65	0.61	0.14	Fill of [1096]: grey brown clay silt, which contained rare gravel.	[1096]	1002
[1098]	0.90	0.81	0.17	Sub-circular pit with a shallow rounded profile. Contained 1099.	natural	1099
1099	0.90	0.81	0.17	Fill of [1098]: orange grey brown clay silt, which contained occasional gravel.	[1098]	1002
[1100]	0.69	0.67	0.19	Sub-circular pit with sloping sides and a slightly rounded base. Contained 1101.	natural	1101
1101	0.69	0.67	0.19	Fill of [1100]: grey brown clay silt, which contained occasional gravel.	[1100]	1002
1102	0.25	0.25	?	Fill of ceramic cinerary urn 1091: light brown silt sand, which contained rare small stones and rare charcoal flecks, as well as occasional patches of burnt/cremated bone. Cremation deposit contained within urn 1091.	1091	1002
[1103]	>1.10	0.74	0.34	North – south aligned ditch with a steep rounded profile. Contained 1104. Part of **Ring Ditch 2**.	natural	1104
1104	?	0.74	0.17	Fill of [1103]: orange grey brown sand clay, which contained rare charcoal flecks.	[1103]	[1116], [1145]
1105	?	0.35	0.16	Fill of [1116]: dark brown grey silt clay, which contained frequent charcoal flecks.	[1116]	1002
[1106]	1.15	0.75	0.37	Northeast – southwest aligned ditch with a 'V' shaped profile. Contained 1107. Part of **Ring Ditch 2**.	natural	1107
1107	?	0.75	0.23	Fill of [1106]: orange grey brown sand silt, which contained occasional charcoal flecks.	[1106]	[1265]
1108	?	0.39	0.15	Fill of [1265]: dark brown grey silt, which contained occasional charcoal flecks.	[1265]	1002
[1109]	>1.0	0.77	0.45	East – west aligned ditch with a 'V' shaped profile. Contained 1110. Part of **Ring Ditch 2**.	natural	1110
1110	?	0.77	0.28	Fill of [1109]: orange grey brown silt clay sand, which contained rare gravel and rare charcoal flecks.	[1109]	[1266]
1111	?	0.40	0.17	Fill of [1266]: dark grey brown silt clay sand, which contained rare gravel and rare charcoal flecks.	[1266]	1002
[1112]	>1.0	0.84	0.56	Northwest – southeast aligned ditch with a 'V' shaped profile. Contained 1113. Part of **Ring Ditch 2**.	natural	1113
1113	?	0.84	0.25	Fill of [1112]: orange grey brown sand clay, which contained rare charcoal flecks.	[1112]	[1115]
1114	?	0.57	0.30	Fill of [1115]: dark brown grey silt clay, which contained occasional charcoal flecks.	[1115]	1002

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CXT	L(m)	W(m)	D(m)	DESCRIPTION	CUTS/LATER THAN	CUT BY/EARLIER THAN
[1115]	?	0.57	0.30	Possible re-cut of ditch [1112] with a steep rounded profile. Contained 1114. Part of **Ring Ditch 2**.	1113	1114
[1116]	?	0.35	0.16	Possible re-cut of ditch [1103] with a steep rounded profile. Contained 1105. Part of **Ring Ditch 2**.	1104, 1147	1105
[1117]	>0.87	0.91	0.57	Northwest – southeast aligned ditch with a 'V' shaped profile. Contained 1118. Part of **Ring Ditch 2**.	Natural	1118
1118	?	0.91	0.19	Fill of [1117]: orange brown sand silt clay, which contained rare gravel and occasional charcoal flecks.	[1117]	[1119]
[1119]	?	0.77	0.38	Possible re-cut of ditch [1117] with a 'V' shaped profile. Contained 1120 and 1121. Part of **Ring Ditch 2**.	1118	1120
1120	?	0.77	0.25	Fill of [1119]: dark grey clay sand silt, which contained occasional gravel and occasional charcoal flecks.	[1119]	1121
1121	?	0.62	0.13	Fill of [1119]: dark grey brown sand silt, which contained rare gravel and rare charcoal flecks.	1120	1002
[1122]	>1.10	0.67	0.59	Northeast – southwest aligned ditch with a narrow 'V' shaped profile. Contained 1123. Part of **Ring Ditch 2**.	Natural	1123
1123	?	0.67	0.59	Fill of [1122]: orange brown sand clay, which contained rare charcoal flecks.	[1122]	[1124]
[1124]	?	0.54	0.22	Possible re-cut of ditch [1122] with a rounded profile. Contained 1125. Part of **Ring Ditch 2**.	1123	1125
1125	?	0.54	0.22	Fill of [1124]: dark brown grey silt clay, which contained occasional charcoal flecks.	[1124]	1002
[1126]	>1.20	0.50	0.44	Northeast – southwest aligned ditch with a 'V' shaped profile. Contained 1127. Part of **Ring Ditch 2**.	Natural	1127
1127	?	0.50	0.25	Fill of [1126]: orange brown silt clay, which contained rare charcoal flecks.	[1126]	[1128], [1130]
[1128]	?	0.39	0.21	Possible re-cut of ditch [1126] with a rounded profile. Contained 1129. Part of **Ring Ditch 2**.	1127	1129
1129	?	0.39	0.21	Fill of [1128]: dark brown grey silt clay, which contained occasional charcoal flecks.	[1128]	1002
[1130]	0.80	0.67	0.41	Sub-oval pit with a steep rounded profile. Contained 1131 and 1132.	1002, 1127	1131
1131	?	0.29	0.09	Fill of [1130]: mid grey sand gravel, which contained rare charcoal flecks.	[1130]	1132
1132	0.80	0.67	0.41	Fill of [1130]: dark grey brown sand silt, which contained rare gravel and occasional charcoal flecks.	1131	1001
[1133]	0.95	0.61	0.37	North – south aligned ditch with a broadly 'V' shaped profile; although the west edge of the ditch was stepped and the east edge was curvilinear. Contained 1134. Part of **Ring Ditch 2**.	Natural	1134
1134	?	0.61	0.21	Fill of [1133]: orange brown sand silt.	[1133]	[1267]
1135	?	0.27	0.16	Fill of [1267]: dark brown sand silt.	[1267]	1002
[1136]	>1.15	0.64	0.43	Northwest – southeast aligned ditch with a steep rounded profile. Contained 1137. Part of **Ring Ditch 2**.	Natural	1137
1137	?	0.64	0.27	Fill of [1136]: orange brown sand clay, which contained rare gravel and rare charcoal flecks.	[1136]	[1268]

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[1138]	>1.47	0.77	0.47	Northwest – southeast aligned ditch with a steep sloping to 'V' shaped profile. Contained 1139. Part of **Ring Ditch 2**.	Natural	1139
1139	?	0.77	0.28	Fill of [1138]: orange brown sand clay, which contained rare gravel and rare charcoal flecks.	[1138]	[1270]
[1140]	?	0.43	0.48	Possible cut feature with a steep sloping to slightly irregular west edge. Contained 1144. Not entirely clear if the feature was of archaeological or natural origin.	Natural	1144
1141	?	0.88	0.29	Fill of [1143]: light grey orange brown silt clay, which contained rare gravel and rare charcoal flecks. Equivalent to 1150.	1149	1151
1142	?	0.75	0.19	Fill of [1143]: dark brown silt clay gravel. Equivalent to 1152.	1151	1002
[1143]	2.06	1.23	0.90	Probable pit with a stepped to very steep rounded profile. Contained 1141, 1142, 1148-1152. The feature was only partially revealed within the excavation area and, as such, it was not possible to entirely rule out the potential that it represented the west terminus of a large ditch.	1144	1148
1144	?	0.43	0.48	Fill of [1140]: light orange grey brown clay sand. Possible natural deposit.	[1140]	[1143]
[1145]	0.26	0.23	0.19	Sub-circular possible small posthole with near vertical sides and a flat base. Contained 1146 and 1147. The feature was revealed during the 100% excavation of Ring Ditch 2. No similar / related features were revealed elsewhere within the ring ditch cut. Part of **Ring Ditch 2**.	1104	1146
1146	?	0.26	0.16	Fill of [1145]: light grey sand silt, which contained frequent charcoal flecks.	[1145]	1147
1147	?	0.26	0.07	Fill of [1145]: black charcoal and sand.	1146	[1116]
1148	1.33	0.60	0.15	Fill of [1143]: light grey orange brown silt clay gravel, which contained rare charcoal flecks.	[1143]	1149
1149	1.69	0.89	0.29	Fill of [1143]: dark orange brown silt clay, which contained rare gravel.	1148	1141/50
1150	2.06	0.88	0.35	Equivalent to 1141.		
1151	1.62	0.62	0.19	Fill of [1143]: variable grey orange brown silt clay gravel.	1141/50	1142/52
1152	0.79	0.75	0.19	Equivalent to 1142.	1151	1002
[1153]	0.70	0.62	0.22	Sub-circular pit with a rounded to uneven profile. Contained 1154 and 1155.	1002	1155
1154	?	0.49	0.10	Fill of [1153]: dark grey brown silt clay, which contained frequent charcoal flecks.	1155	1001
1155	?	0.49	0.11	Fill of [1153]: dark orange brown silt clay, which contained rare charcoal flecks.	[1153]	1154
[1156]	0.74	0.70	0.35	Sub-circular pit with near vertical sides and a rounded base. Contained 1157 and 1158.	natural	1157
1157	?	0.69	0.05	Fill of [1156]: dark grey black gritty sand silt, which contained occasional gravel and frequent charcoal flecks.	[1156]	1158
1158	?	0.74	0.33	Fill of [1156]: grey orange brown gritty sand silt, which contained rare gravel and occasional charcoal flecks.	1157	1002
[1159]	1.0	0.81	0.23	Sub-circular pit with a rounded profile. Contained 1160 and 1161. Cut into the fill (1171) of feature [1170].	1171	1160
1160	?	0.75	0.09	Fill of [1159]: dark grey brown clay sand, which contained occasional gravel and frequent charcoal flecks.	[1159]	1161

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CXT	L(m)	W(m)	D(m)	DESCRIPTION	CUTS/LATER THAN	CUT BY/EARLIER THAN
1161	?	0.52	0.15	Fill of [1159]: grey brown clay sand, which contained occasional gravel and occasional charcoal flecks.	1160	1002
[1162]	0.40	0.36	0.16	Sub-circular small pit with a steep rounded profile. Contained 1163-66. Uncertain if the feature was of archaeological or natural origin. Possibly related to [1167].	natural	1163
1163	?	0.36	0.16	Fill of [1162]: variable grey brown clay sand, which contained occasional charcoal flecks. Contained 1164-6.	[1162]	1002
1164	?	0.23	0.03	Fill of [1162]: lens of variable black grey charcoal sand. Contained within 1163.	[1162]	1002
1165	?	0.09	0.09	Fill of [1162]: patch of orange brown clay, which contained rare charcoal flecks. Contained within 1163.	[1162]	1002
1166	?	0.06	0.06	Fill of [1162]: patch of grey brown clay sand, which contained rare charcoal flecks. Contained within 1163.	[1162]	1002
[1167]	0.60	0.18	0.24	Sub-oval small pit with steep sloping to near vertical sides and a rounded base. Contained 1168 and 1169. Possibly related to [1162].	natural	1168
1168	0.60	0.18	0.24	Fill of [1167]: variable orange grey brown clay sand, which contained occasional charcoal flecks. Contained 1169.	[1167]	1002
1169	?	0.04	0.17	Fill of [1167]: lens of variable black grey charcoal sand. Contained within 1168.	[1167]	1002
[1170]	1.0	0.84	0.40	Possible sub-circular pit with steep sides and a flat base. Contained 1171. It was not entirely clear if the feature was of archaeological or natural origin.	natural	1171
1171	?	0.84	0.16	Fill of [1170]: variable orange grey brown clay sand gravel, which contained rare charcoal flecks, which were possibly intrusive material.	[1170]	[1159]
[1172]	0.72	0.70	0.43	Sub-circular pit with steep to near vertical sides and a flat base. Contained 1173 and 1174.	natural	1174
1173	?	0.70	0.34	Fill of [1172]: grey orange brown silt clay, which contained occasional gravel and occasional charcoal flecks.	1174	1002
1174	?	0.56	0.11	Fill of [1172]: dark grey brown to black silt clay, which contained frequent charcoal flecks.	[1172]	1173
[1175]	1.08	1.0	1.09	Sub-circular pit with steep to near vertical sides and a flat to slightly rounded base. Contained 1176, 1287 and 1288.	1178	1287
1176	1.08	1.0	0.43	Fill of [1175]: grey orange brown gritty sand silt, which contained rare gravel and occasional charcoal flecks.	1287	1288
[1177]	>0.24	0.37	0.15	Northwest – southeast aligned ditch with a shallow profile. Contained 1178. Extended to the northwest for approximately 2.50m, where it turned to the northeast to form an approximate right-angle. Entirely truncated by pit [1175] at the southeast. Part of **Ditch 2**.	natural	1178
1178	0.24	?	0.15	Fill of [1177]: mottled brown grey gritty sand silt, which contained occasional charcoal flecks.	[1177]	[1175]
[1179]	3.20	0.69	0.10	Approximately north – south aligned curvilinear ditch with a very shallow rounded profile. Dissipated at the north and south. Contained 1180.	natural	1180
1180	?	0.69	0.10	Fill of [1179]: brown grey gritty sand silt, which contained occasional charcoal flecks.	[1179]	1002
[1181]	0.85	0.55	0.19	Sub-oval to irregular pit with a rounded profile. Contained 1182.	natural	1182
1182	0.85	0.55	0.19	Fill of [1181]: grey brown silt clay sand, which contained rare charcoal flecks.	[1181]	1002
[1183]	2.45	1.10	0.37	Sub-oval pit with a steep rounded profile. Contained 1184.	natural	1184

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1184	2.45	1.10	0.37	Fill of [1183]: light orange brown silt sand, which contained rare charcoal flecks.	[1183]	1002
[1185]	1.20	0.47	0.11	Northeast – southwest aligned linear to sub-oval pit with a shallow rounded profile. The southwest half of the base of the pit was discoloured red, which was probably caused by *in-situ* burning. Possible 'fire-pit'. Contained 1186.	1188, 1273	1186
1186	1.20	0.47	0.11	Fill of [1185]: variable brown to dark brown grey sand clay, which contained frequent charcoal flecks, occasional patches of charcoal, occasional lumps of fired/burnt clay and occasional burnt stone.	[1185]	1002
1187	0.80	0.56	0.07	Reddened/burnt natural clay sand beneath pit [1185].	1188	
1188	?	0.43	0.09	Unaffected natural clay sand beneath pit [1185]/1187.	?	[1185]/1187
[1189]	1.40	0.30	0.20	Northeast – southwest aligned curvilinear gully with a steep rounded profile. Contained 1190.	natural	1190
1190	1.40	0.30	0.20	Fill of [1189]: variable dark grey brown sand silt, which contained frequent charcoal flecks.	[1189]	1002
[1191]	1.95	0.70	0.34	Northwest – southeast aligned linear pit with a steep rounded profile. Contained 1192 and 1193.	natural	1192
1192	1.95	0.58	0.15	Fill of [1191]: variable orange grey brown sand clay, which contained rare charcoal flecks.	[1191]	1193
1193	>0.98	0.58	0.19	Fill of [1191]: dark grey brown sand clay gravel, which contained occasional charcoal flecks.	1192	1002
[1194]	0.70	0.58	0.13	Sub-circular pit with a shallow rounded profile. Contained 1195.	natural	1195
1195	0.70	0.58	0.13	Fill of [1194]: brown grey sand clay, which contained rare gravel and rare charcoal flecks.	[1194]	1002
[1196]	1.45	1.40	0.16	Sub-circular pit with a shallow flat profile. Contained 1197. Uncertain stratigraphic relationship with [1198].	natural	1197
1197	1.45	1.40	0.16	Fill of [1196]: dark grey brown silt sand gravel.	[1196]	1002
[1198]	1.30	1.28	0.09	Sub-circular pit with a shallow flat profile. Contained 1199. Uncertain stratigraphic relationship with [1196].	natural	1199
1199	1.30	1.28	0.09	Fill of [1198]: dark grey brown silt sand gravel. Indistinguishable from 1197.	[1198]	1002
[1200]	0.98	0.83	0.20	Sub-circular pit with a shallow rounded profile. Contained 1201.	natural	1201
1201	0.98	0.83	0.20	Fill of [1200]: variable grey orange brown sand clay, which contained rare charcoal flecks.	[1200]	1002
[1202]	1.53	0.99	0.67	Sub-oval pit with a steep rounded profile. Contained 1203 and 1247.	natural	1247
1203	1.53	0.99	0.58	Fill of [1202]: variable grey orange brown clay sand, which contained occasional patches of dark brown clay sand, rare gravel and occasional charcoal flecks.	1247	1002
[1204]	2.75	0.80	0.19	Northeast – southwest aligned linear pit or ditch with a shallow profile. Dissipated at the northeast. Contained 1205.	natural	1205
1205	2.75	0.80	0.19	Fill of [1204]: variable orange brown sand clay, which contained rare charcoal flecks.	[1204]	1002
[1206]	1.20	1.05	0.35	Sub-circular pit with steep sloping to near vertical sides and a flat to slightly rounded base. Contained 1207.	natural	1207

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1207	?	1.05	0.33	Fill of [1206]: variable orange brown grey sand silt clay, which contained occasional grit and occasional charcoal flecks.	[1206]	[1289]
1208	0.60	0.60	0.30	Fill of [1289]: dark brown to black silt, which contained rare gravel and frequent charcoal flecks.	[1289]	1002
[1209]	1.65	1.45	0.24	Sub-circular pit with a shallow rounded profile. Contained 1210. Equivalent to [1064].	natural	1210
1210	0.98	0.47	0.24	Fill of [1209]: light orange brown sand clay, which contained occasional flecks of beige silt.	[1209]	[1211]
[1211]	0.80	0.75	0.17	Sub-circular pit with a shallow rounded profile. Contained 1212. Equivalent to [1285].	1210	1212
1212	0.80	?	0.16	Fill of [1211]: brown orange sand clay, which contained rare charcoal flecks.	[1211]	1002
[1213]	2.28	1.70	0.33	Sub-oval to amorphous pit with a shallow rounded to uneven profile. Contained 1214.	1277	1214
1214	2.28	1.70	0.33	Fill of [1213]: variable orange grey brown silt sand, which contained rare gravel and rare charcoal flecks.	[1213]	[1215]
[1215]	1.40	1.07	0.18	Sub-oval pit with a shallow rounded profile. Contained 1216.	1214	1216
1216	1.40	1.07	0.18	Fill of [1215]: dark brown silt sand gravel, which contained rare charcoal flecks.	[1215]	1002
[1217]	1.06	0.94	0.10	Sub-circular pit with a shallow rounded profile. Contained 1218.	natural	1218
1218	1.06	0.94	0.10	Fill [1217]: dark grey brown silt clay, which contained occasional charcoal flecks.	[1217]	1002
[1219]	2.23	1.45	0.08	Sub-oval pit with a very shallow flat profile. Contained 1220.	natural	1220
1220	2.23	1.45	0.08	Fill of [1219]: grey brown silt clay, which contained occasional charcoal flecks.	[1219]	1002
[1221]	>1.90	8.27	0.99	Northwest – southeast aligned cut feature with a sloping northeast edge. Contained 1222 and 1274-78. Part of the **Palaeochannel**.	natural	1222, 1275, 1277
1222	?	1.65	0.06	Fill of [1221]: black soft humic silt sand.	[1221]	1274
[1223]	1.20	1.08	0.12	Sub-circular pit with a shallow rounded profile. Contained 1224.	natural	1224
1224	1.20	1.08	0.12	Fill of [1223]: grey brown silt clay, which contained frequent charcoal flecks.	[1223]	1002
[1225]	1.70	1.70	0.06	Sub-circular pit with a very shallow profile. Contained 1226.	natural	1226
1226	1.70	1.70	0.06	Fill of [1225]: brown grey sand clay.	[1225]	1002
[1227]	0.60	0.55	0.07	Sub-oval pit with a shallow rounded profile. Contained 1228.	natural	1228
1228	0.60	0.55	0.07	Fill of [1227]: variable grey orange brown silt clay, which contained frequent charcoal flecks.	[1227]	1002
[1229]	2.50	0.44	0.15	North – south aligned linear cut feature, possibly a ditch, with a shallow rounded profile. Dissipated at the north and south. Contained 1230.	natural	1230

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1230	?	0.44	0.15	Fill of [1229]: grey gritty sand silt, which contained occasional charcoal flecks.	[1229]	1002
[1231]	2.30	1.90	0.35	Sub-circular pit-like feature with a rounded to uneven and irregular profile. Contained 1234. Possible natural feature, such as a tree-throw hole or an animal burrow.	natural	1234
[1232]	0.60	0.60	0.15	Sub-circular pit with a shallow rounded profile. Contained 1233.	natural	1233
1233	0.60	0.60	0.15	Fill of [1232]: brown grey sand clay, which contained rare gravel and rare charcoal flecks.	[1232]	1002
1234	2.30	1.90	0.35	Fill of [1231]: grey orange brown gritty silt clay, which contained occasional gravel and rare charcoal flecks.	[1231]	1002
[1235]	0.32	0.20	0.09	Sub-circular possible posthole with a shallow rounded profile. Contained 1236. Uncertain stratigraphic relationship with [1237].	natural	1236
1236	0.32	0.20	0.09	Fill of [1235]: grey brown silt clay, which contained frequent charcoal flecks.	[1235]	1002
[1237]	0.35	0.29	0.15	Sub-circular possible posthole with a shallow rounded profile. Contained 1238. Uncertain stratigraphic relationship with [1235].	natural	1238
1238	0.35	0.29	0.15	Fill of [1237]: grey brown silt clay, which contained frequent charcoal flecks. Indistinguishable from 1236.	[1237]	1002
[1239]	>1.08	0.51	0.17	Northeast – southwest aligned ditch with a shallow rounded profile. Contained 1240. Part of **Ditch 2**.	natural	1240
1240	?	0.51	0.17	Fill of [1239]: variable dark grey orange brown sand clay, which contained rare charcoal flecks.	[1239]	1002
[1241]	>1.0	0.39	0.07	Northeast – southwest aligned ditch with a very shallow rounded profile. Contained 1242. Part of **Ditch 2**.	natural	1242
1242	?	0.39	0.07	Fill of [1241]: grey sand clay, which contained rare charcoal flecks.	[1241]	1002
[1243]	0.35	0.28	0.15	Sub-circular possible posthole with a steep rounded profile. Contained 1244.	natural	1244
1244	0.35	0.28	0.15	Fill of [1243]: grey brown silt clay, which contained rare charcoal flecks.	[1243]	1002
[1245]	0.38	0.32	0.06	Sub-circular pit with a very shallow rounded profile. Contained 1246.	natural	1246
1246	0.38	0.32	0.06	Fill of [1245]: brown silt clay.	[1245]	1002
1247	?	0.28	0.16	Fill of [1202]: dark brown silt clay gravel, which contained frequent charcoal flecks.	[1202]	1203
[1248]	0.70	0.59	0.12	Sub-circular pit with a shallow rounded profile. Contained 1249.	natural	1249
1249	0.70	0.59	0.12	Fill of [1248]: dark grey brown silt clay, which contained rare to occasional charcoal flecks.	[1248]	1002
[1250]	0.37	0.37	0.12	Sub-circular small pit with a shallow rounded profile. Contained 1251.	natural	1251
1251	0.37	0.37	0.12	Fill of [1250]: dark brown silt clay, which contained occasional charcoal flecks.	[1250]	1002
[1252]	0.58	0.56	0.29	Sub-circular possible posthole with a rounded to stepped upper profile and a flat to sloping base. Contained 1253 and 1254.	natural	1253

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1253	0.58	0.56	0.29	Possible post-packing fill within [1252]: variable light to mid brown sand clay, which contained rare charcoal flecks.	[1252]	1254
1254	?	0.12	0.29	Possible soil post-pipe within [1252]: dark grey brown sand clay, which contained occasional charcoal flecks.	1253	1002
[1255]	0.90	0.80	0.18	Sub-circular pit with a shallow rounded profile. Contained 1256.	natural	1256
1256	0.90	0.80	0.18	Fill of [1255]: dark grey brown silt clay, which contained occasional to frequent charcoal flecks.	[1255]	1002
[1257]	1.0	0.94	0.13	Sub-circular pit with a shallow rounded profile. Contained 1258 and 1259.	natural	1258
1258	?	0.71	0.13	Fill of [1257]: light grey brown sand clay, which contained rare gravel and rare charcoal flecks.	[1257]	1259
1259	?	0.35	0.09	Fill of [1257]: dark grey brown sand clay, which contained rare gravel and rare charcoal flecks.	1258	1002
[1260]	1.10	1.07	0.14	Sub-circular pit with a very shallow flat to slightly uneven profile. Contained 1261.	1263	1261
1261	1.10	1.07	0.14	Fill of [1260]: grey brown sand clay, which contained rare charcoal flecks.	[1260]	1002
[1262]	0.30	0.27	0.11	Sub-circular possible posthole with a rounded profile. Contained 1263.	natural	1263
1263	0.30	0.27	0.11	Fill of [1262]: grey brown sand clay, which contained occasional charcoal flecks.	[1262]	[1260]
1264	?	4.0	0.17	Fill of [1007]: variable orange grey brown clay sand.	[1007]	1023
[1265]	?	0.39	0.14	Possible re-cut of ditch [1106] with a rounded profile. Contained 1108. Part of **Ring Ditch 2**.	1107	1108
[1266]	?	0.40	0.17	Possible re-cut of ditch [1109] with a rounded profile. Contained 1111. Part of **Ring Ditch 2**.	1110	1111
[1267]	?	0.27	0.16	Possible re-cut of ditch [1133] with a steep rounded profile. Contained 1135. Part of **Ring Ditch 2**.	1134	1135
[1268]	?	0.42	0.16	Possible re-cut of ditch [1136] with a rounded profile. Contained 1269. Part of **Ring Ditch 2**.	1137	1269
1269	?	0.42	0.16	Fill of [1268]: dark grey brown clay sand.	[1268]	1002
[1270]	?	0.37	0.19	Possible re-cut of ditch [1138] with a rounded profile. Contained 1271. Part of **Ring Ditch 2**.	1139	1271
1271	?	0.37	0.19	Fill of [1270]: grey to dark grey sand silt.	[1270]	1002
[1272]	0.20	0.19	0.22	Sub-circular possible posthole with near vertical sides which descended to a narrow pointed base. Heavily truncated by pit [1185]. Contained 1273.	natural	1273
1273	0.20	0.19	0.22	Fill of [1272]: grey brown clay sand.	[1272]	[1185]
1274	?	2.22	0.22	Fill of [1221]: light grey plastic clay.	1222	1276
1275	?	1.57	0.05	Fill of [1221]: variable grey to dark grey clay silt.	[1221]	1276

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1276	?	3.90	0.39	Fill of [1221]: dark grey brown clay sand.	1274, 1275	1278
1277	?	3.35	0.37	Fill of [1221]: light orange brown clay sand silt, which contained occasional gravel.	[1221]	1278, [1213]
1278	?	6.0	0.60	Fill of [1221]: grey brown sand silt, which contained occasional gravel.	1276, 1277	1002
[1279]	?	0.34	0.15	Possible re-cut of ditch [1005] with a rounded profile. Contained 1006. Part of **Ring Ditch 1**.	1027	1006
[1280]	?	0.64	0.20	Possible re-cut of ditch [1028] with a rounded to uneven profile. Contained 1030. Part of **Ring Ditch 1**.	1029	1030
[1281]	?	0.51	0.29	Possible re-cut of ditch [1031] with a rounded to uneven profile. Contained 1033. Part of **Ring Ditch 1**.	1032	1033
[1282]	?	0.81	0.23	Possible re-cut of ditch [1080] with an uneven and irregular profile. Contained 1082. Part of **Ring Ditch 1**.	1081	1082
[1283]	?	0.63	0.34	Possible re-cut of ditch [1078] with a rounded profile. Contained 1085. Part of **Ring Ditch 1**.	1083, 1084	1085
[1284]	?	0.60	0.29	Possible re-cut of ditch [1069] with a rounded profile. Contained 1071. Part of **Ring Ditch 1**.	1070	1071
[1285]	0.80	0.75	0.07	Sub-circular pit with a shallow rounded profile. Contained 1286. Equivalent to [1211].	1066	1286
1286	?	0.63	0.07	Fill of [1285]: dark grey brown sand silt.	[1285]	1002
1287	?	0.67	0.43	Fill of [1175]: dark grey sand clay, which contained occasional gravel and occasional charcoal flecks.	[1175]	1176
1288	?	1.05	0.35	Fill of [1175]: mid to dark grey brown silt sand, which contained occasional gravel and occasional charcoal flecks.	1176	1002
[1289]	?	0.59	0.30	Possible re-cut of [1206]: pit-like feature with a steep sloping to 'V' shaped profile. Contained 1208. Although the interpretation of this feature remained uncertain, it is possible that [1289]/1208 represented the base of a soil post-pipe situated within a relatively large posthole [1206] and associated packing fill 1207.	1207	1208
				Attenuation Tank Watching Brief Area: up to 23m long by 10m wide (163m²). Natural = variable beige orange light brown soft sand clay and gravel. Present at average 0.54m (13.75m aOD) below the Modern ground surface.		
101	n/a	n/a	0.30	Modern made-ground: compacted stone and concrete. Occurred in the north part of the watching brief area.	102	n/a
102	n/a	n/a	0.23	Topsoil: dark brown clay silt.	103	101
103	n/a	n/a	0.16	Subsoil: grey brown clay silt.	natural	102
104				Void: natural		
[105]	1.60	0.75	0.29	Sub-oval/rectangular pit with rounded profile. Contained 106 and 107.	natural	107
106	?	0.75	0.21	Fill of [105]: variable dark to grey brown clay silt, which contained occasional gravel and rare charcoal flecks.	107	1002
107	?	0.70	0.29	Fill of [105]: light grey brown clay sand, which contained occasional gravel and occasional patches of dark brown sand silt.	[105]	106

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				Area of Limited and Intermittent Watching Brief: up to 100m long by 13m wide (1,200m²). Natural = not observed.		
				Intermittent observations indicated Modern disturbance and fills to depths of between 0.50-1.0m below the Modern ground surface. Probable palaeochannel dark soils were observed at the south of the watching brief area.		

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APPENDIX 2: The Lithics

By Dr Hugo Anderson-Whymark

Introduction

Excavations at Spelthorne Leisure Centre recovered 319 struck flints, 32 pieces of burnt unworked flint and four fragments of two stone implements (Table 1). The greater part of the assemblage was recovered from a group of three Middle Neolithic pits. The lithic assemblage retrieved these features includes fragments of several significant artefacts that have been damaged by fire, such as a polished discoidal knife, a Group VII stone axehead, a rod-shaped strike-a-light and a possible quartzite polissoir. The features also contained debitage from Levallois-type flint working techniques and the manufacture of chisel arrowheads.

Methodology

The flints were catalogued according to broad artefact/debitage type, and retouched pieces were classified following standard morphological descriptions (Bamford 1985, 72-77; Healy 1988, 48-49; Bradley 1999, 211-227; Butler 2005). Additional information was recorded on the condition of the artefacts including, burning, breakage, the degree of edge-damage and the degree of cortication. Unworked burnt stone was quantified by weight and number. The assemblage was catalogued directly onto a Microsoft Access database and data manipulated in Microsoft Excel.

Provenance and condition

Lithics were recovered from the fills of two ring ditches, a gully, the stone packing (1079) for a cinerary urn (1091) in pit [1090], and six pits; one unstratified flint was also recovered (Table 1). Three pits ([1156], [1159] and [1172]), located as a cluster in the centre of the site, yielded reasonably sized assemblages, including diagnostic Middle Neolithic artefacts. These were in fresh condition and they are contemporary with the archaeological features. Pits [1140], [1202] and [1213] were isolated features containing between one and seven flints; these flints typically exhibited slight edge-damage, but due to the limited number of artefacts in each feature, it is not possible to determine if they are contemporary with the feature or residual. The flint from the Bronze Age ring ditches typically exhibited slight to moderate damage, and the majority are residual Neolithic artefacts.

Most of the assemblage was free surface cortication and only one residual Mesolithic core exhibited light orange iron staining. Around half of the assemblage was burnt, with most of these pieces calcined white indicating they have been heated to over approximately 400°C. A small number of artefacts were lightly burnt, retaining their colour but exhibiting slight crazing. Approximately 70% of the flints were broken, with the majority of damaged by burning, but some intentional breakage was documented in the Neolithic pits.

Raw material

The flint exploited was generally grey to black, free from thermal flaws and of good quality. Worn cortical surfaces indicate that much of the material was obtained from local fluvial gravel deposits, but a small number of flakes exhibited approximately 5mm thick buff coloured cortex, indicating the working of good-sized nodules possibly from a different source. Fifteen flakes and blades of high-quality Bullhead Bed flint, measuring up to 85mm long, were identified by the presence of an olive-green cortex with and underlying orange band. The raw material occurs at the unconformity between the upper chalk and the Reading Bed and can be found at numerous localities in the Thames Valley and beyond.

The assemblage

The flint assemblage will be considered by key features below.

Middle Neolithic Pit Group: Pits [1156], [1159], [1172]

The majority of the lithics from the excavation were recovered from a cluster of three pits (Table 2). These pits and their fills are considered broadly contemporary on the basis of similar technological attributes and the presence of conjoins between some contexts and features. In pits [1156] and [1172], conjoins were found between the upper and lower fills of each feature. A conjoin was also made between a piece of burnt irregular waste from the primary fill (1174) of pit [1172] and two pieces of a tested nodule recovered from fills (1157) and (1158) in pit [1156]. Moreover, two small spalls from a polished stone axe (pit [1172], secondary fill (1173)) derive from the butt of an axehead found in pit [1156], fill (1157). No conjoins were found with pit [1159], but the lithic technology and assemblage composition is consistent with pits [1156] and [1172]. The assemblage from these pits is therefore considered as a whole, with reference to specific features and contexts where pertinent.

The reduction techniques are primarily aimed at the production of broad flakes of thin and regular proportions, but parallel-sided broad blades 60-85mm in length represent a small but notable component of the industry. Two modes of reduction were observed. The first removed flakes from simple plain platform, typically after abrasion of the platform edge. The second mode involves the careful preparation of the core face and faceting of the platform to ensure a regular flake or blade removal; in total 45 flakes exhibited faceted platforms. This strategy is comparable to Levallois reduction techniques, but only a few flakes exhibit dorsal flake scars indicative of full discoidal working indicating a variation of this knapping technique was employed. Cores were virtually absent, with a single tested nodule found in fragments and a burnt and broken unclassifiable flake core.

The flake debitage in the assemblage is not representative of a complete reduction sequence. Cortical flakes are almost entirely absent, as are small flakes and irregular waste, indicating primary reduction was not undertaken at this location. The majority of the flakes appear to be larger regular pieces selected for use or manufacture into flake tools, such as chisel arrowheads.

Retouched tools form a significant component of the assemblage, with 39 examples recovered (14.9% of total assemblage). These artefacts include common tools, such as scrapers (4), edge retouched flakes (2) and a serrated flake, and less common artefacts, such as a strike-a-light, polished discoidal knife and chisel arrowheads. The strike-a-light (an artefact once known as a 'fabricator') is rod-shaped and has developed extensive rounded wear on its ends from use against a piece of iron pyrites to produce sparks; this artefact has been fractured by fire and a small surface spall is missing. The polished discoidal knife is similarly broken by fire (with no evidence of breakage prior to burning), with concentric cracking from shrinkage, but only approximately two-thirds of the artefact was found in the pit. The surviving fragments, however, demonstrate the artefact was finely manufactured and of Clark's (1928) type 2 triangular form. The chisel arrowheads comprise three essentially finished forms, six unfinished arrowheads and several miscellaneously retouched pieces that may relate to arrowhead manufacture. The arrowheads were all recovered from pit [1172], with the majority in the secondary fill (1173), except for one example from pit [1159]. The latter is particularly intriguing, as it is small and relatively crudely retouched, giving the impression that it was manufacture by someone learning to knap, perhaps a child. The arrowheads from pit [1172] also exhibit some variations in skill, but it is apparent that many have been abandoned during different stages of manufacture due to knapping errors, flaws and breaks; even the most complete example exhibits a slight break in its blade edge which may have led to its abandonment.

Notably, a total of 21 flints exhibit signs of intentional breakage, with bulbs and distal ends removed by percussion and flexion fracture (Anderson-Whymark 2011). Two of these snapped elements have been further worked into unfinished chisel arrowheads, demonstrating that this breakage is part of the process for manufacturing transverse arrowheads. Twenty of the intentionally broken flakes were recovered from pit [1172] and one from pit [1159].

In addition to the flint tools, the blade end of a polished stone axehead, visually identified as Group VII from Graig Lwyd, North Wales, was recovered from pit [1156], and two spalls from the butt end of an axe of the same raw material were recovered from pit [1172], fill (1173). These axe fragments have all been fractured by fire. Pit [1172] also produced two conjoining heat spalls from a quartzite cobble that exhibit a thin slither of a polished dished surface, most probably indicating that they were detached from a polissoir or similar polishing or burnishing stone.

It has already been mentioned that several artefacts have been broken by fire and on average 48.7% of the artefacts in the pits are burnt. However, the proportions of burnt pieces vary significantly between contexts, particularly between the upper and lower fills of pit [1172], with 65.6% of artefacts in the top horizon being burnt and just 28.2% in the lower layer. Notably, none of the burnt artefacts, such as the polished discoidal knife, axehead, polissoir, one chisel arrowhead and two unfinished arrowheads appear to have been broken or damaged before they were burnt. This may indicate that they were not simply burnt due to proximity to a fire, or as part as a waste management strategy, but as a deliberate act that resulted in the destruction of several valuable artefacts.

Pits [1143], [1202], [1213]

Pits [1143], [1202] and [1213] contained three, seven and one flints, respectively. These artefacts are all unretouched flakes, except for one tested flint nodule in pit [1143]. The flakes in pit [1202] include one piece of Bullhead Bed flint and are of thin and regular proportions, indicating they are Neolithic. However, considering the small number of artefacts and the presence of slight edge-damage on most pieces it is not possible to determine if these flakes, or those from the other pits, are contemporary with the features.

Ring ditches 1 and 2, and cremation pit [1090]

Ring ditches 1 and 2 yielded small lithic assemblages that were widely distributed across excavated interventions. The lithics typically exhibit slight to moderate edge-damage which indicates these artefacts are probably residual from earlier activity in the landscape. The presence of chisel arrowhead and flakes with comparable technological attributes to artefacts in the Middle Neolithic pits, indicates these flints may derive from a surface scatter surrounding the Neolithic pits. However, the burnt unworked flint in the ring ditch 2 was largely recovered from fill [1120] (Sec 048) and may relate to burning activities associated with the ring ditches.

The inverted cremation urn (1091) in pit [1090] was surrounded by a large number of small cobbles carefully deposited as packing (1079). These stones included one opposed-platform blade core, probably of Mesolithic date, and two irregular flake cores in fresh condition, that probably date from the Early Bronze Age. These artefacts are of comparable size to the unworked cobbles that filled the pit and may therefore have been gathered on account of size, indicating their inclusion may have been of no particular significance.

Potential

The flints recovered from Spelthorne Leisure Centre are significant, mainly due to the assemblage recovered from the cluster of three Middle Neolithic pits. The four key areas with potential for further work are:

1. Polished discoidal knife. This is a rare specialised artefact and it is exceptional for an example to be recovered from a contemporary feature with associated artefacts. Few discoidal knives are associated with radiocarbon dates and this site offers the opportunity to add to this corpus.

2. Characterising structured deposition. The structuring and composition of the pit deposits, including the destruction of valued objects, is also remarkable and these features provide an exceptional case study of structured deposition and the potential to further unpick the temporality of deposition events across these features (e.g. Lamdin-Whymark 2008; Garrow 2006; Garrow et al 2006).

3. Characterising chisel arrowhead manufacture. The recovery of a substantial assemblage of debitage relating to the manufacture of chisel arrowheads

provides an opportunity to characterise the debitage and better understand the *chaîne opératoire* of their manufacture.

4. Characterising Levallois-style reduction techniques. The presence of numerous flakes with faceted butts indicates the use of Levallois-type reduction strategies; a specialized technique used in the Middle and Late Neolithic. The flake debitage in this assemblage does not conform to standard discoidal Levallois working and has the potential to characterise Levallois-type reduction strategies.

Recommendations

Further work is recommended for several aspects of the assemblage. Firstly, once environmental samples have been processed, the additional debitage should be catalogued and characterised. The technological attributes of the Levallois debitage and material from chisel arrowhead manufacture should be recorded and described in relation to wider regional traditions.

A publication text of approximately 3,000 words, with four to five tables, should be prepared, with specific focus on lithics recovered from the group of three Middle Neolithic pits and aspects of structured deposition. Approximately 30 illustrations should be produced of key retouched artefacts and debitage, including Levallois-type flakes. Examples of debris from chisel arrowhead, should be illustrated to demonstrate the technology employed. Photographs of key artefacts will complement the report.

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Object category	Gully 1239	Pit 1172	Pit 1143	Pit 1156	Pit 1159	Pit 1202	Pit 1213	Ring ditch 1	Ring ditch 2	Cremation pit 1090	Unstrat	Grand Total
Flake		147	2	6	28	7	1	18	16	1	1	227
Blade-like flake		10		2	5							17
Blade		11		2	2			2	1			18
Bladelet		1										1
Chip				1								1
Irregular waste		3		1					3			7
Tested nodule/bashed lump			1	1								2
Single platform flake core										1		1
Opposed platform blade core										1		1
Multiplatform flake core									1	1		2
Unclassifiable core		1										1
Edge retouched flake		2										2
End scraper		2						2				4
End and side scraper				1								1
Disc scraper		1										1
Awl								1				1
Serrated flake		1										1
Strike-a-light				1								1
Polished discoidal knife		7										7
Unclassifiable fragmentary knife		2										2
Polished axe				1								1
Flake from ground implement		2										2
Chisel arrowhead		2			1			1				4
Unfinished chisel arrowhead		6										6
Misc. retouch		10						1				11
Polissoir/rubber fragment		1										1
Burnt unworked flint	1							3	28			32
Grand Total	**1**	**209**	**3**	**16**	**36**	**7**	**1**	**28**	**49**	**4**	**1**	**355**

Table 1: The lithic assemblage from Spelthorne Leisure Centre by key feature

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	Pit 1172		Pit 1172 Total	Pit 1156		Pit 1156 Total	Pit 1159		Pit 1159 Total	Grand Total
Object category	Sec. Fill 1173	Prim. Fill 1174		Prim. Fill 1157	Sec. Fill 1158		Prim. Fill 1160	Sec. Fill 1161		
Flake	87	60	147	3	3	6	22	6	28	181
Blade-like flake	7	3	10	1	1	2	5		5	17
Blade	6	5	11	1	1	2	2		2	15
Bladelet	1		1							1
Chip					1	1				1
Irregular waste		3	3	1		1				4
Tested nodule/bashed lump					1	1				1
Unclassifiable core	1		1							1
Edge retouched flake	2		2							2
End scraper	1	1	2							2
End and side scraper					1	1				1
Disc scraper	1		1							1
Serrated flake	1		1							1
Strike-a-light					1	1				1
Polished discoidal knife (frags)	6	1	7							7
Unclassifiable fragmentary knife	2		2							2
Polished axe				1		1				1
Flake from ground implement	2		2							2
Chisel arrowhead	2		2				1		1	3
Unfinished chisel arrowhead	5	1	6							6
Misc. retouch	6	4	10							10
Polissoir/rubber fragment	1		1							1
Grand Total	**131**	**78**	**209**	**7**	**9**	**16**	**30**	**6**	**36**	**261**

No. burnt (%)	**86 (65.6%)**	**22 (28.2%)**	**108 (51.7%)**	**4 (57.1%)**	**4 (44.4%)**	**8 (50%)**	**7 (23.3%)**	**4 (66.7%)**	**11 (30.6%)**	**127 (48.7%)**
No. broken (%)	**114 (87%)**	**48 (61.5%)**	**162 (77.5%)**	**6 (85.7%)**	**4 (44.4%)**	**10 (62.5%)**	**12 (40%)**	**6 (100%)**	**18 (50%)**	**190 (72.8%)**
No. retouched (%)	**28 (21.4%)**	**7 (9%)**	**35 (16.7%)**	**1 (14.3%)**	**2 (22.2%)**	**3 (18.8%)**	**1 (3.3%)**		**1 (2.8%)**	**39 (14.9%)**

Table 2: The lithic assemblage from the Neolithic pit group, pits [1156], [1159] and [1172], by context

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APPENDIX 3: The Ceramics

By Dr Jane Timby

Introduction

The archaeological work at Spelthorne Leisure Centre resulted in the recovery of a fairly modest assemblage of 188 sherds of pottery weighing approximately 5.7 kg dating to the Early Prehistoric, Roman and Saxon periods. The pottery was accompanied by 13 fragments of fired clay and 28 pieces of ceramic building material (CBM).

The pottery was recorded using the recommendations outlined in *Pottery Standards* (Barclay *et al*. 2016). To this end, it was examined macroscopically and sorted into fabrics based on inclusions present, the frequency and grade of the inclusions and the firing colour. The fabrics are coded based on the principal inclusions in the clay following PCRG (1997) guidelines. Thus GR = grog, FL = flint, SA = quartz sand, OR = organic matter. The sorted fabrics were quantified by sherd count and weight by recorded context. The few rims were measured for diameter and estimated vessel equivalence (EVE) (Orton *et al*. 1993). Freshly broken pieces were counted as single items. The resulting data is summarised along with provisional spot in Table 1.

In terms of condition the pottery is mixed. A significant amount of the total, 73 sherds, weighing approximately 5 kg, come from a single plough damaged cinerary urn, leaving 128 remaining sherds. The overall average sherd weight of just 5.5 g is low and the sherds are distributed across approximately 30 contexts.

Description of pottery: Early Prehistoric

Excluding the cremation urn from pit [1090] (see below), approximately 85 sherds of Early Prehistoric pot were recovered weighing 404 g. Most of the material was extremely fragmentary and whilst a few decorated pieces hint at the presence of Beaker and early Bronze Age urn, establishing the complete chronological range is difficult based on the sherds alone.

The fabrics can broadly be divided into calcined flint-tempered; coarse (FL1) and finer (FL2); sandy with flint (SAFL); grog (GR); sandy with grog (SAGR); grog with sparse organic matter (GROR) and grog with sparse quartz sand and rare flint (GRFLQZ).

Of the three Neolithic pits [1156] and [1159] and [1172], which were dated by the associated flint work, only a single sherd (9.5 g) was recovered from pit [1172], fill (1174). The sherd has a very laminar structure and is grog-tempered with sparse organic material. There were no other closely similar sherds in the assemblage.

Potentially the flint-tempered sherds may be the earliest pieces present, but in most cases the sherds are extremely small and there are few diagnostic pieces. The fill of ring ditch 1 ([1075]/(1076)) yielded 40 sherds, including 26 in a fabric containing sparse to moderate frequency of calcined flint ranging in size from less than 1 mm to 5 mm, amongst which was a sherd from a rounded base. The same context contained a simple

everted rim from a ?bowl (diameter c 220 mm) and 13 bodysherds in a sandier fabric with sparse rounded quartz grains and flint. One of the sherds had faint traces of twisted cord decoration. Potentially these sherds may be of late Neolithic date but the tradition of flint-tempering continues in the Surrey area into the Early Bronze Age and the use of twisted cord decoration extends from the Neolithic through to the Early Bronze Age. A further three very small flint-tempered sherds were recovered from three re-cuts of ring ditch 2: [1116]/(1105); [1124]/(1125) and [1128]/(1129).

More easily recognisable are a few sherds of decorated Beaker, all in grog-tempered fabrics. Linear gully [1189]/(1190) contained 15 sherds from a single vessel. The finely micaceous clay contained a common frequency of grog with rare fine quartz sand, fine flint and iron-rich grains. The vessel is finely decorated with an all-over 'twisted' cord (AOC) design with two impressed defined cordons and infilled hanging triangles (Plates 1-2a, b) although the overall vessel shape cannot be determined. The decorative scheme falls into Clarke's (1970) southern British motif Gp 4. It was originally thought that AOC beakers fell at the beginning of the Beaker sequence but more recent radiocarbon dating has proved this not necessarily to be the case (Cleal 1999, 204).

Further sherds of decorated beaker in grog-tempered fabrics came from the re-cut of ring ditch 2 ditch [1116]/(1105), including one with lines of spaced impressed or incised decoration. Thinner-walled sherds in a similar fabric were also recovered from ring ditch 2: [1266]/(1111); [1117]/(1118); [1119]/(1120) and [1128]/(1129).

Cremation urn

The truncated remains of a once complete Bronze Age urn (1091) were recovered from pit [1090]. The vessel was found in an inverted position and it contained a multiple cremation, from which bone has provided a radiocarbon date to within the Early Bronze Age (Appendix 10). The complete rim (diameter 300 mm) was recovered intact along with approximately the upper third of the body accompanied by a large number of small bodysherds. The lower part of the urn and the base are missing.

The vessel is a bipartite collared urn dating to the mid-2nd millennium (Gibson and Woods 1997). The collar is morphologically less well defined than some examples of this class other than through the decorative scheme, and overall the profile appears to be closer to a biconical urn. The vessel has a single attached skeuomorphic 'horse-shoe' handle (Plate 3) attached to the collar. The collar also displays a complex style of twisted cord decoration which extends diagonally to the upper rim surface and interior rim face. The decoration around the collar comprises a complex scheme set in a series of non-demarcated zones, with a two 'panels' of vertically impressed twisted cord, three of diagonal lines and four horizontally (hurdle) impressed; the number of lines varying. The junction from which the cord was applied can be seen where horizontal lines do not quite match up (Plate 4). Approximately around one third of the circumference from the attached 'handle' is a three line depiction of a second 'handle' in twisted cord (Plate 5), i.e. not diametrically opposite. The vessel has an oxidised orange-brown exterior and outer core edge and a black core and interior. The wall thickness is around 17 mm. The fine, quite friable, clay body contains a sparse frequency of sub-angular grog 2-4 mm in size and rare flint.

A biconical urn from Guildford with two horseshoe handles in the upper body is regarded by Needham (1987, fig. 5.3.5) to be a classic Wessex biconical urn feature. Other examples with 'handles', again associated with biconical forms, are recorded from Dorset with the 'handle' often below the shoulder (Calkin 1964, fig. 14, p. 37). Calkin also cites a concentration of such forms in Wiltshire, particularly around Amesbury where the 'handle' is set above the shoulder. An inverted urn cremation burial was found in 1930 in gravel working east of Farnham (Lowther 1939, 165). Although the form of the urn differs considerably from the Spelthorne example, it was furnished with two horse-shoe shaped lug handles. A collared urn with complex twisted cord decoration came from the Silvermere barrow, Weybridge (Gardner 1924, plate IVa) and the practice of using inverted collared urns over cremations is moderately well attested in Surrey.

Other pottery sherds

The rim of a second urn of similar profile and with twisted cord decoration on the interior and exterior faces came from the upper fill of ring ditch 2 ring [1265]/(1108). The sherd has a sandy, iron-rich clay tempered with grog and rare flint (GRSAFL). Further single body sherds of 'urn' material based on fabric and vessel wall thicknesses came from ring ditch cuts/fills [1016]/(1017) and [1266]/(1111), the former sherd with twisted cord decoration.

The final 15 sherds of Earlier Prehistoric pottery came from ring ditch 2 cuts/fills [1115]/(1114) (x1); [1124]/(1125) (x1); [1138]/(1139) (x1) and pits [1172]/(1174) (x2) and [1206]/(1207) (x10), and are all in grog, or grog-related, fabrics but too indistinctive or fragmentary to date closely other than suggesting a Beaker or Early Bronze Age date.

Roman

Four sherds of Roman date are present. The most distinctive is a large sherd from an Oxfordshire white ware mortarium (Young 1977, type M22) dated to *circa* AD 240-400, from subsoil (1002). The other three Roman bodysherds, all from pit [1223] (1224), include a sherd of Alice Holt grey ware, a fine oxidized ware and a black sandy ware not closely dateable other than Roman.

Saxon

A total of 26 sherds, 130.5 g in weight, date to the early Saxon period. All the sherds are from handmade vessels in fabrics, mainly with organic; quartz sand or sand with sparse organic matter. The vessels are all plain, the only featured sherds being a rounded base from pit [1024]/(1026) and a jar rim from rectangular pit [1185]/(1186).

Further Saxon sherds are thinly distributed over ten features: palaeochannel [1007]/(1023); pits [1175]/(1176); [1213]/(1214); [1219]/(1220); [1227]/(1228); [1255]/(1256); [1248]/(1249) and [1250]/(1251); gullies/ditches [1239]/(1240) and [1241]/(1242).

Fired Clay

Thirteen small fragments of fired clay, weighing 30 g, were recovered from four contexts. In two cases, ditch [1075]/(1076) and pit [1206]/(1207), the fired clay is associated with earlier Prehistoric pottery; in one, rectangular pit [1185]/(1186), with Saxon potsherds, and one from posthole [1243]/(1244) which, with no associated material, remains undated. None of the pieces gave any indication as to their original purpose.

Ceramic Building Material (CBM)

A small assemblage of 28 pieces of CBM was recovered, weighing 2343 g, and comprising a mixture of Roman and Post-medieval pieces. The Roman material amounts to some 25 fragments, weighing 2201 g, from 11 contexts. Recognisable fragments include two *tegulae* roofing tile and four fragments of 'brick' i.e. flat pieces 40 mm or greater in thickness. Other than thickness there are no measurable dimensions. The brick includes one very well-fired fragment from pit [1175]/(1176), which has become semi-vitrified on one face.

Six pieces, 142 g, from four pits [1024], [1057], [1130] and [1153] are probably Post-medieval roofing tile. The pieces are considerably thinner (10 mm) and flat. A possible Roman piece also came from pit [1024], but otherwise there was no associated pottery from these features.

Potential and Retention

Although moderately small, the assemblage from Spelthorne is quite diverse chronologically demonstrating activity from the earlier Prehistoric, Roman and Saxon periods. The most significant vessel is the inverted cremation urn, but other pottery indicates Beaker and potentially earlier activity at the site. The Roman presence is very slight and difficult to tie down chronologically. The only datable sherd, the mortarium is from the subsoil and indicative of a late Roman date. The Roman CBM, however, could suggest an earlier Roman date. The presence of Saxon pottery, although small in quantity, is a useful addition to the gazetteer of such sites in Surrey, where many of the known settlement sites appear to be located close to the River Thames (Poulton 1987, 198).

Limited library research has been carried out in conjunction with the assessment to identify material but no detailed research undertaken to place the pottery assemblages into a local or regional context, for example any possible further information on the pedigree of the urn or the incidence in overlap with Beaker and early Bronze Age burial traditions. If further work or publication is envisaged it may be appropriate to consult, or commission an appropriate specialist in Early Prehistoric pottery with wider regional knowledge. A full report will include more detailed fabric descriptions, illustration of the decorated sherds and research into local/regional parallels.

The urn has been drawn and a schematic outline of the decorative sequence undertaken as a precaution to the vessel disintegrating. Some basic consolidation/cleaning work

may be necessary by a conservator. The complete assemblage should be retained, with the exception of the Post-medieval tiles.

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Cxt	Fabric	Form	Wt	No	Rim	Diam	EVE	Date
1002	OXFWHM	Mortarium	136	0	1	38	10	late Roman
1017	EPGR	urn	5	1	0	0	0	EBA
1023	SXSACAFL		4.5	1	0	0	0	Saxon
1023	SXSAOR		26	2	0	0	0	Saxon
1026	SXSA	base	59	1	0	0	0	Saxon
1076	EPFL	base	138	26	0	0	0	Epreh ?Neo
1076	EPSAFL	?bowl	63	13	1	22	3	Epreh ?Neo
1076	FC		1	1	0	0	0	Epreh
1091	EPGR		190	35	0	0	0	EBA
1091	EPGR	urn	4000	0	1	30	100	EBA
1091	EPGR	urn	828	37	0	0	0	EBA
1105	EPFL1		1	1	0	0	0	Epreh ?Neo
1105	EPGR		19	5	0	0	0	Bkr
1105	EPGR		9	1	0	0	0	Bkr
1108	EPGRSAFL	urn	28	0	1	0	2	EBA
1111	EPGR		7	1	0	0	0	EPreh
1114	EPSAGR		0.5	1	0	0	0	Epreh
1118	EPGR		4	1	0	0	0	Epreh
1120	EPGR		2.5	1	0	0	0	Epreh
1125	EPFL2		1	1	0	0	0	Epreh ?Neo
1125	EPGRSA		5	2	0	0	0	EPreh
1129	EPFL1		0.5	1	0	0	0	Epreh ?Neo
1129	EPGR		2	1	0	0	0	Epreh
1139	EPGRFLQZ		2.5	1	0	0	0	Epreh
1174	EPGROR		9.5	1	0	0	0	Epreh- Neo?
1176	SXSAOR		3	1	0	0	0	Saxon
1186	FC		16	5	0	0	0	Saxon
1186	SXSAOR	Jar	5	0	1	18	5	Saxon
1190	EPGR	Beaker	82	15	0	0	0	Bkr
1207	EPGR		25	10	0	0	0	Epreh
1207	FC		11	6	0	0	0	EPreh
1214	SXSAOR		4.5	3	0	0	0	Saxon
1220	SXSAOR		6	1	0	0	0	Saxon
1224	ALHRE		2	1	0	0	0	Roman
1224	BWSY		3	1	0	0	0	Roman
1224	OXIDF		0.5	1	0	0	0	Roman
1228	SXSAOR		1	1	0	0	0	Saxon
1240	SXSAOR?		1	1	0	0	0	Saxon
1242	SXBWSA		2.5	9	0	0	0	Saxon
1244	FC		2	1	0	0	0	no date
1249	SXBWSY(OR)		3.5	1	0	0	0	Saxon
1249	SXSAF(OR)		6	1	0	0	0	Saxon
1251	SXBWSA		2.5	1	0	0	0	Saxon
1256	SXOR		2	1	0	0	0	Saxon
103WB	SAFE		4	1	0	0	0	?Saxon
TOTAL			**5724.5**	**196**	**5**		**120**	

Table 1: The pottery from Spelthorne Leisure Centre, by context (weight = g)

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Cxt	Fabric	Form	Wt	No	Rim	Diam	EVE	Date
1022	CBM	brick	363	1	0	0	0	Roman
1023	CBM	tegula	149	2	0	0	0	Roman
1023	CBM	brick	415	1	0	0	0	Roman
1023	CBM		10	1	0	0	0	Roman
1025	CBM	brick	247	1	0	0	0	Roman
1026	CBM	rooftile	70	1	0	0	0	Pmed
1059	CBM	rooftile	15	1	0	0	0	Pmed
1132	CBM	rooftile	24	1	0	0	0	Pmed
1154	CBM		6	2	0	0	0	Pmed
1154	CBM	rooftile	27	1	0	0	0	Pmed
1176	CBM		20	2	0	0	0	Roman
1176	CBM	brick	456	1	0	0	0	Roman
1199	CBM		3	1	0	0	0	Roman
1216	CBM	brick	375	1	0	0	0	Roman
1216	CBM		102	3	0	0	0	Roman
1218	CBM		4	2	0	0	0	Roman
1220	CBM		20	2	0	0	0	Roman
1240	CBM		98	3	0	0	0	Roman
1249	CBM	tegula	24	1	0	0	0	Roman
106WB	CBM		13	3	0	0	0	?Roman
TOTAL			**2428**	**28**				

Table 2: The CBM from Spelthorne Leisure Centre, by context (weight = g)

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Plate 1: Selection of decorated Beaker sherds, gully [1189]/(1190)

Plate 2a: Detail of Beaker sherd, gully [1189]/(1190)

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Plate 2b: Detail of impressed decorated Beaker, gully [1189]/(1190)

Plate 3: Applied horseshoe 'handle' and detail of twisted cord decoration. Rim upper. Pit [1090]/(1091)

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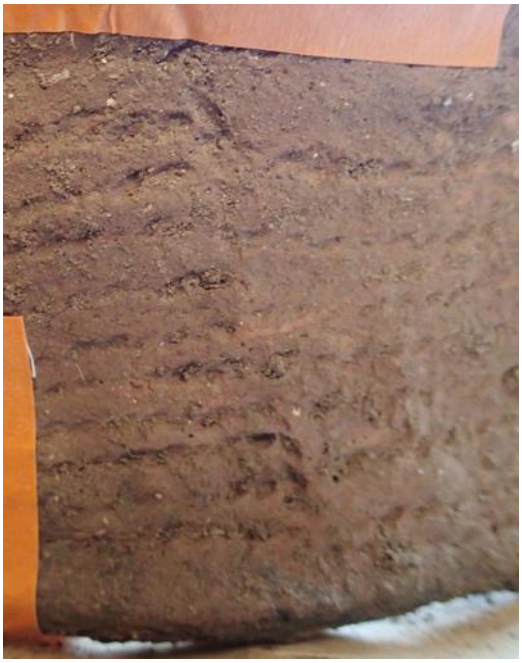

Plate 4: Junction of decorated panels (rim to base). Pit [1090]/(1091)

Plate 5: Detail of twisted cord design imitating a pseudo-handle. Rim upper. Pit [1090]/(1091)

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APPENDIX 4: The Human Cremation Burials

By Lauren McIntyre

INTRODUCTION

This report details the results of a specialist analysis of human bone from one discrete, urned cremation burial found during archaeological investigations at Spelthorne in Surrey.

The cremation burial (urn (1091), urn fill (1102)) was found in an earth cut pit (cut [1090], pit packing fill (1079)), just off-centre within Ring Ditch 2. This is assumed to be the 'central' burial within a round barrow. The whole area (including the pit containing the cremation burial) had likely been subject to historic ploughing, and subsequent horizontal truncation. Urn (1091) was inverted, meaning that the base of the vessel was lost due to ploughing. The burial has been dated to the Bronze Age, based on the form and fabric of the urn, as well as a radiocarbon determination.

METHODOLOGY

The cremation was hand excavated by a human osteologist at Oxford Archaeology's Heritage Burial Services Laboratory in accordance with national guidelines (Brickley and McKinley, 2004; McKinley, 2004; McKinley 2017). Excavation was initially undertaken in 5cm spits, until cremated bone was found, after which excavation was undertaken in 2cm spits. Each spit was recorded by photogrammetry and using Oxford archaeology pro-forma recording sheets. Spits were numbered sequentially, with the first spit (spit 1) being the uppermost within the urn. However, as the urn was buried inverted, it is anticipated that material found in the upper spits were originally deposited in the bottom of the vessel, and vice versa. Soil from immediately around urn (1091) (pit fill (1079)) was taken as a bulk sample, to catch any fragments of cremated bone located immediately around the vessel e.g., as a result of normal bioturbation.

The spits were then processed by flotation and wet sieving which sorted them into >10mm, 10-4mm, 4-2mm and 2-0.5mm fractions. Floated residues were retained in a 250µ mesh.

Once dried, any extraneous material (e.g. stones) from the >10mm, 10-4mm and 4-2mm fractions was separated from the cremated bone and discarded. All cremated bone was examined in accordance with national guidelines (Brickley and McKinley, 2004; McKinley, 2004).

The smallest fraction sizes (2-0.5mm) were not sorted but were rapidly scanned for identifiable skeletal remains and artefacts. Estimations of the proportions of bone present within the 2-0.5mm fractions were made and recorded in the archive. These are not included in the total weights presented below but are summarised in Table 3. The unsorted 2-0.5mm residues were not included in the total bone weight, as the amount

of bone in them was not deemed significant enough to alter this substantially in any of the cremation deposits.

Analysis of the cremation deposit involved recording its colour, weight and maximum fragment size. This information can facilitate the interpretation of the deposit, for example, whether it represents a formal burial, or a dump of redeposited pyre debris. These observations can provide information on factors such as efficacy of cremation (effectiveness of cremation, i.e., how well burnt the body was), relative quantity of fuel used, attained temperature within the pyre, length of time over which the cremation took place, degree of bone oxidation, and how well collected the burnt remains were from the pyre site (McKinley, 2004: 10-11). In addition, the colour of the bone can be used to reflect the efficiency of the cremation process (*ibid*., 11). The deposit was also examined for evidence of pyre debris, pyre goods or grave goods.

The MNI (minimum number of individuals) was determined based on the presence/absence of repeated skeletal elements and on the comparative size of bones (e.g. adult versus juvenile size: Buikstra and Ubelaker, 1994; Scheuer and Black 2000). Fragments were examined for evidence of normal morphological variation (non-metric traits) and pathology, but none was observed. Where possible, estimation of age and sex was attempted following published methods (Scheuer and Black 2000; Buikstra and Ubelaker 1994).

RESULTS

A summary of the main osteological findings is presented in Table 1.

Urn Excavation

Urn (1091) was excavated in a total of nine spits. It was noted during excavation that very few bone fragments were present in spits one and two, with increasing quantities observed from spit 3. In spits 4-6, cremated bone was concentrated on one side of the vessel. As the urn was found inverted (upturned), this suggests that tipping had occurred when the urn was deposited, causing the upper layers of bone (closest to the base of the urn) to fall to one side. Soil then infilled the opposite space over time, likely after breakage/truncation of the urn.

Larger bone fragments were observed during excavation from spit 3 onwards, and the main concentration of bone occurred from spit 4 to spit 7, though soil was still present between the fragments. No charcoal flecks were observed during excavation, and none were recovered during flotation.

All recovered bone fragments exhibited features - warping, cracking and fissures - that are consistent with the burning of fleshed green bone (Baby 1954; Binford 1963; Buikstra and Swegle, 256; Correia 1997, 278-9).

Bone Weight

A summary of the bone weights per deposit/spit is presented in Table 2. The total bone weight recovered from urn fill (1102) was 614.0g, with an additional 0.9g recovered from surrounding pit fill (1079). Cremated bone from pit fill (1079) likely derives from urn fill (1102), so the total weight of the cremation burial in pit [1090] was 614.9g. This just falls into the typical weight range of archaeologically recovered cremation burials (600-900g; McKinley 2013, 154). Urn [1091] was truncated by ploughing, and it is unclear precisely how much of the ceramic vessel and its contents were lost as a result. However, the fact that cremated bone was concentrated in the lower spits, with very little being recovered from the uppermost 10cm of the vessel (spits 1 and 2), coupled with the high bone weight suggests that bone loss was minimal, and it is likely that most of the original deposit has been retained.

Additionally, the unsorted 2-0.5mm residues contained a moderate proportion of bone, particularly in spits 4-8 (Table 3). This is unsurprising considering that the main concentration of bone within the urn was from spits 4-7.

Bone Fragmentation

The highest proportion of bone fragments derived from the >10mm sieve fraction (293.6g, 47.7% of the total bone weight; Table 4). Just over a third of bone was from the 10-4mm fraction (216.8g, 35.3% of the total bone weight). The largest fragment of bone was 51.3mm long. This was a fragment of tibial shaft from spit 6. A substantial quantity of the unidentified bone came from the smaller fractions (<10mm).

Skeletal Representation

Bones from all skeletal regions (skull, axial skeleton, upper limb and lower limb) were identified, and were distributed evenly amongst the spits. That is, they were not distributed in any order or element groupings throughout the urn, although cranial vault fragments were present in all spits containing identifiable bone fragments (spits 2-9: cremated bone was only present in the 2-0.5mm residue from spit 1, so no bone from here was identifiable to skeletal element). This probably reflects their easily identifiable morphology, rather than deliberate selection of the skull for burial.

A high proportion of the overall total bone weight (295.5g, 48.12% of the total bone weight) comprised unidentified fragments. This comprised unidentified long bone fragments (85.1g, 13.8%), unidentified hand and foot (1.0g, 0.2%) and unidentified joint surfaces (23.7g, 3.9%). However, the greatest proportion of unidentified bone could not be identified to any skeletal region; this comprised almost a third of the total bone weight (186.1g, 30.3%).

Efficiency of Cremation

Most bone fragments were white in colour (95%; Table 1). This indicates a generally efficient cremation process with most bones being burnt at a temperature in excess of 600ºc and is a common observation in archaeological cremation burials (McKinley, 2006: 84). This indicates that most of the corpse was placed in a location on the pyre

where maximum and consistent heat and oxygen supply was available (McKinley, 2013: 158).

The remainder of the bone was coloured grey, blue and black. It was observed that these fragments were either unidentifiable or were fragments of tooth root and enamel. The tooth roots were typically white/grey exterior with blue/black interior. Shattered tooth enamel fragments were blue. Fragments of unerupted tooth crowns were also present, and these were primarily coloured black. Unerupted teeth were thus likely to be subjected to lower temperatures because of being shielded from the heat by the surrounding bone of the jaws, which also meant that these were less likely to shatter, so larger fragments were preserved. Conversely, teeth that had erupted were subject to higher temperatures (as indicated by their blue colour), which shattered the crowns into smaller pieces.

The presence of unerupted tooth crowns also has implications for the estimated age of the cremated individual (see Demography section below).

Demography

The identifiable bone fragments were generally of a size and thickness consistent with juvenile remains, aged under 18 years. Multiple fragments of unfused epiphysis/metaphysis were present, as well as unerupted permanent tooth crowns. No adult bone fragments were identified: a fragment of bone possibly resembling an adult radial head was observed, but this identification could not be confirmed.

The minimum number of individuals present was three, based upon the identification of fragments belonging to individuals of different age as follows:

- One individual aged <3 years, based upon the presence of two unfused proximal hand phalanges (spit 4) measuring 13.5mm and 19.2mm respectively (after Hohendorff *et al* 2020)
- One individual aged 3.5-5.5 years, based upon the presence of a complete unerupted unsided mandibular first premolar crown (spit 4; after Moorees *et al* 1963)
- One individual aged 3-8 years based on the presence, size and morphology of an unfused left proximal femur and associated unfused femoral head (spit 5; after Schaefer *et al* 2009, 258)

A second unfused proximal femur was recovered (from spit 4), though this one did not have an associated unfused femoral head. This bone was from the right side of the body but did not form a pair with the left proximal femur from spit 5 (the femur from spit 5 being very slightly larger). The size difference between the two femora was only very slight, indicating the presence of two skeletons of similar age. However, the second, smaller femur was not counted as evidence for a fourth individual (of 3-8 years) as reasonably it could belong to the same skeleton as the unerupted premolar described above and estimated to have been of a similar age.

Pyre goods, pyre debris and grave goods

No evidence of pyre goods, pyre debris or grave goods was found.

SUMMARY AND CONCLUSION

The urn from pit [1090] contained the remains of at least three juvenile individuals aged less than 8 years of age. This was based on the presence of two hand phalanges belonging to an individual aged less than three years, an unerupted premolar crown belonging to an individual aged 3.5-5.5 years, and an unfused proximal femur belonging to an individual aged 3-8 years. The very limited evidence and lack of available methods for estimating juvenile age in cremated remains means that the above age estimations are rather broad, with some degree of overlap. However, very subtle differences between the fragments used for aging were noted, and it is the author's opinion that three individuals were indeed present, based on extensive experience examining cremated remains.

The high bone weight (despite ploughing truncation) and location of the pit in the centre of a round barrow suggest that the cremation is likely to be a primary burial, where most of the original deposit has been recovered.

Overall colour of the bone fragments suggested that most bones were well burnt, indicating an efficient cremation process. A small proportion of fragments, primarily from unerupted teeth, were charred. This is likely due to their anatomical location inside the jaws, where they would have been shielded from more intense heat.

No data exists on the expected weights of immature cremated bone, partly because much does not typically survive highly efficient modern cremation techniques where temperatures may reach 1000°c (Gilmour *et al* 2010, 19; McKinley 2013, 158). Immature bone does appear to survive the cremation process in the past, and it should be expected that surviving bone quantities would be less than those of adults. As such, the high bone weight present in the Spelthorne urn is likely due to a combination of minimal ploughing truncation (and hence minimal bone loss), the fact the burial is urned (which afforded some degree of protection to the bone fragments from the surrounding soil and soil pressures) and the presence of multiple juvenile individuals.

Cremation burials containing multiple individuals are rare in Britain, representing approximately 5% of known archaeological examples (McKinley 2013, 153). Where cremation burials contain multiple individuals, these are most likely to contain an adult with a juvenile, or more rarely, multiple juveniles (McKinley 1997, 142; McKinley 2013, 153). Thus, the Spelthorne example is a rare discovery. The co-mingling of skeletal elements used to identify the three individuals (in spits 4 and 5) suggests that the remains were all interred within the urn during one event, as opposed to one individual being placed in at a time, perhaps with time elapsing between each deposition; in this scenario the separation of these crucial identifying elements into more distinct layers may be expected (McKinley 1997, 142). The presence of co-mingled cremated remains may also suggest that the three individuals were cremated at the same time, on the same pyre. Further, charcoal and pyre debris were completely

absent from the assemblage, which suggests that the bone fragments were hand-picked from the pyre and placed into the urn, deliberately excluding any form of pyre debris.

Although Surrey is home to many examples of round barrows, few of these have yielded human remains (Bird 2006, 34). Two early 20th century excavations are recorded as finding Bronze Age cremation burials in inverted urns in the county. One example is from a possible round barrow at Junction Gravel Pit in Farnham in 1930 (reference number SHHER_1714, Surrey Sites and Monuments Record 2018a). Twelve late Bronze Age cremations in inverted urns (as well as eleven upright urned and two unurned burials) were found in 1901 at a possible bowl barrow at Ridge Mount Road in Sunningdale (reference number SHHER_1863, Surrey Sites and Monuments Record 2018b). However, information pertaining to these sites is scant, and osteological data is non-existent.

Bronze Age juvenile cremation burials in inverted urns have been found elsewhere in England but are rare. Several Bronze Age examples were found at Barrow Hills in Radley, Oxfordshire (Barclay *et al* 1999). These included an early Bronze Age inverted cremation burial of a 2–3-year-old child in a pond barrow, a mid-to late-Bronze Age cremation burial of a single unaged subadult, and a mid- to late-Bronze Age cremation of an adult, two infants and a child (Barclay *et al* 1999, 35, 130-1). All three of these instances were found within inverted collared urns (*ibid*.), same as the example from Spelthorne.

Given the context, cremation burial from Spelthorne is a rare example of a primary Bronze Age cremation burial containing multiple young children. The information from this study makes a valuable contribution to our knowledge of prehistoric funerary practice in Surrey and the wider region.

Sufficient data has been obtained from cremation deposits from Spelthorne, allowing where possible, observations to be made regarding pyre technology, funerary rite and demography. No further osteological analysis of these fragments is recommended. If further burials are recovered from this site in the future, the cremation deposits from this site described here should be considered as part of the wider burial landscape, with a review of similar burials in type and date, within the region.

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Table 1: Osteological summary

Feature	Total weight	Colour	MNI	Age	Sex	Non-metric traits/pathology	Finds
Pit 1090 (comprising pit fill 1078, urn 1091, urn fill 1102)	614.9g	White 95%, grey <1%, blue 2%, black 3%	3	1x juvenile <3 yrs, 1x juvenile 3.5-5.5 yrs, 1x juvenile 3-8 years	U	None	None

Key: U = unknown

Table 2: Pit 1090: summary of bone weights

Deposit		Skeletal element (g)								
		Skull	Axial	Upper limb	Lower limb	Unid. long bone	Unid. Hand/foot	Unid. Joint surface	Unid. other	TOTAL
1078		0.1	0	0	0	0	0	0	0.8	**0.9g (0.1%)**
1102	Spit 2	0	0	0	0	0	0	0	0.1	**0.1g (0.01%)**
	Spit 3	7.4	4.3	0.3	0	6.1	0	0.6	14.8	**33.5g (5.4%)**
	Spit 4	40.9	14.4	1.5	19.3	15.4	0	7.0	39.8	**138.3g (22.5%)**
	Spit 5	45.3	10.7	9.8	33.5	23.1	0.5	7.0	43.6	**173.5g (28.2%)**
	Spit 6	50.4	8.3	1.4	16.8	26.1	0.4	7.5	40.2	**151.1g (24.6%)**
	Spit 7	31.5	1.9	3.9	10.1	14.1	0	1.5	37.3	**100.3g (16.3%)**
	Spit 8	4.8	1.2	0	0.3	0.3	0.1	0	8.2	**14.9g (2.4%)**
	Spit 9	0.6	0.2	0.1	0	0	0	0.1	1.3	**2.3g (0.4%)**
TOTAL		**181.0g (29.4%)**	**41.0g (6.7%)**	**17.0g (2.8%)**	**80.0g (13.0%)**	**85.1g (13.8%)**	**1.0g (0.2%)**	**23.7g (3.9%)**	**186.1g (30.3%)**	**614.9g (100%)**

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Table 3: 2-0.5mm fraction proportional bone content

Deposit		Total 2-0.5mm fraction weight	% Cremated bone (based on visual assessment)
1078		236.3g	<5%
1102	Spit 1	77.6g	<5%
	Spit 2	136.9g	<5%
	Spit 3	43.8g	10%
	Spit 4	65.5g	50%
	Spit 5	47.0g	50%
	Spit 6	43.7g	50%
	Spit 7	34.8g	30%
	Spit 8	14.7g	50%
	Spit 9	17.2g	10%

Table 4: Summary of fragmentation

Deposit	Weight	>10mm	10-4mm	4-2mm	Max. fragment size
1078	0.9g	0g	0.2g	0.7g	11.4mm, cranial vault
1102	614.0g	293.6g	216.6g	103.8g	51.3mm, tibial shaft

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APPENDIX 5: The Small Finds

By Lynne Bevan

A total of twenty seven individual objects were subject to assessment, these were as follows: one silver item, twenty two copper alloy items, and four lead objects. The earliest finds are Roman in date, but the majority are of the Medieval and early Post-Medieval periods and were recovered from overburden contexts, almost exclusively from subsoil (1002).

The assemblage has been assessed according to the recommendations and procedures set out in MAP 2 (English Heritage 1991), to provide a quantification of the assemblage and a qualitative overview of the academic value of the finds and the potential for further analysis and publication. The finds are assessed below by material category and then the overall assemblage is considered and assessed, with recommendations for any further work required in future. When viewed, the finds had been cleaned as part of the post-excavation process, but not conserved or otherwise treated. The majority were in an extremely good, stable condition and a number of them were complete which aided identification for the purposes of assessment.

Objects by Material Category

Silver

One complete silver fede ring was recovered (SF36 Context (1002)). The ring, featuring the clasped hands motif with a heart at the centre and elaborate mouldings at the cuffs, is very finely modelled, and in excellent condition. It is complete, apart from the back having been broken which has resulted in the two broken ends slightly overlapping and the ring effectively becoming smaller.

Fede rings, featuring two clasped hands on the bezel and named after the Italian word for trust, have a very long history and are usually associated with friendship and betrothal. The earliest examples are known from the Roman period and they were also popular during the Medieval and later periods, and versions of them continue to be made today. Some examples, consisting of two interlinked rings, each with one hand attached, which were combined so the hands clasped together, are known as gimmel rings. A gold gimmel ring from the British Museum (1959,0209.40), also with a central heart and similarly-moulded hands with ornate cuffs, was dated to the 16th to 17th centuries. The addition of the heart – Medieval fede rings usually consist of just the clasped hands – along with the style of the small fingered hands and the way they are clasped together suggests contemporaneity between the ring from the British Museum and the silver ring discussed here. While the emphasis on the lace cuffs is another linking trope, it must be stressed that the cuffs on each ring, while similarly ornate, are not identical. The cuffs on the silver ring from Spelthorne are oversized and terminate in three points rather like a fleur-de-lys, a style of lace cuff which was popular among the aristocracy during the Jacobean era (1603-1625) and continued into the mid-17th century. Assuming that the style of the cuffs is based upon contemporary fashion, an early-mid-17th century date is most likely for this ring, although further research will be required at full post-excavation stage to refine this dating, presumably with recourse

to specialists at the British Museum since this object has been designated as treasure trove.

Copper Alloy

The copper alloy finds were generally extremely well preserved and the majority of them were complete, or nearly complete, and identifiable. Identifiably Roman finds comprised two fragments from Roman bow brooches (SF 38 and SF 65, (1002)), which, although small in size could both be more closely identified to brooch type at final report writing stage.

Identifiable post-Roman finds included a complete, heavily-decorated crotal or rumble bell (SF66 Context (1002)), two decorated body fragments from a similar bell (SF25 Context (1002)), a small complete bell (SF 41 Context (1002)), a decorated book clasp (SF67 Context (1002)), two buckle frames (SF 22 and SF 81, Context (1002)), one of which is larger than the other, a small decorated copper alloy scabbard chape (SF21 Context (1002)), and a complete thimble (SF24 Context (1002)).

The smaller of the buckles, a single loop sub-rectangular buckle (SF 81 Context (1002)), is of Medieval date and the larger, a double loop buckle with moulded decoration (SF 22 Context (1002)), dates to *circa* 1550-1650. The small bell is probably Medieval in date and may have been attached to clothing, or it may have been a hawk bell used in falconry.

Less diagnostic but probably also Medieval and Post-Medieval finds included a very large, flat-headed copper alloy nail or stud (SF28 Context (1002)), part of a thick, oval-sectioned copper alloy ring fitting, horse terret, or small bracelet (SF23 Context (1002)), a length of copper alloy with a split at one end, possibly a needle or part of a pin shaft (SF29 Context (1002)), two small rings of different sizes and profiles, possibly from horse harness or used as other fittings (SF27 Context (1002)), and a small D-sectioned ring with notched decoration on both sides (SF100 Context (1002)), which is a fitting of some kind, rather than a finger ring, and further research should provide a dateable parallel, with a Medieval date being most probable.

Four decorated fragmentary objects were also probably of Medieval date. These included two fittings or possible bracelet fragments: one of which was curving and tapering (SF92 Context (1002)), and the other of which was narrower and may have been a flattened terminal from a bracelet (SF30 Context (1002)). The other two fragments were highly ornate, one of which resembled a finial of some kind (SF39 Context (1002)) and the other a small fitting which was pierced at one end (SF91 Context (1002)). Less identifiable finds consisted of a short piece of copper alloy strip (SF26 Context (1002)), and a tubular object, open at one side (SF80 Context (1002)).

The thimble and two crotal bells were all Post-Medieval in date and the fish-scale decoration on the base of the complete crotal bell dates it from the early Post-Medieval period to the 17th century, and it may be possible to refine this dating with further research. The other more complete and identifiable finds in the assemblage date to the Medieval and Post-Medieval periods, although the majority of them could not be related to either broad period at assessment stage prior to further research for artefactual

parallels being conducted. Again, further research should result in closer dating for a number of the copper alloy finds.

Lead Objects

Four lead objects were recovered, all of which, like the other material, were well preserved and stable. These comprised: a circular lead sack or bag seal, stamped with Royal Crown and letters PO (SF55 Context (1002)) of later 17th – to early 18th century date, and three small lead weights, one of which was circular and flat (SF57 Context (1002)), and the other two of which were lead suspension or hanging weights from a beam balance (SF60 and SF61 Context (1002)). The weights are probably of Medieval to Post-Medieval date and dating may be refined with further research to include recording their weights to determine possible concordances with past weighing systems, and searching for published parallels.

Discussion

The twenty seven assessed small finds recovered from the site at Spelthorne Leisure Centre, Staines constitute a small but highly interesting assemblage in terms of both time periods represented and the functional nature of the items of each period. The assemblage of a distinctive silver fede finger ring, twenty two copper alloy items of various periods and functions, and four lead objects dates variously to the Roman, Medieval, and early Post-Medieval periods.

Functionally the make-up of the assemblage does not indicate intensity of occupation and long-term usage of the area at any period and is rather more indicative of chance losses in the landscape while humans and animals passed through it, perhaps with the domestic focus through time always being at a distance from the current site. Lost material may include small personal items such as jewellery, brooches, and buckles and fittings from horse harnesses, hawk jesses, bells from cattle etc. The only notable exception is the lead weights, items which may have been associated with a longer-term occupation and usage of the area over time.

While close contemporaneity cannot be assumed between any of the objects, the very high standard of preservation observed among the assemblage, along with a high incidence of decoration and identifiable features, add to its interest as an artefactually-varied group. The finds assemblage is not only of local significance but also of a regional value, particularly if further future archaeological work takes place on, or in the vicinity of, the site. The silver ring stands out as the most interesting of all the items, not only in terms of its design and its poignant association with lost love, but it also embodies a longer history of use and potentially re-use over time. The breakage to the back of the ring is interesting, whether accidental or deliberate, as it may signify a change of ownership, possibly through inheritance, with the ring being adapted to fit a smaller finger, an adaptation which may have led to its eventual loss.

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APPENDIX 6: The Coins, Token and Jettons

By Murray Andrews

Introduction

Sixty-nine coins, tokens, and jettons were found during excavations at Spelthorne Leisure Centre, Staines-upon-Thames. Sixty-seven of these were recovered during metal-detecting of subsoil (1002), with the remaining two coins found in topsoil (1001) and pit fill (1040). The assemblage spans the Iron Age to Post-medieval periods, and is mostly in fair to good condition, with all but ten specimens identifiable to the level of issuer or type. All objects are described in the catalogue below.

Assemblage composition

The assemblage consists of 66 copper-alloy coins, tokens, and jettons, with two silver coins and one gold coin also present. This pattern is typical of multi-period site assemblages from southern Britain, which are normally dominated by low-value coins used in everyday circulation, and is consistent with a group of separate casual losses accrued over a prolonged period of time.

The earliest coin from the site is a gold stater of Tasciovanus (SF 50) from topsoil (1001). Traditionally ascribed to the Catuvellauni, an Iron Age tribe of the North Thames region, gold coins of this type are among the earliest inscribed coins produced in southern Britain, and were probably struck at the *oppida* of Verlamion (St Albans) in *circa* 25 BC – AD 10 (Hobbs 1996, 19). They are likely to have served as high-status exchange media, possibly for use in mercenary and tribute payments, and are rarely found south of the Thames (Bevan 2012, 502-4): just two comparable staters are known from Surrey, consisting of single finds from Effingham (Celtic Coin Index 64.0049) and Guildford (Celtic Coin Index 69.0322). While this coin may reflect Late Iron Age activity at the site, a growing body of evidence suggests that some Iron Age coins remained in circulation in the immediate aftermath of the Claudian conquest (Bland 2018, 38-42), and it might consequently have been lost in the years after AD 43.

Fifty-eight coins from the site date to the Roman period, and consist of a mix of low-value copper alloy denominations of the first to fourth centuries AD. The Roman coin series begins in the mid- to late first century AD with two heavily-worn *asses* of Claudius I (SF 52) and Trajan (SF 3), followed by a prolonged break in the sequence until the third century AD. This later period is represented by 11 debased *antoniniani* dated AD 260-275 and AD 275-296. The earlier *antoniniani* comprise three official coins of the Gallic emperors Victorinus (SF 13), Tetricus I (SF 69), and Tetricus II (SF 76), while those dated AD 275-296 consist of three official *antoniniani* of the breakaway British emperors Carausius (SF 4) and Allectus (SFs 47-48), a posthumous *antoninianus* of Claudius II (SF 12), and four 'barbarous' imitations of Central, Gallic, and British empire *antoniniani* (SFs 62, 79, 94, 98). The 'barbarous' imitations are of mixed quality, and include relatively faithful reproductions of official types with blundered legends (SF 62), as well as poorly-rendered copies struck on small flans (SF 79). Fourth-century coinage is well-represented at the site, which produced a long

sequence of Constantinian (SFs 1, 5- 9, 11, 16, 35, 40, 43, 46, 63-64, 73, 75, 77, 82, 86, 88-90, 93, 95-97, 99), Valentinianic (SFs 10, 14, 49, 59, 71, 83-84), and Theodosian (SF 78) *nummi*, most of which were produced at the western mints of Arles, Lyons, and Trier. The latest of these coins, a moderately-worn *nummus* of Theodosius I (SF 78), was struck at Arles in AD 388-392. Nine other Roman coins from the site were too worn and/or corroded to be identified precisely, and consist of a cut fragment of an *as* dated AD *c.*43-260 (SF 44), five *antoniniani* or *nummi* dated 260-400 (SFs 15, 17, 18, 19, 72), and three *nummi* dated AD 300-400 (SFs 45, 85, 87).

In general terms, the pattern of Roman coin-loss at the site is typical of southern Britain as a whole (Reece 1995, 183), and exhibits the distinct Constantinian 'peak' in AD 330-348 commonly observed at Romano-British rural settlements (Walton 2012, 415). However, this differs significantly from the pattern seen elsewhere in Staines at the Elmsleigh (Crouch 1976, 119-121; Hammerson 2009a), Percy Harrison (Hammerson 2009b), and Prudential (Hammerson 2009c) sites, which have produced larger numbers of first-century coins, a phenomenon more typical of towns and military sites (Walton 2012, 414-415). These differences are unlikely to result from chance, and may instead reflect meaningful variation in the pattern of settlement and economic activity within the Roman small town and its hinterland.

Early Medieval activity is represented by a silver penny ('sceat') (SF 2), which belongs to the Danish Series X minted at Ribe in AD 715-50 (Naismith 2017, 92-93). Coins of this type are not uncommon in southern England, reflecting the dynamic commercial links between *emporia* on opposite sides of the North Sea, with similar examples known from the Thames at Rotherhithe (Stott 1991, 307, no. 47) and Haddenham in Buckinghamshire (EMC 2015.0038). In light of this find, it is of some interest to note that six of the late Roman *antoniniani* and *nummi* (SFs 16, 35, 42, 75-76, 86) from the site had been deliberately pierced with a small round hole, presumably for suspension. Similar finds of pierced Roman coins are well-known from Anglo-Saxon and Frankish inhumations of the fifth to seventh centuries, where they are likely to represent *objets trouvées* converted into amulets for the deceased (White 1988). These coins could, therefore, represent reused objects displaced from disturbed early medieval graves in the immediate vicinity of the site.

Medieval and Post-Medieval activity at the site was represented by six coins and tokens and four jettons. The coins are mostly low-value 'small change' denominations, and include a silver penny of John (SF 51) minted in London in AD 1210-1213, a 'Lennox Round' farthing of James I (SF 37) dated AD 1614-1625, and two royal farthings of Charles I (SFs 70, 74) dated AD 1634-1636 and AD 1636-1644. A contemporary copper-alloy copy of a silver sixpence of Charles I (SF 68), meanwhile, offers a rare archaeological glimpse of currency crime, and is paralleled by a counterfeit sixpence from a Civil War-era hoard from County Durham (McIntosh and Morris 2013). The sole token from the site, a 1664 farthing issued for Ann Engelfeild of Uxbridge, reflects the circulation of private low-value currency during the mid-seventeenth century monetary crisis, and closely resembles finds from the Staines Elmsleigh Centre (Hammerson 2009a, 74). The jettons span the Medieval and Post-medieval periods, and include 'royal' issues of Edward I (SF 53) and Edward III (SF 2) as well as private issues of the Nuremberg *rechenmeister* Johan Jacob Dietzel (SF 58) and an uncertain Post-medieval type (SF 56). Used primarily as 'reckoning counters' for arithmetic

calculation, jettons are often encountered on late Medieval and Post-medieval archaeological sites in Britain (Mitchiner 1988, 32), and reflect the increasingly widespread numerical literacy developed in the course of the 'commercial revolution'. Comparable specimens are known from elsewhere in Surrey, including the Staines County Sports site (Hammerson 2009d, 99) and Compton churchyard (Baynes 1931, 150).

Assessment of significance

The coins, token, and jettons from Spelthorne Leisure Centre are a highly significant component of the overall finds assemblage, and have potential to contribute to an understanding of the chronology and nature of activity at the site. The Iron Age and Roman coins supply important new evidence for occupation on the outskirts of the small town of *Pontibus*, and the pronounced 'Constantinian peak' seen in the coin finds suggests that activity in this area may have had a distinctively rural character. The post-Roman coins, meanwhile, offer new indications of Middle Saxon activity beyond the 'town island' at Staines (*cf* Jones 1982, 209-210), and supply independent material evidence for commercial activity and accounting practices in Surrey from the Early Medieval to Post-Medieval periods. Several coins from the site are also of individual interest, including the Iron Age gold stater, the pierced Roman coins, and the counterfeit Charles I sixpence.

Recommendations

No further cleaning or identification is required. Any further publication should include a standalone specialist report discussing the coins, token, and jettons from the site in their local, regional, and national contexts, and should be accompanied by a full catalogue of the assemblage.

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Catalogue

Context	SF	Description	Date
1001	50	Gold stater of Tasciovanus. ABC 2565. Obv: Anepigraphic, two central crescents separated by three pellets within wreathed cross; crescents and annulets in angles. Rev: TA S C, horseman advancing r holding carnyx; wheel behind and below. Mint of Verlamion? Die axis 330°, weight 5.49g, diameter 17mm. Wear 2/2, corrosion 1/1.	25 BC-AD 10
1002	2	Silver penny ('sceat'). Series X (Abramson 103.30). Obv: Anepigraphic, facing bearded bust flanked by two crosses; two pellets above. Rev: Anepigraphic, bipedal monster r, looking back and biting tail. Mint of Ribe. Die axis 330°, weight 1.14g, diameter 11.7mm. Wear 2/2, corrosion 1/1.	AD 715-750
1002	3	Copper alloy as of Trajan. Obv: […]AIANO AVG GE[R…], laureate bust r. Rev: Illegible, indeterminate. Mint of Rome. Die axis uncertain, weight 12.27g, diameter 27.5mm. Wear 3/4, corrosion 2/3.	AD 98-117
1002	4	Copper alloy antoninianus of Carausius. RIC V Carausius 303. Obv: IMP CARAVSIVS P F AVG, radiate, draped and cuirassed bust r. Rev: [P]A[X AVG] // CXXI, Pax standing l holding olive branch and vertical sceptre. Mint of "C-mint". Die axis 180°, weight 3.64g, diameter 21.6mm. Wear 2/3, corrosion 2/2.	AD 286-293
1002	5	Copper alloy nummus of the House of Constantine. As RIC VII Treveri 449. Obv: Illegible, indeterminate. Rev: [PROVIDENT]IAE [AVGG], camp gate with two turrets. Uncertain mint. Die axis uncertain, weight 2.88g, diameter 19.7mm. Wear 3/3, corrosion 4/3.	AD 324-329
1002	6	Copper alloy nummus of Constantine II. RIC VII Lugdunum 238. Obv: CONSTANTINVS IVN NOB C, laureate and cuirassed bust r. Rev: GLOR IA EXER[C ITVS] // PL[G], two soldiers holding two standards. Mint of Lyons. Die axis 0°, weight 2.22g, diameter 18.4mm. Wear 1/2, corrosion 2/2.	AD 330-331
1002	7	Copper alloy nummus of Constantine I. RIC VII Arelate 345. Obv: CON[STANTI] NVS MAX AVG, rosette-diademed, draped and cuirassed bust r. Rev: GLOR IA EXERC [ITV]S / * // [P]CON[ST], two soldiers holding two standards. Mint of Arles. Die axis 0°, weight 2.39g, diameter 18.1mm. Wear 2/2, corrosion 2/2.	AD 330-331
1002	8	Copper alloy nummus of Constantine I. RIC VII Treveri 525. Obv: CON[STANTI NVS MAX] AVG, rosette-diademed, draped and cuirassed bust r. Rev: [GLOR IA] EXER[C ITVS] // TRS·, two soldiers holding two standards. Mint of Trier. Die axis 180°, weight 2.06g, diameter 16.9mm. Wear 3/3, corrosion 2/3.	AD 330-331

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1002	9	Copper alloy nummus of Constantine I. RIC VII Arelate 194. Obv: IMP CONSTA [N]TINVS AVG, laureate, helmeted and cuirassed bust r. Rev: VICTORIAE LAETAE PRINC PERP // PARL, two facing Victories holding a shield inscribed VOT/PR above a column. Mint of Arles. Die axis 0°, weight 2.71g, diameter 18.2mm. Wear 3/3, corrosion 3/3.	AD 319
1002	10	Copper alloy nummus of Valens. RIC IX Arelate 19A. Obv: DN VALEN S P F AVG, pearl-diademed, draped and cuirassed bust r. Rev: SECVRITAS R[EIPV]BLICAE / V / A // PCON, Victory advancing l holding wreath and palm. Mint of Arles. Die axis 180°, weight 1.96g, diameter 18.8mm. Wear 3/2, corrosion 3/3.	AD 375-378
1002	11	Copper alloy nummus of the House of Constantine. RIC VII Treveri 522. Obv: VRB[S ROMA], helmeted bust l. Rev: Anepigraphic // TRP, wolf and twins. Mint of Trier. Die axis 180°, weight 2.15g, diameter 16.8mm. Wear 3/3, corrosion 3/3.	AD 330-331
1002	12	Copper alloy antoninianus of Claudius II. As RIC V Claudius Gothicus 283. Obv: [DIV]O CL[AVDIO], radiate bust r. Rev: […]VG, figure standing l. Uncertain mint. Die axis 180°, weight 1.83g, diameter 17.4mm. Wear 3/3, corrosion 2/2.	AD 276-282
1002	13	Copper alloy antoninianus of Victorinus. RIC V Victorinus 85. Obv: [DI]VO VIC[TORINO PIO], radiate bust r. Rev: [CONSECRATIO], eagle on globe. Mint of Trier. Die axis 0°, weight 1.4g, diameter 17.4mm. Wear 3/3, corrosion 3/3.	AD 269-271
1002	14	Copper alloy nummus of the House of Valentinian. As RIC IX Arles 9. Obv: Illegible, pearl-diademed, draped and cuirassed bust r. Rev: [SECVRITAS REIPVBLICAE] / OF / […] // [C]ON[…], Victory advancing l holding wreath and palm. Mint of Arles. Die axis 0°, weight 1.45g, diameter 16.7mm. Wear 3/3, corrosion 3/3.	AD 364-375
1002	15	Copper alloy antoninianus or nummus of an uncertain issuer. Obv: Illegible, Indeterminate. Rev: Illegible, Indeterminate. Uncertain mint. Die axis uncertain, weight 1.98g, diameter 11.1mm. Wear 3/3, corrosion 3/3.	AD 260-400
1002	16	Copper alloy nummus of the House of Constantine. As RIC VII Treveri 530. Obv: CON[STAN TINOPOL]IS, helmeted bust l. Rev: Anepigraphic // […] , Victory on prow. Uncertain mint. Die axis 180°, weight 0.89g, diameter 16.8mm. Wear 2/2, corrosion 2/2. Broken. Single piercing at obverse 90°.	AD 330-335
1002	17	Copper alloy antoninianus or nummus of an uncertain issuer. Obv: Illegible, indeterminate. Rev: Illegible,	AD 260-400

		indeterminate. Uncertain mint. Die axis uncertain, weight 0.73g, diameter 11.9mm. Wear 3/3, corrosion 3/3.	
1002	18	Copper alloy antoninianus or nummus of an uncertain issuer. Obv: Illegible, indeterminate. Rev: Illegible, indeterminate. Uncertain mint. Die axis uncertain, weight 0.65g, diameter 15.6mm. Wear 3/3, corrosion 3/3.	AD 260-400
1002	19	Copper alloy Antoninianus or nummus of an uncertain issuer. Obv: Illegible, indeterminate. Rev: Illegible, indeterminate. Uncertain mint. Die axis uncertain, weight 0.88g, diameter 18mm. Wear 3/3, corrosion 4/4.	AD 260-400
1002	20	Copper alloy jetton of Edward III. As Mitchiner 254-8. Obv: Illegible, rampant lion within tressure. Rev: Illegible, triple-stranded cross with crescents and coronets in angles. Uncertain mint. Die axis uncertain, weight 4.1g, diameter 29.2mm. Wear 2/2, corrosion 3/3. Single piercing in centre.	AD 1344-1400
1002	35	Copper alloy nummus of Constantius II. As RIC VII Treveri 528. Obv: [FL IVL C]ONSTANTIVS NO[B C], laureate and cuirassed bust r. Rev: [GLOR IA EXERC ITVS] // […], two soldiers holding two standards. Uncertain mint. Die axis 180°, weight 1.34g, diameter 17.5mm. Wear 3/3, corrosion 3/3. Single piercing at obverse 150°.	AD 330-331
1002	37	Copper alloy farthing of James I. Lennox Round (North 2133-6). Obv: [IA]CO [D G MAG BRI], crown with saltire sceptres. Rev: [FRA E]T H[IB REX], crowned harp. Mint of London. Die axis 0°, weight 0.34g, diameter 16.3mm. Wear 3/3, corrosion 3/3.	AD 1614-1625
1002	40	Contemporary copy of a copper alloy nummus of the House of Constantine. Copy as RIC VIII Lugdunum 8. Obv: […]VG, laureate and cuirassed bust r. Rev: [GLOR IA EX]ERC [ITVS] // […], two soldiers holding one standard. Uncertain mint. Die axis 0°, weight 0.77g, diameter 14.7mm. Wear 2/2, corrosion 2/2.	AD 335-341
1002	43	Copper alloy nummus of Constans. RIC VIII Rome 97. Obv: CONSTAN [S] P F [AVG], laureate and rosette-diademed, draped and cuirassed bust r. Rev: VICTORIAE [D D] A[VGG] Q NN / (wreath) // RQ, two facing Victories holding wreaths. Mint of Rome. Die axis 180°, weight 0.88g, diameter 13.7mm. Wear 2/2, corrosion 2/2. Broken. Single piercing at obverse 90°.	AD 347-348
1002	44	Copper alloy as of an uncertain issuer. Obv: Illegible, bust r. Rev: Illegible, indeterminate. Uncertain mint. Die axis uncertain, weight 1.89g, diameter 22.5mm. Wear 3/3, corrosion 2/2. Cut fragment.	AD 43-260
1002	45	Copper alloy nummus of an uncertain issuer. Obv: Illegible, bust r. Rev: Illegible, indeterminate. Uncertain	AD 300-400

		mint. Die axis uncertain, weight 0.9g, diameter 15.3mm. Wear 3/3, corrosion 3/4.	
1002	46	Copper alloy nummus of the House of Constantine. RIC VII Rome 354. Obv: VRBS ROMA, helmeted bust l. Rev: Anepigraphic // [R](wreath)Q, wolf and twins. Mint of Rome. Die axis 180°, weight 1.58g, diameter 18.5mm. Wear 2/2, corrosion 2/3.	AD 333-335
1002	47	Copper alloy antoninianus of Allectus. RIC V Allectus 22. Obv: IMP C A[LLE]C[T]VS P F AVG, radiate, draped and cuirassed bust r. Rev: LA[ET]ITI[A A]VG / S / A // ML, Laetitia standing l holding wreath and anchor. Mint of London. Die axis 180°, weight 3.46g, diameter 22.7mm. Wear 2/2, corrosion 3/2.	AD 293-296
1002	48	Copper alloy antoninianus of Allectus. RIC V Allectus 33. Obv: IMP C ALLECT[VS P F AVG], radiate, draped and cuirassed bust r. Rev: PA[X AVG] / S / A // ML, Pax standing l holding olive branch and transverse sceptre. Mint of London. Die axis 180°, weight 1.51g, diameter 21.4mm. Wear 2/3, corrosion 2/3.	AD 293-296
1002	49	Copper alloy nummus of the House of Valentinian. As RIC IX Arles 9. Obv: DN VAL[…], pearl-diademed, draped and cuirassed bust r. Rev: [SECVRITAS] REIP[VBLICAE] // […], Victory advancing l holding wreath and palm. Uncertain mint. Die axis 0°, weight 1.18g, diameter 17.9mm. Wear 3/2, corrosion 3/3.	AD 364-378
1002	51	Silver penny of John. Short Cross 6a1 (North 974/1). Obv: HENRICVS REX, facing crowned bust holding sceptre. Rev: ILGER ON LVND, short voided cross. Mint of London. Die axis 300°, weight 1.42g, diameter 18.1mm. Wear 2/2, corrosion 1/1.	AD 1210-1213
1002	52	Copper alloy as of Claudius I. Obv: [TI CLAV]DIVS CAESAR AVG […], bareheaded bust l. Rev: Illegible, indeterminate. Uncertain mint. Die axis uncertain, weight 5.94g, diameter 24.2mm. Wear 3/4, corrosion 3/3.	AD 41-54
1002	53	Copper alloy jetton of Edward I. Mitchiner 103. Obv: Anepigraphic, crowned bust. Rev: Anepigraphic, short cross moline with pellets in angles. Mint of London. Die axis 0°, weight 0.58g, diameter 17.2mm. Wear 2/2, corrosion 2/2. Two central piercings.	AD 1301-1310
1002	54	Copper alloy farthing token of Ann Engelfeild of Uxbridge. BW Middlesex 226. Obv: [ANN] ENGELFEILD, mill rind. Rev: IN VXBRIDGE 1664 / A E, initials. Mint of London. Die axis 0°, weight 0.72g, diameter 15.9mm. Wear 2/2, corrosion 3/3.	AD 1664
1002	56	Copper alloy jetton of an uncertain issuer. Obv: Illegible, crowned bust l. Rev: Illegible, indeterminate. Uncertain mint. Die axis uncertain, weight 2.27g, diameter 2.15mm. Wear 3/4, corrosion 3/3.	AD 1550-1700

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1002	58	Copper alloy jetton of Johan Jacob Dietzel. Hawkins (1885), 483, no. 15. Obv: GEORG A D G M B F REX // I D R P, laureate and cuirassed bust r. Rev: CAROLINA D G M [B F REG], crowned bust r. Mint of Nuremberg. Die axis 0°, weight 0.97g, diameter 24.7mm. Wear 3/3, corrosion 3/3.	AD 1727-1760
1002	59	Copper alloy nummus of Gratian. RIC IX Lugdunum 20c. Obv: [DN GRA]TIAN VS AVGG AVG, pearl-diademed, draped and cuirassed bust r. Rev: GLORIA RO [M]AN[ORVM] / O / F II // [LVG…], emperor r holding standard and captive. Mint of Lyons. Die axis 0°, weight 1.57g, diameter 16.5mm. Wear 2/2, corrosion 2/2.	AD 367-375
1002	62	Contemporary copy of a copper alloy antoninianus of Carausius. Copy of RIC V Carausius 98. Obv: IICII[…]IIIII, Radiate and draped bust r. Rev: II[…] / L / - // II, Pax standing l holding olive branch and vertical sceptre. Mint of "London". Die axis 270°, weight 3.18g, diameter 21.4mm. Wear 2/2, corrosion 3/2.	AD 286-296
1002	63	Copper alloy nummus of Constantius II. RIC VIII Treveri 58. Obv: FL IVL CONSTA[NTI]VS A[VG], laureate and cuirassed bust r. Rev: [GLOR IA EXERC ITV]S // ·TRS·, two soldiers holding one standard. Mint of Trier. Die axis 180°, weight 1.34g, diameter 14.3mm. Wear 1/1, corrosion 2/2.	AD 337-340
1002	64	Copper alloy nummus of Constans. RIC VIII Lugdunum 50. Obv: CON[STAN S P F AVG], rosette-diademed, draped and cuirassed bust r. Rev: [VICTORIAE D] D AVG[G Q N N] / T over S // [PLG], two Victories facing holding wreath and palm. Mint of Lyons. Die axis 0°, weight 1.01g, diameter 14.6mm. Wear 2/2, corrosion 2/2.	AD 347-348
1002	68	Contemporary copper-alloy copy of a silver sixpence of Charles I. Third or Fourth Bust (North 2238-41). Obv: [C]A[ROLVS D G MA B]R [FR ET HI REX], crowned bust l. Rev: [CHRISTO AVSPICE] R[EGNO], oval shield. Uncertain mint. Die axis uncertain, weight 3.01g, diameter 25.6mm. Wear 4/4, corrosion 3/3.	AD 1638
1002	69	Copper alloy antoninianus of Tetricus I. RIC V Tetricus I 101. Obv: [IMP T]ET[RICVS] P F AVG, radiate, draped and cuirassed bust r. Rev: P[AX] AV[G], Pax standing l holding olive branch and sceptre. Mint of Cologne. Die axis 180°, weight 1.41g, diameter 17mm. Wear 2/2, corrosion 3/3.	AD 271-274
1002	70	Copper alloy farthing of Charles I. Maltravers Round (North 2280-2). Obv: [CAR]O[LUS D G MAG BRIT], Crown with saltire sceptres. Rev: [FRAN ET HIB R]EX, Crowned harp. Mint of London. Die axis 0°, weight 0.39g, diameter 16.2mm. Wear 3/3, corrosion 3/4.	AD 1634-1636

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1002	71	Contemporary copy of a copper alloy nummus of the House of Valentinian. As RIC IX Lugdunum 12. Obv: Illegible, pearl-diademed, draped and cuirassed bust r. Rev: [SECV]RI[TAS] [REIPVBLICAE], Victory advancing l holding wreath and palm. Uncertain mint. Die axis 0°, weight 1.31g, diameter 13.5mm. Wear 3/3, corrosion 2/2.	AD 364-375
1002	72	Copper alloy antoninianus or nummus of an uncertain issuer. Obv: Illegible, indeterminate. Rev: Illegible, indeterminate. Uncertain mint. Die axis uncertain, weight 0.82g, diameter 12.8mm. Wear 3/3, corrosion 2/2.	AD 260-400
1002	73	Copper alloy nummus of the House of Constantine. As RIC VII Cyzicus 73. Obv: [CONSTA]N [TI]NO[PO]LI, helmeted bust l. Rev: Anepigraphic // SMK[…], Victory on prow. Mint of Cyzicus. Die axis 0°, weight 1.99g, diameter 17.6mm. Wear 3/2, corrosion 2/2.	AD 330-334
1002	74	Copper alloy farthing of Charles I. Rose type (North 2287-93). Obv: [CAROLUS D G MAG BRIT], crown with saltire sceptres. Rev: [FRAN ET HIB REX], crowned rose. Mint of London. Die axis 0°, weight 0.65g, diameter 12.7mm. Wear 3/3, corrosion 3/3.	AD 1636-1644
1002	75	Copper alloy nummus of the House of Constantine. As RIC VIII Lyons 6. Obv: Illegible, rosette-diademed, draped and cuirassed bust r. Rev: [GLORI A EXER CITVS], two soldiers holding two standards. Uncertain mint. Die axis 180°, weight 1.76g, diameter 19.5mm. Wear 3/3, corrosion 3/3. Single piercing at obverse 90°.	AD 330-335
1002	76	Copper alloy antoninianus of Tetricus II. RIC V Tetricus I 255. Obv: [C P E TETRICVS CAES], radiate bust r. Rev: [PIET]AS [AVGG], sacrificial implements. Mint of Cologne. Die axis 0°, weight 1.1g, diameter 19.2mm. Wear 3/2, corrosion 3/2. Single piercing at obverse 90°.	AD 273-274
1002	77	Copper alloy nummus of Constans. RIC VII Treveri 552. Obv: FL IVL CONSTANS [NOB CAES], laureate, draped and cuirassed bust r. Rev: [GLOR IA EXERC ITVS] / (wreath) // TRS, two soldiers holding two standards. Mint of Trier. Die axis 0°, weight 1.6g, diameter 17.7mm. Wear 3/3, corrosion 3/3.	AD 333-334
1002	78	Copper alloy nummus of Theodosius I, 388-392. RIC IX Arelate 30d. Obv: [D N THEODO] SIVS P F AVG, pearl-diademed, draped and cuirassed bust r. Rev: [VICTOR] IA AVGGG // PCON, Victory advancing l holding wreath and palm. Mint of Arles. Die axis 180°, weight 0.76g, diameter 12.4mm. Wear 3/2, corrosion 2/2.	AD 388-392
1002	79	Contemporary copy of a copper alloy antoninianus of Tetricus I. Copy of RIC V Tetricus I 90. Obv: [IMP TETRI]CVS P [F AVG], radiate and cuirassed bust r.	AD 275-296

		Rev: [LAETITIA AVG N], Laetitia standing l holding wreath and anchor. Mint of "Cologne". Die axis 0°, weight 0.66g, diameter 14.3mm. Wear 2/2, corrosion 2/2.	
1002	82	Copper alloy nummus of the House of Constantine. RIC VII Trier 529. Obv: [VR]BS R[OMA], helmeted bust l. Rev: Anepigraphic // TRS·, wolf and twins. Mint of Trier. Die axis 0°, weight 1.97g, diameter 16.7mm. Wear 3/2, corrosion 3/3.	AD 330-331
1002	83	Copper alloy nummus of Valens. As RIC IX Lugdunum 12. Obv: [DN VALEN S P]F AVG, pearl-diademed, draped and cuirassed bust r. Rev: [SECVRITAS REIPVBLICAE] / [OF] / I /[…], Victory advancing l holding wreath and palm. Uncertain mint. Die axis 180°, weight 2.14g, diameter 16.1mm. Wear 3/2, corrosion 3/3.	AD 364-375
1002	84	Copper alloy nummus of House of Valentinian. As RIC IX Lugdunum 12. Obv: Illegible, pearl-diademed, draped and cuirassed bust r. Rev: [SECVRITAS] RE[IPVBLICAE] / OF / [I] // LVG[…], Victory advancing l holding wreath and palm. Mint of Lyons. Die axis 0°, weight 1.49g, diameter 17.4mm. Wear 2/2, corrosion 2/2. Broken	AD 364-375
1002	85	Copper alloy nummus of an uncertain issuer. Obv: Illegible, indeterminate. Rev: Illegible, indeterminate. Uncertain mint. Die axis uncertain, weight 1.88g, diameter 15.9mm. Wear 4/4, corrosion 3/3.	AD 300-400
1002	86	Copper alloy nummus of the House of Constantine. RIC VII Rome 332. Obv: CONS[TAN]TI NOPOLIS, helmeted bust l. Rev: Anepigraphic // RF∈ , Victory on prow. Mint of Rome. Die axis 30°, weight 1.89g, diameter 18.1mm. Wear 2/2, corrosion 2/2. Single piercing at obv 270°.	AD 330
1002	87	Copper alloy nummus of an uncertain issuer. Obv: Illegible, bareheaded bust r. Rev: Illegible, indeterminate. Uncertain mint. Die axis uncertain, weight 1.92g, diameter 16.3mm. Wear 3/3, corrosion 3/3.	AD 300-400
1002	88	Copper alloy nummus of Helena. RIC VIII Treveri 78. Obv: [FL IVL HE LENAE AVG], bust r. Rev: PA X PV [BLICA] // TRP, Pax standing l holding branch and transverse sceptre. Mint of Trier. Die axis 180°, weight 0.89g, diameter 14.6mm. Wear 3/2, corrosion 2/2. Obverse bust deliberately erased.	AD 337-340
1002	89	Contemporary copy of a copper alloy nummus of Constantius II. Copy of RIC VIII Treveri 82. Obv: FL [IVL CONSTANTIVS A]VG, laureate and cuirassed bust r. Rev: G[LORI A EXER] CITVS // TRP(palm branch right), two soldiers holding one standard. Mint of	AD 337-340

		"Trier". Die axis 0°, weight 0.93g, diameter 14.3mm. Wear 3/2, corrosion 2/2.	
1002	90	Copper alloy nummus of the House of Constantine. RIC VII Treveri 543. Obv: CONSTAN TINOPO[LIS], helmeted bust l. Rev: Anepigraphic // TR·S, Victory on prow. Mint of Trier. Die axis 180°, weight 1.34g, diameter 16.9mm. Wear 2/3, corrosion 3/3.	AD 332-333
1002	93	Copper alloy nummus of the House of Constantine. As RIC VIII Lyons 6. Obv: Illegible, indeterminate. Rev: [GLORI A EXER CITVS], two soldiers holding two standards. Uncertain mint. Die axis uncertain, weight 1.12g, diameter 17.4mm. Wear 4/3, corrosion 3/3.	AD 330-335
1002	94	Contemporary copy of a copper alloy antoninianus of an uncertain Gallic emperor. Obv: Illegible, radiate bust r. Rev: Illegible, standing figure l. Uncertain mint. Die axis 30°, weight 1.95g, diameter 16.1mm. Wear 2/2, corrosion 2/2.	AD 275-296
1002	95	Copper alloy nummus of the House of Constantine. As RIC VIII Arelate 215. Obv: Illegible, pearl-diademed, draped and cuirassed bust r. Rev: [FEL TEMP REPARATIO], falling horseman. Uncertain mint. Die axis 180°, weight 1.19g, diameter 16.1mm. Wear 3/3, corrosion 2/2.	AD 348-358
1002	96	Copper alloy nummus of Constans. As RIC VIII Siscia 232. Obv: D N CONSTA NS [P F A]VG, pearl-diademed, draped and cuirassed bust r. Rev: [FEL TE]MP REPARATIO / […], phoenix on mound. Uncertain mint. Die axis 180°, weight 2.6g, diameter 17.1mm. Wear 2/2, corrosion 2/2.	AD 348-350
1002	97	Contemporary copy of a copper alloy nummus of the House of Constantine. Copy as RIC VIII Lugdunum 8. Obv: […]CONST[…], laureate and cuirassed bust r. Rev: [G]LOR IA EXERC ITVS // […], two soldiers holding one standard. Uncertain mint. Die axis 0°, weight 1.01g, diameter 15.2mm. Wear 2/2, corrosion 3/2.	AD 335-341
1002	98	Contemporary copy of a copper alloy antoninianus of Claudius II. Copy of RIC V Claudius Gothicus 266. Obv: [DIVO CLAVDIO], radiate bust r. Rev: [CONSECRA]TIO, eagle r. Uncertain mint. Die axis 120°, weight 0.96g, diameter 16.5mm. Wear 2/2, corrosion 2/2.	AD 275-296
1002	99	Contemporary copy of a copper alloy nummus of the House of Constantine. Copy of RIC VII Treveri 542. Obv: VRBS ROM[A], helmeted bust l. Rev: Anepigraphic // TR·S, wolf and twins. Mint of "Trier". Die axis 180°, weight 1.28g, diameter 16.8mm. Wear 2/2, corrosion 2/3.	AD 332-333

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1040	1	Contemporary copy of a copper alloy nummus of the House of Constantine. Overtype copy as RIC VIII Lugdunum 183; undertype as RIC VII Treveri 527. Obv: Illegible, falling horseman. Rev: [GLOR IA EXERC ITVS]//[…], two soldiers holding two standards. Uncertain mint. Die axis uncertain, weight 1.05g, diameter 15.9mm. Wear 3/2, corrosion 2/2. Broken. Pearl-diademed obverse undertype partially visible.	AD 348-358

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APPENDIX 7: The Animal Bone

By Matilda Holmes

Introduction

A small assemblage of 160 refitted, hand-collected animal remains were recovered, of which 23 could be identified to taxon. At this stage phasing is restricted to the Bronze Age barrows and Neolithic pits; though the palaeochannel is discussed separately, as it is currently poorly dated. This report aims to characterise the zooarchaeology, assess the potential for understanding human-animal interactions at the site, and its significance on a local, regional and national level. No further work is recommended.

Methodology

Bones were fully recorded. Those that could not be identified to species were, where possible, categorised according to the relative size of the animal represented (micro – rat/ vole size; small – cat/ rabbit size; medium – sheep/ pig/ dog size; or large – cattle/ horse size). No sieved samples were available at this stage, which may lead to a negative bias in the number and variety of small mammals, fish and bird bones recorded in the assemblage.

Summary of Findings

Bones were in fair to poor condition (Table 1), with a high proportion of refitted and recently broken fragments suggesting they were friable upon excavation. Canid gnawing was occasionally observed on animal remains from barrow ditch [1005] and a few undated features, suggesting that bones were not always buried immediately, but were available for dogs to chew. Butchery was rarely noted and burnt bones were similarly scarce, with the exception of mid-Neolithic pits [1172] and [1159] that both produced numerous small calcined fragments. The group from pit [1159] was larger (62 fragments), with only two fragments produced from pit [1172].

Mid-Neolithic pits

Pits [1159] and [1172] produced a large quantity of small, calcined fragments of mammal bone including one fragment of calcined horn core (Table 2). It was not possible to identify any to taxa.

Bronze Age Barrows

A cattle metacarpal was produced from barrow ditch [1005] (ring ditch 1) and a probable cattle femur from ditch [1016] (ring ditch 1), (Table 2). The latter is a tentative identification and is likely to be an aurochs, which would be a late example, as it is thought that these animals became extinct during the Bronze Age (Legge 2010). Barrow

ring ditch 2 included a few unidentified fragments from ditch [1116] and a fragment of cattle lower molar from ditch [1117].

Palaeochannel [1007]

Paleochannel [1007] produced the only horse/ donkey remains, comprising a pelvis and loose tooth.

Other features

Possible Saxon pit [1175] produced part of a cattle tibia (Table 2) and several unidentified fragments.

Undated pits/post holes contained a few animal remains, characterised by a more diverse group than the Prehistoric assemblage, including cattle, sheep/ goat, pigs, dog/ fox (probably dog) and red deer tibia and antler fragment. The latter was a fragment of tine, polished smooth more likely as a result of working than through natural abrasion.

Potential and Significance

This is a small, poorly preserved assemblage and it is likely that the remains of larger animals are over-represented compared to those of younger and smaller animals. The zooarchaeology is not unusual for the periods represented, though the presence of a possible aurochs is of note, as they would have been scarce and most likely of considerable significance to the cosmology of the Bronze Age population (Evans 2015).

Recommendations

This is a small, poorly preserved assemblage that has been fully recorded. No further work is recommended.

Selection and Retention

Due to demands for space in long-term archiving, the assemblage has been assessed based on its potential to inform future research, contribute to further analysis and use in educational activities. The early date of much of the assemblage and association with a significant Prehistoric landscape means it is of high priority for retention.

References

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Table 1: Preservation and bone modifications by period (teeth not included)

	Preservation			Total N	Bone Modification				
Period	Good	Fair	Poor	fragments	Gnawed	Butchered	Burnt	Refit	Recent break
Mid-Neolithic		1		1			1		
Bronze Age			2	2	1			1	1
Saxon/Medieval?		1		1				1	1
Undated	1	13	1	15	5	1		5	10

Table 2: Summary of animal remains by feature and period

Feature	Period	Unidentified	Cattle	Sheep/ goat	Pig	Horse/ donkey	Dog/ fox	Red deer
Pit 1159	mid-Neolithic	62						
Pit 1172	mid-Neolithic	3						
Barrow 1 Ditch 1005	Bronze Age		1					
Barrow 1 Ditch 1016	Bronze Age		1					
Barrow 2 Ditch 1116	Bronze Age	7						
Barrow 2 Ditch 1117	Bronze Age		1					
Pit 1175	Saxon/Med?	13	1					
Palaeochannel 1007	Undated	3				2		
Pit 1024		9	2					2
Pit 1034		2		1				
Pit 1143							1	
Pit 1196		2	1					
Pit 1215		8	3		1			
Pit 1217		1						
Pit 1223		14	3		1			
Pit 1255		14						
Pit 1248		1						

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APPENDIX 8: The Palaeoenvironmental Evidence

By Ellen Simmons

Introduction

Twelve bulk sieving (BS) samples were taken during an archaeological excavation by Foundations Archaeology on land at Spelthorne Leisure Centre, Staines-Upon-Thames, Surrey. The excavation revealed a paleochannel, a cluster of three Middle Neolithic pits, two Bronze Age barrow ring ditches and some potential Saxon features. The bulk samples were processed for the recovery of charred plant macrofossils and wood charcoal. The flots from these samples, and the ecofacts recovered from the sorted heavy residues, were sent to the author for assessment in November 2024.

Aims and objectives

- To determine the concentration, diversity, state of preservation and suitability for use in scientific dating, of any paleoenvironmental material present in the samples.

- To evaluate the potential of any paleoenvironmental material present in the samples to provide evidence for arable agriculture and/or the exploitation of wild plant resources.

- To evaluate the potential of any paleoenvironmental material present in the samples to provide evidence for the natural environment or land use.

Methodology

The samples were processed by flotation using a water separation machine. Floating material was collected in a 500µm mesh, and the remaining heavy residue retained in a 1mm mesh. A total of 169 litres of archaeological deposit was processed in this way. Flots and heavy residues were air dried and the >2mm fractions of the heavy residues were sorted for artefacts and ecofacts.

The samples were assessed in accordance with Historic England guidelines for environmental archaeology assessments (Campbell *et al.* 2011) and the CIfA toolkit for specialist reporting (CIfA 2021). The flots were scanned using a stereo-binocular microscope (x10 – x80) and all material present was quantified using a scale of abundance (x = < 10 items, xx = 10-29 items, xxx = 30-49 items, xxxx = 50-99 items, xxxxx = >100 items).

Preliminary identification of plant material was carried out by comparison with the author's own reference collection and various reference works (e.g. Cappers *et al.* 2006). Cereal identifications and nomenclature follow Zohary *et al*. (2012). Other plant nomenclature follows Stace (2019). The results of this assessment are presented in Table 1. The samples are listed in Table 1 by phase for ease of interpretation. The seed, in the broadest sense, of the plant is always referred to in Table 1 and all material referred to in Table 1 is charred, unless stated otherwise.

Results

Middle Neolithic

Samples from the basal fills of two ([1156] and [1172]) of the cluster of three Middle Neolithic pits produced both charred plant remains and wood charcoal. Sample 18 from pit [1156] produced occasional seeds of crab apple (*Malus sylvestris*) along with a high concentration of probable crab apple fruit flesh (pericarp) fragments and occasional fragments of hazel nutshell (*Corylus avellana*). A seed of redshank/pale persicaria (*Persicaria maculosa*/*lapathifolia*) and a somewhat puffed and abraded probable emmer wheat grain (*Triticum* cf. *dicoccum*) were also present. A high abundance of >2mm wood charcoal fragment is present and preliminary examination using low power microscopy indicates that the charcoal is largely composed of diffuse porous taxa (i.e. not oak, ash or elm) along with a small proportion of ring porous taxa (i.e. probable oak, ash or elm). Sample 19 from pit [1172] produced a high abundance of hazel nutshell fragments along with some unidentified amorphous vitrified material that may also be derived from some form of plant material. A moderate abundance of >2mm wood charcoal present, composed of both ring porous and diffuse porous taxa.

Early Prehistoric

Sample 16 from possible early prehistoric ditch [1045] (ditch 1) produced only a very low abundance of diffuse porous charcoal. High abundance of shells from the burrowing snail Ceciloides and nematode worm capsules point to bioturbation in this deposit.

Bronze Age

Samples 5 and 6 from ring ditch 1 produced only indeterminate cereal grain in [1072] and [1075]. Samples 12, 14 and 15 from ring ditch 2 were slightly more productive. A barley grain (*Hordeum vulgare*), some hazel nutshell, grass stems (<2mm Poaceae) and a low abundance of charcoal derived from ring porous and diffuse porous taxa is present in ring ditch 2 [1109]. A low abundance of diffuse porous charcoal is also present in ring ditch 2 [1122] and a high abundance of charcoal derived from ring porous taxa is present in ring ditch 2 [1117]. Nematode worm capsules are present in several of the samples from the ring ditches and this is an indication of bioturbation of these deposits.

Sample 4 from the fill (1079) of the pit [1090] that surrounded the inverted cremation urn burial produced only very occasional charcoal fragments of a ring porous taxon.

Undated

Sample 3 from undated pit [1037] again produced evidence of bioturbation in the form of Ceciloides shells. A moderate abundance and diversity of land snail shells (Mollusca) is also present.

Sample 2 from paleochannel [1007] produced one >4mm wood charcoal fragment derived from a ring porous taxon along with a high abundance of land snail shells.

Discussion of potential

The charred plant remains and wood charcoal from two of the Middle Neolithic pits at Spelthorne have potential to provide evidence for the presence of gathered wild plant foods and arable crops at the site. In addition, these remains have a potential to provide evidence for the role of plant foods and possibly charcoal in structured pit deposition that can be considered alongside the artefactual evidence from these pits. This evidence has a potential to be compared with similar types of charred remains from Neolithic pits at other sites (eg. Moffett and Ciaraldi, 2000; Gale, 2000; Clapham, 2018). It may be possible to determine whether the hazel nutshells in pit [1172] are likely to have been fractured before or after charring and the likely duration and temperature at which they were charred (Bishop, 2019; López-Dóriga, 2015). The amorphous vitrified material associated with the charred hazel nuts may also be suitable for chemical analysis to determine whether this material is derived from food remains.

The wood charcoal from ring ditch 2 [1117] also has potential to provide evidence for the availability and exploitation of woodland in the Bronze Age. More than one hundred >2mm charcoal fragments are present in this deposit, so it is likely that wood charcoal identification will provide representative evidence for wood fuel use. The presence a small quantity of >4mm charcoal also indicates good potential for charcoal analysis to provide evidence for the calibre of the wood used as fuel and other aspects of wood anatomy. The presence of predominantly ring porous taxa in this deposit points to the selection of wood fuel for a specific purpose or activity, so this charcoal may also have potential to provide evidence for the selection of fuel associated with Bronze Age funerary practices.

Significance of the data

The charred plant remains from the Middle Neolithic pits at Spelthorne are of significance for research into the utilisation of wild plant foods during the Neolithic, which is topic of ongoing archaeological debate (eg. Bishop, Church and Rowley-Conwy 2009, Jones and Rowley-Conwy 2007, Moffett, Robinson and Straker 1989, McClatchie *et al* 2016, Stevens and Fuller 2012). Charred plant remains from Prehistoric deposits are often sparse and poorly preserved (Carruthers and Hunter Dowse, 2019, p.32-33) so sites that produce undisturbed, well preserved charred plant remains assemblages such as those from Spelthorne, are a high priority for analysis. The wood charcoal from the Neolithic pits at Spelthorne is also of significance for research into woodland availability and exploitation in the Neolithic. Charred plant remains and wood charcoal are often present in samples from Neolithic pits but less frequently in association with evidence for structured deposition, so these remains are of significance for research into the role of plant material in this type of pit deposition. The wood charcoal from a fill of one of the barrow ring ditches is of regional significance for research into Bronze Age woodland availability and exploitation that can be compared with the wood charcoal evidence from the middle Neolithic pits. The wood charcoal, and possibly the small quantity of charred plant remains, that are present in the samples from the barrow ring ditches are also of significance for research into Bronze Age funerary practices, such as the potential selection of pyre fuel and potential role of plant material in activities associated with cremations.

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Recommendations

- Analysis of charred plant remans and wood charcoal in sample 18 from pit [1156] and sample 19 from pit [1172].

- Analysis of wood charcoal from ring ditch 2 [1117]. Full sorting, identification and quantification of the charred plant remains.

- Analysis of charred plant remains to include full sorting, identification and quantification.

- Charcoal analysis to include random selection and identification of 100 >4mm charcoal fragments (or 2-4mm fragments where >4mm fragments are not available) using a stereo-binocular reflected light (episcopic) microscope (x 50, x 100 and x 400 magnification). Identifications to be based on the anatomic features observed in transverse, radial and tangential planes. Recording of wood anatomy to be carried out following Marguerie and Hunot 2007; Dufraisse *et al* 2018a and Dufraisse *et al.*

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Sample No.	Context No.	Volume (litres)	Context description	Phase	Volume of roots/ flot volume excluding roots (ml)	Grain/ chaff	wild/ weed plant seeds	Charred plant remains composition/other paleoenvironmental remains	>4mm/ 2mm charcoal	Charcoal composition
18	1157	10	Basal fill of pit [1156]	Mid-Neolithic	0/90	x/0	x	*Triticum* cf. *dicoccum* grain. *Malus* sp. cf. Malus sp. pericarp (xxxx). *Corylus avellana* nutshell (x). *Persicaria maculosa/lapathifolia*	xx/xxxxx	DP some RP
19	1174	11	Basal fill of pit [1172]	Mid-Neolithic	0/60			*Corylus avellana* nutshell (xxxxx). Amorphous vitrified material (xx)	xx/xxxx	RP and DP
4	1079	15	Fill within pit [1090] surrounding cremation urn	Bronze Age	4/1	0/0	0		0/x	RP
5	1074	19	Fill of (barrow) ring ditch 1 [1072]	Bronze Age	2/1	x/0	0	Cereal indet. grain	0/0	
6	1076	20	Fill of (barrow) ring ditch 1 [1075]	Bronze Age	2/2	x/0	0	Cereal indet. grain. Nematode capsules (xxxx)	0/0	DP
12	1110	16	Fill of (barrow) ring ditch 2 [1109]	Bronze Age	3/1	x/0	0	*Hordeum vulgare* grain. *Corylus avellana* nutshell (x). <2mm Poaceae stem (x). Nematode capsules (xxxxx)	0/xx	RP and DP
14	1118	15	Fill of (barrow) ring ditch 2 [1117]	Bronze Age	0/15	0/0	0		x/xxxx	RP

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15	1123	15	Fill of (barrow) ring ditch 2 [1122]	Bronze Age	0.2/0.6	0/0	0	Nematode capsules (xxxx)	0/xx	DP
16	1046	15	Fill of ditch [1045]	Early Prehistoric?	0.2/3	0/0	0	Mollusca (x). Ceciloides (xxxx). Nematode capsules (xxxxx)	0/x	DP
2	1013	15	Fill of paleochannel [1007]	undated	0.2/1	0/0	0	Mollusca (xxxx)	x/0	RP
3	1038	18	Fill of pit [1037]	undated	0.2/1	x/0	0	*Triticum* sp. grain. Mollusca (xxx). Ceciloides (xx).	0/x	RP
Abundance scale: x = <10, xx = 10-29, xxx = 30-49, xxxx = 50-99, xxxxx >100. Abbreviations: CPR = charred plant remains, DP= diffuse porous charcoal, RP = ring porous charcoal.										

Table 1: Assessment of bulk sieving samples

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APPENDIX 9: Miscellaneous Finds List

Context Number	Bone? Object		Fe Nail		Shell (Oyster?)		Undiag. CBM	
	Quantity	Weight (g)	Quantity	Weight (g)	Quantity	Weight (g)	Quantity	Weight (g)
1026					1	<1		
1132			1	20				
1173	1	8						
1218			1	7				
1224							1	121

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APPENDIX 10: Radiocarbon Certificate

Scottish Universities Environmental Research Centre
Rankine Avenue, Scottish Enterprise Technology Park, East Kilbride, Glasgow G75 0QF, Scotland, UK
Director: Professor F M Stuart Tel: +44 (0)1355 223332 www.glasgow.ac.uk/suerc

RADIOCARBON DATING CERTIFICATE
19 July 2023

Laboratory Code	SUERC-111156 (GU64483)
Submitter	Katie Arnesen Foundations Archaeology Shaftsbury Centre Percry Street Swindon SN2 2AZ
Site Reference	SLC21ex
Context Reference	1102
Sample Reference	n/a
Material	Human Bone : Human
$\delta^{13}C$ relative to VPDB	-25.6 ‰
Radiocarbon Age BP	3356 ± 23

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD) and requires calibration to the calendar timescale. The error, expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Laboratory and should be quoted as such in any reports within the scientific literature. The laboratory GU coding should also be given in parentheses after the SUERC code.

Detailed descriptions of the methods employed by the SUERC Radiocarbon Laboratory can be found in Dunbar et al. (2016) *Radiocarbon 58(1) pp.9-23.*

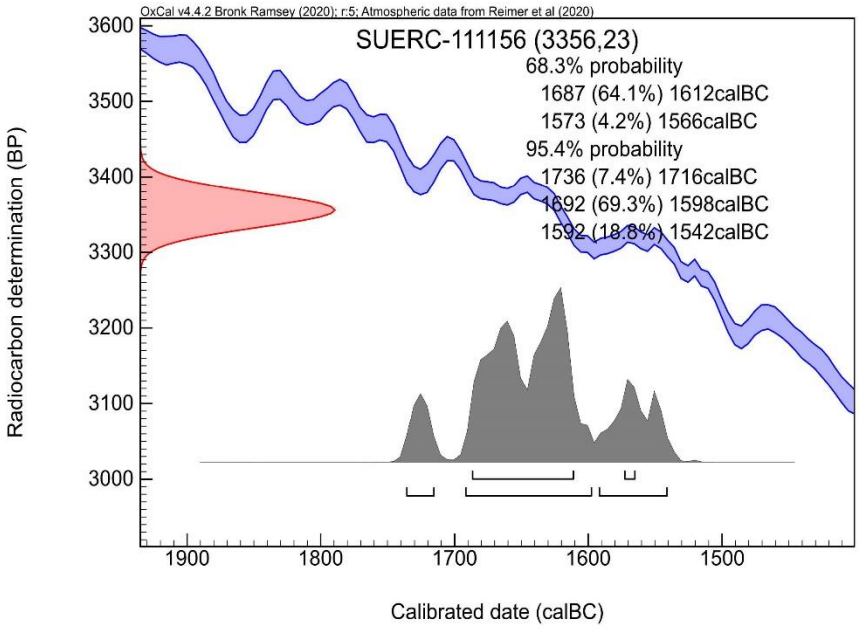
For any queries relating to this certificate, the laboratory can be contacted at suerc-c14lab@glasgow.ac.uk.

Conventional age and calibration age ranges calculated by :

Checked and signed off by :

University of Glasgow
The University of Glasgow, charity number SC004401

The University of Edinburgh is a charitable body, registered in Scotland, with registration number SC005336



The radiocarbon age given overleaf is calibrated to the calendar timescale using the Oxford Radiocarbon Accelerator Unit calibration program OxCal 4.*

The above date ranges have been calibrated using the IntCal20 atmospheric calibration curve†

Please contact the laboratory if you wish to discuss this further.

* Bronk Ramsey (2009) *Radiocarbon 51(1) pp.337-60*
† Reimer et al. (2020) *Radiocarbon 62(4) pp.725-57*

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APPENDIX 11: Project WSI

LAND AT SPELTHORNE LEISURE CENTRE, STAINES-UPON-THAMES, SURREY.

NGR: TQ 0430 7116 (centred)

WRITTEN SCHEME OF INVESTIGATION FOR AN ARCHAEOLOGICAL EXCAVATION

July 2021

Quality Assurance
This Document has been compiled and authorised in accordance with AMS's Quality Procedures (ISO 9001: 2015)
Author: Tracy Michaels BSc MCIfA
Date: 29th July 2021, revised 1/9/21
Approved: Roy King BA MCIfA
QA Checked: Diana King BA MCIfA

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LAND AT SPELTHORNE LEISURE CENTRE, STAINES-UPON-THAMES, SURREY: WRITTEN SCHEME OF INVESTIGATION FOR AN ARCHAEOLOGICAL EXCAVATION

1 INTRODUCTION

1.1 This document sets out details of the written scheme of investigation (WSI) for a programme of archaeological excavation on land at Spelthorne Leisure Centre, Knowle Green, Staines-upon-Thames, Surrey (NGR: TQ 0430 7116-centred). The WSI conforms to the requirements of the *National Planning Policy Framework* (2018) and has been prepared in accordance with the *Standard and Guidance for Archaeological Excavation* issued by the Institute for Archaeologists (2014).

1.2 Foundations Archaeology is certified to ISO 9001: 2015 for quality assurance in the provision of archaeological and heritage services. The company is a registered organisation with the Chartered Institute for Archaeologists and subscribes to that organisations Code of Conduct. All relevant CIfA Codes of Practice will be adhered to throughout the course of the project.

2 STAFF

2.1 The field team will consist of a minimum of 2 experienced operatives, who may be supplemented by additional staff as required. The project will be directed by Mr. R. King BA, MCIfA who has wide experience of performing, monitoring and managing fieldwork projects of different periods throughout Britain. He is the Director of Foundations Archaeology and is a Member of the Chartered Institute for Archaeologists.

2.2 Specialists who are likely to advise and report on specific aspects of the project include Dr. Matilda Holmes (bone), Dr Robert Scaife (pollen and environmental coordinator), Dr Jane Timby, Paul Blinkhorn and Roy King (pottery), Dr Lynne Bevan (small finds, glass and metalwork) and Dr. Tim Young of GeoArch (metalworking residue). Any other categories of specialist report will be provided by Museum of London Specialist Services.

3 PROJECT BACKGROUND

3.1 There is currently a proposal to build a new leisure centre on the field adjacent to the existing leisure centre (Application Number: 20/01486/FUL). In accordance with the principles of NPPF19 and under Local Plan policy BE26, the Surrey County Council Historic Environment Team, who are acting as the archaeological advisors to Spelthorne Borough Council, initially requested that an archaeological evaluation be carried out, in order to determine if any further mitigation may be necessary. Following the results of this evaluation,

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archaeological mitigation in the form of an area excavation centred on the archaeology identified in the evaluation is now required.

3.2 The site currently comprises the existing leisure centre and associated car parking located at Knowle Green as well as a managed field situated adjacent and east which lies between Spelthorne Leisure Centre and Spelthorne Borough Council's offices. The area is characterised by moderate density urban development. Knowle Green is a suburb on the southeastern side of Staines-upon-Thames.

3.3 A Heritage and Archaeological Statement has been written for this proposal by Foundations Heritage (2020), which should be read in conjunction with this document, however a summary of it's conclusions are represented below for ease.

3.3.1 There are no applicable Scheduled Monuments, Registered Parks and Gardens, Registered Battlefields, or World Heritage Sites that may be affected by the proposals. There are a significant number of designated assets in the form of Grade II Listed buildings and one Grade II* Listed building within the 1km study area, however they lie predominantly within the historic core of Staines. Two Grade II assets present are within 500m of the site, but these will not be affected by the proposed development. Locally listed buildings and other undesignated assets are present within 500m of the site, however their setting or heritage significance will not be adversely affected by the proposals.

3.3.2 The assessment has considered the potential for heritage assets with an archaeological interest to be present on the site, based on the known archaeological remains that are presently recorded in the vicinity. The known resource in the vicinity, outside the below-ground impact of the existing leisure centre and possible drainage runs across the site, shows that there is a low potential for assets of Prehistoric to Medieval date and a negligible to low potential for assets of the Post-medieval period onwards. This assessment of potential for the site is presented despite the wealth of archaeological material in and around the centre of Staines, approximately 500m to the northwest of the site. The main potential for the presence of archaeological activity is for features relating to agricultural usage of the site and for isolated findspots.

3.3.3 The undeveloped nature of the eastern block of the site does, however, give rise to the potential for the recovery of archaeological finds, features or deposits of a coherent nature, despite the low potential for assets.

3.3.4 A Roman town named Pontibus is recorded at Staines in the 4th century AD Antonine Itinerary. Roman settlement may, however, have originated very early in the Conquest; it has been postulated that Claudius' invasion force crossed the Thames at this point. A later Roman road between London and Silchester is known to have crossed the river here and a thriving settlement grew up around it. The full extent of the Roman settlement however is currently unknown.

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3.3.5 Saxon settlement activity is known from Staines including a 5th-6th century settlement, an inhumation cemetery and possible bridge foundations. The earliest documentary mention of Staines (as Stana) dates to AD 969 but is likely a forgery. A Minster church is recorded as being present, probably on or near the site of the current St. Mary's church and an estate of no small value may be assumed and Staines may have had the status of a burh in the later Saxon period.

3.3.6 The Domesday Book of 1086 mentions Staines (as Stanes) as a valuable estate worth £35 but the status of the settlement as a town dates from the late 12th century and the Medieval bridge is likely to have dated from this time; certainly, it was in place by 1222.

3.3.7 The town of Staines continued to grow throughout the Post-medieval period and saw a particular boost with the replacement of the old bridge across the Thames northwards to the current site in 1832 and, particularly in the coming of the railway in 1848. Cartographic evidence from the 19th century onwards shows rapid growth throughout this period with extensive building taking place outside of the historic core to create the area of the present-day town.

3.3.8 Staines transferred to Surrey in 1965 following the London Government Act 1963; the town has continued to grow during this period with much modern redevelopment within the last 20 years.

3.3.9 The fringes of the well-mapped Prehistoric, Roman, Saxon and Medieval settlements of Staines are present just within 500m to the north and northwest of the site. Features from the closest sites clearly indicate that occupation of the area during these periods is not likely to have extended further south. Staines was sited upon gravel islands, with little settlement on the alluvial deposits around the islands. The site lies partly on alluvium and partly on gravel and lack of archaeological investigation around the site may provide a false picture of its archaeological potential, however, it is still not considered likely that the settlement of Staines extended as far south as the site area. Isolated farmsteads, though, cannot be entirely ruled out.

3.3.10 Mapping evidence shows that the site was orchard, field or playing fields until 1967 when the lido was built on the west half of the site. The east half of the site has remained undeveloped and no below-ground impact, beyond disturbance from past agricultural usage, has been identified on this part of the site. It is also important to note that historic mapping indicates that the area to the north of the site may be prone to flooding and consequently the site may have been subject to intensive drainage runs leading south towards Sweep's Ditch. The west half of the site, however, has limited potential for the survival of buried remains beneath the leisure centre, although deeper features could remain beneath its car park to the north. The construction of the new leisure centre would involve some considerable level of excavation and would be

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particularly impactful where the construction of the pool, footings and service trenches are required.

3.4 In March and April 2021 an archaeological evaluation was undertaken by Foundations Archaeology. The evaluation has revealed the presence of limited archaeological evidence dating to the Medieval period. The archaeology was contained in Trench 6 and comprised a single large posthole or pit which contained 12th to 14th century pottery, and an adjacent possible undated pit or posthole The presence of intact and undisturbed subsoils within the trenches would suggest that if there were further archaeology within the study area then it is likely to be well preserved. However, the evaluation trenches across the remainder of the site were devoid of archaeological finds or features, which suggested that these areas were of low archaeological potential.

3.5 The underlying geology is recorded as *London Clay Formation-Clay, Silt and Sand*, with superficial deposits of *Shepperton Gravel Member - Sand and Gravel* present. However, the site lies close to the northeastern boundary of a band of *Alluvium – Clay, Silt and Gravel*, and to the southwestern boundary of *Kempton Park Gravel Member – Sand and Gravel* (BGS Online Viewer).

3.6 The site therefore contains the potential for archaeological features and deposits, predominately dating from the Medieval period. This will not prejudice the works against evidence relating to other periods.

4 AIMS

4.1 The aims of the archaeological excavation are to gather high quality data from the direct observation of archaeological deposits in order to provide sufficient information to establish the nature, extent, preservation and potential of any surviving archaeological remains; as well as to make recommendations for management of the resource, including further archaeological works if necessary. In turn, this will allow reasonable planning/mitigation decisions to be taken regarding the archaeological provision for the areas affected by the development.

4.2 These aims will be achieved through pursuit of the following specific objectives:

i) to define and identify the nature of archaeological deposits on site, and date these where possible;

ii) to attempt to characterise the nature and preservation of the archaeological sequence and recover as much information as possible about the spatial patterning and extent of features present on the site;

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iii) to recover a well dated stratigraphic sequence which will attempt to determine the complexity of the horizontal and vertical stratigraphy present, and to recover coherent artefact, ecofact and environmental samples;

iv) to determine the potential of the site to provide palaeoenvironmental and/or economic evidence and the forms in which such evidence may be present;

v) to integrate the results of the fieldwork into relevant local and regional research frameworks;

vi) to confirm the nature and extent of the Medieval activity within the study area. Is there evidence of Medieval settlement away from the historic core of Staines?

5 METHODOLOGY

5.1 An excavation area will be excavated as shown on Figure 1. This work will be undertaken using a suitable mechanical excavator, equipped with a toothless grading bucket, whilst under constant archaeological direction. Thereafter, all further excavation will be conducted manually, by archaeologists. There is a contingency to extend the area of investigation in one or more directions if the preliminary results justify it.

5.2 Decisions regarding the relative significance of deposits and the need for further mitigation will be made in consultation with the Surrey County Council Archaeological Officer.

5.3 All archaeological deposits and features will be subjected to appropriate levels of investigation. Where excavation is required for the satisfactory assessment of archaeological deposits, a minimum 20% sample of all linear features will be excavated at appropriate intervals and all intersections, overlaps and terminals will be investigated. A minimum 50% sample of all non-linear features will be excavated.

5.4 Structural features, or those relating to a specialised activity, such as funerary, hearths and industrial features, will be subject up to a 100% sample. Postholes and stakeholes that relate to specialised activities will be subject to a 100% sample.

5.5 Each excavation context will be excavated, wherever possible, in such a way as to produce at least one representative cross-section of the deposit.

5.6 Any human remains which may be encountered will initially be left *in situ* and reported to the Surrey County Council Archaeological Officer and the appropriate authorities. If removal is necessary this must comply with the relevant Ministry of Justice guidelines and current archaeological best-

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practice. Such removal should be in compliance with the Burial Act 1857 and Disused Burial Grounds Amendment Act 1981 (where appropriate).

5.7 Suitable securely dated contexts will be subjected to environmental sampling at an appropriate scale in accordance with Technical Manual 2 (Environmental Sampling) and any specific requirements made by the environmental coordinator or suitable member of his team, who will visit the site as appropriate. As a minimum bulk environmental soil samples will be 10-15 litres; samples of a minimum 40 litres, and if appropriate up to 100%, will be taken from fills of well-dated or significant features or fills with good preservation of organic or burnt organic plant remains.

5.8 Buried soils and sediment sequences will be inspected and recorded on site by the environmental coordinator or suitable member of his team. Samples for laboratory assessment will be collected as appropriate. Where there is evidence for industrial activity, macroscopic technological residues (or a sample of them) will be collected by hand. Separate samples (*c* 10 ml) should be collected for micro-slags (hammerscale and spherical droplets) by the environmental coordinator or suitable member of his team.

5.9 Decisions regarding which contexts are suitable for environmental or other sampling will be made on site in consultation with the Surrey County Council Archaeological Officer and Rob Scaife, acting as environmental coordinator to the project. The Historic England Regional Scientific Advisor will be invited to visit the site as appropriate. Suitable samples will be collected for scientific dating (radiocarbon, dendrochronology, luminescence dating, archaeomagnetism and/or other techniques as appropriate). Sampling for dendrochronology will follow procedures presented in the document *Dendrochronology: guidelines on producing and interpreting dendrochronological dates* (English Heritage 2004a).

5.10 All artefactual and ecofactual remains, whether stratified or not, will be collected, bagged and labelled. Artefacts will be subject to preliminary study on site in order to help date archaeological features and contexts. All artefactual and ecofactual evidence will be treated in accordance with *First Aid for Finds*. All artefactual and ecofactual evidence will be treated in accordance with the Foundations Archaeology Technical Manual 4 (Finds Manual). All finds and environmental samples will be treated in a manner to prevent deterioration. Finds will be regularly transferred from the site to the conservation laboratory, for security reasons and to ensure the long term well-being of the finds themselves. In accordance with procedures outlined in *Management of Archaeological Projects* (English Heritage 1991) all iron objects, a selection of non-ferrous artefacts (including all coins) and a sample of any industrial debris relating to metallurgy will be x-radiographed before assessment (English Heritage 2006).

5.11 Spoil tips will be visually scanned for artefacts. Where appropriate the spoil will also be scanned by metal detector.

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5.12 Normal conditions will apply with regard to finds ownership and the Treasure Act 1996 and if such material is recovered Surrey Councils PAC will be notified immediately.

5.13 Provision has been made within the tender for appropriate levels of artefact and ecofact conservation. All artefacts, where applicable, will be conserved *before* transfer to the appropriate museum/archive service.

6 SURVEY CONTROL

6.1 Horizontal survey control of the site will be by means of a coordinate grid, using metric measurements, relative to the National Grid. The geo-referenced site plan will be produced by use of a *Topcon FC-5000* global positioning system (GPS). Complex/detailed site plans will be drawn by hand, as appropriate. These will be tied into the site grid by use of the GPS.

6.2 Vertical survey control will be tied to the Ordnance Survey datum. Details of the method employed will be recorded.

6.3 Where it is available, geo-referenced digital survey data will be supplied, if required, to the HER in shapefile or dxf file format.

7 RECORDING

7.1 All site recording will be undertaken in accordance with Foundations Archaeology Technical Manual 3 (Excavation Manual).

7.2 Each archaeological feature or deposit will be recorded by means of a measured plan at an appropriate scale. Spot heights will be taken on the deposit and their location recorded on the plan.

7.3 Cross sections will be recorded by means of a measured drawing at an appropriate scale. The height of a datum on the drawing will be calculated and recorded. The locations of cross sections will be recorded either on the site plans, or relative to the site grid. Cut features will be recorded in profile and plan at an appropriate scale and their location accurately identified.

7.4 All drawn records will be clearly marked with a unique site number and will be individually identified. The scale of the plan will be recorded. All drawings will be drawn on dimensionally stable media. All plans will be drawn relative to the site grid and at least two grid references marked on each plan.

7.5 Each archaeological context will be recorded separately by means of a written description. The stratigraphic relationships of each context will be recorded. Foundations Archaeology pro-forma record sheets will be used throughout. An

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index will be kept of all record types. All areas will be recorded even if no archaeological deposits have been identified.

7.6 An adequate photographic record of the excavation will be compiled. Each excavation context will be recorded photographically prior to removal. All photographs will feature an appropriately sized scale.

8 POST-EXCAVATION

8.1 Following completion of fieldwork, all artefacts and environmental samples will be processed, assessed, conserved and packaged in accordance with Foundations Archaeology's own Technical Manuals/guidance as appropriate and Spelthorne Museums guidelines. All recording, cleaning and conservation of finds will comply with CIfA Guidelines for Finds Work.

8.2 A typescript report will be prepared after the site works are completed to fulfil the requirements set out in the WSI. This will include a full written description and interpretation of the results, including specialist reports. The report will be fully illustrated with drawings to an appropriate scale showing location, trench layout, recorded features and deposits, trench plans and section drawings. The report will include all elements set out in the specification. The report will normally be produced within eight weeks of completion of fieldworks, unless delayed by circumstances beyond the control of Foundations Archaeology. In some cases specialist reports (e.g. Radiocarbon dating) may take several months to be produced. In such circumstances an interim report will be provided.

8.3 An indexed and internally consistent archive will be prepared in accordance with MoRPHE (EH 2006) and Foundations Archaeology's internal quality control systems which are certified to ISO 9001: 2015. These standards comply with *Guidelines for the Preparation of Excavation Archives for Long-term Storage* (UKIC 1990), *Standards in the Museum Care of Archaeological Collections* (MGC 1994). Arrangements will be made for the deposition of the finds and the site archive with Spelthorne Museum under accession number SMXSP:2021.01.

8.4 A digital copy of the summary report (either in pdf or .doc format) shall be supplied to the County Archaeological Advisor; for verification and assessment; when the report has been agreed a final digital copy will then be supplied to the County Historic Environment Record (HER), along with a digital and hardcopy to Surrey Council's Historic Environment Planning Service, on the understanding that it will become a public document after an appropriate period of time (generally not exceeding six months).

8.5 The report will be published in an appropriate form in a relevant journal within 12 months from completion of fieldwork.

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8.6 An OASIS form will be completed and submitted at the completion of the project. A draft completed OASIS form will be included with the excavation report.

8.7 Copies of the photographic material will be supplied to the HER as required.

8.8 All artefacts from excavated contexts should be retained, except those from features or deposits of obviously modern date. No finds should, however, be discarded without the prior approval of the Local Planning Authority's Archaeological Advisors and Spelthorne Museum. In such circumstances, sufficient artefacts should be retained in order to elucidate the date and/or function of the feature or deposit.

9 MONITORING

9.1 An appropriate level of monitoring will be undertaken by the Surrey County Council Archaeological Officer.

10 HEALTH AND SAFETY

10.1 The archaeological recording will be undertaken with regard to all relevant Health and Safety legislation, in accordance with the *Foundations Archaeology Health and Safety Manual* (2014). A risk assessment will be prepared identifying the major risks inherent in the works.

11 INSURANCE

11.1 Foundations Archaeology carries appropriate levels of Public Liability, Employers Liability Insurance and Professional Indemnity Insurance. Copies of the certificates are available on request.

12 OUTREACH

12.1 Provision will be made for a visit by the local schools during the course of the excavation if the results of the works warrant it. A regularly updated excavation information board will be displayed at the entrance to the site during the excavation.

12.2 Following the completion of the post excavation works, if the results are sufficiently engaging, provision will be made to carry out a lecture describing the findings for the local community.

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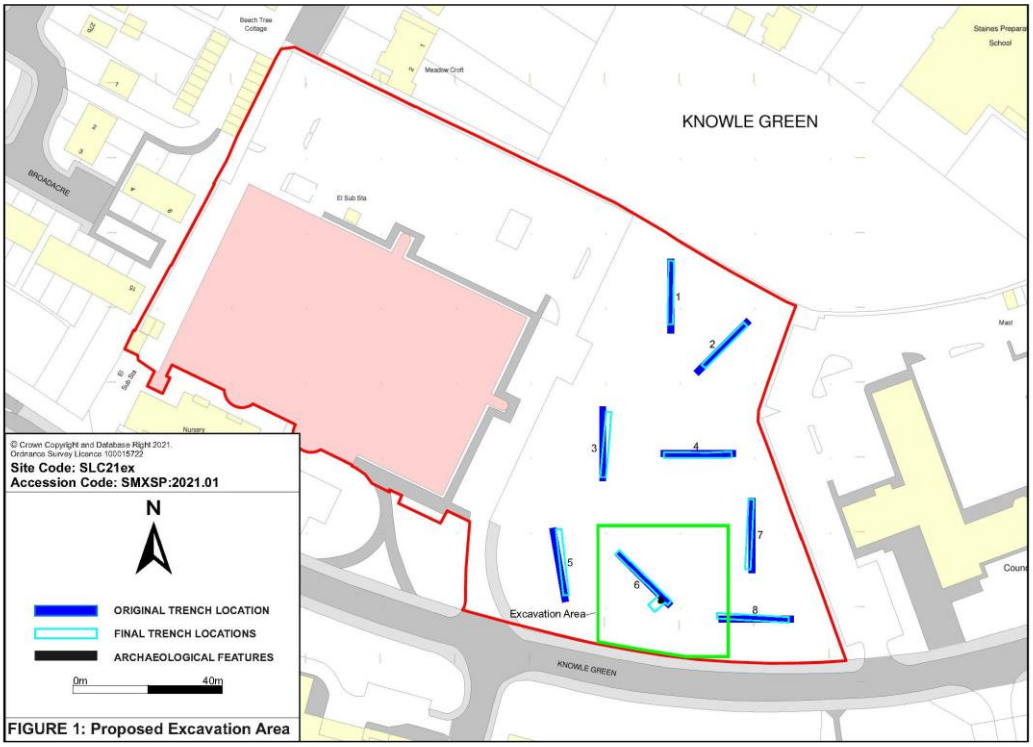

FIGURE 1: Proposed Excavation Area

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APPENDIX 12: OASIS Form

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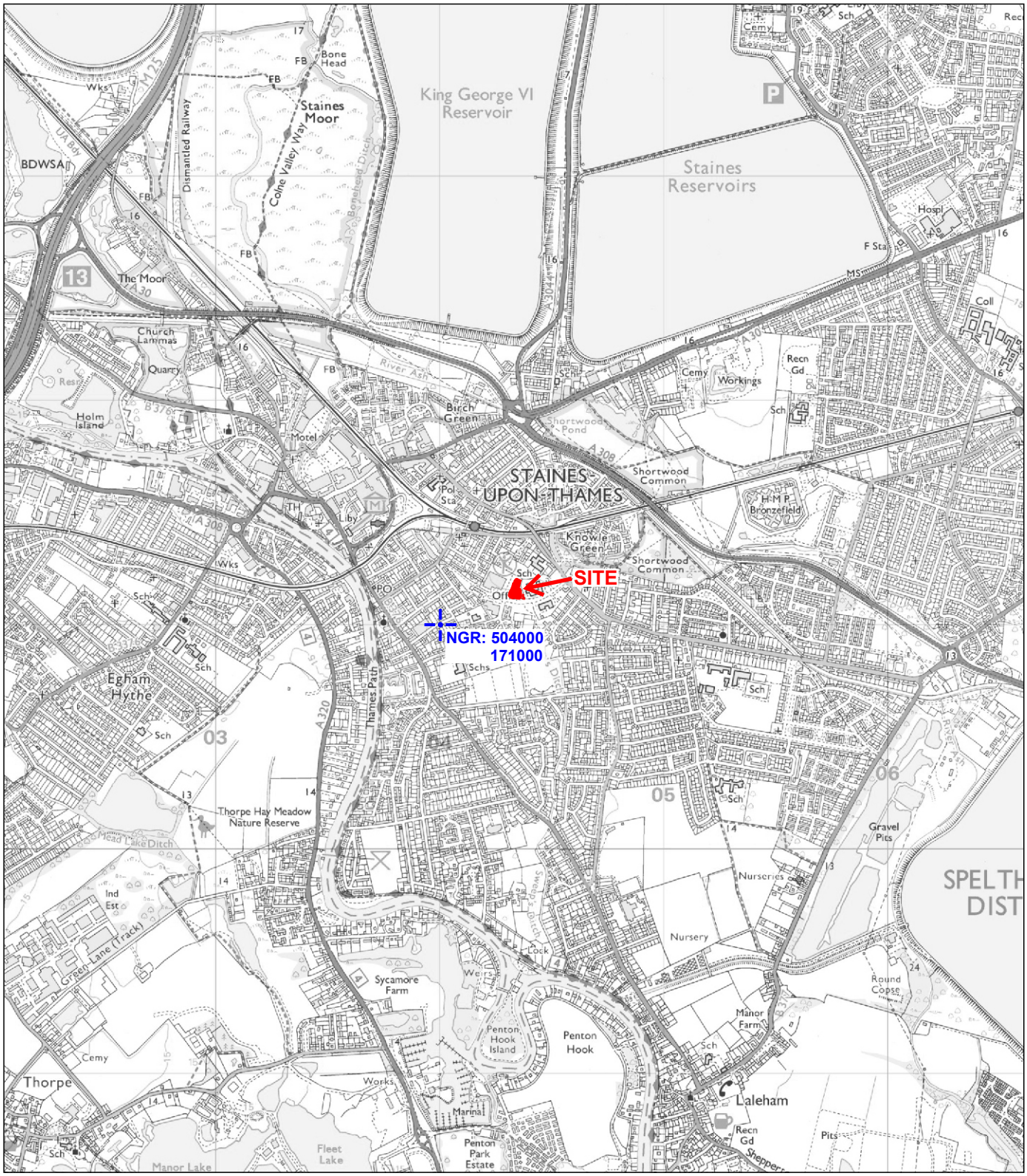


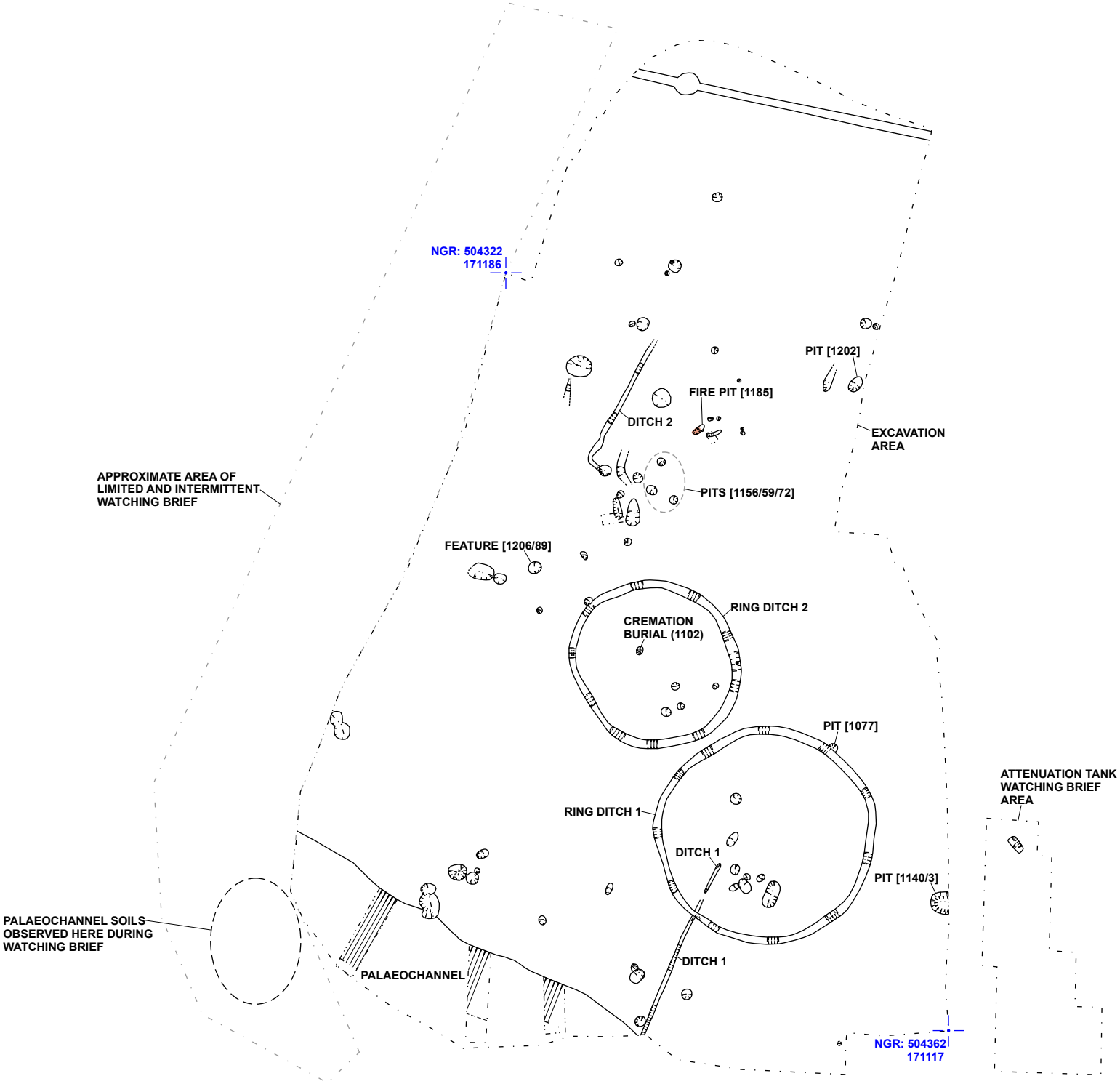
Site Code: SLC21ex
Accession Code: SMXSP:2021.01

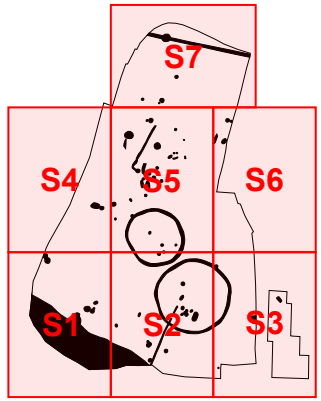
N

0 1km

1:25,000

FIGURE 1: Site Location





DETAILED PLAN SECTOR LOCATIONS

Site Code: SLC21ex
Accession Code: SMXSP:2021.01

N

0 20m
1:500

FIGURE 2: Site Plan (reduced labels)

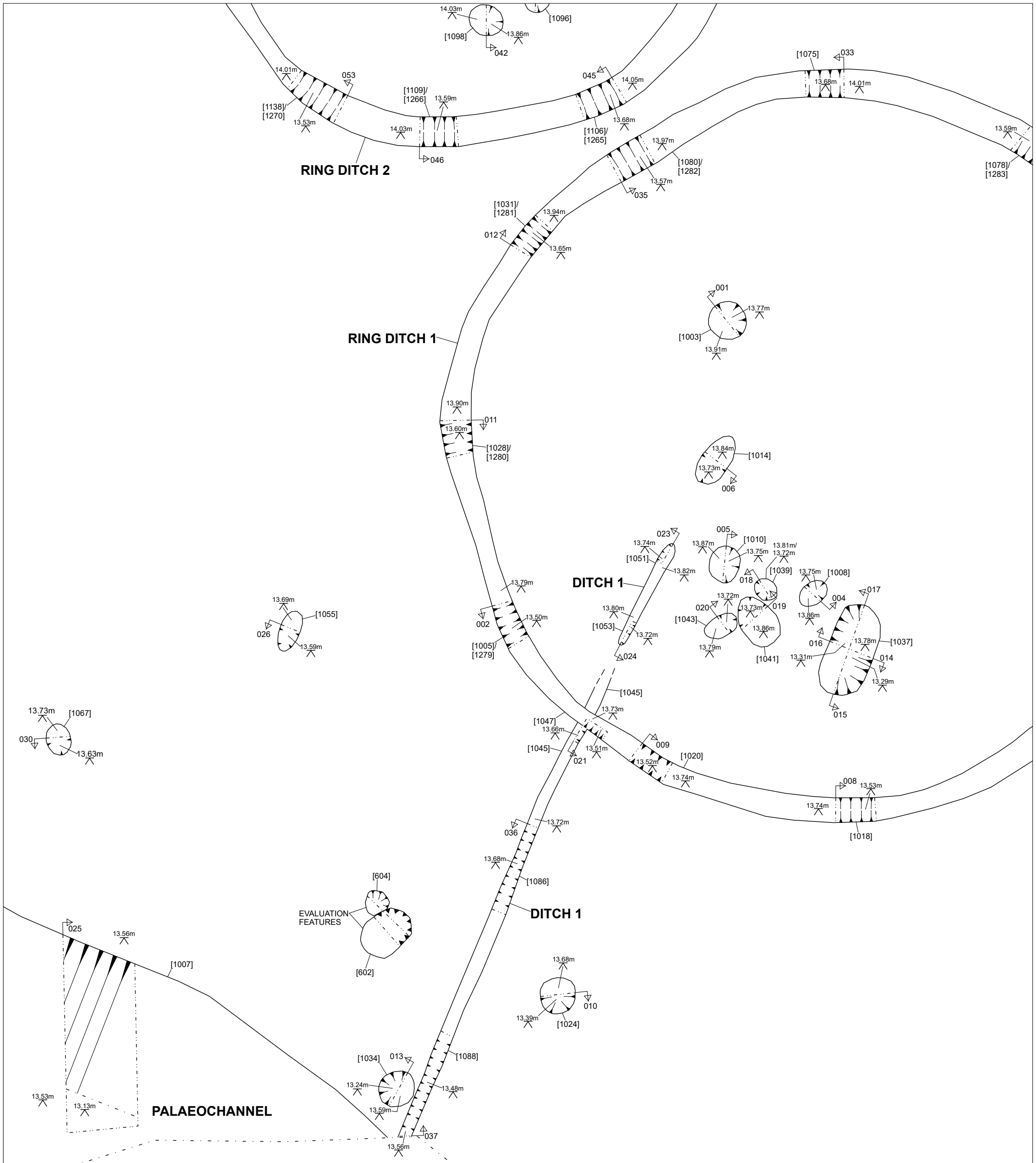
[1198]
14.02m
14.10m
[1196]
13.94m
070
[1062]
028
13.75m
13.42m
[1064]/
[1209]
029
13.52m
13.73m
027
13.79m
[1060]
077
13.68m
13.56m
076
[1211]/
[1285]
13.74m
[1057]
13.55m
078
[1215]
13.49m
13.68m
[1221]
13.57m
080
13.32m
13.66m
[1213]
[1007]
13.53m
003
12.47m
13.46m
PALAEOCHANNEL
FLOODED
12.28m
13.50m

Site Code: SLC21ex
Accession Code: SMXSP:2021.01

N

0 4m
1:100

FIGURE 3: Detailed Site Plan
Sector 1

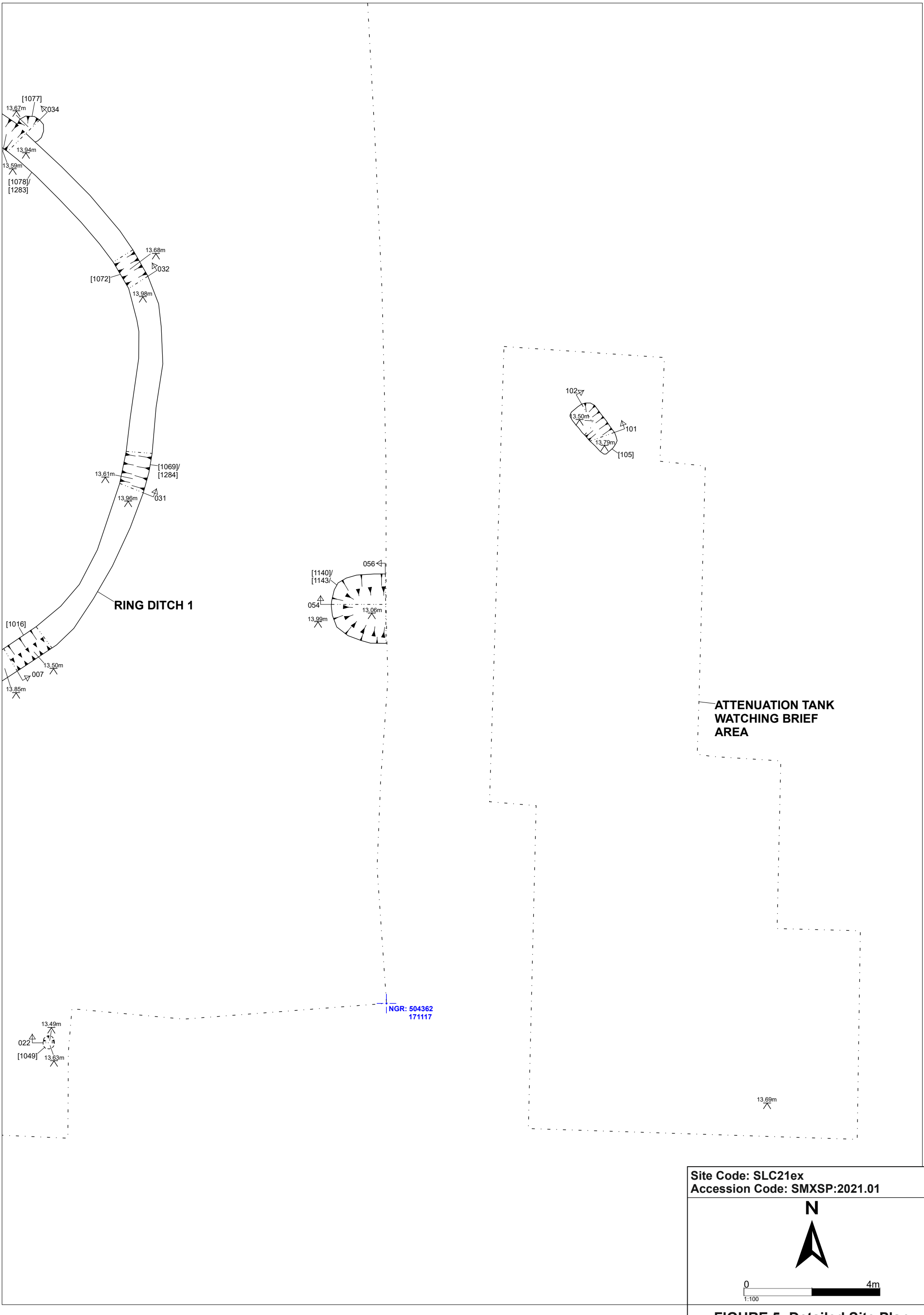


Site Code: SLC21ex
Accession Code: SMXSP:2021.01

N

0 4m
1:100

FIGURE 4: Detailed Site Plan Sector 2

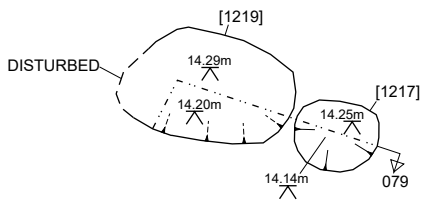


Site Code: SLC21ex
Accession Code: SMXSP:2021.01

N

0 4m
1:100

FIGURE 5: Detailed Site Plan Sector 3



Site Code: SLC21ex
Accession Code: SMXSP:2021.01

N

0 4m
1:100

FIGURE 6: Detailed Site Plan Sector 4

Site Code: SLC21ex
Accession Code: SMXSP:2021.01

N

0 4m
1:100

FIGURE 7: Detailed Site Plan Sector 5

[1223]
[1227] 14.32m
14.32m
14.21m
081
083
14.23m

[1232] 085
14.23m
14.07m

14.26m 14.34m
[1241] 089

13.94m
14.30m
086
[1231]

14.14m
[1229] 084
14.30m

DITCH 2

14.22m [1225]
14.16m
082

090
14.23m 14.37m
[1243]

[1204]

14.14m
088 [1239]
14.31m

14.27m
[1237] [1235]
14.20m 091
087 14.36m/ 14.30m
[1245]
14.38m 14.36m 14.38m/ 14.15m
066 100
[1185]
EXTENT OF REDDENED/ BURNT SOIL
14.28m [1272] [1189]
14.17m 14.37m
067

060 14.17m
13.94m [1167]
14.01m 14.17m
[1162]

14.32m
061
[1172]
13.88m

[1179] 14.33m
[1177] 062 14.33m
063 14.22m
14.17m 13.24m
[1175]

14.05m
072
14.26m
[1200]

14.34m 059
13.93m
[1159]/ [1170]

069 14.26m [1194]
071 14.14m
14.28m
[1191]
14.25m
13.87m 065
068 13.96m
[1183]

058
14.18m 13.84m
[1156]

14.07m 14.29m
[1153]
057

14.18m [1181]
064 13.98m

[1206]/ [1289] 075
13.93m
14.30m

049 13.59m
14.18m
[1122]/ [1124]

[1112]/ [1115]
13.63m 14.19m
047

[1130]
050
13.77m 14.16m
13.74m
[1126]/ [1128]

[1092] 14.16m
039
13.91m

[1117]/ [1119]
13.66m 048
14.22m

14.12m
051 13.75m
[1133]/ [1267]

[1090] 14.23m
038
CINERARY URN (1091)/ CREMATION (1102)

RING DITCH 2

055
13.85m/ 13.67m
[1145] - REVEALED DURING 100% EXCAVATION OF RING DITCH

14.05m
[1094]
040
13.92m

14.05m
044
[1103]/ [1116]
13.72m

13.89m
043
[1100]
14.08m

14.12m
[1136]/ [1268]
052
13.68m

041 13.90m
14.04m
[1096]

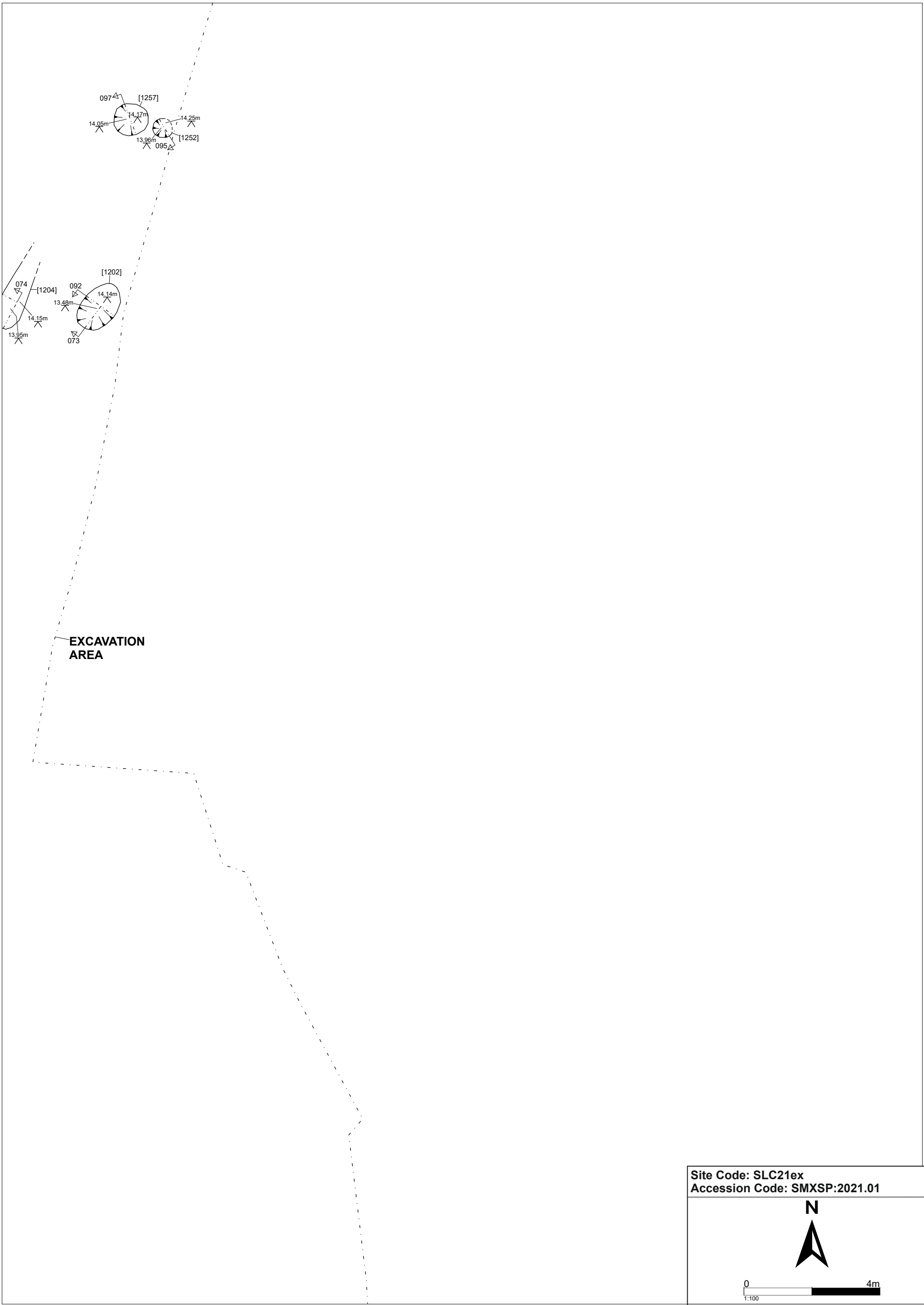


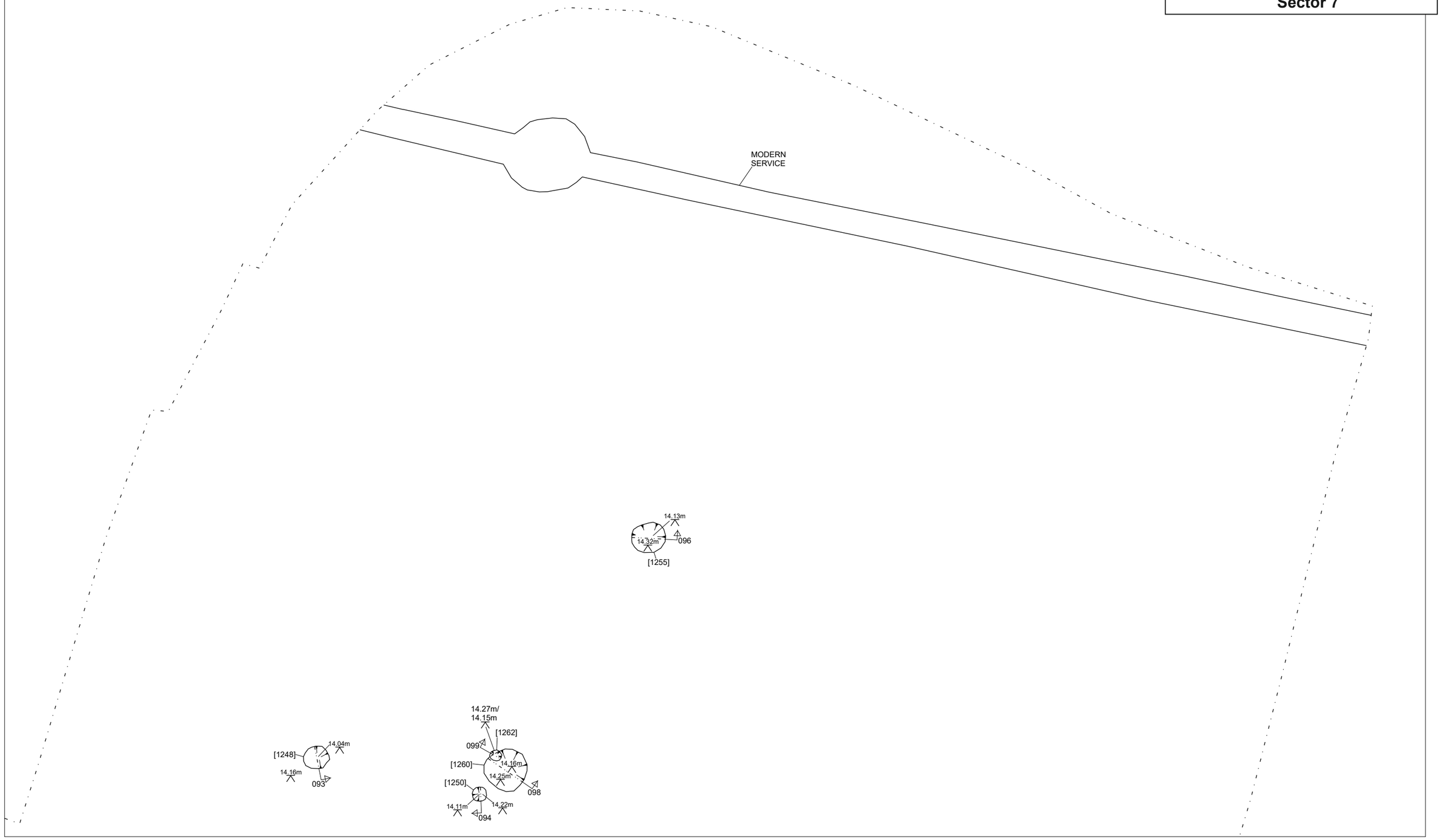
FIGURE 8: Detailed Site Plan
Sector 6

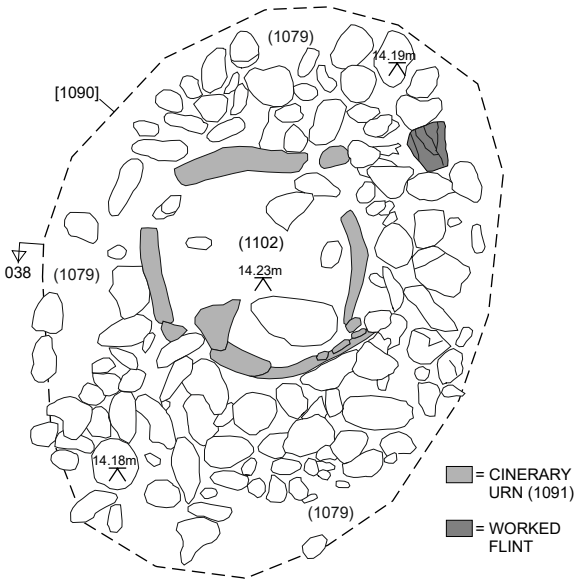
Site Code: SLC21ex
Accession Code: SMXSP:2021.01

N

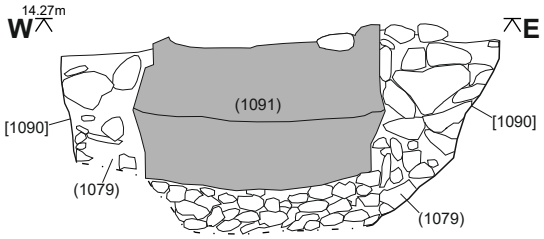
0 4m
1:100

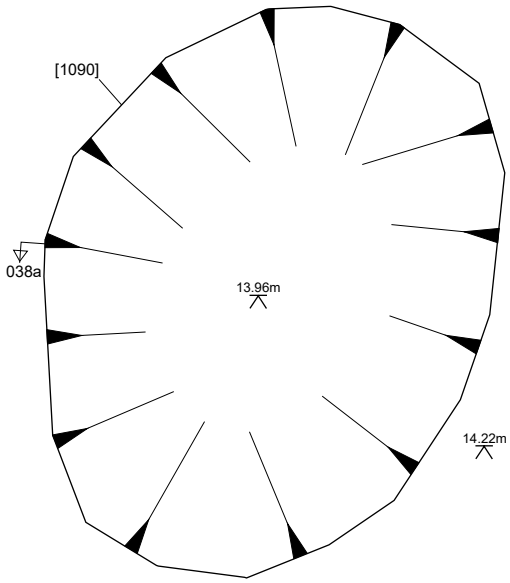
FIGURE 9: Detailed Site Plan Sector 7



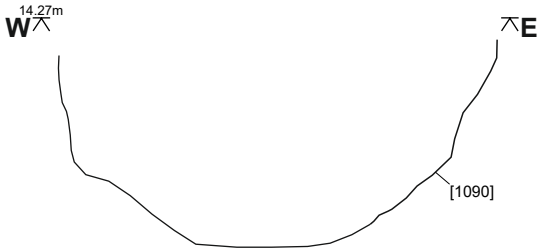


SEC 038: SOUTH FACING SECTION [1090], SHOWING CINERARY URN (1091)





SEC 038a: PROFILE [1090]



Site Code: SLC21ex
Accession Code: SMXSP:2021.01

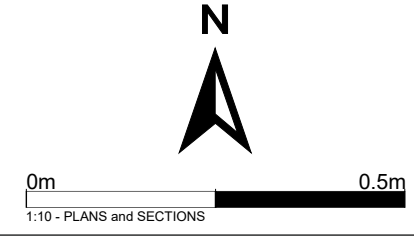
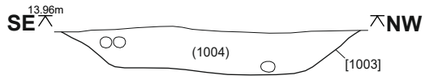
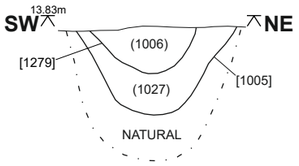


FIGURE 10: Burial Pit [1090], (1091) and (1102)

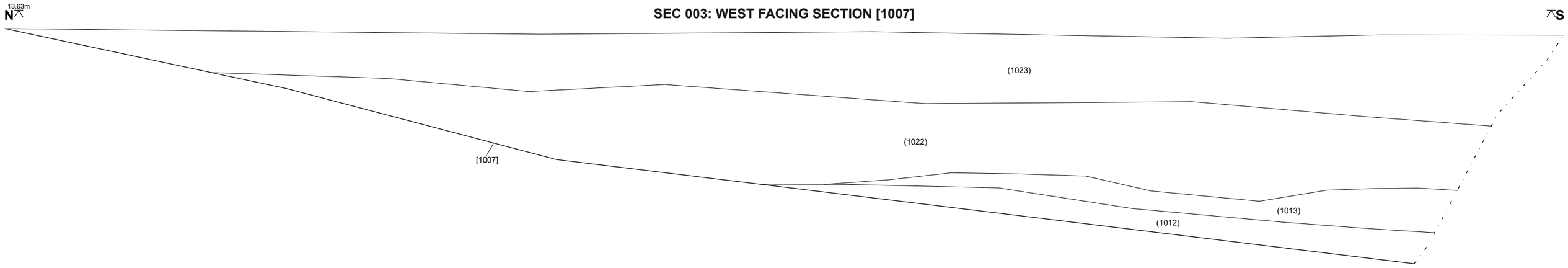
SEC 001: NORTHEAST FACING SECTION [1003]



SEC 002: SOUTHEAST FACING SECTION [1005] and [1279]

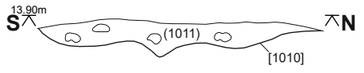


SEC 003: WEST FACING SECTION [1007]

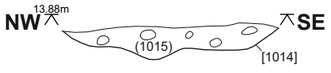


SEC 004: NORTHEAST FACING SECTION [1008]

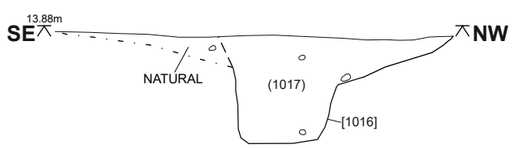
SEC 005: EAST FACING SECTION [1010]



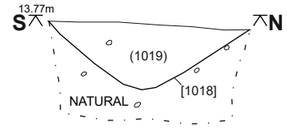
SEC 006: SOUTHWEST FACING SECTION [1014]



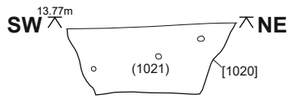
SEC 007: NORTHEAST FACING SECTION [1016]



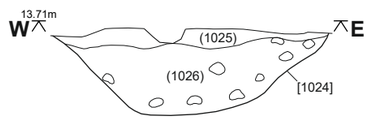
SEC 008: EAST FACING SECTION [1018]



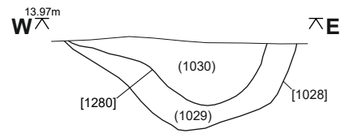
SEC 009: SOUTHEAST FACING SECTION [1020]



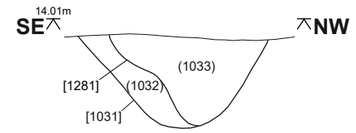
SEC 010: SOUTH FACING SECTION [1024]



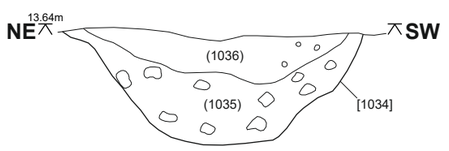
SEC 011: SOUTH FACING SECTION [1028] and [1280]



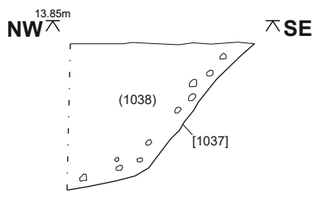
SEC 012: NORTHEAST FACING SECTION [1031] and [1281]



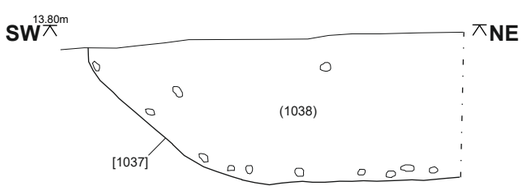
SEC 013: NORTHWEST FACING SECTION [1034]



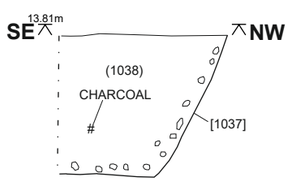
SEC 014: SOUTHWEST FACING SECTION [1037]



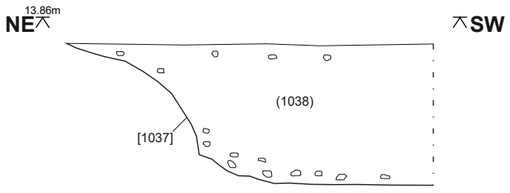
SEC 015: SOUTHEAST FACING SECTION [1037]



SEC 016: NORTHEAST FACING SECTION [1037]



SEC 017: NORTHWEST FACING SECTION [1037]

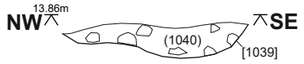


Site Code: SLC21ex
Accession Code: SMXSP:2021.01

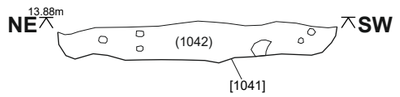
0m 1m
1:20

FIGURE 11: Sections 001 to 017

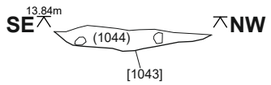
SEC 018: SOUTHWEST FACING SECTION [1039]



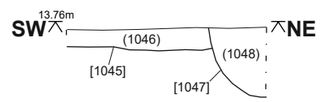
SEC 019: NORTHWEST FACING SECTION [1041]



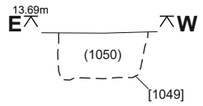
SEC 020: NORTHEAST FACING SECTION [1043]



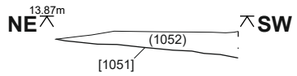
SEC 021: SOUTHEAST FACING SECTION [1045] and [1047]



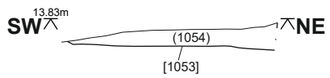
SEC 022: NORTH FACING SECTION [1049]



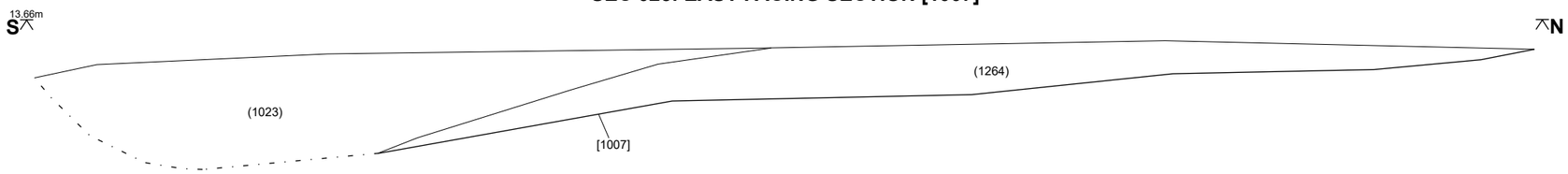
SEC 023: NORTHWEST FACING SECTION [1051]



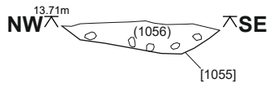
SEC 024: SOUTHEAST FACING SECTION [1053]



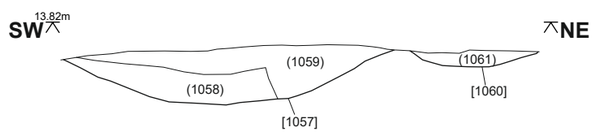
SEC 025: EAST FACING SECTION [1007]



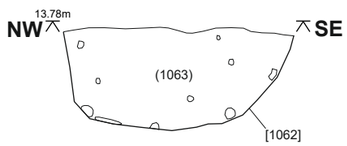
SEC 026: SOUTHWEST FACING SECTION [1055]



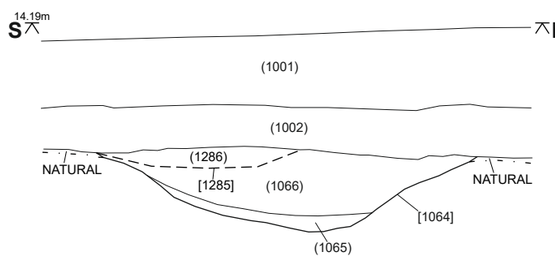
SEC 027: SOUTHEAST FACING SECTION [1057] and [1060]



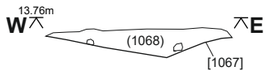
SEC 028: SOUTHWEST FACING SECTION [1062]



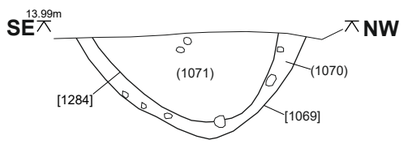
SEC 029: EAST FACING SECTION [1064] and [1285]



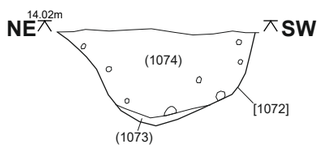
SEC 030: SOUTH FACING SECTION [1067]



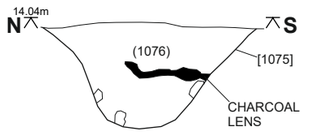
SEC 031: NORTHEAST FACING SECTION [1069] and [1284]



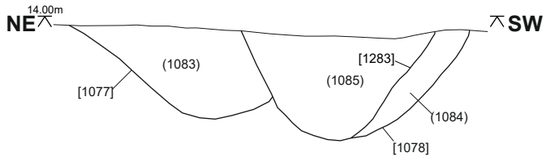
SEC 032: NORTHWEST FACING SECTION [1072]



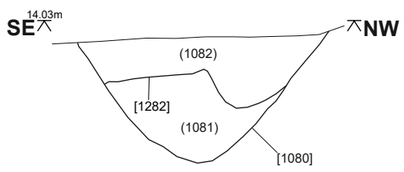
SEC 033: WEST FACING SECTION [1075]



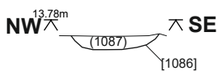
SEC 034: NORTHWEST FACING SECTION [1077], [1078] and [1283]



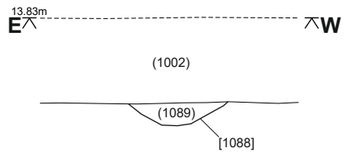
SEC 035: NORTHEAST FACING SECTION [1080] and [1282]



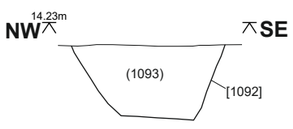
SEC 036: SOUTHWEST FACING SECTION [1086]



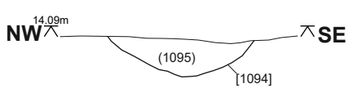
SEC 037: NORTH FACING SECTION [1088]



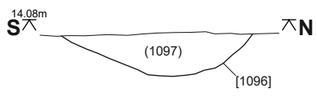
SEC 039: SOUTHWEST FACING SECTION [1092]



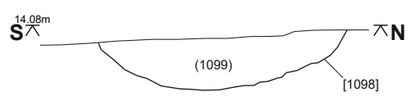
SEC 040: SOUTHWEST FACING SECTION [1094]



SEC 041: EAST FACING SECTION [1096]



SEC 042: EAST FACING SECTION [1098]



SECTIONS 038/038a - SEE FIGURE 10

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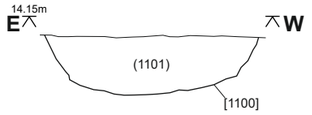
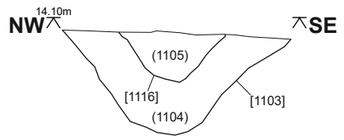
FIGURE 12: Sections 018 to 042

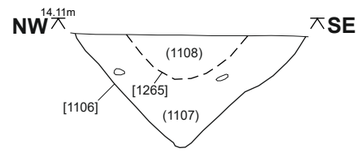
SEC 043: NORTH FACING SECTION [1100]



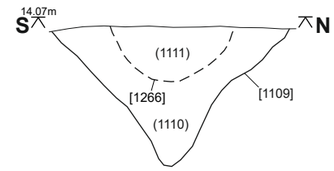
SEC 044: SOUTHWEST FACING SECTION [1103] and [1116]



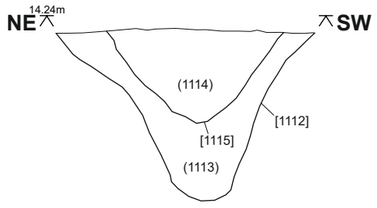
SEC 045: SOUTHWEST FACING SECTION [1106] and [1265]



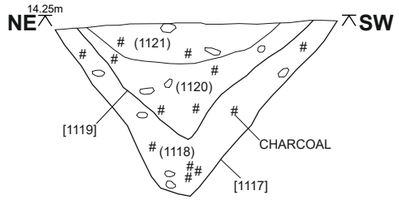
SEC 046: EAST FACING SECTION [1109] and [1266]



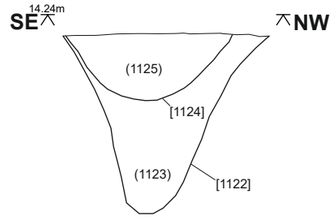
SEC 047: NORTHWEST FACING SECTION [1112] and [1115]



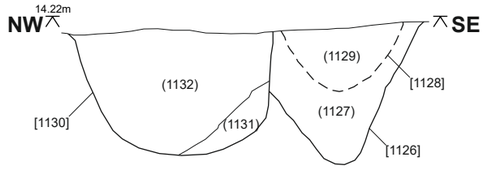
SEC 048: NORTHWEST FACING SECTION [1117] and [1119]



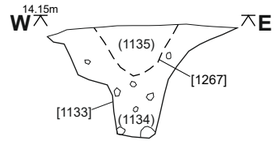
SEC 049: NORTHEAST FACING SECTION [1122] and [1124]



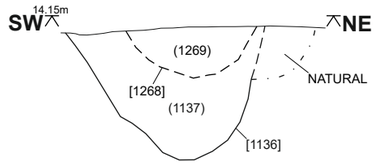
SEC 050: SOUTHWEST FACING SECTION [1126], [1128] and [1130]



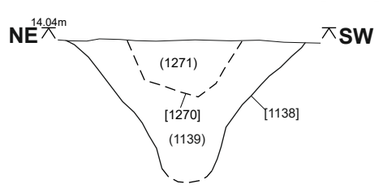
SEC 051: SOUTH FACING SECTION [1133] and [1267]



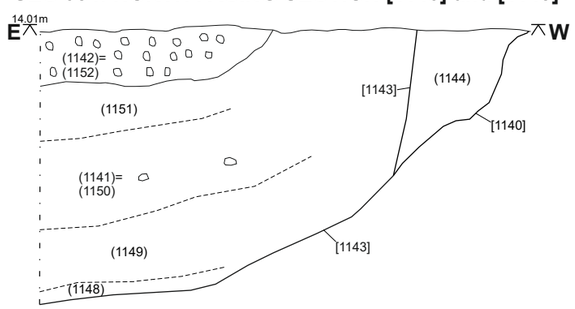
SEC 052: SOUTHEAST FACING SECTION [1136] and [1268]



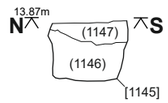
SEC 053: NORTHWEST FACING SECTION [1138] and [1270]



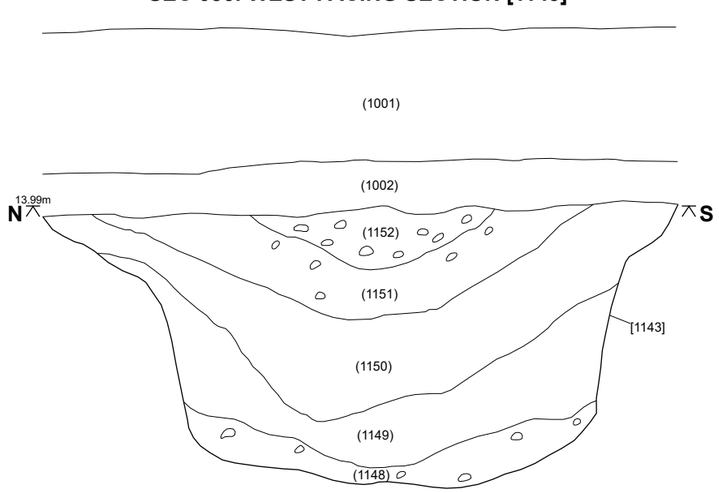
SEC 054: NORTH FACING SECTION [1140] and [1143]



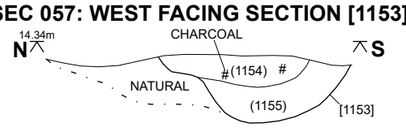
SEC 055: WEST FACING SECTION [1145]



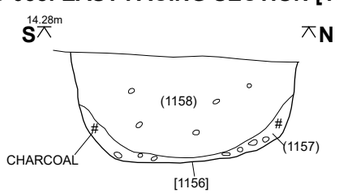
SEC 056: WEST FACING SECTION [1143]



SEC 057: WEST FACING SECTION [1153]



SEC 058: EAST FACING SECTION [1156]



SEC 059: SOUTHEAST FACING SECTION [1159]/[1170]

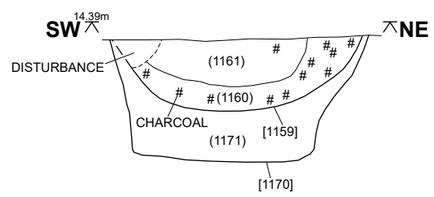


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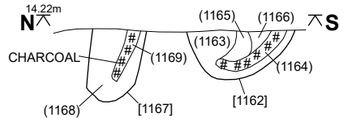
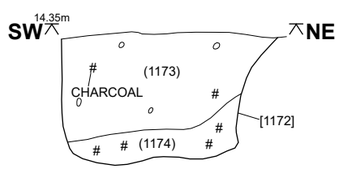
FIGURE 13: Sections 043 to 059

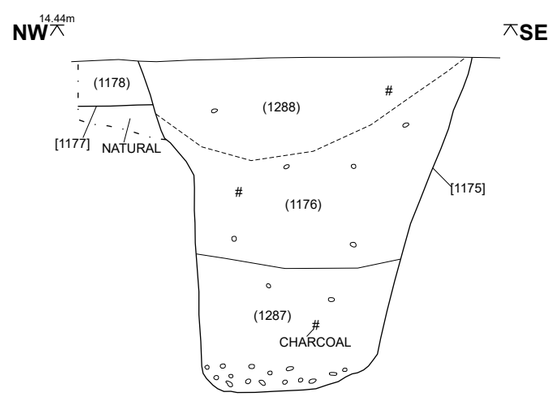
SEC 060: WEST FACING SECTION [1162] and [1167]



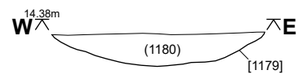
SEC 061: SOUTHEAST FACING SECTION [1172]



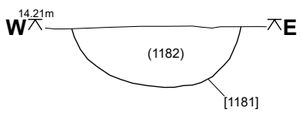
SEC 062: SOUTHWEST FACING SECTION [1175] and [1177]



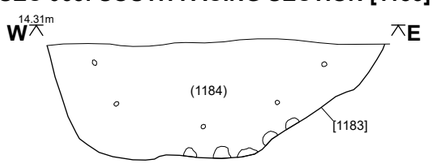
SEC 063: SOUTH FACING SECTION [1179]



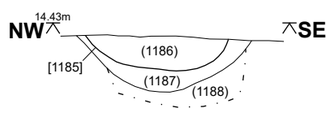
SEC 064: SOUTH FACING SECTION [1181]



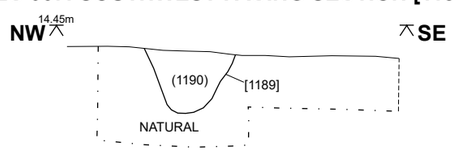
SEC 065: SOUTH FACING SECTION [1183]



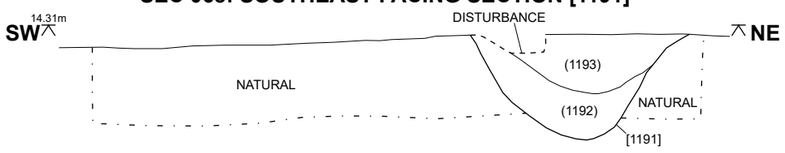
SEC 066: SOUTHWEST FACING SECTION [1185]



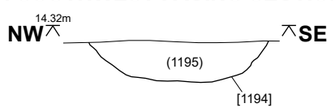
SEC 067: SOUTHWEST FACING SECTION [1189]



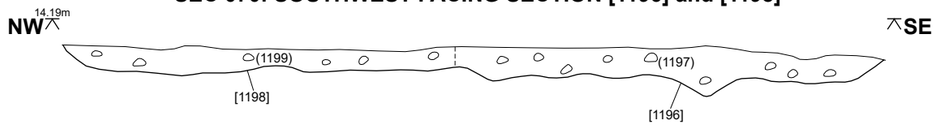
SEC 068: SOUTHEAST FACING SECTION [1191]



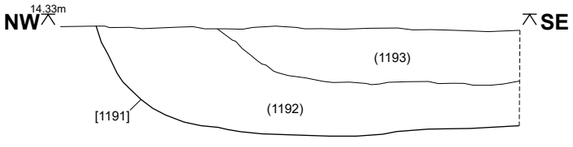
SEC 069: SOUTHWEST FACING SECTION [1194]



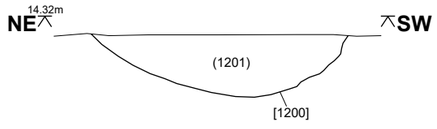
SEC 070: SOUTHWEST FACING SECTION [1196] and [1198]



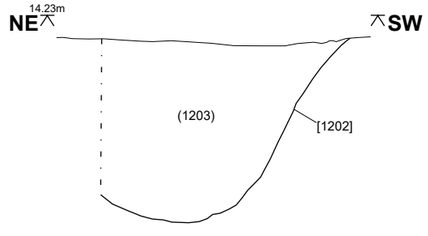
SEC 071: SOUTHWEST FACING SECTION [1191]



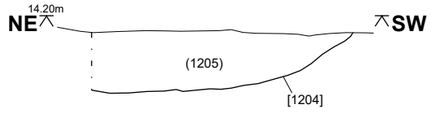
SEC 072: NORTHWEST FACING SECTION [1200]



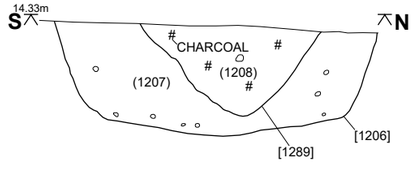
SEC 073: NORTHWEST FACING SECTION [1202]



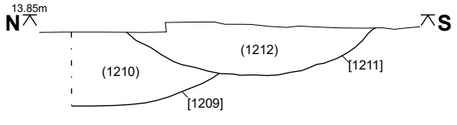
SEC 074: NORTHWEST FACING SECTION [1204]



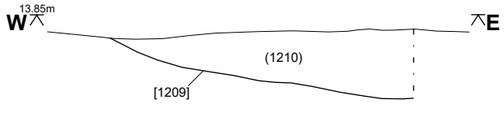
SEC 075: EAST FACING SECTION [1206] and [1289]



SEC 076: WEST FACING SECTION [1209] and [1211]



SEC 077: SOUTH FACING SECTION [1209]



SEC 078: WEST FACING SECTION [1213] and [1215]

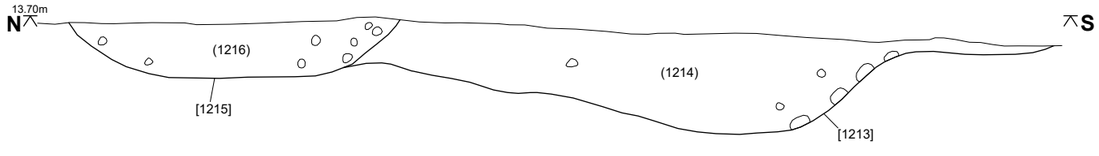


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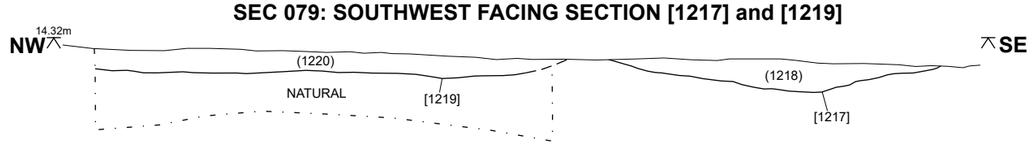
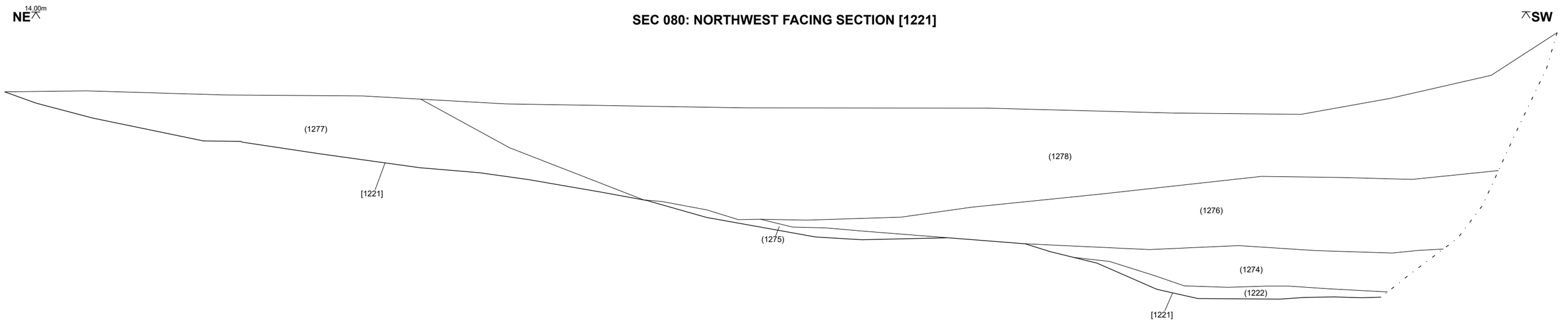
FIGURE 14: Sections 060 to 078

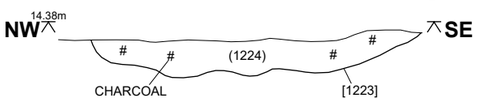
SEC 079: SOUTHWEST FACING SECTION [1217] and [1219]



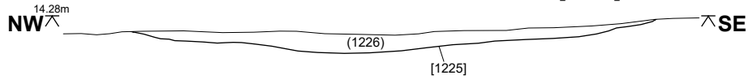
SEC 080: NORTHWEST FACING SECTION [1221]



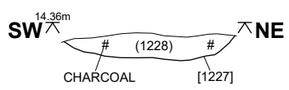
SEC 081: SOUTHWEST FACING SECTION [1223]



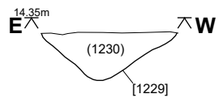
SEC 082: SOUTHWEST FACING SECTION [1225]



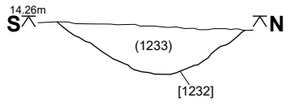
SEC 083: SOUTHEAST FACING SECTION [1227]



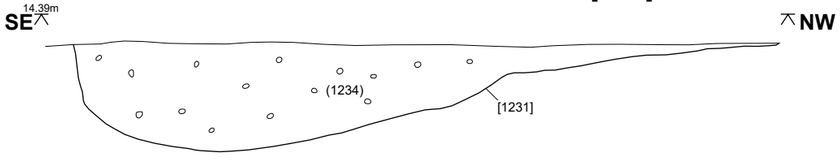
SEC 084: NORTH FACING SECTION [1229]



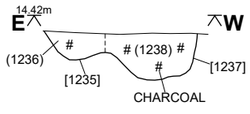
SEC 085: EAST FACING SECTION [1232]



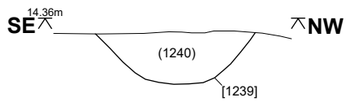
SEC 086: NORTHEAST FACING SECTION [1231]



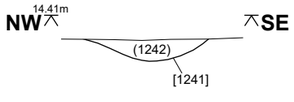
SEC 087: NORTH FACING SECTION [1235] and [1237]



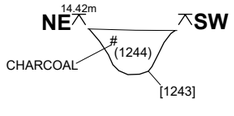
SEC 088: NORTHEAST FACING SECTION [1239]



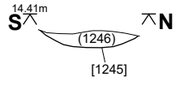
SEC 089: SOUTHWEST FACING SECTION [1241]



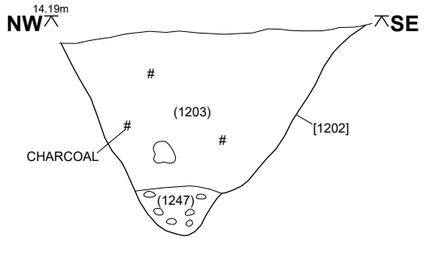
SEC 090: NORTHWEST FACING SECTION [1243]



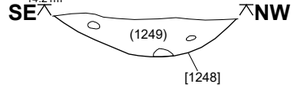
SEC 091: EAST FACING SECTION [1245]



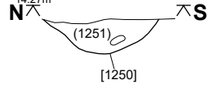
SEC 092: SOUTHWEST FACING SECTION [1202]



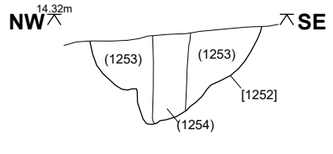
SEC 093: NORTHEAST FACING SECTION [1248]



SEC 094: WEST FACING SECTION [1250]



SEC 095: SOUTHWEST FACING SECTION [1252]



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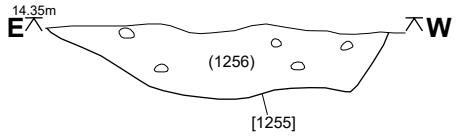
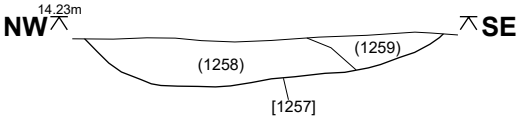
0m 1m
1:20

FIGURE 15: Sections 079 to 095

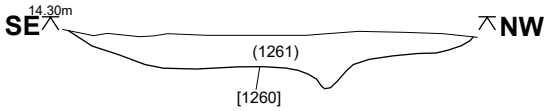
SEC 096: NORTH FACING SECTION [1255]



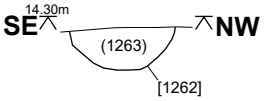
SEC 097: SOUTHWEST FACING SECTION [1257]



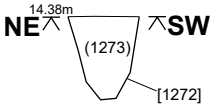
SEC 098: NORTHEAST FACING SECTION [1260]



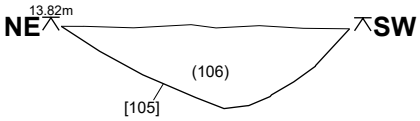
SEC 099: NORTHEAST FACING SECTION [1262]



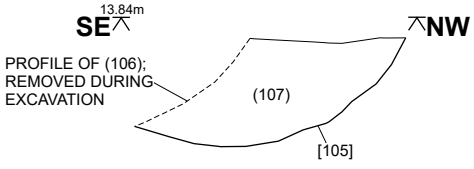
SEC 100: NORTHWEST FACING SECTION [1272]



SEC 101: NORTHWEST FACING SECTION [105]



SEC 102: NORTHEAST FACING SECTION [105]



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0m 1m
1:20

FIGURE 16: Sections 096 to 102

PHOTOGRAPH 2: GENERAL PHOTOGRAPH OF THE EXCAVATIONS AT SPELTHORNE LEISURE CENTRE

PHOTOGRAPH 3: PALAEOCHANNEL (SEC 003/[1007]), LOOKING SOUTHWEST

PHOTOGRAPH 4: TYPICAL SECTION THROUGH NEOLITHIC PIT (SEC 058/[1156])

PHOTOGRAPH 5: AERIAL PHOTOGRAPH OF THE RING DITCHES AFTER TOTAL EXCAVATION

PHOTOGRAPH 6: TYPICAL SECTION THROUGH RING DITCH 1 (SEC 031/[1069])

PHOTOGRAPH 7: TYPICAL SECTION THROUGH RING DITCH 2 (SEC 045/[1106])

PHOTOGRAPH 8: CREMATION (1102), CINERARY URN (1091) AND PACKING FILL (1079) PRE-EXCAVATION

PHOTOGRAPH 9a: BURIAL PIT [1090], CREMATION (1102), CINERARY URN (1091) AND PACKING FILL (1079) DURING EXCAVATION

PHOTOGRAPH 9b: BURIAL PIT [1090], CREMATION (1102), CINERARY URN (1091) AND PACKING FILL (1079) DURING EXCAVATION

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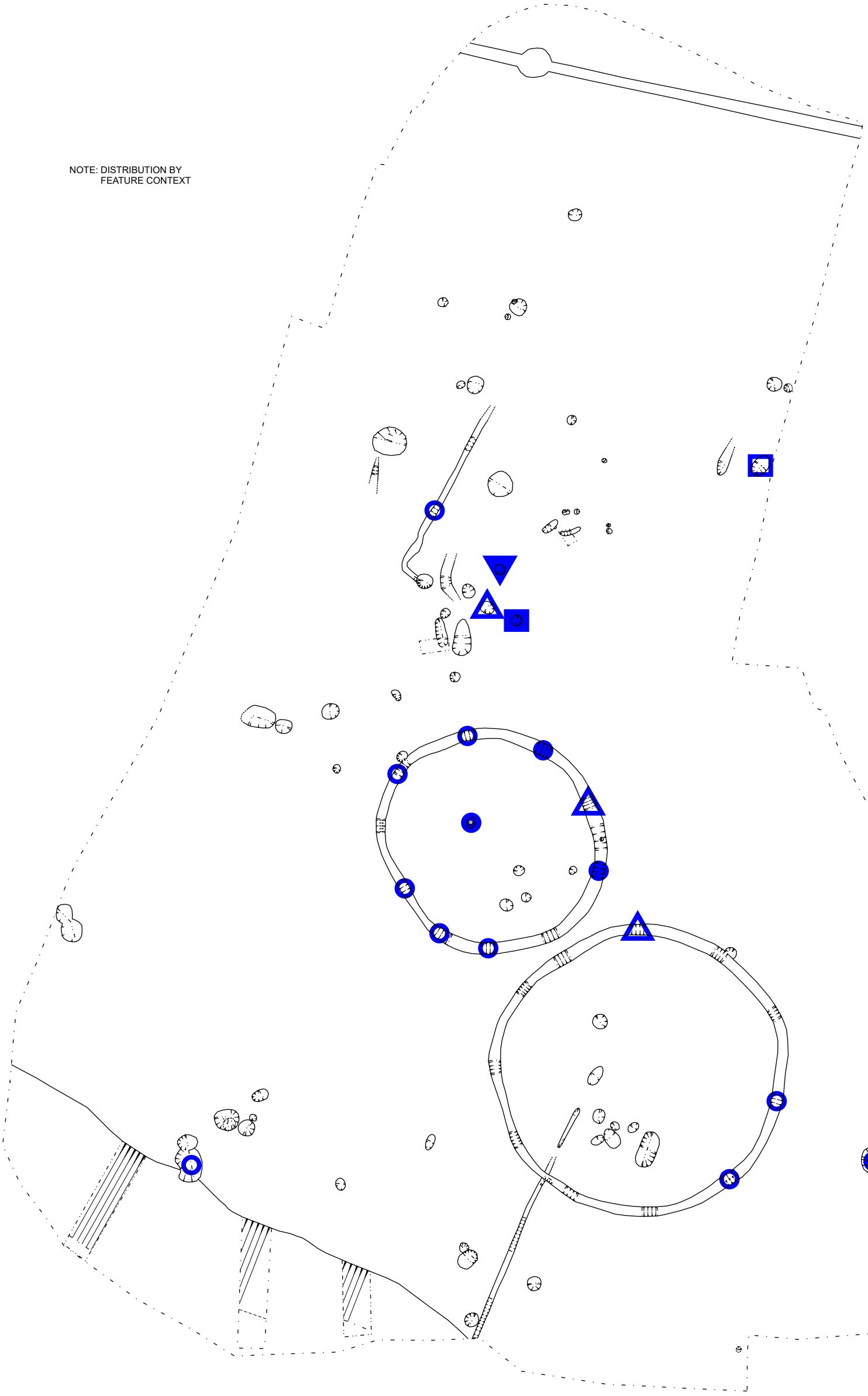
FIGURE 17: Representative Photographs

NOTE: DISTRIBUTION BY
FEATURE CONTEXT



1 - 2 struck/burnt lithic

3 - 5 struck/burnt lithic

6 - 10 struck/burnt lithic

11 - 20 struck/burnt lithic

21 - 50 struck/burnt lithic

200+ struck/burnt lithic

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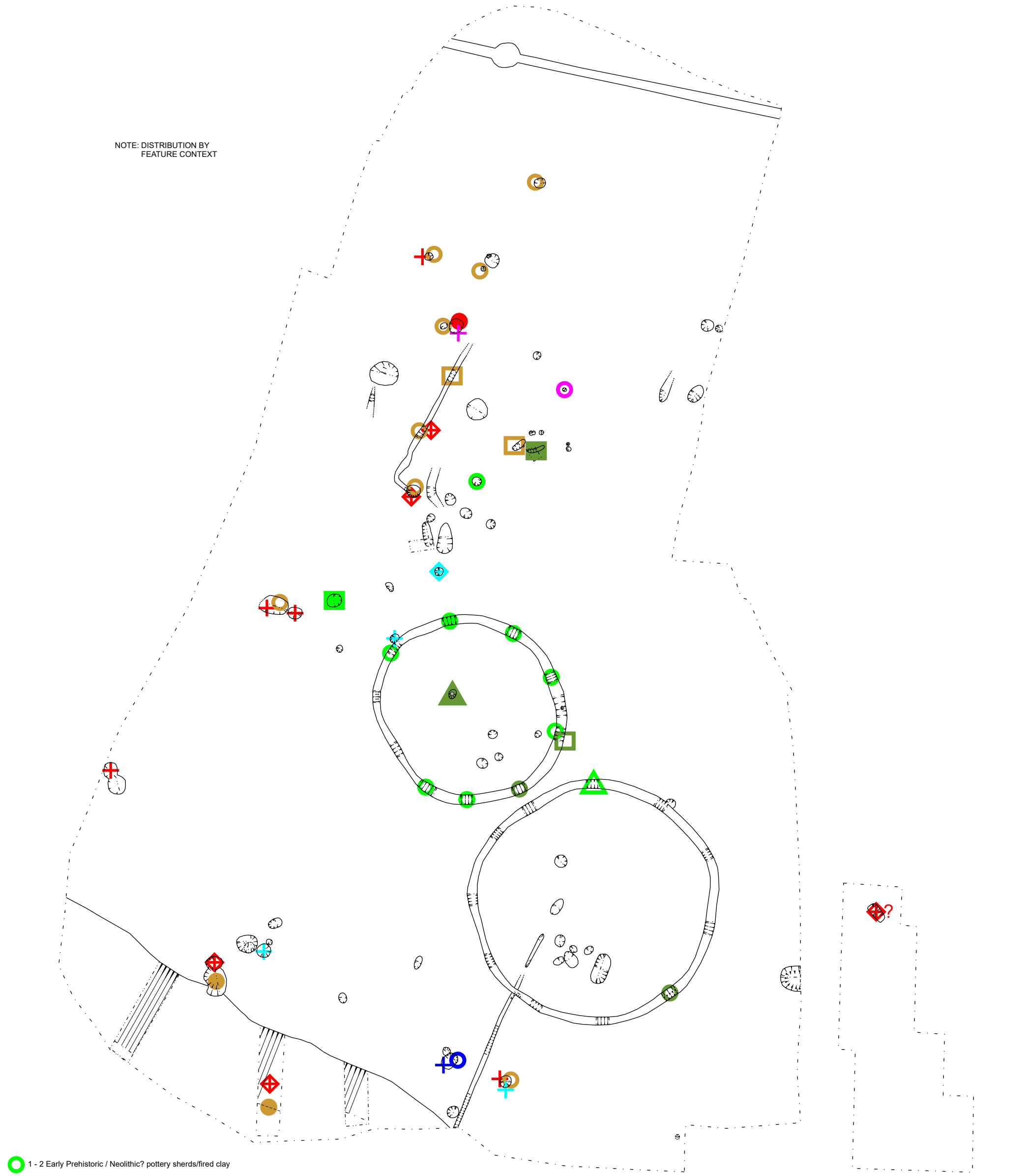
N

0 12m
1:300

FIGURE 18: Artefact Distribution Plans - Lithics

NOTE: DISTRIBUTION BY
FEATURE CONTEXT



1 - 2 Early Prehistoric / Neolithic? pottery sherds/fired clay

3 - 5 Early Prehistoric / Neolithic? pottery sherds/fired clay

6 - 10 Early Prehistoric / Neolithic? pottery sherds/fired clay

11 - 20 Early Prehistoric / Neolithic? pottery sherds/fired clay

21 - 50 Early Prehistoric / Neolithic? pottery sherds/fired clay

1 - 2 Beaker / Early Bronze Age pottery sherds

3 - 5 Beaker / Early Bronze Age pottery sherds

6 - 10 Beaker / Early Bronze Age pottery sherds

11 - 20 Beaker / Early Bronze Age pottery sherds

21 - 50 Beaker / Early Bronze Age pottery sherds

51 - 100 Beaker / Early Bronze Age pottery sherds

3 - 5 Roman pottery sherds

1 - 2 Roman CBM fragments

3 - 5 Roman CBM fragments

1 - 2 Saxon pottery sherds/fired clay

3 - 5 Saxon pottery sherds/fired clay

6 - 10 Saxon pottery sherds/fired clay

1 - 2 Medieval pottery sherds

1 - 2 Medieval CBM fragments

1 - 2 Post-medieval CBM fragments

3 - 5 Post-medieval CBM fragments

1 - 2 undated pottery sherds

1 - 2 undated CBM fragments

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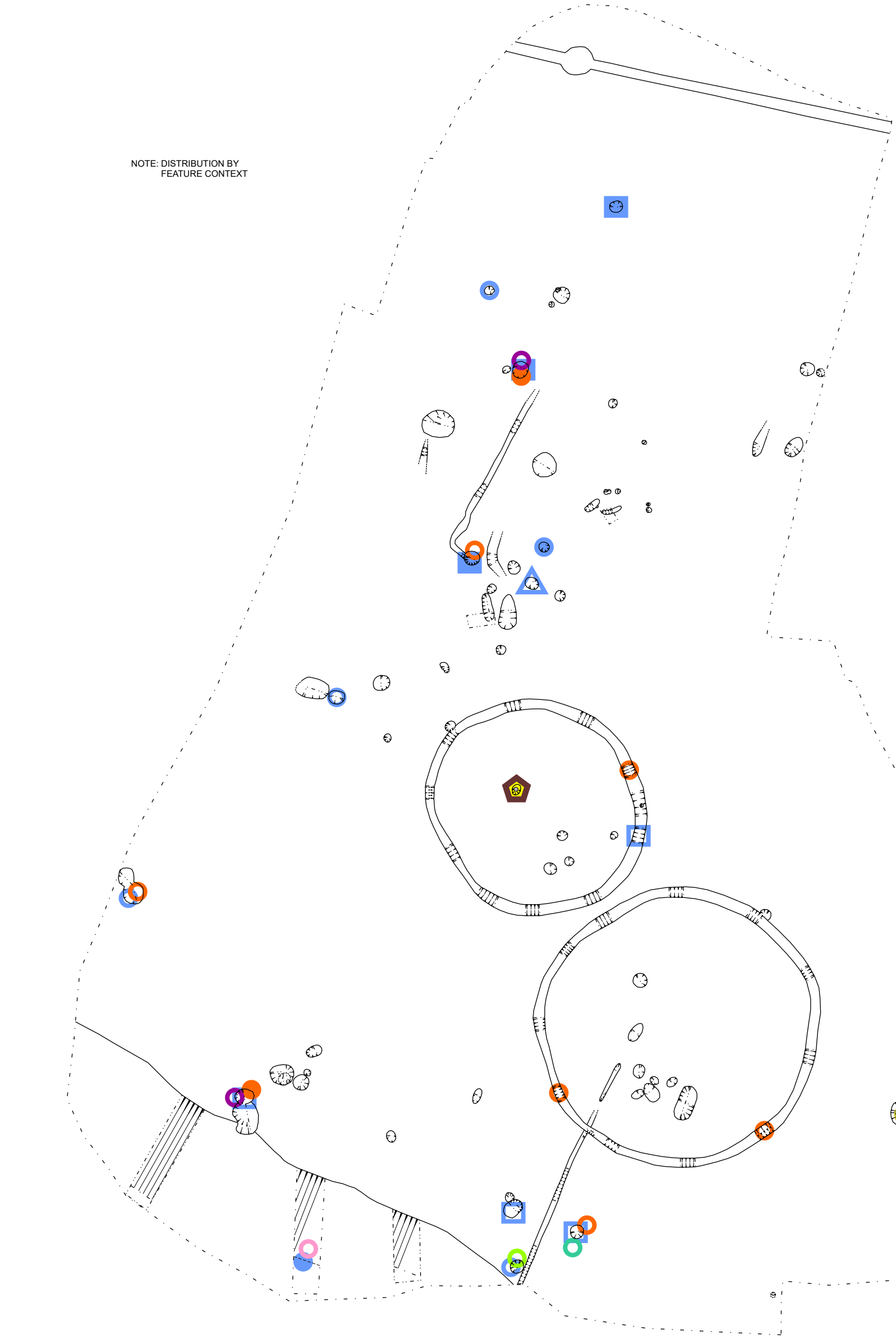
Accession Code: SMXSP:2021.01

N

0 12m
1:300

FIGURE 18: Artefact Distribution Plans - Ceramics

NOTE: DISTRIBUTION BY
FEATURE CONTEXT



3 human cremations

1 - 2 fragments unidentified bone

3 - 5 fragments unidentified bone

6 - 10 fragments unidentified bone

11 - 20 fragments unidentified bone

51 - 100 fragments unidentified bone

1 - 2 fragments cattle bone

3 - 5 fragments cattle bone

1 - 2 fragments sheep / goat

1 - 2 fragments pig

1 - 2 fragments horse / donkey

1 - 2 fragments red deer

1 - 2 fragments dog / fox

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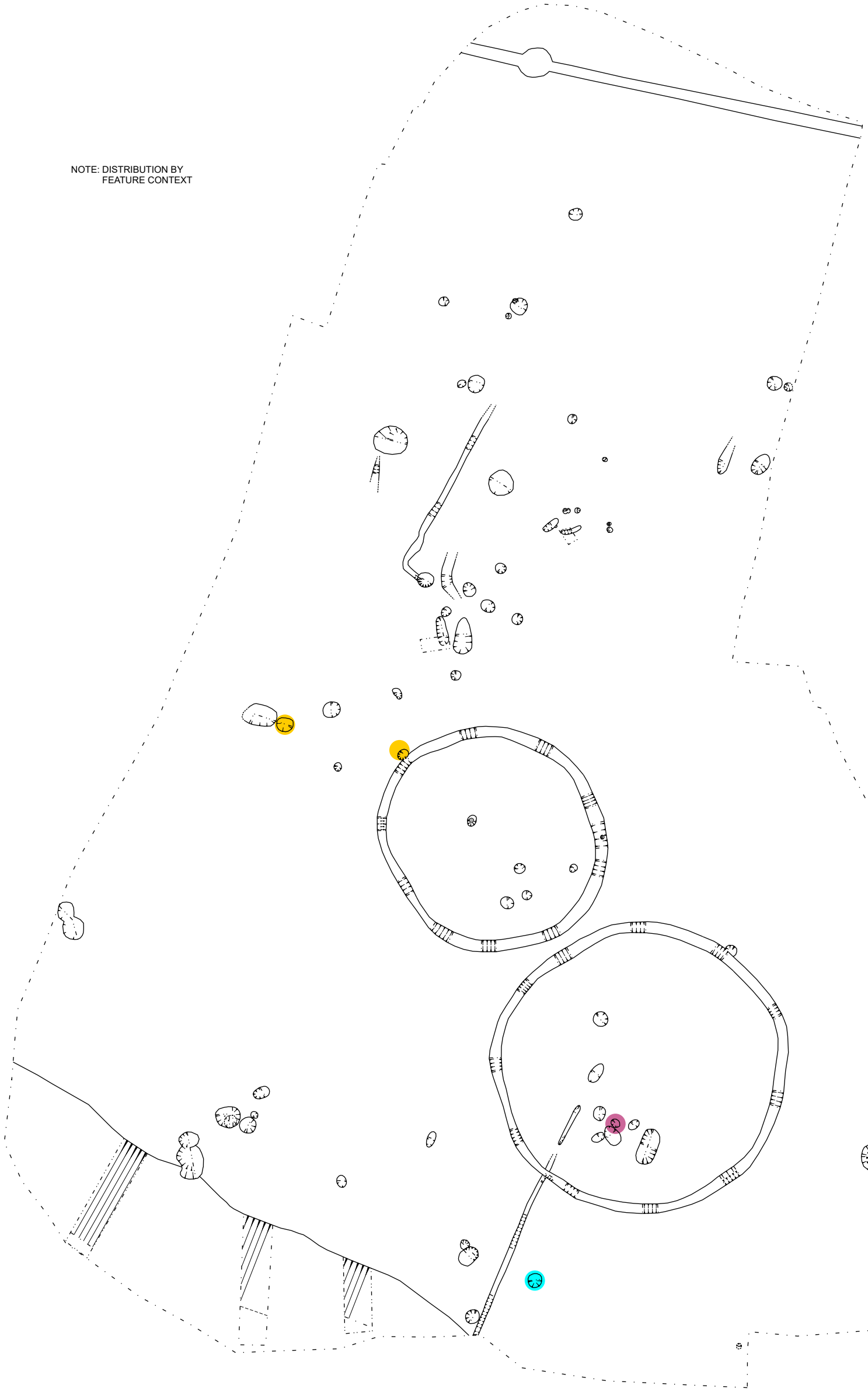
Accession Code: SMXSP:2021.01

N

0 12m
1:300

FIGURE 18: Artefact Distribution Plans - Bone

NOTE: DISTRIBUTION BY
FEATURE CONTEXT



Late Roman coin

shell (oyster?) fragment

iron nail

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N

0 12m
1:300

FIGURE 18: Artefact Distribution Plans - Other

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Accession Code: SMXSP:2021.01

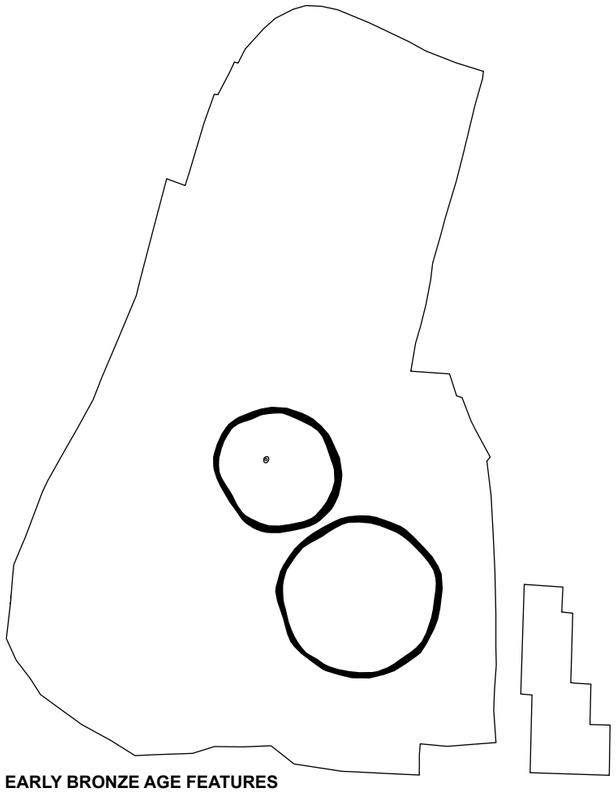
N

0 30m

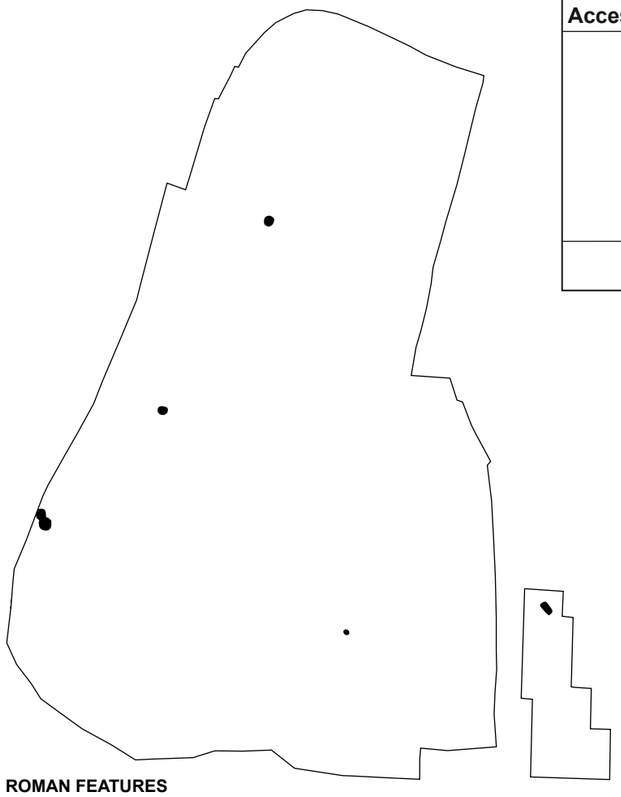
1:750

FIGURE 19: Phase Plans

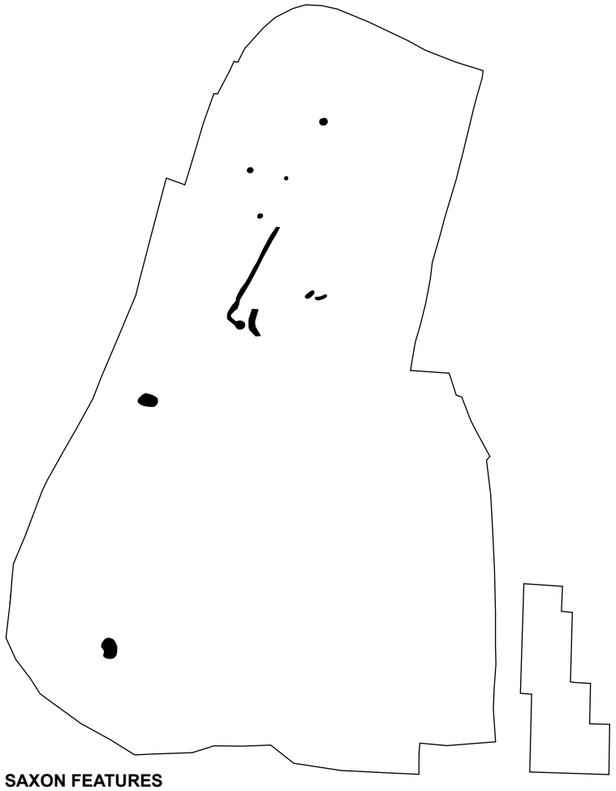
MIDDLE NEOLITHIC/EARLY PREHISTORIC FEATURES



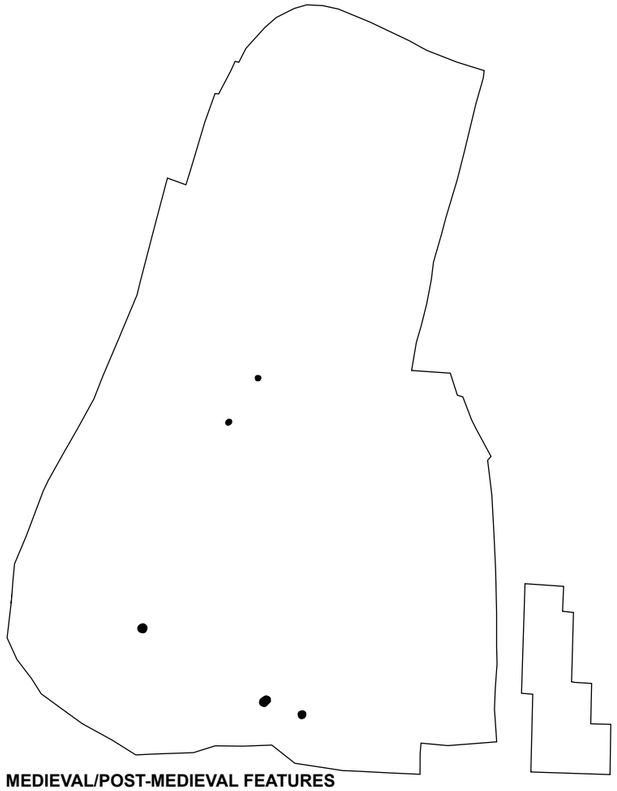
EARLY BRONZE AGE FEATURES



ROMAN FEATURES



SAXON FEATURES



MEDIEVAL/POST-MEDIEVAL FEATURES

UNDATED FEATURES