

NORTHAMPTONSHIRE COUNTY COUNCIL

NORTHAMPTONSHIRE ARCHAEOLOGY

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**FURTHER EXCAVATION AT
WOOTTON FIELDS ROMAN VILLA
NORTHAMPTON**

2002

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QUALITY CONTROL

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OASIS REPORT FORM

PROJECT DETAILS		
Project title	Wootton Fields Roman Villa, Northampton	
Short description (250 words maximum)	See abstract	
Project type (eg desk-based, field evaluation etc)	Open area excavation	
Previous work (reference to organisation or SMR numbers etc)	Archaeological recording and limited excavation in 1999 by Northamptonshire Archaeology	
Future work (yes, no, unknown)	No	
Monument type and period	Late Iron Age/early Roman settlement enclosure. Pits and ditches related to Roman villa	
Significant finds (artefact type and period)	Iron Age and Roman pottery, Roman building materials, Roman metalworking debris, small late Roman coin hoard Saxon inhumation and grave goods (with C14 date)	
PROJECT LOCATION		
County	Northamptonshire	
Site address (including postcode)	Wootton Fields, adjacent to Curtlee Hill, Northampton NN4 6JH	
Easting (use numerical 100km grid square no.)	4766	
Northing	2563	
Height OD	86-87m OD	
PROJECT CREATORS		
Organisation	Northamptonshire Archaeology	
Project brief originator	NCC Historic Environment Team	
Project Design originator	Northamptonshire Archaeology	
Director/Supervisor	Alex Thorne	
Project Manager	Andy Chapman	
Sponsor or funding body	David Wilson Homes Ltd	
PROJECT DATE		
Start date	Fieldwork January 2002	
End date	Report completed January 2004	
ARCHIVES	Location (Accession no.)	Content (eg pottery, animal bone etc)
Physical		Pottery (2 boxes), animal bone (2 boxes), slag (4 boxes), other finds (1 box), building materials (3 boxes) Saxon inhumation & grave goods
Paper		214 context sheets, 5 plan sheets, 5 section sheets, b/w and colour photos
Digital		
BIBLIOGRAPHY		
Journal/monograph, published or forthcoming, or unpublished client report (NA report)		
Title	Wootton Fields Roman villa, Northampton	
Serial title & volume	Northamptonshire Archaeology	
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FURTHER EXCAVATION AT WOOTTON FIELDS
ROMAN VILLA, NORTHAMPTON, 2002

CONTENTS

- 1 INTRODUCTION**
 - 2 ARCHAEOLOGICAL BACKGROUND**
 - 3 OBJECTIVES AND METHODOLOGY**
 - 4 THE EXCAVATED EVIDENCE**
 - 4.1 Summary of chronology**
 - 4.2 The late Iron Age/early Roman enclosure**
 - 4.3 The villa precinct**
 - 4.4 The drainage ditches and ponds**
 - 4.5 Industrial activity**
 - 4.6 The Anglo-Saxon burial and other activity**
 - 5 THE FINDS**
 - 5.1 The Roman pottery** by Roy Friendship-Taylor
 - 5.2 Roman building material** by Pat Chapman
 - 5.3 Other Roman finds** by Tora Hylton
 - 5.4 The coins** (identifications by Steve Critchley)
 - 5.5 The querns and millstones** by Andy Chapman
 - 5.6 The metalworking debris** by Andy Chapman
 - 5.7 The early Saxon pottery** by Paul Blinkhorn
 - 5.8 Anglo-Saxon grave goods** by Tora Hylton
 - 6 FAUNAL AND ENVIRONMENTAL EVIDENCE**
 - 6.1 The animal bone** by Karen Deighton
 - 6.2 The Anglo-Saxon inhumation** by Trevor Anderson
 - 6.3 Environmental evidence** by Karen Deighton
 - 6.4 The wood species** by Rowena gale
 - 7 RADIOCARBON DATING**
- BIBLIOGRAPHY**

Tables

Table 1: Pottery fabric types

Table 2: Pottery forms

Table 3: Dated pottery context groups

Table 4: Ceramic tile types

Table 5: Other coins

Table 6: Coins from the dispersed hoard in pit 338

Table 7: Quantification of metalworking debris

Table 8: Animal bone species (by number of bones and relative percentage)

Figures

Fig 1: Site location

Fig 2: The Roman villa and its environs

Fig 3: The Roman villa, 1999 and 2002 excavations

Fig 4: The 2002 excavations

Fig 5: The pond industrial area

Fig 6: Sections of the pond

Fig 7: Roman finds (1-3)

Fig 8: The querns (1 & 2)

Fig 9: The millstone (3)

Fig 10: The Anglo-Saxon burial and grave goods

Fig 11: The wood from the pond (finds 47 and 48)

Plates

Plate 1: The kiln during excavation

Plate 2: The partly excavated kiln

Plate 3: The pond during excavation, showing oak plank

Plate 4: The oak plank from the pond (find 47)

Plate 5: The oak post from the pond (find 48)

Plate 6: Pits 274 and 276 on the edge of pond

Plate 7: Deposit containing slag (214) over stone surface (358)

Plate 8: The Anglo-Saxon burial

Plate 9: The grave goods with the Anglo-Saxon burial

FURTHER EXCAVATION AT WOOTTON FIELDS ROMAN VILLA, NORTHAMPTON 2002

Summary

A Roman villa partly investigated in 1999 is being preserved under a public open space within a new housing development. An adjacent area was investigated by open area excavation prior to development. A small, sub-rectangular enclosure dating to the mid-first century AD adds to previous evidence for occupation on the site pre-dating the villa. At the north-eastern corner of the villa precinct a series of shallow ditches had fallen out of use before a kiln was constructed in the late second or early third century. The third to fourth century activity comprised a shallow pond and associated pits and ditches. A pit on the margin of the pond contained a small hoard of late Roman coins probably deposited in the 370s AD. In the fourth century extensive dumps of iron smelting debris were deposited in a series of shallow hollows. A small quantity of fifth century pottery and a single Anglo-Saxon inhumation burial, radiocarbon dated to the seventh century, show that there was later activity around the villa site.

1 INTRODUCTION

The site lies in the parish of Wootton, Northampton, within a residential housing scheme developed by David Wilson Homes Ltd (Figs 1 and 2; NGR SP 766 563; Application ref N/2001/1198).

In 1999, at an early stage of the development, a previously unknown Roman villa was discovered during monitoring of earthmoving operations and was recorded by Northamptonshire Archaeology before being reburied (Chapman 2000). Much of the villa precinct is being preserved within a public open space, however, a sub-rectangular enclosure, identified by geophysical survey in 1999, lay just outside the agreed area of preservation. A requirement for archaeological recording of deposits in this area was outlined by the Archaeological Planning Officer of Northamptonshire County Council's Historic Environment Team (formerly Northamptonshire Heritage) in a letter to the developer dated 7 January 2002. As a result, David Wilson Homes Ltd commissioned Northamptonshire Archaeology to carry out an open area excavation of the identified enclosure with a watching brief on the surrounding area (Fig 2).

The excavation took place in January 2002. An intensive watching brief was maintained immediately following completion of the excavation as the surrounding zone was stripped of topsoil, and an intermittent watching brief was maintained over the longer-term progress of the development through to the end of July 2002.

2 ARCHAEOLOGICAL BACKGROUND

2.1 Previous archaeological investigation

Construction work during January 1999 on the Central Distribution Road (now Curtlee Hill) and an adjacent temporary haul road led to the discovery of a previously unknown Roman villa. With the co-operation of David Wilson Homes Ltd, financial support from the County Council and English Heritage, and the weekend assistance of local volunteers, the site was briefly investigated to establish its form and character (Chapman 2000).

Archaeological features along the Central Distribution Road were fully excavated, while the part of the villa exposed in the temporary haul road was cleaned and recorded prior to the remains being covered with a permeable membrane and reburied. In addition, the exposed remains were put into a broader context by geophysical survey of the adjacent areas to the west and east of the Roman Villa (Figs 1 and 2).

This work established that an area of late Iron Age settlement containing at least one roundhouse and a scatter of pits and ditches had preceded the construction of the villa. The Roman pottery spanned the first to fourth centuries, suggesting continuity of occupation. The construction date of the small corridor villa, which was set within a square ditched enclosure, was not established, but it clearly survived into the later fourth century. A single room possessed a hypocaust and painted walls, but its modest status is defined by the absence of tessare; indicating that there was never any tessellated pavements or mosaics in the building. Fragments of tufa and quarter round mouldings from the northern end of the site suggested the former presence of an early bath house at this end of the building, which was later replaced by a small bath house at the southern end (Fig 3). Towards the end of the life of the villa, several hearths and ovens to the north of the main building formed an area of intensive industrial activity.

Following discussions between Northamptonshire Heritage and David Wilson Homes Ltd, the layout of the proposed housing scheme to the east of the Central Distribution Road, development area E2, was redesigned. This will ensure the long-term preservation of the main villa building and much of its precinct within a designated area of public open space. This area measures 47m north-south by 20m east-west, and it was landscaped during June and July 2002. The existing grass cover was skimmed off by machine. Imported soil was used to form a low curvilinear bank running the length of the western half of the area to provide a deterrent to vehicle access. A protective layer of compacted clay loam, up to 0.30m thick, was spread across the eastern half of the area prior to laying down a thin layer of topsoil.

On the opposing side of the valley, to the south-east of the villa, evaluation in 2002 and a watching brief in 2003 located a further area of Roman activity (Fig 2, Wootton Fields; Upson-Smith forthcoming). This comprised an intricate network of ditches and a further possible pond, associated with some ceramic building materials and pottery assemblages dated to the third-fourth centuries AD. In addition, a hoard of late Roman coins deposited in the second half of the 330s AD, within a small jar with an unturned bowl as a lid, was recovered from a ditch and close to an inhumation burial.

In 2003 workmen excavating a boundary ditch alongside Curtlee Hill 150m north of the villa (SP 76585649), uncovered a small quantity of human bone which was reported to the police. The police have had the remains examined and radiocarbon dated: they came from a c30-year old woman of Roman date (255-530 cal AD; 98% probability; lab. ref. not known). This adds to the scatter of human remains of Roman date located in association with the work in both 1999 and 2002.

2.2 Topography and geology

The site lies on the southern slope of an east-west ridge that reaches 100-110m OD. The ridge is straddled by the present village, with the valley of the River Nene to the north (Fig 1). The villa lies at 86m and 87m OD on the south-east facing slope of a small but deeply incised valley containing a short tributary stream which runs south-west into Wootton Brook. The brook feeds into the River Nene to the north-west.

The underlying geology comprises Northampton Sand on the higher ground with Upper Lias Clays on the lower lying ground to the south and east (Geological Survey of Great Britain

(England & Wales), Solid and Drift, Sheet 202, 1969). In excavation the villa was seen to sit on Northampton Sand comprising shattered small ironstone pieces in a matrix of red brown sand. There was an area of tenacious yellow clays to the immediate south of the villa precinct. The area excavated in 2002 largely sat on Northampton Sand deposits, but these became progressively thinner as the site sloped down to the south-east, and clays were exposed on the surface in the area to the immediate east of the sub-rectangular enclosure.

3 OBJECTIVES AND METHODOLOGY

The proposed scheme of investigation had four primary objectives:

- 1) To locate and record the north-eastern corner of the villa precinct.
- 2) To establish the form, character and date of the enclosure to the north-east of the villa precinct.
- 3) To record and investigate other archaeological features located within the main area of excavation.
- 4) To carry out a watching brief during development within development area E2 to determine the presence of any other substantial archaeological features or deposits.

The open area excavation measured up to 58m east-west by 46m north-south, an area of 0.23ha (Fig 2). The site was stripped of topsoil and subsoil using a tracked 360° excavator with a toothless ditching bucket. The exposed surface was cleaned as necessary to enhance the definition of the exposed features. All features were sectioned at least once and some were more fully excavated. Soil samples were taken from two contexts related to the dumped iron smelting debris and from the pond deposits. Two major waterlogged timbers were recovered, recorded and sampled. The coin hoard was retrieved by a combination of hand excavation and metal detecting of the pit fills both prior to and following excavation. A general metal detector scan was carried out across the entire site, and on the excavated spoil, and across the exposed subsoil in the area to the north and north-west of the excavation that was subject to groundworks during the course of the excavation.

A further pond to the south, probably related to the recently backfilled pond (Fig 2), was dug out during later construction works by the developers, but without informing Northamptonshire Archaeology. It appears that metal detectorists recovered a quantity of coins from the dumped silts from this pond (Charmian Woodfield pers comm). This would suggest a similar situation to the deposition of the coins in the excavated pond, but no further details are available.

The records and finds from the various stages of work at the villa will be incorporated into a single site archive, which will be deposited with the Northampton Museums Service. The results of the excavations at the villa in 1999 and 2002 and at Wootton Fields Centre for Learning site in 2002 and 2003 will be brought together to form a single report for publication in the journal of the Northamptonshire Archaeological Society.

4 THE EXCAVATED EVIDENCE

4.1 Summary of chronology

The excavated evidence derives from five major phases of activity, as summarised below.

Enclosure and ditch systems	mid 1 st – early 2 nd century AD
The formation of the villa precinct	late 2 nd – early 3 rd century AD
The ponds, pits and drainage ditches	3 rd – 4 th century AD
Industrial activity	4 th century AD
Early Saxon activity	5 th and 7 th centuries AD

The enclosure and associated ditch systems pre-date the establishment of the villa. This evidence fills the gap between the late Iron Age occupation found to the west of the villa in 1999 and the establishment of the villa (Fig 3). It also indicates that there was continuity of occupation from at least the first century BC onward.

A shallow ditch system in the north-west corner of the site appears to relate to the layout of the villa precinct, although it may be part of an earlier boundary system that the villa precinct respected (Fig 4). The filled in ditches were cut by a small kiln, which had been demolished in the late second/early third century. This suggests that the villa precinct had probably replaced these shallower ditch systems by the early third century at the latest.

A majority of the excavated features are dated to the third and fourth centuries, and probably relate to the functioning of the main villa building to the west. The pond and the associated pits and ditches around it appear to be of third century origin, although many of the features were still open in the later fourth century. The extensive dumps of soils containing metalworking debris are of fourth century date and appear to relate to a late phase of industrial activity focussed on a complex of ovens and other structures to the north of the villa buildings: these were located in 1999 but were not excavated. These dumps and the fills of the pond and associated pits also contained building debris that must have been derived from the demolition of buildings within the villa complex.

A small quantity of early Saxon pottery came from one of the dumps of metalworking debris, and an Anglo-Saxon inhumation burial accompanied by a small group of grave goods is radiocarbon dated to the seventh century (600-670 cal AD; 68% probability; 1403 +/- 48BP; Wk-11232). This indicates that there was some nearby occupation on or close to the derelict villa buildings.

4.2 The late Iron Age/early Roman enclosure (mid 1st - early 2nd century AD)

The enclosure

Much of the eastern part of the site was occupied by a sub-rectangular enclosure with rounded corners, measuring 25.0m east-west by 22.0m north-south (Fig 4). There was a narrow entrance at the north-west corner, but only one terminal survived. It is dated by small quantities of pottery from the fills of the ditches and some internal features to the mid-first century AD, but with activity continuing into the later first/early second century.

At the north-east corner (393) the ditch was 1.03m wide by 0.83m deep with a flat-base, 0.60m wide, near vertical lower edges and eroded upper edges. The well-preserved lower sides were cut into natural lias clays, and the ditch here would have retained standing water and must have silted rapidly. The eastern and southern arms of the ditch were similar in form but slightly shallower, at 0.80m wide by 0.50m deep. The western arm survived only as a narrow, ill-defined gully 0.50m

wide by 0.22m. At the south-west corner there was much disturbance from the later pond, and it was not possible to determine the relationship of the enclosure to a linear ditch (370/391).

There was a scatter of contemporary features within the enclosure. To the west there were several postholes or small pits (379, 381, 383, 385 and 387), typically around 0.50-1.00m in diameter by 0.20-0.30m deep. An oval pit (310), 1.65m long by 0.44m deep, containing much limestone rubble lay to the north. A well-cut rectangular pit to the north-east (399), 1.45m long by 0.47m deep, had near vertical sides and a flat base. It was filled with dark grey brown silty clay. Near the centre of the enclosure remnants of a possible structure (408) were defined by two slots set at right angles, each 3.00-4.00m long, 0.80m wide and up to 0.20m deep. They were filled with grey brown silty clay containing pieces of ironstone.

A linear ditch (370/391), which had been recut at least once, ran across the southern part of the enclosure, and the geophysics plot suggests that it continued further to the east. Its relationship to the enclosure was not established, but the similar form and fills and the presence of only first century pottery indicate that it was broadly contemporary with the enclosure.

To the north of the enclosure there was a shallow, flat-bottomed pit (289), with a mixed fill of grey-brown loam and yellow clay, which a small pottery assemblage dated to the late first/early second century. To the east of the enclosure there was a further, less regular hollow with a silty fill (406), 5.00m long by only 0.12m deep, which contained a small amount of pottery dated to the early second century

Ditches west of the enclosure

West of the enclosure there was a pair of shallow ditches (Fig 5, 252 and 222/250) on the same alignment as the northern side of the enclosure. They were each 0.70-0.90m wide by 0.20-0.35m deep, and a complete upper stone from a rotary quern (Fig 8, 2) was recovered from (252) along with a small assemblage of mid-first century pottery. The southern ditch had originally turned southward but this arm had later been abandoned and filled with clean clays. At the western margin of the site these ditches ran into, and were probably cut by, a complex of features that formed the north-eastern corner of the villa precinct.

The first-century ditches and the northern side of the enclosure were on the same alignment as a ditch found further to the west (Figs 2 and 3) that is interpreted as forming the northern side of the villa precinct. This suggests that the genesis of the villa precinct lay within an enclosure and boundary system founded in the mid-first century AD.

Pits west of the enclosure

A group of pits and gullies dated to the mid-first to late first/early second century lay both to the north and south of the linear ditches.

To the north there was a group of three substantial oval to sub-rectangular pits, 2.00-2.80m long (205, 218, 242). Two of these were steep-sided and flat-bottomed at 0.40m deep, but while pit (242) was similarly steep-sided it was not bottomed as it was in excess of 0.90m deep. A shallow, sinuous gully ran southwards from this pit for 6.0m (254). The pits all had similar fills of grey brown loams containing some limestone and ironstone and small domestic assemblages of pottery and animal bone. Pit (218) and gully (254) cut the northern boundary ditch, indicating that the pits were not the earliest phase of activity. In the same area, a scatter of postholes (207, 209, 224, 226, 228 and 230), 0.40-0.60m in diameter, may also be contemporary.

To the south the principal features were a pair of linear slots, 0.40m wide by 0.14-0.20m deep (260/1 and 267). These both appeared to terminate at the edge of a circular pit (256) also 0.20m deep, and with a similar fill. At either end of the northern slot there were shallow postholes (258

and 259). These features may have formed wall slots for a fence or some small timber structure but they seem too far from perpendicular to have been the walls of a building. A shallow, irregular pit to the north (248) is of the same date, as is an elongated slot (263) to the east. This slot was steep-sided and 0.60m deep, while a slot of similar plan form to its east was only 0.16m deep. The fill of this slot contained pieces of burnt and unburnt ironstone.

4.3 The villa precinct and the kiln

The villa precinct

One of the aims of the excavation was to determine the nature of the villa precinct boundary at its north-eastern corner. Previous excavation and geophysical survey had shown that the precinct ditch to the south was substantial, with several phases of recutting, while the ditches to the north of the villa had been of more modest proportions.

The probable corner of the precinct ditch lay immediately south of a later kiln, but as it lay at the margin of the site it was not possible to excavate this feature. A ditch system continued further to the north before turning westward onto the alignment of a ditch located in 1999 (Fig 4, 400). This latter ditch system probably formed a small enclosure, 14m wide by at least 25m long. While it appears to abut the northern side of the villa precinct, it is more likely that these ditches had been part of an earlier enclosure and boundary system related to the first century enclosure to its east. The ditch system was 3.5m wide but comprised a sequence of at least four individual ditches each around 1.00m wide by 0.40m deep. These ditches were cut into natural ironstone and contained clean fills of red brown loam containing varying quantities of ironstone but no occupation debris.

While these ditches are undated, the fills of the later kiln contained a little late second/early third century pottery. This indicates that the ditch systems at this corner of the villa precinct were only in use until the later second century AD. They therefore probably pre-date the construction of the main villa building and its precinct. The northern part of the eastern arm of the villa precinct was probably a boundary wall, located in 1999, that ran northward from the main villa building towards the ditches found in 2002 (Fig 3). The lack of third/fourth century finds from these northern ditches suggests that they had been fully backfilled, so that no contemporary feature can be assigned to having formed the north-eastern boundary of the villa precinct.

The pottery kiln

The pottery kiln was constructed within the fills of the shallow ditch system (Fig 5, 202). The circular chamber was near vertical-sided and flat-bottomed, 1.95m in diameter by 0.65m deep, with a flue opening 0.70m wide. The fired clay lining was red/pink in colour (Plates 1 & 2). The chamber was later relined with clay, again fired hard, but only around its western half, which reduced the diameter of the chamber to 1.50m. No kiln furniture remained in situ, and it must have been furnished with a temporary central column and removable kiln bars at each firing (Corder 1957, 18-19). The chamber was half-filled with clay and scorched clays that must have come from a domed superstructure. To the south there was an oval stokehole, 2.4m long by 1.50m wide. On the western side of the stokehole there was an opening into a second kiln chamber that lay largely beyond the excavated area.

A further kiln (376) lay to the east, and was partly concealed beneath the fourth century dumps of soil and metalworking slag. It was a small horizontal-draught kiln with a central chamber and flues to the west and east (Corder 1957, 23-24 and fig 13). It was 3.30m long, including the stokeholes, but the chamber was oval in plan, 1.7m long by 1.0m wide and 0.26m deep, with 0.40m wide flue openings. The vertical, clay-lined walls were burnt red, but much of the harder fired clay lining had been lost. A thin layer of grey brown charcoal stained loam covered the floor of the chamber and extended into the western, but not the eastern, stokehole, indicating that the fire had been set at the western end.

4.4 The drainage ditches, pond and pits

The major drainage ditches, the pond and the associated pits are all broadly dated to the third and fourth centuries, when the main villa building was in use.

A ditch in the south-western corner of the excavation was V-shaped, 1.4m deep and some 2.5m wide, with a primary fill of dark yellow brown silty clay (Fig 5, 271). The subsidence hollow was filled with grey brown to grey loam, rich in charcoal, and this was sealed beneath a layer of limestone and ironstone fragments. This ditch was a continuation from a ditch terminal, with an upper fill of stone rubble, located in 1999 to the immediate west (Fig 4). In addition, geophysical survey shows that it ran south-eastward for at least a further 45m (Fig 2). A stone-lined drain along the northern side of the villa range ran towards the ditch terminal, suggesting that it functioned as a drainage ditch, perhaps serving the postulated early bath house at the northern end of the villa. To the south-east it ran downslope, heading to the east of a recent pond, but perhaps running into an earlier pond at this same location. It was probably a pond in this location that was dug out during the development work in 2002, and from which metal detectorists were obtaining coins. This ditch was open into the fourth century.

Much of the south-western corner of the site was occupied by an extensive but shallow pond, and associated ditches and pits (Figs 5 and 6). The pond was sub-rectangular in plan, measuring 17.0m north-south, 12.0m east-west, and was up to 1.25m deep. While permeable Northampton Sands were exposed on the surface around the pond, it bottomed on an underlying bed of Lias Clay, which would have retained water effectively. To the east the sides were very shallow, while at the western margin the pond edge was steeper.

The lower fill of the pond appeared to comprise dirty natural clays and silts, but this was difficult to determine due to the constant inflow of water and the similarity of these deposits to the underlying natural clays. Above this there was grey brown silty clay (336) containing scattered pieces of stone rubble. Within this fill a 3.2m length of rectangular-sectioned oak plank lay near horizontally (Fig 5, find 47 and Plate 3). It had clearly been a structural timber, but the outer surface had been lost to decay, removing any evidence for carpentry (Fig 11, find 47 and Plate 4). In addition, two upright posts set 0.50m apart had been driven into the natural clay near the centre of the pond. One of these was recovered (Fig 5, find 48). It was a massive oak post, 0.98m long by 0.28m wide, worked to a rectangular sectioned point at one end (Fig 11, find 48 and Plate 5). The in-situ posts and the displaced plank may suggest that there had once have been a platform or walkway that ran to the centre of the pond. Although these larger timbers had survived, there was no further smaller wood within the pond deposits.

To the west of the pond there was an east-west linear ditch system that had been recut once (Fig 5, 293/290 & 333). The ditches had shallow-sloping sides, and were 1.10m wide and 0.30-0.40m deep. This ditch system probably drained into the pond itself, although it did pre-date at least one of the pits at the pond margin.

A series of pits lay on the western and northern margins of the pond, and the lobate pond profile to the south-west suggests the presence of a further large pit in this area. These pits were either rectangular (276 and 278) or oval in plan (274 and 331), varying from 2.00-3.50 long and 0.50-0.90m deep. They typically had steep sides and flat bottoms, indicating that they had been filled quite rapidly. The primary fill of the deepest pit (276) comprised a layer of brown peat, 120mm thick (Fig 6, Section 28 and Plate 6). Thin twigs could be seen in the exposed deposit, but this material was too soft and decayed to recover intact. No preserved seeds or fruits were present, and it would appear to have only comprised a dense mass of small brushwood. The pit fills all produced some pottery, animal and occasional other finds, but not in any exceptional quantities.

Pit 276 was again the richest of the pits, with the finds including a fine copper alloy fitting from a small box or casket (Fig 7, 1).

A box section was excavated on the northern margin of the pond. It was initially cut by machine, but once some coins were recovered the remainder was excavated by hand. A circular pit (339) at the edge of the pond was at least 4.00m in diameter and in excess of 1.00m deep. Coins lay in a relatively tight cluster within the fill of brown clayey loam (338, Fig 6, Section 15) and further coins were found more scattered to the east, where the pit fill had been eroded by later activity. A total of 38 mid- to late-fourth century coins, probably deposited in the 370s, were recovered but as the feature was not fully excavated the full hoard was probably well in excess of this total. The main cluster of coins was spread over at distance of at least 1.0m, suggesting that they had not been within a small container and leaving it unclear whether they represent a single deposit or a slightly longer-term event. Other objects from this same deposit included the neck of a fine glass vessel and a large lead fitting (Fig 7, 2 & 3). Shortly following the deposition of the coins and other finds they were sealed by a soil layer containing stone rubble.

The pit fills were sealed by later pond silts, showing that the filling of this pit occurred sometime before the deposition of a layer of building debris across the pond and the adjacent pits (Fig 6, Sections 28 and 15). The rubble included irregular fragments of ironstone and limestone, some burnt, with the occasional piece of ceramic tile and much animal bone. Above this there was a layer of brown clayey loam (279), that also contained some stone and ceramic tile debris and further animal bone.

4.5 Industrial activity

The investigation of 1999 located an extensive area of industrial activity immediately to the north of the villa (Fig 3). It evidently contained several hearths, furnaces, ovens or kilns, all partly obscured by an extensive spread of dark, charcoal rich soils. None of these features was excavated, as the area was to be preserved by reburial, so their functions were not determined. At least the later stages of this use appeared to post-date the disuse and demolition of the hypocaust room at the northern end of the villa.

The northern half of the excavated area of 2002 contained a series of irregular to oval shallow, bowl-shaped hollows, up to 0.30m deep, filled with soils containing iron working debris (Fig 5; 213, 215, 342, 214/413). They covered an area 20m south-north by up to 10m east-west, and in watching brief it was observed that the deposit was no longer present some 5m to the north of the excavated area.

In one hollow the base of the pit was surfaced in stone for a length of at least 4.5m. This surface was 3.5m wide with straight edges to the north-west and south-east. It comprised well-laid limestone and ironstone fragments, measuring 0.20-0.35m, with smaller pieces between them (358; Plate 7). The stones were clean and unburnt but their upper surfaces had been worn smooth. The function of this surface is uncertain, it is tempting to suggest that it may have formed a crushing floor for the preparation of iron ore for roasting prior to smelting, but there was no evidence that it had been used for this purpose. To the immediate south a shallower hollow (342) had a primary layer of pebbles and ironstone and limestone chips of up to 40mm diameter, that may also have been deliberately laid.

The other hollows all bottomed on natural. All of these hollows had similar fills of dark grey to black soils rich in comminuted charcoal and containing fragments of limestone and ironstone, pottery, animal bone and substantial quantities of tap slag and some furnace lining (413/214, 215 and 213). The slag was in large fragments and clearly represented a primary deposit of metal smelting debris. A particularly dense concentration of slag lay within the latest of a series of three intercutting gullies (238), 0.12-0.26m deep, that cut across the general fill of the northern hollow.

No function can be ascribed to these gullies, or to the irregular elongated pits (280) along two sides of the hollow containing fill 215. At the end of the excavation the northern and most extensive area of dumped debris (413) was sectioned by machine to show that it bottomed on natural and was not concealing a smelting furnace.

4.6 The Anglo-Saxon burial and other activity

Evidence of Anglo-Saxon activity came from a small deposit of pottery from one of the areas containing dumped metalworking debris and from a single inhumation burial. They are dated to the fifth and seventh centuries respectively, suggesting either separate episodes of activity or nearby settlement of two centuries duration.

The small deposit of pottery came from layer 215, one of the spreads of dark loam and tap slag within a shallow hollow on the northern part of the site. It comprised only 13 sherds, but the presence of a rusticated sherd and another with incised linear decoration suggests that the group dates to the fifth century AD. This context, and the other similar deposits containing slag, also produced much late Roman material and it seems most likely that the fifth century pottery is intrusive into these late Roman deposits rather than indicating an early Saxon date for the deposition of the iron working debris.

A single inhumation burial lay on the western part of the excavated area (Fig 5, 241). An adult female had been interred, extended and supine in a shallow grave, surviving no more than 0.12m deep and aligned west-east. The head was upright but had been damaged in stripping the site, and the lower legs and feet had been lost (Fig 10 and Plate 8). The left arm was strongly flexed, indicating that the person had probably been buried in their clothes and not within a shroud.

The skeletal evidence indicated that this was large-boned female 1.69m (5' 6½") tall, aged 40-50 years at death. She had been a mother and strenuous activity had resulted in widespread spinal degeneration and osteo-arthritis of both elbows; and she had a low standard of oral health.

An Anglo-Saxon date is indicated by the presence of a small group of four grave goods. They comprise a copper alloy pin and an amber bead on the shoulder and neck respectively, a small iron knife and a circular antler disc with a central opening and extensive ring-and-dot decoration, placed at the waist (Fig 10, 1-4 and Plate 9). The characteristics of this burial, the east-west alignment, the paucity of grave goods and the type, style and date of the objects are all features reminiscent of mid to late sixth century and seventh century burial practises. A similar range of artefacts were recovered from a burial at the late sixth/seventh century cemetery at Chamberlains Barn, Leighton Buzzard (Hyslop 1963, fig 4), where the objects include a copper alloy pin, an amber bead, iron knife and iron buckle. The finds evidence has been confirmed as radiocarbon dating places the burial in the first half of the seventh century (600-670 cal AD, 68% probability, 1403+/-38 BP, Wk-11232). A burial from Oundle, Northamptonshire, with a similar antler amulet (Maull and Masters forthcoming) has produced a mid-sixth to mid-seventh century date (540-640 cal AD, 68% probability, 1481+/-49 BP, Wk-11235).

While only a single burial lay within the excavated area, it may be noted that at least four other inhumation burials lay further to the west, and to the north of the villa (Fig 2). Two of these were located but not excavated, while the other two possessed no grave goods or other indicators of date. Whether these burials are Roman or Saxon in date therefore remains unknown.

5 THE FINDS

5.1 The Roman pottery by Roy Friendship-Taylor

The assemblage comprises 616 sherds of pottery weighing 13.65kg. It is unremarkable with very few well-dated groups, and most of the sherds are generally of comparatively small size.

The assemblage has been classified using the form and fabric type series established for the analysis of the material from Piddington Roman villa, and the full pottery catalogue will be retained in the site archive. The date range of the pottery covers the period from the late Iron Age through the Roman period. In addition, one context contained late Roman material and a small group of early Saxon pottery.

There were small numbers of dateable sherds in many of the contexts. Although such small groups do not necessarily date the contexts, the character of many of these features and their stratigraphic relationships does help to define a phase of first century activity. The first century material from an enclosure and associated ditches includes grog-tempered, calcite gritted and sandy wares in a range of forms that include cordoned and neck jars, lid-seated (channel-rim) jars and larger storage jars.

The pottery comes from a variety of sources, such as Much Hadham, the Verulamium region, Oxford and the Lower Nene Valley. However, as with nearby Piddington (Friendship-Taylor, 1989), Quinton (Friendship-Taylor 1979 & 1999) and Stanwick, (Colin Wallace pers comm) Lower Nene Valley pottery is not so well represented, as for example that from the Oxford region. This is surprising, as one would expect that the direct river communication, linking the upper Nene region with the Peterborough (Durobrivae) potteries of the Lower Nene region, would increase its incidence. However, it would seem likely that the bulk of the Lower Nene pottery went in an easterly/northern direction - serving the Fenland areas (where there does not seem to be much of a shortage). For example, Stonea near March (Cambridgeshire) produced good ranges of Lower Nene Valley pottery (Jackson and Potter 1996). It also seems to be serving the many north-eastern sites up as far as the Hadrian's Wall area, particularly during the third and fourth centuries.

Wootton, in common with the local sites at Quinton and Piddington, drew its later Roman pottery supplies from the south-east and the west such as Much Hadham and the Oxford region. One surprising aspect of the assemblage is the lack of Ecton ware from the assemblage (Johnston 1969). This may be because Wootton was getting its pottery from elsewhere (market forces!) but the site may not have been so active during this period and there is a general lack of pottery from the early second century.

An interesting aspect of the assemblage was the juxtaposition of the early Saxon pottery with typical late Roman types, such as Oxford, Hadham and late black burnished ware. This does raise the possibility that both the late Roman and Saxon wares were in use together which may be compared with Orton Hall Farm, Peterborough (Mackreth 1978).

Table 1: Pottery fabric types

Code	Fabric description
BB1	black burnished ware
CG	calcite/shell tempered ware
GRO	grog tempered ware
GRY	greywares
HADOX	red surfaced Oxfordshire/Hadham variants
LNVC	Lower Nene Valley colour-coated wares
MIM	imported mortaria
MOOX(R)	Oxfordshire mortaria (red-slipped)
ORG	organic tempered wares
OXR	Oxfordshire red colour-coated?
SAM	samian undifferentiated
SDY	oxidised fabric with sand
VRR	Verulamium region red ware

Table 2: Pottery forms (from Piddington pottery form series)

Code	vessel	description
B	Bowl	unspecified
B31	Bowl	imit. samian 31
B38	Bowl	imit. samian 38
BFL	Bowl	flange-rim
BGR	Bowl	groove rim
BKFO	Beaker	folded;unknown rim
BKR	Beaker	unspecified
DFL	Dish	flange-rim dish
DH	Dish	handled (not fish dish)
DPR	Dish	plain-rim
FPLY	Flagon	pully-rim
J	Jar	unspecified
JBL	Jar or bowl	large
JCUR	Jar	curved-rim
JDLS	Jar	double lid-seated (channel-rim)
JL	Jar	large
JLS	Jar	lid-seated (channel-rim)
JLSD	Jar	Developed lid-seated type
JN	Jar	necked jar
JNN	Jar	narrow-necked
JRR	Jar	rounded-rim
JS	Jar	<i>storage</i>
MORT	Mortaria	<i>unspecified</i>

Table 3: Dated pottery context groups

Context/feature	Date range	Vessel types
204/205 pit	mid 1 st century	JCOR
249/250 butt end gully	mid 1 st century	JS, VESS
247/248 pit	mid 1 st century	VESS
251/252 gully	mid 1 st century	JC, JN, DISH
259/260 gully	mid 1 st century	VESS
262/263 slot	mid 1 st century	JLS, JDLS
373	mid 1 st century	JLS, JS
294/295 gully	mid 1 st century	B
297/298 ditch	mid 1 st century	VESS
301/302 ditch	1 st century	VESS
309/310 pit	mid 1 st century	VESS
365/366 hollow	mid 1 st century	VESS
376 kiln	mid-1 st century	JL, JLS
405/406 hollow	mid - late 1 st century	J, JL, DPR, CR
216/242 pit	late 1 st century	BGR, VESS
217/218 pit	late 1 st - early 2 nd centuries	VESS
288/289 pit	late 1 st - early 2 nd centuries	JDLS, JLSJ
407/408 slots	late 1 st - early 2 nd centuries	J
411/412 pit	late 1 st - early 2 nd centuries	J, JLS
200/202 kiln	2 nd century	J, JS
217/218 pit	mid - late 2 nd century	JLS
206/207 posthole	3 rd century	BKR
208/209 posthole	3 rd century	VESS
273/274 pit	3 rd - 4 th centuries	VESS
275/276 pit	3 rd - 4 th centuries	31, J, MORT, VESS
213 layer	3 rd - 4 th centuries	VESS
275/276 pit	3 rd - 4 th centuries	MORT, B31, J
281/280 gully/slot	3 rd - 4 th centuries	J, JS, JBL, DISH
305/306 pit	3 rd - 4 th centuries	BFL, JLS, JRR
330/331 pit	3 rd - 4 th centuries	B, BKFO, J, JN, JNN
332/333 ditch	3 rd - 4 th centuries	J
367/368 hollow	3 rd - 4 th centuries	J
214 layer	4 th century	DISH, JRR
215 layer	4 th century	JN, B, DH, VESS
270/271 ditch	4 th century	JLS, JS, J, BCM, BFL
303/304 ditch	4 th century	JCUR, copy sam Dr45
336/337 pond	4 th century	VESS
413 layer	4 th century	J, B(B38), DFL, FPLY
215 layer	5 th century	JN, BWL, DH

5.2 Roman building material by Pat Chapman

A total of 148 pieces of tile weighing 26.2kg was retained. Much of it comprises identifiable pieces as the numerous smaller fragments were discarded on site. Building materials were present in quantity in all the later Roman features including the deposits of soils containing metalworking debris on the northern part of the area, and the fills of the pond and of the pits and ditches around the margins of the pond.

The assemblage has been briefly scanned to determine fabric, and the tile types have been identified by the presence of unique features: the upright flange of the *tegula*, the curvature of the *imbrex*, and the combed keying lines of box flue tiles.

Fabrics

Three main fabric types were observed, similar to those reported from the excavation in 1999 (Hylton 1999) although there may be other slight variations:

- 1) Shell-tempered fabrics containing abundant crushed fossil shell and fired to a pale buff colour; this type is predominant.
- 2) Sandy fabrics with varying quantities of fine-medium sand, which are generally orange in colour. A small amount has a distinct grey core.
- 3) Grog-tempered, soft with sparse inclusions, fired to a buff/pink colour with dark-light grey core.

Roof tile

A total of 85 fragments weighing 16.64kg were identified as ceramic roof tile, 57 *tegulae* and 28 *imbrices*. There are no complete examples and none retained any full dimensions. Both types of roof tile were manufactured in the three main fabrics. The exterior surfaces on seven *tegula* fragments had been coated in wash/paint; six of these were in a maroon red colour and one in black; this did not occur on the shell tempered fabrics. One *tegula* fragment had been marked by very shallow parallel curves, resembling finger marks, on the exterior surface. A similar mark was observed on two of the four *imbrex* fragments that were decorated. One of the remaining *imbrex* had a worn chevron design starting at one end but fading away after five repeats, the other had a series of horizontal and lateral lines along one side.

Hypocaust tile

There are 15 fragments of box flue tile (*tubulus*) weighing 1.53kg in the three fabrics. One fragment provided a depth measurement of 128mm. Of the ten combed pieces, three have broad shallow curves resembling finger markings. The other seven have straight combed keying lines making either acute angled corners or horizontal and lateral patterns with narrow and slightly broader teeth.

Structural tile

These are associated with the construction of floor supports in hypocaust systems. Only 7 fragments of this *pilae*/brick type weighing 1.81kg were recovered, none with surviving dimensions.

Table 4: Ceramic tile types (by number and weight)

Tegula		Imbrex		Box flue		Pilae/brick		Uncertain		Totals	
No	Wt (g)	No	Wt (g)	No	Wt (g)	No	Wt (g)	No	Wt (g)	No	Wt (g)
57	13358	28	3281	15	1520	7	1809	41	6237	148	26205

Stone tile

Only one small fragment of perforated limestone tile was found.

Tufa

A single small block of tufa was recovered from layer 215. Further pieces were recovered in the 1999 excavation to the north of the main villa building. It was suggested that these probably denoted the presence of a bath house at the northern end of the villa that had been demolished when the bath house to the south of the villa was constructed.

Pot lids

One example of a *pot lid* was found cut from a piece of fine sandstone. It is roughly circular, 90mm in diameter and 10mm thick. Those found at Piddington Villa were mainly cut from *tegulae* although one was in a local limestone (Ward 1990). They are a widespread find, but of uncertain usage.

Fired clay

A total of 28 fragments weighing 809g were found. All are made from a fine sandy clay with few shell inclusions, although half have frequent voids from organic material. They had all been well fired, and two fragments have a remnant surface of very hard blue grey indicating exposure to intense heat. Other pieces are blackened. Some pieces have original smoothed surfaces and there are occasional wattle impressions. The material is all derived from features of late first and second century date, with over a half of the total coming from two pits at the eastern edge of the site (406 and 412). In addition, nearly 200g came from the fills of the kiln (202) and is evidently from collapsed kiln lining.

5.3 Other Roman finds by Tora Hylton

The excavations produced a small group of 14 other Roman finds in four material types: copper alloy (2), iron (6), lead (3) and glass (2). They include domestic related objects and building equipment in the form of nails and fragments of melted lead and sheet offcuts.

The domestic related items include a probable spindle-whorl, a box/casket fitting and fragments of vessel glass. The spindle-whorl has been manufactured from a reused calcite-gritted base sherd, it was recovered from a late first/early second century pit (218). The box/casket fitting is a right-angled corner bracket with decorative lanceolate terminals (Fig 7, 1), it was recovered from a third/fourth century pit (276), together with an amorphous scrap of lead and a fragment of pale green glass. Cast copper alloy corner bindings are not common, excavated examples of corner bindings are usually manufactured from iron, like the box fittings recovered from Bancroft Villa, Milton Keynes (Manning *et al* 1987, fig 58 & Manning and Musty 1977). Cast, copper alloy examples have been recorded at Corbridge (Allason-Jones 1988, fig 85, 164) and Fishbourne (Cunliffe, 1971, fig 52, 199).

The neck from a cylindrical narrow necked unguent bottle in pale green glass (Fig 7, 2). On the

inside of the rim there is a shallow horizontal groove, indicating that the vessel has a rolled rim (Price and Cottam 1988, 22). This manufacturing technique was prevalent on first and second century vessels. It was from the same pit (339) as the fourth century coin hoard, suggesting that it may be residual in this context.

The building equipment includes five nails. One was residual within the Saxon grave (241), two with flat-circular heads (Manning 1985, Type 1b) measuring up to 78mm in length were recovered from a pit (331) and two, including one with a T-shaped head (Manning 1985, Type 3) were located within a slag dump (213, 215). There are three pieces of lead; two melted fragments and a large offcut (Fig 7, 3), recovered from the same pit (339) as the fourth century coin hoard.

Illustrated finds (Fig 7)

- 1 Corner binding, copper alloy. Cast, flat-sectioned right-angled rectangular plate. The plate has been strengthened with an integral centrally placed D-sectioned rib, which protrudes beyond the end of the rectangular plate and ends in perforated lanceolate-shaped terminals with bevelled edges. The ends of the plate either side of the protruding rib is furnished with a crescent shaped countersunk recess. This is either a decorative feature or the vestiges of countersunk holes, which would have helped to secure the fitting to the box. Measurements: 70 x 70mm
Context 275, pit 276, 3rd/4th century, Small find (SF) 38,
- 2 Neck from cylindrical narrow necked unguent bottle in pale green glass.
Context 338, Pit 339, SF 44
- 3 Large fragment of sheet lead, most probably an offcut. Knife cut incisions on the underside suggest that the tool used to cut the sheet had a blade measuring 2.5-3mm thick. Measurements: 195 x 100mm and up to 8mm thick. Weight: 471g
Context 338, Pit 339, 3rd/4th century, SF 70

5.4 The coins (identifications by Steve Critchley)

A total of 51 Roman coins were recovered during excavation: 9 from the site in general and 38 from a dispersed hoard within a single pit, 38. The coins have been identified by Steve Critchley, who carried out the metal detector surveys on site that aided the recovery of coins both from the hoard and other parts of the site.

The coins span an extended period from a dupondius of Antoninus Pius (138-161) to a late fourth century coin of Gratian (367-378) (Table 5). The former is consistent with other evidence in indicating that the villa was in existence by the mid-second century.

The majority of the coins are of fourth century date. Features to the immediate south of the pond and the fills of pond produced small quantities of coins in poor condition of mid-fourth century date, with the only identifiable example dated to 364-378.

The hoard itself comprised a dispersed scatter of 38 coins from the lower fills of a pit, 339, on the northern margin of the pond (Figs 5 & 6, Section 15; Table 6). These were also in poor condition, and only eight can be specifically attributed. They range in date from a coin of Constantine I (330-346) to coins of Valens (364-378). This suggests that the hoard was probably deposited at some time in the 370s AD, but it contained some issues 30-40 years old at the time. The presence of a single coin of Gratian (367-383), found elsewhere on the site, may suggest that occupation continued for only a few years after the deposition of the hoard.

The coin hoard was reported to the coroner as it fell under the provisions of the Treasure Act 1996. However, the Department for Culture, Media and Sport disclaimed the coins as the landowner was seeking no reward and they formed part of a formal archaeological archive.

Table 5: Other coins

Small find no.	value	Emperor	Date (AD)	Description (rev)
41/ NE corner	Ae dupondius	Antoninus Pius?	138 – 161	Illegible
42/ NE corner	Ae Antoninianus	Carausius	287 – 293	Laetitia
27/ subsoil	Ae 3	Gratian	367 – 383	emperor holding labarum & shield Gloria Novi Saeculi
29/ 307 quarry pit fill	Ae 3	Valens?	364 – 378	emperor dragging captive Gloria Romanorum
30/ 305/ pit 302	Ae 3		mid 4 th century	victory advancing left
31/ 305?/ pit 302	Ae 3		mid 4 th century	Illegible
32/ 305/ pit 3020	Ae 3	(barbarous copy)	early-mid 4 th century	soldier spearing fallen horseman Fel. Temp. Reparatio
23/ u/s	Ae 3		mid 4 th century	emperor standing with labarum Gloria Romanorum
75/ N end/ subsoil	Ae4		late 4 th century	victory advancing left Victoria Aveg
Coins from pond				
22/ 279	Ae 3		4 th century	Illegible
28/ 279	Ae 3		mid 4 th century	victory walking left
				Securiats Reipublicae
25/ 336	Ae 3		mid 4 th century	Illegible
26/ 336	Ae 3		mid 4 th century	emperor dragging captive

Table 6: Coins from the dispersed hoard in pit 339

Small find no.	value	Emperor	Date (AD)	Description (rev)
21	Ae 4	Constantine 1 (barbarous)	330 – 346	copy of commemorative issue victory on prow of galley Fel. Temp. Reparatio
33	Ae 4	Constans pre-reform issue	337 – 350 337 – 348	two victories facing each other Victoriae. DD. Augg. Q. NN
36	Ae 4	Constans pre-reform issue	337 – 350 337 – 348	two victories facing each other Victoriae. DD. Augg. Q. NN (Trier mint TRP)
20	Ae 1/2	Constans centenionalis post reform issue	337 – 350 348 – 350	Phoenix standing on pyre Fer.Temp. Reparatio
34	Ae 1/2	centenionalis	c350	phoenix standing on pyre Fel. Temp. Reparatio
10	Ae 3	Valentinian 1?	364 – 375	emperor dragging captive Gloria Romanorum
54	Ae3	Valens?	364 – 378	victory with wreath (Constantinople mint) Securitas Republicae
57	Ae3	Valens?	364 – 378	Illegible
11	Ae 3/4		4 th century	Illegible
13	Ae 3		mid 4 th century	emperor dragging captive Gloria Romanorum
14	Ae 3		mid 4 th century	victory walking left Gloria Romanorum
15	Ae 3		mid 4 th century	module, barbarism issue
16 a	Ae 3		4 th century	illegible
16 b	Ae 3/4		Early-mid 4 th century	two soldiers and one standard Gloria Exercitus
17	Ae 3		early-mid 4 th century	illegible; module

Table 6 (cont'd): Coins from the dispersed hoard in pit 338

Small find no.	value	emperor	Date (AD)	Description (rev)
18	Ae3		mid 4 th century	emperor dragging captive Gloria Romanorum
19	Ae3		4 th century	illegible; module
35	Ae3		mid 4 th century	Illegible
49	Ae		mid 4 th century	Illegible
50	Ae3		mid 4 th century	emperor dragging captive
51	Ae3		4 th century?	Illegible
52	Ae3		4 th century?	Illegible
53	Ae3		mid 4 th century	victory with wreath Securitas Republicae
55	Ae3		mid 4 th century	emperor dragging captive
56	Ae3		early/mid 4 th century?	Illegible
58	Ae3		mid 4 th century	Illegible
59	Ae3		4 th century?	Illegible
60	Ae3		4 th century	Illegible
61	Ae3		4 th century	Illegible
62	Ae3		mid 4 th century	Illegible
63	Ae3		mid 4 th century	victory with wreath
64	Ae3		4 th century	Illegible
65	Ae4		4 th century	Illegible
66	Ae4		4 th century	Illegible
67	Ae4		4 th century	Illegible
68	Ae4	barbarous issue?	mid 4 th century	victory with wreath
73	Ae3		mid 4 th century	emperor dragging captive
74	Ae3		early/mid 4 th century	Illegible

5.5 The querns and millstones by Andy Chapman

Three complete or partial stones and two small fragments were recovered, and a further complete quern from the 1999 excavation is also described. Four of the pieces are in Millstone Grit, presumably from Derbyshire, while the other two are in coarse-grained sandstones of similar texture but with pale, better cemented matrices. In all cases the grinding surfaces are worn smooth and retain no traces of any original tooling.

A complete upper stone from a beehive quern was recovered in 1999 from an undated pit that is most likely to be of late Iron Age date (Fig 8, 1). It is of the classic Hunsbury type, with a handle hole penetrating to the hopper and an iron sleeve set in the base of the narrow eye, although there is no

distinction between the hopper and the eye (Ingle 1993/3, Watts 2002, 27-38). There is also a second, diametrically opposed handle hole, which is a less common feature, and especially so as it does not penetrate as far as the hopper. Like many stones of this type it has been subject to asymmetrical wear so that eye is no longer perpendicular to the grinding surface. An inclined smoothed surface at one edge of the stone is probably a remnant of the original grinding surface. The stone is probably Spilsby Sandstone, from the Lincolnshire Wolds, which at Hunsbury Hill was the second most common type among the 124 stones that have been analysed in detail; there were 16 examples, while Millstone Grit was by far the most common with 79 examples (Ingle 1993/4, 28-29).

A saddle quern (not illustrated) was recovered from an undated feature. It comprises a roughly square slab of Millstone Grit, 330mm diameter by 35-50mm thick. The bottom surface is uneven and the upper surface is deeply concave and heavily worn. The margins of the stone are smoothed while the central area is pitted and damaged, perhaps as a result of use in pounding as well as grinding. This may suggest that it was used for some process other than grinding grain. A fragment from a rounded, well-worn cobble of Millstone Grit, 55mm thick, is from a rubbing stone. It was recovered from a pit (218) dated to the late first/early second century.

A complete upper stone from a rotary quern was recovered from a gully (252) dated to the mid-first century AD (Fig 8, 2). It is 330mm in diameter with a broad, shallow hopper and a wedge-shaped handle groove with a terminal recess, the base of which has been worn through by use. It conforms broadly to the classic early Roman flat-topped quern form (Watts 2002, 33-37).

Part of a large stone in millstone grit was recovered from a pit (212) in the area containing the dumped iron working debris of fourth century date (Fig 9, 3). It comes from an upper stone 540mm in diameter and 30-36mm thick. The eye is 37mm in diameter and has a rounded, recessed collar. This stone is rather large for a hand quern and may have been a small diameter millstone, perhaps used with a donkey mill.

Illustrated querns (Figs 8 & 9)

- 1 Upper stone, beehive quern, coarse grained sandstone with a pale matrix and distinctive black grains, Spilsby Sandstone? Hopper 100mm diameter, eye 30mm diameter, iron sleeve survives. Remnant of partially bored hopper/eye, perhaps abandoned due to misalignment. Handle socket penetrates to hopper, and smaller secondary socket diametrically opposite.
305mm diameter, 160mm high
1999 excavation, pit 145, small find (SF)38
- 2 Upper stone, rotary quern, coarse grained sandstone with a pale matrix. Upper surface has faint peck marks from original shaping. Hopper 125mm diameter, irregular (polygonal) central aperture 60-75mm diameter. Wedge-shaped handle groove, with a rectangular socket at the inner end, base broken through by use. 330mm diameter, 34-50mm thick.
Gully 252, SF 37
- 3 Upper stone, quern/millstone, Millstone Grit. Faint peck marks on upper surface from original shaping. Rounded, slightly recessed central collar. 540mm diam, 30-36mm thick, eye 37mm diameter
Pit 212, SF 1

5.6 The metalworking debris

by Andy Chapman

A total of 50.17kg of metalworking debris was retained from the excavation. However, this represents only a small sample extracted from the exceptionally large quantities that were present on the site. The total quantity would have been at least 20 times that recovered and therefore would have weighed in excess of a tonne.

The debris was largely recovered from a group of shallow hollows and associated gullies in the northern part of the excavation. It comprised dense but scattered and disordered fragments scattered within dark grey soils rich in comminuted charcoal and some larger charcoal fragments. Further material was recovered on the southern part of the site from the fills of the pond and some of the pits adjacent to the pond. The debris appears to comprise extensive dumps of primary metalworking debris to the north, with some secondary deposition in the pond and nearby pits. The presence of pottery and animal bone in the primary deposits does indicate a degree of mixing with domestic waste. As no metalworking furnaces or hearths were recovered from this area of the site, the material was evidently being deposited at some distance from its source, which is most likely to have lain to the west at the northern end of the main villa complex.

The metalworking debris can be classified into three categories; tap slag, pit “lining” and undiagnostic slag, as tabulated below.

Table 7: Quantification of metalworking debris

Feature type	Tap slag (kg)	pit “lining” (kg)	Undiagnostic slag (kg)
Dumped layers the pond & associated pits	26.52	9.12	0.62
minor features	11.74	1.14	----
	1.03	----	----
TOTALS	39.29	10.26	0.62

Tap slag forms the major part of the assemblage, 78% of the recovered material. The tap slag is in fragments ranging from small pieces up to frequent slabs of 100-200mm diameter and 20-50mm thick. It is clean and fresh in appearance, with the characteristic “lava flow” surfaces, and is clearly a primary deposit. The material is dense, but contains sparse large voids, typically dark grey in colour with occasional patches of red to purple.

A feature of particular note was the presence of nine cylindrical rods of slag. The more complete examples are 95-110mm long, and they range from 20-44mm in diameter. At one surviving end they are sometimes attached to irregular masses of slag. Five of the nine examples have a characteristic D-shaped section, presumably a result of flow through a circular aperture but with the slag not fully filling the aperture at the time that it solidified. The other four had circular sections. They would appear to be the product of tapping furnaces by thrusting a rod through the choked tapping apertures at the base of the furnace to provide tubular openings for the slag to run out of, with the flow subsequently solidifying within these openings. They suggest that the furnace walls were of the order of 95-110mm thick.

The second major group comprises fired clay “lining”, representing 20% of the recovered material. This occurred in conjunction with the tap slag, and it appears most likely that it merely comprises the natural sandy clay from the bases of slag-tapping pits that has been fired by contact with the molten slag. The temperature has been hot enough to melt the silica content so that the resulting material comprises fired sandy clay containing dense but very fine vesicles. The colour is typically light grey to creamy white, but in a few pieces this gives way to salmon pink. The general appearance of the material is similar to the fabric of items such as bronze working crucibles, and unlike typical furnace lining debris.

The third group comprises a few large pieces of undiagnostic slag. These are probably merely further pieces of tap slag lacking or having lost the distinctive “lava flow” surface.

The material from Wootton Fields villa is therefore indicative of bloomery smelting being carried out on an extensive scale. It is notable, however, that despite the scale of the assemblage it all appears to comprise the debris from slag tapping, but without the presence of any quantity of undiagnostic slag or specific furnace lining debris. It would appear that this material, which must have been produced in some quantity, was being dumped in other locations that have not been identified. No significant quantity of slag was identified to the west during the recording of the villa.

The associated third to fourth century pottery indicates a late Roman date for this episode of iron smelting. One of the small dumps of material also contained a small assemblage early Saxon pottery but there is no evidence to indicate a direct association with the iron smelting itself. There is no evidence in the recovered material for smithing taking place on the site.

5.7 The early Saxon pottery by Paul Blinkhorn

The pottery assemblage comprised 13 sherds with a total weight of 587g. The estimated vessel equivalent (EVE), by summation of surviving rimsherd circumference was 0.08. All the material was of from a single context, hollow 215. Most were plain bodysherds, although two sherds from the flat base of a large vessel were noted, as were a rim from a small bowl, a rusticated sherd and another with linear decoration. The style of the decorated sherd strongly suggests that the group dates to the fifth century.

Fabrics

Fabric 1 (F1): Coarse quartz. Moderate to dense sub-angular quartz up to 1mm. Rare rounded black ironstone up to 5mm, rare angular white flint up to 3mm. 3 sherds, 247g.

F2: Sandstone and Chaff. Sparse to moderate white sandstone up to 2mm, many free subrounded quartz grains, sparse to moderate chaff voids up to 5mm. 2 sherds, 89g.

F3: Sparse quartz and Ironstone. Sparse quartz as F1, rare rounded red ironstone up to 1mm. 4 sherds, 185g.

F4: Fine quartz. Sparse to moderate quartz less than 0.5mm, with rare, sub-rounded grains up to 2mm. 4 sherds, 66g.

Chronology

The majority of this assemblage is typical of the early or middle Saxon handmade pottery of the region, and most can only be dated to within that broad period. The rusticated sherd is more typical of the early Saxon (AD 450-650) period, and numerous finds of such vessels have been made on sites of that date, such as Mucking in Essex (Hamerow 1993). The incised sherd is also of early Saxon date; generally, the Anglo-Saxons all but ceased to decorate pottery with the

advent of Christianity. The exact decorative scheme is uncertain, but appears to consist of two parallel incised lines on the upper shoulder of the vessel, without evidence of any other surface enhancement. Myres (1977, 17-18) saw at least some of the vessels with this sort of decoration as being amongst the earliest Anglo-Saxon pottery in England, although with the *caveat* that such styles did continue on as late as the sixth century. Generally, however, such vessels tend to be early, and so it is possible that this sherd may be evidence of the villa still having been in use in the fifth century, and after the end of Roman rule in Britain.

5.8 Anglo-Saxon grave goods by Tora Hylton

A group of four objects were recovered from the grave of a woman of 40-50 years of age (Fig 10). The nature of the items recovered with the body suggest that when buried she was dressed as for life, with personal items which would have formed part of her attire; a copper alloy pin, an amber bead, an iron knife and an antler pendant/amulet.

The pin is plain with a perforated disc head (Fig 10,1). It lay on the right side of the neck pointing upwards and outwards, like an example from Portway, Andover (Cooke and Dacre 1985, fig 64, grave 52,3), suggesting that it had been used to fasten a cloak or veil. A large number of pins from the burials at Castledyke South cemetery, Barton on Humber, were recovered from a similar area of the body and analysis indicated that they had been used to fasten clothing (Drinkall and Foreman 1998, 270). This style of pin is known from cemeteries of late sixth and early seventh century date. Four copper alloy pins with perforated heads were recovered from Buckland Cemetery, Dover (Evison 1987, 83). They display varying degrees of ornamentation, three had grooved shanks (*ibid* 1987, fig 58, grave 142, 1), while two pins have a wire ring, “slip-knot”, threaded through the perforation (*ibid* 1987, fig 59, grave 147,1 and fig 48, grave 101,1). In some ways, these single perforated pins display similarities to the more ornate class of “link-pins”, pairs of pins connected by a fine chain, which were also in use during the seventh century (Geake 1997, 35-6).

The amber bead was recovered from the front of the neck (Fig 10, 2), and had probably been suspended from the neck on some sort of organic thread. Amber beads are particularly prevalent in graves of sixth century date, as demonstrated by the presence of 275 amber beads in burials mid to late sixth century date at Buckland Cemetery, Dover (Evison 1987, 57). They are also known in small numbers in seventh century burials particularly those of children (Geake 1997, 35-36).

The discoid pendant was recovered from the left hip (Fig 10, 3), it had either been retained within a bag/pouch or suspended from the waist; and the presence of part of an iron attachment loop suggests the latter. Similar examples from Burwell, Cambridgeshire were associated with chatelaines (Lethbridge 1931). The pendant has been manufactured from a transverse slice of antler burr, which has been trimmed and worked to form an almost flat-sectioned disc. As with other similar objects, it is decorated with ring-and-dot motifs. Such objects are not uncommon, they are more often than not associated with female burials and it is thought that may have been amulets. A similar but “tear-shaped” example was recovered from the left hip of a female burial at Oundle, Northamptonshire (Maull and Masters forthcoming). In his discussion on similar objects, MacGregor (1985, 107) notes that examples have been recorded in Cambridgeshire at the Barrington Cemetery (Foster 1884) and at Burwell (Lethbridge 1931). Larger more crudely fashioned rings have been recovered from cemeteries at Thurmaston, Leicestershire (Williams 1983, fig 28, 56) and Spong Hill (Hills 1977, fig 136).

The knife was lying on the right side of the burial close to the waist (Fig 10, 4), suggesting that it had been suspended from the waist, probably in the leather sheath.

Illustrated finds (Fig 10)

- 1 Pin, copper alloy. Complete, perforated disc head with circular sectioned shank tapered to a fine point. Length 65mm
Burial 241, neck – right side, SF 6
- 2 Bead, amber. Annular bead with centrally placed waisted perforation, indicating that it was drilled from both sides. Diameter: 17mm . Thickness: 6mm
Burial 241, neck – centre, SF 7
- 3 Pendant/amulet, antler. Manufactured from a transverse slice of antler burr with all the protrusions removed to create a flat disc. A folded ferrous metal strip has been fastened to the edge of the disc by means of an iron rivet. This most probably would have acted as a loop for suspension. The disc is perforated through the centre and there are a series of smaller, near equidistant perforations around the periphery. The smaller perforation opposite to the suspension fitting is worn, suggesting that another item was suspended from the marginal perforations. Both faces of the piece are heavily ornamented with ring-and-dot motifs. On one side they are readily visible, but worn, and appear to have been set out in six roughly concentric rings, while on the other face only a small number of dots survive. Vestiges of the original worn/polished surface is visible in places, suggesting that this piece was in use for a substantial amount of time prior to deposition. Diameter: 60mm Thickness: 5mm
Burial 241, hip – right side, SF 9
- 4 Whittle tang knife, iron. Incomplete, most of blade and part of tang missing. Difficult to determine shape of blade, even from X-ray. Faint traces of organic remains surviving on blade (David Parish, Conservator, pers comm). Blade width: 12mm Thickness: 4mm
Burial 241, waist – right side, SF 8

6 FAUNAL AND ENVIRONMENTAL EVIDENCE

6.1 The animal bone by Karen Deighton

Animal bone from two context groups, the pond fills and the slag dumps (with a total weight of 10.3kg), was analysed using standard archaeozoological methods. Other context groups produced too little material to warrant quantification.

Preservation

Fragmentation was fairly heavy and similar for both groups. It was largely the result of old breaks. The frequency of butchery, canid gnawing, weathering and burning were low, although evidence was concentrated in the slag dump group. Flaking of bone surfaces was noted from the fill of pit 218. This is usually consistent with waterlogging followed by rapid drying out.

The overall totals show a preponderance of the two major domesticates, cattle and sheep/goat, with the two present at similar levels allowing for the respective size differences. A single neonate (*Sus radius*) was noted from the slag dump group. Two pathologies were noted: Exotosis (bone growth), which can be indicative of old age, on a cattle tibia and on a calcaneum.

Taxonomic Distribution*Table 8: Animal bone species (by number of bones and relative percentage)*

	Species/ Common name	<i>Equus/ Horse</i>	<i>Bos/ Cattle</i>	<i>Ovicaprid/ Sheep/goat</i>	<i>Sus/ Pig</i>	<i>Cervid / Deer</i>	Large ungulate (Horse/cow/ red deer)	Small ungulate (Sheep/goat/ roe deer /pig)
Pond Group	Numbers	3	51	7	3	2	11	1
	%	3.8	65.4	8.9	3.8	2.6	14.1	1.3
Slag Group	Numbers	0	19	45	4	1	12	14
	%	0	20	47.4	4.2	1.1	12.6	14.7
Total	Numbers	3	70	52	7	3	23	15
	%	1.9	44.0	32.7	4.4	1.9	14.5	9.4

A difference in the order of dominance can be seen between the two areas, with the pond group dominated by cattle and the slag dump group dominated by sheep/goat. However, with such small numbers interpretation is problematic. The two deposits are broadly contemporary, but the slag dumps may be slightly later in origin perhaps suggesting a shift towards sheep farming in the final decades of the villa. Pig (4%), deer and horse (2% each) are present in similarly small quantities. Deer was restricted to antler, both shed and removed with a skull fragment, and the presence of a sawn antler fragment is indicative of on-site antler working.

Comparisons with other sites are tentative due to the small numbers of bones involved. However, the nearby, contemporary and probably associated site at Wootton Fields School (Deighton forthcoming) shows a similar range of species, but with an absence of deer. A Roman villa at Stanion, Northamptonshire shows a broader range of species (Deighton 2003b), although the presence of bird, small mammals and amphibian at this site could well be due to the extensive programme of sieving. A similar range of species has also been seen in the limited investigation at Croughton villa, Northamptonshire (Deighton 2003a).

6.2 The Anglo-Saxon inhumation by Trevor Anderson

The skeleton (241) was largely intact apart from the majority of the cranium, the lower legs and the feet; all of which were not recovered. The available bones were damaged and eroded but were generally repairable. The spine and the ribs were particularly fragmented.

The femoral metrics would support a diagnosis of a male individual. However, the pelvic and cranial morphology indicate that the remains are female (Bass 1987; Ferembach *et al* 1980). Age was estimated as 40-50 years by dental status. Based on mean femoral length, stature was assessed as 1.687m (5' 6½") (Trotter & Gleser 1958). The metrics and indices fall within the bounds of normality.

The right ilium presented with a large accessory sacral facet (the left side was normal). A variant which was first recognised by von Albinus in 1753 (Seligmann 1935). They are known to become more common with advancing age (Seligmann 1935; Stewart 1938; Trotter 1937 and 1964). Their development is probably related to degeneration of the intervertebral discs, with subsequent spinal compression. Various workers have noted a male bias for the trait (Seligmann 1935; Stewart 1938). However, a female predilection has also been reported (Trotter 1964).

Pathology was restricted to spinal and joint degeneration. Vertebral osteo-arthritis predilected the upper half of the thoracic spine. The cervical spine displayed widespread osteophytic outgrowths. A Schmorls node was noted on the inferior surface of the tenth thoracic vertebra. Intervertebral osteochondrosis (IVO) involved the cervical, thoracic and lumbar spine. Both elbows (humeral capitulum and radial head) presented with osteo-arthritic changes. In clinical practice, primary OA of the elbow is rare; most cases being secondary to occupation and repetitive strain (Doyle 1986, 863).

The incomplete and damaged dorsal surface of both pubic bones display deep circular cavitations. Such areas of cortical resorption, first described by Luschka in 1854 (Ullrich 1975), are now thought to be strong evidence that a female has given birth during her life (Cox 2000 and Ullrich 1975).

The dentition displayed widespread *ante-mortem* mandibular tooth loss. The reduction in alveolar bone height indicates that the molars had been lost many years before death. However, the left central lower incisor had been lost shortly before death, as the socket was not completely reabsorbed. With no opposing teeth, marked deposits of calculus occurred on the upper left second and third molars. Five teeth, all maxillary were carious. Three displayed interstitial caries (right second molar and left canine and premolar). Two adjacent tooth crowns, the right premolar and canine were completely destroyed by caries and both displayed sinus formation. The left canine also presented with a sinus, draining buccally.

The evidence suggests a large-boned, tall female who had been a mother. Strenuous activities had resulted in widespread spinal degeneration. Also osteo-arthritis of both elbows may be related to overuse. She was suffering from a low standard of oral health, *ante-mortem* tooth loss, caries destruction and abscess formation.

6.3 Environmental evidence by Karen Deighton

Four bulk soil samples were taken, each of c20 litres. The samples from the pond and pit were stack sieved and the two from the area containing metalworking debris were coarse sieved.

A sample from the lower pond silts (336) contained no preserved organic debris or carbonised material. A sample from the primary fill of a pit (276) adjacent to the pond contained quantities of partly decayed organic material. This had clearly been in the form of a dense mat of fine twigs, typically no more than 5mm in diameter, with no larger roundwood present. Given the poor state of preservation, these were not submitted for identification. No preserved fruits or seeds were present.

A sample was taken from a dumped deposit containing metalworking debris (214) and a sample from the upper fill of kiln (376) was of contemporary material, rather than kiln related debris. Both of these produced small quantities of wood charcoal but no carbonised seed remains. Both samples contained small fragments of tap slag and both were also checked with a magnet for the presence of hammerscale, but none was present.

6.4 The wood species by Rowena Gale

This report includes the species identification of two wood samples from substantial timbers recovered from the base of the excavated pond.

Cross-sections were removed from each timber and submitted for examination. The waterlogged wood from each was well preserved and firm. The samples were prepared for examination using standard techniques (Gale and Cutler 2000). Thin sections were examined using a Nikon labophot-2 microscope at magnifications up to x400. The sample woods were matched to reference slides of modern wood.

Context 336, SF 47: 3.2m long, plank-like timber

Oak (*Quercus* sp.), heartwood (the bark and sapwood were absent). The sample consisted of an irregularly shaped incomplete (in both inner and outer regions) radial section of wood, with a radial measurement of 130mm (it is probable that the complete radial measurement would have been at least 200mm). The growth rate appears to have been moderate with 43 fairly evenly spaced growth rings recorded, mostly about 4-5mm wide but with a few at 2-3mm in width.

Context 336, SF 48: 0.98 long x 0.28 wide, post driven into base of the pond

Oak (*Quercus* sp.), heartwood (the bark and sapwood were absent). The sample included a (?quartered) radial section of the trunk, measuring 160mm in width. The growth rate was slower and more irregular than in sample SF 47 – about 51 growth rings were noted.

7 RADIOCARBON DATING

A sample of bone from the Anglo-Saxon inhumation burial was submitted for radiometric radiocarbon dating to the Radiocarbon Dating Laboratory, University of Waikato, New Zealand.

Laboratory & context no.	Context details	Sample details	d13C d15N	Conventional radiocarbon age BP	Cal BC 1 sigma 2 sigma
Wk-11232 241	Anglo-Saxon inhumation	Bone collagen	-19.82 -10.87	1403 +/-48	600-670 540-720

Analysis: Radiocarbon Dating Laboratory, University of Waikato, New Zealand
Calibration: OxCal v3.5 Bronk Ramsey (2000)

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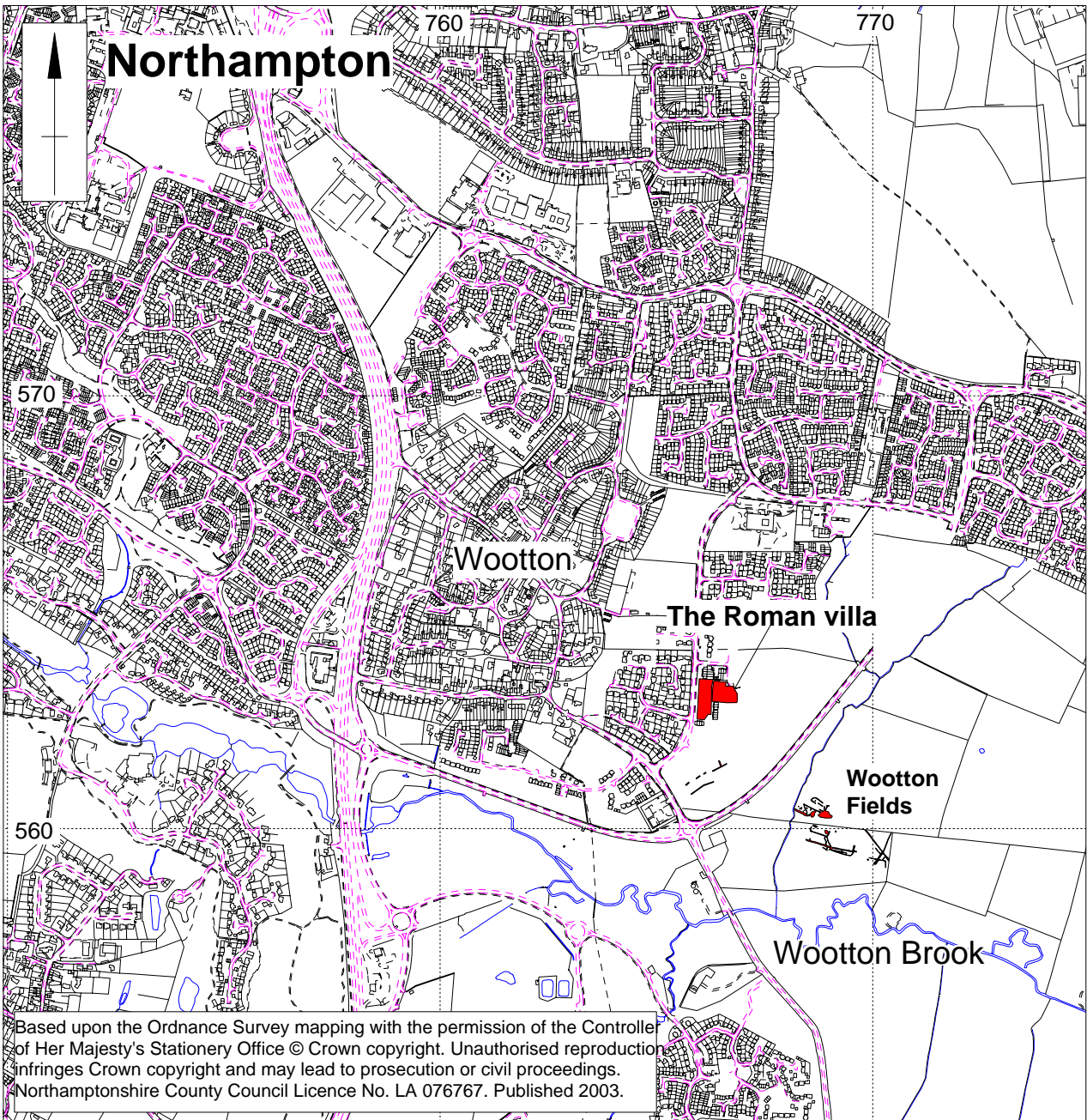
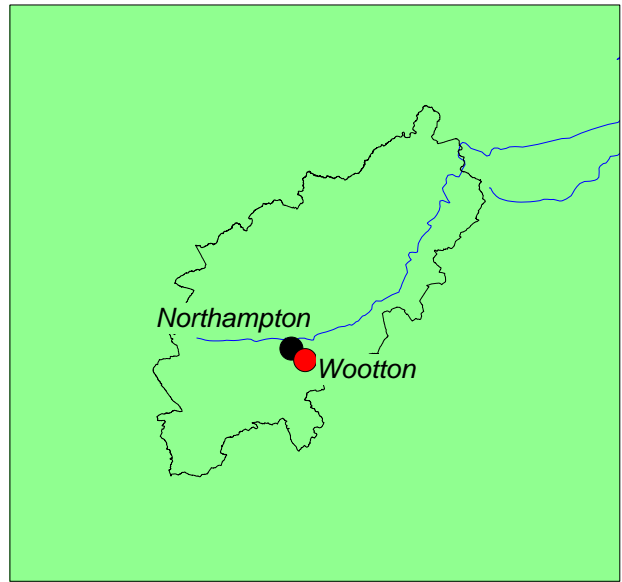
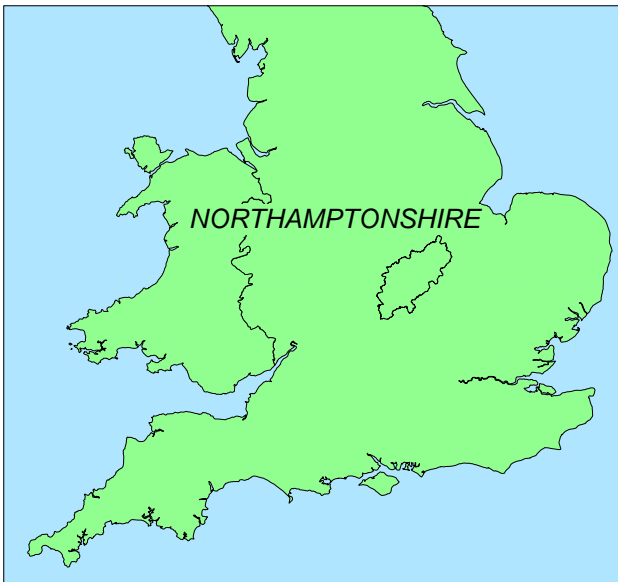


Fig 1

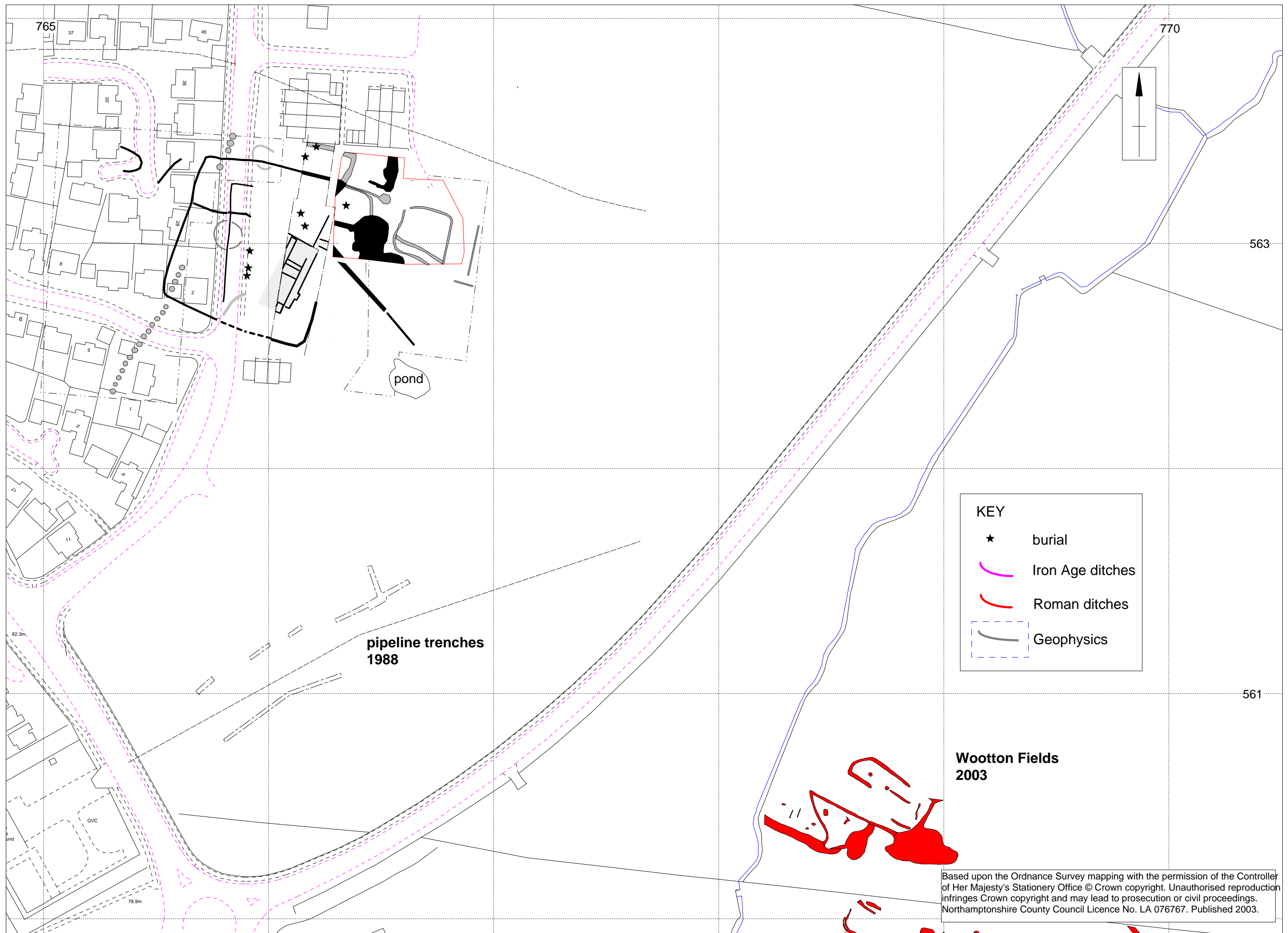


Fig 2

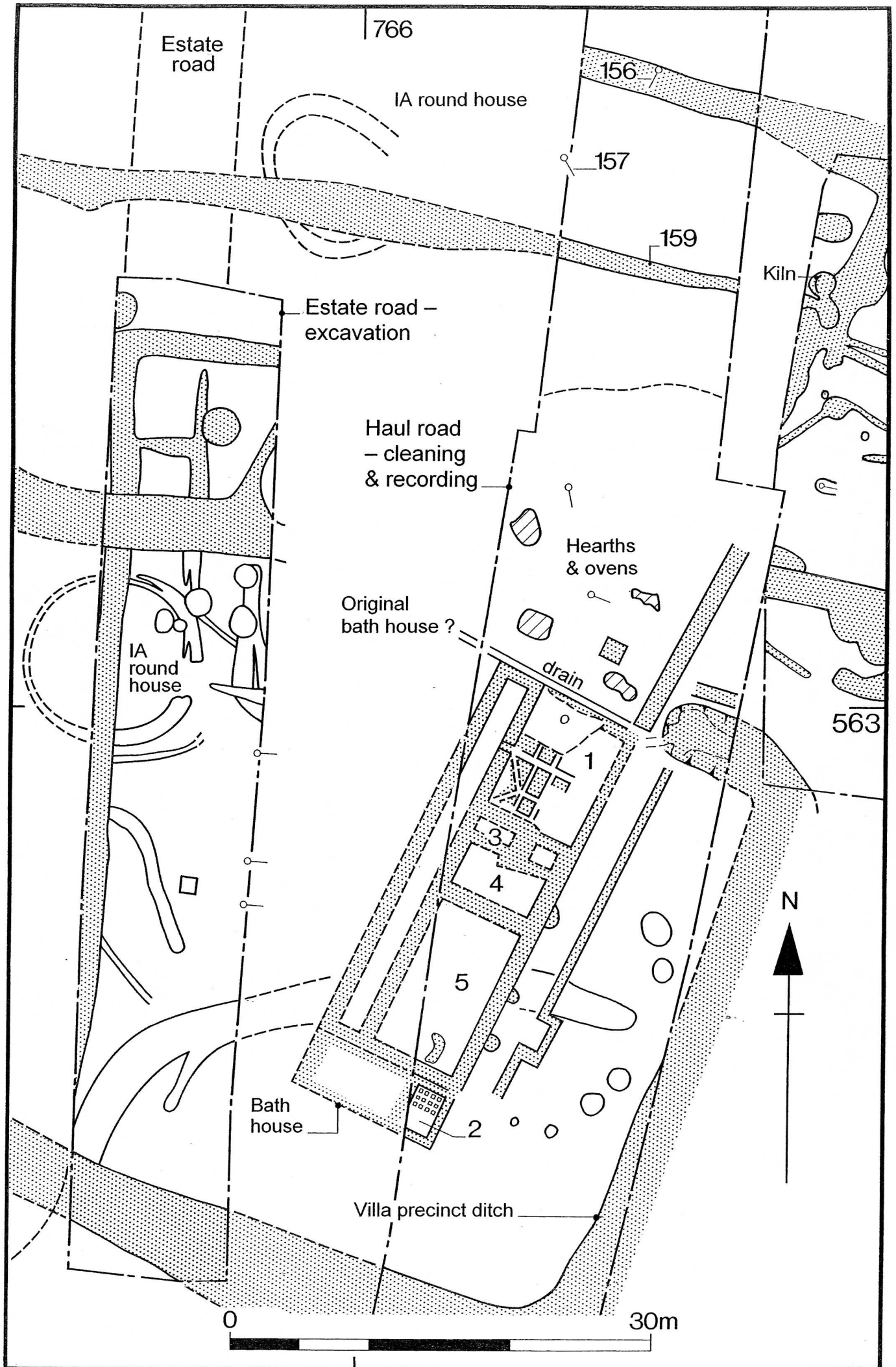


Fig 3

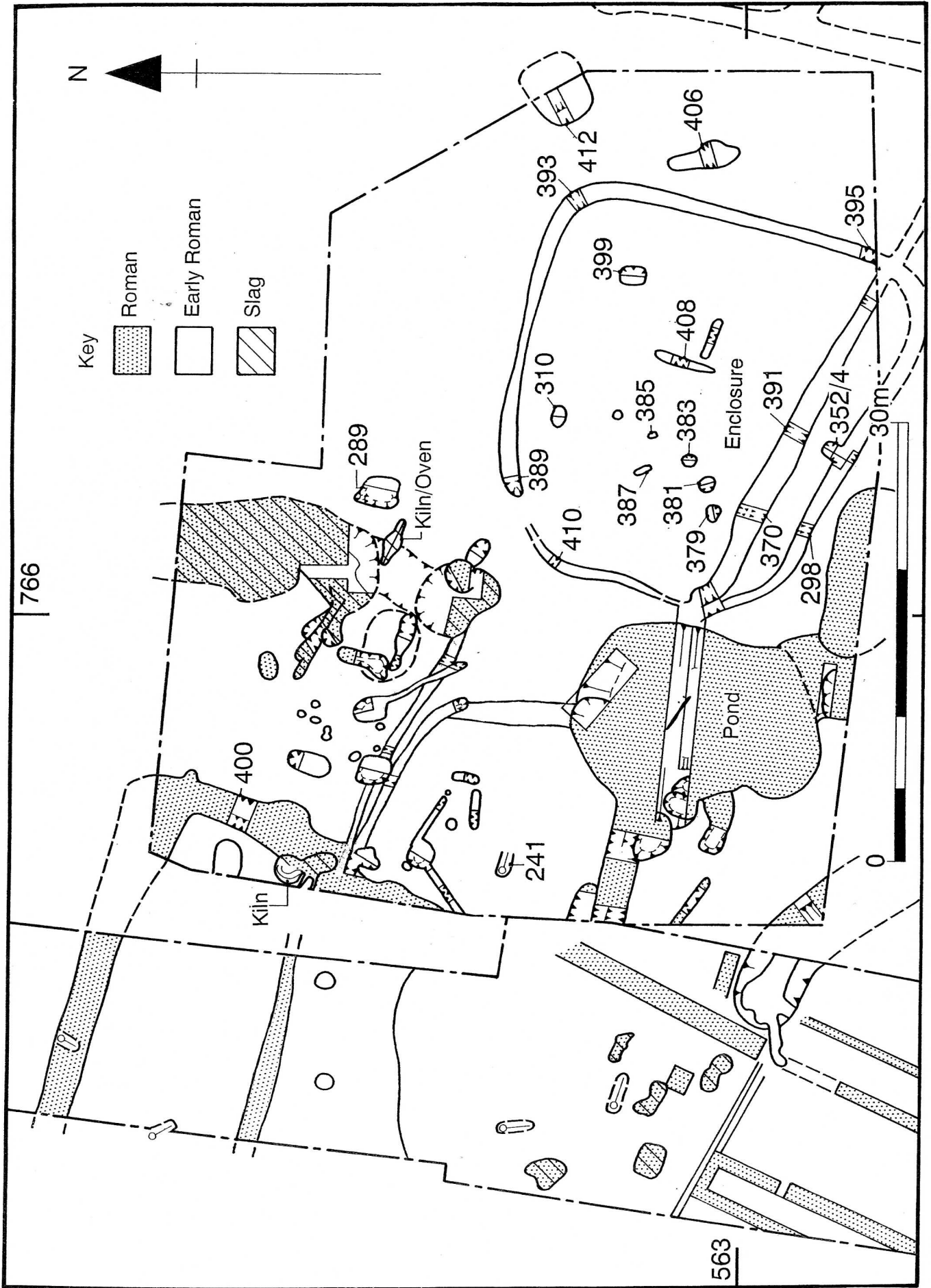


Fig 4

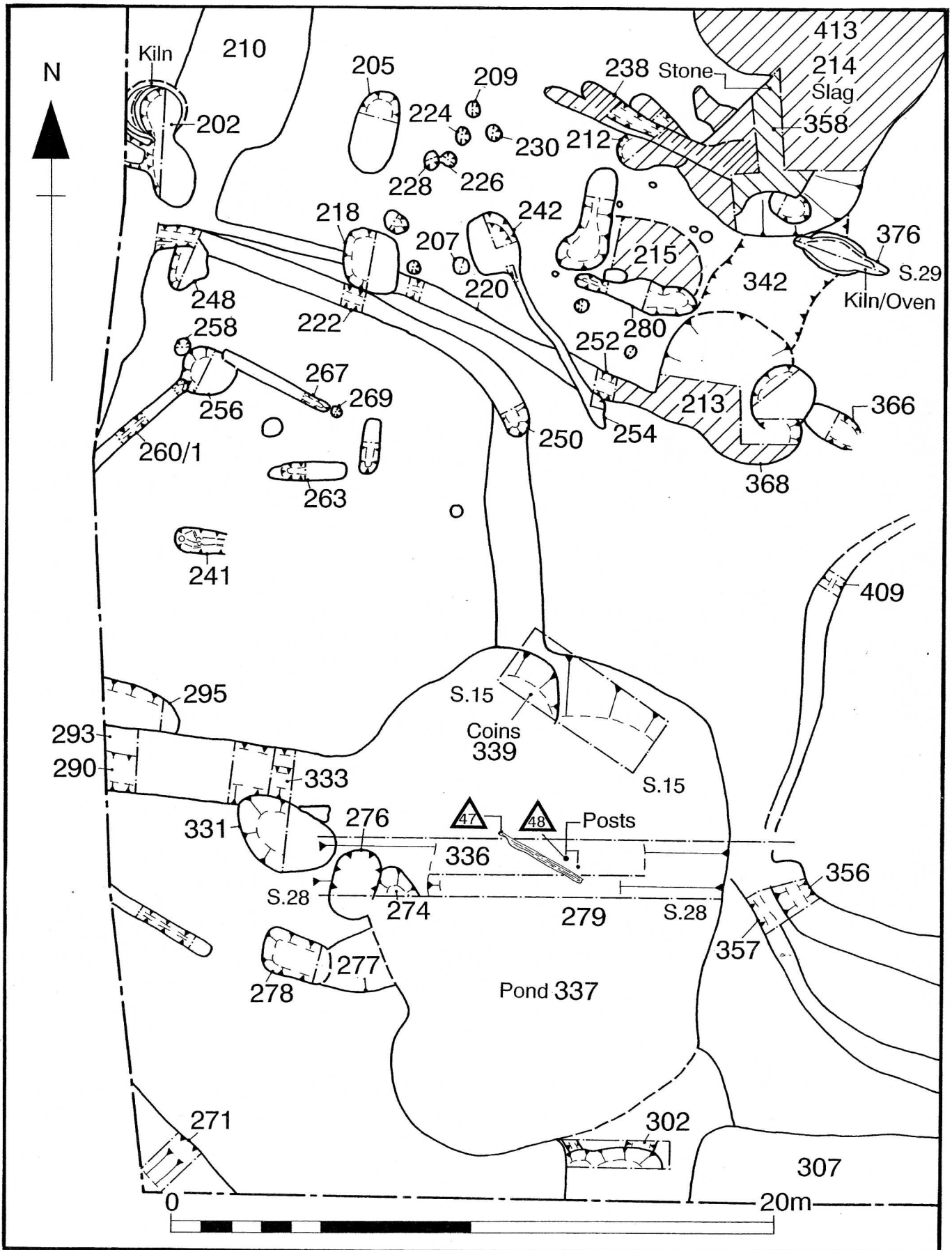
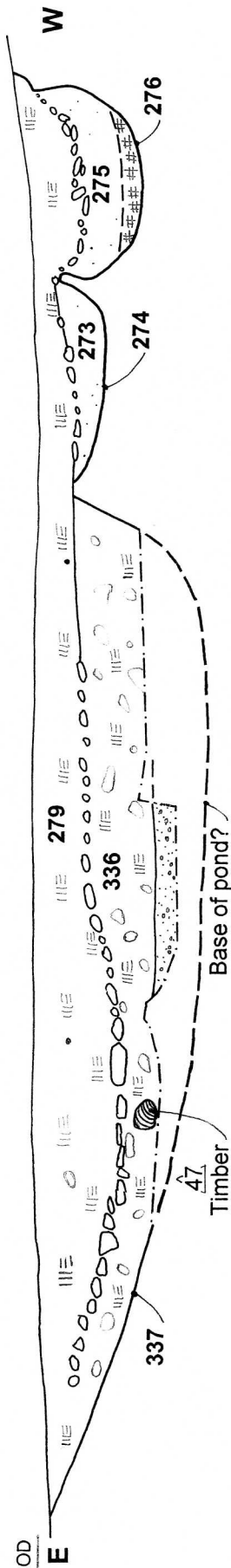


Fig 5

Section 28

87.00mOD



Section 15

87.00mOD

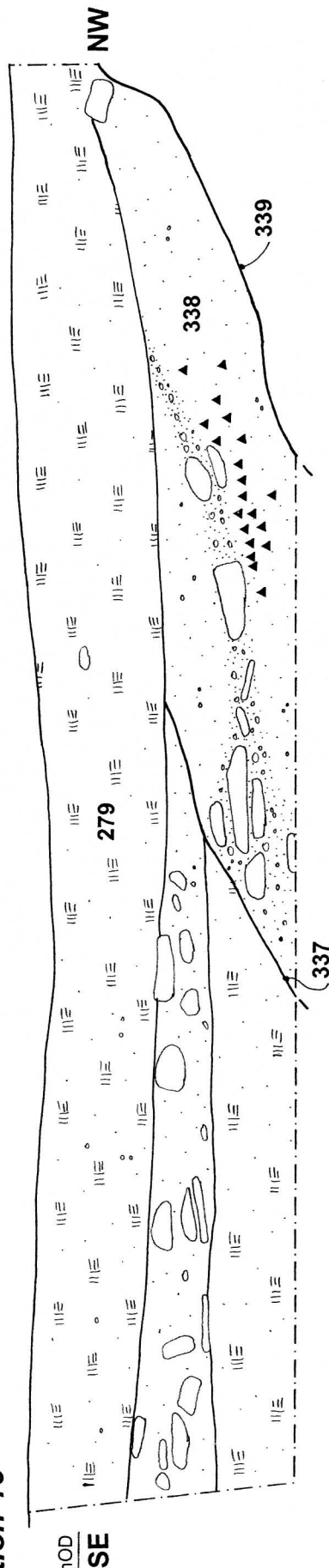
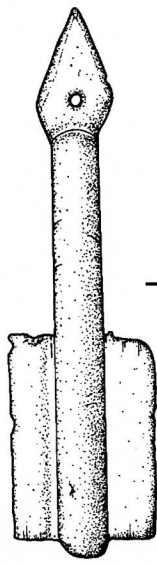
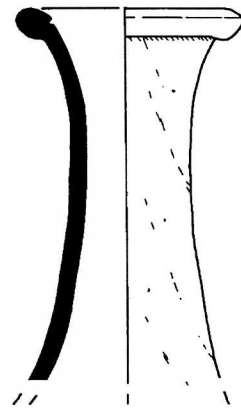
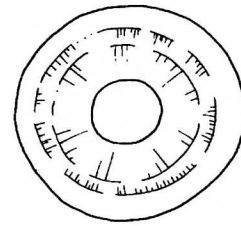
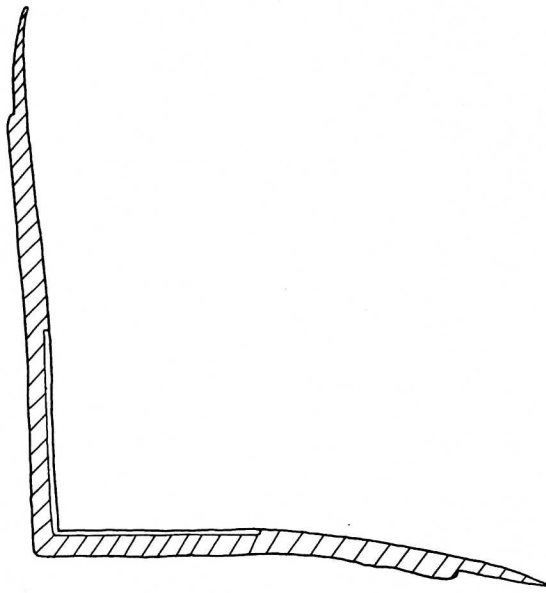


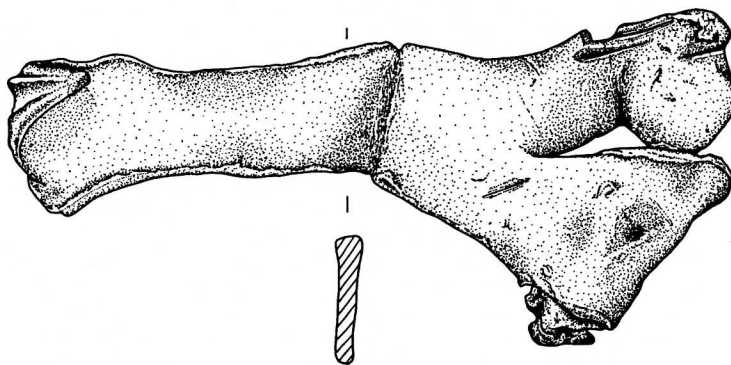
Fig. 6



1



2



3



Fig. 7

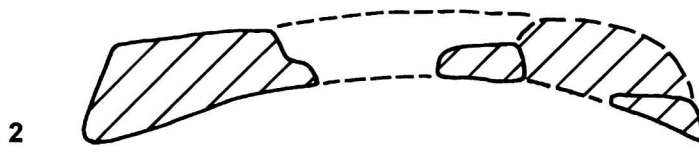
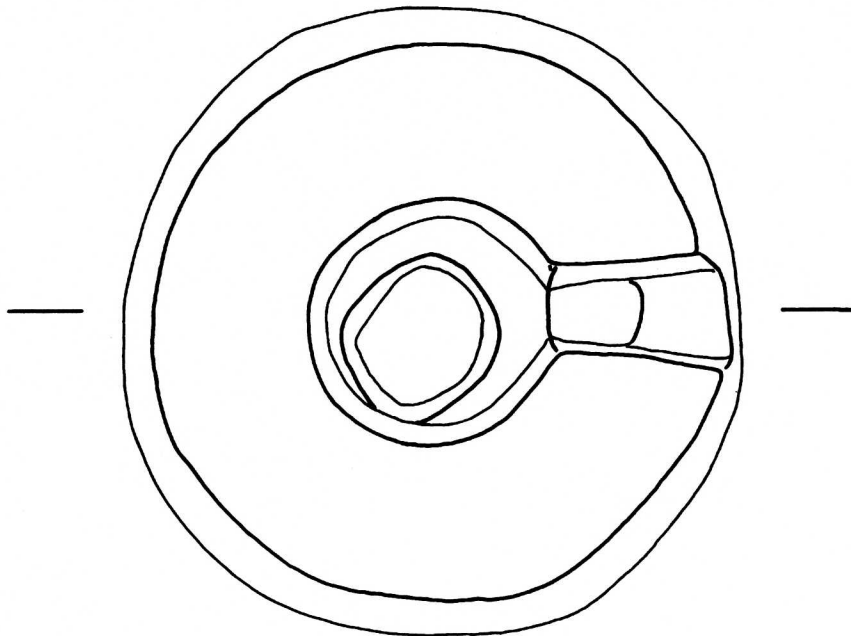
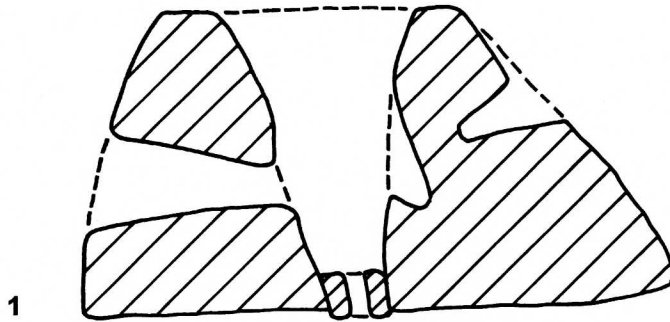
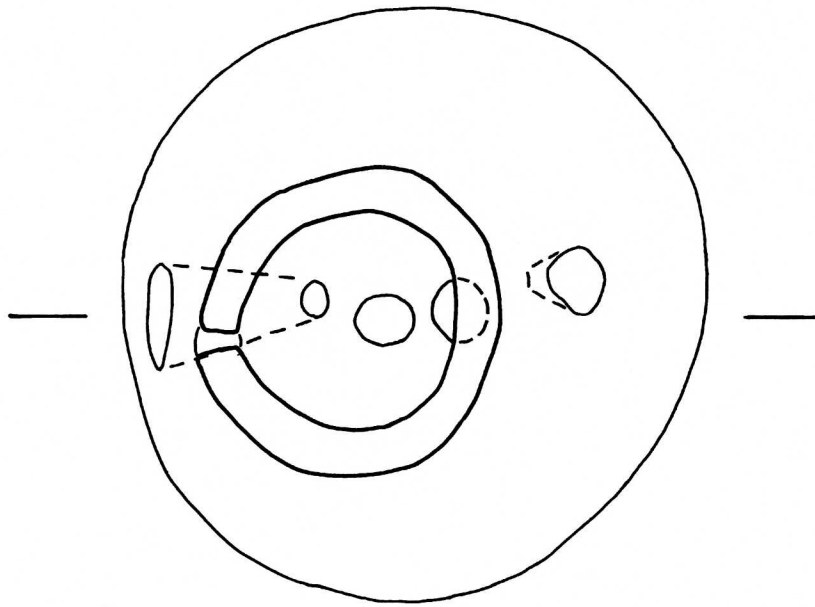


Fig. 8

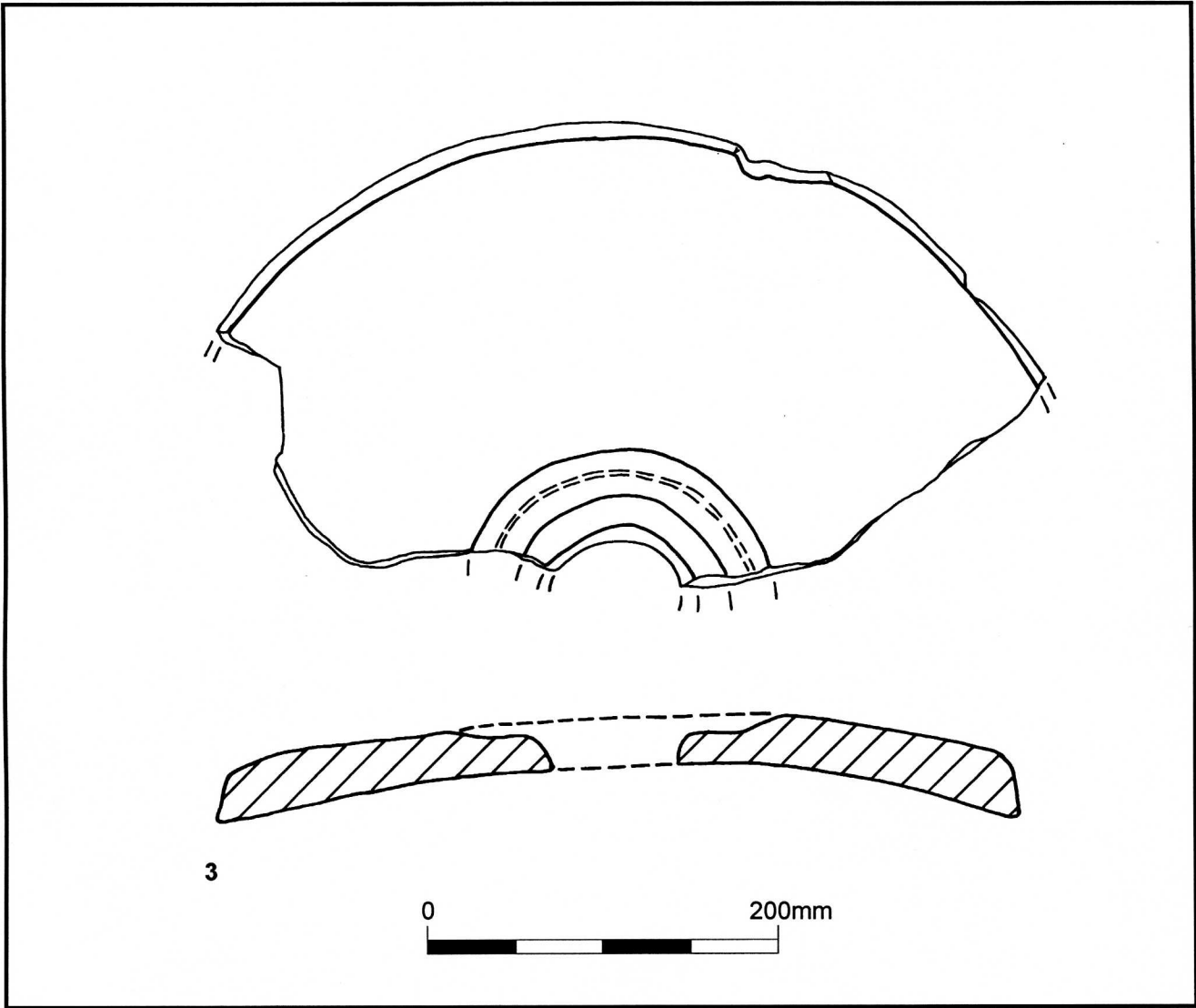


Fig. 9

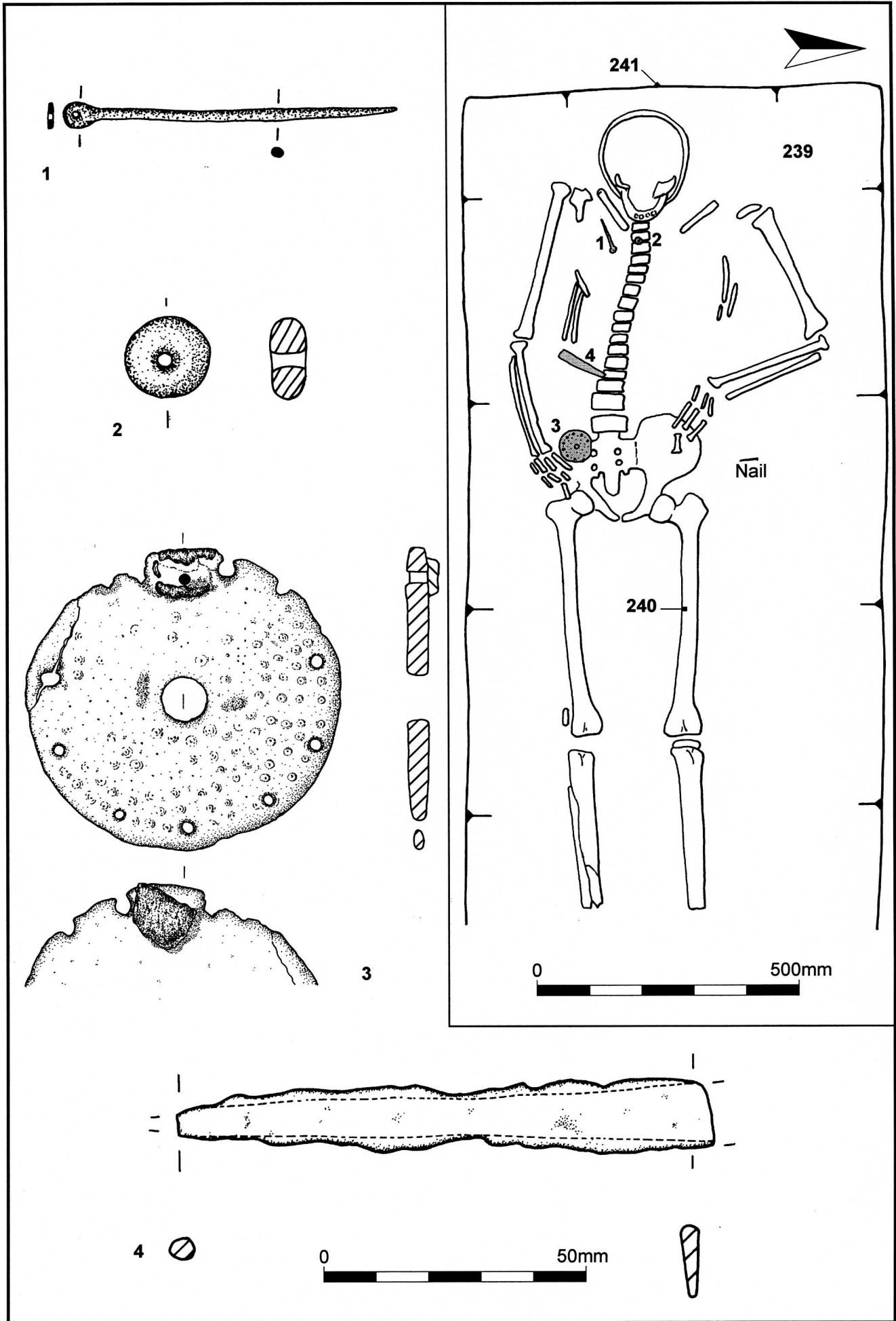
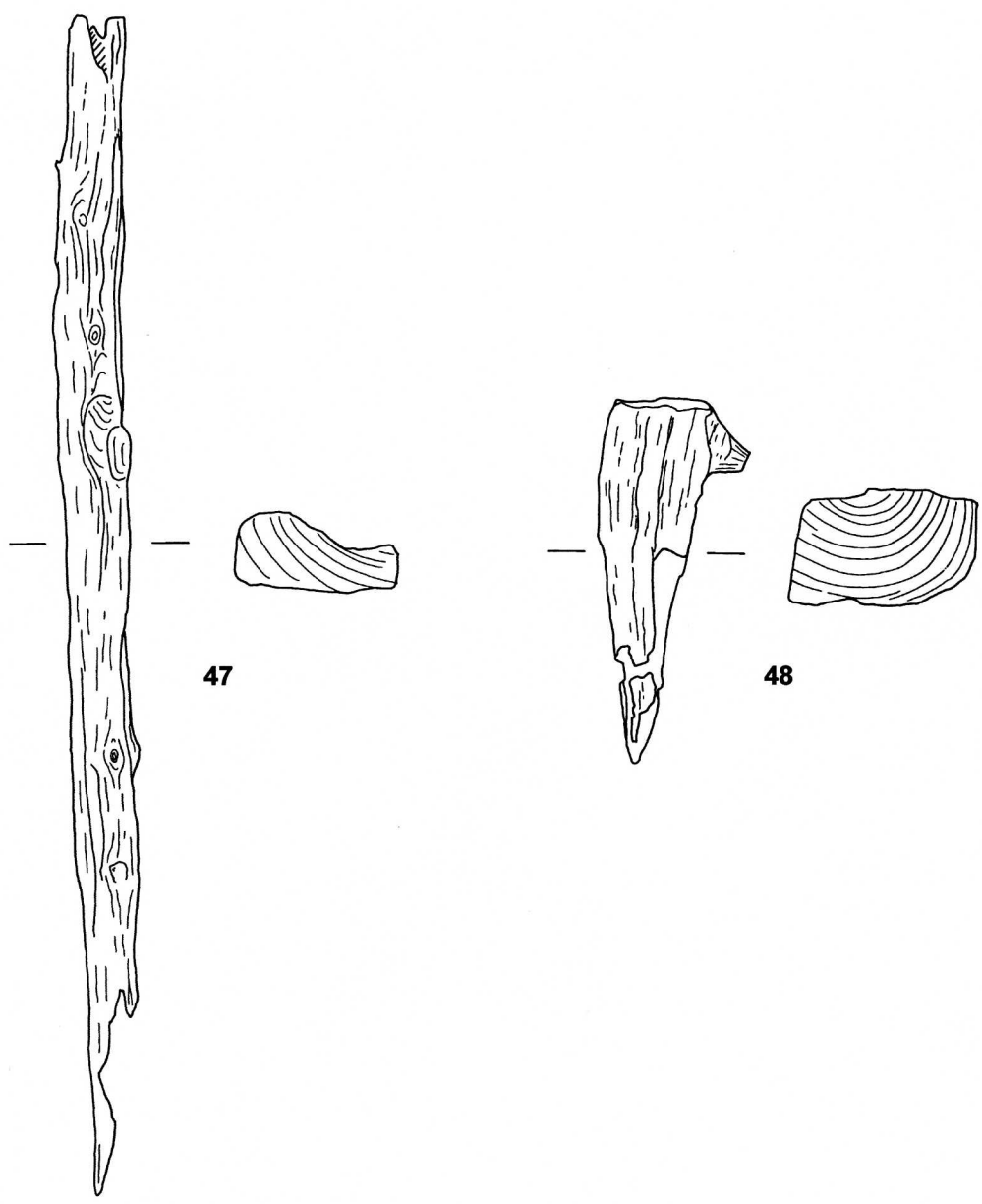


Fig. 10



47

48



Fig. 11



Plate 1: The kiln during excavation



Plate 2: The partly excavated kiln



Plate 3: The pond during excavation, showing the oak plank

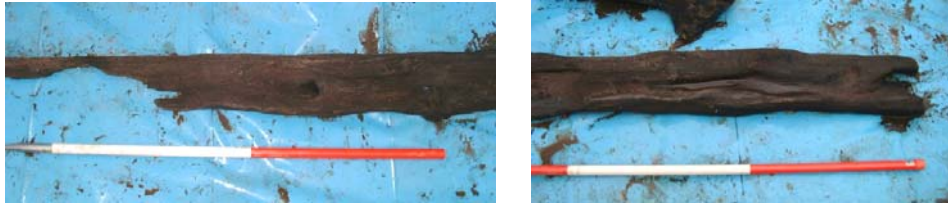


Plate 4: The oak plank from the pond (find 47)



Plate 5: The oak post from the pond (find 48)



Plate 6: Pits 274 (left) and 276 (right) on the edge of the pond



Plate 7: Deposit containing slag (214) over stone surface (358)



Plate 8: The Anglo Saxon burial



Plate 9: The grave goods with the Anglo Saxon burial