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MAP Archaeological Practice

26– 28 Tadcaster Road,
Dringhouses
York

Archaeological Strip, Map and Record
10-23-18

15/02726/FULM

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Archaeological Strip, Map and Record

at

26-28 Tadcaster Road,
Dringhouses,
York

15/02726/FULM
SE 5875 4978

MAP 10.23.18

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Date: 26/07/2019	Date: 26/07/2019

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York

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MAP 10.23.2018

Application Number: 15/02726/FULM

Archaeological Strip, Map and Record

Non-technical Summary

MAP Archaeological Practice carried out an Archaeological Strip, Map and Record between 21st January 2019 and 14th February 2019 at 26-28 Tadcaster Road, York, prior to the erection of eleven dwellings and associated gardens.

Within the stripped area, Roman features, including pits and a ditch enclosure, were recorded with associated finds consisting of pottery sherds, including large amounts of Samian ware, six partial animal skeletons and a minimum of four human burials. Medieval ditches and pits were also present, dated by associated pottery and a Post-Medieval deposit and pit.

1. Introduction

- 1.1 This report sets out the results of an Archaeological Watching Brief and Strip, Map and Record that was carried out by MAP Archaeological Practice Ltd. on 26-28 Tadcaster Road, York (SE 5875 4978; Fig. 1) between the 21st January 2019 and 14th February 2019. The work was undertaken in advance of the erection of eleven houses (planning reference 15/02726/FULM).
- 1.2 The work was carried out in accordance with the recommendations of the National Planning Policy Framework (July 2018) and according to a Written Scheme of Investigation (WSI) that was prepared by MAP Archaeological Practice Ltd. (Appendix 12) and approved by The City of York Council in order to fulfil a Planning Condition.
- 1.3 MAP adhered to the general principles of both the ClfA (2014) '*Code of Conduct*' and '*Standard and Guidance for Archaeological Field Evaluation*' throughout the work.
- 1.4 The site code for the project was MAP 10.23.2018
- 1.5 All work was funded by Arncliffe Homes.

2. Site Description

- 2.1 The Development Area is located in the York suburb of Dringhouses, which is 2km southwest of the city centre and on the northwest side of Tadcaster Road. (Figure 1; Grid Ref. SE 5875 4978).
- 2.2 The Development Area measured 0.54 hectares in size and had previously comprised of buildings, garages and gardens associated with 26-28 Tadcaster

Road, as well as a bungalow which had been demolished prior to the start of archaeological work.

2.3 Standing at a height of approximately 17.5m AOD along Tadcaster Road, the site sloped down to approximately 12.6m AOD at the western end.

2.4 The site stands on soils of the York Moraine Member Soil Association (sandy, clayey, gravelly), over a geology of the Sherwood Sandstone Group (Mackney et al, 1984).

3. Archaeological and Historical Background

3.1 There is relatively little evidence of prehistoric activity in this area, although it has been suggested that the morainic ridge passing through the area was used as a major trade route (Margary 1973; Radley 1974). Neolithic stone axes were found in the Dringhouses area, one of which was sandstone (HER: MYO3709), then three polished greenstone axes were found together (HER: MYO3708).

3.2 There is significant evidence for Roman activity in this area, with the present Tadcaster road following a known Roman road, which approached York from the southwest from Tadcaster, formerly Calcaria, and was thought to be established after the Roman conquest in 71 AD. Excavations at 17 Tadcaster Road (HER: MYO 2033) and at 42-50 Tadcaster Road (HER: SYO 1590) found evidence of this earlier roadway. Three layers of large cobbles were also observed during a Watching Brief for a sewer trench in 1982, which was believed to be a minor road branching off from the main Roman road (HER: MYO 4218).

3.3 A large number of Roman burials have been identified alongside the Roman road and in close proximity to the development area. A small cemetery was

discovered near the junction of St Helen's Road with Tadcaster Road (HER: MYO 020, 195). The precise locations of the burials reported in the 19th century from the Dringhouses area is unknown. Further human remains and finds, including a face pot which may have been associated with a burial, were excavated at The Fox Public House, then renamed the Fox and Roman (MYO 2032, YAT 1997, 29). A Roman tomb was identified on the 1892 Ordnance Survey, in very close proximity to the development site, as well as a stone coffin from the yard of the Cross Keys Inn (MAP 2004).

- 3.4 In the Dringhouses area, Roman features have been identified including large postholes suggesting a significant timber structure at 42-50 Tadcaster Road (SYO 1590). Frequent ditches and pits have also been identified, as well as a feature that may relate to metal-working or crop-drying activities (MYO 4297).
- 3.5 Evidence for Medieval activity for the area includes excavations at 27 St Helens Road which, following an inconclusive geophysical survey, revealed a single ditch which was inferred to delineate the boundary of a medieval toft. Excavations at the York College site in 2003 (MAP 2003), revealed no archaeological features, though the finds indicated Medieval presence. Medieval ridge and furrow are present consistently across the surrounding area of the development site.
- 3.6 Archaeological Trial Trenching undertaken by MAP (2004) revealed Archaeological features across the site, with dating from the Roman, Medieval, Post-Medieval and Modern periods.
- 3.7 A Desk Based Assessment was carried out by MAP Archaeological Practice Ltd in 2015.

4. Aims and Objectives

4.1 The objectives of the archaeological work were:

- To record archaeological deposits that would otherwise be destroyed.
- To identify any deposits that may be related to prehistoric activity on the site.
- To identify evidence for Roman activity on the site.
- To consider the nature of the use of this site in the Medieval period.

5. Methods

5.1 Excavation

5.1.1 The size of the development area was approximately 0.5ha and the area stripped for Strip, Map and Record measured 1724m².

5.1.2 The work was undertaken between the 21st January and 14th February 2019 during generally overcast conditions with moderate rainfall and occasional snow.

5.1.3 Topsoil and overburden were stripped from the site with a mechanical excavator fitted with a toothless ditching bucket, under archaeological supervision. Machining ceased at the top of either archaeological or naturally formed deposits, depending upon which was located soonest. The exposed surfaces were cleaned by shovel, hoe or trowel as appropriate and all subsequent excavation was carried out by hand (plate 4).

5.1.4 Segments were excavated across linear features to determine their function, form and relationships. A minimum of 10% of all linear features was excavated and all pits were 50% excavated.

5.1.5 All work was carried out in line with the Chartered Institute of Field Archaeologists Code of Conduct (CIfA 2014).

5.1.6 45 soil samples were taken from ditch deposits for general biological analysis (Appendices 4 and 11). The finds assemblage consisted of the remains of 5 skeletons, 671 pottery sherds, 2006 animal bone fragments (including 6 partial skeletons), 4 shell fragments, 2 clay pipe fragments, 2 glass fragments, 106 fired clay/CBM fragments and 16 metal objects (appendix 5).

5.2 On-site Recording

5.2.1 All archaeological deposits were recorded according to correct principles of stratigraphic excavation on MAP's *pro forma* context sheets which are compatible with the MOLA recording system. A total of 175 separate contexts were recorded (appendix 1).

5.3 Plans and Sections

5.3.1 Archaeological deposits were planned at a scale of 1:20 for plans and 1:10 for sections. The positions of the excavated deposits were located using a Trimble R8S GPS Rover and a TCR 805 Total Station. There were 50 plans and 59 section drawings (appendix 2).

5.4 Photographic Record

5.4.1 The photographic record consisted of 149 high-resolution digital images, recording all archaeological features encountered (appendix 3).

6. Results

6.1 Phase 1 – Roman (Figures 3 - 9)

- 6.1.1 Much of the archaeological evidence on this site was of Romano-British origin. Towards the west of the site, a pair of parallel gullies were revealed, with the northern gully, latterly recut. Towards the centre of the site was a single rectilinear enclosure, which was bordered to the east by several recuts of a curvilinear boundary. Numerous pits were also identified, including some containing articulated animals, as well as large quantities of high-status pottery. Additionally, the skeletal remains of a minimum of four individuals across five different deposits were revealed.
- 6.1.2 Excavated at segments 019, 039, 041, 051 and 053 (pls. 10, 16, 17, 21, 22), the southern gully of the parallel pair, was orientated northwest – southeast. With a generally wide U-shaped profile it measured between 0.16m and 0.19m deep by 1.23m and 1.6m wide, though the final segment, 041 (pl. 17), was significantly narrower at only 0.48m as it reached its terminus. Each of the segments contained a single fill which was consistent throughout, a mid grey-brown, moderately compacted sandy clay. Segment 051 was excavated where the feature truncated the rectilinear enclosure (pl. 21). Three sherds of Roman pottery were located within the fill of the gully, but given its very shallow nature and form, this may have been a later furrow.
- 6.1.3 The northern gully of the parallel set, was excavated at three intervals 025, 029 and 037 (pls. 12 and 13). It varied in width from 0.76m to 1.2m and in depth from 0.06m to 0.16m. The gully's profile was generally a wide U-shaped form with a moderate break of slope at the top and more gradual at the base, with a rounded base. All three segments had a single Fill (024, 028 and 036) which

was a light grey-brown, compact, silty clay. Only Fill 028 contained any finds, a single sherd of Roman pottery.

6.1.4 The northern gully was maintained by a later recut, as seen at segment 027/ 029 (pl. 13). A further four segments were excavated from this gully: 021, 023, 035 and 043 (pls.11, 12, 15 and 18), which varied from a width of 0.69m to 1.13m; they were approximately 0.2m deep. Each segment had a single fill (020, 022, 026, 034 and 042), which was consistent throughout, a light grey-brown, moderately compacted, silty clay. At segments 023 (022) and 035 (034) each contained one sherd of Roman pottery, with segment 043 (042) containing three sherds of Roman pottery, four sherds of Post-Medieval pottery (16th-17th century) and four fragments of CBM.

6.1.5 The rectilinear enclosure was formed of three lengths of ditching that extended from the southern limit of excavation, with a generally northwest- southeast orientation. Four segments were excavated from this ditch, 049, 057, 059 and 063 (pls 21, 23, 24, 25, 26). The profile was U-shaped, with a moderate break of slope at top and base. The ditch was approximately 0.3m deep and 1.1m wide and it was filled with mid-dark grey-brown, moderately compacted, sandy clay. In some segments, a light grey primary fill was present. Segment 049 (pl. 21), showed that this enclosure was truncated by gully 051. A relationship segment between 063 and 065 (plate 26) showed 065 to be the later, but it was likely to be part of the same enclosure. This enclosure was datable to the late 1st – 3rd century by the pottery in Fills 057, 059 and 061. Fill 061 also contained a large fragment of industrial material resembling furnace lining (Appendix 11)

6.1.6 To the east of the rectilinear enclosure were four discreet curvilinear gullies, forming a broadly curved boundary orientated from north to southeast, which

seemingly had been maintained and moved on several occasions. These were identified by group numbers 162, 163, 164 and 165, with 162 being the furthest east through to 165 being the furthest west.

- 6.1.7 Gully 162 had one segment excavated 112 (pl.42), It was approximately 0.07m deep and 0.9m wide, with a very gradual break of slope at top and base and a flat base. It had a single Fill, 111, which was a mid brown-grey, firm, clayey silt. Two sherds of late 2nd century pottery, including a Samian sherd, were found in the gully.
- 6.1.8 Gully 163 had four segments excavated 140, 114, 157 and 153 (pls. 48, 43, 53, 52). These segments showed the width of the gully to be approximately 0.9m and the depth to be 0.3m; it was U-shaped with a flat base. Each segment had a single fill of mid-grey brown, firmly compacted, sandy clay. Pottery dated the gully to the mid Second Century. Two of the segments from the gully, 114 and 153, showed that it truncated Gully 164 at segments 116 and 155 (pls.43 and 52).
- 6.1.9 Two additional segments were excavated from gully 164 – 074 and 146 (pls, 30 and 50). Gully 164 was approximately 0.3m deep and 1.2m wide. The segments had only a single fill, a mid grey, silty sand; 074 had an additional secondary fill, 072, looking like later backfill. This gully was dated to the late 1st -3rd century.
- 6.1.10 The final gully, 165, ran towards gully 164, but terminated without joining it. Two segments were excavated 144 and 148 (pls 49 and 50). The gully was approximately 0.35m deep, though shallower at 148 as it was terminating, and 1m wide. The fills (142, 143 and 147) varied between segments. This gully has been dated to 70-100 AD by pottery. One of the sherds in this fill, a Samian

base sherd, had two *graffiti* on it; deliberate marks made by scratching (pls 67 and 68).

6.1.11 Towards the east of the site, a singular northwest- southeast orientated gully was excavated at five segments 076, 081, 083, 092 and 175 (pls 31, 32, 33, 36 and 29). The gully had a U-shaped profile, with a moderate-sharp break of slope at the top, but very gentle at the rounded base. All excavated segments showed the gully to have a single fill which was a light grey, loosely compacted, silty sand. There was no dating evidence for this gully, but at segment 175, it was truncated by a large pit 071/110 (6.1.15; pl. 29). This gully is also truncated by two Phase 2 gullies: 079 in slot 081 (6.2.1; pl. 32) and 090 in slot 092 (pl. 36).

6.1.12 Pit 047 (pl.20) was the furthest west of a large number of Roman pits on site. It was a shallow, oval pit measuring 1.12m by 0.91m, and 0.1m in depth. It had a single fill, 046, which was a dark grey-brown, moderately compacted, silty clay which contained three sherds of Roman pottery and two CBM fragments.

6.1.13 Pit 045 (pl. 19) was located immediately east of Pit 047. It measured 1.24m by 1.46m and was very shallow at only 0.08m in depth. Its single fill, 044, was a mid grey-brown, moderately compacted, silty clay containing two sherds of Roman pottery and two fragments of CBM.

6.1.14 Pit 013 (pl. 7) was dated to the Roman period by pottery in Fill 011. It measured 2.22m by 2.86m and was U-shaped with a rounded base. Its primary and secondary fills, 012 and 011 respectively, were both dark grey-brown, sandy clay, with 011 being a little more loosely compacted. 010, its upper fill, was a mid grey-brown, moderately compacted, silty sand.

6.1.15 Pit 161 (pl. 56) was located towards the east of the site, in close proximity to the human remains. This pit contained two articulated piglet skeletons, 172 (pl. 55), lying on a northeast-southeast orientation with their skulls to the southeast. They were laid on their sides, facing one another. The piglets would have been no more than 1-2 months, which would have provided prime meat, however there are no butchery marks evident on the bones (Appendix 10). The pit measured 1.56m by 1.64m and it was 0.23m in depth. It contained a single fill, 160, which was a dark grey-brown, moderately compacted, silty sand. This pit was very heavily disturbed. In addition to the piglet skeletons, the pit also contained five sherds of 2nd century Roman pottery, one of which had a *graffito* (pl. 66), one sherd of Post-Medieval pottery (presumably intrusive from the disturbance to the pit), two CBM fragments, two iron nails (again, believed to be intrusive) and a large number of industrial waste fragments.

6.1.16 A large pit at the east of site was excavated as two quadrants, 071 and 110 (pls 28, 29), before being fully excavated. It measured approximately 4.8m in diameter. Quadrant 071 could not be fully excavated due to a consistent and rising water level, however quadrant 110 showed the depth of the pit to be approximately 0.67m. This pit contained over 350 sherds of pottery dating to the late 1st century - late 3rd century. A significant amount of the pottery was Samian (50 sherds), and five vessels had *graffiti* (pls 61-65). The upper fill, 068=107, was a dark grey, sandy silt fill containing Roman CBM and pottery. The secondary fill was also seen in both quadrants – 070 and 108; was a mid grey-brown, moderately compacted, sandy, clayey silt and contained 2nd century pottery, CBM, animal bone and iron nails. The primary fill was only seen in the second quadrant as 071 was more significantly impacted by the water level. This fill, 109, was a light grey-brown, moderately compacted, silty sand.

- 6.1.17 A large, shallow Pit 067 (pl. 27), was located at the east of the site. It was 2.35m by 2.45m and 0.28m in depth. It had a sharp break of slope at the top and base, with almost vertical sides and a flat base. It contained one fill, 066, which was dark grey, firm, silty clay. The pit contained a large amount of pottery, all mid-late 2nd century except one intrusive) 19th century sherd, animal bone, Roman CBM, 2 iron nails and industrial residue. This pit also contained the largest quantity of carbonised remains, the grain identified as agricultural waste which could have come from a n unlocated Roman corn drier (Appendix 11).
- 6.1.18 A small pit 159 located towards the south of the site (p. 54), immediately within boundary gullies 163 and 164. It measured 0.9m by 0.8m and was 0.23m in depth. It had a sharp break of slope at the top and moderate break of slope at the base. It had very steep sides and a blunt base. The pit had a single fill, 158, a mid brown-grey, moderately compacted, clayey sand. The fill contained one sherd of Roman pottery dating to the late 1st century - 3rd century.
- 6.1.19 Four pits were located in close proximity to one another: 085, 087, 094 and 096. Pit 094 was Phase 2 (discussed in 6.2.5) and 096 had no dating evidence (6.4.3), but pits 085 and 087 have been dated to the Roman period. Pit 085 (pl. 34) was shallow in depth at 0.09m, but it measured 1.7m by 0.95m. It had gradually sloping sides, that were significantly steeper on the east edge. The base had a moderate break of slope and was flat. The pit contained a single fill, 084, which was a mid-grey, soft, silty sand. It contained four sherds of late 2nd- early 3rd century pottery, four fragments of animal bone and an iron nail. Pit 087 (pl. 35) measured 1.85m by 1.4m and it was 0.12m in depth. It had a moderate break of slope at the top and base, with a steep side on the east and very shallow on the west and a flat base. This pit had a single fill, 086, which was a grey silty sand. One sherd of early-mid 3rd century pottery was in this fill, as well as very small

fragments of animal bone from the sample taken, two small iron objects and a Roman CBM fragment.

6.1.20 Three intercutting pits were identified, 100, 102 and 104 (pl. 40). Pit 100 measured approximately 1.35m by 2m, and it was excavated to a depth of 0.23m before the rising water level made excavation impossible. It had a single fill, 099, which was a dark grey-brown sandy silt of a moderately loose compaction. Pottery and animal bone were found, dating the pit to the late 3rd century.

6.1.21 Pit 102 was 1.7m in length, 1.1m in width and 0.24m in depth. It was the only one of the three pits to be excavated to its full depth due to the rising water level. It had just a single fill, 101, which was a mid grey-brown, moderately compacted, sandy silt. It contained no finds.

6.1.22 Pit 104 was approximately 2.15m in length and 1.1m wide; it was excavated to a depth of 0.45m, at which point the rising water level made excavation impossible. There was a single fill in this pit, 103, a mid grey-brown, loosely compacted, sandy, clayey silt. An articulated cow, 2-3 years old at death (Appendix 10), was found in the pit; it could not be fully revealed due to the water level, but all bone was retrieved.

6.1.23 In the northeast area of the site, Pit 118 (pl. 44) was approximately 1m by 1.2m in size and moderately shallow at only 0.15m in depth. It contained a single fill, 117, which was a dark grey-brown, softly compacted, silty clay which contained Roman pottery.

- 6.1.24 Also located in the northeast area of the site were five intercutting pits, two of which were dated to this phase (133/135) (pl. 47) and three were later (Medieval/Phase 2) (129, 131, 138 – see 6.2.6). Truncated by pit 129, 133 and 135 were largely only seen in section with wide and shallow profiles they measured up to 1m wide by 0.35m and 0.2m respectively. Both contained single fills: 132 and 134, consisting of a dark grey, firm, silty clay containing twenty-five Roman pottery sherds (including seven sherds of Samian ware) and one fragment of CBM, dating the pit to the mid 2nd century.
- 6.1.25 Segments 121 and 126 (pl.45), were excavated intervention out of a large spread and were located at the very east end of the site, running outside of the excavation area adjacent to the modern road. Their form was irregular, but the approximate size of the spread was 1.32m in length, 0.96m in width and 0.16m in depth. 121 contained two fills: 119, the secondary fill, was a very dark brown, moderately compacted, silty sand and 120, the primary fill, was a dark grey-brown, moderately compacted, silty sand. The primary fill contained sixty sherds of pottery which can date the pit to the mid 2nd century. 126 contained a single fill, 125, a mid grey-brown, moderately compacted, silty sand that contained Roman pottery.
- 6.1.26 Posthole 124 (pl. 46) was seen to truncate this spread (126). The posthole measured 0.63m by 0.46m and was 0.24m in depth. It contained two fills: 122, a dark brown, moderately compacted, sandy silt, and 123, a dark grey-brown, moderately compacted, sandy silt, with no finds from either fill. Appearing in isolation, but adjacent to the modern road, it is possible that there were additional postholes to the east, to form a structure.

6.1.27 Five inhumations were recorded (Figs 5 and 6), two of which were moderately complete – 167 and 170, the remaining three, 150, 151 and 173 consisted of disarticulated bone. All human bone, including the disarticulated elements, have been dated to the Roman period (Appendix 6). All burials were very close to the surface and unfortunately largely disturbed by earlier construction on the site including a bungalow that was built almost directly over 150 and 151.

6.1.28 Skeleton 150 (pl. 51) was a spread of heavily disturbed disarticulated bones. The remains of the skull were at the northwest, with leg bones at the southeast, suggesting a northwest-southeast orientation. The skeleton did not appear to have a grave cut, but the spread around it, 149, was a dark grey-brown, loosely compacted, silty sand. This skeleton was only 30% complete and very poorly preserved, as such it was not possible to identify its sex, but it was identified as a 36-45 year old adult (Appendix 6).

6.1.29 The remains of skeleton 151, disarticulated long bones and part of a pelvis, were located immediately east of 150. There was no grave cut associated with these remains. Skeleton 151 may have been the same individual as 150 - the MNI (minimum number of individuals) observed does not exclude this possibility. Neither the age nor sex of this skeleton could be identified beyond it being an adult, (Appendix 6).

6.1.30 Skeleton 167 (pl. 57) was missing its skull and feet; the remaining bone was partly articulated though highly disturbed, particularly the upper body. The individual was lying on their back with the lower body at the southeast, immediately at the edge of the excavation area. The truncated grave cut, 168, contained a mid brown-grey clayey sand, was oriented northwest-southeast. Modern plastic and glass were found with the skeleton, so the burial may have

been found during construction of the bungalow and redeposited. The height was identified as $170.7\text{cm} \pm 2.99\text{cm}$, which was slightly above average for the period. This individual was identified as a mature male adult of 46+, indicated by wear to the tibia, as well as the protrusion of the spinal disc onto the vertebra, which is common in the aging spine, (Appendix 6). Some pottery sherds, CBM and animal bone fragments were found in 166, the fill associated with this skeleton. The pottery has been dated to the mid 2nd century.

6.1.31 Skeleton 170 (pl.58) was the best preserved on site and was 90% complete, being fully articulated with only a few bones missing (left clavicle and some fingers and toes). The skeleton was extended within a west-east grave cut, 171 (pl.59), with the skull towards the west and the feet at the east. The skeleton was lying on its back, with its arms crossed above its pelvis. The east end of the grave was contaminated and partly eroded by modern mechanical fluids. The grave fill, 169, was a mid-grey, loosely compacted, silty sand. The individual was identified as a 26-35 year old female, standing at a height of $161.1\text{cm} \pm 3.55\text{cm}$, which was above average for the period. (Appendix 6).

6.1.32 Immediately above the skull of skeleton 170 were the disarticulated remains of skeleton 173 (pl. 60). This skeleton was very poorly preserved and only 20% complete; all that was left of this skeleton was some probable long bones, ribs, and possible pelvis. It is likely that this bone was redeposited after modern disturbance. This burial was identified as a probable male but could not be aged more accurately than 18+. This individual had two rib fractures, on two left rib fragments, which were well healed by the time of death (Appendix 6).

6.2 Phase 2 – Medieval (Figs. 10 and 11)

- 6.2.1 The Medieval activity on site mostly consisted of pits, though two Medieval linears ran parallel to one another towards the east of the site.
- 6.2.2 One of these gullies, orientated approximately northeast to southwest, had two segments excavated from it: 079 and 106 (pls. 32 and 41). The gully had a U-shaped profile, with a sharp break of slope at the top and gradual at the base. Segment 079/081 showed this gully to truncate the Phase 1 gully (pl. 32). A single fill was consistent throughout, a mid-grey, firm, sandy silt containing Medieval pottery sherds (11th-12th century), a single Roman sherd (160 AD or later) and a small amount of animal bone.
- 6.2.3 The second parallel gully had two segments excavated, one being the relationship segment with Phase 1 gully, 090/092 (pl. 36), the second being a full profile, 098 (pl.39). The gully had a moderate break of slope at the top, concave sides, a gradual break of slope at the base and a slightly rounded base. It contained a single fill, a mid brown-grey, firm, sandy silt, which contained late 2nd-4th century pottery including Samian ware, animal bone (including an adult dog represented by both hind limbs and a mandible (Appendix 10)), an iron nail and a piece of slag together with clinker, probably industrial waste (appendix 11). The Roman pottery in this gully was believed to be intrusive, due to the large quantity coming from adjacent Pit 071/110.
- 6.2.4 There was a small number of Medieval pits across the site. Pit 005 (pl. 5) was immediately west of Phase 1 pit 013. The pit was ovalar, measuring 2.18m by 1.35m and it was 0.55m in depth. It had a sharp break of slope at the top, steep, slightly concave sides and a sharp break of slope at the base. The base was blunt. The pit contained two fills, 003, the secondary fill and 004, the primary fill.
-

003 was a mid-grey, firmly compacted, silt containing three sherds of Medieval pottery dated to 15th-16th century. 004 was a dark grey, firmly compacted, silty clay containing seven sherds of Roman pottery (mid 2nd century), two fragments of animal bone, six Roman fired clay fragments and two small iron objects.

6.2.5 Pit 094 (pl. 37) was located in close proximity to Phase 1 Pits 085 and 087 and undated Pit 096. 094 measured 1.5m by 0.55m and it was 0.2m deep. It also had a single fill, 093, a mid grey, softly compacted, silty clay. The partial skeleton of a sub-adult cow was found within this pit. The hind quarters were represented by the left tibia and metatarsal only but otherwise was near complete. The cow was identified as being approximately 18 months old (Appendix 10). Also found within 093 were four 12th-13th century pottery sherds, two Roman pottery sherds and a CBM fragment.

6.2.6 Phase 2 pits 129, 131 and 138 truncated Phase 1 pit 133/135 (pl. 47). The full extent of these pits was difficult to ascertain due to the level of truncation and the southern limit of the excavation area. Pit 129 measured approximately 2m by 1.5m and was approximately 0.38m in depth; it contained a single fill, 128, which was a mid-grey, firm, silty clay, containing Roman and Medieval pottery, CBM and fragments of animal bone. 131 was c.2.10m by c.2.25m by 0.63m and contained fill 130, a dark-grey, firm, silty clay with five sherds of Medieval pottery (16th- 17th century) and approximately two hundred and fifty fragments of animal bone. A large proportion of this bone constituted an adult cow, which was represented by all body parts although the mandibles were absent (Appendix 10). Pit 138 measured approximately 1.3m by 2m by 0.45m and contained two fills. The secondary fill, 136, was a mid brown-grey, firm, silty clay and 137, the primary fill, was a dark grey, firm, silty clay. The only finds from this pit were

retrieved from the sample taken from fill 137, two small fragments of animal bone and a CBM fragment.

6.3 Phase 3 – Post-Medieval (Figs 12 and 13)

6.3.1 Post-Medieval activity on the site was limited to a spread and a single pit. This Post-Medieval spread, 002, was between the natural and topsoil across a large area towards the west of the site. A significant amount of pottery was found in this deposit, dating to the early 20th century.

6.3.2 Pit 008 (pl. 6) was 1.05m by 1.36m and was 0.28m deep. The primary fill, 007, was light orange-brown, moderately compact, sandy, silty clay and contained one sherd of 16th-17th century Late Humber Ware. The secondary fill, 006 - a dark brown, loosely compacted, sandy, silty clay – contained nine sherds of 20th century pottery, disarticulated animal bone, Medieval CBM, clay pipe, glass, residue and small iron fragments. Given the range in the dating, it seems likely that this was a Medieval pit, re-used in the 20th century.

6.4 Undated (Figs. 12 and 13)

6.4.1 Pit 015 (pl. 8) was located east of Phase 1 pit 013, within the Roman enclosure. It measured 0.67m by 0.6m and was 0.19m in depth. It had a sharp break of slope at the top of the pit and a gradual break of slope at the base. The sides were concave, and the base was slightly rounded. It had a single fill, 014, which was a mid-grey-brown, moderately firm, silt and it contained no finds.

6.4.2 Immediately southeast of pit 015 was posthole 017 (pl. 9), a small, circular feature measuring approximately 0.4m in diameter and 0.13m in depth. Its fill, 016, was mid-grey-brown, moderately firm, silt. There were no finds within this fill. It

appeared to be an isolated posthole, but due to its proximity to the edge of the excavation area, it is possible that there were additional postholes nearby.

- 6.4.3 Pit 096 (pl. 38) was near Phase 1 and 2 Pits 085, 087 and 094. Pit 096 was a small, sub-rectangular pit measuring 0.78m by 0.45m and 0.12m in depth. It had vertical sides which rounded to a flat base. Its single fill, 095, was a mid-grey, sterile, silty sand.

7. Discussion

- 7.1 Much of the evidence for the site was of Roman origin and consisting of pits, an enclosure and gullies giving the appearance of many rural Romano/British field systems. However, the Finds are consistent with that of a moderately high-status settlement on the edge of an urban area with a possible military presence. The most significant features would be the Romano-British enclosure and the boundary gullies that ran towards it, the edge of the Roman burial ground and the pits containing very large quantities of high-status potteries, including the *graffiti* Samian ware sherds. The later Medieval presence is also of interest, with the possible drove way running parallel to the road.
- 7.2 The rectilinear Romano-British enclosure was dated the late 1st-3rd century. It seems that this was towards the earlier end of the Roman occupation on site, as this enclosure was closed over prior to the Roman gully which truncated it from the northwest.
- 7.3 Roman gullies 162, 163, 164 and 165 appear to have formed various recuts of the same curved boundary, possibly leading towards the entrance of the enclosure. The gullies were all dated between mid 1st century – early 3rd century, marking

them as contemporary with the rectilinear enclosure. The spot dates from the pottery suggest that gully 165 was the earliest incarnation of these enclosure forms, with gully 164 acting as the latest (supported by the relationship segment between 153 and 155); all of which suggests that these boundaries were being maintained at regular intervals.

7.4 A series of Roman gullies were also present on site with no clearly identified purpose. The gullies towards the east of site were irregular with undulating bases, so it is possible that they were intended as drainage gullies. This area of site became particularly waterlogged, so some form of drainage system would have been necessary, however there is no evidence for this. The gullies towards the west of the site ran parallel to one another and had gentle profiles, so it is possible that they were later furrows with residual finds. Alternatively, they could have been field boundaries, but without seeing a larger area only speculation is possible.

7.4 There was a series of Roman pits on site, which could arguably have been refuse pits, but for the large amount of high-status pottery and almost complete vessels. The best example of this, 071 contained a significant quantity of pottery, especially Samian or high-status wares and included in the collection were decorated fragments, as well as five vessels with *graffiti* (plates 61-65). This pottery distribution would be more typically associated with military sites (appendix 7), which would be logical given its location along a significant Roman road and the known presence of the military in the vicinity. Assemblages of this material and quantity can be associated with structural depositions indicative of industrial activities. Alternatively, this could also be indicative of a ritualistic deposit. The proximity of graves and the pig burial pit, alongside the large amount of almost complete vessels from some of the pits, make it seem likely

that a number of these pits should be considered as ritualistic deposits. This could also be true of pits 067, 135, 121 and 129 (appendix 7).

- 7.5 The Roman pottery distribution on this site indicated occupation from the 1st - 3rd century, with the peak of activity being in the mid-late 2nd century. Further support for the ritualistic nature of this site was seen in the deposition of the early Roman pottery. The Flavian-Trajanic deposition was limited to ditches, whereas in the later structured deposits, these Flavian-Trajanic vessels, including several almost complete vessels, had been deposited alongside contemporary ones. Furthermore, there was a high concentration of tableware and vessels associated with the storing, pouring and drinking of liquids (appendix 7), which is again unusual and possibly indicates a ritualistic nature. There was a small 3rd century deposition at which point occupation of the site appears to be in decline (Appendix 7).
- 7.6 Much of the Roman CBM and Burnt Clay from Tadcaster Road constituted the usual refuse and debris found outside an urban centre, as well as material which may have been deliberately placed in deposits. Much of the material appeared to be related to an early hypocaust structure (Appendix 8) however, as there was no sign of any such structure during excavation, it seems likely that this was reused material or debris from a nearby site.
- 7.7 Six partial animal skeletons were identified at Tadcaster Road: two piglets (Phase 1 pit 161), three cows (Phase 1 pit 104 and Phase 2 pits 094 and 131) and one dog (Phase 2 ditch 090), all of which were articulated with varying levels of disturbance. The pigs and sub-adult cows (from pits 104 and 094) were killed at the prime time for meat, although there are no butchery marks observed on the piglets. The way in which the piglets were buried seems to represent an almost

sentimental deposition with them lying facing one another, perhaps indicative again of a ritualistic purpose for the meat and burial. The older cow from pit 131 was presumably used for breeding. The disarticulated assemblage was essentially made up of the bones of the main domestic animals. From Roman deposits, some animals (especially the cows and pigs) were likely bred specifically for their meat, while adult and aged animals could be breeding stock or traction animals (Appendix 10).

7.8 Among the five recorded deposits of human remains, a minimum of four individuals were present, with two skeletons, 167 and 170, being moderately well preserved and the remaining disarticulated elements constituting a minimum of two individuals. It was a small sample size, but the skeletons were all adults and, where possible to tell, above average height (appendix 6). The remains were poorly preserved and mostly incomplete, largely due to disturbance by modern construction. Where it could be discerned, the burials appeared to be on either a northwest-southeast, or northeast to southwest orientation and in an extended position. The skeletons were located immediately within the Romano-British boundary, though the area in which the gully and burial ground would have met was unfortunately outside of the excavation area.

7.9 Considering the small number of burials from this site, a large range of pathological conditions were observed, including developmental conditions such as a bone tumour on skeleton 150 and transitional vertebrae seen with skeletons 167 and 170. The female young adult, skeleton 170, showed signs of poor nutrition in the form of *cribra orbitalia*, as well as DEH in three teeth, which has been associated with a lower life expectancy in adults (appendix 6). In contrast, however, skeleton 170 was also seen to have a diet high in refined sugars.

- 7.10 It is difficult to ascertain much about the site from these burials, given their poor preservation and completeness. The large range in pathological conditions, particularly the malnutrition present in the female skeleton 167, does not appear consistent with the general picture of the site as high-status. A known roadside cemetery is near the site and it is likely that this is the edge of a second. It was common for individuals of a lower status to be buried on the outskirts, whilst the higher status individuals were buried elsewhere or further into the burial ground. Without further excavation in the vicinity of the site, this hypothesis would be impossible to investigate.
- 7.11 Medieval presence was identified on site through two parallel gullies towards the east of the site. These also ran parallel to the road and it is possible that these were a Medieval drove way. There was also a series of seven Medieval pits which appear to have been used as refuse pits based on the large range and quantity of fragmented finds within. The partial cow skeletons in pits 138 and 094 were presumably the disposal of waste carcasses.
- 7.12 Post-Medieval presence on site was limited. A large amount of Post-Medieval pottery was found in the topsoil as well as 002, a Post-Medieval deposit covering the west side of the site. A Post-Medieval pit, 008, was dated to the 20th century. Given the range of finds within this pit (pottery, animal bone, CBM, clay pipe, oyster shell, small iron objects, industrial waste and glass), it seems likely that this was a Post-Medieval refuse pit, possibly re-used from an earlier Medieval pit. It is surprising that there was not a more significant Post-Medieval presence. The assemblage suggests a background of activity from the immediate post-conquest period though to the 20th century (Appendix 9).

8. Conclusions

- 8.1 This site confirmed the Roman occupation known from previous trial trenching with a Roman enclosure and boundary, a system of Roman linear features and pits, and the edge of a Roman burial ground. Presumably the continuation of the known cemetery some 50m to the south at the St. Helen's Road junction. The Roman activity has raised questions about a possible military presence on site, as well as potential ritual activity. Further evidence from the excavations has revealed the potential for a high status building in the vicinity with the presence of hypocaust material and more evidence to confirm metal working and corn drying. Evidence for both these activities were located by YAT when excavating a significant timber structure at 42-50 Tadcaster Road. Additionally, a continued presence in the Medieval through to Post-Medieval periods was also identified.
- 8.2 The Archaeological Strip, Map and Record was successful in examining and determining the nature of the archaeological deposits within the development area. Further work in proximity to the site at Tadcaster Road, York should include consideration of the remainder of this possible Roman burial ground and an attempt to understand the occupation in this area more completely.

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- <https://www.gov.uk/government/collections/revised-national-planning-policy-framework> National Planning Policy Framework

10. Project Staffing Details

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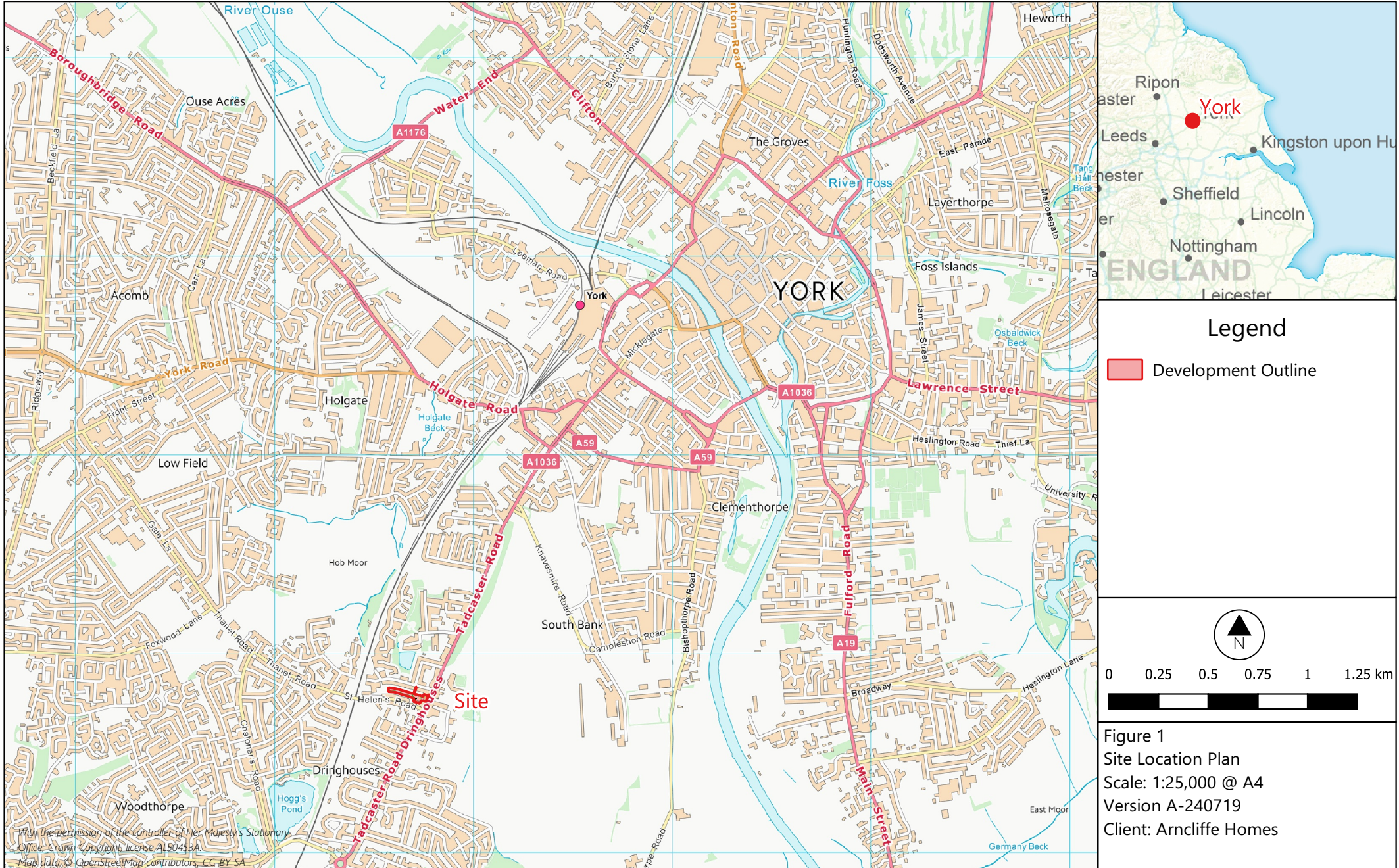


Figure 1
Site Location Plan
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Version A-240719
Client: Arncliffe Homes

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Legend

- Development Outline
- Phase 1
- Phase 2
- Phase 3
- Undated

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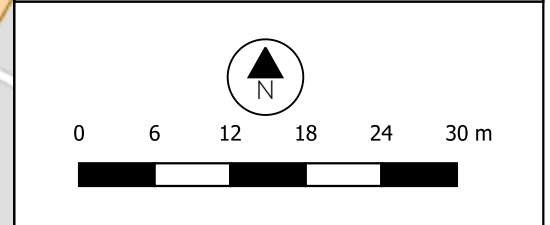
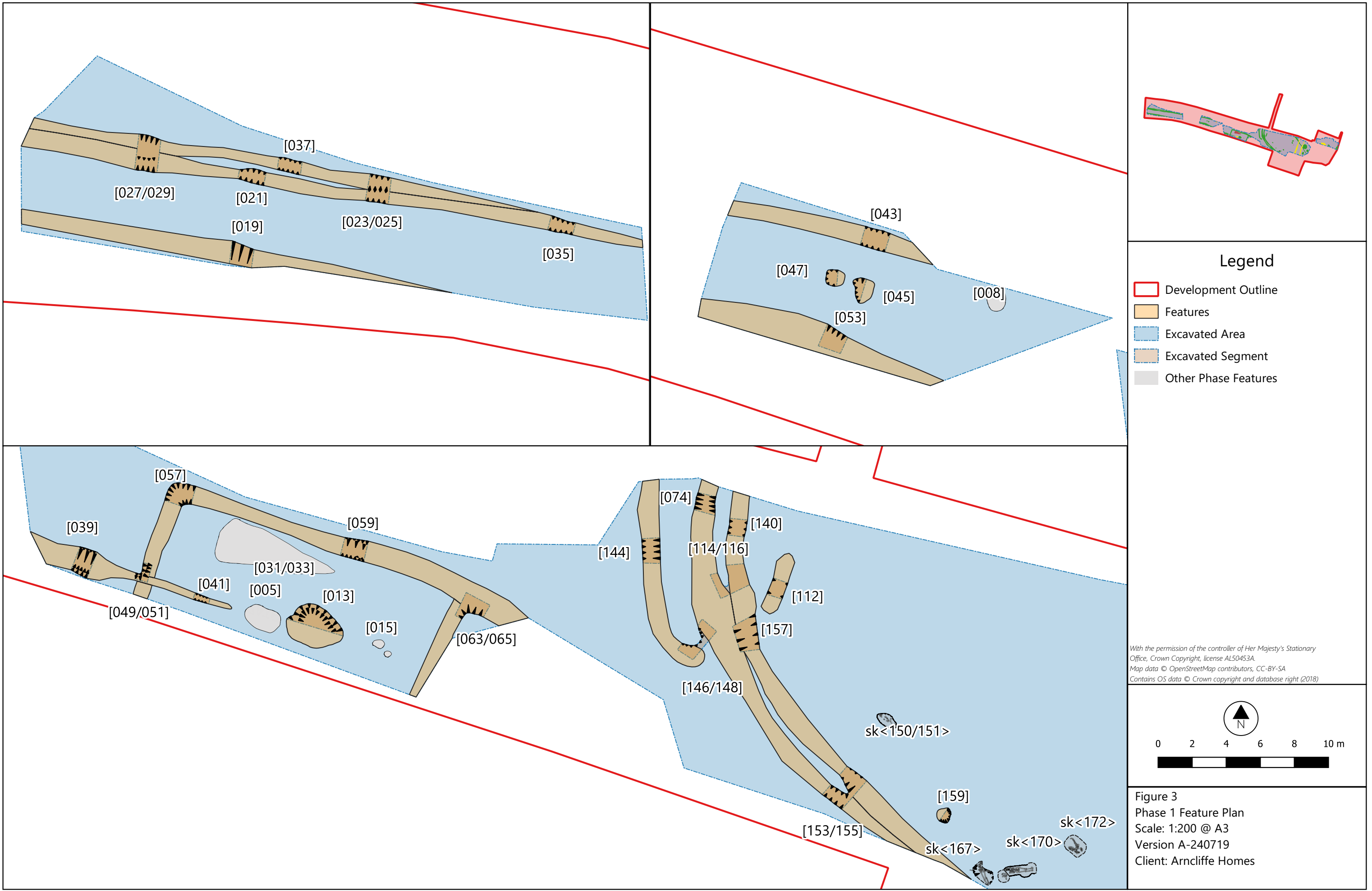
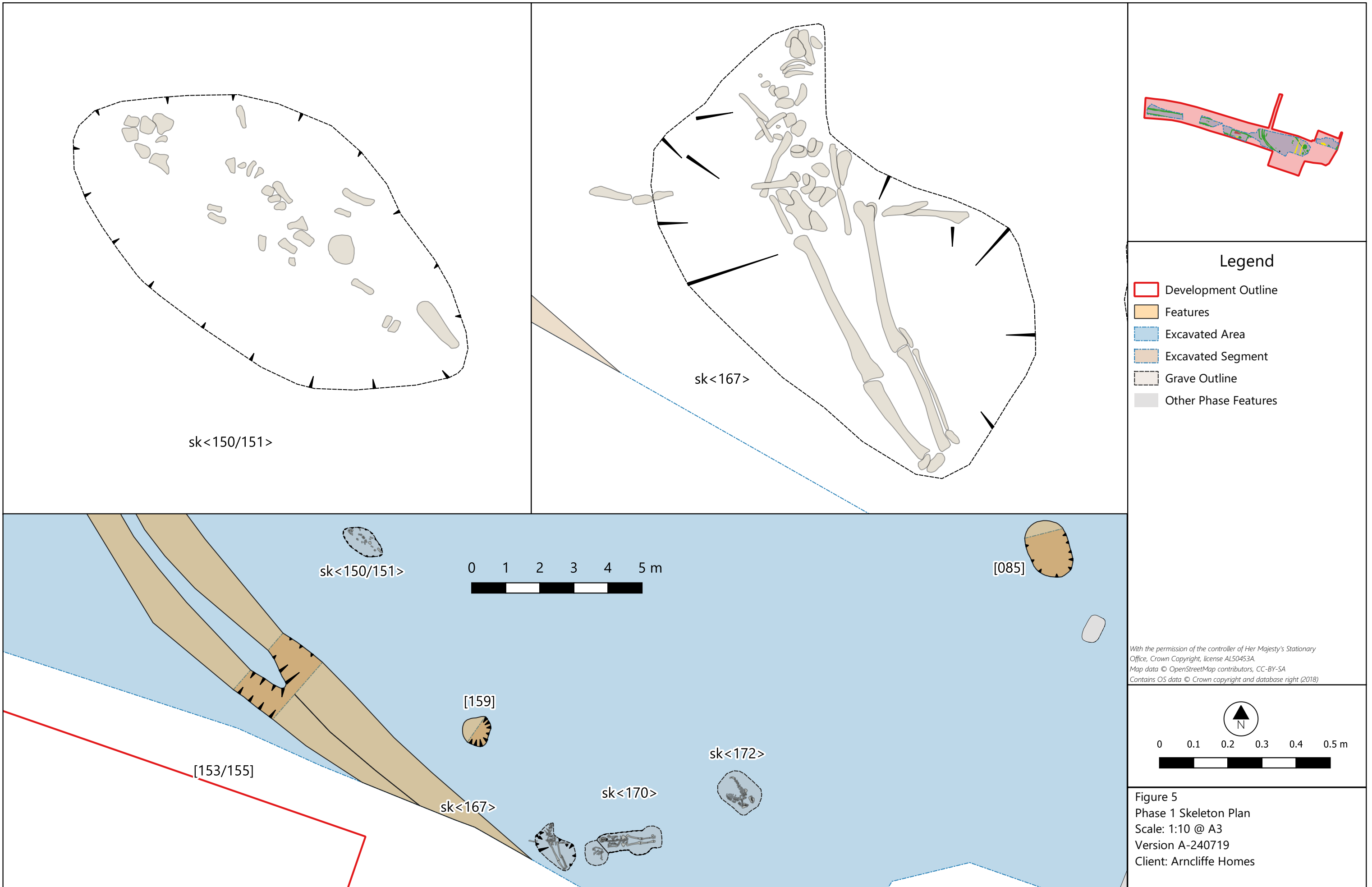


Figure 2
Phase Plan
Scale: 1:600 @ A3
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- Legend**
- Development Outline
 - Features
 - Excavated Area
 - Excavated Segment
 - Grave Outline
 - Other Phase Features

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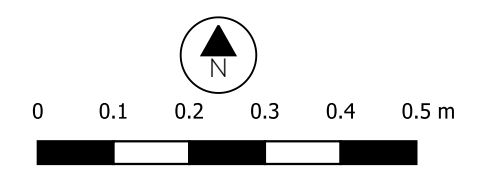
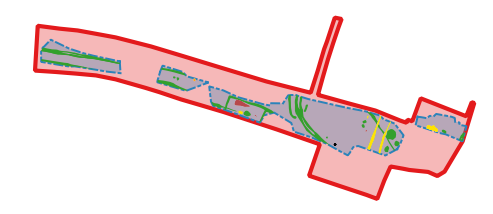
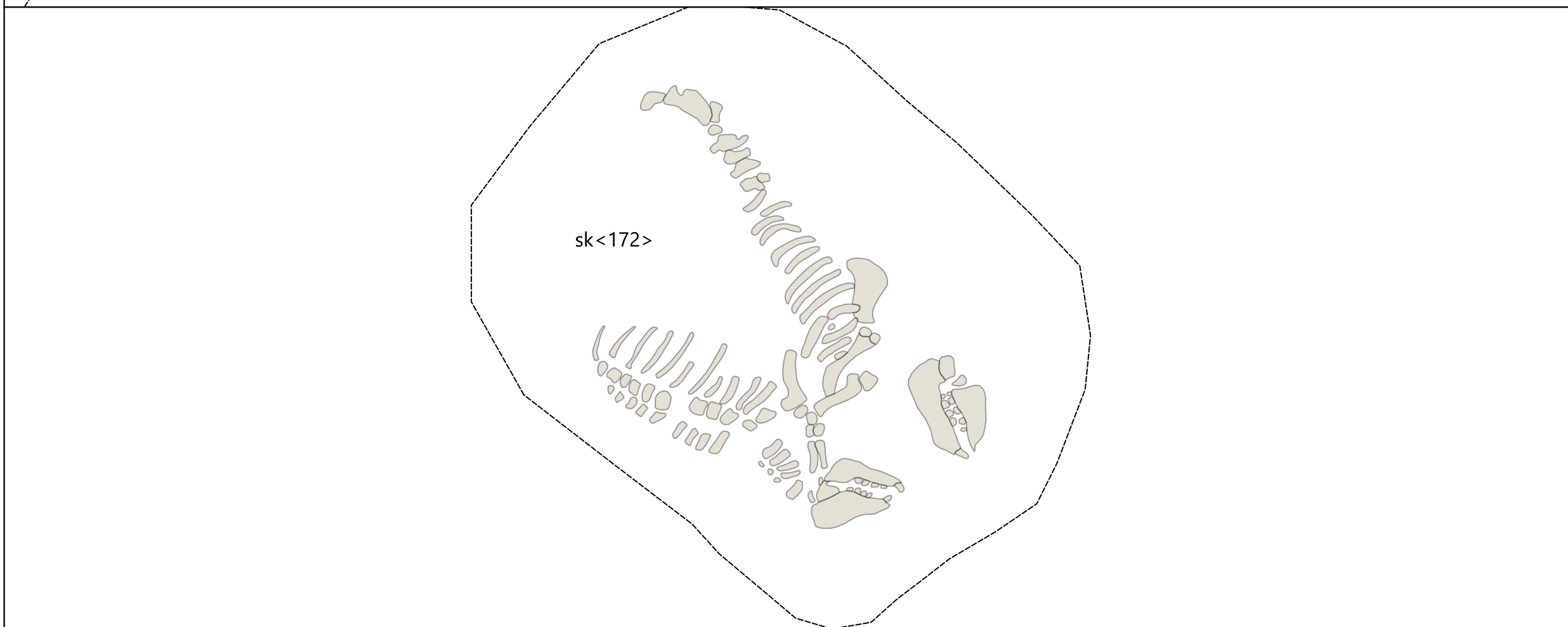
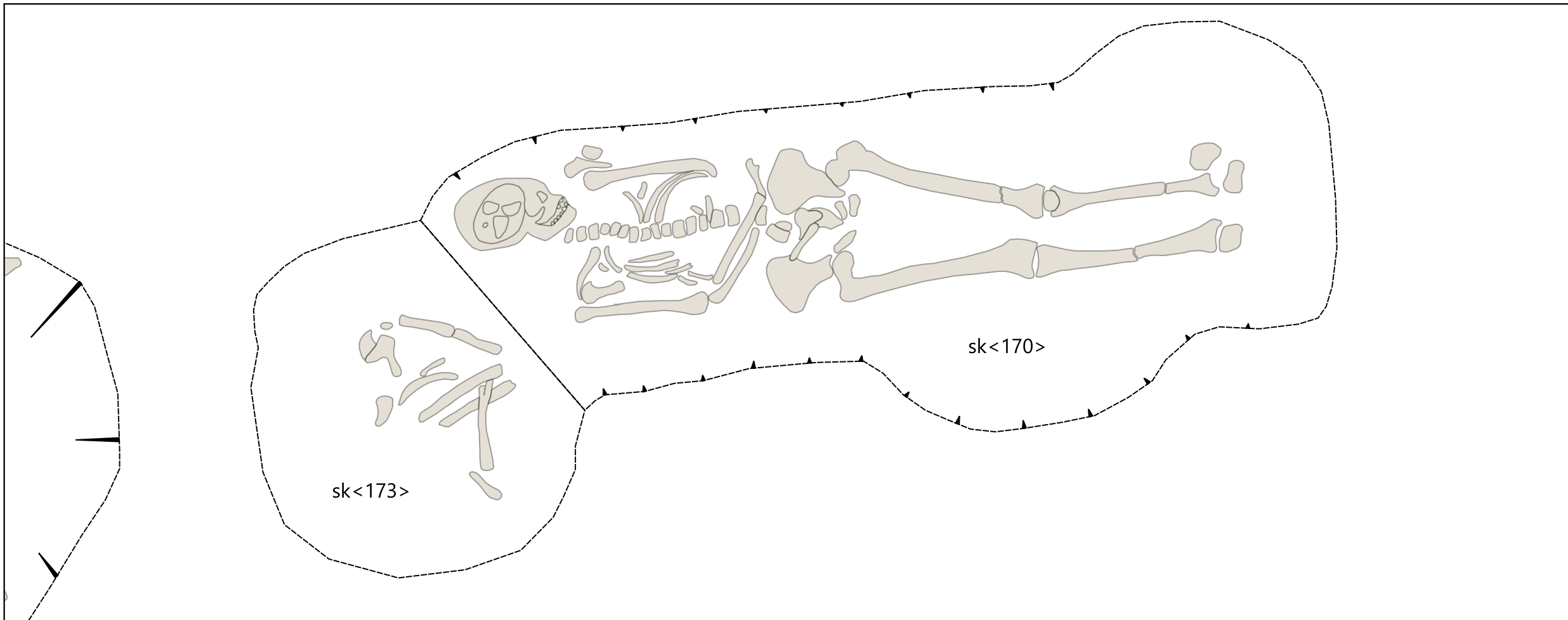








Figure 5
Phase 1 Skeleton Plan
Scale: 1:10 @ A3
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Legend

-  Development Outline
-  Features
-  Excavated Area
-  Excavated Segment
-  Grave Outline
-  Other Phase Features

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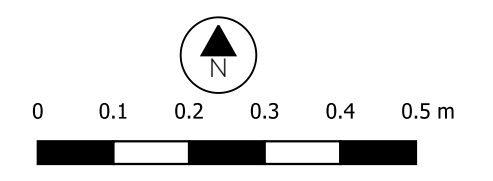


Figure 6
Phase 1 Skeleton Plan
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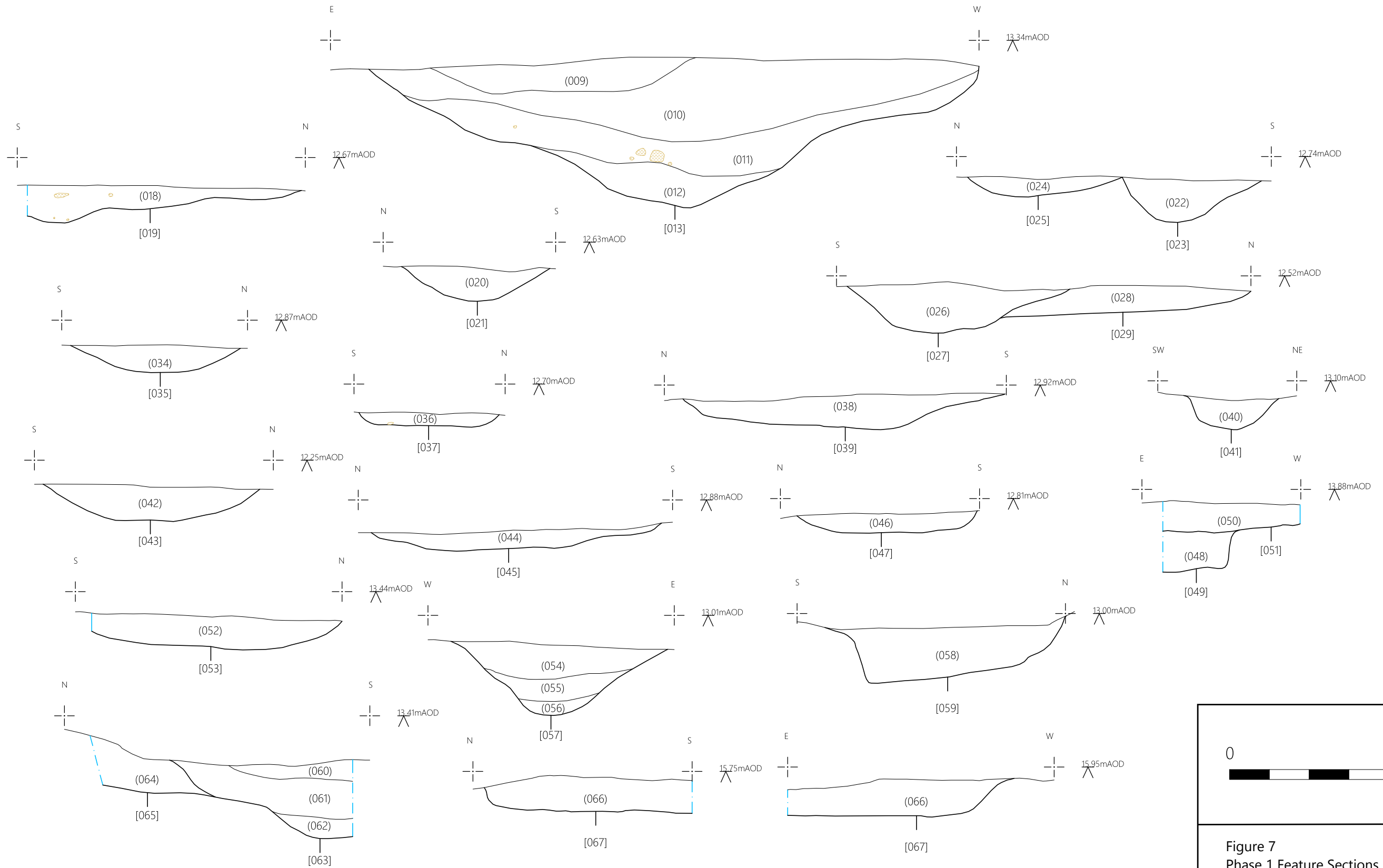


Figure 7
Phase 1 Feature Sections
Scale 1:10 @ A3
Vers. A-240719
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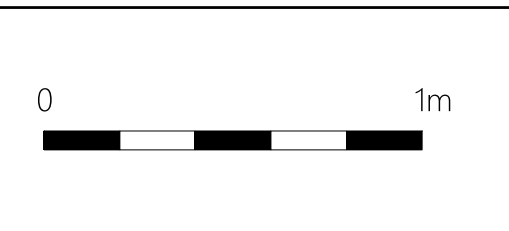
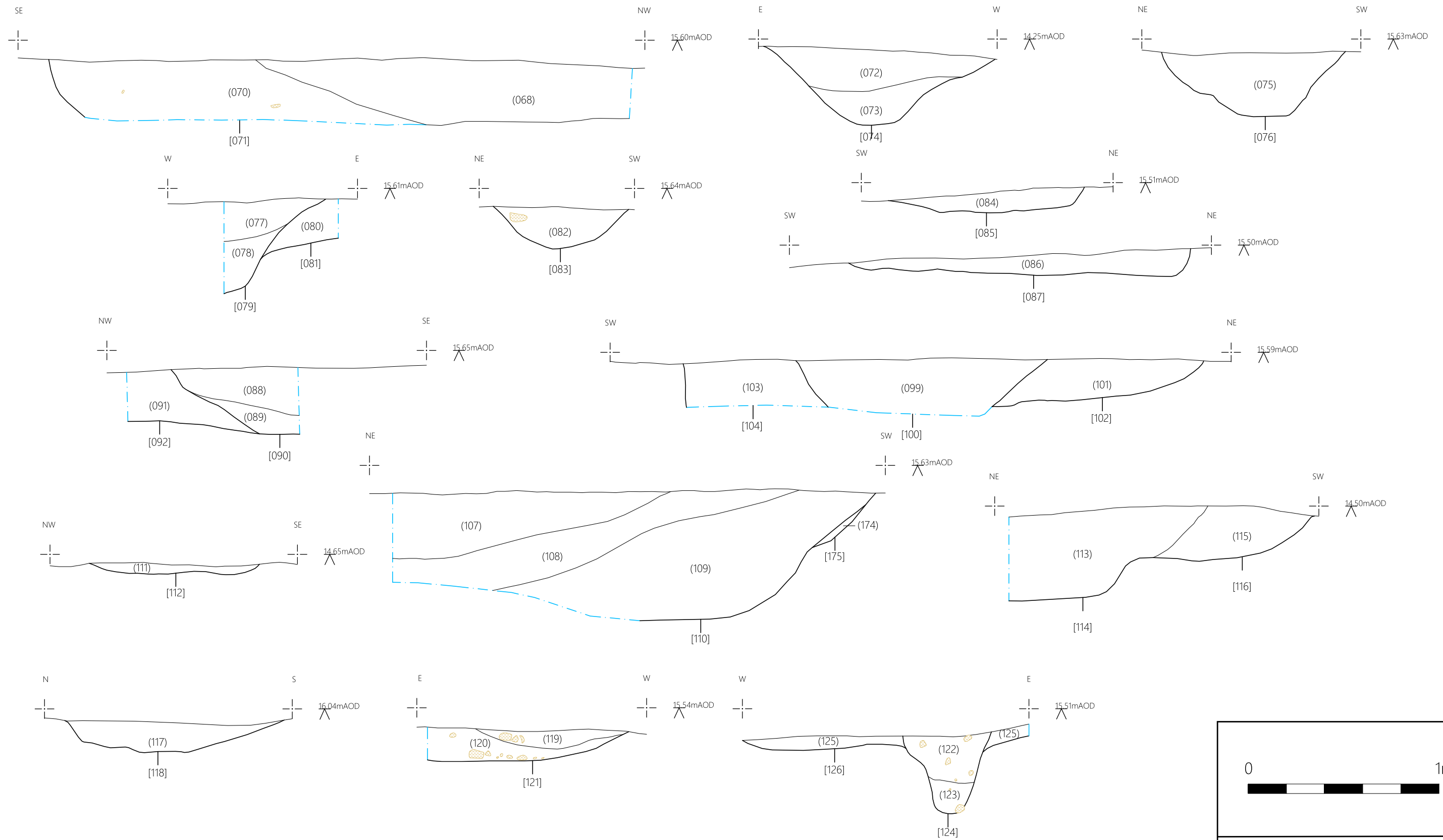


Figure 8
Phase 1 Feature Sections
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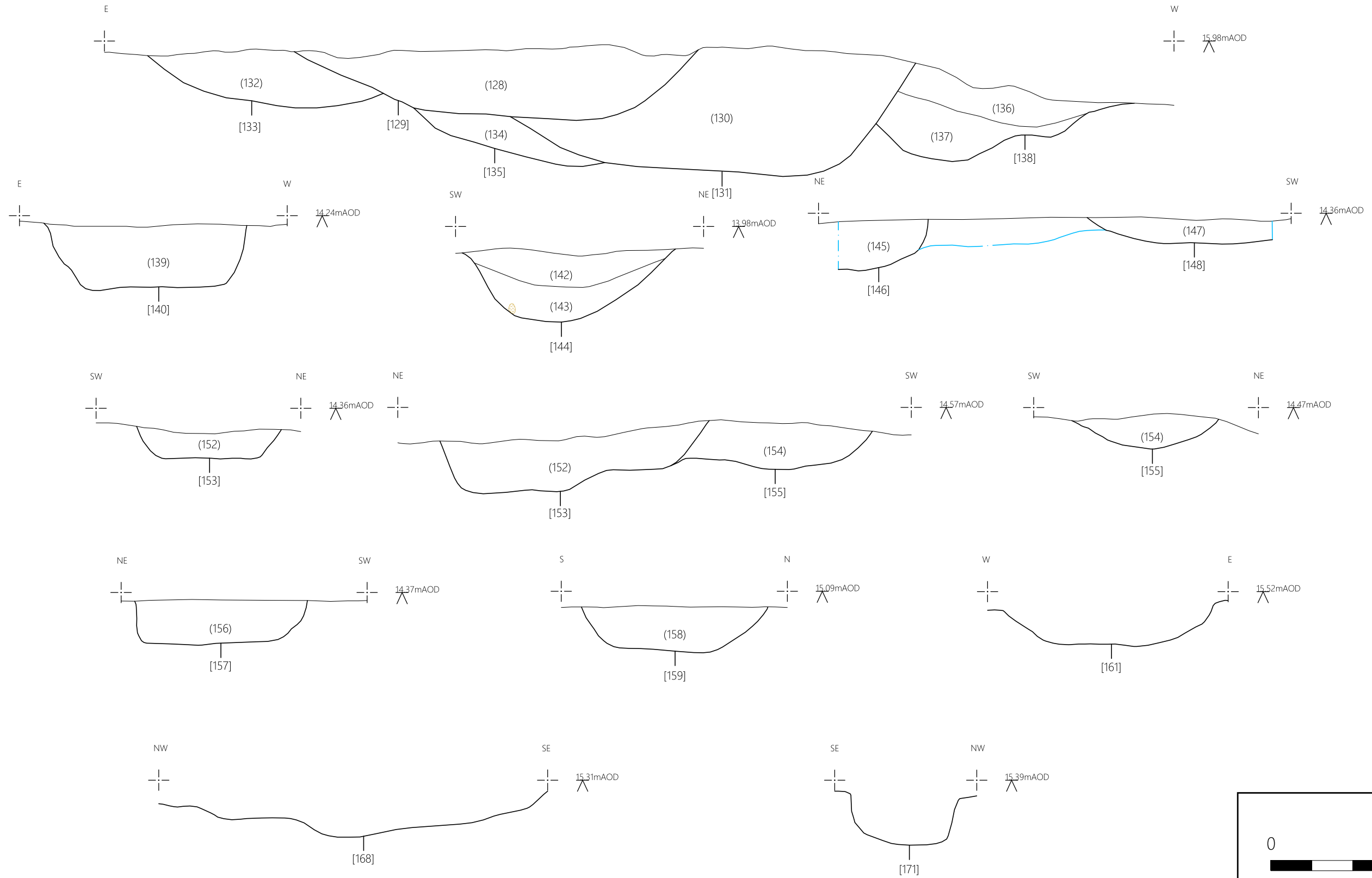


Figure 9
Phase 1 Feature Sections
Scale 1:10 @ A3
Vers. A-240719
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Legend

- Development Outline
- Features
- Excavated Area
- Excavated Segment
- Other Phase Features

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Figure 10
Phase 2 Feature Plan
Scale: 1:100 @ A3
Version A-240719
Client: Arncliffe Homes

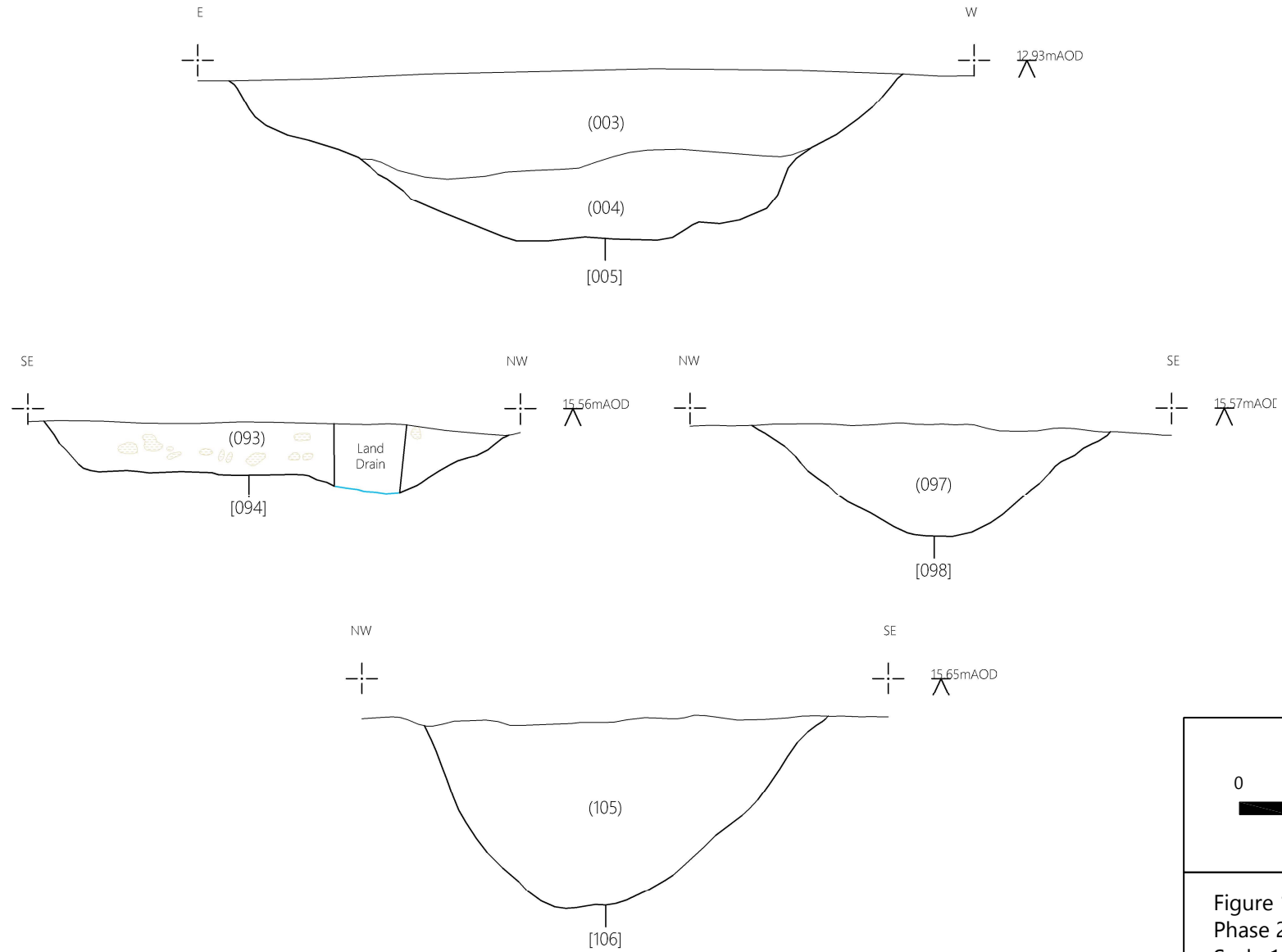
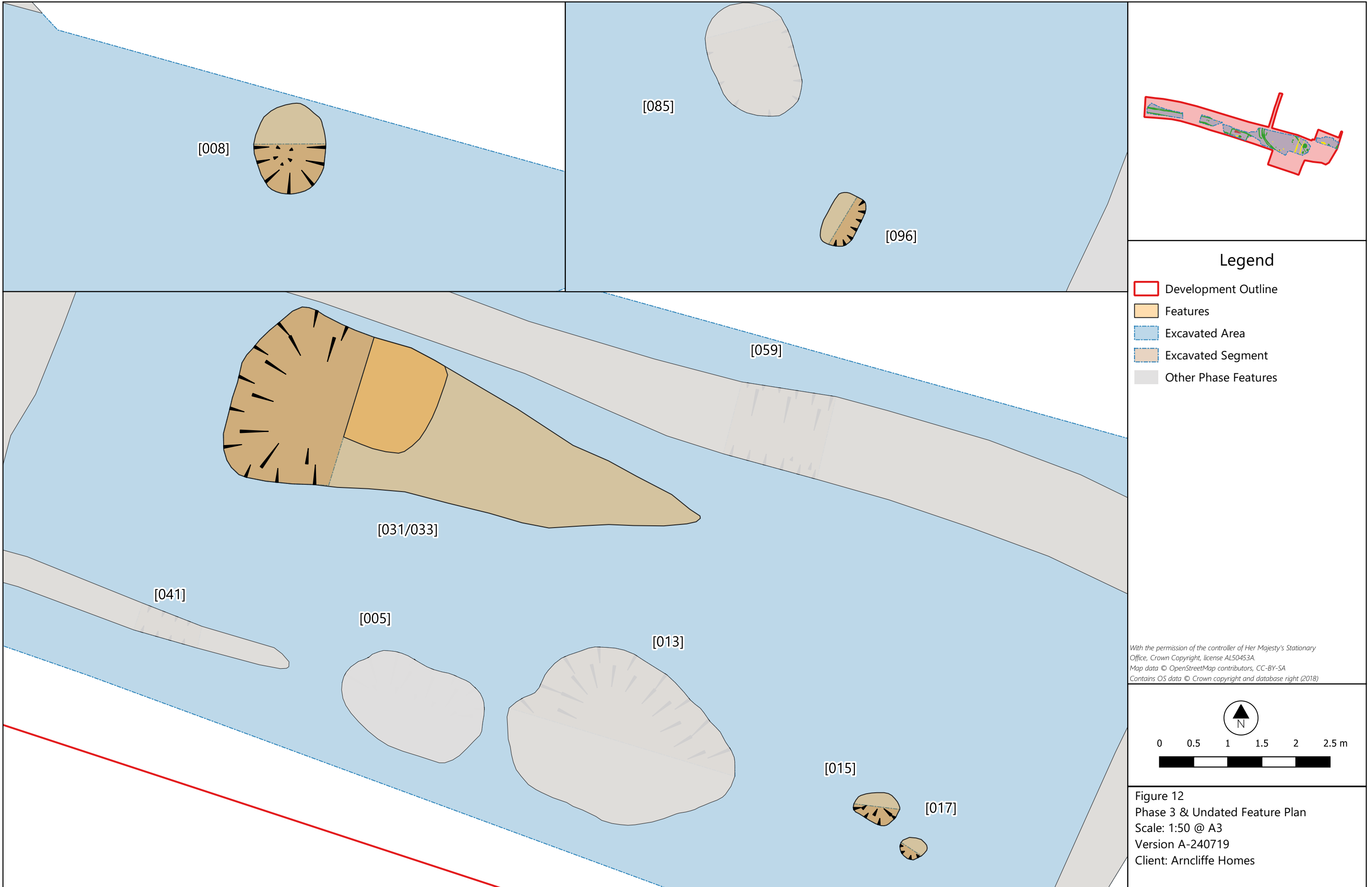


Figure 11
Phase 2 Feature Sections
Scale 1:10 @ A4
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Legend

- Development Outline
- Features
- Excavated Area
- Excavated Segment
- Other Phase Features

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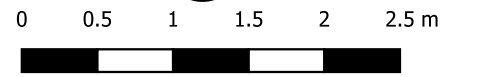


Figure 12
Phase 3 & Undated Feature Plan
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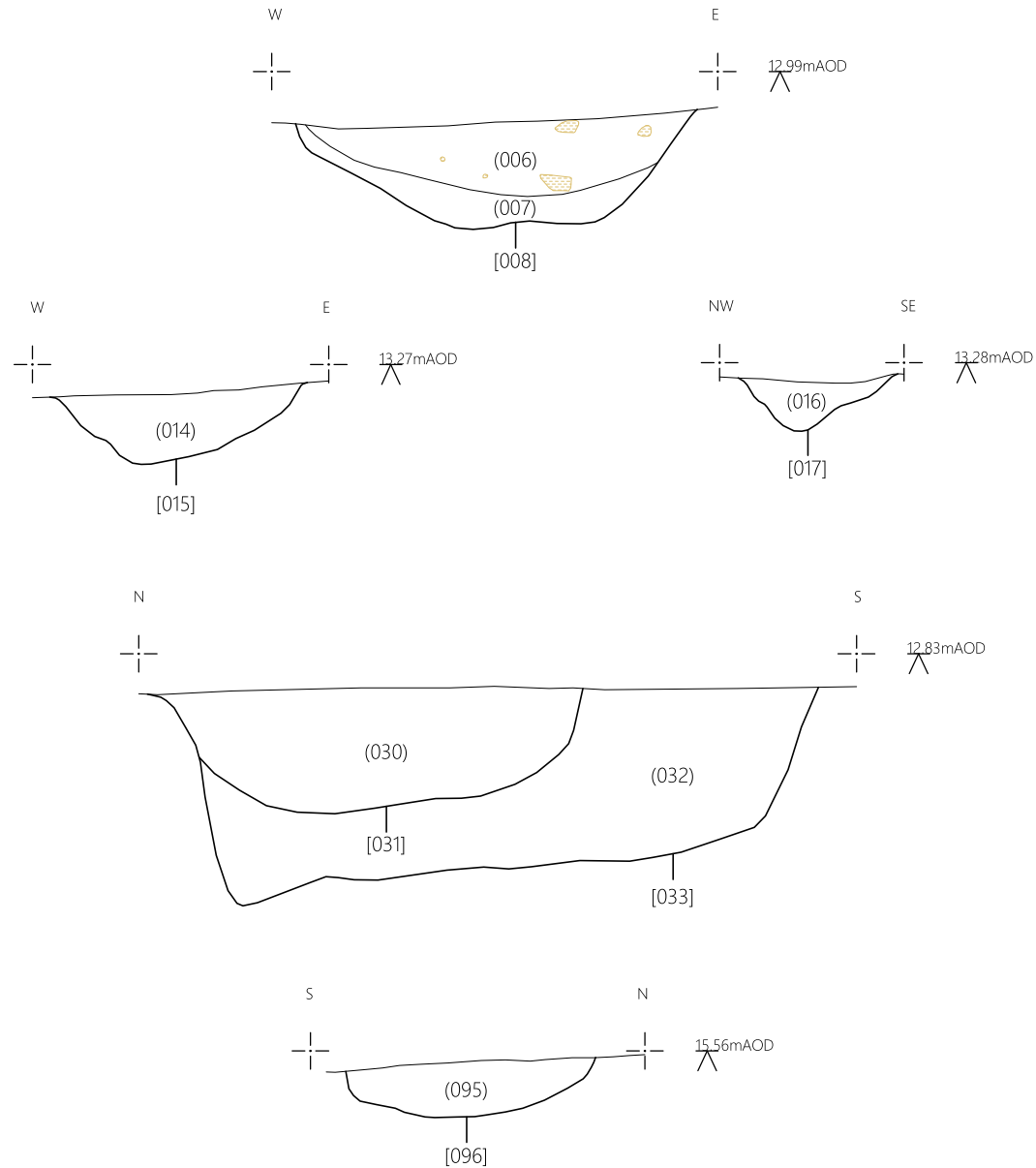


Figure 13
Phase 3 & Undated Feature
Sections
Scale 1:10 @ A4
Vers. A-240719
Client: Arncliffe Homes



Plate 1: General view of the site. Facing North-West.



Plate 2: General view of the site. Facing South-East.



Plate 3: General view of the site. Facing Southwest.



Plate 4: Stripping the site. Facing Southeast.



Plate 5: North-facing section of pit 005. 2m Scale. Facing South.



Plate 6: South-facing section of pit 008. 1m Scale. Facing North.



Plate 7: North-facing section of pit 013. 2m Scale. Facing South.



Plate 8: Southwest-facing section of pit 015. 1m Scale. Facing Northeast.



Plate 9: Southwest-facing section of pit 017. 1m Scale. Facing Northeast.



Plate 10: East-facing section of furrow segment 019. 1m Scale. Facing West.



Plate 11: West-facing section of ditch segment 021. 1m Scale. Facing East.

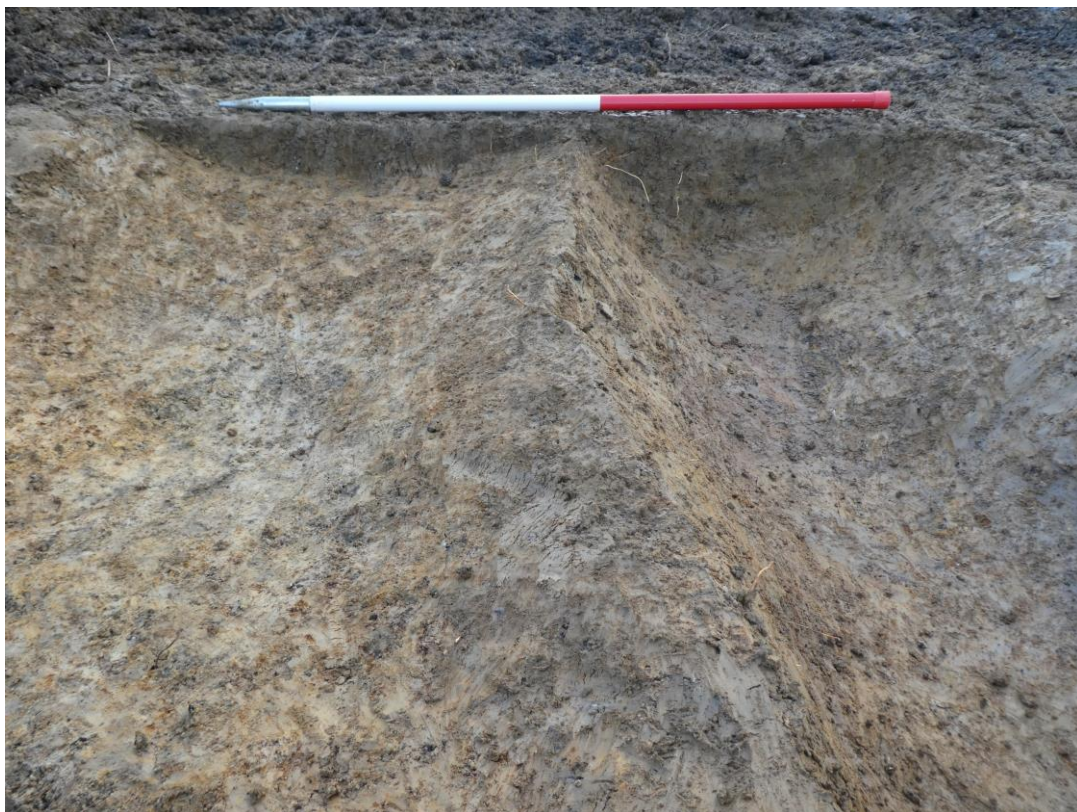


Plate 12: West-facing section of ditch segments 023 and 025. 1m Scale. Facing East.

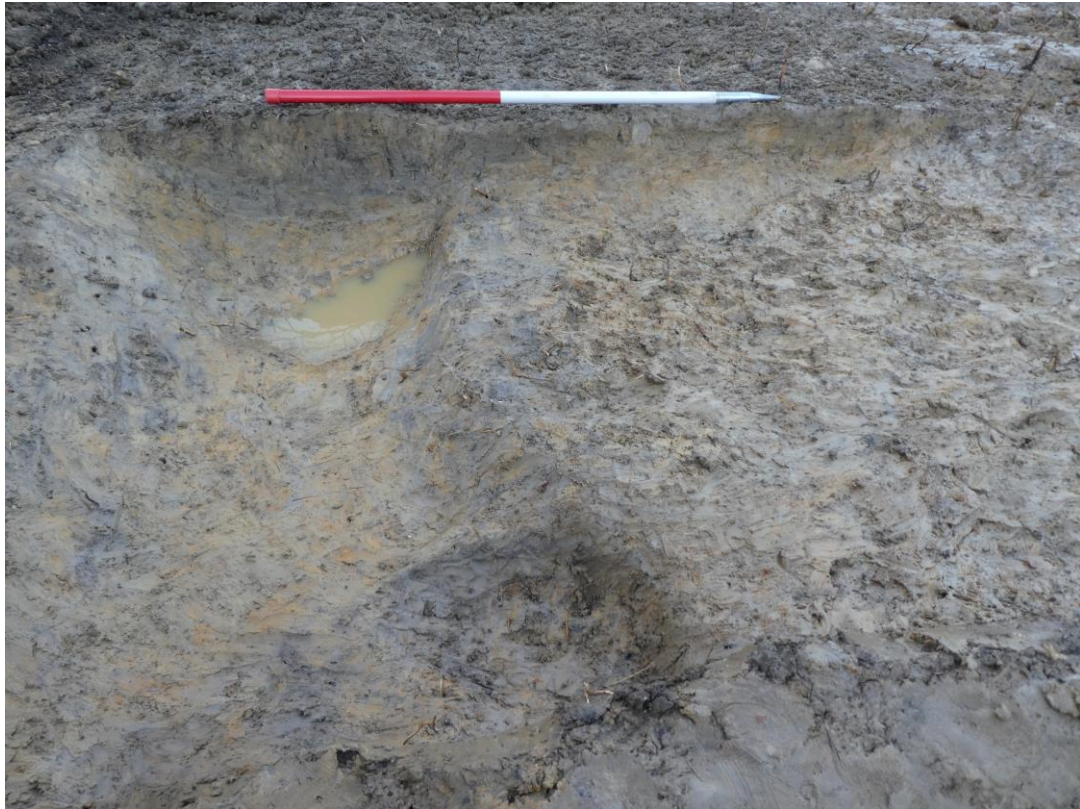


Plate 13: East-facing section of ditch segments 027 and 029. 1m Scale. Facing West.



Plate 14: Southeast-facing section of pit 031 and gully segment 033. 1m Scale. Facing Northwest.



Plate 15: East-facing section of gully segment 035. 1m Scale. Facing West.

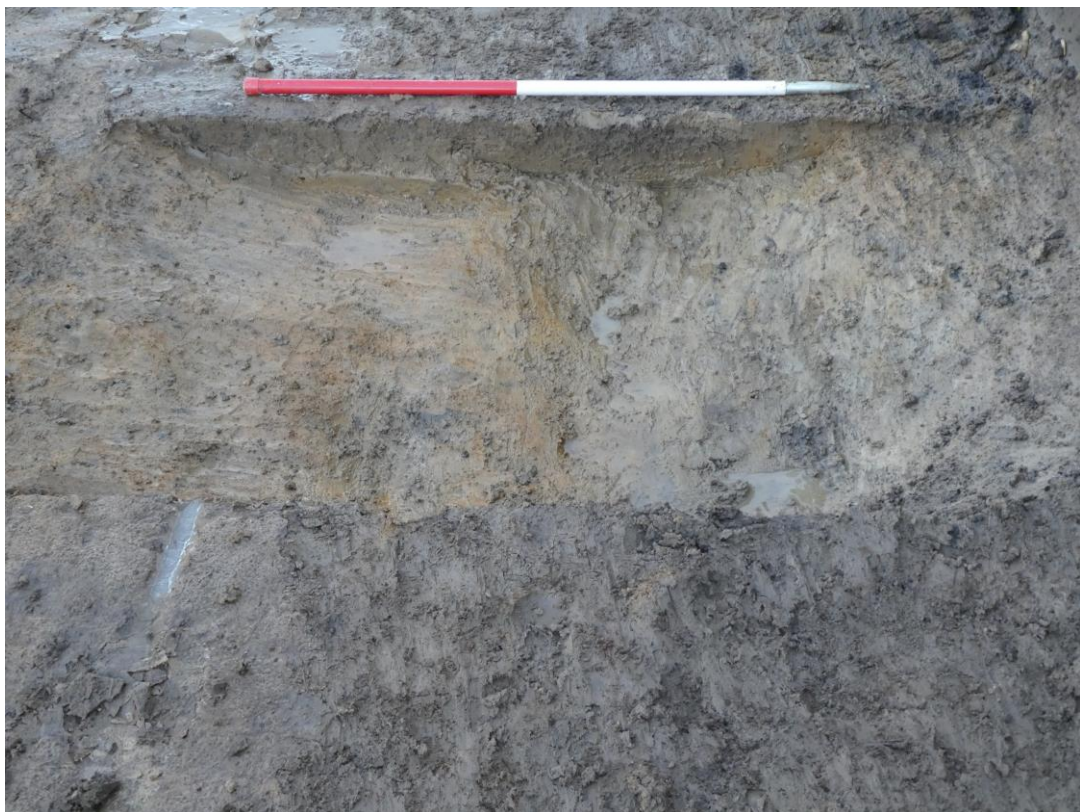


Plate 16: Northwest-facing section of gully segment 039. 1m Scale. Facing Southeast.



Plate 17: Northwest-facing section of gully segment 041. 1m Scale. Facing Southeast.

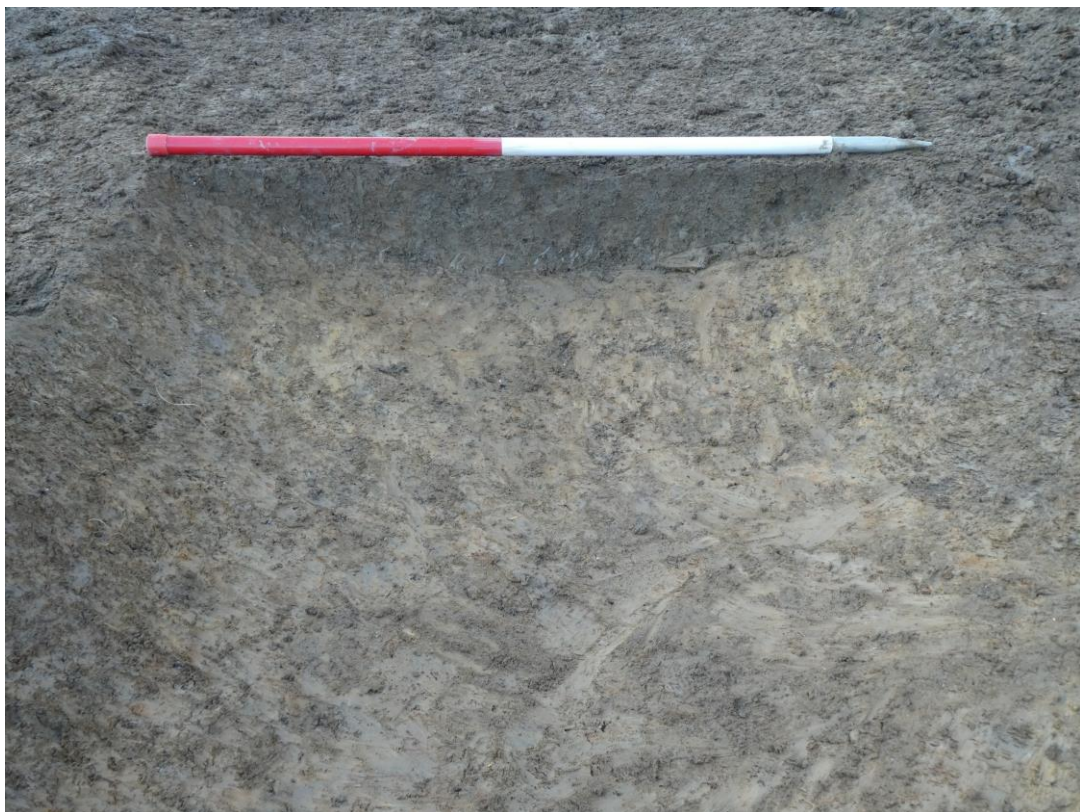


Plate 18: East-facing section of ditch segment 043. 1m Scale. Facing West.



Plate 19: West facing section of pit 045. 1m Scale. Facing East.



Plate 20: West-facing section of pit 047. 1m Scale. Facing East.



Plate 21: West-facing section of ditch segment 049 and gully segment 051. 1m Scale. Facing East.



Plate 22: East-facing section of ditch segment 053. 1m Scale. Facing West.



Plate 23: North-facing section of ditch corner 057. 1m Scale. Facing South.



Plate 24: Oblique view of ditch corner 057. 1m Scale. Facing East..



Plate 25: West-facing section of ditch segment 059. Facing East.



Plate 26: East-facing section of ditch segments 063 and 065. 1m Scale. Facing West.



Plate 27: North-facing section of NW quadrant of pit 067. 1m Scale. Facing South.



Plate 28: Northeast-facing section of pit quadrant 071. 2m Scale. Facing Southwest.



Plate 29: Northwest-facing section of pit quadrant 110 and ditch segment 175. 2m Scale. Facing Southeast.



Plate 30: North-facing section of ditch segment 074. 1m Scale. Facing South.



Plate 31: Northwest-facing section of ditch segment 076. 1m Scale. Facing Southeast.



Plate 32: South-facing section of ditch segments 079 and 081. 1m Scale. Facing North.



Plate 33: Northwest-facing section of ditch segment 083. 1m Scale. Facing Southeast.

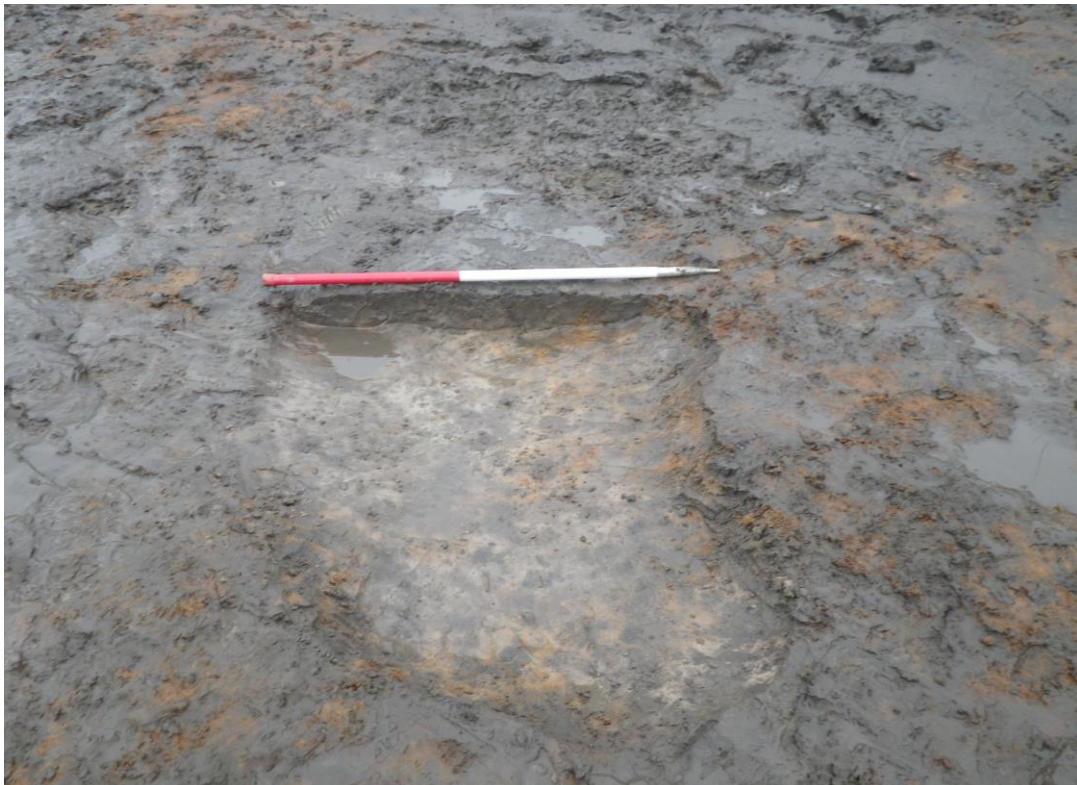


Plate 34: Northwest-facing section of ditch segment 085. 1m Scale. Facing Southeast.

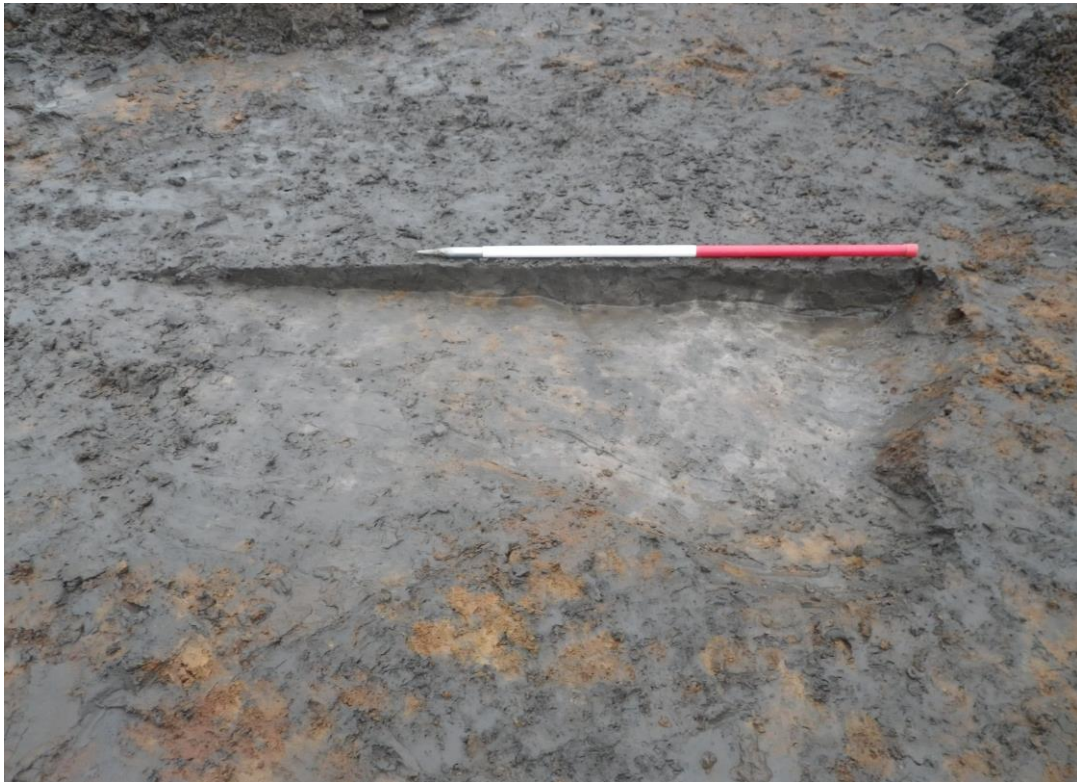


Plate 35: Southeast-facing section of pit 087. 1m Scale. Facing Northwest.



Plate 36: Southwest-facing section ditch segments 090 and 092. 1m Scale. Facing Northeast.



Plate 37: East-facing section of pit 094. 1m Scale. Facing West.



Plate 38: East-facing section of pit 096. 1m Scale. Facing West.

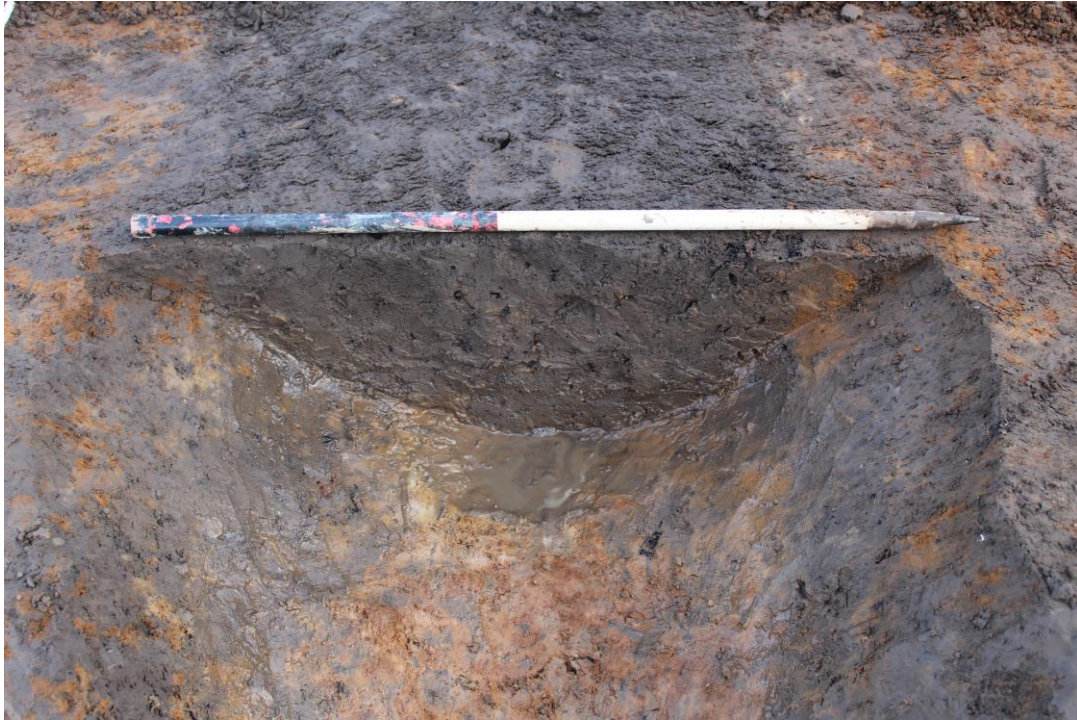


Plate 39: Southwest-facing section of ditch segment 098. 1m Scale. Facing Northeast.



Plate 40: Southeast-facing section of pits 100, 102, 104. 2m Scale. Facing Northwest.



Plate 41: Southwest-facing section of ditch segment 106. 1m Scale. Facing Northeast.



Plate 42: Southwest-facing section of ditch segment 112. 1m Scale. Facing Northeast.



Plate 43: North-facing section of ditch segments 114 and 116. 1m Scale. Facing South.



Plate 44: West-facing section of pit 118. 1m Scale. Facing East.



Plate 45: North-facing section of ditch segments 114 and 116. 1m Scale. Facing South.



Plate 46: South-facing section of posthole 124 and spread 126. 1m Scale. Facing North.



Plate 47: Oblique view of pits 129, 131, 133, 135, 138 (Group 141). 2m Scale. Facing South.



Plate 48: North-facing section of ditch segment 140. 1m Scale. Facing South.



Plate 49: Southeast-facing section of ditch segment 144. 1m Scale. Facing Northwest.

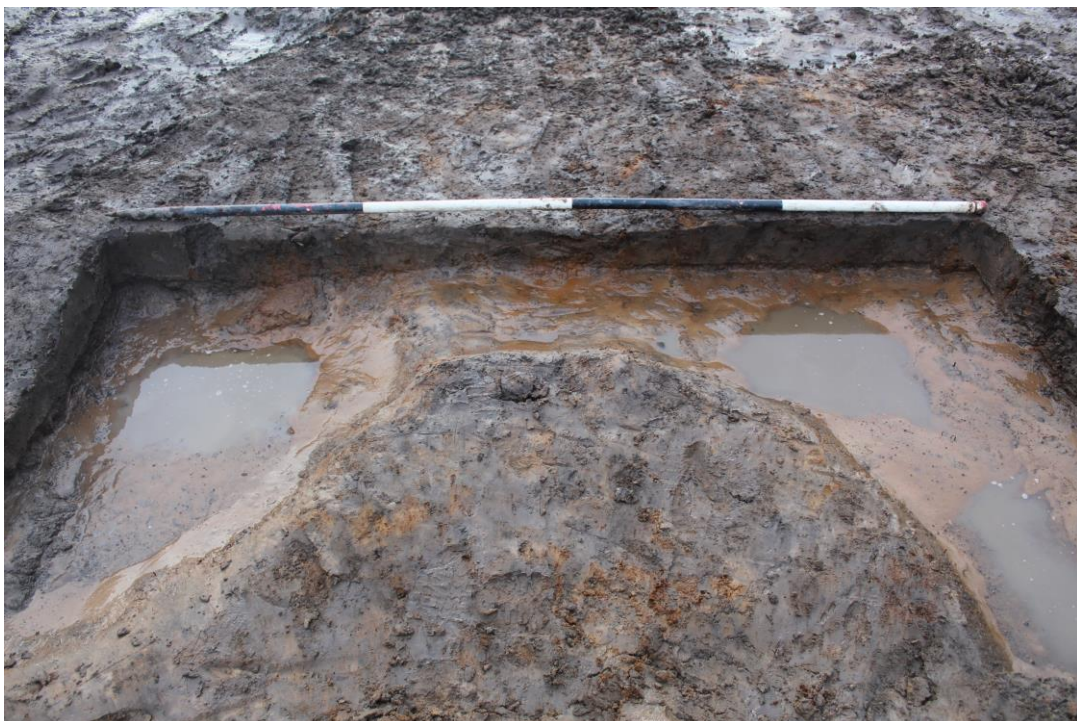


Plate 50: Southeast-facing section of ditch segments 146 and 148. 2m Scale. Facing Northwest.



Plate 51: Human Remains 150. 1m Scale. Facing East.



Plate 52: Southwest-facing section of ditch segments 153 and 155. 2m Scale. Facing Northeast.



Plate 53: Northwest-facing section of ditch segment 157. 1m Scale. Facing Southeast.



Plate 54: East-facing section of pit 159. 1m Scale. Facing West.



Plate 55: Piglet Skeletons 172 in pit 161. 1m Scale. Facing South.

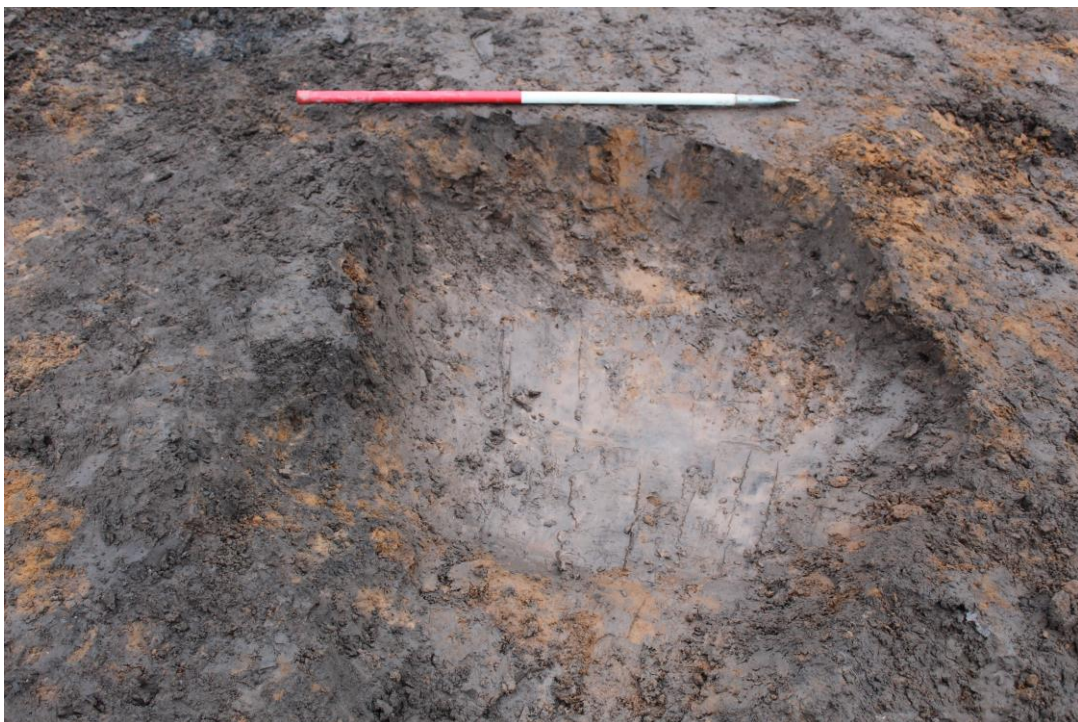


Plate 56: Pit 161. 1m Scale. Facing South.



Plate 57. Skeleton 167. 1m Scale. Facing West.



Plate 58: Skeleton 170. 1m Scale. Facing Southwest.



Plate 59. Grave 171. 1m Scale. Facing Northwest.



Plate 60. Skeletons 170 and 173. Facing Southwest.



Plate 61: Graffiti on pot from Pit 071/110. Photo taken by Phil Mills.



Plate 62: Graffiti on pot from Pit 071/110. Photo taken by Phil Mills.



Plate 63: Graffiti on pot from Pit 071/110. Photo taken by Phil Mills.



Plate 64: Graffiti on pot from Pit 071/110. Photo taken by Phil Mills.



Plate 65: Graffiti on pot from Pit 071/110. Photo taken by Phil Mills.



Plate 66: Graffiti on pot from Pit 161. Photo taken by Phil Mills.



Plate 67: Graffiti on top of pot from ditch segment 144. Photo taken by Phil Mills.



Plate 68: Graffiti on obverse of ditch segment 144. Photo taken by Phil Mills.

APPENDIX 1

Context Listing

Context	Context Type	Fill of	Description
001	Deposit	-	Topsoil: Dark grey-brown, loosely compacted, clayey silt
002	Deposit	-	Deposit overlaying natural: mid grey-brown, moderately compacted, silty clay
003	Fill	005	Secondary fill of pit 005 - mid grey, firmly compacted, silt - occasional pebble inclusions
004	Fill	005	Primary fill of pit 005 - dark grey, firmly compacted, silty clay
005	Cut	-	Cut of pit
006	Fill	008	Secondary fill of pit 008 - dark brown, loosely compacted, sandy, silty clay - moderate small stone inclusions
007	Fill	008	Primary fill of pit 008 - light orange-brown, moderately compacted, sandy, silty clay - occasional small stone inclusions
008	Cut	-	Cut of pit
009	Fill	013	Fill of pit 013 - mid orange-brown, moderately compacted, clay - occasional gravel inclusions
010	Fill	013	Fill of pit 013 - mid grey-brown, moderately compacted, silty sand - moderately small stone inclusions
011	Fill	013	Fill of pit 013 - dark grey-brown, moderately compacted, silty, clayey sand - moderate small stone inclusions
012	Fill	013	Primary fill of pit 013 - dark grey-brown, moderately compacted, sandy clay - occasional charcoal flecks
013	Cut	-	Cut of pit
014	Fill	015	Single fill of pit 015 - mid grey-brown, firmly compacted, silt
015	Cut	-	Cut of pit
016	Fill	017	Single fill of posthole 017 - mid grey-brown, firmly compacted, silt
017	Cut	-	Cut of posthole
018	Fill	019	Single fill of NW-SE furrow segment 019 - mid grey-brown, moderately compacted, sandy clay - moderate small stone inclusions
019	Cut	-	Cut of NW-SE furrow segment
020	Fill	021	Single fill of W-E gully segment 021 - light grey-brown, moderately compacted, silty clay - occasional small stone inclusions
021	Cut	-	Cut of W-E gully segment
022	Fill	023	Single fill of W-E gully segment 023 - light grey-brown, moderately compacted, sandy, silty clay - occasional small stone inclusions
023	Cut	-	Cut of W-E gully segment
024	Fill	025	Single fill of W-E gully segment 025 - light grey, compact, silty clay - occasional small stone inclusions
025	Cut	-	Cut of W-E gully segment
026	Fill	027	Single fill of W-E ditch segment 027 - mid grey-brown, compact, silty clay - occasional small stone inclusions
027	Cut	-	Cut of W-E ditch segment
028	Fill	029	Single fill of W-E ditch segment 029 - light grey-brown, moderately compacted, sandy, silty clay - occasional small stone inclusions

029	Cut	-	Cut of W-E ditch segment
030	Fill	031	Single fill of pit 031 - dark grey, firmly compacted, silty sand - occasional stone inclusions
031	Cut	-	Cut of pit
032	Fill	033	Single fill of W-E gully segment 033 - mid red-brown, firmly compacted, clay
033	Cut	-	Cut of W-E gully segment
034	Fill	035	Single fill of W-E gully segment 035 - light grey-brown, compact, silty clay - occasional charcoal flecks
035	Cut	-	Cut of W-E gully segment
036	Fill	037	Single fill of W-E gully segment 037 - light grey-brown, compact, silty clay - occasional charcoal flecks and occasional small stone inclusions
037	Cut	-	Cut of W-E gully segment
038	Fill	039	Single fill of NW-SE gully segment 039 - mid grey-brown, moderately firmly compacted, silty clay - occasional charcoal flecks and occasional small stone inclusions
039	Cut	-	Cut of NW-SE gully segment
040	Fill	041	Single fill of NW-SE gully segment 041 - mid grey-brown, lightly compacted, silt
041	Cut	-	Cut of NW-SE gully segment
042	Fill	043	Single fill of W-E ditch segment 043 - mid grey-brown, moderately compacted, sandy, clayey silt - occasional charcoal flecks and occasional small stone inclusions
043	Cut	-	Cut of W-E ditch segment
044	Fill	045	Single fill of pit 045 - mid grey-brown, moderately compacted, silty clay - moderate charcoal flecks and occasional small stone inclusions
045	Cut	-	Cut of pit
046	Fill	047	Single fill of pit 047 - dark grey-brown, moderately compacted, silty clay - occasional charcoal flecks and occasional small stone inclusions
047	Cut	-	Cut of pit
048	Fill	049	Single fill of N-S ditch segment 049 - mid grey-brown, firmly compacted, silty clay - occasional stone inclusions
049	Cut	-	Cut of N-S ditch segment
050	Fill	051	Single fill of W-E gully segment 051 - mid grey-brown, loosely compacted, silt
051	Cut	-	Cut of W-E gully segment
052	Fill	053	Single fill of W-E ditch segment 053 - light grey-brown, moderately compacted, sandy, silty clay - occasional charcoal flecks and occasional small stone inclusions
053	Cut	-	Cut of W-E ditch segment
054	Fill	057	Tertiary fill of N-E ditch corner segment 057 - light grey-brown, moderately compacted, silty, clayey sand - occasional charcoal flecks and occasional small stone inclusions
055	Fill	057	Secondary fill of N-E ditch corner segment 057 - dark grey, moderately compacted, sandy, clayey silt - moderate charcoal flecks and occasional small stone inclusions
056	Fill	057	Primary fill of N-E ditch corner segment 057 - light orange-brown, moderately compacted, sandy, silty clay - occasional charcoal flecks
057	Cut	-	Cut of N-E ditch corner segment

058	Fill	059	Single fill of W-E ditch segment 059 - mid grey, firmly compacted, silty clay
059	Cut	-	Cut of W-E ditch segment
060	Fill	063	Tertiary fill of W-E ditch segment 063 - light grey-brown, moderately compacted, sandy, clayey silt
061	Fill	063	Secondary fill of W-E ditch segment 063 - dark grey-brown, moderately compacted, sandy, silty clay
062	Fill	063	Primary fill of W-E ditch segment 063 - light grey, moderately compacted, sandy, clayey, silt
063	Cut	-	Cut of W-E ditch segment
064	Fill	065	Single fill of N-S ditch segment 065 - dark grey-brown, moderately compacted, sandy, clayey silt - moderate charcoal flecks and occasional small stone inclusions
065	Cut	-	Cut of N-S ditch segment
066	Fill	067	Single fill of pit 067 - dark grey, firmly compacted, silty clay
067	Cut	-	Cut of pit
068	Fill	069	Secondary fill of pit 071 - dark grey, moderately compacted, sandy, clayey silt - frequent charcoal flecks and moderate small stone inclusions
069	Void		
070	Fill	071	Fill of pit 071 - mid grey-brown, moderately compacted, sandy, clayey silt - frequent charcoal flecks and moderately small stone inclusions
071	Cut	-	Cut of pit
072	Fill	073	Secondary fill of N-S ditch segment 074 - dark grey-brown, loosely compacted, silty sand - occasional charcoal flecks
073	Fill	073	Primary fill of N-S ditch segment 074 - light grey, loosely compacted, silty sand - occasional charcoal flecks
074	Cut	-	Cut of N-S ditch segment
075	Fill	076	Single fill of NW-SE ditch segment - mid grey, loosely compacted, silty, sandy clay
076	Cut	-	Cut of NW-SE ditch segment
077	Fill	079	Secondary fill of N-S ditch segment 079 - dark grey-brown, moderately compacted, sandy silt - occasional charcoal flecks and occasional small stone inclusions
078	Fill	079	Primary fill of N-S ditch segment 079 - dark brown, moderately compacted, silty sand - moderate charcoal flecks and occasional small stone inclusions
079	Cut	-	Cut of N-S ditch segment
080	Fill	081	Single fill of NW-SE ditch segment 081 - light grey, loosely compacted, silty sand - occasional charcoal flecks
081	Cut	-	Cut of NW-SE ditch segment
082	Fill	083	Single fill of NW-SE ditch segment 083 - light grey, loosely compacted, silty sand - very occasional charcoal flecks and occasional small stone inclusions
083	Cut	-	Cut of NW-SE ditch segment
084	Fill	085	Single fill of pit 085 - mid grey, soft, silty sand
085	Cut	-	Cut of pit
086	Fill	087	Single fill of pit 087 - mid grey, silty sand
087	Cut	-	Cut of pit

088	Fill	090	Secondary fill of N-S ditch segment 090 - mid grey-brown, moderately compacted, sandy silt - moderate charcoal flecks and occasional stone inclusions
089	Fill	090	Primary fill of N-S ditch segment 090 - mid grey-brown, loosely compacted, silty sand - occasional charcoal flecks and occasional small stone inclusions
090	Cut	-	Cut of N-S ditch segment
091	Fill	092	Single fill of NW-SE ditch segment 092 - light grey, loosely compacted, silty sand - occasional charcoal flecks and moderate small stone inclusions
092	Cut	-	Cut of NW-SE ditch segment
093	Fill	094	Single fill of pit 094 - mid grey, loosely compacted, silty clay - stone inclusions
094	Cut	-	Cut of pit
095	Fill	096	Single fill of pit 096 - mid grey, silty sand
096	Cut	-	Cut of pit
097	Fill	098	Single fill of NE-SW ditch segment 098 - mid brown-grey, firmly compacted, sandy silt
098	Cut	-	Cut of NE-SW ditch segment
099	Fill	100	Single fill of pit 100 - dark grey-brown, loosely compacted, sandy silt - occasional charcoal flecks and occasional small stone inclusions
100	Cut	-	Cut of pit
101	Fill	102	Single fill of pit 102 - mid grey-brown, moderately compacted, sandy silt - very occasional small stone inclusions
102	Cut	-	Cut of pit
103	Fill	104	Single fill of pit 104 - mid grey-brown, loosely compacted, clayey silt - occasional small stone inclusions
104	Cut	-	Cut of pit
105	Fill	106	Single fill of NE-SE ditch segment 106 - mid grey, firmly compacted, sandy silt - occasional stone inclusions
106	Cut	-	Cut of NE-SW ditch segment
107	Fill	110	Tertiary fill of pit 110 - dark grey, moderately compacted, sandy, clayey silt - frequent charcoal flecks and moderate small stone inclusions
108	Fill	110	Secondary fill of pit 110 - mid grey-brown, moderately compacted, sandy, clayey silt - moderate charcoal flecks and moderate small stone inclusions
109	Fill	110	Primary fill of pit 110 - light grey-brown, moderately compacted, silty sand - moderate charcoal flecks and occasional small and medium stone inclusions
110	Cut	-	Cut of pit
111	Fill	112	Single fill of NE-SW ditch segment 112 - mid brown-grey, firmly compacted, clayey silt
112	Cut	-	Cut of NE-SW ditch segment
113	Fill	114	Single fill of NW-SE ditch segment 114 - mid grey-brown, loosely compacted, silty, sandy clay
114	Cut	-	Cut of NW-SE ditch segment
115	Fill	116	Single fill of N-S ditch segment 116 - mid grey-brown, loosely compacted, silty, sandy clay
116	Cut	-	Cut of N-S ditch segment
117	Fill	118	Single fill of pit 118 - dark grey-brown, loosely compacted, silty clay - occasional stone inclusions
118	Cut	-	Cut of pit

119	Fill	121	Secondary fill of pit 121 - very dark brown, moderately compacted, silty sand - moderate charcoal flecks and occasional small stone inclusions
120	Fill	121	Primary fill of pit 121 - dark grey-brown, moderately compacted, silty sand - occasional charcoal flecks and moderate small-medium stone inclusions
121	Cut	-	Cut of pit
122	Fill	124	Secondary fill of posthole 124 - dark brown, moderately compacted, sandy silt - occasional charcoal flecks and moderate small stone inclusions
123	Fill	124	Primary fill of posthole 124 - dark grey-brown, moderately compacted, sandy silt - occasional charcoal flecks and occasional small stone inclusions
124	Cut	-	Cut of posthole
125	Fill	126	Single fill of spread 126 - mid grey-brown, moderately compacted, silty sand - occasional charcoal flecks and occasional small stone inclusions
126	Cut	-	Cut of spread
127	-	-	VOID
128	Fill	129	Single fill of pit 129 - mid grey, firmly compacted, silty clay - charcoal flecks
129	Cut	-	Cut of pit
130	Fill	131	Single fill of pit 131 - dark grey, firmly compacted, silty clay
131	Cut	-	Cut of pit
132	Fill	133	Single fill of pit 133 - light-mid brown-grey, firmly compacted, silty clay
133	Cut	-	Cut of pit
134	Fill	135	Single fill of pit 135 - light-mid brown-grey, firmly compacted, silty clay
135	Cut	-	Cut of pit
136	Fill	138	Secondary fill of pit 138 - mid brown-grey, firmly compacted, silty clay
137	Fill	138	Primary fill of pit 138 - dark grey, firmly compacted, silty clay
138	Cut	-	Cut of pit
139	Fill	140	Single fill of N-S ditch segment 140 - mid grey-brown, loosely compacted, sandy clay - occasional stone inclusions
140	Cut	-	Cut of N-S ditch segment
141	Group	-	Cluster of 4 interlinking pits
142	Fill	144	Secondary fill of NW-SE ditch segment 144 - mid grey-brown, loosely compacted, silty sand - occasional charcoal flecks and very occasional small stone inclusions
143	Fill	144	Primary fill of NW-SE ditch segment 144 - light grey-brown, loosely compacted, silty sand - occasional charcoal flecks and occasional small stone inclusions
144	Cut	-	Cut of NW-SE ditch segment
145	Fill	146	Single fill of N-S ditch segment 146 - mid grey, moderately compacted, silty sand - occasional stone inclusions
146	Cut	-	Cut of N-S ditch segment
147	Fill	148	Single fill of N-SE ditch segment 148 - mid grey-brown, loosely compacted, silty sand - occasional stone inclusions
148	Cut	-	Cut of N-SE ditch segment
149	Fill	-	Single fill of spread containing skeleton 150 - dark grey-brown, loosely compacted, silty sand - occasional charcoal flecks and occasional small stone inclusions
150	Skeleton	-	Skeleton

151	Skeleton	-	Skeleton
152	Fill	153	Single fill of NW-SE ditch segment 153 - mid brown-grey, firmly compacted, clayey sand
153	Cut	-	Cut of NW-SE ditch segment
154	Fill	155	Single fill of NW-SE ditch segment - mid brown-grey, firmly compacted, clayey sand
155	Cut	-	Cut of NW-SE ditch segment
156	Fill	157	Single fill of N-S ditch segment 157 - mid grey-brown, loosely compacted, silty, sandy clay - occasional stone inclusions
157	Cut	-	Cut of N-S ditch segment
158	Fill	159	Single fill of pit 150 - mid brown-grey, moderately compacted, slightly clayey sand
159	Cut	-	Cut of pit
160	Fill	161	Single fill of pit 161 containing piglet skeletons 172 - dark grey-brown, moderately compacted, silty sand - moderate charcoal flecks and moderate small stone inclusions
161	Cut	-	Cut of pit
162	Group	-	N-S gully
163	Group	-	N-SE gully
164	Group	-	N-SE gully
165	Group	-	N-SE gully
166	Fill	168	Single fill of grave 168 containing skeleton 167 - mid brown-grey, firmly compacted, clayey sand
167	Skeleton	168	Skeleton
168	Cut	-	Cut of grave containing skeleton 167
169	Fill	171	Single fill of grave 171 containing skeleton 170 - mid grey, loosely compacted, silty sand - occasional charcoal flecks and occasional small stone inclusions
170	Skeleton	171	Skeleton
171	Cut	-	Cut of grave containing skeleton 170
172	Skeleton	161	Piglet Skeletons
173	Skeleton	-	Skeleton
174	Fill	175	Single fill of W-E ditch segment 175
175	Cut	-	Cut of W-E ditch segment

APPENDIX 2

Drawn Archive Listing

Drawing	Scale	Context	Description
1	1:10	005	N-facing section of pit 005
2	1:20	005	Plan of pit 005
3	1:10	008	S-facing section of pit 008
4	1:20	008	Plan of pit 008
5	1:10	013	N-facing section of pit 013
6	1:20	013	Plan of pit 013
7	1:10	015	S-facing section of pit 015
8	1:10	017	S-facing section of pit 017
9	1:20	015, 017	Plan of pits 015 and 017
10	1:10	019	E-facing section of furrow segment 019
11	1:20	019	Plan of furrow segment 019
12	1:10	021	E-facing section of gully segment 021
13	1:20	021	Plan of gully segment 021
14	1:10	023, 025	W-facing section of ditch segments 023 and 025
15	1:20	023, 025	Plan of ditch segments 023 and 025
16	1:10	027, 029	E-facing section of ditch segments 027 and 029
17	1:20	027, 029	Plan of ditch segments 027 and 029
18	1:10	031, 033	W-facing section of pit 031 and gully segment 033
19	1:20	031, 033	Plan of pit 031 and gully segment 033
20	1:10	035	E-facing section of gully segment 035
21	1:20	035	Plan of gully segment 035
22	1:10	037	E-facing section of gully segment 037
23	1:20	037	Plan of gully segment 037
24	1:10	039	NW-facing section of gully segment 039
25	1:20	039	Plan of gully segment 039
26	1:10	041	W-facing section of gully segment 041
27	1:20	041	Plan of gully segment 041
28	1:10	043	E-facing section of ditch segment 043
29	1:20	043	Plan of ditch segment 043
30	1:10	045	W-facing section of pit 045
31	1:20	045	Plan of pit 045
32	1:10	047	W-facing section of pit 047
33	1:20	047	Plan of pit 047
34	1:10	049, 051	N-facing section of ditch segment 049 and gully segment 051
35	1:20	049, 051	Plan of ditch segment 049 and gully segment 051
36	1:10	053	E-facing section of ditch segment 053
37	1:20	053	Plan of ditch segment 053
38	1:10	057	N-facing section of ditch segment 057
39	1:20	057	Plan of ditch segment 057
40	1:10	059	E-facing section of ditch segment 059
41	1:20	059	Plan of ditch segment 059

42	1:10	063, 065	W-facing section of ditch segments 063 and 065
43	1:20	063, 065	Plan of ditch segments 063 and 065
44	1:10	067	S-facing section of SE quadrant of pit 067
45	1:10	067	E-facing section of SE quadrant of pit 067
46	1:10	067	N-facing section of NW quadrant of pit 067
47	1:10	067	W-facing section of NW quadrant of pit 067
48	1:20	067	Plan of pit 067
49	1:10	069	SE-facing section of pit quadrant 069
50	1:10	071	NE-facing section of pit quadrant 071
51	1:10	074	N-facing section of ditch segment 074
52	1:20	074	Plan of ditch segment 074
53	1:10	076	N-facing section of ditch segment 076
54	1:20	076	Plan of ditch segment 076
55	1:10	094	E-facing section of pit 094
56	1:20	094	Plan of pit 094
57	1:10	083	NW-facing section of ditch segment 083
58	1:20	083	Plan of ditch segment 083
59	1:10	079, 081	S-facing section of ditch segments 079 and 081
60	1:20	079, 081	Plan of ditch segments 079 and 081
61	1:10	090, 092	SW-facing section of ditch segments 090 and 092
62	1:20	090, 092	Plan of ditch segments 090 and 092
63	1:10	098	SW-facing section of ditch segment 098
64	1:20	098	Plan of ditch segment 098
65	1:10	095	E-facing section of pit 095
66	1:20	095	Plan of pit 095
67	1:10	085	SE-facing section of pit 085
68	1:20	085	Plan of pit 085
69	1:10	087	SE-facing section of pit 087
70	1:20	087	Plan of pit 087
71	1:10	100, 102, 104	SE-facing section of pits 100, 102 and 104
72	1:20	100, 102, 104	Plan of pits 100, 102 and 104
73	1:10	106	SW-facing section of ditch segment 106
74	1:20	106	Plan of ditch segment 106
75	1:10	110	NW-facing section of pit quadrant 110
76	1:10	110	SW-facing section of pit quadrant 110
77	1:10	112	SW-facing section of ditch segment 112
78	1:20	112	Plan of ditch segment 112
79	1:10	114, 116	N-facing section of ditch segments 114 and 116
80	1:20	114, 116	Plan of ditch segments 114 and 116
81	1:20	071, 110, 175	Plan of pit and ditch 175
82	1:10	118	W-facing section of pit 118
83	1:50	118, 121, 124, 126, 129, 131, 133, 135, 138	Plan of NE area of site
84	1:10	121	N-facing section of pit 121
85	1:10	124	S-facing section of posthole 124
86	1:10	129, 131, 133, 135, 138	N-facing section of pits 129, 131, 133, 135 and 138

87	1:10	140	N-facing section of ditch segment 140
88	1:20	140	Plan of ditch segment 140
89	1:10	144	SE-facing section of ditch segment 144
90	1:20	144	Plan of ditch segment 144
91	1:10	153, 155	SW-facing section of ditch segments 153 and 155
92	1:10	153	NE-facing section of ditch segment 153
93	1:10	155	NE-facing section of ditch segment 155
94	1:20	153, 155	Plan of ditch segments 153 and 155
95	1:10	159	E-facing section of pit 159
96	1:20	159	Plan of pit 159
97	1:10	146, 148	NW-facing section of ditch segments 146 and 148
98	1:10	157	NW-facing section of ditch segment 157
99	1:20	146, 148, 157	Plan of ditch segments 146, 148 and 157
100	1:10	167	Plan of skeleton 167
101	1:10	150	Plan of skeleton 150
102	1:10	172	Plan of dog skeletons 172
103	1:20	161	Plan of pit 161
104	1:10	170	Plan of skeleton 170
105	1:20	171	Plan of grave 171
106	1:10	171	NE-facing profile of grave 171
107	1:20	168	Plan of grave 168
108	1:10	168	SW-facing profile of grave 168
109	1:10	161	S-facing profile of pit 161

APPENDIX 3

Photographic Archive Listing

Digital

Frame	Context	Scale	Facing	Description
1	-	-	SE	General site overview
2	-	-	W	General site overview
3	-	-	NW	General site overview
4	-	-	NW	General site overview
5	-	-	S	General site overview
6	-	-	NW	General site overview
7	-	-	SW	General site overview
8	-	-	NW	General site overview
9	-	-	N	General site overview
10	-	-	SE	Stripping Site
11	008	1m	N	Pit 008, pre-excavation
12	-	-	NW	Stripping Site
13	-	-	SE	Stripping Site
14	008	1m	N	S-facing section of pit 008
15	008	1m	N	S-facing section of pit 008
16	-	-	-	Assumed pit, pre-excavation
17	005	2m	S	N-facing section of pit 005
18	013	2m	S	N-facing section of pit 013
19	013	2m	S	N-facing section of pit 013
20	019	1m	W	E-facing section of furrow segment 019
21	019	1m	W	E-facing section of furrow segment 019
22	-	-	NW	Stripping Site
23	015	1m	NE	SW-facing section of pit 015
24	017	1m	NE	SW-facing section of pit 017
25	015, 017	-	NE	Oblique view of pits 015 and 017
26	021	1m	E	W-facing section of ditch segment 021
27	021	1m	E	W-facing section of ditch segment 021
28	027, 029	1m	W	E-facing section of ditch segments 027 and 029
29	027, 029	1m	W	E-facing section of ditch segments 027 and 029
30	023, 025	1m	E	W-facing section of ditch segments 023 and 025
31	023, 025	1m	E	W-facing section of ditch segments 023 and 025
32	031, 033	1m	NW	SE-facing section of pit 031 and gully segment 033
33	035	1m	W	E-facing section of gully segment 035
34	035	1m	W	E-facing section of gully segment 035
35	039	1m	SE	NW-facing section of gully segment 039
36	039	1m	SE	NW-facing section of gully segment 039
37	041	1m	SE	NW-facing section of gully segment 041
38	043	1m	W	E-facing section of ditch segment 043

39	043	1m	W	E-facing section of ditch segment 043
40	-	-	NW	Stripping Site
41	-	-	NW	Stripping Site
42	-	-	SE	Stripping Site
43	045	1m	E	W-facing section of pit 045
44	047	1m	E	W-facing section of pit 047
45	049, 051	1m	E	W-facing section of ditch segment 049 and gully segment 051
46	049, 051	1m	S	W-facing section of ditch segment 049 and gully segment 051
47	053	1m	W	E-facing section of ditch segment 053
48	053	1m	W	E-facing section of ditch segment 053
49	-	-	SE	Stripping Site
50	-	-	S	Stripping Site
51	-	-	SE	Stripping Site
52	057	1m	E	W-facing section of ditch corner 057
53	057	1m	S	N-facing section of ditch corner 057
54	057	1m	E	Oblique view of ditch corner 057
55	059	-	E	W-facing section of ditch segment 059
56	063, 065	1m	W	E-facing section of ditch segments 063 and 065
57	063, 065	1m	W	E-facing section of ditch segments 063 and 065
58	063, 065	1m	W	E-facing section of ditch segments 063 and 065
59	070	-	-	Vessel in pit 071
60	071	-	SE	Working shot, pit 071
61	071	-	NW	Working shot, pit 071
62	071	2m	SW	NE-facing section of pit quadrant 071
63	071	2m	SW	NE-facing section of pit quadrant 071
64	071	2m	NW	SE-facing section of pit quadrant 071
65	071	2m	NW	SE-facing section of pit quadrant 071
66	067	-	N	S-facing section of SE quadrant of pit 067
67	067	1m	N	S-facing section of SE quadrant of pit 067
68	067	-	S	N-facing section of NW quadrant of pit 067
69	067	1m	S	N-facing section of NW quadrant of pit 067
70	067	-	E	W-facing section of NW quadrant of pit 067
71	067	1m	E	W-facing section of NW quadrant of pit 067
72	067	-	W	E-facing section of SE quadrant of pit 067
73	067	1m	W	E-facing section of SE quadrant of pit 067
74	-	-	SW	Stripping Site
75	-	-	SW	Stripping Site
76	074	1m	S	N-facing section of ditch segment 074
77	074	1m	S	N-facing section of ditch segment 074
78	076	1m	SE	NW-facing section of ditch segment 076
79	079, 081	1m	N	S-facing section of ditch segments 079 and 081
80	079, 081	1m	N	S-facing section of ditch segments 079 and 081
81	083	1m	SE	NW-facing section of ditch segment 083
82	083	1m	SE	NW-facing section of ditch segment 083
83	085	1m	SE	NW-facing section of ditch segment 085

84	085	1m	SE	NW-facing section of ditch segment 085
85	090, 092	1m	NE	SW-facing section ditch segments 090 and 092
86	090, 092	1m	NE	SW-facing section ditch segments 090 and 092
87	094	1m	W	E-facing section of pit 094
88	087	1m	NW	SE-facing section of pit 087
89	087	1m	NW	SE-facing section of pit 087
90	096	1m	W	E-facing section of pit 096
91	098	1m	NE	SW-facing section of ditch segment 098
92	098	1m	NE	SW-facing section of ditch segment 098
93	100, 102, 104	2m	NW	SE-facing section of pits 100, 102, 104
94	100, 102, 104	2m	NW	SE-facing section of pits 100, 102, 104
95	100, 102, 104	2m	NW	SE-facing section of pits 100, 102, 104
96	110	2m	NE	NW-facing section of pit quadrant 110 and ditch segment 175
97	110, 175	2m	NE	NW-facing section of pit quadrant 110 and ditch segment 175
98	110, 175	2m	NW	SE-facing section of pit quadrant 110
99	110	2m	NW	SE-facing section of pit quadrant 110
100	106	1m	NE	SW-facing section of ditch segment 106
101	106	1m	NE	SW-facing section of ditch segment 106
102	112	1m	NE	SW-facing section of ditch segment 112
103	112	1m	NE	SW-facing section of ditch segment 112
104	114, 116	1m	S	N-facing section of ditch segments 114 and 116
105	-	-	SE	Stripped area SE of site
106	-	-	NW	Stripped area SE of site
107	118	1m	E	W-facing section of pit 118
108	121	1m	S	N-facing section of pit 121
109	121	1m	E	Oblique view of pit 121
110	124, 126	1m	N	S-facing section of posthole 124 and spread 126
111	124, 126	1m	N	S-facing section of posthole 124 and spread 126
112	129, 131, 133, 135, 138	2m	S	N-facing section of pits 129, 131, 133, 135, 138
113	129, 131, 133, 135, 138	2m	S	N-facing section of pits 129, 131, 133, 135, 138
114	129, 131, 133, 135, 138	2m	S	Oblique view of pits 129, 131, 133, 135, 138 (Group 141)
115	129, 133	1m	S	N-facing section of pits 129 and 133
116	129, 131, 135	1m	S	N-facing section of pits 129, 131 and 135
117	129, 131, 138	1m	S	N-facing section of pits 129, 131 and 138
118	131, 138	1m	S	N-facing section of pits 131 and 138
119	140	1m	S	N-facing section of ditch segment 140
120	144	1m	NW	SE-facing section of ditch segment 144
121	144	1m	NW	SE-facing section of ditch segment 144
122	146, 148	2m	NW	SE-facing section of ditch segments 146 and 148
123	150	1m	E	Skeleton 150
124	150	1m	E	Skeleton 150
125	153, 155	2m	NE	SW-facing section of ditch segments 153 and 155

126	153	1m	SW	NE-facing section of ditch segment 153
127	155	1m	SW	NE-facing section of ditch segment 153
128	172	1m	S	Piglet skeletons 172
129	172	1m	S	Piglet skeletons 172
130	157	1m	SE	NW-facing section of ditch segment 157
131	159	1m	W	E-facing section of pit 159
132	159	1m	W	E-facing section of pit 159
133	161	1m	S	Pit 161
134	161	1m	S	Pit 161
135	167	1m	NE	Skeleton 167
136	167	1m	NE	Skeleton 167
137	167	1m	W	Skeleton 167
138	167, 170	-	SW	Working shot, skeletons 167 and 170
139	167, 170	-	SE	Working shot, skeletons 167 and 170
140	170, 173	1m	SW	Skeletons 170 and 173
141	170, 173	1m	SW	Skeletons 170 and 173
142	170, 173	1m	SE	Skeletons 170 and 173
143	167, 170, 173	1m	SW	Skeletons 167, 170 and 173
144	167, 170, 173	1m	SW	Skeletons 167, 170 and 173
145	171	1m	NW	Grave 171
146	171	1m	NW	Grave 171
147	171	1m	SW	Grave 171
148	168	1m	NE	Grave 168
149	168	1m	SE	Grave 168

APPENDIX 4

Environmental Sample Listing

Sample	Context Sampled	Cut	Type	Description
1	006	008	GBA	Secondary fill of pit 008
2	004	005	GBA	Primary fill of pit 005
3	014	015	GBA	Single fill of pit 015
4	016	017	GBA	Single fill of posthole 017
5	030	031	GBA	Single fill of pit 031
6	032	033	GBA	Single fill of gully segment 033
7	038	039	GBA	Single fill of gully 039
8	040	041	GBA	Single fill of gully segment 041
9	042	043	GBA	Single fill of ditch segment 043
10	011	013	GBA	Secondary fill of pit 013
11	020	021	GBA	Single fill of ditch segment 021
12	048	049	GBA	Single fill of ditch segment 049
13	055	057	GBA	Secondary fill of ditch segment 057
14	058	059	GBA	Primary fill of ditch segment 059
15	061	063	GBA	Secondary fill of ditch segment 063
16	066	067	GBA	Single fill of pit 067
17	072	074	GBA	Secondary fill of ditch segment 074
18	084	085	GBA	Single fill of pit 085
19	086	087	GBA	Single fill of pit 087
20	095	096	GBA	Single fill of pit 096
21	093	094	GBA	Single fill of pit 094
22	075	076	GBA	Single fill of ditch segment 076
23	097	098	GBA	Single fill of ditch segment 098
24	078	079	GBA	Primary fill of ditch segment 079
25	099	100	GBA	Single fill of pit 100
26	103	104	GBA	Single fill of pit 104
27	105	106	GBA	Single fill of ditch segment 106
28	109	110	GBA	Primary fill of pit 110
29	111	112	GBA	Single fill of ditch segment 112
30	113	114	GBA	Single fill of ditch segment 114
31	070	071	GBA	Single fill of pit 071
32	117	118	GBA	Single fill of pit 118
33	128	129	GBA	Single fill of pit 129
34	137	138	GBA	Primary fill of pit 138
35	139	140	GBA	Single fill of ditch segment 140
36	143	144	GBA	Primary fill of ditch segment 144
37	152	153	GBA	Single fill of ditch segment 153
38	154	155	GBA	Single fill of ditch segment 155
39	156	157	GBA	Single fill of ditch segment 157

40	169	171	GBA	Single fill of grave 171
41	169	171	Spot Sample	Fill around pelvis of skeleton 170, grave 171
42	160	161	GBA	Single fill of pit 161
43	149	151	GBA	Single fill around skeleton 150
44	166	168	GBA	Single fill of grave 168
45	166	168	Spot Sample	Fill around pelvis of skeleton 167, grave 168

APPENDIX 5

Finds Listing

Context	Material	Total	Description	Weight (g)	Total Weight (g)
001	Pottery	30	1 Samian Rim Sherds	94	226
			4 Roman Body Sherds	132	
			1 Medieval Body Sherd	17	66
			1 Medieval Base Sherd	49	
			4 Post-Med Rim Sherds	26	234
			17 Post-Med Body Sherds	122	
			2 Post-Med Base Sherds	86	
			16 Animal Bone	16	
	Clay	1	1 Clay Pipe Stem	1	1
	Glass	2	2 Post-Med Glass Fragments	50	50
002	Pottery	10	1 Samian Body Sherd	15	15
			9 Post-Med Sherds	80	80
	Shell	3	3 Shell Fragments	37	37
003	Pottery	3	1 Medieval Rim Sherd	87	265
			2 Medieval Body Sherd	178	
004	Pottery (Flot 002)	7	7 Roman Body Sherds	19.88	19.88
	Animal Bone (Flot 002)	26	26 Animal Bone Fragments	68.53	68.53
	Clay (Flot 002)	6	6 Fired Clay Fragments	11.33	11.33
	Metal (Flot 002)	2	2 Fe Objects	10.86	10.86
006	Pottery	11	2 Medieval Body Sherds	48	128
			1 Med Base Sherd w/ Residue	80	
			1 Post-Med Rim Sherd	102	291
			6 Post-Med Body Sherds	135	
			1 Post-Med Base Sherd	54	
	Pottery (Flot 001)	1	1 Med Body Sherd	8	8
	Animal Bone	39	38 Animal Bone Fragments	1518	1530
			1 Burnt Bone Fragment	12	
	Animal Bone (Flot 001)	9	9 Animal Bone Fragments	80.06	80.06
	CBM	10	10 CBM Fragment	741	14
	CBM (Flot 001)	8	8 CBM Fragments	48	48
	Clay	1	1 Clay Pipe Stem	2	2
	Clay (Flot 001)	1	1 Clay Pipe Stem	1	1
	Shell	2	2 Oyster Shell Fragments	1	1
	Metal (Flot 001)	9	9 Fe Objects	22.80	22.80
	Residue	1	1 Industrial Waste	28	28
	Residue (Flot 001)	9	9 Industrial Waste Fragments	58.33	58.33

	Glass (Flot 001)	1	1 Glass Fragment	7.32	7.32
007	Pottery	1	1 Medieval Body Sherd	12	12
011	Pottery	2	1 Roman Rim Sherd	12	552
			1 Roman Handle Sherd	440	
	Animal Bone	2	2 Animal Bone Fragments	22	22
	CBM	2	2 CBM Fragments	71	71
	Clay	1	1 Fired Clay	8.11	8.11
018	Pottery	3	1 Roman Body Sherd	2	74
			2 Roman Handle Sherds	72	
022	Pottery	1	1 Roman Base Sherd	9	9
028	Pottery	1	1 Roman Body Sherd	4	4
030	Clay	1	1 Fired Clay Fragment	20	20
034	Pottery	1	1 Roman Body Sherd	1	1
042	Pottery	7	3 Roman Body Sherds	8	8
			4 Medieval Body Sherds	32	32
	CBM	4	4 CBM Fragments	24	24
044	Pottery	2	2 Roman Body Sherds	24	24
	CBM	2	2 CBM Fragments	2	2
046	Pottery	3	3 Roman Body Sherds	4	4
	CBM	2	2 CBM Fragments	12	12
048	Shale (Flot 012)	2	2 Shale Fragments	5.47	5.47
055	Pottery	1	1 Body Sherd	6	6
	Pottery (Flot 013)	1	1 Roman Body Sherd	3	3
	Animal Bone	18	18 Animal Bone Fragments	34	34
	Animal Bone (Flot 013)	16	16 Animal Bone Fragments	2	2
058	Pottery (Flot 014)	2	2 Roman Body Sherds	6.94	6.94
	Animal Bone	10	10 Animal Bone Fragments	34	34
	Animal Bone (Flot 014)	4	4 Animal Bone Fragments	8.09	8.09
	Residue	1	1 Industrial Waste Fragment	75.61	75.61
061	Pottery	1	1 Samian Body Sherd	36	36
	Animal Bone	14	3 Animal Tooth	48	463
			1 Maxilla Fragments	11	

			10 Animal Bone Fragments	404	
	Animal Bone (Flot 015)	2	2 Animal Bone Fragments	2.68	2.68
	CBM	1	1 CBM Fragment	17	17
	CBM (Flot 015)	1	1 CBM Fragment	3.78	3.78
	Residue	1	1 Industrial Waste Fragment	55	55
	Shale	1	1 Shale Fragments	15	15
064	Pottery	3	2 Roman Body Sherd	13	14.09
			1 Samian Body Sherd	1.09	
	Animal Bone	9	2 Horn Cores	43	88
			7 Animal Bone Fragments	45	
	Shale	6	6 Shale Fragments	66	66
066	Pottery	36	4 Roman Rim Sherds	241	711
			13 Roman Body Sherd	160	
			1 Roman Handle Sherd	230	
			2 Roman Base Sherd	80	
			4 Samian Rim Sherds	95	173
			3 Samian Body Sherd	44	
			1 Samian Base Sherd	34	
			1 Medieval Rim Sherd	53	193
			6 Medieval Body Sherds	140	
			1 Post-Med Body Sherd	8	8
	Pottery (Flot 016)	3	3 Roman Body Sherds	8.31	8.31
	Animal Bone	157	7 Horn Core	662	3944
			5 Animal Teeth	85	
			2 Maxilla Fragments	263	
			2 Mandible Fragments	103	
			141 Animal Bone Fragments	2831	
	Animal Bone (Flot 016)	51	51 Animal Bone Fragmenst	113.03	113.03
	CBM	4	4 CBM Fragment	389	389
	CBM (Flot 016)	1	1 CBM Fragment	5.05	5.04
	Metal	2	2 Fe Nails	19	19
	Residue	9	9 Industrial Waste Fragments	1.78	1.78
	Shale	18	18 Shale Fragments	1305	1305
	Shale (Flot 016)	20	20 Shale Fragments	89.96	89.96
070	Pottery	92	15 Roman Rim Sherds	615	3301
			55 Roman Body Sherds	2366	
			1 Roman Handle Sherd	17	
			6 Roman Base Sherd	303	
			8 Samian Rim Sherds	473	826
			5 Samian Body Sherds	137	
			2 Samian Base Sherds	216	
	Pottery (Flot 031)	2	1 Roman Body Sherd	3	6
			1 Med Body Sherd	3	

	Animal Bone	64	1 Horn Core	108	1220
			1 Animal Tooth	20	
			60 Animal Bone Fragments	1081	
			2 Burnt Bone Fragments	11	
	CBM	13	13 CBM Fragments	2176	2176
	CBM (Flot 031)	1	1 CBM Fragment	1	1
	Metal	1	1 Fe Object	8	8
	Residue	1	1 Industrial Waste Fragment	7	7
	Shale	1	1 Shale Fragments	16	16
	Shell	1	1 Oyster Shell	9	9
072	Pottery	1	1 Medieval Base Sherd	43	43
	Animal Bone	4	1 Animal Tooth	35	91
			3 Animal Bone Fragments	56	
	Animal Bone (Flot 017)	1	1 Animal Bone Fragment	10.72	10.72
075	Pottery (Flot 022)	2	2 Rim Sherds	31.41	31.41
	Animal Bone (Flot 022)	1	1 Animal Bone Fragment	0.46	0.46
077	Animal Bone	5	5 Animal Bone Fragment	49	49
	CBM	1	1 CBM Fragment	62	62
	Shale	1	1 Shale Fragment	10	10
078	Pottery (Flot 024)	3	3 Roman Body Sherds	7.23	7.23
	Animal Bone (Flot 024)	5	5 Animal Bone Fragments	1.72	1.72
	Residue (Flot 024)	3	3 Industrial Waste Fragments	16.60	16.60
084	Pottery	3	1 Roman Rim Sherd	12	31
			2 Roman Body Sherds	19	
	Pottery (Flot 018)	1	1 Roman Body Sherd	1.10	1.10
	Animal Bone (Flot 084)	4	4 Animal Bone Fragments	0.82	0.82
	Metal (Flot 018)	1	1 Fe Nail	5.14	5.14
086	Pottery	2	1 Medieval Rim Sherd	10	10
	Animal Bone (Flot 019)	4	4 Animal Bone Fragments	0.31	0.31
	Metal	2	2 Fe Objects	6	6
	CBM	1	1 CBM Fragment	6	6
088	Pottery	2	1 Roman Rim Sherd	18	20
			1 Roman Body Sherd	2	
	Animal Bone	8	1 Animal Tooth	36	237
			1 Mandible Fragment	29	
			6 Animal Bone Fragments	169	
	CBM	1	1 CBM Fragment	71	71
	Shale	1	1 Shale Fragment	3	3

089	Pottery	2	1 Roman Rim Sherd	36	78
			1 Roman Base Sherd	42	
093	Pottery	2	2 Medieval Body Sherd	17	17
	Pottery (Flot 021)	2	2 Body Sherds	4	4
	Animal Bone	335	16 Animal Teeth	59	5489
			3 Maxilla Fragment	221	
			2 Mandible Fragment	554	
			314 Animal Bone Fragments	4655	
	Animal Bone (Flot 021)	62	62 Animal Bone Fragments	45.38	45.38
CBM (Flot 021)	1	1 CBM Fragment	4	4	
Shale (Flot 021)	9	9 Shale Fragments	8.69	8.69	
097	Pottery	9	2 Roman Rim Sherds	53	141
			6 Roman Body Sherds	64	
			1 Samian Rim Sherd	24	
	Pottery (Flot 023)	4	3 Roman Body Sherd	24	49
			1 Roman Base Sherd	25	
	Animal Bone	2	2 Animal Bone Fragments	8	8
	Animal Bone (Flot 023)	4	1 Animal Tooth	5.65	5.65
			3 Animal Bone Fragments	2	
	Metal (Flot 023)	1	1 Fe Nail	5.38	5.38
	Residue (Flot 023)	1	1 Industrial Waste Fragment	4.46	4.46
Shale	1	1 Shale Fragment	11	11	
099	Pottery	3	3 Roman Body Sherds	128	128
	Pottery (Flot 025)	3	2 Roman Body Sherds	4	4
			1 Samian Rim Sherd	1	1
	Animal Bone	14	1 Mandible Fragment	37	434
			13 Animal Bone Fragments	397	
	Animal Bone (Flot 025)	8	1 Animal Tooth	11	18
			7 Animal Bone Fragments	7	
Shale	1	1 Shale Fragment?	17	17	
Shale (Flot 025)	33	33 Shale Fragments	42.02	42.02	
103	Animal Bone	130	1 Horn Core	104	5785
			7 Animal Teeth	30	
			2 Maxilla Fragment	371	
			2 Mandible Fragments	750	
			118 Animal Bone Fragments	4530	
Animal Bone (Flot 026)	9	9 Animal Bone Fragments	8.85	8.85	
105	Pottery	5	2 Medieval Rim Sherds	256	319
			3 Medieval Body Sherds	63	
	Pottery (Flot 027)	1	1 Roman Body Sherd	1	1
Animal Bone	5	1 Animal Tooth	5	98	

			1 Mandible Fragment	60	
			3 Animal Bone Fragments	33	
	Animal Bone (Flot 027)	3	1 Animal Tooth	1	4
			2 Animal Bone Fragments	3	
	CBM	2	2 CBM Fragments	156	156
	Metal (Flot 027)	1	1 Fe Object	5.99	5.99
107	Pottery	39	7 Roman Rim Sherd	545	2350
			3 Roman Handle Sherd	534	
			23 Roman Body Sherds	1212	
			2 Roman Base Sherd	59	
			2 Samian Rim Sherds	13	134
			2 Samian Base Sherds	121	
	Animal Bone	31	2 Horn Cores	132	579
			2 Animal Teeth	13	
			2 Mandible Fragments	43	
			25 Animal Bone Fragments	391	
	CBM	4	4 CBM Fragment	344	344
	Daub	3	3 Daub Fragments	77	77
108	Pottery	201	19 Roman Rim Sherds	1086	4764
			134 Roman Body Sherds	2466	
			18 Roman Base Sherds	880	
			3 Roman Handle Sherd?	332	
			1 Samian Rim Sherd	343	1463
			21 Samian Body Sherd	1008	
			4 Samian Base Sherd	111	
			1 Pottery Fragment w/ Graffiti	35	35
	Animal Bone	89	5 Horn Cores	393	1992
			2 Animal Teeth	3	
			3 Mandible Fragments	90	
			78 Animal Bone Fragments	1505	
			1 Burnt Bone Fragment	1	
	CBM	4	4 CBM Fragment	477	477
	Metal	2	1 Fe Hook	198	226
			1 Fe Object	28	
109	Pottery	28	4 Roman Rim Sherds	539	1088
			21 Roman Body Sherds	535	
			1 Roman Handle Sherd	14	
			1 Samian Rim Sherd	15	17
			1 Samian Body Sherd	2	
	Pottery (Flot 028)	14	1 Roman Rim Sherd	4	40
			11 Roman Body Sherds	36	
			1 Roman Base Sherd	5	6

			1 Samian Rim Sherd	1	
	Animal Bone	27	27 Animal Bone Fragments	631	631
	Animal Bone (Flot 028)	43	1 Horn Core	42	191
			40 Animal Bone Fragments	148	
			2 Burnt Bone Fragments	1	
	CBM	2	2 CBM Fragment	17	17
	Residue (Flot 028)	14	14 Industrial Waste Fragments	69.30	69.30
	Shale	1	1 Shale Fragment	3	3
111	Pottery	1	1 Samian Rim Sherd	3	3
	Pottery (Flot 029)	1	1 Roman Body Sherd	1.48	1.48
113	Pottery	3	3 Roman Body Sherds	80	80
	Animal Bone (Flot 030)	6	6 Animal Bone Fragments	13.17	13.17
	Metal (Flot 030)	1	1 Fe Object	3.24	3.24
	Residue (Flot 030)	4	4 Industrial Waste Fragments	10.70	10.70
117	Pottery	1	1 Samian Body Sherd	2	2
	Pottery (Flot 032)	2	2 Roman Body Sherds	7.54	7.54
	Animal Bone (Flot 032)	5	5 Animal Bone Fragments	5.41	5.41
120	Pottery	63	5 Roman Rim Sherd	158	890
			48 Roman Body Sherds	648	
			1 Roman Base Sherd	84	
			5 Samian Rim Sherds	230	277
			4 Samian Body Sherds	47	
	Animal Bone	1	1 Animal Bone Fragment	13	13
	CBM	1	1 CBM Fragment	62	62
	Fired Clay	1	1 Fired Clay Fragment	88	88
	Metal	2	2 Fe Objects	31	31
125	Pottery	3	2 Roman Body Sherds	152	203
			1 Roman Base Sherd	51	
	Animal Bone	1	1 Animal Bone Fragment	18	18
128	Pottery	4	4 Medieval Body Sherds	143	143
	Pottery (Flot 033)	3	3 Roman Body Sherds	5.21	5.21
	CBM	31	31 CBM Fragments	4270	4270
	Animal Bone (Flot 033)	6	6 Animal Bone Fragments	17.65	17.65
130	Pottery	5	4 Medieval Body Sherds	241	371
			1 Medieval Handle Sherd	130	
	Animal Bone	250	5 Animal Tooth	123	13228
			6 Horn Core	920	
			239 Animal Bone Fragments	12185	
	CBM	1	1 CBM Fragment	475	475

	Charcoal	2	2 Charcoal Fragments	2	2
132	Pottery	16	4 Roman Rim Sherds 11 Roman Body Sherds 1 Roman Base Sherd	239 360 32	631
134	Pottery	9	2 Roman Rim Sherds 4 Samian Rim Sherds 3 Samian Body Sherds	140 43 17	140 60
	CBM	1	1 CBM Fragment	54	54
137	Animal Bone (Flot 034)	2	2 Animal Bone Fragments	0.30	0.30
	CBM (Flot 034)	1	1 CBM Fragment	11.68	11.68
139	Animal Bone (Flot 035)	8	8 Animal Bone Fragments	2.3	2.3
	Residue (Flot 035)	4	4 Industrial Waste Fragments	5	5
142	Pottery	3	2 Roman Body Sherds 1 Samian Base Sherd	17 145	162
	Animal Bone	2	1 Horn Core 1 Animal Bone Fragments	78 132	210
143	Animal Bone (Flot 036)	4	4 Animal Bone Fragments	10.74	10.74
149	Animal Bone (Flot 043)	14	14 Animal Bone Fragments	8.52	8.52
	Residue (Flot 043)	12	12 Industrial Waste Fragments	58.30	58.30
<150>	Human Bone	46	8 Skull Fragments 8 Vertebrae Fragments 12 Rib Fragments 1 Left Radius Fragment 6 Hand Fragments 3 Pelvis Fragment 2 Left Femur Fragments 6 Misc Fragments	50 12 67 5 9 95 196 12	446
<151>	Human Bone	9	1 Right Radius Fragment 1 Left Femur Fragment 4 Left Tibia Fragments 1 Left Fibula Fagment 1 Left Foot Fragment 1 Misc Fragment	17 115 167 7 6 7	319
152	Pottery	2	1 Roman Rim Sherd 1 Roman Body Sherd	8 6	14
	Pottery (Flot 037)	2	2 Roman Body Sherds	3.78	3.78

	Animal Bone (Flot 037)	26	26 Animal Bone Fragments	26.06	26.06
154	Pottery	2	1 Roman Rim Sherd	9	46
			1 Roman Body Sherd	37	
	Pottery (Flot 038)	1	1 Roman Body Sherd	1.51	1.51
	Animal Bone	6	1 Horn Core	173	535
			5 Animal Bone Fragments	362	
	Animal Bone (Flot 038)	1	1 Horn Core	103.98	103.98
	CBM	1	1 CBM Fragment	119	119
156	Pottery (Flot 039)	4	4 Roman Body Sherds	31.10	31.10
	Animal Bone (Flot 039)	11	11 Animal Bone Fragments	2.27	2.27
158	Pottery	1	1 Roman Body Sherd	25	25
160	Pottery	3	1 Roman Handle Sherd	23	50
			1 Roman Base Sherd	27	
			1 Samian Base Sherd	20	20
	Pottery (Flot 042)	3	1 Roman Rim Sherd	2	7
			1 Roman Body Sherd	3	
			1 P-M Body Sherd	2	
	Animal Bone	82	2 Animal Teeth	1	150
			80 Animal Bone Fragments	149	
	Animal Bone (Flot 042)	87	87 Animal Bone Fragments	39.41	39.41
	CBM	2	2 CBM Fragments	27	27
	Metal	2	1 Fe Nail	9	15
			1 Fe Nail w/ <170>	6	
	Residue (Flot 042)	67	67 Industrial Waste Fragments	1248.40	1248.40
166	Pottery	5	2 Roman Rim Sherds	29	60
			2 Roman Body Sherds	31	
			1 Samian Body Sherd	28	28
	Pottery (Flot 044)	4	4 Roman Body Sherds	8.86	8.86
	Animal Bone (Flot 044)	16	16 Animal Bone Fragments	39.68	39.68
	Human Bone (Flot 045)	12	12 Human Bone Fragments	8.93	8.93
	CBM	2	2 CBM Fragments	66	66
	Residue (044)	2	2 Industrial Waste Fragments	8.78	8.78
	Shale (Flot 044)	10	10 Shale Fragments	29.15	29.15
<167>	Human Bone	190	1 Skull Fragment	8	3347
			1 Right Clavicle	21	
			1 Left Clavicle	21	
			5 Sternum Fragment	31	
			3 Scapula Fragment?	33	
			41 Vertebrae Fragments	444	
			30 Rib Fragments	98	

			1 Right Humerus Fragment #1	50	
			2 Right Humerus Fragments #2	65	
			2 Right Radius Fragments	34	
			2 Right Ulna Fragment #1	55	
			1 Right Ulna Fragment #2	19	
			3 Right Hand Fragments	9	
			3 Left Humerus Fragments	30	
			2 Left Radius Fragments	44	
			2 Left Ulna Fragment	53	
			2 Left Hand Fragments	7	
			18 Pelvis Fragments	406	
			11 Sacrum Fragments	54	
			2 Right Femur Fragments	415	
			2 Right Tibia Fragments	228	
			3 Right Fibula Fragments	47	
			3 Left Femur Fragments # 1	93	
			3 Left Femur Fragments # 2	421	
			5 Left Tibia Fragments #1	156	
			4 Left Tibia Fragments #2	209	
			1 Left Fibula Fragment #1	15	
			3 Left Fibula Fragments #2	32	
			4 Right Foot Fragments	107	
			5 Left Foot Fragments	114	
			24 Misc Fragments	28	
	Animal Bone	2	2 Animal Bone Fragment	11	11
169	Pottery	1	1 Roman Rim Sherd	10	10
	Pottery?	1	1 Pottery Object	363	363
	Human Bone (Flot 040)	13	13 Human Bone Fragments	8.09	8.09
	Animal Bone (Flot 041)	4	4 Animal Bone Fragments	1.54	1.54
	Shale (Flot 041)	7	7 Shale Fragments	64.96	64.96
<170>	Human Bone	249	51 Skull Fragments	494	3494
			1 Maxilla Fragment	13	
			2 Mandible Fragments	76	
			9 Teeth	10	
			1 Right Clavicle	17	
			1 Sternum Fragment	14	
			1 Right Scapula	29	
			1 Left Scapula Fragment	29	
			35 Vertebrae Fragments	496	
			13 Right Rib Fragments	55	
			26 Left Rib Fragments	72	
			2 Right Humerus Fragments	120	
			3 Right Radius Fragments	39	
			6 Right Ulna Fragments	32	

			6 Right Hand Fragments	19	
			2 Left Humerus Fragments	110	
			2 Left Radius Fragments	23	
			2 Left Ulna Fragments	32	
			12 Left Hand Fragments	22	
			10 Pelvis Fragments	354	
			6 Sacrum Fragments	55	
			4 Right Femur Fragments #1	302	
			1 Right Femur Fragment # 2	86	
			3 Right Tibia Fragments	179	
			4 Right Fibula Fragment	19	
			5 Left Femur Fragments	326	
			2 Left Tibia Fragments	183	
			8 Left Fibula Fragments	29	
			1 Left Patella	13	
			5 Right Foot Fragments	102	
			5 Left Foot Fragments	98	
			19 Misc Bone Fragments	46	
	Pottery	2	2 Med Body Sherds	3	3
	Animal Bone	2	2 Animal Bone Fragments	6	6
<172> (160)	Animal Bone (Dog 1)	322	38 Skull Fragments	93	574
			13 Animal Teeth	4	
			7 Maxilla Fragments	41	
			3 Mandible Fragments	57	
			261 Animal Bone Fragments	379	
<173>	Human Bone	30	2 Skull Fragments	20	393
			4 Sternum Fragments	12	
			1 Left Scapula Fragment	29	
			1 Unsided Scapula Fragment	9	
			9 Rib Fragments	88	
			1 Right Humerus Fragment	23	
			2 Left Humerus Fragments	80	
			1 Right Ulna Fragment	17	
			1 Right Radius Fragment	24	
			1 Left Ulna Fragment	45	
			1 Left Radius Fragment	37	
			6 Misc Bone Fragments	9	

APPENDIX 6

Osteological Analysis
26-28 Tadcaster Road
York
North Yorkshire

Site Code: 10-23-18

NGR: SE 5875 4978

Report No 19
May 2019

Prepared for

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Summary

York Osteoarchaeology Ltd was commissioned by MAP Archaeological Practice to carry out the osteological analysis of five Roman skeletons and a small quantity of disarticulated bone. The inhumed remains were recovered during excavations at 26-28 Tadcaster Road, York, North Yorkshire (NGR SE 5875 4978). The excavated area exposed a series of Roman pits and ditched enclosures. The site is located beside a known Roman road within the vicinity of a Roman roadside cemetery. All the burials recovered are thought to be Roman. Where it could be discerned, the burials appeared to be on either a northwest-southeast, or northeast to southwest orientation and in an extended supine position.

Osteological analysis revealed that the assemblage consisted exclusively of adults of various ages, including a mature adult, an old middle adult, a young middle adult and two more individuals that could not be aged more accurately than eighteen years or older. Sex could be determined for three individuals, including two males and one female, two of whom were taller than the average for the period.

A number of pathological conditions were present, including relatively minor developmental conditions, which the individuals would unlikely to have been aware of. Evidence for poor nutrition and/or illness during childhood was noted in the young middle adult female in the form of *cribra orbitalia*. The prevalence of dental lesions, which develop as a result of early childhood stress, were also noted in this individual's teeth. Traumatic injuries were seen in the form of two healed rib fractures in an adult male. Such injuries can occur as a result of a direct blow or through a fall. Inflammation was observed on the lower limbs of two individuals, which had healed before death, and the female suffered from active inflammation on the ribs. Evidence of joint disease was limited to the spine of the female. The presence of Schmorl's nodes, caused by axial pressure, affected the mature adult male and the young adult female.

The only individual with a preserved dentition was the young middle adult female, who suffered from dental plaque concretions, cavities and dental enamel hypoplasia childhood stress lines.

Acknowledgements

York Osteoarchaeology Ltd would like to thank Paula Ware and Max Greeves of Map Archaeological Practice for their help and support.

1.0 INTRODUCTION

In April 2019, York Osteoarchaeology Ltd was commissioned by MAP Archaeological Practice to carry out the osteological analysis of five Roman skeletons and a small quantity of disarticulated bone. The remains were recovered during excavations at 26-28 Tadcaster Road, York, North Yorkshire (NGR SE 5875 4978) in advance of a housing development. The excavated area measured approximately 130m x 50m and exposed a series of Roman pits and ditched enclosures. The site is located beside a known Roman road within the vicinity of a Roman roadside cemetery. All the burials recovered are thought to be Roman.

A site plan was not provided; therefore, it was not possible to ascertain whether the inhumations analysed formed part of a well organised cemetery, or not. The site itself was extremely waterlogged and prone to flooding, and some of the skeletons appeared disturbed as a result. The burials were placed in earth cut graves, which were often difficult to define due to the similarity of the cemetery soil, which the graves were cut into, and the material which backfilled them. None of the burials appeared to be coffined or accompanied by grave goods. A quantity of disarticulated human bone was also recovered during the excavation, which consisted of twelve fragments of adult bone.

Comparisons have been made with other Roman cemeteries from York such as Driffield Terrace, York (Caffell and Holst 2012), other Hungate burials (Keefe and Holst 2018), Mill Mount (Holst 2005, Holst 2006) and the recently excavated site at the Newington Hotel (Keefe and Holst forthcoming). Roman cemeteries of a similar date from across the UK were also included for comparative analysis such as Horncastle (Caffell and Holst 2007), Western Road (Caffell and Holst 2014), Oxford and Newarke Street in Leicester (Keefe and Holst 2013) and Baldock, Hertfordshire (Keefe *et al.* 2015).

1.1 AIMS AND OBJECTIVES

The aim of the skeletal analysis was to determine the age, sex and stature of the skeletons, as well as to record and diagnose any skeletal manifestations of disease and trauma.

1.2 METHODOLOGY

The skeletons were analysed in detail, assessing the preservation and completeness, calculating the minimum number of individuals present as well as determining the age, sex and stature of the individuals. All pathological lesions were recorded and described.

2.0 OSTEOLOGICAL ANALYSIS

Osteological analysis is concerned with the determination of the identity of a skeleton, by estimating its age, sex and stature. Robusticity and non-metric traits can provide further information on the appearance and familial affinities of the individual studied. This information is essential in order to determine the prevalence of disease types and age-related changes. It is crucial for identifying sex dimorphism in

occupation, lifestyle and diet, as well as the role of different age groups in society. A summary of the osteological and palaeopathological data is given in Table 1, with a detailed catalogue of skeletons provided in Appendix A.

Table 1 Summary of osteological and palaeopathological results

Skeleton No	Preservation*			Age	Sex	Stature (cm)	Dental Pathology	Pathology
	SP	F	C					
150	5 (Very poor)	Severe	30%	36-45	I	-	-	-
151	5 (Very poor)	Moderate	20%	18+	U	-	-	Lamellar bone on left tibia
167	3 (Moderate)	Moderate	80%	46+	M	170.7 +/- 2.99	-	Bilateral os acromiale, Schmorl's nodes, vertebral border shift at the lumbar sacral border, lamellar bone on the left tibia
170	2 (Good)	Moderate	90%	26-35	F	161.1 +/- 3.55	Calculus, caries, DEH	Schmorl's nodes, DJC in the thoracic spine, <i>Cribrra Orbitalia</i> , vertebral border shift at the thoracic lumbar border, lamellar bone on the left tibia and a left rib
173	5 (Very poor)	Moderate	20%	18+	M?	-	-	Two healed rib fractures

Key - YA – young adult - 18-25 years; YMA – young middle adult – 26-35 years; OMA – old middle adult – 36-45 years; MA – mature adult – 46+ years; A – adult – 18+ years; AD – Adolescent; OJ – Older Juvenile; YJ – Younger Juvenile; I – Infant; N – Neonate; P – Perinate; F – Foetus; M- Male; F – Female; U – Unsexed; I – indeterminate Sex; DEH – Dental Enamel Hypoplasia; AMTL - Ante-Mortem Tooth Loss; DJC – Degenerative Joint Changes

2.1 PRESERVATION

Skeletal preservation depends upon a number of factors, including the age and sex of the individual as well as the size, shape and robusticity of the bone. Burial environment, post-depositional disturbance and treatment following excavation can also have a considerable impact on bone condition (Henderson 1987, Garland and Janaway 1989, Janaway 1996, Spriggs 1989). Preservation of human skeletal remains is assessed subjectively, depending upon the severity of bone surface erosion and post-mortem breaks, but disregarding completeness. Preservation is important, as it can have a large impact on the quantity and quality of information that it is possible to obtain from the skeletal remains.

Surface preservation, concerning the condition of the bone cortex, was assessed using the seven-category grading system defined by McKinley (2004), ranging from 0 (excellent) to 5+ (extremely poor). Excellent preservation implied no bone surface erosion and a clear surface morphology, whereas extremely poor preservation indicated heavy and penetrating erosion of the bone surface resulting in complete loss of surface morphology and modification of the bone profile. The degree of fragmentation was recorded, using categories ranging from 'minimal' (little or no fragmentation of bones) to 'extreme' (extensive

fragmentation with bones in multiple small fragments). Finally, the completeness of the skeletons was assessed and expressed as a percentage: the higher the percentage, the more complete the skeleton.

The surface preservation of the inhumed skeletal remains from Tadcaster Road was very poor, with the exception of Skeleton 170 (young middle adult female), which survived in a good state of preservation (see Table 1). The type of surface erosion and damage was relatively consistent with the poorer preserved skeletons appearing heavily sandblasted, leaving the bone surface roughened and irregular to a varying degree, depending on the severity of the erosion. Longitudinal cracks in long bones were also observed. All types of damage and erosion resulted in the loss of surface detail, with the amount of detail lost varying according to the severity of the erosion. Two of the skeletons were relatively complete (Skeleton 167 and Skeleton 170), the remaining skeletons were less than 50% complete. The truncated and incomplete nature of some of the burials from Tadcaster Road will have limited the osteological and palaeopathological information that could be gained from the population during analysis.

2.2 MINIMUM NUMBER OF INDIVIDUALS

A count of the 'minimum number of individuals' (MNI) recovered from a cemetery is carried out as standard procedure in osteological reports on inhumations in order to establish how many individuals are represented by the articulated and disarticulated human bones (without taking the archaeologically defined graves into account). The MNI is calculated by counting all long bone ends, as well as other larger skeletal elements recovered. The largest number of these is then taken as the MNI. The MNI is likely to be lower than the actual number of skeletons, which would have been interred on the site, but represents the minimum number of individuals, which can be scientifically proven to be present.

Among the inhumed population a minimum of four individuals were present, based on four proximal left radii. The MNI was smaller than the number of archaeologically identified individuals, most likely a result of later truncations of the burials. None of the disarticulated elements present contributed to a greater overall MNI.

2.3 ASSESSMENT OF AGE

Age was determined using standard ageing techniques, as specified in Scheuer and Black (2000a; 2000b) and Cox (2000). For non-adults age was estimated using the stage of dental development (Moorrees *et al.* 1963a; 1963b), dental eruption (Ubelaker 1989), measurements of long bones and other appropriate elements, and the development and fusion of bones (Scheuer and Black 2000b). In adults, age was estimated from stages of bone development and degeneration in the pelvis (Brooks and Suchey 1990, Lovejoy *et al.* 1985) and ribs (modified version of methods developed by İşcan *et al.* 1984; 1985 and İşcan and Loth 1986 provided in Ubelaker 1989), supplemented through examination of patterns of dental wear (Brothwell 1981, Miles 1962).

The individuals were divided into a number of age categories. Non-adults were subdivided into 'foetuses' (f: where the age estimate clearly fell below 38-40 *weeks in utero*), 'neonates' (n: where the age estimate

suggested 0-1 month), 'infant' (i; 1-12 months), young juvenile (yj; 1-6 years), older juvenile (oj; 7-12 years), and adolescent (ad; 13-17 years). Adults were divided into 'young adult' (ya; 18-25 years), young middle adult (yma; 26-35 years), old middle adult (oma; 36-45 years), and mature adult (46+ years). A category of 'adult' (a) was used to designate those individuals whose age could not be determined beyond the fact that they were eighteen or older.

For each skeleton as many criteria as possible (preservation allowing) were used to estimate age. However, it is important to note that several studies (for example Molleson and Cox 1993, Molleson 1995, Miles *et al.* 2008) have highlighted the difficulty of accurately determining the age-at-death of adults from their skeletal remains, with age-at-death frequently being underestimated for older individuals. The categories defined here should be taken as a general guide to the relative physiological age of the adult, rather than being an accurate portrayal of the real chronological age; no doubt many of those aged '46+' would in actuality have been in their sixties, seventies or eighties when they died.

All of the skeletons from Tadcaster Road were adults. Skeleton 170 appeared to be a young middle adult, while Skeleton 150 was an old middle adult and Skeleton 176 was a mature adult (see Table 1). Skeleton 151 and Skeleton 173 could not be aged more accurately than to say that they were adults (18+). All of the disarticulated bone also appeared to have derived from adults.

In comparison with other Roman cemeteries, the proportion of adults at Tadcaster Road (100%) was high; however, it must be acknowledged that this is a very small population. At Hungate (Keefe and Holst 2018) only 67.9% of the population were adults, which was relatively low compared to sites sites, such as the Newington Hotel, York (82.9%, Keefe and Holst forthcoming), Horncastle (88.2%; Caffell and Holst 2007), Baldock (80.7%, Keefe et al, 2015) and Oxford and Newarke Street (78.6%, Keefe and Holst 2013) and Western Road in Leicester (76.3%, Caffell and Holst 2014).

2.4 SEX DETERMINATION

Sex determination was carried out using standard osteological techniques, such as those described by Mays and Cox (2000). Assessment of sex involves examination of the shape of the skull and the pelvis and can only be carried out once sexual characteristics have developed, during late puberty and early adulthood. Evidence from the pelvis was favoured as its shape is directly linked to biological sex (the requirements of childbirth in females) whereas the shape of the skull can be influenced by factors such as age (Walker 1995). Measurements of certain bones were used to supplement the morphological assessment.

The sex of two of the adults could not be determined (see Table 1) due to truncation and loss of the pelvis and skull. Of the remaining three individuals, two were male (Skeleton 167 and Skeleton 173) and one was female (Skeleton 170).

The majority of the comparative populations also had a slightly higher proportion of males, although it must be considered that this is a very small population. At Driffield Terrace the proportion of male

skeletons was extremely high, though this was an unusual cemetery for other reasons (98.5% of sexed adults from the site were male, Caffell and Holst 2012). At the Newington Hotel (Keefe and Holst forthcoming) around half of the adults were male, while less than one fifth were identified as females, and when considering the sexed adult population; 70.5% of the population were males, which was considered to deviate significantly from a normal sex distribution. At Hungate (Keefe and Holst 2018) just over a third of the adults were males, while slightly fewer females were identified. At Oxford and Newarke Street, males were slightly more prevalent than females (55% and 45% respectively; Keefe and Holst 2013). At Horncastle (Caffell and Holst 2007), 58.8% of the sexed adults were males. At Western Road, males made up 69.7% of the sexed adult population (Caffell and Holst 2014); statistically, this was considered to deviate significantly from a normal sex distribution. Analysis of the inhumations from Baldock by Roberts (2010) and Keefe *et al.* (2015) suggested there were more females than males. In many Roman cemeteries males are found to outnumber females, particularly in the larger urban cemeteries (Davison 2000).

2.5 ANCESTRY

The term 'ancestry' is used to describe the genetic background of individuals. An attempt was made to determine the ancestry of each individual based on the visual appearance of traits in the cranial skeleton, as described by Byers (2010, 154-165). A metric method was also applied based on eight cranial measurements (Giles and Elliot 1962 in Byers 2010, 168-171). Unfortunately, the expression of the various traits used to define ancestral groups can be ambiguous and assessing them is subjective; consequently, it can be very difficult to determine ancestry (Byers 2010, 131-148). Preservation is also an issue as most of the traits occur in the cranium, which may not survive intact. At Hungate a number of crania were complete, enabling observation and measurement.

Due to the largely fragmentary and incomplete nature of the crania from Tadcaster Road it was not possible to determine ancestry. Individuals of African ancestry have been identified elsewhere in York, for example at Driffield Terrace (Caffell and Holst 2012), Hungate (Keefe and Holst 2018) and the Newington Hotel (Keefe and Holst forthcoming). During their study of Roman human remains from York Leach *et al.* (2009) found that between 11% to 12% were likely to have been of African ancestry.

2.6 METRIC ANALYSIS

2.6.1 Stature

Stature depends on two main factors, heredity and environment; it can also fluctuate between chronological periods. Stature can only be established in skeletons if at least one complete and fully fused long bone is present, but preferably using the combined femur and tibia. The bone is measured on an osteometric board, and stature is then calculated using a regression formula developed upon individuals of known stature (Trotter 1970). Where possible, bones from the legs were used in preference to those of the upper limb as these carry the lowest error margin (*ibid*).

It was possible to calculate the stature for two of the adult inhumed skeletons that could be sexed (one male and one female). Skeleton 167 (mature adult male) was 170.7cm \pm 2.99 or 5'7" tall, which is slightly above the average for the period (169cm according to Roberts and Cox 2003, 142). Comparison with other Roman populations reveals that the average Roman stature in York varied considerably. At Driffield Terrace (Caffell and Holst, 2012), 89 the Mount (Malin Holst *pers comm* 02/07/18) and the Newington Hotel (Keefe and Holst forthcoming) the average male stature was above the national Roman average, while the male mean stature at Hungate (Keefe and Holst 2018) was below the Roman average and the mean stature from Mill Mount was significantly below the population average for the period (Figure 6, Holst 2005, Holst 2006).

Skeleton 170 (young middle adult female) would have been around 161.1cm \pm 3.55 or 5'3" tall, which is above the average for the period (158.5cm according to Roberts and Cox 2003, 142). Comparison with other Roman populations from York revealed that the average statures were generally shorter than Skeleton 170.

2.6.2 Platymeric and Platycnemic Indices

Leg measurements were obtained from the femora and tibiae and used to calculate the shape and robusticity of the femoral shaft (*platymeric* index) and the tibial shaft (*platycnemic* index; Bass 1987).

It was possible to calculate the platymeric index of the femora belonging to three of the individuals from Tadcaster Road. Skeleton 150 (indeterminate old middle adult) had a *platymeric* (broad and flattened from front to back) left femur (the right was not preserved), as were both of the femora belonging to Skeleton 167 (mature adult male) and Skeleton 170 (young middle adult female).

The left tibiae belonging to SK 151 (unsexed adult, the right was not preserved) was *mesocnemic* or of average shape, as were both of the tibiae belonging to Skeleton 167, while the tibiae of Skeleton 170 were *eurycnemic* (broad).

2.6.3 Cranial Indices

Standard measurements of the cranium and mandible were taken where preservation allowed, however, due to the fragmentary and incomplete nature of the crania from Tadcaster Road it was not possible to calculate any of the cranial indices.

2.7 NON-METRIC TRAITS

Non-metric traits are additional sutures, facets, bony processes, canals and foramina, which occur in a minority of skeletons and are believed to suggest hereditary affiliation between skeletons (Saunders 1989). The origins of non-metric traits have been extensively discussed in the osteological literature and it is now thought that while most non-metric traits have genetic origins, some can be produced by factors such as mechanical stress (Kennedy 1989) or environment (Trinkhaus 1978). A total of thirty cranial

(skull) and thirty post-cranial (bones of the body and limbs) non-metric traits were selected from the osteological literature (Buikstra and Ubelaker 1994; Finnegan 1978; Berry and Berry 1967) and recorded.

2.7.1 Cranial Traits

Cranial traits are more likely to be genetic in origin than those noted on the remaining part of the skeleton, which can often be affected by mechanical stress. Only Skeleton 170 (young middle adult female) expressed any cranial non-metrics traits, which included *mastoid foramen extrasutural*, *open posterior condylar canals* and *open foramen spinosum*, these small holes at the base of the skull are involved in venous transmission. The foramen transmit part of the foetal venous drainage system, which begins to atrophy as the neonatal venous system is developed (Krause 1988), leading to the closure of the foramen. In some individuals the venous system may persist into adulthood, preventing the closure of the foramen (Dimple Dev *et al* 2015).

2.7.2 Post-Cranial Traits

Four of the adults exhibited post cranial non-metric traits, which included a lateral tibial squatting facet (alteration to the shape of one of the ankle bones) in Skeleton 151. Skeleton 170 (young middle adult female) had bilateral septal apertures (holes in the distal end of the humeri), an acetabular crease (a small cleft on the surface of their left hip joint), a double anterior calcaneal facet on the right and an absent anterior calcaneal facet on the left, and bilateral double inferior talar facets, all of which would result in a minor alteration to the shape of the ankle bones), finally; the individual also had an *Ostrigonum* on the left talus (a small extra bone in the ankle). Skeleton 150 (indeterminate old middle adult) had *exostosis in the trochanteric fossa* (small spicules of bone in the top of the femur). The mature adult male (Skeleton 167) also had lateral tibial squatting facet on their left tibia, and bilateral *os trigonum*.

2.8 CONCLUSION

The skeletal remains overall were poorly preserved and due to disturbance by later features some of the skeletons were incomplete. Osteological analysis revealed that the burials from Tadcaster Road consisted entirely of adults two of which were male and one was female, the remaining two individuals could not be sexed. The ages of the adults varied and included one young middle adult, one old middle adult and a mature adult, a further two of the adults could not be aged more accurately than to suggest that they were likely eighteen years old or older.

Only two of the skeletons had complete long bones from which to calculate stature. Both the female and the male would have been taller than the average for the period. Considering the small nature of the assemblage from Tadcaster Road a wide variety of non-metric traits were observed, none of which would have had an impact on their day to day lives, and the affected individuals would not have been aware of their presence.

3.0 PATHOLOGICAL ANALYSIS

Pathological conditions (disease) can manifest themselves on the skeleton, especially when these are chronic conditions or the result of trauma to the bone. The bone elements to which muscles attach can also provide information on muscle trauma and excessive use of muscles. All bones were examined macroscopically for evidence of pathological changes. In articulated burials the distribution of the lesions observed across the skeleton is one of the features used for differential diagnosis. Obviously, with disarticulated bone this is not possible and this has an impact on identifying the pathological conditions concerned. Fuller descriptions of the pathological lesions observed can be found in Appendix A.

3.1 CONGENITAL CONDITIONS

Heredity and environment can influence the embryological development of an individual, leading to the formation of a congenital defect or anomaly (Barnes 1994). The most severe defects are often fatal and if the baby is not miscarried or stillborn, it will usually die shortly after birth. Such severe defects are rarely seen in archaeological populations, but the less severe expressions often are and these individuals will usually have been unaware of their condition. The frequency with which these minor anomalies occur may provide information on the occurrence of the severe expressions of these defects in the population involved (*ibid*). It may also provide information on levels of maternal health (Sture 2001).

3.1.1 Transitional Vertebrae and Additional or Absent Vertebrae

The normal human spine consists of seven cervical (neck), twelve thoracic (chest) and five lumbar (lower back) vertebrae, making a total of 24 independent segments. The sacrum (at the base of the spine, forming the back of the pelvis) is usually composed of five fused vertebral segments and the coccyx (vestigial tail) is normally made up of four fused vertebral segments. The overall total of vertebral segments is therefore 33.

Additional vertebrae occur when there is an extra vertebral segment, increasing the total number of segments in the spine. They usually occur at the junction between the thoracic and lumbar vertebrae (where they take on the appearance of a thoracic vertebra), or at the junction between the lumbar vertebrae and the sacrum. In the latter instance, they either appear as an additional (sixth) lumbar vertebra, or become partially or fully incorporated into the sacrum (Barnes 1994, 78).

Transitional vertebrae can occur at the borders between different types of vertebra, when a vertebra from one group takes on some or all of the characteristics of an adjacent group, for example the first lumbar vertebra (in the lower back) may develop vestigial ribs (Barnes 1994, 79-116). The process by which this happens is known as 'border shifting'. The end result is to increase the number of segments in one part of the spine at the expense of the adjoining part (e.g. increasing the number of thoracic vertebrae to thirteen through incorporating the first lumbar vertebra, but decreasing the number of lumbar vertebrae to four). Transitional vertebrae are reasonably common, particularly at the lumbo-sacral

border (between the fifth lumbar vertebra and the sacrum, at the base of the spine), but the consequences of the border shift become more severe the higher up the spine it occurs (*ibid*).

A complete and well preserved spine is required to determine whether any variation in the expected number of vertebrae in each group is the result of a genuine extra vertebral segment (i.e. an additional vertebra) or due to a border shift and if the latter, what kind of shift has taken place. Only Skeleton 170 (young middle adult female) had a near complete spine (29 identifiable vertebral segments present).

Additional or transitional vertebrae were seen in two of the adults from Tadcaster Road, and affected Skeleton 170 (young middle adult female) and SK 67 (mature adult male). Skeleton 170 (young middle adult female) had a vertebral border shift at the thoracic lumbar border. Their twelfth thoracic vertebra had taken on the appearance of a lumbar



Plate 1 Skeleton 167 incomplete lumbarisation of the 1st sacral vertebra (with curved superior and inferior articulating facets) but retained the rib facets. As a result, the eleventh thoracic vertebra had lumbarised (curved) inferior articulating facets, appearing, in effect, like a twelfth thoracic vertebra. Skeleton 167 (mature adult male) exhibited an incomplete expression of their first sacral vertebra (Plate 1). The left ala had an irregular transverse fracture line running from the first sacral foramina to approximately 5mm below the superior margin of the sacroiliac joint surface, creating a pseudo-articulation, which had a remodelled, porotic appearance. The right side was incomplete but appeared unaffected. And a hiatus between the inferior margin of the first sacral body and the superior margin of the second sacral vertebra had been maintained.

Sacralisation or lumbarisation has been reported to occur in 3-5% of the population, with sacralisation being more frequent (Aufderheide and Rodríguez-Martín 1998, 65).

3.1.2 *Os Acromiale*

The acromion process is the part of the scapula that projects over the shoulder joint and meets the clavicle. The tip of this process develops as a separate element that in most individuals fuses to the rest of the scapula during adolescence. When it fails to fuse, the condition is known as *os acromiale*. It has been suggested that severe stress to the rotator cuff muscles of the shoulder during growth prevents the natural fusion of the bones. The presence of *os acromiale* in two modern boxers was attributed to their intensive training during adolescence (HersHKovitz *et al* 1996, 170) and in medieval populations it has

been suggested that intensive practice of archery from a young age may have contributed to the development of this condition (Roberts and Manchester 2005, 151-152; Knüsel 2000; Stirland 2005). However, Mann and Hunt (2005, 140) have suggested there may be a genetic component to the condition. *Os acromiale* leads to increased flexibility at the shoulder joint, allowing a greater range of movement (Knüsel 2000).

Bilateral *os acromiale* was observed in Skeleton 167 (mature adult male). Only the avulsed tip survived on the left side, which had a remodelled, porotic appearance to the fractured surface. On the right side the avulsed fragment had not been recovered, however, the remainder of the acromion was foreshortened and had a remodelled, porotic appearance. Roberts and Manchester report a modern prevalence of *os acromiale* of between 3-6% (2005, 152), and a 3.3% prevalence for Roman Britain (Roberts and Cox 2003, 158). However, at the Newington Hotel, where only 1.9% of scapulae were affected (Keefe and Holst, forthcoming), whereas the rates observed at Baldock (8.8% of individuals, Keefe *et al.* 2015) and Horncastle (Caffell and Holst 2007) where 8.3% of scapulae and 7.1% of individuals were affected were considerably higher.

3.2 METABOLIC CONDITIONS

Humans require an adequate supply of nutrients during childhood to support normal growth and development. Particular conditions are associated with the lack of specific nutrients, for example scurvy results from a diet lacking in vitamin C (found in fresh fruit and vegetables and marine fish) and rickets from a lack of vitamin D (produced by the body during exposure to sunlight). Diagnosis of nutritional deficiencies in ancient populations is complicated by the fact that the skeletal changes can be difficult to diagnose and that nutritional deficiencies tend not to occur in isolation (a diet deficient in one nutrient is very often deficient in others). In addition, many of the skeletal changes that develop in a child as a response to nutritional deficiency will be largely remodelled by the time the individual reaches adulthood (Ortner 2003, Lewis 2007).

3.2.1 *Cribræ Orbitalia*

Cribræ orbitalia is a term used to describe fine pitting in the orbital roof, which develops during childhood and often recedes during adolescence or early adulthood. Until recently, iron deficiency anaemia was the accepted cause of these lesions (Stuart-Macadam 1992), but a strong case has been made by Walker *et al.* (2009) for different types of anaemia as the causative factor. These include megaloblastic anaemia in the New World, suggesting a diet deficient in Vitamin B₁₂ (i.e. plant-based and lacking in animal products) and/or folic acid. Such dietary deficiency could have been exacerbated through poor sanitation leading to infection and infestation with gut parasites (*ibid*). In malarious areas of the Old World, haemolytic anaemia (e.g. sickle cell anaemia and thalassaemia) may be important in the development of *cribræ orbitalia* (*ibid*). However, for areas such as northern Europe they have proposed that *cribræ orbitalia* may be more likely related to conditions such as scurvy (Vitamin C deficiency) or chronic infections (*ibid*). The argument was countered by Oxenham and Cavill (2010) who stated that iron deficiency anaemia should

still be considered in a differential diagnosis. A study in 2016, albeit based on a small sample, conducted by Zarina *et al* (2016) found a correlation between individuals with *cribra orbitalia* and decreased levels of copper and lead in their bone. The same individuals also exhibited significantly lower levels of $\delta^{15}\text{N}$ isotope levels, suggesting their diet consisted, to a greater degree, of lower trophic level food sources. *Cribra orbitalia* is often used as an indicator of general stress (Lewis 2000, Roberts and Manchester 2005) and is frequently found associated with agricultural economies (Roberts and Cox 2003).

Cribra orbitalia was observed in the orbits of the young middle adult female (Skeleton 170). Roberts and Cox (2003, 141) reported that 9.6% of the Roman individuals would have been affected by *cribra orbitalia*. At Hungate 20.0% of the 40 adults (with at least one orbit preserved), had *Cribra orbitalia* (Keefe and Holst 2018), while the prevalence rates observed at the Newington hotel (Keefe and Holst forthcoming, 32.0% of individuals affected), Horncastle (Caffell and Holst 2007, 18-19, 46.7% of individuals affected), Western Road (Caffell and Holst 2014, 38, 36.0% of individuals affected) and Baldock (Keefe *et al.* 2015, 37.1% of individuals affected) were even higher.

3.3 TRAUMA

The evidence for trauma in archaeological populations is restricted to that visible in the skeletal remains, unless soft tissue is preserved (Roberts and Manchester 2005, 85-86). Therefore, most of the soft-tissue injuries sustained by archaeological populations will be invisible, although occasionally soft tissue injuries can be inferred though ossification of the tissues at the site of damage, known as *myositis ossificans* (*ibid*). Much of the evidence for trauma in archaeological populations focuses on fractures to the bones (Roberts and Manchester 2005, 84-85), although long standing well-healed fractures may be hard to detect (Jurmain 1999, 186).

Ante-mortem injuries occurred during life and exhibit evidence for healing, whereas peri-mortem injuries occurred around the time of death and consequently no evidence for healing will be observed. Peri-mortem injuries did not necessarily occur at the instant of death. It takes time for evidence of healing to be visible in the bone following an injury, and also for bone to lose the physical characteristics it had in life following death. Therefore 'peri-mortem' really refers to a three-week window either side of death (Roberts and Manchester 2005, 114). Distinguishing between peri-mortem trauma and post-mortem damage can be difficult. Generally, post-mortem breaks will have a paler surface than the surrounding bone and broken edges will usually be perpendicular to the bone (Roberts and Manchester 2005, 114-116; Lovell 1997, 145; Sauer 1998). Recent post-mortem breaks are usually easily distinguished, but breaks that occurred while the skeleton was in the burial environment and long before the skeleton was excavated may be much harder to identify as such.

3.3.1 Ante-Mortem Fractures to the Ribs

Skeleton 173 (adult male) had two healed rib fractures, on two unsequenced left rib fragments. The fractures appeared to be transverse and well remodelled, with good apposition. Rib fractures can occur as a result of a direct blow or through a fall (Roberts and Manchester 2005, 105; Galloway 1999, p.107).

Although coughing can also cause rib fractures (Roberts and Manchester 2005, 105), the latter is more common in elderly individuals (Dandy and Edwards 2003, 161). Isolated rib fractures usually heal well without active treatment (*ibid*). At Hungate 2.4%, (of adults with at least one rib present) had healed rib fractures (Keefe and Holst 2018), while the rates observed at the Newington Hotel (9.1%, Keefe and Holst forthcoming), were considerably higher, and at Driffield Terrace, (13.4%, Caffell and Holst 2012) and Baldock (18.3%, Keefe *et al.* 2015) the rates were higher still.

3.4 INFECTIOUS DISEASE

Infectious disease can involve the skeleton, but since bone cannot respond quickly only evidence for chronic, longstanding infections can be observed in archaeological skeletal remains (Roberts and Manchester 2005, 167). Acute conditions, where the patient either recovers or dies within a short space of time will not be seen. Initial bone formation in response to infection is disorganised (woven bone), but with time, as healing takes place, woven bone is remodelled and transformed into lamellar bone. Consequently, woven bone presence indicates an infection that was active at the time the person died, whilst lamellar bone indicates an infection that had healed. A combination of both suggests a recurring or longstanding infection (*ibid*). Although specific diseases may cause new bone to be deposited on the skeleton, it is almost always impossible to diagnose these from the bones alone. Hence, evidence for infection is discussed as 'non-specific' infection.

3.4.1 Rib Lesions

The presence of new bone formation on the pleural surfaces of the ribs has been associated with lung infections, including tuberculosis (Roberts and Manchester 2005, 190; Santos and Roberts 2006, 2001; Matos and Santos 2006; Mays *et al.* 2002). However, because other lung infections (such as chronic bronchitis and pneumonia, Roberts and Cox 2003) can also cause these lesions, tuberculosis cannot be diagnosed purely on the presence of rib lesions alone. Exposure to polluted atmospheres and the inhalation of fungal spores may also precipitate the development of rib lesions.

Skeleton 170 (young middle adult female) had woven bone, indicating the infection was active at the time of death, on the plural surface of a middle order left rib head. The small patch of woven bone measured 16.6mm medio-laterally by 9.3mm superior-inferiorly. The prevalence of rib lesions reported for Roman Britain suggests that 2.1% of individuals were affected (Roberts and Cox 2003, 114), but this figure is a crude prevalence rate and is probably lower than the reality. At Hungate 9.5% (of adults with at least one rib present, Keefe and Holst 2018) had rib lesions, whereas, the proportion of individuals with rib lesions at Horncastle (16.7%, Caffell and Holst 2007) Baldock (15.6%, Keefe *et al.* 2015), Western Road (17.5%, Caffell and Holst 2014) and Driffield Terrace (16.2%, Caffell and Holst 2012) were all considerably higher.

3.4.2 Periosteal Reactions

New bone deposits on the surfaces of the bones can indicate inflammation of a sheath of tissue (the periosteum) which surrounds all bones (Ortner 2003, 206-207). Inflammation may be due to infection,

but low-grade trauma and chronic ulceration can also lead to new bone formation (Roberts and Manchester 2005; Ortner 2003, 206-207). Periosteal reactions are commonly observed in archaeological populations, particularly on the tibiae, and their prevalence has been used as a general measure of stress in past populations (Ortner 2003, 209). Woven bone deposits are indicative of inflammation that was active at the time of death, while lamellar bone indicates that the inflammation was healing.

Skeleton 170 (young middle adult female) had faint striated lamellar bone on the medial and lateral surface of the left tibia. The affected area was located on the midshaft and measured 124.5mm superior-inferiorly 24.8mm anterior-posteriorly. Skeleton 151 (unsexed adult) also had lamellar bone on their left tibia; which was located on the medial surface of the distal shaft, which measured 64.5mm superior-inferiorly by 12.6mm anterior-posteriorly. At Hungate (Keefe and Holst 2018) overall, 3.4% (3/87) of individuals with at least one fragment of lower limb bone had inflammations. At the Newington Hotel the rates of new bone formation on the lower limbs were more than double (8.2%; Keefe and Holst forthcoming) that observed at Hungate.

3.5 JOINT DISEASE

The term joint disease encompasses a large number of conditions with different causes, which all affect the articular joints of the skeleton. Factors influencing joint disease include physical activity, occupation, workload and advancing age, which manifest as Degenerative Joint Changes and osteoarthritis. Alternatively, joint changes may have inflammatory causes in the *spondyloarthropathies*, such as septic or rheumatoid arthritis. Different joint diseases affect the articular joints in a different way and it is the type of lesion, together with the distribution of skeletal manifestations, which determines the diagnosis (Rogers 2000, Roberts and Manchester 2005).

3.5.1 Degenerative Joint Changes

The most common type of joint disease observed tends to be Degenerative Joint Change (DJC). DJC is characterised by both bone formation (osteophytes) and bone resorption (porosity) at and around the articular surfaces of the joints, which can cause great discomfort and disability (Rogers 2000). Degenerative changes to the vertebral bodies were recorded when osteophytes (bony outgrowths) were present around the margins or on the body surfaces, coupled with porosity of the body surfaces (Rogers 2000).

Only the young middle adult female (Skeleton 170) exhibited any signs of joint disease. Slight osteophytic lipping was observed on the sixth and eleventh thoracic vertebrae

3.5.2 Schmorl's Nodes

Schmorl's nodes are another condition that can affect the spine. They manifest as indentations in the upper and lower surfaces of the vertebral bodies caused by the pressure of herniated vertebral discs (Aufderheide and Rodríguez-Martín 1998). Discs may rupture due to trauma, but vertebrae weakened by infection, osteoporosis or neoplastic disease may be more vulnerable (Roberts and Manchester 2005). Schmorl's nodes are often associated with degenerative changes to the vertebral bodies (Aufderheide and Rodríguez-Martín 1998, Hilton *et al.* 1976) and are most commonly seen in the lower thoracic vertebrae (Hilton *et al.* 1976).



Plate 2 Schmorl's node on T6, Skeleton 170

Skeleton 167 (mature adult, male) had Schmorl's nodes on the ninth to twelfth thoracic vertebrae and the second lumbar vertebra. Skeleton 170 (young middle adult female) had Schmorl's nodes on the sixth and seventh thoracic vertebrae. Schmorl's nodes occurred exclusively in the thoracic and lumbar region of the spine, which is relatively typical for the location of these lesions (Hilton *et al.* 1976). The crude prevalence rate for Schmorl's nodes in Roman Britain is reported to be 8.9% (Roberts and Cox 2003, 147). In comparison, nearly half of the adults from Hungate (48.8%, of the 41 adults with at least one vertebral body) had Schmorl's nodes in their spines. At the Newington Hotel, York the prevalence rates were even higher (57.5%, Keefe and Holst forthcoming), while the rates observed in the study of a modern sample conducted by Hilton *et al.* (76%, 1976) were higher still.

3.6 CONCLUSION

A surprisingly varied range of pathological conditions were observed amongst the small population from Tadcaster Road. These included relatively minor developmental conditions such as transitional vertebrae, which were unlikely to have impacted on the affected individuals during their lifetimes. One member of this small group had experienced poor nutrition and/or illness during childhood, which manifested as porotic lesions in the roof of their orbits. One individual suffered from a traumatic incident, which resulted in two fractured ribs, both of which were well-healed at the time of their death.

Signs of infectious disease were also common amongst the skeletons from Tadcaster Road. Evidence for a lung infection (in the form of new bone formation on the ribs) was apparent in a young middle adult female, and appeared to be active at the time of her death. Two individuals also had inflammations on their shins, both of which had healed, sometime, before death. Joint disease was relatively uncommon, and only occurred in the spine of the young middle adult female. Evidence that habitual and physically

demanding activities were carried out by some of the group were evident in the form of Schmorl's nodes, which were located in the spines of the young middle adult female and the mature adult male.

4.0 DENTAL HEALTH

Analysis of the teeth from archaeological populations provides vital clues about health, diet and oral hygiene, as well as information about environmental and congenital conditions (Roberts and Manchester 2005). All teeth and jaws were examined macroscopically for evidence of pathological changes. True prevalence rates were calculated as a proportion of tooth positions or teeth (as appropriate for the condition observed), and also as a proportion of the individuals with tooth positions or teeth present.

Only Skeleton 170 (young middle adult female) had any surviving teeth. All of these formed part of their permanent dentition.

4.1 CALCULUS

If plaque is not removed from the teeth effectively (or on a regular basis) then it can mineralise and form concretions of calculus on the tooth crowns or roots (if these are exposed), along the line of the gums (Hillson 1996, 255-257). Mineralisation of plaque can also be common when the diet is high in protein (Roberts and Manchester 2005, 71). Calculus is commonly observed in archaeological populations of all periods, although poor preservation or damage caused during cleaning can result in the loss of these deposits from the teeth (Roberts and Manchester 2005, 64).



Plate 3 Skeleton 170 calculus on right mandibular molars

Calculus was present on 24 of the 28 surviving teeth, belonging to the young middle adult female (Skeleton 170). The deposits ranged between flecks and slight concretions.

According to calculations by Roberts and Cox, just over a quarter of the population in Britain, during the Roman period, (26.8% of individuals, Roberts and Cox 2003, 132)

would have been affected by calculus. With regards to the comparative sites used in this analysis the calculus rates were considerably higher; At Hungate (Keefe and Holst 2018) 81.4%, of adults with at least one tooth were affected by deposits of calculus, and at the Newington Hotel 90.6%, of adults with at least one tooth exhibited deposits of calculus (Keefe and Holst forthcoming). Caffell and Holst (2014) observed

that 98.7% of adults were affected with calculus at Western Road, Leicester. The calculus prevalence rates at California, Baldock were higher still, affecting 100% of adults (Keefe *et al.* 2015).

4.2 DENTAL CARIES

Dental caries (tooth decay) forms when bacteria in the plaque metabolise sugars in the diet and produce acid, which then causes the loss of minerals from the teeth and eventually leads to the formation of a cavity (Zero 1999). Simple sugars can be found naturally in fruits, vegetables, dried fruits and honey, as well as processed, refined sugar; since the latter three contain the most sucrose they are most cariogenic. Complex sugars are usually less cariogenic and are found in carbohydrates, such as cereals. However, processing carbohydrates, including grinding grains into fine powders or cooking them, will usually increase their cariogenicity (Moynihan 2003).

Skeleton 170 (young middle adult female) had a large cavity on their right mandibular second premolar.

The average for the Roman period in Britain, according to Roberts and Cox, was 7.5% (2003, 132), which is comparable to the rates observed at the Newington Hotel (8.2%, Keefe and Holst forthcoming), Western Road (8.2%, Caffell and Holst 2014), however considerably higher rates were observed at Horncastle (11.4%, Caffell and Holst 2007), Hungate (16.9% of teeth were affected, Keefe and Holst 2018) and California Baldock (17.6%, Keefe *et al.* 2015). The relatively high rates at Horncastle and California, Baldock were thought by the authors to relate to the two populations having a higher proportion of mature adults.

4.3 DENTAL ENAMEL HYPOPLASIA

Dental enamel hypoplasia (DEH) is the presence of lines, grooves or pits on the surface of the tooth crown, and occurs as a result of defective formation of tooth enamel during growth (Hillson 1996). Essentially, they represent a period when the crown formation is halted, and they are caused by periods of severe stress, such as episodes of malnutrition or disease, during the first seven years of childhood. Involvement of the deciduous (milk) teeth can indicate pre-natal stress (Lewis 2007). Trauma can also cause DEH formation, usually in single teeth.

DEH was observed in three of the teeth of Skeleton 170. The presence of DEH has been associated with a lower life expectancy in adults, perhaps suggesting that these individuals continued to experience stress beyond childhood (Lewis 2007) this theory is potentially consistent with the observation of DEH in the young middle adult female from Tadcaster Road. The proportion of teeth affected by DEH during the Roman period in Britain is reported to be 9.1%, (Roberts and Cox 2003, 140). However, the prevalence rates at all of the comparative sites were all higher than the reported average for the period; Hungate (34.5%, Keefe and Holst 2018), the Newington Hotel (31.1%, Keefe and Holst forthcoming), Oxford and Newarke Street (11.5%, Keefe and Holst 2013), Horncastle (14.8%, Caffell and Holst 2007) Western Road (8.4%, Caffell and Holst 2014), and Baldock (16.6%, Keefe *et al.* 2015).

4.4 DENTAL CONCLUSIONS

Only Skeleton 170 (young middle adult female) had a preserved dentition, which showed that she suffered from calculus, caries and dental enamel hypoplasia. The presence of caries may suggest a high intake of refined sugars (e.g. dried fruits, honey, and fruit) in her diet. The lesions that develop during the first seven years of childhood (DEH) suggest that the individual experienced periods of severe stress, such as episodes of malnutrition or disease.

5.0 FUNERARY ARCHAEOLOGY

The inhumed skeletal remains from Tadcaster Road form a small part of a much larger and multi-faceted burial landscape within Roman York, with cemeteries clustered around the approach roads into the city. Excavation on site recovered a total of five inhumations, believed to date to the Roman period, and a small quantity of disarticulated bone.

5.1 BURIAL DISTRIBUTION

It was not possible to consult an overall plan for the excavation, and as such it is not possible to comment on the burial distribution of the skeletons. Burials elsewhere in York tend to vary considerably, for example, burials at Mill Mount in York (Holst 2005, Holst 2006) and at Hungate (Keefe and Holst 2018) were relatively organised and evenly distributed. At the Newington Hotel (Keefe and Holst forthcoming), Trentholme Drive (Wenham 1968) and Driffield Terrace (Caffell and Holst 2012) burial distributions appeared to be far more disorganised. It has been argued that orderly burial became increasingly widespread towards the later Roman period, particularly in the fourth century AD (Clarke 1979, 352).

5.2 ORIENTATION

Where it could be discerned, the burials appeared to be on either a northwest-southeast, or northeast to southwest orientation. The direction of burial orientation varies considerably between different cemeteries in Roman Britain (Clarke 1979, 352). It is possible that a west-east orientation may have been more widely adopted in the later Roman period (Rahtz, *et al.* 2000). O'Brien (1999, 5) has observed that burial orientation at many of the smaller cemeteries favoured a north-south (or inverted) alignment, whereas burials in the larger organised cemeteries near urban or military centres were more likely to have a west-east alignment.

At Driffield Terrace (Caffell and Holst 2012), the most common orientation was northeast-southwest, followed by southeast-northwest. At the Newington Hotel, the most common orientation was the head to the northeast and the feet to the southwest for males, while the most common orientation amongst females was northwest-southeast (head first) and the non-adults were most commonly buried on a northeast-southwest or northwest-southeast orientation. At Hungate (Keefe and Holst 2018) the majority of grave cuts appeared to conform to a northwest-south east alignment, which respected a boundary

ditch, running along the northeast corner of the site, on the same alignment.

5.3 POSITION

Where burial position could be discerned, all of the burials were in an extended supine position. The burial ritual at Tadcaster Road corresponded with that frequently observed during the mid-Roman period, where the majority of burials tend to lie on their backs, with extended legs and the arms in a variety of relatively orderly positions.

Extended supine positions were also the preferred burial position at Hungate (Keefe and Holst 2018), the Newington Hotel (Keefe and Holst forthcoming), Driffield Terrace (Caffell and Holst 2012), Horncastle, (Caffell and Holst 2007) and Baldock (Keefe *et al.* 2015).

5.4 CONCLUSION

In conclusion, the funerary ritual for the inhumed skeletal remains from Tadcaster Road was consistent with wider trends observed at other Roman cemeteries. Where it could be discerned, the burials appeared to be on either a northwest-southeast, or northeast to southwest orientation and in an extended supine position. None of the burials appeared to be coffined or accompanied by grave goods.

6.0 DISCUSSION AND SUMMARY

The osteological analysis of the skeletal remains from Tadcaster Road has provided an insight into the lives of the people buried there. The skeletal remains exhibited, on the whole, a poor state of preservation, which is likely to have limited the osteological and palaeopathological data available to collect.

Osteological investigation revealed that the assemblage consisted exclusively of adults of various ages, including a mature adult, an old middle adult, a young middle adult and two more individuals that could not be aged more accurately than to say that they were adults when they died. Sex could only be determined for three individuals, two of whom were a male and the other a female. Both one of the males and the female were taller than the average for the period.

Considering the relatively small sample size, this group of skeletons displayed a varied amount of pathology. Pathological conditions included transitional vertebrae, which were unlikely to have impacted on the affected individuals during their lifetimes. Potential poor childhood nutrition or disease, was observed in the young middle adult female, which manifested as porotic lesions in the roof of her orbits, and grooves on her teeth. Evidence for a lung infection (in the form of new bone formation on the ribs) was apparent in the young middle adult female, which appeared to be active at the time of her death. Two individuals also had healing inflammation on their shins. One individual had sustained two fractured ribs, both of which were well healed. Joint disease only occurred in the spine of the young middle adult female.

Evidence of axial stress was evident in the form of Schmorl's nodes, which were located in the spines of the young middle adult female and the mature adult male.

The only surviving dentition belonged to the young middle adult female and evidence of tooth decay may suggest a high intake of refined sugars (e.g. dried fruits, honey, fruit or carbohydrates) in her diet. Deposits of mineralised plaque (calculus) on her teeth were also present and may suggest a protein rich diet, or alternatively, insufficient dental hygiene practices.

The inhumed skeletal remains from Tadcaster Road formed a small part of a much larger and multi-faceted burial landscape within Roman York, with cemeteries clustered around the approach roads into the city. Where it could be discerned, the burials appeared to be on either a northwest-southeast, or northeast to southwest orientation and in an extended supine position. None of the burials appeared to be coffined or accompanied by grave goods.

7.0 FUTURE RECOMMENDATIONS

It is recommended that the undated skeletal remains undergo AMS dating in order to better understand how the burials at Tadcaster Road fit into the wider burial sequence of Roman York.

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APPENDICES

Appendix A: Osteological and Palaeopathological Catalogue – Articulated Bone

Skeleton Number	(150)															
Preservation	Grade 5															
Completeness	30%															
Age	36-45, old middle adult															
Sex	Indeterminate															
Stature	-															
Non-Metric Traits	<i>Exostosis in the trochanteric fossa (left)</i>															
Pathology	-															
Dental Health	1 tooth positions, 0 teeth, 1/1 tooth positions lost post-mortem															
	Right Dentition								Left dentition							
Present	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Calculus	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DEH	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Caries	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Wear	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Maxilla	8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8
Mandible	8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8
Present	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	PM
Calculus	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DEH	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Caries	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Wear	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Skeleton Number	(151)															
Preservation	Grade 5															
Completeness	20%															
Age	18+, adult															
Sex	Undetermined															
Stature	-															
Non-Metric Traits	<i>Lateral tibial squatting facet (left)</i>															
Pathology	Infectious Disease Lamellar bone on the medial surface of the distal shaft of the left tibia.															
Dental Health	0 tooth positions, 0 teeth.															

Skeleton Number	(167)															
Preservation	Grade 3															
Completeness	80%															
Age	46+, mature adult															
Sex	Male															
Stature	170.7 ± 2.99															
Non-Metric Traits	<i>Lateral tibial squatting facet (right), os-trigonum (bilateral)</i>															
Pathology	Developmental Disease Bilateral Os acromiale. Only the avulsed tip survived on the left side, which had a remodelled, porotic appearance to the fractured surface. On the right side the avulsed fragment had not been recovered, however; the remainder of the acromion was foreshortened and had a remodelled, porotic appearance. Possible incomplete lumbarisation of the first sacral vertebra. The left ala had an irregular transverse fracture line running from the first sacral foramina to approximately 5mm below the superior															

	<p>margin of the sacroiliac joint surface, creating a pseudo articulation, which had a remodelled, porotic appearance. The right side was incomplete but appeared unaffected. And a hiatus between the inferior margin of the first sacral body and the superior margin of the second sacral vertebra had been maintained.</p> <p>Infectious disease</p> <p>Lamellar bone on the medial surface of the mid-shaft and distal shaft of the left tibia, which measured 150mm si x 9mm ap.</p> <p>Degenerative Joint Disease</p> <p>Schmorl's nodes</p>
Dental Health	0 tooth positions, 0 teeth

Skeleton Number	(170)															
Preservation	Grade 2															
Completeness	90%															
Age	26-35 old middle adult															
Sex	Female															
Stature	161.1 ± 3.55cm															
Non-Metric Traits	<i>Mastoid foramen extrasutural (right), posterior condylar canal open (bilateral), open foramen spinosum (right), septal aperture (bilateral), acetabular crease (left), double anterior calcaneal facet (right), absent anterior calcaneal facet (left), double inferior talar facet (bilateral), os-trigonum (right)</i>															
Pathology	<p>Infectious Disease</p> <p>Woven bone on the ventral surface of a middle order left rib head. The small patch of woven bone measured 16.6mm ml x 9.3mm si. Faint started lamellar bone on the medial and lateral surface of the left tibia. The affected area was located on the midshaft and measured 124.5mm si x 24.8mm ap</p> <p>Congenital</p> <p>Vertebral border shift at the thoracic lumbar border. The twelfth thoracic vertebra had taken on the appearance of a lumbar vertebra (with curved superior and inferior articulating facets),but retained the rib facets. As a result, the eleventh thoracic vertebra had lumbarised inferior articulating facets</p> <p>Degenerative Joint Change</p> <p>DJC and Schmorl's nodes in the thoracic spine.</p> <p>Metabolic Disease</p> <p>Cibra Orbitalia</p>															
Dental Health	25 tooth positions, 28 teeth present, 4/25 teeth lost post-mortem, 24/28 teeth affected by calculus, DEH on 3/28 teeth, 1 caries on 1/28 teeth															
	Right Dentition								Left dentition							
Present	P	P	P	P	PM	PM	P	P	PM	PM	P	P	P	P	P	P
Calculus	-	Fd	Fb	Sb	-	-	Fb	Fl	-	-	Sb	Fb	Fb	Fmd	Fb	-
DEH	-	-	-	-	-	-	G	G	-	-	-	-	-	G	-	-
Caries	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Wear	3	3	3	2	-	-	3	4	-	-	2	2	2	3	3	3
Maxilla	8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8

Mandible	8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8
Present	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
Calculus	Fl	Sl	Sl	Sl Fb	Sl Fb	Sl Fb	Sl	Sl	Sl	Sl	Sb	Slb	Fl	Fb	Fm	Fb
DEH	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Caries	-	-	-	Ld	-	-	-	-	-	-	-	-	-	-	-	-
Wear	2	2	3	-	2	2	2	3	3	2	2	2	2	3	2	2

Skeleton Number	173
Preservation	Grade 5
Completeness	20%
Age	18+ Adult
Sex	Male?
Stature	-
Non-Metric Traits	-
Pathology	Two healed rib fractures on two left ribs
Dental Health	0 tooth positions, 0 teeth

KEY:

Present - Tooth presence; am - ante-mortem tooth loss; pm - post-mortem tooth loss; p - tooth present; p (u) – tooth present but unerupted - - jaw not present

Caries - Calculus; F - flecks of calculus; S - slight calculus; M - moderate calculus; H - heavy calculus; a - all surfaces; b - buccal surface; d - distal surface; m - mesial surface; l - lingual surface; o - occlusal surface

DEH - dental enamel *hypoplasia*; l - lines; g - grooves; p - pits

Caries - caries; s - small lesions; m - moderate lesions; l - large lesions

Wear - dental wear; numbers from 1-8 - slight to severe wear

si – superior-inferior; ml – medio-lateral

Appendix B: Osteological and Palaeopathological Catalogue – Disarticulated Bone

Context	Bone Element	Bone	Side	%Bone	S P	Frag s	Age	Sex	Notes
166	Tibia	Proximal shaft	L	2	1	1	A	U	-
166	Fibula	Distal shaft Distal joint	L	25	3	1	A	U	-
166	Ulna	Central shaft	U	10	2	1	A	U	-
166	Ulna	Proximal joint	R	20	3	1	A	U	-
166	Pelvis	Acetabulum	L	10	1	1	A	U	-
166	Tibia	Central shaft	U	2	3	1	A	U	-
166	Humerus	Distal joint	R	5	5	2	A	U	-
166	Tibia	Proximal joint Proximal shaft	R	60	3	1	A	U	-
166	Tibia	Central shaft	L	35	3	1	A	U	-
166	Femur	Distal joint	R	10	4	3	A	U	-
166	Humerus	Proximal shaft Central shaft Distal shaft	R	55	5	2	A	U	-
169	Femur	Proximal shaft	R	20	2	1	A	U	-

APPENDIX 7

The Roman Pottery from Tadcaster Road

Dr Phil Mills MCIfA (April 2019)

Introduction

There were 637 sherds of pottery, weighing 20635g presented for study. This comprised 592 stratified sherds weighing 21817g with 108 rims and 53 bases.

The material was rapidly scanned by context recorded following the Oxford archaeology/ Warwick museum service pottery recording system (Booth 2000). Material was recorded as sherd families based on ware categories with number of sherds, NoSh. Weight in grams, Wt, minimum number of rims, MNR, rim equivalent, RE being recorded alongside rim diameters in cm, RD. Mean sherd weight (MSW) was calculated by $Wt/NoSh$ and mean percentage rim (MPR) was calculated by RE/MNR .

Dating

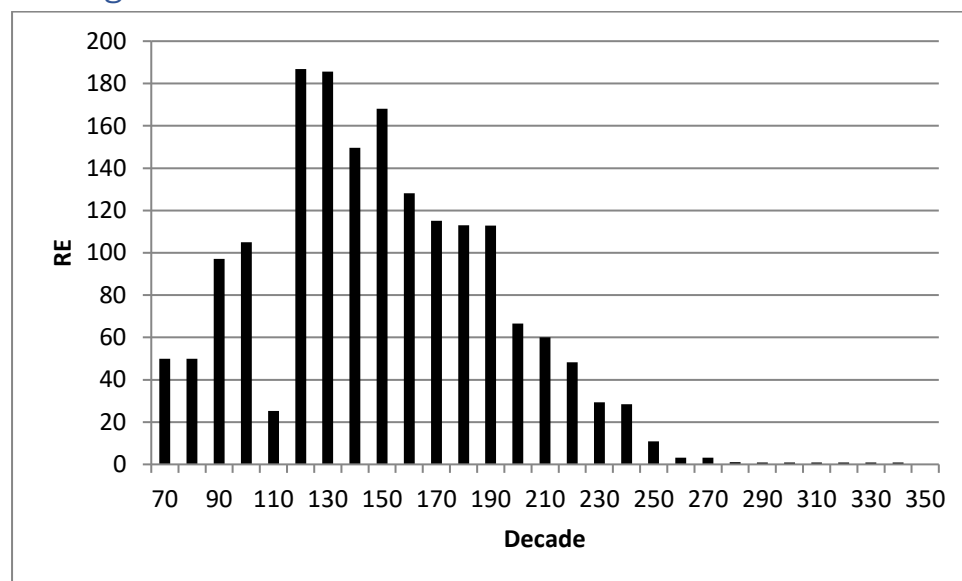


Figure 1 Date distribution, with a restricted date range for all the pottery

Figure 1 shows the date distribution of all the pottery, based on rims from forms with a date range of 150 years or less. There is a peak in the later 1st century, something of a dip in the early 2nd century with a sharp rise in the mid-2nd century, a slight decline in the later second century and a decline into the early 3rd century and very little evidence of later pottery deposition.

Despite the early peak there are only a few contexts which Flavian to Trajanic in date could be - confined to a few body sherds from ditches (142) and (064). The majority of the earlier material, mainly in the form of south Gualish samian but including Ebor ware legionary jars and bowls and a

tazza, was deposited in a few pits alongside later (Mainly mid to late 2nd century) material. Given the number of near complete vessels from these pits it seems likely that these older vessels were curated and placed here with new material from elsewhere, rather than being reworked residual material.

The latest material includes a fragment of a Mancetter-Hartshill reeded hammerhead of c AD 220 - 350 date from pit 128, a body sherd from a Crambeck mortaria of late 3rd century or later date from pit (099) (which does not appear to be part of a structured deposit), a sandy greyware developed bead and flange rim bowl of AD260+ date from ditch (097) and a reeded hammerhead mortaria from furrow (018).

There is a single glazed sherd, probably medieval from a context marked as 'associate with skeleton (170), and treated as unstratified here

Taphonomy

Table 1 shows the breakdown of the pottery by context type. The site is very unusual in that the majority of the pottery comes from pit deposits. Large groups of material from pits are usually associated with structured deposition of industrial activities on the site. The proximity of graves and the pig burial pit, alongside the large amount of almost complete vessels from some of the pits it seems likely that a number of these pits should be consider as structured deposits. The most likely pits connected to ritual activity are (067), (071), (110) and (135), with (121) and (129) also a possibility although this last example may be a consequence of medieval or later disturbance of the site (see CBM report below).

Table 1 break down of pottery by context type

Context key	No%	Wt%	MNR%	RE%	BE%	MSW	MPR
Animal Burial (Ritual)	0.5%	0.3%				24.00	
Ditch	6.2%	3.7%	9.3%	3.8%		21.97	8.50
Grave	1.0%	0.5%	2.8%	1.5%		16.50	11.33
Gully	0.3%	>0.1%				5.00	
Layer	0.3%	0.9%				99.50	
Pit	91.6%	94.5%	88.0%	94.7%	100.0%	37.98	22.34
N	593	21817	108	2241	900	36.79	20.75

Supply

The breakdown of the assemblage by ware is shown in table 2.

Class A amphorae are at 4% by Nosh. This is low for an urban or military site, but higher than would be expected on a rural site. Amphora identified include body sherds of Dressel 20 (Tomber and Dore 1998 BAT AM), Gaulish wine amphorae (Tomber and Dore 1998 GAL AM) and possible an Italian wine amphora (Tomber and Dore 1998 Cam AM 1) .

Class B, black burnished wares are present at 6% comprising of Dorset BB11 (Tomber and Dore 1998 BB1 DOR), but may include Rossington Bridge BB.

Class F is 5% and comprises a wide range of fine wares including Nene Valley colour coat (Tomber and Dore 1998 LNV RS), brown slipped rough cast, central Gaulish black slip (Tomber and Dore 1998 CNG BS), Ebor painted ware and mica dusted wares.

Class G is very low comprising only body sherd in calcite gritted ware (Tomber and Dore 1998 HUN CG) and a quartz and calcite gritted ware.

Class M, mortaria is at 2. identified mortaria include Mancetter-Hartshill (Tomber and Dore 1998 MAH PA), south Yorkshire products (Tomber and Dore 1998 CAN WS) and a Crambeck (Tomber and Dore 1998 CRAM WH) mortaria body sherd.

Class O is at 13% and the majority seem to be Ebor wares (Tomber and Dore 1998 EBO OX) as would be expected.

Class Q at 36% is the largest ware category in the group, and is comprised of Ebor white slip vessels This high level of white slipped wares is very unusual and most seem to be Ebor ware white slipped (Tomber and Dore 1998 EBO WS). and coming from flagons, reflecting the unusual nature of the site. There are probably a number of near complete vessels in the group.

Class R is at 10%

Class S is at 19%, which is very high and what would be expected of an military association. There were 27 sherds of decorated samian, some 27% by Nosh and 29% by MNR which marks this as a military assemblage. Much of the material is south Gaulish and would appear to have been deposited in the mid to late 2nd century.

Class W whiteware is at 4%

Table 2 Fabric class proportions

Class	Ware	No%	Wt%	MNR%	RE%	BE%	MSW	MPR
A	Amphora	4.4%	18.0%	0.0%	0.0%		150.85	
B	Black Burnished	6.4%	7.9%	9.3%	10.3%		45.61	23.00
F	Fine	4.6%	1.8%	5.6%	3.1%	11.1%	14.85	11.67
G	Gritted	0.2%	0.1%	0.0%	0.0%		14.00	
M	Mortaria	2.2%	8.2%	5.6%	3.1%		137.31	11.50
O	Oxidised	13.5%	7.8%	11.1%	7.6%		21.18	14.25
Q	White slip	35.8%	20.5%	6.5%	13.7%	22.2%	21.08	43.71
R	Reduced	9.8%	9.2%	18.5%	16.8%	11.1%	34.66	18.85
S	Samian	19.1%	23.3%	43.5%	45.4%	55.6%	44.98	21.66
W	Whiteware	4.2%	3.2%	0.0%	0.0%		28.20	
	N	593	21817	108	2241	900	36.79	20.75

Function

Table 3 shows the functional analysis for the assemblage and underlines the unusual nature of the assemblage with very few jars, a string showing for table wares (dishes and bowls) and a good amount of vessels associated with the storing, pouring and drinking of liquids, which tend to appear strongest at sites with ritual associations.

Table 3 Functional analysis of the group

F	CJ	J	BK	CUP	M	B	D	L	N
6.5%	1.9%	11.1%	5.6%	10.2%	5.6%	44.4%	8.3%	5.6%	108
14.6%	5.6%	7.9%	3.7%	6.4%	3.1%	40.9%	8.3%	2.5%	rims
									2241%

Graffiti

There are 8 graffiti on 7 vessels from the group giving a total of some 84 sherds per graffito which places the site firmly in the military type (Evans 2001, Fig 12)

Discussion

There is a small amount of possible Flavian – Trajanic deposition, confined to the ditches. The main period of deposition of pottery is in the mid to later 2nd century in pits where curated Flavian to Trajanic vessels are deposited in pits alongside contemporary vessels. These are structured deposits associated with ritual activity. These are apparently the result of the movement and burial with later material of earlier material associated with ritual practice. The presence of two graves and the pit with pig burials underlines this site as a focus of ritual practice in the mid to late second century. The unusual nature of these deposits is underlined by the high levels of tableware's and vessels associated with the storing, pouring and drinking of liquids.

There is a small amount of 3rd century deposition on the site but this is unlikely to have been ritualistic in nature.

Recommendations for further work

This is an unusual structured deposit from just outside York and should be published in full with a detailed catalogue of the structured pits' contents.

Research aims

- 1 Understand the dating of the site. The pottery can provide the chronological framework for interpreting the site alongside the stratigraphic record.
2. Understanding supply. The pottery will provide evidence on the links to other parts of the Roman world
3. studying ritual deposition. Comparison of the make up of pottery fabric and function with normal contemporary groups will provide insights into the nature of ritual deposition on the site

Method

The material will be recorded to a fabric and form series following the Warwick museum. Oxford archaeology system. All sheds will be identified to fabric and a record made of rim and base

equivalents, minimum number of rims and vessels where appropriate. The samian should be reported on by a specialist as should the graffiti. The report should be accompanied by illustration of the type series and group illustrations of the vessels from the special deposits. Full list of other finds, the site narrative and phasing will be needed to complete the report

Synopsis

Introduction

Dating

Taphonomy

Supply

The special deposits

Other Aspects

Discussion

Appendices: fabric Descriptions; Form and fabric Occurrence

Work program

Coarse pottery and report compilation by Dr Phil Mills, samian report by Dr Gwladys Monteil, Graffiti by Dr Roger Tomlin

Task	Days
a. Record Coarse Pottery	3
b. Clean Data/ prepare Digital Archive	0.5
c. Graffiti Report (Roger Tomlin)	£383
d. Samian Report (Gwladys Monteil)	£1210
e. Analyse Data	0.5
f. Draft report	3
g. Check Drawings	0.5

Cost

The cost is at a daily rate of £280 a day, and is valid until 1/4/2020

Task	Days	Cost
a. Record Coarse Pottery	3	£840
b. Clean Data/ prepare Digital Archive	0.5	£140
c. Graffiti Report (Roger Tomlin)		£383
d. Samian Report (Gwladys Monteil)		£1210
e. Analyse Data	0.5	£140
f. Draft report	3	£840
g. Check Drawings	0.5	£140
	Total	£3693

NB

This does not include the cost of transporting material to and from Leicester.

Provision should be made for 50 drawings

Acknowledgment

My Thanks to Dr Jerry Evans for discussion of the ritual aspects of the special deposits

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Appendix 1 Spot Dating

Context	Type	Spot date	NoSh	Wt	MNR
001	Topsoil	120-200	6	277	1
002	Topsoil	LC1	1	15	1
004	Pit	MC2; CBM Roman	6	20	0
006	Pit	Roman; CBM C18+	1	30	0
011	Pit	LC2 CBM Roman , poss. Med	2	454	1
018	Topsoil	EC3	3	84	1
022	Gully	Roman	1	8	0
028	Ditch	LC1-C3	1	4	0
034	Gully	LC1-C3	1	2	0
042	Ditch	LC2; CBM: Roman, poss. Med	3	7	0
044	Pit	LC1-C3; CBM: Roman	2	24	0
046	Pit	LC1-C3; CBM Roman	3	4	0
055	Ditch	LC1-C3	2	12	0
058	Ditch	Roman	3	25	0
061	Ditch	LC1; CBM: Roman	1	35	1
064	Ditch	LC1	3	16	0
066	Pit	M-LC2; CBM: Roman	37	1079	9
070	Pit	MC2 - Poss. - LC2; CBM LC1-C2	93	4051	15

072	Ditch	LC1- C3	1	44	0
075	Ditch	Roman	2	30	1
078	Ditch	160+	3	8	0
084	Pit	LC2- EC3	4	36	1
086	Pit	E-M C3; CBM: Roman	1	9	1
088	Ditch	C3-MC4	3	90	1
089	Ditch	MC2	2	76	1
093	Pit	LC1-C3; CBM: Roman	2	6	0
097	Ditch	LC3 (+)	13	189	4
099	Pit	LC3	6	133	1
105	Ditch	LC2-C3; CBM : Roman	3	62	0
107	Pit	M-L C2; CBM: Roman	39	2575	8
108	Pit	MC2-(EC3); CBM: Roman	219	6507	31
109	Pit	MC2 - (EC3); CBM: Roman	42	1528	7
111	Ditch	LC2	2	7	1
113	Ditch	C2-C3	3	85	0
117	Pit	160+	2	6	0
120	Pit	MC2; CBM: Roman	60	1774	7
125	Layer	LC1- MC3	2	199	0
128	Pit	EC3 (+); CBM Roman, poss. Med	19	446	3
134	Pit	MC2; CBM: Roman	9	205	3
142	Ditch	70-100	2	162	1
152	Ditch	160+	4	18	1
154	Ditch	MC2-EC3; CBM Roman	3	51	1
156	Ditch	160+	4	30	0
158	Pit	LC1-C3	1	26	0
160	Animal Burial (Ritual)	C2; CBM: Roman	5	78	1
166	Grave	MC2; CBM: Roman or poss. Med	9	96	2
169	Grave	Roman?	1	10	1
assoc 170	Unstratified		2	2	0

Appendix 2 The full catalogue

Abbreviations: Gill = Gillam 1976; Gill 73 = Gillam 1973; Mon = Monagahn 1997

Context	Sample	Fabric	Part	Function	Form	Conf	NoSh	WT (g)	MR	RD	RE	Ba T	HT	Date From	Date to	Comments
001		A01	Body			1	1	99	0		0					coarse
001		G01	Body				1	16	0		0					
001		O00	Body				1	13	0		0					gritty - could be med
001		Q00	Body				1	5	0		0					
001		R00	Base				1	50	0		0	1 1				
001		S20	Rim	D	Dr 31		1	94	1	2 1	10			15 0	20 0	
002		S10	Rim	D	Dr 36		1	15	1	2 1	6			70	90	
004	2	B01	Body				1	4	0		0			12 0	16 0	ac lat
004	2	Q00	Body				2	3	0		0					
004	2	R00	Body				3	13	0		0					
006		R00	Body				1	30	0		0					
011		A01	Handle				1	44 2	0		0			70	25 0	
011		R00	Rim	J	bb copy		1	12	1	1 5	6			15 0	20 0	bb copy Gill 3
018		M13	Rim	M	RHH5		1	37	1	1 7	11			20 0	25 0	beaded distal
018		O00	Body				1	3	0		0					
018		O00	Handle				1	44	0		0		1			
022		R00	Base				1	8	0		0	1 1				
028		W00	Body				1	4	0		0					
034		W00	Body				1	2	0		0					
042		B01	Body				1	4	0		0			16 0	42 0	
042		F10 2	Body				1	2	0		0			15 0	20 0	
042		O00	Body				1	1	0		0					
044		Q00	Body				2	24	0		0					
046		O00	Body				1	1	0		0					
046		W00	Body				2	3	0		0					
055		O00	Body				1	9	0		0					
055	13	R00	Body				1	3	0		0					
058		A01	Body				1	17	0		0					
058	14	R00	Body				2	8	0		0					
061		S10	Rim	B	Dr 37		1	35	1	2 0	3			70	11 0	
064		Q00	Body				1	4	0		0					handle?
064		R00	Body				1	11	0		0					
064		S10	Body				1	1	0		0					
066		A21	Handle				2	28 7	0		0		1			
066		B01	Base				1	19	0		0	1 1				
066	16	B01	Body				1	4	0		0			12 0	16 0	ac lat

Context	Sample	Fabric	Part	Function	Form	Conf	NoSh	WT (g)	MR	RD	RE	Ba T	HT	Date From	Date to	Comments
066		B01	Rim	B	FRB		1	31	1	2	8			12	16	pointed arcs
066		F00	Body				1	9	0		0					painted Ebor
066		F12	Rim	BK	cornice		1	9	1	5	11			12	18	
066		M01	Rim	M	class A		1	19	1	2	8			70	13	white slip with slag grits
066		O00	Body			1	1	5	0		0					
066		O00	Body				4	26	0		0					
066		O00	Body				5	12	0		0					
066	16	O00	Body				2	2	0		0					
066		O00	Rim	J	Mon JB1		1	53	1	1	34			16	22	
066		O00	Rim	L	Mon LD		1	8	1	2	5			16	22	
066		Q00	Body				1	17	0		0					
066		Q00	Body				6	57	0		0					
066		R00	Base				1	62	0		0	3				polished ext decorated bowl
066		S00	Body				1	4	0		0					
066		S00	Base	Cu p	Dr 27		1	35	0		0	3		70	16	
066		S00	Rim	B	Dr 37		2	62	1	1	18			70	25	
066		S00	Rim	B	Dr 37		1	8	1	2	6			70	25	
066		S20	Rim	B	Dr 37		1	16	1	2	2			12	20	
066		S20	Rim	B	Dr 38		1	50	1	1	11			12	20	
070		A01	Body				8	78	0		0					
070		A21	Body				2	12	0		0					
070		B01	Body				1	52	0		0					
070		B01	Almost Complete Vessel	D	Flange rim dish		1	93	1	2	86	1		12	16	ac lat poss. RS BB
070		B04	Rim	J	Gill 1		1	33	1	1	16			12	16	
070		F00	Rim	BK	sub cornice		3	25	1	1	18			12	20	
070		M13	Body			1	1	11	0		0					
070		O00	Base				1	18	0		0	3				
070		O00	Body				2	28	0		0					
070		O00	Body				1	61	0		0					
070		O00	Body				1	16	0		0					
070	031	O00	Body				1	4	0		0					
070		O00	Rim	B			1	16	1	2	7			12	20	Dr 37 copy hemispherical bowl
070		Q00	Base				1	32	0		0	1				
070		Q00	Base				1	43	0		0	1				

Context	Sample	Fabric	Part	Function	Form	Conf	NoSh	WT (g)	MR	RD	RE	Ba T	HT	Date From	Date to	Comments
070		Q00	Body				1	4	0		0					
070		Q00	Body				1 8	19 5	0		0					
070		Q00	Handle				1	18	0		0		4			
070		Q00	Rim	B			2	27	1	2 0	8			70	42 0	fragment form bead rim bowl?
070		Q00	Rim	B			1	5	1	1 5	5			70	42 0	inturned rim?
070		R00	Base	D			1	15 0	0		0	1 1				
070		R00	Body				1	25	0		0					
070		R00	Body				2	37	0		0			12 0	16 0	ac lat
070		R00	Rim	D	brd		1	10 3	1	1 9	21			12 0	22 5	bead rim dish with tri in section bead and wavy line decoration mon DB
070		R00	Rim	B	frd		1	49	1	2 5	10			12 0	20 0	
070		R00	Rim	B	frd		1	31	1	1 5	7			12 0	20 0	
070		R00	Rim	D	grd		2	41	1	1 7	13			12 0	20 0	
070		S00	Body				2	5	0		0					
070		S20	Base				1	18 3	0		0	3 0				groove in base
070		S20	Body				1	4	0		0					
070		S20	Rim	B	Curle 21		1	46	1	2 0	8			15 0	20 0	
070		S20	Complete Profile	Cup	Dr 33		3	14 8	1	1 5	46	3 0		12 0	20 0	Graffiti Y stamp JIAR.F
070		S20	Rim	B	Dr18/31		1	59	1	1 9	25			12 0	14 0	
070		S20	Complete Profile	B	Dr18/31 R		5	47 7	1	3 0	44	3 0		12 0	14 0	graffiti IV
070		S20	Rim	Cup	dr80		1	2	1	1 5	3			16 0	20 0	
070		W00	Body				1	11	0		0					
072		Q00	Base				1	44	0		0	1 8				
075	22	R10	Rim	J			2	30	1	1 6	17			70	41 0	jar with a hooked rim
078	24	F01	Body				1	4	0		0			16 0	42 0	rouletted
078	24	R00	Body				2	4	0		0					bb2?
084		O00	Body				1	15	0		0					
084	84	O00	Body				1	1	0		0					
084		O00	Rim	J	Mon JB1		1	13	1	1 5	8			16 0	22 5	
084		Q00	Body				1	7	0		0					
086		F00	Rim	BK	Mon KF4		1	9	1	1 0	7			20 0	28 0	everted rim beaker thing brown slip
088		A00	Body				1	70	0		0					
088		A01	Body				1	2	0		0					Campanian fabric
088		R00	Rim	J			1	18	1	1 5	8			20 0	35 0	dales type

Context	Sample	Fabric	Part	Function	Form	Conf	NoSh	WT (g)	MR	RD	RE	Ba T	HT	Date From	Date to	Comments
089		B01	Rim	B	FRB		1	36	1	2 0	12			15 0	16 0	squared lattice
089		R00	Base				1	40	0		0	1 1				
093	21	O00	Body				1	1	0		0					
093	21	R00	Body				1	5	0		0					
097		F54	Rim	B	Mon BH1		1	18	1	2 0	8			12 0	28 0	
097	23	O00	Base				1	25	0		0	1 2				
097		O00	Body				1	16	0		0					
097	23	O00	Body				1	8	0		0					
097		Q00	Base				1	8	0		0	1 3				
097		Q00	Body				4	38	0		0					
097	23	R00	Body				1	4	0		0					
097	23	R00	Rim	D	SRD		1	13	1	2 0	5			70	52 0	
097		R10	Rim	B	DFLB		1	34	1	2 0	10			26 0	42 0	
097		S20	Rim	cup	Dr 33		1	25	1	2 0	5			12 0	20 0	
099	25	F02	Body				1	1	0		0			16 0	41 0	
099		M19 1	Base			2	1	83	0		0	1 1		28 5	41 0	fine grits
099		O00	Body				1	11	0		0					
099		Q00	Body				1	34	0		0					
099	25	Q00	Body				1	3	0		0					
099		S20	Rim	B	000		1	1	1	1 5	5			12 0	20 0	bead rim frag
105	27	F01	Body				1	2	0		0					
105		Q00	Body				1	51	0		0					
105		W00	Body				1	9	0		0					
107		A00	Body			2	1	39 3	0		0					
107		A01	Body				1	30 1	0		0					
107		A01	Handle				1	45 7	0		0		1			
107		B01	Body				1	15	0		0			12 0	16 0	ac lat
107		B01	Rim	J	gill 2		1	10 6	1	1 5	39			12 0	16 0	
107		F54	Body				1	22	0		0					
107		M13	Body				1	89	0		0					
107		M18	Rim	M	class A		1	26 1	1	3 0	16			16 0	20 0	
107		O00	Body				1	19	0		0					fine polished surface
107		O00	Body				2	28	0		0					
107		O00	Handle				1	21	0		0		3			
107		O00	Rim	F	Mon FC		1	19	1	8	15			16 0	22 5	
107		O00	Rim	F	Mon FP		1	11	1	8	20			12 0	20 0	
107		O00	Base	O	TAZZE		1	16 0	0		0	1 0		70	16 0	
107		Q00	Base				1	26	0		0	3 0				

Context	Sample	Fabric	Part	Function	Form	Conf	NoSh	WT (g)	MR	RD	RE	Ba T	HT	Date From	Date to	Comments	
107		Q00	Body				1 2	10 7	0		0						
107		Q00	Handle				1	60	0		0		5				
107		Q00	neck	F			1	59	0		0		9				
107		Q00	neck	F			1	10 2	0		0		9				
107		R00	Base				1	33	0		0	4 0					
107		R00	Complete Profile	B	Gill 72 no 219		2	14 5	1	2 0	30	9 0		12 0	15 0		gill 219 BB2 copy? Ac lat dec
107		R00	Rim	L	srl		1	4	1	1 5	3			70	41 0		
107		S10	Base				1	48	0		0	3 0					
107		S10	Base				1	74	0		0	3 0					rouletted
107		S20	Rim	cup	Dr 27		1	2	1	1 5	5			12 0	16 0		
107		S20	Rim	B	Dr 37		1	13	1	2 0	5			15 0	20 0		dr37
108		A00	Handle				1	25 8	0		0		6				poss. Gaulish amph handle
108		A01	Body				3	57 5	0		0						
108		B01	Base				1	11	0		0	1 1					
108		B01	Base				1	30	0		0	1 1		12 0	41 0		
108		B01	Body				1	31	0		0			12 0	16 0		ac lat
108		B01	Body				1	52	0		0			12 0	16 0		acute lattice dec
108		B01	Body				1	18	0		0			12 0	16 0		ac lat
108		B01	Body				1	8	0		0						trimmed?
108		B01	Rim	B	FRB		1	23	1	2 0	7			12 0	20 0		
108		B01	Complete Profile	D	frd		1	12 0	1	2 7	13	1 1		12 0	16 0		ac lat
108		B01	Rim	BK	Gill 19		1	15	1	1 3	13			12 0	16 0		
108		B01	Rim	J	gill 3		1	72	1	1 7	18			15 0	20 0		
108		F00	Base				3	43	0		0	1 2					black cc rough cast clay
108		F00	Base				4	62	0		0	1 1					black cc rough cast
108		F00	Body				1	15	0		0						thin brown slip poss. mica dusted poss. barbotine dec
108		F00	Body				1	36	0		0						mica dusted
108		M13	Body				2	64	0		0						
108		M13	Rim	M	class C		1	20 4	1	2 9	15			14 0	17 0		
108		O00	Body				1	20	0		0						
108		O00	Body				7	61	0		0						
108		O00	Body				9	45	0		0						

Context	Sample	Fabric	Part	Function	Form	Conf	NoSh	WT (g)	MR	RD	RE	Ba T	HT	Date From	Date to	Comments
108		O00	Rim	B	Mon BD		1	56	1	2 5	14			12 0	20 0	
108		O00	Rim	L	Mon LC		1	40	1	1 9	18			16 0	22 5	
108		O00	Rim	D	Mon PA2		3	11 1	1	3 0	17			16 0	28 0	
108		Q00	Base				1	7	0		0	3 0				
108		Q00	Base				1	20	0		0	3 0				
108		Q00	Base				1	35	0		0	3 0				
108		Q00	Base				1	21	0		0	1 9				
108		Q00	Base				1	16 1	0		0	1 8				
108		Q00	Base				1	24	0		0	1 8				
108		Q00	Base				1	31	0		0	1 8				
108		Q00	Base				1	70	0		0	1 8				
108		Q00	Base				4	27 6	0		0	1 8				
108		Q00	Base				1	11 6	0		0	1 2				
108		Q00	Body				3 0	29 0	0		0					
108		Q00	Body				5 4	98 7	0		0					
108		Q00	Handle				1	18	0		0		9			
108		Q00	Handle				1	25	0		0		5			
108		Q00	Handle				1	29	0		0		3			
108		Q00	Rim	F	Mon FE1		1	11 1	1	6	10 0			16 0	25 5	
108		Q00	Rim	F	Mon FR2		1	23	1	7	30			10 0	16 0	
108		R00	Base				1	23	0		0	1 1				
108		R00	Body				1	36	0		0					graffiti NER
108		R00	Body				1	18	0		0					
108		R00	Body				2	20	0		0					
108		R00	Body				4	14 4	0		0					
108		R00	Handle				1	12	0		0		3			
108		R00	Handle				1	28	0		0		3			
108		R00	Rim	CJ	Mon JN		1	17 8	1	8	10 0		9	15 0	25 0	
108		R00	Rim	L	mon LC		1	17	1	2 0	8			12 0	20 0	
108		S10	Base				1	23	0		0	3 0		70	10 0	
108		S10	Base	cup			2	13	0		0	3 0		70	10 0	
108		S10	Body				2	8	0		0					
108		S10	Rim	B			1	10	1	1 5	11			70	11 0	
108		S10	Rim	B			1	11	1	1 6	10			70	11 0	
108		S10	Rim	B			1	2	1	2 0	4			70	11 0	
108		S10	Complete Profile	D	Dr 18/31		1	21 9	1	1 7	59	3 0		90	11 0	X graffiti stamp: vidvcvrf

Context	Sample	Fabric	Part	Function	Form	Conf	NoSh	WT (g)	MR	RD	RE	Ba T	HT	Date From	Date to	Comments
108		S10	Rim	D	Dr 18/31		1	24	1	1	21			90	110	
108		S10	Rim	cup	Dr 27		1	6	1	1	13			70	110	
108		S10	Base	B	Dr 37		1	73	0		0	30		70	110	dec
108		S10	Body	B	Dr 37		5	35	0		0			70	110	dec
108		S10	Rim	B	Dr 37		1	80	1	2	23			70	110	
108		S10	Rim	B	Dr 37		3	107	1	2	20			70	110	
108		S10	Rim	B	Dr 37		1	45	1	2	12			70	110	
108		S10	Rim	B	Dr 37		1	11	1	2	7			70	110	
108		S10	Rim	B	Dr 37		1	19	1	1	1			70	110	
108		S20	Body				8	75	0		0					
108		S20	Rim	B			1	2	1	2	4			120	200	
108		S20	Rim	cup			3	21	1	2	23			120	200	grooved bead
108		S20	Rim	B	curle11		1	45	1	2	11			120	140	
108		S20	Complete Profile	D	Dr18/31		1	124	1	2	19	30		120	160	graffiti
108		S20	Complete Profile	cup	Dr27		1	69	1	1	23	30		120	160	
108		S20	Rim	cup	Dr27		1	5	1	1	12			120	160	
108		S20	Rim	cup	Dr27		1	12	1	1	7			120	160	
108		S20	Almost Complete Vessel	B	Dr37		2	408	1	1	90			120	200	
108		S20	Body	B	Dr37		1	18	0		0	30		120	200	dec
108		W00	Base				1	46	0		0	30				
108		W00	Body			1	1	48	0		0					
108		W00	Body				5	74	0		0					
108		W00	Body				5	184	0		0					
109	28	B01	Body				1	2	0		0					
109		F00	Body				1	19	0		0					thin red slip brown cc rough cast6
109		F00	Body				2	19	0		0					
109	28	F01	Base				1	6	0		0	11		160	420	
109		O00	Body				1	19	0		0					ac lat
109		O00	Body				3	304	0		0					
109		Q00	Body				1	1	0		0					
109		Q00	Body				4	8	0		0					
109		Q00	Body				4	76	0		0					
109		Q00	Handle				1	14	0		0		5			
109		Q00	Rim	F	Mon FR2		1	359	1	1	28			100	200	
109		R00	Base				1	25	0		0	13				

Context	Sample	Fabric	Part	Function	Form	Conf	NoSh	WT (g)	MR	RD	RE	Ba T	HT	Date From	Date to	Comments
109		R00	Body				1	2	0		0					Burnished lines
109		R00	Body				2	12	0		0					
109		R00	Body				4	7	0		0					
109		R00	Rim	J			1	28	1	5	6			70	42	neckless jar with everted rim
109		R00	Rim	B	frb		1	6	1	0	2			12	20	
109		R00	Rim	CJ	Mon JN		1	24	1	0	25			15	25	
109		R00	Rim	Jug	Trefoil		1	25	1	5	75			70	22	
109		S10	Body				1	6	1		0			70	10	
109		S10	Rim	B	Dr 37		1	14	1	6	8			70	10	
109		S20	Rim	cup	Dr 80		1	2	1	0	3			12	20	
109		W00	Body				1	20	0		0					
109		W00	Body				6	30	4	0	0					thin brown slip
111	29	O00	Body				1	2	0		0					
111		S20	Rim	cup	Dr 33		1	5	1	5	4			15	20	
113		G04	Body				1	14	0		0					
113		M089	Body				1	66	0		0					
113		O00	Body				1	5	0		0					
117		F00	Body				1	1	0		0					cc
117	32	F01	Body				1	5	0		0					rouletted
120		B01	Body				4	26	0		0					
120		B01	Body				4	62	0		0			12	16	ac lat
120		B01	Rim	J	gill 2		2	35	1	6	18			12	16	
120		F54	Rim	B	Mon BH1		1	42	1	0	9			12	20	
120		M089	Rim	M	Class A		2	51	1	3	15			10	15	
120		O00	Body				1	60	0		0					
120		O00	Body				3	10	0		0					
120		Q00	Base				1	83	0		0	3				
120		Q00	Body				2	26	5	0	0					
120		Q00	Rim	F	Mon FC		1	20	6	1	6	10		12	22	
120		R00	Body				1	9	0		0					
120		R00	Body				4	17	5	0	0			12	20	ac lat
120		R00	Rim	L			1	16	1	2	9			70	42	simple thickening rim
120		S10	Body				2	23	0		0					
120		S10	Rim	B	Curle 11		5	22	7	1	5	51		70	11	
120		S20	Body				1	15	0		0			12	20	decorated
120		S20	Rim	B	Dr 18/31		1	9	1	1	7	8		12	16	

Context	Sample	Fabric	Part	Function	Form	Conf	NoSh	WT (g)	MR	RD	RE	Ba T	HT	Date From	Date to	Comments
125r		A01	Body				1	149	0		0					
125r		R00	Base				1	50	0		0	40				or lid
128		A21	Body			1	2	60	0		0					
128	33	B01	Body			1	1	1	0		0			120	420	
128		F02	Base			2	2	21	0		0	12		160	420	
128		M13	Rim	M	RHH4		1	87	1	30	5			200	350	beaded distal
128		O00	Body				2	60	0		0					
128		O00	Body				1	4	0		0					
128	33	O00	Body				1	1	0		0					
128		O00	Rim	B	Mon BC1		1	43	1	21	15			70	120	
128		Q00	Base				1	25	0		0	18				
128		Q00	Body				4	27	0		0					
128	33	Q00	Body				1	1	0		0					
128		Q00	neck	F			1	86	0		0					
128		Q00	Rim	F	Mon FE1		1	30	1	0	35			160	225	
134		M08	Rim	M	Class A I		1	116	1	9	10			120	140	
134		R00	Rim	B	Gill 72 no 222		1	27	1	5	10			120	210	bb2 copy? Gill 72 222
134		S10	Body				2	15	0		0					decorated
134		S10	Rim	D	Dr 18/31		4	42	1	0	20			90	110	
134		S20	Body				1	5	0		0					
142		O00	Rim	L	srl		1	16	1	5	12			70	225	
142		S10	Base				1	146	0		0	30		70	100	graffiti * in centre H and I below
152	37	F01	Body				1	1	0		0					
152		O00	Rim	J	Mon JA		1	9	1	5	6			70	120	
152		Q00	Body				1	6	0		0					
152	37	R00	Body				1	2	0		0					
154		F01	Rim	BK	indented		2	49	1	0	17			160	233	indented beaker with everted rim
154	38	R00	Body				1	2	0		0					
156	39	F01	Body				1	7	0		0					rouletted
156	39	F02	Body				1	16	0		0					Poss. Brough on Humber ware
156	39	O00	Body				1	2	0		0					
156	39	Q00	Body				1	5	0		0					
158		Q00	Body				1	26	0		0					
160	42	B01	Body				1	4	0		0			120	420	
160	42	B01	Rim	J	000		1	2	1	5	3			120	420	
160		Q00	Base				1	26	0		0	18				
160		Q00	Handle				1	26	0		0		6			

Context	Sample	Fabric	Part	Function	Form	Conf	NoSh	WT (g)	MIR	RD	RE	Ba T	HT	Date From	Date to	Comments
160		S10	Base				1	20	0		0	30		70	100	poss. graffiti
166	44	F00	Body				1	1	0		0			70	150	brown cc rough cast
166		O00	Body				1	7	0		0					
166	44	R00	Body				3	6	0		0					
166		R00	Rim	BK	everted		1	13	1	1	17			70	410	
166		R00	Rim	J	everted		1	17	1	5	12			70	410	
166		R10	Body				1	24	0		0					
166		S20	Body				1	28	0		0			120	200	
169		R00	Rim	J	everted		1	10	1	5	5			70	410	
Asso c 170		O00	Body				1	1	0		0					
Asso c 170		Z20	Body				1	1	0		0					thin splash glaze

APPENDIX 8

The Ceramic Building Material and Burnt Clay from Tadcaster Road

Dr Phil Mills MCIfA (April 2019)

Introduction

There were 111 fragments weighing 11242g of material supplied for assessment. The stratified material comprised 3 fragments, 78g of burnt clay and 91 fragments, 11076g, of ceramic building material (CBM). The CBM was made up of c. 86% Roman material and 14% of medieval or later material, although a number of fragments recorded here as possibly Roman may be medieval or later in date.

The material was rapidly scanned by context and any forms noted and further comments recorded as appropriate. Metrics recorded were number of fragments, no, weight in grams, Wt, and no of corners, Cnr.

Taphonomy

Table 1 CBM by context type

Context Type	No%	Wt%	CNR%	MSW
Animal Burial (Ritual)	2.2%	0.2%		13.00
Ditch	9.9%	8.4%		103.44
Grave (including cremation)	3.3%	3.8%		140.33
Pit	84.6%	87.6%	100.0%	125.95
N	91	11076	11	121.71

Table 1 shows the amount of CBM recovered by context type. The majority of the material is from pits and is associated with the special pit deposits. There are around 10% of material from ditches suggesting that in addition to material used in the special deposits that there is material being dumped on site in the usual manner.

Function

Table 2 Proportion of CBM form types

Function	No%	Wt%	Cnr%
Unidentified	35.2%	12.8%	0.0%
Brick	24.2%	40.5%	45.5%

Flat	5.5%	2.4%	0.0%
Flue Tile	6.6%	7.9%	18.2%
Imbrex	13.2%	16.6%	27.3%
moulded	1.1%	3.2%	0.0%
Nib Tile	1.1%	0.4%	0.0%
Pan Tile	3.3%	4.1%	0.0%
Ridge Tile	2.2%	5.5%	9.1%
Tegula	1.1%	2.4%	0.0%
Tile	6.6%	4.3%	0.0%
N	91	11076	11

Table 2 shows the form types identified from the site. The majority of the brick is Roman, and coupled with the high levels of imbrex and flue tiles suggest that much of the material derives from a hypocaust structure, although there is an usual low level of tegula. The unusual nature of the deposits means that there may be a selection bias for the material placed in the special deposits. There is a flue or wall tile with diamond incised lines which are an early type of CBM used in Roman Britain. There is an unusual moulded piece from (169) which is possibly related to North African roman architectural pieces (Figure 1).



Figure 1 Unusual Ceramic piece from (169)

There are a number of fragments identified as 'flat' here which may have been from roman flue tile, but could also be medieval or later tile fragments and as such would need a more detailed examination.

There is a small amount of post medieval CBM in the form of nib tile, pan tile, plain tile and a single brick.

The burnt clay

There were 3 fragments of kiln or oven lining, weighing 78g from (107).

Discussion

This is a collection of Roman alongside possible medieval and post medieval CBM from outside York. The Roman material is made up of material typical of discard outside an urban centre, alongside material which may have been deliberately placed in special deposits. Much of the material appears to derive from an early hypocaust structure and there is also an odd piece which may relate to north African traditions of architecture.

Further work

Much of the material is included with special deposits and as such further analysis would help to provide a greater understanding of the nature of these deposits.

More detailed analysis of the fabrics should clarify if the flat fragments are Roman flue tile or medieval tile and as such help in understanding the chronological framework of the site.

Material will be recorded to a fabric and form series, with occurrence by phase group and between the structured deposits being compared where possible.

The full catalogue will be presented as an excel work sheet as a digital archive

Synopsis:

Introduction
Taphonomy
Supply
Other aspects
Discussion
Appendices: fabric description fabric and form occurrence by phase

Time Table

Task

- | | |
|--|----------|
| a. Record the stratified material to fabric type | 1 Day |
| b. Clean Data/ prepare digital archive | 0.5 Days |
| c. Analyse Data | 0.5 Days |
| d. Draft report | 1 Day |

Costing

This is based on a day rate of £280 a day and is valid until 1/4/2020

Task	Days	Amount
a. Recording	1	£280
b. Clean data	0.5	£140
c. Analyse Data	0.5	£140
d. Draft Report	1	£280
Total	3	£840

Other

Costing does not include the transport of material to and from Leicester

Provision should be made for 1 drawing

Appendix The full Catalogue

Context	Sample no	Fabric Code	Function	Confidence	NoSh	Wt	corner	Period	Comments
004	02	T00			4	12	0	Roman	
006		T00	B/T		1	17	0	Roman	
006		T00	Imbrex		1	15	0	Roman	
006	1	tz00			8	48	0	Med+	
006		tz00	B/T		2	72	0	Med+	
006		tz00	Nib Tile		1	44	0	Modern	
006		tz00	Pan Tile		3	452	0	Post Med	
006		tz00	Tile		2	260	0	Med+	
011	10	T00	B/T		1	7	0	Roman	
011		T00	Brick		1	29	0	Roman	
011		T00	Flat		1	29	0	Rom/Med	Poss. med tile or Voussoir/ Flue tile
030		T00			1	20	0	Roman	
042		T00	B/T		3	9	0	Roman	
042		T00	Flat		1	15	0	Rom/Med	med tile or flue tile fag
044		T00	B/T		2	15	0	Roman	
046		T00	B/T		2	13	0	Roman	
061		T00			1	4	0	Roman	
066		T00	B/T		1	47	0	Roman	
066		T00	Flat	1	1	143	0	Rom/Med	flue tile?
066	16	T00	Flue Tile		1	2	0	Roman	incised mark
066		T00	Imbrex		1	74	0	Roman	
070		T00	B/T		4	154	0	Roman	
070	31	T00	B/T		1	1	0	Roman	
070		T00	Brick		4	823	0	Roman	
070		T00	Flue Tile		1	186	0	Early Roman	incised lattice
070		T00	Imbrex		3	927	1	Roman	1 female end
070		T00	Imbrex		1	166	1	Roman	
077		T00	Flat		1	62	0	Rom/Med	flue tile or med tile
086		T00			1	8	0	Roman	
093	21	T00	B/T		1	5	0	Roman	
105		T00	Brick		2	156	0	Roman	
107		D00	lining		3	78	0		
107		T00	B/T		3	77	0	Roman	
107		T00	Tegula		1	265	0	Roman	large flange frr1/1
108		T00	B/T		3	42	0	Roman	
108		T00	Brick		1	431	0	Roman	
109		T00			2	18	0	Roman	
120		T00	B/T		1	87	0	Roman	
128		T00	B/T		1	64	0	Roman	

Context	Sample no	Fabric Code	Function	Confidence	NoSh	Wt	corner	Period	Comments
128		T00	Brick		4	1226	0	Roman	
128		T00	Flue Tile		5	685	2	Rom/Med	or med tile
128		T00	Imbrex		2	332	1	Roman	
130		T00	Ridge Tile		2	610	1	Roman	
134		T00	Imbrex		1	54	0	Roman	
137	34	T00	Flat		1	13	0	Rom/Med	flue tile or med tile
141		T00	Brick		8	749	1	Roman	
141		T00	Brick		1	417	2	Roman	
141		T00	Imbrex		3	274	0	Roman	
141		tz00	Brick		1	657	2	Post Med	
141		tz00	Tile		2	144	0	Med+	
141		tz00	Tile		2	72	0	Med+	
154		T00	B/T		1	685	0	Roman	
160		T00	B/T		2	26	0	Roman	
166		T00	B/T		1	53	0	Roman	
166		T00	Flat		1	14	0	Rom/Med	flue tile or med tile
169		T00	moulded		1	354	0	roman?	

APPENDIX 9

26-28 Tadcaster Road, York, North Yorkshire (10.23.18) Assessment of Medieval and Post Medieval Pottery, Mark Stephens

Pottery

Introduction and Methods

The medieval and post-medieval pottery assemblage from 26-28 Tadcaster Road, York, consisted of 62 sherds, which were examined under a x5 hand lens and compared to MAP's pottery type collection. The total weight of the assemblage was 1362g, giving an Average Sherd Weight of 21.97g. Based on rim form and fabric type, c. 50 vessels are represented.

Pottery Catalogue

Fabric Codes:

BL	Black Ware
FP	Flower Pot
HUM	Humber Ware
LHUM	Late Humber Ware
PGL	Purple-glazed Ware
SPL	Splashed Ware
STAX	Staxton-type Ware
STST	Staffordshire Stoneware
WE	White bodied factory-made earthenware
WG	Walmgate-type Ware
YGL	York Glazed Ware

CBM Ceramic building material

Context 001

LHUM

1 body sherd with exterior brown glaze and interior white slip

BL

2 base sherds, both from bowls

WE

27 sherds including transferwares

FP

1 body sherd

CBM

1 machine-made glazed ornamental glazed tile

Spot Date: early C 20th

Context 003

WG

1 body sherd

HUM

2 sherds from a cistern / pitcher with a finger-tipped rim, and strap handle.

Spot Date: C15-16th

Context 006

BT

1 body sherd with mottled green glaze

BL

1 jar base sherd

STST

2 sherds, 1 from a bowl, the other from a bottle

WE

4 sherds including transfer wares

1 sherd from a C 20th preserve jar with internal residue

Spot Date: C 20th

Context 007

LHUM

1 body sherd

Spot Date: C 16/17th

Context 042

STAX

1 body sherd

YGL

1 glazed jug body sherd with wavy combed-line decoration

HUM

1 glazed body sherd

LHUM

1 body sherd from a bowl or dish with interior green glaze

Spot Date: C 16/17th

Context 066

WE

1 body sherd

Spot Date: C 19th (or is this intrusive – rest of pot is Roman)

Context 070

BT

1 heavily abraded glazed body sherd

Spot Date: C 13-14th (but could be residual)

Context 093

YGL

1 glazed jug body sherd

Spot Date: C 12-13th

Context 105

SPL

3 sherds from a pitcher in oxidised sandy fabric. The pitcher has a short tubular spout and a strap handle. The patchy and slightly pitted green glaze has reddish brown margins. The fabric is superficially similar to Beverley type-1, but tubular spouts are not recorded as a Beverley form.

Spot Date: C late 11th – 12th

Context 128

HUM

1 base and 2 body sherds from large cisterns or pitchers

LHUM

A body sherd from a bowl with green glaze on both surfaces

Spot Date: C 16-17th

Context 130

YGL

1 green-glazed strap handle

HUM

2 glazed body sherds

PGL

1 rim sherd from a large glazed jug with a strap handle

LHUM

1 body sherd from a bowl with internal brown glaze

Spot Date: C 16-17th

Context 160

WE

1 rim sherd

Conclusions

This a small but varied assemblage of medieval and post-medieval material. The broad date range of this pottery runs from the late 11/12th century through to the 20th century.

The earliest vessel is a late 11th/12th century Splashed Ware pitcher with a short tubular spout; although the fabric resembles Beverley type-1 Ware, this form is not as yet known from Beverley, but presumably comes from the same general area. There is also a small sherd of 12-14th century Staxton Ware, which would be another East Riding product. There are glazed jug sherds in York-glazed and Brandsby-type Wares, and also an unglazed sherd from a small jug in Walmgate-type Ware. Late medieval large jugs or cisterns are represented in Humber Ware.

Early post-medieval material is represented by Purple-glazed Ware and Late Humber Ware, which followed on from the medieval Humber ware industry, along with the slightly late Black Ware. The Staffordshire stoneware and white earthenware sherds date to the 19th and 20th centuries.

The assemblage suggests a background of activity from the immediate post-conquest period though to the 20th century.

Recommendations

The assemblage should be retained along with the rest of the archive. Three vessels should be illustrated in any publication report: the Humber Ware from context 003, the Splashed Ware pitcher (105) and Purple-glazed Ware jug (130).

APPENDIX 10

Animal bone assessment: Tadcaster Road, York

by Jane Richardson

18/06/2019

Introduction

Just over 2,000 bone fragments were recovered from hand-excavated features and the sieving of soil samples. Non-repeatable diagnostic bone zones were fully recorded using an SQL database, with the remaining assemblage only rapidly quantified and scanned. Bone zones were identified to taxa wherever possible, although lower-order categories (e.g. cattle-size) were also used. The few bones from the topsoil were scanned but not added to the database. Any human bone noted was bagged separately for analysis by the relevant specialist.

In total 892 bone fragments were recognised as diagnostic bone zones (c. 44% of the assemblage) and these are tabulated below (Table 1). This represents an unusually high proportion and reflects the number of partial skeletons identified: two piglets from Roman pit 161 (amounting to 109 bone zones), a dog from Roman ditch segment 090 (4 bone zones), sub-adult cattle skeletons from Roman pit 104 (44 bone zones) and medieval pit 094 (72 bone zones), and finally an adult cattle skeleton from medieval pit 131 (57 bone zones).

Excluding the bones from these partial skeletons indicates that the majority of disarticulated bone represents domestic animals, including chicken, but hare and rabbit were also noted. No marine shells or fish bones are present.

Phasing was provided prior to the assemblage being recorded and these indicate that the majority of the assemblage is Roman in date (Table 1), while nearly all the medieval assemblage is accounted for by the two cattle skeletons deposited in two separate pits. It is acknowledged that the medieval/post-medieval assemblage is not statistically meaningful.

Condition and treatment

The Roman and medieval assemblages are typically fragmented (with the exception of many of the bones from the partial skeletons) although the majority are well-preserved with robust bone surfaces. From the Roman assemblage, butchery marks, gnawing by dogs and burning were noted (Table 2). Thirty-four bone zones are butchered (6%), six bone zones are gnawed (just under 1%) and only four bone zones are burnt (<1%). Of the butchered bones (all of which are cattle), the majority relate to the dismembering of their carcasses, while the remainder indicate the significant breaking up of individual bones perhaps preparation for stock (in particular from pit 067). The butchered bones from medieval/post-medieval deposits (predominantly from pit 008), in contrast, include sheep/goat long bones which have been sawn

through and cattle vertebrae that have been chopped sagittally indicating carcasses were suspended in order to be cleaved in two.

Taxa present

Based on the number of bone zones, cattle dominate the Roman assemblage, with pig second and dog third. This reflects the presence of partial skeletons, though, rather than any indication of dietary preference or the importance of secondary products. All that can be noted is that this assemblage contains only the bones of domestic animals (apart from a single hare pelvis). No meaningful insight can be made of the medieval assemblage in terms of diet and/or animal husbandry either, dominated as it is by two cattle skeletons.

Animal husbandry

Given the small size of the assemblage, particularly when divided by phase, relatively little age data (both epiphyseal fusion and dental wear) are available. From Roman deposits, sub-adult (but not juvenile) cattle were noted – most probably killed for prime meat. Pigs slaughtered before the third molar had erupted were also killed at an optimal time for meat. In addition adult and aged cattle were present in Roman contexts, presumably representing breeding animals, milch cows or traction animals. No age data for sheep were available. Sub-adult cattle and sheep were noted in the medieval assemblage but no age data were recovered from later deposits.

Pathology

Six pathological bones were noted, five from the Roman assemblage and one from the medieval assemblage. These included three cattle first phalanges (all Roman) showing joint changes to the proximal articulation resulting in the widening of the joint surface and accompanied lipping. Joint disease was also noted on a cattle proximal femur with evidence of lipping around the ball joint and eburnation of the articular surface. These changes are likely to be age related or the result of the physical stresses of traction work. The other pathological bone of Roman date was a third molar in the mandible with a reduced third cusp. Reduced or absent third cusps represent a congenital abnormality described by Andrews and Noddle (1975) which may relate to degrees of inbreeding or crossbreeding (Stallibrass 1995, 142). The final pathological specimen is a cattle ankle bone (navicular cuboid) probably from the skeleton buried in medieval pit 131. This displays significant destruction (pitting and porosity) of the articular surface as well as lipping around the surface. This may be the result of infection, leading to joint disease.

Metrical data

Metrical data were only collected from the bones of the recovered skeletons. These are detailed below.

Atypical deposits

Six partial or near-complete animal skeletons, plus bones associated with human burial may represent atypical, non-food-related deposits. Whether these represent ritualised burials, such as foundation deposits or the casual discard of unwanted carcasses, however, is unknown.

The two piglets from Roman pit 161 were buried face-to-face, with better preservation of the heads, forelimbs and torsos compared to the hindlimbs (Plate 55). The better preserved individual was an animal slaughtered when its deciduous premolar was in the very first stage of wear suggesting an animal no older than 1-2 months. The second piglet, based on bone size, was of similar age. No butchery marks were noted.

A few dog bones from Roman ditch segment 090 representing both hind limbs and a mandible are likely to be from one animal. Whether the rest of the animal survived beyond the excavated slot is unknown. The greatest length of a tibia suggests an animal of 465mm at the shoulder – taller than a modern fox terrier or beagle but shorter than a springer spaniel. Dental eruption and wear on the mandible indicates an adult, but not aged, animal.

From Roman pit 104, a sub-adult cattle skeleton was recovered. Dental data, in conjunction with some unfused epiphyseal ends, indicate an animal somewhere between 2-3 years old at death (after Halstead 1985; Silver 1969). Head, torso and limbs are represented. Chop marks into the bones of the left elbow (both the radius and ulna) may indicate an attempt to dismember the carcass but the bones below this joint are also present. The greatest length of a metacarpal suggests a withers height of 1125mm.

Two medieval pits (094 and 131) contained cattle skeletons, a sub-adult animal from the former and an adult animal from the latter. The hind quarters of the sub-adult animal were represented by the left tibia and metatarsal only but otherwise was near complete. This individual (based on a combination of epiphyseal fusion and dental eruption and wear) was somewhere around 18 months of age. The adult animal (probably a cow based on the pelvis) was represented by all body parts although the mandibles were absent. All bones were fused and metrical data indicate an individual somewhere between 1194 and 1210mm at the withers.

Animal bone fragments recovered from the fill associated with human skeleton 167 were predominantly nondiagnostic and are probably the result of disarticulated fragments being accidentally incorporated into backfill deposits. The only bone zone was a calcaneus of a dog. On balance, these bones are not considered to have had any association with the human burial.

Recommendations

No further analysis of this assemblage is recommended, but all bone should be retained as part of the site archive.

Conclusions

This assemblage is essentially made up of the bones of the main domestic animals. From Roman deposits, some animals (certainly cattle and pigs) were likely bred specifically for their meat, while adult and aged cattle indicate breeding stock, milch cows or traction animals. Interestingly bones broken up for the stock pot or similar have been recorded from Roman pit 067 and perhaps also medieval/post-medieval pit 008.

Of interest is the quantity of material represented by partial or near-complete skeletons. Some may indicate foundation deposits associated with new builds (the pair of piglets being the most likely), while others may simply indicate the discard of unwanted carcasses.

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Table 1. Diagnostic bone zones from hand-excavated deposits and soil samples by phase (numbers in parentheses are bone zones from partial skeletons)

	Roman	Medieval	Medieval/Post-medieval
Cattle	146 (44)	136 (129)	3
Horse	3	2	
Sheep	1		
Goat			2
Sheep/goat	5	1	9
Pig	113 (109)		2
Dog	8 (4)		
Hare	1		
Rabbit			1
Domestic fowl	2		
Cattle-size	4		6
Sheep-size	1		
Bone total	568	278	46

Table 2. Bone treatment by phase

	Roman	Medieval	Medieval/Post-medieval
Chop marks	34	-	10
Gnaw marks	6	-	11
Burning	4	-	-

APPENDIX 11

26-28 Tadcaster Road, York MAP 10-23-18

Carbonised Plant Macrofossils and Charcoal

Diane Alldritt

1: Introduction

A total of forty five environmental samples taken during archaeological strip, map and record excavation work on land located at 26-28 Tadcaster Road, York (MAP 10-23-18), were examined for carbonised plant macrofossils and charcoal.

Archaeological investigations revealed a series of pit and enclosure ditch features of possible Roman date, together with evidence for Medieval and Post-Medieval activity in the area. Samples were examined from a number of the pit and ditch features including possible Roman waste pit [067].

2: Methodology

The bulk environmental samples were processed by MAP Archaeological Practice Ltd. using a Siraf style water flotation system (French 1971). The samples were 10 to 40litres in volume. The flots were dried before examination under a low power binocular microscope typically at x10 magnification. All identified plant remains including charcoal were removed and bagged separately by type.

Wood charcoal was examined using a high powered Vickers M10 metallurgical microscope at magnifications up to x200. The reference photographs of Schweingruber (1990) were consulted for charcoal identification. Plant nomenclature utilised in the text follows Stace (1997) for all vascular plants apart from cereals, which follow Zohary and Hopf (2000).

3: Results

The environmental samples produced small volumes of carbonised plant remains in amounts from <2.5ml up to 10ml mainly consisting of charcoal fragments and cereal grain. A large number of samples were sterile of charred plant remains with the bulk of material found to consist of coal and clinker, in fragment sizes 1.0cm to 4.0cm in amongst crushed detritus. The high volumes of coal and clinker suggested a number of the features were probably Post-Medieval / modern or had been subject to recent disturbance, although much of the unburnt coal was probably natural to the local geology. Modern remains were present in small amounts <2.5ml up to 5ml and consisted of modern root detritus with occasional finds of modern seeds and straw indicating a small degree of bioturbation was probably occurring through the deposits.

Results are given in table 1 and discussed below.

4: Discussion

Pit Features

Four of the pit features contained carbonised remains, with possible Roman waste pit [067] (066) proving the most abundant, with a large cache of cereal grain and other material recorded. The grain from pit [067] was identified as mainly *Hordeum vulgare* var. *vulgare* (six row hulled barley) together with *Avena* sp. (oat), whilst other possible cultivars found in the deposit consisted of *Pisum sativum* (garden pea) and *Vicia faba* (broad bean). This deposit is probably agricultural waste and could have come from a Roman corn drier. Pit [118] (117) also contained cereal grain but in smaller amounts with well-preserved grains of barley identified. A small amount of charcoal was found in two of the pits with [008] (006) containing 1.0cm fragments of *Quercus* (oak) and *Corylus* (hazel), whilst pit [138] (137) had a good 1.5cm fragment of *Betula* (birch). The hazel and birch charcoal could be radiocarbon dated if required.

A large 3.0cm fragment of slag / industrial waste was found in pit [005] (004) along with clinker and coal, possibly an industrial waste deposit.

Pit features [005] (004), [013] (011), [015] (014), [017] (016), [031] (030), [071] (070), [085] (084), [087] (086), [094] (093), [096] (095), [100] (099), [104] (103), [110] (109), [129] (128) and [161] (160), were sterile with large volumes of coal and clinker present suggesting these could be fairly modern features or relate to more recent Post-Medieval activity at the site.

Ditch and Gully Features

The ditch and gully features contained a thin scattering of carbonised material probably trampled or wind-blown from nearby burning activity. Ditch features [057] (055) and [074] (072) had a few slivers of *Quercus* (oak) charcoal, whilst ditch [155] (154) contained a stray indeterminate cereal grain in very poor condition. Gully [021] (020) had captured a single degraded *Hordeum vulgare* sl. (barley) most likely residual.

Interestingly two of the ditch samples contained industrial waste. Ditch [063] (061) contained a large fragment of slag-like material resembling furnace lining, whilst ditch [098] (097) had a large 3.0cm piece of slag together with clinker, probably remains from industrial processes thrown into the ditch fills.

Ditch features [043] (042), [049] (048), [059] (058), [063] (061), [076] (075), [079] (078), [106] (105), [112] (111), [114] (113), [140] (139), [144] (143), [153] (152) and [157] (156) and gully features [033] (032) and [039] (038), were sterile of carbonised plant remains with all found to contain crushed fragments of clinker and coal. Some of these features may have been fairly recent field boundaries.

Graves

Grave [1710] skeleton <170> (169), skeleton <150> (149) and skeleton <167> (166) were all found to be sterile.

5: Conclusion

The environmental samples produced small quantities of carbonised plant remains consisting of charcoal and cereal grain, with the largest concentration of material recorded from possible Roman pit [067] (066) which contained agricultural corn drier waste. Pit [118] (117) may be of similar date with barley cereal grain present. Pits [008] (006) and [138] (137) contained charcoal which could be radiocarbon dated. Large quantities of coal and clinker present throughout the samples suggested Post-Medieval or more recent disturbance, although much of the coal found in the deposits may be naturally occurring.

Further excavation work at the site could potentially produce more carbonised remains but with probable low recovery.

References

French, D. H. 1971 An Experiment in Water Sieving. *Anatolian Studies* 21 59-64.

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Stace, C. 1997 *New Flora of the British Isles*. 2nd Edition Cambridge University Press.

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Table 1: 26-28 Tadcaster Road, York MAP 10-23-18: Carbonised Plant Remains, Charcoal and Other Material:												
26-28 Tadcaster Rd, York	Sample	1	2	3	4	5	6	7	9	10	11	12
MAP 10-23-18	Context	6	4	14	16	30	32	38	42	11	20	48
	Feature	pit [008]	pit [005]	pit [015]	pit [017]	pit [031]	gully [033]	gully [039]	ditch [043]	pit [013]	gully [021]	ditch [049]
	Sample Volume (litres)	40	40	10	10	20	20	20	30	20	20	20
	Total CV	10ml	0	0	0	0	0	0	0	0	<2.5ml	0
	Modern	<2.5ml	<2.5ml	0	0	<2.5ml	<2.5ml	<2.5ml	<2.5ml	<2.5ml	<2.5ml	<2.5ml
Carbonised Cereal Grain		Common Name										
<i>Avena</i> sp.	oat											
<i>Hordeum vulgare</i> var. <i>vulgare</i>	six row hulled barley											
<i>Hordeum vulgare</i> sl.	barley											1
Indeterminate cereal grain (+embryo)												
Charcoal												
<i>Quercus</i>	oak	1 (0.15g)										
<i>Corylus</i>	hazel	1 (0.24g)										
<i>Betula</i>	birch											
Carbonised Weeds / Other Cultivars												
<i>Pisum sativum</i>	garden pea											
<i>Vicia faba</i>	broad bean											
Other Remains												
Slag / industrial			1 (5.66g)									
Coal		20+	100+	50+	10+	20+	3	10+	20+	20+	20+	1
Clinker		50+	10+	10+	10+	5+		50+		5+	20+	
Modern seeds									1			
Modern straw			1									

13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29
55	58	61	66	72	84	86	95	93	75	97	78	99	103	105	109	111
ditch [057]	ditch [059]	ditch [063]	pit [067]	ditch [074]	pit [085]	pit [087]	pit [096]	pit [094]	ditch [076]	ditch [098]	ditch [079]	pit [100]	pit [104]	ditch [106]	pit [110]	ditch [112]
30	40	40	20	20	20	20	10	20	20	20	20	20	20	20	40	20
5ml	0	0	5ml	<2.5ml	0	0	0	0	0	0	0	0	0	0	0	0
<2.5ml	<2.5ml	0	<2.5ml	<2.5ml	<2.5ml	<2.5ml	0	<2.5ml	0	0	<2.5ml	<2.5ml	0	<2.5ml	<2.5ml	0
				22												
				20												
				5												
				11												
2 (0.43g)				1 (0.06g)												
				1												
				5												
			1 (15.81g)								1 (1.94g)					
20+	50+	200+	20+	10+	10+	100+	50+	50+	10+	50+	50+	50+	100+	50+	20+	20+
5+	20+	50+	5+	5+	100+	100+	20+	50+	10+	50+	10+	50+	10+	50+	5+	10+
						3										
															1 5+	

APPENDIX 12

26 TADCASTER ROAD DRINGHOUSES YORK

15/02726/FULM

CONDITION 6

ARCHAEOLOGICAL SCHEME OF INVESTIGATION: STRIP, MAP AND RECORD

CONTENTS

- 1 Introduction
- 2 Site Description
- 3 Summary Archaeological Description and Summary of Previous work
- 4 The Deposit Model
- 5 Archaeological Programme
- 6 Reinstatement
- 7 Health and Safety
- 8 Public Engagement
- 9 Summary

1.0 INTRODUCTION

- 1.1 This Written Scheme of works has been produced to comply with Condition 6 attached to the application at 26 Tadcaster Road, York (15/02726/FULM). The proposed development is for the erection of eleven dwellings. MAP Archaeological Practice Ltd have been commissioned to undertake an archaeological Strip, Map and Record across the road and the footprints of the proposed dwellings in advance of construction. A Watching Brief will be carried out during all other associated groundwork.
- 1.2 An application for the erection eleven dwellings has been approved by The City of York Council (15/02726/FULM). An archaeological strip, map and record and a watching brief on all groundworks has been made the subject of conditions (Conditions 6 and 7) on the planning consent. This document sets out the details of the archaeological project that City of York Council considers will be necessary in conjunction with the proposed development.

2.0 SITE DESCRIPTION

- 2.1 The Proposed Development Area is located in the York suburb of Dringhouses, which is 2km south-west of the city centre and on the north-west side of Tadcaster Road.
- 2.2 The site encompasses an area of approximately 130m long (northwest/ south-east) by 50m wide. The proposed development area currently comprises buildings, garages and gardens associated with 26 and 28 Tadcaster Road; and further gardens to the rear of a bungalow at 9a Mayfield Grove, with access from Mayfield Grove.

2.3 The site comprises an area of 0.535 Ha and stands at a height of about 17.5m AOD along Tadcaster Road, sloping down to approximately 12.6m AOD at the extreme western end of the plot.

3.0 SUMMARY ARCHAEOLOGICAL DESCRIPTION AND SUMMARY OF PREVIOUS WORK

3.1 Five Neolithic polished stone axes have been discovered in the Dringhouses area, and although there is little evidence for occupation in the area, it has been suggested the morainic ridge passing through the area was intensively used in prehistory, as a major trade route (Margary 1973; Radley 1974).

3.2 A crouched adult inhumation, dated to AD 150-200, a road and ditch, evidence of the Roman Road from Tadcaster to York (Road No. 10 : RCHM 1962), and timber buildings were found during excavations at the Starting Gate Public House at 42-50 Tadcaster Road (YAT 2003). Roman burials are known to continue sporadically along the Roman Road from York to Tadcaster (RCHM 1962, 107). A small Roman cemetery was identified at the junction of St Helens Road and Tadcaster Road, possibly associated with a civilian settlement at Dringhouses, rather than with the inhabitants of York (YAT 1996). A tile tomb was found at Mount Villa, Tadcaster Road in 1833, and stone coffin at the yard of the Cross Keys Inn. Four other burials are noted from the Dringhouses area.

3.3 An Archaeological Evaluation was undertaken in 2004, and Archaeological features were uncovered across the site, dating from the Roman, medieval, post-medieval and Modern periods.

3.4 A Desk Based Assessment was carried out by MAP Archaeological Practice Ltd in 2015.

4.0 THE DEPOSIT MODEL

4.1 Not available at present.

5.0 THE ARCHAEOLOGICAL PROGRAMME

5.1 The aim of the archaeological excavation is to record archaeological deposits that would otherwise be destroyed by the following operations: general level reductions across the site; excavations to create a formation level for the foundations of the new residential block; excavations to create a formation level for the access road into the site (if required); excavations to create a formation level for attenuation tanks (if required). The archaeological watching brief will apply to other excavations for drainage and other service connections. The site allows an opportunity to address the following questions:

5.1.1 Are there deposits relating to prehistoric activity on the site?

5.1.2 Is there evidence for Roman activity on the site?

5.1.3 What is the nature of the use of this site in the medieval period?

5.2 The excavation should consist of the following approach (this may be subject to alteration following detailed discussion with the client and the archaeological contractor):

5.3 the archaeological supervision of level reductions by the contractor down to either the top of 19th century or earlier archaeological deposits; a machine with toothless ditching bucket will be used. Once these deposits have been identified all subsequent excavation to formation levels will be carried out by archaeologists. In areas where level reductions reach the required formation levels and no archaeological features or deposits have been identified there will be no requirement in those areas for archaeological excavation.

5.4 The following methodologies must be used:

5.4.1 All operations should limit destruction to that which is necessary to implement this specification. Where the examination of trenches is specified:

5.4.2 All overburden will be removed by mechanical excavator under archaeological supervision, down to either the top of undisturbed natural sub-soil or the top of archaeological deposits whichever is the higher. Areas of intensive modern disturbance will be given a low priority in excavation. Where practicable, the fills of these features will be removed by mechanical excavator.

- 5.4.3 All appropriate records must be made and kept; recording methods must be compatible with those used elsewhere in York. This means a single context based recording system, employing suitable forms and indexed appropriately. Context descriptions, artefact registers, photographic records etc, must be entered on proforma sheets. Individual measured plans must usually be produced at a scale of 1:20 for all excavated features and deposits, although there may be circumstances where a single plan of several related features can be made. Measured section drawings of trenches, major features and other parts of the site as appropriate must be produced, usually at a scale of 1:10. In addition, all layers and features must be levelled relative to Ordnance Survey datum.
- 5.4.4 To ensure that the positions of excavation areas are accurately recorded for future study, and to assist the entry of data into the City of York Sites and Monuments Record, trench locations must be accurately surveyed. The data must be stored digitally in an agreed CAD format with the areas located relative to Ordnance Survey National Grid.
- 5.4.5 Photographs must form part of the excavation record. They should consist of general site and feature specific views and progress record shots.
- 5.4.6 Securely stratified deposits must be sampled for retrieval and analysis of biological remains. Particular attention should be paid to any deposits in which there is good organic preservation. The sampling strategy which must be agreed in advance with the Regional Science Advisor, Historic England, 37 Tanner Row York and approved in writing by the Assistant Director (Planning and Sustainable Development). Palaeoenvironmental sampling should take account of methods set out in *Environmental Archaeology: A Guide to the Theory and Practice of Methods from Sampling and Recovery to Post -Excavation* (English Heritage 2011). In addition, the advice of the Regional Science Advisor must be sought with regard to all other aspects of archaeological science, including dating, that might arise on this site. His recommendations must be followed and confirmation of the adoption of his recommendations supplied in writing to Assistant Director (Planning and Sustainable Development), City of York Council, West Offices, Station Rise, York.
- 5.4.7 all records must be indexed, ordered, quantified, and checked for consistency;
- 5.4.8 all artefacts and ecofacts recovered and retained from the project must be packed and stored in the appropriate materials and conditions to ensure that minimal deterioration takes place and that all their associated records are complete;
- 5.4.9 the stratigraphic sequence must be produced and assessed.
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- 5.4.10 the environmental samples must be processed and assessed; and the rest of the material archive must be assessed for its potential to contribute to artefactual research; a revised project design produced which sets out a costed programme ;
- 5.5 The details and processes outlined in 5.1—5.4.10 will produce the following output as a concise published report:
- 5.5.1 plan of site showing position of trenches;
- 5.5.2 portfolio of drawn sections, trench plans, and, where appropriate, drawings of artefacts; a matrix of all contexts
- 5.5.3 an interpretation of the structural sequence;
- 5.5.4 an interpretation of the archaeological and research potential of the remainder of the site
- 5.5.5 The report should include:
- Non-technical summary
 - Aims and purpose of the project
 - Method statement
 - An objective summary statement of results
 - A stratigraphic narrative
 - Reports on the artefacts and environmental material
 - An assessment of the results of the project setting them into a local regional and national context as appropriate
 - Supporting illustrations and plans at appropriate scales
 - Supporting data – tabulated or in appendices
 - Supporting illustrations, photographs
 - Index to archive and details of archive location
 - References
- 5.5.6 The City of York Council UAD/SMR supports the *Online Access to Index of Archaeological Investigations* (OASIS) project. The overall aim of the OASIS project is to provide an online index to the mass of archaeological grey literature that has been produced as a result of the advent of large-scale developer funded fieldwork. **The archaeological contractor must therefore complete the online OASIS form at <http://ads.ahds.ac.uk/project/oasis/>.** If the archaeological contractor does not have internet access a paper copy of the form can be obtained from the City of York UAD/SMR at West Offices, Station Rise York YO1 6GA. Contractors are advised to contact the City of York UAD/HER prior to completing the form.
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- 5.5.7 The long term care of the archive must be provided for. All the original material and paper archive must be prepared for deposition with an approved archaeological depository such as the Yorkshire Museum. These Institutions will normally make a charge to cover the long-term curation of the archaeological archive. The requirements of the receiving Institution must be identified at the time of producing an estimate for this scheme of investigation. It is assumed that normally all archives relating to archaeological work in the City of York area will be deposited with the Yorkshire Museum. **A copy of the final report must be submitted to City of York Historic Environment Record in electronic form.** This must be provided as a PDF file or files. If in doubt about format please contact John Oxley on 01904 551346 or e-mail to john.oxley@york.gov.uk. Once a report has become a public document by forming part of a planning application, the City of York Council will place the information on its WWW pages. Please ensure that you and your client agree to this procedure in writing as part of the process of submitting the report to the City Archaeologist.
- 5.6 A synopsis of the narrative report, material archive and research potential of the site must be prepared and submitted with the report so that this can be published in an annual summary of archaeological work in the City of York.
- 5.7 The Contractor will be required to demonstrate by providing CV's that the staff appointed to direct, supervise, and work on this project have relevant experience of working both on complex urban sites and the complex archives which they produce.
- 5.8 All work must be done using the Yorkshire Museum accession and numbering systems.
- 5.9 The Contractor must use a computer-based recording and retrieval system and report publishing system. The recording system must be based on single context recording and planning. The publishing system should be able to produce text and illustrations in the formats detailed in para 5.5.5 above. The Contractor must have the written approval of City of York Council for the recording system that it wishes to use on this site.
- 5.10 The Contractor must submit a full project design and/or a schedule of works which it develops from this scheme of investigation to the City of York for written approval prior to work commencing on-site.
- 5.11 The Contractor must give at least seven days notice in writing of the start of works on site to
Assistant Director (Planning and Sustainable Development Planning and Sustainable Development, West Offices, Station Rise, York, YO1 6GA).
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5.12 The Contractor will be subject to regular monitoring visits by the City of York. Reasonable access must be given at all times to the Principal Archaeologist, City of York Council or his agent to the site and to premises used for the purposes of post-excavation work to allow this monitoring to proceed. This will ensure that the scheme of investigation is being followed and that high professional standards are being maintained. It can be anticipated that the City of York Council will want to inspect a 10% sample of all archaeological records generated by the project. Reasonable access must also be given at all times to the Historic England Regional Science Advisor or his agent to the site and to premises used for the purposes of post-excavation work to allow him to monitor the archaeological science elements of this scheme of investigation.

6.0 REINSTATEMENT

6.1 Ground reinstatement standards are not specified in this document.

6.2 Contractors must ensure that the question of backfilling and surface re-instatement is discussed with the client/landowner prior to any works commencing on-site.

7.0 HEALTH AND SAFETY

7.1 Health and Safety regulations and requirements cannot be ignored no matter how imperative the need to record archaeological information; hence Health and Safety will take priority over archaeological matters. All archaeologists undertaking fieldwork must do so under a defined Health and Safety Policy. Archaeologists undertaking fieldwork must observe safe working practices; the Health and Safety arrangements must be agreed and understood by all relevant parties before work commences. Risk assessments must be carried out and documented in accordance with Management of Health and Safety at Work Regulations 1992. The Contractor should determine whether this project is covered by Construction (Design and Management) Regulations 1994, and ensure that all requirements under the regulations are met.

8.0 PUBLIC ENGAGEMENT

8.1.1 The general public has a strong interest in archaeological issues. Excavations, both large and small, often attract a great deal of public interest. They also represent an opportunity for people to experience at first hand the excitement of

archaeological work. This is recognised in NPPF and by the City of York Council in its emerging Local Development framework and Heritage Strategy.

8.2 This small project offers an opportunity to present an archaeological story to the residents of this area.

8.2.1 The archaeological contractor should, therefore, discuss with the Client the level and range of approaches which can be used to present archaeology to the general public. An appropriate level of public engagement should be defined and a sum of money set aside to pay for this element of the project

8.2.2 For this project, the archaeological contractor should consider how the following items will be achieved:

- informing the local community about the project (open days, evening lectures, etc)
- communicating with residents about the project and where appropriate students from local schools
- informing the local community about the results of the project during the course of fieldwork and after the final report has been produced.

9.0 SUMMARY

9.1 This document sets out the background to and outlines a programme for an archaeological project on this site. There is good reason to believe that there may be heritage assets of archaeological interest preserved on this site. The archaeological project will provide information that will allow the City of York Council to put in place appropriate mitigation measures.

