Excavations at Priors Hall, Northamptonshire, 2006:

An Iron Age and Romano-British Ironworking Complex

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with contributions from
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Summary
Archaeological excavations undertaken during 2006 at Priors Hall, Corby, Northamptonshire revealed evidence of a former late Iron Age industrial landscape. During the excavations nine well-preserved iron smelting furnaces were excavated dated to the late Iron Age. Preservation of these furnaces has enabled the traditional chronology of metallurgy during the late Iron Age-early Romano-British period to be challenged as well as allowing further elucidation of the techniques of early Iron production in Britain.

Prior to the industrial exploitation of the landscape, Priors Hall appears to have been visited by transient groups between the Mesolithic and early Bronze Age periods, with a sparse distribution of pits and reused tree throws dating to these periods. It is likely that at this time the site would have been wooded with what is now known as Rockingham Forest extending across swathes of the landscape. It was the presence of woodland, along with the natural ironstone outcrops, that gave rise to an iron producing landscape from the late Iron Age onwards. There are over thirty iron smelting sites known in the present Rockingham Forest area. Only a few of these sites are thought to date to the late Iron Age, with many of the sites undated, making the Priors Hall furnaces of some significance.

During the late Iron Age there is little evidence for non-industrial activities at Priors Hall, especially within the immediate vicinity of the smelting sites, suggesting that there was distinct separation between industrial and non-industrial use of the landscape.

Priors Hall appears to have been occupied from the late Iron Age into the early Romano-British period. However, the nature of its transition from an industrial landscape to the hinterlands associated with an estate villa is unclear. Was there a short hiatus between the industrial landscape and the villa, or was the villa built because of the rich iron producing potential, perhaps with occupation following immediately on? Construction of Weldon villa to the south of the site occured between 70-80AD with continuous occupation until 400AD. During the first half of this period the land immediately to the north of the villa was exploited for agriculture with several enclosures, a small field system, two possible structures and numerous pits present. Following the 2nd century AD there is little evidence of any activity taking place until the medieval period when a stone track transversed the site. The evidence for local occupation during the second half of the villa period is limited although traces of a possible later smelting site were present, perhaps suggesting a change in the focus or type of activity taking place during the latter half of the Romano-British period.

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1. Introduction

1.1 Background to the Project

During 2006 and early 2007 a scheme of archaeological investigation comprising chiefly Strip, Map and Record was undertaken at Priors Hall, Corby, Northamptonshire. The development site comprising 183 hectares located on the northeastern fringe of Corby was granted planning permission for mixed-use development with the proviso of archaeological conditions being fulfilled. The eastern part of the site had been previously quarried creating a man-made landscape in this area. The western half of the site was under mixed agricultural use with pasture in the south and crops in the north.

Geophysical survey was undertaken in 2004 by GSB Prospection Ltd of the entire development area undisturbed by quarrying (Figure 2). Results showed a scatter of anomalies of possible archaeological origin across the site with a concentration in the northernmost part of the area. These were mixed with anomalies of probable natural origin and those consistent with the remains of medieval ridge and furrow agriculture.

Development began with limestone quarrying of 12ha of the southernmost fields in order to provide on site hard-standing for the development infrastructure. Trial trenching undertaken in March 2006 of the quarry site targeted geophysical anomalies across the area. Results of the trenching highlighted the potential for the recovery of industrial activity, with slag and fired clay identified within several of the features.

Based upon the results of the trial trenching archaeologically monitored topsoil stripping began in June 2006 following by the complete mapping of the area and sample excavation at the discretion of the Northamptonshire Historic Environment Officer. The excavations of the quarry site were completed during late August 2006. The excavations revealed a late Iron Age industrial landscape along with early Romano-British activity.

Running concurrently with the first phase of strip, map and record excavation was a programme of trial trenching in the fields to the west and north of the quarry site which revealed little in the way of archaeological deposits, although a number of undated pits with charcoal rich fills were identified. Radiocarbon dating of charcoal from one of the pits yielded a date within the 6th century AD and as a consequence two areas, covering three hectares in total, were topsoil stripped during November 2006. The archaeological remains exposed within the stripped areas were limited, with a sparse distribution of charcoal filled pits in one of the areas and no significant remains identified elsewhere. No further archaeological work was undertaken in this area of the site.

A second phase of excavation was undertaken during December 2006 and January 2007 with topsoil stripping of an access road positioned between the southern noise bund of the quarry and up to and including the present track. Again the excavation area was fully mapped and sample excavation undertaken. This revealed further evidence of late Iron Age industry along with a Romano-British cemetery and boundary to the previously excavated villa.

All work was undertaken in accordance with a Written Scheme of Investigation produced by Wardell Armstrong on behalf of Bela Developments and approved by the Historic Environment Officer of Northamptonshire County Council (Wardell Armstrong, 2006). The research themes to be considered during the course of the excavation, post excavation analyses and compilation of the report are summarised as follows:

- the nature of prehistoric settlement on the clay subsoils of the region which is less well known than settlement on free draining subsoils.

- exploration of iron production during the Iron Age

- the nature of iron production and working during the Roman period, in particular the association between these activities and the Little Weldon Roman villa

- the production and working of iron in the later Saxon and early medieval periods

The research themes were set out in accordance with the East Midlands Archaeological Research Framework assembled by the University of Leicester Archaeological Service (ULAS, 2006).

1.2 A Brief Archaeological History of the Area

The development site and excavation area lie within the Rockingham Forest Region of Northamptonshire. This was once an extensive area of woodland which has been reduced greatly since the medieval period with earlier clearances likely to have taken place during the Iron Age and Romano-British periods. The area was first designated as forest by William I during the 11th century AD as an area where the King had the right to keep deer and was covered by a set of laws concerning rights of common, farming and woodland management.

Evidence of early archaeological activity from within the Rockingham forest area is scarce with only a few reported sites and finds. The earliest indications of human activity are represented by the antiquarian finds of three Neolithic flint artefacts from Weldon, the parish lying immediately to the south of the site. Settlement of the area appears to be more firmly established by the Bronze Age, with the identification of three burial sites in the area dated to this period (one to the east of Corby, one to the South of Weldon and one southwest of Deenthorpe) Further to this, residual Bronze Age pottery has been found during the excavation of later sites suggesting a background of activity during this period.

By the late Iron Age the Rockingham Forest area had become extensively occupied, with the free-draining soils of the river valleys and outcrops of Northamptonshire sand favouring settlement as well as the higher boulder clay uplands. The iron-rich ores of the Rockingham area was a major influence upon the settlement of the area. Excavations undertaken in the region suggest that Rockingham Forest was extensively settled during

the late Iron Age and Romano-British periods with considerable evidence of small farmsteads and their associated field systems recorded across the region (Figure 2).

The excavation site described in this volume lay immediately to the north of Weldon Roman Villa (Scheduled Ancient Monument NN105). The villa, which is believed to have been constructed sometime during 70-80AD and occupied until around 400AD, was first excavated in 1738 and attracted the attention of the antiquarian William Stukeley. During the early part of the 19th century the then owner of the site, Lord Hutton, provided a temporary shelter for the monument allowing visitors to view the stone foundations of the building. Through time the site reverted to agricultural use and the exact location of the villa was lost. Anticipated iron-stone quarrying of the area prompted the re-excavation of the site during 1953-4. Funded by the former Ministry of Works the excavations revealed a multi-phased Romano-British villa with bath house and associated out-buildings. The structure itself, thought to replace an earlier wooden building, was burnt down circa 200AD. The building was immediately rebuilt, with extensions added in the later 4th century. During the villa excavations two burials thought to belong to a private cemetery associated with the villa were identified to the northeast of the complex. The site is now protected as a Scheduled Ancient Monument.

Aerial photos of the area show parallel ditches to the east of the site, in an area affected by large scale ironstone extraction. These align with the Roman road now known as Gartree Road, the course of which has been identified approximately one kilometre to the south of Priors Hall and runs from Huntingdon to Leicester.

There is considerable evidence for industry during the Romano-British period in Rockingham Forest, with the woodland itself providing an invaluable resource along with the iron-rich ores of the area. Previous excavations along the eastern course of the A43, most notably those undertaken during a road improvement scheme in the 1980s, have identified a number of iron production sites. This road follows the course of a natural valley bottom and also aligns on an outcrop of ironstone, hence the large number of iron production sites identified alongside this roadway. Previous excavations have recorded iron production sites at Wakerly, Bulwick and Laxton, all thought to be of Romano-British date. At Laxton, large amounts of slag and furnace debris were recorded along with a cemetery, suggesting iron working was taking place on a considerable scale. A survey, of the iron production industry in the Rockingham forest area indicates extensive Romano-British industry in the eastern part of the region (Bellamy et al, 2000). In addition to Laxton a cluster of sites had previously been discovered by Artis around Wansford and Yarwell in the 19th century. It is possible that these sites may have supplied iron to the Roman town at Water Newton, or further afield with Gartree Road being only 11km to the south.

Throughout the Rockingham Forest region numerous finds of undated slag have been documented. During the later 19th century Judd, a local historian, writes in his memoirs of the slag heaps throughout Rockingham Forest, '*the presence of beds of tolerably rich iron ore, in a district abounding in timber, led to the erection of numerous furnaces of the small kind then in use, and the extensive production of iron. Throughout nearly the whole*

of the district described in this memoir, enormous masses of slag, which are of course, especially conspicuous where land has been newly cleared for cultivation, testify to the extent to which the manufacture of iron was carried out in ancient times' (Judd, 1875). In Weldon, immediately to the south, a large quantity of slag and cinders to the west of the parish church was reported, although with development and modern agriculture none of these survive.

Regeneration of woodland in the area is believed to have followed the Roman period. Rockingham Forest has long been a major focus of iron production with the extent of woodland recorded in the medieval periods. The poorly drained local boulder clay geology would have meant that the most suitable land use would have been forest (Foard 2001). However, prior to 1066 there is little evidence to suggest the extent of woodland although the presence of an iron production industry at Priors Hall suggests a westward limit of this fuel source. Doubtless there was considerable woodland in existence between the 1st-5th centuries and also in the pre-Roman period, although firm evidence of this is lacking.

During the early medieval period recorded sites in the area include a settlement and industrial site in Weldon, and a possible predecessor to the shrunken medieval village of Deenethorpe. Excavations undertaken during 2001 in the village of Weldon 1.5km to the south of the site recorded a late Saxon smelting furnace (Rayner, 2003).

Historically Priors Hall was divided between the manors of Deene, Weldon, Kirby and Corby, all of which are recorded in the Domesday Survey of 1086. The settlements developed very differently during the medieval period. Weldon developed as a small market centre with an agricultural character with archaeological evidence indicating both settlement and industry. Corby rapidly emerged as a market centre, growing considerably under the patronage of Elizabeth I. By the 18th and 17th century the town had a flourishing handloom weaving industry, turning to brick-making, ironstone mining and later steel tube making in the late 19th and 20th centuries. The development of Deene and Kirby differed considerably, with both becoming dominated by manors. Kirby, never a large village was abandoned soon after the building of Kirby Hall in the 1570s, the manor becoming purely a country residence. The deserted medieval village of Kirby can be seen clearly in aerial photos of the area (SM17158). Deene Park village continued in existence but was heavily influenced by changes to the estate management, with the most significant change in 1612 entailing the enclosure of the open fields of the manor.

The most recent activity at the site (excluding agriculture) is during the 20th century when the site was subject to large-scale ironstone extraction. It was these industrial scale works which heralded the need for the re-excavation of Weldon Roman Villa, although subsequent scheduling of the villa protected the site from the onset of quarrying. The ironstone quarrying extends right up to the eastern edge of the excavation area and has considerably transformed the physical nature of the landscape in this area.

2. The Investigations

2.1 Geophysical Survey

Geophysical survey of the site (comprising 183 hectares) was undertaken in 2004, Figure 3. The entire site was subject to preliminary magnetic scanning, and based upon the results of this, 20% of the area was selected for detailed magnetometry survey. This identified several discrete anomalies of possible archaeological origin, most notably in Area A (the northern part of the development area). These remains included a ring ditch, a single rectangular enclosure, two trackways (one of which is believed to be the continuation of Gartree Road), a series of enclosures, pits and ferrous anomalies along with a background of ridge and furrow. The majority of the more significant geophysical anomalies are located immediately to north of the culverted Willow Brook, within what would be considered floodplain, with the rectangular enclosure, the north-south trackway and the large area of possible industrial activity located near the eastern boundary of the site. The detailed survey of Area B (the southern part of the site) where the excavations were undertaken was however less successful. Anomalies consistent with the remains of medieval ridge and furrow agriculture was detected across the area, along with other agricultural anomalies. The most prominent anomalies in the southeastern corner of the site were thought to represent quarrying and a spread of material from modern agricultural activity.

2.2 Specific Excavation Methodologies

Excavation of the site took place in two stages, the first during June to August 2006 when the footprint of the quarry was topsoil stripped. Overburden including topsoil and colluvium was removed by a mechanical excavator under constant archaeological supervision. A differential GPS was used to produce a plan of the site and the archaeological features revealed during the topsoil stripping. The results of the earlier geophysical survey appears as Figure 4.

A sample of archaeological features was excavated in accordance with a specification written by Wardell Armstrong Environmental Planning Consultants and approved by the then Historic Planning Officer for Northamptonshire County Council. Specific areas were targeted in greater detail on the recommendation of the Historic Planning Officer for Northamptonshire. Excavation was undertaken of the metal production areas. Sections and plans were drawn at an appropriate scale and a photographic record compiled throughout the project. All aspects of this investigation were undertaken according to APS standard practice.

The second phase of archaeological excavation was undertaken during December 2006 and January 2007 with the stripping of the proposed access road along the southern edge of the development.

2.3 Specific Methodologies

Hammerscale surveys undertaken of furnace areas prior to excavation did not identify any concentrations of this material. Samples were collected from five of the eight

furnaces for Archaeomagnetic dating by a team from Bradford University. The results of this are discussed in detail later in the volume.

During the excavations all the industrial residues including slag and fired clay from the furnaces and associated features was collected. The material was then recorded on site by the relevant metallurgy specialist, based upon context, provenance and the material selected samples for scientific analysis.

2.4 Post Excavation

Following the excavation works all records were checked and a stratigraphic matrix of all identified deposits was produced. All of the material artefacts were analysed by relevant specialists who produced full reports, the results of which are summarised in this volume with the full reporting and appendices available in disc format. Environmental samples were sieved and sorted by West Yorkshire Archaeology Service (WYAS). Particular attention was paid to the collection of charcoal from the furnaces which might be suitable for radiocarbon dating although no suitable samples were present.

Industrial samples, including fired clay and slag sorted and sub-sampled on site by the metallurgist, were further analysed by the relevant specialists from Bradford University's Ancient Archaeometallurgy Research Centre. Full reporting on the scientific results including tables is included in disc format.

2.5 Layout of the Report

Based upon the results of the excavation and the subsequent post-excavation analysis the report has been laid out as follows. In the first instance the site is described through a chronological narrative, where the archaeological features and deposits are grouped by period, with each period representing fundamental changes in the site's development and/or dating. As far as possible period divisions have been derived from the available stratigraphic evidence and site structure combined with artefactual dating.

The excavation area, which encompasses the southernmost part of the development site is divided into four areas as shown in Figure 4. The areas are summarised below and are referred to in the following text;

Area 1: a triangular area encompassing 13590m² located at the eastern limit of excavation against the western boundary of earlier ironstone quarrying.
Area 2: the main excavation area encompassing 96590m² located to the west of Area 1 and to the north of the access road and villa site.
Area 3: a small triangular area encompassing 1425m² located adjacent to the southern limit of excavation to the south of Area 1 and to the east of the villa site.
Area 4/The access road: a rectangular strip encompassing 10860m² including and located along the southern access road to the south of Areas 1 and 2 and immediately to the north of the villa site.

Chronology of the Site
Seven periods have broadly been ascribed based upon dateable artefacts and site chronology, Figure 5. These are listed below;

Period 1 Natural Deposits
Period 2 Prehistoric, Pre-Industrial Landscape
Period 3 Late Iron Age
Period 4 Late Iron Age to Early Romano-British
Period 4i 1st century AD/Conquest
Period 5 Early Romano-British
Period 6 Late Romano-British
Period 7 Medieval
Period 8 Post-medieval

Attempts have been made to separate the periods 3-5, although it remains difficult to separate these out precisely. Archaeological deposits have been grouped and are referred to either by Pit Group, Furnace or a Ditch/Feature number in the following chronological narrative. Results of the specialist reports have been fully incorporated into the narrative, with relevant tables included as appendices to the back of this report.

3. Chronological Narrative

3.1 Geology and Topography

The development site at Priors Hall lies immediately to the north of the village of Weldon on the northeast outskirts of Corby, within the administrative district of Corby, Northamtonshire. This area falls within the Rockingham Forest region, a vast swathe of former woodland extending across northern Northamptonshire and beyond, bounded by the River Welland to the north and the River Nene to the south, both of these draining eastwards through the Fenland and into the North Sea. The landscape between these two rivers takes the form of a plateau in the most part capped by boulder clay, although there are two distinct corridors of variation where smaller river valleys cut through the topography. Priors Hall is positioned at the western end of one of these valleys, between two small tributaries which pool at Deene Park before continuing eastwards as the Willow Brook. The excavation area is positioned on the gentle south facing slope of the valley, with the northern part of the development levelling out to a flattish plateau at 106m OD. The eastern part of the development area has been previously quarrried to where a cutting demarcates the eastern edge of the excavation area.

Local geology of the site is mixed with the upper reaches of the excavation area characterised by boulder clay, and the lower part comprising a mix of fine sandy gravels, limestone and Estuarine clays. A thin band of nodular ironstone often occurs between the estuarine clays and the limestone, part of an outcrop of ore following the Jurassic and Liassic ridge which runs from Oxfordshire to Lincolnshire, the quality becoming poorer

northward, Figure 4. Ore would have been readily available across the lower part of the site with several large quarrying pits recorded in this area witness to past extraction. Land use across the site is reflected by localised geological differences, with archaeological activity confined to the lighter soils on the lower slope, with the heavier boulder clays upslope apparently avoided.

The principal source of iron ore consists of surface Northampton Sand Ironstone, widespread throughout central Northamptonshire and northwards into Rutland outcropping along the Welland Valley escarpment at Gretton, Wakerly, Harrington, Collyweston and along the valley of the Willow Brook at Bulwick, Weldon, Deenethorpe and Corby.

Nodular ore is present along the valley of Ise Brook to the north, and like the Northampton sand occurs along the sides of most of the valleys as far as the Willow Brook.

3.2 Period 2: Prehistoric, Pre-Industrial

Background activity pre-dating the iron-working phase is represented by a sparse distribution of surface finds comprising struck and worked flint including several scrapers. Further to this several features containing contemporary or residual prehistoric pottery and flint were recorded. Besides the artefactual evidence there is little to suggest occupation on anything other than a transient basis. Prehistoric features dating from the Mesolithic/Neolithic to the late Bronze Age have been ascribed to Period 2.

3.2.1 Mesolithic/Neolithic

Evidence of Mesolithic/Neolithic activity at the site is extremely sparse with just two features dated to this period.

A tree throw [556] recorded close to the eastern limit of excavation in Area 2 (Figure 5)containing Mesolithic/Neolithic flint including a simple scraper. Truncating the centre of [556] a smaller concave pit [554] contained a small abraded sherd of undiagnostic prehistoric pottery along with 13 pieces of worked flint, including several blades dating to the Mesolithic or Early Neolithic. Recovery of debitage and two refitting pieces suggest flint working in the immediate vicinity, if not within the original tree hollow, the fragments being residually deposited within the later cut.

South of tree throw [556], within a group of pits recorded at the southeastern corner of Area 2, a sub-circular pit [284] measuring 1.90m x 1.64m wide x 0.33m deep contained naturally deposited silts but also a leaf-shaped arrowhead diagnostic of Early Neolithic industries, Figure 7 (Bishop).

Residual material comprising worked flint and debitage of this period was contained within several features. Unstratified surface finds include a retouched blade-like flake with a lateral margin, steeply blunted with a series of invasive flakes removed suggestive of an abandoned attempt at arrowhead manufacture, Figure 8 (Bishop). A similar residual fragment was also retrieved from a beam slot in Area 4.

Plotting of the location of the early surface and residual lithic finds indicates a definite eastern bias to the distribution, suggesting perhaps an earlier presence in this part of the site not marked by presence or survival of archaeological features.

3.2.2 Early Bronze Age

With the exception of [806], an isolated sub-oval pit (3m long x 1.30m wide x 0.60m deep) containing sherds of a fine walled flat based Beaker vessel with horizontal incised decoration (Figure 9, Allen) and flint debitage located in the western part of Area 2, all early features were confined to the easternmost part of Area 2 and Area 1.

A tentative background of early Bronze Age activity was observed towards the easternmost edge of Area 1. Two postholes [089] and [097] both of which contained early Bronze Age pottery were located between the considerably truncated remains of two ring gullies, the dating of which is inconclusive. The southernmost postholes [089] contained a sherd of fine comb lattice decorated pot, (Figure 10), along with a sherd showing finger nail decoration (Figure 11), both typical of beaker pottery recorded on many vessels in the region (Allen, appendices). Coarser wares, also with fingernail decoration, were retrieved from [097] (Figure 12). Similar pottery occurs elsewhere on beaker sites and has been attributed to domestic wares, suggestive of an occupation site (Allen, appendices).

Further tentative evidence of earlier activity in the form of two pits was identified in the southeastern corner of Area 1. Pit [099], contained residual early Bronze Age ceramics among late Iron Age material and pit [119] some early Bronze Age pottery. Both features were located within a larger clustering of undated pits and tree throws, which are sited within a probable early Romano-British enclosure referenced later.

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A small assemblage of later Neolithic/early Bronze Age worked flints occured as surface finds in Area 1 and the easternmost limits of Area 2. The assemblage included six small circular or oval scrapers with semi-invasive retouch around most of their perimeters. These were notably homogenous in their morphology and methods of manufacture and most closely matched the ‘thumbnail’ scraper types of later Neolithic/early Bronze Age industries and are particularly associated with Beaker contexts, where they often form high proportions of the lithic implements present (Wainwright 1972).

3.2.3 Late Bronze Age

The southerneastern corner of Area 2 is characterised by a cluster of pits and postholes among which no obvious arrangement or alignments were identified. Five of the thirty five pits located in this corner were dateable; one to the Mesolithic/Neolithic-described previously, two to the late Bronze Age [952] and [419] and two to the early Romano-British period. Lack of stratigraphic relationships and dateable artefacts precludes the dating of the other pits. As well as remaining largely undated, the function of the pits is also largely unknown, although it is of note that the features in this part of the site all appear to have silted up naturally and do not contain quantities of iron slag, suggesting that they were not open during the industrial phase of the area. It is possible that the

postholes exposed towards the southern edge of the area may be part of a former boundary, with shallower examples having been entirely truncated.

The largest of the pits [952] (6m x 4.30m x 0.50m deep) located towards the southeastern corner of Area 2, contained small undiagnostic sherds of late Bronze Age pottery (Allen) along with a small assemblage of Mesolithic/early Neolithic flint knapping waste including a number of blades (Bishop). The flint assemblage was not dissimilar to that contained within tree throws [554] and [485] also located in this area. It is possible that irregular based cut [952] may represent some form of quarrying or even an abandoned attempt at the excavation of a well, with similar features identified elsewhere in the vicinity. The presence of the worked flint would suggest the disturbance of earlier deposits in the vicinity.

Just 12m northwest of [952] was [419] a substantial tree throw from which flint-tempered late Bronze Age pottery and worked flints were recovered. Seventeen worked flints in total were recovered from the pit, mostly comprised knapping waste generated from a limited number of cores but also including two competently made but broken blades, suggestive of Mesolithic or early Neolithic technology (Bishop). Like tree throw [556] discussed previously (Chapter 2.1.1), [419] has been re-cut by a small concave profiled pit [485]. The finds assemblage from pit [485] are similar to that recovered from the underlying tree throw and include flint tempered late Bronze Age pottery and Mesolithic/Neolithic worked flint including a long-end scraper, Figure 13, a core and other pieces that may have been struck from the same cores as some of the material from the earlier tree throw. The core had not been fully reduced and was probably abandoned due to the formation of numerous hinge fractures. One of its edges had subsequently been trimmed and it may have been reused as a scraper. Cross joins were recorded between the late Bronze Age pottery recovered from the earlier feature [419] and the truncating pit [485], suggesting disturbance of the earlier feature.

Northwest of the cluster of pits and postholes in the southeastern corner of Area 2 was well [977], a 2m deep feature measuring 4.25m x 4.50m in plan. From the top this feature shelves from a shallow profile into an almost vertical sided cut. Towards the base contained within what has been interpreted as a closing deposit (context 993) was a sherd of a thin walled small, undecorated vessel with a fine rounded rim which is part of a small cup characteristic of the late Bronze Age Post Deveral Rimbury Plainwares tradition. (LBA PDR). This type of pottery cccurs throughout eastern England (Allen; Knight 2002; Brossler *et al* 2004). Conjoining and forming part of the well at its northeastern edge was the shallow pit [1038] also containing a small sherd of undiagnostic late Bronze Age pottery.

A small pit located close to the southern limit of Area 1 [119] contained a small single sherd of undiagonostic late Bronze Age pottery (Allen) along with a heavily burnt small circular flint scraper with semi-invasive retouch (Figure 14). The scraper most closely matches the 'thumbnail' scraper types of later Neolithic/early Bronze Age and may have been associated with personal grooming. Although the burning of the scraper is most plausibly incidental, selected artefacts such as scrapers are known to have been

deliberately burnt and deposited as part of the ceremonial or funerary practices (Bishop). The features appears to be isolated from any other late Bronze Age activity, with features of similar date located over 100m to the west, although several undated pits lay within the immediate vicinity and may be contemporary.

It is of note that residual sherds of both early and late Bronze age pottery were recovered during the excavation of several Romano-British features in the eastern part of Area 2, further suggesting that some earlier activity was apparent in the vicinity of the site.

3.3 Period 3: The Late Iron Age

The majority of archaeological evidence at Priors Hall dates to between the late Iron Age and 2nd century AD, during which a distinct change in the land use occurred, characterised by the development of iron production. There is, however, a sparse distribution of non-industrial deposits in the westernmost part of the site. By the onset of the Romano-British period the industrial landscape had reverted to one with a more agricultural base, probably associated with the construction of Weldon Villa to the south.

Two distinct uses of the area can be defined; the industrial iron smelting site located in the eastern half of Area 2 and the non-industrial activities located away from the furnaces to the east and west, (Figure 15).

Although both areas date to the late Iron Age it is not clear whether they are contemporary. However, it seems reasonable to suggest that the non-industrial area may have housed workers occupied at the adjacent industrial site. With the exception of the substantial quantities of slag material culture from this phase is sparse with pottery in small quanties the only other type of artefact represented. The late Iron Age pottery is generally fragmentary.

The following text relating to the late Iron Age Phase has been divided into industrial and non-industrial features.

3.3.1 Late Iron Age Industrial

Nine individual smelting furnaces, grouped into three types, were identified during the excavations at Priors Hall. The simplest in form is the bowl type furnace represented by Furnace No. 1. More common is the sunken shaft type (Nos 2, 3a, 3b, 4, 6, 7 and 8). A single D-shaped furnace (No. 5) is reminiscent of those excavated at Laxton (No. 5).

The furnaces are described below by type.

Although the dating of the furnaces remains tentative (particularly in view of the wide ranges of the archaeomagnetic dates) and is discussed in detail later, they are all described as part of the late Iron Age Phase.

3.3.1.1 Bowl Furnace

Furnace 1

Positioned on the crest of a shallow south facing slope in Area 1 at 94.86m OD the furnace is topographically distinct from the others excavated at Priors Hall, which take advantage of the protection offered by the lee of the gentle south-facing slope of the Willow Brook Valley at 87.52m OD. Being of 'bowl' type, Furnace 1 is also morphologically different to those found on the lower slope which are generally of 'shaft' type construction.

Cut into the upland boulder clay the furnace is positioned towards the centre of a small complex of related structures, including a cigar-shaped pit [086] to the south filled with slag and fired clay and a system of narrow, shallow gullies. One, gully (057), surrounds the north side of the furnace and terminates to the east in a slag filled pit [059], which possibly represents some kind of cooling mechanism for the waste slag/iron ore produced during iron smelting (Figure 16, Plan of Furnace 1).

Furnace 1 and the associated features are considerably truncated, evident from the shallow and sometimes barely visible remains of the surrounding gullies. The shallow, bowl-shaped Furnace 1 [054], which measures 1.20m west-east by 0.80m north-south by 0.30m deep, shows a clear sequence of construction and subsequent use (Plate 1). Truncating the natural boulder clay the shallow bowl-shaped cut is lined by an insulating layer of clean clay up to 0.10m thick extending across the western, northern, southern sides and base of the furnace (1075). To the east the cut is devoid of the clay insulation. The lining appears unaffected by heat.

The actual furnace structure (1074) is built on top of this lining, and hardened by firing to a purple colour has cracked into segments giving the appearance of small individual clay building blocks. Repairs are indicated by the presence of clay patches either sealing gaps or strengthening the structure, with the almost complete relining of the furnace represented by fired clay layer (174). Sandwiched between the hardened clay structures/lining (1074) and (174) was a fine layer of charcoal, a remnant of a firing prior to the re-lining of the furnace.

It is likely that the eastern side of the pit performed the function of a tapping pit as there is no evidence in this area of structural elements or a clay lining. Further debris from the subsequent firings of the furnace was apparent within the backfill of the furnace, including a large fragment of waste slag (1054) along with charcoal flecked sandy clay deposits. Filling the remainder of the pit was a mix of furnace waste comprising slag and fired clay (056) and structural debris from the decommissioning of Furnace 1

Flanking Furnace 1 to the east and west were the remnants of two narrow shallow gullies [106] and [157], both truncated by what appears to be remains of a gully demarcating the northern boundary of this complex. The function of these gullies is unclear. Neither is it certain that they are contemporary with the use of the furnace. It is possible that they represent the remains of some kind of wind break protecting and aiding the control of draft to the furnace. However, in this case the presence of the gully to the east would have presumably hindered access to the most likely location for the extraction of iron and cleaning of the furnace. 'Boundary' gully [057] terminates with a circular pit [059] at its

south-eastern end, with both features filled with furnace debris, suggesting that they are contemporary. The base of pit [057] is lined with a layer of clean clay, with the remainder backfilled with decommissioned furnace debris and large fragments of slag as seen in the furnace structure. It is suggested that [057] may have operated as some kind of cooling pit for the iron extracted from the adjacent furnace.

Demarcating the southern extent of the Furnace complex was the cigar shaped pit [086]. The purpose of this pit, backfilled with large fragments of slag and decommissioned furnace debris, is unknown.

3.3.1.2 The Shaft Furnaces

Four furnaces (Furnaces, 2, 3a, 3b and 4) are all sited on the 87.52m OD contour of the south facing slope and all located within 50m of each other. All are of shaft type, varying in degrees of preservation from excellent to moderate.

Furnace 2

The most easterly of these was No. 2, the only furnace to be associated with a structure, Plate 2 (Figure 17, Plan of Furnace 2). Excavation of Furnace 2 revealed a clear sequence of construction also identified in Furnaces 3a, 3b, 4, 6, 7 and 8.

Initially a pit with a rounded base was excavated into the underlying natural silty clay [1063]. Constructed within this pit was the clay furnace shaft structure (857). Post firing the hardened and lightly reddened furnace structure has the appearance of being composed of small individual clay building blocks as seen in Furnace 1. The clay lining of the furnace thins from 0.15m at the top of the shaft structure to 0.03m towards the base, thus creating a bell shaped bottom to the shaft. The clay lining does not extend further than the structure's sides to form a base. The upper section of the furnace was oval in plan expanding on the western side and widening with depth to produce a D-shaped plan at the base (Plate 3). Filling the gap between the furnace shaft and the initial construction hollow was clean pure clay, presumably providing additional insulation and support to the shaft structure. The clean white clay backfilling the construction pit is not unlike that seen towards the base of the large extraction hollows to the north of the furnaces. The clay backfill immediately in contact with the shaft has been very lightly reddened by indirect heating from the furnace.

The western side of shaft structure is partially open, with just the base and part of the upper section remaining to leave a rough arch shaped opening. The ragged appearance of the arch seems to suggest that the opening was not incorporated into the original structure but broken into later post-firing, to permit the 'tapping-off' of the waste slag and the extraction of the iron bloom. Attached to the interior of the furnace around the arched opening solidified slag was present. It is noticeable that the shaft structure widens on either side of the tapping arch, perhaps providing additional support to the furnace at its weakest point.

Immediately in front of the opening extending from the construction cut [1063] is a second shallower profiled pit [874] which must represent the tapping pit into which the

molten waste slag was released from the shaft furnace. The tapping pit is likely to have been re-cut on several occasions as the result of the cleaning out of the slag. Remnants of an earlier tapping pit [875] were present at the western end of the pit.

Both tapping pit and shaft are backfilled with debris from the decommissioned furnace. Immediately inside of the western face of the shaft was a tumble of fired clay fragments presumably from demolition/collapse of the upper section of the furnace which is likely to have extended at least a further metre or so above ground level to form an almost chimney-like structure. Evidence of furnace firings in the form of solidified slag containing wood fragments was recorded in the base of the shaft. Late Iron Age grog and shell tempered wares were recovered from the backfilling of the tapping pit along with two intrusive small sherds of Romano-British greywares (Slowikowski). The northern side of the furnace was enclosed by an elongated C-shaped steep-sided sill beam trench [Feature 25], the northeastern corner of which is demarcated by a large post pit. The C-shaped trench possibly represents the remains of a three-sided structure, perhaps providing shelter to the centrally positioned furnace. An isolated posthole positioned to the south of the furnace may also have formed part of the structural complex.

The C-shaped trench [Feature 25] was backfilled with roasted iron ore, slag, fired clay and late Iron Age pottery. Pottery recovered from the terminal of Feature 25, comprised three substantial fragments of a single cordoned jar in grog-tempered fabric (Bedford Type Series-FO6B) with corrugations on the neck. This could represent a structured deposit with the remains of the vessel placed ritually within the ditch (Slowikowski).

Furnaces 3a and 3b

The only direct stratigraphic relationship between the furnaces is where. Furnace 3b clearly truncates the tapping pit of Furnace 3a to the east (Plate 4; Figure 18, Plan of Furnace 3a and 3b).

Both are largely constructed in the same manner as Furnace 2, commencing with the excavation of a construction hollow into which a natural clay lining was inserted to provide additional insulation and support and onto which the furnace structure is built. However, Furnaces 3 and 3b are particularly well preserved with the shaft structures still surviving (Plate 5). This excellent preservation, presumably the result of the furnaces being constructed in deep hollows and later sealed by a greater depth of colluvium than seen further eastwards on the site, has elucidated further how the furnaces may have operated. In plan the shaft is sub-circular at its highest surviving level, widening with depth to D-shaped plan giving a bell like appearance to the exterior eastern face. Again, cracking of the furnace wall post firing gives the appearance that small individual fired clay blocks were used in construction of the feature. Only the clay in immediate contact with the shaft cavity has been heat effected, creating the appearance of a light pink halo around the top of the shaft.

Openings are present towards the bases of the eastern walls of both furnaces, presumably for tapping off molten slag and extraction of the pure iron. However, with the greater degree of preservation a larger percentage of the structure survives and it is clear that the

eastern side /'front' of the shaft has been patched on a number of occasions resulting in the thickening of the furnace wall in this area. This results in a bulge at the front of the shaft (Plate 6) giving a belly like appearance to this part of the structure.

As with Furnace 2 the opening in both shafts has been created post-firing with the rough edges of the holes evident. Patching of the front wall would have been required to seal the furnace for the next firing. This ever increasing thickness would no doubt have aided the insulation at the front of the furnace which did not have the advantage of the surrounding clay lining.

Although the tapping pit to Furnace 3a is considerably truncated by the construction of Furnace 3b, it is still clear that both follow a similar form; a deep section immediately in front of the furnace tapers up to a shallow profiled cut.

Again both the shafts and the tapping pits of the furnaces were backfilled with debris from the decommissioned furnaces. Late Iron Age grog and shell tempered wares were recovered, including a cordoned jar from the shaft of Furnace 3A. This pottery has blackened burnt surfaces and breaks, suggesting exposure to heat after firing and breakage (Slowikowski). The base of both furnaces was defined by a thick deposit of slag; and no clay layer was present. The natural clay ground surface has been markedly reddened by the heating.

Furnace 4

Furnace 4 had suffered a greater degree of disturbance with a medieval plough furrow partially truncating the southern side. The furnace follows a similar construction pattern, again with the shaft built into a construction hollow [895], although the degree of preservation is notably poorer with only the lower section of the shaft remaining. (Figure 19, Plan of Furnace 4). The western side of the shaft operates as the front of the furnace, with an opening 'tapping hole' leading to the tapping pit. The remains of the 'tapping' arch were extremely fragile, leading to the collapse of remaining parts of the shaft furnace above the tapping arch upon excavation. Due to poor preservation it is unclear if Furnace 4, like Nos. 2, 3a and 3b, has an internal bell-shaped profile, although the base was again D-shaped in plan. As in the other furnaces the clay of the shaft structure does not continue to form a base, instead this is defined by a deep reddening of underlying natural and a thick layer of hardened slag. A large fragment of slag wedged into the base of the furnace may represent remnants of the last firing.

Variation in the design and construction of Furnace 4 is also represented by the re-use use of an earlier hollow in place of the usual construction pit. This hollow [1015] may represent the remains of an earlier furnace or a former extraction pit with surface deposits of iron ore evident across the area. The pit has been lined throughout with clay with the incorporation of sand lenses. Cut into the eastern half of the [1015] was the construction cut for the shaft with the western half of the cut left open as a tapping pit. The gap between the shaft and the construction cut had been backfilled with a mix of clean clay and the debris from an earlier furnace. There was again some degree of heat affecting the

backfill with the fill in immediate contact with the outer surface of the furnace lightly reddened.

The base of the tapping pit [1015] lies at a lower level than the furnace base but appears to be much smaller than others on the site and extends only extending only 0.60m from the front of the furnace. It is possible that this tapping pit may have also shelved out to a shallower profile as seen in Furnaces 3a and 3b.

Both tapping pit and shaft were backfilled with the remnants from the decommissioned furnace, with large quantities of fired clay present, presumably from the shaft. A single sherd of shell tempered late Iron Age pottery was recovered from the backfill of the furnace shaft (Slowikowski).

Furnace 6

Further excavations undertaken during stripping of the the access road revealed three more furnaces at the southern limit of the site. These fall just outside what appears to be the northern boundary for the villa complex in the lower reaches of the valley side at 85.52m OD. All three furnaces (6, 7 and 8) are of shaft type and are in a good state of preservation, particularly Furnace 6.

Furnace 6, the most westerly of the three, is the most complete and, along with Furnace 7, offers a rare stratigraphic relationship. Two burials (Burial 1 and 2) clearly truncate the tapping pit of Furnace 5 (Figure 20). Constructed within a, a sub-rectangular steep sided cut [2140], the profile and plan of the shaft are similar to those excavated in the northern part of the site, with a bell-shaped sub-structure tapering up into a chimney, and a D-shaped plan at the base. As with the other furnaces the clay walls do not extend to the base but are represented by a platform of separate baked clay, beneath which the natural clay has been reddened by scorching. Sealing the baked clay was a layer comprising hardened dark reddish grey silty clay and slag, likely to represent the residue from furnace firings.

Like the previous furnaces the space between the outer edge of the cut and the shaft has been backfilled with clay with the material in immediate contact with the shaft being lightly reddened by firing of the furnace.

As defined by the position of the tapping hole in the shaft wall, the front of the furnace, is positioned on the west side. A portion of the furnace walls above the tapping-off hole survives and once again thickening of the wall due to repatching and repairs is evident. Within the interior of the shaft it is apparent that the lower section and western face have been more greatly heat effected with vitrification to a dark purple colour apparent and slag adhering to the area immediately around the tapping arch.

Immediately in front of the furnace, following the model seen elsewhere on site, is a sub-rectangular tapping pit [2046]. Again the pit tapers to a shallow profile from a deep cut immediately in front of the furnace starting level with the base of the shaft.

Both shaft and tapping pit have been backfilled with decommissioned furnace debris, comprising fired clay and slag. Several sherds of late Iron Age pottery, similar to that retrieved from Furnaces 2-5 were recovered from the tapping pit and the backfill of the shaft of Furnace 6, suggesting comtemporaneity.

Furnace 7

Furnace 7 follows a similar model with some variation to the profile and nature of the construction cut. Like Furnace 6 to the east, the tapping pit of Furnace 7 has been truncated by a later burial (Burial 6) (Plate 7; Figure 21). Construction hollow [2235] is notably smaller than those previously described giving a much tighter fit to the furnace. Again the space between the outer edge of the construction cut and the shaft has been backfilled with clean clay, lightly reddened where in contact with the shaft structure to create a halo effect. The area beneath the structure is also reddened through heating.

In comparison with the other shaft furnaces, several variations in construction were evident for Furnace 7. The shaft walls and flat base of No. 7 form a single connected unit. Directly above the base was a layer of hardened slag, with charcoal impressions, overlain by a coarse red sand. The internal profile of the shaft towards the base is more vertical than recorded elsewhere where a bell-shaped profile was usual. The walls thicken considerably at the front of the furnace (eastern side), with an almost wing like appearance to the furnace, producing a D-shaped plan as seen elsewhere towards the base of the shaft.

The front/eastern side of the furnace has been thickened by the resealing of the furnace with clay subsequent to extraction of slag and iron. A jagged, arched 'tapping' hole is present in the eastern wall towards the base, opening into the tapping pit. The tapping pit [2229] again follows a similar profile to that seen elsewhere with a deeper profile immediately in front of the furnace tapering away from the furnace to a shallower profile.

Backfilling the sub-rectangular tapping pit of Furnace 7 was a deposit of fired clay debris and sand against the front of the shaft at its base, presumably debris from the collapse/decommissioning of the structure. The remainder of the tapping pit and the shaft were backfilled with a mix of silty clay, slag, and debris from the furnace superstructure.

Although no evidence of bellow holes were present in any of the furnace superstructure remains (these may have been positioned higher up in the structure), a clay tuyere was retrieved from the backfill of the shaft.

Furnace 8

The easternmost of the three southern shaft furnaces was No. 8, which broadly followed the same model of construction as those recorded elsewhere on site. As with Furnace 7 to the west, Furnace 8 has been constructed within a tighter construction hollow, with the gap between the shaft's superstructure [2260] and the construction cut edge [2400] backfilled with clay (Figure 22, Plan of Furnace 8). A thin layer of trampled clay in the base of the cut is likely to have been deposited during the construction of the furnace. As

with the other furnaces a halo effect has been created around the exterior of the shaft from heating.

The actual morphology is similar to Furnaces 2, 3a, 3b and 6 where the interior profile bulges slightly towards the base and the upright sides of the furnace do not continue underneath to form a base, (Plate 8). The southern side of the furnace leans slightly outwards, with the eastern side concealed by vitrified slag which subsequently caused the collapse of this side during excavation. Again with depth, and as a result of what appears to be the constant addition of clay to the western side/front of the structure to reseal the tapping hole, the furnace has a D-shaped plan. A layer of bluish black vitrified slag (2293), with charcoal impressions formed the base of the furnace, beneath which the trampled basal fill of the construction cut had been scorched by the heat.

The front of the furnace opened into a sub-rectangular tapping pit [2266] with a profile similar to others on site, deep immediately in front of the furnace tapering away to a shallower profile.

The base of the shaft is filled by a layer of slag with a burgundy hue (2292), perhaps a remnant of the furnace's final firing. A large rectangular stone, along with a hearth bottom, were also present within the backfill of the furnace. It is unclear as to whether the rectangular stone was associated with the furnace's use. Further stone cobbles were found within the backfill of the shaft, along with debris from the decommissioned furnace structure.

Further evidence of trample during the construction or use of the furnace was identified in the tapping pit, with a thin layer of trample recorded in the base of the cut. Fragments of fired clay from the furnace structure and slag were dense within the lower fills of the tapping pit.

3.3.1.3 Non Shaft type

Furnace 5

Furnace 5 is located northwards of Furnaces 2, 3a, 3b and 4 at 92.10m OD, within the line of what are believed to be clay and ore extraction pits. The furnace is noticeably different in character to the shaft furnaces (Figure 23, Plan of Furnace 5) and, uniquely, appears to be associated with a slag dump. Furnace 5 sits on the western edge of a large hollow [820], one of a group sited along the 92.10m OD contour. The hollow adjacent to the furnace probably originated through extraction of either the high quality white clay found in the furnace construction cuts, or naturally occurring iron ore, or both. The large hollow in this case has been reused as a refuse pit for the waste slag presumably from the firings of the adjacent furnace.

Although truncated, evidence was present of at least nine clay re-linings of Furnace 5. However, it remains unclear whether these represent successive or intermittent episodes of iron production. Each of the re-linings has been hardened by the furnace firing to create a solid structure (Plates 9 and 10). Very little of the structure survives, although a D-shaped base plan is apparent. The furnace has been constructed within cut [971]

excavated into the side of the large aforementioned hollow [820] at its top edge. Furnace 5 faces eastwards with remnants of what must have been the tapping pit, with large lumps of in-situ slag directly in front of the furnace These fragments of slag began to oxidise almost immediately upon exposure, perhaps suggesting that the slag had been covered over immediately post-firing.

The large hollow/pit [820] appears to have been open at the same time as the furnace and would have provided a sheltered means of access to the front of the furnace and a useful area for the dumping of any waste material post-firing. The large hollow/pit had been re-cut on several occasions, with the slag-rich backfill interlaced with clean clayey fills which appear to have derived from the washing down of material from the upper slope. The re-cutting of the pit, along with the clayey fills, reflects, perhaps, a period of use of the furnace which extended over several years. A single sherd of grog-tempered late Iron age cordoned urn with a corrugated neck was identified from the backfill of the pit. This had cracked and crazed surfaces suggesting exposure to heat after firing.

3.4 Industrial Associated Features

Extraction Hollows and other pits

Positioned along the 92.10m OD contour, along with Furnace 5, were four large extraction hollows. These were infilled with colluvium and are thought to have been excavated for the extraction of the good quality white clay used in the construction of nearby furnaces, and possibly also for the extraction of iron ore. One of these extraction hollows has been reused for the dumping of waste material from the nearby furnaces. Furnace 5 also makes use of one of the hollows as a refuse pit/extension of the tapping pit and working area.

Located in the area between the large extraction hollows discussed above and the furnaces on the shallow south facing slope were a number of pits and tree throws (Pit Groups 59 and 60). With the exception of [688], which contained a very small sherd of probably intrusive early Romano-British pottery, these were undated by artefactual remains. The often irregular shaped and profiled features are thought to be a mix of tree throws and smaller clay extraction pits. It is of note that little or no iron smelting residues were contained within the features with almost all having silted up through natural processes. The exception to this was the narrow elongated cigar-shaped cut [409] which was entirely filled with oak charcoal, perhaps suggesting some small scale form of charcoal production taking place.

To the immediate west of Furnace 2 were further features likely to have been associated with the industrial period of the site. These were clusters of pits and postholes, referred to as Pit Groups 58, 60 and 62. The westernmost of the groups, Pit Group 60 comprised several small pits and possible postholes, although in no obvious arrangement, and a large irregular cut, Feature 20, which has been interpreted as an extraction cut for iron ore. The upper fills of Feature 20 almost entirely comprised slag and fired clay from demolished furnace structures. The feature contained grog-tempered late Iron Age wares and an extremely small intrusive fragment of early Romano-British pottery.

Aligned parallel to the southeastern side of the Pit Feature 20 was a northeast-southwest line of postholes, Pit Group 58. Although only one of the postholes, [502], contained late Iron Age pottery, the group appears to be contemporary with Pit Feature 20 and may perhaps have formed some type of screen from the furnaces to the east, or a fence line. Farther east was Group 62, which again comprised two postholes, a small pit from which late Iron Age Pottery was recovered and a larger extraction hollow.

Located in the eastern half of Area 2, to the south of the furnaces, were pits [281] and [364], grouped as Pit Group 56. Although the pits were positioned in the eastern opening of an early Romano-British trapezoidal enclosure they appear to be earlier, with quantities of late Iron pottery retrieved from the backfill of both features. The base of the larger of the pits [364] is scorched and burnt material was retrieved from its backfill. Re-oxidised breaks occurred on at least three vessels, two of which are grog-tempered (BTS-F60B) cordoned jars and the other a possible jar in shelly fabric (BTS-F07). In addition, one small foot from the base of a vessel in grog and sand fabric (BTS-F09, Figure 24) and seven body sherds all from different vessels, in grog and shell fabric (BTS-F05), had re-oxidised breaks. These re-oxdised sherds make up 46.9% of the total pottery recovered from the pit. In addition to the re-oxidised pottery the pit contained a substantial quantity of oak charcoal and lumps of fired clay. Roasted ore was also observed on the immediate ground surface surrounding the pit. Given the location of the pit, just south of several of the furnaces (Furnaces 2, 3a, 3b and 5) it would not be unreasonable to suggest that the pit may have functioned in conjunction with the furnaces, perhaps even as an ore roasting pit prior to addition of the ore to the nearby furnaces.

3.5 Dating the Furnaces

A programme of archaeomagnetic dating was undertaken in order to help establish a firmer set of dates for the use of the furnaces. The results from the archaeomagnetic dating and the dating by pottery have been combined in order to provide a best possible date for the use of the furnaces.

During the second excavation phase it was not possible to undertake archeomagnetic dating of the furnaces, and these furnaces have been dated based upon their associated pottery assemblage and relationship with the remains of a Romano-British cemetery.

The results and methodology employed by the archaeomagnetic dating are outlined below.

Unfortunately it was not possible to utilise a typology of the furnaces as a further aid towards dating, with development of smelting furnaces appearing to remain largely unchanged from the late Iron Age to the early medieval period.

3.5.1 Archaeomagnetism

By David Greenwood and Cathy Batt

During the main excavation phase (COPH06) samples were collected from all of the identified furnaces (Nos. 1, 2, 3a, 3b, 4 and 5) by specialists from the Department of

Archaeological Sciences at the University of Bradford. A total of 157 samples were taken from cleaned horizontal surfaces of the furnace structures. These were taken at different levels within the furnace (top, middle and base) to provide a more comprehensive sample. The sample types were predominately taken using the disc method, in which a 25mm flanged plastic reference disc is attached to a cleaned stable area of the feature (in this case the fired clay sub-structure) using epoxy resin (Plate 11). Samples were orientated using a magnetic compass, as there appeared to be no local disturbances to the geomagnetic field caused by the structures or other factors. The samples were then removed by trowel or, in the most part due to the hardness of the material, by using a hammer and chisel.

The number of samples actually measured was reduced to 123 due to a number of samples becoming detached from the discs during the sample trimming process. The direction of remnant magnetisation of the samples was measured using a Molspin fluxgate spinner magnetometer. The stability of the magnetisation was investigated by the stepwise demagnetisation of four pilot samples from each furnace structure, in fields of 2.5, 5, 7.5, 10, 12.5, 15, 20, 30, 40, 50, 60, 80 and 100Mt (peak applied field) with the remanence being measured after each step. From a study of the pilot sample behaviour, the appropriate alternating field was chosen to provide the optimum removal of the less stable components from each of the furnace structures, leaving behind the magnetisation of archaeological interest. After partial demagnetisation at these optimum fields the sample remanences were remeasured.

The final result, for each of the dated furnace structures, was determined after demagnetisation of the samples at the appropriate optimum applied field, and statistical testing to eliminate outliers.

The mean declinations and inclinations for each of the furnace structures after partial demagnetisation were corrected to Meriden, the reference location for the British calibration curve. The corrected mean site directions were then dated by comparison with both the traditional British calibration curve (Clark *et al.* 1988) and the newly developed RenDate calibration programme (Zananiri *et al.* 2007).

The results of the archaeomagnetic dating are summarised as Table 1

Table 1-Summary of possible date ranges for the iron-smelting furnaces

Furnace No	Directions obtained from Final Statistics			Date range at 95% confidence level	
	Dec	**Inc**	**α_{95}**	**Clark**	**RenDate**
Furnace 1 (Code:CPHF1B)	-4°	57.4°	4.2°	AD200-250 or AD1300-1410	AD241-301 or AD1227-1503
Furnace 2 (Code:CPHF2)	-1.8°	67.3°	2.3°	70-60BC or AD40-140	536BC-AD118 or AD416-659 or AD1588-1703
Furnace 3a	-4.8°	65.4°	1.9°	AD110-160	395BC-AD230

(Code:CPHF3A)					or AD339-600
Furnace 3b	-11.0	65.8	3.5	75-25BC AD1900 to present	471BC-234AD 338-632AD 1853 to present
Furnace 4 (Code:CPHF4A)	2.7°	64.2°	3.9°	AD95-205 or AD270-480 or AD1440-1510	479BC-225BC or 109BC-AD663 or AD1116-1231 or AD1421-1654
Furnace 4 (Code:CPHF4B)	11.2°	66.6°	5.1°	435BC-380BC or AD50-110 or AD290-570 or AD830-900 or AD1070-1190 or AD1445-1580	1000BC-275BC or AD3-124 or AD388-1189 or AD1495-1709
CPHF5A (Code:CPHF5A)	-4.8°	71.2°	3.3°	215-75BC or 30BC-AD50	559BC-96BC or AD557-710 or AD1644-present

The α_{95} values (Table 1) represent the spread of magnetic directions after statistical tests were applied, with a larger value representing a larger spread, and therefore the cone of confidence, at the 95% confidence level, obtained from a larger α_{95} value occupies more area on the traditional calibration curve which results in a larger date range and encompasses more of the curve. The reasons for the different α_{95} values may be due to a number of anisotropic factors due to inhomogeneous firing temperatures, the shape of the furnace structure, the combination of different magnetic particles in the fabric of the structure, and possible disturbance to the structure. These are factors that require further research. Another consideration to be borne in mind is the speed and direction at which the geomagnetic field moves, with some periods experiencing slower movement resulting in wider date ranges, this seems to be particularly evident for the late Iron Age and Romano-British periods, and also for the 14th- and 15th-centuries, which is further compounded by its overlap with the 3rd-century AD.

Although the more modern medieval and post-medieval dates could be eliminated on archaeological grounds, in that no associated medieval/post-medieval artefacts were forthcoming at the site, the historic evidence (see Foard 2001) does suggest that iron-smelting did occur in the Rockingham Forest region during some of the later date ranges obtained. The finds of late Iron Age potsherds suggests a date range for the site from about 100BC TO 50AD.

3.6 Scientific Analysis of the Slag

By David Greenwood with contributions from Gerry McDonnell and Cathy Batt

During the excavation of the furnaces all industrial residues were retained for quantification and analysis by the Division of Archaeological, Geographical and Environmental Sciences at the University of Bradford. Initial analysis which involved the quantification of the industrial residues and selection of appropriate slags for further analysis was undertaken by Anthony Swiss of Bradford University during the excavations. The subsequent analysis was undertaken at Bradford University by David Greenwood with contributions from Gerry McDonnell and Cathy Batt and is summarised here. Full tables and appendices appear on CD.

3.6.1 Aims

The aims of the archaeometallurgical analyses of the slags from the site were to:

- characterise the mineralogy and composition of the slags associated with each furnace structure
- compare the data obtained from each furnace structure
- compare the data obtained with analyses of slags from other sites within the region

3.6.2 Methodology

A total of 575.08kg of material classified as slag was recovered during the excavation. 379.16kg was regarded as strongly associated with individual furnace structures, occurring either within the furnaces or within 'tapping pits' of the furnaces. These two types of deposit do carry uncertainties, in that slags recovered from within the furnace structures may be unreacted and not fully formed slag, or not representative of the majority of slag removed from the furnace structure. For example, its composition may have resulted in it having a much higher melting point than the slag that was originally removed, hence it remaining in the furnace. The slags recovered from 'tapping pits' could be intrusive.

Lumps of slag associated with each furnace structure were recorded and described. Further slag samples not directly associated with the furnace structures were also sampled. One sample of roasted ore was also selected for analysis. Smaller lumps were removed, mounted in cold setting resin and ground and polished to a one micron finish. Each sample was examined using a Nikon Optiphot Metallurgical microscope and images were recorded at a magnification of x100 using Fire-I software. Comparison of the metallographic analysis facilitated selection of mounted samples for scanning electron microscope (SEM) analysis. Samples were identified with a unique number 'COPH06 Fx-C', where Fx indicates the furnace number and C the context number. The mounted samples selected for SEM analysis were carbon-coated, placed in a holder and dagged with silver paint to ensure electrical conductivity. The instrument used for analysis was the FEI Quanta 400, housed in the University of Bradford's Analytical Centre, which was calibrated with a cobalt standard, and operated at 20kV accelerating voltage with the

filament at saturation. Spectra were collected over 0-20 KeV range at a working distance of 11mm, and the results were processed using Oxford Instrument's Inca software.

3.6.3 Results

- **Sample Morphology:** A total of 30 samples were chosen for morphological examination. The majority of the samples were of globular appearance suggesting high viscosity at the time of their formation, but a few of the samples were of a 'ropey' appearance suggesting that they were less viscous (more free flowing) at the time they were formed. The full results are presented in Table 6, Appendix 5.5.

- **Metallography:** The roasted ore sample and one other slag sample was not metallographically examined, leaving 28 samples for metallographic analysis. The majority of the samples were dominated by the heterogeneous combination of silicate and glassy phases. Results are presented in Table 7, Appendix 5.5.

- **SEM Analysis:** 14 samples, representing two from each of the furnace structures and two 'miscellaneous' samples were compositionally analysed using the SEM. Bulk analyses were carried out on five areas for each sample, and phase analyses were carried out on a number of 'spots' on one area of each sample. Bulk analyses are presented in Table 7, Appendix 5.5 and the phase analyses are presented in Table 8, Appendix 5.5.

3.6.3.1 The Ore Source

Fells (1983: Table C1) presented data on the analyses of ironstone and boulder clay nodules, along with those of two pieces of roasted ore from the site at Wakerley, a probable Romano-British iron smelting site north of Corby Priors Hall (Jackson & Ambrose 1978). These analyses revealed that the roasted ore was from a different source to the bedded iron ores analysed. A comparison of the roasted ore sample from Corby Priors Hall with those from Wakerley is shown in Table 2 below, and shows that there is great similarity between the Corby Priors Hall sample and the Wakerley 01 sample. This suggests that there is no linear progression from the bedded iron ores to roasting and to furnace, and might further suggest that the smelters were exploiting bog ores.

	MgO	Al_2O_3	SiO_2	P_2O_5	K_2O	CaO	TiO_2	MnO	Fe_2O_3	TOTAL
Wakerley 01	0.1	2.7	4.5	0.4	0.1	0.5	0.3	0.6	88.7	97.9
Wakerley 132	n.d.	2.6	15.5	0.4	0.1	0.2	0.2	0.3	77.7	97.4
Corby Priors Hall	0.5	2.7	5.2	0.8	n.d.	0.1	0.1	1.6	87.3	99.0

Table 2– Compositional comparison between roasted ores from Wakerley and Corby Priors Hall (n.d. is not detected)

3.6.3.2 Slag Morphology and Analysis

The majority of the slags displayed morphological characteristics of viscous flow, suggesting that the slags were not free running tapped slags, and that they were flowing at

temperatures just above their liquidus (their final melting temperature). Some samples displayed a ropey flowed texture indicative of them flowing well above their liquidus. Melting experiments conducted on samples of the Corby Priors Hall slag showed that the slag was a very viscous liquid at 1200°C and was fully liquated and poured easily at *circa* 1300°C. These data suggest that the iron-makers were technologically proficient.

The mineral composition of the slags was dominated by the silicate and glassy phases. Eight of the 28 samples were dominated by fine skeletal silicate laths indicative of rapid cooling, and only one of these (F5-973) was a morphologically freer flowing tap slag. This would suggest that the great majority of slags cooled relatively slowly which would agree with the viscous morphological nature of the majority of the slags.

The free iron oxide phase varied in quantity and form. Overall the quantity of free iron oxide present in the samples was very low indicating a very efficient smelting process. Free iron oxide was not present in two slags (F1-054 and F3B-925), and it was low or very low in 19 of the samples, whilst three had medium and four had high percentages of this phase. Image analysis of representative samples of each group is given in Table 8, Appendix 5.5, showing that the free iron oxide content ranges up to about 21%. Thus 19 of the 28 samples analysed showed less than 5% free iron oxide which reinforces the high efficiency of the technology carried out at Corby Priors Hall during the Iron Age/Romano-British periods. Other mineral phases were present, the SEM back-scattered electron (BSE) imaging and energy dispersive x-ray (EDX) analysis confirmed the presence of hercynite ($FeO.Al_2O_3$ – FeO *c.* 50%; Al_2O_3 *c.* 50%,) and leucite ($K_2O.Al_2O_3.4SiO_2$ – K_2O *c.* 22%; Al_2O_3 *c.* 24%), in some samples. Fourteen of the samples contained hercynite and six contained leucite; five of which contained both phases (Table 8, Appendix 5.5). The occurrence of these two phases does not relate to the overall bulk composition as shown in Table 9, Appendix 5.5; hercynite occurs in samples with an Al_2O_3 range of 3.2 – 8.6%, and leucite in samples ranging in K_2O of 0.3 – 1.2%. The formation of these minerals must relate to the cooling regime of the slags. Their formation was discussed by Fells (1983: 95f.) but she did not come to any firm conclusions as to their genesis. It is worth noting that the silicate and glassy phases show a range of compositions, and there are some exotic phases, including the occurrence of Ca- and P-rich phases (F2-917 – 38.8% P_2O_5; 31.4% CaO); (F3B-716 – 42.8% P_2O_5; 38.2% CaO); (Misc-TapSlag Hearth – 47% P_2O_5; 44.2% CaO). The presence of the phosphorus rich phase could indicate the deliberate addition of minerals other than ore, for example, apatite (bone?) the purpose of which may have been to raise the phosphorus level in the metal. This will be highly controversial in suggesting the deliberate addition of other minerals (fluxes?) and the suggestion of the deliberate addition of phosphorus to alloy the metal.

The bulk analyses of fourteen samples show that, with the exception of F2-509, they are consistent as a group (Table 8, Appendix 5.5). Sample F2-509 is characterised by a high silica content (average SiO_2 = 67.9%) suggesting that it is a product of a slag-lining reaction. The overall average of the bulk analyses reflects the silicate dominated microstructure (Fayalite, $2FeO.SiO_2$, has a composition of 30% SiO_2 and 70% FeO). The greatest variation occurs in the alumina (Al_2O_3), silica (SiO_2) and iron oxide (FeO)

percentages. Sample F1-054 has the lowest iron oxide content (53.1%) and no free iron oxide occurs in the microstructure, whilst the sample with the richest iron oxide content, sample F4-985, has the highest occurrence of free iron oxide within the microstructure. The analysis of the phases indicated that phosphorus rich minerals were present in the slag.

Phosphorus was a crucial element in early ironworking as it partitions between the metal and the slag during smelting and has a significant influence on the metallurgy of the resulting iron. For example recent analysis of the Iron Age tyres from Ferryfryston, West Yorkshire (Swiss & McDonnell 2007) show that the phosphorus content of the tyres ranged between 0 and 0.3%, with levels of 0.2 – 0.3% phosphorus sufficient to significantly alter the hardness of the metal. A comparison of the ratios of oxides present in the ore and the slag (Table 3, below) suggest that a phosphorus mineral has been added to the smelt to increase the phosphorus content. The manganese oxide (MnO) will derive predominantly from the ore and will not be reduced and partition to the metal, hence all the MnO present in the ore will be transferred to the slag. Thus there are significant differences in the SiO_2/MnO and Al_2O_3/MnO ratios between the ore and the slag as a result of the addition of SiO_2 and Al_2O_3 to the slag by reactions with fuel ash and furnace lining. However the Al_2O_3/P_2O_5 ratio shows no such change, whilst the ratio of MnO/P_2O_5 confirms an increase in the P_2O_5 content of the slag.

Compound ratio	Ore	Slag
SiO_2/Al_2O_3	1.93	3.98
Al_2O_3/P_2O_5	3.38	4.64
SiO_2/MnO	3.25	51.80
Al_2O_3/MnO	1.69	13.00
MnO/P_2O_5	1.88	0.36

Table 3: Ratios of oxides in the ore and slag.

3.6.3.3 Comparison with Slags From Other Sites

Compositional data relating to slags from other Iron Age and Romano-British iron-smelting sites in Northamptonshire was collated by Paynter (2006: Table 1, noting that all the data with the exception of the Laxton analyses derived from Fells (1983), and the Laxton data was obtained from x-ray fluorescence (XRF) data and not SEM). A table showing these data in relation to the data obtained for Priors Hall is presented in Table 9, Appendix 5.5. It is also noted that fourteen analyses have been undertaken on the Priors Hall material whereas the other sites are only represented by between one and five analyses. The range of Al_2O_3 values from Priors Hall (3.2 – 9.0%) encompasses the range from the other sites (4.2 – 7.1%), as does K_2O (others n.d. – 0.6%; Corby 0.3 – 1.4%). The P_2O_5 percentage range is greater from the comparative sites (0.1 – 2.4%, compared with 0.5 – 1.8% for Priors Hall), as is CaO (others 0.9 – 3.3%, compared with 0.2 – 2.2% for Priors Hall). The range of MnO contents is greater from the other sites (range 0.3 – 1.1%) compared with 0.3 – 0.7% for Corby Priors Hall. Given the number of analyses conducted on the Corby Priors Hall slags and their comparison with other sites, this makes the Priors Hall site the slag type-site for the Northampton region.

3.7 The Late Iron Age non industrial landscape

In this section the features are discussed by type.

The Waterhole

Located at the westernmost limits of the site irregular hollow [800] (Figure 15) measured. 25m x 23m wide x 1.50m and contained a sequence of clayey silts with late Iron Age grog-tempered pottery retrieved from the lower of these fills. Cutting of the large hollow may have been for extraction of clay and ore, although mottlings on the edges of the feature and within the surrounding natural deposits may represent animal trampling and later use as a waterhole. Feeding into the pit from the northwest was a broad shallow ditch [866] and from the southeast a narrow U-shaped ditch [Ditch F-1]. The Ditch F-1, contained a single sherd from a cordoned jar in grog-tempered fabric (Bedford Type Series-FO6B) which had re-oxidised breaks and a single almost complete ovoid jar in a leached shell and organic fabric (Bedford Type Series-F2, (Figure 25). The form of the jar suggests a pre-'Belgic' date, but the presence of grog-tempered sherds dates the fill of the ditch to the late Iron Age. The vessel is blackened internally with a thick residue. The exterior is not heat-affected, suggesting that the contents were burnt rather than the vessel heated on a fire. The Ditch F1, is located some distance from the industrial areas and it may be that the vessel was used in a domestic or even ritual setting. Although in a different fabric type (BTS-F05), only one other possible example of an ovoid vessel was identified at the site, with a rim identified from pit [364]/ (PG-56) (Slowikowski).

The Structures

In addition to the possible shelter associated with Furnace 2 several more probable structures have been assigned to Period 3. These can be divided into two types; small four post structures (Buildings 2, 3 and 4) and ring gullies (F28 and F29) discussed below in this order.

Four Post Structures

Several possible post built structures were excavated towards the western limits of the site, to the south of waterhole [803]. Building 3, located 26.5m south of the water hole, comprises only three postholes although a fourth may have been lost due to truncation. If so, it would have formed a small broadly square area measuring 1.5m x 1.7m. Just 10m to the west of Building 3 were a further two postholes (Building 4) possibly also with associated post holes no longer surviving. Both of these possible structures are undated, although it is believed that they may belong with the late Iron Age features in this part of the site, comprising the waterhole and associated ditches and four small pits (PG-44). The larger of these pits [894] contained several sherds of late Iron Age grog-tempered pottery (Slowikowski).

A further small structure (Building 2) was recorded close to the eastern limit of excavation, in the southern part of Area 1. Only three posts of a possible four-post structure remain. A fourth is likely to have been lost to later truncation. The internal measurements of the complete structure would be 2.95m x 3.10m. Several small sherds of medium-tempered grog ware were recovered from posthole [123] of the structure 10.5m to the northeast. It is possible that the building may be the pre-cursor to Building 1.

The Ring Gullies

Located at the eastern limit of the site were traces of two possible ring gullies, structures 28 and 29 (Figure 15). Both were heavily truncated with only their southern sides still extant. This truncation may be a result of erosion caused by the features both lying on a very gradual south facing incline or may be the result of earlier quarrying at the site. The more northerly of the two, Structure 28, appears to be the larger, with a projected internal diameter of 14.14m whilst the southern gully (29) has an internal diameter of 6.16m.

Dating of these ring gullies remains inconclusive with a single sherd of late Iron Age pottery and some struck flint recovered only from the fills of the Structure 28 gully. Furthermore, postholes associated with both features remain undated. As a result of considerable truncation in this part of the site, many of the excavated postholes were extremely shallow and no obvious form or arrangement to their distribution could be determined. One substantial cut feature associated with Structure 29 was a large post-pit with a diameter of 1.24m at the top and a depth of 0.92m. This feature appears to be positioned to the easternmost edge of the interior space within Structure 29, and appears to indicate the presence of a large post. Evidence survived for the post having lain on its side prior to hoisting to a vertical position.

The Pits

Pit groups were distributed across the site (Figure 5). Slag was retrieved from the fills of many of the pits. Unsurprisingly, those closest to smelting areas generally contained the higher quantities. Six groups of pits have been dated to the late Iron Age period, Pit Groups 44, 53, 56, 58 and 59. Pit Group 44 has previously been referred to with reference to the Structures 3 and 4. Pit Groups 56, 58 and 59 are believed to relate to the industrial use of the site.

Located just to the east of the north-south baulk, towards the central section of Area 2 was a group of four pits, Pit Group 53. Three of the individual pits [396], [423] and [497] contained late Iron Age grog-tempered wares. The larger of the pits [396], contained a vessel in shelly fabric (BTS-F07) which was soot blackened on the exterior with some spalling suggesting direct contact with fire (Slowikowski). A small quantity of slag was also retrieved from the fills. The largest two pits [396] and [497] both demonstrated evidence of reuse and maintenance, with several re-cuts recorded.

Pits dated to this period were also identified to the south, in the Access Road strip, in Pit Group 69. Although not dateable by artefacts, Pit Group 68 is thought to be associated with use of Furnaces 6 and 7 immediately to the south. Further evidence of late Iron Age activity in this area is represented by a shallow hollow truncated by a later Romano-British ditch, containing small sherds of late Iron Age pottery and finds of other residual fragments from this period within the backfill of graves.

Droveway and Associated Features

There is little evidence to suggest the presence of an agrarian late Iron Age economy at the site, with no field systems positively identified for that period. The central area (eastern part of Area 2) of the site is characterised by features associated with industrial processes, with a background of late Iron Age activity represented by a smattering of pits and possible buildings.

Cutting northwest to southeast across the western half of Area 2 Feature 34=33=15 was a broad, shallow ditch, extending over a distance of at least 150m with a break towards its southeastern end. The ditch petered out to the northwest, probably the result of increased truncation in this area. Grog tempered pottery fabrics BTS-F06 and F06C, along with a few sherds in oolithic fabric (BTS-FO7B), were recovered from the feature, along with a fragment of fine beaker in orange oxdised fabric BTS-R05,although at only 2g, its identification cannot be certain. A sherd of medieval Lyveden ware was also retrieved (Slowikowski), suggesting some later disturbance possibly by medieval plough furrows cutting across the area. Aligned immediately parallel, and to the north of the former was a second shallow ditch (Feature 17=32) which conjoined Feature 34=33=15, although no stratigraphic relationship was identified. However, the similarity of feature fills suggest the two are contemporary. Again this ditch peters out in the northwest with its continuation southeastwards ceasing somewhere beneath the noise bund.

Aligned parallel to and north of these two conjoining ditches were three sections of a narrow, apparently segmented shallow gully. The gap between the gully and the ditch narrowed from 6.8m to 3m from north to south (Feature 35=35a=35b). Where visible, the segments appear to be the result of subsequent truncation rather than deliberate breaks. These parallel ditches, which extend over an area of more gravelly geology, may represent the remains of a droveway.

Extending at right angles (northeast–southwest) from the southwestern side of the conjoining ditch were five short lengths of ditch represented by Features 13, 14, 43, 16 and 18. All are shallow and peter out through natural truncation to the south, extending no more than 11m. Only one of the short segments, Feature 43, contains any dateable artefacts with both late Iron Age and early Romano-British pottery retrieved. It is possible that the shallow ditch segments may have extended further southwards with truncated remains of ditch Feature 9 located 19.5m to the south sharing the same alignment as Feature 43. These ditches, extending off the possible droveway, may represent some form of land division, although the spacing between the ditches is variable at between 1.8m and 12.5m.

Dating of the possible droveway is problematic; the majority of the pottery retrieved from the southernmost ditch is late Iron Age, with a fragment of what is thought to be intrusive early Romano-British pottery also recovered from the fill. The two other ditches associated with the droveway are undated by artefactual remains. However, the feature shares the same orientation as the late Iron Age ditches recorded in the westernmost area of the site and may be part of the same ditch system. To the south the droveway also appears to be leading towards the Romano-British villa, suggesting a possible association.

3.8 Periods 4 and 4i: Late Iron Age/ Early Romano-British Transitional

Occupation of the site continues through from the late Iron Age into the early Romano-British period with features dateable to this transitional period dispersed across the area (Figure 5).

A small possible four-post structure (Building 1), with internal dimensions of 1.56m x 3.70m, recorded in the southern part of Area 1, has been dated only by a single fragment of Samian ware retrieved from the backfill of posthole [153]. Samian ware on site is rare, and this may have imbued it with some importance perhaps suggesting the deliberate placing of the sherd rather than discard (Slowikowski). Immediately to the northwest of Building 1 is a second four-post structure (Building 2) dated to the late Iron Age. It is possible that Building 1 is a successor to Building 2.

Elsewhere on the site features dated to this period, such as pit groups and ditches, appear more domestic in nature, with large cordoned and storage jars dominating the identifiable vessels. Most substantial were vessels found in Pit Groups 46, 47 and 55 (Slowikowski).

Towards the western extents of Area 2, was a cluster of pits and postholes (Pit Groups 46, 47, 48 and 49). No obvious alignments or arrangements were observed between the postholes and pits, although as with elsewhere on the site the excavated features were considerably truncated with only the bases remaining. Twenty body sherds from a single thick vessel in coarse grog-tempered fabric BTS-F06C were recovered from [610] in Group 46 and six sherds from a cordoned jar in grog-tempered fabric BTS-F06B from pit [706] in Group 47. Both vessels are decorated, the former with vertical combing on the body and the latter with corrugations on the neck and shoulder (Slowikowski). Demarcating the northern extent of the cluster of pits and postholes was a short southwest-northeast segment of undated ditch (Feature 5).

Located towards the central part of Area 2 was Pit Group 55 comprising an alignment of three small shallow circular pits [361], [304] and [306]. Substantial undecorated vessels were recovered from the fills of [304] and [361] and two shelly fabric BTS-F07 vessels, probably jars, were recovered from pit [361]. The jar fragments were worn with heavily pitted interiors, caused when calcerous inclusions dissolve out either through long term storage of water or acidic contents. The sooting, spalling and pitting could all be the result of domestic activity (Slowikowski).

It is highly likely that there is some crossover between Periods 3, 4, 4i and 5, with the dating remaining inconclusive at times.

3.9 Period 5: Early Romano-British

The largest group of features outside those associated with the late Iron Age Industrial phase are attributed to Period 5 - the early Romano-British period. Features which characterise this period comprise possible field enclosures and groups of pits (Figure 24). These may be associated with Weldon Roman villa, the initial construction of which can

be traced back to at least 50AD. Earlier features comprising possible furnace remains were identified beneath the foundations levels of the villa.

A majority of features dated to this period contained residual late Iron Age wares alongside Romano-British fabrics. New 'Romanised' fabrics such as whitewares (BTS-R03), greywares (BTS-R06) and blackwares (BTS-R07) are found in quantity (Slowikowski). Several new forms, including a platter in sand and grog fabric (BTS-F09), cornice rim and poppyhead beakers, flagons and a possible cheese press were identified within the pottery assemblage from this period. These new forms indicate new uses for the pottery, including tablewares. A fully 'Romanised' lifestyle, however, is not seen in the assemblage; major forms such as mortarium and the amphora are absent and Samian ware continues to be the only import and even then remains in use in only very small quantities (Slowikowski)

Ditches and Field systems

A small complex of ditches (Features 8, 11, 10 and 12) was present in the western part of the site are approximately parallel and aligned roughly east-west, with the southernmost (no.12) taking a more northwest-southeast orientation (Figure 5). The central ditch is broken into two slightly offset segments (no.10 and 11) 7.6m apart.

All contained early Romano-British pottery along with very small amounts of slag and had been filled naturally. The space between the ditches at their easternmost limit is 5.5m progressively becoming narrower westward. In the space between ditches F11 and F12 was undated pit [572] with a scorched base and charcoaly basal fill indicating in-situ burning. The northernmost ditch (No.8) truncates undated southwest-northeast gully (no.9), thought to relate to the ditch segments extending from the earlier droveway to the north.

Positioned between the northern and central ditch (Nos.8 and 10) were two further small undated pits. The pottery from Ditches 8, 10 and 11 is fragmentary and of a mixed date with Roman greywares mixed with grog-tempered pottery. Pottery from the southernmost of the ditches, No 12, was more substantial with a lid-seated jar in shelly fabric BTS-F07 and a cordoned jar in grog and sand fabric BTS-F09. They comprise 27 and 19 sherds respectively but both collections are abraded, and the cordoned jar has been worn at the angle, down to the dark core, through use (Slowikowski). The ditches may form some kind of agricultural feature or even part of a kitchen garden associated with the villa.

Demarcating the western limit of the east-west ditches was Feature 2, a 20m long approximately north-south aligned curving section of ditch Pottery was recovered from along the length of this ditch and from the terminals. Among the more complete vessels were a narrow-necked cordoned jar in grog and shell fabric BTS-F05 and another cordoned jar in orange oxidised fabric BTS-F05A, comprising 64 and 10 sherds respectively. Both were recovered from the ditch terminal perhaps suggesting placement of the vessels, (Plate 12), which were concealed by subsequent natural silting.

From the main body of the ditch, the pottery included large sherds of grog-tempered cordoned jars and 17 sherds from a plain poppyhead beaker. The poppyhead beaker had re-oxidised patches, indicating exposure to heat after it had been broken. A platter in sand and grog fabric BTS-F09 not recorded elsewhere on the site was also identified (Figure 27).

Aligned parallel to the southern end of Feature 2 was the 5.5 metre long segment of Ditch 4, again filled by natural silts from which only fragments of grog-tempered and shelly pottery, most of it abraded and leached, were recovered.

Enclosures

What may have been a trapezoidal ditched enclosure (Ditches 22, 24 and 23) was cut into the flattish valley bottom at the base of the south facing slope in the southeastern part of Area 2. Sections excavated across the these ditches revealed a u-shaped profile.

Ditch 24a, located within the access road strip to the south, may be the same features as Ditch 24 which forms the eastern side of the 'enclosure', but the presence of the unstripped noise bund between the two areas precluded investigation of any relationship. Likewise, Ditch 38, a northwest-southeast ditch identified during the road excavations may be a continuation of Ditch 23 that formed the southern boundary of the enclosure.

Where exposed within Area 2 Ditches 22, 23 and 24 enclose a space of approximately 43m x 40m, with almost all of the western side remaining open. A small group of pottery was present in the southern terminal of Ditch 22. A tiny sherd of grog-tempered pottery in fabric BTS-F06B was recovered from the primary fill, with more of a similar type but in abraded condition from the secondary fill. Pottery from the remainder of the ditch was equally incomplete, with the largest fragment from the shoulder of a storage jar in a grog-tempered fabric BTS-F06B, decorated with combing or twig brushing possibly in an arc, weighing 53g. Pottery from the southern boundary Ditch 23, is also in a fragmentary condition with the exception of a jar in coarse white ware fabric BTS-R31, which has a developed lid-seated rim. The external blacking present on the sherds suggests domestic use. Ditch 24 which formed the eastern boundary of the enclosure contained the most substantial pottery assemblage. A lid-seated bowl (Figure 28) and a cordoned jar in coarse white fabric BTS-R31 were identified from fill (192) of the ditch along with a fragment of a base with four holes drilled pre-firing interpreted as a possible cheese press or strainer (Figure 29) and a ceramic plug (Figure 30). The plug may have been used for a pottery repair during manufacture. Elsewhere in the ditch the secondary fills contained among other fragmentary pottery, two vessels in a grog and sand greyware fabric BTS-R06F: a developed lid-seated jar (Figure 31) and a bowl (Figure 32) (Slowikowski). Very little slag was present within the fills suggesting that the smelting undertaken within the vicinity had ceased prior to the digging of these ditches.

Aligned parallel and to the northwest of Ditch 22, was an 18 metre length of ditch also with a u-shaped profile (Feature 21). Although the ditch contained only earlier material, including a sherd of grog-fabric cordoned jar, the feature may be an earlier phase of the trapezoidal Enclosure 2. Positioned between the parallel ditches was [504], a vertical

sided flat-based circular pit 1.3m in diameter. Late Iron Age pottery was recovered from the fill of the pit.

A group of pits (Pit Group 57) was present in the northeastern corner of the enclosure. Pottery was retrieved from all of these shallow features, with a mixed assemblage of fragmentary sherds recovered from each of the five pits. From pit [276] more substantial vessels were recorded with 58 sherds from a single cordoned jar in grog-tempered fabric BTS-F06B and a single but large sherd from a coarse grog-tempered fabric BTS-F06C storage jar with a band of vertical zig-zags on the shoulder (Figure 33).

A further possible trapezoidal enclosure in the southeastern corner of Area 1 is represented by Ditches 27, 72, 73 and 74. Again, severe truncation of this part of the site has resulted in the ditches surviving in a fragmentary state with only the bases remaining. The enclosure, if that is what it is, measures at least 46m by 36m and is bounded by Ditch 72 to the north, Ditch 27 to the south-western and 73 to the southeast

Aligned 3m parallel to the southeastern Ditch 73 was the more substantial Ditch 74, 1.30m wide by 0.40m deep. Both of the southeastern ditches contained early Romano-British material. It is not clear if the ditches were open at the same time, or whether one replaced the other. Located within the enclosure were eleven pits (Pit Group 66) and several tree throws. The majority of the pits are undated, although the smallest [119] contained an abraded sherd of prehistoric pottery and the most northerly [099] a sherd of late Iron Age-early Romano-British pottery. As such the limited dating has made it difficult to establish any relationship between the enclosure and the pits.

Ditches and Foundation Trenches

Several early Romano-British ditches were identified during the access road strip to the south of Area 2. As discussed above Ditches 38 and 24a may be continuations of Ditches 24 and 23 which define the trapezoidal enclosure to the north in Area 2. Ditch 38 continues southeastwards across the access road until truncated by a wall foundation trench (Feature 40) which may represent the boundary wall of the Romano-British villa to the south. A small assemblage of pottery was recovered from Ditch 38, mainly comprising sherds in 'Belgic' grog-tempered fabrics with either sand or shell, although there is a single sherd in greyware fabric BTS-R06C.

A short segment of ditch, No 39, aligned at right angles to Ditch 38 and the later foundation trench 40, extended to the northeast from the northern side of the former. This ditch appears to have been contemporary with the later foundation trench, with stone rubble filling the base of the square profiled cut. The only diagnostic sherd to come from the backfill of Ditch 39 was from the neck of a possible flagon in pink gritty farbric BTS-R18A, dating to the 2nd century.

The foundation trench (Feature 40), forms a right-angled corner, Plate 13, of what has been interpreted as a boundary wall for Weldon Roman Villa lying to the south. The foundation trench aligns well with the villa, with the northern corner of the building just 50m to the south. Limestone rubble and mortar disturbed by subsequent robbing of the

wall material fills the foundation cut (Plate 14). Ditch 38 may have been a precursor to this boundary wall. Aligned parallel to the boundary wall, on the villa side were the remnants of a possible beam slot [2269]. This may have formed part of a lean-to structure set against the boundary wall.

A further possible beam slot, (Feature 42) was aligned parallel to the boundary wall, at a distance of 5.2m northward on the exterior side. The remains were fragmentary, although the beam slot can be traced extending along the northeastern length of the wall. Again this may represent some form of lean-to structure set against the wall, or perhaps even a roofed walkway around the exterior of the property.

Aligned parallel and 8m to the west of Ditch 24a was Ditch 36. A short segment of gully no 37 adjoined the ditch from the west. The shallow Ditch 36 and gully 37, contained largely undigonstic fragments of pottery, although among the sherds within the primary silting of the feature was the rim of a possible small jar or beaker in a fine grey ware fabric BTS-R06C. Only one sherd was retrieved from the secondary silting of the feature, a small sherd of thin-walled vessel, possibly a beaker which may date to the 2nd century.

Pits

Several groups of pits in addition to those associated with the enclosures have been attributed to Period 5.

Area 1 is characterised by a broad distribution of large pits and quarrying hollows, many of which are undatable, including those discussed in association with the possible enclosure in the southeastern corner of this area. Towards the northern part of Area 1, 21m south of Furnace 1, were 14 pits ranging in size from 1.88m in diameter to 6.38m long x 3m wide (Pit Group 63). Seven of the fourteen pits were excavated, with three containing material dated to the early Romano-British period, along with slag. The largest of the pits [081] contained substantial amounts of industrial waste including a hearth bottom. Pit [071] contained a more substantial amount of pottery including a decorated sherd of cordoned urn with horizontal combing (Figure 34). The original function of the pits is unclear, although furnace waste is common within their fills. A late Iron Age pit identified during earlier evaluation at the site is believed to have functioned as a well, and perhaps a similar role may be ascribed to some of the early Romano-British and undated pits. Large undated pits were also recorded to the south of the former group, and are again thought to represent some form of early quarrying at the site.

Several further groups of pits were observed in Area 2. The most westerly of these groups was Pit Group 70, lying to the northwest of the possible fieldsystem/garden feature described earlier and as such may have some association. In general the pits in this group contained a mixed assemblage of fragmentary sherds dating to the late Iron Age and early Romano-British period. Although the pits have been grouped together, their dimension and form varies considerably, one similarity is that all have been back-filled rather than filled by secondary silting as recorded elsewhere on site, perhaps suggesting the

deliberate dumping of waste materials. The largest of the pits [561], was a flat-based irregular shaped pit measuring 9m long x 3.2m wide, containing exclusively fragments of late Iron Age pottery including eight sherds from a shelly fabric BTS-F07 lid seated jar with horizontal groove decoration, and a base sherd in grog and sand fabric BTS-F09, with a slight footring and horizontal wavy line decoration above the base angle.

A further small group of pits, Pit Group 54, occurred in the central part of Area 2 towards its southern limits. This group comprised three pits in total situated closely together. The larger of the pits [392] and [472], both circular in plan with concave profiles and diameters of 1.8m, were positioned only 0.3m apart, with a smaller pit [415] located between them immediately to the north. Both pits [392] and [472] contained early Romano-British pottery, animal bone and small amounts of iron slag, with Pit [472] cutting earlier pit [407] (Plate 15), even though the small pit [415] contained only late Iron Age pottery. The deliberate backfilling of these pits suggests a possible refuse function.

Further early–Romano British pits were identified across the site, although in no obvious grouping or association with only features.

Undated Pits/Postholes

Several features on the site have remained undated, although it is likely that they fit either in to the late Iron or early Romano-British periods.

Located in the western part of Area 2, to the northwest of the possible droveway was an arc of undated postholes/pits (Pit Group 51). The postholes, which are all extremely truncated with only the very bottoms of them remaining, form what appears to be the western side of a circular arrangement, possibly a structure. It difficult to determine what relationship such a structure may have had to other features in the vicinity, although it would seem unlikely that the building was operative during the use of the droveway, with the latter and its associated features extending into the extrapolated area of the structure.

Quarrying

Two substantial areas of quarrying (Quarry 1 and Quarry 2) were identified at the site, although whether these relate to the iron smelting industry or the construction of Weldon Villa is unknown.

The first area of quarrying extended for some 27m x 14m. in the southern part of Area 1 (Quarry 1). The southern extent of this area was found during the later road excavations, suggesting that the total area of quarrying was somewhere in the region of 40m north-south by 30m east-west. An excavated slot through the northern end of the quarry revealed a 1m deep cut with limestone brash in the base. Just 30m to the north were what appeared to be two further quarry pits, though much smaller in dimension at 7m x 8m wide. A section was excavated through one of these pits to a depth of 1.50m with the base not being reached; although undated a hearth bottom was recovered towards the base of the section.

The second area of quarrying, extending over 82m north-south and 42m east-west, was in the central part of Area 2 (Quarry 2). Machine cut trenches through both the east-west and north-south axes of the quarry showed a depth of over 1.4m with the an irregular base where exposed. The nature of quarrying is unclear with either limestone or iron ore possible.

3.10 Period 6: Late Romano-British (3rd-4th century AD)

Despite the presence of a villa located to the south of the main excavation area and occupied throughout the Roman period there is very limited evidence for any activity at the site beyond the 2nd century.

Industry

In Area 3, 85m to the west of Weldon Villa were remnants of a former working surface and base of a hearth. The area had been considerably disturbed by adjacent quarrying. The ashy, slag rich surface with traces of scorching appears to have been associated again with iron production. A magnetic survey of the surface did not produce any large quantities of hammerscale suggesting that the slag is more likely to be derived from smelting rather than smithing. It is likely that if smelting was carried out here, it was taking place within some form of structure, possibly identifiable by a roughly rectangular arrangement of postholes enclosing the extent of the surface visible. A single sherd of Parchment ware BTS-R11C was recovered from the hearth [1381] located centrally within the industrial surface. Further postholes occurred to the south of the structure but no formal arrangement could be discerned.

The Cemetery

A small cemetery was aligned along the northern boundary wall of the Villa. The cemetery does not fit easily into any single phase at Priors Hall with a wide range of dated pottery retrieved from the backfilling of the graves (late Iron Age to late Romano-British), and a change in the orientation of the grave alignments at some point, Figure 35.

Twelve graves were identified within the access road, although the cemetery is likely to extend further southeast with two graves identified during the 1950s excavation of the villa on the same linear alignment as those exposed during the work at Priors Hall. Ten of the burials are northeast-southwest aligned graves with Burials 8 and 11 orientated northwest-southeast. There is no stratigraphic relationship between the graves to help determine whether the change of burial orientation reflects a different period of inhumation. Three of the burials (Burials 1, 2 and 6) truncate Furnaces 6 and 7, demonstrating that industrial use of this area had ceased before the redevelopment of the area as a cemetery. Although the dating is problematic these three graves contain late Iron Age and early Romano-British pottery, which may derive from earlier activity in the area. Further evidence of disturbance and of the background of earlier industrial activity was evident in the backfilling of the graves with fragments of slag and fired-clay from the furnace superstructure present in the fill of all the graves.

The grave cuts were all sub-rectangular with coffin nails retrieved from Burials 8, 9 and 11. Packed around the edge of the northwest-southeast aligned Burial 8 were large limestone fragments giving the grave a more cist-like appearance. Only two of the graves, Burials 9 and 3, contained a placed grave good. A funnel-necked beaker in Nene Valley colour coat BTS-R12B (Figure 36)_with rouletted decoration on the body was placed at the head end of the grave in Burial 9. The beaker had been shattered by later disturbance with several sherds dispersed throughout the grave. The beaker had been deliberately buried as part of the grave goods, possibly as a container for offerings.

In Burial 3, a large sherd of shelly fabric BTS-R13 everted rim jar (Figure 37) is comparable to jars from the Harrold Kilns (Brown 1994).

The preservation of the skeletons was extremely poor, this may be the result of both poor soil conditions and the continual compression of the area under its use as a quarry haul road. From the poor remains (Appendix 5.7) six of the burials are believed to be adult males, three adult females and two are undetermined. Several of the burials displayed signs of osteoarthritis and many of the burials demonstrated unusual wear of the teeth. Heavy wear was evident in at least five of the skeletons with four of these also noting abnormal sloping wear. Such abnormally high wear of the teeth may be due to malocclusion of the teeth, low enamel density or possible occupation dental wear.

3.11 Period 7: The Medieval Landscape

Following the final use of Weldon Villa there appears to be a hiatus in any type of activity at the site until the 12th century, when a few pits were dug.

Apart from the ridge and furrow farming the only evidence of medieval activity at the site was a 2.2m wide gravel track [473] which extends over a distance of at least 135m north to south through the main excavation area turning south-westwards into the area of the access road excavation. Pottery dating to the 13th century along with residual Roman material was identified within and beneath the stone gravel surface of the track. The track pre-dates the ridge and furrow.

3.12 Period 8: The Post-medieval Landscape

During the later centuries with the advent of new agricultural processes and technology there was a shift in focus at the site in land use from the earlier industrial to agriculture.

Although not visible from the surface there is considerable evidence across the site for medieval and later agriculture taking place, with much of this likely to be responsible for the truncation of earlier features at the site. The onset of strip farming gave rise to ridge and furrow across the landscape which must have assisted in the drainage of the boulder clay.

Several different orientations of ridge and furrow were observed with the excavation area presumably demarcating earlier field boundaries. Although not visible at the time of

excavation it is likely that the linear ridges and furrows were visible during the earlier part of the 20th century when the drainage of the area was assisted by the provision of stone land drains which follow the course of the furrows in Area 1.

4. Discussion

The excavations undertaken at Priors Hall to date have provided an insight into the early evolution of this part of Rockingham Forest landscape from the Mesolithic/Neolithic to the later Romano-British Period. In total an 83ha area has been investigated through methodologies comprising Geophysics, Trial Trenching and Stripping and Mapping and Recording Excavation**.**

Although there is a sparse background of Mesolithic/Neolithic and Bronze Age activity at the site, mostly confined to the eastern part of the excavation area, the most significant remains are the industrial deposits which date to the late Iron Age. Nine well preserved iron smelting furnaces were recorded, enabling elucidation of late Iron Age smelting process and techniques and the application of a programme of archaeomagnetic dating. The scale of the analyses conducted on the Priors Hall slag assemblage, renders this the slag-type site for the Northampton region.

Occupation of the site continues into the Romano-British period, although there is an increasing emphasis on domestic and agricultural activities, perhaps related to the Weldon Roman villa, which lies immediately to the south of the site. Features post dating the early Roman phase are scarce, although there are possible industrial remains in Area 3 at the southeast corner of the site and a small cemetery just beyond what appears to have been the northern boundary of the villa.

Following abandonment of the villa, thought to be sometime during the early 5th century AD, there is very little evidence for human use of the area and it is possible that re-forestation characterised the immediate post-Roman period. Possible evidence for re-forestation occurred to the north of the main excavation site, where there was a sparse distribution of charcoal filled pits. The charcoal from one of the pits has been radiocarbon dated to the 6th Century AD (Hall 2007).

The development of the Priors Hall landscape including its key themes is outlined by period in the following text.

4.1 Prehistoric Pre-Industrial

With contributions from Barry Bishop

Archaeological remains pre-dating the pre-industrial late Iron Age landscape at Priors Hall are relatively scarce, comprising a small number of scattered pits or tree throws and residual and surface finds of pottery and flint. Several undated pits lie adjacent to those of Mesolithic/Neolithic and Bronze Age and may be of a similar date.. In general these features and finds are largely restricted to the easternmost part of the excavation site, comprising Area 1 and the eastern fringes of Area 2, although an isolated Bronze Age pit was recorded towards the western limits of the site. It is possible that further pre-industrial remains may have once been present immediately to the east of the excavation where quarrying during the 1950s has removed a large part of the landscape. This low density of pre-industrial features fits into the general pattern already established in the

Rockingham Forest region, with residual prehistoric material found within the fills of later features and very few sites dateable to this period.

Although relatively small, the flint assemblage is of note The recovery of potentially *in situ* worked flint from tree-throw features at Priors Hall is of interest and suggests that these may have been utilized during the Mesolithic/early Neolithic. Clearings created by fallen trees were likely to prove attractive for early populations in what would otherwise have been a largely forested environment (Brown 1997; Evans *et al*. 1999). Composition of the lithic assemblages indicate that the predominant process was core reduction, with the possibility that many of the more serviceable pieces were removed for use elsewhere.

Tree throw hollows would have provided shelter whilst flint knapping and it is also possible that flintworkers were taking advantage of otherwise hidden raw materials for flintworking. Only a very small proportion of the likely waste from reducing these nodules was present however, suggesting that part of a larger assemblage from a wider area entered the hollow on the demise of the tree. Alternatively, a small proportion of the waste generated was intentionally selected for deposition (Thomas 1999). Activities other than flintworking are suggested by the presence of scrapers within the tree-throws and the recovery of an unstratified leaf-shaped arrowhead blank hints at tool manufactured.

The composition of Mesolithic/Neolithic worked flint assemblage suggests the site was visited by small transient groups, exploiting lithic raw materials that were available in its vicinity and perhaps utilizing the shelter afforded by fallen trees. Similar patterns of landscape and resource use have been recorded elsewhere in Northamptonshire. Along the Nene Valley, excavations have uncovered 35 tree-throw hollows containing Neolithic flintwork and evidence for burning (McPhail and Goldburg 1990). At Burton Latimer, a series of tree-throw hollows may have been associated with Mesolithic or early Neolithic activity although no artefactual material was present (Myers 2006).

A collection of six small, circular or oval, scrapers with semi-invasive retouch around most of their perimeters hints at more specialized activities at the site. These were recovered from across the site and although not contextually related, they were notably homogeneous in their morphology and the methods of their manufacture. They most closely matched the ‘thumbnail’ scraper types of later Neolithic/early Bronze Age industries and are particularly associated with Beaker contexts, where they often form very high proportions of the lithic implements present (eg Wainwright 1972). The actual use of this particular type remains enigmatic although their diminutive size would suggest their use was restricted to a limited range of tasks and they have been associated with personal grooming, whilst their numerical dominance may indicate a degree of specialization in the activities occurring at the site. These were mainly from unstratified or residual contexts although one heavily burnt example was recovered from pit [119], alongside potentially contemporary pottery. The burning of this implement is most plausibly explained as incidental although it should be noted that, on occasion, selected artefacts such as scrapers were deliberately burnt and deposited as part of ceremonial or funerary practices.

4.2 The Late Iron Age Iron Industry; an Innovative Industry

Iron working is well documented in Northamptonshire with a number of known sites dating from the Iron Age through to the present. The Rockingham Forest area has been one of the most prolific producers of iron for at least the last 2000 years, with the modern town of Corby having evolved from this industry. There is a plethora of evidence for post Iron Age smelting sites in the Rockingham Forest Area through an extensive survey undertaken of the archaeological and historical evidence by Bellamy et al (2000).

A total of 36 furnace sites were listed in Northamptonshire with 32 of these in the Rockingham Forest area. This number is likely to be a small percentage of the furnaces which were in existence in the area with many destroyed through later truncation. A concentration of ironworking extended in a southwest to northeast direction between the River Welland and Willow Brook in the parishes of Gretton, Harrington, Wakerley, Bulwick, Laxton, Blatherwycke and Fineshade (an area emcompassing 10km long x 5km wide) to the northeast of Priors Hall. Unfortunately, many of the excavated furnaces are not dated. Those excavated at Wakerly and Laxton appear to be similar in form to those at Priors Hall, with the lower portions of the shafts sunken into a constructed pit. In Central Europe this form is reasonably common and dates to the Iron Age (Pleiner 1994). However, evidence of Iron Age smelting, with the exception of furnaces excavated at Wakerly, is rare in Rockingham Forest. At Wakerly, slag was found in ditches and pits dated to the Middle Iron Age and a bowl shape furnace found at the site may date to later in the period. The sunken shaft furnaces at Wakerly appear to date to the late Iron Age to early Romano-British Period, and similar furnaces at Laxton date to the 2nd century AD. Remains of a furnace were exposed at Great Oakley adjacent to an early Iron Age site and a furnace bottom along with slag was found in Iron Age pits and ditches in the Corby area. Slag has also been retrieved from pits and ditches of a late Iron Age date at Geddington (Bellamy et al 2000).

The iron production site at Priors Hall was ideally placed for a number of reasons most notably the convenience of the raw materials. Poorly drained local boulder clay geology meant that the landscape was more conducive to supporting woodland rather than arable agriculture resulting in the ready availability of fuel. During the excavations at Priors Hall environmental evidence suggested the presence of a local oak woodland, with all of the processed samples containing oak charcoal. Further to this, excavation immediately to the north of the main excavation site, firmly within the boulder clay, yielded very little evidence for settlement, suggesting that this geology was largely avoided.

During the Iron Age, large-scale population growth was taking place, stimulating agricultural output along with demand for other commodities. Craft production and manufacturing developed and expanded in the late Iron Age with much technological development taking place during this period, including the fast wheel for pottery, lathe for wood working, glass production, wider distribution of the rotary quern and refinements in metal working (Mattingly 2006).

The iron production furnaces at Priors Hall aptly demonstrate the growth and improvement in iron production technology. The shaft furnaces follow a simple construction model with some variation seen between the furnaces on site. This model is summarised below in a series of stages and accompanies Figure 39.

1. Initially a sub-circular construction pit was excavated. Within two of the these scorching of the base extends well beyond the furnace walls, perhaps suggesting that fires were lit prior to construction to dry out the pit. It is unclear whether there were any criteria for the selection of the furnace site, although placement on the gentle south-facing slope could be to take advantage of prevailing southwesterly winds, but have some protection from the more severe northerlies.
2. The actual clay furnace was built inside the construction pit although a superstructure probably extended above ground for 1m to 2m. In all cases the shaft was centrally placed within the construction pit. There is no evidence to suggest how the shaft cavity was created although there is a suggestion that clay was formed around a wooden mould which was subsequently burnt to create the void. In general the furnaces at Priors Hall do not have a clay base with the shafts directly open to the base of the construction cut. Towards the base and front the structures swell outwards, creating a belly-like appearance and a characteristic D-shaped plan. From the belly the shaft tapers upwards becoming noticeably more circular. It is thought that the furnaces would extend upwards, possible 1-2m, beyond the surface of the construction cut as a circular chimney. Although not recorded on any of the furnaces at Priors Hall, it is likely that tuyere holes for bellows would have been present in the superstructure. The use of bellows would have aided the circulation of air within the shaft and enabled the efficient heating of the furnace to the high temperatures required for the smelting process. The level at which the tuyeres would be positioned is unknown although they would have to be low enough (presumably near the lower belly section) to allow for workers to pump the bellows. A uniform cracking was observed across the interior surface of all the shaft furnaces giving the appearance of small clay building blocks.
3. Although very little evidence of charcoal use was recovered (charcoal impressions were observed in the basal slag deposits) it is likely that that the shaft was packed with oak charcoal, ignited and heated to a high enough temperature for the addition of iron ore and the subsequent smelting process.
4. Once the extraction procession was complete the furnace was opened up to allow the release of the iron pig and the waste material (slag). In order to open the furnace a hole was 'tapped' into the lower section of the shaft's belly to form an uneven and rough aperture (tapping arch) in the front section of the furnace, thus allowing the release of the slag into the tapping pit and the extraction of the iron pig (Iron Pig is the term used to describe the pure iron product from the smelting process).
5. The opening was then resealed with clay, thus allowing the smelting process to take place again. It is possible that once a smelt had been completed and the tapping arch resealed that the process may have begun again almost immediately making use of the retained heat from the earlier firing. The resealing of the

furnace post extraction of the iron pig resulted in the front section of the furnace continually being thickened, accentuating the belly like appearance of the lower section of the shaft. It is unclear how many times this process would have been repeated before the furnace was no longer efficient or useable.

It had previously been thought that a tapping arch, an opening, towards the base of the furnace structure was incorporated in the initial design and construction of a furnace. However the furnaces at Priors Hall clearly indicate that this was not the case, and that during the smelting process the shaft was a sealed structure not breached for the extraction of the iron bloom until the completion of the iron smelt. Following this breaching of the shaft, the opening would be resealed to close the structure and permit another smelt to take place. The thickened fronts of the furnaces from the resealing would suggest that the furnaces were used on a number occasions. What is not clear though is what period of time any single furnace at the site would be in use for before it became no longer viable.

There appears to be no preferred alignment to the furnace structures, with the front of the furnaces facing east, west or north, with a greater tendency towards the front of the furnace and its tapping pit facing eastwards.

The absence of tuyeres is probably due to these being positioned above surviving ground level. However, one tuyere (Plate 16) was recovered during the removal of backfilling from Furnace 7. This was found reasonably low down in the backfill towards the base of the shaft, and it is possible that this is from the final firing of the furnace. Excavations at Rugomora and Kemondo Bay, Tanzania, have demonstrated that the greater part of the tuyere was contained inside the furnace structure, which allowed air being forced in to be pre-heated. Pre-heating allowing higher temperatures to be attained which ensured more efficient reduction with less fuel use (Schmidt 1996).

Only one furnace (Furnace 2) has a definite associated structure. This was represented by a three sided beam trench with corner post holes surrounding the northern side of Furnace 2. The structure was open to the southern side. It is possible that the structure acted as some form of wind break, with the prevailing winds coming from the southwest and the placement of the northern structure allowing for a channelling of the wind to aid in the control of the draught to the furnace. However, there was a concentration of hammerscale at the structure's northeast corner. This suggests that the shelter may also have housed a smithy (Hall 2008). Occasional postholes identified within the vicinity of the other furnaces may also represent structural remains.

The absence of large slag heaps preclude an accurate estimate of the scale of production and it is likely slag was removed from the site for use elsewhere, perhaps as hardcore for roads and buildings. Substantial quantities of slag were identifeid within the stone foundations of Weldon Villa.

Evidence for charcoal preparation on an industrial scale from the site was lacking although several small pits located to the north of the furnaces might have been used for

this purpose. Further north on the boulder clay plateau a sparse distribution of small circular charcoal filled pits were revealed during archaeological works in the area. It could be presumed that preparation of charcoal was either taking place away from the actual smelting site, perhaps at the boundaries of the woodlands, and being imported to the site when required, or that the process did not leave a mark on the landscape. Whatever the case, charcoal rather than solid fuel must have been used in the furnaces with the confined shape of the furnace not allowing for addition of bulky material and charcoal providing a much more efficient means of heating, with the calorific content of the oak increased through it's conversion to charcoal

Analysis of the Slag

By David Green Wood, Anthony Swiss and Gerry McDonnell

The analysis of the iron-making slags from Corby Priors Hall has thrown new light on iron-making technology in the Jurassic Ridge/Northamptonshire region.

There are two morphological types of iron smelting slag present on the site. The majority of samples display viscous flow indicating that the furnaces were not tapping a free running slag. A smaller group of samples display more fluid features, but probably represent only minor variations in operating temperatures. The bulk analyses of two of the samples showing free flowing characteristics (Misc-TapSlag 'D' and Misc-TapSlag Hearth) show no distinct compositional difference from the other more viscous slags. Hence, they flowed due to slightly higher operating temperatures. The melting experiments indicate a liquidus (fully molten) temperature of *circa* 1250°C for the slags, and hence they must have been at higher temperature to flow.

The mineral texture of the slags is evidence of fairly rapid cooling of the slags, some samples showing classic fine lath dendrites of silicate indicative of rapid cooling. This indicates that the slag was extracted in small flows or lumps and did not accumulate as massive slag 'furnace bottoms' such as, for example, those recorded by Clogg (1999:81f.) in East Yorkshire.

The bulk analyses from thirteen of the fourteen samples display a level of homogeneity for the Corby Priors Hall slags and are directly comparable with analyses of slags from the region. There is some evidence to postulate the deliberate addition of a phosphorus-bearing mineral (apatite – bone?) to the furnace charge. This may have ritual connotations but more importantly it has significant impact of the composition of the iron produced in the furnace.

Both the mineralogy of the samples and the bulk analyses show that the slags from the site are low in free iron oxide. This demonstrates that the furnaces were being operated at near maximum efficiency in extraction of the available iron in the ore.

Overall the conclusion of the slag analyses combined with excavation of the furnaces demonstrates that these 'Wakerley Type' furnaces have been misinterpreted in the past. The opening at the base of the furnace was not a classic tapping channel. The excavation of the furnaces indicates that a hole was punched through the furnace wall at the end of a

smelt to extract the slag and/or the metal causing a massive inflow of air, raising the temperature at the base of the furnace and increasing the fluidity of the slag. This would result in the variations of morphology observed in the slag samples. The furnaces were operated at near utmost efficiency, extracting the maximum amount of available iron from the ore. It is highly probable that the product was phosphoric iron.

Smithing

There is very limited evidence of smithing at the site. Hammerscale surveys were undertaken of all the furnaces prior to excavation with very limited results. Only a sparse background of hammerscale could be associated with any of the Furnaces, with the exception of Furnace 2 where a denser deposit of hammerscale was present within the corner of the beam trench, perhaps suggesting that some smithing was taking place here with the debris being swept/blown away into the corner of the structure. It is likely that the presence of both the smithing evidence and the shelter are not coincidental. Unusually environmental samples yielded little or no hammerscale, perhaps suggesting that the primary smithing of the iron in order to prepare it for exportation from site was not taking place within the immediate vicinity of the furnaces or that the product was being exported in the condition in which it was extracted, with all smithing taking place at specialist smithing sites.

The Relationship of the Villa to Iron Production

The relationship between Weldon Villa and the iron production is unclear. During earlier excavations of the villa site several hearths were noted beneath the floor levels, perhaps representing earlier building phases, with occupation of the site lasting from the 1st to 5th century AD. It is also possible that the hearths could represent the remnants of industrial activity pre-dating the construction of the villa. Construction of the villa post dates the majority of the iron production at the site, suggesting that the occupants were not controlling the production of iron at Priors Hall as might have otherwise been assumed. It is however possible that a precursor to the villa controlled local iron production.

Within Area 3, a further area of iron working was identified which dates to the later half of the Romano-British period and is likely to have been controlled by the villa. The area is located just beyond what could be projected as the villa's walls as defined by excavation of Area 4 (Access Road), with the prevailing winds for the area meaning that the iron working site is upwind of the villa, blowing away any noxious odours away from villa.

The impact the Roman invasion would have had upon iron production is unknown and no further clues are offered to this at Priors Hall despite the archaeological evidence encompassing this period of transition. It is presumed that the requirements of the army would have required an increase in the production of iron which was already growing in response to population rise. The principal source of iron for the army was in the north of the 'civitas' territory. Although the mineral resources were at the disposal of the government, there is no evidence to suggest the government's active involvement in the iron industry apart from small scale iron works at Longthorpe. It appears that iron working was left to the initiative of the local land owners, so in many cases iron-working

was just one element in the economy of a settlement which depended largely upon agriculture. It is clear however, that some rural settlements were essentially based on an industrial economy producing pottery or iron or both e.g. Houghton-Brafield and iron working was a significant activity in the area close to Water Newton. (Branigan 1987)

The Production of Iron, A 'Magical' Process?

The preceding text has painted a picture of a largely industrial landscape at Priors Hall during the late Iron Age, not necessarily associated with any religious or ritual activities. However, the ability to transform raw ores from the earth into useful and valuable objects is likely to have been regarded as a special and almost magical craft. It has often been suggested that iron smelting took place away from settlements, perhaps because of the taboos and the 'magical' nature of the process (Pyror 2004). This would appear to be the case at Priors Hall, with the late Iron Age non-industrial features positioned some distant from the smelting sites.

Further to this some aspects of the deposition of pottery at the site may hint at some 'special' association with the smelting sites. 'Placed' in isolation within the terminal of the three-sided structure associated with Furnace 2, were three substantial sherds from a corrugated jar. These may represent an offering, possibly in exchange for a successful smelt.

Away from the industrial areas at the western limit of excavation an almost complete ovoid jar with fingernail incisions of native middle-late Iron Age tradition was recovered from the junction between the southern ditch leading into the large waterhole and the waterhole itself. The almost complete nature of the jar suggests that the vessel was deliberate placed and may be associated with the 'ritual' closing of the feature or may form an offering to a watery spirit.

Ethnographic studies of modern societies that produce metal using non-industrial processes have shown a close link between the process and fertility. The industry is mostly male dominated, with females not involved in the workings of the site. Furnaces are pot-bellied allowing for the efficient circulation of air but also give the structure the appearance of a pregnant torso. Sometimes clay breasts are added to the exterior of the structure to further embellish the female form of the furnace. Once the smelting process was complete the furnace was broached low down, below the 'belly' with the hot molten metal pouring out from the structure, thus appearing like a birth.

4.3 Non Industrial Activity; Late Iron Age to Early Romano-British

Occupation at Priors Hall extends through from the late Iron Age into the Romano-British period demonstrating the continuity in use of the landscape and perhaps suggesting that the area was little affected by the Roman Conquest, possibly already having assimilated influences from the Empire making the transition less marked in the archaeological record.

The major change is the change from a predominantly industrial landscape to one increasingly connected with domestic and agricultural activities, associated with the nearby villa.

The Late Iron Age Period

A number of deposits and features dating to the late Iron Age not directly associated with iron smelting were identified. Pottery from these features appears utilitarian, largely domestic and plain and functional in character. Analyses of the faunal remains suggests a sheep/goat based economy untypical of sites dated to this period.

The industrial area is demarcated from the western part of the site by the northwest-southeast droveway, west of which are the bulk of late Iron Age features not directly associated with industrial production. The droveway may have extended southwards towards the villa area and shares a similar alignment to the features in the complex. It is possible that the droveway originated in the late Iron Age and continued in use following the construction of the villa. Short sections of ditch leading off the northwest end of the droveway may demarcate divisions of land, although if this were the case these would be extremely narrow. Late Iron Age features recorded at the western limit of excavation also contained little or no industrial waste.

Lack of settlement or the presence of any other late Iron Age activity in the immediate vicinity of the furnaces seems to suggest a distinct separation between the industrial and non-industrial activities at the site.

The late Iron Age in the southeastern England appears to have been a period of rapid social change reflecting the increasing influence of the Roman Empire with initial influence into this region indirectly transmitted through contact with tribes in the north of France with exchange already taking place and more directly following the conquest. This is seen in the archaeological record at Corby with the presence of 'Belgic' wares influenced by the continental imports along with the smelting technology.

By the end of the late Iron Age the Northamptonshire landscape appears to have been densely occupied. A mixed agricultural economy developed resulting in the clearance and the colonisation of the previously wooded lands, especially to the south of the Nene and in the Rockingham Forest area.

The Early Romano-British Landscape at Priors Hall

This period of occupation at the site cannot be discussed without reference to Weldon Roman Villa which lies immediately to the south of the excavation area and which must have had an impact on the surrounding hinterlands and their use. The pottery assemblage again is utilitarian with plain and purely functional vessels present suggestive of domestic activities (Slowikowski). A shift is noted in the faunal assemblage with the economy becoming more cattle based. It is suggested that this shift is related to the 'Romanisation' of the landscape and the topographical situation, with local boulder clay geology favouring cattle (Wood).

Weldon Villa was in existence throughout the Roman occupation of Britain with an early construction date of c.70-80 AD. The excavations of the villa identified several construction phases including a rebuilding of the structure following a catastrophic fire in the 2nd century with occupation ceasing during the early 5th century. This bi-partite villa, with wing rooms, mosaic floors and hypocaust heating system must have no doubt been an impressive structure in the previously industrial landscape.

How the landscape might have looked at the time of the villa construction following the industrial period is unclear. The pottery assemblage would seem to suggest that there was a continuous presence in the area to the north of villa (Areas 2 and 4) through from the late Iron Age into the early Romano-British period with several examples of conquest pottery identified. As discussed previously the late Iron Age industrial areas appear to have been quite separate from any non-industrial activity. From the archaeological record it seems likely that the industrial activities to the north of the villa (Areas 2 and 4) had ceased before the initial occupation of the villa. Whether the furnaces were deliberately demolished or left to decay following their use is not really known. The latter of the two scenarios would seem the more likely, with the silt infilling of the upper section of what remains of the shaft and the tapping pit of Furnace 2 suggesting a period of slow dilapidation. Perhaps a more visible mark on the landscape would have been the line of clay/iron stone extraction hollows along the 87.5m contour, with the infilling of these with colluvium being a gradual process. The large extraction hollow in Area 2, although undated is likely to have been quarried during the Romano-British period, either at the time of initial construction or during the rebuilding of the villa during the 2nd century AD.

The early origin (c70-80AD) of Weldon Roman Villa is unusual,with the majority of villa development elsewhere taking place during the late 2nd-3rd century AD. Only a small but a significant group of villas have traceable early origins, with a number of sites founded on later Iron Age settlements. Weldon Roman Villa is no doubt built upon earlier foundations with late Iron Age activity prevalent in the area immediately to the north of the now scheduled villa site. The continuity of occupation from the late Iron Age into the Roman period is not unusual in the Rockingham area with a sequence of roundhouses and enclosures augmented by rectangular Roman timber structures at nearby Wakerly along with several nucleated Romano-British villages and farmsteads in the vicinity having originated in the late Iron Age also excavated in the area.

Just who was occupying the villa is a matter of debate. Was the villa built on the success of the native iron industry and occupied by those involved in the industry or was it founded as a result of the Roman conquest by the new immigrants as one in a series of strategic points of occupation. There are several plausible examples (Park Street and Gorhambury) for the continuity of ownership of lands from the late Iron Age rather than their confiscation following the conquest. However, the probability seems higher that some villas were related to the new immigrants rather than the indigenous population at the time (Mattingly 2006), with the villas principally determined by their spatial, social and economic relationships with urban settlements. There is no clear evidence at Priors

Hall to suggest which, if either, was the case. Was the villa constructed by native entrepreneurs based upon the wealth of the iron industry with a subsequent trade agreement with the immigrants for the supply of iron? Or was control of the area seized by the immigrants so that the local iron industry could be exploited.

The area north of the villa was utilised during the early Romano-British period. The villa complex was demarcated from its surrounding landscape to the north by a substantial ditch which was later replaced by a stone wall during the later 2nd century AD. The ditch and wall which shared the same course took the same alignment as the villa no doubt providing a neat and tidy complex for the villa. The early Romano-British activity is all confined to the downslope area of the gentle valley side on the sands and gravel with no evidence of activity northward on the higher boulder clays. It is possible that local geology was influencing the type of activity taking place to the north of the villa during the early Romano-British period, along with the spatial relationship of the landscape to the villa. The western part of the site is characterised by a small group of ditches. The ditches which are aligned parallel with a slight curve may demarcate narrow strips of land, perhaps used as a garden kitchen for the villa. Several pits and postholes were also exposed in this area, again possibly representing a garden area to the villa with the dumping of refuse.

It is believed that tribal society remained largely the same in the Catuvellauni region, with the Romans treating its people fairly at the time of the conquest and actively promoting the rapid development of local government (Branigan 1987). The area is also likely to have already been influenced by ideas from the expanding Roman Empire during the late Iron Age through trade and exchange with the tribes of Northern France as seen in the material culture with the presence of Belgic wares on many late Iron Age sites including Priors Hall. In effect a convergence with the Roman Empire was already in operation prior to the conquest. In areas such as those occupied by the Catuvellauni, the conquest probably had very little immediate effect with existing settlements persisting and trade links continuing without disruption.

Traditionally Roman villas have been closely linked with towns where exchange of surplus could take place. It is likely that Weldon Villa would have been influenced by the nearby towns as well as the Vicus Water Newton. Initially Water Newton originated as a Roman Fort on the course of Ermine Street which had developed into an urban centre by the early 3rd century, suggesting that military presence was no longer necessary in the area. Trade is likely to have taken place with the fort and later with the town.

Weldon Villa was positioned just to the north of a major Romano-British communication route, with the Huntingdon to Leicester road located just to the south of the site. This line of communication appears to be the continuation of the Colchester to Cambridge to Godmachester Road. The road's 45 mile course is well attested to in alignments of existing roads from near Alconbury Weston to Tichmarsh and after a gap of 8 miles the road is then clearly marked again from Stanion (to the southwest of Priors Hall) to Leicester where it is known as Gartree Road (Margary1973).

The Later Romano-British Landscape

Following the 2nd century AD there is very little evidence of activity in the area to the north of the villa encompassed by the excavation. There are no 3rd and 4th century AD field systems to suggest that the villa was exploiting the lands to the north for agriculture. There is a definite shift in the use of the area encompassed by the excavation site following the late Iron Age and early Romano-British period. It is possible that following the late Iron Age industry and early Romano-British activity the land became largely redundant and may perhaps have supported a more pastoral economy which was better suited to the poorly drained soils. The only firm evidence of activity at the site contemporary with the 3rd-4th century occupation of the villa was to the west of the villa in Area 3 were a later area of metalworking was recorded, presumably associated with the villa and possibly the cemetery located just beyond the northern boundary of the villa. It may be that the villa was exploiting lands to the south in the more workable and fertile soils of the valley, whilst the lands behind the villa were used as pasture or reverted to woodland.

The Cemetery

Following the industrial use of the site in Area 4 adjacent to the villa the area was reused as a cemetery. The linear cemetery which extends southeast-northwest along what has been interpreted as the villa's boundary is represented by line of grave cuts which most probably extend further southeastwards into the scheduled area, where two burials were previously identified following broadly the same alignment. There is little doubt in the association of the burials with the villa, with the positioning of the burials just beyond the boundary of the villa along the line of the boundary wall/ditch.

The dating of the cemetery, however, has been difficult to ascertain with graves containing pottery dating from the late Iron to late Romano-British periods, along with residues from the industrial use of the site. Only one of the burials has a placed grave good, which was positioned next to the head. During the villa excavations one of the excavated burials contained a complete pot dated to the 4th century. The lack of associated grave goods is not unusual for the Romano-British period.

It is possible, however, that the cemetery was used throughout the occupation of the villa which lasted from the 1st -5th century AD. During this time a change in burial orientation was noted, with two of the twelve burials oriented at right angles to the otherwise northwest-southeast alignment. Due to the lack of dateable evidence and absence of stratigraphic relationships between the graves it is not possible to date individual graves or the cemetery as a whole. The varying orientation of the burials is not unusual, with several cemeteries excavated from this period recording burials lying in different directions. For example at Guilden Morden, Cambridgeshire intercut inhumations were placed on variable alignments.

None of the burials at Priors Hall are intercut, despite the narrow cemetery plot so it could be presumed that during its use as a graveyard the graves were demarcated in someway therefore avoiding the disturbance of earlier. No evidence of memorial stones or markers was recovered during the excavations. The skeletons were all of adult

individuals with some child remains identified within the disarticulated bone assemblage. No evidence of very young children or infants were identified.

Sex estimation of the remains, however, were hindered by the poor preservation and lack of completeness of a number of the remains. Male individuals were more numerous than females but there does not seem to be any segregation of sex within the cemetery.

Common dental pathologies, such as caries, calculus and enamel hypoplasia were recorded on most of the present dentition. Five out of the six sets of available dentition displayed heavy occlusial wear, which may suggest that the individuals had a particularly rough diet. The use of stone querns to grind grain may have led to the inclusion of grit into the diet and therefore wearing down the teeth (Roberts & Cox, 2003). Within the early to late Roman skeletons from Great Barford, Bedfordshire, several skeletons displayed worsening levels of dental attrition which appeared to correlate with the increase of age (Geber 2005). Within the Priors Hall assemblage, the aging of the individuals is too tentative to confirm a correlation between age and the extremity of the wear.

Pathological traits appear to have a moderate frequency of occurrence within the population. The varying preservation and the high post-depositional fragmentation will have limited the number of observable traits, however. The most frequent pathologies noted were spinal osteophytosis, Schmorls nodes and dental diseases. The spinal osteophytosis and Schmorls nodes noted within several of the skeletons could be considered an indication of age related change or intensive physical activity. No evidence of trauma related pathology, such as fractures, has been identified within the assemblage.

There is limited comparative data for contemporary Northamptonshire early Roman cemeteries, however, the assemblage although not well preserved, appears to be relatively typical of a rural Romano British population, although dental health appears to be slightly worse than the average for the period.

4.4 Post-Roman Activity

The main focus of activity at the site ceases following the 2nd century with the exception of a possible later Roman smelting site in Area 3 to the east of the villa. Due to the lack of any archaeological evidence following the final occupation of the villa it is unclear what was happening in the landscape at Priors Hall. It has been suggested that following the Romano-British period, major reforestation took place, with documentary sources referring to large tracts of woodland by the 12th century. The reason for abandonment of the site is unknown, although it may be suggested that the site was no longer economically viable with the local resources having been exploited already to their full potential, resulting in the relocation of the industry to other now more ‘productive’ sites along the Willow Brook, Ise and Welland valleys. There is little evidence in the immediate vicinity for any iron production post the Iron age with sites during this period favouring the eastern parts of Rockingham Forest such as Laxton, until the later Saxon period with the remnants of a shaft furnace identified during recent excavations in Little Weldon.

5. Conclusions

The excavations at Priors Hall have allowed for the study of a block of land within northern Northamptonshire which has added to the increasing amount of information for the archaeology of the Rockingham Forest region from the Mesolithic through to the present. The majority of the evidence for human occupation and activity at the site dates to a 400 year period between the late Iron Age and first half of the Romano-British period. There is tentative evidence of occupation at the site prior to the late Iron Age and later Romano-British activity associated with Weldon Roman Villa.

The earliest evidence of occupation at the site is during the Mesolithic/Neolithic with a background of material dating from this period found sparsely distributed over the site. Further to this several features dating to the early and late Bronze Age were identified in the eastern part of the site. It is likely that some of the many undated features at the site may also belong to this period. From the evidence it would however appear that any occupation of the site prior to the late Iron Age is transient.

The most significant element of the site is the late Iron Age industry with the identification of nine iron smelting furnaces, most of which are in a remarkable state of preservation, with the sub-structures surviving in a state which has made is possible to draw new conclusions about the technology being employed in the design. There is little evidence to suggest the incorporation of the traditional tapping arch into the design with instead an aperture being tapped through the belly section of the furnace sub-structure post-firing. This was then resealed with clay following the extraction of the iron bloom, allowing the smelting process to take place again. It has been impossible from the Priors Hall furnaces to estimate how long the furnaces would have been in use and how many firings they would have withstood before being made redundant. Although several questions have been answered by the furnaces many new social, economic and technologic quandaries have arisen from their excavation. It is, however, clear that Priors Hall was a prolific producer of iron during the Iron Age and early Roman period.

The excavations have provided some clues to the relationship between the villa and its hinterlands to the north. Interestingly there is a hiatus in the archaeological record towards the end of the 2nd century AD in the lands to the north of villa, perhaps suggesting a change in land management here during the latter half of the villa's occupation (3rd and 4th centuries), with the area turned over to pasture or re-managed as woodland.

6. Specialist Appendices

6.1 Introduction

The following chapter provides a minimum of the specialist data to accompany the chronological narrative and discussions presented in the main text. Full reports and their accompanying catalogues as prepared by the specialists are retained by Archaeological Project Services with the archivable material including material artefacts, the site record and all relevant database retained by Corby Borough Council.

6.2 The Prehistoric Pottery

By Carol Allen

A total of 100 sherds and fragments of pottery were found on this site weighing 209g. The pottery sherds represent at least five different vessels of prehistoric date.

No complete profiles were apparent and many of the sherds cannot be identified to a type with any certainty. All the sherds are detailed in the attached catalogue (Table 1). The average sherd weight is just over 2g and the collection is quite abraded and fragmented.

The pottery has been recorded and described according to the guidelines of the PCRG (1997). In addition, this report conforms to the standards and guidance of the IFA (2001).

All the sherds were counted, weighed and recorded. The wall thickness, fabric type and the abrasion level of the sherds is also given and the part of the pot remaining, rim, body or base is recorded. A full results table is retained by Archaeological Project Services and can be consulted upon request.

Five different fabric types were recognised by examination of all the sherds by eye and with a x2 binocular microscope. The division of the fabric types was made based upon the apparent tempering materials visible by eye and microscope and upon the appearance, colour and firing of the sherds. This assumes that the potters were aiming to produce pots with a distinctive appearance and tempering.

Fabric 1 - Voids and quartz - VOMM/QURF contained a moderate amount (M=10-19%) of voids (VO) of medium size (M=0.25-1.00mm) and a rare amount (R=under 3%) of fine (F=<0.25mm) quartz (QU).

Fabric 2 - Voids and quartz – VOMC/QUSF contained a moderate amount of voids of coarse size (C=1.00-3.00mm) and a sparse amount (S=3-9%) of fine quartz.

Fabric 3 - Flint - FLMC contained a moderate amount of coarse angular flint.

Fabric 4 - Voids – VOCV contained a common quantity (C=20-30%) of very coarse (V=>3.00mm) voids.

Fabric 5 - Angular quartz – QUSM contained a sparse quantity of medium sized white and very angular quartz.

Three of the fabric groups, 1, 2 and 4, contained elongated voids which appeared to be the result of tempering the pottery with shelly material or limestone which has leached out. The identified Beaker pottery was tempered with fabrics 1 and 2. The flint tempered sherds, fabric 3, could not be securely identified. The probable late Bronze Age sherd was tempered with coarse angular white quartz (fabric 5). It has been noted that fabric types used in prehistoric pottery change through time even on the same site (Allen 1991; Chowne *et al* 2001). Traditions of pottery manufacture changed with each period and the tempering materials varied according to the region (Allen and Hopkins 2000, fig. 8; Cleal 1995).

The site lies upon Lincolnshire limestones and boulder clay. The limestones are likely to be the source of the shelly tempering material which resulted in leaving elongated voids in the sherds, and both the quartz and flint may be found in the local boulder clay (Hains and Horton 1969). It seems very likely, therefore, that there was a local source for the tempering materials used in these sherds. However, thin section analysis of sherds from the fabric groups would be required to be certain both of the tempering types and of their source.

6.3 The Late Iron Age and Romano-British Pottery

By Anna Slowikowski

The pottery was recorded by fabric and form, and quantified by vessel count, sherd count and weight. EVEs (Estimated Vessel Equivalence) was recorded for rim sherds only. The vessel count was arrived at by bringing together sherds from the same vessel within the same context, whether they joined physically or not. Matches between sherds from different contexts were noted, with a distinction made between sherds, which joined physically and those that were non-joining. Each cross-context match is recorded individually and noted in 'cc*'. The quantification of pottery from contexts identified during assessment as 'poor' remains at the minimum level of sherd count and weight. Contexts with medieval and post-medieval pottery have been recorded at assessment level but are not discussed further in this report. The total assemblage, including pottery from 'poor' contexts and post-Roman sherds, comprises 2389 sherds, weighing 19.372kg (Table). The fully quantified assemblage is made up of 12.94 EVEs, 167 vessels which are diagnostic of form. Attributes such as decoration, sooting and residues, wear, pitting and leaching, secondary modification, as well as unusual breakage were recorded.

Table 4- Total quantities of late Iron Age and Romano-British pottery by phase

Phase	Phase definition	Sherds	Wt (kg)
2	Early Bronze Age	6	0.029
EIA	Late Bronze Age/Early Iron Age	8	0.002
3	Late Iron Age	286	2.599
3/4i	Late Iron Age /Early Roman	16	0.227
4i	Late Iron Age /Early Roman	194	2.105
4ii	Late Iron Age /Early Roman (Conquest period)	37	0.133
5	Early Roman	1444	12.156
5/6	Early Roman/Late Roman	208	0.806
5+	Post-Early Roman	2	0.015
6	Late Roman	75	0.583
7	Medieval	40	0.203
8	Post-medieval	43	0.289
U/S	Unphased	30	0.225
Total		**2389**	**19.372**

All quantitative statements in the pottery report are based on the sherd count unless otherwise stated. Percentages have been rounded up to two decimal places. Pottery assemblages are discussed within their relevant phased stratigraphic context groups. Summary tables maintained by Archaeological Project Services quantify the pottery by vessel count:sherd count:weight It should be noted that the basis for the context phasing was the ceramic spotdate, in addition to the stratigraphy and external dating. This should be borne in mind particularly for the discussion of the ceramics by phase.

Because of the absence of a county-wide fabric type series for Roman pottery, the neighbouring Bedfordshire Ceramic Type Series codes have been used to record the assemblage. Common names, however, have been used throughout the report. The term 'belgic', when used in this report, refers solely to the 'belgic' style of pottery, as described by Thompson (1982), or the period of its use.
The fabric types identified at Priors Hall are listed below. Full tables recording the assemblage are retained by Archaeological Project Services and are all available for consultation at request.

Late Bronze Age/Iron Age

F01A-B Flint-tempered fabrics
(F01A – 2 sherds; 0.001kg; F01B – 8 sherds; 0.002kg)
This fabric type occurs in coarse and fine versions. The coarse type, F01A, has large, angular flint inclusions, 0.5-5.0mm, and is very rough to the touch, while F01B has fine angular flint, 0.2-1.5mm, and can also occasionally contain sparse fine quartz.

Only small fragments have been found on the site and forms cannot therefore be determined. Flint tempering, however, is characteristic of the late Bronze Age/earliest Iron Age (Bryant 1995, 17) possibly dating as far back as the 9th or 10th century BC (Needham 1997, 55-107).

F – leached calcareous fabric (30 sherds; 0.071kg)
A smooth, fine 'vesicular' fabric (coded F) was found in small quantities. The fabric is badly leached with voids where possible calcareous inclusions have dissolved out. There are some elongated voids which may be from organic inclusions. All the sherds in this variant have re-oxidised breaks. The forms cannot be clearly distinguished although the sherds in this fabric from (362) in pit [364] make up a flat base with a slightly splayed foot ring and might be from an ovoid jar. The sherds from (417) in pit [485] are probably from the same vessel as those in (418) in tree throw [419]. Although they do not join, they come from an open form the rim of which is thin, upright and with a flattened top. Based on this form, the only one that can be recognised on the site, this fabric is pre-'belgic' Iron Age in date.

F16 – coarse shelly (7 sherds; 0.004kg)
Soft, crumbly texture, mid-brown to reddish surfaces. Densely packed, coarse shell is the dominant inclusion, 0.3-2.0mm. Shelly ware was being made in the region from early Prehistoric times and throughout the Iron Age and Roman period. These small, undiagnostic fragments could be an underfired version of shelly fabric F07, but they were found in a tree throw [429] with early Iron Age pottery, so could be of that date.

Late ('belgic') Iron Age

F21 - Shell and organic (34 sherds; 0.444kg)
The colour is orange brown and the fabric is heavily leached, soft and crumbly with frequent elongated voids where the shell and possible organic matter has dissolved out. Occasional soft grog inclusions, 1.0-2.0mm. A single almost complete ovoid jar was found, blackened through heating (temp illust 12). The characteristics of this vessel are late pre- 'belgic' Iron Age or even middle Iron Age, but its context suggests a late Iron Age date.

F05 - Grog and shell (188 sherds; 1.711kg)
Soft fired with harsh buff-brown or orange coloured surfaces and a buff or grey core. Grog is angular and generally buff coloured, 0.5-1.5mm. Frequently, quartz inclusions also occur, 0.3-0.5mm. Shell inclusions are generally quite leached, resulting in voids.

Forms are all jars: cordoned, lid-seated or storage jars. There is a single vessel ovoid in shape which is characteristic of the middle or late pre-Roman Iron Age. A more complete vessel of similar form was found in fabric F21; these may be variants of the same fabric type.

Decoration is limited to faint horizontal grooves or vertical combing/twig-brushing. The latter is common in the late Iron Age, both as a decorative motif and as an aid in gripping the vessel.

F06A-C Grog tempered fabrics
(F06A - 23 sherds; 0.168 kg: F06B - 460sherds; 3.856 kg: F06C - 284 sherds; 3.282 kg)
Grog-tempered pottery in the 'belgic' tradition, as described by Thompson (1982). Three subdivisions have been recognised based on the size of the grog inclusions: F06A is finely tempered with grog measuring 0.1-0.5mm; F06B is medium tempered with grog measuring 0.5-1.5mm, and F06C is coarsely tempered with grog measuring over 1.5mm and can be up to 4.0mm. This is a range within this fabric type and some sherds may be on the borders and therefore difficult to assign to a specific sub-division.

Generally, vessels in the fine or medium range are wheel-thrown, while the coarser grog is found in hand-made vessels. The same division is seen in the type of forms, with finer table wares such as cordoned jars, beakers, bowls and jars with finely turned pedestal bases, made in F06A and F06B, and coarser cooking and particularly storage vessels made in F06C. The storage vessels are large, thick bodied and with heavy everted or roll rims.

F07 - Shell tempered (404 sherds; 2.795 kg)
These are all hand-made, basic utilitarian kitchen and storage wares. The later mass-produced, wheel-thrown shelly wares have been coded R13 (see below). There is a relatively wide range of inclusion types within the broad category of 'shelly wares'. They range from quite fine and smooth with small shell inclusions, to large, coarse inclusions which are quite harsh to the touch. The finer fabric tends to be oxidised and the coarser fabric reduced, although this is by no means invariably so. The area where these vessels are most likely to have been made stretches from north Bedfordshire into Northamptonshire. There were probably many small local kilns producing pottery for the immediate market, resulting in variations in fabric and form.

The classic lid-seated (or channel rim) jar with the single-channel rim, ubiquitous in the 1st century further south**,** is relatively rare on the site. There are some small lid-seated jars, such as one from fill (385) in ditch 21 which has a rim diameter of only 140mm, but the rims differ in shape from the classic form and, as with the fabrics, are indicative of local production for a local market. Other jar forms are everted rimmed or bead rimmed jars, and storage jars in the same forms as F05. Open straight-sided bowls are also found in small quantities as are vessels with finely turned pedestals or footrings.

Decoration is rare and limited to horizontal grooves or combing. There is one example of a lid-seated jar with slashed rim, a decoration commonly found in the north Bedfordshire area. The single pedestal base is finely burnished on the exterior.

F07B - Oolitic limestone (14 sherds; 0.053 kg)
On the surface this fabric looks very like a grog-tempered F06 type, but in the break the oolitic inclusions are clearly visible as small white or buff spherical inclusions, 0.2-0.5mm, resulting in a speckled appearance against the dark grey background. Some large brown grog inclusions are also visible, up to 2.0mm.

Forms are indistinguishable and decoration is absent.

F08 - Shell and grog (7 sherds; 0.171 kg)
Not common. Quite a mixed fabric with some quartz mixed in with it. One example is much abraded, orange throughout and contains small rounded buff inclusions which could be either limestone or grog.

This is not a common type on the site and only jars were identified. A single everted rim and a single instance of vertical combing/twig brushing were found.

F09 - Sand and grog (118 sherds; 0.989 kg)
A sandy fabric with varying amounts of grog added, which can sometimes be minimal. Some are particularly hard fired, grog visible only on orange surfaces and not in the black core; grog is clearly visible as black or buff inclusions when the core is a lighter colour.

Cordoned jars, some with corrugated necks, are the principal form although a single platter was also found (temp illust 18). A possible ceramic 'plug' occurred in this fabric and was either a repair or possibly applied to a concave base to aid in stability.

With the exception of the cordons, decoration is limited to single instances of bands of incised wavy lines and horizontal grooves.

Roman

R03A – Verulamium Region whiteware (1 sherd; 0.005 kg)
Fully described by Tomber and Dore (1998, 154).

R03C - White ware – smooth (21 sherds; 0.115 kg)
A fine, smooth whiteware. Mainly undiagnostic body sherds but one possible beaker was identified from the small finely turned footring base. Dating and source unknown.

R05A - Oxidised sandy (39 sherds; 0.285 kg)
A broad fabric category covering oxidised sandy fabrics, usually orange or orange-pink in colour but can be shades of buff or brown, often in patches, with a light grey core, and an 'emery board' feel. Occasional shell, grog and/or flint mixed in. Possibly within the same category as Marney's 2nd-century sandy wares (Marney 1989,), although dating is uncertain.

Mainly undiagnostic body sherds were found, but one lid-seated jar and two cordoned jars were identified. All sherds are undecorated.

R05B – Fine orange (29 sherds; 0.060 kg)
Thin-walled vessels, often rouletted, with orange surfaces and thin grey cores. Slightly micaceous.

Most of the sherds are thought to be from beakers, from the thinness of the bodies. One at least has a cornice rim. A single flagon was found. All sherds are undecorated.

R05C – Orange micaceous (1 sherds; 0.003 kg)
Two small sherds only, very abraded, orange throughout with a slightly orange-buff surface. Micaceous especially on the surfaces, with frequent rounded red iron ore inclusions and small quartz inclusions, approx. 0.2mm.

Forms indistinguishable.

R06 - Grey wares
Grey wares make up 43.46%, of the Roman assemblage. There are a number of groupings, divided primarily by principal inclusion and coarseness of fabric and it is likely that the sources of these varying groups are wide ranging. The broad fabric groups are described below.

R06B - Grey ware – coarse (17 sherds; 0.124 kg)
Fairly rough to the touch, with an 'emery board' feel. Mid-grey surfaces with darker grey cores and occasional thin buff margins.

Forms are indistinguishable although two body sherds with cordons were found. All sherds are undecorated.

R06C - Grey ware – fine (197 sherds; 1.319 kg)
A relatively wide range of fabrics is found within this category of fine, smooth greyware. They range from a light grey, powdery fabric with dark grey surfaces, through a fine, mid-grey fabric with an 'emery board' feel, to a hard fired variant with a distinctive hackly break and an almost white core. Most probably originate in the Nene Valley.

A relatively wide variety of forms is found in this fabric category, including poppy head beakers, plain rim dishes, cordoned jars and necked jars. Decoration, however, is rare but does include barbotine decoration on one poppy head beaker, and a vertical band of fine combing on one body sherd.

R06F - Grey ware – grog and sand (83 sherds; 1.028 kg)
Grey surfaces with dark grey cores, and occasional patchy paler internal surfaces. Soft, powdery feel with infrequent but quite large grog inclusions, up to 1.5mm; quartz grains are finer, approx. 0.2mm and the occasional red iron ore fragment at 0.5-1.0mm. A possible development of F09 ('belgic' sand and grog), but the transition can be imperceptible.

A jar with a developed lid-seated rim was found, as well as a bowl with a small slightly squared-off rectangular rim. A vessel with an ompholos base has four pre-firing holes around the edge. All the holes have a diameter of 5mm. The function of this vessel is probably as a cheese press; the position of the holes around the edge and the raised centre of the base suggest the straining of liquids.

R06J - Grey ware – black cored (9 sherds; 0.062 kg)
A fine, smooth fabric grey surfaced, distinguishable by the black cores. Surface colour varies from grey to brown or buff.

A single sherd could be allocated to a form, a neck sherd from a possible jar. All sherds are undecorated.

R07A – Black Burnished (BB1) (1 sherd; 0.009 kg)
Described by Tomber and Dore (1998, 127). A single small everted rim jar was found.

R07B – Black ware – gritty (36 sherds; 0.158 kg)
Characterised by black surfaces with grey or brownish cores, fine even quartz approx 0.3mm.

Most sherds are undiagnostic but they come from fairly thin-walled vessels, some as thin as 3mm. Single examples of a lid-seated jar, an open rounded bowl and a possible butt-beaker were found. All are undecorated.

R07F – Black ware – silty (57 sherds; 0.233 kg)
Fine smooth fabric, black often burnished surface with brown or red-brown margins and a grey core. Surfaces are very smooth but the fabric contains moderate amounts of quartz and some red iron ore inclusions.

A single lid-seated jar was recognised.

R09A - Soft pink grogged (5 sherds; 0.021 kg)
Large, rounded clay pellets, as well as angular grog, are present. This type has been fully described by Tomber and Dore (1998, 210); discussed by Marney (1989, 174) and updated by Taylor (2004, 60-66). This type is local to north Buckinghamshire, but with a wide distribution. Kilns producing pottery of this tradition have been excavated at Stowe Park, Buckinghamshire (Henig and Booth 2000, 172). It is dated from the mid-late 2nd century but continues in use possibly into the 5th century (Marney 1989, 55).

Undiagnostic body sherds occurring as residual pottery in phase 7.

R10B - Fine buff (5 sherds; 0.053 kg)
Fairly fine, smooth fabric, buff-brown throughout, but with occasional light grey patches. Frequent quartz inclusions, sub-angular, varying in size from 0.1-0.5mm; occasional rounded black iron ore inclusions, approx. 0.2mm, and the occasional rounded buff grog fragment, 0.5-1.0mm.

Undiagnostic body sherds and a single small rim from a possible jar.

R11C - Parchment ware (1 sherd; 0.001 kg)
A single tiny fragment of a fine white ware, with thin red-painted decoration, the motif unrecogniseable. Northampton or Oxford.

R12B –Nene Valley colour coat (49 sherds; 0.312 kg)
Described by Tomber and Dore (1998, 118) and discussed by Howe, Perrin and Macreth (1980), Perrin and Webster (1990) and Dannell et al (1993).

A single everted rim jar was found; all other identifiable sherds come from beakers, three of which are rouletted.

R13 – Shell tempered (172 sherds; 0.765 kg)
Fully described and discussed by Brown (1994) and Tomber and Dore (1998, 115). Shelly pottery was manufactured in the Bedfordshire/Northamptonshire area throughout the Iron Age and the Roman period. Hand-made vessels, usually late Iron Age or Conquest period, have been coded F07 (see above) while the mass produced wheel-thrown wares are coded R13, although it is not always easy to distinguish between them.

Mass production of this pottery began in the very early Conquest period, possibly soon after the demise of the small individual potting workshops scattered throughout the region. Harrold, in north Bedfordshire, was the centre of this production and the type continued in use throughout the Roman period in its area of manufacture. The distribution of this type is wide and it is a likely source for at least some of the wheel-thrown shelly wares found at Priors Hall, Corby.

Forms are mainly storage jars with roll rims, or jars with undercut rims. Single examples of a lid-seated jar and a reeded rim bowl were identified. Decoration is restricted to occasional horizontal combing.

R18A – pink gritty (4 sherds; 0.007 kg)
Pale pink, gritty fabric, fairly hard and well-smoothed. Quartz is the principal inclusion, 0.2-0.5mm, although red iron ore is also present, clearly visible against the pale background. Surfaces have a 'pimply' appearance due to the inclusions protruding through the surfaces.

Manufactured in the Verulamium region, this is rare on the site. A single possible flagon was found.

R31 – Coarse white ware (81 sherds; 0.827 kg)
A coarse lumpy fabric, white to buff-pink in colour, whose principal inclusions are large lumps of white grog or clay pellets which can be up to 5.0mm in size, but also red iron ore ranging from 0.2-0.5mm and small quartz grains approx 0.2mm.

Lid seated bowls (temp illust 9) and jars (temp illust 17 and 19) were found. Other forms identified are cordoned jars and a developed lid-seated jar. Cordons and grooves on the cordoned jars are the only decoration.

R37 – London-type ware (31 sherds; 0.233 kg)
A fine greyware with a 'silty' feel, characterised by the distinctive incised and compass inscribed decoration (temp illust 6). Copied frequently throughout southern England, the single vessel from the site is a copy of a Drag 37 bowl. 2nd century in date.

R – unidentifiable but possibly Roman (1 sherd; 0.001 kg)

6.4 The Flints

By Barry Bishop

The archaeological investigations at the site retrieved 142 worked flints (Table 5). The material represents a moderate sized assemblage that was mostly recovered in small quantities within later features from across the site. No stratified groups or concentrations of material were identified that could indicate significant or persistent lithic-using activities, although a few contexts did contain minor assemblages that may have been contemporary with the features. The assemblage was manufactured from fine-grained flint of varied colours, the cortex and size of the flakes indicating that small pebbles, probably obtained from local alluvially reworked deposits, were mainly utilized.

Table 5-Summary of Flint

Context	Decortication Flake	Mis-Struck flake	Chip	Flake	Fake Fragment	Blade	Broken Blade	Blade-Like Flake	Core	Conchoidal chunk	Arrowhead	Notch	Piercer	Retouched flake	Scraper	Context Total	Suggested struck flint date
001		2			1									3	1	7	M-EBA
001 SF2					1											1	UD
001 SF3												1				1	BA
001 SF4	1															1	UD

Context	Decortication Flake	Mis-Struck flake	Chip	Flake	Fake Fragment	Blade	Broken Blade	Blade-Like Flake	Core	Conchoidal chunk	Arrowhead	Notch	Piercer	Retouched flake	Scraper	Context Total	Suggested struck flint date
001 SF5									1							1	MEN
001 SF6				1												1	UD
001 SF7															1	1	LNEBA
001 SF24															1	1	LNEBA
001 SF25	1															1	UD
002			1												1	2	LNEBA
003				1												1	UD
005					1											1	UD
042			1													1	UD
063					1											1	UD
073					2											2	UD
079							1									1	MEN
088	1		3							4						8	UD
098				1												1	M-EBA
113	1															1	UD
116			1												1	2	LNEBA
121										1						1	UD
142							1									1	MEN
144					1											1	UD
189	1							1							1	3	LNEBA
228			1							1						2	UD
256			2		1			1		1						5	MEN
362					1											1	UD
383													1			1	LNEBA
402						1										1	MEN
408															1	1	LNEBA
417			1	3	2		2	1	1						1	11	MEN
418	2		1	2	4		2	1		1						13	MEN
420									1							1	MEN
476	1								1	2						4	MEN
491							1									1	MEN
492											1					1	EN
553	1		1	2	1	1	3	1								10	MEN
555					1					1					1	3	MEN
575			1													1	MEN
577	1															1	UD
620								1								1	MEN
648					1											1	UD
649				2												2	M-EBA
663												1				1	UD
714															1	1	UD
728	1															1	UD
796					1											1	UD
801					1											1	UD
893		1														1	UD
904			1		1											2	UD
950		1	2		1	1	5	2		1						13	MEN
960			1													1	M-EBA
995	1				1											2	UD
1006					1											1	UD
1335					1											1	UD
1390							1									1	UD
1411							1									1	MEN
1435										1						1	MEN
2001								1									MEN
2086					1												UD

Context	Decortication Flake	Mis-Struck flake	Chip	Flake	Fake Fragment	Blade	Broken Blade	Blade-Like Flake	Core	Conchoidal chunk	Arrowhead	Notch	Piercer	Retouched flake	Scraper	Context Total	Suggested struck flint date
2651			1														UD
2253					1												UD
2705			1														MEN
2197						1				1							MEN
2198	1					1											MEN
2084														1			EN
Total	**13**	**4**	**19**	**12**	**27**	**5**	**17**	**9**	**4**	**14**	**1**	**2**	**1**	**4**	**10**	**142**	
%	**9.2**	**2.8**	**13.4**	**8.5**	**19**	**3.5**	**12.0**	**6.3**	**2.8**	**9.9**	**0.7**	**1.4**	**0.7**	**2.8**	**7.0**	**100**	

Abbreviations
MEN Mesolithic or Early Neolithic
UD Undateable
EN Early Neolithic
M-EBA Mesolithic to Early Bronze Age
LNEBA Late Neolithic or Early Bronze Age

6.5 The Slag

By Anthony Swiss, David Greenwood and Gerry McDonnell

The Slag analysis and methodology is fully referenced in the Chronological Narrative. Due to the significance of the Priors Hall slag and their designation as the type-series for the Northants region all tables relating to their analysis are included here.

The following tables relate are referred to in the main text.

Table 6- Results of morphological examination of selected slags from Corby Priors Hall.

No	Sample ID	Weight (g)	Magnetic	Munsell colour description (Soil and Slag)	Morphological Description
1	F1-054	32.4	N	10YR 5/2 (greyish-brown) and 10YR 2/1 (black)	Globular – porous
2	F1-110	49.8	N	7.5YR 4/4 (brown) and 5PB 5/1 (bluish-grey)	Globular – 'rusty' – porous
3	F1-782	53.7	N	7.5YR 4/4 (brown) and 10YR 2/1 (black)	Globular – 'rusty'
4	F2-509	49.6	N	10YR 5/2 (greyish-brown) and 10YR 2/1 (black)	Globular – 'rusty'
5	F2-790	24.5	N	7.5YR 6/3 (light brown) and 10YR 2/1 (black)	Globular – 'rusty'
6	F2-917	122.0	N	7.5YR 4/4 (brown) and 10YR 2/1 (black)	Globular – 'rusty'
7	F2-Slag Block (1 of 2)	25.0	Y	7.5YR 3/4 (dark brown) and 10YR 2/1 (black)	Ropey – 'rusty' – porous
8	F2-Slag Block (2 of 2)	47.4	Y	7.5YR 3/4 (dark brown) and 10YR 2/1 (black)	Ropey – 'rusty' – porous
9	F3A-984	106.5	N	7.5YR 3/4 (dark brown) and 10YR 2/1 (black)	Globular – 'rusty' – porous
10	F3A-1044	105.8	N	7.5YR 6/3 (light brown) and 5PB 5/1 (bluish-grey)	Globular – 'rusty'
11	F3A-Slag & Lining	47.6	N	7.5YR 6/3 (light brown) and 5PB 5/1 (bluish-grey)	Globular – 'rusty'
12	F3B-716	30.3	N	7.5YR 6/3 (light brown) and 5PB 5/1 (bluish-grey)	Globular – 'rusty'
13	F3B-718	44.6	N	7.5YR 6/3 (light brown) and 5PB 5/1 (bluish-grey)	Globular – 'rusty' – porous
14	F3B-925	28.6	N	7.5YR 4/4 (brown) and 10YR 2/1 (black)	Globular – 'rusty' – porous
15	F4-897	32.0	N	7.5YR 6/3 (light brown) and 5PB 5/1 (bluish-grey)	Globular – 'rusty' – porous
16	F4-985	25.7	N	7.5YR 6/3 (light brown) and 5PB 5/1 (bluish-grey)	Globular – 'rusty' – porous
17	F4-1032	31.3	N	7.5YR 4/4 (brown) and 10YR 2/1 (black)	Ropey – 'rusty'
18	F5-832	20.2	N	7.5YR 6/3 (light brown) and 5PB 5/1 (bluish-grey)	Globular – porous
19	F5-834	19.4	N	7.5YR 6/3 (light brown) and 5PB 5/1 (bluish-grey)	Globular – 'rusty' – porous
20	F5-973	67.4	N	7.5YR 4/4 (brown) and 10YR 2/1 (black)	Ropey – 'rusty'
21	Misc-258	9.1	N	7.5YR 6/3 (light brown) and 10YR 2/1 (black)	Globular – porous
22	Misc-708	32.0	N	7.5YR 6/3 (light brown) and 5PB 5/1 (bluish-grey)	Globular – porous
23	Misc-716	27.1	N	7.5YR 6/3 (light brown) and 10YR 2/1 (black)	Globular – 'rusty'
24	Misc-749	13.9	Y	7.5YR 6/3 (light brown) – no slag visible	Globular – 'rusty'
25	Misc-761	68.7	Y	7.5YR 6/3 (light brown) and 5PB 5/1 (bluish-grey)	Globular – 'rusty' – porous

26	Misc-931	17.0	N	7.5YR 6/3 (light brown) and 5PB 5/1 (bluish-grey)	Globular – 'rusty' – porous
27	Misc-1072	37.1	N	7.5YR 4/4 (brown) and 10YR 2/1 (black)	Ropey – 'rusty'
28	Misc-Tap Slag Hearth	24.5	N	7.5YR 6/3 (light brown) and 10YR 2/1 (black)	Ropey – 'rusty'
29	Misc-Tap Slag 'D'	41.2	N	7.5YR 4/4 (brown) and 10YR 2/1 (black)	Ropey – 'rusty'
30	Misc-Roasted Ore	33.1	N	10R 3/3 (dusky red)	Smooth – 'powdery'

Table 7– Bulk analyses results for Corby Priors Hall slags.

	Na_2O	MgO	Al_2O_3	SiO_2	P_2O_5	SO_3	K_2O	CaO	TiO_2	MnO	FeO	CoO	NiO	CuO	TOTAL
F1-054															
Area 1	0.2	0.4	7.2	31.2	1.2	0.1	1.1	1.5	0.5	0.4	55.8	0.3	n.d.	n.d.	**100.0**
Area 2	0.3	0.2	10.0	32.7	1.8	0.3	1.9	2.6	0.6	0.3	49.3	0.2	n.d.	n.d.	**100.0**
Area 3	0.4	0.2	8.6	31.8	1.3	0.2	1.5	2.1	0.5	0.5	52.7	0.3	n.d.	n.d.	**100.1**
Area 4	0.2	0.5	6.9	30.4	0.9	0.1	1.0	1.2	0.4	0.3	58.0	0.2	n.d.	n.d.	**100.0**
Area 5	0.2	0.2	10.5	32.4	1.6	0.2	1.8	2.3	0.7	0.4	49.8	0.1	n.d.	n.d.	**100.1**
AVERAGE	**0.2**	**0.3**	**8.6**	**31.7**	**1.4**	**0.2**	**1.4**	**1.9**	**0.5**	**0.4**	**53.1**	**0.2**	**n.d.**	**n.d.**	100.0
F1-782															
Area 1	0.2	0.2	5.9	30.5	0.8	0.1	0.9	1.8	0.6	0.4	58.4	0.3	0.1	n.d.	**100.1**
Area 2	0.3	0.1	6.9	27.3	0.8	n.d.	1.1	1.7	0.7	0.3	60.8	0.1	n.d.	n.d.	**100.0**
Area 3	0.3	0.3	5.6	29.5	0.7	0.2	0.9	1.5	0.6	0.3	59.9	0.1	0.1	n.d.	**100.0**
Area 4	0.3	0.2	6.8	28.5	0.8	0.2	1.3	1.5	0.8	0.3	58.9	0.2	0.2	0.1	**100.0**
Area 5	0.2	0.2	5.3	29.0	0.8	0.1	0.9	1.7	0.6	0.4	60.6	n.d.	0.1	n.d.	**100.0**
AVERAGE	**0.3**	**0.2**	**6.1**	**29.0**	**0.8**	**0.1**	**1.0**	**1.6**	**0.7**	**0.4**	**59.7**	**0.1**	**0.1**	**n.d.**	100.0
F2-509															
Area 1	0.2	0.3	7.0	60.0	0.8	0.1	0.8	1.2	1.9	0.2	27.4	0.1	n.d.	0.2	**100.0**
Area 2	0.2	0.2	5.0	58.5	0.7	0.1	0.3	1.5	0.3	0.3	32.7	0.2	n.d.	0.1	**100.1**
Area 3	0.3	0.2	4.6	73.8	0.7	0.1	0.5	0.8	1.0	0.1	17.8	n.d.	n.d.	0.1	**100.1**
Area 4	0.1	0.2	5.1	68.9	0.4	0.2	0.5	0.7	1.5	0.1	22.2	0.2	n.d.	n.d.	**100.0**
Area 5	0.1	0.1	4.1	78.3	0.5	n.d.	0.5	0.8	0.9	0.1	14.4	0.1	n.d.	n.d.	**100.0**
AVERAGE	**0.2**	**0.2**	**5.2**	**67.9**	**0.6**	**0.1**	**0.5**	**1.0**	**1.1**	**0.2**	**22.9**	**0.1**	**n.d.**	**0.1**	100.0
F2-917															
Area 1	0.3	0.3	5.6	23.6	1.4	n.d.	0.3	0.9	0.2	0.2	67.0	0.2	0.1	n.d.	**100.1**
Area 2	0.3	0.4	5.8	25.6	1.8	n.d.	1.0	1.0	0.3	0.3	63.4	0.3	0.1	n.d.	**100.1**
Area 3	0.3	0.2	6.2	24.1	1.8	n.d.	0.7	0.9	0.2	0.3	65.1	0.3	0.1	n.d.	**100.1**

Area 4	0.2	0.3	6.4	22.1	1.3	n.d.	0.1	0.6	0.3	0.3	68.4	0.1	n.d.	n.d.	**100.1**
Area 5	0.3	0.3	7.2	24.7	2.1	0.1	1.6	1.1	0.3	0.3	61.7	0.5	n.d.	n.d.	**100.1**
AVERAGE	**0.3**	**0.3**	**6.2**	**24.0**	**1.7**	**n.d.**	**0.7**	**0.9**	**0.3**	**0.3**	**65.1**	**0.3**	**0.1**	**n.d.**	**100.1**

	Na_2O	**MgO**	**Al_2O_3**	**SiO_2**	**P_2O_5**	**SO_3**	**K_2O**	**CaO**	**TiO_2**	**MnO**	**FeO**	**CoO**	**NiO**	**CuO**	**TOTAL**
F3A-984															
Area 1	0.3	0.4	8.3	23.6	2.4	0.2	0.8	1.0	0.3	0.5	62.0	0.2	n.d.	0.1	**100.1**
Area 2	0.2	0.4	6.8	23.2	2.1	n.d.	0.7	1.0	0.4	0.5	64.4	0.3	n.d.	n.d.	**100.0**
Area 3	0.1	0.6	6.8	25.1	1.1	0.1	0.1	0.4	0.3	0.6	64.6	0.3	n.d.	n.d.	**100.1**
Area 4	0.5	0.3	9.4	30.7	1.5	0.3	1.3	0.6	0.6	0.5	54.1	0.2	n.d.	n.d.	**100.0**
Area 5	0.3	0.6	5.3	24.1	1.7	n.d.	0.3	0.8	0.4	0.5	65.7	0.4	n.d.	n.d.	**100.1**
AVERAGE	**0.3**	**0.5**	**7.3**	**25.3**	**1.8**	**0.1**	**0.6**	**0.8**	**0.4**	**0.5**	**62.2**	**0.3**	**n.d.**	**n.d.**	**100.0**
F3A-1044															
Area 1	0.3	0.2	6.7	21.4	2.2	0.1	0.5	0.8	0.2	0.6	66.9	0.4	n.d.	n.d.	**100.2**
Area 2	0.1	0.1	5.8	21.6	1.9	0.2	0.4	0.6	0.5	0.3	68.1	0.2	n.d.	n.d.	**100.0**
Area 3	0.3	0.3	5.3	20.9	1.6	0.1	0.5	0.5	0.3	0.3	69.7	0.3	n.d.	0,1	**100.1**
Area 4	0.3	0.4	5.5	20.8	1.6	0.2	0.4	0.6	0.4	0.3	69.3	0.3	0.1	n.d.	**100.1**
Area 5	0.1	0.3	5.6	21.4	1.7	0.1	0.4	0.5	0.4	0.4	68.9	0.2	n.d.	n.d.	**100.0**
AVERAGE	**0.2**	**0.3**	**5.8**	**21.2**	**1.8**	**0.1**	**0.4**	**0.6**	**0.4**	**0.4**	**68.6**	**0.3**	**n.d.**	**n.d.**	**100.0**
F3B-716															
Area 1	0.2	0.6	7.9	20.1	0.7	n.d.	0.4	0.5	0.4	0.5	68.4	0.2	0.2	n.d.	**100.0**
Area 2	0.4	0.2	10.8	18.5	0.8	0.1	0.2	0.3	0.4	0.5	67.3	0.4	n.d.	0.1	**100.0**
Area 3	0.3	0.2	7.6	19.7	0.8	0.2	0.3	0.6	0.4	0.4	69.6	0.4	n.d.	n.d.	**100.3**
Area 4	0.1	0.2	3.1	21.2	0.6	0.1	n.d.	0.6	0.3	0.6	73.3	0.1	n.d.	n.d.	**100.2**
Area 5	0.3	0.3	7.7	18.2	2.4	n.d.	0.5	1.4	0.5	0.4	67.9	0.3	n.d.	0.1	**100.0**
AVERAGE	**0.2**	**0.3**	**7.4**	**19.5**	**1.0**	**0.1**	**0.3**	**0.7**	**0.4**	**0.5**	**69.3**	**0.3**	**n.d.**	**n.d.**	**100.0**
F3B-718															
Area 1	n.d.	0.3	5.9	26.9	0.5	0.2	0.9	0.2	0.3	0.4	64.4	0.1	n.d.	n.d.	**100.1**
Area 2	n.d.	0.4	4.9	25.9	0.4	0.1	0.1	0.2	0.3	0.4	67.1	0.2	0.1	n.d.	**100.0**
Area 3	n.d.	0.7	3.1	27.7	0.3	0.2	0.1	0.1	0.2	0.7	66.6	0.4	n.d.	n.d.	**100.1**
Area 4	0.1	0.7	3.5	27.7	0.7	0.1	0.1	0.3	0.2	0.8	65.5	0.3	0.1	0.1	**100.0**
Area 5	0.2	0.2	5.8	30.7	0.7	0.2	0.9	0.3	0.4	0.4	59.7	0.5	n.d.	0.1	**100.0**

AVERAGE	**n.d.**	**0.5**	**4.6**	**27.8**	**0.5**	**0.2**	**0.4**	**0.2**	**0.3**	**0.6**	**64.7**	**0.3**	**n.d.**	**n.d.**	**99.9**

	Na_2O	**MgO**	**Al_2O_3**	**SiO_2**	**P_2O_5**	**SO_3**	**K_2O**	**CaO**	**TiO_2**	**MnO**	**FeO**	**CoO**	**NiO**	**CuO**	**TOTAL**
F4-897															
Area 1	0.1	0.7	6.5	22.9	1.7	0.1	0.6	1.3	0.5	0.6	65.1	0.2	0.1	n.d.	**100.1**
Area 2	0.2	0.4	8.0	26.1	2.9	0.1	1.4	2.6	0.7	0.6	56.5	0.3	0.1	0.1	**100.0**
Area 3	0.1	0.8	8.7	25.2	2.3	0.1	0.7	2.0	0.5	0.8	58.8	0.3	n.d.	n.d.	**100.1**
Area 4	n.d.	0.6	13.2	21.6	0.2	0.1	n.d.	0.4	0.6	0.8	62.1	0.5	0.2	n.d.	**100.2**
Area 5	0.2	0.6	8.8	21.9	1.9	n.d.	0.6	1.6	0.6	0.7	62.8	0.4	n.d.	n.d.	**100.1**
AVERAGE	**0.1**	**0.6**	**9.0**	**23.5**	**1.8**	**0.1**	**0.7**	**1.6**	**0.5**	**0.7**	**61.1**	**0.3**	**0.1**	**n.d.**	**100.1**
F4-985															
Area 1	0.2	0.1	2.3	16.6	0.8	0.2	n.d.	0.6	0.6	0.6	77.9	0.3	n.d.	n.d.	**100.2**
Area 2	0.1	0.5	3.3	28.2	0.8	n.d.	n.d.	0.3	0.1	0.8	65.7	n.d.	n.d.	0.1	**100.0**
Area 3	0.1	0.3	3.1	22.8	1.5	0.1	0.1	0.7	0.1	0.7	70.6	0.1	n.d.	n.d.	**100.1**
Area 4	0.1	0.7	2.8	24.2	0.8	n.d.	0.1	0.4	0.2	0.8	69.7	0.4	n.d.	n.d.	**100.1**
Area 5	0.4	0.5	4.5	24.8	1.4	0.1	n.d.	0.7	0.2	0.8	66.4	0.1	n.d.	0.1	**100.0**
AVERAGE	**0.2**	**0.4**	**3.2**	**23.3**	**1.0**	**0.1**	**n.d.**	**0.6**	**0.3**	**0.7**	**70.1**	**0.2**	**n.d.**	**n.d.**	**100.0**
F5-832															
Area 1	0.3	0.5	7.8	27.0	1.3	0.1	1.1	1.3	0.2	0.5	60.0	0.2	n.d.	n.d.	**100.1**
Area 2	0.3	0.3	7.6	23.5	2.4	0.2	0.4	1.8	0.4	0.5	62.2	0.3	n.d.	n.d.	**100.0**
Area 3	0.2	0.4	4.4	22.5	1.5	0.1	0.2	1.4	0.3	0.4	68.6	0.1	n.d.	n.d.	**100.1**
Area 4	0.1	0.4	3.1	23.4	1.0	0.1	n.d.	1.1	0.3	0.5	69.9	0.3	n.d.	n.d.	**100.2**
Area 5	0.2	0.3	6.2	25.1	2.8	0.1	0.8	2.4	0.3	0.4	61.2	0.2	n.d.	n.d.	**100.0**
AVERAGE	**0.2**	**0.4**	**5.8**	**24.3**	**1.8**	**0.1**	**0.5**	**1.6**	**0.3**	**0.5**	**64.4**	**0.2**	**n.d.**	**n.d.**	**100.1**
F5-973															
Area 1	0.4	0.1	6.8	33.5	1.0	0.1	1.0	0.9	0.7	0.6	55.0	n.d.	n.d.	0.1	**100.1**
Area 2	0.4	0.2	5.8	31.8	0.9	0.1	1.0	0.7	0.6	0.6	58.0	0.1	n.d.	n.d.	**100.1**
Area 3	0.4	0.3	6.3	39.2	0.8	n.d.	1,1	0.9	0.9	0.4	49.7	0.1	0.1	n.d.	**100.1**
Area 4	0.2	0.1	6.3	31.8	0.9	0.2	0.9	0.9	0.8	0.5	57.5	n.d.	n.d.	n.d.	**100.1**
Area 5	0.3	0.3	7.2	35.9	0.8	0.2	1,1	1.0	0.9	0.5	51.4	0.3	0.1	n.d.	**100.0**
AVERAGE	**0.3**	**0.2**	**6.5**	**34.4**	**0.9**	**0.1**	**1.0**	**0.9**	**0.8**	**0.5**	**54.3**	**0.1**	**n.d.**	**n.d.**	**100.0**

	Na_2O	MgO	Al_2O_3	SiO_2	P_2O_5	SO_3	K_2O	CaO	TiO_2	MnO	FeO	CoO	NiO	CuO	TOTAL
TAP SLAG 'D'															
Area 1	0.2	0.3	5.9	26.7	1.2	n.d.	1.3	0.9	0.4	0.3	62.8	0.2	n.d.	n.d.	**100.0**
Area 2	0.3	0.2	5.9	26.9	1.4	n.d.	1.2	1.0	0.3	0.4	62.0	0.3	0.2	n.d.	**100.0**
Area 3	0.3	0.3	6.4	27.0	1.3	0.1	1.5	1.1	0.3	0.4	60.9	0.4	0.1	n.d.	**100.0**
Area 4	0.2	0.2	6.1	26.0	1.3	n.d.	1.1	1.0	0.3	0.4	63.0	0.5	n.d.	n.d.	**100.0**
Area 5	0.3	0.2	6.1	26.2	1.1	0.1	0.9	0.9	0.4	0.4	63.2	0.4	n.d.	n.d.	**100.0**
AVERAGE	**0.2**	**0.2**	**6.1**	**26.6**	**1.3**	**n.d.**	**1.2**	**1.0**	**0.3**	**0.4**	**62.4**	**0.3**	**n.d.**	**n.d.**	**99.9**
TAP SLAG HEARTH															
Area 1	n.d.	0.7	18.9	17.9	0.9	n.d.	n.d.	1.0	0.6	0.5	59.4	0.2	n.d.	n.d.	**100.0**
Area 2	0.3	1.3	5.4	27.8	1.9	0.1	0.4	2.3	0.5	0.6	59.2	0.3	n.d.	n.d.	**99.9**
Area 3	0.3	0.6	7.2	26.6	3.6	0.3	1.0	4.2	0.5	0.5	55.0	0.4	n.d.	n.d.	**100.1**
Area 4	n.d.	1.0	3.8	26.5	1.0	0.1	0.2	1.2	0.2	0.6	65.1	0.3	n.d.	n.d.	**100.0**
Area 5	0.1	0.6	6.8	29.7	2.0	0.1	2.2	2.3	0.3	0.5	55.3	0.2	n.d.	n.d.	**100.0**
AVERAGE	**0.1**	**0.8**	**8.4**	**25.7**	**1.8**	**0.1**	**0.8**	**2.2**	**0.4**	**0.6**	**58.8**	**0.3**	**n.d.**	**n.d.**	**100.0**

Sample/Phase	Na_2O	MgO	Al_2O_3	SiO_2	P_2O_5	SO_3	K_2O	CaO	TiO_2	MnO	FeO	CoO	NiO	CuO	TOTAL
F1-054															
Silicate	0.5	n.d.	13.4	38.5	4.5	0.6	4.4	6.2	1.4	0.2	30.3	0.1	n.d.	0.1	**100.1**
FeOX	n.d.	n.d.	0.1	0.1	n.d.	n.d.	0.1	n.d.	n.d.	n.d.	99.3	0.4	0.3	n.d.	**100.3**
Hercynite	n.d.	0.2	50.3	0.4	0.2	0.1	n.d.	n.d.	1.1	0.1	47.3	0.5	n.d.	n.d.	**100.1**
Silicate	n.d.	0.6	0.6	30.4	0.5	n.d.	n.d.	0.3	0.1	0.6	67.0	0.3	n.d.	n.d.	**100.3**
Hercynite	n.d.	n.d.	36.1	1.9	0.2	n.d.	0.2	0.2	5.8	0.2	55.2	0.3	n.d.	n.d.	**100.1**
F1-782															
Silicate	n.d.	0.2	3.5	27.5	0.3	n.d.	n.d.	0.4	0.8	0.4	66.5	0.4	n.d.	n.d.	**100.0**
FeOX	n.d.	0.1	0.4	0.7	n.d.	0.2	n.d.	0.2	0.4	0.2	97.3	0.5	0.2	n.d.	**100.1**
Glassy	1.5	n.d.	17.6	41.3	3.7	0.2	7.2	9.3	0.7	0.1	18.6	n.d.	n.d.	n.d.	**100.1**
F2-509															
Silicate	0.2	1.0	0.1	34.0	0.2	0.1	n.d.	0.2	0.2	0.3	63.7	0.3	n.d.	n.d.	**100.0**
Glassy	0.4	0.1	15.3	51.9	1.5	0.1	1.8	2.0	2.5	0.1	24.2	0.2	n.d.	n.d.	**100.1**
SiO2	0.1	0.1	0.8	97.3	0.1	n.d.	0.1	0.2	0.2	n.d.	1.2	n.d.	n.d.	n.d.	**100.0**

Glassy	0.3	0.2	5.8	39.8	1.0	0.2	0.6	1.0	1.2	0.3	49.5	0.1	n.d.	n.d.	**100.2**
F2-917															
Glassy	0.7	n.d.	14.4	32.7	11.9	0.1	11.9	7.5	0.3	n.d.	20.8	n.d.	n.d.	n.d.	**100.2**
Glassy	0.2	n.d.	19.0	45.8	5.7	n.d.	16.4	4.5	0.2	n.d.	7.8	0.1	0.2	n.d.	**100.0**
Apatite	1.9	n.d.	3.9	9.4	38.8	n.d.	5.6	31.4	n.d.	n.d.	9.5	n.d.	n.d.	0.1	**100.5**
Silicate	0.1	n.d.	4.5	9.1	7.4	0.7	4.2	3.5	0.7	0.1	69.7	0.2	n.d.	n.d.	**100.1**

Table 8- Phase analyses results for Corby Priors Hall slag

Sample/Phase	**Na_2O**	**MgO**	**Al_2O_3**	**SiO_2**	**P_2O_5**	**SO_3**	**K_2O**	**CaO**	**TiO_2**	**MnO**	**FeO**	**CoO**	**NiO**	**CuO**	**TOTAL**
F3A-984															
FeOX	n.d.	n.d.	0.5	0.6	0.2	0.1	0.1	0.1	0.7	0.2	97.2	0.6	n.d.	n.d.	**100.0**
Hercynite	0.1	0.1	47.4	0.6	0.2	n.d.	n.d.	0.1	1.3	0.2	49.6	0.2	n.d.	n.d.	**99.9**
Glassy	0.5	n.d.	15.7	41.5	1.2	0.2	6.8	1.1	0.5	n.d.	32.5	0.2	n.d.	n.d.	**100.0**
Silicate	0.1	0.5	0.3	30.8	0.6	0.1	n.d.	0.2	0.1	0.6	66.5	0.4	n.d.	n.d.	**100.0**
FeOX	0.3	0.1	4.8	10.3	0.4	n.d.	1.0	0.3	0.5	0.1	81.7	0.5	0.1	n.d.	**100.0**
Leucite	0.3	n.d.	21.5	56.5	0.5	n.d.	15.8	0.4	0.1	n.d.	4.9	n.d.	n.d.	n.d.	**100.2**
Glassy	0.5	n.d.	13.6	35.9	0.5	0.2	6.4	0.9	0.5	0.1	41.5	0.1	n.d.	n.d.	**100.0**
F3A-1044															
Silicate	n.d.	0.5	0.5	29.8	0.9	n.d.	0.1	0.1	0.1	0.6	67.4	0.3	n.d.	n.d.	**100.2**
Hercynite	n.d.	n.d.	35.7	7.8	0.7	0.1	n.d.	0.1	1.2	0.2	54.0	0.3	n.d.	0.1	**100.1**
FeOX	n.d.	0.1	0.4	0.6	n.d.	n.d.	n.d.	0.1	0.3	0.1	98.0	0.5	0.1	0.1	**100.1**
Glassy	1.2	0.1	4.5	8.3	35.3	0.2	12.7	9.2	0.2	0.2	28.2	0.1	n.d.	n.d.	**100.2**
Glassy	1.3	0.1	6.7	14.2	27.3	0.6	12.7	8.6	0.1	0.3	28.4	n.d.	n.d.	n.d.	**100.2**
F3B-716															
FeOX	n.d.	0.2	0.8	0.5	0.2	n.d.	n.d.	n.d.	0.9	0.3	97.3	0.3	n.d.	n.d.	**100.4**
Silicate	0.1	0.6	0.2	31.0	0.2	n.d.	n.d.	0.3	0.1	0.6	66.9	0.1	n.d.	0.1	**100.2**
Hercynite	0.1	n.d.	46.8	0.4	0.1	n.d.	n.d.	n.d.	1.7	0.2	50.6	0.3	0.1	n.d.	**100.4**
Apatite	2.2	0.1	4.0	0.2	42.8	0.1	0.3	38.2	0.2	0.1	11.5	0.2	0.2	n.d.	**100.0**
Silicate	0.5	0.1	7.3	14.0	0.1	0.1	3.4	n.d.	0.5	0.3	73.4	0.2	0.1	n.d.	**100.0**
Leucite	0.9	n.d.	18.7	46.8	0.3	n.d.	17.8	n.d.	0.3	0.1	15.3	0.1	n.d.	0.1	**100.4**
FeOX	n.d.	n.d.	0.8	0.8	n.d.	0.2	0.2	n.d.	0.8	0.1	97.3	0.2	n.d.	n.d.	**100.3**
Glassy	1.5	n.d.	15.7	37.0	0.5	0.2	9.8	0.5	0.3	0.1	34.6	0.2	n.d.	n.d.	**100.1**

Sample/Phase	Na_2O	MgO	Al_2O_3	SiO_2	P_2O_5	SO_3	K_2O	CaO	TiO_2	MnO	FeO	CoO	NiO	CuO	TOTAL
F3B-718															
Silicate	0.1	0.3	0.6	29.9	0.5	1.9	n.d.	0.3	n.d.	0.2	66.5	0.2	n.d.	n.d.	**100.3**
Silicate	n.d.	0.2	2.1	19.5	0.3	1.2	n.d.	0.2	n.d.	0.1	75.8	0.5	0.2	n.d.	**100.0**
FeOX	0.1	n.d.	0.4	0.6	0.1	0.1	n.d.	n.d.	0.6	0.3	97.3	0.6	n.d.	0.1	**100.0**
Leucite	0.1	n.d.	22.2	56.0	0.2	0.1	20.0	n.d.	0.1	n.d.	1.4	0.1	0.1	n.d.	**100.2**
Silicate	n.d.	0.3	2.3	28.4	1.7	0.6	0.1	0.4	0.2	0.3	65.4	0.4	n.d.	0.1	**100.0**
Silicate	n.d.	0.2	0.1	32.3	0.4	0.1	0.1	0.2	n.d.	0.6	65.4	0.5	0.1	n.d.	**99.9**
Hercynite	0.1	n.d.	10.3	0.4	0.3	n.d.	n.d.	n.d.	19.0	0.2	69.4	0.3	0.2	n.d.	**100.2**
Hercynite	0.1	n.d.	45.5	0.4	0.1	n.d.	0.1	n.d.	1.7	0.2	51.9	0.3	0.1	n.d.	**100.2**
Hercynite	n.d.	n.d.	44.2	0.3	0.2	n.d.	n.d.	n.d.	2.5	0.2	52.6	0.2	n.d.	n.d.	**100.2**
F4-897															
Leucite	0.2	n.d.	19.6	50.0	0.4	n.d.	15.6	0.3	0.4	0.1	13.6	n.d.	n.d.	n.d.	**100.1**
Silicate	0.2	n.d.	6.4	17.1	n.d.	n.d.	2.2	0.4	0.9	0.2	72.5	0.3	n.d.	n.d.	**100.1**
Silicate	0.3	0.1	10.0	23.8	n.d.	n.d.	4.5	0.3	0.7	0.3	60.0	0.3	n.d.	n.d.	**100.1**
Leucite	0.3	n.d.	18.8	47.8	0.3	0.1	15.1	0.3	0.8	n.d.	16.6	n.d.	n.d.	n.d.	**100.1**
Leucite	0.3	n.d.	17.3	47.4	0.2	0.1	13.1	0.8	0.4	0.1	20.6	n.d.	n.d.	n.d.	**100.3**
Leucite	0.2	n.d.	15.9	41.0	0.2	0.1	10.9	0.5	0.9	n.d.	30.2	0.2	n.d.	n.d.	**100.1**
F4-985															
Silicate	0.2	0.5	0.2	30.7	0.4	0.1	n.d.	0.3	n.d.	1.0	65.9	0.5	0.1	0.2	**100.0**
FeOX	0.1	n.d.	1.0	0.7	0.1	n.d.	n.d.	n.d.	0.9	0.3	96.7	0.3	0.1	n.d.	**100.2**
Hercynite	n.d.	0.1	48.2	0.4	n.d.	0.1	n.d.	n.d.	1.3	0.3	49.1	0.4	0.1	n.d.	**99.9**
Silicate	n.d.	n.d.	8.3	9.5	1.3	n.d.	n.d.	0.8	1.5	0.2	78.1	0.3	0.2	0.1	**100.2**
Silicate	n.d.	0.1	18.1	23.7	3.0	0.1	n.d.	1.9	0.6	0.2	52.0	n.d.	0.2	0.2	**100.0**

Sample/Phase	Na_2O	MgO	Al_2O_3	SiO_2	P_2O_5	SO_3	K_2O	CaO	TiO_2	MnO	FeO	CoO	NiO	CuO	TOTAL
F5-832															
Glassy	0.7	0.3	4.3	29.3	3.7	0.1	1.4	3.3	0.2	0.4	56.3	0.2	0.1	n.d.	**100.1**
FeOX	0.2	0.2	0.2	1.8	0.1	0.4	n.d.	n.d.	0.6	0.3	96.1	0.5	0.3	n.d.	**100.9**
Silicate	0.2	0.8	0.3	23.9	0.4	0.1	n.d.	0.3	0.2	0.4	73.3	0.3	n.d.	n.d.	**100.1**
Silicate	n.d.	0.3	0.2	30.8	0.2	n.d.	n.d.	0.9	0.1	0.5	67.0	0.3	n.d.	n.d.	**100.3**
Silicate	0.2	0.1	0.1	33.2	0.2	n.d.	n.d.	1.9	n.d.	0.4	63.8	0.1	n.d.	0.1	**100.0**
Glassy	0.3	n.d.	10.6	26.4	0.3	0.1	9.5	0.2	0.6	0.1	51.9	0.2	n.d.	n.d.	**100.1**

Glassy	0.5	n.d.	11.9	48.8	7.6	0.2	2.4	6.9	0.3	n.d.	21.2	0.1	0.1	n.d.	**99.9**
Silicate	n.d.	0.5	0.3	31.9	0.5	n.d.	n.d.	0.6	n.d.	0.7	65.4	0.2	n.d.	n.d.	**100.1**
Glassy	0.2	n.d.	17.5	26.5	1.4	n.d.	n.d.	11.7	2.8	n.d.	39.8	0.2	0.1	n.d.	**100.0**
Silicate	n.d.	0.2	0.7	28.1	0.7	0.4	0.7	0.7	n.d.	0.1	66.9	1.6	0.4	n.d.	**100.5**
F5-973															
Silicate	0.1	0.2	0.2	32.4	0.2	0.1	n.d.	0.2	0.1	0.8	65.6	0.4	n.d.	n.d.	**100.2**
Glassy	0.5	n.d.	15.1	53.9	2.5	0.5	3.8	4.2	0.7	0.1	18.6	0.1	n.d.	0.1	**100.1**
Misc –Tap Slag 'D'															
FeOX	0.1	0.1	0.4	0.6	0.2	n.d.	n.d.	n.d.	0.7	0.1	97.4	0.3	0.1	n.d.	**100.0**
Silicate	0.1	0.5	0.1	31.9	0.2	n.d.	n.d.	0.3	n.d.	0.6	65.8	0.3	0.1	0.1	**100.0**
Leucite	0.6	n.d.	17.6	41.5	7.6	0.1	14.2	6.0	0.3	n.d.	11.9	0.1	n.d.	n.d.	**100.0**
Hercynite	0.2	n.d.	49.2	0.7	0.3	n.d.	n.d.	n.d.	1.5	0.2	48.0	0.2	n.d.	n.d.	**100.2**
Misc – Tap Slag Hearth															
FeOX	n.d.	0.2	0.5	0.7	0.1	n.d.	n.d.	0.1	0.6	0.2	97.2	0.4	n.d.	0.2	**100.2**
Silicate	n.d.	1.8	0.2	33.0	0.5	n.d.	n.d.	0.9	0.1	0.7	63.4	0.3	n.d.	n.d.	**100.1**
Hercynite	0.1	n.d.	42.2	0.3	0.1	n.d.	n.d.	0.1	4.7	0.2	52.3	0.4	n.d.	n.d.	**100.3**
Leucite	0.2	n.d.	21.7	55.3	0.2	0.3	19.1	0.1	0.1	n.d.	3.1	0.1	n.d.	n.d.	**100.2**
FeOX	0.1	n.d.	4.8	5.1	0.9	0.9	0.9	0.8	3.6	0.1	82.5	0.5	n.d.	n.d.	**100.1**
Apatite	0.5	n.d.	0.1	0.5	47.0	0.1	0.5	44.2	n.d.	n.d.	6.3	0.1	n.d.	n.d.	**100.3**

Table 9- Comparison of bulk compositional data for Iron Age/Romano-British slags from sites in Northamptonshire.
Number in brackets after site name relates to the number of analyses undertaken. N/A means that compound not measured.

	Na_2O	**MgO**	**Al_2O_3**	**SiO_2**	**P_2O_5**	**SO_3**	**K_2O**	**CaO**	**TiO_2**	**MnO**	**FeO**	**CoO**	**NiO**	**CuO**	**TOTAL**
Blind Eye Quarry (2)	N/A	0.2	4.2	23.9	0.3	N/A	n.d.	0.9	0.4	0.6	69.5	N/A	N/A	N/A	**100.0**
Brigstock (1)	N/A	0.4	7.1	16.6	2.4	N/A	0.5	2.7	0.3	0.3	69.7	N/A	N/A	N/A	**100.0**
Bulwick (1)	N/A	0.3	6.6	25.4	0.1	N/A	0.5	1.1	0.5	1.1	64.5	N/A	N/A	N/A	**100.0**
Great Oakley (2)	N/A	0.3	4.2	22.8	0.5	N/A	0.4	1.0	0.3	0.5	69.9	N/A	N/A	N/A	**100.0**
Laxton (5)	n.d.	0.3	6.6	28.4	0.2	N/A	0.3	3.3	0.5	0.8	59.6	N/A	N/A	N/A	**100.0**
Wakerley (4)	N/A	0.4	6.2	19.7	0.8	N/A	0.6	2.3	0.5	0.6	69.0	N/A	N/A	N/A	**100.0**
CORBY:															
F1-054	0.2	0.3	8.6	31.7	1.4	0.2	1.4	1.9	0.5	0.4	53.1	0.2	n.d.	n.d.	**100.0**

F1-782	0.3	0.2	6.1	29.0	0.8	0.1	1.0	1.6	0.7	0.4	59.7	0.1	0.1	n.d.	**100.0**
F2-509	0.2	0.2	5.2	67.9	0.6	0.1	0.5	1.0	1.1	0.2	22.9	0.1	n.d.	0.1	**100.0**
F2-917	0.3	0.3	6.2	24.0	1.7	n.d.	0.7	0.9	0.3	0.3	65.1	0.3	0.1	n.d.	**100.1**
F3A-984	0.3	0.5	7.3	25.3	1.8	0.1	0.6	0.8	0.4	0.5	62.2	0.3	n.d.	n.d.	**100.0**
F3A-1044	0.2	0.3	5.8	21.2	1.8	0.1	0.4	0.6	0.4	0.4	68.6	0.3	n.d.	n.d.	**100.0**
F3B-716	0.2	0.3	7.4	19.5	1.0	0.1	0.3	0.7	0.4	0.5	69.3	0.3	n.d.	n.d.	**100.0**
F3B-718	n.d.	0.5	4.6	27.8	0.5	0.2	0.4	0.2	0.3	0.6	64.7	0.3	n.d.	n.d.	**99.9**
F4-897	0.1	0.6	9.0	23.5	1.8	0.1	0.7	1.6	0.5	0.7	61.1	0.3	0.1	n.d.	**100.1**
F4-985	0.2	0.4	3.2	23.3	1.0	0.1	n.d.	0.6	0.3	0.7	70.1	0.2	n.d.	n.d.	**100.0**
F5-832	0.2	0.4	5.8	24.3	1.8	0.1	0.5	1.6	0.3	0.5	64.4	0.2	n.d.	n.d.	**100.1**
F5-973	0.3	0.2	6.5	34.4	0.9	0.1	1.0	0.9	0.8	0.5	54.3	0.1	n.d.	n.d.	**100.0**
Misc –Tap Slag 'D'	0.2	0.2	6.1	26.6	1.3	n.d.	1.2	1.0	0.3	0.4	62.4	0.3	n.d.	n.d.	**99.9**
Misc – Tap Slag Hearth	0.1	0.8	8.4	25.7	1.8	0.1	0.8	2.2	0.4	0.6	58.8	0.3	n.d.	n.d.	100.0

6.6 Faunal Remains

By Jennifer Wood

The following is a summary of the faunal remains from Priors Hall. Full Tables and databases to accompany the assemblage are retained by Archaeological Project Services and can be consulted upon request.

A total of 1291 fragments (8498g) of animal bone were recovered by hand during two phases of archaeological works undertaken by Archaeological Project Services, at Priors Hall, Corby, Northamptonshire. A further 620 (108g) fragments of bone recovered from environmental bulk samples.

Identification of the bone was undertaken with access to a reference collection and published guides. All 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 (s/g).

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

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

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

The overall assemblage was fairly uniform in condition, averaging at grade 3 on the Lyman (1996) criteria, being overall moderate in condition.

A total of 552 fragments (165g) of bone displayed evidence of burning. Although there are several furnaces and industry related features on site, only small amounts of burnt bone were recovered from these related features. The main bulk of the burnt bone fragments are recovered from the early Romano-British ditch feature no. 2 and late Iron Age- early Roman ditch feature no.11. These burnt bone assemblages probably represent incidental burning episodes and hearth sweepings rather than intentional and concentrated burning of bone as part of the industrial fuel source.

A total of 10 fragments of bone recovered from the Roman phases displayed evidence of butchery. The butchery marks identified were consistent with disarticulation of the carcass and meat removal. Indicating the remains represented a mixture of food and butchery discard.

Thirteen fragments of bone recovered displayed evidence of gnawing, all of which could be attributed as carnivore. As less than 1% of the collected assemblage displayed evidence of gnawing which would suggest that the majority of the assemblage was rapidly buried limiting access to scavengers.

Cattle are the most abundant species identified within the assemblage, followed sheep/goat, pig then *equid* (Horse Family). Dog remains are abundant within the assemblage; however, all of the identified remains are from a single burial and therefore skew the figures in favour of the number of dog remains. Solitary

fragments of domestic fowl *(Gallus Sp*.), field vole (*Microtus agrestis*) and rodent were also identified within the assemblage. The number of fragments identified to species or size category are summarised within tables 3 and 4.

Although the assemblages are quite small for each phase there is a slight variation in the pattern seen within the number of individuals present.

Within the late Iron Age assemblage, the minimum numbers of individuals of sheep/goat are greater than cattle, where as the minimum number of cattle out number sheep/goat within the Romano-British phases.

The tooth wear score data recovered from the assemblage where available, mostly from the Romano-British phases, suggests that the majority of the animals were slaughtered at their prime meat weight ages. This would suggest that the animals were mainly utilised for meat rather than secondary products such as wool, milk or traction.

The represented skeletal elements do not appear to show any emphasis on element selection within any of the phases, this may suggest that the remains represent a mixture of food and butchery waste. The presence of primary butchery waste within the assemblage would suggests animal were brought in "on the hoof", slaughtered and processed on site rather than being traded onto site as joints of meat.

6.7 Human Remains

By Jennifer Wood

A total of 12 inhumations and 45 fragments of commingled human remains were recovered from the Romano-British period were recovered during the excavations at Priors Hall, Corby, Northamptonshire.

Each skeleton was individually catalogued on a written and pictorial inventory, with all available scores for sex, age, pathology, metrical and non-metrical traits noted on this primary record. Methods for the individual scored traits are outlined below.

The determination of biological sex was based upon the morphological traits of the cranium and pelvis (Bass 1971, Buikstra & Ubelaker 1994; Schwartz 1995 and Workshop of European Anthropologists 1980). Also using the sexually dimorphic metrics of the post-cranial skeleton where available (outlined in Bass, 1971). Sex was categorised as F (Female), F? (Possible female), U (Undeterminable), M? (Possible male), M (Male). No estimation of sex is made for sub-adult remains, as the sexually diagnostic characteristics are often quite ambiguous before puberty.

The determination of the age at death was assessed employing several ageing techniques on the elements available, to provide the most accurate results possible. Dental wear (Miles 1963 Fig 10, Brothwell 1981:72, fig 3.9), dental development (Gustafson & Koch 1974), pubic symphysis phase (Brooks & Suchey 1990), auricular surface phase (Meindl & Lovejoy 1989), ectocranial suture closure (Meindl & Lovejoy 1985) and the sternal end of rib (İşcan and Loth 1986) were utilised where the relative skeletal elements were present. As a multi-factorial approach produces a range of ages, age categories are used for generalisation and comparison purposes.

Measurements were taken from the skull and post-cranial elements, where completeness allows. Measurements were recorded using the criteria outlined by Brothwell (1981:80-1) and Howells (1973). Stature estimations are based upon the equations by Trotter and Gleser (1952, 1958 as cited in Brothwell 1981:101). The measurements are taken from the available fully fused long bones dependant on preservation.

Non-metric variations are recorded as standard as part of the full osteological analysis. The analysis of non-metric traits is to access the prevalence rates of expression within a group or population. The presence of rare non-metric traits may be used to discern relationships within a group. Cranial non-metric traits are

scored using the variants outlined by Berry and Berry (1967). Post-cranial non-metric traits were scored according to the descriptions by Finnegan (1978).

All pathological lesions and morphological abnormalities were described using standard clinical terminology. The anatomical locations of these pathological conditions were noted on a pictorial reference with accompanying description in the attempt to provide a diagnosis for the possible cause. Where considered necessary a photographic record will be maintained.

Tooth representation was recorded where possible. Carious lesions and hypoplasia were recorded as according to Lukacs (1989) where present. Prevalence rates of calculus build up and periodontal diseases are recorded as according to Brothwell (1981).

Dental Inventory Key:

- = Jaw missing	X = Lost Ante mortem	B=Broken	A= Abscess	C=Caries
HL= Hypoplastic Line	HG= Hypoplastic Groove	HP= Hypoplastic Pit	/ = Lost Post mortem	
Np= Not Present	R= Root only			

Skeleton number: 2003
Completeness: 70%: Skull, Ribs, both clavicles, scapulae, humerii, left lower arm, both hands, both femurs, right proximal tibia and fibula, upper vertebral column, fragments of left ischium, right acetabulum and auricular surface.
Preservation: Fair, although highly fragmentary. Lower left leg and both feet truncated away.
Period: Roman
Age: (37 years +) Middle Adult +
Sex: Male
Stature: N/A
Position: Extended, supine. Hands positioned on the upper torso, possibly crossed over chest. Copper alloy ring
Orientation: N-S
Dental inventory:

Np	X	X	X	X							X	X	X	X	C
~~8~~	7	6	5	4	3	2	1	1	2	3	4	5	6	7	~~8~~
8	7	6	5	4	~~3~~	~~2~~	~~1~~	~~1~~	2	3	4	5	6	7	8
X	X	HLx1			Np	Np	Np	Np		HLx2			X		

Dental Pathology: The dental health of the individual is relatively poor. A total of 15 teeth were in occlusion, out of 32 teeth from the full adult dentition. Eleven teeth from the upper and lower jaw had been lost ante mortem and the alveolar bone had been fully resorbed.

Slight crowding of the mandibular teeth were noted, the left lower canine overlapped the lower 2nd incisor. A medium sized cary was noted in the mesial surface of the left maxillary 3rd molar. The occlusial teeth are heavily worn, root exposure of the remaining teeth maybe due to wear rather than a result of periodontal disease.

The upper incisors were heavily worn, and possibly subject dental trauma. Uneven wear was noted on the lower left canine, premolars, lower 2nd molar and upper 3rd upper molar.
Calculus concretions were noted on the teeth remaining in occlusion. The left mandibular 2nd molar and the 3rd molar have a heavy concretion of calculus.

The remaining teeth within the jaw appear relatively healthy, with only one instance of dental caries noted on the left maxillary third molar.

Skeletal Pathology: Osteophyes on the ligament attachment points on the anterior surface of the right patella. Osteophytic lipping was noted on the margin of the sacral promontory. Osteophytic lipping of the

superior and anterior surfaces was noted on the T4 and T5 and C2 to the C6 vertebra. In addition macro porosity was noted on the cervical vertebra centrum surfaces, specifically C2, C5 and C6. A cervical vertebra facet fragment displayed expansion of the facet margin and macro porosity of the articular surface.

The dens appeared to be extended through osteophytic growth; the articulating facet was extended through osteophytic growth on the margin.

The scaphoid of the left hand displayed evidence of polishing and pitting on the oval facet, possibly a result of osteoarthritis.

Small exostoses were noted on the articular surfaces of radial and femoral heads
Metrical Indices: Non available
Non-Metric Traits and anomalies: Exostosis in the right trochantic fossa.

Skeleton number: 2055
Completeness: 30%: Cranial vault, mandible, both arms, no hands, both femurs, both tibia, sacrum and left talus.
Preservation: Poor
Period: Roman
Age: (45-60 years) Old Adult?
Sex: Undetermined
Stature: N/A
Position: Extended, supine. Left hand rested on the pelvis, right hand to the side.
Orientation: N-S
Dental inventory:

Np	Np	Np	Np	Np	Np	Np	Np	Np	Np	Np	Np	Np	Np	Np	Np
~~8~~	~~7~~	~~6~~	~~5~~	~~4~~	~~3~~	~~2~~	~~1~~	~~1~~	~~2~~	~~3~~	~~4~~	~~5~~	~~6~~	~~7~~	~~8~~
~~8~~	~~7~~	~~6~~	~~5~~	~~4~~	~~3~~	~~2~~	~~1~~	~~1~~	~~2~~	~~3~~	~~4~~	~~5~~	~~6~~	~~7~~	~~8~~
Np	Np	Np	Np	Np	Np	Np	Np	Np	Np	Np	Np	Np	Np	Np	Np

Dental Pathology: N/A
Skeletal Pathology: Non observed
Metrical Indices: Not available
Non-Metric Traits and anomalies: No scorable traits observed. Several loose isolated cranial vault ossicles were identified, however it was uncertain which cranial suture that the originated.

Skeleton number: 2081
Completeness: 20%: Occipital, both humerii, both femurs, both tibia.
Preservation: Poor to moderate, highly fragmentary, cancellous bone not survived.
Period: Roman
Age: (25 years +) Adult
Sex: Female?
Stature: N/A
Position: Extended, supine. Left arm positioned across lower torso.
Orientation: N-S
Dental inventory:

Np	Np	Np	Np	Np	Np	Np	Np	Np	Np	Np	Np	Np	Np	Np	Np
~~8~~	~~7~~	~~6~~	~~5~~	~~4~~	~~3~~	~~2~~	~~1~~	~~1~~	~~2~~	~~3~~	~~4~~	~~5~~	~~6~~	~~7~~	~~8~~
~~8~~	~~7~~	~~6~~	~~5~~	~~4~~	~~3~~	~~2~~	~~1~~	~~1~~	~~2~~	~~3~~	~~4~~	~~5~~	~~6~~	~~7~~	~~8~~
Np	Np	Np	Np	Np	Np	Np	Np	Np	Np	Np	Np	Np	Np	Np	Np

Dental Pathology: N/A
Skeletal Pathology: None observed
Metrical Indices: Not Available
Non-Metric Traits and anomalies: None observed

Skeleton number: 2202
Completeness: 30 %: Both humerii, both radii and ulnae. Both femurs, patellae, tibiae and fibulae.
Preservation: Fair, highly fragmentary
Period: Roman
Age: (25 years +) Adult
Sex: Male?
Stature: 1.68m
Position: Extended, supine. Right arm positioned across the lower torso/pelvis, legs extended slightly flexed at the knee to the west.
Orientation: N-S
Dental inventory:

Np	Np	Np	Np	Np	Np	Np	Np	Np	Np	Np	Np	Np	Np	Np	Np
~~8~~	~~7~~	~~6~~	~~5~~	~~4~~	~~3~~	~~2~~	~~1~~	~~1~~	~~2~~	~~3~~	~~4~~	~~5~~	~~6~~	~~7~~	~~8~~
~~8~~	~~7~~	~~6~~	~~5~~	~~4~~	~~3~~	~~2~~	~~1~~	~~1~~	~~2~~	~~3~~	~~4~~	~~5~~	~~6~~	~~7~~	~~8~~
Np	Np	Np	Np	Np	Np	Np	Np	Np	Np	Np	Np	Np	Np	Np	Np

Dental Pathology: N/A
Skeletal Pathology: None observed
Metrical Indices: Tibia: Eurycnemic
Non-Metric Traits and anomalies: Single facet on the left distal tibia.

Skeleton number: 2219
Completeness: 5 %: Left humerii, Both femurs, right tibia.
Preservation: Poor, highly fragmentary
Period: Roman
Age: Undetermined (Probable Adult)
Sex: Undetermined
Stature: N/A
Position: Extended, supine.
Orientation: N-S
Dental inventory:

Np	Np	Np	Np	Np	Np	Np	Np	Np	Np	Np	Np	Np	Np	Np	Np
~~8~~	~~7~~	~~6~~	~~5~~	~~4~~	~~3~~	~~2~~	~~1~~	~~1~~	~~2~~	~~3~~	~~4~~	~~5~~	~~6~~	~~7~~	~~8~~
~~8~~	~~7~~	~~6~~	~~5~~	~~4~~	~~3~~	~~2~~	~~1~~	~~1~~	~~2~~	~~3~~	~~4~~	~~5~~	~~6~~	~~7~~	~~8~~
Np	Np	Np	Np	Np	Np	Np	Np	Np	Np	Np	Np	Np	Np	Np	Np

Dental Pathology: N/A
Skeletal Pathology: None observed
Metrical Indices: Not available
Non-Metric Traits and anomalies: None Observed

Skeleton number: 2222
Completeness: 85 %: Skull. Thoracic, lumbar and sacral vertebra, ribs, both scapulae and both arms, left ischium, left acetabulum and both auricular surfaces. Both legs and most of the feet bones, no patellae.
Preservation: Fair-Good, fragmentary
Period: Roman
Age: (40-49 years) Middle-Older Adult (Average 45 years)
Sex: Male
Stature: 1.76m
Position: Extended, supine, hands positioned above the pelvis
Orientation: N-S
Dental inventory:

HGx1 HLx1 HLx1 HLx2

	Np	Np	Np	BR					Np	Np		Np	Np	Np	Np	
~~8~~	~~7~~	~~6~~	~~5~~	4	3	2	1		~~1~~	~~2~~	3	4	~~5~~	~~6~~	~~7~~	~~8~~
8	7	6	5	4	3	2	1		1	2	3	4	5	6	7	~~8~~
		X	X						X	X	BR					Np
					HLx1	HLx1	HLx2									

Dental Pathology: Medium cary on the mesial surface of the upper left canine. Slight calculus on the lingual surface of the present molars, flecks on the lower right incisors and canine. Heavily worn. Abnormal wear on the right lower M3 and both upper M3's. Upper right incisors and canine have slightly heavier wear than the canine on the left side.
Skeletal Pathology: Osteophytic lipping on the anterior suface margins on the L3 and L4 centrum. Schmorls Nodes on the T12. Possible Schmorls Nodes on the superior and anterior surfaces of T10-T11. Ivory osteoma on the left side of the frontal bone. Cervical vertebra facet osteophyes at the margins, macroporosity and eburnation on articular facet.
Metrical Indices: Tibia: Mesocnemic
Non-Metric Traits and anomalies: Left paretal foramen, Symetrical accessory lesser infra orbital foramen, Zygomatic facial foramen, small mandibular torus, exostosis in right trochantic fossa, single facet on the left tibia.

Skeleton number: 2226
Completeness: 10 %: Right occipital, temporal. Both humerii, ulnae, right radius, left pisiform. Both femurs, both tibiae, both tibia.
Preservation: Poor – Very poor, very fragmentary
Period: Roman
Age: (Approx 24 years) Young Adult
Sex: Female?
Stature: -
Position: Extended, supine,
Orientation: N-S
Dental inventory:

												2xHL	1xHL	1xHL		
	Np	Np	Np	Np	Np	Np	Np	Np	Np					C	Np	
~~8~~	~~7~~	~~6~~	~~5~~	~~4~~	~~3~~	~~2~~	~~1~~	~~1~~	~~2~~	~~3~~	4	5	6	~~7~~	8	
~~8~~	~~7~~	~~6~~	~~5~~	~~4~~	~~3~~	~~2~~	~~1~~	~~1~~	~~2~~	~~3~~	~~4~~	~~5~~	~~6~~	~~7~~	~~8~~	
Np	Np	Np	Np	Np	Np	Np	Np	Np	Np	Np	Np	Np	Np	Np	Np	

Dental Pathology: Medium cary on the mesial surface of the upper left M1. Slight calculus on the mesial and lingual surface of the upper left PM2.
Skeletal Pathology: None observed
Metrical Indices: Not available
Non-Metric Traits and anomalies: None observed

Skeleton number: 2248
Completeness: 70 %: Skull, vertebral column, ribs, both arms, both legs. Both acetabulum and right auricular surface
Preservation: Fair
Period: Roman
Age: (45-59 years) Old Adult
Sex: Male
Stature: 1.66m
Position: Extended, supine, hands positioned over the pelvis.
Orientation: W-E
Dental inventory:

						HLx1								HLx1		
	Np	Np		R		X	X	/	/	X		X	X	X		
8	~~7~~	~~6~~	5	4	3	2	1	1	2	3	4	5	6	7	8	
8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8	
X	X	X			/	/	/						X	X	X	
			HLx1					HLx1								

Dental Pathology: Medium cary on the mesial surface of the upper right M3. Slight calculus on the lingual surface and medium on the buccal surface of the lower right premolars and left lower incisors canine and 1st premolar. Heavy calculus on all the surfaces of the upper left M3 and medium build up on the occlusial surface of the right upper M3.

Heavy wear on the occluding teeth. Abnormal wear sloping lingually on the occlusial surface of the upper and lower premolars.
Skeletal Pathology: Marginal osteophytosis on the T8-T11 vertebra, Schmorls nodes on anterior surfaces of the centrum, lipping on the margin of the anterior and superior surface of a lumbar vertebra. Osteophytes on the proximal anterior surface of the patella, ossification of the ligament attachment? New bone growth causing fusion of talus, calcaneus and navicular of the right foot.
Metrical Indices: Tibia: Eurycnemic
Non-Metric Traits and anomalies: Right extra sutural mastoid foramen, symmetrical accessory infra orbital foramen. Symmetrical zygomatic facial foramen, symmetrical supra orbital foramen complete.

Skeleton number: 2252
Completeness: 40 %: Cranial vault, mandible and maxilla fragments, atlas, axis and C3, left clavicle, left scapula, both humerii, radii and ulnae. Both femurs, tibia and fibulae
Preservation: Poor – moderate, very fragmentary
Period: Roman
Age: (25 years+) Adult
Sex: Male
Stature: -
Position: Extended, supine, feet truncated away. Right lower arm positioned across the pelvis.
Orientation: N-S
Dental inventory:

HLx1											R					
	Np	Np	Np	Np	Np	Np	Np	Np	Np	C	C		Np		Np	
8	~~7~~	~~6~~	~~5~~	~~4~~	~~3~~	~~2~~	~~1~~	~~1~~	~~2~~	~~3~~	~~4~~	~~5~~	~~6~~	~~7~~	8	
~~8~~	~~7~~	~~6~~	~~5~~	~~4~~	~~3~~	~~2~~	~~1~~	~~1~~	~~2~~	~~3~~	~~4~~	~~5~~	~~6~~	~~7~~	~~8~~	
Np	Np	Np	Np	Np	Np	Np	Np	C				Np	Np		RC	
										HGx1				HLx1		

Dental Pathology: Medium cary on the occlusial surface of the upper left PM1 and large caries on the occlusial surface of the upper left canine and lower left M3. Medium cary on the mesial surface of the lower left incisor. Medium calculus on the lingual and buccal surfaces of the lower left incisor, flecks and slight calculus build up on the lingual and buccal surfaces of the lower left 2nd incisor, canine and 2nd premolar.

Heavily worn, sloped occlusial wear, particularly on the lower left M2 and upper left M2.
Skeletal Pathology: Osteophyte extention of the articular facet of the dens with some macroporosity. Superior surface of C3 centrum pitted/ macro porotic.
Metrical Indices: Not available
Non-Metric Traits and anomalies: Right mastoid foramen extra sutural.

Skeleton number: 2279

Completeness: 60 %: Cranial vault, left clavicle, both scapulae and arms, T3-5 vertebrae and sacrum. Both legs and right patella.
Preservation: Fair, very fragmentary
Period: Roman
Age: (25 years+) Adult
Sex: Male?
Stature: -
Position: Extended, supine, hands positioned over left pelvis. Left upper arm disturbed post deposition.
Orientation: W-E
Dental inventory:

Np	Np	Np	Np	Np	Np	Np	Np	Np	Np	Np	Np	Np	Np	Np	Np
~~8~~	~~7~~	~~6~~	~~5~~	~~4~~	~~3~~	~~2~~	~~1~~	~~1~~	~~2~~	~~3~~	~~4~~	~~5~~	~~6~~	~~7~~	~~8~~
~~8~~	~~7~~	~~6~~	~~5~~	~~4~~	~~3~~	~~2~~	~~1~~	~~1~~	~~2~~	~~3~~	~~4~~	~~5~~	~~6~~	~~7~~	~~8~~
Np	Np	Np	Np	Np	Np	Np	Np	Np	Np	Np	Np	Np	Np	Np	Np

Dental Pathology: N/A
Skeletal Pathology: None Observed
Metrical Indices: Tibia: Eurycnemic
Non-Metric Traits and anomalies: Symmetrical Parietal foramen, Mastoid foramen absent.

Skeleton number: 2300
Completeness: 25 %: Cranial vault, fragments of both scapulae, humerii, radii, ulnae. C2-5 vertebrae. Both femurs, patellae and tibiae, left talus.
Preservation: Poor, very fragmentary
Period: Roman
Age: (25 years+) Adult
Sex: Female?
Stature: -
Position: Extended, supine.
Orientation: N-S
Dental inventory:

				HLx2	HLx1	HLx1	HLx 1		HLx1	HLx1	HLx2				
Np	Np	Np	C		C			Np	C	C			Np	Np	Np
~~8~~	~~7~~	~~6~~	5	4	3	2	1	~~1~~	2	3	4	5	~~6~~	~~7~~	~~8~~
~~8~~	~~7~~	~~6~~	5	4	3	2	1	~~1~~	~~2~~	3	4	5	~~6~~	~~7~~	~~8~~
Np	Np	Np						Np	Np				Np	Np	Np
			HLx2	HLx2							HLx2	HLx2			

Dental Pathology:
Skeletal Pathology: None Observed
Metrical Indices: Tibia: Eurycnemic
Non-Metric Traits and anomalies: Symmetrical Parietal foramen, Mastoid foramen absent.

6.8 Botanical

By Diane Alldritt

Bulk environmental samples were processed by Archaeological Services WYAS using an Ankara style water flotation system (French 1971). Up to five-litre sub-samples were processed and flots were collected in a 300μm sieve and the heavy fraction (the retent) was collected in a 1mm mesh. The flot, once dry, was scanned using a low powered binocular microscope at magnifications of x4-45. In general, the samples produced charred fragments, varying from <2.5ml up to 130ml, with most of this material being charcoal rather than seeds or cereal grain. Modern root material was also in evidence, generally from 10ml to 40ml in volume. Charcoal fragments were scanned during sorting and up to twenty pieces were removed for identification from each flot where possible. Other identifiable plant material was also removed and bagged separately.

All charcoal suitable for identification was examined using a high powered Vickers M10 metallurgical microscope. The reference photographs of Schweingruber (1990) were consulted for charcoal identification. All charcoal was bagged separately by type. Plant nomenclature utilised in the text follows Stace (1997) for all vascular plants apart from cereals, which follow Zohary and Hopf (2000).

Very few carbonised plant macrofossils in the form of cereal grain or weed seeds were recovered from the flots. Cereal grain was present in samples 1 (138), 5 (274), 7 (307), 17 (411) and 83 (1340), often poorly preserved, but occasional grains could be identified. A single specimen of hulled barley (Hordeum vulgare var. vulgare) was found in 7 (307) and a single rye (Secale cereale) in 17 (411). The rye is an interesting find and may have been used as a fodder crop for animals. Only one weed type was recovered from the whole assemblage, and this was a single Galium aparine (cleavers) in sample 6 (316), perhaps a chance inclusion in this deposit. This plant grows on cultivated and open arable land.

Charcoal fragments were present throughout the samples, often in abundance. These pieces varied from very small indeterminate tea-leaf size fragments, up to specimens measuring from 20-30mm. Following an initial scan, it was apparent that the majority was oak (Quercus), although a representative sample from each flot was extracted for closer identification where possible. The aim was to identify short-lived types that may be useful for radiocarbon dating. Samples 17 (411), 25 (435) and 37 (705) produced abundant quantities of oak, while samples 7 (307), 10 (353), 13 (362), 49 (711), 53 (316), 59 (734) and 68 (911) produced slightly lesser amounts. A small amount of hazel (Corylus), willow/poplar (Salix/Populus) and Prunoideae-type (cherrys) charcoal was also identified. The occurrence of large amounts of oak indicated the use of fairly substantial woodland areas for fuel, with clearances and lighter, more open areas suggested by the other types. Oak and hazel may also have had construction uses.

Samples from furnace deposits 53 (316), 55 (750), 67 (869), 147 (1041) and 148 (60) all contained carbonised material, but typically fragments of insufficient size to be identified. Only sample 53 (316) contained identifiable wood charcoal, in this case oak (Quercus). Oak is likely to have been the preferred fuel for the industrial processes undertaken here.

Other remains recovered from the samples included a small bone fragment in 6 (316) and a piece of industrial waste/slag like material in sample 55 (750). These will need examining by an appropriate specialist. Other artefacts, including large quantities of industrial material and smaller amounts of bone and pottery, were recovered from the retents. These have already been returned to APS for analysis by the relevant specialists.

The assessment of botanical material has shown the overall importance of fuel use at the site, with oak being the main charcoal type recovered. It is highly likely that this was the main fuel used for industrial processes, as well as domestic hearths. Other charcoal types indicated mixed deciduous woodland, probably with some substantial oak stands, and lighter open areas or

woodland edges being exploited. Cereals were recovered in trace amounts, with rye and barley identified. It does not appear from the samples examined that cereal agriculture was the main priority of the site and these types may have been imported from elsewhere for use as animal feed.

No further work is proposed for these samples. As the vast majority of charcoal appears to be oak, further charcoal identification is unlikely to be productive. Future work at the site may reveal different activity areas and produce more cereal grain, but the general impression from this assessment is that recovery of any macrofossils other than charcoal would not be high.

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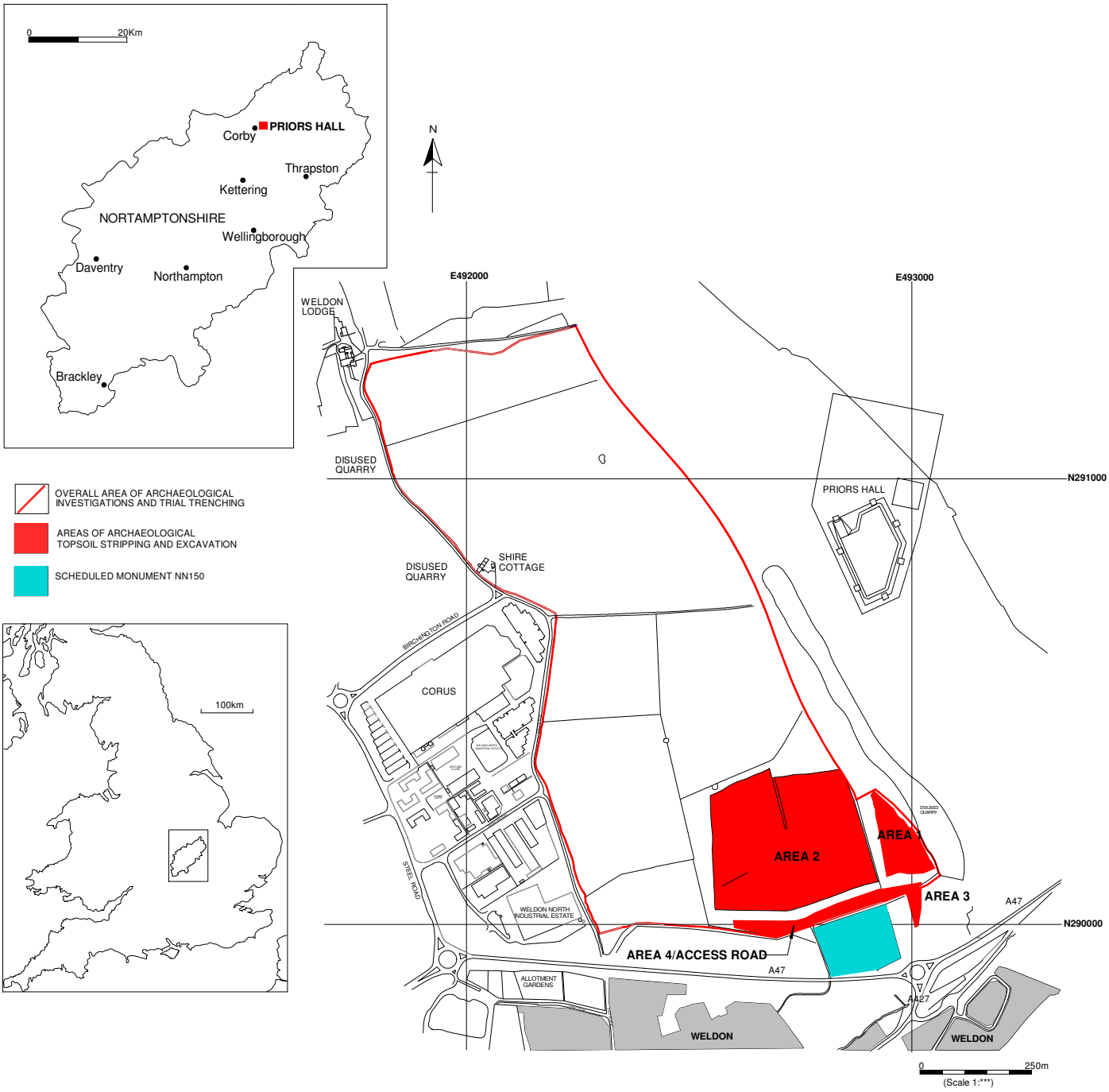

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Project Name: Priors Hall, Corby	
Drawn by: RH	Report No: 4/08

Figure 1 Site Location

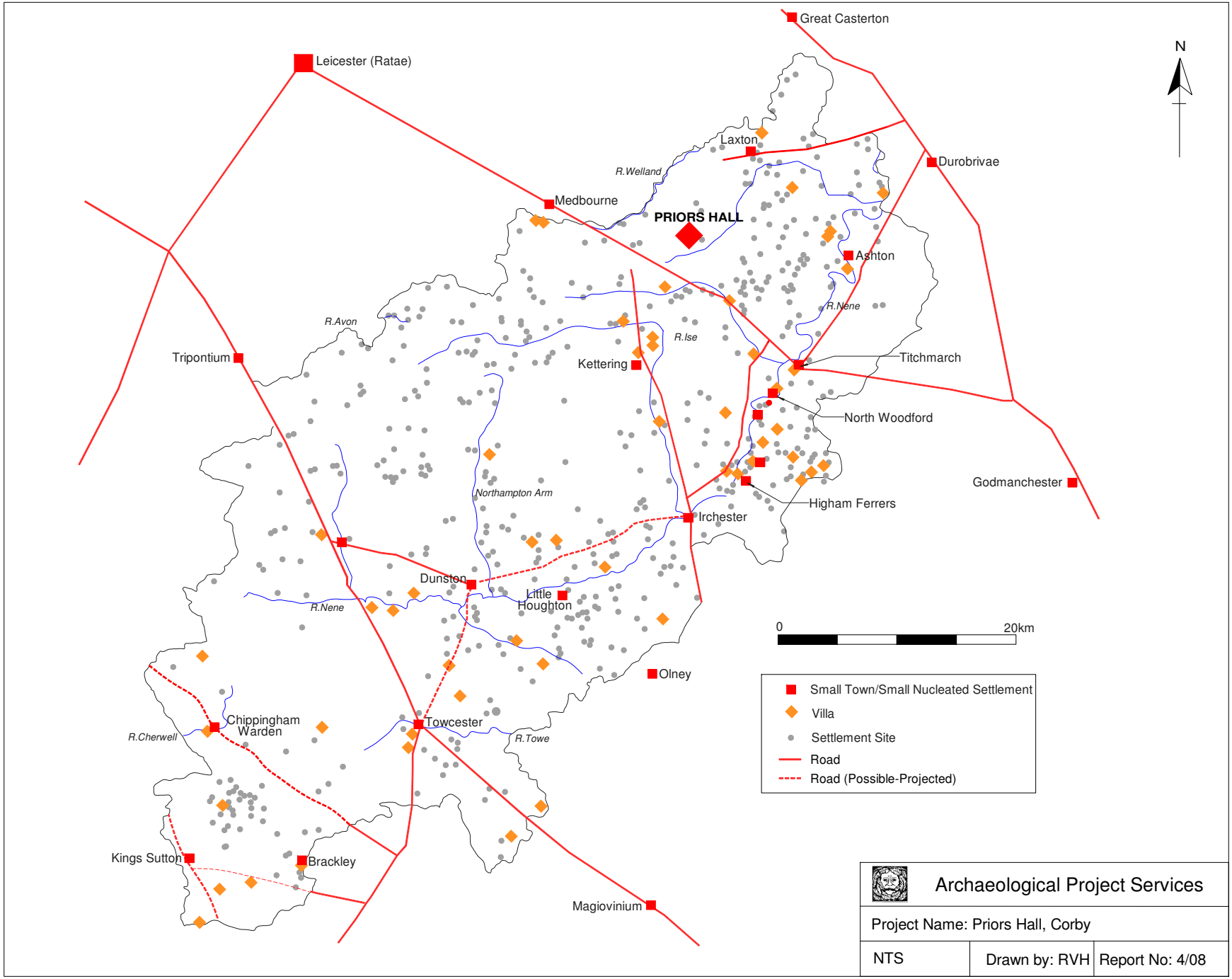
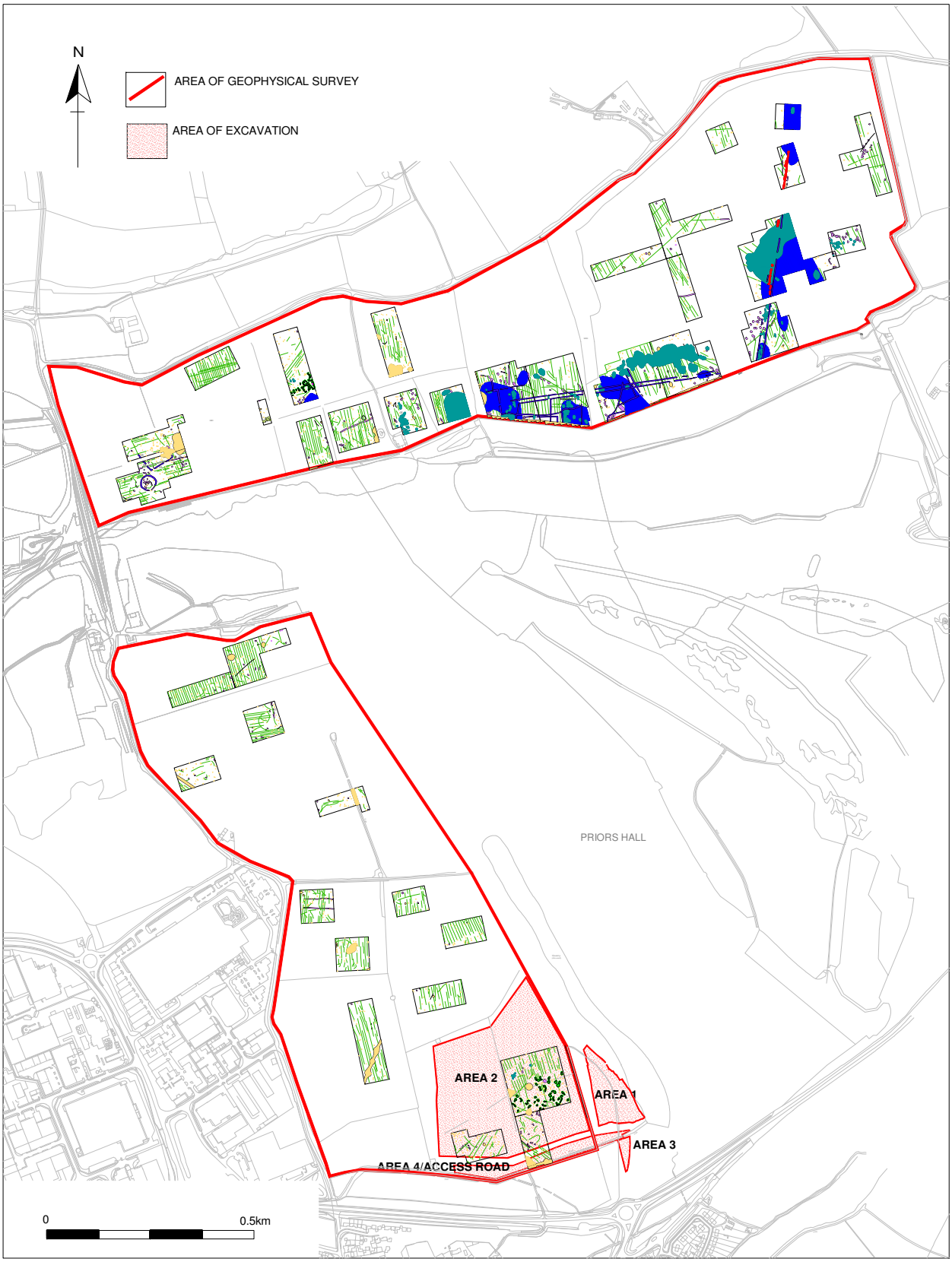


Figure 2 Priors Hall in relation to Roman Northamptonshire and communication routes
(after M. Flitcroft and S.Kidd)



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Project Name: Corby, Prior's Hall		
Scale 1: 12500	Drawn by: RH	Report No: 4/08

Figure 3 Geophysical Survey, showing entire development site

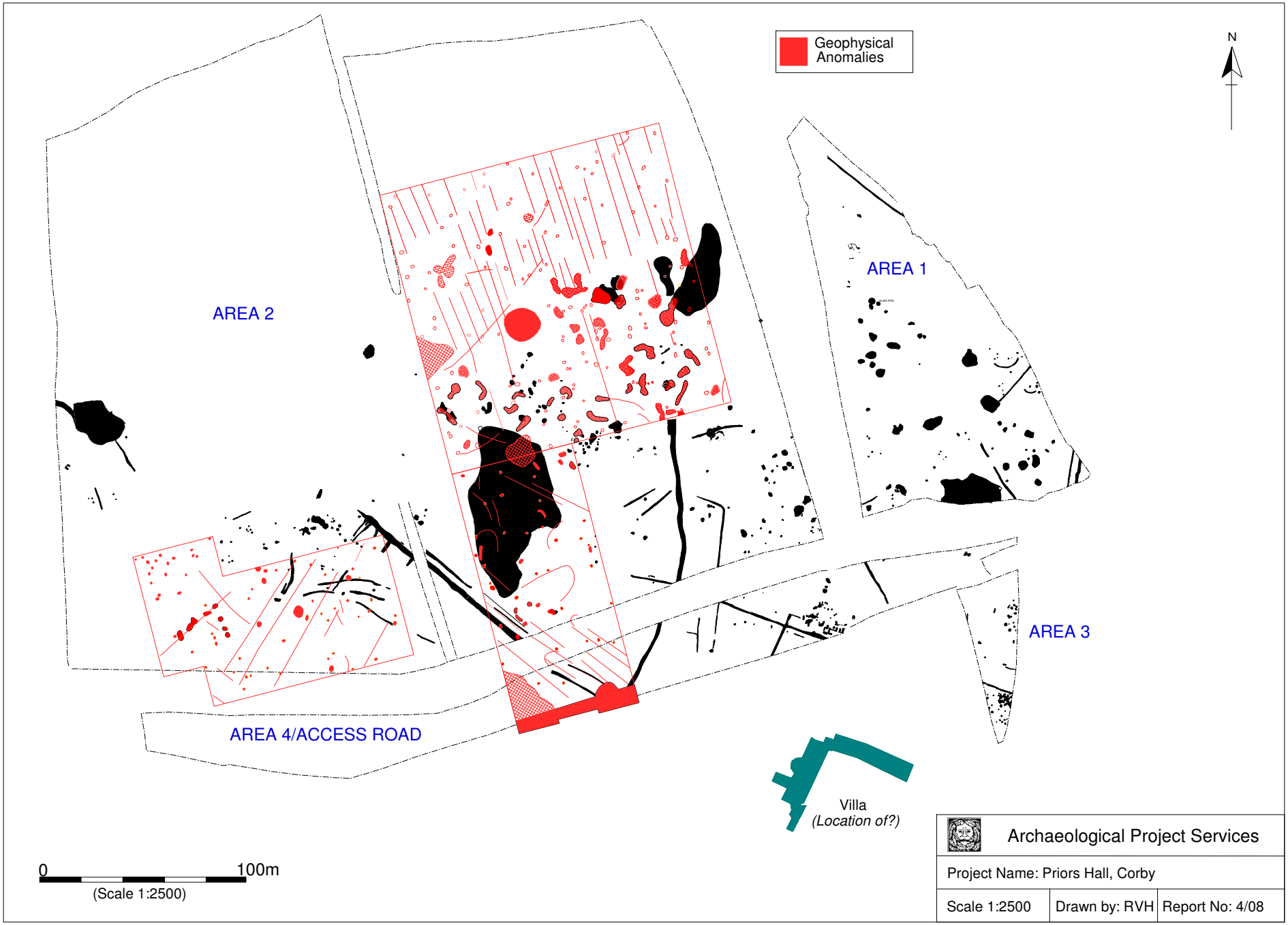

Figure 4 Overlay of Geophysical Survey and Excavation Area

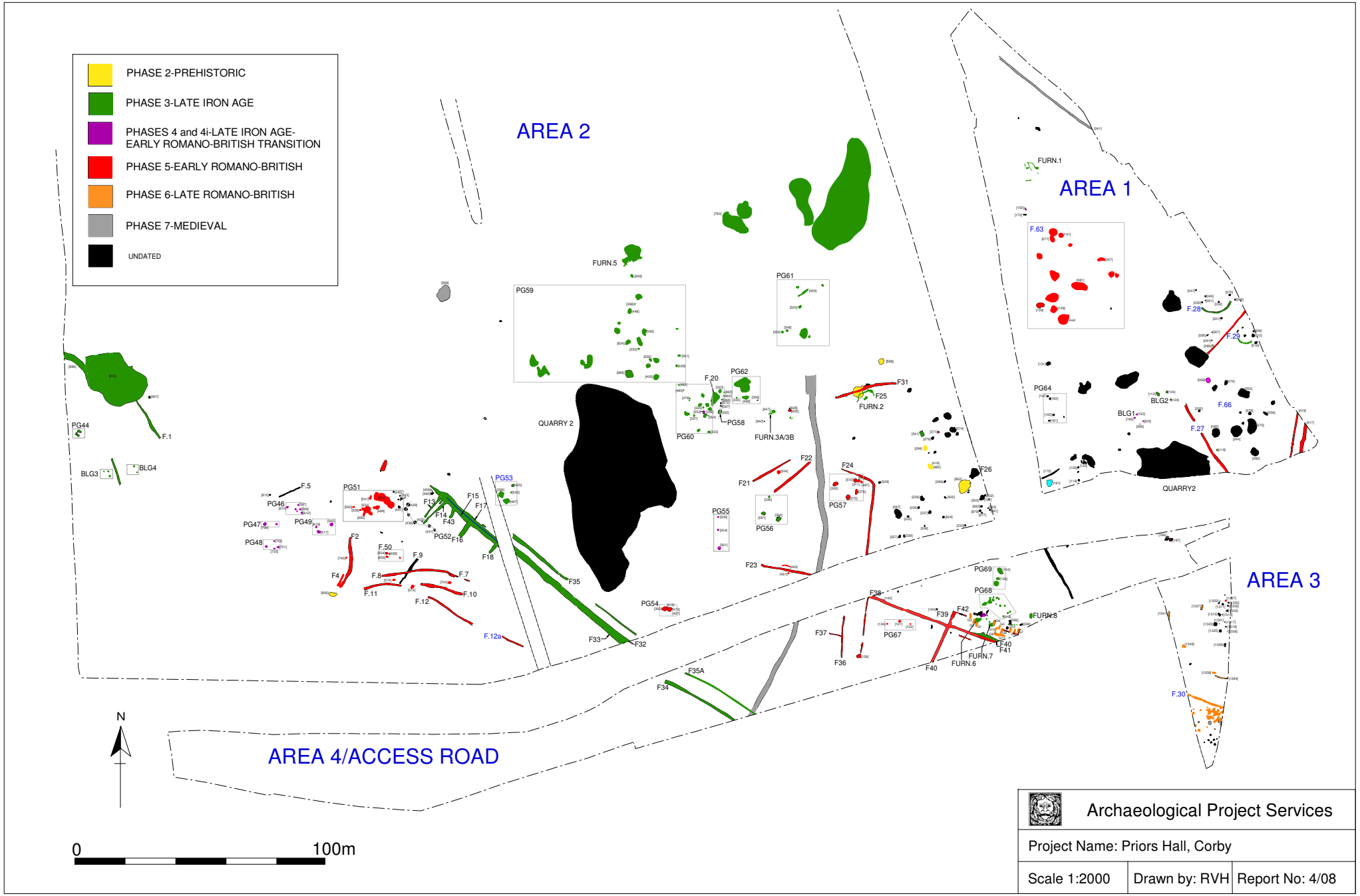

Figure 5 Overall phased plan of the site

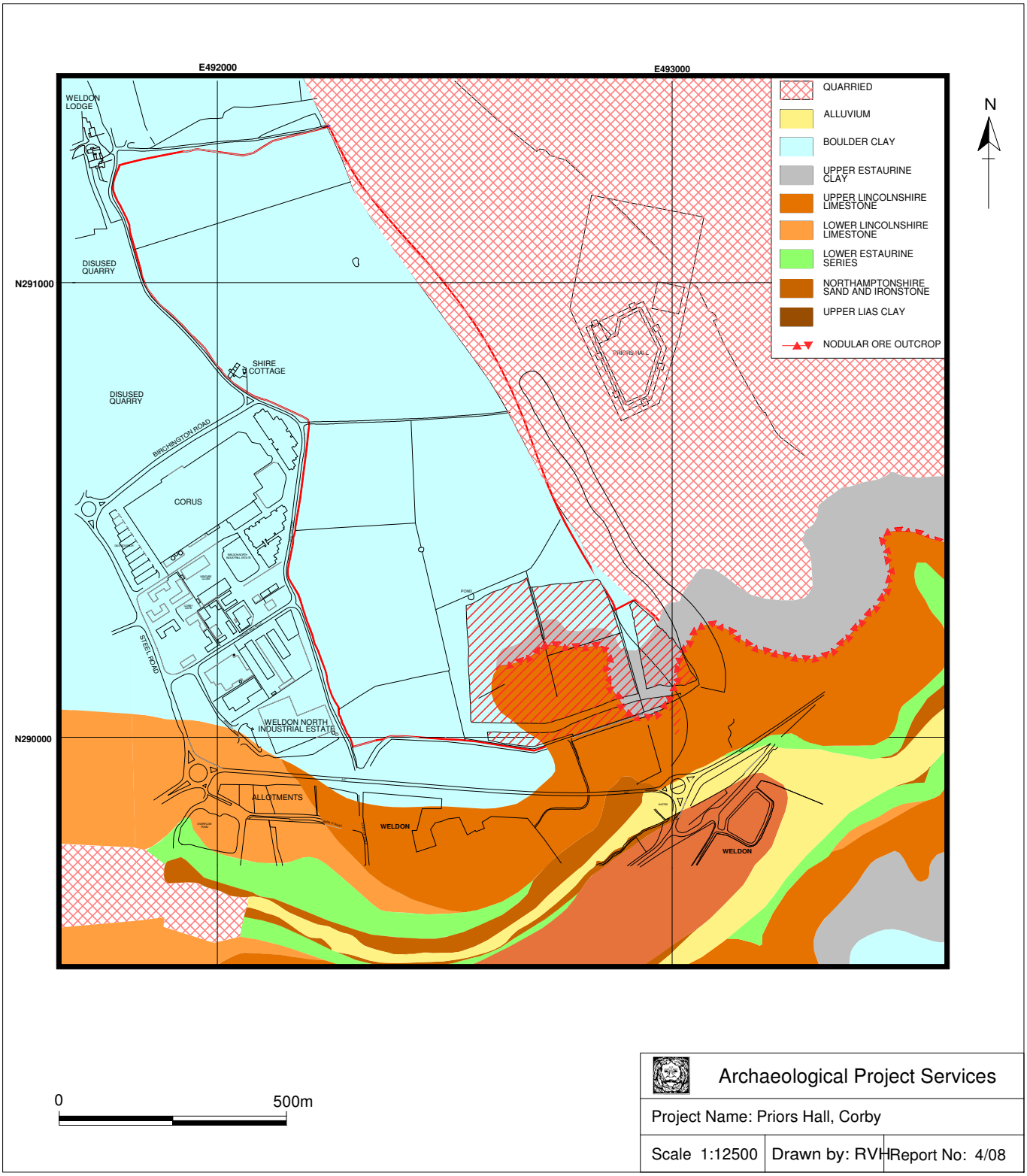

Figure 6 Geological map

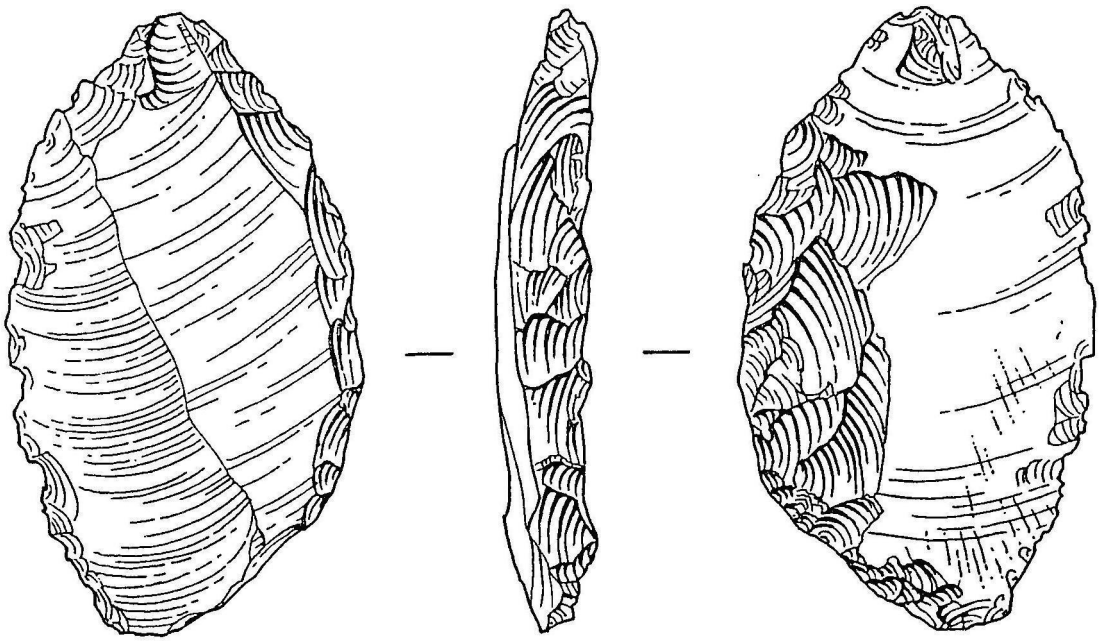

Figure 7 Leaf-shaped arrow head, Early Neolithic

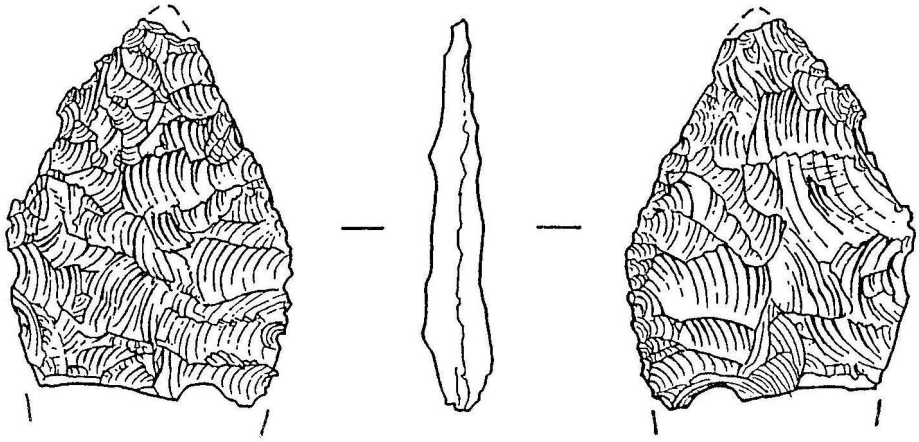

Figure 8 Abandoned attempt at arrowhead manufacture, Early Neolithic

0 5cm

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Figures 7 and 8

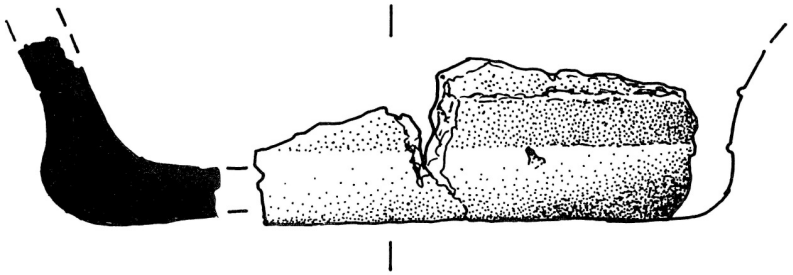

Figure 9 Beaker vessel with horizontal incised decoration

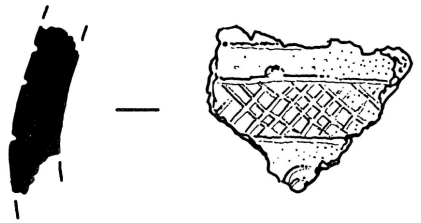

Figure 10 Fine comb lattice decorated pot, Early Bronze Age

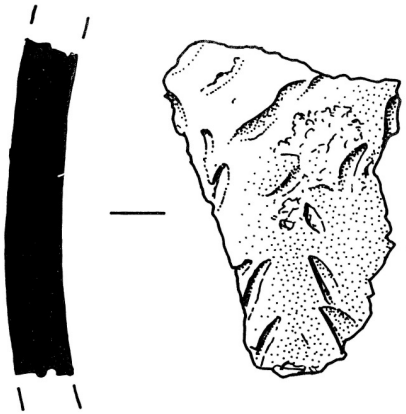

Figure 11 Finger nail decoration on vessel, Early Bronze Age

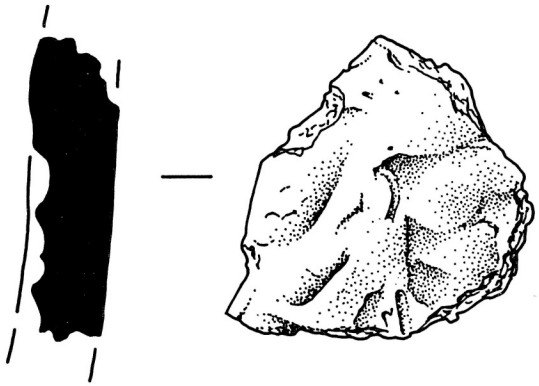

Figure 12 Coarser pot also showing finger nail decoration, Early Bronze Age

0 5cm

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Figures 9, 10, 11 and 12

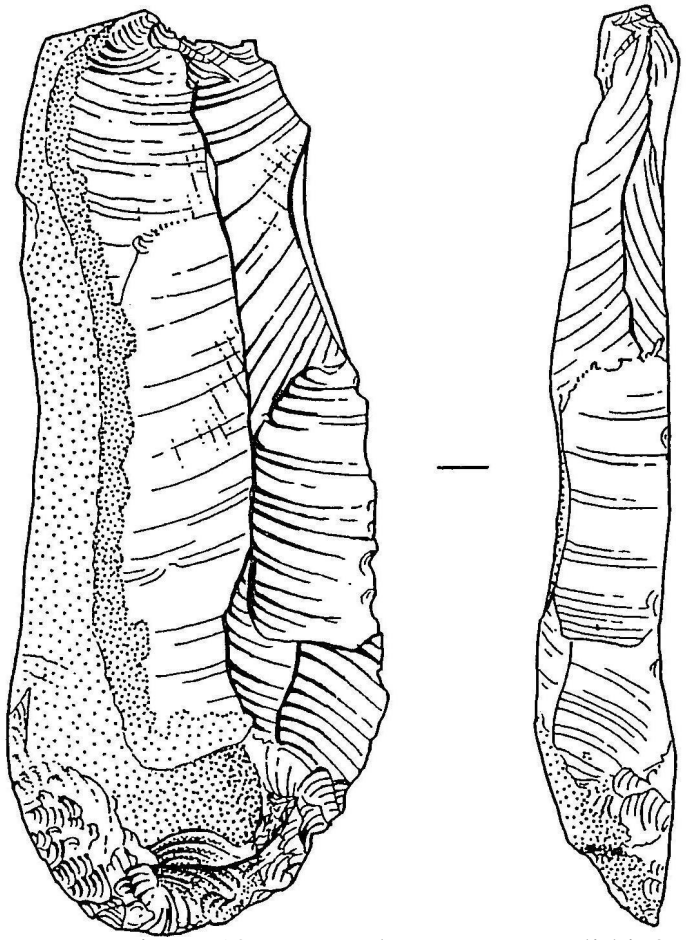

Figure 13 Long end scraper, Mesolithic/Neolithic

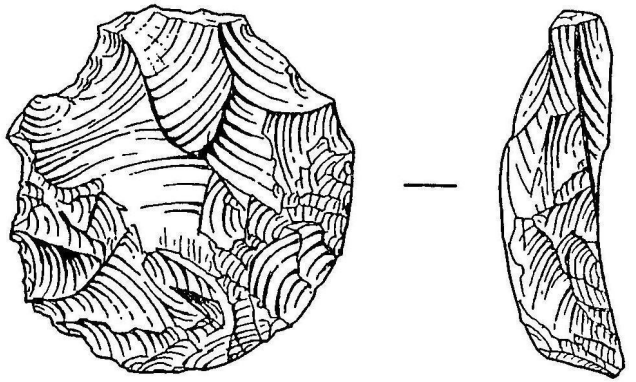

Figure 14 Thumbnail scraper, burnt

0 5cm

Archaeological Project Services		
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Figures 13 and 14

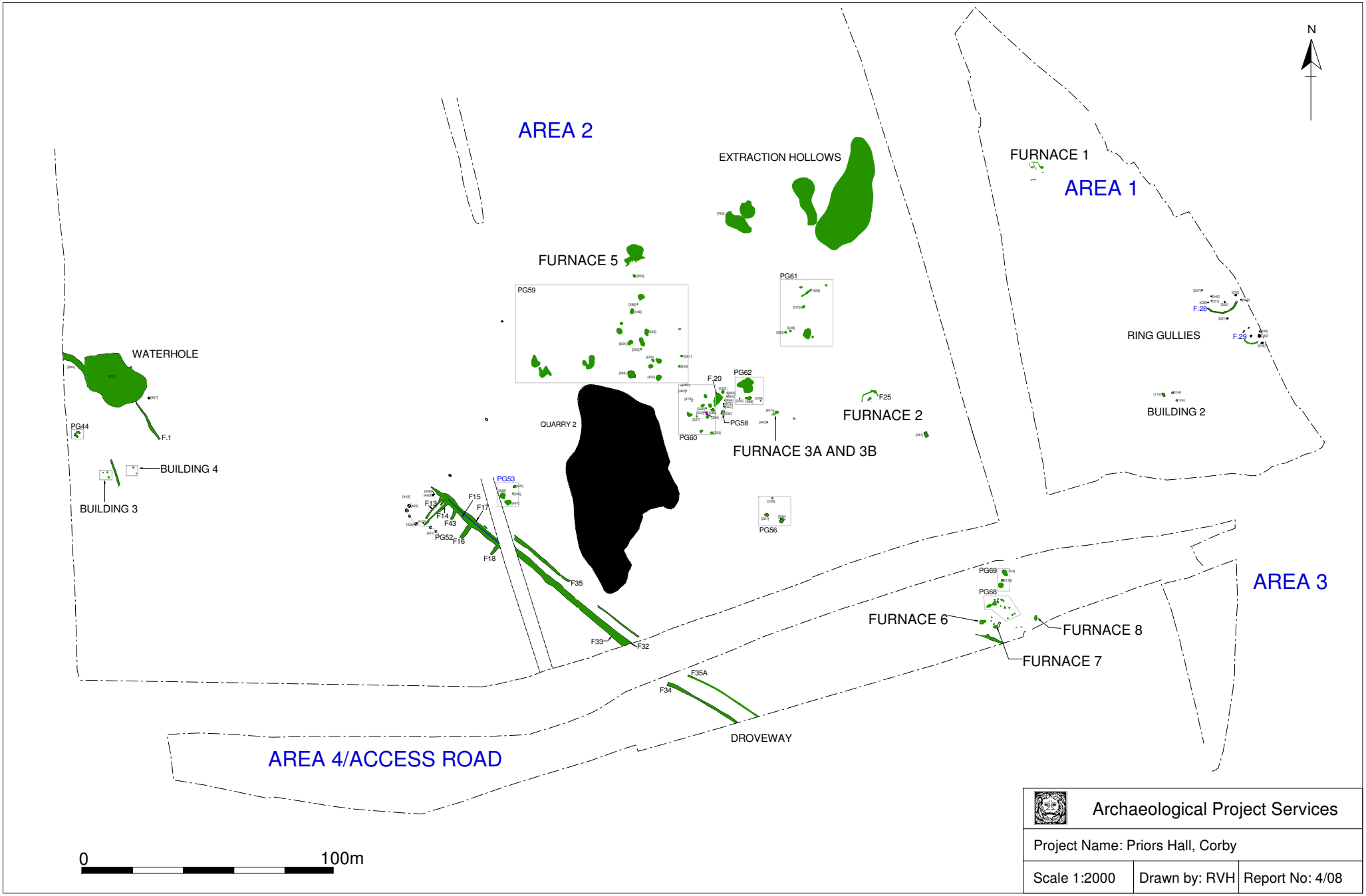
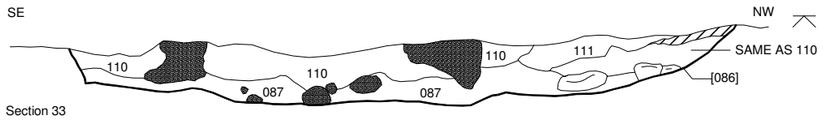


Figure 15 Late Iron Age landscape, showing location of furnace sites



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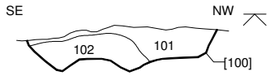

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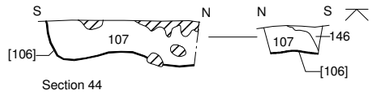

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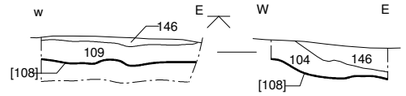

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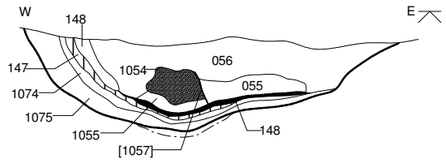
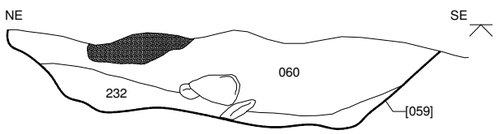


Section 23/FURNACE 1



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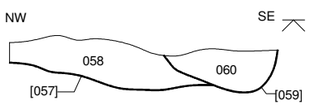

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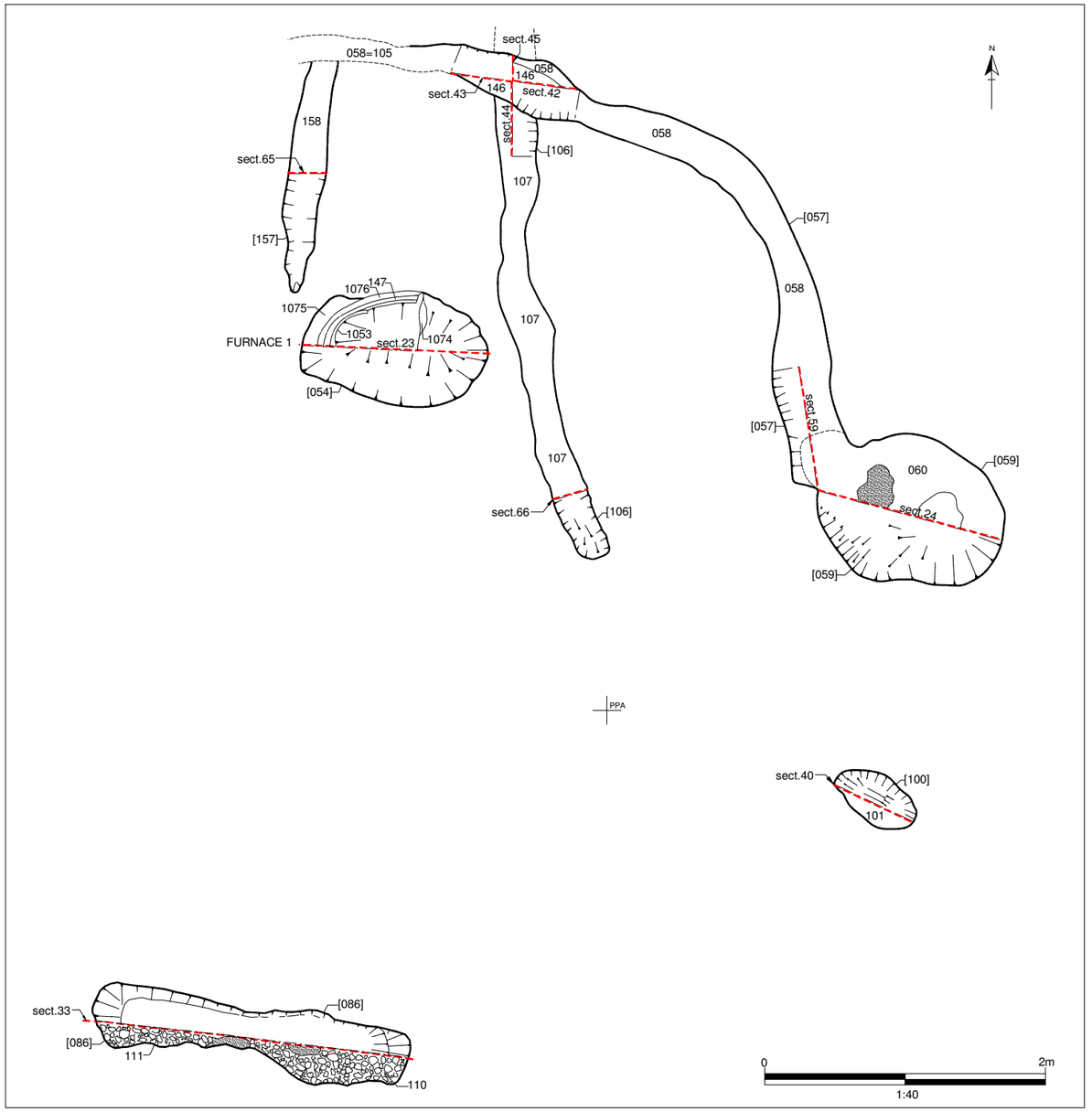
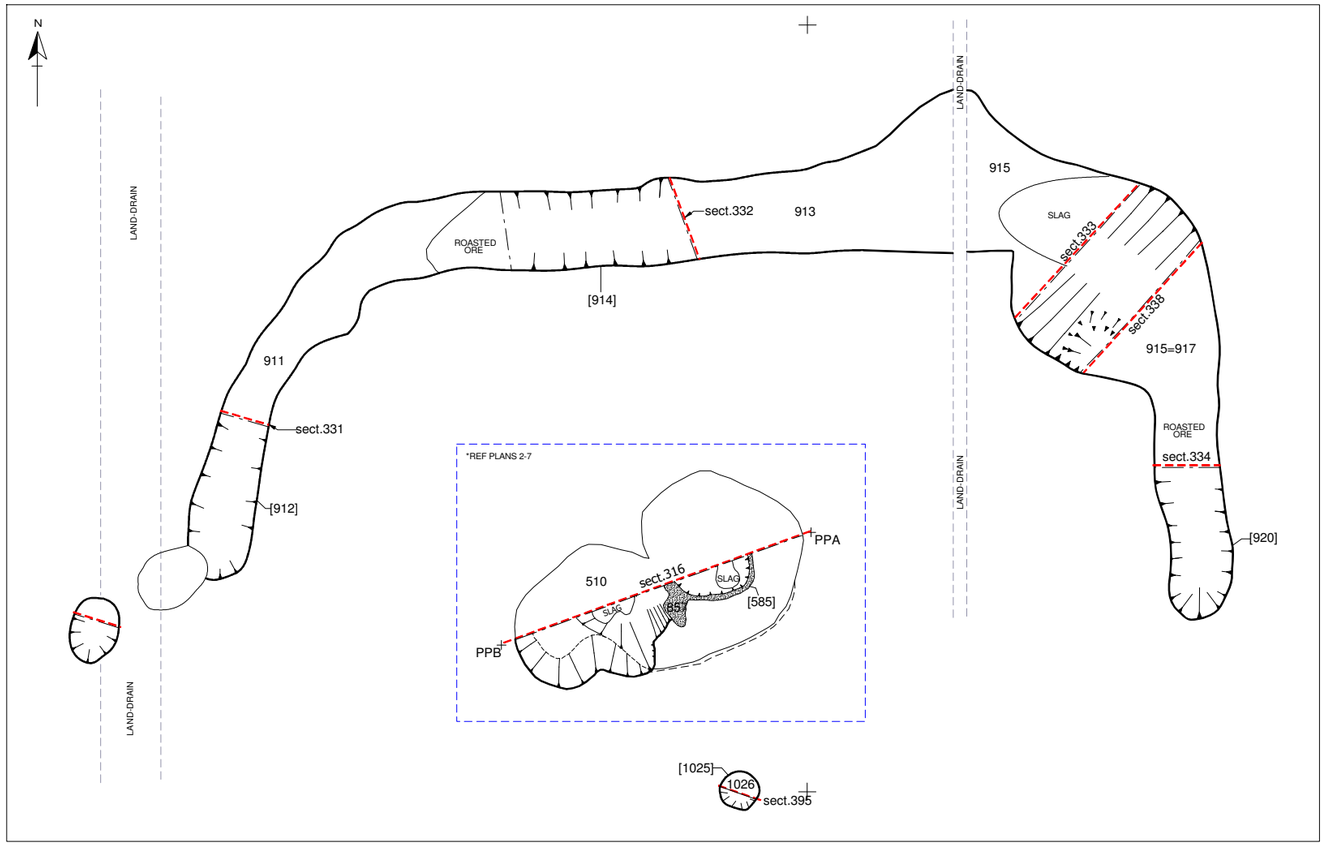


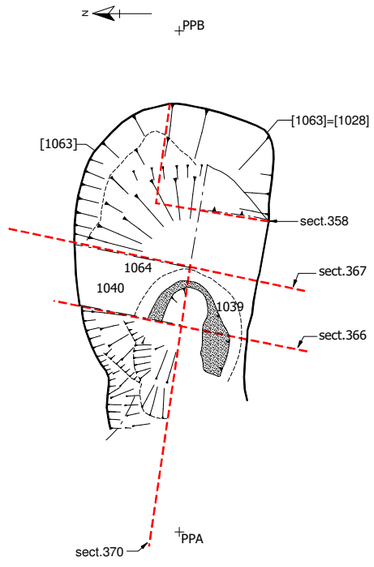
FURNACE 1 PLAN

Archaeological Project Services		
Project Name: Priors Hall, Corby		
Scale: 1:40	Drawn by: RVH	Report No: 4/08

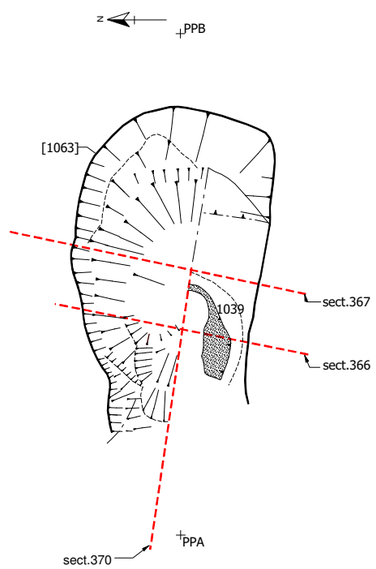
Figure 16 Furnace 1, plan and associated sections



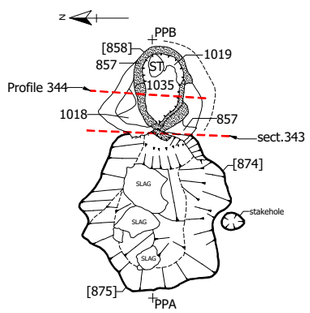
FURNACE 2 PLAN 1



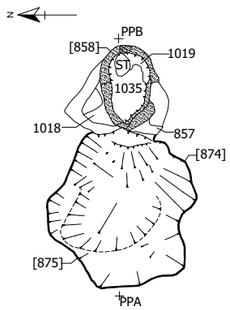
FURNACE 2 PLAN 6



FURNACE 2 PLAN 7

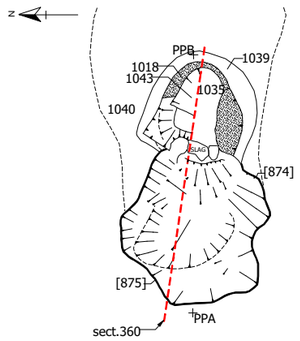


FURNACE 2 PLAN 2

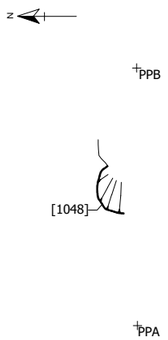


FURNACE 2 PLAN 3

FULL EXCAVATION OF TAPPING PIT



FURNACE 2 PLAN 4



FURNACE 2 PLAN 5

0 2m

Archaeological Project Services		
Project Name: Priors Hall, Corby		
Scale: 1:40	Drawn by: RVH	Report No: 4/08

Figure 17 Furnace 2 plans

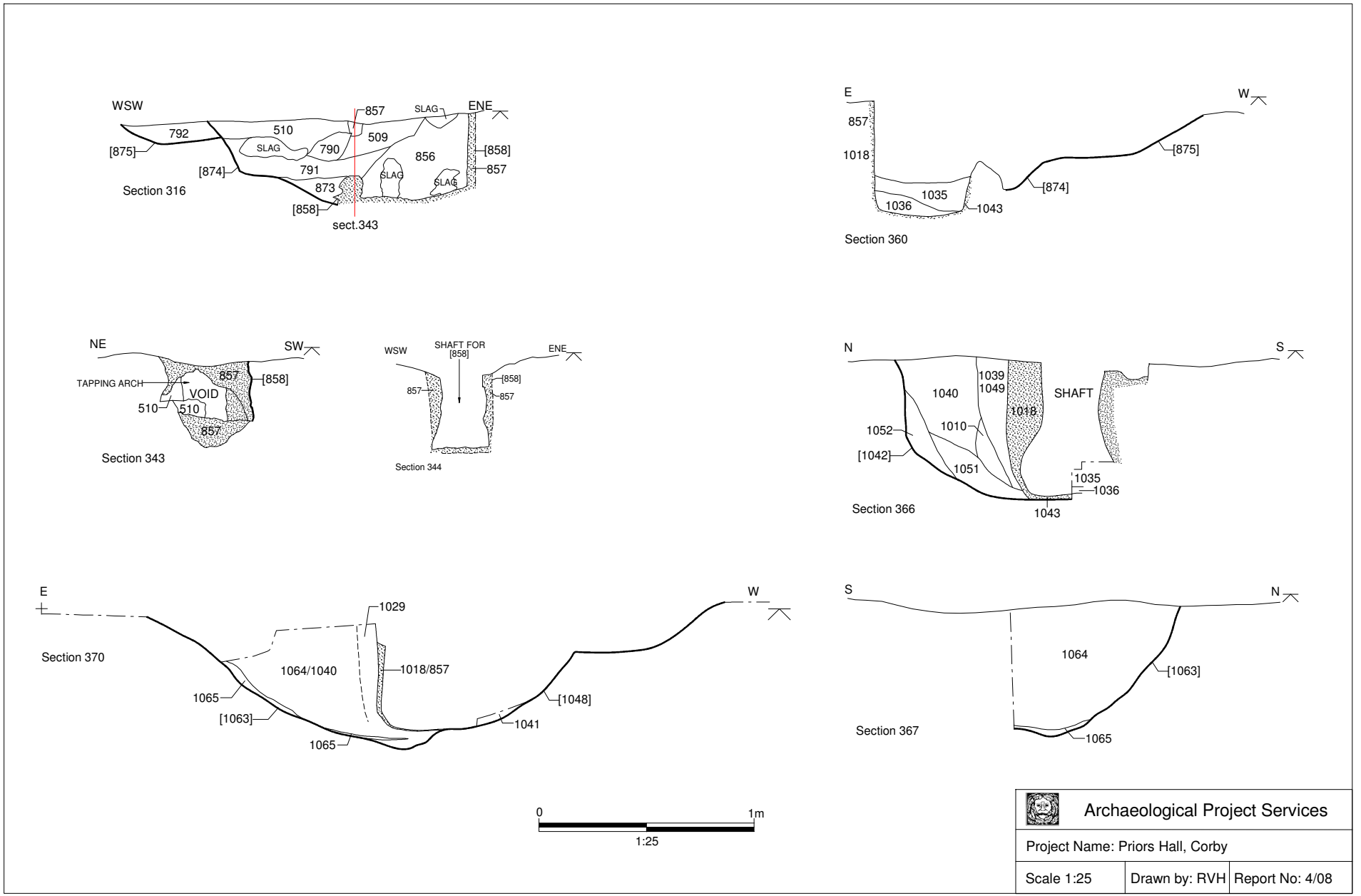
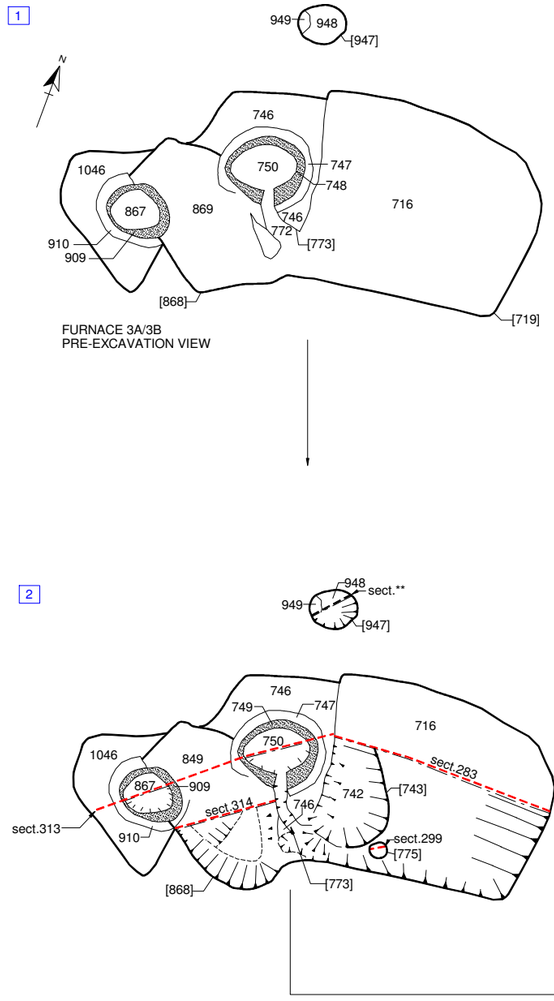
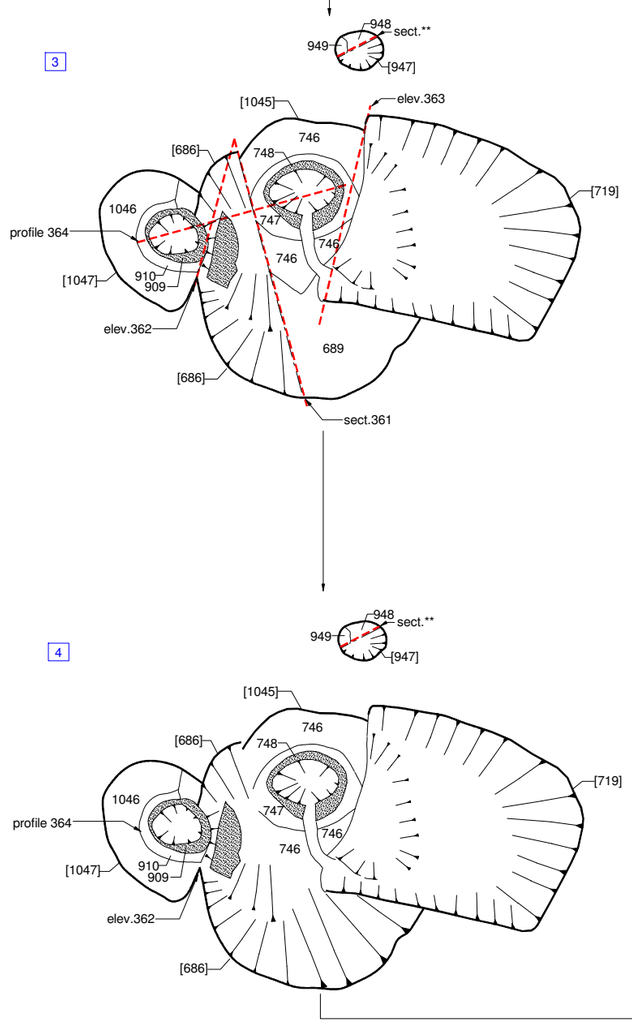
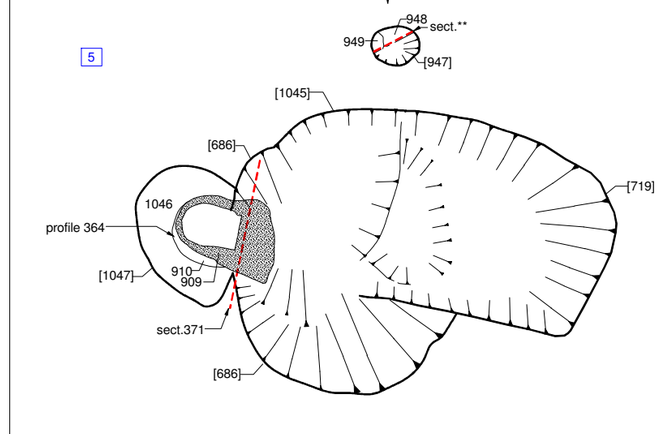
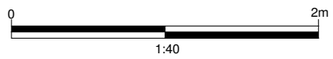


Figure 17a Furnace 2, Sections









Archaeological Project Services		
Project Name: Priors Hall, Corby		
Scale: 1:40	Drawn by: RVH	Report No: 4/08

Figure 18 Furnaces 3a and 3b

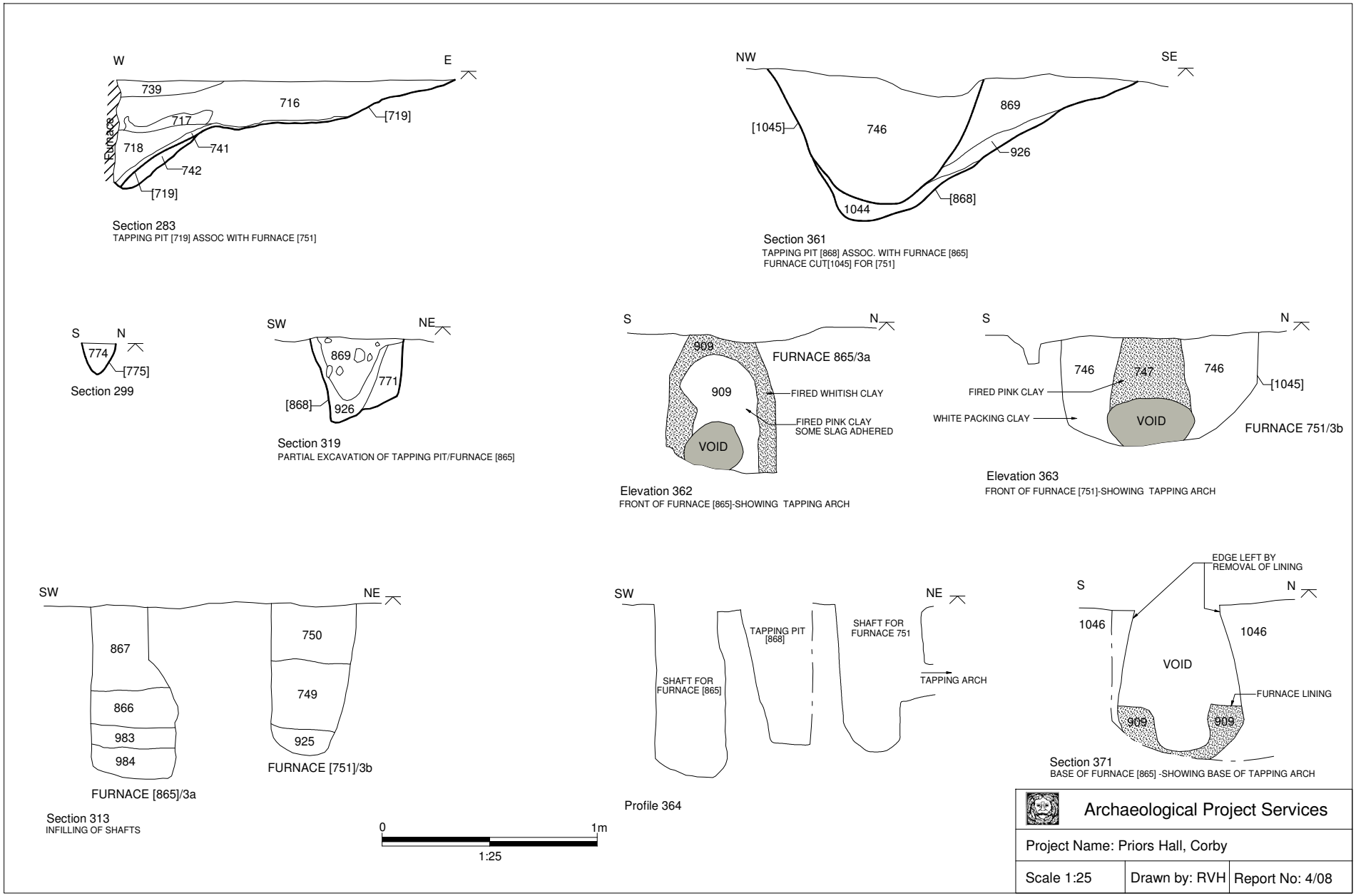


Figure 18a Furnaces 3a and 3b Sections

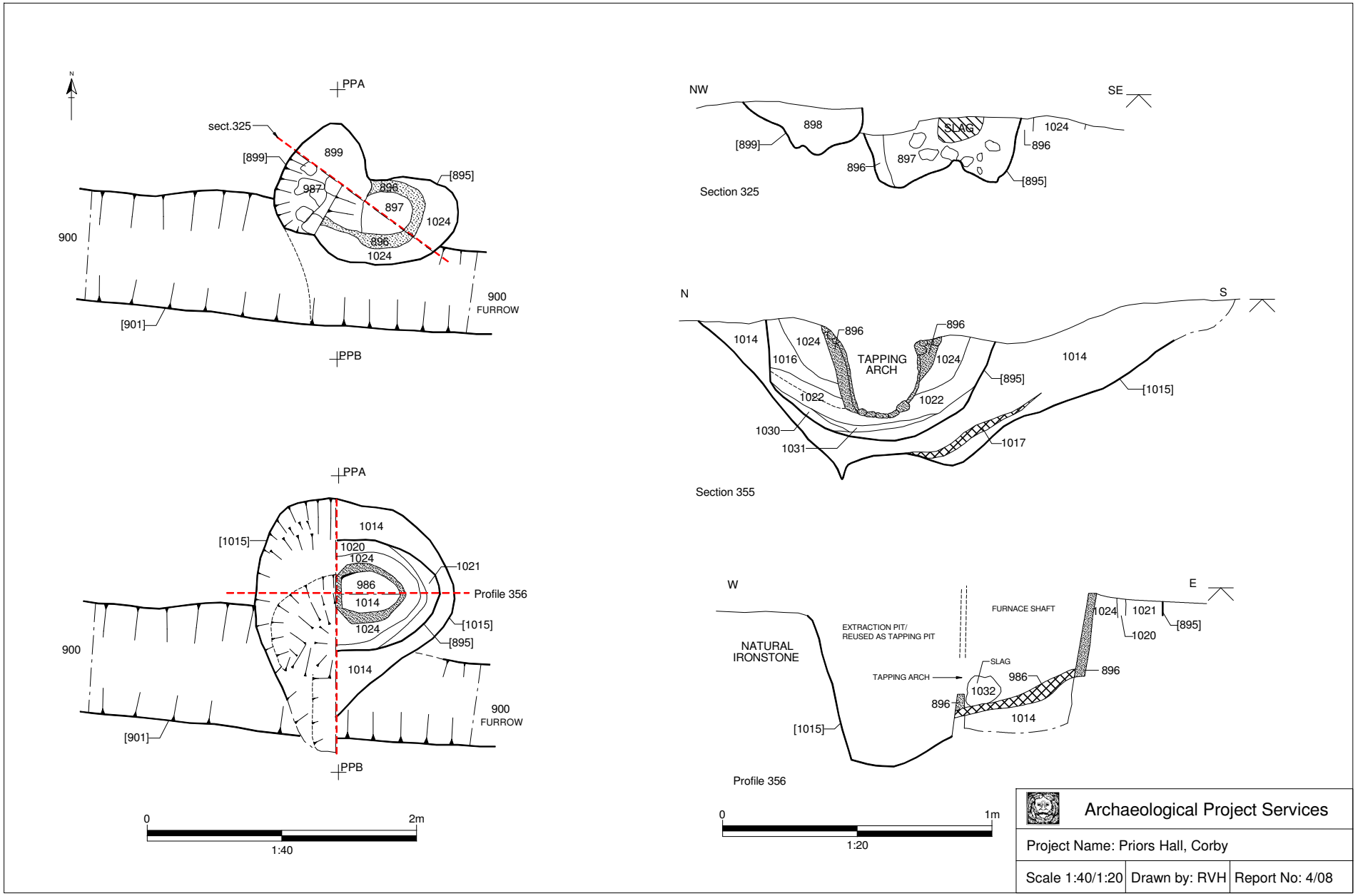
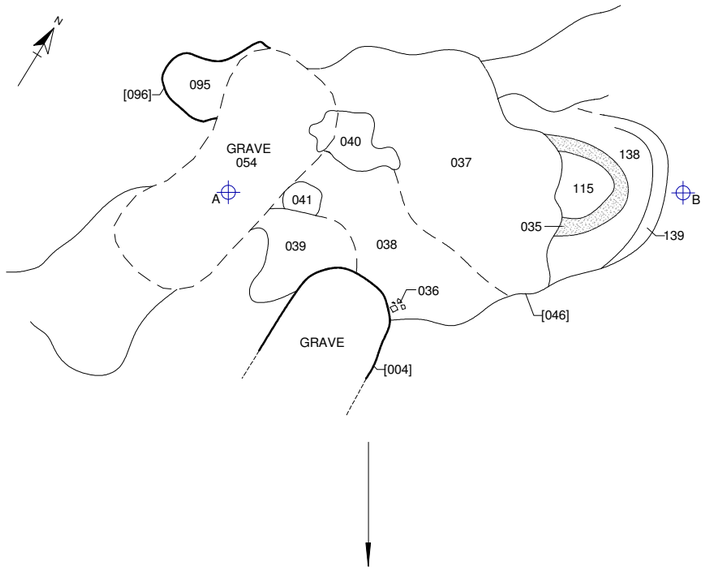
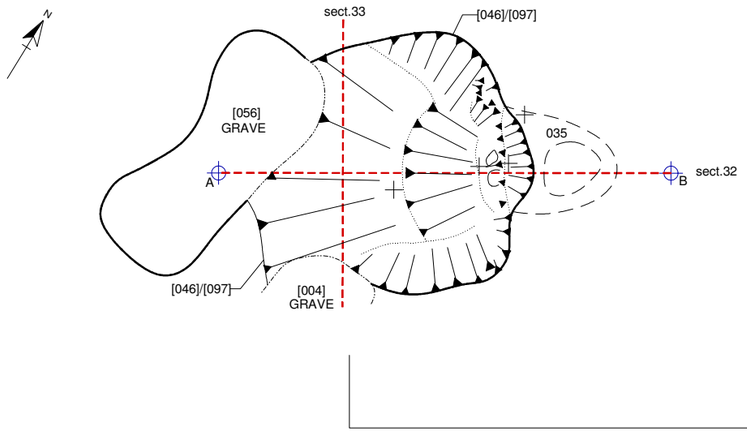


Figure 19 Furnace 4, plan and associated sections

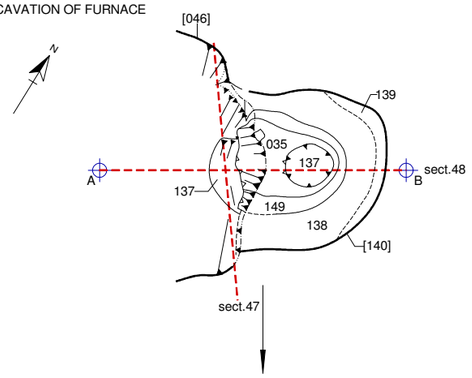
PLAN 9: REE-EXCAVATION OF FURNACE



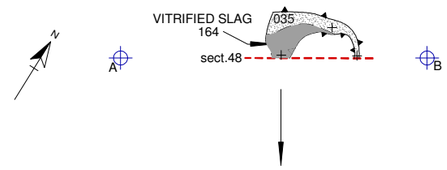
PLAN 19: EXCAVATION OF TAPPING PIT [046]/[097]



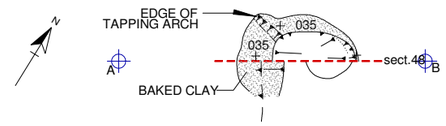
PLAN 27: PARTIAL EXCAVATION OF FURNACE



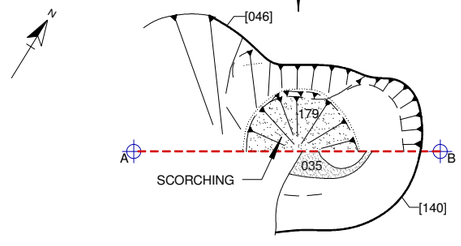
PLAN 34: LOWER SEGMENT OF FURNACE



PLAN 37: BASE OF FURNACE



PLAN 40: POST-EXCAVTION/HALF SECTION
THROUGH FURNACE STRUCTURE
SHOWING CONSTRUCTION CUT



0 2m
1:40

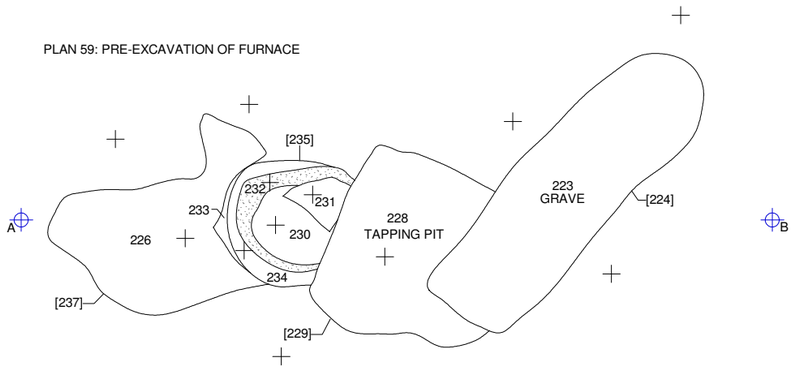
Archaeological Project Services

Project Name: Priors Hall, Corby

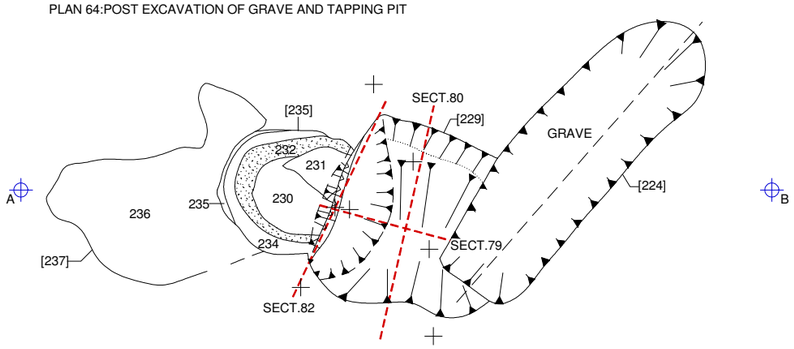
Scale: 1:40 | Drawn by: RVH | Report No: 4/08

Figure 20 Furnace 6, Plan and associated sections (truncation by Burials 1 and 2

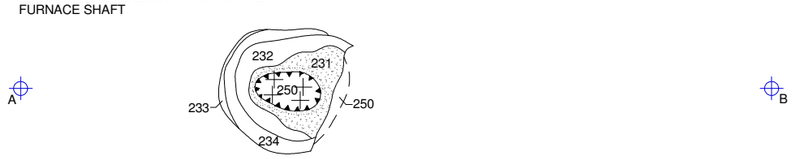
PLAN 59: PRE-EXCAVATION OF FURNACE



PLAN 64:POST EXCAVATION OF GRAVE AND TAPPING PIT

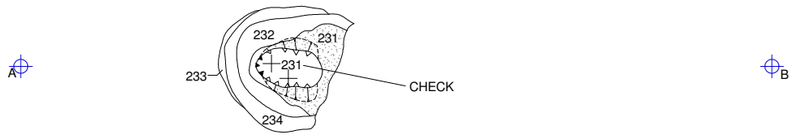


PLAN 65: PARTIAL EXCAVATION OF THE FURNACE SHAFT

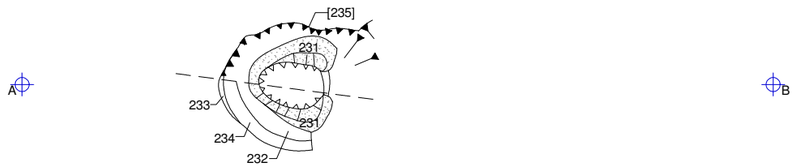


PLAN 67: EXCAVATION OF FURNACE SHAFT

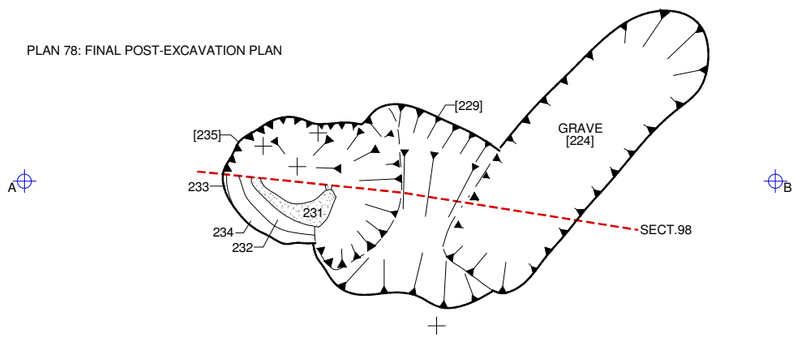
PLAN 68: EXCAVATION OF FURNACE SHAFT



PLAN 71: EXCAVATION OF SHAFT FURNACE



PLAN 78: FINAL POST-EXCAVATION PLAN

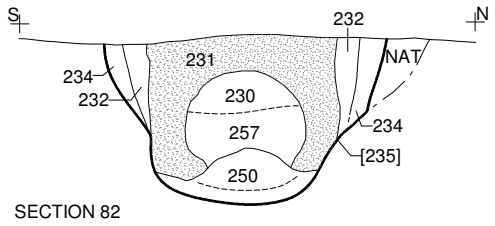


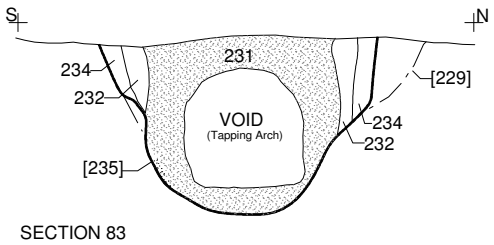
0 2m

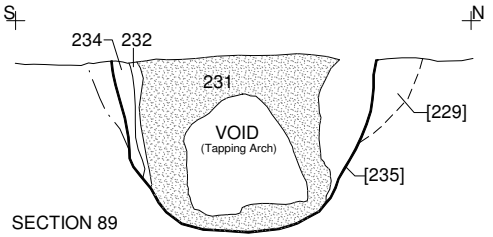
1:40

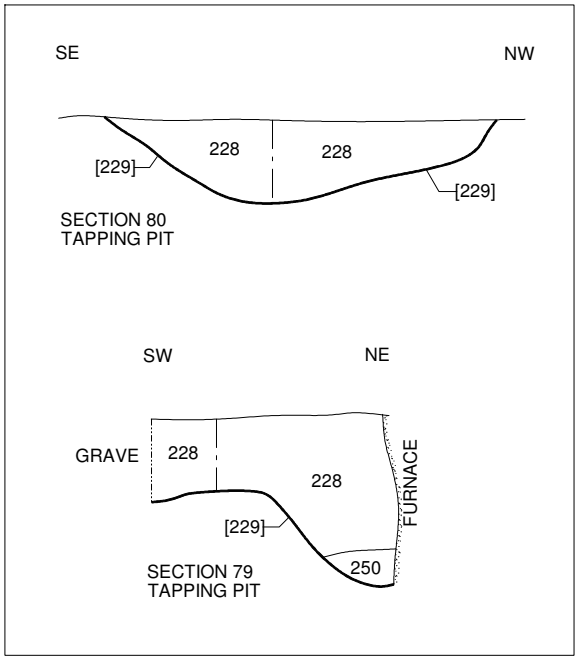
Archaeological Project Services		
Project Name: Priors Hall, Corby		
Scale: 1:40	Drawn by: RVH	Report No: 4/08

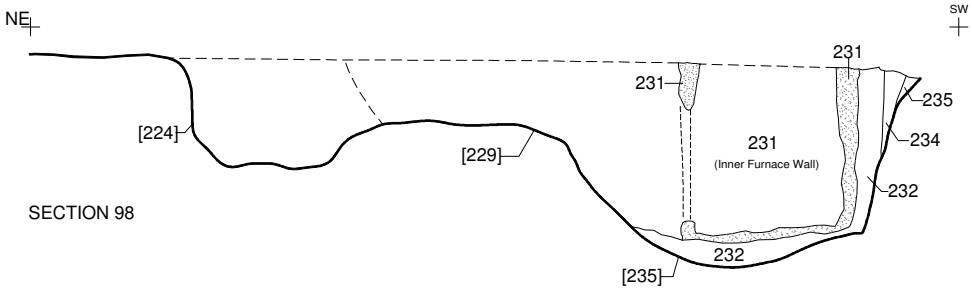
Figure 21 Furnace 7, plans (truncation by Burial 9)

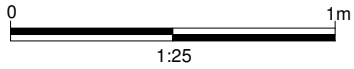








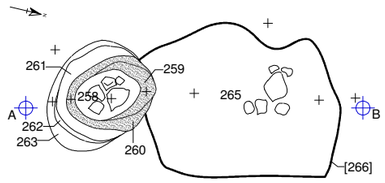




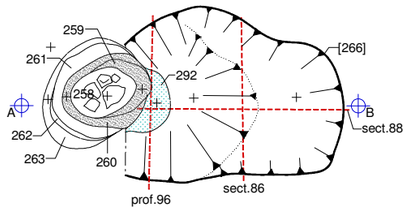
Archaeological Project Services		
Project Name: Priors Hall, Corby		
Scale 1:25	Drawn by: RVH	Report No: 4/08

Figure 21a Furnace 7, Sections

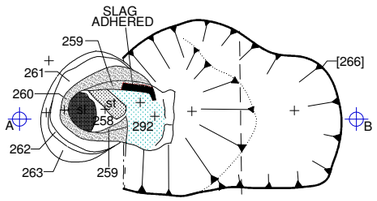
PLAN 69:PRE-EXCAVATION VIEW OF THE FURNACE



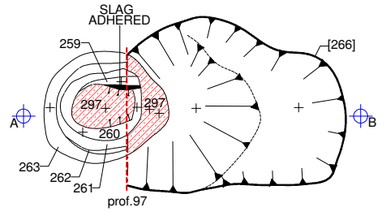
PLAN 73:EXCAVATION OF TAPPING PIT



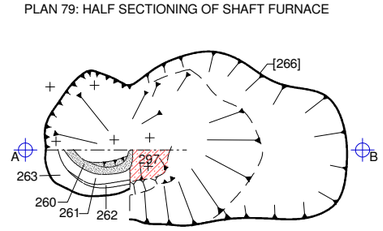
PLAN 76: EXCAVATION OF SHAFT; COLLASPE OF TAPPING ARCH



PLAN 77: EXCAVATION OF SHAFT



PLAN 79: HALF SECTIONING OF SHAFT FURNACE



0 2m

1:40

Archaeological Project Services		
Project Name: Priors Hall, Corby		
Scale: 1:40	Drawn by: RVH	Report No: 4/08

Figure 22 Furnace 8, plans

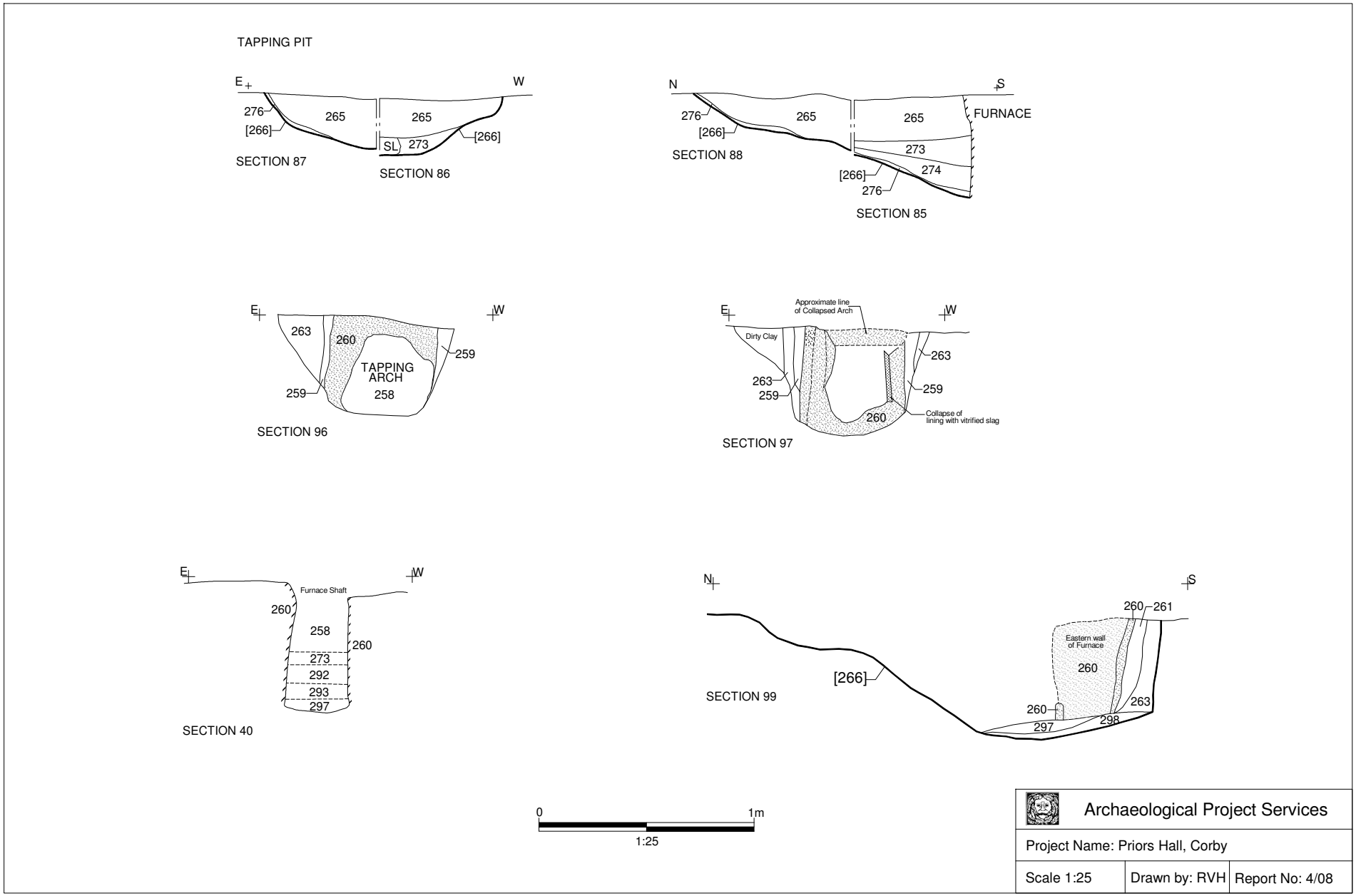
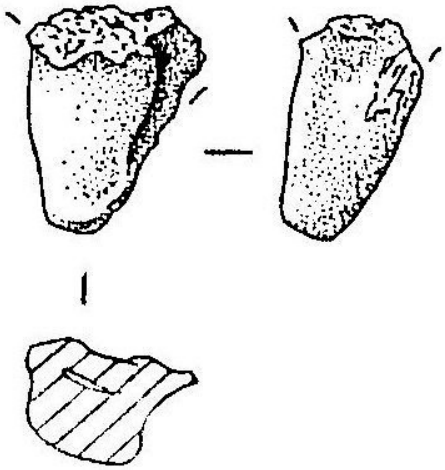


Figure 22a Furnace 8, sections

Figure 23 Furnace 5, plans



0 5cm

Figure 24 Foot of vessel base in grog and sand

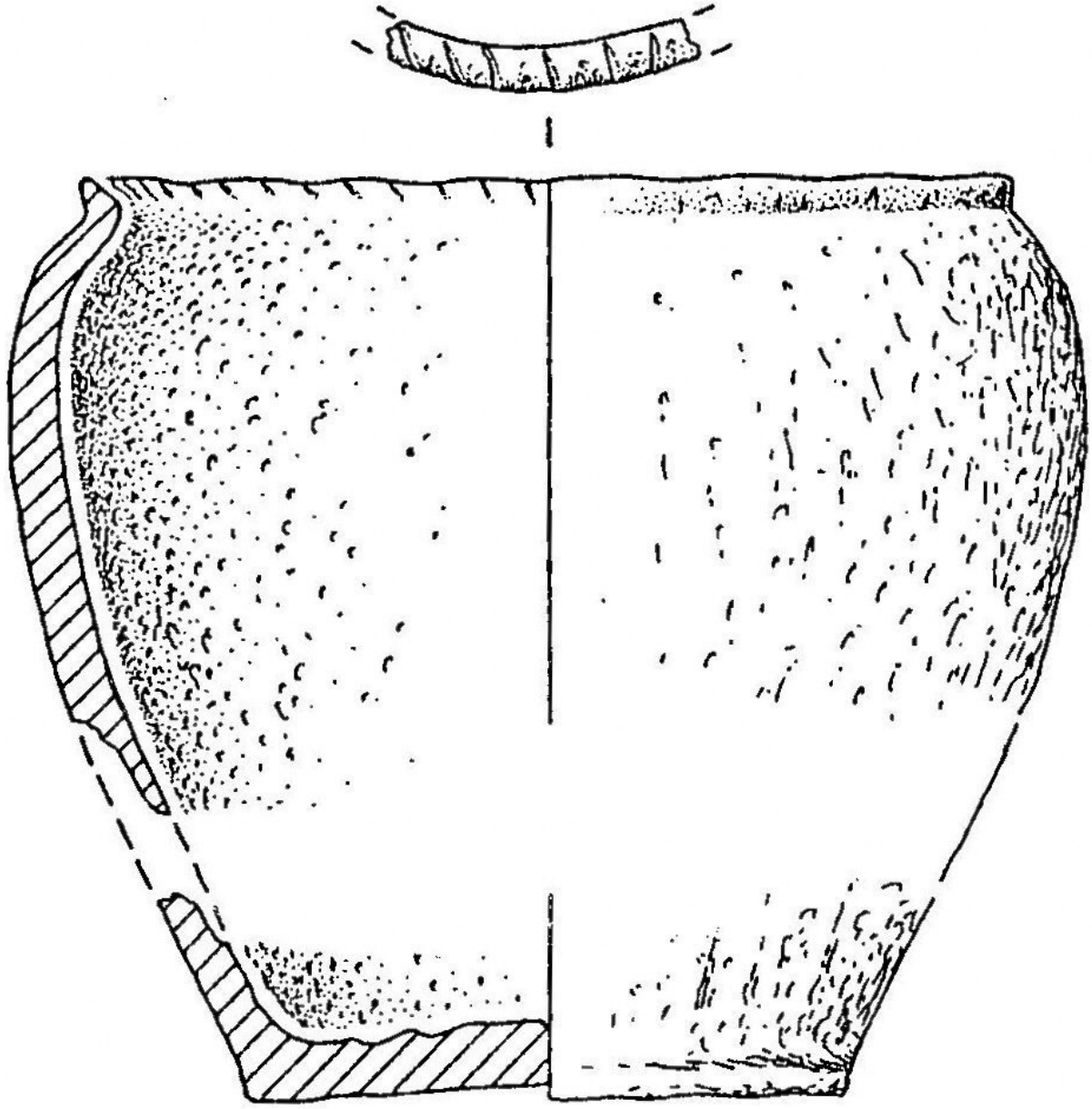


Figure 25 Ovoid jar in leached shell and organic fabric

Archaeological Project Services	Project Name: Priors Hall, Corby	Actual Size	Drawn by: DWH	Report No: 4/08

Figures 24 and 25

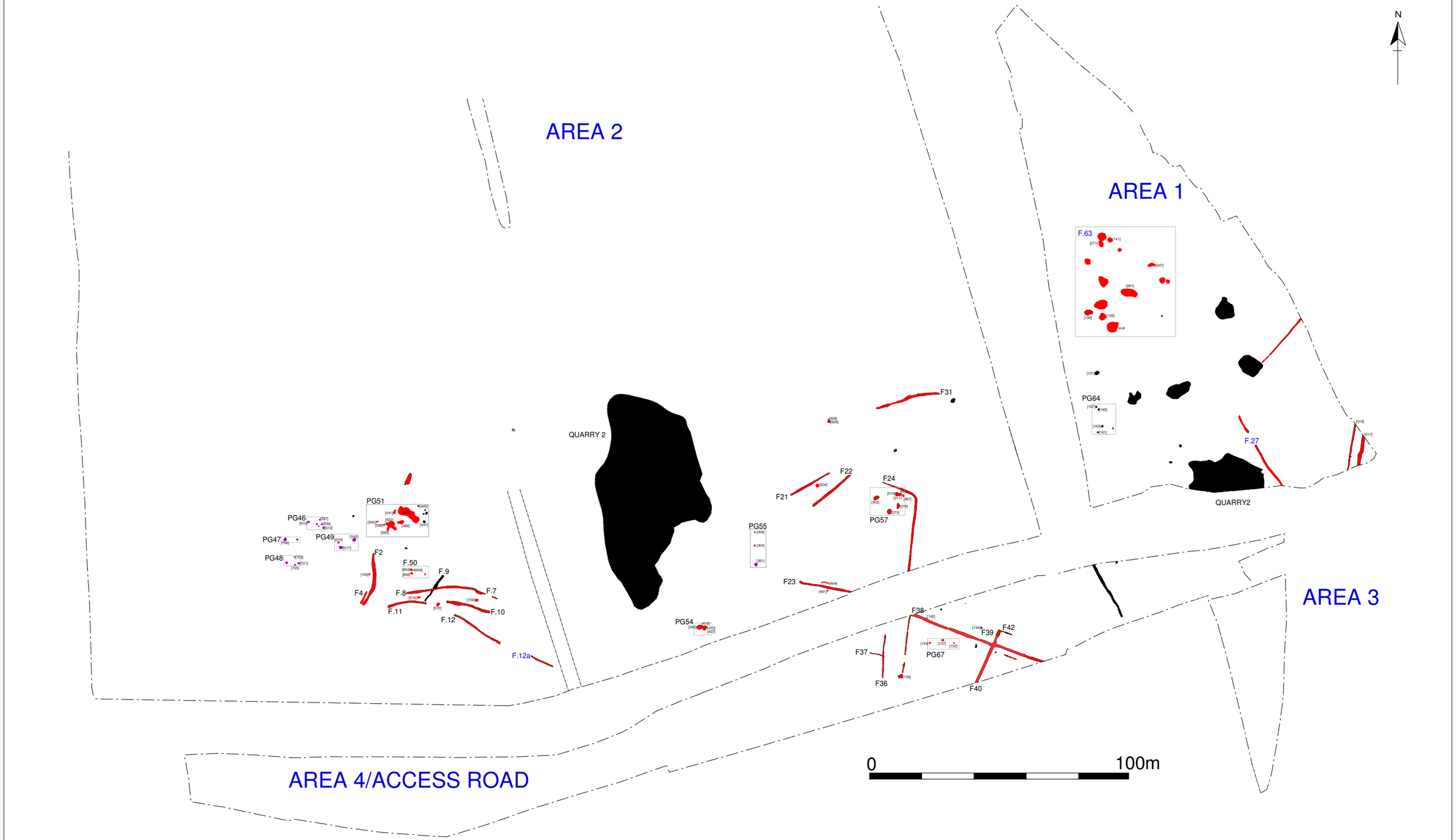


Figure 26 Early Romano-British landscape

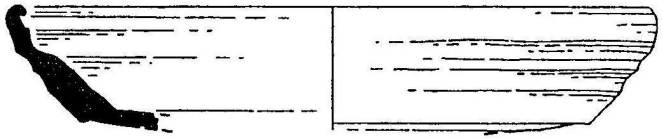


Figure 27 Platter in grog and sand fabric

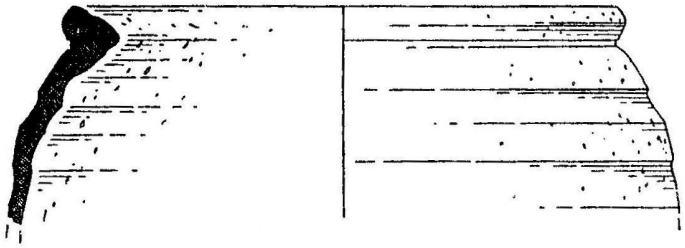


Figure 28 Lid-seated bowl in coarse white fabric

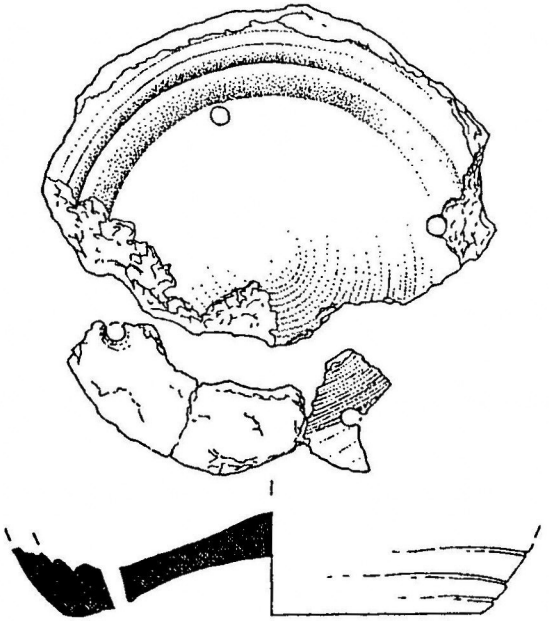


Figure 29 Possible cheese strainer or press

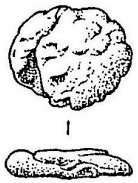


Figure 30 Ceramic plug, possible pottery repair

0 2.5cm

Archaeological Project Services		
Project Name: Priors Hall, Corby		
Scale 1:2	Drawn by: DWH	Report No: 4/08

Figures 27, 28, 29 and 30

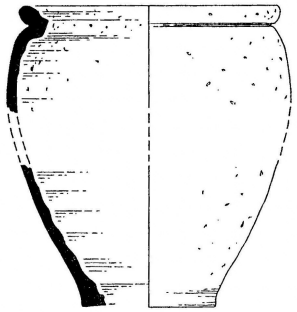


Figure 31 Developed lid-seated jar in grog and sand greyware

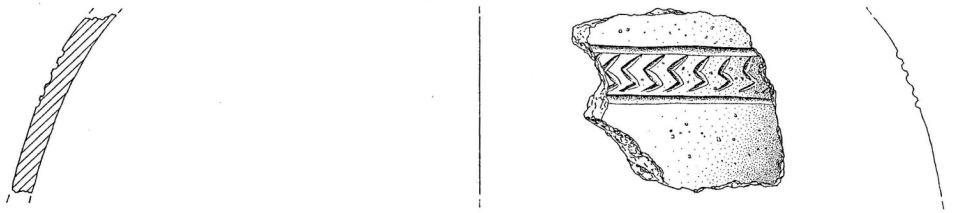


Figure 33 Storage jar with band of vertical zig-zags on shoulder

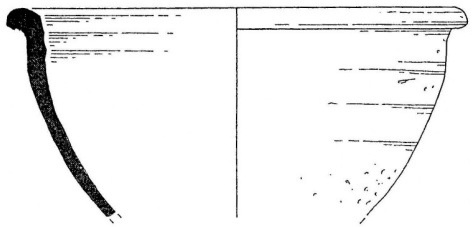


Figure 32 Bowl in grog and sand greyware

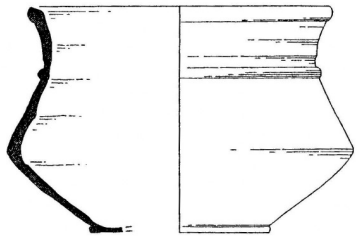


Figure 34 Cordoned urn with horizontal comb decoration

0 20cm

Archaeological Project Services		
Project Name: Priors Hall, Corby		
Scale 1:4	Drawn by: DWH	Report No: 4/08

Figures 31, 32, 33 and 34

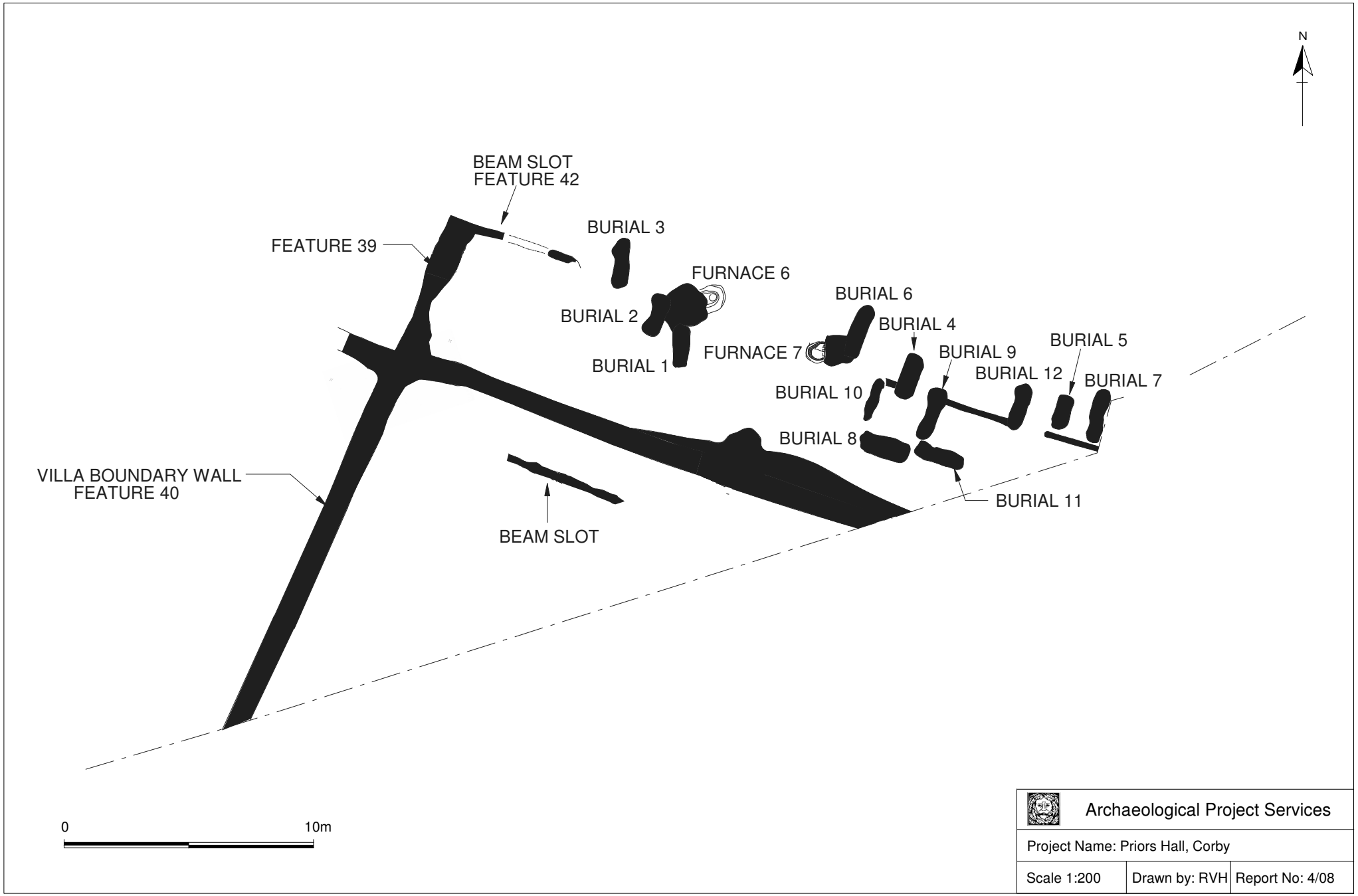


Figure 35 The Romano-British cemetery showing orientation of graves

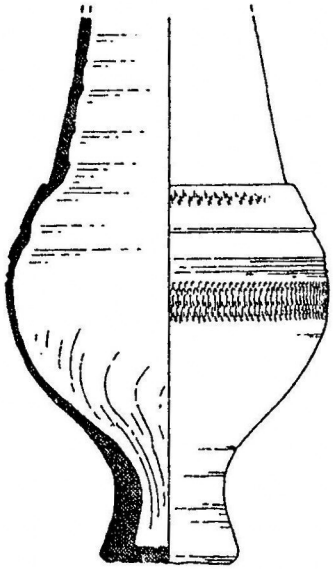


Figure 36 Funnel neck beaker in Nene Valley colour coat with rouletted decoration on body

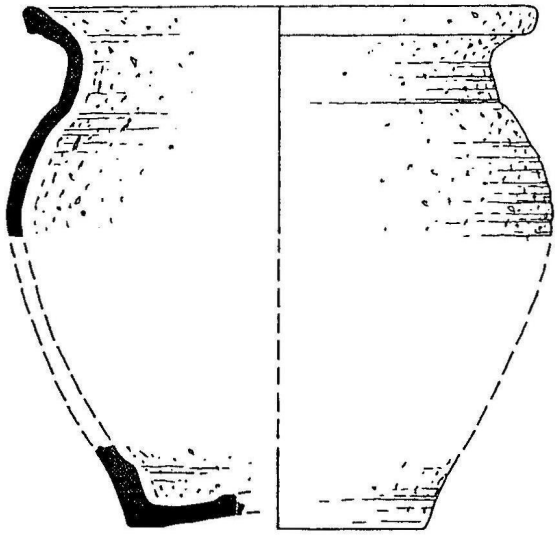


Figure 37 Everted jar in shelly fabric

0 2.5cm

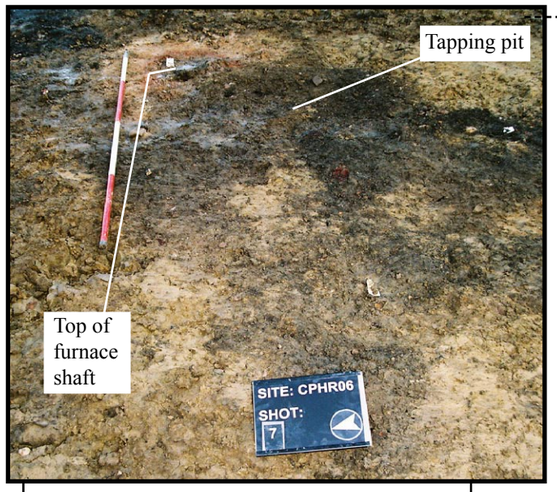
Archaeological Project Services		
Project Name: Priors Hall, Corby		
Scale 1:2	Drawn by: DWH	Report No: 4/08

Figures 36 and 37

Figure 38　Reconstructions of Furnace

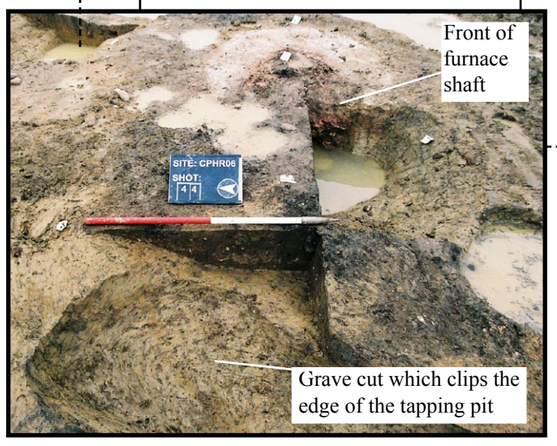
THE CONSTRUCTION OF A SUNKEN SHAFT FURNACE AS SHOWN THROUGH THE EXCAVATION OF FURNACE 6.

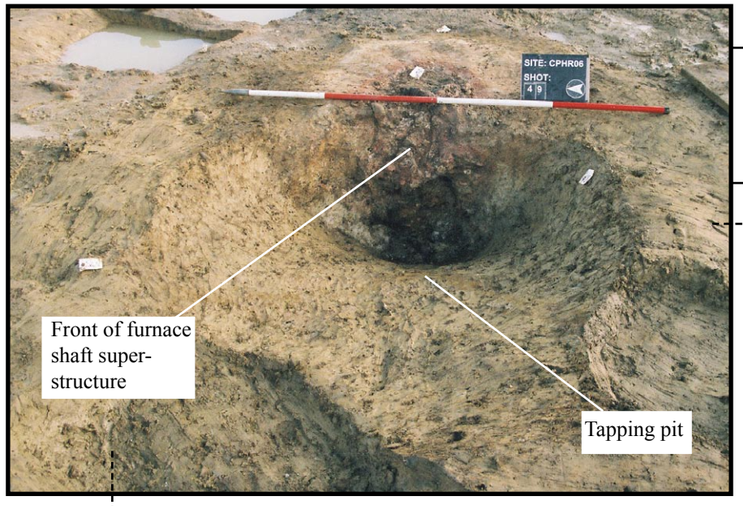
The following sequence of plates illustrates the sequence of excavation of Furnace 6 showing the key features.



1. Plan View of Furnace 6 prior to its excavation

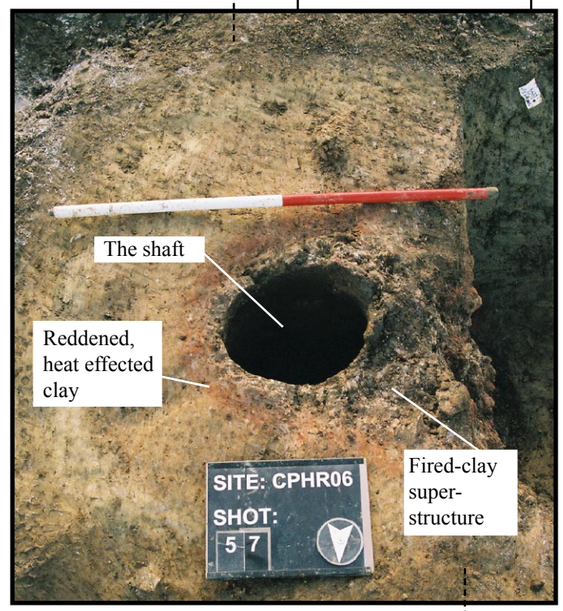
2. Quarter sectioning of the tapping pit



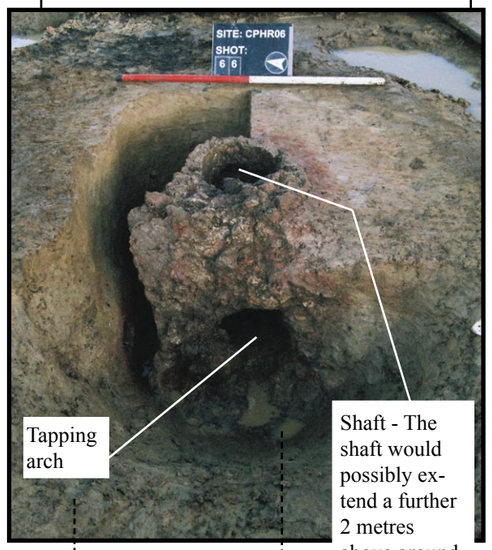


3. The complete removal of backfill showing the full extent of the tapping pit

4. Removal of material from within the shaft structure

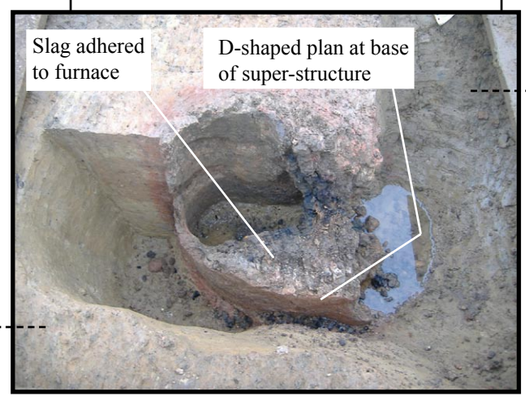


6. Complete excavation of the northern half of the construction cut exposing the northern side of the furnace super structure



8. Complete section through the furnace

7. Partial excavation of the northern side of the furnace super structure. Can see a widening of the furnace towards the base to produce a D-shaped plan.



5. Partial excavation of the backfill infilling the space between the construction cut and furnace super structure

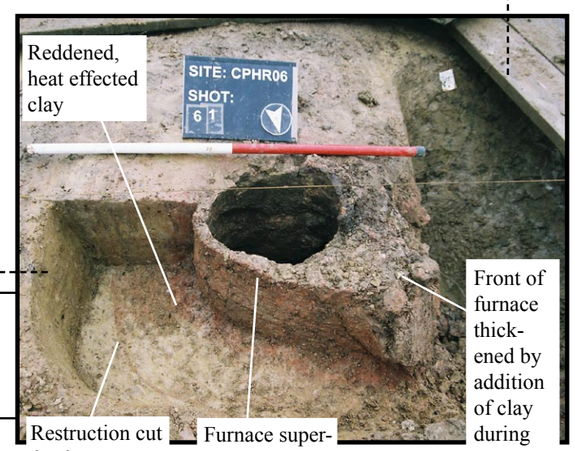


Figure 39 Furnace Model shown through excavation of Furnace 6

Plate 1 Furnace 1, bowl shaped. Showing partial remains of fired clay structure, with fine layer of charcoal from firing in base.

Plate 2 Furnace 2, Pre-excavation-showing plan view of furnace and possible structure in form of beam trench (Feature 25) enclosing northern side of furnace.

Plate 3 Furnace 2, View of furnace during excavation showing D-shaped plan of clay structure.

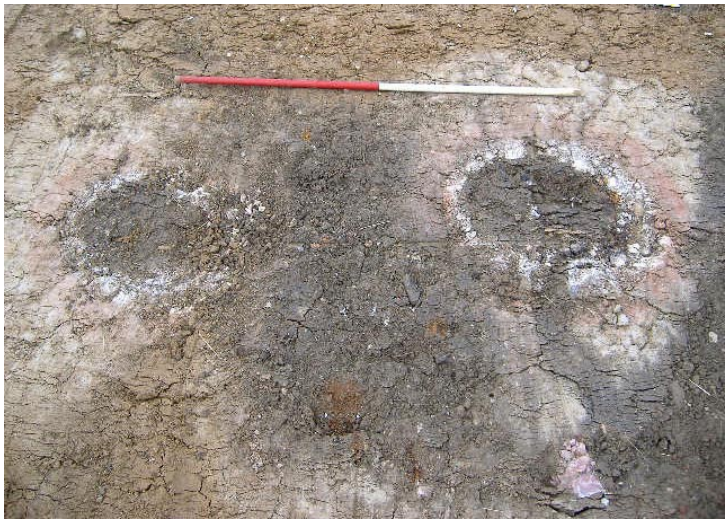


Plate 4 Furnaces 3a and 3b, The clear truncation of Furnace 3a's tapping pit by the construction of Furnace with 3b (to the right)

Plate 5 Furnaces 3a and 3b, Partial removal of Furnace 3b's clay structure, exposing in full the front of Furnace 3a

Plate 6 Furnace 3a, The thickened belly section of the shaft with an aperture tapped through to allow the extraction of an Iron bloom.

Plate 7 Furnace 7, Plan view pre-excavation of Furnace showing the truncation of the tapping pit by Burial 9.

Plate 8 Furnace 8, The clay shaft structure, following collapse of the 'Tapping Arch'

Plate 9 Furnace 5, The successive relinings of the furnace structure

Plate 10 Furnace 5, The remnants of the clay structure

Plate 11 The collection of samples for archaeomagnetic dating from Furnaces 3a and 3b

Plate 12 Feature 2, Early Romano-British ditch with cordoned urn in terminus

Plate 13 Feature 40, Northern boundary wall to Weldon Villa

Plate 14 Feature 40, Foundations of boundary wall disturbed by subsequent robbing and Ditch 38

Plate 15 Early Romano-British Pit [472], a re-cut of pit [407]

Plate 16 Tuyere from within the backfilling of the Furnace shaft 7