ARCHAEOLOGICAL INVESTIGATIONS ON THE HARROWBY TO ASWARBY TRUNK MAIN, LINCOLNSHIRE (HAP05)

Work Undertaken For
Anglian Water Services Ltd

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ARCHAEOLOGICAL PROJECT SERVICES

Quality Control
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Lincolnshire
(HAP 05)

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1. SUMMARY

Archaeological monitoring was undertaken during works on the Harrowby-Aswarby trunk main as the route was close to areas of known archaeological remains spanning the prehistoric to post-medieval periods.

A previously unknown stone-walled Roman building, probably a villa of Antonine (mid 2nd century AD) date, was identified and partially excavated near Welby. Painted wall plaster, roof tiles and structural fittings provided some evidence for the construction and appearance of the building. A stone hearth identified in one of the rooms may have been part of a drier or similar feature. The pottery from the area of the building indicates that the occupants were either Roman or had adopted the Roman way of life and was indicative of higher status. The pottery included an unusually high quantity of national rather than local wares, probably a reflection of the location of the building within a triangle of known Roman roads. A trackway to the south of the site forms a continuous line with part of the conjectured route of the Salter's Way, and it is possible that this could indicate that the route of the trackway is of some antiquity. Artefacts retrieved from the area include a coin, bone pin, vessel glass, copper toilet spoon, a loom weight, a possible fragment of a lamp chimney and a furniture fitting. The remains of the building had been truncated by ploughing, and in several places the walls had been robbed of stone.

A concentration of 3rd to 4th century AD Roman remains was identified to the northwest of Osbournby, suggesting both occupation and iron smithing in the immediate vicinity. These remains were in an area of previously recorded Roman and Saxon finds. Much of the Roman material was redeposited in early to middle Saxon features. An external metalled surface of probable late Roman date was identified, although it was not clear if this formed a track or road or a yard surface. Early to middle Saxon features also appeared to represent occupation in the immediate vicinity. Fragmentary human remains were redeposited in Saxon and Roman or later contexts, possibly originating from isolated Roman burials. A continuation of the watching brief following the excavation revealed that the remains extended further across the field and also across much of the adjacent field.

A concentration of late post-medieval ceramic building materials and vitrified slaggy ceramics was identified to the north of Osbournby, a surface scatter of this material having been recorded during a previous fieldwalking survey. A large clay extraction pit was partially excavated, and the occurrence of this, in association with a large quantity of ceramics, indicated a production site in the immediate vicinity. A fragment of 19th to 20th century AD bottle glass provided a terminus post quem for the infilling of the clay extraction pit, whilst the land drain assemblage from the area could indicate production in around the 1840s.

2. INTRODUCTION

2.1 Definition of a Watching Brief

An archaeological watching brief is defined as, "*a formal programme of observation and investigation conducted during any operation carried out for non-archaeological reasons. This will be within a specified area or site on land, inter-tidal zone or underwater, where there is a possibility that archaeological deposits may be disturbed or destroyed.*" (IFA 1999).

2.2 Project Background

Archaeological Project Services (APS) was commissioned by Anglian Water Services Ltd to undertake an archaeological watching brief during the groundwork along the route of the trunk main between Harrowby and Aswarby in Lincolnshire.

The watching brief was carried out between the 2nd June and the 2nd September 2005, in accordance with a specification designed by APS (Appendix 1).

During the first phase of the watching brief three areas of archaeological remains were identified. Anglian Water Services Ltd commissioned APS to excavate these sections of the pipe trench by hand in order to record those archaeological remains which would otherwise have been destroyed by mechanical trenching.

The excavations were carried out between the 7th June and the 22nd July 2005, following consultation with the Senior Built Environment Officer of Lincolnshire County Council, and in accordance with APS standard practice.

2.3 Topography and Geology

The Aswarby-Harrowby pipeline commenced about 5km east of Grantham in the South Kesteven district of Lincolnshire, terminating at Aswarby Water Treatment Plant just north of Osbournby, in North Kesteven district (Figure 1). The monitored extent is between National Grid References TF 051 373 – 067 392 (east section, Osbournby/Aswarby) & SK 965 366 – 990 368 (west section, Harrowby/Welby) (Figure 2). Each of the two monitored portions is approximately 2.5km long.

Each portion of the route is across undulating land, but each is on an overall gentle slope down from the west to the east. The western portion of the route is at around 115m OD at its western end, declining to around 100m OD at the east. The eastern section declines from about 35m OD at the west end down to 20-25m OD at the eastern limit.

The western section of the route is across soils of the Marcham Association. These consist of dark yellowish-brown calcareous sandy loam over hard weathering Lincolnshire Limestone, located close to the remnants of till or plateau sands and gravels (Hodge *et al.* 1984, 242-3).

The eastern section of the route crosses soils of the Curdridge and Aswarby Associations (*ibid,* 99-100). Soils of the Aswarby Association are brown, moderately stony calcareous clay loam overlying yellowish-brown slightly mottled and moderately stony clay loam. These soils overlie yellowish-brown fissured limestone, comprising the Cornbrash and Great Oolite limestones. These limestones are often only 2m thick in Lincolnshire, where they may be underlain by slowly permeable clay or clay-shale. Curdridge soils (*ibid*, 153-4) comprise stoneless grey to brown silty or sandy loams, the lower of which include frequent ochreous mottles. These overlie fine grained Jurassic sand and sandstone, and many areas have thick clay-shale bands below 1m depth.

2.4 Archaeological and Historical Setting

Eastern section

The eastern section of the pipeline route passes close to Scott Willoughby church, of 10th century AD (Late Saxon) origin but

rebuilt in 1826 (DoE 1990, 20; Pevsner and Harris 1989, 628-9). The settlement is recorded in the Domesday Book of 1086 at which time it was a manor held by Guy de Reinbuedcurt and there was a church there (Foster and Longley 1976). It would seem likely that the present church replaced that recorded in Domesday. The place-name is probably a partly Scandinavianized version of Old English *Wiligtun*, meaning 'the farmstead/village where willows grow', the Old English *tun* being replaced by Old Danish *by*, both meaning farmstead or village. The prefix 'Scott' is from the Scot family who are recorded as making land grants in the mid 12th century AD (Cameron 1998, 140).

Aerial photographs record cropmarks considered to represent the shrunken or deserted medieval settlement of Scott Willoughby. These cropmarks, apparently defining tofts and crofts and a sub-rectangular enclosure, are located to the west of Osbournby Road and St. Andrew's church. Other, linear marks, mostly aligned north-south, occur to the northwest of the church (RCHME 1996). Building stone has been identified on either side of the stream to the west of the church and medieval pottery, including 9th-12th century AD Stamford ware, has been found in the same area (South Kesteven Records). However, the extent of the deserted medieval settlement (HER No. 60445) is not clearly known.

Fieldwalking along the pipeline route, in the area of Scott Willoughby, revealed a thin, predominantly even scatter of mainly post-medieval artefacts. Other than a slight cluster of post-medieval tile near the church no concentrations of artefacts were noted during the fieldwalking, and so it was thought probable that the pipeline route did not cross the Scott Willoughby deserted medieval settlement (Taylor 2005).

In addition to the medieval remains, a Romano-British settlement is recorded in the HER. This possible villa has been identified a short distance to the east of Scott Willoughby church. Pottery and building materials were recovered from the site (South Kesteven Records).

Other known archaeological remains in the eastern section of the pipeline route include a prehistoric track, later a Roman road, enclosures, possible Roman villas (HER No.s 60836 & 60359) and a Romano-British site (HER No. 60118). An area of Saxon and Roman finds is recorded along the route (HER No. 60837), in addition to Saxon metal finds (HER No. 60115). During reconnaissance of the pipeline route, Roman pottery was noted close to this area of previously known finds (Mellor 2005).

Close to Osbournby, fieldwalking confirmed the presence of a dense scatter of post-medieval brick, tile and drain. Some of the ceramic building materials were significantly overfired and in the same area was a moderate abundance of slag. These items indicate that industrial activity, probably the manufacture of brick, tile or drain, took place in the area during the post-medieval period (Taylor 2005).

Western section

Near the western section of the pipeline route are various prehistoric remains including a cropmark ditch (HER No. 36382). A prehistoric settlement (HER No. 35273) may be located close to the cropmark. A prehistoric flint arrowhead has been retrieved from this area (HER No. 34919). During a walkover survey of the proposed pipeline route, a small number of burnt stones and possibly-worked flints were noted in this area, which may also indicate prehistoric

activity in the area (Mellor 2005).

A medieval grange (HER No. 30069), part of which is a Scheduled Monument (No. 53), is also located close to this section of the pipeline route.

3. AIMS

The requirements of the watching brief, as detailed in the specification (Appendix 1), were to locate and record archaeological features, if present, and to determine their form, date nature and function.

4. METHODS

The first phase of groundwork along the pipeline route comprised the removal of topsoil along the easement, which was approximately 15m wide. A 360° mechanical excavator with a toothless ditching bucket was used to remove the topsoil. This phase of groundwork was subject to archaeological monitoring (Plate 1).

Three areas of archaeological remains were identified during the topsoil stripping, regarding which, Anglian Water Services Ltd and the Senior Built Environment Officer of Lincolnshire County Council were consulted. It was agreed that those remains which would be directly affected by the mechanical excavation of the pipe trench should be archaeologically excavated by hand. Limited further excavation, to establish the extent and nature of the archaeological remains in these three areas was also agreed.

In each case, an area at the northern edge of the easement, approximately 5m wide, was not investigated, to facilitate vehicular access during the excavations.

The exposed surfaces within each of the three excavation areas were cleaned by hand and inspected for archaeological remains. Those deposits within the line of the pipe trench were then excavated by hand in order to determine their nature and to retrieve artefactual material. The areas of excavation and spoil heaps were scanned with a metal detector to aid finds retrieval.

The excavated areas were surveyed and plotted with reference to the site boundary using a Geodolite Total Station.

Environmental sampling was undertaken at the discretion of the site supervisor, in accordance with Centre for Archaeology Guidelines 'Environmental Archaeology' (English Heritage 2002). The methodology for the subsequent processing of the environmental samples is outlined in the environmental report (Appendix 12).

The second phase of groundwork was the excavation of the pipe trench within the easement, the trench being approximately 0.90m wide and approximately 1.70m deep, although the depth varied. At intervals along the route the pipe trench was widened out for a distance of a few metres, to allow for junctions in the pipe. The trench was opened using variously a 360° mechanical excavator with a toothed bucket or a trenching machine. This phase of groundwork was also archaeologically monitored (Plate 2).

Recording of the deposits encountered during the investigations was undertaken according to standard Archaeological Project Services practice.

Each archaeological deposit or feature revealed was allocated a unique reference number (context number) with an individual written description. A list of all contexts and interpretations appears as

Appendix 2. A photographic record was compiled and scale plans and sections were drawn.

Following excavation, all records were checked and ordered to ensure that they constituted a complete Level II archive and a stratigraphic matrix of all identified deposits was produced. Artefacts recovered from deposits identified in the investigations were examined and a period date assigned where possible (Appendices 3-11). Phasing was assigned based on the nature of the deposits and recognisable relationships between them, supplemented by artefact dating where relevant.

Archaeological contexts are described below. The numbers shown in brackets are the context numbers assigned in the field.

5. RESULTS

Watching Brief

The initial phase of the Watching Brief on the site comprised the monitoring of topsoil stripping for the easement. During this phase, a number of areas of archaeological remains were identified.

The remains of a stone building were identified within the western portion of the easement, in Field 3. This area was subsequently archaeologically excavated as Excavation Area 1 (Figures 20 & 24).

No further archaeological features or deposits were identified in the western portion of the easement during either the topsoil stripping or the digging of the pipe trench. A sequence of deposits comprising natural limestone overlain by topsoil, and in some areas also subsoil, was identified across this portion of the pipe route (Appendix 2, Figures 21-23, Figure 17, Sections 103-117).

Monitoring of topsoil stripping also indicated three areas of archaeological remains within the eastern portion of the easement.

In Field 3B, close to Scott Willoughby six near-parallel linear features were identified (Figure 11). Two of these were excavated, one [508] proving to be a plough furrow and a second [502] a ditch containing a ceramic land drain. The remaining four linears were thought likely to be further plough furrows.

In Fields 11B and 12B was an area of more concentrated archaeological remains indicated by dark deposits denoting the location of a number of archaeological features and layers. A concentration of pottery and other finds was centred on this area, and a human skull was also identified. Part of this area, in Field 11B, was subsequently investigated as Excavation Area 2, in order to establish the nature of these remains (Figures 3, 6 & 12).

In Field 8B, close to the eastern end of the pipe route, a spread of fragments of ceramic building material was identified which were thought to represent a manufacturing site of ceramic land drains (Excavation Area 3, Figures 3, 5 & 18). These remains had previously been identified as a surface scatter of ceramic building materials and slag during fieldwalking of this portion of the route (Taylor 2005).

No further archaeological remains were identified during the topsoil stripping, and no further areas of archaeological remains were identified during the digging of the pipe trench. However, further archaeological features and deposits were identified in the vicinity of the two excavation areas, and are described together with the excavation results.

Excavation Area 1 (Figures 24-29)

A complex sequence of deposits, structures and features was recorded in this area, relating to the construction, occupation and subsequent disuse of a stone building. It was only possible to excavate fully a narrow trench across the building in the location of the new pipe trench, in addition to limited additional excavation to clarify the nature, preservation and extent of the building within the easement (Figure 24, Plates 3 & 11). This meant that some deposits were only partially examined and were of indeterminate nature, and so only significant, identifiable deposits and features are described. A full description of all deposits appears as Appendix 2.

The earliest deposits encountered in this area were natural layers of light to mid yellowish- to reddish-brown silty and sandy clay with limestone fragments (065=064=055=057=115=087=037).

A single possible ditch or elongated pit [111] was cut into the natural at the west of the area, although its form was unclear and its relationship with the building or other features was not evident (Figure 25, Figure 29, Sections 16 & 17). The only artefact retrieved from the fill of this possible feature was a copper alloy ring, 14mm in diameter (Appendix 11).

The base level of all the wall foundations which were investigated was only slightly higher than the upper level of the underlying natural deposits, with only thin deposits between the foundations and natural (eg. Figure 27, Sections 11 & 12). This indicated that the site was largely stripped of overburden, down to these natural layers, during the construction of the buildings.

Based on the dimensions and form of the foundations, walls (066, 059 and 126) at the south of the area seem to be the earliest phase of building (Figure 25, Plate 5). Wall (059) was an east-west aligned stone-built feature with faces to the north and south, 9.96m long, 0.35m deep and *c.*0.70-0.80m wide. Three courses of limestone blocks remained, with the core of the wall comprising uncoursed limestone rubble (Figure 28, Section 20, Plate 7). At the western end, this was keyed into north-south wall (066), which was over 2.96m long, 0.22m deep and *c.* 0.75-0.80m wide. Just two courses of limestone blocks remained of this wall, with the core comprising uncoursed stone rubble (Figure 26, Section 4). Parallel to this wall, at the eastern end of wall (059) was probable wall (126) (Figure 25). This comprised a spread of limestone fragments over an area of approximately 0.60m by 2.00m, apparently the truncated and/or robbed remains of a further contemporary wall.

The area bounded by these three walls was covered by a 50mm thick metalled surface of limestone fragments and clayey silt (062), which was in turn sealed by a 100mm thick gravel and mortar layer (061), apparently together forming an internal floor surface (Figure 26, Section 4). Several areas of burnt material were recorded overlying this surface, one of which (026), at the west of this area, was excavated, and comprised a 100mm thick dark red, greyish-brown and pinkish sandy clayey silt with frequent pebbles, charcoal and wall plaster fragments. This plaster was painted, 700g being retrieved, most of which was painted white or cream, but some also dark red. A few pieces show a limit to the red painting, suggesting that there were red panels or borders on a predominantly white wall (Appendix 11). A small piece of post-medieval brick was retrieved from this deposit, although this is likely to be intrusive, from the overlying topsoil (Appendix 10). An environmental sample was taken in order to clarify the

nature of burnt deposit (026), although this did not provide any further information of particular activities associated with this burning (Appendix 12).

A rectangular room on the opposite side of wall (059) was formed by this and four other walls (088, 046, 059 and 060), and had apparently been added onto the north of the plastered room (Figure 25, Plate 3). These three walls were thinner than the southerly walls, which they seemed to abut. Wall (088) continued the line of wall (066) to the north, and was *c.*3.70m long, 0.11m deep and *c.*0.55m wide. Only a single course of limestone blocks with a rubble core remained of this foundation (Figure 29, Sections 16 & 17). At its northern end, this wall was evident only as a spread of smaller limestone fragments, and plough marks in this area indicate that the building has been truncated by agriculture (Figure 25). At its northern end, this wall joined a further east-west wall (046), which was 9.80m long, 0.56m wide and 0.28m high (Figure 26, Sections 3 & 5). Up to three courses of limestone blocks survived with a rubble core, and at its eastern end this wall was clearly keyed-in to north-south aligned wall (060) (Plate 9). This comprised three courses of limestone with a rubble core and was 3.74m long, 0.26m deep and *c.*0.55m wide (Figure 25, Figure 27, Sections 10, 11 & 12, Figure 28, Section 15).

At the northeast of the excavation area, possible metalled surfaces were identified (068, 102, 084, 091 & 092) laid directly or almost directly onto the natural clay and stone (Figure 26, Sections 5 & 8, Figure 27, Sections 9-12, Figure 28, Section 15, Plate 8). These may have formed a yard surface at the northeast of the site which was used before walls were constructed in this area, perhaps being used at the same time as the building formed by walls (066, 059 and 126). Alternatively, these stony spreads may have formed a working surface during construction at the site, perhaps with a dual function of providing a solid foundation for the building.

Overlying these surfaces, and underlying wall foundations (066, 059, 060, 088 and 046) were several thin olive-brown silt and sand layers (063, 054, 142, 030, 112, 048, 075, 100 and 101). These apparently represented disturbance and deposition during construction works, being trampled layers at the upper surface of natural deposits and metalled surfaces. These deposits occurred beneath some of the walls of both southerly building (066, 059 and 126) and the walls of the possible extension (088, 046 and 060) (Figure 26, Sections 3 & 4, Figure 27, Sections 10-14, Figure 28, Sections 15, 19 & 20 and Figure 29, Section 6). Environmental sampling of two of these layers (048 and 101) produced small quantities of grain, weeds and charcoal (Appendix 12).

Pottery of Roman, late 1st to early 2nd century AD and mid to late 2nd century AD date was retrieved from the trample layers underlying the walls (Appendix 3), in addition to a small quantity of Roman ceramic building materials, some of which was very abraded (Appendix 10). Late 1st to 2nd century AD pottery was retrieved from beneath wall (088) (Appendix 3).

Further Roman and 1st to 2nd century AD Roman pottery was retrieved from various deposits (033, 140 and 139) within room (088, 046 and 060) (Appendix 3). These and a number of further layers inside this building represented a mixture of construction debris (140, 125), occupation material (139, 069, 033), and a rough surface (047), all likely to reflect deposition during the construction of the building (Figure 26, Section 3). Environmental sampling of layer (033) revealed small quantities of grain, weeds

and charcoal, as encountered in other deposits from the area (Appendix 12).

Sealing these deposits was a layer which largely comprised randomly placed limestone rubble (109, 067, 136, 078 and 086). This provided a base for hearth structure (050=120) (Plate 6) and possible hearth structure (042 and 138) (Plate 7) which were built into this rubble (Figure 25). This rubble layer also apparently served as a levelling layer within the room. Whilst no pottery was retrieved from this rubble layer, occasional fragments of Roman ceramic building materials were retrieved, comprising roof tile and possible flue tile (Appendix 10).

Hearth (050=120) was located near the centre and south of the room, and was constructed of a single course of limestone laid over rubble (Figure 25, Figure 28, Section 18, Plate 6). Internally, this formed an oval opening and both the stones at the edges of this opening and the deposits beneath (034 & 128) had been reddened by heat. Environmental sampling of heat-affected layer (128) yielded a small quantity of charcoal and weeds (Appendix 12). Only the western edge of the hearth (050=120) was clearly exposed. It had a straight edge, perpendicular to the adjacent wall (059), indicating that the hearth might be rectangular externally. Overall, the hearth was approximately 1.30m wide, 2.00m long and 0.30m deep At the west and north, the limestone surface of the hearth was sealed by a surfacing layer of mortar and gravel (085). Surface (085) is likely to be the same as possible surface (032) which comprised limestone fragments and silty clayey sand (Figure 26, Section 3, Figure 28, Section 19), and environmental sampling of surface (032) revealed a similar range of botanical remains to those encountered in all of the samples from this area, containing small quantities of grain, weed seeds and charcoal (Appendix 12). Ceramic building materials and mid to late 2nd century AD pottery were also retrieved from this layer (Appendices 3 & 11). Surface (085) was in turn sealed by a 30mm thick layer of dark greyish-brown sandy and clayey silt with frequent charcoal (133), this possible occupation layer likely to be contemporary with the use of hearth (050=120). Environmental sampling of deposit (133) again revealed small quantities of cereal grains, weeds and charcoal (Appendix 12). Roman pottery of 2nd century AD or later date was retrieved from this layer, in addition to an oyster shell (Appendices 3 & 11).

At the east end of this room, two areas of burnt silt and ash were identified lying above rubble (109) (Plate 7). Some of this material was within a shallow cut or depression [129], a rectangular feature with a rounded end, over 0.80m by 0.45m in extent and 0.12m deep with steepish sides and a flattish base (Figure 25, Figure 28, Section 20). The fill of this feature comprised mid red, dark black, mid grey and mid brown patchy silt and ash (077), and environmental sampling indicated this included small quantities of cereal grain, weeds and charcoal (Appendix 12).

Burnt deposit (103) apparently represented the base of a further area of burning during the use of the building, just to the northwest of [129] (Figure 27, Section 13, Plate 7). This layer (103) comprised a dark pinkish-red clayey sand with moderately frequent burnt limestone fragments, and environmental sampling found this to contain small quantities of grain, weeds and charcoal (Appendix 12). A deposit (106) of dark grey mid to dark greyish-brown mottled ashey sandy silt was located beneath the area of burning signified by deposit (103), and indicates that there were at least two burning episodes in this area. Deposit (106)

contained a copper alloy toilet spoon or ear scoop (Appendix 11, Figure 30), and a sample of this deposit contained charcoal, grain and weeds (Appendix 12).

In the internal northeast corner of the room a stone structure (042) comprised a single course of stones with straight edges at the south and west built onto rubble (109 etc). This structure was at least 1.50m east-west and at least 0.70m north-south (Figure 25). A vertical stone (138) at the southern edge of [129] might represent another part of structure (042). The nature of structure (042) and (138) was not clear, but was at a similar level to the surface of hearth (050=120), and so may be a similar base for a floor level, adjacent to hearth [129].

Most of the remaining deposits inside the central room comprised material resulting from the disuse and collapse of the building. Throughout the room was a deposit of clayey silty sand which comprised approximately 60% limestone fragments (027=121=044) and which contained moderately frequent fragments of ceramic building materials. Hearth (050=120) was infilled with similar rubble (132), from which late 1st to 2nd century AD pottery was retrieved (Appendix 3).

Mortar-rich deposits were identified overlying this layer along the inside of each of the east-west walls (046) and (059), which seem to represent either mortar from within these walls or plaster which fell from the walls when the building was in disuse (028, 079) (Figure 25). These deposits (028 and 079) comprised mid to dark brown clayey silty sand with decayed mortar and moderately frequent limestone fragments.

Further limestone rubble with clayey sand (025) and fragments of ceramic building materials overlay this mortar, and unstratified artefacts from hand cleaning of the area inside this room (020) also seem to derive from this building debris. Combined, the artefacts from the collapse layers within the central room indicate a concentration of ceramic building materials here. At least 107 fragments of ceramic building material were retrieved from these deposits (including (020, 025, 070 and 027)). This largely comprised undiagnostic brick or tile, with brick and tegula being relatively common, and occasional box flue tiles, imbrices and tile (Appendix 10). The imbrices and tegulae, and perhaps also the undiagnostic brick or tile, may indicate that this room was roofed with these materials, whilst the brick could indicate that the walls were partly of this material. Roman pottery of 1st to 2nd century AD date was retrieved from these rubble layers whilst a coin retrieved from rubble (025) was issued in 141-145AD (Appendices 3 & 5).

A further east-west wall (035=036) was parallel to wall (046), and located approximately 1.10m to the north (Figure 25, Plate 4). Wall (035) was *c.*0.60m wide and only a single course of limestone blocks with a limestone rubble core survived, whilst the wall was totally truncated by ploughing at its western end. No large stones were visible at its eastern end, and the continuation of the wall was marked only by a concentration of smaller limestone and mortar fragments (122 and 089), where the wall may have been robbed out (Figure 26, Section 7). To the east of deposits (122 and 089) the wall survived as a 0.55m wide single course of limestone blocks with a rubble core (036) (Figure 25, Figure 26, Sections 5 & 8, Plate 8). The total surviving combined length of this wall was at least 8.40m. At its eastern end this wall joined a north-south stone linear feature (043), which was 0.86m wide with two courses surviving, and again had a rubble core (Figure 25, Figure 27, Section 9). This extended

beyond the excavation area, across the easement, and was over 7.70m long. Where (043) and (036) met, no physical connection survived between the two walls as both were robbed out [097] near this junction. Both walls were built directly over possible foundation (091), which comprised limestone fragments and rounded cobbles, these cobbles differing from the limestone which was used in most of the building. Cobble foundation (091) extended at least a short distance beyond the edges of the walls to the northwest, and although its full extent was not established, it could be that this layer also formed a surface in this area. A further possible surface of limestone fragments (090) was identified just to the north of wall (035) (Figure 26, Section 7), and it is possible that this could form part of the same surface as (091). It is also possible that these surfaces, below the level of the walls, were continuous with those identified beneath the walls to the south (068 & 102). Part of a furniture fitting was retrieved from a layer (039) which overlay surface (090). This double-spiked loop would have generally been used in a pair to carry either end of a drop handle on a box, drawers or a chest (Appendix 11, Figure 30).

Possible surfaces were also identified at the south side of wall (035=036), in the area between this and wall (046). Limestone surface (084) pre-dated both of these walls, and could be either an early phase of use of this area or a foundation layer for the walls (Figure 26, Section 5, Plate 8). The area above this and between the walls contained a layer of possible occupation material or construction debris (031), a mid greyish-brown sandy silt with limestone fragments and inclusions of charcoal and mortar. Overlying this and between the two walls was a limestone rubble layer (021), which may have formed a surface (Plate 4). Alternatively, this deposit could represent debris from the disuse of the building or be part of a rubble core between walls (035=036 and 046).

A 70mm thick mortar and pebble surface (038) was identified at the south of wall (035=036), level with the base of the wall (Figure 26, Section 7). The chronological relationship between the surface and the wall was not evident. Part of a 17th century AD clay pipe was retrieved above this surface, although this is either intrusive or may relate to the possible robbing of the wall just to the east, represented by the lack of stone in the area of deposits (122 and 089) (Appendix 11). Overlying this surface was a limestone rubble layer (040), which could be a continuation of layer (021), to the east. Again, this deposit (040) could be a surface, debris or part of a rubble core between the walls. If a rubble core, then this could suggest that walls (046 and 035=036) formed the edges of a staircase to an upper storey, although this is unclear.

A range of artefacts was retrieved from layers (021) and (040), the possible surfaces, rubble or infill layers between the two walls. These included a small quantity of ceramic building materials, iron nails, an iron lump and a piece of iron smithing slag. Part of a fired clay loomweight was retrieved of a late Iron Age to Roman type, similar examples having been found in association with 1st to early 2nd century AD pottery elsewhere. A bone pin was also retrieved from this layer, and is of a type usually found in 2nd century AD contexts (Appendix 11).

Roman pottery was retrieved to the north of wall (046), from deposits (021, 040, 038, 029, 039, 094 and 096) in addition to unstratified pottery from (011, 023 and 145). The pottery from deposits (021, 040, 029, 039, 094 and 096) was of mid to late 2nd century AD date, whilst a piece of 1st to

2nd century AD vessel glass was also retrieved from deposit (096). Pottery of the 2nd century AD or later was retrieved from deposit (038). Unstratified Roman pottery included undiagnostic Roman, 2nd century AD or mid to late 2nd century AD types. Also unstratified, the earliest pottery from the site was a piece of South Gaulish samian stamped OF PONTI, the work of the potter Pontus who was operating at the La Graufensenque kilns from AD 60-90 (Appendices 3 & 9).

A variety of ceramic building material fragments were retrieved from the area to the north of wall (046), the majority of these being undiagnostic brick or tile, followed by tile and smaller quantities of roofing tiles (Appendix 10).

Abutting the western side of wall (066), at the southwest of the site, was a stone structure (104) (Figure 25). This comprised a single course of stone with rough faces to both the north and south and a rubble core, was *c.*1m long, 0.50m wide and 30mm deep. This could be a buttress to support wall (088), but could equally be the remains of an additional wall, truncated by ploughing. Two concentrations of limestone were recorded at the southeast of the site (134 & 135), and these could represent buttresses to wall (126) or other structures.

The rubble, walls and surfaces in this area were sealed directly by a 0.35m thick layer of dark reddish-brown sandy silt topsoil (045).

Excavation Area 2 (Figures 12-16)

Natural deposits

The earliest deposits encountered in Excavation Area 2 comprised mid yellowish-brown silty and fine sandy clay (1018=1094=1095). These deposits had reddish-brown and greyish mottles, occasional pebbles, and were naturally-formed.

A series of cut features were identified in the excavated pipe trench in this area, although the narrow width of the pipe trench and masking post medieval and later deposits at the machined level made interpretation of their overall shape difficult. The form of most indicated that they were ditches, but some could be large pits (Figures 6, 12, 14 & 15).

Undated deposits

Four of the probable linear features excavated in this area were undated and included a shallow north-south aligned possible ditch [1039] (Figures 12 & 14). This contained a single fill of mid to dark olive to brownish-grey clayey silty sand with occasional limestone and charcoal (1038).

North-south aligned ditch [1030] had gently sloping sides, a concave base and was 0.65m deep and 1.35m wide (Figures 12 & 14, Plate 18). This ditch contained four fills (1022, 1023, 1025) & (1026), each of which comprised a clayey silt sand or sandy silt, generally being mid to dark greenish and greyish-brown, some with light brownish-yellow to yellow mottles, and with occasional limestone and charcoal inclusions. Ditch [1030] was disturbed by [1031], an area of probable animal burrowing.

A third north-south aligned ditch [1080] had steepish sides and an uneven, concave base, and was 0.47m deep and 2.02m wide (Figures 12, 14 & 15, Plate 14). This contained four similar fills of light to mid brownish-yellow, yellowish-brown and greyish-brown clayey and sandy silt (1076, 1077, 1078) & (1079), some of which included flecks of charcoal and limestone

fragments.

Close to the southwestern edge of the excavation area, an east-west aligned ditch [1062] was identified (Figures 12 & 14, Plate 16). This ditch was approximately 3.20m wide and over 1.16m deep, with steepish to slightly concave sides, although it was not bottomed. Four of the earliest identified deposits within this feature were of similar nature, being light brownish-grey to yellowish- reddish-brown sandy silts, some of which contained occasional charcoal flecks (1063, 1064, 1065) & (1066). Each of these deposits is likely to have been formed largely through the slumping of natural deposits into the open ditch. The edge of a metalled surface (1003) overlay one of these fills, and extended for several metres beyond the eastern edge of ditch [1062] (Figures 12 & 14). Surface (1003) is described in more detail later. Within ditch [1062], the metalled surface, along with the other fills of the ditch, were sealed by a 0.94m thick fill of dark blackish-brown slightly clayey and sandy silt (1010), with occasional charcoal and stones (Figures 12 & 14). Environmental samples were taken of this deposit (1010), in addition to redeposited natural fill (1065). This revealed a similar assemblage of plant macrofossils and other remains to other sampled deposits in this area, containing small quantities of grain, chaff and weed seeds in addition to fuel remains and burnt residues, indicating some or all of the material is derived from scattered hearth or fire waste (Appendix 12).

Metalled surface (1003), already mentioned, comprised pebbles and cobbles, mainly of limestone, in a matrix of dark black mottled clayey silt (Figures 12, 13 & 14, Plate 17). The surface was laid directly onto the natural silty and sandy clay. At its western edge the surface overlay some of the fills of ditch [1062], indicating that the lower ditch fills sank after the surface was laid, and that fills above the surface comprise a separate filling event. Occasional burnt stones were noted within the surface, which was 40mm thick, and extended for approximately 6.20m along the line of the excavated pipe trench (Figures 12 & 14). For much of its extent, the surface was sealed by an 80mm thick layer of dark blackish-brown fine sandy and clayey silt (1002=1012). This layer was apparently part of a former topsoil layer, containing a considerable quantity of occupation material.

The uppermost fill of ditch [1080] was sealed by a metalled surface (1037), which comprised limestone fragments in a matrix of mid reddish-brown clayey silt, with occasional flint pebbles, charcoal flecks and oyster shells. This surface was 70mm thick and extended for approximately 2.50m along the excavated pipe trench (Figures 12 & 14, Plate 14). A former topsoil (1036) sealed this surface, and comprised a 0.12m thick mid yellowish-brown clayey silt with charcoal, oyster shell, limestone and chalk fragments.

The level and nature of surface (1037) indicates that it is likely to be the same as surface (1003), just a few metres to the west (Figures 12, 13 & 14). A medieval furrow [1019] truncates surface (1037) at its western edge, and probably truncated surface (1003) at its eastern edge, so it is likely that this medieval ploughing has disrupted what was originally a single, continuous surface.

Various artefacts were retrieved from surface (1003=1037), although these may well not date it, and are likely to have accumulated on the hard metalled layer having worked their way down from overlying loose topsoil deposits. Therefore, these artefacts are considered together with those from the overlying

layers of former topsoil (1036) and (1002=1012). Pottery of 3rd to 4th century AD Roman and early to middle Saxon date was retrieved from these layers, in addition to a small quantity of Medieval pottery (Appendices 3 & 4). Other artefacts from these deposits comprised iron nails and iron smithing and smelting slag (Appendix 10). Layer (1002=1012) contained small quantities of grain, chaff and weed seeds in addition to fuel remains and burnt residues (Appendix 12).

Two small features, [1058] and [1060], were also undated, and as neither of these features was fully exposed in plan, their form and nature was unclear (Figures 12 & 14. However, the exposed portion of feature [1058] was sub-circular, with steep to convex sides and a flat base, and was 0.26m wide and 0.10m deep. The exposed portion of feature [1060] was sub-oval, with steep sides and a flat base, 0.45m by over 0.50m in extent and 0.20m deep. The fills of each of these two features comprised dark greyish-brown clayey silt with moderately frequent black flecks, probably of charcoal (deposits (1059) & (1061) respectively).

Just outside the excavation area was an additional undated north-south aligned ditch [1097], which was identified during the monitoring of the laying of a new land drain (Figure 12). This ditch had steep sides and a rounded base, and was 1.70m wide and 1.80m deep. The single fill of this ditch comprised a mid greyish-brown clayey silt with occasional charcoal and limestone fragments (1096).

Romano-British deposits

Although Roman pottery was retrieved in some quantity from several features in this area, early to mid Saxon pottery was also retrieved from many of the ditches, and only one feature is of probable mid to late 3rd century AD or later date. This feature [1020] truncated the fills of undated ditch [1030], had irregular steepish sides and a concave base, and was 0.53m deep and approximately 2.50m wide. (Figures 12 & 14, Plate 18). The primary fill of this ditch (1029) was a 0.21m thick mid to dark olive-greyish-brown and light yellow mottled clayey silty sand with occasional charcoal and limestone and contained Roman pottery. Sealing this was a 0.30m thick layer (1024), of similar composition, and an environmental sample from this layer contained a similar assemblage to other deposits in the area, with small quantities with seeds and fuel remains and burnt residues (Appendix 12). This was in turn sealed by a 20mm thick ashy layer of dark grey sandy silt with charcoal (1021), apparently comprising fire residue, and which contained mid to late 2nd century AD pottery (Appendix 3). Overlying this was a mid to dark olive-greyish-brown silty clayey sand with light yellowish-brown clay mottles and occasional charcoal and limestone, from which mid to late 3rd century AD pottery was retrieved. Above this a 0.19m thick fill comprised *c.*70% limestone rubble (1008), and it initially appeared that the stones within deposit (1008) might by part of a surface or structure. However, on excavation, these proved to be rather jumbled and more likely a dumped deposit of rubble. This was sealed by a 0.13m thick dark olive-grey mottled clayey silt sand with occasional charcoal and possibly fragments of coal (1007). Iron smithing slag, slagged hearth lining and burnt stone were retrieved from this fill (Appendix 11).

5th to 9th century AD Saxon deposits

Ditch [1041] was north-south aligned, with steepish sides and a flattish to concave base and was approximately 2.44m wide and 1.10m deep (Figures 12, 14 & 15,

Plates 12 & 13). It contained eight fills of clayey sandy silt, sandy clay and clayey silty sand of various colours, largely mid to dark greys and browns with reddish, olive and light yellowish-brown patches and mottles (1075, 1084, 1083, 1082, 1081, 1074, 1073) & (1043). Two of the fills (1075 & 1073) contained possibly Roman pottery (Appendix 3), although a later fill (1043) contained both very late 4th century AD Roman and early to mid Saxon pottery and the later sherds may date the ditch (Appendices 3 & 4). Several fragments of Roman pottery from this deposit were very burnt, and fuel ash slag was retrieved from both this and one of the primary fills (1075) (Appendices 3 & 11). Environmental sampling of the uppermost fill, (1043), again revealed fuel remains and burnt residues (Appendix 12).

At the northwest, this was truncated by an east-west aligned ditch [1040] (Figures 12, 14 & 15, Plate 13). The primary fill of this ditch (1071) was a 0.11m thick mid to light yellowish-brown sandy clay, with occasional charcoal flecks. Overlying this layer were two fills (1042) and (1045) of dark brownish and greyish-brown clayey sandy silt with charcoal flecks and occasional limestone, some of which were scorched. The stratigraphic position of this ditch, truncating ditch [1041], indicates that this too is of early to mid Saxon or later date. However, the only datable finds from this ditch were from the two uppermost fills, each of which produced 4th century AD Roman pottery (Appendix 3). Other finds from these two deposits comprised an iron nail, iron smithing and smelting slag and fragments of hearth bottom (Appendix 11), whilst environmental sampling of deposit (1045) again revealed traces of burnt materials and fuel (Appendix 12).

At its western edge, undated ditch [1062] was truncated by a north-south aligned ditch [1068] (Figures 12 & 14, Plate 16). This ditch had gently-sloping, irregular sides, a concave base, and was 0.89m deep, although its width was unclear. The ditch contained two fills, (1032), and secondary fill (1015=1014=1027=1033), which was a 0.45m thick olive-brown sandy silt with moderately frequent charcoal, limestone and fragments of iron slag. Fragments of fired clay, burnt stone, iron smithing slag, hearth bottom and tuyere were retrieved from both of these fills in addition to iron nails and a spike and a fragment of possible Roman tile (Appendices 10 & 11). Environmental sampling again indicated the presence of fuel and burnt residues (Appendix 12). Roman pottery with a high sherd to weight ratio, and of late 3rd to 4th century AD date, was retrieved from each fill (Appendix 3), whilst a single sherd of Saxon pottery was also retrieved from primary fill (1032) (Appendix 4). An isolated find of part of a human right femur, probably that of an adult, was retrieved from the secondary fill of this ditch (Appendix 8).

Medieval and later deposits

An apparently north-south aligned ditch with a concave profile [1006] was 1.85m wide, 0.50m deep, and contained a single fill of dark greyish- to greenish-brown sandy silt with occasional limestone fragments (1005) (Figures 12 & 14, Plate 15). Whilst a quantity of late 3rd century AD Roman pottery was retrieved from this fill, further artefacts included two sherds of medieval pottery and a sherd of mid 16th to 17th century AD date (Appendix 4). An iron nail was also retrieved in addition to part of a Collyweston slate, likely to be a post-medieval building material (Appendix 11). The assemblage within an environmental sample of this fill was comparable to the other samples taken in this area (Appendix 12).

Five north-south aligned plough furrows [1072, 1070, 1019, 1053 & 1056] were identified in this area, truncating several of the ditches, including the fills of post-medieval ditch [1006]. Two of these contained 17th century AD clay pipe fragments, whilst another contained iron smelting and smithing slag (Appendix 11). Three produced 3rd to 4th century AD Roman pottery (Appendix 3) and two contained early to mid Saxon pottery (Appendix 4).

Topsoil (1004=1011) in this area also produced residual Saxon pottery, 4th century AD Roman pottery, possible Roman tile, iron smithing and smelting slag, hearth lining and hearth bottom (Appendices 3, 4, 10 & 11). The area was metal detected and five coins were retrieved, all of mid to late 4th century AD date (Appendix 5).

Near the western limit of the excavation area, a deposit of dark greyish-brown clayey silty sand with occasional limestone fragments (1034) extended over an area of approximately 7.25m by 7.72m (Figure 12). As this deposit was mainly located outside the pipe trench excavation, its precise nature and dating was not established, although this may be the remnants of a former topsoil or subsoil. Human bone (1035) was retrieved from deposit (1034), although this was an isolated skull, lying on its crown, and not part of an articulated skeleton (Figure 12, Plate 19). Only the upper cranium was present, with no teeth, occipital, maxillary or nasal bones (Appendix 8). The skull had male characteristics, but the only method of aging possible was through the unreliable technique of assessing suture closure, which gave a possible age of 20-29 years. The skull showed possible well-healed trauma in the area of the left eyebrow, which was slightly indented. Possible ossification of the muscle insertion point or ossified haematoma resulting from trauma was observed in new bone growth on the frontal bone. An indentation on the back of the skull is well remodelled but may have been caused by sharp blade trauma (Appendix 8). Although Roman pottery was found close to this skull (Appendix 3), this could well be redeposited, and so the date of the skull is unknown.

As the skull was away from the main pipe trench, it was only investigated sufficiently to determine whether it was part of a larger collection of human bone.

Two east-west aligned land drains crossed the excavation area, and north-south and east-west aligned plough marks were noted across this part of the site (Figure 12).

Watching brief near and across Excavation Area 2

After the completion of archaeological excavations in Area 2, the mechanical excavation of the pipe trench was monitored. Thirteen further features were identified in this field (11B) in addition to a further thirteen in the adjacent field (12B). In each case this total excludes plough furrows and land drains and also features within the area already subject to excavation in field 11B (Figures 6, 10 & 16 and Figure 17 Sections 124-129). Due to their depth, it was not possible to enter or clean the sides of the trenches, and so these features were photographed and their sections drawn, and deposits were described based on their appearance in section and, where possible, from spoil. None of these features were datable, although unstratified 3rd to 4th century AD Roman pottery (626) may derive from the fill of feature [621] near the boundary of the two fields (Figure 16, Appendix 3).

Although the form of feature [621] was

unclear, it was located on the boundary of the two fields, and could be related to a change in level here, with a drop down from field 11B to field 12B.

Unstratified finds from the excavation area in field 11B, retrieved during the watching brief, included 3rd to 4th century AD Roman pottery (Appendix 3), Medieval and post-medieval pottery (Appendix 4) and iron smithing slag and hearth bottom (Appendix 11), a similar range of artefacts to those retrieved during the excavation. A comparable range of material was also retrieved from field 12B, including mid 3rd century AD or later pottery (Appendix 3), post-medieval and early to mid Saxon pottery (Appendix 4). Further iron smithing slag and possible hearth bottom were also retrieved from this area (Appendix 11).

It was not possible to make any detailed assessment as to the nature of these additional features due to the poor conditions, but the results of the watching brief seem to indicate that remains similar to those identified in the excavation extend over a wider area. In field 12B, these extend for approximately 100m along the pipeline route from the boundary with field 11B, and for at least 120m from this boundary along the pipeline route across field 11B.

Excavation Area 3 (Plate 20, Figures 18-19)

Natural deposits

In each of the sondages excavated in this area the earliest identified deposits comprised mottled clays which were partly transformed to mudstone (1532, 1515 & 1519). Sealing each of these deposits were additional layers of natural clay (1531, 1514, 1518 & 1527).

Feature [1534, 1533, 1520, 1525=1526]

Cut into each of these clay layers was a large feature, extending beyond the limits of each sondage, and apparently comprising a single entity [1534, 1533, 1520, 1525=1526] (Figures 18 & 19, Plates 21 & 22). It extended for over 21.50m within the easement, and beyond the limits of excavation to both the northeast and southwest. The feature, probably a large pit, was at its deepest in the most southwesterly sondage, where it was up to 1.07m deep, becoming shallower to the northeast, where it was a maximum of 0.82m deep (Figure 19, Sections 300-303).

Several fills of this pit were identified within each sondage, generally comprising mottled mid olive-brown or greyish-brown clay, silty clay and slightly sandy clay (Appendix 2). On the whole these fills were very similar to natural deposits in the area, and many were distinguished from these only on the basis of their inclusions. Most of these deposits included occasional fragments of ceramic building materials, and some contained coal, limestone fragments and vitrified slagged ceramics. Environmental samples were taken of two of these fills (1517 & 1513), although no flot whatsoever was retrieved from the sample of deposit (1513), and (1517) contained only very limited quantities of material including small charcoal and coal fragments (Appendix 12). This, coupled with the composition of the fills, indicates that they largely comprise redeposited natural, and the pit was probably rapidly backfilled with this material along with waste from ceramic production close to the excavation site.

Three of the fills of the pit were distinct from the others through comprising at least 50% ceramic land drain fragments (1502=1507 & 1509) (Plate 22). Two of

these deposits were the uppermost fills (1502 & 1507), and deposit (1509) was also amongst the latest of the fills.

Large quantities of material were also recovered from the topsoil (1501) and as unstratified artefacts (1500). A wide range of late post-medieval field drains, tiles and brick was identified in the area, and numerical quantities suggest that the industry focussed on the manufacture of D-profile field drains, curved/tubular field drains, and handmade bricks (Appendix 10, Figure 19).

The assemblage from deposit (1513) varied in composition from the other contexts. Types that are rare or absent in other contexts, the flanged tubular field drain and flanged D-profile drain, are relatively numerous in this context.

Other artefacts retrieved from the various fills of the pit were a piece of handmade brick of possible Roman date, an iron bar and nail, a copper alloy spoon handle and wire, a small quantity of iron smithing slag, burnt limestone and cinders (Appendices 10 & 11). Only three sherds of pottery were retrieved from the pit, all of which were of post-medieval date, and the latest of which was 18th to 19th century AD (Appendix 4). A fragment of green bottle glass retrieved from one of the fills of the pit was of 19th to 20th century AD date (Appendix 9).

Cut into the fills of the pit were two land drains (Figure 18), the fills of which were each sealed by a 0.30m thick layer of clayey-silt topsoil (1501). This dark olive-greyish-brown topsoil also contained frequent fragments of ceramic land drain.

6. DISCUSSION

Prehistoric activity was represented along the route by a small assemblage of worked flints, retrieved from each of three excavation areas and Field 2, at the west of the route. The majority of these were likely to have been manufactured during the Mesolithic period, with less conclusive evidence for some later flintworking also being present (Appendix 6). Prehistoric worked flint findspots and prehistoric sites are recorded within a few hundred metres of Field 2 and excavation Areas 1 and 2 (Figure 2). A single pottery sherd from Area 1 may be of Iron Age date (Appendix 3).

Excavation Area 1

The base of the walls of the building were found to be only slightly higher than the upper level of the underlying natural deposits, indicating that the site had been largely stripped of overburden, down to these natural layers, as the first stage of construction. At the north of the area, several metalled stone surfaces (068, 102, 084, 091, 092 etc) were identified which comprised stones pressed into the underlying natural clay. Although these surfaces may pre-date the building in this part of the site, it seems likely they were laid in order to provide a solid working surface during its construction, and to improve the stability of deposits beneath the walls.

Over these surfaces and underneath many of the walls, thin olive-brown silt and sand layers were identified (063, 054, 142, 030, 112, 048, 075, 100 and 101). These seemed to represent disturbance and deposition during construction works, being trampled layers at the upper surface of natural deposits and metalled surfaces.

Roman pottery of 2nd century AD date was retrieved from the trample layer (063) beneath wall (066), indicating a 2nd century AD construction date for the

southern part of the building. Late 1st to 2nd century AD pottery (147) retrieved from directly beneath wall (088) indicates a similar date range for this probable extension. Mid to late 2nd century AD pottery was retrieved from layer (101), and the continuation of this layer as (100) underlay wall (060). This indicates that the central building is likely to have been constructed in the mid to late 2nd century AD.

There is no evidence for either Conquest period or later Roman occupation in the overall pottery assemblage from Area 1. The earliest example of Roman pottery is a dish in South Gaulish samian dating to 60-90 AD. The small quantity of earlier material retrieved from the site may reflect 1st century AD occupation in the vicinity of the building, and it is quite possible that this may have been located beyond the area of the easement. However, the residuality of Samian has been well-established, and complete 1st century AD vessels may have been used into the 2nd century AD (Wallace 2006, 268). A few contexts are broadly dated from the later 1st to the 2nd century AD, but these have a 2nd century AD bias rather than later 1st. The bulk of the ceramic evidence indicates that the main occupation of this building is during the Antonine period, the mid- to late 2nd century AD (Appendix 3). Other finds of vessel glass and a bone pin may well also date to the 2nd century AD, whilst the single coin retrieved from the area was a Sestertius of Antoninus Pius, issued in 141-45 AD (Appendices 9, 11 & 5). There is no apparent distinction in the dating of the assemblages from those deposits relating to the construction, use or disuse of each part of the building, and this indicates that the building is likely to have had a relatively short period of use, probably in the Antonine period (137-161 AD).

At the south of the site, three walls were identified (066, 059, 126) which were apparently contemporary with one another, at least two of them being keyed together, and all being of similar width. Within these walls a metalled surface was identified, sealed by a layer of mortar. Numerous fragments of painted wall plaster found adjacent to the westerly wall and lying above this floor, indicate that this was an internal room or possibly a covered corridor around a courtyard. This room had a mortar floor, and the painted plaster indicates it was probably painted white with deep red stripes or blocks of colour. Although the plaster was found within a deposit of burnt material, the plaster itself was not apparently burnt, and so the origin of this burnt material is unclear, as it does not appear to represent *in situ* burning.

Topsoil directly sealed these burnt deposits, mortar floor and the remains of the walls of this room, and so little more information as to the form or use of this room was available.

A further stone structure (104) joined onto the western side of the wall at the west of this room. This may either represent an additional, largely truncated, wall to the building or could perhaps be a buttress.

At the north of this room, further walls (088, 046 and 060) were apparently additions to the building, extending it further north. At least two of these walls were keyed together (046 & 060) and all three were apparently contemporary. Although the foundations of the southerly and central rooms were not apparently keyed together, the similarity in the underlying layers could be an indication that the two rooms were built in a single phase of building works, and it could be that the walls were keyed together above foundation level. The difference in the

thickness of the walls might be due to the size, form or function of the upper walls rather than demonstrating different phases of building.

Within the central room formed by walls (046, 088, 060 & 059) was a layer of rather randomly placed fragments of limestone (109, 067, 136, 078 & 086). This layer seemed to serve to level the interior of the building and provided a base into which hearth (050=120) was built. It seems that during the use of this room, at least three hearths were used, although hearth (050=120) was the only one of these with a clear structure being identified during the excavation.

This hearth would have been below floor level during the use of this room, and a mortar surface (085) identified at the edges of this hearth may well be the floor surface contemporary with the use of the hearth.

A hearth was excavated within a 4th century AD aisled barn at Orton Hall Farm, which would have been similarly sunk below the internal floor level (Mackreth 1996). This was found to connect to two flues, and these features were interpreted as channelling hot air beneath large tanks, possibly as part of a brewery. Similar features elsewhere have often been interpreted as corn-driers.

No connecting flues were identified at the present site although these could have been present in unexcavated areas, or may not have been identified in the narrow excavated slots across the building.

The retrieval of four fragments of box flue tile from the excavation area, three from the interior of this central room, indicates a hypocaust (central heating) system in at least part of the building. Hearth (050=120) could have been part of such a system, although it does not seem appropriately located to serve the central excavated room. No traces of hypocaust structure were identified on the site, and if a hypocaust did exist in any of the excavated rooms, it seems probable that this would have been above the surviving levels, although perhaps more probably in other rooms, beyond the excavated area.

The two hearths at the east of the central room were less clearly defined, and it is not known whether all or any of the hearths were in contemporary use. Stone structure (042) and perhaps also (138) apparently contained one of these hearths, and it is possible that a right angle at the western edge of (042) could indicate that this structure forms part of a flue system, carrying hot air to other parts of the room.

Based on the surviving and excavated remains, it seems that central hearth (050=120) was most likely to have formed part of a drier of some kind. However, the least distinct of the three identified hearths in the area (106) contained a copper toilet spoon or ear scoop (Figure 30). Although stratigraphic relationships were not identified between the three hearths, it seems likely that they were not in use at the same time, and it may be that the function of this room changed over the period of use of the building, or hearths were rebuilt and moved.

The layout of the building to the north of the central room was less clear, with an increased level of truncation at the northwest of the area. East-west wall (035=036) was of similar width to wall (046), and it is possible that these walls were contemporary. These two walls may have formed an east-west corridor, and, if so, deposits (021) and (040) between the walls are likely to represent the floor surface of such a corridor. It is also possible that the two walls formed either side of a staircase to an upper storey of the

building, and that (021) and (040) were part of a rubble core beneath a staircase, although there is no clear evidence to confirm the presence of a staircase or upper storey. Artefacts retrieved from these layers included part of a loomweight and a bone pin, in addition to ceramic building materials, pottery, iron nails and a piece of iron smithing slag (Appendices 3, 10 & 11). Although the smithing slag indicates industrial activity may have taken place in the vicinity of the building, this was only represented in small quantities in this area, and the loomweight and pin are more likely to reflect the type of activities directly associated with this part of the building. The predominantly domestic nature of the site is confirmed by the pottery assemblage, burning and sooting being quite common, mainly due to use as cooking vessels. (Appendix 3). Iron nails were moderately abundant in this excavation area, and along with an iron timber dog (014) may have joined structural timbers or perhaps been part of furniture. A single definite furniture fitting was retrieved from the north of the excavation area (039), part of a handle of a box, chest or drawer (Appendix 11, Figure 30). Again, this tends to confirm the domestic nature of the artefact assemblage from the building.

Wall (043), at the northeast of the area, was significantly wider than the other identified walls, and it is possible that this could indicate that this wall was designed to be stronger, a possible reason for this being the existence of an upper storey in the northerly part of the building.

Much of the excavation area was covered by a layer of material from the disuse and collapse of the building. This largely comprised fragments of limestone, presumably largely derived from the walls. These layers also contained much of the ceramic building material retrieved from the area. Imbrices and tegulae may indicate the presence of roofs tiled with these, although it is possible that they may have been used in other ways, for instance as drainage channels or for wall coping (Appendix 10).

It is likely that much of the Roman ceramic building material was made in the vicinity of the building (Appendix 10). Although the source for the building stone is unknown, a depression was noted in the same field as the building, to the north of the easement, which could be the remains of a quarry, and potentially the same quarry used for the Roman building.

Although imported pottery is rare in the material from the building, the presence of over 16% by sherd count of fineware beakers and cups, confirms the higher status of the assemblage. The wide range of vessel types, demonstrates that the occupants had access to markets and could afford to purchase a range of vessels. The assemblage is most remarkable for the amount of Romano-British wares imported from national rather than local kilns. Over 6% of the assemblage consists of pottery transported from kilns near the coast in Dorset. These wares normally have a westerly distribution, although are often present in Lincoln assemblages of Antonine date. It is more than likely that these wares were part of a consignment to the Antonine wall that were sold in transit. The presence of pottery from the Hertfordshire kilns at Verulamium is also unusual as it rarely reaches Lincolnshire assemblages. Several of the bowl forms are finer examples used for serving rather than cooking (Appendix 3).

Over 9% of the assemblage consists of regional wares from the Nene Valley kilns near Peterborough. Sherds of mortaria were identified from the Mancetter Hartshill kilns in Warwickshire. Locally

produced wares form the bulk of the coarse ware assemblage consisting mainly of Grey wares used for cooking and serving. Oxidised pottery and other fine wares account for a small proportion of the assemblage, whilst further types which form a very small part of the assemblage are associated with legionary groups in Lincoln (Appendix 3).

The site is located within a triangle of Roman roads, Ermine Street, Long Hollow (King Street) and Salter's Way (Figure 2) (Margary 1973, Malone 2005). Where it passes close to the site, the conjectured course of the Salter's Way follows the modern route of the A52, only *c.*0.5km to the southeast. To the east of the site, the presumed course of the Salter's Way turns to a slightly southwest-northeast alignment (Figure 2). If the road did not turn at this point, and continued on the same course as further east, it could be projected along Green Lane, a few metres to the south of the excavated building remains, and this could suggest the site is directly on the route of a Roman trackway. A villa is known *c.* 5km to the east at Newton-and-Haceby, directly on the presumed line of the Salter's Way (Whitwell 1992). Ermine Street is located to the west of the site, the section closest to the site being *c.*1.4km away, where it is now known as the High Dyke. At Ancaster, to the north of Welby, Ermine Street meets another Roman road, Long Hollow (King Street), which continues to the southeast to Bourne. The Long Hollow forms the third side of the 'triangle', and crossed the Salter's Way *c.*2.7m east of the site (Figure 2). The location of the building close to these routeways may account for the unusual quantity of pottery from national kilns in the assemblage.

The pottery assemblage is of moderate to high status and not from a rural community. During the early to mid- 2nd century AD rural assemblages in this area frequently lack ceramic evidence of Romanisation, but the presence of mortaria, amphorae and flagons demonstrates that the occupants of this building were either Roman or had adopted the Roman way of life. One unstratified fragment of building material from the southeast of the excavation area may be part of a lamp chimney, a feature often found on buildings of some substance (Appendix 3).

The full extent of the building was not established during the investigations, but was over 15m north-south and at least 12.6m east-west. Although the remains were heavily truncated, the surviving evidence for the form of the building and cultural material indicate that it was of probable Antonine date and of higher status, most probably part of a previously unknown villa.

Excavation Area 2

The bulk of the Roman pottery from this area dates to the late Roman period (late 3rd to 4th century AD), with some contexts contained pottery of mid to very late 4th century AD date, in addition to a small amount of 2nd century AD residual material (Appendix 3). A relatively high amount of abrasion was recorded in this assemblage in addition to a moderate proportion of burnt vessels, due mainly to use as cooking pots. Some sherds are very burnt and one vitrified, having been exposed to a fierce heat such as that of a kiln.

Despite the abrasion of the material, the overall sherd to weight ratio is to the higher end of medium, with several contexts producing high sherd to weight ratios, indicating primary or secondary deposition. However, three of the four deposits with a high sherd to weight ratio

also contain later, early to mid Saxon, material, so must be redeposited. Imported wares that usually denote higher status occupation are rare, but this is to be expected in a group of late and very late Roman date. Nevertheless the relatively high presence of finewares from the Nene Valley and further afield from the Much Hadham and Oxfordshire kilns are indicative of material from a site of higher status. A wide variety of beakers suggests that dining and feasting continued into the late Roman period (Appendix 3).

The dating of the Roman pottery assemblage from this area is consistent with the dating of five coins retrieved through metal detecting, all of mid to late 4th century AD date, and of types frequently found on Roman sites of the period (Appendix 5).

A very small number of fragments of Roman tile were retrieved from this area in the excavation and watching brief (Appendix 10), although not in sufficient quantities to indicate a tiled Roman building in the immediate vicinity.

Industrial residues were recovered in moderate quantities in this area, from Roman and later contexts. The industrial methods evidenced by this material are typical of Roman or Medieval activity, different techniques being employed between these times (Gary Taylor, *pers. comm.*). Where stratified, the industrial residues occur along with both Roman and early to mid Saxon material. Residual Roman pottery occurs in all Saxon or later features, and the single possible Roman ditch identified [1020] also contained industrial residues. This indicates that industrial activity is likely to be of late Roman date, this material later being redeposited along with early to mid Saxon material.

The great majority of the industrial material was iron smithing slags of various types, including hearth bottoms (Appendix 11). These are a by-product of smithing iron - the production, repair or recycling of iron objects and indicate this activity in the proximity of the investigation area. The proximity of the smithing is confirmed by the presence of fragments of slagged hearth lining, a fairly fragile material that does not survive disturbance well. Plano-convex slag accumulations, commonly known as hearth bottoms dominate the assemblage, and the similarity in their shape, if not size, suggests they may be the by-product of a single smith. Surprisingly, no hammerscale was retrieved with the slag (Appendix 11) or from environmental sampling (Appendix 12), and some would be expected if these slags were discarded directly from the smithy, as suggested by their fresh condition. Charcoal is the only fuel recorded as being incorporated within the slags, and charcoal was also retrieved from each of the environmental samples from this area (Appendix 12). Whilst small quantities of grain, chaff and weed seeds were identified within the environmental samples, the density of fuel remains including charcoal, charred wood, heather stem fragments and coal and burnt residues was far higher, perhaps indicating that some or all of the material is derived from scattered hearth/fire waste (Appendix 12).

Only a single ditch [1020] was of probable Roman date, one of the fills of which comprised a thin ashey layer (1021), perhaps related to either occupation or industry at the site. Most of the Roman material retrieved from the area occurs in later deposits, in many cases together with early to middle Saxon pottery (Figures 12 & 14). This tends to suggest the truncation of Roman deposits by the digging of the Saxon features. Although no re-cutting of the ditches was identified, the fills and profile of ditch [1041] are suggestive of a

re-cut feature, with this possible re-cut into (1074), and containing (1073 & 1043) (Figure 14, Section 205). The primary fill of [1041] contained only very abraded scraps of Roman pottery, with no later sherds being retrieved from either (1075) or (1074). This could indicate that these lower deposits are the fills of an earlier, Roman, ditch, but the scrappy and abraded nature of these sherds means this is far from conclusive.

The Anglo-Saxon pottery types present span the early and middle Saxon periods (Appendix 4). The presence of two middle Saxon sherds points towards occupation in this period, and the Anglo-Saxon pottery could be contemporary with these or may date prior to the 8th century AD and possibly as early as the 5th. Small quantities of similar pottery to that from the excavation area were retrieved from field 11B, and confirm that Saxon activity probably extended across both fields.

Of the four undated linears in the area, one [1030] was truncated by probably Roman ditch [1020], suggesting a Roman or earlier date for this feature (Figure 14).

Undated feature [1062] was truncated by Saxon ditch [1068], and is likely to be of Saxon or earlier date (Figure 14). Metalled surface (1003=1037) formed a fill at the edge of ditch [1062], suggesting that the surface was laid down over the infilled ditch, and that the lower ditch fills sank after the surface was laid. At the northeast, this surface sealed the fills of undated ditch [1080], indicating that this ditch is of earlier date than ditch [1062], being disused and filled by the time the surface was laid.

Surface (1003) is stratigraphically earlier than ditch fill (1010), which is in turn truncated by Saxon ditch [1068] (Figure 14). This indicates that the surface is likely to be Saxon or earlier, and may well be Roman. This surface might be a track or road, but as its extent was not evident in plan, and given the probable proximity of Roman occupation evidence, it seems likely to be a yard surface. The proximity of the part-filled ditch [1062] to some degree argues against this surface being internal to a building.

Environmental samples were processed from two of the fills of undated ditch [1062], fill (1065) pre-dating surface (1003), and deposit (1010), post-dating the surface. Each of these samples produced a similar assemblage containing small quantities of grain, chaff and weed seeds in addition to fuel remains and burnt residues, indicating some or all of the material is derived from scattered hearth or fire waste (Appendix 12). In the dated deposits, this material is assumed to be largely contemporary with the Roman industrial activity at the site, similar assemblages occurring in both Roman ditch [1020] and along with redeposited Roman finds, in Saxon and later contexts (Appendix 12). This hints towards a possible Roman or later date for undated deposits (1065) and (1010), and coupled with the stratigraphic evidence, a Roman date seems probable for these deposits, along with the metalled surface (1003=1037).

Roman and later material was recovered from this surface, and it may have been in use for a prolonged period, or later material may have worked its way down through soft overburden layers, coming to rest on the firm surface beneath.

The remaining undated linear in the excavation area had no stratigraphic relationship with dated deposits.

Part of a human femur was retrieved from the primary fill of Saxon ditch [1068]

(Appendix 8), which seems likely to indicate the disturbance of an earlier burial, perhaps during the digging of this ditch. Given the evidence for Roman activity in the area, the human remains may be of Roman date. A human male cranium (1035), with several possible well-healed injuries, was found within a few metres of the femur, and was also likely to be part of a disturbed burial but was effectively unstratified.

Several black feature fills identified in field 12B may be an indication of iron processing extending into this field, as well as in the adjacent excavated area (Figure 10, Figure 17 Section 126).

Other Roman and Saxon sites and finds are known in the immediate vicinity of Area 2, including two possible Roman villa sites recorded approximately 750m and 1km to the southwest. A further Romano-British site is recorded *c.*600m to the west, whilst Saxon and Roman finds are recorded *c.* 500m to the southwest (Figure 2). Anglo-Saxon metal finds are recorded within the same field as Area 2 (Figure 2) and many further Saxon and Roman finds have been retrieved from this field (farmer, *pers. comm.*).

The evidence suggests that late Roman activity in the excavation area included iron smithing and the deposition of relatively large quantities of domestic waste in the form of pottery. The relatively large size of Roman pottery fragments and smithing waste indicate both domestic and industrial activity in the immediate vicinity of the site. Despite the artefactual evidence, the relatively low volumes of botanical remains from the environmental samples are not indicative of occupation within the excavation area, although this could indicate that refuse was discarded slightly away from the area. Early to mid Saxon artefacts and features here seem to represent occupation of this in the close vicinity. Unfortunately, the precise form and function of the excavated Roman and Saxon features in this area was not clear as very few features were exposed in plan across the easement.

The medieval pottery spans the 13th to 15th centuries AD and is notably more abraded than the Saxon pottery from the site. The condition of the Medieval pottery suggests it may have been deposited during manuring and then disturbed by subsequent ploughing as ridge and furrow is present across the area (Appendix 4).

Excavation Area 3

A concentration of late post-medieval ceramic building materials was identified in this area, and it was thought that this signified the location of a production site.

Whilst no clamp or kiln structure in which the ceramics would have been fired was identified in the area, further evidence of production of brick, tile and land drains was revealed. A single large pit was excavated and, although the full extent of this feature was not established, this was probably the quarry pit for the clay used to make the ceramics.

Most of the fills of this pit comprised largely redeposited natural, with little other material being incorporated into these. Most included occasional fragments of ceramic building materials, and some contained coal, limestone fragments and vitrified slagged ceramics, although often the fills could only be distinguished from natural deposits by a handful of inclusions. Three of the fills were of quite a different nature, comprising at least 50% ceramic building material fragments. The pit was probably fairly rapidly backfilled with natural material together with waste from ceramic production.

Typically, clay would be dug in the autumn and left to weather and saturate until spring (Douglas and Oglethorpe 1993, 16; Miller 2003-4, 8). Then it would be dug over with spades, moistened with water and covered with straw. At the beginning of summer the clay would be milled, or prepared for use, and then would be moulded. Tiles would then be dried before firing (*ibid*). It seems possible then, that the large extraction pit was dug in autumn in order to weather clay for use in production, and was backfilled the following summer following a firing, although several episodes of production could be represented at the site.

Given the identification of the quarry pit, it seems likely that a clamp or kiln would have been located in the immediate vicinity of the quarry pit, this also being illustrated by the quantity of production waste in the area of the pit.

A wide range of late post-medieval field drains, tiles and brick was identified, and it seems that the industry focussed on the manufacture of D-profile field drains, curved/tubular field drains, and handmade bricks. The ceramics themselves are difficult to date closely, but the form of some of the land drains provides clues at to their dating. The British tile industry was revolutionised in 1843 after the invention in Kent of cylindrical clay drain pipes (Douglas and Oglethorpe 1993, 16). It is possible that the occurrence of 'C', 'D' and cylindrical types places the Aswarby production around this general period. Additionally, some of the drains were evidently extruded, a mechanised process which replaced the earlier technique of moulding (*ibid*). A piece of copper alloy wire, of 1mm diameter, was retrieved from one of the fills of the pit, and could have been used to cut tiles to length (Douglas and Oglethorpe 1993, 81). However, this wire is relatively thick, and the use of a thinner steel wire is more likely.

A fragment of 19th to 20th century AD bottle glass is the latest datable artefact from the pit, and gives a *terminus post quem* for the infilling of the pit.

An Ordnance Survey map of 1891 was examined, but showed no evidence of the production site.

7. CONCLUSIONS

Archaeological monitoring was undertaken during works on the Harrowby-Aswarby trunk main as the route was close to areas of known archaeological remains spanning the prehistoric to post-medieval periods.

A previously unknown Roman building, probably a villa, of Antonine (mid 2nd century AD) date, was identified and partially excavated near Welby. At least one room of the building had plastered walls painted red and white, whilst tegulae and imbrices indicate that at least part of the building was probably roofed with tiles. Iron nails and a timber dog may be from structural timbers, perhaps part of the roof of the building. Small quantities of box flue tiles indicate a hypocaust in part of the building, although the small quantities of these suggest that this may have been in a further room, beyond the excavated area. In one of the rooms a stone-built hearth was identified which may have been part of a drier or similar feature. The pottery assemblage from the area of the building was indicative of higher status and indicates that the occupants were either Roman or had adopted the Roman way of life. The pottery included an unusually high quantity of national rather than local wares. This is likely to reflect the location of the building within a triangle of known Roman roads, Ermine Street, Salter's Way

and Long Hollow. A trackway to the south of the site forms a continuous line with part of the conjectured route of the Salter's Way, and it is possible that this could indicate that the route of the trackway is of some antiquity. Artefacts retrieved from the area include a coin, bone pin, vessel glass, copper toilet spoon, a loom weight, a possible fragment of a lamp chimney and a furniture fitting. The remains of the building had been truncated by ploughing, and in several places the walls had been robbed of stone.

A concentration of 3rd to 4th century AD Roman remains was identified to the northwest of Osbournby, suggesting both occupation and iron smithing in the immediate vicinity. These remains were in an area of previously recorded Roman and Saxon finds. Only small quantities of residual prehistoric and earlier Roman material were retrieved from this area. Much of the later Roman material was redeposited in early to middle Saxon features. An external metalled surface of probable late Roman date was identified, although it was not clear if this formed a track or road or a yard surface. Early to middle Saxon features also appeared to represent occupation in the immediate vicinity of the site. Fragmentary human remains were redeposited in Saxon and Roman or later contexts, possibly originating from isolated Roman burials. A continuation of the watching brief following the excavation revealed that similar remains extended further across the same field, and also across much of the adjacent field. A post-medieval possible ditch was also identified in addition to medieval to post-medieval ridge and furrow.

A concentration of late post-medieval ceramic building materials and vitrified slaggy ceramics was revealed to the north of Osbournby, a surface scatter of this material having been identified during previous investigations in the area. A large clay extraction pit was partially excavated, and the occurrence of this, in association with a large quantity of ceramics, indicated a production site in the immediate vicinity. A sherd of 19th to 20th century AD glass provided a *terminus post quem* for the infilling of the clay extraction pit, whilst the land drain assemblage from the area could indicate production in around the 1840s.

8. ACKNOWLEDGEMENTS

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9. PERSONNEL

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11. ABBREVIATIONS

APS	Archaeological Project Services
HER	Historic Environment Record
IFA	Institute of Field Archaeologists
OD	Ordnance Datum (Height above sea level)

Figure 1 General Location Plan

0 2km

Scale 1:40000

N

SK TF

Western section

Eastern section

Ermine Street

Long Hollow

Salter's Way

Salter's Way

Long Hollow

Salter's Way

Western section

N

Rare burnt stone, 1-2 possible worked flints

Possible worked flint

Possible worked flint

35273 Possible prehistoric settlement

34919 Flint arrowhead

36382 Prehistoric cropmark ditch

Rare-occasional burnt stone

30587 Toll house

30069 Site of Cistercian Grange (SM 53 Scheduled area of Grange)

Possible worked flint

0 1km

Scale 1:20000

Eastern section

N

0 1km

Scale 1:20000

Tile fragment retrieved, possibly Roman

Geophysical survey results dominated by existing pipeline

Occasional Roman pottery and slag in west half of field - sherd of 2nd-3rd century Romano-British greyware and sherd of 15th-17th century pottery retrieved

Very abundant late post-medieval ceramic building material in middle of field with possible underfired ceramic building material and occasional slag

60115 Anglo Saxon Metal finds

60118 Romano-British site

62699 Prehistoric cropmark enclosures

60837 Saxon and Roman finds

62698 Prehistoric cropmark trackway

Occasional Roman pottery in east half of field

60835 Linear feature

60445 Deserted Medieval settlement

60359 Possible villa site

60836 Possible Roman Villa site

Area of geophysical survey indicating linear features and possible pits

Very rare medieval and early post-medieval pottery

62715 Prehistoric cropmark enclosures

62696 Prehistoric cropmark enclosure

62694 Prehistoric trackway

Roughly rectangular parchmark about 15m x 15m to south of pipeline route

Key

Approximate location of new trunk main

Known archaeological sites

Archaeological remains identified in walk-over survey (WOP05), fieldwalking and geophysics (HAP05)

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Figure 2 Site location plan showing route of trunk main and known archaeological remains

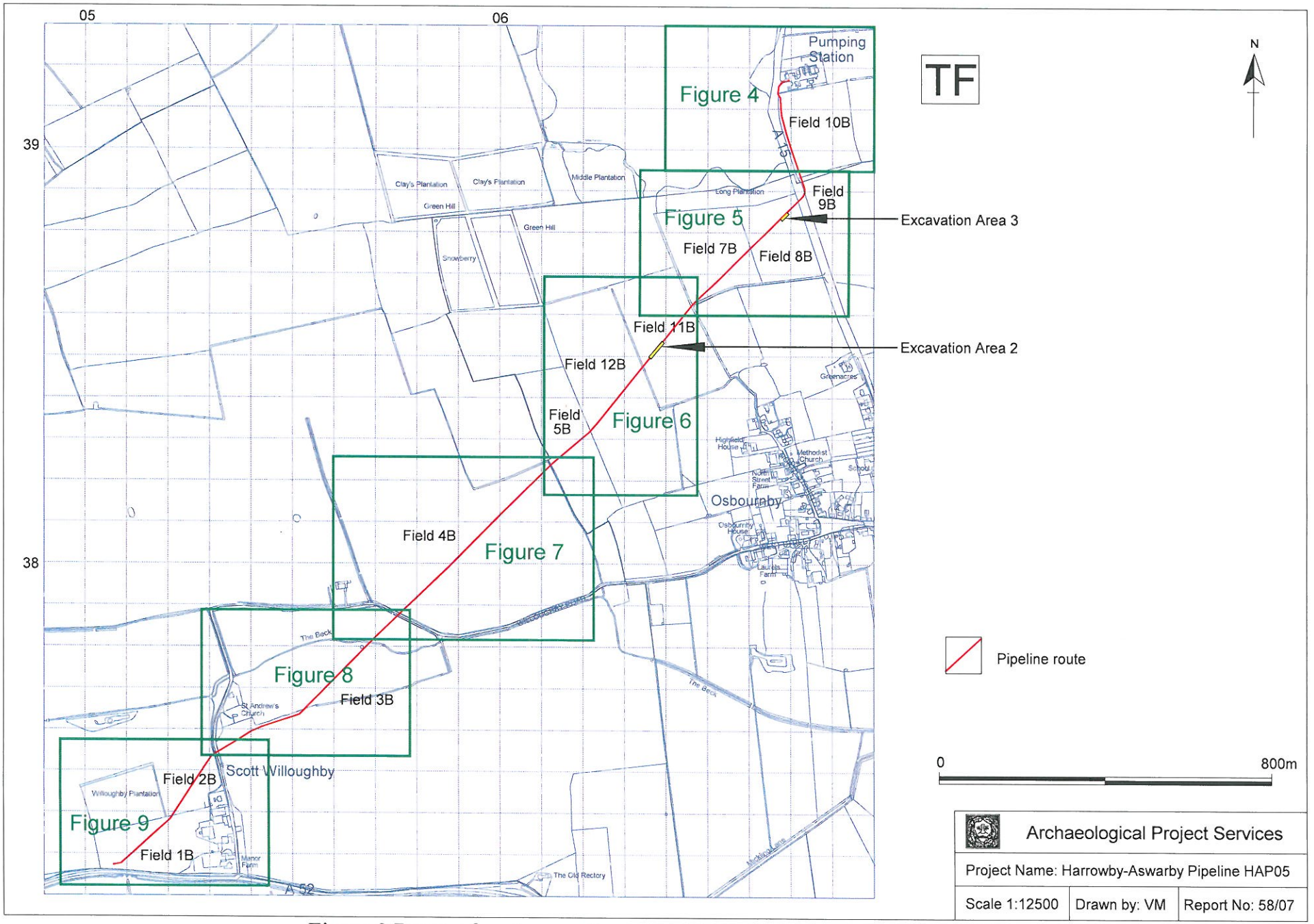


Figure 3 Route of eastern section of pipe trench and key to location of Figures 4-9

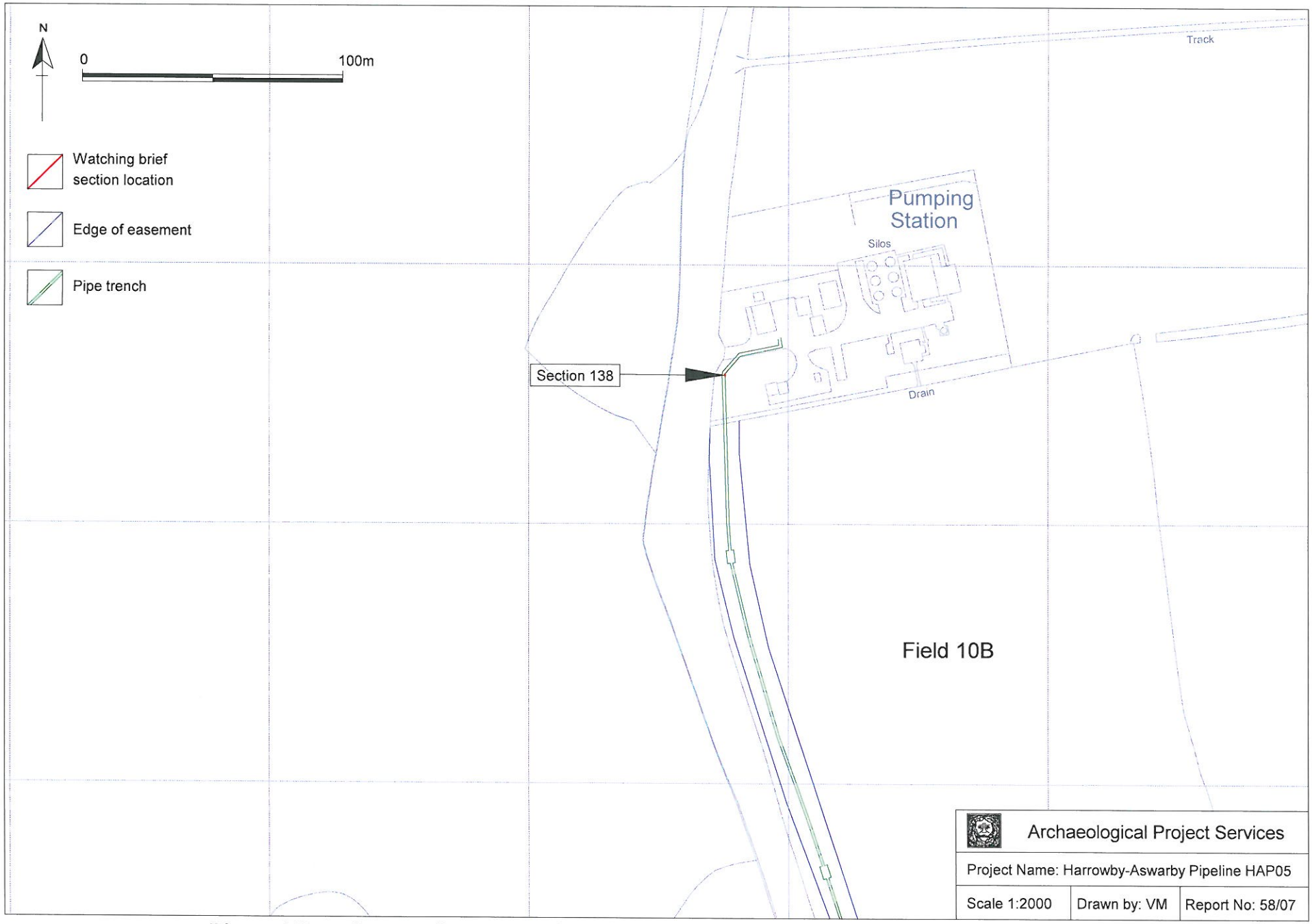


Figure 4 Part of route of eastern section of pipe route showing section locations (Field 10B)

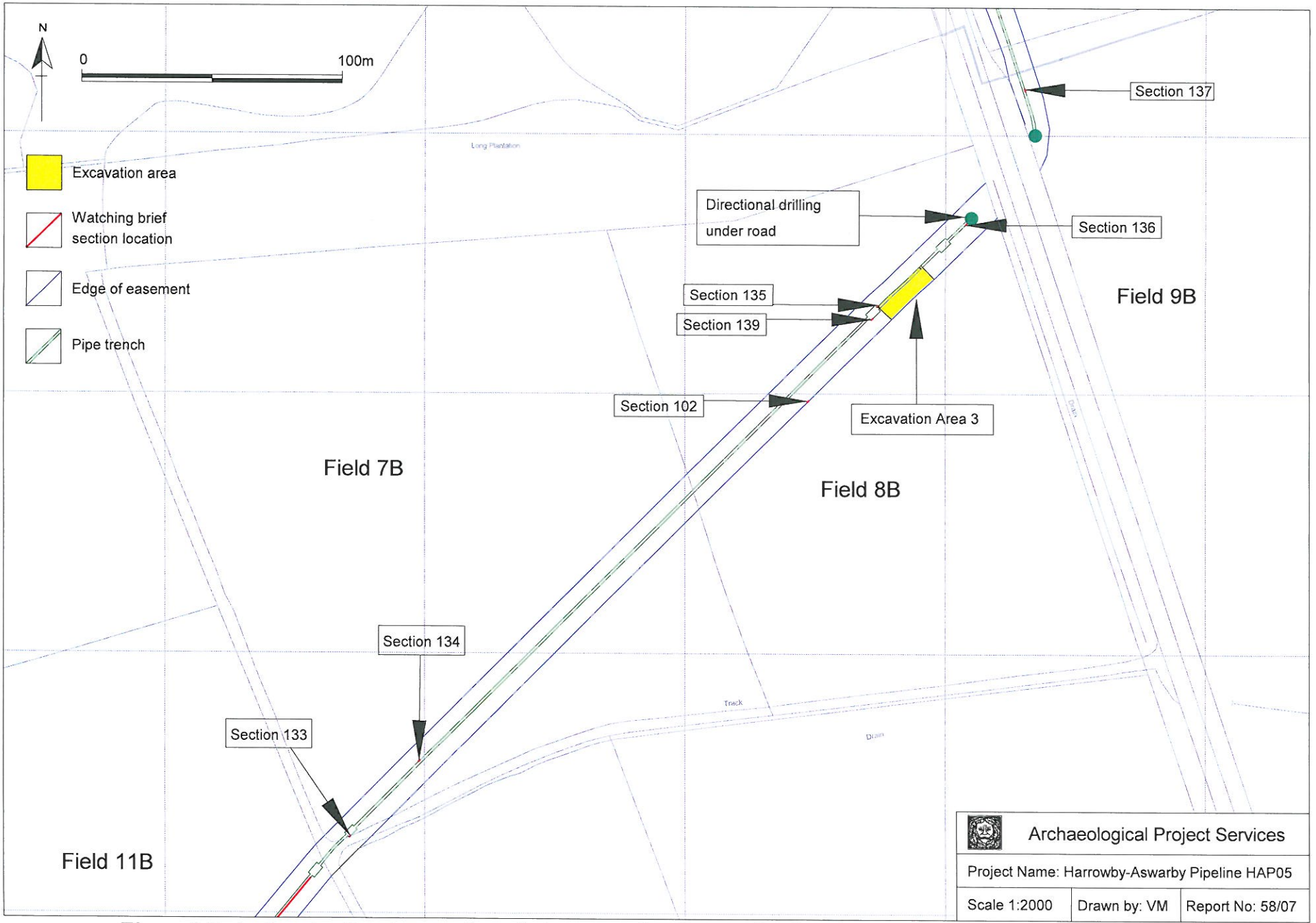


Figure 5 Part of route of eastern section of pipe route showing section locations and excavation area (Fields 7B-9B)

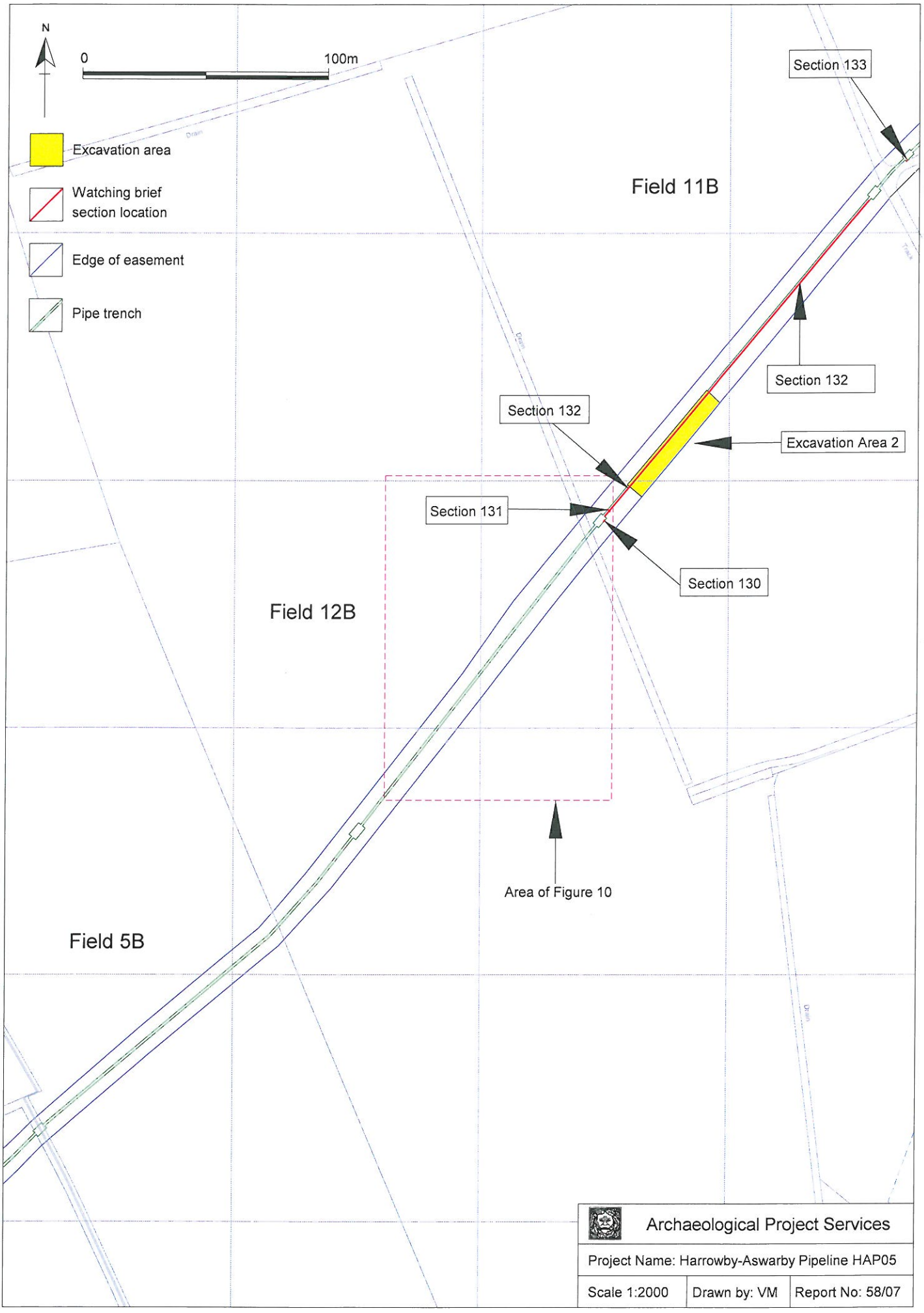


Figure 6 Part of route of eastern section of pipe route showing section locations and excavation area (Fields 5B, 11B & 12B)

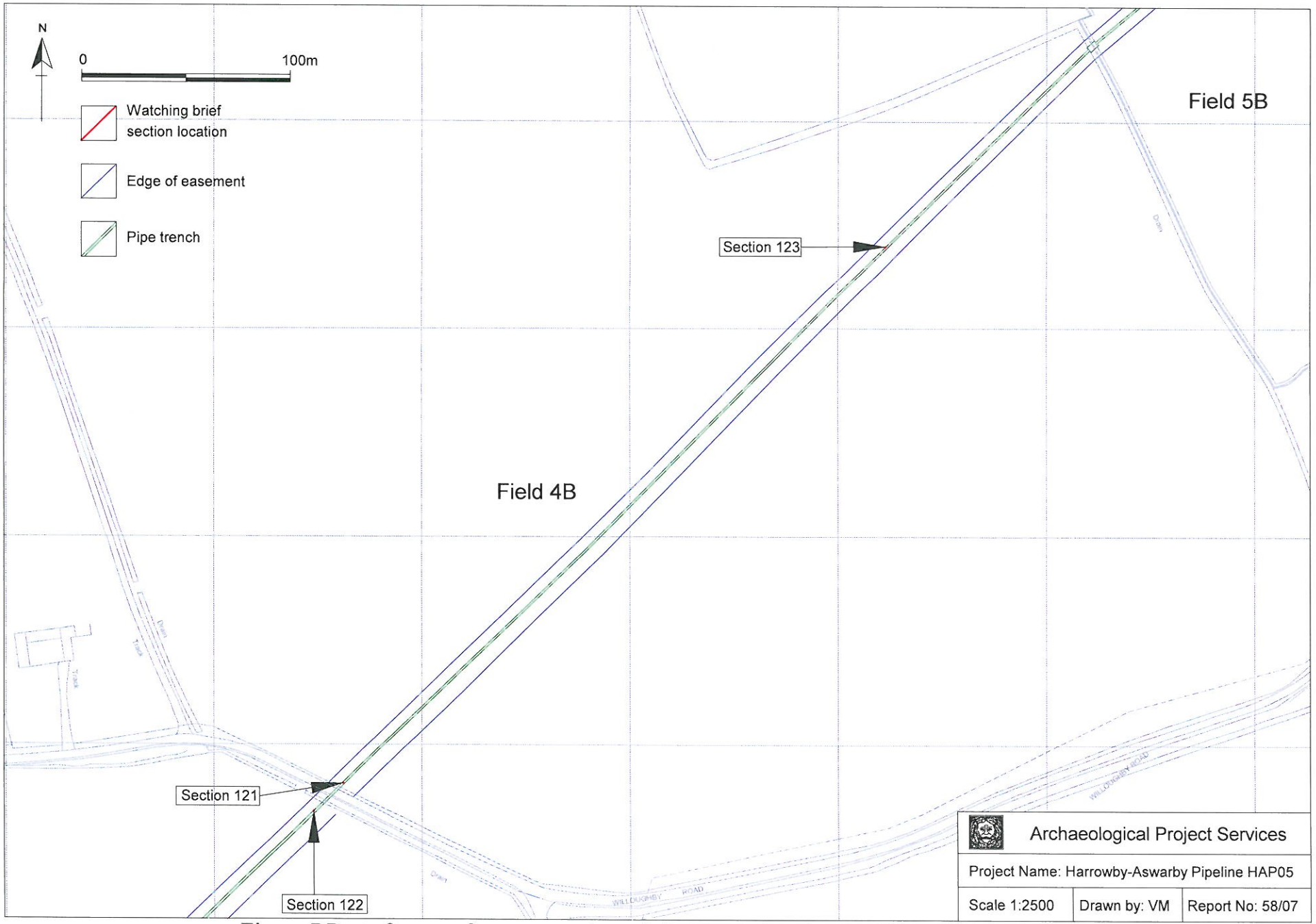


Figure 7 Part of route of eastern section of pipe route showing section locations (Field 4B)

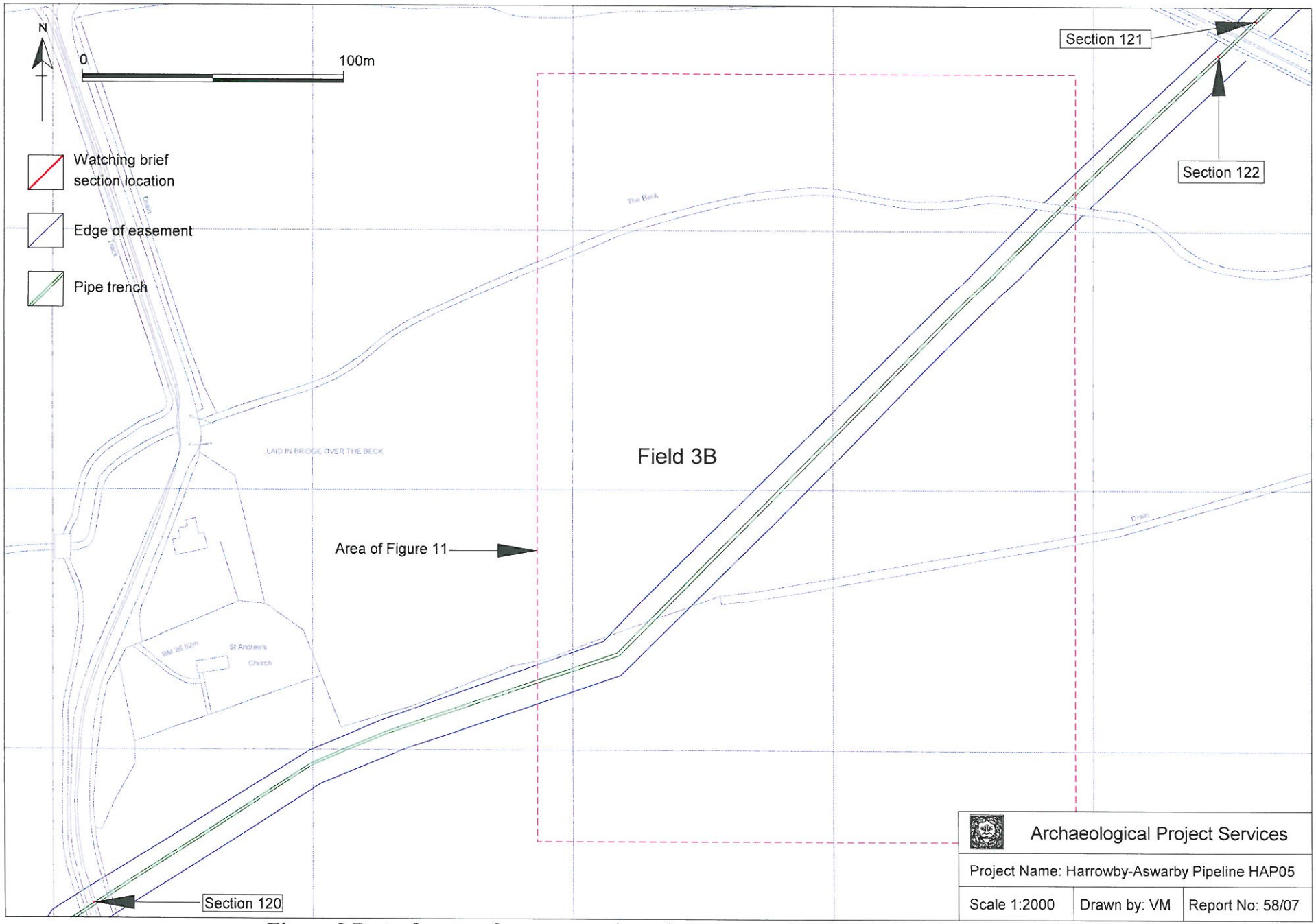


Figure 8 Part of route of eastern section of pipe route showing section locations (Field 3B)

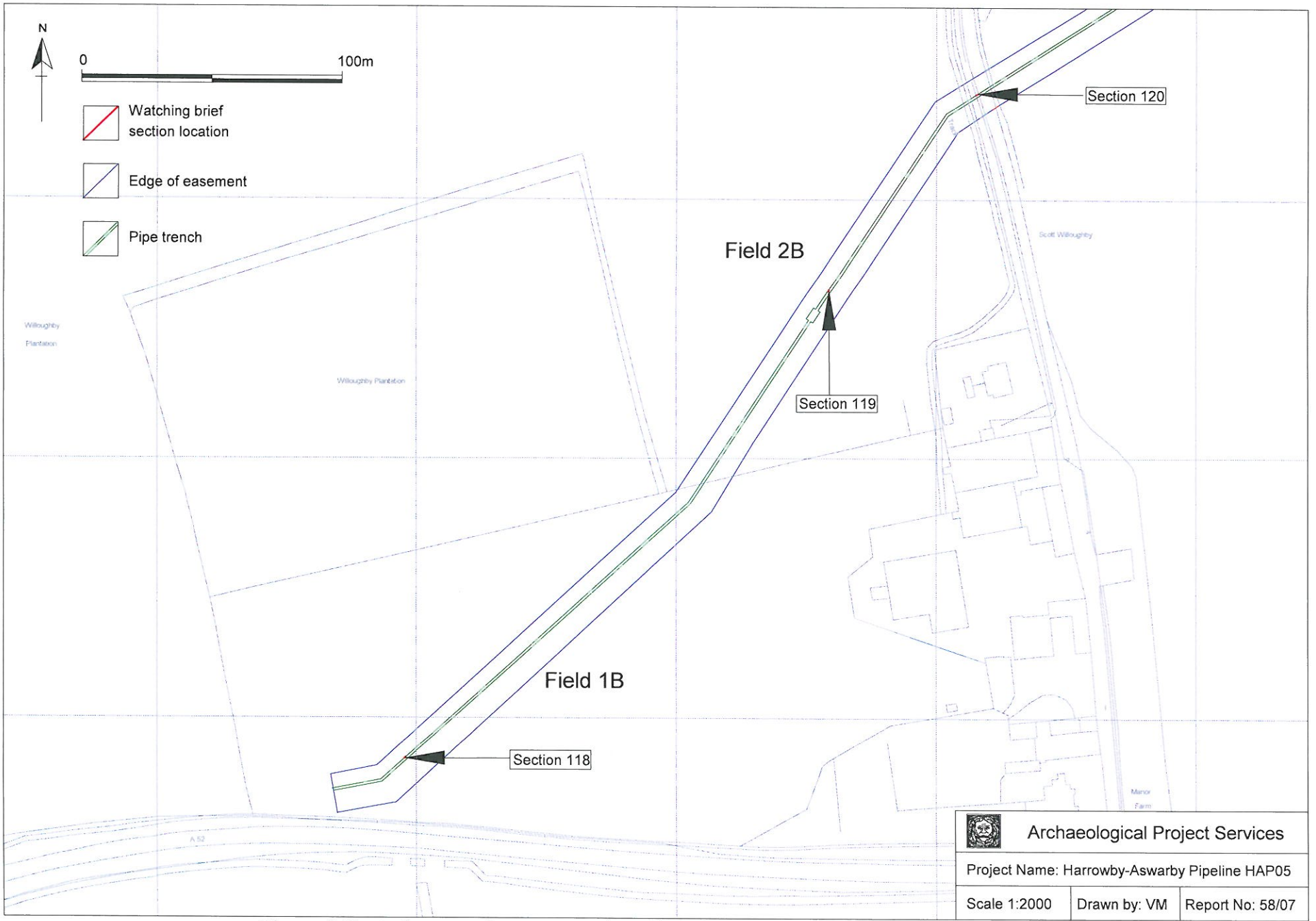


Figure 9 Part of route of eastern section of pipe route showing section locations (Fields 1B & 2B)

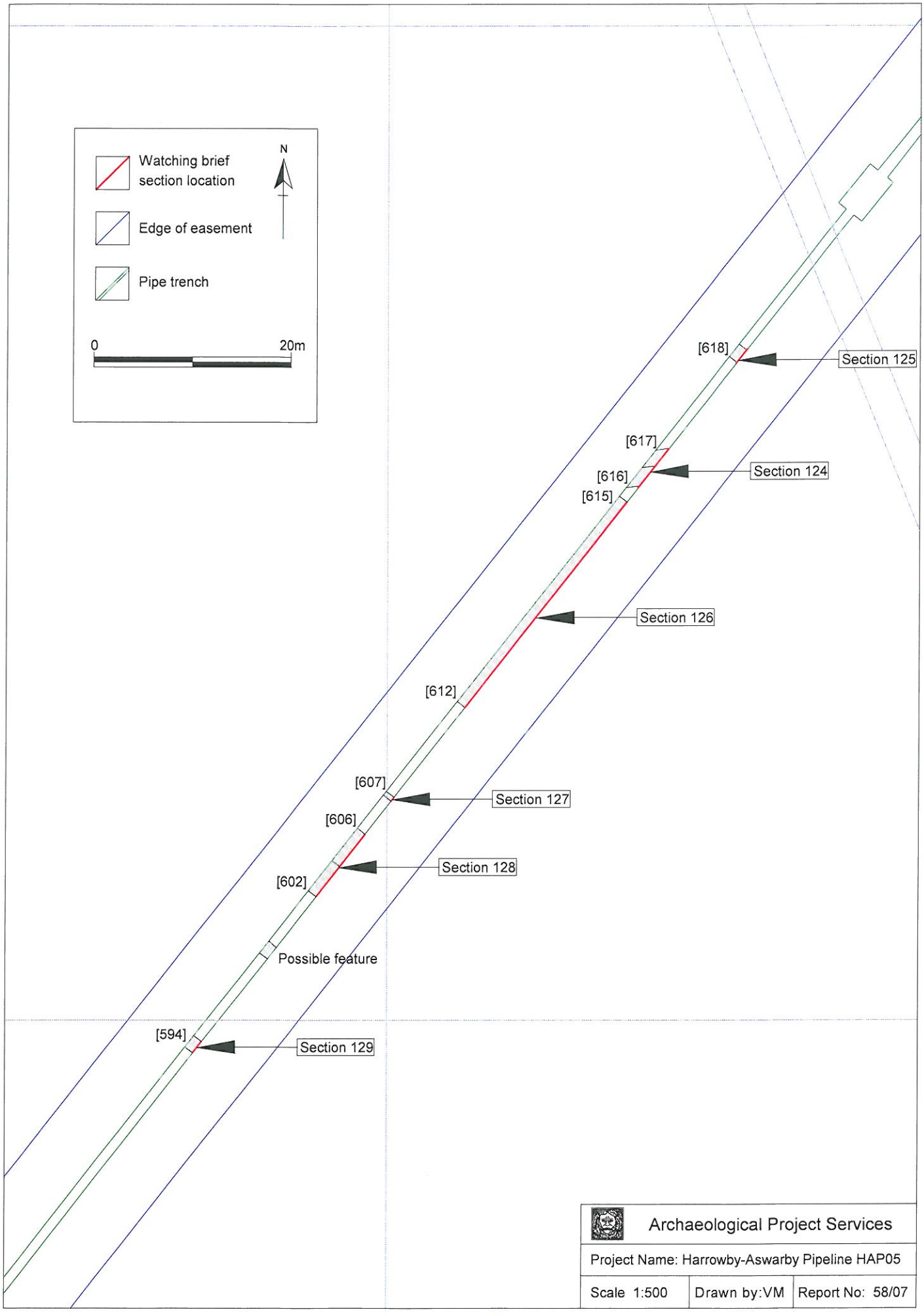


Figure 10 Location of features and sections recorded during Watching Brief, Field 12B

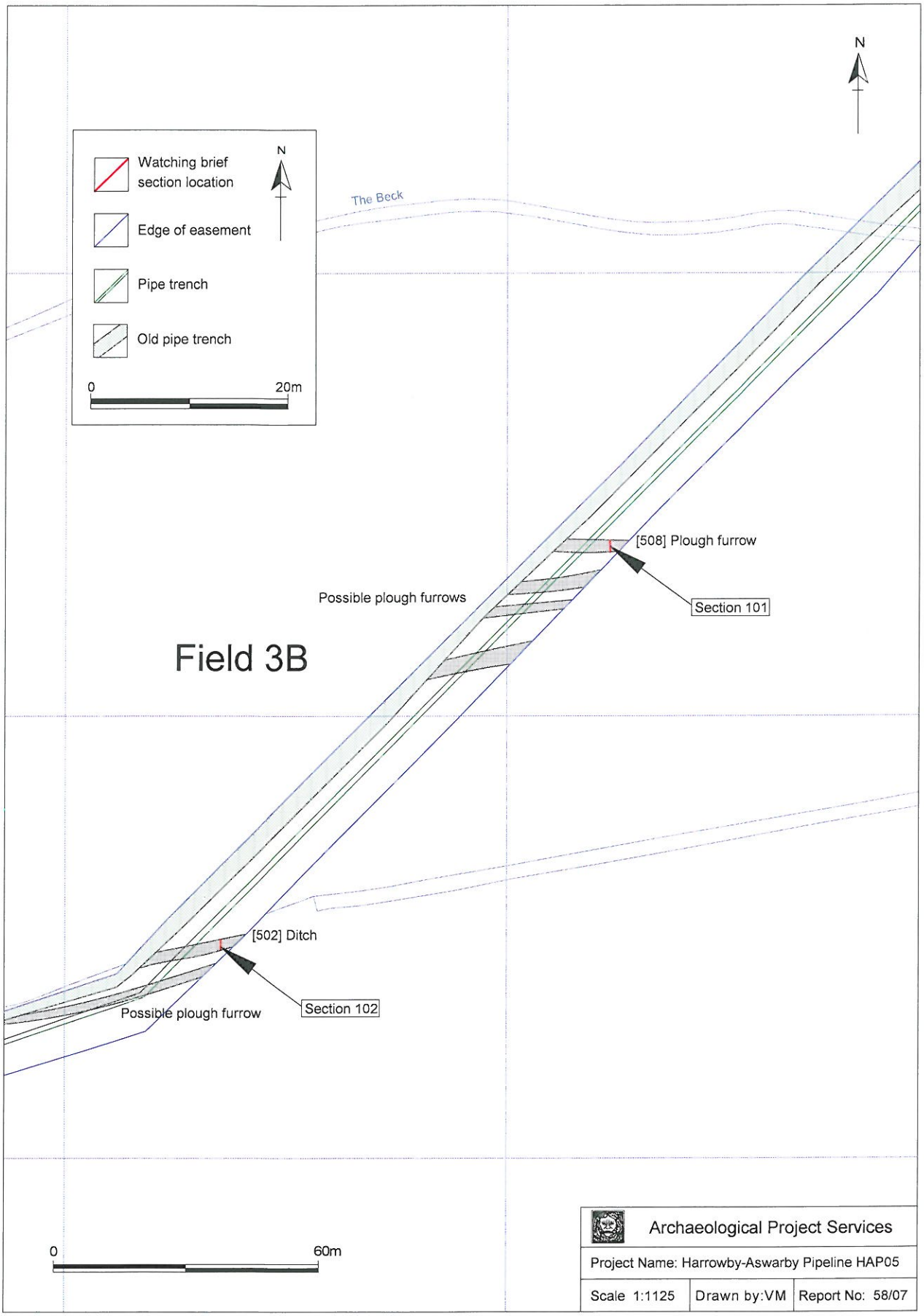


Figure 11 Plan of Field 3B showing arcaheological features and section locations

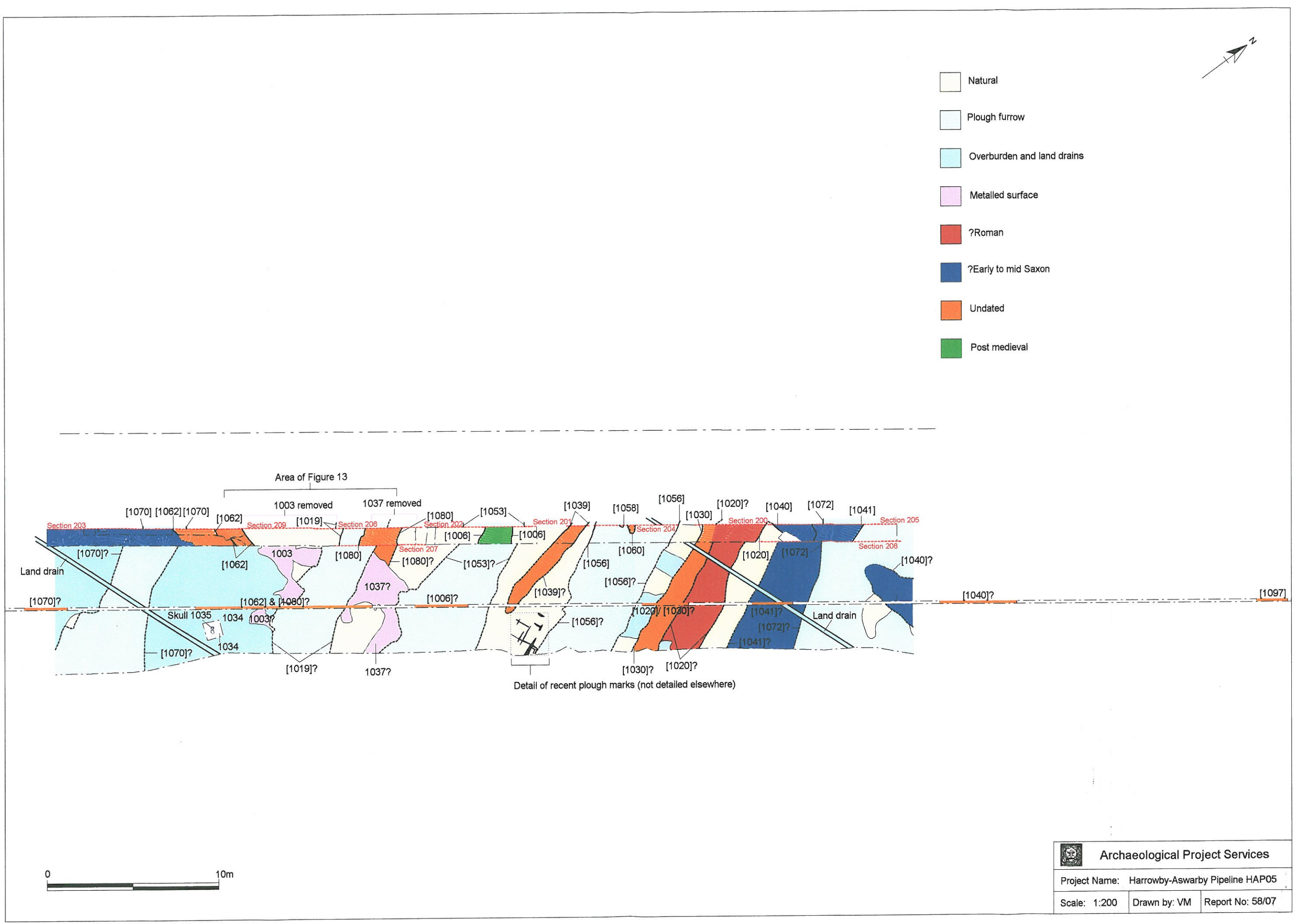
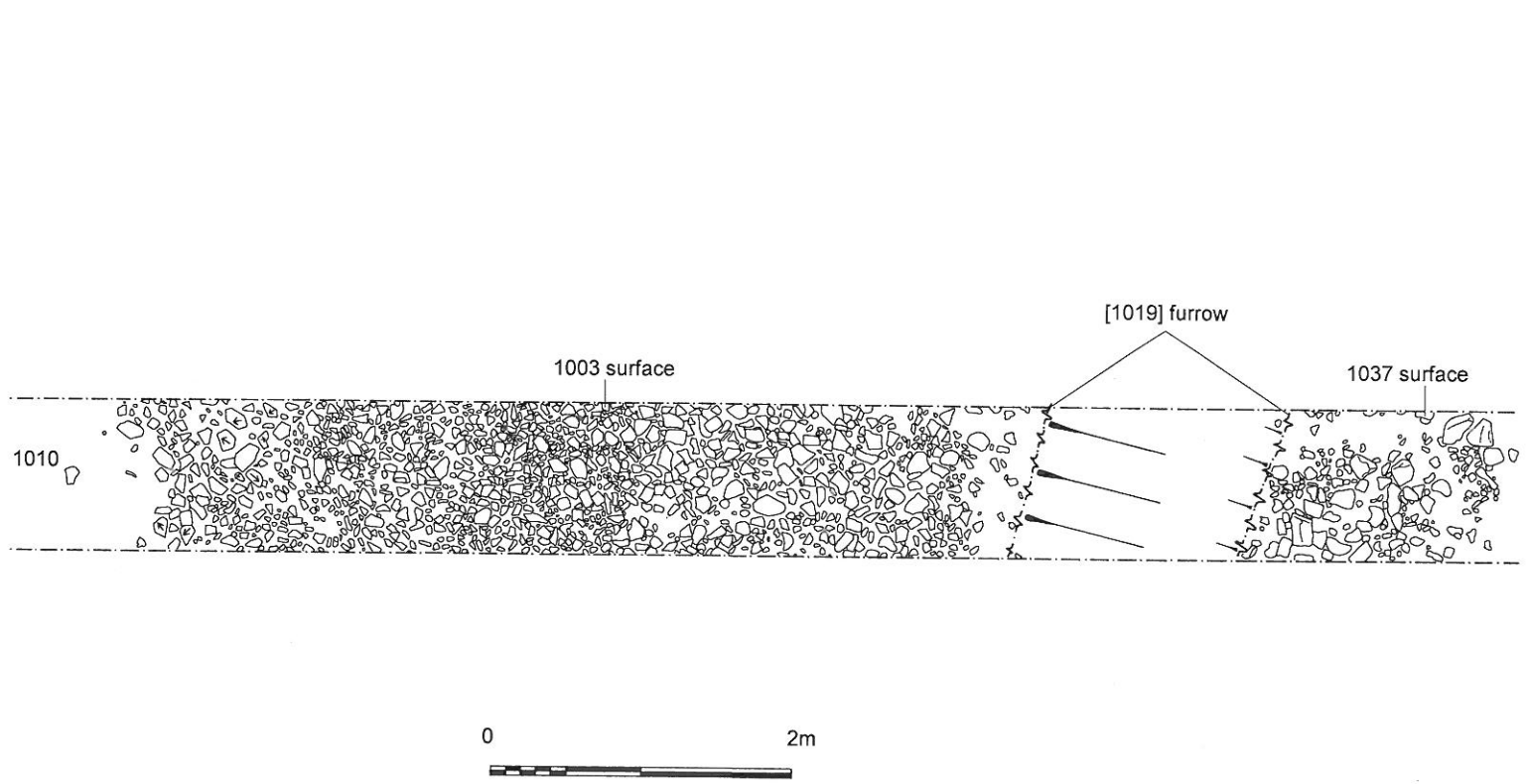


Figure 12 Plan of Excavation Area 2



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Scale 1:50	Drawn by: DH	Report No: 58/07

Figure 13 Plan of metalled surfaces (1003) and (1037) in Excavation Area 2

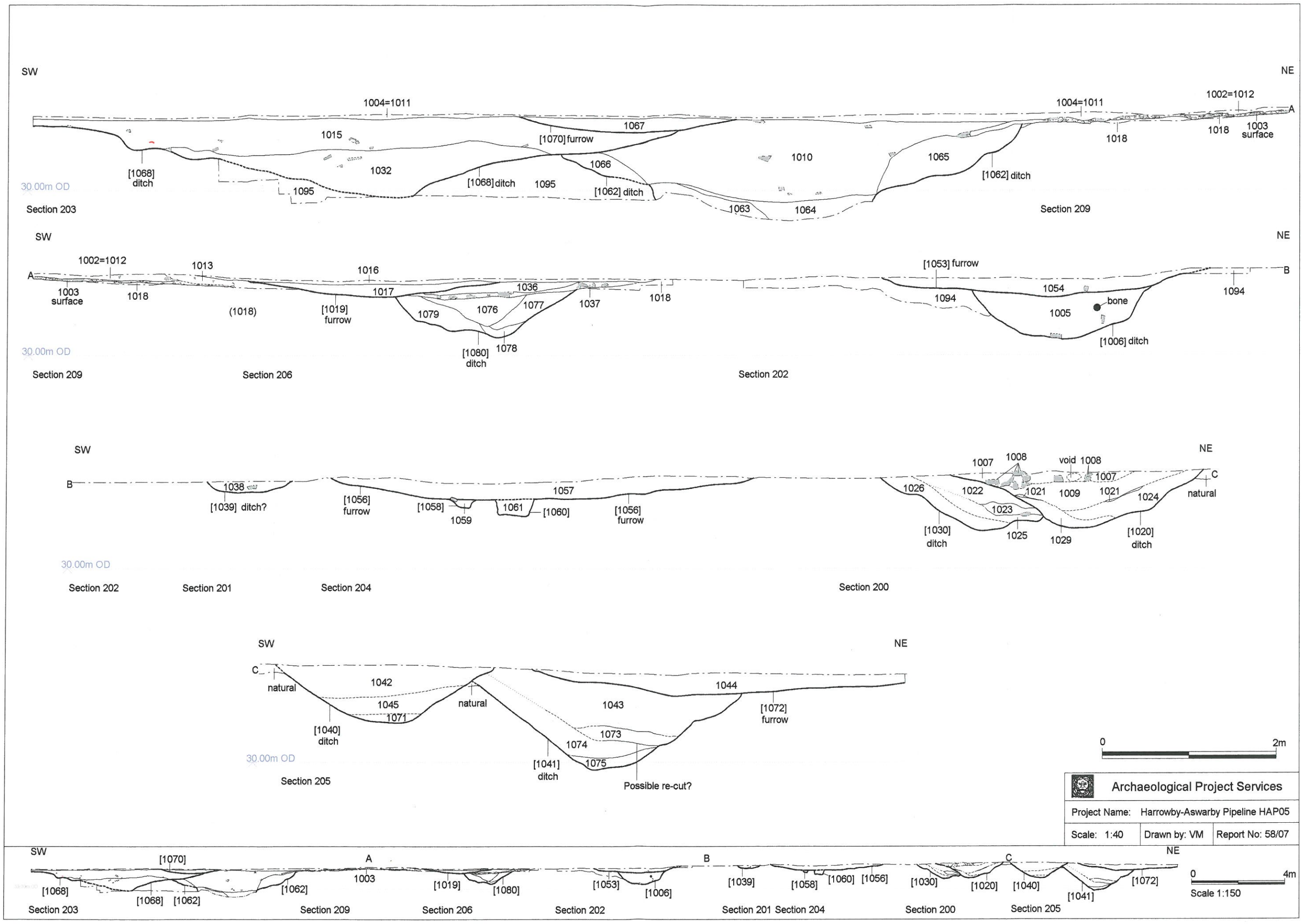


Figure 14 Section along excavated portion of pipe trench in Excavation Area 2, Sections 200-206 & 209

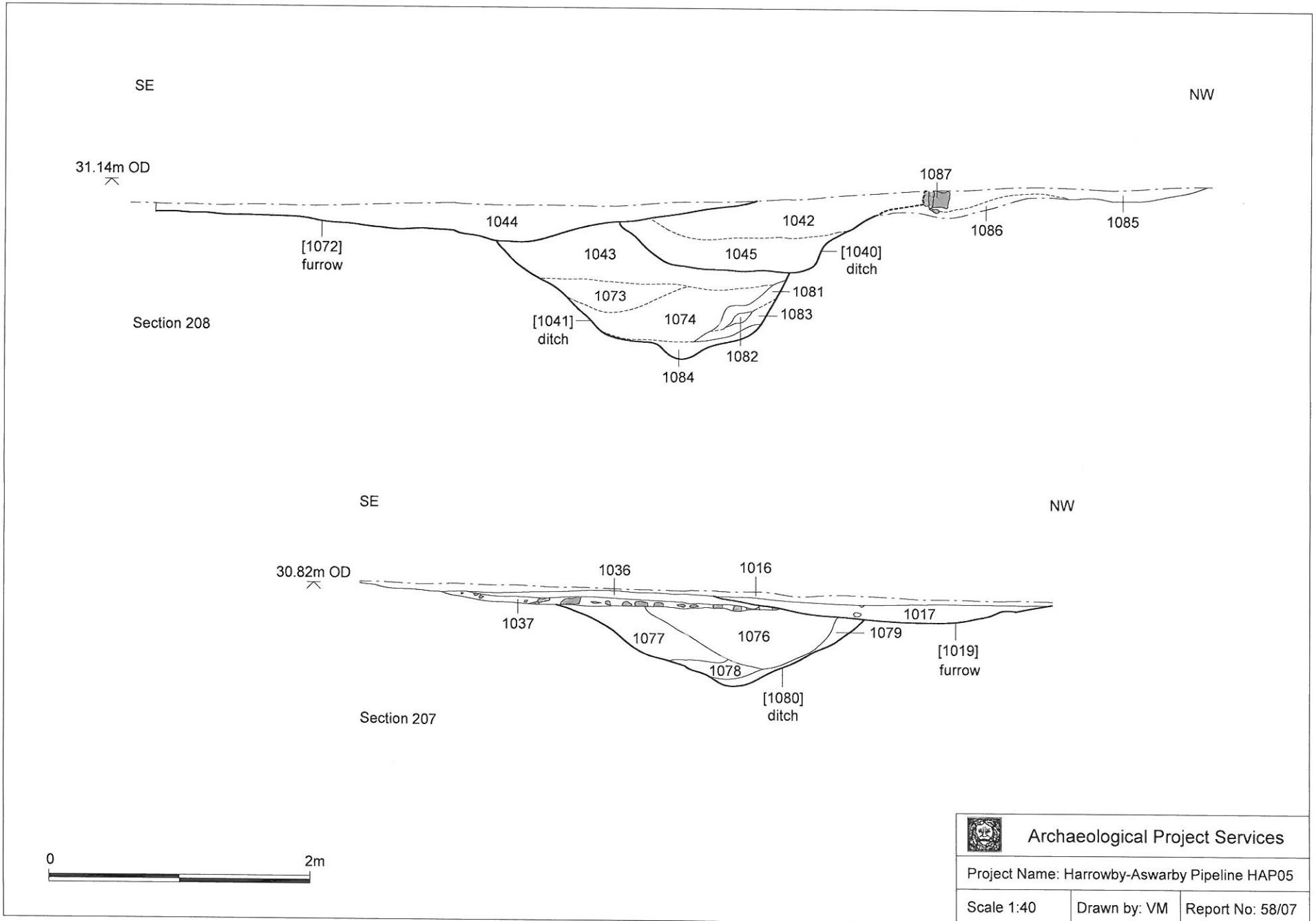


Figure 15 Sections 207 & 208, Excavation Area 2

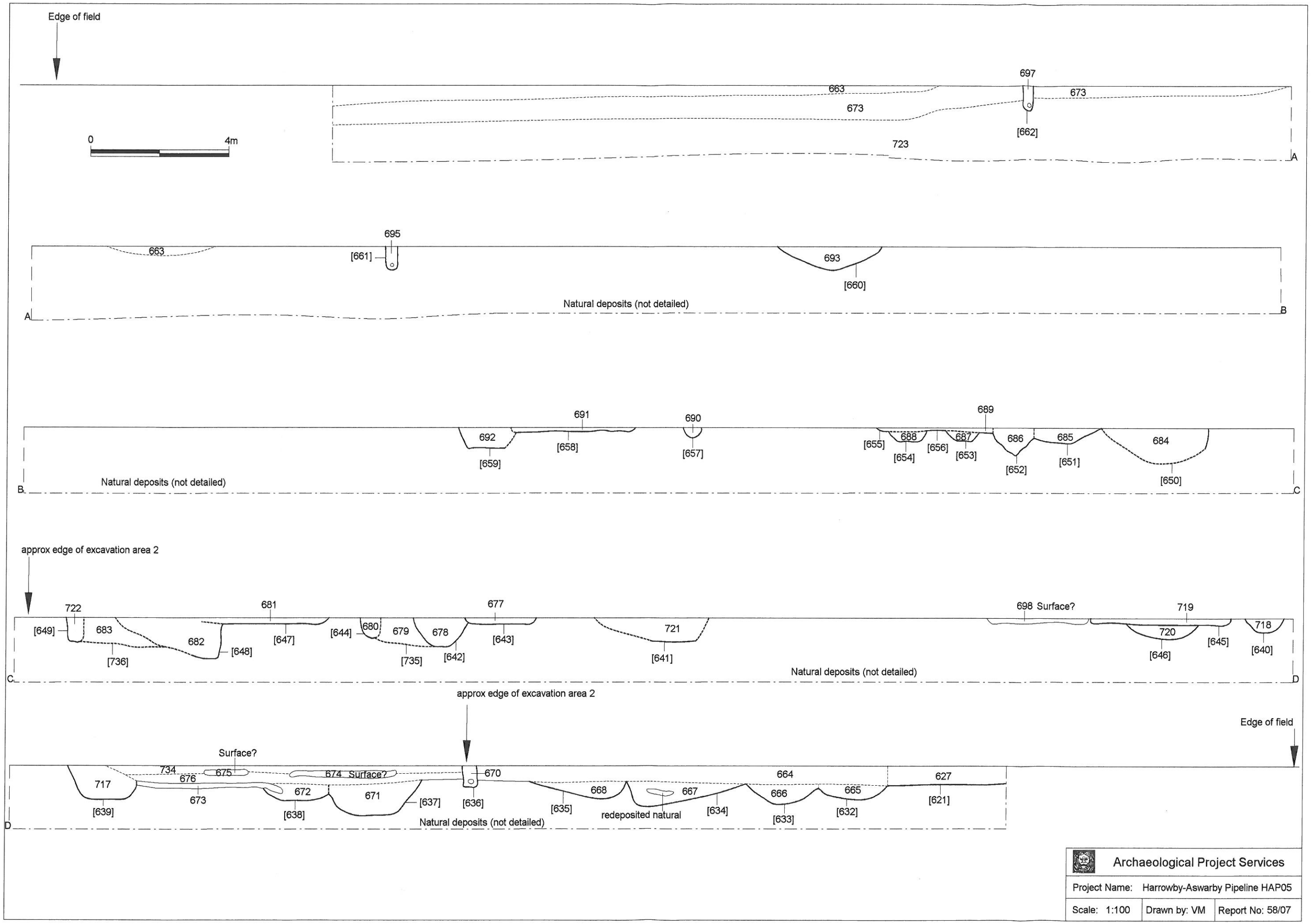


Figure 16 Watching brief long section (surface profile of field not indicated) of pipe trench across Excavation Area 2, Section 132

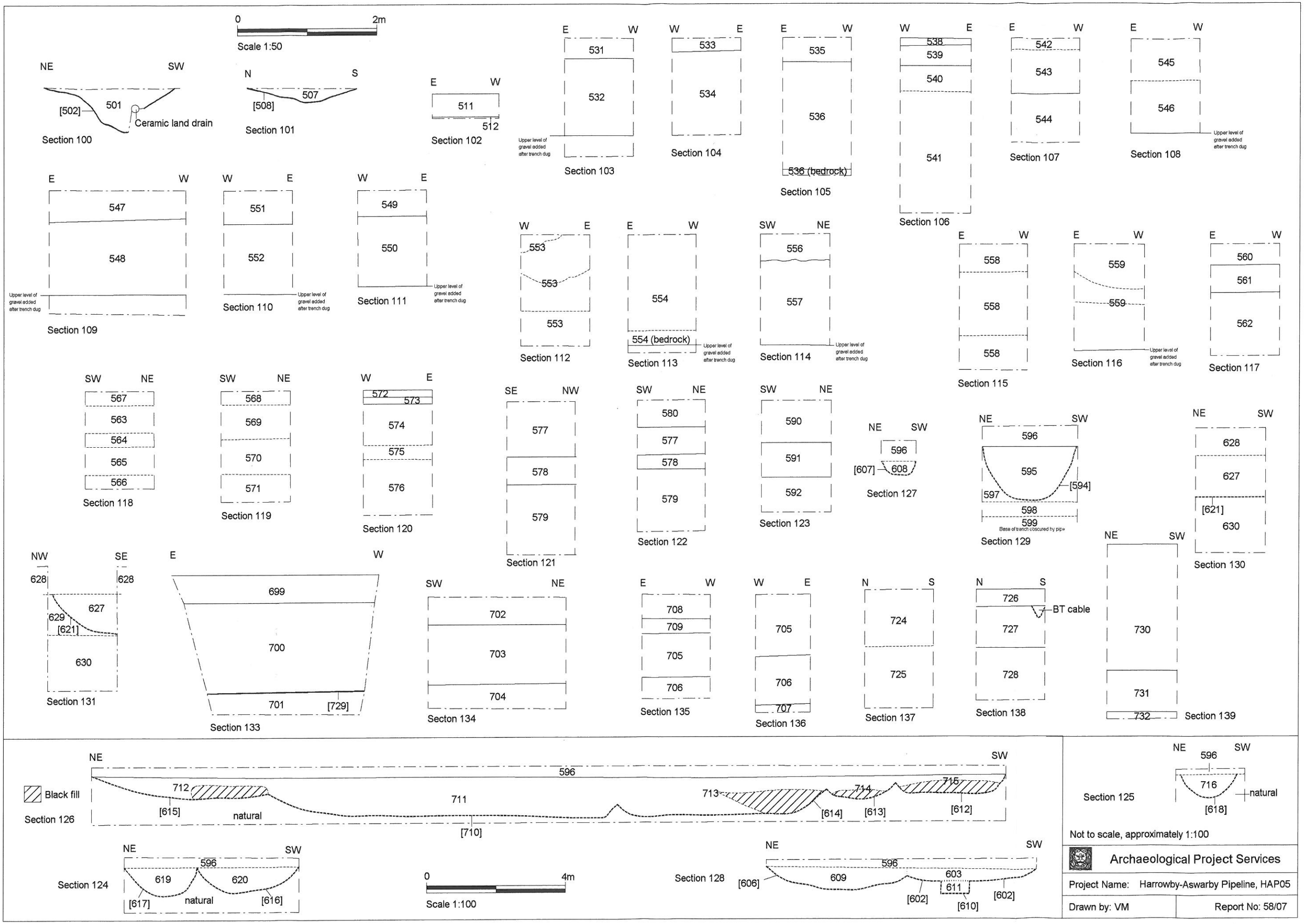


Figure 17 Watching Brief Sections 100-131 and 133-139

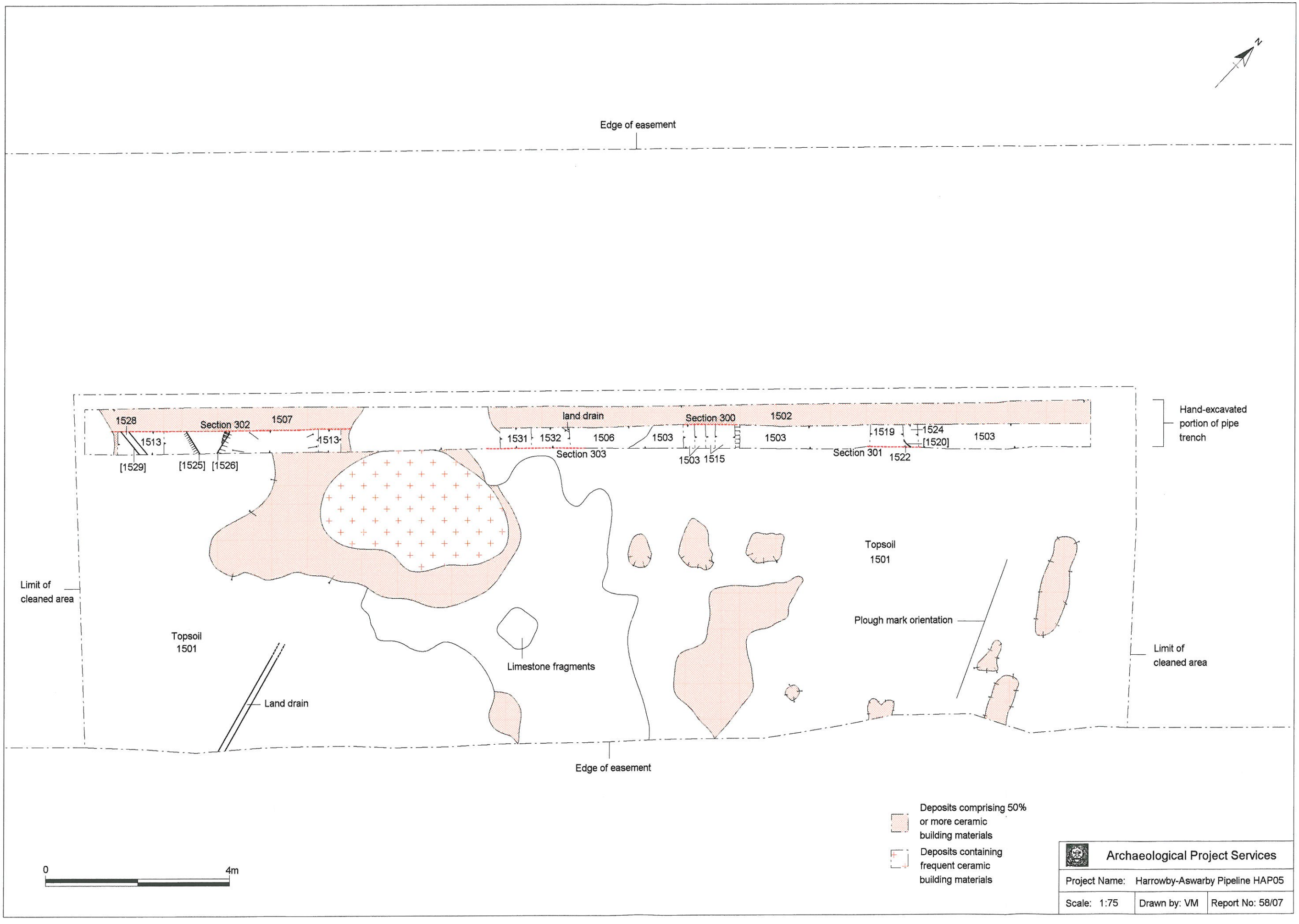


Figure 18 Plan of Excavation Area 3

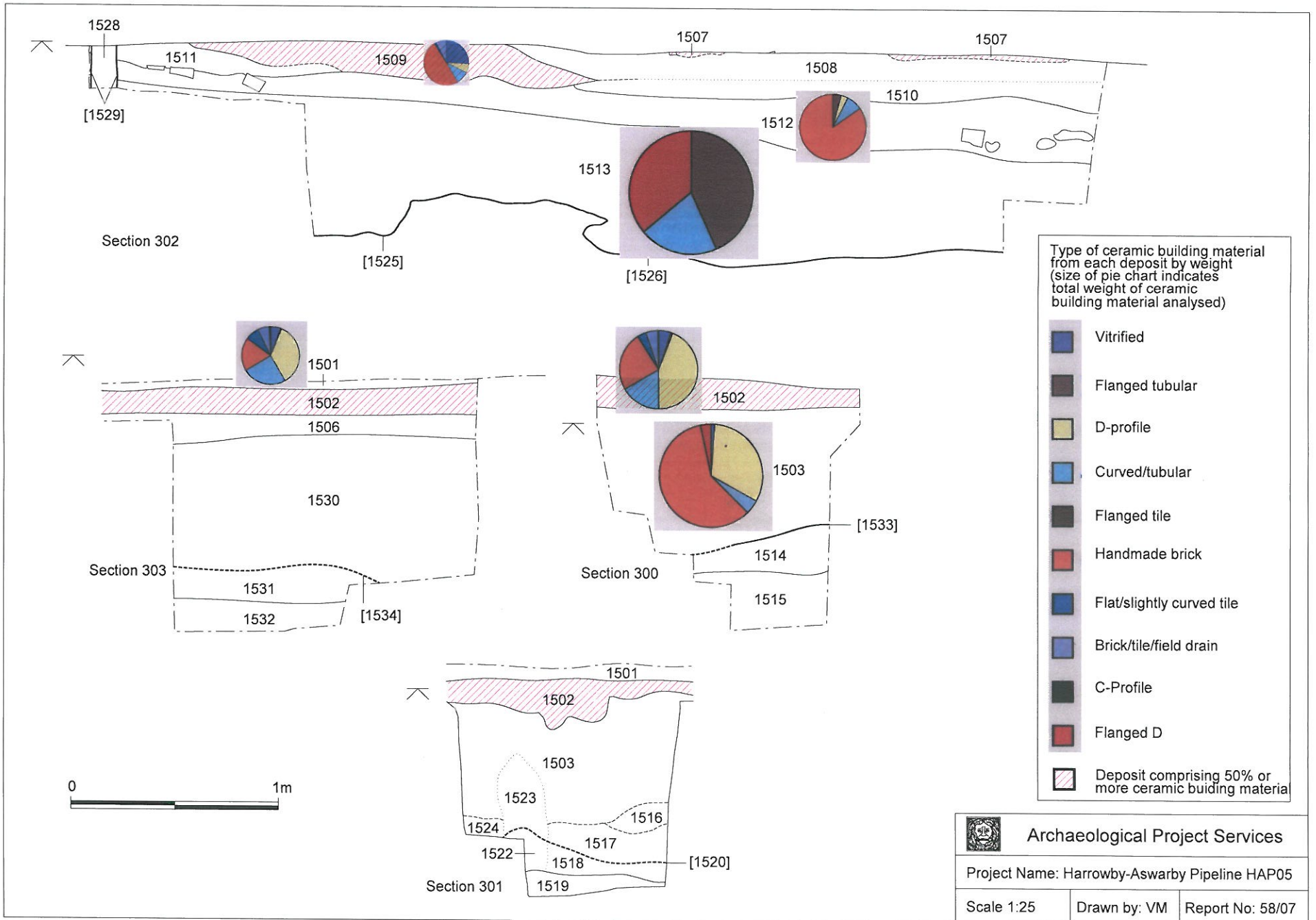


Figure 19 Excavation Area 3, Sections 300-303

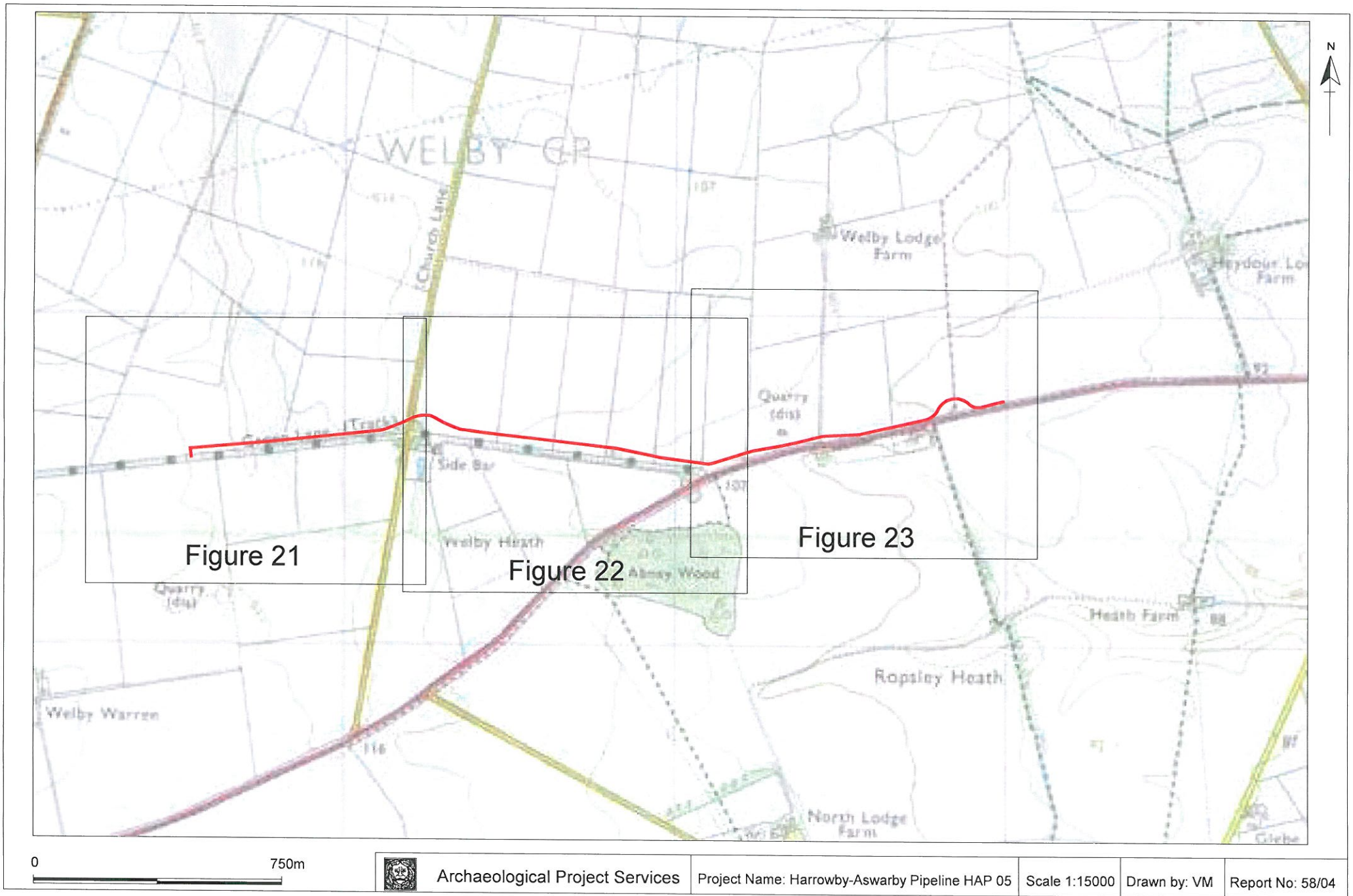


Figure 20 Route of western section of pipe trench and key to location of Figures 21-23

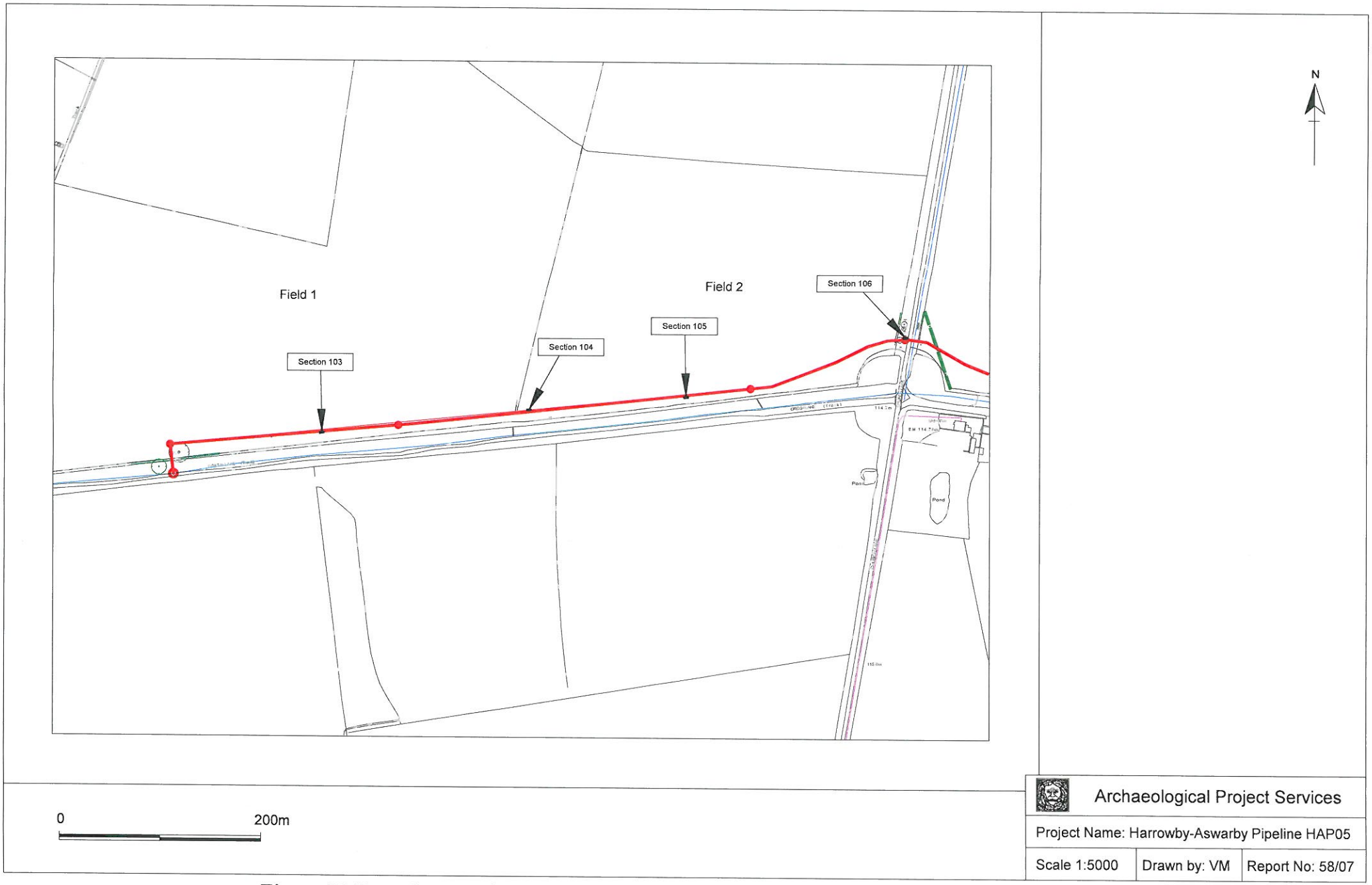


Figure 21 Part of route of western section of pipe route showing section locations (Fields 1-2)

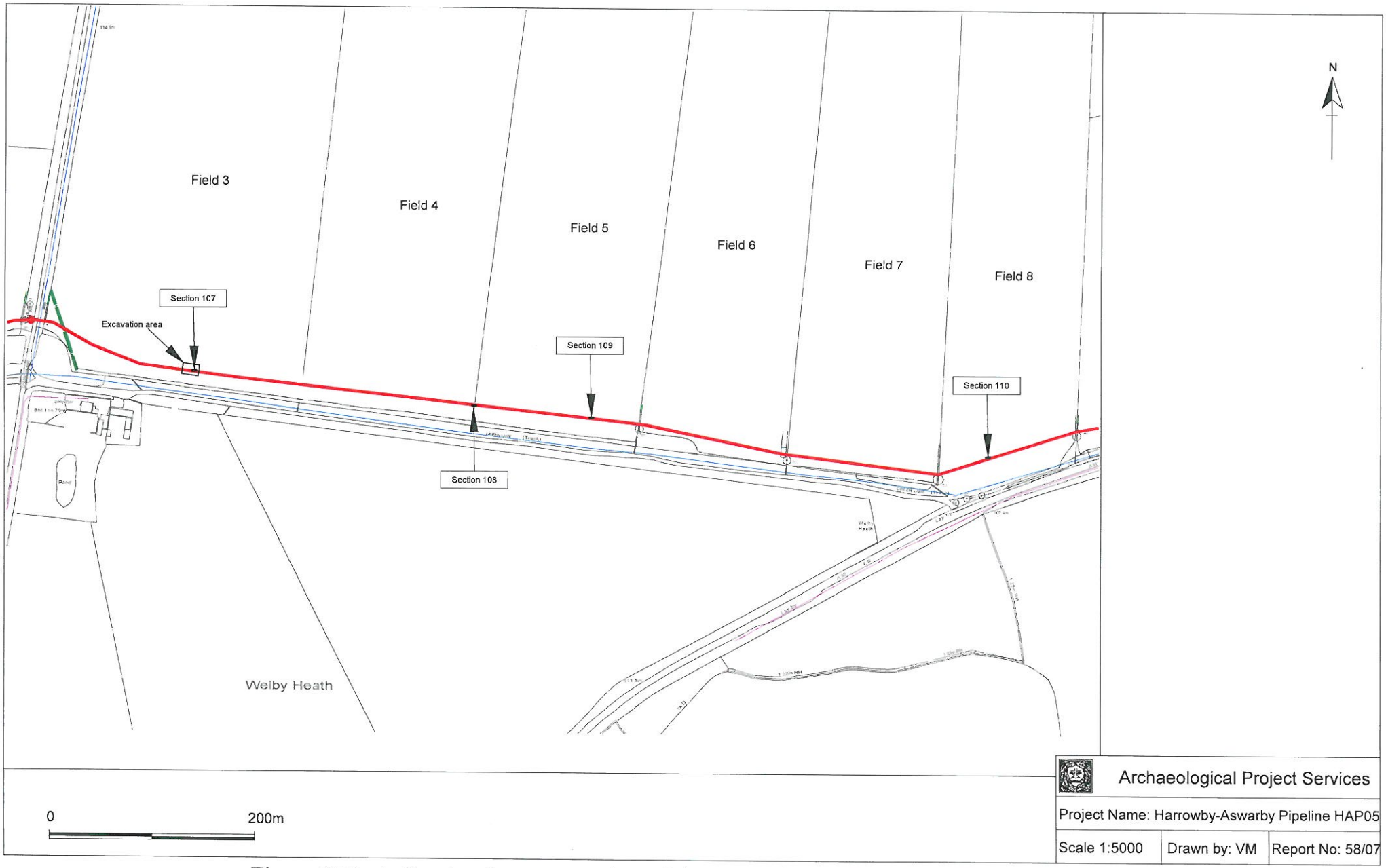


Figure 22 Part of route of western section of pipe route showing section locations (Fields 3-8)

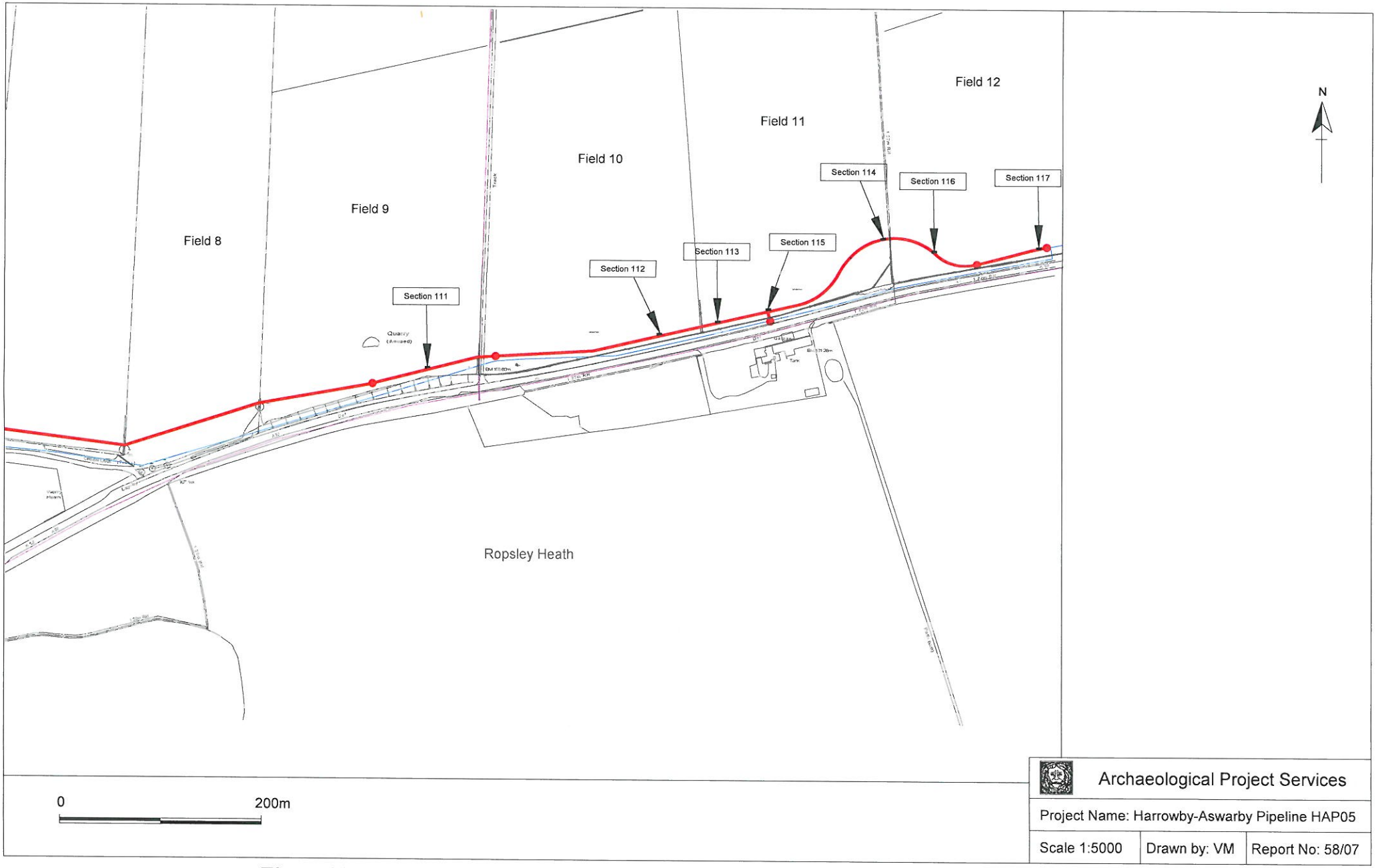
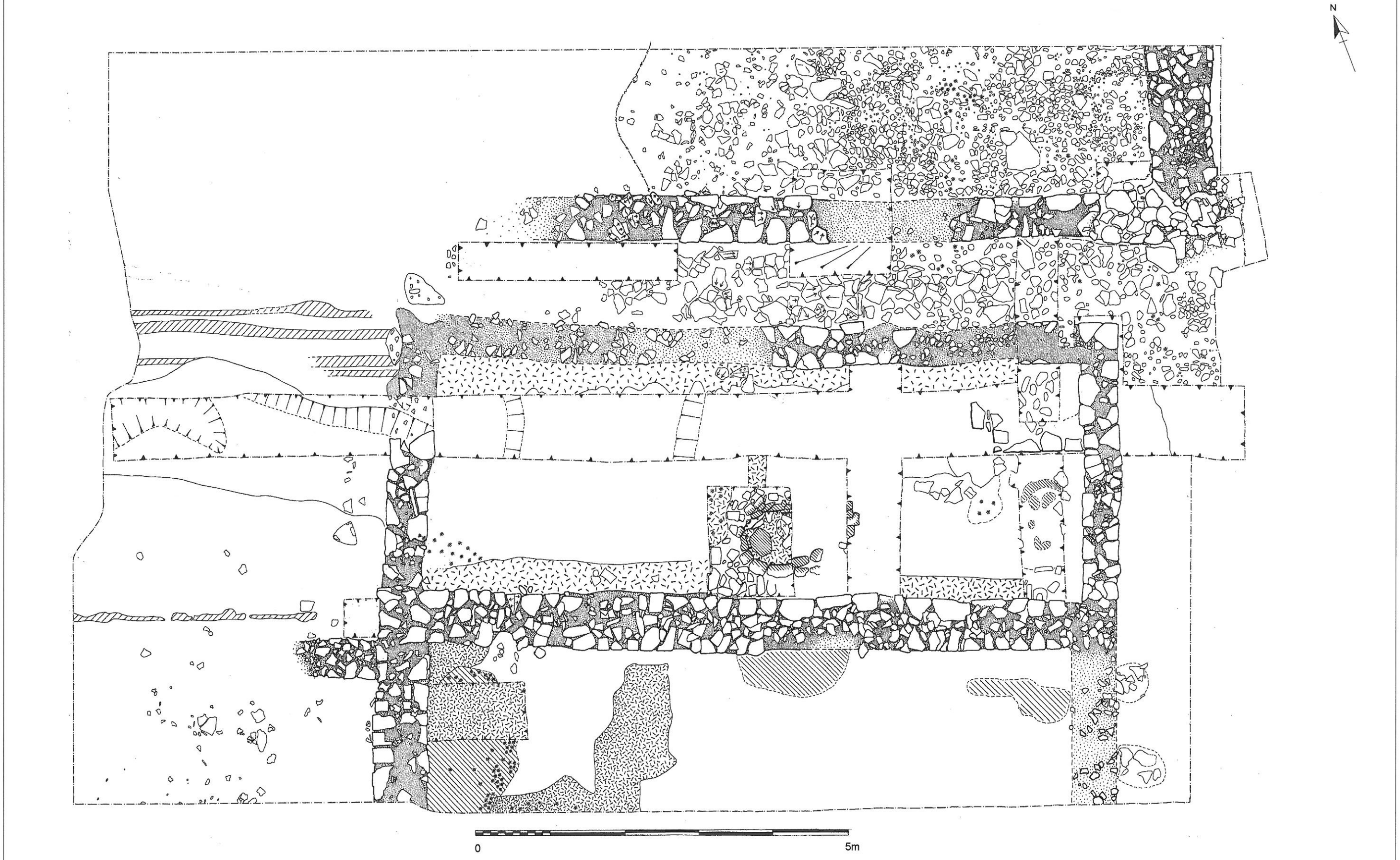


Figure 23 Part of route of western section of pipe route showing section locations (Fields 9-12)



Archaeological Project Services		
Project Name: Harrowby-Aswarby Pipeline HAP05		
Scale: 1:50	Drawn by: DH	Report No: 58/07

Figure 24 Plan of Excavation Area 1

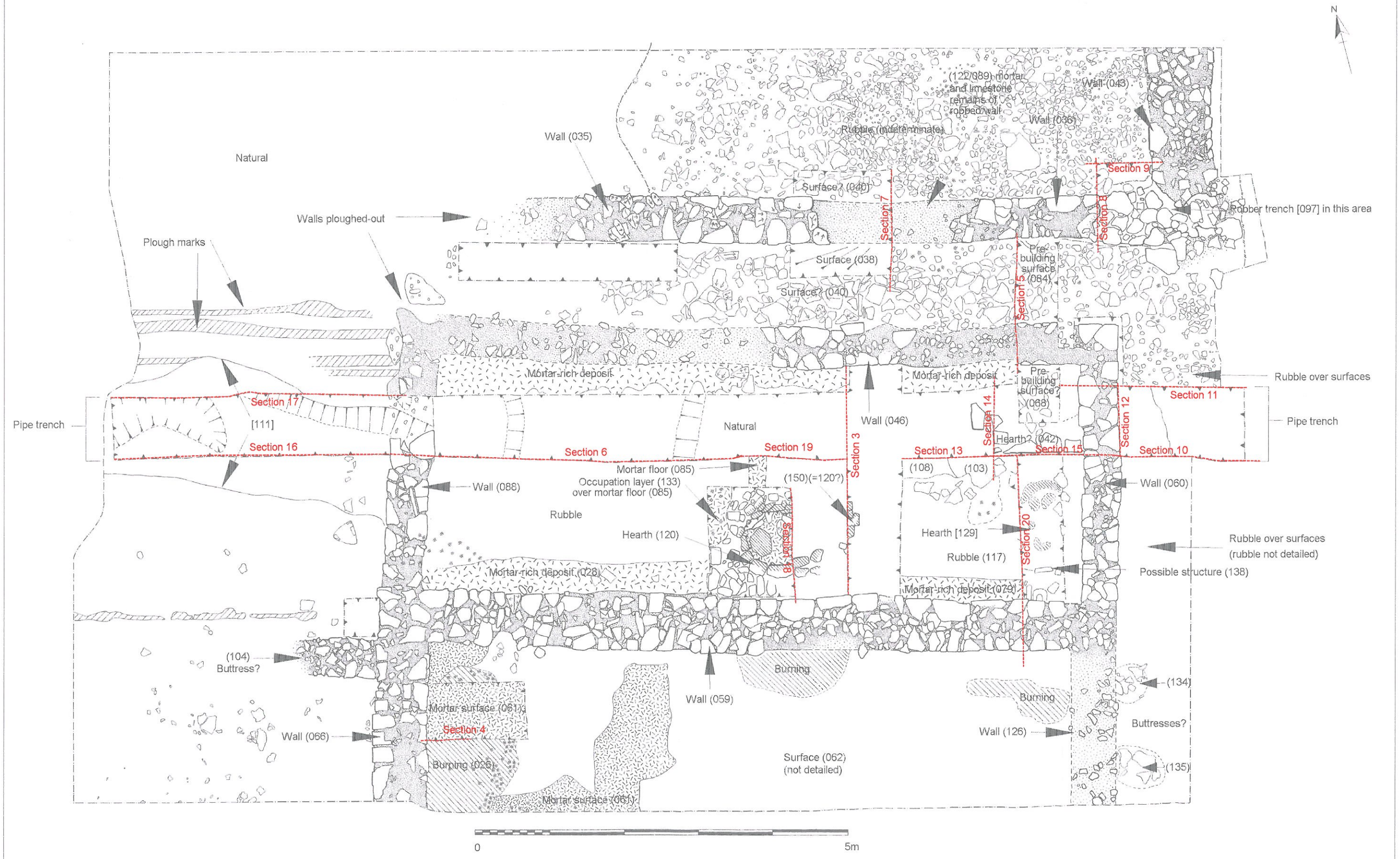


Figure 25 Plan of Excavation Area 1 showing section locations and principal features

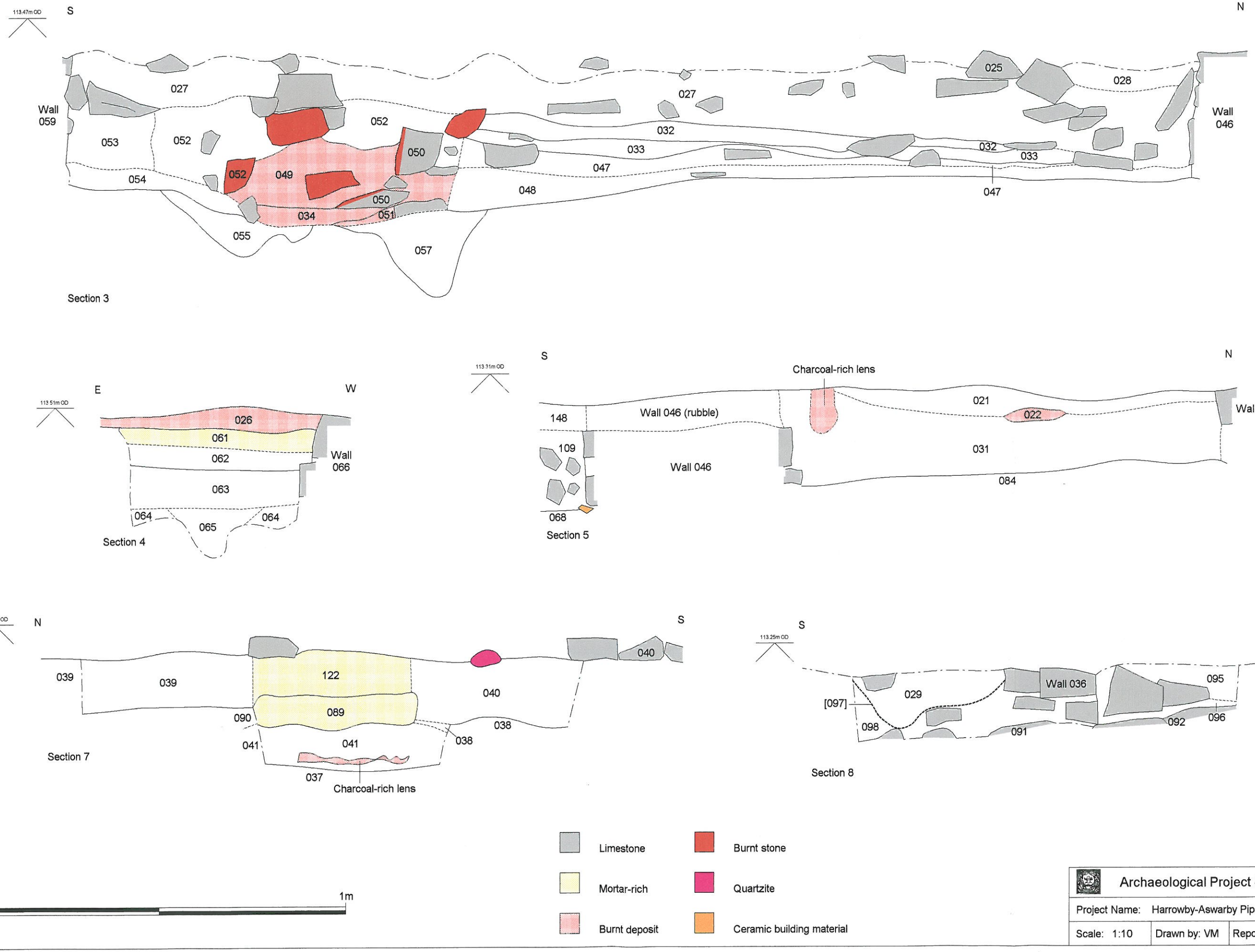


Figure 26 Excavation Area 1,Sections 3, 4, 5, 7 & 8

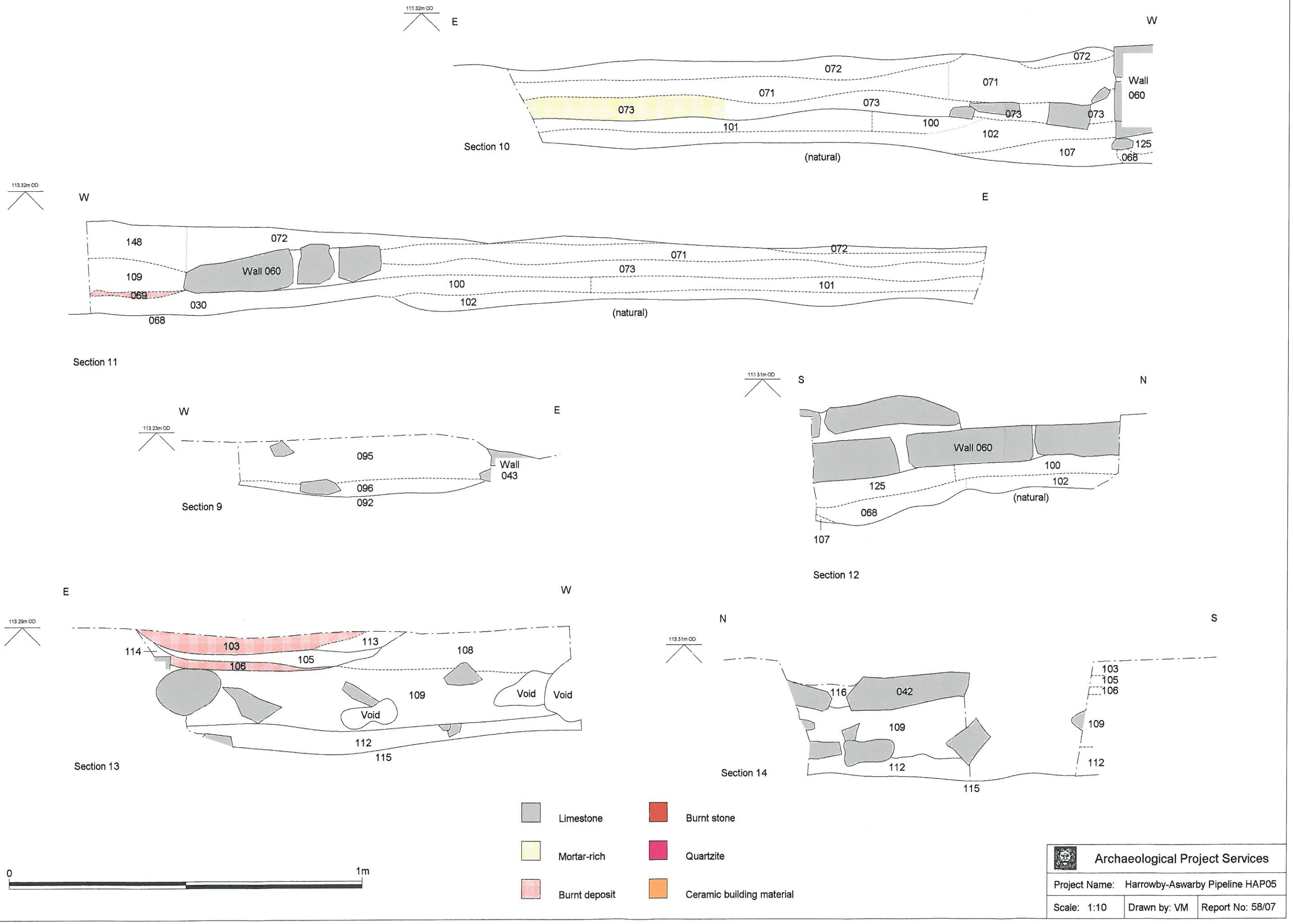


Figure 27, Excavation Area 1, Sections 9, 10, 11, 12, 13 & 14

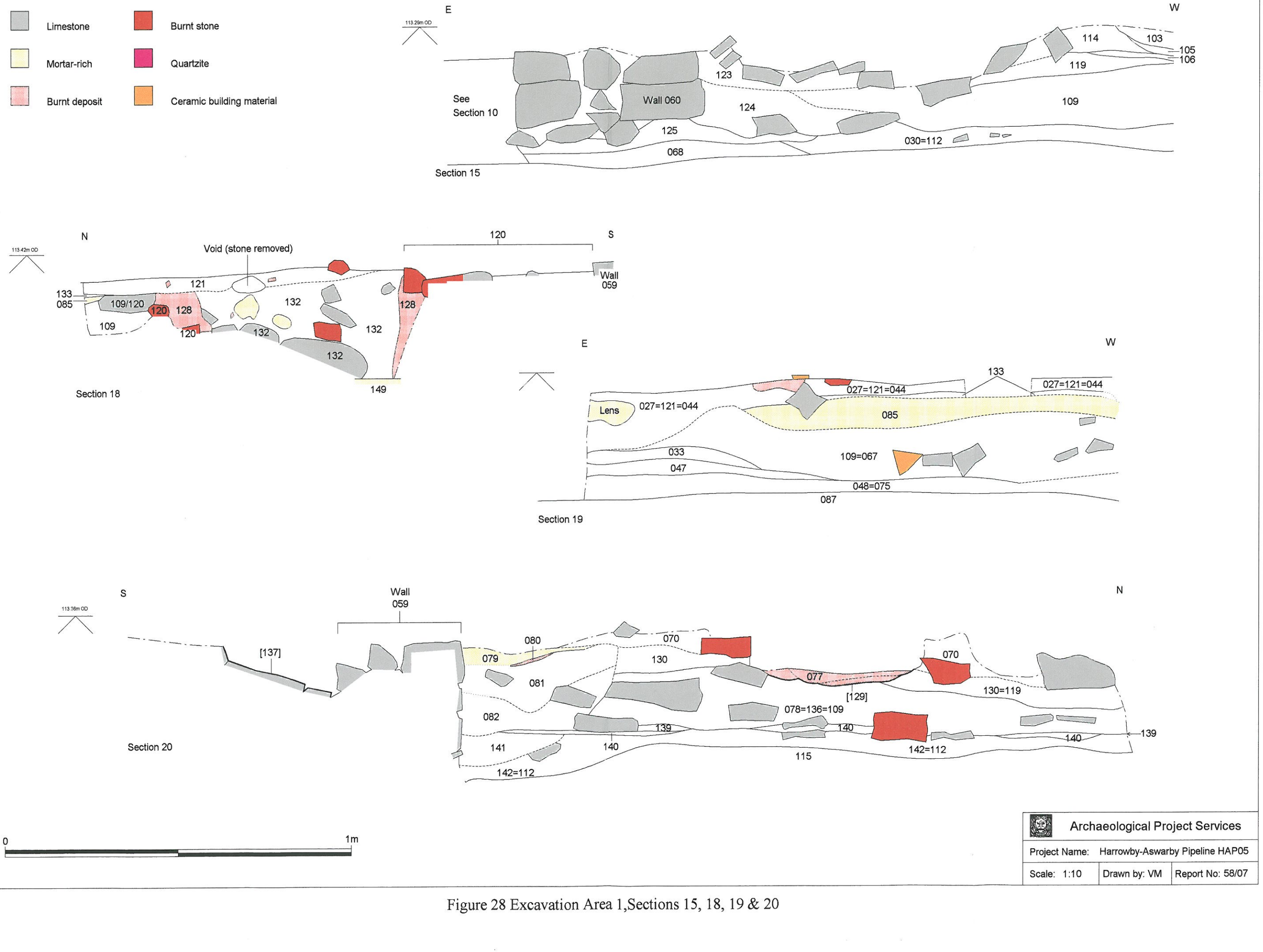


Figure 28 Excavation Area 1,Sections 15, 18, 19 & 20

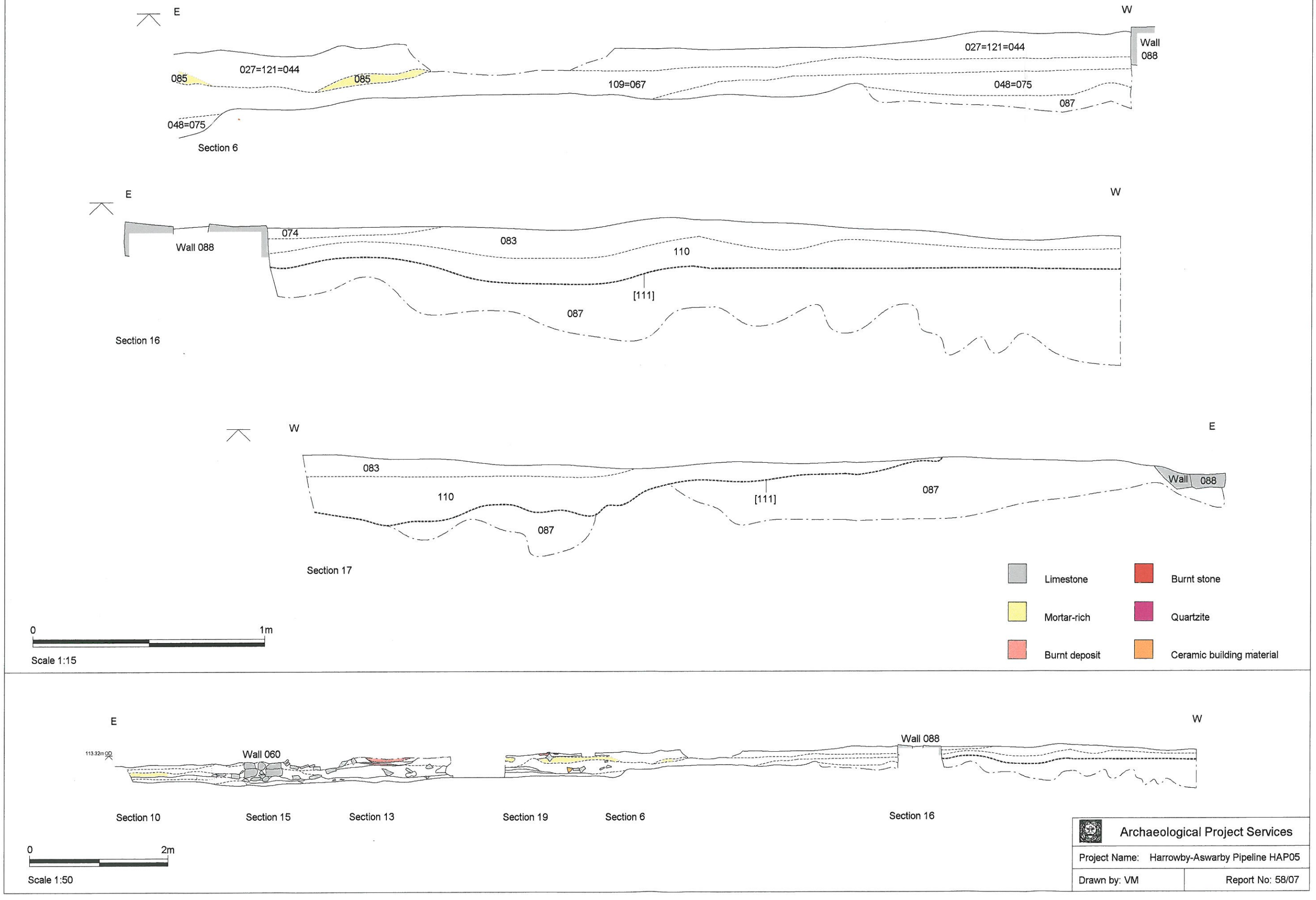


Figure 29 Excavation Area 1, Sections 6. 16, 17 and combined long section along pipe trench

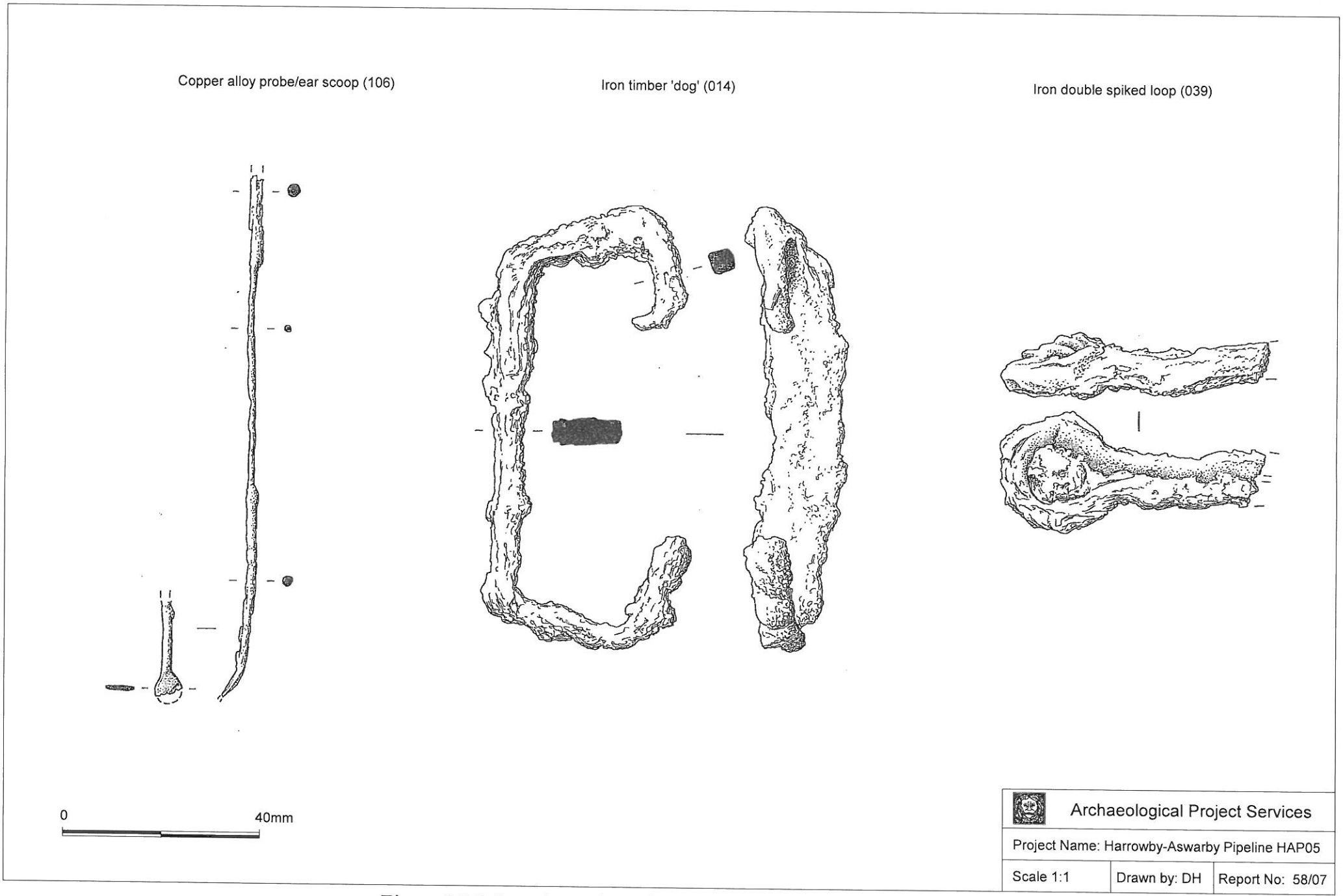


Figure 30 Selected metal artefacts from Excavation Area 1

Plate 1 General view showing methodology for stripping of topsoil from easement

Plate 2 General view showing methodology for pipe trench excavation within field 12B, looking southwest

Plate 3 Working view showing Excavation Area 1 following cleaning, looking west

Plate 4 Area 1, walls (046) and (035) bounding possible surface (021=040), showing truncation of (035) in background and robbing of (035) in foreground, looking west

Plate 5 Area 1, junction of walls (088), (059) and (066) with wall or buttress (104) in foreground, looking east

Plate 6 Area 1, hearth (120) and mortar surface (085), wall (059) at rear, looking south

Plate 7 Area 1, hearth [129], Section 20, and burnt deposits (103) and (108) in baulk. Wall (059) at left, looking west.

Plate 8 Area 1, Section 5, walls (046) and (036) and surface (084), looking west

Plate 9 Area 1, junction of walls (046) and (060) where keyed together, looking northeast

Plate 10 Area 1, Section 3, showing stones (150), possibly part of heart (120) r associated flue, looking west

Plate 11 Area 1, general view of area following excavation

Plate 12 Area 2, general working view along pipe trench, ditches [1041] and [1040] in foreground, looking southwest

Plate 13 Area 2, ditch [1040], Section 205, looking northwest

Plate 14 Area 2, ditch [1080], Section 207, looking southeast

Plate 15 Area 2, ditch [1006], Section 202, looking west

Plate 16 Area 2, ditches [1068] and [1062], Section 203, looking north

Plate 17 Area 2, metalled surface (1003), looking northeast

Plate 18 Area 2, ditches [1020] and [1030], Section 200, looking northwest

Plate 19 Area 2, skull (1035), looking northwest

Plate 20 Area 3, general working view, looking west

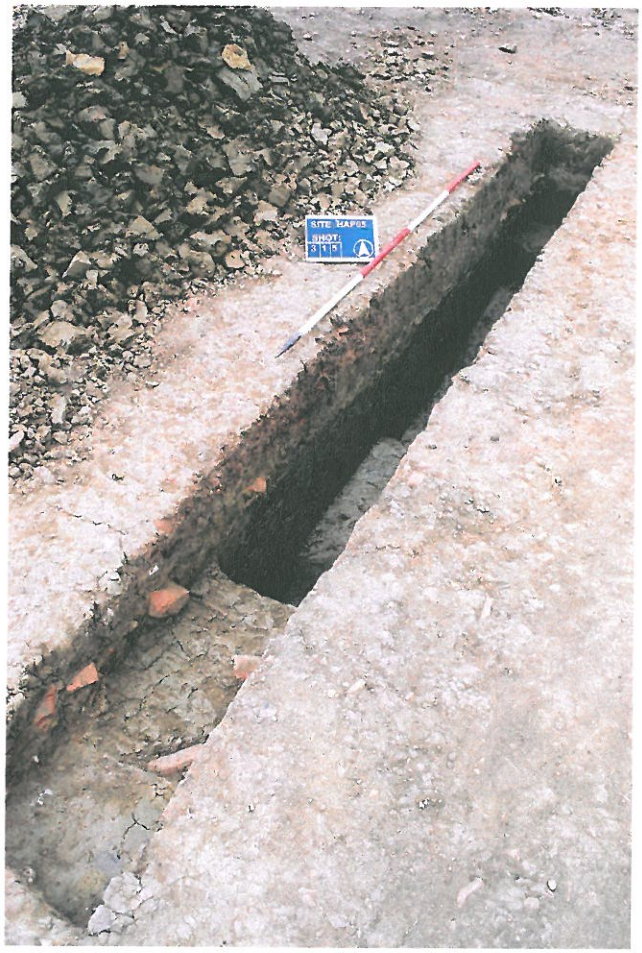


Plate 21 Area 3, pit [1525], Section 302, looking north

Plate 22 Area 3, pit [1533] and ceramic building material-rich deposit (1502), Section 300, looking north

Appendix 1

SPECIFICATION FOR ARCHAEOLOGICAL WATCHING BRIEF LAND ON THE HARROWBY-ASWARBY PIPELINE (WELBY-ASWARBY), LINCOLNSHIRE

1 SUMMARY

1.1 *A watching brief is required during groundwork for the Harrowby-Aswarby- pipeline, between Welby and Aswarby Pumping Station, Lincolnshire.*

1.2 *The proposed pipeline route is archaeologically sensitive. It crosses probable prehistoric boundaries, runs alongside a prehistoric track, later a Roman road, bypasses a medieval grange. Additionally, the route may run across a prehistoric enclosure, through a shrunken medieval village site, near to a Roman villa and through an area of Roman and Saxon finds. Previous examinations of the route indicated some potential for the pipeline to cross areas with prehistoric, Roman and post-medieval artefacts.*

1.3 *The watching brief will be undertaken during the stripping of topsoil and possibly trench excavations along the pipeline route. The archaeological features exposed will be recorded in writing, graphically and photographically.*

1.4 *On completion of the fieldwork a report will be prepared detailing the results of the investigation. The report will consist of a narrative supported by illustrations and photographs.*

2 INTRODUCTION

2.1 This document comprises a specification for an archaeological watching brief during groundwork for the Harrowby-Aswarby pipeline, between Welby and Aswarby, Lincolnshire.

2.2 This document contains the following parts:

- 2.2.1 Overview.
- 2.2.2 Stages of work and methodologies.
- 2.2.3 List of specialists.
- 2.2.4 Programme of works and staffing structure of the project

3 SITE LOCATION

3.1 The section of Harrowby-Aswarby to be monitored commences about 5km east of Grantham on Welby Heath in the South Kesteven district of Lincolnshire, and terminates at Aswarby Water Treatment Plant just north of Osbournby, in North Kesteven district. The monitored extent is between National Grid References SK 9635 3655 and TF 0670 3915.

4 PLANNING BACKGROUND

4.1 Anglian Water Services Ltd propose a trunk main between Harrowby and Aswarby in Lincolnshire. They have requested an archaeological watching brief during the groundwork along the pipeline route.

5 SOILS AND TOPOGRAPHY

5.1 The site is on a gentle slope down to the east, declining from about 110m OD at the west end down to 30m OD at the eastern limit. The route crosses a variety of soil regimes developed on limestone brash.

6 ARCHAEOLOGICAL OVERVIEW

6.1 The route crosses a variety of archaeological remains. Near the western end are various prehistoric remains, identified as cropmarks and artefacts, and a medieval grange, part of which is a scheduled ancient monument. Further east are more abundant archaeological remains, including prehistoric enclosures and possible Roman villas. More particularly, the proposed route crosses a prehistoric cropmark enclosure, the probable extent of Scott Willoughby shrunken medieval village, and between areas of Roman and Saxon artefacts.

6.2 Previous examination of the route identified a thin, dispersed scatter of prehistoric artefacts in the western half of the route. In the eastern section geophysical survey identified a few possible ditches to the east of Scott Willoughby church, though there were few medieval artefacts in the area, suggesting that the pipeline course does not cross the shrunken medieval settlement. Further east along this section, to the northwest of Osbournby, there was a localised small concentration of Roman pottery, suggesting settlement of this date in the proximity. Near the eastern end of the route was a large, localized and very large concentration of post-medieval brick, tile and field drain, together with slag. This material suggests industrial activity in the area, but it is not clear exactly where in the specific field.

7 AIMS AND OBJECTIVES

7.1 The aims of the watching brief will be:

7.1.1 To record and interpret the deposits and any archaeological features exposed during the groundwork.

7.2 The objectives of the watching brief will be to:

7.2.1 Determine the form and function of the archaeological features encountered;
7.2.2 Determine the spatial arrangement of the archaeological features encountered;

7.2.3 As far as practicable, recover dating evidence from the archaeological features, and

7.2.4 Establish the sequence of the archaeological remains present on the site.

8 SITE OPERATIONS

8.1 General considerations

8.1.1 All work will be undertaken following statutory Health and Safety requirements in operation at the time of the watching brief.

8.1.2 The work will be undertaken according to the relevant codes of practise issued by the Institute of Field Archaeologists (IFA), under the management of a Member of the institute (MIFA). Archaeological Project Services is IFA registered organisation no. 21.

8.1.3 Any and all artefacts found during the investigation and thought to be 'treasure', as defined by the Treasure Act 1996, will be removed from site to a secure store and promptly reported to the appropriate coroner's office.

8.2 Methodology

8.2.1 The watching brief will be undertaken during the ground works phase of development, and includes the archaeological monitoring of all phases of soil movement.

8.2.2 Stripped areas and trench sections will be observed regularly to identify and record archaeological features that are exposed and to record changes in the geological conditions. The section drawings of the trenches will be recorded at a scale of 1:10. Should features be recorded in plan these will be drawn at a scale of 1:20. Written descriptions detailing the nature of the deposits, features and fills encountered will be compiled on Archaeological Project Services pro-forma record sheets.

8.2.3 Any finds recovered will be bagged and labelled for later analysis.

8.2.4 Throughout the watching brief a photographic record will be compiled. The photographic record will consist of:

8.2.4.1 the site during work to show specific stages, and the layout of the archaeology within the areas.
8.2.4.2 groups of features where their relationship is important

8.2.5 Should human remains be located they will be left *in situ* and only excavated if absolutely necessary. Should removal be required the appropriate Home Office licence will be obtained before the exhumation of the remains. In addition, the Local Environmental Health Department, coroner and the police will be informed, where appropriate.

9 POST-EXCAVATION

9.1 Stage 1

9.1.1 On completion of site operations, the records and schedules produced during the watching brief will be checked and ordered to ensure that they form a uniform sequence forming a level II archive. A stratigraphic matrix of the archaeological deposits and features present on the site will be prepared. All photographic material will be catalogued and labelled, the labelling referring to schedules identifying the subject/s photographed.

9.1.2 All finds recovered during the fieldwork will be washed, marked and packaged according to the deposit from which they were recovered. Any finds requiring specialist treatment and conservation will be sent to the Conservation Laboratory at the City and County Museum, Lincoln.

9.2 Stage 2

9.2.1 Detailed examination of the stratigraphic matrix to enable the determination of the various phases of activity on the site.

9.2.2 Finds will be sent to specialists for identification and dating.

9.3 Stage 3

9.3.1 On completion of stage 2, a report detailing the findings of the watching brief will be prepared.

9.3.2 This will consist of:

9.3.2.1 A non-technical summary of the results of the investigation.

9.3.2.2 A description of the archaeological setting of the watching brief.

9.3.2.3 Description of the topography of the site.

9.3.2.4 Description of the methodologies used during the watching brief.
9.3.2.5 A text describing the findings of the watching brief.

9.3.2.6 A consideration of the local, regional and national context of the watching brief findings.

9.3.2.7 Plans of the archaeological features exposed. If a sequence of archaeological deposits is encountered, separate plans for each phase will be produced.

9.3.2.8 Sections of the trenches and archaeological features.

9.3.2.9 Interpretation of the archaeological features exposed, and their chronology and setting within the surrounding landscape.

9.3.2.10 Specialist reports on the finds from the site.

9.3.2.11 Appropriate photographs of the site and specific archaeological features.

10 REPORT DEPOSITION

10.1 Copies of the report will be sent to the client and the County Council Archaeological Sites and Monuments Record.

11 ARCHIVE

11.1 The documentation and records generated during the watching brief will be sorted and ordered into the format acceptable to the City and County Museum, Lincoln. This will be undertaken following the requirements of the document titled *Conditions for the Acceptance of Project Archives* for long-term storage and curation.

12 PUBLICATION

12.1 A report of the findings of the watching brief will be presented to the editor of the journal *Lincolnshire History and Archaeology*. If appropriate, notes on the findings will be submitted to the appropriate national journals: *Britannia* for discoveries of Roman date, and *Medieval Archaeology* and the *Journal of the Medieval Settlement Research Group* for findings of medieval or later date.

13 CURATORIAL RESPONSIBILITY

13.1 Curatorial responsibility for the archaeological work undertaken on the site lies with the Senior Built Environment Officer, Lincolnshire County Council. They will be given written notice of the commencement of the project.

14 VARIATIONS AND CONTINGENCIES

14.1 Variations to the proposed scheme of works will only be made following written confirmation of acceptance from the archaeological curator.

14.2 In the event of the discovery of any unexpected remains of archaeological importance, or of any changed circumstances, it is the responsibility of the archaeological contractor to inform the archaeological curator (*Lincolnshire Archaeological Handbook* 1998, Sections 5.7 and 18).

14.3 Where important archaeological remains are discovered and deemed to merit further investigation additional resources may be required to provide an appropriate level of investigation, recording and analysis.

14.4 Any contingency requirement for additional fieldwork or post-excavation analysis outside the scope of the proposed scheme of works will only be activated following full consultation with the archaeological curator and the client.

15 PROGRAMME OF WORKS AND STAFFING LEVELS

15.1 The watching brief will be integrated with the programme of construction and is dependent on the developers' work programme. It is therefore not possible to specify the person-hours for the archaeological site work.

15.2 An archaeological supervisor with experience of watching briefs will undertake the work.

15.3 Post-excavation analysis and report production will be undertaken by the archaeological supervisor, or a post-excavation analyst as appropriate, with assistance from a finds supervisor, illustrator and external specialists. It is expected that each fieldwork day (equal to one person-day) will require a post- excavation day (equal to one-and-a-half person-days) for

completion of the analysis and report. If the fieldwork lasts longer than about four days then there will be an economy of scale with the post-excavation analysis.

16 SPECIALISTS TO BE USED DURING THE PROJECT

16.1 The following organisations/persons will, in principle and if necessary, be used as subcontractors to provide the relevant specialist work and reports in respect of any objects or material recovered during the investigation that require their expert knowledge and input. Engagement of any particular specialist subcontractor is also dependent on their availability and ability to meet programming requirements.

Task	Body to be undertaking the work
Conservation	Conservation Laboratory, City and County Museum, Lincoln
Pottery Analysis	Prehistoric - Trent & Peak Archaeological Trust Roman - B Precious, Independent Specialist Anglo-Saxon - J Young, Independent Specialist Medieval and later - G Taylor in consultation with H Healey, Independent Archaeologist
Non-pottery Artefacts	J Cowgill, Independent Specialist, or G Taylor, APS
Animal Bones	J Rackham, Independent Specialist, or P Cope-Faulkner, APS
Environmental Analysis	J Rackham, Independent Specialist
Human Remains Analysis	Dr R Gowland, Independent Specialist

17 INSURANCES

17.1 Archaeological Project Services, as part of the Heritage Trust of Lincolnshire, maintains Employers Liability Insurance of £10,000,000, together with Public and Products Liability insurances, each with indemnity of £5,000,000. Copies of insurance documentation can be supplied on request.

18 COPYRIGHT

18.1 Archaeological Project Services shall retain full copyright of any commissioned reports under the Copyright, Designs and Patents Act 1988 with all rights reserved; excepting that it hereby provides an exclusive licence to the client for the use of such documents by the client in all matters directly relating to the project as described in the Project Specification.

18.2 Licence will also be given to the archaeological curators to use the documentary archive for educational, public and research purposes.

18.3 In the case of non-satisfactory settlement of account then copyright will remain fully and exclusively with Archaeological Project Services. In these circumstances it will be an infringement under the Copyright, Designs and Patents Act 1988 for the client to pass any report, partial report, or copy of same, to any third party. Reports submitted in good faith by Archaeological Project Services to any Planning Authority or archaeological curator will be removed from said planning Authority and/or archaeological curator. The Planning Authority and/or archaeological curator will be notified by Archaeological Project Services that the use of any such information previously supplied constitutes an infringement under the Copyright, Designs and Patents Act 1988 and may result in legal action.

18.4 The author of any report or specialist contribution to a report shall retain intellectual copyright of their work and may make use of their work for educational or research purposes or for further publication.

19 BIBLIOGRAPHY

Hodge, CAH, Burton, RGO, Corbett, WM, Evans, R, and Seale, RS, 1984 Soils and their use in Eastern England, Soil Survey of England and Wales 13

Specification: Version 1, 24-05-05

Appendix 2

CONTEXT SUMMARY

Watching Brief

Context Number	Field	Description	Interpretation
001	1	Firm, mid yellowish-brown clayey silt with occasional charcoal flecks and frequent grass roots, 0.25m thick	Topsoil
002	1	Firm, mid yellowish-brown clayey silt with frequent redeposited natural (light brownish-yellow clayey silt) lenses, occasional charcoal flecks, moderately frequent grass roots and occasional limestone fragments, 0.10m thick	Subsoil
003	1	Firm, light brownish-yellow clayey silt with occasional roots and occasional bands of gravel	Natural layer
004	1	Unstratified finds from field	
005	2	Unstratified finds from field	
006	2	Firm, mid yellowish-brown clayey silt with frequent grass roots, occasional charcoal flecks and small pebbles, 0.25m thick	Topsoil
007	2	Firm, mid yellowish-brown clayey silt with moderately frequent grass roots and occasional small pebbles, 0.10m thick	Subsoil
008	2	Firm, light yellowish-brown fine sandy silt with occasional grass roots	Natural layer

Context Number	Field	Description	Interpretation
500	3B	Unstratified finds from field	
501	3B	Firm, mid reddish-brown clayey silt with occasional small pebbles, limestone fragments and a ceramic land drain, 0.64m thick	Fill of ditch [502]
502	3B	Northwest-southeast aligned linear feature, 0.64m deep and 1.90m wide with steep sides and rounded base	Ditch containing ceramic land drain
503	3B	Unstratified finds from field	
504	3B	Unstratified finds from field	
505	5B/12B	Unstratified finds from field	
506	5B/12B	Unstratified finds from field	
507	3B	Firm, mid reddish-brown clayey silt with occasional small pebbles, 0.20m thick	Fill of plough furrow [508]
508	3B	East-west aligned linear feature, 0.20m deep and 1.58m wide with concave to flattish profile	Plough furrow
509	7B	Unstratified finds from western half of field	
510	8B	Unstratified finds from field	
511	7B	Firm, mid yellowish-brown clayey silt with occasional small pebbles, 0.30m thick	Ploughsoil layer
512	8B	Firm, light yellowish-brown clayey silt	Natural layer
513	7B	Unstratified finds from field	

Context Number	Field	Description	Interpretation
514	12B/11B	Unstratified finds from western half of field	
515	8B	Unstratified finds from eastern half of field	
516	10B	Unstratified finds from southwestern *c.*40m of field	
517	10B	Unstratified finds from field	
518	9B	Unstratified finds from field	
519	11B	Firm, mid yellowish-brown clayey silt with occasional small pebbles, 0.30m thick	Ploughsoil
520	11B	Firm, mid yellowish-brown clayey silt	Ploughsoil
521	8B	Firm, mid yellowish-brown clayey silt	Ploughsoil
522	11B	Firm, mid yellowish-brown clayey silt with occasional small to medium pebbles, 0.30m thick	Ploughsoil excavation area
523	11B	Firm, mid yellowish-brown clayey silt with occasional small to medium pebbles, 0.30m thick	Ploughsoil excavation area
524	11B	Firm, mid yellowish-brown clayey silt with occasional small to medium pebbles, 0.30m thick	Ploughsoil excavation area
525	11B	Firm, mid yellowish-brown clayey silt with occasional small to medium pebbles, 0.30m thick	Ploughsoil excavation area
526	11B	Firm, mid yellowish-brown clayey silt with occasional small to medium pebbles, 0.30m thick	Ploughsoil excavation area
527	11B	Firm, mid yellowish-brown clayey silt with occasional small to medium pebbles, 0.30m thick	Ploughsoil excavation area
528	1B	Unstratified finds from field	
529	8B	Firm, light brownish-red ceramic building material fragments	Spread of ceramic building material
530	11B	Firm, mid yellowish-brown clayey silt with occasional small to medium pebbles, 0.30m thick	Ploughsoil excavation area
531	1	Firm, mid reddish-brown slightly silty sand with occasional tree roots, 0.30m thick	Subsoil
532	1	Firm, light brownish-yellow limestone (*c.*80%) and sand (*c.*20%), over 1.40m thick	Natural layer
533	2	Firm, mid yellowish-brown clayey silt with occasional small to medium pebbles and limestone fragments, 0.20m thick	Subsoil
534	2	Firm, light brownish-yellow sandy limestone, over 1.30m thick	Natural layer
535	2	Firm, mid yellowish-brown clayey silt with occasional small to medium pebbles and limestone fragments, 0.35m thick	Subsoil layer
536	2	Firm, light brownish-yellow sandy limestone, over 2m thick	Natural layer
537	8B	Unstratified finds from excavation area	
538	(road)	Asphalt road surface, between fields 2 and 3, 100mm thick	Asphalt road surface
539	(road)	Compact, light whitish-brown sub-angular and sub-rounded limestone fragments and crushed limestone, 0.30m thick	Foundation for road surface (538)
540	(road)	Firm, mid yellowish- reddish-brown clayey sand with moderately frequent sub-rounded limestone fragments, 0.38m thick	Natural layer
541	(road)	Compact, light brownish-yellow to white limestone, over 1.70m thick	Natural layer
542	3	Context number allocated to remains in excavation area 1 during mechanical excavation of pipe trench	
543	3	Firm, light olivey- brownish-yellow sandy clay (*c.*70%) and sub-rounded limestone fragments (*c.*30%), 0.80m thick	Natural layer
544	3	Firm, limestone	Natural layer
545	4	Firm, mid yellow with reddish-yellow patches, clayey sand with frequent sub-rounded limestone fragments, 0.60m thick	Natural layer

Context Number	Field	Description	Interpretation
546	4	Firm, light grey, clayey sand (*c.*50%) and small sub-rounded limestone fragments (*c.*50%), over 0.75m thick	Natural layer
547	5	Firm, mid reddish-brown clayey silt (*c.*70%) and limestone fragments (*c.*30%), 0.45m thick	Layer, probably natural layer
548	5	Firm, light brownish-yellow limestone fragments (*c.*70%) and sand (*c.*30%), over 1.25m thick	Natural layer
549	8	Firm, mid yellowish-brown clayey silt with frequent limestone fragments, 0.48m thick	Natural layer, disturbed by roots and ploughing
550	8	Firm, light yellowish-brown sand and limestone, over 1.02m thick	Natural layer
551	9	Firm, mid reddish-brown sand and limestone, 0.38m thick	Natural layer
552	9	Firm/solid, light yellowish-brown to creamy-white limestone, over 1.02m thick	Natural layer
553	10	Firm, light yellowish-brown, sandy limestone with sand lenses and lenses of mid yellowish-brown in upper *c.*0.50m of layer, 1.60m thick	Natural layer
554	11	Firm/hard light yellowish-brown limestone, sandy in top 1.40m, over 1.70m thick	Natural layer
555	11	Unstratified finds from field	
556	11	Firm, mid yellowish-brown sandy silt with frequent limestone fragments, 0.40m thick	Layer, possible remnant subsoil
557	11	Firm, light yellowish-brown limestone fragments, 1.20m thick	Natural layer
558	11	Firm, light off-white limestone with occasional coarse sand concentrations, 1.80m thick	Natural layer
559	12	Firm, mid yellowish-brown sand at top, light brownish-yellow sand at middle and solid limestone at base, with frequent limestone flecks within sand, over 1.53m thick	Natural layer
560	12	Mid to darkish brown fragmented limestone (*c.*40%) in silty sand matrix (*c.*60%), 0.30m thick	Natural layer
561	12	Mid yellowish-brown limestone, 0.70m thick	Natural layer
562	12	Light whitish limestone, over 0.60m thick	Natural layer
563	1B	Fairly loose mid to light yellowish-brown clayey sand and gravel, 0.40m thick	Natural layer
564	1B	Light white limestone fragments, 0.20m thick	Natural layer
565	1B	Light to mid yellowish-brown sandy and gravelly clay, 0.40m thick	Natural layer
566	1B	Mid greyish-brown clayey sand and gravel, over 0.20m thick	Natural layer
567	1B	Firmish mid yellowish-brown silty clay, sand and limestone gravel, 0.20m thick	Layer, possibly subsoil layer or natural layer
568	2B	Mid yellowish-brown clayey sand and limestone gravel, 0.20m thick	Layer, possibly subsoil layer or natural layer
569	2B	Mid brown and bluish-grey mottled clay, 0.50m thick	Natural layer
570	2B	Mid to darkish bluish-grey clay, 0.50m thick	Natural layer
571	2B	Mid brown clay, over 0.40m thick	Natural layer
572	(road)	Asphalt road surface, between fields 2B and 3B, 100mm thick	Asphalt road surface
573	(road)	Light to mid yellowish-brown, grey at upper horizon, limestone, 0.10m thick	Foundation for road surface (572)
574	(road)	Mid yellowish-brown probable silty clay, 0.60m thick	Natural layer
575	(road)	Mid bluish-grey probable silty clay, 0.20m thick	Natural layer
576	(road)	Mid greyish- yellowish-brown probable silty clay, over 0.80m thick	Natural layer
577	4B/ 3B	Firm, mid grey and brownish-yellow mottled clay, 0.80m thick	Natural layer
578	4B/ 3B	Soft, mid brownish-yellow silty sand, 0.40m thick	Natural layer

Context Number	Field	Description	Interpretation
579	4B/ 3B	Soft, mid grey sandy silt, over 1.00m thick	Natural layer
580	3B	Moderately firm light brownish-yellow silty clay, 0.40m thick	Possible subsoil layer
581	Void		
582	Void		
583	Void		
584	Void		
585	Void		
586	Void		
587	Void		
588	Void		
589	Void		
590	4B	Firmish, mid yellowish-brown silty clay with mid grey (slightly bluish) mottles and occasional limestone fragments, 0.60m thick	Layer, possibly subsoil layer or natural layer
591	4B	Firm mid to light grey limestone, 0.50m thick	Natural layer
592	4B	Mid yellowish-brown sandy clay, over 0.50m thick	Natural layer
593	Void		
594	12B	Possible linear feature, 0.75m deep and 1.3m wide with steepish sides and a flattish to concave base	Feature, possible ditch
595	12B	Possibly soft, mid greyish-brown silty sand with occasional charcoal flecks, 0.75m thick	Fill of possible ditch [594]
596	12B	Possibly soft, mid yellowish-brown and greyish silt and fine sand with moderately frequent limestone, 0.3m thick	Subsoil or disturbed layer
597	12B	Possibly soft, light grey possible silty sand, 0.8m thick	Natural layer
598	12B	Possibly soft, light yellow possible silty sand with grey/blue mottles, 0.2m thick	Natural layer
599	12B	Possibly soft, mid grey mottled possible clay	Natural layer
600	12B	Unstratified finds from pipe trench spoil, likely derived from fill (595)	
601	12B	Unstratified finds from western half of field	
602	12B	Possible linear feature, 3.75m wide and 0.3m deep with gently sloping sides and a flat to concave base	Feature, possible ditch, possibly same as [606]
603	12B	Possibly soft, mid to dark grey possible silty sand, 0.3m thick.	Fill of possible ditch [602]
604	12B	Unstratified finds from pipe trench spoil, likely derived from fill (603). Burnt limestone fragments noted but not retained	
605	11B	Unstratified finds from field	
606	12B	Possible linear feature, 0.6m deep and 0.30m wide with concave sides and concave to flattish base	Feature, possibly same as [602]
607	12B	Feature with steepish sides and flattish to concave base, 0.2m deep and 0.5m wide	Feature, possibly a gully, pit or post hole
608	12B	Possibly soft mid to dark grey possible silty sand	Fill of feature [607]
609	12B	Possibly soft mid to dark grey possible silty sand with possible inclusions of burnt limestone, 0.6m thick	Fill of feature [606]
610	12B	Feature, 0.70m wide and 0.30m deep with vertical sides with sharp break of slope at base and flat base, possible north-south aligned feature.	Feature. Form indicates possibility that this might be a grave or structural feature
611	12B	Dark grey possibly silty sand with possible inclusions of charcoal lumps, 0.3m thick	Fill of feature [610]
612	12B	Possible linear feature, 0.5m deep and 3.00m wide with slightly concave sides and a flattish base	Feature, possible ditch

Context Number	Field	Description	Interpretation
613	12B	Possible linear feature, 0.7m deep and 2.00m wide with a concave profile	Feature, possible ditch
614	12B	Possible linear feature, 1.1m deep and 6m wide	Feature, possible ditch
615	12B	Possible linear feature, 0.5m deep and 5m wide with gently sloping to concave sides and a flattish base	Feature, possible ditch
616	12B	Northwest-southeast aligned linear feature, 3m wide and 0.8m deep with concave profile	Ditch
617	12B	Northwest-southeast aligned linear feature, 2.1m wide and 0.8m deep with steepish sides and concave profile	Ditch
618	12B	North-south aligned linear feature with moderately steep sides and concave profile, no measurements possible due to safety issues	Ditch
619	12B	Possibly soft mid to lightish (almost bluish) grey, possible sandy clayey silt with moderately frequent charcoal, 0.9m thick	Fill of ditch [617]
620	12B	Possibly soft, mid (almost bluish) grey, possible clayey silt with moderately frequent charcoal and burnt limestone fragments, 0.8m thick	Fill of ditch [616]
621	11B	Feature, over 1.5m by over 11m in extent, and 0.6m deep with steep, concave sides and flat base	Feature, possibly large pit or ditch. Possibly associated with a change in level at the boundary of two fields
622	Void		
623	Void		
624	Void		
625	11B	Unstratified finds from area of excavation area 2	
626	11B	Unstratified finds from pipe trench in area of feature [621], possibly derived from the fill of this feature (617)	
627	11B	Possibly soft dark grey silt, possibly also with some sand and clay, 0.60m thick	Fill of feature [621]
628	11B	Friable, mid brown with black flecks, sandy silt with occasional charcoal, 0.40m thick	Topsoil, same as (1004=1011)
629	11B	Light yellowish deposit, possibly clay, 0.6m thick	Natural layer
630	11B	Light grey deposit, possibly clay, over 0.8m thick	Natural layer
631	11B	Unstratified finds from field	
632	11B	Feature, 2m wide and 0.5m deep with concave sides and concave to flattish base	Feature, possible ditch
633	11B	Feature, 2m wide and 0.6m deep with moderately steep sides and concave base	Feature, possible ditch
634	11B	Feature, 3.5m wide and 0.7m deep with steep side at northeast and gentler slope at southwest with a concave base	Feature, possible ditch
635	11B	Feature, 2.5m wide and 0.5m deep with gently sloping side at northeast, steeper to southwest with a concave to flattish base	Feature, possible ditch
636 = 669	11B	Linear feature, 0.4m wide and 0.7m deep with vertical sides and a flat base	Land drain
637	11B	Feature, 2.6m wide and 1.1m deep with moderately steep and slightly concave sides and a flattish to concave base	Feature, possible ditch
638	11B	Feature, 1.9m wide and 0.5m deep with steep side at northeast, side not visible at southwest, with a flattish to concave base	Feature, possible ditch

Context Number	Field	Description	Interpretation
639	11B	Feature, 2m wide and 1m deep with steep sides and a flattish base	Feature, possible ditch
640	11B	Feature, 1.1m wide and 0.4m deep with moderately steep sides and concave base	Feature, possible ditch
641	11B	Feature, 3.2m wide and 0.7m deep with gently sloping side at northeast, steeper at southwest	Feature, possible ditch
642	11B	Feature, 1.6m wide and 0.8m deep with steepish sides and concave base	Feature, possible ditch
643	11B	Feature, 2m wide and 0.2m deep. Little of sides visible, although base is flattish	Feature, possible plough furrow
644	11B	Feature, 0.6m wide and 0.6m deep, with steepish side at northeast, unclear to southwest, possibly with a concave base	Feature, possibly same as [642], and forming a single larger feature
645	11B	Feature, 4m wide and 0.2m deep with a flat base	Feature, possible plough furrow
646	11B	Feature, 2.1m wide, 0.4m deep, possibly with concave sides and with a concave base	Feature, possible ditch
647	11B	Feature, over 3m wide and 0.2m deep with a flat base	Feature, possible plough furrow
648	11B	Feature, 3m wide and 1.2m deep with vertical side at southwest and possibly gently sloping side at northeast with concave base, rising to the northeast	Feature, possibly same as [649], and forming a single larger feature
649	11B	Feature, 0.5m wide and 0.7m deep, sides vertical at northeast and unclear to southwest with a flattish base	Feature, possibly same as [648], and forming a single larger feature. Dimensions similar to land drains elsewhere in the field, so possibly another drain.
650	11B	Feature, 3m wide and 1m deep, sides near vertical at southwest and moderately steep at northeast with a concave base	Feature, possible pit or ditch
651	11B	Feature, 2m wide and 0.5m deep with concave to flattish base, edges unclear at base and northeast	Feature
652	11B	Feature, 1.2m wide and 0.8m deep, at base tapers to a point in a blunt 'V'-shape	Feature
653	11B	Feature, 1m wide and 0.3m deep with moderately steep sides and flattish base	Feature
654	11B	Feature, 1.1m wide and 0.3m deep with moderately steep sides and a flattish base	Feature
655	11B	Feature, over 0.5m wide, if same as [656] possibly 3.5m wide, 0.2m deep with flat base	Feature, possible plough furrow, possibly same as [656]
656	11B	Feature, over 0.5m wide, if same as [656] possibly 3.5m wide, 0.2m deep with flat base	Feature, possible plough furrow, possibly same as [655]
657	11B	Feature, 0.5m wide and 0.3m deep with steep, slightly concave sides and concave to flattish base	Feature
658	11B	Feature, 3.5m wide and 0.1-0.2m deep with flat base	Feature, possible plough furrow
659	11B	Feature, 0.6m deep and 1.6m wide with steep side at northeast, side unclear at southwest, with flat base	Feature
660	11B	Feature, 3m wide and 0.7m deep with gently sloping sides and concave profile	Feature
661 = 694	11B	Linear feature, 0.7m deep and 0.4m wide with vertical sides and concave base	Land drain
662 = 696	11B	Linear feature, 0.7m deep and 0.4m wide with vertical sides and concave base	Land drain
663	11B	Mid reddish with greyish mottles with occasional limestone, up to 0.50m thick	Possible buried soil

Context Number	Field	Description	Interpretation
664	11B	Mid to dark greyish brown deposit, 0.50m thick	Layer, possible occupation layer or buried topsoil
665	11B	Mid grey deposit with yellow mottles and charcoal flecks, 0.5m thick	Fill of possible ditch [632]
666	11B	Mid grey deposit with yellow mottles and charcoal flecks, 0.65m thick	Fill of possible ditch [633]
667	11B	Very dark greyish-brown deposit with moderately frequent limestone, and lens of redeposited natural material, 0.7m thick	Fill of possible ditch [634]
668	11B	Mid grey deposit with frequent limestone, 0.5m thick	Fill of possible ditch [635]
670	11B	Deposit, 0.7m thick	Fill of land drain [669=636]
671	11B	Dark blackish-brown deposit with yellow mottles and occasional bone, 1m thick	Fill of possible ditch [637]
672	11B	Mid to dark brown deposit, 0.5m thick	Fill of possible ditch [638]
673	11B	Mid yellow deposit, possibly comprising redeposited natural material, 0.2m thick	Layer, probably of redeposited natural, at southwest forms a fill of possible ditch [638]
674	11B	Possibly firm deposit of cobbles and pebbles, 0.2m thick and 3m extent northwest to southwest	Possible mettled surface
675	11B	Possibly firm deposit of cobbles and pebbles, 0.2m thick and 1.3m extent northwest to southwest	Possible mettled surface
676	11B	Mid to dark blackish-brown deposit, 0.20m thick	Possible occupation layer or topsoil
677	11B	Mid to dark greyish-brown deposit, 0.2m thick	Fill of possible plough furrow [643]
678	11B	Deposit, 0.9m thick	Fill of possible ditch [642]
679	11B	Deposit, 0.8m thick	Fill of [735]
680	11B	Dark blackish deposit with occasional limestone and burnt, red material, 0.5m thick	Fill of feature [644]
681	11B	Deposit, 0.2m thick	Fill of possible plough furrow [647]
682	11B	Light to mid yellow/grey deposit, 1.2m thick	Fill of feature [648]
683	11B	Light yellowish-grey deposit, possibly of redeposited natural, 0.8m thick	Fill of [736]
684	11B	Mid to dark grey deposit, 1m thick	Fill of feature [650]
685	11B	Mid to dark grey deposit, 0.5m thick	Fill of feature [651]
686	11B	Mid to dark grey deposit, 0.8m thick	Fill of feature [652]
687	11B	Mid to dark grey deposit, 0.3m thick	Fill of feature [653]
688	11B	Mid to dark grey deposit, 0.3m thick	Fill of feature [654]
689	11B	Deposit, 0.2m thick	Fill of possible plough furrow [655]
690	11B	Dark blackish-brown deposit, 0.3m thick	Fill of feature [657]
691	11B	Deposit, 0.1-0.2m thick	Fill of possible plough furrow [658]
692	11B	Mid to dark brown deposit with occasional burnt stone, 0.6m thick	Fill of feature [659]
693	11B	Mid reddish-brown deposit, possibly silty clay, 0.7m thick	Fill of feature [660]
695	11B	Deposit, 0.7m thick	Fill of land drain [661=694]
697	11B	Deposit, 0.7m thick	Fill of land drain [662=696]
698	11B	Deposit, 0.2m thick	Possible surface
699	7B	Firm, mid yellowish-brown stone rubbles with occasional brick fragments, 0.40m thick	Farm track make-up layer
700	7B	Firm, dark greyish-brown clayey silt with occasional ceramic land drain fragments, 1.30m thick	Fill of possible ditch [729]

Context Number	Field	Description	Interpretation
701	7B	Firm, light grey and light yellowish-brown mottled clayey silt, over 0.30m thick	Natural layer
702	7B	Firm, mid yellowish-brown clayey silt with occasional small pebbles, 0.40m thick	Subsoil, possibly partly formed through hillwash
703	7B	Soft, mid greyish-brown silt, 0.85m thick	Deposit
704	7B	Firm, light yellowish-brown to light brownish-grey silty clay, 0.35m thick	Natural
705	8B	Firm, light yellowish-grey clay with moderately frequent small to medium fragments of ceramic building material, 0.90m thick	Natural
706	8B	Firm, mid grey clay, over 0.20m thick	Natural layer
707	8B	Compact, mid to dark brown clayey silt, 0.70m thick	Probable natural layer
708	8B	Firm, dark brown silty clay and ceramic building material fragments, 0.20 to 0.55m thick	Dumped layer containing fragments of ceramic building material
709	8B	Soft, light brownish-yellow sandy silt, 0.10 to 0.30m thick	Natural or redeposited natural layer
710	12B	Possibly linear feature, with moderately steep side at southwest, gradual slope at northeast with flattish base, 10m wide and 1.1m deep	Feature, possible ditch
711	12B	Deposit, possibly of mid to dark grey silty sand, 1m thick	Fill of possible ditch [710]
712	12B	Deposit, possibly of mid to dark grey silty sand with black lens, 0.5m thick	Fill of possible ditch [615]
713	12B	Deposit, possibly of mid to dark grey silty sand with black lens, 1.1m thick	Fill of possible ditch [614]
714	12B	Deposit, possibly of mid to dark grey silty sand with black lens, 0.7m thick	Fill of possible ditch [613]
715	12B	Deposit, possibly of mid to dark grey silty sand with black lens, 0.5m thick	Fill of possible ditch [612]
716	12B	Dark black clay and silt with frequent charcoal flecks, occasional fired clay and small burnt stones	Fill of possible ditch [618]
717	11B	Dark blackish deposit with limestone, occasional burnt, and iron-rich lenses, 1m thick	Fill of possible ditch [639]
718	11B	Dark blackish-brown deposit with frequent limestone, 0.45m thick	Fill of possible ditch [640]
719	11B	Deposit, 0.20m thick	Fill of possible plough furrow [645]
720	11B	Light to mid grey deposit with charcoal, 0.5m thick	Fill of possible ditch [646]
721	11B	Dark black deposit with occasional limestone, 0.7m thick	Fill of feature [641]
722	11B	Mid grey deposit, 0.7m thick	Fill of feature [649]
723	11B	Light to mid yellow (possibly clay) and light grey (possibly silty clay) deposit, over 2m thick, the two types forming wide vertical bands extending across over 90m at the northeast of the field.	Natural deposit
724	9B	Soft to firm, mid yellowish-brown very slightly silty clay, 0.80m thick	Natural layer
725	9B	Soft to firm, mid grey very slightly silty clay with white powdery lenses and yellow mottles, over 0.90m thick	Natural layer
726	Pump stn.	Soft/friable, dark brown silty sand, 0.25m thick	Topsoil and turf
727	Pump stn.	Firm, light to mid pinkish-yellow limestone brash, 0.60m thick	Natural layer
728	Pump stn.	Possibly firmish, mid yellowish-brown fine-grained deposit, over 0.75m thick	Natural layer
729	7B	Possible ditch cut	Possible ditch
730	8B	Firm, light bluish-brown clay, 1.80m thick	Natural or redeposited natural associated with [1520]

Context Number	Field	Description	Interpretation
731	8B	Firm, light reddish-brown clay, 0.60m thick	Natural or redeposited natural associated with [1520]
732	8B	Mid grey compact clay, 0.10m thick	Natural or redeposited natural associated with [1520]
733	11B	Mid greyish with reddish mottles with occasional limestone, up to 0.80m thick	Possible buried soil
734	11B	Mid to dark blackish-brown deposit, 0.20m thick	Possible occupation layer or topsoil
735	11B	Indeterminate feature, 0.80m deep with flattish base	Possible feature
736	11B	Indeterminate feature, 0.80m deep with flattish base	Possible feature

Excavation Area 1

Context Number	Description	Interpretation
009	Unstratified finds from cleaning of building	
010	Unstratified finds from cleaning of building	
011	Unstratified finds from cleaning of building	
012	Unstratified finds from cleaning of building	
013	Unstratified finds from cleaning of area to west of building	
014	Unstratified finds from cleaning of building	
015	Unstratified finds from cleaning of area to east of building	
016	Unstratified finds from cleaning of area to west of building	
017	Unstratified finds from cleaning of building, Grid square 20E/10N	
018	Unstratified finds from building (including spoil finds)	
019	Unstratified finds from cleaning of area to west of building	
020	Unstratified finds from cleaning within area bounded by walls (059), (060) (046) & (088)	
021	Firm, mid greyish-brown fine sandy silt matrix (*c.* 60%) and limestone rubble (cobbles and larger) (*c.*40%), containing occasional charcoal, mortar and burnt stone, 0.15m thick	Rubble, collapse/demolition layer or surface
022	Soft to firm dark black and reddish silty charcoal-rich deposit with occasional iron flecks and fragments, 40mm thick	Charcoal rich lens, possibly a small dumped deposit
023	Finds from either (039), (038) or (041)	
024	Finds from either (148) or (109)	
025	Firmish, dark grey-brown clayey sand (*c.*20%) and limestone fragments (*c.*80%) with moderately frequent fragments of ceramic building materials, 0.20m thick	Rubble, collapse/demolition layer
026	Moderately firm mottled dark red, greyish-brown and pinkish sandy clayey silt with frequent pebbles, charcoal and wall plaster fragments, 100mm thick	Burnt layer containing wall plaster located on east (internal?) side of wall (043)
027	Firmish mid to dark greyish- olive-brown clayey silty sand (*c.*40%) and limestone fragments (*c.*60%) with occasional tile fragments	Rubble, collapse/demolition layer or make-up for a (now lost) floor. Same as (044) and (121)
028	Softish mid to dark olive- greyish-brown and light whitish-yellow clayey silty sand and decayed mortar with moderately frequent limestone fragments	Mortar-rich patch located on south (internal) side of wall (046). Possibly contemporary with similar layer (079). Reflects decay of building
029	Firmish mid to dark greyish-brown clayey silty sand (*c.*60%) and limestone fragments (*c.*40%) with occasional charcoal flecks, 0.17m thick	Backfill of robber trench [097]
030	Firmish mid yellowish-brown slightly clayey sandy silt with occasional charcoal and possible mortar flecks, 20mm thick	Layer, same as (075), (112), (054), (142) and (048) and possibly same as (063), (100) and (101)
031	Firmish mid greyish-brown sandy silt with *c.*30% pebbles and cobbles and frequent mortar fragments and occasional charcoal flecks and fragments, 0.20m thick	Layer – occupation/build-up?

Context Number	Description	Interpretation
032	Moderately firm mid (slightly greyish-) brown and mid to light brownish-yellow and reddish-yellow silty clayey sand (*c.*60%) and limestone (*c.*40%), some of which being burnt, with moderately frequent ceramic building materials including tile and occasional charcoal, 60mm thick	Rough surface? Possibly same as (085)
033	Soft, dark grey sandy silt and fire debris with frequent charcoal flecks, 40mm thick	Occupation deposit
034	Soft light yellowish-brown, scorched to mid pinkish-red in middle, clayey sand and mortar with frequent grit, 10mm thick	Layer, probably scorched in-situ through use of hearth (050)
035	East-west aligned stone-built feature, with faces to north and south, at least 4m long and *c.*0.60m wide. Single course of limestone blocks remaining. Ploughed-out at western end and robbed out at eastern end (089). Core comprises un-coursed, smaller rubble.	East-west aligned limestone wall of building, same as (036) and (089)
036	East-west aligned stone-built feature, with faces to north and south, at least 2.20m long and *c.*0.55m wide. Single course of limestone blocks remaining. Robbed at east [097] and west (089). Core comprises un-coursed, smaller rubble.	East-west aligned limestone wall of building, same as (035) and (089)
037	Firm, light yellowish-brown and mid reddish-brown in patches silty clay and *c.*35% limestone pebbles	Natural layer
038	Firm mid yellowish-brown and grey sand, silt and small pebbles with over 20% mortar, 70mm thick	Mortar and pebble surface
039	Firmish mid to dark greyish and yellowish-brown sandy silt and *c.*70% limestone rubble, with occasional tile and oyster shell, 0.20m thick	Possible collapse/demolition layer
040	Firm, mid greyish-brown fine sandy silt matrix (*c.* 60%) and limestone rubble (cobbles and larger) (*c.*40%), containing occasional charcoal, mortar and burnt stone	Rubble, collapse/demolition layer or surface
041	Softish mid greyish-brown silt and sand with occasional charcoal, mortar flecks and pebbles, 50mm thick	Possible occupation layer
042	Stone-built feature, with faces to the south and west, at least 1.50m east-west and at least 0.70m north-south. Single course of stones forming edges at south and west, built onto rubble (109)	Stone structure inside building, possibly a hearth and possibly same as (138) and [129]
043	North-south aligned stone-built feature, with faces to east and west, over 7.70m long and 0.86m wide	North-south aligned limestone wall
044	Firm, dark olive-brown sandy silt with frequent tile and limestone fragments, 0.15m thick	Rubble, collapse/demolition layer or make-up for a (now lost) floor. Same as (027) and (121)
045	Firm, dark reddish-brown sandy silt with frequent pebbles and pea gravel and occasional flint and ceramic building materials, 0.35m thick	Topsoil across excavation area
046	East-west aligned stone-built feature, with faces to north and south, 9.80m long, 0.56m wide and 0.28m thick. Up to three courses of limestone blocks. Core comprises un-coursed, smaller rubble.	East-west aligned limestone wall of building
047	Firmish mid brownish-yellow clayey sand with frequent grit and limestone fragments and occasional charcoal flecks, 60mm thick	Clayey sand dump, possibly forming rough flooring
048	Firmish, mid olive-brown clayey silty sand with frequent grit and small limestone fragments and occasional charcoal, 120mm thick	Layer, same as (075), (112), (030), (142) and (054) and possibly same as (063), (100) and (101)
049	Soft, dark red, dark purplish-red and light whitish yellow burnt silt and ash with some patches of decayed limestone or lime mortar with occasional limestone blocks and frequent charcoal, 0.18m thick	Fire residue associated with in-situ burning within hearth (050=120)
050	Limestone blocks forming structure, *c.*0.60m wide and 0.23m deep, stones scorched on internal edges indicating in-situ burning	Hearth, same as (120)
051	Softish, dark grey to black silty fire residue with charcoal flecks and fragments	Fire residue

Context Number	Description	Interpretation
052	Firmish, mid, slightly olive-brown clayey sand with frequent grit and limestone fragments and occasional larger limestone rubble fragments, some being scorched, 0.28m thick	Demolition/collapse material infilling hearth (050). Possibly same as (132)
053	Firmish mid brownish-yellow and mid olive-grey clayey sand with frequent grit small limestone fragments, 0.14m thick	Deposit, possibly backfill between wall (059) and fire structure (050=120)
054	Firmish, mid olive-brown clayey silty sand with occasional charcoal flecks, 50mm thick	Layer, same as (075), (112), (030), (142) and (048) and possibly same as (063), (100) and (101)
055	Firm, mid reddish-brown clay and clayey sand, 0.18m thick	Natural layer
056	Void	
057	Firm, mid reddish-brown clay and clayey sand, 0.22m thick	Natural layer
058	Void	
059	East-west aligned stone-built feature, with faces to north and south, 9.96m long, 0.35m deep and *c.*0.70-0.80m wide. Three courses of limestone blocks remaining. Robbed out at eastern end by [137]. Core comprises un-coursed, smaller rubble.	East-west aligned limestone wall of building, probably contemporary with walls (066) and (126)
060	North-south aligned stone-built feature, with faces to east and west, 3.74m long, 0.26m deep and *c.*0.55m wide. Three courses of limestone blocks remaining. Core comprises un-coursed, smaller rubble.	North-south aligned limestone wall of building, contemporary with wall (046)
061	Firmish, light brownish-yellow gravel and mortar, 100mm thick	Gravel and mortar floor surface
062	Firm, mid grey and dark brown limestone fragments and clayey silt, 50mm thick	Stone foundation layer under surface (061)
063	Firmish, dark brown sandy silt, 0.13m thick	Layer, possibly same as (075), (112), (030), (142), (054), (048), (100) and (101)
064	Firmish, whitish, yellowish and light brown silty clay and limestone, over 0.13m thick	Natural layer
065	Firmish, light yellowish-brown silty clay, over 0.13m thick	Natural layer
066	North-south aligned stone-built feature, with faces to east and west, over 2.96m long, 0.22m deep and *c.*075-0.80m wide. Two courses of limestone blocks remaining. Core comprises un-coursed, smaller rubble.	North-south aligned limestone wall of building, probably contemporary with walls (059) and (126)
067	Firmish dark brownish-grey sandy silt and limestone fragments	Rubble make-up layer, same as (109), (136), (078) and (086)
068	Firm to indurated mid brown sandy silt matrix with *c.*80% limestone blocks	Either a rough surface of stones pressed into natural clay or rubble foundation. Possibly same as (102), (084), (091) and (092)
069	Soft dark black, mid red and mid brown silty ashy deposit, 20mm thick	Small dump of burnt silt and ash
070	Firmish, dark reddish-brown and grey sandy silt and limestone, much of the limestone being burnt, with frequent reddish and blackish burnt material, 0.15m thick	Collapse/demolition debris including burnt material
071	Firm, mid brown sandy silt and *c.*30% limestone fragments with charcoal and mortar, 50mm thick	Possible occupation layer or could be a collapse/demolition layer
072	Firm, mid brown slightly clayey sandy silt and *c.*40% limestone cobbles and pebbles, 80mm thick	Collapse/demolition layer, possibly same as (148)
073	Firm, pinkish pea gravel, small pebbles and limestone fragments, 50mm thick	Gravel surface

Context Number	Description	Interpretation
074	Firm mid yellowish-brown clayey silt and limestone fragments with occasional charcoal flecks, 100mm thick	Limestone-rich layer, possibly part of a buttress. Same as (151)
075	Firm, mid greenish-grey silty clay with moderately frequent limestone fragment and occasional flint pebbles, 0.15m thick	Layer, same as (054), (112), (030), (142) and (048) and possibly same as (063), (100) and (101)
076	Softish, mid olive-brown sandy silt, 50mm thick	Indeterminate deposit
077	Firm, mid red, dark black, mid grey and mid brown patchy silt and ash with occasional small pebbles	Burnt silt and ash within possible hearth [129].
078	Firm mid yellowish-brown limestone rubble and sandy clay	Rubble make-up layer, same as (109), (136), (067) and (086)
079	Firm, mid brown silt and mortar with occasional pebbles, 50mm thick	Mortar-rich patch located on north (internal) side of wall (059). Possibly contemporary with similar layer (028). Reflects decay of building
080	Soft, black charcoal layer, 10mm thick	Charcoal-rich lens. Possibly associated with either use of heath [129] etc or collapse/demolition of building
081	Firm, mid yellowish-brown silt and mortar, 70mm thick	Mortar-rich layer. Possibly associated with use of building or subsequent collapse/demolition/decay.
082	Loose mid to darkish brown sandy silt and *c.*70% limestone rubble with occasional charcoal	Rubble, probably forming make-up/structural layer. Possibly part of hearth (138), (042) and [129]. Possibly same as (138) and (099)?
083	Firm mid yellowish-brown sandy silt with occasional charcoal flecks and pebbles	Same as (150)? Possibly a fill of [111]?
084	Firm, limestone fragments in mid brown matrix	Either a rough surface of stones pressed into natural clay or rubble foundation. Possibly same as (102), (068), (091) and (092)
085	Firm light brownish-yellow gravel and mortar, 50mm thick	Mortar surface
086	Firmish, dark brown sandy silt, 50mm thick	Rubble make-up layer, same as (109), (136), (078) and (067)
087	Firmish, mid brownish-yellow sandy clay and limestone, over 100mm thick	Natural layer
088	North-south aligned stone-built feature, with faces to east and west, *c.*3.70m long, 0.11 m deep and *c.*0. 55m wide. A single course of limestone blocks remaining. Ploughed-out at north. Core comprises un-coursed, smaller rubble.	North-south aligned limestone wall of building, possibly contemporary with walls (046) & (060)
089	Firm mid yellowish-brown mortar and limestone pebbles, 100mm thick, 2.10m long and 0.43m wide	Robbed-out remains of east-west aligned wall of building, same as (035) and (036)
090	Firm mid to dark greyish-brown sandy silt and *c.*60% limestone fragments, occasionally burnt, up to 0.15m thick	Possible surface
091	Firmish mid to dark olive-brown silty clayey sand matrix with *c.*90% cobbles and limestone blocks and occasional charcoal flecks	Possible rubble foundation. Possibly same as (102), (068), (084) and probably same as (092)

Context Number	Description	Interpretation
092	Firmish dark olive-brown with light yellowish-brown and darker grey patches silty clayey sand with *c.*70% limestone fragments, occasional pebbles and charcoal flecks	Either a rough surface of stones or rubble foundation. Possibly same as (102), (068), (084) and probably same as (091)
093	Firmish, mid to dark olive- greyish-brown clayey silty sand with frequent limestone fragments and occasional charcoal	Indeterminate deposit
094	Firmish mid to dark greyish-brown clayey silty sand with frequent small limestone fragments and occasional charcoal, 70mm thick	Probable collapse/demolition layer, possibly same as (095)
095	Firmish mid to dark greyish-brown clayey silty sand and *c.*50% limestone pebble-sized fragments with frequent larger limestone fragments, moderately frequent tile fragments and occasional charcoal flecks, 0.12m thick	Probable collapse/demolition layer, possibly same as (094)
096	Firmish mid to dark olive- greyish-brown clayey silty sand with frequent small limestone fragments and moderately frequent larger limestone fragments, 50mm thick	Occupation/accumulated layer over surface or rubble foundations (092)
097	Roughly east-west aligned, approximately linear feature, with irregular edges with sharp break of slope at base and uneven base, 0.17m deep	Robber trench, marking robbing of walls (043) and (036)
098	Firmish mid to dark greyish-brown clayey silty sand and *c.*50% small limestone fragments with frequent larger limestone fragments, and occasional charcoal and tile fragments, 0.17m thick	Deposit, either a make-up layer of rubble or spread of demolition/collapse material
099	Limestone rubble	Rubble, probably forming make-up/structural layer. Possibly part of hearth (138), (042) and [129]. Possibly same as (138) and (082)?
100	Softish mid yellowish-brown slightly clayey silty sand with moderately frequent pebbles, 50mm thick	Layer, probably occupation layer and same as (101). Possibly same as (054), (112), (030), (142), (075), (063) and (048)
101	Soft, mid to dark grey with mid brown mottles, charcoal-rich sandy silt, 60mm thick	Layer, probably occupation layer and same as (100). Possibly same as (054), (112), (030), (142), (075), (063) and (048)
102	Firm lightish yellowish-brown silty sand mortary matrix with at least 70% gravel	Either a surface of mortar and gravel or foundation. Possibly same as (092), (091), (084) and probably same as (068)
103	Firmish dark pinkish-red clayey sand with moderately frequent burnt limestone fragments	Burnt silt, representing a hearth base
104	East-west aligned stone-built feature, with faces to north and south, *c.* 1m long, *c.*0.50m wide and 30mm deep. Single course of limestone blocks remaining. Core comprises un-coursed, smaller rubble.	East-west aligned limestone structure, possibly either a buttress to wall (066) or the remains of a largely truncated additional wall of the building
105	Loose light brown limestone pebbles and grit with occasional charcoal flecks, 20mm thick	Gravel deposit
106	Softish dark grey with mid to dark greyish-brown mottles ashy sandy silt with frequent charcoal	Layer containing fire residue
107	Soft mottled mid greyish-brown and yellowish-brown clayey sandy silt with frequent pebbles, occasional mortar flecks and lumps and occasional charcoal flecks, 0.12m thick	Indeterminate deposit containing some occupation material
108	Firmish mid to dark olive- greyish-brown clayey silty sand with *c.*50% limestone fragments and occasional charcoal flecks and ceramic building material fragments, 0.12m thick	Rubble deposit, possibly a make-up layer for now-truncated floor layers

Context Number	Description	Interpretation
109	Firmish, mottled mid to dark olive-greyish-brown and light yellowish brown with some (possibly scorched) red patches clayey sand with *c.*60% large limestone fragments and moderately frequent charcoal flecks and occasional ceramic building material fragments	Rubble make-up layer, same as (067), (136), (078) and (086)
110	Firmish, mid greyish- greenish-brown sandy silt with occasional limestone pebbles, 0.50m thick	Deposit, fill of possible ditch or pit [111]
111	Possible westnorthwest-eastsoutheast aligned linear feature, over 4.10m long, 1.60m wide, possibly with a 'U'-shaped profile	Possible ditch or elongated pit
112	Firmish mid olive- greyish-brown clayey silty sand with occasional charcoal flecks, frequent small limestone fragments and moderately frequent larger limestone fragments	Layer, same as (054), (075), (030), (142) and (048) and possibly same as (063), (100) and (101)
113	Firm, light brownish-yellow sandy clay with frequent small limestone fragments, 50mm thick	Layer, possible hearth base along with (103)
114	Firmish mid to dark slightly olive greyish-brown clayey silty sand with frequent small limestone fragments, 90mm thick	Possible dumped deposit Possibly same as possible make-up layers (027), (121) and (044)
115	Firm, light brownish-yellow clay with mid brownish- yellowish-red sandy patches and frequent limestone fragments	Natural layer
116	Firmish, mid to dark olive- greyish-brown clayey silty sand with frequent small limestone flecks and fragments, 60mm thick	Indeterminate layer
117	Firmish, mid to dark olive- greyish-brown clayey silty sand with *c.*60% large limestone fragments and occasional tile fragments, 100mm thick	Jumbled masonry deposit, probably from collapse/demolition of building
118	Light to mid brown clayey sandy silt with occasional charcoal flecks and fragments	Indeterminate layer underlying probable wall (126). Possibly same as (127)
119	Softish mid greyish-brown clayey sandy silt with frequent small limestone fragments and occasional charcoal flecks, 60mm thick	Indeterminate layer. Same as (130)
120	Structure constructed from limestone blocks. Single course of laid stones, placed over rubble (109) and deposit (128). Internal semi-circular plan exposed, and together with (050), forms an internally oval feature, possibly rectangular externally, *c.*1.30m wide, *c.*2.00m long and *c.*0.30m deep. Stones scorched on internal edges indicating in-situ burning	Hearth, same as (050)
121	Soft mid reddish-brown slightly clayey fine sandy silt with moderately frequent charcoal flecks and fragments, and occasional mortar flecks and fragments, limestone rubble and reddened burnt silt lumps, 50mm thick	Rubble, collapse/demolition layer or make-up for a (now lost) floor. Same as (027) and (044)
122	Friable, mid yellowish- reddish-brown with reddish-yellow mottles sandy clay with frequent small to medium limestone fragments and moderately frequent small tile fragments	Deposit, reflects former location of wall (035=036) and subsequent robbing of the wall. Possibly same as (029)
123	Soft mid greyish-brown clayey sandy silt with *c.*70% large limestone fragments and occasional charcoal flecks, 0.12m thick	Rubble deposit, possibly demolition/collapse or make-up/levelling layer
124	Soft mid greyish-brown clayey silty sand with *c.*50% limestone fragments and occasional charcoal flecks, 0.23m thick	Probable make-up/levelling layer. Possibly same as (109)
125	Firmish, mid brownish-yellow (yellowish colour possibly due to the inclusion of mortar) clayey sand with frequent grit and occasional charcoal flecks, 50mm thick	Layer, possible construction debris. Possibly same as (140)

Context Number	Description	Interpretation
126	Cobble-sized limestone fragments over an area of approximately 0.60m by over 2.00m, north-south aligned	Limestone spread, probably the remains of a former wall of building truncated by ploughing and possibly robbed. Probably contemporary with walls (059) and (066).
127	Soft, mid brown silt and clay with occasional charcoal flecks and fragments and limestone rubble	Indeterminate layer underlying possible buttresses (134) and (135). Possibly same as (118)
128	Soft to firm mid (bright) red fine sandy silt, 0.25m thick, located around internal edges of hearth (120)	Deposit, colour reflects alteration of pre-existing deposits through in-situ burning during use of hearth (120)
129	Rectangular feature with a rounded end, over 0.80m by 0.45m in extent and 0.12m deep with steepish sides and flattish base	Possible cut of hearth, certainly a depression containing hearth material. Hearth possibly same as structure (042) and (138)
130	Softish mid brown clayey silty sand with frequent grit, moderately frequent limestone fragments and occasional charcoal flecks, 50mm thick	Indeterminate layer. Same as (119)
131	Loose, mid greyish-brown clayey silty sand with *c.*70% limestone fragments and occasional charcoal flecks, 0.25m thick	Backfill of robber trench [137]
132	Loose to firmish, mid greyish-brown and yellowish brown mottled slightly clayey sandy silt with *c.*60% limestone rubble, occasionally burnt, with frequent mortar and occasional charcoal, 0.30m thick, within heart (120)	Demolition/collapse material infilling hearth (120). Possibly same as (052)
133	Soft, dark greyish-brown sandy and clayey silt with frequent charcoal and occasional mortar and ceramic building materials, 30mm thick	Occupation layer overlying mortar floor (085). Probably contemporary with use of hearth (120=050)
134	Cobble-sized limestone fragments over an area of approximately 0.50m by 0.50m	Limestone spread, possibly the remains of a former buttress of building (probable wall (126)) truncated by ploughing and possibly robbed. Probably contemporary with possible buttress (135)
135	Cobble-sized limestone fragments over an area of approximately 0.50m by 0.70m	Limestone spread, possibly the remains of a former buttress of building (probable wall (126)) truncated by ploughing and possibly robbed. Probably contemporary with possible buttress (134)
136	Firmish light brownish-yellow with mid brownish-red patches clayey sand with *c.*50% limestone fragments	Rubble make-up layer, same as (067), (109), (078) and (086)
137	East-west aligned linear feature, 0.70m wide, 1.20m long and 0.25m deep with vertical sides and flattish base	Robber trench – robbing of stone wall (059), and possibly also wall (060)
138	Vertically-placed limestone fragment, at interface of (136) and (082)	Stone structure inside building. Possibly part of the same hearth represented by (042) and [129]

Context Number	Description	Interpretation
139	Soft, mid to dark brownish-grey clayey sandy silt with moderately frequent charcoal flecks and frequent grit an small limestone fragments, 20mm thick	Occupation layer, possibly associated with construction of (109) etc.
140	Firmish light brownish-yellow clayey sand with frequent small limestone fragments, 20mm thick	Layer, possible construction debris. Possibly same as (125)
141	Soft, mid to light slightly yellowish-brown silty clayey sand with frequent small limestone fragments and moderately frequent charcoal fragments, 80mm thick	Sandy deposit, possibly associated with construction of wall (059)
142	Firmish mid to dark slightly olive- greyish-brown clayey sandy silt with occasional charcoal flecks and frequent small limestone fragments and pebbles, 30mm thick	Layer, same as (054), (075), (030), (112) and (048) and possibly same as (063), (100) and (101)
143	Unstratified finds after cleaning of building, Grid square 10E/10N	
144	Unstratified finds after cleaning of building, Grid square 20E/10N	
145	Unstratified finds after cleaning of building, Grid square 20E/15N	
146	Unstratified finds from *c.*90m east of building	
147	Finds retrieved from beneath wall (088) on removal of part of wall to clear pipe trench.	
148	Firm, mid yellowish-brown silt and sand with *c.*60% medium to large limestone fragments, with occasional charcoal, mortar, burnt stones and roof tile	Rubble/collapse inside building. Possibly same as (072)
149	Firm, light yellowish-brown mortar	Mortar surface. Either associated with base of hearth (120) or an earlier floor level.
150	Void	
151	Void	

Excavation Area 2

Context Number	Description	Interpretation
1000	Unstratified finds from excavation area	
1001	Unstratified finds from adjacent field, immediately to west of excavation area	
1002 = 1012	Soft, dark blackish brown, slightly fine sandy and clayey silt with occasional charcoal flecks and fragments and pebbles, up to 80mm thick	Layer overlying surface (1003). Former topsoil containing occupation material
1003 =? 1037	Firm, mettled surface of pebbles and cobbles, mainly of limestone (c. 80%), in a matrix of dark black mottled clayey silt. Contained occasional burnt stones, flint/chert and rounded pebbles. 40mm thick, extent *c.*6.20m along pipe trench by over *c.*4.35m	Mettled surface of yard or road
1004 = 1011	Friable, mid brown with black flecks, sandy silt with occasional charcoal, 100mm thick, extending along *c.*12.80m of pipe trench	Topsoil
1005	Firm, dark greyish- greenish-brown sandy silt with occasional limestone pebbles and cobbles, 0.50m thick	Primary fill of ditch(?) [1006]
1006	Possibly north-south aligned linear(?) feature with concave profile, 1.85m wide and 0.50m deep	Ditch(?)
1007	Firmish, mid to dark olive-grey with dark grey mottles and patches, clayey silty sand with occasional charcoal flecks and fragments possibly of coal, 0.13m thick	A fill of ditch(?) [1020]
1008	Firmish, mid to dark olive-grey matrix surrounding *c.*70% limestone fragments, each up to a maximum 250mm in diameter, 0.19m thick.	A fill of ditch(?) [1020], possibly comprising dumped rubble
1009	Firm Mid to dark olive- greyish-brown silty clayey sand with lighter yellowish-brown clayey mottles and occasional charcoal flecks and limestone fragments, 0.33m thick	A fill of ditch(?) [1020]
1010	Soft to firm darkish- blackish-brown slightly clayey and sandy silt with occasional charcoal flecks and fragments, pebbles and cobbles, including limestone and some burnt limestone, 0.94m thick	A fill of ditch(?) [1062]
1011 = 1004	Softish, dark blackish-brown slightly fine sandy and clayey silt with occasional pebbles and charcoal fragments and flecks, 100mm thick, extending along *c.*12.80m of pipe trench	Topsoil
1012 = 1002	Soft dark blackish-brown slightly clayey and sandy silt with occasional charcoal flecks/fragments and pebbles, up to 80mm thick	Former topsoil containing occupation material
1013	Softish mid grey, brown and yellowish mottled sandy and clayey silt with occasional pebbles and charcoal flecks/fragments, 90mm thick	Former topsoil containing occupation material

Context Number	Description	Interpretation
1014 = 1015 = 1027 = 1033	Soft to firm olive-brown with black flecks, sandy silt with moderately frequent charcoal, limestone (some of which were burnt), and iron slag, 0.43m thick	A fill of ditch(?) [1068]
1016	Soft mid greyish-brown with occasional yellow mottles, fine sandy silt with occasional pebbles and charcoal, 50mm thick	Layer of residual or former topsoil or possibly an upper fill of furrow [1019]
1017	Soft, mid grey and yellowish-brown mottled fine sandy silt with occasional pebbles and very occasional charcoal, 0.15m thick	Primary fill of furrow [1019]
1018	Firmish mid-yellowish-brown with greyish mottles, silty and fine sandy clay with occasional pebbles, over 0.47m thick	Natural layer
1019	Probably north-south aligned linear (?) feature, with slightly concave flattish base, 0.15m deep, *c.*3.60m wide and over 8.43m long	Plough furrow
1020	Probably north-south aligned linear (?) feature, with irregular steepish sides and a concave base, 0.53m deep, *c.*2.50m wide and possibly over 8.48m long	Probable ditch
1021	Softish dark grey sandy silt (ashy), with moderate charcoal flecks, 20mm thick	A fill of ditch (?) [1020], containing fire residue
1022	Firmish mid to dark olive-grey clayey silty sand with occasional charcoal flecks and limestone fragments, 0.25m thick	A fill of ditch (?) [1030]
1023	Firm, light yellow with mid to dark olive-grey mottles, sandy silt with occasional limestone fragments and charcoal flecks, 0.13m thick	A fill of ditch (?) [1030]
1024	Moderately firm, mottled light brownish-yellow and mid olive- greyish-brown, clayey silty sand with occasional limestone fragments, 0.30m thick	A fill of ditch (?) [1020]
1025	Softish, slightly-olive mid to dark grey clayey silty sand with occasional charcoal flecks and limestone, 0.16m thick	A fill in ditch (?) [1030]
1026	Firmish, mid to light brown (slightly-olive) with light whitish-yellow mottles, clayey silty sand with occasional charcoal flecks, 0.20m thick	Primary fill of ditch (?) [1030]
1027 = 1014 = 1015	Moderately firm olive-brown with black and red flecks, sandy silt with occasional charcoal, iron slag and burnt fragments, possibly of clay, 0.43m thick	A fill of ditch(?) [1068]
1028	Void	
1029	Moderately firm, mid to dark olive- greyish-brown with some light yellow patches and mottles, clayey silty sand with occasional charcoal flecks and limestone fragments, 0.21m thick	Primary fill of ditch (?) [1020]
1030	An apparently north-south aligned linear feature with gently sloping sides and a concave base, 0.65m deep, possibly over 8.43m long, approximately 1.35m wide	Probable ditch
1031	An irregularly-shaped feature, 0.28m by over 0.15m in extent	Probable animal burrow
1032	Olive-brown slightly clayey and sandy silt, 0.57m thick	Primary fill of ditch (?) [1068]

Context Number	Description	Interpretation
1033	Same as 1015	
1034	Soft, dark greyish-brown clayey silty sand with occasional small limestone fragments, approximately 7.25m by approximately 7.71m in extent	Layer, possibly residual overburden/ build-up
1035	Isolated human skull, apparently not part of an articulated skeleton, lying upside-down, on crown of head. Within deposit (1034)	Isolated human skull
1036	Firm, mid yellowish-brown clayey silt with occasional charcoal flecks, oyster shell, limestone fragments, chalk fragments & small to medium flint pebbles 0.12m thick	Deposit overlying surface (1037), possibly occupation layer
1037 =? 1003	Firm, mid reddish-brown clayey silt (c. 30%) and limestone fragments (c. 70%) with occasional flint pebbles, charcoal flecks and oyster shells, 70mm thick, possibly over 7.90m by over 2.50m in extent	Mettled surface of road or yard
1038	Firm, mid to dark olive- brownish-grey clayey silty sand with occasional limestone fragments and charcoal flecks, 0.13m thick	Primary fill of ditch (?) [1039]
1039	Probably north-south aligned linear feature, with shallow profile and flattish to concave base, 0.87m wide, 0.13m deep and possibly over 7.00m long	Ditch (?)
1040	Probably east-west aligned linear feature with steepish sides and flattish to concave base, possibly over 10.52m long, 0.67m deep and approximately 2.85m wide	Ditch (?)
1041	Probably north-south aligned linear feature with steepish sides and a flattish to concave base, with a slight concave slot in base at south, 1.10m deep, approximately 2.44m wide and possibly over 8.67m long	Ditch (?)
1042	Firm, dark grey clayey sandy silt with occasional limestone fragments, some being scorched, and occasional charcoal flecks, 0.66m thick	A fill of ditch (?) [1040]
1043	Firm, mid to dark brownish-grey with light yellowish-brown mottles (c.40%), clayey sandy silt with occasional limestone fragments and charcoal flecks, 0.50m thick	A fill of ditch (?) [1041]
1044	Soft mid to dark, slightly reddish, greyish-brown clayey silty sand with occasional limestone fragments and charcoal flecks, 0.28m thick	Primary fill of furrow [1072]
1045	Firm dark brownish-grey with light olive-brown mottles, clayey sandy silt with moderately frequent charcoal flecks and occasional limestone fragments, some being scorched, 0.25m thick	A fill of ditch (?) [1040]
1046	Void	
1047	Void	
1048	Void	
1049	Void	
1050	Void	
1051	Void	
1052	Void	
1053	Probably north-south aligned linear feature, with shallow profile and flat base, possibly over 8.30m long, possibly 5.21m wide and 0.21m deep	Plough furrow
1054	Moderately firm, mid brownish-grey sandy silt with occasional pebbles, 0.21m thick	Fill of furrow [1053]
1055	Deposit	

Context Number	Description	Interpretation
1056	Probably north-south aligned linear feature with shallow profile and flat base, 0.19m deep, possibly over 8.50m long and approximately 4.20m wide	Plough furrow
1057	Firm, mid greyish-brown clayey sandy silt with brownish-yellow to greenish-yellow mottles and occasional black (charcoal?) flecks and pebbles, 0.19m thick	Fill of furrow [1056]
1058	Possibly sub-circular feature, with steep to convex sides and a flat base, 0.10m deep, 0.26m by over 0.13m in extent	Feature, nature unclear as extends beyond limit of excavation
1059	Firm, dark greyish-brown clayey silt with moderately frequent black (charcoal?) flecks, 0.10m thick	Fill of indeterminate feature [1058]
1060	Possibly sub-oval feature, with steep sides and flat base, 0.20m deep, 0.45m by over 0.50m in extent	Feature, nature unclear as extends beyond limit of excavation
1061	Firm, dark greyish-brown with greyish mottles clayey silt with moderately frequent black (charcoal?) flecks, 0.20m thick	Fill of indeterminate feature [1060]
1062	Probably east-west aligned linear feature, with steepish to slightly concave sides, though not bottomed. Approximately 3.20m wide, over 1.45m long and over 1.16m deep	Ditch (?)
1063	Soft, light greyish-brown silty sand with occasional charcoal, over 0.15m thick	A fill of ditch (?) [1062]
1064	Soft light brownish-grey slightly sandy clayey silt with occasional small fragments of ironstone, over 0.21m thick	A fill of ditch (?) [1062]
1065	Firm, light yellowish- reddish- brown, sandy silt, 0.46m thick	A fill of ditch (?) [1062]
1066	Firm, light yellowish- reddish- brown sandy silt, 0.25m thick	A fill of ditch (?) [1062]
1067	Firm, yellowish- reddish -brown sandy silt, 0.16m thick	Fill of furrow [1070]
1068	Probably north-south aligned linear feature with fairly gently sloping, irregular sides and a concave base, 0.89m deep, width unclear but possibly over 7.46m in length	Ditch (?)
1069	Void	
1070	Probably north-south aligned linear feature, with shallow profile and flat base, 0.16m deep, possibly over 8.90m long by possibly 4.90m wide	Plough furrow
1071	Firm, mid to light slightly olive- yellowish-brown sandy clay with occasional charcoal flecks, 0.11m thick	Primary fill of ditch (?) [1040]
1072	Probably north-south aligned linear feature, with shallow profile and flattish base, 0.28m thick, possibly over 7.74m long by possibly over 6.81m wide	Plough furrow
1073	Firmish, dark grey with mid olive-brown patches and mottles, clayey sandy silt with occasional charcoal flecks and flints, 0.24m thick	A fill of ditch (?) [1041]
1074	Firmish, mid brown with reddish mottles and mid grey patches, clayey sandy silt with occasional charcoal flecks, 0.43m thick	A fill of ditch (?) [1041]
1075	Firmish, light brownish-grey with mid brown patches, clayey silty sand and occasional charcoal flecks, 0.14m thick	A primary fill of ditch (?) [1041]
1076	Firm, light greyish-brown clayey silt with occasional charcoal flecks and limestone fragments, 0.36m thick	A fill of ditch (?) [1080]
1077	Firm, light brownish-yellow with mid yellowish-brown mottles, clayey silt, 0.29m thick	A fill of ditch (?) [1080]
1078	Firm, light yellowish-brown fine slightly sandy silt, 100mm thick	A fill of ditch (?) [1080]
1079	Firm, light brownish-yellow and mid yellowish-brown mottled clayey silt, 0.26m thick	Primary fill of ditch (?) [1080]
1080	Probably north-south aligned linear feature, with steepish sides and an uneven, concave base, 0.47m deep, 2.02m wide by possibly over 2.40m long	Ditch (?)
1081	Firm, mid to light yellowish-brown sandy clay, 0.12m thick	A fill of ditch (?) [1041]

Context Number	Description	Interpretation
1082	Firmish, mid to dark grey clayey sandy silt with occasional charcoal flecks, 70mm thick	A fill of ditch (?) [1041]
1083	Firmish mid to light yellowish-brown sandy clay, 0.13m thick	A fill of ditch (?) [1041]
1084	Firmish, mid grey with mid to light brown patches and mottles, clayey silty sand with occasional charcoal flecks, 0.13m thick	A primary fill of ditch (?) [1041]
1085 =? 1087	Firmish, mid to dark brownish-grey with light brownish-yellow mottles, clayey sandy silt with occasional limestone fragments, 0.17m thick	Layer of former topsoil or subsoil
1086	Firmish, light whitish-yellow (c 70%) and mid greyish-brown (c.30%) clayey silty sand with occasional charcoal flecks, 50mm thick	Deposit representing area of root or animal disturbance
1087 =? 1085	Limestone fragments, up to 200mm x 200mm x 50mm, 0.18m thick	Deposit, probably part of former topsoil or subsoil (1085)
1088	Void	
1089	Void	
1090	Void	
1091	Void	
1092	Void	
1093	Void	
1094	Firmish, light grey and light reddish-yellow mottled clayey silt, over 0.44m thick	Natural layer
1095	Firm, red and yellow mottled clay with sand lenses, over 0.50m thick	Natural layer
1096	Firm, mid greyish-brown clayey silt with occasional charcoal and limestone fragments, approximately 1.80m thick	Fill of ditch (?) [1097]
1097	Probably north-south aligned linear feature with steep sides and a rounded base, 1.70m wide and 1.80m deep	Ditch (?)

Excavation Area 3

Context Number	Description	Interpretation
1500	Unstratified finds from spoil	
1501	Mid to dark olive- greyish-brown clayey silt with frequent land drain fragments and moderately frequent limestone fragments, 0.30m thick	Topsoil
1502	Mid to dark brownish-red silty clay and *c.* 50% land drain fragments, 0.24m thick	Dumped layer rich in land drain fragments, a fill of clay extraction pit [1520=1533=1534]
1503	Light brown and mid blue with darker brown mottles clay with occasional small tile/land drain fragments and limestone, 0.69m thick	Redeposited/dumped natural clay, a fill of clay extraction pit [1520]
1504	Void	
1505	Void	
1506	Mid greyish-brown silty clay and *c.* 40% limestone, and moderately frequent tile/land drain fragments, 0.15m thick	Mixed dumped layer of redeposited natural clay, limestone and tile/land drain fragments, a fill of clay extraction pit [1534]
1507	Mid olive-brown and red clay and *c.* 50% land drain fragments with occasional coal fragments, 30mm thick	Dumped layer rich in land drain fragments
1508	Mid olive-brown slightly sandy clay with moderately frequent tile/land drain fragments and occasional charcoal fragments, 0.13m thick	Redeposited/dumped natural clay, a fill of clay extraction pit [1525]=[1526]
1509	Mid to dark red with greyish patches tile fragments and *c.* 20% sandy clay with moderately frequent coal fragments, 0.19m thick	Dumped layer rich in tile fragments
1510	Mid olive-brown very slightly sandy clay with occasional ceramic building material and coal fragments, 0.15m thick	Redeposited/dumped natural clay, a fill of clay extraction pit [1525]=[1526]
1511	Mid olive-brown clay with occasional land drain fragments, 0.11m thick	Redeposited/dumped natural clay, a fill of clay extraction pit [1525]=[1526]
1512	Mottled, light yellow, light grey and mid olive-brown mixed sand, clay and sandy clay with occasional limestone, land drain/tile and brick fragments, 0.31m thick	Redeposited/dumped natural clay, a fill of clay extraction pit [1525]=[1526]
1513	Mid to dark olive-brown clay with occasional ceramic building material fragments, 0.65m thick	Redeposited/dumped natural clay, a fill of clay extraction pit [1525]=[1526]
1514	Light brown clay with frequent white powdery lenses, 0.23m thick	Probable natural clay layer
1515	Mid brown laminated clay, partly transformed to mudstone, over 0.28m thick	Natural clay layer, partly transformed to mudstone
1516	Mid olive-brown with yellow mottles clay with occasional flecks of black burnt material, possibly being slag, and ceramic building material, 0.13m thick	Redeposited/dumped natural clay, a fill of clay extraction pit [1520]
1517	Mid olive-brown and greyish-brown mottled mixed pure clay and fine sandy and silty clay with occasional burnt flecks and small fragments, possibly being slag, coal and ceramic building material, 0.19m thick	Redeposited/dumped natural clay, a fill of clay extraction pit [1520]
1518	Mid olive-brown clay, 70mm thick	Probable natural clay layer
1519	Mid greyish-brown (slightly bluish) clay, partly transformed to mudstone, over 0.13m thick	Natural clay layer, partly transformed to mudstone

Context Number	Description	Interpretation
1520	Large feature, the full extent of which was not revealed, with an irregular base, 0.82m deep	Cut of large clay extraction pit, possibly same as [1533, 1534, 1526 & 1525]
1521	Void	
1522	Mid olive-brown clay with frequent white powdery lenses, 0.14m thick	Probable natural clay layer
1523	Mid olive-brown with blue mottles clay, 0.35m thick	Redeposited/dumped natural clay, a fill of clay extraction pit [1520]
1524	Mid olive-brown and greyish-brown mottled mixed pure clay and fine sandy and silty clay with occasional burnt flecks and fragments, possibly being slag, and coal and ceramic building material flecks and fragments, 70mm thick	Redeposited/dumped natural clay, a fill of clay extraction pit [1520]
1525	Large feature, the full extent of which was not revealed, with an irregular base, 1.07m deep	Cut of large clay extraction pit, possibly same as [1533, 1534, 1526 & 1520]
1526	Large feature, the full extent of which was not revealed, with an irregular base, 1.07m deep	Cut of large clay extraction pit, possibly same as [1533, 1534, 1525 & 1520]
1527	Light bluish-grey and light brown mottled clay with frequent dark reddish-brown mottles, over 0.13m thick	Probable natural clay layer
1528	Dark greyish-brown clayey silt with frequent ceramic building material fragments, over 0.19m thick	Fill of land drain cut [1529]
1529	Linear feature with vertical sides, 0.14m wide by over 0.19m deep	Land drain cut
1530	Mid olive-green slightly silty clay with occasional flecks of ceramic building material, limestone and charcoal, 0.71m thick	Redeposited/dumped natural clay, a fill of clay extraction pit [1534]
1531	Mid bluish-brown and grey mottled clay with frequent white powdery lenses, 0.19m thick	Probable natural clay layer
1532	Mid reddish-brown and grey mottled clay, partly transformed to mudstone, over 0.15m thick	Natural clay layer, partly transformed to mudstone
1533	Large feature, the full extent of which was not revealed, with an irregular base, 0.84m deep	Cut of large clay extraction pit, possibly same as [1526, 1534, 1525 & 1520]
1534	Large feature, the full extent of which was not revealed, with an irregular base, 0.93m deep	Cut of large clay extraction pit, possibly same as [1526, 1533, 1525 & 1520]

Appendix 3

THE ROMAN POTTERY
By Barbara Precious

The pottery has been recorded according to the Study Group for Roman Pottery (SGRP) guidelines, using codes developed at the City of Lincoln Archaeological Unit, and sherd count and weight as measures. The site archive has been collated using Microsoft, excel (hap05.xls).

Introduction

The total assemblage, comprised of 1438 sherds weighing 18,338 grams, was recovered from three main areas of the pipeline: the watching brief (WB); the area of a building (1), and a second area (2). This total includes fragments of building material, two sherds of post-medieval pottery weighing 12 grams, and one sherd of Saxon pottery weighing 3 grams that have been passed to Jane Young for identification.

Excavations from the watching brief produced the smallest group (81 sherds, 1044 grams), with the largest coming from Area 1 (695 sherds, 6066 grams), followed by Area 2 (662 sherds, 11220 grams). Each area has been discussed separately in order to isolate any spatial differences.

Watching Brief (See Tables 1-3, below)

Most of the contexts comprising this group consist of small amounts of pottery, the largest being **525** with 29 sherds.

Dating (see Table 1, below).

This small group consists mainly of late Roman pottery ranging from the mid- to late 3rd to 4th, with some 4th and very late 4th century material including an inturned bead and flanged bowl (BIBF –**522**). The exception is **506** that produced a handmade sherd in a grog-tempered fabric, which is similar to some Late Iron Age types, as well as grey and coarse-tempered sherds of Roman date. Several contexts (**500**, **525**, **605**, **625**) also contain post-Roman wares, including a plain-rim bowl with a fabric containing rocks typical of the Charnwood area of Saxon date. This suggests some redistribution of the material.

Table 1: The date range for the watching brief by sherd count and weight

Strat	Context	Sherds	Grams	Sh/wt	Date range	Join
WB	1	1	5	5	RO	
WB	500	1	9	9	RO/POSTRO	
WB	503	1	7	7	RO	
WB	506	6	10	2	IA-RO	
WB	522	4	83	21	VL4	
WB	525	29	199	8	4C/POSTRO	
WB	527	1	7	7	RO	
WB	601	1	5	5	RO	
WB	605	13	125	10	M3+/POSTRO	
WB	625	7	83	12	3-4C/POSTRO	
WB	626	9	178	20	3-4C	
WB	631	8	333	42	ML3	
		81	1044	14	TOTAL	

Condition

There is a small amount of abrasion with three examples of heavy wear (**525**, **605**, **626**) on vessels in Nene Valley Grey ware (NVGW). Burning on vessels is limited to those used for cooking, including one vessel with a burnt interior, the handmade, grog-tempered jar mentioned above (**506**). This type of burning is rare on Roman vessels, but is frequently found on Iron Age and Saxon types.

The average sherd/weight ratio is generally low, again indicating redistribution of the pottery. Contexts **522** and **631** dating to the mid-to late 3rd and very late 4th century are the exceptions.
Sherd families are absent from this group, as are any vessels worthy of illustration.

Discussion (see Tables 2 and 3, below)

There are no imported wares from the Continent from this area of the pipeline, indicating occupation of rural and relatively low status. There is a small amount of finer Nene Valley products that were transported from the Peterborough area; the most common being Nene Valley Grey wares (NVGW & NVGWC). Grey wares, local to Lincolnshire, form the bulk of the assemblage and were commonly used as oven and oven to table wares. There is a small proportion of shell-tempered wares (SHEL), including those with fabrics containing punctate brachiapods typical of South Lincolnshire shell-tempered ware (SLSH). Vessels in these fabrics are also mainly cooking vessels.

Table 2: The Roman fabrics from the watching brief by sherd count and weight

Fabric	Code	Sherds	%	Grams	%
Coarse-tempered	COAR	2	2.60%	4	0.38%
Grey ware	GREY	45	58.44%	637	61.02%
Grog-tempered ware	GROG	1	1.30%	3	0.29%
Grey with brown surfaces	GYBN	4	5.19%	6	0.57%
Nene Valley colour-coated ware	NVCC	4	5.19%	118	11.30%
Nene Valley grey ware	NVGW	9	11.69%	184	17.62%
Nene Valley grey ware coarse variant	NVGWC	3	3.90%	20	1.92%
Shell-tempered	SHEL	5	6.49%	30	2.87%
South Lincs shell-tempered	SLSH	3	3.90%	39	3.74%
Saxon pottery	SPOT	1	1.30%	3	0.29%
	TOTAL	81	100.00%	1044	100.00%

Jars are the most common vessel type, but diagnostic features are few and are limited to a smashed, narrow-necked type that might have served as a liquid holder. Large jars or bowls appear to be quite common in terms of number of sherds, but this could be due to a higher survival rate as the sherds are more substantial. There is a single example of a beaker in Nene Valley colour-coated ware with fine, barbotine decoration. Although less common, there is a wider range of open forms, including plain and triangular rimmed types, wide-mouth and bead and flanged bowls.

Overall this small group is a reflection of the larger group from Area 2, being mainly of the same date and composition. It is quite different to the assemblage from Area 1.

Table 3: The Roman forms from the watching brief by sherd count and weight

Form	Code	Sherds	%	Grams	%
Undiagnostic		10	12.99%	24	2.30%
Open vessels	OPEN	1	1.30%	9	0.86%
Bowl	B	1	1.30%	14	1.34%
Bowl or dish	BD	6	2.60%	66	6.32%
Low bead and flange bowl	BFBL?	1	1.30%	8	0.77%
Inturned bead and flange bowl	BIBF	1	1.30%	10	0.96%
Plain rim bowl	BPR	1	1.30%	3	0.29%
Triangular rim bowl	BTR	2	2.60%	20	1.92%
Wide mouth Bowl	BWM	1	1.30%	57	5.46%
Closed vessels	CLSD	4	5.19%	42	4.02%
Barbotine beaker	BKBA	1	1.30%	3	0.29%
Jar or beaker	JBK	3	3.90%	6	0.57%
Jar	J	33	42.86%	295	28.26%
Jar or bowl	JB	3	3.90%	22	2.11%
Large jar or bowl	JBL	12	15.58%	412	39.46%
Narrow neck jar	JNN	1	1.30%	53	5.08%
	TOTAL	81	100.00%	1044	100.00%

Area 1

A high proportion of this large assemblage is derived from unstratified finds from the cleaning of Area 1, in particular (contexts **11** and **14),** and to the west of the building (context **13**). Nevertheless, there is sufficient material from stratified deposits to provide good dating evidence for the occupation and the status of the site. One fragment of building material from this area has unusual edges and may be part of a lamp chimney (LPCH, context **17**), a feature often found on buildings of some substance.

Dating (see Table 4, below)

There is no evidence for either Conquest period or later Roman occupation in this area, although a single sherd from **11** may be Iron Age in date. It is a handmade body sherd in a silty native-tradition fabric (NAT). This context also produced the earliest example of Roman pottery and a *terminus post quem*, a footring from a dish in South Gaulish samian stamped OF PONTI, the work of the potter Pontus who was operating at the La Graufesenque kilns from AD 60-90. Other sherds of South Gaulish samian came from this context together with early Roman wares including Pink and early Roman sandy grey wares (PINK and GRSA), but also a sherd of post-Roman pottery.

A few contexts are broadly dated from the later 1st to the 2nd century, but these have a 2nd century bias rather than later 1st. The bulk of the ceramic evidence indicates that the main occupation of this building is during the Antonine period, the mid- to late 2nd century. This is mainly based on the presence of 2nd century forms in Black-burnished ware 1 and 2 (BB1 and BB2), early beaker forms in Nene Valley colour-coated ware (NVCC BKRC and BKCOR), and a small amount of samian from Central Gaul.

Table 4: The date range for Area 1 by sherd count and weight

Strat	Context	Sherds	Grams	Sh/wt	Date range	Join
B	9	7	88	13	2C+	
B	10	7	68	10	L1-2C	
B	11	135	1428	11	ML2/PRO?	
B	12	12	50	4	2C+/PRO?	
B	13	121	815	7	2C	18;19;74;108
B	14	107	752	7	ML2/PRO?	15
B	15	9	54	6	ML2	14
B	17	10	71	7	L1-2C/PRO?	
B	18	13	56	4	ML2	13;19;74;108
B	19	5	53	10	2C	13;18;74;108
B	20	3	22	7	ML2	
B	21	22	158	7	ML2	
B	23	4	17	4	RO	
B	24	2	105	52	ML2?	
B	26	1	15	15	RO	
B	28	25	526	21	ML2	
B	29	34	190	6	ML2	
B	32	4	67	16	ML2	
B	33	2	4	2	RO	
B	38	1	10	10	2C+	
B	39	17	204	12	ML2	
B	40	10	61	6	ML2	
B	63	2	5	2.5	RO	
B	74	26	16	0.6	2C	13;18;19;108
B	82	32	611	19	2C	131
B	94	12	49	4	ML2	
B	96	2	20	10	ML2	
B	101	16	57	4	ML2	
B	108	6	43	7	2C	13;18;19;74;147
B	131	7	44	6	L1-2C	82
B	132	3	8	3	L1-2C	
B	133	7	66	9	2C+	
B	139	4	4	1	L1-2C	
B	140	2	6	3	L1-2C	
B	142	1	24	24	L1-E2	
B	144	5	38	8	2C	
B	145	11	35	3	2C	
B	146	4	180	45	2C	
B	147	4	54	14	L1-2C	108
		695	6074	9	TOTAL	

Condition (see Table 4, above)

There is a relatively high amount of abrasion on the pottery, in particular from contexts **11**, **13**, and **14**. Burning and sooting is quite common, mainly due to use as cooking vessels. However, context **13** produced some very burnt examples that might be due to destruction. A few vessels are smashed, for example those from **13**, **14**, **15**, and **82**. One particularly unusual example is a narrow necked jar or flask in Verulamium region white ware (VRW, JNN) that has been smashed and distributed through several contexts (**13**, **18**, **19**, **74** and **108**). Other

sherd links are rare and comprised of one between **14** and **15**, and another between **108** and **147**, and lastly between **82** and **131**.

The overall sherd/weight ratio of 9 grams is low, and this is reflected within the assemblage as a whole as there are few groups with a ratio above 16 grams. This suggests that the material is mainly redeposited rubbish.

Discussion (see Tables 5 and 6, below)

Imported wares are scarce consisting of a small amount of samian from South and Central Gaul, including possible sherds from the kilns at Les Martres de Veyre, and a few sherds of Dressel 20 amphora from Baetica in Southern Spain.

This site is most remarkable for the amount of Romano-British wares imported from national rather than local kilns. Over 6% of the assemblage consists of handmade Black Burnished ware1 transported from kilns near the coast in Dorset. These wares normally have a westerly distribution, although it is often present in Lincoln assemblages of Antonine date. It is more than likely that these wares were part of a consignment to the Antonine wall that were sold in transit.

Although only a small group, the presence of pottery from the Hertfordshire kilns at Verulamium is unusual as it rarely reaches Lincolnshire assemblages. There is a smashed narrow neck jar or flask, and fragments of a mortarium in Verulamium region white ware (VRW and MOVR), as well as a necked bowl or jar in a probable rare variant with a grey wash, Verulamium region grey ware (VRG).

Over 9% of the assemblage consists of regional wares from the Nene Valley kilns near Peterborough. This group includes colour-coated wares in Antonine forms (NVCC) with a higher proportion of Nene Valley grey wares and variants (NVGW and NVGWC), and an almost equal proportion of Nene Valley coarser grey ware (NVGY), a probable antecedent of NVGW. A few sherds of Parisian-type ware may also be produced at these kilns (PART). Sherds of mortaria from the Mancetter Hartshill kilns near Doncaster, completes this group.

Locally produced wares form the bulk of the coarse ware assemblage mainly consisting of Grey wares used for cooking and serving (over 38%), together with grey wares with brown surfaces (GYBN), a trait often noted in South Lincolnshire groups (over 5%). Shell-tempered wares containing punctate brachiapods that are more typical of South Lincolnshire groups (SLSH – over 16%) were mainly used as cooking vessels. A small amount of the latter has the characteristics of products from the nearby kilns at Bourne (SLSHB). Shell-tempered wares lacking the brachiapods account for over 3% (SHEL).

Oxidised pottery and other fine wares account for a small proportion with Cream wares being the largest group (CR – 1.65%). Fine grey (GFIN) and Eggshell ware (EGGS) are present but rare, as are other oxidised products, unsourced oxidised ware (OX) and fine variants (OXF).

Although very small, it is worth mentioning the presence of Pink (PINK), early Roman sandy grey and oxidised ware (GRSA and CRSA) that are indicators of legionary groups in Lincoln.

A small group of unsourced grog and coarse-tempered wares completes the assemblage.

Table 5: The Roman fabrics for Area 1 by sherd count and weight

Fabric	Code	Sherds	%	Grams	%
Black burnished 1	BB1	36	5.40%	228	3.76%
Black burnished 1?	BB1?	7	1.05%	33	0.54%
Black burnished 2?	BB2?	2	0.30%	8	0.13%
Black burnished type	BBT	1	0.15%	34	0.56%
Ceramic building material	CBM	4	0.60%	21	0.35%
Ceramic building material?	CBM?	2	0.30%	27	0.45%
Colour-coated ware	CC	2	0.30%	4	0.07%
Coarse-tempered ware	COAR	4	0.60%	33	0.54%
Cream ware	CR	11	1.65%	74	1.22%
Cream sand-tempered ware	CRSA	2	0.30%	16	0.26%
Dressel 20 amphorae	DR20	2	0.30%	192	3.17%
Eggshell ware?	EGGS?	4	0.60%	2	0.03%
Fine grey ware	GFIN	4	0.60%	49	0.81%
Grey ware	GREY	257	38.53%	2289	37.73%
Grog-tempered ware	GROG	4	0.60%	23	0.38%
Grog-tempered ware?	GROG?	2	0.30%	23	0.38%
Early Roman grey sand-tempered	GRSA?	5	0.75%	69	1.14%
Grey with brown surfaces	GYBN	39	5.85%	337	5.56%
Mancetter Hartshill mortaria	MOMH	5	0.75%	165	2.72%
Mancetter Hartshill mortaria?	MOMH?	1	0.15%	41	0.68%
Verulamium region mortaria	MOVR	4	0.60%	605	9.97%
Native-tempered ware	NAT	2	0.30%	17	0.28%
Nene Valley colour-coat	NVCC	9	1.35%	32	0.53%
Nene Valley colour-coat?	NVCC?	1	0.15%	7	0.12%
Nene Valley grey ware	NVGW	23	3.45%	127	2.09%
Nene Valley grey ware coarse	NVGWC	3	0.45%	21	0.35%
Nene Valley grey ware coarse?	NVGWC?	2	0.30%	30	0.49%
Nene Valley coarser grey ware	NVGY	24	3.60%	115	1.90%
Oxidised ware	OX	26	3.90%	193	3.18%
Oxidised ware	OX?	1	0.15%	4	0.07%
Fine oxidised ware	OXF	3	0.45%	6	0.10%
Parisian type ware	PART	5	0.75%	37	0.61%
Pink ware	PINK	3	0.45%	22	0.36%
Post-medieval pottery	PPOT	1	0.15%	3	0.05%
Central Gaulish samian	SAMCG	1	0.15%	5	0.08%
Les Martres de Veyre samian	SAMLM?	4	0.60%	33	0.54%
South Gaulish samian	SAMSG	4	0.60%	6	0.10%
South Gaulish samian?	SAMSG?	2	0.30%	2	0.03%
Shell-tempered ware	SHEL	21	3.15%	174	2.87%
South Lincs shell-tempered	SLSH	110	16.49%	691	11.39%
South Lincs shell-tempered Bourne?	SLSHB?	9	1.35%	47	0.77%
Verulamium region grey ware	VRG?	3	0.45%	17	0.28%
Verulamium region white ware	VRW	9	1.35%	130	2.14%
Verulamium region white ware?	VRW?	3	0.45%	74	1.22%
	TOTAL	695	100.00%	6074	100.00%

This is clearly an assemblage of moderate to high status and certainly not from a rural community. During the early to mid- 2nd century rural assemblages in this area frequently lack ceramic evidence of Romanisation, but the presence of mortaria, amphorae and flagons demonstrates that the occupants of the building in Area 1 were either Roman or had adopted the Roman way of life.

Although imported wares are rare, the presence of over 16% by sherd count of fineware beakers and cups, confirms the higher status of this assemblage. Several of the bowl forms are finer examples used for serving rather than cooking, including a gallo-belgic plate in an unusual oxidised fabric, an example copying samian form Dr36, and a segmental type.

There is a wide repertoire of vessel types, demonstrating that the occupants had access to markets and could afford to purchase a range of vessels. Jars are more common than open forms and have the greatest variety of types, including upright, everted and curve-rimmed examples as well as carinated and cordoned vessels. The bulk of these are likely to have been used as oven-to tablewares, whilst cooking pots (CP) were used exclusively for cooking, and narrow-necked jars may have served as liquid containers. Roll-rimmed jars and bowls are mainly in shell-tempered wares, some of which have double scored lines at the shoulder, a trait noted on vessels from the nearby Bourne kilns.

Although a much smaller group, there is also a wide range of bowl and dish types, including everted, necked, flanged, groove and triangular rim vessels. These forms are generally typical of Antonine assemblages. One example in a coarser grey fabric that is highly burnished has a campanulate profile and may be either a cup or small dish. Accompanying lids are generally rare, but there are at least two type examples here, including an unusual flanged-rim vessel (LBF).

Table 6: The Roman forms for Area 1 by sherd count and weight

Form	Code	Sherds	%	Grams	%
Undiagnostic		38	5.70%	251	4.14%
Samian dish Dr 18/31	18/31	1	0.15%	5	0.08%
Samian dish Dr 18/31?	18/31?	1	0.15%	5	0.08%
Amphorae	A	2	0.30%	192	3.17%
Open forms	OPEN	6	0.90%	19	0.31%
Bowl	B	5	0.75%	26	0.43%
Bowl or dish	BD	5	0.75%	79	1.30%
Carinated jar or bowl	B334?	6	0.90%	23	0.38%
Bowl as Dr36	B36?	1	0.15%	9	0.15%
Everted rim bowl	BEV	2	0.30%	13	0.21%
Flanged bowl	BFL	8	1.20%	130	2.14%
Groove rim bowl	BGR	2	0.30%	21	0.35%
Necked bowl	BNK	5	0.75%	43	0.71%
Roll rim bowl	BROL	1	0.15%	9	0.15%
Segmented bowl	BSEG	1	0.15%	31	0.51%
Triangular rim bowl	BTR	1	0.15%	7	0.12%
Wide mouth bowl	BWM	1	0.15%	10	0.16%
Dish	D	4	0.60%	7	0.12%
Groove rim dish	DGR	1	0.15%	4	0.07%
Triangular rim dish	DTR	7	1.05%	58	0.96%
Gallo Belgic plate	PGB	8	1.20%	123	2.03%
Closed form	CLSD	109	16.34%	574	9.46%
Flagon	F	3	0.45%	45	0.74%
Flask	FL?	1	0.15%	20	0.33%
Beaker	BK	27	4.05%	45	0.74%
Cornice rim beaker	BKCOR	9	1.35%	18	0.30%
Curve rim beaker	BKCR	1	0.15%	4	0.07%
Everted rim beaker	BKEV	1	0.15%	13	0.21%

Plain rim beaker	BKPR	4	0.60%	2	0.03%
Rough cast beaker	BKRC	2	0.30%	6	0.10%
Jar or beaker	JBK	36	5.40%	114	1.88%
Curve rim jar or beaker	JBKCUR	23	3.45%	106	1.75%
Everted rim jar or beaker	JBKEV	1	0.15%	10	0.16%
Cup	C	1	0.15%	24	0.40%
Cup as Dr27	C27?	2	0.30%	18	0.30%
Cooking pot	CP	32	4.80%	125	2.06%
Jar	J	207	31.03%	1458	24.04%
Carinated jar	JCAR	2	0.30%	13	0.21%
Curve rim jar	JCUR	8	1.30%	112	1.85%
Everted rim jar	JEV	12	1.80%	99	1.63%
Large jar	JL	11	1.65%	487	8.03%
Lid seated jar	JLS	1	0.15%	12	0.20%
Narrow neck jar	JNN	7	1.05%	145	2.39%
Roll rim jar	JROL	1	0.15%	18	0.30%
Triangular rim jar	JTR	2	0.30%	43	0.71%
Jar or bowl	JB	1	0.15%	3	0.05%
Carinated jar or bowl	JBCAR	1	0.15%	8	0.13%
Large jar or bowl	JBL	36	5.40%	602	9.92%
Upright rim jar or bowl	JBUP	2	0.30%	19	0.31%
Lid	L	1	0.15%	13	0.21%
Bead and flange lid	LBF	3	0.45%	51	0.84%
Bead rim lid	LBR	2	0.30%	15	0.25%
Lamp Chimney?	LPCH?	2	0.30%	27	0.45%
Mortaria	M	2	0.30%	133	2.19%
Hook rim mortaria	MHK	8	1.20%	619	10.20%
	TOTAL	695	100.00%	6074	100.00%

Area 2

A skull (**1035**) from deposit **1034** proved to be an isolated incidence rather than evidence for a cemetery. Only one sherd of pottery was possibly associated with the skull, a beaker fragment in Nene Valley colour-coated ware with a white fabric of at least 3rd century date.

Pottery from the metalled surface of a road or yard, **1003** and **1037**, produced a small group of pottery, 56 sherds weighing 1425 grams, dating from the later 3rd to 4th century, together with probable post-Roman sherds that may be intrusive.

The bulk of the pottery came from the fills of various ditches, in particular ditch **1020** (contexts **1029** and **1009**) and ditch **1068** (contexts **1014=1015=1027=1033**), as well as the primary fill of ditch **1068** (context **1032**). One of the larger groups came from **1033** (81 sherds – 2202 grams)

Dating (see Table 7, below)

The dating for this area of the pipeline is quite different to that of Area1 (above), with the bulk dating to the late Roman period (late 3rd to 4th century). Three contexts produced pottery of mid to very late 4th century date including an inturned bead and flanged bowl, and a double lid seated jar in Local coarse ware (LCOA) - **1000, 1013** and **1043.** Several of the contexts contain post-Roman wares including Saxon pottery; some of which may date the context or in some cases may be intrusive.

There is a small amount of 2nd century material, including Central Gaulish samian that is residual in contexts dated to the late Roman period. Two contexts seem to be of mid to late Roman date, **1021** and **1055**, containing pottery of broadly 2nd century date and mid 2nd to early 3rd century date, respectively.

Table 7: Date range for the Area 2 by sherd count and weight

Strat	Context	Sherds	Grams	Sh/wt	Date range	Join
C:RD	1000	100	920	9	ML4/POSTRO?	
C:RD	1001	11	157	14	4C/POSTRO?	
C:RD	1002	13	87	7	4C	1027
C:RD	1003	48	1352	28	L3-4C/POSTRO?	
C:RD	1004	19	349	18	4C	
C:RD	1005	31	449	14	L3+/POSTRO?	
C:RD	1009	12	241	20	ML3+	
C:RD	1011	14	93	7	4C/POSTRO?	
C:RD	1012	19	274	14	L3-4C	
C:RD	1013	5	46	9	ML4/POSTRO?	
C:RD	1014	8	124	15	4C	
C:RD	1015	27	468	17	L3+	1027
C:RD	1017	18	181	10	4C/POSTRO?	
C:RD	1021	1	5	5	2C	
C:RD	1027	124	2300	19	L3-EM4	1002; 1015
C:RD	1029	1	42	42	RO	
C:RD	1032	12	345	28	L3-4C/POSTRO?	
C:RD	1033	67	1546	23	4C/POSTRO?	
C:RD	1033?	14	656	49	L3-4C	
C:RD	1034	1	2	2	3C+	
C:RD	1036	7	46	7	3-4C/POSTRO	
C:RD	1037	8	73	9	4C?	
C:RD	1042	55	920	17	4C	
C:RD	1043	18	227	13	VL4/POSTRO?	
C:RD	1044	1	3	3	3-4C	
C:RD	1045	7	53	8	4C	
C:RD	1055	15	227	15	M2-E3/POSTRO?	
C:RD	1057	3	23	8	4C/POSTRO	
C:RD	1073	1	9	9	RO?	
C:RD	1075	2	2	1	RO?	
		662	11220	17	TOTAL	

Condition (see Table 7, above)

There is a relatively high amount of abrasion on the pottery and a moderate proportion of burnt vessels, due mainly to use as cooking pots. Several examples from **1043** are very burnt and one is vitrified having been subject to a fierce heat, possibly a kiln (**1003**). Burning or soil condition may have caused the shell to leach out of many of the shell-tempered vessels.

Despite the amount of abrasion the overall sherd/weight ratio is to the higher end of medium, with several contexts, mainly ditch groups producing high sherd/weight ratios (**1003**, **1009**, and **1032**), indicating primary or secondary deposition. **1033** falls within this group and also has a smashed vessel. However, the presence of a number of large sherds from grey and shell-tempered storage jars should be taken into account.

Although there are several fills to some of the ditches there are very few sherd joins, the only examples being between **1002, 1005** and **1027**.

Discussion (see Tables 8 and 9, below)

In common with the assemblage from Area 1, there is only a small amount of wares imported from the Continent. This consists of Dressel 20 amphorae, samian from Central and Eastern Gaul and a sherd of Moselkeramik beaker, also from the Rhineland. Sherds from the Much Hadham and Oxfordshire kilns are the only examples of Romano-British pottery from further afield, but both are late Roman finewares.

Products from the Nene Valley kilns near Peterborough provide the bulk of the Roman-British finewares, mainly colour-coated ware (NVCC), with a smaller amount of Nene Valley grey ware (NVGW).

More unusual is the presence of products from the Swanpool kilns: mortaria (MOSP); oxidised wares (SPOX); Local coarse grey ware (LCOA), and some of the grey ware wide mouthed bowls (GREY, BWM). It seems as though the purveyors of these products were seeking markets further afield during the late Roman period. Also rarely found in the south of Lincolnshire are sherds of Dales-type ware (DWSH) that were made mainly in the north of the county.

Grey wares in the ubiquitous sandy clays found over much of Lincolnshire form the bulk of the assemblage, some being from the Swanpool kilns (see above). Unsourced shell-tempered wares are also well represented, but it is interesting to note that the amount of South Lincs shell-tempered wares (SLSH) is of a much smaller ratio than at the earlier site of Area 1. Products from the Bourne kilns are negligible, indicating that production from these kilns had ceased by the late Roman period.

Table 8: The Roman fabrics for Area 2 by sherd count and weight

Fabric	Code	Sherds	%	Grams	%
Ceramic building material	CBM	1	0.15%	20	0.18%
Ceramic building material?	CBM?	1	0.15%	5	0.04%
Unsourced colour-coat	CC	1	0.15%	34	0.30%
Dressel 20 amphorae	DR20	1	0.15%	30	0.27%
Dales ware	DWSH	1	0.15%	8	0.07%
Dales ware?	DWSH?	1	0.15%	9	0.08%
Fired clay	FCLAY	2	0.30%	16	0.14%
Fired clay?	FCLAY?	1	0.15%	8	0.07%
Fine grey ware	GFIN	4	0.61%	13	0.12%
Grey ware	GREY	341	51.98%	6070	54.10%
Grey with brown surfaces	GYBN	3	0.46%	53	0.47%
Grey with minimal shell	GYMS	1	0.15%	5	0.04%
Local coarse ware	LCOA	1	0.15%	8	0.07%
Much Hadham	MHAD?	1	0.15%	3	0.03%
Nene Valley mortaria	MONV	5	0.76%	245	2.18%
Moselkeramik	MOSL	3	0.46%	10	0.09%
Swanpool mortaria	MOSP	1	0.15%	51	0.45%
Nene Valley colour-coat	NVCC	69	10.49%	1308	11.66%
Nene Valley colour-coat?	NVCC?	1	0.15%	4	0.04%
Nene Valley cream ware	NVCR	2	0.30%	5	0.04%
Nene Valley grey colour-coat	NVGCC	4	0.61%	75	0.67%

Nene Valley grey ware	NVGW	32	4.86%	316	2.82%
Nene Valley grey ware coarse variant	NVGWC	12	1.82%	97	0.86%
Nene Valley grey ware coarse variant?	NVGWC?	5	0.76%	24	0.21%
Nene Valley coarser grey ware	NVGY	8	1.22%	232	2.07%
Nene Valley coarser grey ware?	NVGY?	1	0.15%	12	0.11%
Oxidised ware	OX	7	1.06%	84	0.75%
Fine oxidised ware	OXF	5	0.76%	46	0.41%
Oxfordshire red colour-coat	OXRC	1	0.15%	52	0.46%
Parchment ware	PARC?	2	0.30%	14	0.12%
Post-medieval pottery	PPOT	1	0.15%	9	0.08%
Central Gaulish samian	SAMCG	4	0.61%	10	0.09%
East Gaulish samian	SAMEG?	1	0.15%	2	0.02%
Shell-tempered ware	SHEL	92	13.98%	1418	12.64%
Shell-tempered ware?	SHEL?	1	0.15%	9	0.08%
South Lincs shell-tempered ware	SLSH	31	4.71%	680	6.06%
South Lincs shell-tempered ware - Bourne kilns	SLSHB?	4	0.61%	89	0.79%
Fine South Lincs shell-tempered ware	SLSHF	1	0.15%	83	0.74%
Swanpool oxidised ware	SPOX	2	0.30%	17	0.15%
Swanpool oxidised ware?	SPOX?	3	0.46%	24	0.21%
Vesicular ware	VESIC	3	0.46%	22	0.20%
	TOTAL	662	100.00%	11220	100.00%

There is a wide range of forms present, which is to be expected in late Roman deposits where there is frequently earlier, residual material. Imported wares, that usually denote higher status occupation, are rare, but this is to be expected in a group of late and very late Roman date. Nevertheless the relatively high presence of finewares from the Nene Valley and further afield from the Much Hadham and Oxfordshire kilns are indicative of material from a site of higher status.

Jars are the most common form including several later Roman types, double lid seated jars (JDLS), those with undercut rims (JUR), wide mouthed and folded types (JWM and JFO). It is worth noting that there is a high amount of large and storage jars (JL, JBL and JS). One example is almost straight-sided and extremely large with ribbing on the exterior.

Bowls, although fewer, consist of wide variety of types, the most common being wide-mouthed bowls, many of which were derived from the Swanpool kilns in Lincoln. An unusual example is in a fine, silty fabric similar to Nene Valley coarser grey ware (NVGY) that lacks the white core of the finer Nene Valley Grey (NVGW). It is a large vessel with a finely burnished exterior that extends over the rolled rim. Late Roman types also stand out from the assemblage, including bead and flanged bowls (BFB), and inturned examples (BIBF). Dishes are rare and the most common of these are plain-rimmed types that may have also been used as lids.

Flagons are virtually non-existent; again an indication of the late nature of this assemblage, with flasks and narrow-necked jars used as pouring vessels by this time. However, there is a wide variety of beakers, including folded and scale, painted and barbotine decorated examples, suggesting that dining and feasting continued into the late Roman period.

Two vessels have not been noted in previous assemblages. One is in an oxidised fabric with scored vertical decoration on the exterior; the other is a bowl with stabbed decoration on the shoulder in a shell-tempered fabric. Both appear to be wheel made.

Table 9: The Roman forms for Area 2 by sherd count and weight

Form	Code	Sherds	%	Grams	%
Undiagnostic		139	21.12%	807	7.19%
Samian cup form 33	33	1	0.15%	4	0.04%
Amphorae	A	1	0.15%	30	0.27%
Open form	OPEN	2	0.30%	15	0.13%
Open form?	OPEN?	4	0.61%	21	0.19%
Bowl	B	5	0.76%	216	1.93%
Bowl or dish	BD	9	1.37%	108	0.96%
Carinated bowl as B334	B334?	1	0.15%	8	0.07%
Bowl as samian form Dr36	B36	2	0.30%	90	0.80%
Bowl as samian form Dr38	B38	1	0.15%	91	0.81%
Bead rim bowl	BBR	1	0.15%	5	0.04%
Curve rim bowl	BCUR	1	0.15%	20	0.18%
Everted rim bowl	BEV	1	0.15%	8	0.07%
Everted rim bowl?	BEV?	1	0.15%	21	0.19%
Bead and flange bowl	BFB	4	0.61%	129	1.15%
Bead and flange bowl?	BFB?	1	0.15%	7	0.06%
Low bead and flange bowl	BFBL	1	0.15%	28	0.25%
Flange bowl	BFL	2	0.30%	29	0.26%
Flange bowl?	BFL?	1	0.15%	4	0.04%
Inturned bead and flange bowl	BIBF	1	0.15%	35	0.31%
Large bowl	BL	1	0.15%	35	0.31%
Roll rim bowl	BROL	7	1.06%	218	1.94%
Triangular rim bowl	BTR	2	0.30%	73	0.65%
Triangular rim bowl?	BTR?	1	0.15%	4	0.04%
Wide mouth bowl	BWM	18	2.74%	792	7.06%
Wide mouth bowl?	BWM?	8	1.22%	317	2.83%
Dish	D	1	0.15%	4	0.04%
Plain rim dish	DPR	9	1.37%	197	1.76%
Closed form	CLSD	46	6.99%	363	3.23%
Flask?	FS?	2	0.30%	12	0.11%
Beaker	BK	24	3.65%	139	1.24%
Barbotine beaker	BKBA	3	0.46%	25	0.22%
Bag-shaped beaker	BKBAG	2	0.30%	98	0.87%
Everted rim beaker	BKEV	1	0.15%	3	0.03%
Folded beaker	BKFO	2	0.30%	8	0.07%
Scale decorated folded beaker	BKFOSC	1	0.15%	3	0.03%
Painted beaker	BKPA	1	0.15%	4	0.04%
Plain rim beaker	BKPR	1	0.15%	5	0.04%
Jar or beaker	JBK	9	1.37%	57	0.51%
Cooking pot	CP	2	0.30%	16	0.14%
Jar	J	210	31.91%	2645	23.57%
Lid seated jar as J105	J105	1	0.15%	6	0.05%
Curve rim jar	JCUR	22	3.34%	294	2.62%
Double lid seated jar	JDLS	2	0.30%	26	0.23%
Dales ware jar	JDW	2	0.30%	15	0.13%
Dales ware jar?	JDW?	1	0.15%	9	0.08%
Everted rim jar	JEV	5	0.76%	98	0.87%
Everted rim jar?	JEV?	2	0.30%	14	0.12%
Folded jar	JFO	1	0.15%	18	0.16%
Large jar	JL	8	1.22%	607	5.41%
Lid seated jar	JLS	3	0.46%	29	0.26%

Narrow necked jar	JNN	6	0.91%	195	1.74%
Storage jar	JS	14	2.13%	1058	9.43%
Undercut rim jar	JUR	2	0.30%	21	0.19%
Wide mouth jar	JWM	2	0.30%	50	0.45%
Jar or bowl	JB	5	0.76%	51	0.45%
Large jar or bowl	JBL	40	6.08%	1428	12.73%
Mortaria	M	2	0.30%	61	0.54%
Reed rim mortaria	MRR	4	0.61%	235	2.09%
Castor box	BX	6	0.91%	153	1.36%
Castor box?	BX?	1	0.15%	6	0.05%
Dolium or tank	Z	3	0.46%	152	1.35%
	TOTAL	662	100.00%	11220	100.00%

Summary

Roman pottery assemblages from this area of Lincolnshire are scarce, and both the main assemblages recovered from the pipeline provide valuable information about trade and distribution of wares in south Lincolnshire. In particular the unusual presence of Black-burnished 1 from Dorset together with products from the Verulamium kilns in Hertfordshire from the Area 1 assemblage.

The *terminus post quem* of AD 60-90 from a samian stamp from the assemblage of Area1 provides good dating evidence for occupation in this area. Moreover, the mainly homogenous nature of much of this group is an excellent example of the composition of an Antonine ceramic assemblage. The high amount of shell-tempered wares would be useful for a wider study of shell-tempered wares in Lincolnshire.

It is unusual to find two groups with relatively low amounts of residual pottery. The contrast between the Antonine pottery from Area1 and the late to very late Roman assemblage from Area 2, provides a good opportunity to note temporal differences in ceramic trade and distribution, in particular the expansion of goods traded from the Swanpool kilns into the southern parts of the county, and the changing composition of Nene Valley traded products between groups of the 2nd and those of 4th century date.

CONTEXT	FABRIC	FORM	DEC	VESSNO	ALTER	DWGNO	COMMENTS	JOIN	SHS	WT	STRAT
9	GREY	J					BASE		1	34	1
9	GREY	J					BSS		3	12	1
9	GROG	J	B;HM?				BS; BLK;IA?		1	7	1
9	GYBN	JBL			SOOTIN		BS SHLDR		1	31	1
9	SHEL	J					BS		1	4	1
9	ZDATE						2C+				1
10	GREY	J					FTM		1	42	1
10	GREY	J					BS		1	4	1
10	GREY	JBK		1			BSS;BLK		2	3	1
10	GREY	JEV					RIM FRAG		1	7	1
10	OX	CLSD			BURNT?		BS SOAPY; RO?		1	9	1
10	VRG?						BS SHARP SHLDR ANGLE		1	3	1
10	ZDATE						L1-2C				1
11	BB1	BFL	LA	1			RIM GIRTH		2	27	1
11	BB1	CP					BS		2	9	1
11	BB1	DGR					RIM FRAG		1	4	1
11	CBM						FRAG EXTR		3	15	1
11	COAR	CLSD	HM?				BS BLK IA?		1	4	1
11	COAR	JBL					BSS BLK IA?		2	27	1
11	CR	CLSD	RIB		ABR	D?	BASE UNUS VESS BARREL JAR? RIBED EXT SOAPY		1	30	1
11	CR	JBK					BS MICA		1	1	1
11	CRSA	F					FTM		1	13	1
11	CRSA	JBK					BS		1	3	1
11	DR20	A					BS EFAB 1C		1	40	1
11	GFIN	JTR			ABR		RIM BS		2	43	1
11	GREY	BD					BASE		1	25	1
11	GREY	BD					BS		1	9	1
11	GREY	BFL					RIM UPPER WALL		1	14	1
11	GREY	BNK					RIM PROB B334		1	9	1
11	GREY	BWM					RIM FRAG SHORT NECK		1	10	1
11	GREY	CLSD		1	ABR		BASES		2	13	1
11	GREY	J					BASE COARSER Q		1	24	1
11	GREY	J					BSS MISC		40	307	1
11	GREY	J					BS; COARSE; OCC LMST; ECH SPINE		1	13	1
11	GREY	JBK					BSS		3	15	1
11	GREY	JBL		2			BSS		3	64	1
11	GREY	JEV					RIMS CP		2	11	1
11	GREY	JL		1			BSS		3	165	1
11	GROG?			1	ABR		BSS		2	23	1
11	GRSA?	B					BS		1	19	1
11	GRSA?	BSEG					RIM GIRTH SLIGHT BEAD; WELL SOR 0.2-0.3 SA Q		1	31	1
11	GYBN	BGR					RIM		1	7	1
11	GYBN	J			BURNT		BS BURNT OXID?		1	5	1
11	GYBN	J					BSS MISC		7	59	1
11	GYBN	JEV			SOOTR		RIM		1	6	1
11	GYBN	JEV		2			RIM FRAGS		2	7	1
11	GYBN	LBF		1		D?	RIMS J UPPER WALL FLANGED		2	43	1
11	GYBN	LBR		1	SOOTR		RIMS J UPPER WALL		2	15	1
11	MOMH	MHK		1	ABR		RIMS BS		3	73	1
11	MOMH?	MHK					RIM PRONOUNCED BEAD EARLY FAB; EM2C		1	41	1
11	NAT	CLSD	HM		BURNT		BS BURNT OXID; POSS IA		1	5	1
11	NVCC	BK			VABR		BSS CR FAB		2	3	1
11	NVCC	BKRC	RCC		ABR		BS; CR		1	3	1
11	NVCC	BKRC	RCC		BURNT?		BS; GRY		1	3	1
11	NVGY	J			ABR		FTM		1	11	1
11	NVGY	JCAR			SOOT		BS		1	8	1
11	OX?	JBK			BURNT		BS UNUS		1	4	1
11	PART	J		1	ABR		FTM BSS		3	26	1
11	PART	J					BS		1	5	1
11	PINK	JBK			ABR		BSS		2	2	1
11	SAMLM?	D		1			BSS		2	4	1
11	SAMSG	B		1			BSS 36 OR THICK 27		2	3	1
11	SAMSG	D	NAME	1			FTRG BSS; OF?PONTI; LG 60-90		2	3	1
11	SAMSG?			1	ABR		FLAKES		2	2	1
11	SHEL	J		1			BSS NO OBV PUNC		7	40	1
11	SHEL	J					BS		1	5	1
11	SHEL	JBL	HM?		ABR		BS		1	32	1
11	SHEL	JBL					BS LTBN ; GROOVED SHLDR		1	27	1
11	SLSHB?	JROL			SOOTR		RIM		1	18	1
11	ZDATE						ML2/POSTRO?				1
11	ZZZ						ANTO; SOME IA?;SOME 19C POT - INT?				1
12	CR	JBK			ABR		BS MICA		1	1	1
12	GREY	BK					BS COARSE		1	2	1
12	GREY	CLSD					BSS		2	16	1
12	GYBN	CLSD			ABR		BSS		5	19	1
12	NVGW	CLSD			ABR		BS		1	5	1
12	PART	BK			ABR		FTM TALL		1	6	1
12	SHEL						SCRAP		1	1	1
12	ZDATE						2C+/POSTRO?				1
12	ZZZ						SOME POSTRO INT?				1
13	GREY	BK		1			BSS		3	2	1
13	GREY	C27?	B		SOOTEX	D4	RIM; CAMPANULATE; AS COASE AS BB1		1	10	1
13	GREY	CLSD					BS		1	1	1
13	GREY	CLSD		1	ABR;VBURNT		BSS		2	5	1
13	GREY	JBK					BS		1	1	1
13	GROG	CLSD	HM?		VABR		BSS		3	16	1
13	GRSA?	BFL					RIM GIRTH COARSER Q		1	9	1
13	NVGWC	CLSD			ABR		BS		1	8	1
13	OX	PGB		1	SOOTEX	D3	RIM LWR WALL; CF PRW TRAD;		8	123	1
13	SHEL	JBUP		1	ABR;VBUF	D?	RIMS J LEACHED		2	19	1
13	SLSH	J		1	SMASH;SOOTIN		BSS SCRAPS		79	432	1
13	SLSH	JBL		1?	ABR; SMASH		BSS		18	177	1

13	VRW	JNN		1		D1	BSS NECK CORDON	18;19;74	1	12	1
13	ZDATE						2C				1
13	ZZZ						FEW DIAGNOSTIC SHS PROB ANTO				1
14	BB1	BGR			ABR		RIM GIRTH; FINE VAR; SURF GONE		1	14	1
14	BB1	BKEV			ABR		RIM SHLDR; FINE VAR; SURF LOST		1	13	1
14	BB1	CP	LA	1			BASE; BSS; FRAGS		12	39	1
14	CR	JBK					BS V THIN		1	10	1
14	GFIN	BK			ABR		BS		1	1	1
14	GREY	BFL			ABR;BURNT		RIM STUBBY		1	19	1
14	GREY	BROL					RIM		1	9	1
14	GREY	CLSD					BSS MISC		27	97	1
14	GREY	CLSD					BSS MISC		7	45	1
14	GREY	J					FTM		1	17	1
14	GREY	JBK					BASE		1	4	1
14	GREY	JBL			ABR		RIM		1	22	1
14	GREY	JBL		1			BSS		2	72	1
14	GREY	JBL					BS		1	28	1
14	GREY	JEV		1			RIM BS SHLDR; COARSER Q		2	25	1
14	GREY	JEV		1			RIM BS SHLDR; COARSER Q		1	9	1
14	GREY	JEV			SOOTR		RIM		1	24	1
14	GREY	JLS			SOOTR		RIM COARSER Q		1	12	1
14	GYBN	CLSD					BSS MISC		9	58	1
14	GYBN	LBF			ABR;SOOTR		RIM		1	8	1
14	NVCC	B36?			VABR		RIM FRAG;INT		1	9	1
14	NVCC?	JBK			BURNT		BS; OR NVGY		1	7	1
14	NVGW	DTR		1	ABR;SMAS	D?	RIM	15	1	15	1
14	NVGWC	CLSD					BS		1	3	1
14	NVGWC?	JCUR					RIM PALE GREY COARSE Q		1	12	1
14	NVGY	J					BS		1	8	1
14	NVGY	JBK		1			BASES BSS		10	26	1
14	OX	BKCOR	ROUZ	1	ABR		RIM BSS		7	15	1
14	OX				ABR		BSS		2	6	1
14	PPOT						FRAG INTRUSIVE		1	3	1
14	SHEL	CLSD		1?			BSS		4	40	1
14	SLSH	BEV	SHG			D?	RIM SHLDR BS		2	13	1
14	VRW?	JBL		1	BURNT		BSS SHLDR GROOVE FAB CF VRW; FORM?		2	69	1
14	ZDATE						ML2/POSTRO?				1
14	ZZZ						I SH MPOT PROB INT;FRAG BURNT SHALE OBJ OR COAL EXTR?				1
15	NVGW	DTR		1	ABR;SMAS	D?	RIMS FTM BSS; PROF	14	6	43	1
15	OX	JBK					BS		1	1	1
15	SLSH			1			FRAGS RDBN PINC		2	10	1
15	ZDATE						ML2				1
17	CBM?	LPCH?		1			EDGES; FRAGS COARSE;LAMP CHIMNEY? EXTR		2	27	1
17	GREY	JBK					BSS MISC SMALL SHS		3	5	1
17	GREY	JCAR					BS		1	5	1
17	GYBN	J					BS		1	29	1
17	SLSHB?			1			BSS		3	5	1
17	ZDATE						L1-2C/POSTRO?				1
17	ZZZ						SOME 19C POT				1
18	BB1	CP	LA				BS		1	3	1
18	GREY						BS		1	6	1
18	SLSH	CLSD		1	ABR;SOOTR		BSS		5	11	1
18	VRG?	BNK		1		D2	RIM BS		2	14	1
18	VRW	CLSD			ABR		BS		1	6	1
18	VRW	JNN		1		D1	BSS NECK CORDON	13;19;74	3	16	1
18	ZDATE						ML2				1
18	ZZZ						UNSTRAT; NB NOT MARKED				1
19	GREY	JEV			SOOTR		RIM COARSER Q		1	7	1
19	NVGY	J		2?			BSS		2	28	1
19	OX	CLSD			BURNT		BS		1	9	1
19	VRW	JNN		1		D1	BSS NECK CORDON	13;18;74	1	9	1
19	ZDATE						2C				1
19	ZZZ						PROB EM2				1
20	BB1	CP	B		ABR		BS		1	5	1
20	NVGW	J					BS		1	7	1
20	NVGWC	JCUR					RIM		1	10	1
20	ZDATE						ML2				1
21	BB1	BFL	BIAP				RIM UPPER WALL; POSS DONCASTER		1	17	1
21	BB1	CP	LA				BSS		3	9	1
21	BBT	BD	BZZ				BASE BZZ UNDER;COARSE BUT NOT BB1		1	34	1
21	CBM						FRAG EXTR		1	6	1
21	GREY	BK					BSS		3	4	1
21	GREY	CLSD					BSS COASRER Q		3	19	1
21	GREY	J					BSS		2	12	1
21	NVGW	CLSD					BSS		6	19	1
21	NVGWC?	J					BSS ALSMOST AS COARSE AS VR		1	18	1
21	PINK	FL?					BASE		1	20	1
21	ZDATE						ML2				1
23	GREY						SCRAP		1	1	1
23	GREY				ABR		FLAKE		1	1	1
23	GYBN	J					BS		1	3	1
23	NAT		HM				BASE;CLAY PARTICLES; IA?		1	12	1
23	ZDATE						RO				1
23	ZZZ						MIX?				1
24	GREY	JBK					BS PALE GRY		1	1	1
24	MOVR				ABR		BS; LGE CHUNKS FERRUGINUS QZITE; PROB M2C FAB		1	104	1
24	ZDATE						ML2?				1
26	GYBN	CLSD			ABR		BS; OR OX BURNT		1	15	1
26	ZDATE						RO				1
28	BB1?	CP	HM		ABR		BSS; COARSE AS BB1		4	20	1
28	BB2?	JEV	B				RIM; WM; COARSE AS GREY COARSER FAB		1	3	1
28	GREY	BK		2			BSS		2	5	1
28	GREY	J					BSS		6	25	1

28	GREY	JBK					BSS BLK COASRER Q		2	8	1
28	GREY	JCUR			MORTAR?		RIM BS; COARSE AS VR		2	22	1
28	GYBN	BNK			SOOTR		RIM NECK; COARSER Q		1	14	1
28	MOVR	MHK					SPOUT COMP; FRESH BREAK		1	368	1
28	NVGW	J					BS		1	4	1
28	SLSH	JBL		1			BSS RDBN		3	43	1
28	VRW	CLSD					BSS PROB FLAGON		2	14	1
28	ZDATE						ML2				1
29	BB1	BFL	LA				RIM GIRTH		1	33	1
29	BB1	JBK	B	1			BSS FINE VAR		2	12	1
29	BB1	JBKEV					RIM SHLDR SMALL VESS FINE VAR		1	10	1
29	CC	B		1			RIM FRAG BS UNUS FAB COARSE OX RED CC SLIP		2	4	1
29	CR	F					HANDLE 3R		1	27	1
29	EGGS?	BKPR			ABR		RIM FRAG BSS V FINE		4	2	1
29	GFIN	CLSD					FTM; UNUSUAL		1	5	1
29	GREY	BK					BSS		2	1	1
29	GREY	BKCR					RIM		1	4	1
29	GREY	C27?					RIM GIRTH CAMPANULATE		1	8	1
29	GREY	CLSD					BSS MISC		5	38	1
29	GREY	CLSD			ABR		BSS COARSER Q		5	14	1
29	GREY	JB					RIM FRAG		1	3	1
29	NVCC	BK			ABR		BS CR FAB		1	3	1
29	NVCC	BKCOR			ABR		RIM		1	2	1
29	NVCC	BKCOR			ABR		RIM CC LOST		1	1	1
29	NVGY	J			SOOTEX		BS		1	5	1
29	OX	J			VBURNTEX		BS		1	10	1
29	OXF						FRAG		1	1	1
29	SLSHB?	CLSD					BS GROOVE		1	7	1
29	ZDATE						ML2				1
29	ZZZ						CC CF VRR				1
32	BB1	CP	BWL		SOOTR		RIM BWL UNDER RIM		1	12	1
32	GREY	BK					BS		1	3	1
32	GREY	J			SOOTEX		BS		1	21	1
32	GREY	JNN			SOOTR		RIM NECK; SOAPY		1	31	1
32	ZDATE						ML2				1
33	CR	BK			ABR		BS		1	1	1
33	GYBN	CLSD					BS		1	3	1
33	ZDATE						RO				1
38	GREY	JBL					BS POSS BWM		1	10	1
38	ZDATE						2C+				1
39	BB1	CP		1			BSS		2	5	1
39	BB1?	BD			BURNT		BASE		1	6	1
39	GREY	B334?					BS SLACK ANGLE		1	8	1
39	GREY	J					BSS		3	21	1
39	GYBN	CLSD					BS		1	9	1
39	MOMH	MHK		1	ABR		RIMS DEEP INT BEAD ANTO		2	92	1
39	NVGW	CLSD					BS		1	2	1
39	OX	CLSD		1	VABR		BSS		3	11	1
39	OXF	BK		1	VABR		BSS		2	5	1
39	VRW	MHK					RIM		1	45	1
39	ZDATE						ML2				1
40	GREY	J					BSS		2	14	1
40	GREY	JBCAR					BS ANGLED SHLDR COARSER Q		1	8	1
40	GREY	JBK					BS		1	5	1
40	NVGW	J		1	ABR		BSS		2	15	1
40	OX	J			SOOTEX		BS		1	8	1
40	OX						SCRAP		1	1	1
40	SLSHB?	CLSD					BSS GROOVED		2	10	1
40	ZDATE						ML2				1
63	GREY	BK		1			BSS		2	5	1
63	ZDATE						RO				1
74	VRW	JNN		1	SMASH	D1	RIMS BSS	13;18,19	26	16	1
74	ZDATE						2C				1
74	ZZZ						SINGLE VESS ONLY PROB M2				1
82	GREY	J		1			BSS SINGLE GROOVE		5	45	1
82	GREY	JBKCUR		1		D?	RIM BSS SMALL VESS; ORNGE CORE; AS	131	16	62	1
82	GREY	JL		1	SMASH		BSS SINGLE GROOVE		8	322	1
82	GREY	JNN					RIM NECK		1	49	1
82	MOVR	M		1	ABR		BASE BS; LATER FAB		2	133	1
82	ZDATE						2C				1
82	ZZZ						SOME SMASH VESS; PROB M2				1
94	BB1	CP	B				BS		1	4	1
94	BB1?	CP	HM	1	ABR		BSS		2	7	1
94	GREY	BFL					RIM UPPER WALL		1	11	1
94	GREY	J		1			BSS		5	22	1
94	GREY	J			ABR		BSS		3	5	1
94	ZDATE						ML2				1
96	BB1	CP					RIM		1	7	1
96	GREY	L	B				RIM		1	13	1
96	ZDATE						ML2				1
101	BB1	CP		1			BSS SHALE		2	5	1
101	BB2?	BD	B		ABR		BS		1	5	1
101	COAR				ABR		SCRAP		1	2	1
101	CR	BK					BS NR EGGS		1	1	1
101	GREY	B334?		1			BSS ANGLED SHLDR		5	15	1
101	GREY	BTR			VABR		RIM STUBBY		1	7	1
101	GREY	JCUR					BS SMALL VESS; SINGLE GROOVE		1	8	1
101	GREY						BSS		3	9	1
101	VRW?	F					HANDLE 2R		1	5	1
101	ZDATE						ML2				1
108	GREY	J					BS		1	2	1
108	GREY	JCUR		1		D5	BS;CORDON	147	1	10	1
108	GYBN	J					BS		1	6	1

108	SLSH						FRAG RDBN		1	5		1
108	VRW	JNN		1	SMASH	D1	RIMS BSS; AS REST	13;18,19	2	20		1
108	ZDATE						2C					1
108	ZZZ						PROB M2					1
131	GREY	JBKCUR		1			FTMS BSS ORANGE CORE AS IN	82	7	44		1
131	ZDATE						L1-2C					1
132	GREY						FRAG		1	1		1
132	SLSHB?			1			BSS		2	7		1
132	ZDATE						L1-2C					1
133	GREY	J					BS		1	36		1
133	GREY	JBK					BS		1	5		1
133	NVCC	CLSD					BASE; CR FAB		1	8		1
133	NVGW	J		1			BSS		4	17		1
133	ZDATE						2C+					1
139	CR	BK			ABR		BS NR EGGS AS REST		3	1		1
139	GREY	J					BS		1	3		1
139	ZDATE						L1-2C					1
140	CR	BK			ABR		BS NR EGGS AS REST		1	2		1
140	GREY	J					BS		1	4		1
140	ZDATE						L1-2C					1
142	SAMLM?	C					FTRG		1	24		1
142	ZDATE						L1-E2					1
142	ZZZ						SAM ONLY; POSS LATER SAMSG					1
144	GREY			1	VABR		FRAGS		2	22		1
144	GRSA?	J					FTM		1	9		1
144	GRSA?				ABR		FRAG		1	1		1
144	NVGY	BNK					RIM NECK THIN POSS BK		1	6		1
144	ZDATE						2C					1
145	GREY	J					BSS		3	10		1
145	NVGY	J			ABR		BS		1	4		1
145	NVGY	OPEN		1			BASE BSS		6	19		1
145	SHEL	J					BS POSS BOURNE; GRY		1	2		1
145	ZDATE						2C					1
146	DR20	A			ABR		BS EFAB		1	152		1
146	GREY	J					BASE		1	18		1
146	SAMCG	18/31?			ABR		RIM		1	5		1
146	SAMLM?	18/31					BS BASAL		1	5		1
146	ZDATE						2C					1
146	ZZZ						PROB EM2					1
147	GREY	JCUR		1		D5	RIMS NECK; CORDON?; SILTY SOME LMST	108	2	50		1
147	SHEL						FLAKES		2	4		1
147	ZDATE						L1-2C					1
1	GREY						BS		1	5	WB	
1	ZDATE						RO				WB	
1	ZZZ						RO ONLY				WB	
500	SHEL	JB			BURNT		RIM SHELL BURNT OUT		1	9	WB	
500	ZDATE						RO/POSTRO				WB	
500	ZZZ						SOME POSTRO				WB	
503	SHEL	JB					BS RDBN BKN		1	7	WB	
503	ZDATE						RO				WB	
503	ZZZ						SHEL ONLY				WB	
506	COAR						FRAG		1	1	WB	
506	GROG		HM?		SOOTIN		BS		1	3	WB	
506	GYBN			1			BSS		4	6	WB	
506	ZDATE						IA-RO				WB	
506	ZZZ						SMALL FRAGS				WB	
522	GREY	BIBF					RIM FLANGE		1	10	WB	
522	GREY	J					FTM		1	14	WB	
522	GREY	JB					RIM FRAG		1	6	WB	
522	NVCC	JNN					RIM V THICK; CR FAB		1	53	WB	
522	ZDATE						VL4				WB	
525	SPOT	BPR					RIM LGE Q ROCKS CHARNWOOD; SAX - J YOUNG		1	3	WB	
525	GREY	J					BSS		16	92	WB	
525	GREY	JBK	B				BS		1	3	WB	
525	GREY	JBL					BSS		2	22	WB	
525	NVCC	BKBA	BAVE				BS LFAB WHT PA		1	3	WB	
525	NVCC	BD		1			BASE BSS CR FAB		5	50	WB	
525	NVGWC				VABR		BS		1	3	WB	
525	SHEL	CLSD					BS GRY MIN SHEL		1	3	WB	
525	SLSH	CLSD			SOOTEX		BS MIN PUNC SOME SPINES?		1	20	WB	
525	ZDATE						4C/POSTRO				WB	
525	ZZZ						NB SAXON POT				WB	
527	SLSH	CLSD					BS NECK ; BLK MIN PUNC		1	7	WB	
527	ZDATE						RO				WB	
527	ZZZ						SLSH ONLY				WB	
601	GREY	J			ABR		BS		1	5	WB	
601	ZDATE						RO				WB	
601	ZZZ						UNDIAGNOSTIC				WB	
605	COAR						BS SOME ROCKS		1	3	WB	
605	GREY	J					BASE		1	9	WB	
605	GREY	J	BIAP				BS		1	6	WB	
605	GREY	J					BS		1	5	WB	
605	GREY	JBL					BASE		1	30	WB	
605	NVGW	BD					BASE		1	16	WB	
605	NVGW	BTR		1?			RIM BASE		2	20	WB	
605	NVGW	JBK					BS THINNISH		1	2	WB	
605	NVGW	OPEN					BASE		1	9	WB	
605	NVGWC	B			VABR		RIM		1	14	WB	
605	NVGWC	J					BS		1	3	WB	
605	SHEL	BFBL?			ABR		RIM FRAG		1	8	WB	
605	ZDATE						M3+/POSTRO				WB	
605	ZZZ						NB SAXPOT; SOME POSTRO				WB	

625	GREY	J					BSS		4	34	WB
625	GREY	JBL					BS		1	34	WB
625	SHEL						FRAG BLK		1	3	WB
625	SLSH	JBL			ABR		BS RDBN		1	12	WB
625	ZDATE						3-4C/POSTRO				WB
625	ZZZ						SOME POSTRO				WB
626	GREY	J					FTM NARROW		1	67	WB
626	GREY	J					BSS		2	12	WB
626	GREY	J	BWL				BS POSS CARIN J		1	4	WB
626	GREY	JBK					BS		1	1	WB
626	GREY	JBL					BSS		2	78	WB
626	GREY	JBL					BASE		1	12	WB
626	NVGW	J			VABR		BS		1	4	WB
626	ZDATE						3-4C				WB
631	GREY	BWM					RIM GIRTH SHORTER NECK		1	57	WB
631	GREY	J	BDL	1			BSS GROOVED		2	40	WB
631	GREY	JBL			SOOTB		BASE STRING		1	91	WB
631	NVCC	CLSD					BS GROOVE WHT FAB		1	12	WB
631	NVGW	JBL		1			BASES BS		3	133	WB
631	ZDATE						ML3				WB
1000	CBM?						FRAG		1	5	2
1000	DWSH	JDW			ABR		RIM		1	8	2
1000	GREY	BWM					RIM SPOOL		1	25	2
1000	GREY	BWM					BSS		2	27	2
1000	GREY	BWM					RIM FRAG		1	7	2
1000	GREY	J	ROUJ				BSS		1	85	2
1000	GREY	JBL	BIWL				BS		1	33	2
1000	GREY						BSS MISC SOME ABR		45	249	2
1000	LCOA	JDLS			SOOTR		RIM FRAG		1	8	2
1000	NVCC	BFL?					RIM FRAG WHT FAB		1	4	2
1000	NVCC	BK					BS WHT FAB		1	2	2
1000	NVCC	BK	ROUZ				BS LFAB		1	10	2
1000	NVCC	BK			BURNT		BS		1	1	2
1000	NVCC	BKPA	PAL				BS WHT FAB		1	4	2
1000	NVCC	BX?	ROUZ				BS LFAB		1	6	2
1000	NVCC	CLSD					BS FRABS WHT AB		2	3	2
1000	NVCC	CLSD					BS FRAGS WHT LFAB		3	7	2
1000	NVCC	JL			BURNTE		BS LFAB		1	95	2
1000	NVCC	JWM					RIM WHT FB		1	8	2
1000	NVCC	OPEN					BASE WHT FAB		1	12	2
1000	NVCC?	BK					BS PALE CC		1	4	2
1000	PARC?	CLSD					BS		1	5	2
1000	PPOT						BS; INT? TO J YOUNG		1	9	2
1000	SAMCG						FLAKE; SCRATCHED POSS GRAFF		1	1	2
1000	SHEL	BL			BURNT;LE	D6	RIM GROOVE GIRTH		1	35	2
1000	SHEL	J			SCALEINT		BS		1	11	2
1000	SHEL	J			LEACH		BASE		1	20	2
1000	SHEL	JBL			ABR		RIM		1	25	2
1000	SHEL	JCUR					RIM FRAG		1	6	2
1000	SHEL	JLS			SOOTR		RIM SOOT IN GROOVE; POSS JDLS		1	13	2
1000	SHEL	Z		1			BSS DOLIUM		2	69	2
1000	SHEL						BSS MISC; SOME ABR		15	57	2
1000	SHEL						FLAKE CURVED		1	7	2
1000	SLSH	JBL					RIM BLK CURVED		1	23	2
1000	SLSHB?	BROL			ABR		RIM		1	16	2
1000	SPOX	B					BS		1	11	2
1000	SPOX?	CLSD			ABR		BS		1	9	2
1000	ZDATE						ML4/POSTRO?				2
1000	ZZZ						NB SAXPOT;SOME POSTRO				2
1001	FCLAY?				BURNT		FRAG		1	8	2
1001	GREY	CLSD					BSS		3	18	2
1001	GREY	J					BASE		1	43	2
1001	GREY	J					BS BASAL		1	23	2
1001	GREY	JEV			VABR		RIM FRAG		1	7	2
1001	GREY				ABR		BSS		2	26	2
1001	NVCC	BD			VABR		BASE		1	26	2
1001	SHEL				LEACH		BS RO?		1	6	2
1001	ZDATE						4C/POSTRO?				2
1001	ZZZ						NB SAXPOT; SOME POSTRO				2
1002	DWSH?	JDW?					BS		1	9	2
1002	FCLAY						FRAG HEARTH LINING EXTR AS IN	1027	1	4	2
1002	GREY	BD					BS BASAL		1	7	2
1002	GREY	J					BSS		3	11	2
1002	NVCC	CLSD		1	VABR		BSS		2	32	2
1002	NVGW	BD					BS		1	6	2
1002	NVGWC	JBL		1	ABR		BSS		2	11	2
1002	SHEL	B			BURNT		RIM FRAG		1	5	2
1002	SLSH	CLSD					BS		1	2	2
1002	ZDATE						4C				2
1002	ZZZ						FRAG HEARTH LINING EXTR				2
1003	GREY	B36			ABR		FLANGE LGE VESS		1	57	2
1003	GREY	BKEV					RIM FRAG		1	3	2
1003	GREY	J					BSS FLAKE MISC		4	23	2
1003	GREY	J		1			BSS OX INT UNUS		2	28	2
1003	GREY	JBL					BSS		6	278	2
1003	GREY	JBL					BS		1	10	2
1003	GREY	JNN					NECK		1	29	2
1003	GREY	JS					RIM		1	78	2
1003	GREY	JS					BSS		3	197	2
1003	GREY	JS					NECK		1	82	2
1003	GREY	JS					BASE		1	117	2
1003	GYBN	JEV					RIM NECK		1	42	2

1003	MONV	M			ABR		BS		1	10	2
1003	NVCC	B38			BURNT		FLANGE		1	91	2
1003	NVCC	BK					BSS WHT FB		2	10	2
1003	NVCC	BK					FTM WHT FB		1	11	2
1003	NVCC	BKBA	BAVE				BS		1	14	2
1003	NVCC	CLSD					BS LFAB		1	13	2
1003	NVGCC	CLSD					BS OR NVCC BURNT		1	26	2
1003	NVGW	CLSD					BASE BS		2	17	2
1003	NVGWC				ABR		BSS		3	26	2
1003	OXF	BK					BS		1	1	2
1003	OXF	JBK	PAL	1			BSS; UNUS FAB		2	7	2
1003	OXF	JBL					BS FLAKE		2	38	2
1003	SHEL	JL			SOOTR		RIM		1	52	2
1003	SHEL	JS					BASE		1	54	2
1003	SHEL						FRAGS		3	6	2
1003	SLSH	J					BS		1	19	2
1003	SPOX?	J					BS		1	13	2
1003	ZDATE						L3-4C/POSTRO?				2
1003	ZZZ						NB SAXPOT; SOME POSTRO				2
1004	GREY	J					BS		1	34	2
1004	GREY	J					BSS		2	8	2
1004	GREY	J					BS GROOVE		1	9	2
1004	NVCC	BFL			VABR		RIM GIRTH CR FAB		1	24	2
1004	NVCC	BWM					RIM SHLDR V HIGH FIRED LFAB		1	70	2
1004	NVCC	CLSD					BS CR FAB		1	10	2
1004	NVCC	DPR					RIM WHT FB		1	5	2
1004	NVGW	J					BS BLK COARSE		1	4	2
1004	NVGW	JCUR			ABR		RIM		1	11	2
1004	SHEL	CLSD			ABR		BS RDBN		1	8	2
1004	SHEL	CLSD					BS DKGRY		1	6	2
1004	SHEL	JB					RIM FRAG BLK		1	6	2
1004	SHEL	JLS			SOOTR		RIM DKBN		1	9	2
1004	SHEL				VABR		BSS FLAKES		2	9	2
1004	SLSHB?	JBL					BS BN		1	44	2
1004	SLSHB?	JCUR					RIM BLK NR HOOK		1	9	2
1004	SLSHF	Z	RIB			D7	BS V LGE DOLIUM/TANK		1	83	2
1004	ZDATE						4C				2
1004	ZZZ						FRAG SLAG? OR POT VITRIFIED EXTR				2
1005	DR20	A					BS LFAB		1	30	2
1005	GREY	BWM?					BS THICKER SHLDR GROOVE		1	63	2
1005	GREY	J		1?	ABR		BSS PALE GRY CORE NR NVGWC		4	57	2
1005	GREY	J					BSS		9	72	2
1005	GREY	J		1			BSS BN CORE		2	8	2
1005	GREY	J			ABR;STAIN		BS		1	22	2
1005	GREY	J		1			BSS GROOVE		3	18	2
1005	GREY	J					BS BLK COARSE		1	2	2
1005	GREY	JL					BASE PALER GRY CORE; STRING		1	72	2
1005	GREY	JLS					RIM		1	7	2
1005	GREY	JL	BL				BASE		1	37	2
1005	NVCC	OPEN?	ROUZ		ABR		BS WHT FAB		1	10	2
1005	NVGW	JBK					FTM		1	18	2
1005	NVGY	J					BS		1	25	2
1005	SHEL			1			FRAGS BLK		3	8	2
1005	ZDATE						L3+/POSTRO?				2
1005	ZZZ						SOME POSTRO				2
1009	GREY	J					BS		1	12	2
1009	GYBN	CLSD		1	BURNT?		BSS SILTY		2	11	2
1009	GYMS	BFL					RIM BLK		1	5	2
1009	NVCC	BK					BS LFAB		1	3	2
1009	NVGW	J					BS		1	8	2
1009	NVGY	BROL		1	VABR	D8	RIMS BSS GIRTH FLAKE		6	202	2
1009	ZDATE						ML3+				2
1009	ZZZ						FRAG BONE				2
1011	GREY	DPR					RIM UPPER WALL		1	11	2
1011	GREY	J					BSS		2	6	2
1011	GREY	JBL					BS		1	34	2
1011	GREY	OPEN					BS		1	3	2
1011	NVCC	BD					BS WHT FAB		1	3	2
1011	NVCC	BK			VABR;BURNT		BS		1	3	2
1011	NVCC	CLSD					BS WHT FAB		1	7	2
1011	NVGW	J			ABR		BS		1	4	2
1011	NVGW	JBK			BURNT		BS		1	5	2
1011	NVGWC	J					BS		1	5	2
1011	SAMEG?				ABR		BS		1	2	2
1011	SHEL	JDW					RIM UNUS BLK		1	7	2
1011	SLSH	J					BS GRY		1	3	2
1011	ZDATE						4C/POSTRO?				2
1011	ZZZ						MIX SOME 3C; NB SAX POT				2
1012	GREY	J					BS SPOOL		1	46	2
1012	GREY	J					BSS FLAKE		4	8	2
1012	GREY	J					BSS		2	8	2
1012	GREY	JB			ABR		RIM		1	13	2
1012	GREY	JBL			ABR		BS		1	30	2
1012	NVCC	BK			BURNT?		BASE; WHT FAB		1	6	2
1012	NVCC	BX		1	BURNT		RIM BASE BSS WHT FAB; LGE VESS; BKN NO ROUZ		6	153	2
1012	NVGW	CLSD			ABR		BS		1	4	2
1012	SHEL			1	ABR		FLAKES		2	6	2
1012	ZDATE						L3-4C				2
1013	GREY	BD			ABR		BASE		1	12	2
1013	GREY	JEV?					RIM FRAG		1	6	2
1013	NVGW	BD					BS THICK DK GRY SLIP		1	4	2
1013	SHEL	JDLS					RIM GRY		1	18	2
1013	SPOX						BS		1	6	2

1013	ZDATE						ML4/POSTRO?				2
1013	ZZZ						NB SAXPOT				2
1014	GREY	B334?					BS LEDGE CARINATION		1	8	2
1014	GREY	BFB			ABR		RIM LWR WALL BKN		1	39	2
1014	GREY	CLSD		1			BSS J GROOVE		4	68	2
1014	NVGW	BTR					RIM		1	9	2
1014	ZDATE						4C				2
1014	ZZZ						MIX? B334 NVGW				2
1015	GFIN	BK	SDL				BSS J FINE VESS SCORED DIAGONAL LINES		2	7	2
1015	GREY	CP	LA	1			BSS		2	16	2
1015	GREY	J					BSS		8	88	2
1015	GREY	J					BSS		2	5	2
1015	GREY	J					BASE STRING		1	24	2
1015	GREY	J			ABR		BS DKGRY		1	24	2
1015	GREY	JBL			ABR		RIM THICK		1	17	2
1015	MONV	MRR			FRESH		RIM UPPER WALL;3R; ORNGE LFAB	1027	1	160	2
1015	NVCC	BD		1	ABR		BS WHT FAB		2	13	2
1015	NVCC	BKPR					RIM WHT FB		1	5	2
1015	SHEL	J			VABR		BS		1	24	2
1015	SHEL	J					BS GRY MIN SHEL		1	5	2
1015	SHEL	JBL			SOOTEX		BS RDBN BLK INT		1	54	2
1015	SHEL	JCUR			ABR		BS DKGRY		1	11	2
1015	SHEL						BS RDBN		1	6	2
1015	SLSH	JUR					RIM DKGRY		1	9	2
1015	ZDATE						L3+				2
1017	GREY	CLSD			VABR		BSS MISC		9	52	2
1017	MHAD?	JBK					BS		1	3	2
1017	NVCC	BFB			VABR;BURNT		RIM FLANGE SHARP ANGLE		1	44	2
1017	NVCC				VABR		FRAG POSS BD		1	2	2
1017	OX				ABR		BS POSS SPOX		1	6	2
1017	OXRC	B			VABR		FTM LGE OPEN VESS		1	52	2
1017	SHEL				ABR		BSS		2	9	2
1017	VESIC				VABR; LEACH		BSS POSS LEACHED SHEL		2	13	2
1017	ZDATE						4C/POSTRO?				2
1017	ZZZ						NB SAXPOT				2
1021	NVGY	J					BS		1	5	2
1021	ZDATE						2C				2
1021	ZZZ						NVGY ONLY				2
1027	FCLAY						FRAG HEARTH LINING; SHELLY FAB; EXTR		1	12	2
1027	GFIN	BK					BS		1	3	2
1027	GFIN	BK	ROUZ				BS VERT ROUZ LINES		1	3	2
1027	GREY	BEV					RIM SHLDR GROOVE SMALL VESS		1	8	2
1027	GREY	BWM					RIM DEEP SPOOL		1	35	2
1027	GREY	BWM					RIM SHLDR; FINER VESS		1	43	2
1027	GREY	BWM					RIM SHLDR MEDIUM NECK		1	74	2
1027	GREY	BWM			BURNT		RIM OXID		1	19	2
1027	GREY	BWM					RIM SMALL VESS		1	5	2
1027	GREY	J		1			BASES J SCORED CONCENTRIC CIRLCES UNDER		3	79	2
1027	GREY	J		1			BASES J		2	28	2
1027	GREY	J					BASE		1	18	2
1027	GREY	J					BS		1	36	2
1027	GREY	J					BSS MISC		36	364	2
1027	GREY	J	BIA				BSS PROB BWM		4	88	2
1027	GREY	J		1			BSS GROOVED		2	49	2
1027	GREY	JB					RIM FRAGS		1	8	2
1027	GREY	JBL					BSS SOME PROB BWM		6	355	2
1027	GREY	JCUR					RIM SHLDR		1	23	2
1027	GREY	JEV					RIM		1	32	2
1027	GREY	JFO					BS		1	18	2
1027	GREY	JNN			ABR		RIM NECK		1	61	2
1027	GREY	JUR			SOOTR		RIM		1	12	2
1027	GREY						BSS		6	40	2
1027	MONV	MRR			FRESH		RIM UPPER WALL;3R; ORNGE LFAB	1015	3	75	2
1027	MOSL	BK	ROUL				BS		1	2	2
1027	MOSL	BKFO	ROUL				BS		1	7	2
1027	NVCC	BK			ABR		BS WHT FAB		1	4	2
1027	NVCC	BK					BS LFAB		1	1	2
1027	NVCC	BKFOSC					BS V HIGH FIRED BLK WHT FAB		1	3	2
1027	NVCR	BK					BSS		2	5	2
1027	NVGW	J					BSS		10	49	2
1027	NVGWC	J					BSS		3	32	2
1027	NVGWC	JCUR					RIM		1	8	2
1027	NVGWC?	J	RIB		BURNT		BSS		2	11	2
1027	NVGWC?	J	BARC	1			BSS		3	13	2
1027	OX	J	BIA		BURNT		BS BURNT OXID		1	15	2
1027	SHEL	J			ABR		BASE		1	12	2
1027	SHEL	J					BSS MISC; MOST BLK GRY		9	138	2
1027	SHEL	JBL					BSS; 1 BURNT EXT		3	64	2
1027	SHEL	JL		1			BSS PULL MARKS INT		2	264	2
1027	SHEL	JS			ABR		BS		1	51	2
1027	SHEL	JS					RIM		1	95	2
1027	SLSH	J					BS BN		1	38	2
1027	ZDATE						L3-EM4				2
1027	ZZZ						MIX SOME M3C;MOST LGER SHS;HEARTH LINING /	1002			2
1029	SLSH	JS					BS BLK		1	42	2
1029	ZDATE						RO				2
1029	ZZZ						SLSH ONLY				2
1032	GREY	BD					BASE		1	37	2
1032	GREY	DPR					RIM LWR WALL; SPOOL		1	96	2
1032	GREY	J					BS		1	30	2
1032	GREY	J			VABR		BS		1	20	2
1032	GREY	J	BIA				BS		1	6	2
1032	GREY	J	BHL				BS BAND BHL		1	8	2

1032	GREY	JEV?					BS NECK SCAR		1	8		2
1032	MOSL	BKFO	ROUL				BS		1	1		2
1032	NVCC	BK					BASE NARROW 100% ROUND BODY; WHT FAB		1	49		2
1032	NVGW	J			ABR		BASE; STRING		1	74		2
1032	SHEL	J					BS BLK		1	7		2
1032	SHEL	JBL					BS BN		1	9		2
1032	ZDATE						L3-4C/POSTRO?					2
1032	ZZZ						MIX SOME EM3; NB SAXPOT					2
1033	GREY	BEV?	B				BS SHLDR SPOOL?		1	21		2
1033	GREY	BTR					RIM LWR WALL		1	64		2
1033	GREY	BWM					RIM MED NECK		1	53		2
1033	GREY	BWM			BURNT		RIM BURNT OXID		1	64		2
1033	GREY	BWM			BURNT		RIM BURNT OXID		1	61		2
1033	GREY	BWM	B				BSS; SMALL VESS		2	31		2
1033	GREY	BWM?	BIA				BSS		4	49		2
1033	GREY	FS?					RIM CUP SHAPED V HIGH FIRED OXID		1	3		2
1033	GREY	FS?					RIM		1	9		2
1033	GREY	J					BSS		8	114		2
1033	GREY	J	BHL				BSS		2	20		2
1033	GREY	J					BS GROOVE		1	8		2
1033	GREY	JNN				D?	RI M NECK		1	23		2
1033	GREY	JNN					RIM NECK		1	19		2
1033	GREY	JS					BASE STRING		1	90		2
1033	GREY				BURNT		BSS BURNT OXID		10	104		2
1033	GREY				VITRIF; KILN?		BS BURNT IN V FIERCE HIT EXTR		1	10		2
1033	MOSP	M					BS WHT SLIP		1	51		2
1033	NVCC	B			ABR		FTM		1	116		2
1033	NVCC	BK			BIURNT		BS WHT FAB		1	9		2
1033	NVCC	BKBA	BAVE				BS WHT FAB WHT PA		1	9		2
1033	NVCC	CLSD					BS WHT FAB		1	10		2
1033	NVCC	DPR					RIM WHT FB		1	3		2
1033	NVCC	JBL			ABR		BS WHT FAB		1	66		2
1033	NVCC	JL					BSS J GROOVE V HIGH FIRED; LFAB		2	87		2
1033	NVGCC	DPR		1	BURNT?		RIMS BASE PROF V HIGH FIRED		2	46		2
1033	NVGW	B36			ABR		BS		1	33		2
1033	NVGW	JBK					BS		1	3		2
1033	NVGW	JCUR					RIM		1	7		2
1033	NVGWC	J			BURNT		BS		1	2		2
1033	NVGY?	DPR			BURNT		RIM BURNT OXID; POSS NVCC V BURNT		1	12		2
1033	PARC?	CLSD					BS NO PAINT ELSE CF PARC		1	9		2
1033	SAMCG	D			ABR		BS		1	4		2
1033	SAMCG						FLAKE		1	1		2
1033	SHEL	J					BSS GRY		1	19		2
1033	SHEL	JBL					BSS		2	58		2
1033	SHEL						BSS FRAGS		4	15		2
1033	SLSH	JS					RIM CURVED		1	221		2
1033	SLSHB?	BCUR			BURNT		RIM SHLDR		1	20		2
1033	SPOX?				VABR		FRAG SLIP		1	2		2
1033	ZDATE						4C/POSTRO?					2
1033	ZZZ						GD GRP LGE SHS; SOME VITRIF KILN?; SAX POT					2
1034	NVCC	BK					BS WHT FAB		1	2		2
1034	ZDATE						3C+					2
1034	ZZZ						NVCC BK ONLY ISOLATED SKULL 1035					2
1036	GREY	J					BASE STRING		1	22		2
1036	GREY				ABR		BSS MISC		5	23		2
1036	SHEL						FRAG		1	1		2
1036	SLSH	CLSD					BS					2
1036	ZDATE						3-4C/POSTRO					2
1036	ZZZ						NB SAX POT TO JANE YOUNG					2
1037	GREY	J			VABR		BASE SOME LGE Q		1	22		2
1037	GREY	JBL					BS		1	12		2
1037	GREY	JEV					RIM		1	7		2
1037	GREY	JNN			ABR		RIM		1	13		2
1037	GREY						FRAG		1	2		2
1037	NVCC	OPEN?		1	ABR		BSS		2	8		2
1037	SHEL?				ABR		BS LGE FE FRAGS LMST UNUS		1	9		2
1037	ZDATE						4C?					2
1037	ZZZ						NB SAXPOT					2
1042	CC	J					BASE STRING V UNUS;FAB CF NV COARSER VAR; FS		1	34		2
1042	GREY	BFB?					RIM FLANGE BKN; SMALL VESS		1	7		2
1042	GREY	BWM			ABR		RIM SHLDR MEDIUM NECK		1	155		2
1042	GREY	BWM			ABR		RIM SHLDR SMALL VESS		1	19		2
1042	GREY	J					BS SHLDR		1	9		2
1042	GREY	J		1			BSS		9	87		2
1042	GREY	J105					RIM		1	6		2
1042	GREY	JBL					BSS		2	46		2
1042	GREY	JCUR		1			RIMS		2	18		2
1042	GREY				ABR		BSS		4	22		2
1042	NVCC	B			VABR		FTM; CC NR LOST; CR FAB		1	32		2
1042	NVCC	BFBL			VABR		RIM UPPER WALL; WHT FAB		1	28		2
1042	NVCC	JWM					RIM LFAB		1	42		2
1042	NVGW	J					BS BASAL		1	42		2
1042	NVGW	J					BSS		3	10		2
1042	SAMCG	33			ABR		RIM		1	4		2
1042	SHEL	BFB		1	VABR		FLANGES SPINES?		2	46		2
1042	SLSH	J		1			BSS FRAGS WIPED EXT; RDBN; MIN PUNC		9	112		2
1042	SLSH	JCUR		1			RIMS BSS BLK; MIN PUNC		13	201		2
1042	ZDATE						4C					2
1042	ZZZ						MIX SOME 2C; FRAG STONE					2
1043	CBM				VITRF		FRAG W RED SANDSTONE; EXTR		1	20		2
1043	GREY	BIBF			ABR		RIM GIRTH		1	35		2
1043	GREY	JEV					RIM		1	10		2
1043	GREY	JNN			ABR		RIM		1	50		2

1043	GREY				ABR		BSS		5	42	2
1043	OX	CLSD	SCRV			D9	BS UNUS DEC; FAB CF SPOX		1	24	2
1043	SHEL	CLSD		1	VBURNT		BASE BSS; SHEL BURNT OUT		4	18	2
1043	SHEL	JB			VBURNT		RIM BLK; SHEL BURNT OUT		1	11	2
1043	SHEL	JS			LEACH		BS SHEL LEACHED OR BURNT OUT		1	7	2
1043	SHEL				VBURNT		BSS; SHEL BURNT OUT		2	10	2
1043	ZDATE						VL4/POSTRO?				2
1043	ZZZ						NB SAXPOT				2
1044	NVGCC	OPEN?			ABR		BS		1	3	2
1044	ZDATE						3-4C				2
1044	ZZZ						NVGCC ONLY				2
1045	GREY	J					BSS		3	24	2
1045	GREY	J					BS BLK		1	4	2
1045	NVCC	BK			ABR;BURNT		BS		1	3	2
1045	NVCC	DPR			ABR		RIM GIRTH		1	12	2
1045	SLSH	JBL			ABR		FLAKE		1	10	2
1045	ZDATE						4C				2
1055	GREY	J					BSS		4	55	2
1055	NVCC	BBR					RIM WHT FAB PROB BHEM		1	5	2
1055	NVCC	BKBA	BAD				BS WHT FAB		1	2	2
1055	NVCC	BKBAG	RCC?	1			BASE 100 % NARROW; BS; FAINT RCC?; WHT FAB		2	98	2
1055	NVGW	BTR?					RIM FRAG V DK SLIP		1	4	2
1055	NVGW	JBK					BS; DK GRY CENTRAL CORE		1	4	2
1055	NVGWC	JB					BS		1	13	2
1055	OX	JBK	HM?				BS UNUS FAB CF LIA-EROM?		1	6	2
1055	SHEL	CLSD			SOOTIN		BS SOME SPINES RDBN		1	4	2
1055	SHEL	JS			LEACH		BS		1	24	2
1055	SHEL						FLAKE BN		1	12	2
1055	ZDATE						M2-E3/POSTRO?				2
1055	ZZZ						MIX?; NB SAXPOT				2
1057	GREY	J					BSS		2	11	2
1057	NVCC	DPR					RIM		1	12	2
1057	ZDATE						4C/POSTRO				2
1057	ZZZ						NB SAXPOT; SOME POSTRO				2
1073	VESIC				ABR		BASE		1	9	2
1073	ZDATE						RO?				2
1075	OX				VABR		SCRAP		1	1	2
1075	SHEL				VABR		SCRAP		1	1	2
1075	ZDATE						RO?				2
1033?	GREY	BWM					RIM SPOOL		1	104	2
1033?	GREY	BWM?	BIA		BURNT		BSS; PART BURNT OXID SEE 1027 & 1033		2	117	2
1033?	GREY	BWM?	BIA				BS		1	88	2
1033?	GREY	J					BS DOUBLE GROOVE		1	16	2
1033?	GREY	J			ABR		FTM; SPOOL; STRING		1	58	2
1033?	GREY	J	BHL				BS		1	19	2
1033?	GREY	JBK	ROUL				BS OXID IN AND CORE		1	11	2
1033?	GREY	JBL					BS		1	93	2
1033?	GREY	JBL			VBURNT		BASE BURNT OXID		1	56	2
1033?	GREY	JBL					BSS		2	62	2
1033?	OX	J		1			BSS J POSS GREY BURNT AS ABOVE OR SPOX		2	32	2
1033?	ZDATE						L3-4C				2
1033?	ZZZ						LGE SHS;NB MARKED 1033; IN BAG MARKED 1027				2

Appendix 5

THE ROMAN COINS
By Steve Malone

SF No.	Cxt	Ruler/Denomination	Cat			Date of issue
10	025	**Antoninus Pius** Sestertius	Obv: as 3.597 Rev: as 3.1103	Diam: 30mm Wt: 27g Axis: 7 Wear: SW/SW	Obv: ANTONINVS [AVG PIVS] PP TR P COS III Rev: A[E]T[ER]NITAS SC Mint: Rome	141-45
116	520	**Constans** -	as 8TR182	Diam: 14mm Wt: 1.3g Axis: 12 Wear: SW/W	Obv: DN CON]STAN-[S PF AVG Rev: VICTO]RIAE DD [AVGG Q NN Mint: -	341-46
118	520	**Valentinian** -	as 9TR7	Diam: 16mm Wt: 2.5g Axis: 11 Wear: SW/SW	Obv: DN VALENTINI-ANVS PF AVG Rev: SECVRITAS [REIPVBLICAE Mint: -	364-75
101	519	**House of Valentinian** -	as 9TR7	Diam: 18mm Wt: 1.5g Axis: 4 Wear: W/W	Obv: … Rev: SECVRITAS RE]IPVBL[ICAE Mint: -	364-78
119	520	**House of Valentinian?** -	c as 9TR7?	Diam: 13mm Wt: 1.3g Axis: 4? Wear: C	Obv: … Rev: … victory reverse? Mint: -	364-78?
102	520	**Gratian** -	as 9TR74	Diam: 15mm Wt: 2.3g Axis: 6 Wear: SW/SW	Obv: DN GRATIA-NVS PF AVG Rev: VOT XV MVLT XX Mint: -	378-83

Catalogue references by *RIC* volume and mint (where relevant).

The sestertius of Antoninus Pius stands out from the rest of the assemblage and is unusual in itself. The obverse has the usual constitutional formulae for the period 140-145 but the AETERNITAS reverse is usually to be found on the issues commemorating the death of the emperor's wife Faustina in 141 (e.g. *RIC* 3.1103 with the obverse DIVA FAVSTINA). This hybrid is not listed in RIC, but a similar coin is recorded in the British Museum collection (*BMC* 4, 366). The type could have remained in circulation until *c*. 260 and although not much worn might easily be recovered from a third-century context.

Otherwise, a small collection of slightly worn fourth-century issues of types frequently found on Roman sites of the period (Reece 1995). No mint marks can be discerned but these represent normal products of the western mints such as Trier, Lyon or Arles (catalogue references have been made to the equivalent Trier type). 116 and 119 are small, perhaps irregular issues/copies but wear and, particularly on 119, corrosion may deceive.

The assemblage is too small for any useful assessment by issue periods.

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BMC = *Coins of the Roman Empire in the British Museum*, Mattingly 1923-50; Carson 1962
RIC = *Roman Imperial Coinage*, Mattingly and Sydenham 1923-94

HAP05 POTTERY ARCHIVE

ANNE BOYLE AND JANE YOUNG

trench	context	cname	sub fabric	form type	sherds	vessels	weight	decoration
	0505	BL	light orange	bowl	2	1	51	
	0505	CIST		tankard / mug	1	1	9	
	0505	BOU		bowl	1	1	8	
	0514	LERTH		garden pot	2	1	7	
	0514	LERTH		garden pot	1	1	1	
	0514	LERTH		garden pot	1	1	4	
	0514	BOU	smooth	?	2	1	2	
Area 01	0011	TPW		?	1	1	1	blue transfer print
Area 01	0012	BL	red + ca	?	1	1	4	
Area 01	0012	ENGS		inkpot / small jar	1	1	10	
Area 01	0014	LERTH		garden pot	1	1	3	
Area 01	0014	NOTS		jar ?	1	1	7	square roller stamp
Area 01	0016	NOTLGW		jug	1	1	83	
Area 01	0017	BL		?	1	1	1	
Area 01	0017	WHITE		hollow	1	1	6	
Area 01	0017	TPW		flat	1	1	3	blue transfer print; chinoiserie
Area 02	1000	FE	+ fine sst	jar	1	1	9	
Area 02	1000	CHARN	+ ca	jar / bowl	2	1	9	
Area 02	1000	CIST		cup	1	1	1	
Area 02	1000	BL		jar	1	1	24	
Area 02	1000	BL		jar / bowl	1	1	8	
Area 02	1000	STSL		?	1	1	1	trailed slip
Area 02	1000	SSTCL	+ fe + ca	jar / bowl	1	1	3	
Area 02	1000	CHARN		jar ?	1	1	6	
Area 02	1000	FE		jar / bowl	1	1	9	
Area 02	1000	SSTCL	M + acid igneous	?	1	1	7	
Area 02	1000	SSTCL	F	jar / bowl	1	1	17	

part	description	date
base	white clay / shale inclusions; red slip; same vessel?; abraded	17th to 18th
BS	near vitrified	mid 16th to 17th
BS	abraded	14th to 16th
BS	flake	19th to 20th
BS	flake	19th to 20th
BS	flake	19th to 20th
BS	very abraded; low fired	14th to 16th
?base		19th to 20th
BS	flake	18th to 19th
BS		19th to 20th
BS	abraded; ? ID	19th to 20th
BS		18th to 19th
base	abraded; stacking scar and reduced area on underside; ?ID or Reduced Nottingham Green Glazed	14th to 16th
base		mid 17th to 18th
BS		19th to 20th
base	flake	19th to 20th
base	external soot	5th to 8th
BS		5th to 8th
BS	external glaze; ? ID	mid 16th to 17th
base	worn on exterior basal angle; abraded	mid 17th to 18th
BS		mid 17th to 18th
base	flake	late 17th to 18th
BS		5th to 7th
BS	soot over break	5th to 8th
base	externally leached	5th to 8th
BS	abraded	5th to 7th
base		5th to 7th

trench	context	cname	sub fabric	form type	sherds	vessels	weight	decoration
Area 02	1000	BOU	smooth + ca	jug	3	1	22	
Area 02	1000	SSTCL	M	jar / bowl	1	1	3	
Area 02	1000	SSTMG	+ fe	jar ?	1	1	4	
Area 02	1000	BL		cup	1	1	1	
Area 02	1000	BL	cream / red marbled	?	1	1	4	
Area 02	1000	BL	dark red	?	1	1	13	
Area 02	1000	ELY	handmade	jar ?	1	1	18	
Area 02	1000	SSTCL	M + acid igneous + ca	?	1	1	3	
Area 02	1000	SSTCL	M	jar ?	1	1	1	
Area 02	1000	SSTCL	M	jar ?	1	1	6	
Area 02	1000	BOU	sandy	bowl	1	1	6	
Area 02	1000	NOTGL		jug / jar	2	1	13	
Area 02	1000	BERTH	orange sandy	bowl ?	2	1	14	
Area 02	1000	STSL	cream	press moulded dish	1	1	1	trailed brown on yellow
Area 02	1000	SSTCL	M	jar / bowl	1	1	3	
Area 02	1001	BL		jar	1	1	17	
Area 02	1001	BL	light orange	bowl	1	1	26	
Area 02	1001	CHARN	+ ca	jar / bowl	1	1	18	
Area 02	1001	SSTMG		?	1	1	19	
Area 02	1001	BL		jar ?	1	1	4	
Area 02	1003	BOU	smooth + ca	jug / jar	1	1	13	
Area 02	1003	BOU	bumpy	jug / jar	1	1	5	
Area 02	1003	BOU	smooth	jug / jar	1	1	3	
Area 02	1003	TOY		jug ?	1	1	25	
Area 02	1003	SSTCL	M	?	1	1	6	
Area 02	1005	CIST		jug	1	1	3	
Area 02	1005	TOY		jug	1	1	5	
Area 02	1005	BOUA		?	1	1	7	
Area 02	1011	SSTCL	M + acid igneous + millstone grit	jar / bowl	1	1	6	
Area 02	1011	SSTCL	M + fe + millstone grit	jar / bowl	1	1	3	

part	description	date
base	trimmed basal angle	14th to 16th
BS		5th to 7th
BS	external soot	5th to 8th
BS	internal and external glaze	18th to 19th
BS	red slip; abraded	18th to 19th
BS	overfired ?	18th to 19th
base	white internal deposit; soot; ? ID	late 12th to 14th
BS		5th to 7th
BS	external burnishing	5th to 7th
BS		5th to 7th
base	possibly trimmed	14th to 16th
base	? ID	13th
base	red slip; staffordshire	17th to 18th
BS		late 17th to 18th
BS		5th to 7th
BS		mid 17th to 18th
base	red slip; abraded	mid 17th to 18th
rim	external burnishing; upright flat top rim	5th to 8th
BS		5th to 8th
base	abraded	mid 17th to 18th
BS	abraded	
BS		
BS		
base	abraded; blown in firing ?; soot	
BS		
BS		mid 16th to 17th
BS	abraded; ? ID	
BS	deoxidised over break	
BS	? ID or CHARN + millstone grit + sst	
BS	external burnishing	

trench	context	cname	sub fabric	form type	sherds	vessels	weight	decoration
Area 02	1011	SSTCL	M + acid igneous + millstone grit	jar / bowl	1	1	9	
Area 02	1013	SSTCL	M + acid igneous	?	1	1	7	
Area 02	1017	GRIMT		jug	1	1	1	
Area 02	1017	SSTCL	M + fe	jar	1	1	10	
Area 02	1032	SSTCL	M + fe + ca	jar / bowl	1	1	3	
Area 02	1033	SSTCL	M	jar	1	1	5	impressed decoration?
Area 02	1033	SSTCL	M + ca + acid igneous + common large ca lumps + moderate black inclusions	large vessel	1	1	88	
Area 02	1033	SSTCL	M + ca + shell	jar	1	1	14	
Area 02	1033	LIM		jar	1	1	18	
Area 02	1033	SSTCL	M	small jar	1	1	8	
Area 02	1036	SSTMG		jar / bowl	1	1	2	
Area 02	1037	RMAX		?	1	1	5	
Area 02	1037	RQCL		jar	1	1	7	
Area 02	1043	RMAX		large vessel	1	1	196	
Area 02	1043	SSTCL	M	jar ?	1	1	3	
Area 02	1055	FE	+ quartz	jar ?	1	1	6	
Area 02	1057	SSTCL	M + fe	jar ?	1	1	9	
Area 02	1057	BOU	smooth	jug / jar	1	1	1	
Area 02	1057	BOU	slightly sandy + ca	jug	1	1	25	
Area 02, Field 11B	0625	BL		open	1	1	1	
Area 02, Field 11B	0625	BOU	smooth	jug	1	1	15	
Area 03	1508	NCBW		hollow	1	1	3	blue, tan and cream slip banded
Area 03	1508	TGW		?	1	1	1	
Area 03	1530	CIST		jug	1	1	44	
Field 01	0004	BOU		?	1	1	8	
Field 01	0004	BL	hard red	jar ?	1	1	15	
Field 01	0004	LERTH		vase ?	1	1	6	moulded decoration

part	description	date
BS	external burnishing / wiping; ? ID or CHARN + millstone grit + sst	
BS	abraded	
BS	abraded	
BS		
BS	leached inner surfaces; external soot	
rim	misshapen; rounded rim; burnished; internal deposit soot ?	
base	thick internal carbonised deposit; leached outer surface; analyse	
neck	external soot; external burnishing	
BS	externally burnished; leached	
rim	external horizontal burnishing / wiping; knife flattened rim; external soot	
BS		
BS	abraded	
BS		
BS	abraded; patchy soot	
BS	external burnishing	
BS	external cross burnishing	
BS	external soot	
BS		
rim	round hollow everted rim	
BS	marbled red and white clay; external red slip	mid 17th to 18th
BS	abraded	14th to 16th
BS		late 18th to 19th
base	abraded	17th to 18th
base with LHJ		mid 16th to 17th
BS		14th to 16th
BS	red slip	mid 17th to 18th
neck	black earthenware; clear glaze	18th to 20th

trench	context	cname	sub fabric	form type	sherds	vessels	weight	decoration
Field 01	0004	BL	light orange	bowl	1	1	13	
Field 01	0004	BL	light orange	jar ?	1	1	6	
Field 01	0004	WHITE		cup ?	1	1	2	blue sponge
Field 01B	0528	BOU		jug / jar	1	1	5	
Field 03B	0500	BL	light orange	jar / bowl	1	1	7	
Field 03B	0500	ELGQC		jug / jar	1	1	10	
Field 03B	0504	BOU	sandy	jug	1	1	11	
Field 07B	0509	BL		hollow	1	1	3	
Field 07B	0509	BL		jar	1	1	32	
Field 07B	0509	BL	light orange	bowl	1	1	65	
Field 07B	0509	TOY	+ ca	large jug	1	1	64	
Field 07B	0509	BL	light orange	?	4	1	14	
Field 07B	0509	NOTS		hollow	1	1	9	
Field 07B	0509	FREC		drinking jug	1	1	7	
Field 07B	0509	STSL	fine light orange	thrown bowl	1	1	10	
Field 08B	0510	FREC		drinking jug	1	1	11	
Field 08B	0510	NOTS		small bowl	1	1	3	incised horizontal line
Field 08B	0510	BOU	sandy	jug	1	1	10	
Field 08B	0510	BOU		?	1	1	3	
Field 08B	0510	BOU		?	1	1	2	
Field 08B	0510	BOU		jug / jar	1	1	3	
Field 08B	0510	BOU		jug / jar	1	1	27	
Field 08B	0510	BOU		jug / jar	1	1	17	
Field 08B	0537	BERTH	orange	bowl	1	1	12	
Field 08B	0537	GRE		jar?	1	1	9	
Field 09B	0518	BOU		jug	1	1	6	
Field 09B	0518	TPW		cup	1	1	3	blue transfer print
Field 09B	0518	ENGS		large jar	1	1	17	
Field 09B	0518	ENGS		bottle	1	1	4	
Field 10B	0516	BL		jar	1	1	10	
Field 10B	0516	TPW		hollow	1	1	6	blue transfer print
Field 10B	0516	SWSG		cup	1	1	1	

part	description	date
rim	red slip	mid 17th to 18th
BS	red slip	mid 17th to 18th
BS		19th to 20th
BS	abraded	14th to 16th
BS	white clay / shale inclusions; red slip; abraded	17th to 18th
BS	abraded	12th to 14th
BS	abraded	14th to 16th
BS		mid 17th to 18th
rim	abraded	mid 17th to 18th
rim	white clay / shale inclusions; red slip; very abraded	17th to 18th
base	very abraded	late 13th to 15th
BS	white clay / shale inclusions; red slip; abraded	17th to 18th
BS		18th to 19th
BS		16th to 17th
rim	white slip; abraded; ? ID	late 17th to 18th
BS		16th to 17th
BS		18th to 19th
neck		14th to 16th
base	very abraded	14th to 16th
?base	flake	14th to 16th
BS	abraded	14th to 16th
BS	abraded	14th to 16th
base	abraded	14th to 16th
BS	white clay / shale inclusions	17th to 18th
BS	abraded	16th to 17th
rim		14th to 16th
rim		19th to 20th
rim		19th to 20th
BS		19th to 20th
base	near vitrified	mid 17th to 18th
BS		19th to 20th
BS		early/mid to late 18th

trench	context	cname	sub fabric	form type	sherds	vessels	weight	decoration
Field 10B	0516	BL	light orange	jar / bowl	1	1	35	
Field 10B	0516	PEARL		flat	1	1	2	blue transfer print
Field 11	0555	DST		jug	1	1	6	
Field 11B	0525	CHARN		bowl ?	1	1	3	
Field 11B	0605	SSTCL	M + acid igneous + fe	jar / bowl	1	1	8	
Field 11B	0605	SSTCL	M + fe	jar / bowl	1	1	3	
Field 11B	0605	SSTMG		small jar	1	1	3	
Field 11B	0605	MP		jar	1	1	38	

part	description	date
base	red slip; very abraded	mid 17th to 18th
rim		late 18th to mid 19th
base		mid 12th to early/mid 13th
rim	rounded upright rim; external and internal soot	
BS		5th to 7th
BS		5th to 7th
rim	rounded upright rim	5th to 8th
rim	stacking scar on rim; near vitrified fabric; blackware type	17th to mid 18th

HAP05 DATING ARCHIVE

ANNE BOYLE AND JANE YOUNG

trench	context	date
?	0505	unstratified
?	0514	unstratified
Area 01	0017	unstratified
Area 01	0014	unstratified
Area 01	0012	unstratified
Area 01	0011	unstratified
Area 01	0016	unstratified
Area 02	1033	5th to 7th
Area 02	1037	8th to mid 9th
Area 02	1036	5th to 8th
Area 02	1055	5th to 8th ?
Area 02	1043	8th to mid 9th
Area 02	1011	5th to 7th
Area 02	1005	mid 16th to 17th
Area 02	1013	5th to 7th
Area 02	1032	5th to 7th
Area 02	1057	14th to 16th
Area 02	1017	13th to 15th
Area 02	1000	unstratified
Area 02	1001	unstratified
Field 11B	0625	unstratified

trench	context	date
Area 03	1508	late 18th to 19th
Area 03	1530	mid 16th to 17th
Field 01	0004	unstratified
Field 10B	0516	unstratified
Field 11	0555	unstratified
Field 11B	0525	5th to 8th
Field 11B	0605	unstratified
Field 01B	0528	unstratified
Field 03B	0500	unstratified
Field 03B	0504	unstratified
Field 07B	0509	unstratified
Field 08B	0510	unstratified
Field 08B	0537	unstratified
Field 09B	0518	unstratified
Area 02	1003	14th to 16th

Appendix 6

THE LITHICS

By Barry Bishop

Introduction

The Archaeological Investigations recovered 19 struck flints. This report quantifies and describes the material, and comments on its ability to contribute to the further understanding of the nature and chronology of the activities identified during the project and its wider significance. All metrical descriptions follow the methodology of Saville (1980).

Quantification

Context	Context Type	Decortication/core modification flake	Core rejuvenation Flake	Flake	Trimming Flake	Blade	Core	Conchoidal chunk	Retouched	Natural	Comments / Size (L X B X W: mm)
005	Unstratified		1								Recorticated, classic core tablet 40X33X9
007	Subsoil								1		Fine blade with notch and edge-trimming on right dorsal margin 42X19X4
007	Subsoil								1		Convex end-scraper on blade-like flake 28X23X7
007	Subsoil			1							Recorticated 33X32X9
007	Subsoil						1				Multiplatformed flake/narrow flake: multiple incipient Hertzian cones 61.8g
007	Subsoil			1							Some parallel dorsal scars 33X42X6
007	Subsoil			1							Parallel dorsal scars 36X38X13
012	Unstratified								1	6	Angular thermal chunk with steep retouch forming an effective piercer
017	Unstratified									1	
024	Disuse building or make-up	1									Recorticated 28X30X10
626	Unstratified, poss from ditch						1				Exhausted multiplatformed flake 12g
1000	Unstratified					1					Blade is Broken: abraded
1002	Occ layer/topsoil						1				Very exhausted multiplatformed narrow flake 21g
1017	Furrow [1019]							1		1	Probable shattered core could be natural plough damage
1029	Ditch [1020]									1	
1033	Ditch [1068]				1		1				Minimal opportunistic flake core 17g
1042	Ditch [1040]				1						
1043	Ditch [1041]						1				Minimal opportunistic flake core 41g
1508	Pit 1525/1526								1		Recorticated blade with possible retouch around perimeter forming a tear-drop shaped implement – Small piercing tool? 25X12X5
1517	Pit 1520								1		Plunged flake with heavy crude notched retouch on right dorsal margin, possibly natural damage 37X22X10
Totals		1	1	3	2	1	5	1	5	9	

Table 1: Quantification of Lithic Material by Context

Description

In total 19 struck pieces and nine unmodified angular flint pebbles were recovered, the latter are not discussed further. The struck assemblage included a high proportion of both cores (26.3%) and retouched pieces (26.3%), the remaining pieces consisting of flakes, mostly with parallel dorsal margins, blades and knapping waste. All of the pieces were small, rarely exceeding 40mm in maximum dimension

Raw Materials

All of the struck pieces were manufactured from flint. Despite the small size of the assemblage, a wide variety of flint colours were represented, including translucent black, browns and greys, with dark brownish-grey types being most commonly used. Cortex, which was present on 13 of the 19 pieces, consisted of a variably weathered chalky kind with occasional heavily recorticated thermal facets. The variety of flint colours and the weathered cortex indicate that the raw materials were obtained from glacio-fluvial sources, most likely alluvial gravels and easily obtainable in the vicinity of the site. The size of the struck pieces and the frequent presence of cortex suggest that the raw materials consisted of sub-rounded pebbles and small cobbles of generally good knapping quality but limited both by size and thermal flawing.

Condition

The condition of the assemblage was variable although most pieces displayed some evidence of edge chipping and abrasion, and this was particularly noticeable on those from unstratified contexts, suggesting that these had spent some considerable time within the plough zone. The condition of the stratified assemblage would be consistent with 'trampling' and quite possibly redeposition, although there was little evidence for any extensive post-depositional displacement. Several pieces had recorticated although no obvious chronological significance could be associated with the degree of this. The rate of recortication can vary significantly even within pieces of similar date and is highly dependent on localized burial condition (Schmaltz 1960).

Technology, Typology and Dating

No typologically diagnostic pieces were present. The retouched pieces consisted of a finely produced blade with a small notch and edge trimming executed on its right dorsal margin, a convex end-scraper made on a blade-like flake, an angular thermally fractured chunk with steep retouch forming an effective piercer, a blade with retouch around its perimeter forming a tear-drop shaped implement, possibly a piercer or an atypical drill bit (*mèche de foret:* Barton 1992, 229-230), and a plunged flake with crude heavy notched retouch on right dorsal margin.

The possible *mèche de foret*, if correctly identified, would be of Mesolithic derivation, and the notched blade and scraper, although not diagnostic types in themselves, were both made of blanks that would be consistent with Mesolithic industries, as would the plunged flake. The piercer made on a thermal chunk is harder to place. The 'retouch' certainly appeared deliberately executed and the tool's morphology and the nature of its 'retouch' would perhaps be most typical of Later Neolithic/Early Bronze Age piercers, although these are usually made on deliberately struck blanks. Its recovery from a Roman building forces a consideration of it being an opportunistically made tool contemporary with the use of the building. There is very little evidence for use of struck flint during this period. Possible Roman flintworking has been suggested at Kilverstone in Norfolk, perhaps associated with an agricultural/industrial use (Conneller 2002) and other possibilities include the use of flint for teething threshing sleds, or *tribulums* (eg Curwen 1937). Interestingly, the example here is comparable to the *tribulum* flints illustrated by Crawford (1935: fig 1). However, there was no evidence of the characteristic silica-polish from such a use, and very few other *tribulum* flints have been identified from the archaeological record. Without further supporting evidence, this piece must remain of uncertain provenance.

Five cores were recovered. None had unequivocally produced blades although the two fully exhausted cores from context [626] and [1002] may have done initially. The other three had only been minimally worked before discard, producing a few variably shaped and sized flakes. It is uncertain whether these represent pieces of raw material that were abandoned early in the reduction sequence due to perceived flaws, or represent an opportunistic use of raw materials perhaps most characteristic of Middle Bronze Age and later industries (eg Herne 1991).

Of the remaining pieces the only technologically diagnostic pieces consisted of a single, competently made, blade and a 'core tablet' rejuvenation flake, both of which would be most characteristic of Mesolithic industries.

Discussion

The assemblage is small, which combined with its at least largely residual nature precludes detailed interpretation. The majority of pieces were likely to have been manufactured during the Mesolithic period with less conclusive evidence for some later flintworking also present. The relatively high number of cores and retouched implements indicates that both reduction and other activities were being practiced although the size of the assemblage, even if all were associated, could only indicate ephemeral, low-key, activity along the line of the investigations. Although historically the majority of Mesolithic findspots in the county have been along the higher topographical regions in north Lincolnshire (Membury 2000), it is increasing becoming apparent that the lower-lying areas, the Fen margins and its feeder valleys were being extensively and often intensively exploited during the Mesolithic period (eg Hayes and Lane 1992; Lane 1995; Reynolds and Kaner 2000; Myers 2006). It is perhaps

within this broader pattern of landscape occupation and the probable movement of people from lower lying to higher ground via the river valleys, that the material here is best appreciated.

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Appendix 7

THE ANIMAL BONE
By Jennifer Kitch

Introduction

A total of 904 (13348g) of animal bone were collected by hand during the programme of archaeological works along the Harrowby to Aswarby Trunk Main. A further 54 (121g) of animal bone were recovered from environmental samples.

The remains were predominantly collected from two areas of investigation, Areas 1 and 2, with further bone collected from the subsequent programme of watching brief works. The majority of the assemblage (46%) was recovered from layer deposits, with most of the remainder of the assemblage being recovered mainly from ditches (45%), a small number of remains were recovered from robber trenches and a furrow.

Methodology

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

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

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

Tooth eruption and wear stages were measured using a combination of Halstead (1985), Grant (1982) and Levine (1982), and fusion data was analysed according to Silver (1969). Measurements of adult, that is fully fused bones, were taken according to the methods of von den Driesch (1976).

Results

Condition

The condition of the material is relatively uniform through the phases of activity. As can be seen from table 1 and 2, the majority of the assemblage falls within grade 3 (Lyman

1996), giving an overall condition of moderate. The assemblage recovered by hand from the excavation area 1 scores slightly lower on the condition grade, averaging at an overall grade of 4. This may be due to the remains recovered from area 1 being recovered mainly from layer deposits and therefore subject to more disturbance and abrasion from travelling.

Table 1, Condition of Hand Collected Assemblage, by Area

	Area				
Condition	**1**	**2**	**11B**	**12B**	**Total**
1		<1%			0%
2	2%	36%	44%		31%
3	33%	60%	52%	100%	56%
4	64%	3%	4%		13%
5	1%				0%
N=	153	723	27	1	904

Table 2, Condition of Sieved Assemblage, by Area

	Area		
Condition	**1**	**2**	**Total**
2		53%	50%
3	100%	47%	50%
N=	3	51	54

Taphonomy

A total of 17 fragments of bone display evidence of butchery, almost exclusively occurring on cattle or large mammal size bones. Due to the large and robust nature of the remains, cattle are more subject to processing for disarticulation and consumption and will require more forceful butchery and are therefore more likely to display butchery marks. The butchery marks appear consistent with disarticulation and jointing of the carcase and meat removal.

A cattle horncore recovered from post-medieval ditch [1006] was chopped through the base and may indicate the removal of the horn sheath for horn working.

A total of 17 fragments of bone displayed evidence of carnivore gnawing. This suggests the remains were left open to scavengers as part of or after the disposal process.

Species Representation

Cattle are the most frequently represented species within the assemblage, followed by sheep/goat, equid and pig remains. Isolated fragments of dog were also identified. A single fragment of goose size bird bone was recovered from the sieved assemblage. The number of fragments identified to taxon displayed by phase and area for both the hand and sieved collected assemblage are shown in tables 3 and 4.

No positive identification for sheep or goat was made within the assemblage. No attempt to differentiate between donkey and horse was made and are therefore referred to as

equid; Archaeological cases of donkey are rare it is most likely that most of the identified equid remains are those of horse.

Table 3, Hand Collected Assemblage

	1-2nd Century	Late Roman	Early-Middle Saxon	Saxon or Earlier	Post-Medieval	Unphased			Total
Area	**1**	**2**	**2**	**2**	**2**	**2**	**11B**	**12B**	
Taxon									
Equid	2	2	5	1		2		1	13
Cattle	7	1	39	13	31	30	6		127
Sheep/Goat	11	1	8	5	33	16	3		77
Pig	1		2		4	5			12
Dog			2		1				3
Large Mammal	38	5	46	34	59	94	16		292
Medium Mammal	5		6	4	35	22			72
Unidentified	89	3	29	9	87	89	2		308
Grand Total	153	12	137	66	250	258	27	1	904

Table 4, Sieved Assemblage

	1-2nd Century	Early-Middle Saxon	Saxon or earlier	Post-Medieval	Total
Area	**1**	**2**	**2**	**2**	
Taxon					
Cattle			1		1
Sheep/Goat		1	1		2
Pig		1			1
Bird				1	1
Large Mammal		1			1
Medium Mammal	3	1			4
Unidentified		14	7	23	44
Grand Total	3	18	9	24	54

Table 5, Minimum Number of Individuals

Taxon	1-2nd Century	Late Roman	Early-Middle Saxon	Saxon or Earlier	Post-Medieval
Equid	1	1	1	1	0
Cattle	1	1	4	2	2
Sheep/Goat	1	1	2	1	5
Pig	1	0	1	0	1

Minimum numbers of individuals (MNI) calculations have been made for each phase of activity (see table 5). As can be seen, for most phases, the assemblages are too small to provide much information, save the presence of the main domestic species. However, the Early-Middle Saxon and Post Medieval phases indicate possible husbandry patterns. Caution should be exercised as small assemblages can often provide misleading results, and therefore the observed patterns should be taken as a generalisation.

The early-middle Saxon phase suggests a cattle based economy with smaller numbers of sheep/goat with pig and equid being retained in small numbers. Within the post-medieval phase of the assemblage predominantly recovered from ditch [1006], sheep/goat had become more prominent within the assemblage, with smaller numbers of cattle and pig.

The assemblages are too small to provide a formal age at death profiles. The husbandry practices for both phases appear to be mixed, containing animals slaughtered at a prime meat bearing age and some retained to an old age.

Within the early-middle Saxon phases two cattle mandibles from old adult individuals were recovered. The fusion stages of the skeletal elements provide a more mixed picture with a majority of skeletally mature animals, with a small number of younger individuals present. This possibly suggests an economy of some cattle being retained to an old age for dairy and traction, with some animals being slaughtered young for meat. The sheep/goat remains from this phase are sparse, and are from skeletally mature animals where it is possible to assess. The pig remains within the assemblage were minimal and did not include any ageable characteristics.

The post-medieval assemblage contained a single sheep/goat mandible from an animal aged 3-10 months. The epiphyseal fusion ages suggest that there were skeletally mature animals within the assemblage with a smaller number of younger animals present. This possibly suggests that some animals were slaughtered young for meat production with some animals retained to an older age for breeding and wool production. The skeletal elements represented for cattle again show a mix of skeletally mature animals with some animals aged below 2/3 years of age, this may again suggest a mixed usage of animals with some slaughtered young and some retained to adulthood, probably for breeding, milk and traction purposes. The pig remains for this phase were again minimal, only a single bone which gave epiphyseal fusion age of *c.*2years. Pigs provide very little in the form of secondary products and are often slaughtered young for meat; some animals may be retained to older ages for breeding purposes.

Skeletal Element Representation
All skeletal elements were well represented for all of the main species. There was no apparent evidence of selective deposition. The remains may be slightly biased in butchery waste. As butchery waste remains undergo little in further processing, these remains may therefore be more readily identifiable.

Discussion
The animal bone assemblage recovered from the scheme of works is relatively small and can only provide generalisations. The main phases of interest within the assemblage are the early-middle Saxon and the Post-Medieval and shall be discussed further herein. The assemblages from the Roman phases are too small to provide any meaningful data, save the presence of the species identified.

The assemblage appears to be the product of producer sites, where animals are raised and utilised on site. The assemblages are based upon mixed economies with slight

predominance on a single species. The early-to middle Saxon assemblage is based upon a cattle economy with some animals being retained to an old age for traction and dairy purposes, with some animals slaughtered at a younger age for meat. A similar pattern was noted at the contemporary site of Quarrington, Lincolnshire (Rackham 2003).

Within the post-medieval phase of the assemblage the emphasis is placed on a sheep/goat based economy, with some animals being slaughtered for meat, with others being retained to an older age for wool production and breeding purposes. A single horncore recovered from this phase displayed evidence consistent with horn removal for working.

Pigs, equids and dogs were present within the assemblages for both phases although in small numbers. Pigs were often retained purely for meat production. To maintain large numbers of pigs usually requires woodland or scrub for foraging. If the local environment was mainly arable or pasture there would be limited areas for the raising of pigs and therefore a smaller presence. Equids would have been present as working animals used for traction and riding. Dogs would have also been present as working animals, used for guarding, herding and hunting or present as scavengers. A single fragment of goose sized bird bone was present within the assemblage. Goose were often retained as a domestic bird as a source of meat, eggs and feathers, although the assemblage provides little evidence for domestic or wild birds being utilised.

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Cxt No	Sample Number	Taxon	Element	Side	Z1	Z2	Z3	Z4	Z5	Z6	Z7	Z8	Prox	Dist	Path	Butch	Burnt	Gnaw	Fresh Break	Asso'd	Measured	Tooth Wear	Surface	Cond	No.	(g)	Notes
0	0	Large Mammal	Long Bone	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	2	2	9	
0	0	Large Mammal	Rib	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	2	2	8	
0	0	Cattle	Mandible	R	Y	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	3	1	22	
0	0	Large Mammal	Long Bone	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	4	2	17	
0	0	Pig	Tooth	R	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	2	1	7	Upper Molar, Broken
0	0	Unidentified	Unidentified	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	3	7	4	
11	0	Equid	Tibia	L	N	N	N	N	Y	Y	Y	N	X	F	N	N	N	N	N	N	N	N	X	2	1	227	
11	0	Cattle	Femur	R	N	N	N	N	Y	Y	N	N	X	U	N	N	N	N	Y	N	N	N	X	2	1	130	
11	0	Cattle	Scapula	L	N	Y	N	Y	N	N	N	N	X	X	N	N	N	N	N	N	Y	N	X	2	1	82	
11	0	Cattle	Mandible	L	N	N	N	N	N	Y	N	Y	X	X	N	N	N	N	N	N	N	N	X	3	1	59	
11	0	Sheep/Goat	Tibia	R	N	N	N	N	Y	Y	N	N	X	X	N	N	N	N	N	N	N	N	R	4	1	3	
11	0	Large Mammal	Long Bone	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	R	4	10	17	
11	0	Large Mammal	Tooth	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	R	4	1	2	Root
12	0	Medium Mammal	Long Bone	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	3	1	2	
13	0	Cattle	Innominate	R	N	Y	Y	N	Y	Y	N	N	F	X	N	N	N	N	Y	N	N	N	X	3	1	85	
13	0	Large Mammal	Long Bone	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	3	4	22	
13	0	Sheep/Goat	Mandible	R	N	Y	Y	Y	N	N	N	N	X	X	N	N	N	N	Y	N	N	Y	X	3	1	11	
13	0	Large Mammal	Long Bone	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	5	1	1	
13	0	Unidentified	Unidentified	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	3	27	31	
14	0	Large Mammal	Long Bone	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	R	4	3	10	
19	0	Large Mammal	Long Bone	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	R	4	2	9	
21	0	Large Mammal	Long Bone	X	N	N	N	N	N	N	N	N	X	X	N	Y	N	N	N	N	N	N	R	3	1	0	Shaped and polished sides, ridges carved out of the proximal end
21	0	Large Mammal	Long Bone	X	N	N	N	N	N	N	N	N	X	X	N	N	Y	N	N	N	N	N	X	3	1	1	Burnt white/black
21	0	Large Mammal	Rib	X	N	N	N	N	N	N	N	N	X	X	N	N	Y	N	Y	N	N	N	X	3	1	2	Burnt black/brown
21	0	Sheep/Goat	Tooth	L	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	R	3	1	2	Upper M1
21	0	Sheep/Goat	Tooth	L	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	R	3	1	5	Upper M2
21	0	Unidentified	Unidentified	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	R	4	1	0	
23	0	Medium Mammal	Long Bone	X	N	N	N	N	N	N	N	N	X	X	N	N	Y	N	Y	N	N	N	X	3	1	2	Burnt grey/brown/black
29	0	Large Mammal	Rib	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	R	4	9	11	
29	0	Large Mammal	Long Bone	X	N	N	N	N	N	N	N	N	X	X	N	N	Y	N	Y	N	N	N	R	4	1	5	Burnt black
29	0	Unidentified	Unidentified	X	N	N	N	N	N	N	N	N	X	X	N	N	Y	N	N	N	N	N	X	4	5	2	Burnt black/white
29	0	Sheep/Goat	Tooth	R	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	Y	R	4	1	2	Lower M2=e
29	0	Unidentified	Unidentified	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	R	4	52	11	
30	0	Equid	Tooth	R	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	Y	R	3	1	29	Upper PM/M=41mm
31	0	Pig	Femur	R	N	N	N	N	Y	Y	N	N	X	U	N	N	N	N	N	N	N	N	R	4	1	6	
31	0	Unidentified	Unidentified	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	R	4	1	0	
33	0	Medium Mammal	Long Bone	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	R	4	1	2	
39	0	Medium Mammal	Long Bone	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	R	4	1	1	
39	0	Sheep/Goat	Tooth	R	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	R	3	1	3	Upper M3
40	0	Large Mammal	Ulna	R	N	N	N	Y	N	N	N	N	X	X	N	N	N	N	N	N	N	N	R	4	1	4	
40	0	Unidentified	Unidentified	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	R	4	1	1	
74	0	Large Mammal	Long Bone	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	R	4	1	7	
74	0	Cattle	Tooth	L	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	Y	R	3	1	7	Lower PM4= g
96	0	Large Mammal	Long Bone	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	Y	N	N	N	R	4	1	3	
100	0	Cattle	Radius	L	Y	N	Y	Y	N	N	N	N	F	X	N	N	N	N	Y	N	N	N	R	4	1	67	
100	0	Sheep/Goat	Tooth	L	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	R	3	1	1	Upper PM
101	0	Sheep/Goat	Tooth	L	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	R	3	2	5	Upper M1
101	0	Sheep/Goat	Tooth	L	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	R	3	1	4	Upper M2
101	0	Sheep/Goat	Tooth	L	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	R	3	1	4	Upper M3
101	0	Unidentified	Unidentified	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	R	4	2	0	
133	10	Medium Mammal	Long Bone	X	N	N	N	N	N	N	N	N	X	X	N	N	Y	N	N	N	N	N	X	3	2	0	burnt white
133	10	Medium Mammal	Long Bone	X	N	N	N	N	N	N	N	N	X	X	N	N	Y	N	N	N	N	N	X	3	1	0	Burnt black
140	0	Medium Mammal	Long Bone	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	R	3	1	2	
142	0	Cattle	Phalanx (II)	L	Y	Y	Y	Y	Y	Y	Y	Y	F	F	N	N	N	N	N	N	Y	N	X	3	1	11	
147	0	Large Mammal	Long Bone	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	Y	N	N	N	R	4	1	35	
522	0	Large Mammal	Long Bone	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	4	1	7	
593	0	Equid	Metacarpal	R	Y	Y	Y	Y	Y	Y	N	N	F	F	N	N	N	N	N	N	Y	N	A	2	1	195	
593	0	Large Mammal	Rib	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	2	1	33	
601	0	Equid	Tooth	R	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	3	1	11	Upper PM/M broken
604	0	Large Mammal	Rib	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	2	1	11	
604	0	Cattle	Humerus	L	N	N	Y	N	Y	Y	Y	Y	X	F	N	N	N	N	N	N	Y	N	X	2	1	290	
605	0	Sheep/Goat	Axis	B	Y	Y	N	N	N	N	Y	Y	F	U	N	N	N	N	N	N	N	N	X	2	1	18	
605	0	Large Mammal	Vertebra	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	2	1	18	
605	0	Sheep/Goat	Mandible	L	N	N	N	N	N	Y	N	N	X	X	N	N	N	N	N	N	N	N	X	3	1	30	
605	0	Large Mammal	Humerus	R	N	N	N	N	N	N	Y	N	X	F	N	N	N	N	N	N	N	N	X	2	1	37	
605	0	Large Mammal	Long Bone	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	3	7	31	
605	0	Sheep/Goat	Tibia	R	N	N	Y	Y	Y	Y	N	N	X	X	N	N	N	N	N	N	N	N	X	3	1	23	
605	0	Cattle	Innominate	R	N	N	N	N	N	N	Y	Y	U	X	N	N	N	N	N	N	N	N	X	3	1	55	
605	0	Cattle	Tooth	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	2	2	9	Lower molar fragments
605	0	Unidentified	Unidentified	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	3	2	10	
625	0	Cattle	Metatarsal	L	N	N	Y	Y	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	3	1	95	

Cxt No	Sample Number	Taxon	Element	Side	Z1	Z2	Z3	Z4	Z5	Z6	Z7	Z8	Prox	Dist	Path	Butch	Burnt	Gnaw	Fresh Break	Asso'd	Measured	Tooth Wear	Surface	Cond	No.	(g)	Notes
625	0	Large Mammal	Long Bone	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	2	4	96	
626	0	Large Mammal	Rib	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	3	1	5	
626	0	Cattle	Radius	R	N	N	N	N	N	N	Y	Y	X	U	N	N	N	N	N	N	N	N	X	2	1	37	
1000	0	Cattle	Mandible	L	N	N	Y	Y	N	N	N	N	X	X	N	N	N	N	N	N	N	Y	X	3	1	116	
1000	0	Pig	Phalanx (I)	L	Y	Y	Y	Y	Y	Y	Y	Y	F	F	N	N	N	N	N	N	Y	N	X	3	1	6	
1000	0	Cattle	Mandible	L	N	N	N	N	N	N	Y	Y	X	X	N	N	N	N	N	N	N	N	X	3	1	37	
1000	0	Cattle	Scapula	R	Y	Y	N	Y	N	N	N	N	F	X	N	N	N	N	N	N	N	N	X	3	1	66	
1000	0	Pig	Skull- frontal	L	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	2	1	15	
1000	0	Sheep/Goat	Metatarsal	L	N	N	Y	Y	Y	Y	N	N	F	X	N	N	N	Y	N	N	N	N	X	3	1	26	Possible carnivore gnawing/omnivore gnawing on the proximal end
1000	0	Sheep/Goat	Phalanx (I)	L	N	N	Y	Y	Y	Y	Y	Y	U	F	N	N	N	N	N	N	N	N	X	3	1	1	
1000	0	Cattle	Tooth	R	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	Y	X	3	1	12	Lower m1=n
1000	0	Cattle	Humerus	R	N	N	N	N	N	N	Y	Y	X	F	N	N	N	N	N	N	N	N	X	2	1	36	
1000	0	Large Mammal	Vertebra	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	2	1	5	
1000	0	Pig	Tooth	L	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	2	1	2	Lower male canine fragment
1000	0	Sheep/Goat	Tibia	R	N	N	N	N	Y	Y	N	N	X	X	N	N	N	N	N	N	N	N	X	3	1	7	
1000	0	Large Mammal	Long Bone	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	3	19	69	
1000	0	Medium Mammal	Long Bone	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	3	8	12	
1000	0	Cattle	Metapodial	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	4	1	14	Midshaft
1000	0	Sheep/Goat	Tooth	R	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	3	1	5	Upper Molar
1000	0	Sheep/Goat	Phalanx (I)	L	Y	N	Y	N	Y	N	Y	N	F	F	N	N	N	N	N	N	N	N	X	2	1	1	
1000	0	Cattle	Tooth	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	3	1	4	Molar fragment
1000	0	Unidentified	Unidentified	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	3	37	106	
1000	0	Sheep/Goat	Horncore	X	N	N	N	N	N	N	Y	Y	X	X	N	N	N	N	N	N	N	N	X	2	1	5	
1001	0	Pig	Mandible	R	N	N	Y	N	N	N	N	N	X	X	N	N	N	N	Y	N	N	Y	X	2	1	19	
1001	0	Large Mammal	Rib	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	3	1	17	
1001	0	Cattle	Metapodial	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	3	1	16	Midshaft fragment
1001	0	Cattle	Phalanx (I)	L	Y	Y	Y	Y	Y	Y	Y	Y	F	F	N	N	N	N	N	N	Y	N	R	3	1	22	
1001	0	Cattle	Scapula	R	Y	Y	N	Y	N	N	N	N	F	X	N	N	N	N	N	N	Y	N	X	3	1	77	
1001	0	Medium Mammal	Long Bone	X	N	N	N	N	N	N	N	N	X	X	N	N	Y	N	N	N	N	N	X	3	1	1	Burnt grey/white
1001	0	Large Mammal	Scapula	R	N	N	N	N	Y	N	N	N	X	X	N	N	N	N	N	N	N	N	X	3	1	15	
1001	0	Cattle	Astragalus	L	Y	Y	Y	Y	Y	Y	Y	Y	X	X	N	N	N	N	N	N	Y	N	X	2	1	62	
1001	0	Medium Mammal	Skull	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	2	3	13	
1002	0	Large Mammal	Vertebra	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	3	6	43	
1002	0	Large Mammal	Cervical	B	N	N	N	N	N	N	N	N	X	U	N	N	N	N	N	N	N	N	X	2	1	60	
1002	0	Cattle	Metapodial	X	N	N	N	N	N	N	N	N	X	F	N	N	N	N	N	N	N	N	X	3	1	32	Single condyle fragment
1002	0	Large Mammal	Rib	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	2	2	9	
1002	0	Unidentified	Unidentified	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	3	20	54	
1003	0	Large Mammal	Rib	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	3	1	19	
1003	0	Medium Mammal	Rib	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	2	1	1	
1003	0	Sheep/Goat	Tooth	L	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	2	2	17	Upper M3
1003	0	Sheep/Goat	Tooth	R	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	Y	X	2	1	7	Lower M3=g
1003	0	Sheep/Goat	Tooth	R	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	Y	X	2	1	5	Lower M2=h
1003	0	Large Mammal	Thoracic	B	N	N	N	N	N	N	N	N	X	X	N	N	N	Y	N	N	N	N	X	3	1	34	Spinous process, carnivore gnawing on the shaft
1003	0	Large Mammal	Skull- temporal	R	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	2	1	38	
1003	0	Large Mammal	Long Bone	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	3	18	144	
1003	0	Cattle	Radius	R	N	N	Y	Y	N	N	N	N	X	X	N	Y	N	Y	N	N	N	N	X	2	1	24	Chopped diagonally through the shaft, carnivore gnawing on the proximal end
1003	0	Large Mammal	Femur	L	N	N	N	N	N	N	N	Y	X	F	N	N	N	N	N	N	N	N	X	3	1	49	
1003	0	Cattle	Radius	R	Y	N	Y	N	N	N	N	N	F	X	N	N	N	N	N	N	N	N	X	3	1	42	
1003	0	Medium Mammal	Long Bone	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	3	1	4	
1003	0	Sheep/Goat	Metatarsal	R	N	N	Y	Y	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	3	1	6	
1003	0	Cattle	Tooth	L	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	2	1	17	Lower M3, Unworn
1003	0	Cattle	Tooth	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	3	1	4	molar fragment
1003	0	Cattle	Tooth	L	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	2	1	16	Upper Molar
1003	0	Unidentified	Unidentified	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	3	8	9	
1004	0	Cattle	Long Bone	L	Y	Y	Y	Y	Y	N	N	N	F	X	N	N	N	N	Y	N	N	N	X	2	1	69	
1004	0	Large Mammal	Rib	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	3	3	28	
1004	0	Cattle	Axis	L	Y	N	N	N	N	N	Y	N	F	F	N	Y	N	N	N	N	N	N	X	2	1	19	Chopped through the saggital plane
1004	0	Large Mammal	Humerus	R	N	N	N	N	Y	Y	N	N	X	X	N	Y	N	N	N	N	N	N	X	3	1	21	Three cuts on the medial shaft
1004	0	Large Mammal	Mandible	L	N	N	N	N	Y	Y	N	N	X	X	N	N	N	N	Y	N	N	N	X	3	1	68	
1004	0	Sheep/Goat	Tooth	L	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	Y	X	2	1	4	Lower M1= h
1004	0	Large Mammal	Long Bone	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	3	2	12	
1004	0	Unidentified	Unidentified	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	3	5	18	
1005	0	Cattle	Calcaneus	R	Y	Y	Y	Y	Y	Y	Y	Y	F	X	N	Y	N	N	N	N	Y	N	X	2	1	69	Cuts on the lateral side (zones 5-7)
1005	0	Cattle	Rib	R	N	Y	Y	Y	Y	Y	Y	N	X	X	N	N	N	N	Y	N	N	N	X	2	1	118	
1005	0	Medium Mammal	Rib	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	3	2	5	
1005	0	Cattle	Tooth	R	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	3	1	12	Upper PM

Ctxt No	Sample Number	Taxon	Element	Side	Z1	Z2	Z3	Z4	Z5	Z6	Z7	Z8	Prox	Dist	Path	Butch	Burnt	Gnaw	Fresh Break	Asso'd	Measured	Tooth Wear	Surface	Cond	No.	(g)	Notes
1005	0	Sheep/Goat	Radius	R	Y	Y	Y	Y	N	N	N	N	F	X	N	N	N	N	N	N	Y	N	R	2	1	8	
1005	0	Cattle	Skull- maxilla	R	N	N	N	N	N	N	N	N	X	X	N	N	N	N	Y	N	N	N	X	3	1	182	
1005	0	Large Mammal	Skull	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	3	8	20	
1005	0	Cattle	Phalanx (I)	L	N	Y	Y	Y	Y	Y	Y	Y	F	F	N	N	N	Y	N	N	Y	N	X	2	1	16	Possible carnivore gnawing on the proximal end
1005	0	Pig	Radius	R	N	N	Y	Y	Y	Y	N	N	X	X	N	N	N	N	Y	N	N	N	X	3	1	13	
1005	0	Sheep/Goat	Metacarpal	R	N	Y	Y	Y	Y	Y	N	N	F	X	N	N	N	N	N	N	N	N	X	2	1	13	
1005	0	Cattle	Humerus	R	Y	Y	N	N	N	N	N	N	U	X	N	N	N	N	N	N	N	N	X	2	1	115	Unfused epiphysis
1005	0	Large Mammal	Long Bone	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	3	2	20	
1005	0	Medium Mammal	Long Bone	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	3	1	4	
1005	0	Large Mammal	Scapula	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	2	1	7	Blade fragment
1005	0	Unidentified	Unidentified	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	2	3	22	
1005	0	Sheep/Goat	Metatarsal	L	Y	Y	Y	Y	Y	Y	N	N	F	X	N	N	N	N	N	N	Y	N	X	2	1	17	
1005	0	Cattle	Sternum	B	N	N	N	N	N	N	N	N	U	U	N	N	N	N	N	N	N	N	X	2	1	49	Menubrium
1005	0	Large Mammal	Rib	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	2	3	114	
1005	0	Large Mammal	Cervical	B	N	N	N	N	N	N	N	N	U	U	N	N	N	N	N	N	N	N	X	2	1	105	
1005	0	Cattle	Humerus	L	N	N	N	N	N	N	Y	Y	X	V	N	N	N	N	N	N	Y	N	X	2	1	139	
1005	0	Cattle	Skull- frontal	B	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	2	1	36	
1005	0	Large Mammal	Skull	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	2	2	25	
1005	0	Cattle	Skull- frontal	R	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	2	1	8	Tiny Juv horncore attached
1005	0	Large Mammal	Costal Cartilage	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	2	2	21	
1005	0	Cattle	Scapula	L	N	N	Y	Y	Y	Y	N	N	X	X	N	N	N	N	Y	N	N	N	X	3	1	137	
1005	0	Large Mammal	Thoracic	B	N	N	N	N	N	N	N	N	U	U	N	N	N	N	Y	N	N	N	X	2	1	18	
1005	0	Large Mammal	Caudal	B	N	N	N	N	N	N	N	N	U	U	N	N	N	N	N	N	N	N	X	2	1	9	
1005	0	Cattle	Metacarpal	R	Y	Y	Y	Y	Y	Y	N	N	F	U	N	N	N	N	Y	N	Y	N	X	2	1	60	
1005	0	Cattle	Metatarsal	L	Y	Y	Y	Y	Y	Y	N	N	F	U	N	Y	N	N	N	N	Y	N	X	2	1	158	Cuts on the anterior shaft below proximal articulation
1005	0	Cattle	Innominate	L	N	N	Y	Y	Y	N	Y	N	F	X	N	N	N	N	Y	N	N	N	X	2	1	107	
1005	0	Large Mammal	Innominate	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	3	1	22	Fragment of acetabulum
1005	0	Medium Mammal	Skull- nasal	L	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	2	1	3	
1005	0	Sheep/Goat	Tibia	L	N	N	Y	Y	Y	Y	Y	Y	U	F	N	N	N	N	N	N	Y	N	X	2	1	32	
1005	0	Sheep/Goat	Humerus	L	N	N	Y	Y	Y	Y	Y	Y	X	F	N	N	N	N	N	N	Y	N	X	2	1	21	
1005	0	Sheep/Goat	Radius	L	N	N	Y	Y	Y	Y	N	N	X	X	N	N	N	N	N	N	N	N	X	2	1	7	
1005	0	Sheep/Goat	Radius	R	N	N	N	N	Y	Y	Y	Y	X	F	N	N	N	Y	N	N	N	N	X	2	1	8	Possible carnivore gnawing on the distal end
1005	0	Sheep/Goat	Radius	L	Y	Y	Y	Y	N	N	N	N	F	X	N	N	N	N	N	N	Y	N	X	2	1	7	
1005	0	Pig	Ulna	R	N	N	N	Y	Y	N	N	N	X	X	N	N	N	N	N	N	N	N	X	2	1	7	
1005	0	Sheep/Goat	Femur	L	N	N	N	N	N	N	Y	Y	X	U	N	N	N	N	N	N	N	N	X	2	1	12	
1005	0	Large Mammal	Scapula	R	N	N	N	N	N	Y	N	N	X	X	N	N	N	N	N	N	N	N	X	2	1	59	
1005	0	Unidentified	Unidentified	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	2	5	25	
1005	0	Unidentified	Unidentified	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	4	1	19	
1005	0	Cattle	Patella	R	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	3	1	50	complete
1005	0	Sheep/Goat	Mandible	R	N	N	Y	Y	Y	N	Y	Y	X	X	N	N	N	N	Y	N	N	Y	X	3	1	22	
1005	0	Sheep/Goat	Calcaneus	L	Y	Y	Y	Y	Y	Y	Y	N	X	X	N	N	N	Y	N	N	N	N	X	3	1	4	Carnivore gnawing on the proximal end
1005	0	Sheep/Goat	Metacarpal	R	Y	Y	Y	Y	Y	Y	N	N	F	U	N	N	N	N	N	N	N	N	X	2	1	12	
1005	0	Sheep/Goat	Tibia	L	N	N	N	N	Y	Y	N	N	X	X	N	N	N	N	N	N	N	N	X	2	1	7	
1005	0	Cattle	Rib	L	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	2	1	14	
1005	0	Cattle	Tibia	L	N	N	Y	Y	Y	Y	N	N	X	X	N	N	N	N	N	N	N	N	X	3	1	40	
1005	0	Cattle	Radius	L	N	Y	N	N	N	N	N	N	F	X	N	N	N	N	N	N	N	N	X	2	1	25	
1005	0	Medium Mammal	Rib	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	3	2	2	
1005	0	Medium Mammal	Long Bone	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	2	7	8	
1005	0	Cattle	Tooth	R	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	2	1	10	Upper PM
1005	0	Sheep/Goat	Tibia	L	Y	Y	N	N	N	N	N	N	U	X	N	N	N	N	N	N	N	N	X	2	1	4	
1005	0	Sheep/Goat	Tibia	R	N	N	N	N	Y	N	N	Y	X	U	N	N	N	N	Y	N	N	N	X	2	1	10	
1005	0	Large Mammal	Costal Cartilage	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	2	1	6	
1005	0	Large Mammal	Ulna	R	N	N	N	N	N	N	N	Y	X	U	N	N	N	N	N	N	N	N	X	2	1	4	
1005	0	Medium Mammal	Lumbar	B	N	N	N	N	N	N	N	N	U	U	N	N	N	N	N	N	N	N	X	2	2	5	
1005	0	Medium Mammal	Thoracic	B	N	N	N	N	N	N	N	N	X	U	N	N	N	N	N	N	N	N	X	3	1	2	
1005	0	Medium Mammal	Vertebra	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	2	1	1	
1005	0	Sheep/Goat	Metacarpal	R	N	N	N	N	Y	Y	N	N	X	X	N	N	N	Y	N	N	N	N	X	2	1	4	Possible carnivore gnawing on the shaft
1005	0	Cattle	Mandible	R	N	N	N	N	N	Y	N	N	X	X	N	N	N	N	N	N	N	N	X	2	1	28	
1005	0	Sheep/Goat	Scapula	L	N	Y	Y	Y	Y	Y	N	N	X	X	N	N	N	N	Y	N	Y	N	X	2	1	15	
1005	0	Unidentified	Unidentified	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	3	22	46	
1005	0	Sheep/Goat	Humerus	R	N	N	Y	Y	Y	Y	N	N	X	X	N	N	N	N	Y	N	N	N	X	2	1	5	
1005	0	Large Mammal	Rib	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	3	5	60	
1005	0	Sheep/Goat	Tibia	L	Y	Y	Y	Y	Y	Y	N	N	V	X	N	N	N	N	N	N	Y	N	X	2	1	30	
1005	0	Pig	Tibia	R	N	N	N	N	Y	Y	Y	Y	X	V	N	N	N	N	N	N	Y	N	X	2	1	24	
1005	0	Sheep/Goat	Tibia	L	N	N	N	N	Y	Y	Y	Y	X	F	N	N	N	N	N	N	Y	N	X	2	1	16	

Ctxt No	Sample Number	Taxon	Element	Side	Z1	Z2	Z3	Z4	Z5	Z6	Z7	Z8	Prox	Dist	Path	Butch	Burnt	Gnaw	Fresh Break	Asso'd	Measured	Tooth Wear	Surface	Cond	No.	(g)	Notes
1005	0	Medium Mammal	Rib	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	2	6	7	
1005	0	Cattle	Calcaneus	R	Y	Y	Y	Y	Y	Y	Y	N	U	X	N	N	N	N	N	N	N	N	X	2	1	53	
1005	0	Large Mammal	Sternum	B	N	N	N	N	N	N	N	N	U	U	N	N	N	N	Y	N	N	N	X	2	1	74	Unfused body fragments
1005	0	Sheep/Goat	Femur	L	N	N	Y	Y	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	2	1	13	
1005	0	Large Mammal	Vertebra	B	N	N	N	N	N	N	N	N	X	U	N	N	N	N	N	N	N	N	X	2	1	10	
1005	0	Large Mammal	Thoracic	B	N	N	N	N	N	N	N	N	U	U	N	N	N	N	N	N	N	N	X	2	1	21	
1005	0	Large Mammal	Long Bone	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	2	1	13	
1005	0	Cattle	Skull	B	N	N	N	N	N	N	N	N	X	X	N	N	N	N	Y	N	N	N	X	2	1	100	Occipital and paretal fragments
1005	0	Cattle	Horncore	R	Y	Y	Y	Y	N	N	N	N	X	X	N	Y	N	N	N	N	N	N	X	3	1	123	Horncore, chopped through the base
1005	0	Unidentified	Unidentified	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	2	40	31	
1005	0	Cattle	Scapula	L	Y	Y	N	Y	N	N	N	N	F	X	N	N	N	N	N	N	Y	N	X	3	1	78	
1005	0	Cattle	Radius	L	Y	Y	Y	Y	N	N	N	N	F	X	N	Y	N	N	N	N	Y	N	X	2	1	169	Chopped through the upper shaft
1005	0	Sheep/Goat	Tibia	L	N	N	Y	Y	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	2	1	9	
1005	0	Sheep/Goat	Metatarsal	L	Y	Y	Y	Y	N	N	N	N	F	X	N	N	N	N	N	N	Y	N	X	2	1	10	
1005	0	Cattle	Radius	L	Y	N	N	N	N	N	N	N	F	X	N	N	N	N	N	N	N	N	X	2	1	61	
1005	0	Cattle	Innominate	R	Y	Y	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	2	1	81	
1005	0	Medium Mammal	Thoracic	B	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	2	1	6	
1005	0	Large Mammal	Scapula	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	3	1	8	Blade fragment
1005	0	Medium Mammal	Long Bone	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	2	1	0	
1005	23	Bird	Femur	X	N	N	Y	Y	Y	Y	N	N	X	X	N	N	N	N	Y	N	N	N	X	2	1	7	Goose size?
1005	23	Unidentified	Unidentified	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	2	23	11	
1007	0	Sheep/Goat	Mandible	L	N	Y	Y	N	N	N	N	N	X	X	N	N	N	N	N	N	N	Y	X	4	1	9	
1007	0	Cattle	Skull- frontal	R	N	N	N	N	N	N	N	N	X	X	N	N	N	N	Y	N	N	N	X	3	1	67	
1009	0	Large Mammal	Mandible	R	N	N	N	N	Y	N	N	N	X	X	N	N	N	N	N	N	N	N	X	3	1	27	
1009	0	Equid	Tooth	L	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	2	1	11	Lower PM/M= 29mm=
1009	0	Unidentified	Unidentified	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	3	3	25	
1010	0	Medium Mammal	Long Bone	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	3	2	9	
1010	0	Unidentified	Unidentified	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	3	1	2	
1010	25	Cattle	Mandible	L	N	N	N	N	N	N	N	Y	X	X	N	N	N	N	N	N	N	N	X	2	1	33	
1010	25	Sheep/Goat	Tibia	R	N	N	Y	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	3	1	3	
1010	25	Unidentified	Unidentified	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	3	7	5	
1011	0	Sheep/Goat	Mandible	R	N	N	N	N	N	Y	N	N	X	X	N	N	N	N	Y	N	N	N	X	3	1	7	
1011	0	Large Mammal	Innominate	R	N	N	N	N	Y	N	N	N	X	X	N	Y	N	N	N	N	N	N	X	3	1	18	Chopped through the acetabulum
1011	0	Sheep/Goat	Tibia	L	N	N	N	N	Y	Y	Y	Y	X	F	N	N	N	N	N	N	Y	N	X	3	1	20	
1011	0	Sheep/Goat	Radius	L	N	N	Y	Y	Y	Y	Y	N	X	X	N	N	N	Y	N	N	N	N	X	3	1	13	Possible carnivore gnawing on the proximal end
1011	0	Dog	Metapodial	X	N	N	N	N	Y	Y	Y	Y	X	F	N	N	N	N	N	N	N	N	X	2	1	1	
1011	0	Sheep/Goat	Metacarpal	X	N	N	N	N	Y	Y	N	N	X	X	N	N	N	N	N	N	N	N	X	2	1	3	
1011	0	Cattle	Metapodial	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	2	1	6	Unfused diaphysis
1011	0	Sheep/Goat	Tibia	R	N	N	N	N	Y	Y	N	N	X	X	N	N	N	Y	N	N	N	N	X	3	1	10	Carnivore gnawing on the distal end
1011	0	Cattle	Tooth	R	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	2	1	2	Lower incisor
1011	0	Large Mammal	Rib	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	2	3	24	
1011	0	Medium Mammal	Rib	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	3	1	2	
1011	0	Large Mammal	Long Bone	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	3	6	42	
1011	0	Medium Mammal	Long Bone	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	3	7	15	
1011	0	Sheep/Goat	Ulna	R	N	N	Y	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	3	1	4	
1011	0	Medium Mammal	Vertebra	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	2	1	7	Spinous process
1011	0	Unidentified	Unidentified	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	3	3	13	
1011	0	Sheep/Goat	Tooth	L	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	2	1	6	Upper M3
1011	0	Sheep/Goat	Tooth	R	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	2	1	2	Lower M1, Broken
1011	0	Medium Mammal	Scapula	L	N	N	N	N	Y	N	N	N	X	X	N	N	N	N	N	N	N	N	X	3	1	6	
1012	0	Sheep/Goat	Tooth	L	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	2	1	7	Upper M3
1012	0	Sheep/Goat	Tooth	R	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	2	1	4	Upper M1
1012	0	Sheep/Goat	Mandible	L	N	N	Y	N	Y	N	N	Y	X	X	N	N	N	N	Y	N	N	Y	X	3	1	27	
1012	0	Large Mammal	Long Bone	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	3	8	34	
1012	0	Large Mammal	Long Bone	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	2	1	4	
1012	0	Large Mammal	Long Bone	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	4	2	19	
1012	0	Cattle	Tibia	R	N	N	N	N	Y	Y	N	N	X	X	N	N	N	N	N	N	N	N	X	3	1	26	
1012	0	Medium Mammal	Long Bone	X	N	N	N	N	N	N	N	N	X	X	N	N	Y	N	N	N	N	N	X	3	1	0	Burnt white/grey
1012	0	Large Mammal	Vertebra	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	Y	N	N	N	X	3	2	36	
1012	0	Sheep/Goat	Horncore	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	2	1	3	Fragment
1012	0	Unidentified	Unidentified	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	3	23	50	
1013	0	Cattle	Skull- maxilla	L	N	N	N	N	N	N	N	N	X	X	N	N	N	N	Y	N	N	N	X	3	1	42	
1013	0	Large Mammal	Vertebra	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	2	6	54	
1013	0	Large Mammal	Long Bone	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	3	6	55	
1013	0	Medium Mammal	Long Bone	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	4	6	10	
1013	0	Equid	Tooth	L	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	2	1	42	Upper PM/M=53mm=
1013	0	Equid	Metapodial	L	N	N	Y	Y	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	3	1	52	

Ctxt No	Sample Number	Taxon	Element	Side	Z1	Z2	Z3	Z4	Z5	Z6	Z7	Z8	Prox	Dist	Path	Butch	Burnt	Gnaw	Fresh Break	Asso'd	Measured	Tooth Wear	Surface	Cond	No.	(g)	Notes
1013	0	Unidentified	Unidentified	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	3	2	1	
1014	0	Large Mammal	Long Bone	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	3	1	12	
1015	0	Cattle	Ulna	R	N	Y	Y	Y	Y	N	N	N	X	X	N	N	N	N	N	N	N	N	X	3	1	107	
1015	0	Large Mammal	Humerus	R	N	N	Y	N	Y	N	N	N	X	X	N	N	N	N	N	N	N	N	X	3	1	37	
1015	0	Cattle	Calcaneus	R	N	N	N	N	Y	Y	N	N	X	X	N	N	N	Y	N	N	N	N	X	3	1	22	Possible carnivore gnawing on the body
1015	0	Large Mammal	Long Bone	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	3	1	19	
1015	0	Large Mammal	Long Bone	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	3	2	6	
1015	0	Cattle	Tooth	L	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	1	1	2	Lower insicor
1015	0	Cattle	Tooth	R	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	3	1	29	Upper M1
1015	0	Cattle	Tooth	L	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	2	1	16	Broken upper molar
1017	0	Large Mammal	Long Bone	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	3	1	7	
1017	0	Large Mammal	Long Bone	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	3	1	11	
1017	0	Unidentified	Unidentified	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	3	6	6	
1017	0	Unidentified	Unidentified	X	N	N	N	N	N	N	N	N	X	X	N	N	Y	N	N	N	N	N	X	4	1	0	Burnt black
1021	0	Large Mammal	Rib	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	Y	N	N	N	X	3	1	25	
1022	0	Large Mammal	Rib	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	3	5	124	
1022	0	Large Mammal	Thoracic	B	N	N	N	N	N	N	N	N	V	V	N	N	N	Y	Y	N	N	N	X	3	1	65	Possible carnivore gnawing on the centrum
1022	0	Large Mammal	Thoracic	B	N	N	N	N	N	N	N	N	U	U	N	N	N	N	N	N	N	N	X	3	2	92	
1022	0	Large Mammal	Thoracic	B	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	2	1	17	Spinous process
1022	0	Unidentified	Unidentified	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	2	2	1	
1022	0	Large Mammal	Skull	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	2	1	11	
1022	0	Large Mammal	Rib	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	3	20	447	
1022	0	Cattle	Rib	R	N	N	Y	Y	Y	N	N	N	X	X	N	N	N	N	N	N	N	N	X	3	4	123	
1022	0	Cattle	Rib	L	N	N	Y	Y	Y	N	N	N	X	X	N	N	N	N	N	N	N	N	X	3	2	80	
1022	0	Cattle	Thoracic	B	N	N	N	N	N	N	N	N	V	X	N	N	N	N	N	N	N	N	X	3	1	49	
1022	0	Cattle	Thoracic	B	N	N	N	N	N	N	N	N	U	U	N	N	N	N	N	N	N	N	X	2	1	57	
1022	0	Cattle	Thoracic	B	N	N	N	N	N	N	N	N	U	U	N	N	N	N	N	N	N	N	X	2	1	47	
1022	0	Large Mammal	Thoracic	B	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	3	2	44	Spinious processes
1027	0	Medium Mammal	Rib	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	2	1	2	
1027	0	Large Mammal	Long Bone	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	2	6	67	
1027	0	Equid	Phalanx (III)	L	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	2	1	20	Broken/incomplete
1027	0	Dog	Metatarsal (IV)	L	Y	Y	Y	Y	Y	Y	Y	Y	F	F	N	N	N	N	Y	N	N	N	X	2	1	3	
1027	0	Equid	Radius	L	Y	N	Y	N	N	N	N	N	F	X	N	N	N	N	N	N	N	N	X	4	1	48	
1027	0	Cattle	Scapula	L	Y	Y	Y	Y	Y	N	N	N	F	X	N	N	N	N	Y	N	Y	N	X	3	1	189	
1027	0	Equid	Tooth	R	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	3	1	11	Lower I3
1027	0	Sheep/Goat	Metapodial	L	N	N	N	N	Y	Y	N	N	X	X	N	N	N	N	N	N	N	N	X	4	1	5	
1027	0	Medium Mammal	Long Bone	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	3	1	3	
1027	0	Large Mammal	Long Bone	X	N	N	N	N	N	N	N	N	X	X	N	Y	N	N	N	N	N	N	X	2	1	8	Two chop marks on the shaft
1027	0	Cattle	Scapula	L	N	N	N	Y	Y	N	N	N	X	X	N	N	N	N	N	N	N	N	X	3	1	42	
1027	0	Large Mammal	Skull	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	3	1	12	
1027	0	Unidentified	Unidentified	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	4	1	14	
1027	0	Sheep/Goat	Tooth	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	3	1	6	Broken Upper Molar
1027	0	Cattle	Tooth	R	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	2	1	18	Lower M1/2 unworn
1027	28	Pig	Mandible	R	Y	Y	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	2	1	58	
1027	28	Sheep/Goat	Phalanx (II)	X	N	N	N	N	N	N	N	N	X	F	N	N	N	N	N	N	N	N	X	2	1	0	
1027	28	Unidentified	Unidentified	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	3	12	2	
1029	0	Large Mammal	Thoracic	B	N	N	N	N	N	N	N	N	V	U	N	N	N	N	N	N	N	N	X	3	1	72	
1029	0	Large Mammal	Thoracic	B	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	3	1	24	Spinous process
1029	0	Large Mammal	Thoracic	B	N	N	N	N	N	N	N	N	X	V	N	N	N	N	N	N	N	N	X	2	1	52	
1029	0	Equid	Tooth	R	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	2	1	5	Incisor
1032	0	Cattle	Metatarsal	R	Y	Y	Y	Y	Y	Y	N	N	F	U	N	N	N	N	N	N	Y	N	X	3	1	82	
1032	0	Cattle	Tooth	L	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	2	1	38	Upper molar
1032	0	Cattle	Tooth	R	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	2	1	4	Upper PM
1032	0	Cattle	Tooth	R	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	2	1	6	Upper PM
1032	0	Large Mammal	Long Bone	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	3	3	63	
1032	0	Large Mammal	Skull	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	3	3	9	
1033	0	Large Mammal	Rib	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	3	7	97	
1033	0	Medium Mammal	Rib	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	Y	N	N	N	X	3	1	3	
1033	0	Cattle	Metacarpal	L	Y	Y	Y	Y	Y	Y	N	N	F	X	N	N	N	N	N	N	Y	N	X	3	1	143	
1033	0	Cattle	Metacarpal	L	Y	Y	Y	Y	N	N	N	N	F	X	N	N	N	N	Y	N	N	N	R	2	1	54	
1033	0	Pig	Mandible	L	Y	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	2	1	20	Front insicors
1033	0	Sheep/Goat	Tibia	R	N	N	N	N	Y	Y	Y	Y	X	F	N	N	N	N	N	N	Y	N	X	2	1	17	
1033	0	Cattle	Femur	L	Y	N	N	N	N	N	N	N	F	X	N	N	N	N	N	N	N	N	X	2	1	52	
1033	0	Cattle	Phalanx (III)	R	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	Y	N	X	2	1	21	
1033	0	Cattle	Astragalus	L	Y	Y	Y	Y	Y	Y	Y	Y	X	X	N	Y	N	N	N	N	Y	N	X	3	1	85	Cuts on the dorsal condyles
1033	0	Sheep/Goat	Metatarsal	R	Y	N	Y	N	Y	Y	N	N	X	X	N	N	N	N	N	N	N	N	X	2	1	11	
1033	0	Medium Mammal	Tibia	R	N	N	N	Y	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	3	1	7	
1033	0	Large Mammal	Vertebra	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	2	3	51	
1033	0	Large Mammal	Vertebra	B	N	N	N	N	N	N	N	N	U	U	N	N	N	N	N	N	N	N	X	2	1	27	
1033	0	Cattle	Mandible	R	N	N	N	N	N	N	N	Y	X	X	N	N	N	N	N	N	N	N	X	3	1	22	
1033	0	Cattle	Innominate	R	N	N	N	N	Y	N	N	N	F	X	N	N	N	N	N	N	N	N	X	3	1	35	
1033	0	Large Mammal	Innominate	L	Y	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	2	1	52	

Ctxt No	Sample Number	Taxon	Element	Side	Z1	Z2	Z3	Z4	Z5	Z6	Z7	Z8	Prox	Dist	Path	Butch	Burnt	Gnaw	Fresh Break	Asso'd	Measured	Tooth Wear	Surface	Cond	No.	(g)	Notes
1033	0	Cattle	Scapula	L	Y	Y	N	Y	N	N	N	N	F	X	N	N	N	N	N	N	Y	N	X	2	1	63	
1033	0	Cattle	Scapula	L	N	N	Y	N	N	N	N	N	X	X	N	Y	N	Y	N	N	N	N	X	3	1	30	Spinous process trimmed off, possible carnivore gnawing on the proximal end
1033	0	Large Mammal	Scapula	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	3	2	59	Blade fragments
1033	0	Large Mammal	Scapula	X	N	Y	N	Y	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	4	1	61	
1033	0	Pig	Astragalus	R	Y	Y	Y	Y	N	Y	N	Y	X	X	N	N	N	N	N	N	N	N	A	3	1	7	
1033	0	Equid	Tooth	R	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	Y	R	2	1	31	Lower PM/M=63mm=
1033	0	Dog	Tooth	R	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	2	1	2	Lower canine
1033	0	Cattle	Skull- maxilla	L	N	N	N	N	N	N	N	N	X	X	N	N	N	N	Y	N	N	N	X	3	1	66	
1033	0	Cattle	Mandible	L	N	N	Y	N	N	N	N	N	X	X	N	N	N	N	N	N	N	Y	X	3	1	60	
1033	0	Cattle	Tooth	L	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	3	1	22	Upper Molar broken
1033	0	Cattle	Tooth	L	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	Y	X	2	1	21	Lower M3= b
1033	0	Sheep/Goat	Tooth	R	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	Y	X	2	1	6	Lower M3=e
1033	0	Large Mammal	Long Bone	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	2	6	32	
1033	0	Large Mammal	Long Bone	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	3	3	77	
1033	0	Unidentified	Unidentified	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	3	13	37	
1033	0	Cattle	Metacarpal	L	Y	Y	Y	Y	Y	Y	Y	Y	F	F	N	N	N	N	N	N	Y	N	X	3	1	215	
1033	0	Large Mammal	Rib	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	2	1	18	
1033	0	Cattle	Scapula	L	N	N	N	Y	Y	N	N	N	X	X	N	N	N	N	N	N	N	N	X	2	1	62	
1033	0	Cattle	Femur	R	N	N	Y	Y	Y	Y	N	N	U	X	N	N	N	Y	N	N	N	N	X	2	1	83	Carnivore gnawing on the proximal end,
1033	0	Equid	Humerus	L	N	N	N	N	Y	Y	N	N	X	X	N	N	N	N	N	N	N	N	X	4	1	51	
1033	0	Medium Mammal	Long Bone	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	2	1	10	
1033	0	Large Mammal	Vertebra	B	N	N	N	N	N	N	N	N	U	U	N	N	N	N	N	N	N	N	X	2	1	32	
1033	0	Cattle	Mandible	L	N	N	Y	N	Y	N	N	N	X	X	N	N	N	N	N	N	N	N	R	3	1	137	
1033	0	Cattle	Mandible	R	Y	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	2	1	15	
1033	0	Medium Mammal	Rib	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	3	1	1	
1034	0	Large Mammal	Long Bone	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	3	1	13	
1034	0	Sheep/Goat	Femur	R	N	N	N	N	N	N	N	Y	X	F	N	N	N	N	N	N	N	N	X	3	1	17	
1035	0	Large Mammal	Long Bone	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	Y	N	N	N	X	2	3	23	
1035	0	Pig	Skull- parietal	L	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	2	1	6	
1035	0	Large Mammal	Scapula	X	N	Y	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	3	1	20	
1036	0	Cattle	Metacarpal	L	Y	Y	Y	Y	Y	Y	Y	Y	F	F	N	N	N	N	Y	N	Y	N	X	3	1	166	
1036	0	Large Mammal	Patella	L	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	3	1	17	
1036	0	Cattle	Calcaneus	R	N	Y	N	Y	Y	Y	Y	N	X	X	N	N	N	Y	N	N	N	N	X	3	1	71	Carnivore gnawing on the proximal end
1036	0	Cattle	Astragalus	L	Y	Y	Y	Y	Y	Y	Y	Y	X	X	N	N	N	N	N	N	Y	N	X	2	1	94	
1036	0	Pig	Tibia	L	N	N	N	Y	Y	Y	N	N	X	X	N	N	N	N	N	N	N	N	R	2	1	15	
1036	0	Sheep/Goat	Metatarsal	R	Y	Y	Y	Y	Y	Y	N	N	F	X	N	N	N	N	N	N	Y	N	X	3	1	12	
1036	0	Sheep/Goat	Metacarpal	R	N	N	N	N	Y	Y	N	N	X	U	N	N	N	N	N	N	N	N	R	2	1	12	
1036	0	Sheep/Goat	Tibia	L	N	N	N	N	Y	Y	N	N	X	X	N	N	N	N	N	N	N	N	R	3	1	15	
1036	0	Sheep/Goat	Phalanx (I)	R	Y	Y	N	Y	N	Y	Y	Y	F	F	N	N	N	N	N	N	Y	N	X	2	1	2	
1036	0	Sheep/Goat	Mandible	R	Y	Y	N	Y	N	N	N	N	X	X	N	N	N	N	N	N	N	N	R	3	1	10	
1036	0	Cattle	Metapodial	X	N	N	N	N	N	N	N	N	X	U	N	N	N	N	N	N	N	N	X	2	1	14	Single unfused condyle
1036	0	Large Mammal	Vertebra	X	N	N	N	N	N	N	N	N	U	U	N	N	N	N	N	N	N	N	X	2	1	17	Centrum
1036	0	Large Mammal	Vertebra	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	2	1	5	
1036	0	Cattle	Metacarpal	L	N	N	Y	Y	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	2	1	37	
1036	0	Medium Mammal	Long Bone	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	3	2	2	
1036	0	Large Mammal	Long Bone	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	2	1	1	
1036	0	Large Mammal	Long Bone	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	3	1	7	
1036	0	Unidentified	Unidentified	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	3	3	8	
1037	0	Cattle	Mandible	R	Y	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	4	1	20	
1037	0	Cattle	Phalanx (I)	R	N	N	N	N	Y	Y	Y	Y	X	F	N	N	N	N	N	N	N	N	X	2	1	15	
1037	0	Cattle	Metatarsal	R	Y	Y	Y	Y	Y	Y	Y	Y	F	F	N	N	N	N	Y	N	Y	N	X	3	1	206	
1037	0	Large Mammal	Ulna	L	N	N	Y	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	3	1	12	
1037	0	Large Mammal	Skull	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	3	2	41	
1037	0	Large Mammal	Long Bone	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	4	4	34	
1037	0	Large Mammal	Long Bone	X	N	N	N	N	N	N	N	N	X	X	N	Y	N	N	N	N	N	N	X	2	1	9	Chopped longditudunally, longditudinal sliver, bone working
1037	0	Equid	Tooth	R	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	2	1	53	Upper M/PM
1037	0	Cattle	Phalanx (I)	R	Y	Y	Y	Y	Y	Y	Y	Y	F	F	N	N	N	N	N	N	Y	N	X	2	1	25	
1037	0	Cattle	Nav-Cuboid	R	Y	Y	Y	Y	Y	Y	Y	Y	X	X	N	N	N	N	N	N	N	N	X	2	1	38	
1037	0	Large Mammal	Thoracic	B	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	3	1	33	Chopped through the spinous process
1037	0	Cattle	Calcaneus	R	Y	Y	Y	Y	Y	Y	Y	N	X	X	N	N	N	Y	N	N	N	N	X	3	1	68	Possible carnivore gnawing on the distal end
1037	0	Cattle	Tooth	L	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	3	1	34	Upper M1
1037	0	Cattle	Tooth	R	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	3	1	20	lower M1broken
1037	0	Large Mammal	Carpal/Tarsal	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	2	1	5	
1037	0	Large Mammal	Carpal/Tarsal	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	3	1	7	

Ctxt No	Sample Number	Taxon	Element	Side	Z1	Z2	Z3	Z4	Z5	Z6	Z7	Z8	Prox	Dist	Path	Butch	Burnt	Gnaw	Fresh Break	Asso'd	Measured	Tooth Wear	Surface	Cond	No.	(g)	Notes
1037	0	Large Mammal	Innominate	R	N	N	N	N	N	N	Y	N	X	X	N	Y	N	N	N	N	N	N	X	2	1	47	Cuts on the ischium, disart?/meat removal
1038	0	Cattle	Carpal/Tarsal	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	2	1	10	
1038	0	Medium Mammal	Long Bone	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	2	1	1	
1042	0	Cattle	Metacarpal	R	Y	Y	N	Y	N	N	N	N	F	X	N	N	N	N	N	N	Y	N	X	2	1	49	
1042	0	Cattle	Metapodial	L	N	N	N	N	N	N	Y	Y	X	F	N	N	N	N	N	N	Y	N	X	2	1	47	
1042	0	Sheep/Goat	Metatarsal	R	N	N	Y	Y	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	2	1	11	
1042	0	Sheep/Goat	Tibia	R	N	N	Y	Y	Y	Y	N	N	X	X	N	N	N	N	N	N	N	N	X	2	1	17	
1042	0	Cattle	Phalanx (I)	R	N	Y	N	Y	Y	Y	Y	Y	F	F	N	N	N	Y	N	N	N	N	X	2	1	20	Possible carnivore gnawing on the distal end
1042	0	Cattle	Mandible	R	N	N	N	N	N	N	Y	Y	X	X	N	Y	N	N	N	N	N	N	X	2	1	34	Chop below mandibular condyle
1042	0	Cattle	Metapodial	X	N	N	N	N	N	N	N	N	X	F	N	Y	N	N	N	N	N	N	X	2	1	42	Chopped longditudinally
1043	0	Cattle	Scapula	R	N	Y	N	Y	Y	Y	N	N	X	X	N	N	N	N	Y	N	N	N	X	3	1	107	
1043	0	Cattle	Mandible	R	N	N	N	N	N	N	N	Y	X	X	N	Y	N	N	N	N	N	N	X	3	1	25	Chopped on lateral side below condyle
1043	0	Cattle	Humerus	R	N	N	N	N	Y	N	N	N	X	X	N	N	N	N	N	N	N	N	X	3	1	43	
1043	0	Cattle	Astragalus	L	Y	Y	Y	Y	N	N	N	Y	X	X	N	N	N	N	N	N	N	N	A	4	1	16	
1043	0	Unidentified	Unidentified	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	3	15	12	
1045	0	Sheep/Goat	Radius	R	N	N	Y	Y	Y	Y	N	N	X	X	N	N	N	N	N	N	N	N	X	2	1	12	
1045	21	Large Mammal	Rib	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	Y	N	N	N	X	3	1	1	
1045	21	Medium Mammal	Scapula	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	3	1	1	Blade fragment
1045	21	Unidentified	Unidentified	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	3	2	0	
1055	0	Large Mammal	Rib	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	Y	N	N	N	X	3	1	48	
1055	0	Cattle	Radius	LI	N	N	Y	Y	N	N	N	N	X	X	N	N	N	Y	N	N	N	N	X	2	1	66	Possible carnivore gnawing on the distal end
1055	0	Unidentified	Unidentified	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	2	1	2	
1055	0	Unidentified	Unidentified	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	3	1	4	
1057	0	Unidentified	Unidentified	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	2	1	2	
1075	0	Large Mammal	Rib	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	X	2	1	6	
1076	0	Sheep/Goat	Tibia	R	N	N	N	Y	Y	Y	N	N	X	X	N	N	N	N	N	N	N	N	X	2	1	13	

Appendix 8

THE HUMAN BONE
By Jennifer Kitch

Introduction
A total of 2 fragments of disarticulated human bone were recovered during the scheme of archaeological works on the Harrowby to Aswarby Trunk Main.

Results
Skull (1035)
A disarticulated skull was recovered from post-medieval layer (1035). Only the upper cranium was present, no teeth, occipital, maxillary or nasal bones remained although some of the sphenoid was still present in a fragmentary state.

The skull had male characteristics, specifically marked brow ridges. The only age scorable trait present was cranial suture closure. According to Perizonius (1984) the individual had an average age of 20-29 years. However, caution should be exercised when using cranial suture closing as aging criteria as it can be affected by genetic and developmental variability which may cause premature/late or no suture closure. Additionally broken sutures can obscure true age scores.

Several possible pathological lesions were noted on the crania. The left supra-orbital ridge was slightly indented. The bone was well remodelled, and may represent a possible well healed (non-active) trauma.

Evidence of remodelled new bone growth was noted on the left temporal line of the frontal bone. This may represent a possible ossification of the muscle insertion point or ossified haematoma resulting from an old trauma.

An indent was noted on the posterior of the skull on the right parietal. The indentation is well remodelled with no apparent evidence of piercing through the cranial vault. The indentation shows some angulation, which may suggest a possible sharp blade trauma. All of the pathological lesions are well healed and therefore occurred sometime before death.

Femur from Deposit (1033)
A single fragment of human femur was recovered from deposit (1033) within early-middle Saxon ditch [1068]. The right sided mid shaft femur fragment was probably from an adult individual due to the size and the robusticity.

Discussion
Both fragments display old breakages. It is probably that the remains were from an earlier disturbed burial/s.

Reference:

Perizonius, W.R.K. 1989 Closing and Non-closing Sutures in 256 Crania of Known Age and Sex from Amsterdam (A.D. 1883-1909) in *Journal of Human Evolution* **13**:201-216

Appendix 9

THE GLASS
by Rachael Hall

A total of 42 fragments of glass weighing 223g were recovered.

Provenance
The material was recovered during archaeological investigations undertaken along the route of a water pipeline between Harrowby and Aswarby.

Range
The range of material is detailed in the table. The assemblage is mostly representative of the post-medieval period, with a majority of the fragments (bottle glass) not untypical from a rural context during this period. Only two sherds of Romano-British glass were recorded from the assemblage, one of which may represent a sherd of window glass and the other a small cup.

Table 1: Glass

Context	Description	No.	Wt (g)	Context Date
P.1155	Colourless window glass, thick, one side matt, one side smooth-possibility of being Roman?	1	6	Undated – Roman?
P.1043	Colourless, small fragment-poss window or squarish bottle thick	1	2	Post-medieval
P.1099	Colourless glass, Camp Coffee bottle	1	14	20th Century
P.1113	Colourless, small indeterminate fragment	1	1	Undated
P.1119	Dark green, wine bottle fragment	1	6	Post-medieval
P.1138	Colourless, bottle glass	1	2	Post-medieval
P.1143	Colourless, small indeterminate fragment	1	1	Undated
P.1128	Dark green wine bottle, small fragment of push-up	1	26	Post-medieval
P.1151	Colourless, fragment of cylindrical bottle	1	18	Post-medieval
P.1155	Colourless, small indeterminate fragment	1	1	Undated
P.1179	Green, fragment of cylindrical bottle	1	1	19th-20th century
P.1187	Colourless, cylindrical bottle with partial remnants of embossed labelling	1	6	19th-20th century
004	Green, cylindrical bottle glass	1	1	19th-20th century
005	Green, cylindrical bottle glass, evidence of re-use-grozing of edges	1	2	
	Pale blue, square moulded bottled	1	8	19th-20th century
012	Colourless, vessel glass	1	1	Post-medieval
	Assorted small fragments of colourless bottle glass	3	10	Post-medieval
	Pale blue, small fragment bottle glass	1	1	Post-medieval
017	Colourless, small fragment window glass	1	1	
018	Colourless, cylindrical bottle glass, very abraded	1	6	
096	Colourless, vessel glass, fire rounded out-turned rim	1	2	1st-2nd century AD
505	Green, fragment cylindrical bottle	1	16	19th-20th century
510	Assorted colourless fragments of bottle glass	4	12	Post-medieval
515	Colourless vessel glass	3	7	20th century
516	Green bottle glass, 20th century	1	9	20th century
	Colourless bottle glass, 20th century	2	15	
518	Colourless window glass	2	1	20th century
	Pale blue, fragment of square bottle	1	10	Post-medieval
528	Olive green, small fragment of cylindrical bottle glass	1	2	

Context	Description	No.	Wt (g)	Context Date
555	Dark green, small fragment of cylindrical bottle glass	1	2	
1000	Dark green wine bottle, base fragment	1	30	Post-medieval
1502	Colourless window glass	1	1	20th century
1508	Olive green, cylindrical bottle	1	2	19th-20th century
		42	223	

Condition
All the material is in good condition and presents no long-term storage problems. Archive storage of the collection is by material class.

Documentation
The route has been the subject of previous archaeological investigations. Details of archaeological sites and discoveries in the area are maintained in the Lincolnshire County Council Sites and Monuments Record and the files of the South and North Kesteven Planning Archaeologists.

Potential
The assemblage offers little potential for further analysis.

Appendix 10

THE CERAMIC BUILDING MATERIALS
by Gary Taylor

A large quantity of ceramic building materials, 1868 items weighing a total of 133732g, was retrieved.

Provenance
The material was recovered from the area of a 1st to 2nd century Roman building (Area 1) (009, 011, 012, 014, 015, 017, 019, 020, 021, 023, 025, 026, 027, 029, 032, 038, 039, 040, 042, 044, 067, 070, 073, 075, 094, 100, 101, 109, 112, 136, 144 & 145), and an area of 3rd to 4th century Roman and Saxon activity (Area 2) (1000, 1004, 1011 & 1033). Evidence of production of post-medieval ceramic building materials was identified in Area 3 (1500, 1501, 1502, 1503, 1506, 1509, 1512, 1513, 1517 & 1524), whilst further material was recovered from the watching brief along the pipeline route (005, 500, 509, 510, 513, 514, 515, 516, 518, 522, 528, 555, 605 & 625).

It is likely that much of the Roman material was made in the vicinity of the building where most of it was found. A post-medieval drain/tile manufacturing site was identified and the great majority of the material of this date was probably made there.

Range
The range of material is detailed in the table.

Context	Description	No.	Wt (g)	Context Date
005	Tile	1	3	Post-medieval
009	Tile	1	12	Roman
011	Tegula, flange, Roman	1	182	Roman
	Imbrices, 17-19mm thick, 1 abraded, Roman	4	530	
	Imbrex? occasional grog temper, Roman	1	71	
	Brick/tile ?Roman	3	170	
	Tile, 17-25mm thick, Roman	9	1161	
	Tile, 18-22mm thick, painted red, Roman	2	106	
012	Tegula, Roman	7	681	Roman
	Imbrex, Roman	2	179	
	Brick/tile, Roman	12	106	
	Brick/tile ?Roman	28	1050	
	Tile, 24-25mm thick, Roman	2	36	
014	Tegula, Roman	8	2225	Roman
	Imbrices, Roman	2	96	
	Imbrex? 18mm thick, Roman	1	244	
	Brick/tile ?Roman	27	1022	
	Brick, Roman	1	170	
	Tile, 18-20mm thick, Roman	2	91	
	Box flue tile, Roman	1	411	
015	Imbrex, Roman	2	880	Roman
	Brick/tile ?Tegula nib Roman	1	57	
017	Imbrices, 16mm thick, Roman	3	46	Roman
	Tile, 16-22mm thick, Roman	3	268	
	Tile, 19mm thick, red painted, Roman	1	53	
	Brick/tile, Roman	9	50	
019	Tile, 19mm thick, Roman	1	14	Roman
	Tile, sandy fabric, Roman	1	15	
020	Tegula, Roman	11	2071	Roman
	Imbrex, Roman	3	312	

Context	Description	No.	Wt (g)	Context Date
	Brick, Roman	1	284	
	Brick/tile ?Roman	56	2809	
	Box flue tile, Roman	2	284	
021	Tegula, Roman	1	55	Roman
	Imbrices, 18-20mm thick, Roman	2	43	
	Brick/tile, Roman	7	20	
	Tile, 21-23mm thick, Roman	3	133	
	Tile, rare chalk and ironstone inclusions	1	5	
023	Tegula, flange, Roman	1	141	Roman
	Brick/tile, Roman	22	50	
	Tile, 14mm thick, Roman	1	36	
025	Tegula (all one tile), Roman	3	1107	Roman
	Brick/tile ?Roman	2	85	
	Box flue tile, Roman	1	57	
026	Brick/tile, Roman	1	2	Post-medieval
	Brick, inclusion-free, mortar adhering, post-medieval	1	1	
027	Tegula, Roman	4(2 link)	733	Roman
	Tile, 25mm thick, ?Roman	3	189	
029	Tegula, flange, Roman	1	145	Roman
	Imbrex, 15mm thick, Roman	1	70	
	Brick/tile, Roman	4	42	
	Brick/tile, sandy fabric, occasional ironstone	4	16	
032	Tegula, Roman	1	322	Roman
	Imbrices, 15-20mm thick, Roman	10	1513	
	Brick/tile ?Roman	6	312	
038	Tile, burnt and distorted	1	12	
039	Imbrices, 18-20mm thick, Roman	2	158	Roman
	Tile, 16-23mm thick, Roman	5	254	
040	Imbrex, 16mm thick	1	63	Roman
042	Tile, possible flue	1	369	Roman
044	Tegula, Roman	6	4625	Roman
	Brick/tile ?Roman	2	85	
067	Tegula (all one tile), Roman	3	709	Roman
	Brick/tile ?Roman	4	71	
070	Brick/tile	3	369	?Roman
073	Brick/tile ?Roman	1	57	Roman
	Imbrex, Roman	1	28	
075	Brick/tile	3	43	?Roman
094	Tile, 20mm thick	1	201	Roman
100	Brick/tile	1	28	?Roman
101	Tegula, very abraded, Roman	1	26	Roman
	Tile, very abraded, Roman	2	17	
109	Tile, possible flue tile	1	284	Roman
112	Brick/tile	1	14	?Roman
136	Tegula, Roman	1	511	Roman
	Imbrex, Roman	7	822	
	Brick/tile ?Roman	3	539	
144	Tegula, Roman	1	426	Roman
	Brick/tile ?Roman	1	57	

Context	Description	No.	Wt (g)	Context Date
145	Tegula, Roman	2	85	Roman
	Imbrex, Roman	1	85	
500	Imbrex, 17mm thick, Roman	1	45	Medieval
	Tile, 16mm thick, Roman?	1	53	
	Tile, shale inclusions, reduced cores, 9-17mm thick, medieval	4	341	
505	Tile, grog-tempered, oxidized throughout	1	7	Post-medieval
509	Brick/tile, Roman	1	41	Post-medieval
	Handmade brick, chalky inclusions, post-medieval	2	354	
	Brick/tile, incinerated/slagged, post-medieval	1	27	
510	Field drain, chalky inclusions, post-medieval	6	175	Post-medieval
	Tile, inclusion-free, oxidized throughout, post-medieval	2	83	
	Fired clay	1	23	
	Whole D-profile field drain, late post-medieval	2	1476	
513	Brick/tile	1	28	?Roman
514	Tile, 19mm thick	1	32	Roman
515	Handmade brick, post-medieval	5	1249	Late post-medieval
	Flanged tile, late post-medieval	1	114	
	Flat tile, post-medieval	3	142	
	D-profile field drain, late post-medieval	7	624	
	Perforated brick	1	142	
	Vitrified, slagged ceramic	11	454	
516	Field drain, inclusion-free, post-medieval	1	28	Late post-medieval
	Field drain, corrugated, chalk and ironstone inclusions, late post-medieval	1	25	
	Tile, rare chalky inclusions, 4 oxidized throughout, 1 reduced core, post-medieval	5	134	
	Tile, gault clay, post-medieval	1	20	
518	Tile, 17mm thick, Roman	1	93	Late post-medieval
	Brick/tile, very abraded, Roman	1	29	
	Tile, inclusion-free, oxidized throughout, post-medieval	1	21	
	Brick? Chalky inclusions, very high fired	1	37	
	Field drain, late post-medieval	1	4	
522	Tile, 24mm thick	1	59	
528	Tile, inclusion-free	1	7	Post-medieval?
555	Tile, inclusion free	1	2	
605	Brick/tile	1	85	?Roman
625	Field drain	2	23	Late post-medieval
1000	Field drain, chalky inclusions, post-medieval	1	8	Post-medieval
	Handmade brick, chalk/shell inclusions, near-vitrified, post-medieval	1	44	
	Brick/tile, chalk/shell inclusions	1	3	
1004	Tile? gently corrugated on 1 surface, chalk/shell inclusions	1	85	Roman
1011	Brick/tile	1	138	?Roman
1033	Brick/tile	1	57	?Roman
1500	Vitrified, slagged ceramic, including corner of a	13	480	Late post-

Context	Description	No.	Wt (g)	Context Date
	brick			medieval
	Flanged tubular field drain, late post-medieval	2	207	
	D-profile field drain, late post-medieval	53	4774	
	Curved/tubular field drain, 1 very over fired/vitrified, late post-medieval	38	1589	
	Flanged tile, late post-medieval	2	169	
	Handmade brick, post-medieval	17	1731	
	Flat or slightly curved tile, post-medieval	6	530	
	Brick/tile/field drain, post-medieval	4	107	
	Tile, abraded, medieval	1	43	
1501	Vitrified, slagged ceramic	34	1556	Late post-medieval
	Flanged tubular field drain, late post-medieval	3	151	
	D-profile field drain, late post-medieval	203	9917	
	Curved/tubular field drain, late post-medieval	235	6923	
	Flanged tile, late post-medieval	1	20	
	Handmade brick, post-medieval	52	5192	
	Flat or slightly curved tile, post-medieval	72	2127	
	Brick/tile/field drain, post-medieval	87	1801	
	C-profile field drain, late post-medieval	4	224	
	Handmade brick, mortar adhering, post-medieval	2	62	
	Pantile, late post-medieval	4	127	
	Tile, gault clay	2	56	
1502	Vitrified, slagged ceramic	43	1866	Late post-medieval
	Flanged tubular field drain, late post-medieval	2	356	
	D-profile field drain, late post-medieval	214	16698	
	Curved/tubular field drain, late post-medieval	128	6242	
	Flanged tile, late post-medieval	1	39	
	Handmade brick, post-medieval	67	9180	
	Flat tile, post-medieval	29	1387	
	Brick/tile/field drain, post-medieval	45	1844	
	C-profile field drain, late post-medieval	1	57	
	Flanged D-profile field drain, late post-medieval	1	85	
	Pantile, late post-medieval	2	87	
1503	Vitrified, slagged ceramic	1	52	Late post-medieval
	D-profile field drain, late post-medieval	9	1603	
	Curved/tubular field drain, late post-medieval	2	232	
	Handmade brick, 112mm w x 72mm thick, 1 part vitrified, post-medieval	5	2965	
	Flanged D-profile field drain, open on flat side, late post-medieval	1	163	
	Bullnose bricks 71mm thick, late post-medieval	2	2234	
1506	Tile, oxidized throughout, no inclusions	1	85	Post-medieval
1509	Vitrified, slagged ceramic	9	558	Late post-medieval
	D-profile field drain, late post-medieval	3	140	
	Curved/tubular field drain, late post-medieval	4	201	
	Handmade brick, 70-73mm thick, post-medieval	2	1078	
	Flat tile, post-medieval	1	32	
	Brick/tile/field drain, post-medieval	4	160	
	Pantile, late post-medieval	1	506	
1512	Flanged tubular field drain, late post-medieval	1	134	Late post-

Context	Description	No.	Wt (g)	Context Date
	D-profile field drain, late post-medieval	1	104	medieval
	Curved/tubular field drain, late post-medieval	3	250	
	Handmade brick, 112mm w x 72mm thick, 1 vitrified, post-medieval	5	2724	
	Handmade brick, mortar adhering, 108mm w x 63mm thick, post-medieval	1	653	
1513	Flanged tubular field drain, late post-medieval	5	2611	Late post-medieval
	Curved/tubular field drain, late post-medieval	5	1232	
	Flanged D-profile field drain, open on flat side, late post-medieval	4	2170	
	Pantile, late post-medieval	4	1150	
1517	Handmade brick, abraded, Roman??	1	45	Roman??
	Brick/tile, no inclusions	1	3	
1524	Tile, rare chalky inclusions	2(link)	4	Late post-medieval

Large collections of ceramic building materials were recovered during the investigations, particularly from the location of the Roman building (contexts 009-150) and an area of tile/drain production (contexts 1500+).

Amongst the Roman material are standard types, including roof tiles in the form of flat, flanged tegulae and curved imbrices, plain brick and tile and a few flue tiles, this latter category used for ducting hot air from underfloor heating systems through the walls of Roman buildings.

Brick and tile of Roman date is particularly abundant in a few contexts, (012), (014) and (020), each individual deposit yielding over 40 fragments weighing in excess of 2kg. Compositionally, these three assemblages are very similar, comprising about 75% brick/tile, 15% tegulae, and 5% imbrices, with flue tile occurring as rare pieces in (014) and (020). Several other contexts contain moderately numerous Roman brick and tile, in excess of 10 pieces in each deposit. These are (011), (017), (021), (023), (032) and (136). However, the composition of these contexts differs significantly from the 'abundant' deposits. In most of these contexts, imbrices are more numerous than tegulae, sometimes dramatically so, as in (032 and 136), where they provide the major component of the assemblages. These compositional variations may be due to functional differences during the life of the building complex, for example, imbrices being used as drainage channels or for wall coping, in contrast to roofs that employed more tegulae than imbrices.

Some contexts - (012, 017, 021, 023, 029) - contain highly fragmented brick/tile with an average sherd weight of about 40g or less. This may be due to secondary use of the material for metalling surfaces, or possibly due to later disturbance of these deposits. High sherd weight, mostly in excess of 100g, occurs in contexts (011, 014, 020, 032 and 136) and this may signify relatively undisturbed contexts with primary deposition.

In the area of post-medieval drains and tiles, large quantities of material were recovered from the topsoil (1501) and as unstratified artefacts (1500). Although evidently disturbed, these collections provided details of the composition of the assemblage, and the products of the manufacturing area. On the basis of this, a wide range of products can be identified, together with indications of concentration, or specialization, on a few specific types. Thus, the range of products appear to be: flanged tubular field drains; D-profile field drains; curved/tubular field drains; flanged tiles; handmade brick; flat or slightly curved tiles; C-profile field drains; flanged D-profile field drains; and possibly pantiles. Numerical quantities suggest that the industry focussed on the manufacture of D-profile field drains, curved/tubular field drains, and handmade bricks. (Weight has not been used to indicate quantity, due to inherent biasing effects of different forms, ie, bricks are much bulkier than tiles.)

D-profile field drains are numerous in contexts (1500, 1501, 1502, 1503), where they provide between ¼ and ½ of all the post-medieval ceramic building materials. In terms of weight, this drain type is between $^1/_3$ and ½ of the total mass of these contexts. Variations in the shape of the pie charts indicate that the unstratified material from (1500) is less fragmented than average, though in (1503) is more fragmented.

Curved/tubular drains are relatively numerous in (1500, 1501, 1502, 1512, 1513), comprising between ¼ and $^1/_3$ of

the total counts. The other comparatively abundant type is handmade brick, which is plentiful in (1503, 1512), where it provides between ¼ and ½ of the material. Due to its bulky nature, handmade brick forms a major portion of the assemblages by weight, in all case where it is present constituting a greater percentage of the assemblage than it does so by count, up to 85%.

Deposit (1513) varies dramatically in composition from the other contexts. Types that are rare or absent in other contexts, the flanged tubular field drain and flanged D-profile drain, are relatively numerous in this context. This may imply that these types were made specifically in this part of the site.

Close similarity in the forms of the pie-charts for the count and weight of the vitrified material shows that fragmentation is uniform across the contexts. Because there is no differentiation in the patterns, it is not possible by this method to determine whether the material in the contexts is a result of primary deposition or disturbance and redeposition. However, one of the contexts, (1500), is unstratified and another (1501) is topsoil. The material in both these contexts is, by definition, disturbed. Therefore, as all the contexts display the same fragmentation pattern they are all likely to incorporate disturbed material, and not be the result of primary deposition.

Condition
All the material is in good condition and presents no long-term storage problems. Archive storage of the collection is by material class. Due to the very large quantities of material, it is recommended that a representative selection of the individual context assemblages are retained, and the remainder discarded.

Documentation
The route has been the subject of previous archaeological investigations. Details of archaeological sites and discoveries in the area are maintained in the Lincolnshire County Council Sites and Monuments Record and the files of the South and North Kesteven Planning Archaeologists.

Potential
The large collections of ceramic buildings materials are of moderate-high local potential and significance. Concentrations of Roman tile associated with building remains provide indications of the nature of the structure, including the presence of underfloor heating systems, not observed archaeologically. An abundant collection of post-medieval material relates to, and is the product of, a drain/tile manufacturing area. This is a regionally rare archaeological discovery and the recovered artefacts provide insight into the diversity of the industry.

The general dearth of medieval material is informative and suggests that archaeological deposits dating from this period are absent from the area, or were not revealed by the investigations, or were of a nature that did not involve artefact deposition.

Appendix 11

THE OTHER FINDS
by Jane Cowgill and Gary Taylor

A large quantity of mixed artefacts, metals, industrial residues and other materials, comprising 632 items weighing a total of *c.* 13707g, was retrieved. Faunal remains were also recovered.

The excavated faunal remains assemblage comprises 47 stratified fragments and 45 pieces of unstratified mollusc shell weighing 885g. The shell was identified by reference to published catalogues.

Provenance
The material was recovered from the area of a 1st to 2nd century Roman building (Area 1) (011, 012, 013, 014, 017, 019, 020, 021, 022, 023, 024, 025, 026, 027, 029, 038, 039, 040, 041, 043, 063, 066, 082, 094, 101, 106, 110, 118, 130, 133, 144 & 145) and an area of 3rd to 4th century Roman and Saxon activity (Area 2) (1000, 1003, 1004, 1005, 1007, 1011, 1012, 1015, 1017, 1027, 1032, 1033, 1036, 1037, 1042, 1043, 1044, 1045, 1055, 1057 & 1075). Evidence of production of post-medieval ceramic building materials was identified in Area 3 (1501, 1506, 1509, 1512, 1517 & 1524), whilst further material was recovered from the watching brief along the pipeline route (509, 510, 511, 516, 518, 519, 520, 521, 525, 529, 625 & 631).

Much of the metal and almost all of the mollusc shell was recovered from the Roman building (contexts 009-150) In contrast, the majority of the industrial residue was found associated with a separate area of settlement in an area of Roman and Saxon remains (contexts 1000-1097).

Range
The range of material is detailed in the tables.

Table 1: Metals

Context	Metal	Description	No.	Wt (g)	Context Date
106	Copper alloy	Toilet spoon, 107mm long,	2(link)	1	Roman
010	Iron	Spike, 220mm long, 15mm width, rectangular head and shaft, bent	1	272	
	Iron	Spike, 130mm long, 7mm width, rectangular shaft, bent	1	36	
	Iron	Nails, rectangular shafts, turned over heads	2	20	
	Iron	Nail, rectangular shaft, round head	1	3	
	Iron	Nails, rectangular shafts	5	31	
011	Iron	Possible hoe fragment	1	35	
	Iron	Rectangular sheet	1	23	
	Iron	Nails, rectangular shafts, turned over heads	5	30	
	Iron	Nails, rectangular shafts	5	30	
012	Iron	Nails, rectangular shafts, turned over heads	3	24	
	Iron	Nails	3	12	
	Iron	Flattened sheet	1	9	
	Iron	Lump	1	12	
014	Iron	Nails, rectangular shafts	2	13	
	Iron	Nails, rectangular shafts, turned over heads	2	10	

Context	Metal	Description	No.	Wt (g)	Context Date
	Iron	Timber dog? Flattened cross piece 77mm long and 15mm wide, arms 50mm long	1	46	
	Copper alloy	Sheet binding with rivet holes, chrome/silver plated	1	1	
017	Iron	Nail, rectangular shaft, turned over head	1	5	
	Iron	Nail, rectangular shaft	1	10	
019	Iron	Nail, rectangular shaft and head	1	6	
020	Iron	Nail, rectangular shaft, turned over head	1	8	
021	Iron	Nail, rectangular shaft, turned over head	2	19	
	Iron	Lump	1	25	
022	Iron	Nail, rectangular shaft, turned over head	1	5	
023	Iron	Nail, rectangular shaft, turned over head	1	6	
	Iron	Nails, rectangular shafts	2	4	
024	Iron	Nail, rectangular shaft	1	6	
025	Iron	Nails, rectangular shafts, turned over heads	3	22	
026	Iron	Nail, rectangular shaft, turned over head	1	10	
	Iron	Nails, rectangular shafts	2	3	
027	Iron	Rectangular bar, 140mm x 30mm	1	169	
	Iron	Nail, rectangular shaft, turned over head	1	10	
029	Iron	Nail, rectangular shaft, round head	1	10	
038	Iron	Nail, rectangular shaft	1	11	
039	Iron	Double spiked loop, Roman	1	17	Roman
	Iron	Nails, rectangular shafts, turned over heads	2	15	
	Iron	Nail, rectangular shafts, large oval head	1	13	
	Iron	Nail, rectangular shaft	1	1	
040	Iron	Machinery part? large peg	1	53	
	Copper alloy	Binding?	1	6	
041	Iron	Nail, rectangular shaft	1	1	
043	Lead	Folded sheet, approx rectangular	1	36	
066	Iron	Rectangular strip, possible strap hinge fragment, rivet hole?	1	20	
082	Iron	Nail, rectangular shaft, turned over head	1	4	
094	Iron	Nail, rectangular shaft, oval head	1	5	
	Iron	Rectangular strip, 33mm x 11mm, blade fragment?	1	4	

Context	Metal	Description	No.	Wt (g)	Context Date
101	Copper alloy	Fragmentary sheet in soil	10	2	
110	Copper alloy	Ring, 14mm ext diameter	1	1	
118	Iron	Nail, rectangular shaft, oval head	1	6	
130	Iron	Nail, rectangular shaft, turned over head	1	3	
	Iron	Rectangular block, 41mm x 21mm x 13mm	1	23	
144	Iron	Nail, rectangular shaft, turned over head	1	6	
	Iron	Nail, rectangular shaft	1	18	
145	Iron	Nails, rectangular shaft	2	10	
510	Iron	Spike, T-head	1	122	
511	Copper alloy	Cast fragment	1	2	Late post-medieval
	Copper alloy	Button, engraved, late post-medieval	1	1	
	Copper alloy	buckle	1	8	
	Copper alloy	Buckle fragment, post-medieval	1	7	
	Silver	Coin, long cross penny, worn, slightly bent, 1399-1485	1	1	
	Lead	Tube/rod, 17mm dia, 33mm long	1	64	
516	Iron	Nail, rectangular shaft	1	14	
518	Iron	Horseshoe	1	73	
519	Copper alloy	Cast fragment	1	4	
520	Iron	Handle?	1	9	
	Iron	Spike	1	72	
521	Copper alloy	Button, monogrammed: possibly 'BR', post-medieval	1	1	Late post-medieval/1860+
	Copper alloy	Coin, Victoria half-penny, young head, 1860-94	1	5	
	Copper alloy	Button, late post-medieval	1	1	
	Copper alloy	Cast fragment, leaded alloy	1	24	
	Lead alloy	Badge	1	1	
529	Lead	Folded sheet, approx triangular, possible nail hole	1	126	
1000	Iron	Bar, circular section, bent	1	62	
1003	Iron	Nail, oval head	1	6	
1004	Iron	Nail, oval head	1	16	
1005	Iron	Nail head? fragmentary	4	9	
1027	Iron	Nails, oval heads	2	10	
	Iron	Nail	1	2	
	Iron	Double-ended spike, 91mm long, 8mm max width, rectangular section	1	7	
1033	Iron	Nail, oval head	1	20	
1036	Iron	Nail	1	8	
1042	Iron	Nail, large oval head	1	16	
1501	Iron	Nail	1	13	
	Iron	Blade?	2(link)	23	
1506	Iron	Bar, rectangular section, bent	1	68	
	Copper alloy	Wire, 1mm thick	1	1	

Context	Metal	Description	No.	Wt (g)	Context Date
1509	Iron	Nail, bent over head	1	12	
1512	Copper alloy	Spoon handle	1	5	Late post-medieval
TOTALS			128	1994	

Nails occurred in moderate abundance in the area of the Roman building (contexts 009-150), and there were occasionally other structural fittings, including a timber dog or staple. These items may have affixed structural timbers, or possibly furniture. A definite furniture fitting was present in the form of a double-spiked loop from (039). Such items were generally used in pairs to carry either end of a drop handle on boxes, drawers or chests (Crummy 1995, 119-120). A possible furniture handle was recovered from (520), but the identification is uncertain as the object is fragmentary.

One branch of a horseshoe was recovered from (518), but too little survives for the form to be clearly identified.

Table 2: Industrial Residues

Context	Description	No.	Wt (g)	Context Date
011	Iron smithing slag, incl hearth bottom	3	232	
014	Iron smithing slag, hearth bottom?	1	131	
017	Ironstone, natural	1	7	
021	Iron smithing slag	2	54	
022	Iron smelting slag	1	53	
029	Iron smithing slag	1	4	
039	Ferrous encrustation	1	8	
510	Hearth bottom	1	486	
	Iron smithing slag	4	36	
518	Iron smithing slag	1	26	
525	Iron smithing slag	1	4	
605	Hearth bottom?	1	107	
	Iron smithing slag	1	6	
625	Hearth bottom (1 broken)	8	135	
	Iron smithing slag	1	5	
1004	Iron smithing slag	7	297	
	Hearth bottom	2	220	
	Slagged hearth lining	1	57	
1007	Iron smithing slag	5	177	
	Slagged hearth lining	1	7	
1011	Iron smithing slag	1	5	
1012	Ferrous encrustation/iron smithing slag?	15	231	
	Iron smelting slag	1	21	
1015	Iron smithing slag	12	663	
	Hearth bottom, charcoal fuel, encrusted	4	1080	
	Proto hearth bottom, charcoal fuel; encrusted	3	144	
	Tuyere, very vitrified	1	13	
	Slagged hearth lining	1	42	
1017	Iron smithing slag	2	3	
	Iron smelting slag	1	83	
1027	Iron smithing slag	6	210	
	Hearth bottom	1	104	
1032	Iron smithing slag/hearth bottom fragments, charcoal fuel	14	454	
	Hearth bottom, flat tops, charcoal fuel	12	3091	

Context	Description	No.	Wt (g)	Context Date
	Hearth wall side slag concretion, odd tube shape (65 X 50 X 70mm); tuyere, air hole diameter *c.* 22mm	1	233	
	Slagged hearth lining	1	6	
	Iron cinder	1	5	
1033	Iron smithing slag	3	95	
	Hearth bottom	1	400	
1036	Iron smithing slag	1	24	
	Iron smelting slag	1	39	
1037	Iron smithing slag	2	32	
1042	Iron smithing slag	4	94	
	Iron smelting slag	4	102	
1043	Fuel ash slag	1	2	
1045	Iron smithing slag	2	37	
	Hearth bottom	1	469	
1055	Iron smithing slag	1	55	
1075	Fuel ash slag	8	7	
1501	Iron smithing slag	4	145	
1503	Iron smithing slag	1	49	
1524	Iron smithing slag	1	1	
TOTALS		156	9991	

Industrial residues were recovered in moderate quantities. The great majority of this is iron smithing slags of various types, these including the hearth bottoms. All these slags are a by-product of smithing iron - the production, repair or recycling of iron objects and indicate iron smithing in the proximity of the investigation areas, particularly where concentrations of material are found, for example, contexts (1012, 1015, 1032). Confirmation of industrial activity in the vicinity is provided by fragments of slagged hearth lining, a fairly fragile material that does not survive disturbance well. Plano-convex slag accumulations, commonly known as hearth bottoms, dominate the assemblage and all are very similar in shape, if not size, suggesting they may be the by-product of a single smith. The slags are in a fairly fresh condition although some are encrusted with corrosion and soils, but there is no hammerscale present in the small amount of soil in the bags containing the slag, which is a bit surprising. Some hammerscale would be expected if these slags were being discarded directly from the smithy, which is suggested by their fresh condition. Charcoal is the only fuel that was recorded as being incorporated within the slags.

In addition, small quantities of iron smelting slag and fuel ash slag were recovered. As smelting generates large amounts of slag the small quantities recovered here indicate that smelting did not take place in the investigation areas.

The fuel ash slag was off-white or green vesicular fragments, sometimes glassy. These slags are produced when silicate materials such as clay are fired in the presence of fluxing agents such as alkalis found in plant ashes. Any high-temperature fire where silicates and alkalis come in to contact can produce these slags, and hence they are not necessarily indicative of metallurgical processes (English Heritage 2001, 21).

Table 3: Other Finds

Context	Material	Description	No.	Wt (g)	Context Date
012	Mortar	Mortar/plaster, painted white	2	15	
	Stone	Burnt limestone	1	71	
	Coal	Cinder	1	1	
013	Stone	Burnt stone	1	79	
014	Cinder	Cinder	1	6	
021	Fired clay	Loomweight, Roman	1	53	Roman
	Bone	Pin, Roman	1	1	

Context	Material	Description	No.	Wt (g)	Context Date
	Charcoal	Charcoal	4	1	
026	Plaster	Painted wall plaster	283	*c.*700	
038	Clay pipe	Stem, bore 7/64"	1	2	17th century
040	Charcoal	Charcoal, roundwood	2	1	
509	Clay pipe	Stem, bore 5/64"	1	1	18th century
510	Coal	Coal	1	6	
	Cinder	Cinder	1	12	
515	Clay pipe	Stem, bore 7/64", 17th century	1	3	20th century
	Glass	Colourless vessel glass, 20th century	3	7	
516	Cinder	Cinders	3	30	
631	Stone	Swithland slate	1	172	Post-medieval
1005	Stone	Collyweston slate, 5-8mm thick, fairly smooth surfaces, 2 burnt	5	33	Post-medieval
1007	Stone	Burnt limestone	3	144	
1017	Coal	Coal	2	4	
1027	Fired clay	Fired clay	1	10	
1033	Stone	Burnt stone	2	52	
1042	Stone	Burnt stone	2	35	
1044	Clay pipe	Stem, bore 6/64"	1	2	17th century
1057	Clay pipe	Stems, bore 6/64", 17th century	4	8	17th century
	Clay pipe	Stem, bore 7/64", 17th century	2(link)	1	
1501	Clay pipe	Stem, bore 6/64", 17th century	1	3	
	Clay pipe	Stem, bore 7/64", 17th century	1	2	
	Slate	Welsh roofing slate, 19th-20th century	1	2	
	Graphite	Slate pencil, 19th-20th century	1	3	
	Coal	Coal	4	23	
1502	Coal	Coal	2	13	
1509	Coal	Coal	4	72	
1517	Stone	Burnt limestone	1	152	
1524	Cinder	Cinders	2	2	
TOTALS			348	*c*1722	

A moderate amount of fragmented painted plaster was recovered from (026). Most of this is painted white or cream, with some also a dark red. Much of the plaster is coloured light grey, though it is not clear if this is the paint colour or due to soiling of white plaster. A few pieces show a limit to the red painting, suggesting that there were panels or borders in this shade, though the predominance of white painted plaster indicates the room walls were mostly of this colour, perhaps as an aid to light reflection in the building interior.

A segment of a fired clay loomweight from (021) has part of a suspension hole and a flat side and is perhaps a triangular form. Loomweights of this type occur widely on Iron Age sites across southeastern Britain but not north of the Humber. In general they are found to date after 500BC but at Dragonby in North Lincolnshire loomweights of this type tended to occur in Late Iron Age or early Roman contexts (Elsdon and Barford 1996, 330). Moreover, triangular loomweights were found in kilns at Newton on Trent, to the west of Lincoln, where they were fired alongside Romano-British pottery in the late 1st-early 2nd century AD (Field and Palmer-Brown 1991, 49; 54). A comparable chronology can be expected for this example. Loomweights of this type were used to put threads under tension on a warp-weighted loom.

A Crummy Type 2 bone pin from (021) is near-identical to one from Colchester (Crummy 1995, 21; fig 19, no 194). As with the Colchester example, this pin has two transverse grooves below a small conical head and is very thin. Pins of this type appear to be mainly 2nd century but perhaps occur as early as *c.* 50AD (*ibid*).

A piece of Swithland slate from (631) could be from a broken gravestone, as it seems too thick for roof slate.

Several pieces of Collyweston slate roofing tile were recovered from (1005). Previously identified late medieval tiles are generally about 20mm thick, with uneven surfaces. Post-medieval tiles are much thinner and with smoother faces (RCHME 1984, xlvii). Consequently, the tiles from (1005) are all likely to be post-medieval.

Table 4: The Faunal Remains

Context	Species	Bone	No.	Wt (g)	Comments
011	Oyster	Shell	35	302	2 cut
012	Banded snail	Shell	2	3	Complete
014	Oyster	Shell	5	84	1 cut in half
020	Oyster	Shell	1	1	
021	Oyster	Shell	10	139	
023	Oyster	Shell	2	34	1 cut in half
027	Oyster	Shell	1	11	
029	Oyster	Shell	8	118	
038	Oyster	Shell	1	20	
039	Oyster	Shell	4	43	
040	Oyster	Shell	7	90	1 notched on edge
063	Oyster	Shell	1	11	
101	Oyster	Shell	3	15	
133	Oyster	Shell	1	7	
1005	Oyster	Shell	11	7	
TOTALS			92	885	

With the exception of the banded snail, all the mollusc shells are food waste. The banded snails are the only environmental indicators, but these are a widespread terrestrial species and do not define particular environmental conditions.

Condition
All the material is in good condition and presents no long-term storage problems. Archive storage of the collection is by material class.

Documentation
There have been previous archaeological investigations along the pipeline route that are the subjects of reports. Details of archaeological sites and discoveries in the area are maintained in the Lincolnshire County Council Sites and Monuments Record and the files of the North Kesteven and South Kesteven Planning Archaeologists.

Potential
This large collection of mixed material is of low-moderate local potential and significance. Some of the artefacts provide dating evidence and a great number gives indications of functional activities, though the level of interpretation possible for many of these is not high.

References

Crummy, N., 1995 *The Roman Small Finds from Excavations in Colchester 1971-9*, Colchester Archaeological Report **2**

Elsdon, S. M. and Barford, P. M., 1996 'Loomweights' in J. May, *Dragonby, Report on Excavations at an Iron Age and Romano-British Settlement in North Lincolnshire*, Oxbow Monograph **61**

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Field, F. N. and Palmer-Brown, C. P. H., 1991 New evidence for a Romano-British greyware pottery industry in the Trent Valley, *Lincolnshire History and Archaeology* **26**

RCHME (Royal Commission on Historical Monuments England), 1984 *An Inventory of the Historical Monuments in the County of Northamptonshire, Architectural Monuments in North Northamptonshire* **VI**

Appendix 12

THE ENVIRONMENTAL SAMPLES
by Val Fryer

AN ASSESSMENT OF THE CHARRED PLANT MACROFOSSILS AND OTHER REMAINS FROM THE HARROWBY TO ASWARBY PIPELINE, LINCOLNSHIRE (HAP 05)

Introduction and method statement

Excavations along the line of the Harrowby to Aswarby pipeline, undertaken by Archaeological Project Services, revealed a building and a number of ditches of probable Roman date plus a small number of later (?nineteenth century) features. Samples for the retrieval of the plant macrofossil assemblages were taken from features across the excavated area, and twenty were submitted for assessment.

The samples were processed by manual water flotation/washover and the flots were collected in a 500 micron mesh sieve. The dried flots were scanned under a binocular microscope at magnifications up to x 16, and the plant macrofossils and other remains noted are listed on Tables 1 and 2. Nomenclature within the tables follows Stace (1997). All plant remains were charred. Modern contaminants, including fibrous and woody roots and seeds, were present throughout. The non-floating residues were collected in a 1mm mesh sieve and sorted when dry. All artefacts/ecofacts were retained for further specialist analysis.

Results

Plant macrofossils
Cereal grains/chaff and seeds of common weeds were present at a low density in all but two samples. Preservation was moderately good, although a proportion of the grains were puffed and distorted, probably as a result of combustion at very high temperatures.

Oat (*Avena* sp.), barley (*Hordeum* sp.) and wheat (*Triticum* sp.) grains were recorded, with wheat occurring most frequently. Most grains were of an elongated 'drop-form' type typical of spelt (*T. spelta*), and spelt wheat glume bases were noted within samples 3 (layer 033), 21 (ditch fill 21), 22 (ditch fill 1024), 23 (ditch fill 1006), 25 (ditch fill 1010) and 29 (deposit 1032). A single small fragment of possible walnut (*Juglans regia*) shell was noted in sample 1 from layer 026 along with small pieces of hazel (*Corylus avellana*) nutshell.

Weed seeds were particularly scarce. All were of common segetal or grassland species including brome (*Bromus* sp.), small and large legumes (Fabaceae), grasses (Poaceae), wild radish (*Raphanus raphanistrum*) and vetch/vetchling (*Vicia/Lathyrus* sp.). A single sedge (*Carex* sp.) nutlet was recorded within the assemblage from sample 7 (deposit 106).

Charcoal/charred wood fragments were present at varying densities within all the assemblages studied. Other plant macrofossils occurred less frequently but did include pieces of charred heather (Ericaceae) stem and indeterminate thorns and fruit stone/nutshell fragments.

Mollusc shells
Although specific sieving for molluscan remains was not undertaken, small assemblages of shells were noted within the samples from Area 1. All were moderately weathered, but as the contexts appear to have been disturbed by modern roots, their contemporaneity with the deposits from which the samples were taken cannot be proved. Shells of open country species occurred most frequently, although specimens of *Discus rotundatus*, a species particular to moist ground litter and damp herbage, were present in all but samples 6 and 10 (deposits 103 and 133 respectively).

Other materials
Fragments of black porous and tarry material, many of which are probable residues of the combustion of organic remains at very high temperatures, were present within most of the assemblages studied. Other remains were rare, but did include fragments of bone (some burnt), pieces of burnt or fired clay and mineralised faecal concretions (sample 23 from ditch fill 1005). Small coal fragments were also

noted within a number of assemblages. Whilst some of the latter may be contemporary with the contexts from which the samples were taken, others are probable modern contaminants derived from the recent agricultural practise of steam ploughing.

Discussion

Samples from Area 1 (Table 1)
Ten samples are from layers and deposits associated with the building in Area 1. Although the quantity of charcoal present varies slightly, the assemblages are reasonably uniform in character containing small quantities of grain, chaff and weed seeds, and all would appear to be derived from detritus which accumulated within the structure. The material recovered is consistent with a low density of domestic refuse, although it should be noted that cereals, chaff and weed seeds do also occur as constituents of fuel during the Roman period. That so few remains are recorded may indicate that the building was kept reasonably clean during use. The mollusc assemblages are almost certainly derived from a post-usage phase when the building was either partly or wholly derelict.

Samples from Area 2 (Table 2)
The nine samples from ditch fills and other deposits within the cemetery area are essentially similar to those from Area 1, containing small quantities of grain, chaff and weed seeds. However, the density of fuel remains (including charcoal/charred wood, heather stem fragments and possibly the coal) and burnt residues within the cemetery assemblages is far higher, possibly indicating that some or all of the material is derived from scattered hearth/fire waste.

Samples from Area 3 (Table 2)
Only two samples were taken, one of which (sample 51) did not produce a flot when processed. The density of material within sample 50 (from pit fill 1517) is very low, and there is insufficient for an accurate interpretation of the context.

Conclusions and recommendations for further work

In summary the assemblages are all very small, containing only low densities of charred cereals, chaff and weed seeds. There is no evidence for the primary deposition of material within any of the contexts studied, and it would appear most likely that the assemblages are all derived from scattered/wind-blown refuse. The precise source of this waste material is not clear, although the assemblages from Building 1 may be domestic in origin, whilst the material from the cemetery area appears more like fuel/hearth waste.

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

Reference

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

Key to Tables

x = 1 – 10 specimens xx = 10 – 50 specimens xxx = 50 – 100 specimens xxxx = 100+ specimens
cf = compare b = burnt pmc = possible modern contaminant ss = sub-sample

Sample No,	1	2	3	4	5	6	7	8	9	10
Context No.	**O26**	**O32**	**O33**	**O48**	**101**	**103**	**106**	**128**	**O77**	**133**
Feature type	**Layer**	**Layer**	**Layer**	**Layer**	**Layer**	**Deposit**	**Deposit**	**Layer**	**Deposit**	**Layer**
Cereals and other food plants										
Hordeum sp. (grains)		x	x				x		x	x
Juglans regia L.(nutshell frags,)	xcf									
Triticum sp. (grains)		x	x		x		x			xcf
(glume bases)										
(spikelet bases)										
T.spelta L. (glume bases)			x							
Cereal indet. (grains)		x	xx	x	x	x	x		x	x
Herbs										
Fabaceae indet.			x		x	x				
Small Poaceae indet.			x		x		x			
Raphanus raphanistrum L. (siliqua frags.)		x							x	
Vicia/Lathyrus sp.		x			x				x	x
Wetland plants										
Carex sp.							x			
Tree/shrub macrofossils										
Corylus avellana L.	xcf									
Other plant macrofossils										
Charcoal <2mm	xxxx	xxx	xxxx	x	xxx	x	xxxx	x	x	xx
Charcoal >2mm	xx	xx	xxx		xx		x		x	xx
Charred root/stem		xx	xx	x	xx		x			xx
Ericaceae indet. (stem frags.)		x	x		x					x
Indet.buds					x					
Indet.fruitstone/nutshell frags.	x									
Indet.seeds			x				x			
Indet.thorn *(Rosa* type)							x			
Mollusc shells										
Woodland/shade loving species										
Aegopinella sp.	x						x			
Discus rotundatus	x	x	x	x	x		x	x	x	
Open country species										
Helicella itala	x	x				x				
Helicidae indet.	x							x		
Pupilla muscorum	x	x			x	x	x	x	x	x
Vallonia sp.	x		x		x	x	x	x		x
V. costata						x				xx
V. excentrica		x		x						
V. pulchella								x		x
Vertigo pygmaea			x					x		
Catholic species										
Cepaea sp.		x								
Cochlicopa sp.					x	x				xx
Trichia hispida group	x			x						xx
Other materials										
Black porous 'cokey' material		xx	x	x			x	x	x	x
Black tarry material		x						x		x
Bone		x							xb	
Burnt/fired clay										x
Small coal frags.	x					x	x			
Small mammal/amphibian bones	xpmc				xpmc				xb	xpmc
Sample volume (litres)	**26ss**	**8**	**8**	**16**	**16**	**10**	**10**	**10**	**10**	**10**
Volume of flot (litres)	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**
% flot sorted	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**

Table 1. Charred plant macrofossils and other remains from the Building 1 area, Harrowby to Aswardby Pipeline, Lincolnshire.

Sample No,	20	21	22	23	25	26	27	28	29	50
Context No.	1043	1045	1024	1005	1010	1002	1065	1027	1032	1517
Feature type	Ditch	Ditch	Ditch	Ditch	Ditch	Layer	Ditch	Deposit	Deposit	Pit
Cereals and other food plants										
Avena sp. (grains)	xcf		xcf							
Hordeum sp. (grains)			x	x		x	x		x	
Triticum sp. (grains)		x			x	x	x			
(glume bases)			x							
(spikelet bases)					x					
T.spelta L. (glume bases)		x	x	x	x				x	
Cereal indet. (grains)	x	xx	x	x	x	x	x		x	
Herbs										
Bromus sp.		xcf	x	x						
Fabaceae indet.								x		
Small Poaceae indet.				x	x					
Raphanus raphanistrum L. (siliqua frags.)			x							
Vicia/Lathyrus sp.			x	x	x					
Other plant macrofossils										
Charcoal <2mm	x	xx	xx	xxx	xx	xxx	xx	xx	xx	x
Charcoal >2mm		xx	xx	x	xx	xxx	xx	x	xx	
Charred root/stem		x	x	x	x	x	x	x		
Ericaceae indet. (stem frags.)		x		x	x	x			x	
Indet.fruitstone/nutshell frags.					x			x		
Other materials										
Black porous 'cokey' material	xx	xxx	xx	x	x		x	xx	x	x
Black tarry material	xx	xxx	xx					x		
Bone	xx	x xb	x	x	x		x xb		x	x
Burnt/fired clay		x		x	x		x			x
Burnt stone						x		xx		
Mineralised/faecal concretions				x						
Small coal frags.	x	xx	x	x	x	x	xx	x	xx	xx
Small mammal/amphibian bones			x		x			xpmc	xpmc	
Vitrified material		x	x			x	x	x	x	
Sample volume (litres)	10	10	16	16	16	16	16	16	10	10
Volume of flot (litres)	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	0.1	<0.1	<0.1
% flot sorted	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Table 2. Charred plant macrofossils and other remains from Areas 2 3, Harrowby to Aswarby pipeline, Lincolnshire.

Appendix 13

GLOSSARY

Bronze Age	A period characterised by the introduction of bronze into the country for tools, between 2250 and 800 BC.
Context	An archaeological context represents a distinct archaeological event or process. For example, the action of digging a pit creates a context (the cut) as does the process of its subsequent backfill (the fill). Each context encountered during an archaeological investigation is allocated a unique number by the archaeologist and a record sheet detailing the description and interpretation of the context (the context sheet) is created and placed in the site archive. Context numbers are identified within the report text by brackets, e.g. [004].
Cropmark	A mark that is produced by the effect of underlying archaeological or geological features influencing the growth of a particular crop.
Cut	A cut refers to the physical action of digging a posthole, pit, ditch, foundation trench, etc. Once the fills of these features are removed during an archaeological investigation the original 'cut' is therefore exposed and subsequently recorded.
Domesday Survey	A survey of property ownership in England compiled on the instruction of William I for taxation purposes in 1086 AD.
Fill	Once a feature has been dug it begins to silt up (either slowly or rapidly) or it can be back-filled manually. The soil(s) that become contained by the 'cut' are referred to as its fill(s).
Iron Age	A period characterised by the introduction of Iron into the country for tools, between 800 BC and AD 50.
Layer	A layer is a term used to describe an accumulation of soil or other material that is not contained within a cut.
Medieval	The Middle Ages, dating from approximately AD 1066-1500.
Mesolithic	The 'Middle Stone Age' period, part of the prehistoric era, dating from approximately 11000 - 4500 BC.
Manuring Scatter	A distribution of artefacts, usually pottery, created by the spreading of manure and domestic refuse from settlements onto arable fields. Such scatters can provide an indication of the extent and period of arable agriculture in the landscape.
Natural	Undisturbed deposit(s) of soil or rock which have accumulated without the influence of human activity
Neolithic	The 'New Stone Age' period, part of the prehistoric era, dating from approximately 4500 - 2250 BC.
Palaeolithic	The 'Old Stone Age' period, part of the prehistoric era, dating from approximately 500000 - 11000 BC in Britain.
Post-medieval	The period following the Middle Ages, dating from approximately AD 1500-1800.
Prehistoric	The period of human history prior to the introduction of writing. In Britain the prehistoric period lasts from the first evidence of human occupation about

	500,000 BC, until the Roman invasion in the middle of the 1st century AD.
Ridge and Furrow	The remains of arable cultivation consisting of raised rounded strips separated by furrows. It is characteristic of open field agriculture.
Romano-British	Pertaining to the period dating from AD 43-410 when the Romans occupied Britain.
Saxon	Pertaining to the period dating from AD 410-1066 when England was largely settled by tribes from northern Germany.

Appendix 14

THE ARCHIVE

The archive consists of:

475	Context records
27	Context register sheets
14	Photographic record sheets
5	Section record sheets
4	Plan record sheets
55	Daily record sheets
8	Levels sheets
415	Sheets of scale drawings
9	Annotated drawings and sketches
1	Small finds records sheets
3	Environmental sample register sheets
22	Environmental sample sheets
1	Stratigraphic matrix
18	Boxes of finds

All primary records are currently kept at:

Archaeological Project Services
The Old School
Cameron Street
Heckington
Sleaford
Lincolnshire
NG34 9RW

The ultimate destination of the project archive is:

The Collection
Art and Archaeology in Lincolnshire
Danes Terrace
Lincoln
LN2 1LP

Accession Number: 2005.66

Archaeological Project Services Site Code: HAP05

The discussion and comments provided in this report are based on the archaeology revealed during the site investigations. Other archaeological finds and features may exist on the development site but away from the areas exposed during the course of this fieldwork. *Archaeological Project Services* cannot confirm that those areas unexposed are free from archaeology nor that any archaeology present there is of a similar character to that revealed during the current investigation.