Archaeological investigations on the 'Alienated Land', Colchester Garrison, Colchester, Essex May 2004-October 2007

on behalf of Taylor Wimpey

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Contents

Chapter 1. Areas C1, C2, E, J1, J1 North, J1 South, J1 East, O, Q, S1, the 'Time Team trenches', a watching brief, and the Roman circus, 2004-2005
by L Pooley, P Crummy, D Shimmin, H Brooks, B Holloway, and R Masefield
with contributions by Francesca Boghi, H E M Cool, N Crummy, Julie Curl, S Benfield, Kevin Hayward, Val Fryer, Hazel Martingell, and Paul Sealey

Chapter 2. Napier Road, August-September 2006 *by Howard Brooks and Ben Holloway*
by Howard Brooks and Ben Holloway
with contributions by Stephen Benfield, Francesca Boghi, Howard Brooks, Nina Crummy, Julie Curl, and Hazel Martingell

Chapter 3. Circular Road North, January-April 2007
by Donald Shimmin
with contributions by Stephen Benfield, Francesca Boghi, Howard Brooks, H E M Cool, Nina Crummy, Julie Curl, Val Fryer, and Hazel Martingell

Chapter 4. Area J1 North Watching Brief, February 2007
by Howard Brooks and Mariusz Gorniak
with contributions by with contributions by Stephen Benfield, Francesca Boghi, Howard Brooks, Nina Crummy,and Julie Curl

Chapter 5. C2 Watching Brief, April-October 2007
by Donald Shimmin
with contributions by Howard Brooks, Stephen Benfield, and Nina Crummy

Chapter 6. The Roman circus
by Philip Crummy
with contributions by Stephen Benfield, Nina Crummy, Robert Masefield, and Adam Wightman

For all reports

Illustrations by Maureen McDonald and Emma Spurgeon
Site surveying by Chris Lister

Introductory note

The chapters were compiled as free-standing reports with Chapter 1 being the earliest to be completed and Chapter 6 the last. There has subsequently been some limited revisions of the earlier work to achieve a modest degree of integration and uniformity in the report as a whole. Chapter 6 includes accounts of the research excavations targeted on the circus (ie those not required for the housing developments) and archival data has also been added to each chapter to provide a fuller record of the investigations.

Colchester Archaeological Trust March 2009

1. AREAS C1, C2, E, J1, J1 NORTH, J1 SOUTH, J1 EAST, O, Q, S1, THE 'TIME TEAM TRENCHES', A WATCHING BRIEF, AND THE ROMAN CIRCUS, 2004-2005

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Introduction and preliminaries

Summaries

The report and the GAL project

This is the analysis report on a series of evaluations, excavations and a watching brief carried out by the Colchester Archaeological Trust (CAT) in association with RPS Planning and on behalf of Taylor Woodrow (now Taylor Wimpey), in 2004-2005, on Areas C1, C2, E, J1, O, Q and S1 ahead of the development of the Garrison Alienated Land (GAL), Colchester Garrison (Figs 1.1-1.2). This report also includes the Time Team trenches and the GAL watching brief.

Previous archaeological work and this project

Previous stages of archaeological work related to the project reported here consisted of a background study (desk-based assessment), a fieldwalking survey, a geophysical survey, and the Stage 1a trial-trenching evaluation, all undertaken in 2002. These were conducted in support of full planning permission for the MoD's 'new garrison' and outline planning permission for the GAL element (ie the redevelopment of the former military garrison sites). In 2003, Stage 2 Excavations were carried out on behalf of RMPA and MoD on archaeology Areas 2, 6 and 10 ahead of the development of the new garrison, Colchester Garrison. The evaluations, excavations and the watching brief described here are Stage 1b and Stage 2 of the equivalent and linked on-going archaeological project to mitigate the impacts of the GAL project on behalf of Taylor Woodrow. All archaeological works were designed and managed by RPS Planning and were agreed by CBC ahead of commencement.

The areas which were evaluated and excavated

Area C1

Area C1 was located within the angle of the crossroads between Flagstaff Road and Napier Road, to the west of Flagstaff House. The archaeological investigation of this area consisted of three evaluation trenches totalling 74m in length and an area excavation totalling 292m². The area included the remains of a short section of a large Roman circus also seen on Areas C2 and J1. Other archaeological activity included a series of Late Neolithic features, three undated ditches, a post-medieval ditch, and a number of modern/military features.

Area C2

Area C2 was located within the angle of the crossroads between Napier Road and Circular Road East, to the south of Flagstaff House. The archaeological investigation of this area consisted of three evaluation trenches totalling 70m in length and an area excavation totalling 1950m². The area was dominated by a large, late Roman cemetery and also revealed a short section of the remains of the large Roman circus also seen on Areas C1 and J1. Other archaeological activity included the remains of a single Early Bronze Age pit, a Roman droveway/track, a number of post-medieval pits, and some modern/military features.

Area E

Area E was located on a sports field to the west of Mersea Road and to the east of Circular Road East and the Abbey Field. The archaeological investigation of this area consisted of four evaluation trenches totalling 213m in length. The area included a series of field boundary ditches and a Roman enclosure containing a small Roman building which may be part of a farmstead or even a villa-type building. Other archaeological activity recorded from the site included the remains of a post-medieval ditch possibly associated with siege works constructed during the English Civil War.

Area J1

Area J1 was located between Butt Road, Le Cateau Road, Circular Road North and the Cavalry Barracks. The archaeological investigation of this area consisted of 17 evaluation trenches totalling 581m in length and four area excavations totalling 8,565m². The northern part of the area was dominated by a large Roman cemetery. The eastern area was dominated by the remains of the large Roman circus also seen on Areas C1 and C2 (above), whilst a wide Roman road and smaller droveway were located in the southern area where a much smaller burial plot was also encountered. Other evidence included a small number of Late Bronze Age features, a series of post-medieval field boundary ditches and a road, and a number of modern/military features.

Area O

Area O was located on the south side of Circular Road South and the west side of what was Ypres Road (Ypres Road has now been removed to make way for the new garrison redevelopment). The archaeological investigation of Area O consisted of one evaluation trench 50m in length. The area contained a single Roman field boundary ditch.

Area Q

Area Q was located to the east of Berechurch Road, approximately 400m north of Roman Barracks and immediately to the north of Area 10 (excavated in 2003). The archaeological investigation of Area Q

consisted of four evaluation trenches totalling 200m in length and an area excavation of 9,230m². The area was dominated by two Roman field-boundary ditches. Other evidence recorded from the site included a prehistoric four-post structure, three Roman graves, three possible stake holes and two hearths.

Area S1

Area S1 was located on the north side of Berechurch Hall Road and to the east of the perimeter wire of Roman Barracks. The archaeological investigation of Area S1 consisted of five evaluation trenches totalling 159m in length. The archaeological investigation successfully located the ditch and rampart of Berechurch Dyke. A post-medieval ditch was also recorded during the investigation.

Watching brief

A watching brief was carried out on the contractors' excavation of a 91m length of service trenches on Circular Road East, Circular Road North, Le Cateau Road, Flagstaff Road, and Napier Road. The trenches dug during the watching brief for a storm water drain exposed three prehistoric pits, three sections of the Roman circus (which included two sections over the outer and inner *cavea* walls, an entrance and part of the central barrier comprising a probable monument base), a single Roman burial, several medieval robber trenches, and a number of post-medieval features.

'Time Team' (TT) trenches

Seven trial-trenches, funded by Channel Four's Time Team programme and excavated by CAT, were placed over the Roman circus. The trenches totalled 49m in length. The trenches successfully located part of the *cavea* walls of the Roman circus, the starting gates and the central barrier.

Finds summary

Finds varied across the areas of archaeological investigation.

Areas C1, C2, J1, the TT Trenches and the watching brief

A large quantity of finds was recovered from these areas. The Roman burials produced most of the finds, including large quantities of Roman pottery, coffin nails and small finds (in the form of burial goods). A smaller quantity of finds was recovered from around the Roman circus, including building material, Roman and medieval pottery and a number of small finds (nails from the circus, parts of two horse-harnesses and many hobnails). Finds from the Roman boundary ditches included pottery, building material, animal bone (especially cattle jaws) and small finds (including a hoard of silver coins).

Areas E, O, Q, S1

A much smaller quantity of finds was recovered from Areas O, Q and S1, with a higher concentration in Area E. The majority of the features produced a small quantity of pottery along with some building material and small finds. The building material and domestic material recovered from the Roman building within Area E is of particular importance.

The results in terms of the development of Colchester

Occupation before the Late Iron Age *oppidum*

Pre-*oppidum* activity consists of a small number of features and residual finds dated to the Late Neolithic (Areas C1, C2, E, J1 and Q), the Early Bronze Age (Area C2) and the Late Bronze Age (Areas E, J1 and Q). These features appear to represent small-scale domestic activity mainly concentrated on the ridge to the south of the town centre (on what is now the north edge of the Abbey Field), with some activity further to the south.

The *oppidum* (Fig 1.2)

Apart from Area S1, the archaeological investigations were located within the *oppidum,* as defined by the dyke system. They are therefore directly relevant to the issue of the internal organisation of the *oppidum* and its landscape. Evidence for the dykes and the co-axial ditched landscape (field system) included:

Area S1 – *Berechurch Dyke, the correct line of whose ditch and bank was successfully plotted.*

Area C1 – *three minor ditches which, although undated, may belong to the Late Iron Age or early Roman field systems.*

Areas E, O and Q – *most of the ditches in these areas date to the Roman period and were part of the Roman field system (although it is possible that they originated in the Late Iron Age and were subsequently re-dug in the Roman period). This stated, the strikingly low density of Late Iron Age pottery across the sites considered here implies that these areas may have remained largely forested until the early Roman period.*

Hinterland of the walled Roman town

The sites investigated were also located within the hinterland of the Roman town. The immediate hinterland was used primarily as the location of an east-west orientated, 450m long by approximately 70m wide, monumental Roman circus (Areas C1, C2, J1, the TT trenches and the watching brief) and Roman cemetery areas containing burial plots and hundreds of individual burials (Areas C2, J1 and the watching brief). The circus, the first to be confidently identified in Britain, and the identification of ‘barrow’ burials potentially associated with Germanic units of the Roman army (potentially forming part of the late Roman town garrison), constitute a major advance of archaeological knowledge for Roman Britain. Further away from the town the hinterland consisted mainly of agricultural fields (Areas C2, E, J1, O and Q) with some domestic activity (a single Roman 'farmstead' was identified in Area E). A major (20m-wide) Roman track or droveway was also identified (Area J1) and appears to have led from the major junction of previously known Roman roads to the south-west of the town (including the branch to Londinium) into the hinterland to the south.

Medieval activity

Evidence for medieval activity was restricted to several robber trenches (and associated features) which had removed the wall foundations of the Roman circus (Areas C1, C2, J1, the Time Team trenches and the watching brief). During the medieval period, a number of building works within the town required a large amount of raw material. It was at this point that many surviving Roman structures were robbed of their building stone/brick/tile, and the materials reused. This particular robbing activity may be associated with the construction of St John’s Abbey, which overlay the north-east end of the circus and whose precinct wall appears to partially overlay the central barrier of the circus.

Post-medieval activity

Evidence for post-medieval activity included a series of field boundary ditches, a road and a number of isolated pits (Areas C1, C2, E, J1, Q, S1 and the watching brief). The most interesting post-medieval

features are a ditch located within Area E and a road located in Area J1 West, both of which may be associated with the English Civil War.

Colchester Garrison

Several military features were recorded during the archaeological investigations. These included a number of air-raid shelters (Areas C2 and J1), communication trenches (Area C2), practice trenches (Area J1), pits (Areas C1, C2, J1) and many foundations and service trenches associated with demolished military buildings (Areas C1, C2 and J1).

The investigations and the report

Introduction (Fig 1.1)

The Colchester Garrison GAL proposal is linked to the approximately 80ha redevelopment of Colchester Garrison by RMPA, and involves the use for residential development of 84ha of surplus land formerly owned by MoD, with some mixed use community facilities and recreational/open space. The previous archaeological investigations for the new garrison PFI project were designed to determine the extent and nature of archaeological features on both the new garrison site and the GAL sites. The Environmental Statement chapter relating to archaeology (RPS 2002a, in Chapter 15 of Atkins 2002) set out the outline methodology for archaeological mitigation for the new garrison and further (Stage 1b) evaluation and (Stage 2) mitigation in support of the GAL project. A detailed Strategy for carrying out this baseline survey was agreed with Colchester Borough Council and English Heritage (RPS 2002b: *Colchester Garrison PFI Archaeological Project Strategy Proposal*, 29 April 2002; revised 27 June 2002).

The GAL scheme is proceeding in concert with the construction of the new garrison by RMPA, which is now well advanced, and together these two archaeological projects comprise the largest investigation of Camulodunum yet undertaken. As new garrison facilities become available, the MoD are decanting from the existing barracks, providing a phased release of previously occupied land for redevelopment by Taylor Woodrow/Wimpey. To date, Phases 1 and 2 (of the five phases) have been made available for archaeological investigation ahead of construction (Fig 1.1). This report presents the results of a series of archaeological evaluations, excavations and a watching brief undertaken in these areas to mitigate the archaeological effects of construction on the Garrison Alienated Land at Colchester Garrison (formerly known as the 'Garrison Urban Village' - GUV). This report has been prepared by the Colchester Archaeological Trust (CAT) in association with RPS on behalf of Taylor Woodrow/Wimpey. The fieldwork was conducted by CAT and managed by RPS, from May 2004 to April 2007.

The strategy supporting the work reported here is fully laid out in the strategy proposal and research designs for the project (RPS 2004a; RPS 2004b). In addition, a series of site-specific Written Schemes of Investigation (WSIs) were compiled by RPS in association with CAT (RPS 2004c-2004h).

The Colchester GAL sites are located between 250m and 4km to the south of the modern town centre. The sites have been divided into 22 areas (Fig 1.1) for the purposes of present and future development. The areas closer to the town centre comprise plots which have historically formed the core of the garrison – barracks, offices and leisure facilities – distributed around the open ground of the Abbey Field. Areas further to the south, beyond Circular Road South, are largely open fields, although some also fall within built-up formerly military areas such as the Roman Barracks.

The Colchester Garrison occupies an extensive area on the eastern flank of a plateau capped with Pleistocene gravels, sands and clay/silt. The site overlooks the River Colne to the north and the Roman River to the south (Fig 1.2). These rivers meet to the south-east of the site, before entering the Blackwater Estuary. The Garrison site is divided into northern and southern halves by a shallow east-west dry valley, followed today by Circular Road South, which slopes eastwards into the Colne Valley. This valley drains eastward into the River Colne and is presently partly filled by the Bourne Lakes. The ridge to the north of this rises to over 100m, dominating the site of the Roman and medieval town which lies on a slightly lower ridge beside the river. The local drift geology is predominantly sands and gravel. This is occasionally in a clay matrix, and is capped by cover loam around 0.4m in depth.

There has been a military garrison on the south of the historic town of Colchester and on the Abbey Field since the late 18th century, although the current extent of the property is mainly the result of land acquisitions in the 19th and 20th centuries. Prior to the construction and expansion of the Garrison, with the exception of the restricted area of the historic suburb, the property had been largely rural in character, with agriculture the dominant form of historic land-use. The GAL developments are taking place within the context of a complete redevelopment of the Garrison on both open land and former barracks to the south of Circular Road South. This development is presently well advanced and groundworks were completed in 2007.

Virtually the entire Garrison forms part of a historic landscape dominated by the major Late Iron Age defended settlement (*oppidum*) of Camulodunum (1.2). The defences of the *oppidum* were formed by a series of dykes, ie monumental bank and ditch boundaries. The dyke marking the eastern side of Camulodunum, Berechurch Dyke, extends across the south-eastern part of the development, turning to the north-east well south of the town centre.

The area to the north of the dry valley adjoins the Roman legionary fortress and town of *Colonia Victricensis* (Fig 1.2) and includes the remains of the medieval St John's Abbey (scheduled ancient monument). This part of the Garrison includes substantial portions of Colchester's Romano-British cemeteries and portions of the medieval suburbs, which are largely ecclesiastical in character.

To the south of the valley, the land was rural until the 19th- and 20th-century expansion of Colchester Garrison. Extensive cropmarks and linear features indicate the presence of Late Iron Age/Romano-British fields and droveways, whilst previous investigations have also identified the remains of Romano-British buildings in the Kirkee McMunn Barracks (Shimmin 1998). Excavations carried out ahead of the present new garrison redevelopment (CAT Report 292) have further clarified our understanding of this area, indicating limited settlement of the Late Bronze Age to Early Iron Age, a possible pre-*oppidum* settlement of the later part of the Middle Iron Age, and their development into an extensive network of field boundaries, stock-pens and droveways in the Late Iron Age/early Roman period.

Prior to the commencement of the work described in this report, a total of 30 archaeological investigations and 88 watching briefs had been carried out by the Colchester Archaeological Trust at or within 300m of the Garrison site since 1965 (CAT Report 97, appendices 1 and 2; archaeological work on the new garrison site is reported in CAT Reports 184, 197, 205, 206, 207, 292 (for the excavations on Areas 2, 6 and 10, new garrison). For a report on other watching briefs, see CAT Report 361.

During the course of the GAL investigations, it became that widespread structural remains in Areas C1, C2 and J1 belonged to a monumental Roman circus. The full deductive process for the identification of the circus was provided within the assessment report which followed the Phases 1 and 2 (2004-5) archaeological investigations (CAT Report 361). Given that the identification of the circus has been accepted by the wider archaeological community, the results section of this report refers directly to it when examining its constituent parts.

The assessment report was structured in accordance with guidance published by English Heritage (English Heritage 1991; Oliver 1996). It included sections on methodology, results and finds, and recommendations for further analysis. This work is incorporated in this report.

This report has been written and edited by Laura Pooley, Philip Crummy and Rob Masefield with specialist contributions. This project was managed for CAT by Philip Crummy with fieldwork managed by Ben Holloway (Areas C1 and C2 excavations, Areas E, J1, O, S1, the Time Team trenches and the watching brief), Kate Orr (Areas C1 and C2 evaluations), and Mariusz Górniak (Area Q), assisted by Donald Shimmin, Chris Lister, Laura Pooley and Emma Spurgeon. RPS were present as overall Project Managers (Robert Masefield, Ken Whittaker and Charles Le Quesne) and as Principal Contractor under CDM regulations.

Reports on the later excavations on Napier Road (managed by Ben Holloway) and Circular Road North (managed by Donald Shimmin), and on the watching briefs on Area C2 (Donald Shimmin) and Area J1 North (Mariusz Górniak), all given as an appendix to this report, were written by Donald Shimmin and Howard Brooks, assisted by Ben Holloway and Mariusz Górniak. The circus is described in a section of its own at the end of this report.

Preliminary investigations

Archaeological strategy for previous archaeological work

A staged programme of site investigations has previously been undertaken for each of the areas within the proposed development in support of the archaeological section of the Colchester new garrison Environmental Statement (RPS 2002). The 2002 archaeological investigations of the GAL areas took place in the context of preparing a strategy for the redevelopment of the new garrison sites. They were not

intended to provide definitive information upon which further planning judgements could be made; rather, they were designed to inform the on-going process of planning and design. All areas required further evaluation up to the 3% overall level ahead of the formulation of mitigation strategies. The previous works (evaluation stage 1a) included a desk-based assessment, magnetometer (geophysical survey) and fieldwalking survey and a stage 1a (partial) trial-trenching evaluation, as described below. All reports from these stages are listed in Table 1.1.

The desk-based assessment (DBA)

The DBA was completed for both the new garrison and GAL areas and considered the entire site and adjoining areas. The assessment reviewed the extent, date, character, condition, interpretation, importance and quality of the surviving archaeological features or deposits that may be threatened by the overall development. The information presented in the DBA included the results of aerial photographic survey and numerous recent field evaluations, watching briefs and excavations carried out by CAT. The DBA also provided a detailed understanding of the character of the archaeological remains likely to be affected by the development. This has enabled further stages of evaluation to be designed and targeted in the most appropriate and efficient way. The results of the DBA are reported in CAT Report 97 (A*n archaeological desk-based assessment of the Colchester Garrison PFI site, published 2000*).

Magnetometer and fieldwalking surveys

The detailed methodology for these surveys was described in CAT 2002 Colchester Garrison redevelopment: method statement and risk assessments for archaeological fieldwalking survey, geophysical survey, and evaluation trenching (in RPS 2002c).

The geophysical survey was conducted by Bactec International within all available green fields, and also included trial surveys in a number of soft and hardstanding locations within the built-up areas. These tests demonstrated the limited potential for geophysical survey in areas affected by previous development.

The geophysical survey located the position of buried ferrous objects, which may be discarded munitions or archaeological artefacts, and identified the location of possible buried archaeological features.

The fieldwalking survey of all available arable land provided a quantified record of the distribution of artefacts exposed within the topsoil following ploughing. Basic statistical tests (Essex Method) were used to identify concentrations which might indicate areas of archaeological potential.

The result of the geophysical and fieldwalking surveys are reported in CAT May 2002 *An archaeological evaluation by fieldwalking and geophysical survey at Colchester Garrison PFI site, Colchester, Essex* (CAT Report 184).These results were considered in the context of further information derived from cropmarks on archive aerial photographs.

RPS considered the geophysical and fieldwalking data in combination with cropmarks in drafting proposals for trial-trenching. Trial-trenches were positioned to check possible archaeological features and potentially significant artefact distributions, and to validate and extend the non-intrusive geophysics and fieldwalking survey results. Because there was a significant Health and Safety risk associated with unexploded munitions, archaeological trenches were located to avoid ferrous items. Trench positions targeted possible archaeological features where possible. Areas for mitigation excavation ahead of the new garrison construction were defined by RPS and agreed with MoD, RMPA and CBC in 2003. These comprised approximately three hectares in three locations, ie Areas 2, 6 and 10 (Fig 1.1; CAT Report 292). Subsequently an archaeological watching brief has been conducted on all groundworks for the new garrison's construction.

Trial-trenching evaluation

A detailed methodology is described in CAT 2002 Colchester Garrison redevelopment: method statement and risk assessments for archaeological fieldwalking survey, geophysical survey, and evaluation trenching. The works were also designed in compliance with Colchester Garrison PFI Archaeological Project Health and Safety Plan (RPS 2002c).

The first stage of trial-trenching (Stage 1a) in 2002 involved the excavation of 74 trenches in GAL Areas A1, B1a, B1b, H, J1, J2, L, N, O, Q, S1 and S2 North. This comprised a total of approximately 1,970m of trenching representing, in most cases, less than 1% of the proposed GAL development areas. The second stage of trial-trenching (Stage 1b), reported in this analysis for Taylor Woodrow, involved further trenches in

Taylor Woodrow's Phase 1 and 2 development Areas C1, C2, E, J1, O, Q and S1 (Fig 1.1). The full results of the 2002 evaluations are reported in a series of Colchester Archaeological Trust technical papers set out below (see Table 1.1).

Table 1.1 Stage 1a survey and evaluation technical report.

Organisation	Date	Title
Colchester Archaeological Trust	2000	An archaeological desk-based assessment of the Colchester Garrison PFI site (CAT Report 97)
Colchester Archaeological Trust	May 2002	An archaeological evaluation by fieldwalking and geophysical survey at Colchester Garrison PFI site, Colchester, Essex (CAT Report 184)
Colchester Archaeological Trust	July 2002	An archaeological evaluation by trial-trenching on Area C at Colchester Garrison PFI site, Colchester, Essex (CAT Report 197)
Colchester Archaeological Trust	July 2002	An archaeological evaluation by trial-trenching on Areas E and F at Colchester Garrison PFI site, Colchester, Essex (CAT Report 203)
Colchester Archaeological Trust	August 2002	An archaeological evaluation by trial-trenching on Area KR at Colchester Garrison PFI site, Colchester, Essex (CAT Report 205)
Colchester Archaeological Trust	August 2002	An archaeological evaluation by trial-trenching in Areas A, B, D, GJ, H, J, N, V and YP of the Colchester Garrison PFI site, June-July 2002 (CAT Report 206)
Colchester Archaeological Trust	September 2002	An archaeological evaluation by trial-trenching on Areas DR, G, M, P, Q, R, RO, S, and T at Colchester Garrison PFI site, Colchester, Essex: May-September 2002 (CAT Report 207)

Overview of the archaeological remains

The archaeological background of the Colchester Garrison area prior to the Garrison PFI project has been comprehensively discussed in the DBA (CAT Report 97). The surveys and evaluations described above have added to the background discussed in the initial desk-based assessment and have revealed a detailed sequence and pattern of archaeological remains.

The periods of archaeological activity previously identified on the Colchester Garrison site cover a 6,000-year timescale during which cultural activity had a significant impact on the landscape. Several periods and sub-periods of activity have been tentatively identified on Garrison lands. These periods represent events spanning the Neolithic period to the present day:

Pre-*oppidum*
Late Neolithic-Middle Bronze Age settlement and possible funerary landscape
Late Bronze Age-Middle Iron Age settlement and agricultural landscape
Late Iron Age/early Roman *oppidum*
Late Iron Age/Roman farmsteads and co-axial field system
Berechurch Dyke
Roman landscape and hinterland and suburbs of the Roman town
Romano-British cemeteries
settlement and roads
Anglo-Saxon, medieval and post-medieval activity
Anglo-Saxon settlement, church and burials
medieval settlement, abbey and burials
Civil War defences
Colchester Garrison
19th-century buildings
20th-century military activities at Colchester Garrison, including World War I and World War II military training and defence

The following section considers the evidence for these periods/sub-periods up to and including the Phase 1a (2002) trenching and the subsequent Phase 2 excavations and includes a table referencing the relevant baseline data. The references are based on the archive references which can be identified either by UAD number (Urban Archaeological Database held at Colchester Borough Council), by DBA number, or by feature number (in the case of the 2002 evaluations).

Pre-oppidum

Late Neolithic-Middle Bronze Age settlement and possible funerary landscape

Evidence for early prehistoric settlement and funerary activity at the Garrison site is notably sparse and there is a very low incidence of the ubiquitous flint tools and flakes associated with Mesolithic, Neolithic and Early Bronze Age activities.

Pottery vessels previously found in Areas J1 and B1a were considered potentially to have been associated with cremations. This raises the possibility that the east-west ridge on which the older garrison buildings lie might have developed a tradition as a place of burial before later use for Roman burial grounds. If so, burial monuments or markers of some kind, such as ring-ditches and burial mounds, may have been constructed.

Table 1.2 Previously known Neolithic-Middle Bronze Age features/finds within GAL areas.

Area	Reference number	Feature	Artefacts
A1	AF301	Pit	Grog-tempered pottery: MBA+
B2	UAD ref. 3019/CAT excavation 1972, F70; *CAR* **9**, 205	Pit	Neolithic blade
B1a	UAD ref.1249	?burial pit	Late Neolithic/Early Bronze Age beaker
J1	UAD ref.1247	?burial pit	2 Middle Bronze Age food vessels

Late Bronze Age-Middle Iron Age settlement and agricultural landscape

Evidence from excavations and evaluation trenches in the area of the new garrison development, to the south of Circular Road South, has indicated rural settlement from at least the early first millennium BC. There were clear indications of activity of Early-Middle Iron Age date between Berechurch Road, Roman Barracks and eastwards into Area S2 North, where a series of features including four-post structures and cremations in Area 10 (CAT Report 292) produced Late Bronze/Early Iron Age pottery. There were also indications that the extensive Late Iron Age/early Roman agricultural landscape enclosed by the Camulodunum dykes may have had its origins (at least in terms of its axis) in the final stages of the Middle Iron Age. In particular, the excavations at new garrison 'Area 2', south of the former Ypres Road (now within Merville Barracks), revealed the existence of a Middle Iron Age ditched settlement enclosure, probably dating to *c* 75-25BC (*op cit*, 20) on the same alignment as the later (early Roman) landscape. Area 6 produced sufficient Middle Iron Age ceramics residual in later features and the ploughsoil to support the notion that this was an area of former arable (ie distribution of pottery via manuring scatters). Prior to the surveys undertaken here, there was significantly less material of this date known from the GAL sites in the northern part of the Garrison, with only occasional finds of fragmentary pottery indicating activity of this date.

Table 1.3 Previously known Late Bronze Age/Iron Age settlement/finds within GAL areas.

Area	Reference number	Feature	Artefacts
B2	UAD ref.3019/CAT excavation 1972, F19 and F20; *CAR* **9**, 205	Pits	Late Bronze/Early Iron Age pottery
J1	JF102	Pit	Late Bronze/Early Iron Age pottery
Q	QF106	Terminal	Late Bronze/Early Iron Age pottery in Trench 1
	QF204, QF306	and ditch	Ditch, possibly contemporary with QF106
S2 North	SF401	Ditch terminal	Residual Early Iron Age sherds, residual flint and Roman brick in Trench 4
	SF502, 503	Ditch, pit	Ditch containing prehistoric sherds and a pit with residual Late Bronze Age/Early Iron Age and Roman pottery in Trench 6.
	SF604	Pit	Late Bronze Age+ sherds, burnt flint and Late Iron Age sherds.

Late Iron Age/early Roman oppidum

Late Iron Age/Roman farm and coaxial field system

Late Iron Age and Roman field systems, enclosures and droveways were the dominant landscape features in the area to the south of Circular Road South. It is quite clear from plots of cropmarks and parch marks in this southern area that the field system extended into GAL Area Q, including two Roman droveways previously investigated by the excavations in new garrison 'Area 10' excavations. Cropmarks have also been observed in Area S1 to the east of Roman Barracks, immediately east of the line of Berechurch Dyke (see below), although they are not obviously associated with either the dyke or the landscape to the west. Investigation of two of these boundary ditches in 2002 produced material indicating a Late Iron Age/Roman date.

The form of the late Iron Age/Roman landscape was detailed within the new garrison analysis report (*op cit*) based largely on the three excavation areas combined with cropmark data. These provided some support for the existence of a broadly co-axial landscape by the Late Iron Age with more conclusive evidence for a droveway-defined co-axial landscape from the early-middle Roman period. This Roman landscape appears not to have been maintained into the 4th century based on the evidence of pottery in its silted ditches.

Much of the new garrison area appears to have been located within farmland of a farmstead located in the south-east corner of the former Kirkee McMunn Barracks (Shimmin 1998). The farmstead was found during a watching brief, and produced Late Iron Age ditches post-dated by early Roman settlement including a hypocaust pit typical of a small 'villa'. The farm was apparently also abandoned in the later 3rd century AD, perhaps due to the instability of the times when there was an apparent tendency for Roman settlements outside of the Roman town to move inside the protection of its walls. Although a very early Roman date could be claimed for the general landscape around the farm, a Late Iron Age cremation burial positioned next to a ditch, whose final filling dated to the Roman period (Area 6), and a complex intersection of droveways including a ditch (containing a mid-1st century Roman brooch) cutting an earlier phase (?Late Iron Age) ditch (Area 10), support a conclusion that the Late Iron Age landscape had been extended and augmented in the Roman period (CAT Report 292).

Table 1.4 Previously known Late Iron Age/Roman field systems within GAL Areas.

Area	Reference Number	Feature	Details
Q	QF101, 102, 106	Ditches and pit	Indeterminate prehistoric and Early Iron Age pottery from Eval Trench 1
	QF204, 306, 305	Ditches and pit	Probable Iron Age boundary ditch as seen in Eval Trenches 2 and 3
S1	SF1101	Ditch	Late Iron Age/ Roman pottery in ditch found in Eval Trench 11
	SF1003	Ditch	Possible continuation of ditch SF 1101 (see above) in Trench 12
S2 North	SF401	Ditch terminal	Early Iron Age sherds, residual flint and Roman brick in Trench 4
	SF502, 503	Ditch, pit	Ditch containing prehistoric sherds and a pit with residual LBA/EIA and Roman pottery in Trench 6

Berechurch Dyke

The major defensive linear ditch on the east edge of Roman Barracks is known as Berechurch Dyke. This dyke is currently thought to mark the eastern edge of the *oppidum*. Some parts, where the earthwork bank survives extant, are designated as a Scheduled Ancient Monument. However, the length that passes through GAL Area S1 was thought to consist only of the silted ditch and is therefore not scheduled. No excavations had taken place along this particular length of the dyke until the present project.

Table 1.5 Berechurch Dyke.

Area	Reference number	Feature	Artefacts
S1, S2 North and S2 South	SAM no 10	Berechurch Dyke	Late Iron Age/early Romano-British (south of proposal site)

Hinterland and suburbs of the Roman town

Romano-British cemeteries

The Roman cemeteries were the most archaeologically significant and predictable resource on the GAL sites, particularly due to their propensity to contain a substantial number of burials. It is well-known that the area south and south-west of the Roman town was the main focus for Late Iron Age and Roman period burial (*CAR* **9**). Due to the retention of its 19th-century form and a lack of opportunity for modern archaeological investigation this area of the Garrison has been less extensively explored and probably less-disturbed than the heavily-urbanised Victorian suburbs south of Lexden Road and north-west of Butt Road, where many hundreds of inhumations and cremations have been recovered (CAT Report 97, map 4). Therefore the distribution and character of the burials within the historic area of the Garrison was less well-understood than elsewhere. However, enough was known prior to this project, in particular as a result of the excavations on the sports ground at the Abbey Field, to demonstrate that extensive Roman cemeteries did exist in this area (CAT Report 138).

It was also clear that the distribution of burials, through often found by chance by workmen, was uneven. Where they have been encountered – as at the Abbey Field sports ground or in the north-western and north-eastern parts of the Le Cateau Barracks – they occur in dense clusters of cremations and/or inhumations. There are also clear gaps between the areas where burial finds occur – for instance no burials are known from the Cavalry Barracks or Goojerat Barracks; they have only been recorded on the western fringe of the Meeanee Barracks; and there are no recorded burials from all but the north-eastern corner of Flagstaff House. While gaps are apparent in these areas closer to the town, equally there seem to be outlying groups of burials well to the south, such as those found around the Sobraon Barracks, including a group on Somme Road – the furthest south of the known burials.

The funerary sites, prior to the present investigations, were characterised primarily by cremations in jars, normally of 1st- to 3rd-century AD date, and/or inhumations dating to the 3rd-4th centuries AD. Wherever significant areas have been excavated, such as in the Abbey Field sports ground or at the Butt Road cemetery (*CAR* **9**, 4-163), the cemeteries have been divided into rectilinear plots, very probably relating to family groups. While most inhumations seem to have been buried in wooden coffins, as indicated by the presence of nails, a significant number were buried in lead or lead-lined coffins. Stone coffins have also been found but are rare. Inscribed and carved funerary stone monuments have been found in the concentration of burials around Colchester Royal Grammar School and Essex County Hospital, again to the north-west of the Garrison where a Roman temple-tomb was found recently (CAT Report 345).

Table 1.6 Previously known Romano-British funerary activity within GAL sites.

Area	Reference Number	Feature	Details
A1	UAD re.1057;	Coffin burial	Lead coffin
	UAD ref.1080;	Cremations	Cremation vessels
	AF1002	Burial	Inhumation
B2	UAD ref.3019	Burials	34 Roman inhumations found at a depth of 1m+
B1	UAD ref.1197	Burial	Burial marked on 1882 map
C2	UAD ref.10	Burials	Inhumations with beakers and flagons
	UAD ref.1069	Burial	Cremation urn
E	UAD ref's 1110 and 1098	Burials	Reports of extensive cremation cemetery (probably wrongly allocated Abbey Field burials)
H	UAD ref.1033	Possible tomb	Roman foundations, perhaps a tomb
J1	UAD ref.1022	Burial	Cremation urn
	UAD ref.1023	Burial	Cremation urn
	UAD ref.1095	Burial	Burial shown on 1888 map
	JF106-8	Burials	Inhumation and cremation burial in Eval.Trench J1
	JF605-6, 608-9, 616	Structures: mausoleum?	Eval.Trench J6
	JF803	Pit	Eval.Trench J8
O	UAD ref.1073	Burials	Burials found when huts built immediately north of Circular Road South
	UAD ref.1055	Burials	Three Inhumations including a lead coffin

Roman settlement and roads

Despite the high concentration of burials in the area to the south and south-west of the Roman walled town, there is also substantial evidence for non-funerary activity in the area. A number of kilns have been found, although not within any of the GAL sites, including a tile kiln found during the construction of the NAAFI Club to the west of Area C2. There are also signs of significant settlement, much of which has been discovered recently during Stage 1a evaluation trenching on the Garrison site in 2002. These include a series of finds (in GAL Areas A1, B1a, B1b and B2), including robbed walls, metalled surfaces, building materials and animal bone. Domestic finds within pits and ditches in particular point towards the presence of settlement in the area of the former St John's Abbey precinct. The presence of extra-mural settlement on the St John's Abbey site is, perhaps, to be expected, given the topographical dominance of the town by the ridge on which it stands.

Crucial to an understanding of both settlement and burial distribution is the Roman road network. The only previous direct evidence for road alignments in the area of the GAL sites is a possible north-south 'trackway' found during the excavations of 2000 on the Abbey Field sports ground (CAT Report 138). However, since the co-axial arrangement of ditches was located within the cremation cemetery area they could simply relate to plots and an access track of the cemetery. Nevertheless, the north-south alignment fits into a pattern of an orthogonally-orientated landscape features and walls in much of the area to the north of Circular Road South. This forms a marked contrast with the field boundaries and structures further south – for example the villa at Kirkee McMunn Barracks and the droveways and field boundaries of the Late Iron Age/Roman field system on either side of Berechurch Hall Road. These are all aligned broadly south-west to north-east. This indicates a distinction (kink) in orientation of this landscape between the agricultural and suburban funerary landscape with the latter (which may also be slightly later) correlating with the orthogonal grid of the town and its walls (RPS 2004a).

One probable road line is that of the east-west road running from the site of Colchester Royal Grammar School towards the Hythe waterfront on the River Colne to the south-east of the town. Trenches 1 and 2 in Area B1a (of the Stage 1a 2002 investigation) were both close to the projected line of this road. While neither encountered direct evidence for the presence of the road, they both contained significant evidence for nearby Roman settlement, perhaps indicating roadside activity. A road leading south from the 'South Gate' would presumably have broadly followed the course of Mersea Road. The location of the later Abbey precinct and the distribution of Anglo-Saxon burials may be influenced by the survival of a road on this line. While the existence of the road network does require further substantiation through the on-going programme of archaeological fieldwork, the distribution of burials was considered likely to have been primarily alongside roads and trackways. The cemeteries on either side of Butt Road and those in the Le Cateau Barracks area can be seen to be focused on the road leading south from Head Gate. The outlying inhumations on Somme Road well to the south would have fallen broadly on the line of this road. The burials at the north-east corner of the St John's Abbey compound and scattered burials further south can mainly be understood as being related to the South Gate road on the line now followed by Mersea Road.

Table 1.7 Previous Roman settlement evidence within GAL areas .

Area	Reference Number	Feature	Details
A1	AF1001	Ditch	Redeposited Roman building materials: brick, tile and septaria
B2	UAD ref.1122	Stray find	Pipeclay model of figure in a bed
B1a	BF106-7, 109	Pits	Features containing Roman pottery in Eval Trench B1
	BF203-3, 206	2 ditches, pit	Features containing Roman pottery in Eval Trench B1
B1b	DBA ref.10	Pits	Roman tile, pottery, oyster and animal bone
	BF605/13	Pit	2nd-century Roman pottery, brick, tile, septaria and *tessera*

Anglo-Saxon, medieval and post-medieval activity

Anglo-Saxon settlement, church and burials

While relatively little Anglo-Saxon material has been found within the GAL sites, there are significant sites immediately east and north of Areas B2 and B1b and immediately north of Area A1. Most significant is the Anglo-Saxon church of St John, which pre-dated the AD 1095 foundation of the Norman abbey of St John. St John's church was found within the later precinct of St John's Abbey in 1972 (immediately north of the north-

eastern corner of what is defined in this report as Area B2; *CAR* **9**, 203-235). It is possible that the remains of the Anglo-Saxon suburbs may also fall within the later St John's Abbey precinct.

On the opposite side of Mersea Road from Area A1 (St John's Abbey), at no 10, a group of early Saxon inhumations (5th-7th century AD) were disturbed during construction work in the 19th century. Traces of a cemetery of this date were found further south, immediately to the north of the Meeanee Barracks (GAL Area A1), in 1926. This cemetery seems to have extended south into the north-western corner of Area A1, where an Early Saxon cremation burial has been found. The distribution of these burials to the east of Mersea Road is unlikely to be a coincidence and further reinforces the probability that this runs along the line of a Roman road which continued in use into the Anglo-Saxon period. It is therefore possible that more burials are located in the north-western corner of Area A1. Area A1 comprises part of Phase 5 of the GAL development.

Table 1.8 Previously known Anglo-Saxon church/burials within GAL areas.

Area	Reference number	Feature	Artefacts
A1	UAD ref.345, DBA ref.14,	Cremation burial Disturbed inhumation Stray find	Early Saxon pot Fragments of skull, assumed to be Saxon Middle Saxon pottery
B1a	UAD ref.1181	Stray find	Coin of Ethelred

Medieval settlement, abbey and burials

The Benedictine Abbey of St John was founded by Eudo close to the site of the Anglo-Saxon church of St John in 1095. It was completed in 1115, burnt down in 1133, and then rebuilt in the early 13th century. A wall surrounding the ecclesiastical precinct had been built by the 13th century and further additions were made in the 14th and 15th centuries. The Abbey was dissolved in 1538, although historic maps indicate that many of its buildings remained standing well into the 17th century. The main gatehouse was built in the 15th century and still stands in the centre of the north side of the precinct wall, although much of it was rebuilt following the siege of Colchester of 1648 (CAT Report 97, 23).

The archaeology and topography of the Abbey and medieval monastic buildings has not been investigated to any significant degree. Its walled precinct is represented by Areas B2, B1a and much of B1b, where the southern wall of the precinct runs along the north side of the car-park in the south-eastern corner of the area. Most of the precinct, except for the south-western portion (which has been built over by the administrative buildings of the Garrison's Flagstaff House), is a scheduled ancient monument (SAM no 26307).

Excavations carried out at the north-eastern corner of the precinct (north of the GAL sites), when it was removed to make way for the St Botolph's roundabout in 1972, revealed the foundations of the original, pre-Norman church of St John (*CAR* **9**, 203-235). These investigations, together with documentary evidence, indicated that, following the fire of 1133, the monastic buildings to the north of the Abbey church were rebuilt on its south side, where substantial levelling took place. The material removed as part of this levelling operation seems to have been dumped to the north of the Abbey, sealing the remains of the earlier church and a late Roman inhumation cemetery. On the basis of this information, the Abbey church almost certainly stood in the northern part of Area B2, with cloisters, chapter house and domestic buildings probably in the north-eastern part of Area B1b. A number of medieval burials were also found in this area.

Table 1.9 Previously-known medieval abbey remains within GAL areas.

Area	Reference number	Feature	Details
B1a	UAD ref.343	Abbey gatehouse	15th century – partially rebuilt sometime after 1648
B2	UAD ref.1194 SAM no 26307	St John's Abbey	Completed 1115; burnt down 1133; rebuilt early 13th century; dissolved/partially abandoned 1538; some of the buildings presumably reused in private house until 1648

Civil War defences

The St John's Abbey precinct was used as a fortified Royalist stronghold during the Parliamentarian siege of Colchester in 1648. Remains of these defences were considered likely to exist around the line of the precinct walls in Areas B1a, B1b and B2 (Phases 3-5 of the GAL development project).

During the siege the Parliamentarians built a string of forts around the town linked by a substantial ditch and bank. The precise line of these fortifications has never been established. A contemporary map (the 1648 Siege map of Colchester) indicates their probable alignment, although it contains some errors and inaccuracies which make any precise assessment impossible. Recent geophysical survey failed to locate the Parliamentarian defences.

Table 1.10 Previously known Civil War defences within GAL areas.

Area	Reference number	Feature	Details
B2, B1a and B1b	SAM no 26307	Royalist Civil War fortifications of the Abbey Precinct	1648
J1, E and A1	DBA ref.16	Parliamentarian siege works	Location of 'Fort Needham' on Mersea Road near the football ground (Area E)

Colchester Garrison

19th-century buildings

A number of the older buildings of the Garrison are of historic interest, particularly the original portions of the Le Cateau Barracks, elements of which are Grade II listed, and the Cavalry Barracks. It should be noted, though, that heritage issues relating to standing buildings do not fall within the investigations discussed in this document.

Table 1.11 Historic buildings in the Garrison.

Area	Reference number	Feature	Details
J1, H	DBA ref.35	Le Cateau Barracks	Cavalry Barracks built in the 'Aldershot style' in the mid-1860s, extended eastwards in 1903-5; the Riding School, Officers' Mess and original Stables Blocks are Grade II listed
J2, K1 and K2	DBA ref.38	Cavalry Barracks	Barracks built in 1861: oldest 'Aldershot-type' barracks in UK

Twentieth-century military activities, including World War I and World War II military training and defence

A number of second world war air-raid shelters are known to exist in the northern part of the site, including six bunkers in Areas E along the western side of Mersea Road three bunkers within Area C2.

Table 1.12 World War I and II training and defence.

Area	Reference number	Feature	Artefacts
E, C2	Pill-box refs in DBA	Pill-boxes and air-raid shelters	

Research potential

The remains summarised above contain elements of a number of different suburban and rural landscapes, including the following: 1) rural settlements, trackways and field systems pre-dating the '*oppidum*'; 2) field systems and settlements contemporary with and forming part of the *oppidum*; 3) portions of the southern suburbs of the Roman town, dominated by cemeteries, but with some industrial components and elements of the agricultural landscape beyond; 4) part of the hinterland of the late Anglo-Saxon town, probably including cemeteries and the ecclesiastical compound of St John's Abbey; 5) the medieval precinct of St John's Abbey; 6) buildings and fortifications in the post-medieval southern suburbs, including the Civil War

defences, houses and other buildings in the former St John's Abbey precinct; 7) historic elements of Colchester Garrison.

On this basis, the GAL sites have been divided into three areas with different types of archaeological potential (RPS 2004a). Areas reported in this document are highlighted in bold):

***Group I**: Areas A1, A2, B1(a and b), B2, **C1, C2, E**, H, **J1**. These represent the immediate suburban fringe of the Roman, medieval and post-medieval town. These areas all fall into a zone within approximately 800m of the city walls and the archaeology that is found within them reflects this proximity. During the prehistoric period, the zone would have been simply part of the wider rural landscape as is apparent further south, although the ridge to the south of the town centre may have been favoured due to its topographical position and its relative proximity to resources and communication provided by the River Colne. There is no evidence to indicate that this zone was in any way differentiated during the period of the Late Iron Age* oppidum*. It was therefore considered likely, assuming that the field system was established before the Roman conquest, that the same types of field system and droveways seen on the new garrison site extended northwards onto these sites. From the period of the foundation of the Roman town onwards these areas contained cemeteries, industrial installations, the medieval precinct of St John's Abbey (and its Anglo-Saxon predecessor), roads, Civil War siege fortifications, and possibly some peripheral settlement.*

***Group II**: Areas J2, K1, K2, L, N, **O**, P1, and P2. These areas, from the Roman period onwards, lay at the interface of the rural and suburban landscapes described above. They occupy the zone that lies between 800 m and 1,300m from the Roman walls. As with the Group I sites, there is little indication of the nature of the landscape during the prehistoric period. It was considered that the Late Iron Age/early Roman field system recorded on the new garrison sites may have extended this far, although the evidence is so far unclear on this point. Indeed, at present, almost nothing is known about the archaeology of these areas. The limited Phase 1a evaluation trenching that has taken place has largely failed to locate significant features. Archival records indicate only very sporadic Roman burials, such as those on the southern edge of Area O, which may well relate to the lines of former Roman roads. During the Anglo-Saxon and medieval periods, this area was firmly part of the town's rural hinterland, only becoming absorbed into the urban fabric in the late 19th and earlier 20th centuries.*

***Group III**: Areas **Q, S1**, S2 North and S2 South. These areas essentially fall within the same zone of rural archaeology as the sites investigated on the new garrison. This indicates that they are likely to contain sporadic earlier prehistoric archaeology – specifically the evaluations have indicated the presence of Late Bronze Age/Early Iron Age activity, and possible settlement, in Areas S1 and S2 – as well as the field systems associated with the Late Iron Age* oppidum*. Crucially, one of the main boundary dykes of the* oppidum *(although as with many of the smaller field ditches investigated it may have been constructed as late as the early Roman period) – the Berechurch Dyke – runs along the boundary separating Area S1 from Area S2. This stretch of the dyke is not a Scheduled Ancient Monument, unlike the stretch immediately to the south, largely because there is no upstanding earthwork boundary. Nevertheless, it is part of the nationally important dyke network of the* oppidum*. Investigation of these areas was considered to have potential to provide an opportunity to examine the nature and date of this portion of the dyke and reveal any distinction between the Late Iron Age/Roman rural landscape inside the* oppidum *(to the west) and outside of it (to the east).*

Aims and objectives

The **research potential** of the above archaeological remains has been fully explored in Research Design for Archaeological Evaluations, Excavations and Watching Briefs on GAL, new garrison, Colchester (RPS 2004a).

The **overarching research aims** for the GAL Archaeological Project were:

Aim 1: *To characterise the nature of landscape utilisation and change from the Neolithic (or earlier) to the Romano-British period*. A central theme of the Colchester Garrison GAL archaeological project is the development of the landscape to include the following:

1 - the evidence for early agricultural clearances in the Neolithic period,
2 - burial patterns and the creation of funerary monuments in the Late Neolithic-Middle Bronze Age,
3 - the potential establishment of planned and 'owned landscapes' by the Late Bronze/Early Iron Age,
4 - the creation of the *oppidum* in the Late Iron Age and
5 - the effect of the establishment of the Roman town, and specifically the growth of cemeteries, on the agricultural hinterland.

Aim 2: To characterise the Roman, Anglo-Saxon, medieval and post-medieval extramural suburbs of Colchester, their relationships to one another, the town and the countryside. The study of Colchester's suburbs within the GAL sites will involve consideration of the following:
1 - strategies employed by the Romans to incorporate the new city within the existing landscape of the Late Iron Age *oppidum*,
2 - the character of the Roman suburbs, looking at how funerary, industrial, rural and settlement functions were combined and/or separated,
3 - evidence for suburban activity and/or settlement during the Anglo-Saxon period, considering particularly the impact of St John's church on areas to the south falling within the GAL sites,
4 - the development of medieval suburbs and specifically the ecclesiastical precinct of St John's Abbey,
5 - post-medieval changes, specifically the abandonment and re-use of structures within the St John's Abbey compound, and the impact of the Civil War in the form of the Royalist fortifications at St John's and Parliamentarian siege works further south.

More specific project aims for the GAL archaeological project are provided and discussed in detail within the discussion section below.

Methodology

The archaeological investigations analysed here are part of a continuing strategy to mitigate the impact of development on the archaeological resource in the area of the Colchester Garrison Alienated Land (GAL) sites. The strategy (RPS 2004b) was agreed with Colchester Borough Council and English Heritage The Archaeological Project Strategy Proposal was based on guidance set out in *Planning Policy Guidance Note 16, Archaeology and Planning* (DoE 1990).

All site work and report writing was undertaken by a team of professional archaeologists, and according to CAT's *Policies and Procedures* (2000) and the standards set out in Colchester Borough Council's *Guidelines on standards and practices for archaeological fieldwork in the Borough of Colchester* (CM 2002) and *Guidelines on the preparation and transfer of archaeological archives to Colchester Museums* (CM 2003), and the Institute for Archaeologists' *Standard and guidance for archaeological field evaluation* (IfA 2001a) and *Standard and guidance for the collection, documentation, conservation and research of archaeological materials* (IfA 2001b). The guidance contained in the documents *Management of archaeological projects* (MAP 2), and *Research and archaeology: a framework for the Eastern Counties 1. Resource assessment* (EAA **3**), *Research and archaeology: a framework for the Eastern Counties 2. Research agenda and strategy* (EAA **8**), and *Standards for field archaeology in the East of England* (EAA **14**) was also followed.

The method statements for the completion of Taylor Woodrow's commitment to provide up to 3% evaluation samples of their Phase 1 and 2 areas is detailed in a series of Written Schemes of Investigation for the by RPS in association with CAT (see Bibliography). RPS then developed mitigation strategies to the satisfaction of CBC to mitigate the impact to significant archaeological remains within Areas C1, C2, J1, O, Q and S1 with a watching brief for various service works. The archaeological fieldwork for Phases 1 and 2 took place in 2004-2007 as follows:

Area C1 and C2:	May 2004 to August 2004
Area E:	May 2004
Area J1:	October 2004 to February 2005
Area O:	May 2004
Area Q:	June 2004 to August 2004
Area S1:	May 2004 to July 2004
Time Team trenches:	February and March 2005
Watching brief	February 2005 to January 2006
Napier Road	August 2006 to September 2006
Circular Road North	January 2007 to April 2007
Area J1 North watching brief	February 2007
Area C2 watching brief	April 2007 to October 2007

The methodology as outlined in the WSIs for each of the areas is as follows:

A 360-degree tracked mechanical excavator utilising a toothless ditching bucket under the supervision of an EOD engineer and a CAT archaeologist. No potentially significant archaeological deposits were removed prior to recording, sampling (if necessary) and an adequate understanding of their character. Following the overburden stripping, temporary bench marks were surveyed with respect to an Ordnance Survey datum and

all features and deposits were recorded relative to their OD height. The exposed surface/natural was hand cleaned sufficiently to define any archaeological features present. Complex areas of archaeology were planned by hand, usually at a scale of 1:20 (or 1:10 with burials). These plans were located via total station, scanned, vectorised and imported via CAT's CAD programme on the OS grid-based plan. Less complex areas of the site (where features were absent or rare and of simple form) were planned using a total station with the data input directly onto CAD and the OS tiles. Single context recording was used where appropriate, ie complex sequences of deposits or features. A uniform site plan has been produced showing all site features.

The following sampling strategy was adopted to ascertain the nature, depth, date and state of preservation of archaeological features as well as the stratigraphical relationships of these deposits and features to one another.

(i) Normally 50% of all pits and other discrete archaeological features were excavated. Pits were fully excavated if they were particularly rich in environmental and/or artefactual evidence, and where this contributed to the research aims.

(ii) 20% of all exposed lengths of ditches, including enclosure ditches, were excavated. The segments were placed to provide adequate coverage of the ditches and included excavation of all terminals and intersections.

(iii) 25% to 100% of ring gullies, to include the terminals and sections along each side of the gully, were excavated.

(iv) Stone structures were excavated in sufficient detail to establish their construction sequence and sequence of repairs or extensions.

(v) *In situ* areas of burning and burnt features were fully excavated (and bulk sampled).

(vi) Animal and human burials, including cremations, were fully excavated. A licence from the Home Office was acquired. The discovery of human remains was reported to the local coroner. Other structured or placed deposits (including a coin hoard) were recorded and retained as 'small finds'.

(vii) Metal detectors were used to scan for metal finds on spoil heaps and excavation areas.

The following procedures were always initiated:

All features were planned post-excavation by means of a total station or by hand.
All sectioned and excavated archaeological features were drawn at an appropriate scale.
All archaeological features, layers or deposits were allocated unique context numbers.
All archaeological features, layers or deposits were recorded on pro-forma context sheets.
On-site matrices were compiled during the excavation.
An adequate photographic record was made of all archaeological features and deposits.
A record has been maintained of all site drawings and these form part of the archive.

Treatment of environmental samples

CAT was advised by Peter Murphy (EH Regional Advisor in Archaeological Science). In consultation with Val Fryer, any potentially rich environmental layers or features, in addition to all reliably dated deposits, were bulk sampled. These were assessed by Val Fryer. Bulk sampling has been used to collect charcoal for potential C14 dating and for all cremations and related deposits. A strategy of pollen analysis was agreed with Patricia Wiltshire. The aim was to identify a number of deep contexts from which soil columns or bulk samples could be extracted for pollen analysis. Only one potentially suitable deposit was encountered.

Site codes

For purposes of deposition of the archive, a museum accession code has been obtained through Colchester and Ipswich Museums. This was used as the site code. All finds of potential treasure were removed to a safe place, and the coroner informed in accordance with the rules of the Treasure Act (1996).

Excavation results by site

Area C1

Introduction (Figs 1.4-1.9)

Area C1 comprised a 0.32ha triangular area located within the angle of Flagstaff Road and Napier Road, to the west of Flagstaff House (NGR: TL 9960 2460; Fig 1.4). The site included tarmac parking and grassed areas, and a large Garrison Civil Service Club building which was demolished ahead of the archaeological investigation.

In addition to contributing to the over-arching research themes (as set out above), the primary objective for Area C1 was to establish the presence/absence of human burials, to establish whether the site was rural or domestic in character, and to the presence/absence of structural remains on the site.

Archaeological investigation of Area C1 began with a trial-trenching evaluation comprising three trenches totalling 74m in length (CAT Report 271). The evaluation demonstrated that the former Civil Service Club construction had been particularly destructive to archaeological horizons and only the lower parts of deep ditches survived below its concrete base. The best-preserved archaeological horizons lay to the east of the demolished Civil Service Club building and comprised a pair of robbed-out wall footings and evidence of prehistoric pitting. RPS, in association with CAT, then formulated a mitigation excavation design, agreed by CBC, comprising of an area of 292m².

Period 1 – Palaeolithic and Mesolithic

There is no evidence of activity in Area C1 in this period.

Period 2 – Neolithic

The earliest evidence of activity on Area C1 dated from the mid to the late Neolithic period (Figs 1.4-1.5). This consisted of six pits (CF10, CF11, CF15, CF23, CF72, CF75) which formed a ‘cluster’ and clearly represented a single phase of activity. The pits were typically shallow with diameters of under 1m; they had all been neatly cut and their fills were homogeneous in terms of colour and texture indicating short periods of deposition. In addition there was little evidence of weathering of the pit sides. Therefore the extended or repeated use of these pits, for example for seasonal storage during the agricultural cycle, seems unlikely. The pits contained Peterborough ware and Mildenhall ware pottery sherds in addition to several pieces of worked flint, burnt flint and a single fragment of mammal bone. None of the worked flints from the pits (or found residually within later features) were diagnostic, and the assemblage probably represents waste material from mid-late Neolithic flint-knapping activity on the site (Martingell, this report). Environmental evidence recovered from fills of two of the pits revealed that the material contained within them was mainly derived from 'domestic' hearth waste (Fryer, this report).

Several nearby but undated features (pits CF73, CF76, CF89 and ditch CF69) may also belong to this period of activity. A quantity of cattle bone with cut/chop marks and general butchering evidence was recorded from pit CF73 but the other two pits produced no finds. However, Sealey (this report) has noted that several other Neolithic sites with so-called 'empty' pits have been associated with the dated activity. Several finds of a mid-late Neolithic date were also recorded residually within later features. This material consisted of a single pottery sherd and several pieces of flint debitage.

Artefactual evidence from the six Neolithic pits, the four associated features and the residual material indicates that Area C1 was utilised for settlement/domestic activities in the mid-late Neolithic period, and therefore these represent the earliest indications of habitation so far excavated in Colchester (there were late Neolithic pits on the Culver Street site (*CAR* **6**, 37)). Too little evidence was recorded from Area C1 to fully define the extent and significance of the mid-late Neolithic features and deposits, but the evidence would indicate that the high ground at the northern edge of the Abbey Field was an area of settlement and associated activity in the period. There is little hard evidence for when forest clearance or managed woodland began within any of the northern GAL sites, but the existence of a mid-late Neolithic settlement area on the ridge indicates that localised areas on the gravel terrace, at least, were cleared periodically. These settlements are likely to have been transitory and intermittent, even seasonal, and these areas would thus have reverted to woodland again.

Periods 3-4 – Bronze Age and the Early to Middle Iron Age

There is no evidence of activity in Area C1 in these periods.

Pre-Period 6 – pre-Roman

Three minor undated ditches were excavated in Area C1. One was truncated by the Roman circus and sealed by its associated Roman metalled surface. Thus, although undated, this stratigraphical relationship indicates that they were either pre-Roman or early Roman in date. Similar field boundaries recorded on the Garrison sites have been associated with the Late Iron Age to early Roman landscape and these ditches may represent similar activity.

Two of the ditches (CF77 and CF80) were orientated along the same general alignment with a 11m-wide gap between them (Fig 1.5). The first ditch extended from the south-east corner of the excavation area, in a north-westerly direction, for a distance of 6.3m. After the gap, the second ditch continued in a north-westerly direction beyond the western edge of the site. The third ditch (CF70) was at a right-angle to the other two, was orientated north-east to south-west, and extended from the north-east corner of the excavation area and terminated in the centre. The ditch layout implies that they formed contemporary boundaries of three fields or plots. Field 1 would thus have been located in the north-west corner of the excavation area, Field 2 along the east edge and Field 3 in the south-west corner. The gap between the three ditches, in the centre of the excavation area, is likely to have formed an entrance into each of the fields or plots. It is of interest to note that the orientation of this landscape fragment is oblique to the Roman circus which overlays it, a factor which may favour a pre-Roman date.

Period 6 – Roman

Roman circus

Area C1 was dominated by two parallel robber trenches (CF6 and CF7; Figs 1.6-1.9) representing the remains of the north *cavea* (seating structure) of a Roman circus. They were aligned east-west and were 4.4m apart. The trenches were excavated over a distance of 12m, and both evidently continued in both directions beyond the edges of the site. Excavation showed that the northern foundation had been the wider and deeper of the two and that it had been strengthened externally by buttresses, two of which could be identified. The northern robber trench (CF7) was about 0.8m wide and 0.3m deep whereas the equivalent measurements for the southern one (CF6) were approximately 0.6m and 0.07m respectively. Both robber trenches had vertical sides and flat bases. In common with the rest of the foundations, both buttresses had been completely robbed out. However they appeared to have been 6m apart and to have projected approximately 0.95m north of the north wall. One of the buttresses demonstrated a complete width of 3.8m. The width of the other one could not be determined because only its western portion lay within the excavated area. The robber trenches contained lumps of broken mortar along with fragments of greensand and Roman

brick. This material was presumably derived from the walls and foundations and must represent debris not kept by the stone robbers.

A gravelled area containing fragments of Roman tile lay on the immediate north side of the *cavea* and butted up against the northern wall (Plate 1.1). Its northern and western limits were not clearly defined but the gravelled area seems to have gradually petered out, presumably because it has been destroyed or eroded in the post-Roman period. The metalling only survived in the eastern part of Area C1 and did not extend westwards much beyond the eastern side of the evaluation trench C1T4 or beyond 4.5m north of the north foundation of the *cavea*.

The gravelled area was of two distinct phases: 1) an early phase (CF91) which had become patchy; and 2) a second phase (CF78) laid above the first. Two parallel, east-west, shallow grooves (CF87 and CF93) cut the second phase of metalling. These grooves were 1.4m apart, as if they represent wheel ruts caused by Roman carts which had run across the surface. The location of the metalled surface in relation to the northern wall leaves little doubt that the two were contemporary. More of the gravelled area was found in trench WBT4, 10m east of Area C1.

The gravelled area and the grooves were sealed by a layer of brown sandy loam rich in demolition debris in the form of fragments of crushed lumps of mortar (CL18; Fig 1.9). This deposit contained a small quantity of pottery sherds indicating a late 2nd to late 3rd century date for the group. (See discussion for the dating evidence.)

Two other features on the site are also likely to be associated with the circus. They are a single post-hole (CF96) between the buttresses on the north wall and a second post-hole (CF88) sealed by the robber trench along the inner wall of the *cavea*. The former cut the gravelled area and was sealed by the destruction debris CL18. Its position is equivalent to some post-holes found in Area C2 along the south side of the *cavea* where they appear to have been holes for scaffolding.

Three small pits of possible Roman date (CF2, CF4, CF95) lay to the north of the *cavea* and thus were outside the circus. Another two (CF19, CF67) lay within the area of the arena. The dating evidence for all five pits is limited so that, given the number of similar definite post-Roman features in the area, it is possible that some or all of these pits are also post-Roman. Similarly, a pit (CF12) and a small pit (CF14) lay between the foundations. There were no datable finds in the smaller pit, and the larger one only contained a single sherd of pottery no more closely datable than simply Roman. It is therefore possible that both features were post-Roman.

Plate 1.1 Metalled surface CF78/CF91 and robber trench CF107, Area C1.

Other Roman activity

Other Roman activity on Area C1 consisted of seven pits, one ditch, one pit/ditch and a greensand stone spread. Few of these features contained firm dating evidence and it is uncertain if they were contemporary with the Roman circus or if they were earlier/later in date. Notably there were no burials within Area C1 on either side of the parallel walls. It is notable that Area C1 also produced the latest issue coin from the vicinity of the Roman circus, an unstratified half-*siliqua* of Honorius (AD 393-402).

Period 7 – medieval

Four medieval features were recorded in Area C1. These features consisted of the two robber trenches (CF6 and CF7), a spread of mortar (CF5) and a layer of demolition (CL18). The robber trenches had completely robbed out the two east-west orientated walls of the Roman circus (*see* above), and the spread of mortar and demolition layer appear to have been associated with this activity. None of these features were securely dated. Layer CL18 contained pottery dated from the 17th to the 18th century but, when compared to the features associated with the robbing of the Roman circus on the other GAL sites, this date is much later. Therefore either this section of Roman foundation remained intact until robbing in the 17th/18th century or, as seems more likely, the sherds are intrusive.

Period 8 – post-medieval

Post-medieval activity on the site is represented by nine small pits and two ditches. The two ditches (CF51 and CF52) within evaluation trenches C1T6 and C1T5 respectively, appear to be on the same alignment and are probably segments of the same field-boundary ditch. Pit CF8 and ditch CF51 both contained pottery dated to the 17th to the 18th century. It is assumed that the other eight undated features also belong to this period of activity. The presence of these features indicates that some small-scale agricultural and domestic activity occurred on the site in the 17th and 18th centuries.

Period 9 – modern/military

The modern/military features recorded on the site included five service trenches, two soakaways, one pit, one ditch and an area of disturbance. All of these were probably associated with the now demolished building of the Garrison Civil Service Club.

Undated features

The undated features recorded on the site consisted of seven pits (from C1T4 and the excavation area), one slot (from C1T4) and one hollowed cobble path (from C1T6).

Area C2

Introduction (Figs 1.10-1.17)

Area C2 comprised a 0.68ha, roughly triangular area in the angle of the crossroads between Napier Road and Circular Road East, to the south of Flagstaff House (NGR TL 9975 2447; Fig 1.4). The area included tarmac parking and grassed areas, single-storey military huts and other facilities. The buildings were demolished ahead of the archaeological investigation. Full recording of two extant World War II air-raid bunkers located in the northern area of the site, adjacent to Napier Road, was conducted by CAT in May 2004 ahead of their removal (CAT Report 319). Two further previously-levelled bunkers were found within the excavation area (see below).

Archaeological investigation of Area C2 began with a trial-trenching evaluation (CAT Report 271) comprising three trenches totalling 70m in length. Following positive results from the evaluation, including the excavation of seven burials, RPS, in association with CAT, designed and agreed a mitigation excavation area of 1,950m² with CBC. As well as contributing to the over-arching research themes (as set out above), the primary objective for Area C2 was to establish the presence/absence of and then record any human

burials within the impact area, to establish whether the site was rural or domestic in character, and to establish whether there were any buildings or other structures on the site, in the form of walls, post-holes, gullies, etc, and, if so, to preserve them by record.

The southern evaluation trench contained a lead coffin inhumation and four urned cremations; this flanked the southern edge of the area and was not included within the excavation area due to a client undertaking to provide preservation *in situ* for the archaeology in these locations by raising construction levels for car-parking. Similarly, the eastern trench, which contained two Roman ditches, is to be avoided by construction. The excavation area was placed centrally to Area C2 between a series of protected trees.

Period 1 – Palaeolithic and Mesolithic

There were no certain features of a Palaeolithic or Mesolithic date, but a single Palaeolithic flint flake fragment and seven flint blades of either Mesolithic or Early Neolithic date (Martingell, this report) indicate that there was some activity in this area in these periods.

Period 2 – Neolithic

No features of a Neolithic date were identified on the site. However, seven flint blades of either Mesolithic or Early Neolithic date, a bifacial flint flake of Neolithic date and several residual pieces of Late Neolithic pottery were found here. This may indicate that there was some activity here in the Neolithic period potentially associated with the pitting in Area C1.

Period 3 – Bronze Age

The earliest cut feature on Area C2 dates from the Early to Middle Bronze Age period and consists of an isolated pit (CF223). The pit measured approximately 0.80m in diameter and 0.28m deep, and its fill was homogeneous, indicating a single period of accumulation. It contained a single Peterborough ware sherd, a quantity of Beaker pottery and burnt 'domestic' refuse. This material is unlikely to be funerary-related despite the coincidence that the pit had been partially cut away by a Roman urned cremation burial (CF162) located in the centre of a Roman barrow. It is, however, possible that this apparently domestic material had been ritually deposited to placate chthonic deities, a practice thought to ensure the continued fertility of the land and natural resources (Sealey, this volume).

Periods 4-5 – Early-Mid Iron Age to the Late Iron Age/Early Roman

There is no evidence of activity in Area C2 in these periods. The lack of evidence, particularly residual pottery sherds that might imply manuring of arable lands, has implications for land use prior to the Roman period (see Discussion below).

Period 6 – Roman

Roman circus

The remains of the southern east-west orientated *cavea* crossed the far northern edge of the Area C2 excavation (Figs 1.10-1.11). The foundation of the outer wall (CF148) was relatively well preserved, whereas the inner foundation (CF247, found in a narrow extension trench; Fig1.10) had been completed robbed out.

The southern foundation (CF148) had been much the more substantial of the two and, although partially robbed out (CF107), most of it survived *in situ* (Plate 1.2). It was constructed of courses of greensand stone with some flint and septaria all set in mortar (Plate 3 and section on Fig 1.16). The foundation was approximately 0.85m wide, 0.5mm deep, had vertical sides with a flat base, and was traced for a distance of 12.5m. The wall had been strengthened by three buttresses on its southern (outer) side, as on Area C1. The foundations of the buttresses and the wall were built as one and to the same depth. The buttresses projected 1.4m to the south of the southern wall, were 1.9m in width (where fully exposed) and were built 2.4m apart. The remains of one of the buttresses survived to just above former ground level where its face proved to have been constructed with neatly squared off greensand ashlar blocks. This is the only surviving example of the wall facing within any of the circus investigation areas to date.

Plate 1.2 In situ circus cavea foundations CF148, Area C2.

Plate 1.3 Section across circus cavea foundation CF148, Area C2.

Various surfaces survived hard up against the south side of the circus. They consisted of two patches of greensand stone chippings (both numbered CF124), a small patch of a mortared surface (CF155), and a compacted metalled surface of gravel (CF159) sealed by demolition debris (CF142 & CL20). The layers of chippings were up to 0.10m deep and appeared to have been waste material left *in situ* by masons making ashlar to face the circus walls. They are the same type of chippings as those which characterise the fabric of the circus foundations and must have been laid when the walls were faced during the construction phase.

The metalled surface CF159 lay at 33.64m AOD and is presumably the equivalent of the metalled surface identified on Area J1 East (*see* below). There was no direct stratigraphical relationship between the stone chippings which presumably belong to the construction phase of the circus and the gravelled surface was presumably slightly later in date.

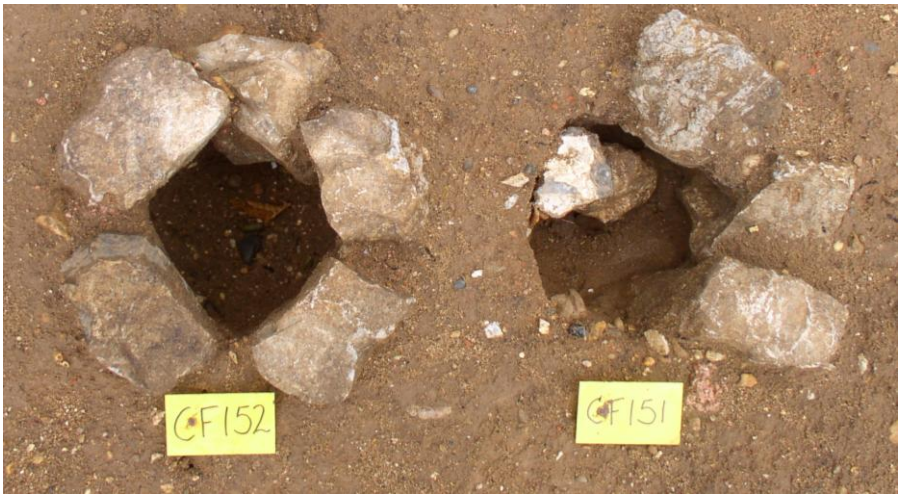

Plate 1.4 Stone packed post-holes CF151 and CF152, Area C2.

There were several other features and finds from C2 which appear to have been associated with the circus. These included four post-holes packed with greensand fragments (CF150-3; Plate 1.4) neatly placed between the buttresses and two square stone footings (CF157-8). The post-holes were probably used for scaffolding erected during the construction of higher outer *cavea* wall. They cut the hard surface comprised of chippings and curiously one of them (CF151) contained 487g of cremated human bone from an adult individual (over 20 years old) of indeterminate sex. It is uncertain whether the bone lay in the post-pipe or the packing material around the post, although the former is more likely (as a burial placed within the post-hole following dismantling of the scaffolding). Footing CF157 was 0.8m long, 0.43m wide, 0.3m deep and extended south from the eastern buttress (Fig 1.10). The footing consisted of narrow pitched greensand blocks and a flint nodule capped with white lime mortar and may have supported a decorative architectural feature. The footing CF158 appears to represent a repair or extension to the central buttress on its southern end and comprising placed but unmortared greensand blocks and two pieces of tile or brick. The footing was 0.61m long, 0.32m wide and 0.35m deep. The post-holes averaged 0.16m in diameter and 0.36m in depth. Finds from elsewhere include two pieces of column plaster which lay in a thin layer of demolition material spread over the southern wall (Plate 1.5). These fragments indicate that the circus incorporated columns. A small Roman ditch (CF258) lay parallel to the foundations and a metre north of CF148. It was 0.46m wide and 0.19m deep, and had a terminal end that curved towards the southern foundation. Nothing datable was found in the feature and its temporal relationship to the *cavea* cannot be determined. However since the ditch was parallel to the *cavea* it was clearly related to it in some way.

A 2m-wide extension to Area C2 was cut by machine immediately to the north of the *cavea* wall foundation to investigate whether or not the wall had a bank on its north side. Such a bank is possible because since there were no surfaces or floors on the north side of the wall but rather a light brown sandy clay loam deposit. Slight traces of a narrow, east-west robber trench were recognised 5.0m north of the buttressed foundation. These are now known to represent the remains of the inner foundation of the *cavea*. The robber trench (CF247) was approximately 0.6m wide and 0.12m deep and was uncovered over a distance of 2.0m.

No definite evidence was noted during the excavation for a ditch predating the outer foundation of the south *cavea* comparable to that found on Area J1 East in 2004-5 and on Napier Road in 2006. However, subsequent examination of the site photographs has revealed that this ditch was probably present on Area C2 and, like Napier Road, was flat-bottomed. This ditch also appeared to be present 30m west of CF148 where it was recognised during the watching brief on Area C2 in 2007.

Plate 1.5 Area C2 column plaster.

Roman burials and burial-related features

A total of 67 Roman burials and burial-related features were recorded to the south of the Roman circus within Area C2. (For individual plans, *see* catalogues of burials in the appendices below.) These features consisted of twenty-six inhumation burials (including a burial within a lead coffin), twenty-two unurned cremation burials, eleven urned cremation burials, five burial pits containing pyre debris, two boxed cremation burials and one disturbed unurned/urned cremation burial. One of the probable unurned cremation burials (CF167) was recovered from machine spoil. A disturbed inhumation (CF182) also contained a quantity of cremated bone. A total of thirty-six of these burial features contained datable burial goods, usually in the form of pottery vessels but also including coins and other small metal/non-metal finds. This dating evidence revealed that the burials on this site ranged in date from the early-mid 2nd to the 4th century, with the majority of the closely dated graves dating from the mid/late 3rd to the 4th century (supporting a later Roman date for the burial ground). The late date is confirmed not only by the pottery (see Benfield, this volume), but by the twenty-one Roman coins found in nine separate burials (seven unurned cremation burials and two inhumations).Twelve of these coins dated to the period AD 259-300 with only nine dating to before AD 259. Furthermore, all the early coins were recorded within burials which also contained other goods dated from the late 3rd to the 4th century and thus had been included as antiques. None of the burials on the site need date to earlier than AD 250, although it remains possible that a small number do, including the cremated remains associated with the circus scaffolding post-hole (see above). There is no evidence that the burial site continued in use beyond the 4th century.

Very few of the inhumation burials could be closely dated, making it impossible to fully compare the relative dating of the inhumations and cremation burials to ascertain whether one burial rite replaced the other, especially as several cremation burials and a small number of inhumations dated from the late 3rd to

the 4th centuries indicating that the two rites were in contemporary use. However, two instances of inter-cutting burial features were identified on the site and in both cases a later cremation had cut an earlier inhumation. This may indicate that the cremation burial rite was in use at a slightly later date than some of the inhumations.

A full list of descriptive burial terminology can be found in 'Archival data' below. This list provides a written description (including specialist reports on the human bone and any burial goods) for each burial or burial related feature, a plan and section or profile drawing of each, and the illustrated burial goods.

Burial plots

The 67 burials and related features from the site were divided into two distinct burial plots, which were delineated by two boundary ditches and a droveway or track. The northern boundary ditch, CF106, was orientated east-west and located 5m to the south of the Roman circus. It was a U-shaped, single phased ditch, which was recorded for a length of 26.2m and was approximately 0.80m wide and 0.23m deep (Plate 1.6). One definite entrance, 4.4m wide, was identified along the length of the ditch and a second possible entrance was identified at the western end of the recorded length (however modern activity over the area had removed any trace of the ditch continuing in this direction). No certain burials were recorded to the north of this ditch (excluding the possible cremation burial within the circus scaffolding post-hole). A second and more substantial boundary ditch, CF174, was also orientated east-west and was located 33m to the south of ditch CF106. The ditch was traced for a length of 33.4m, was approximately 2.2m wide and 0.61m deep, and had at least two phases (recut numbered CF226). A single terminal was identified at the eastern extent of the ditch which possibly formed one end of an entrance, although no corresponding ditch was identified further to the east within the excavated area (although if the entrance was over 6m wide the second ditch would have been located outside the excavation area). Fifty-nine out of the sixty-seven burial features were located between these two boundary ditches – forming Burial Plot 1 – and both ditches contained material dated from the 2nd to the mid-late 3rd century, which would make them broadly contemporary with the earliest burials.

The remaining eight burials were located along the south-east edge of the site and to the south of boundary ditch CF174. This area was divided into two by a small right-angled droveway/track. The droveway was defined by two ditches (CF170 and CF181 – single phased, U-shaped ditches, on average 1m wide and 0.42m deep) which ran from west to east along the southernmost edge of the site before turning a 90 degree angle to run from north to south. It was recorded for a distance of 30.5m and measured between 1m and 2.5m wide. It terminated approximately 2.5m to the south of boundary ditch CF174, which created entrances leading to both the east and west. A small agricultural field or paddock was located to the west and north of the droveway/track and the remaining seven burials were located to the east – forming Burial Plot 2. Both ditches contained material dated from the mid 2nd to the late 3rd/4th century confirming that they were broadly contemporary with the burials.

Plate 1.6 Boundary ditch CF106, Area C2.

Burial Plot 1

The fifty-eight burial features excavated within Burial Plot 1 consisted of twenty-four inhumation burials, twenty unurned cremation burials, seven urned cremation burials, two boxed cremation burials, 1 disturbed cremation/urned cremation burial and four burial pits containing pyre debris. The burials were located from 8.5m to the south of boundary ditch CF106 and were placed right-up against ditch CF174. In fact, inhumation burial CF246 had been partially cut away by ditch CF174 which would indicate that some burials may have been placed on the site before the boundary ditches were cut. Neither the eastern nor the western edge of this burial plot were located during the investigation and the associated burials presumably continued in both directions beyond the limits of the site. However, a north-south ditch (CF36) in evaluation trench C2T2 (located to the east of the excavation area) may represent the eastern boundary for the burial plots (Fig 1.11).

Two clusters of burials within Burial Plot 1 are of further interest (excluding the ring-ditch burials discussed separately below). First, the inhumation burials on the site (with a few exceptions) appear to cluster immediately north of ditch CF174 and particularly along the western half of the site. Second the cremation burials, with a few exceptions (including some of the ring-ditch burials), appear to cluster further to the east in the eastern half of the site. This evidence may indicate further management of the plot, perhaps related to family or social groups.

The graves containing inhumation burials were sub-rectangular in shape with vertical sides and flat bases. Their sizes varied considerably (presumably determined by the size of the body and/or the coffin). The lengths of the grave cuts ranged from 0.66m to 2.60m (averaging 1.51m), their widths ranged from 0.32m to 1.26m (averaging 0.78m), and they had an average surviving depth of 0.37m. Taking the height of the surviving surfaces associated with the circus as an indication of possible Roman ground level (at 33.64m AOD), it was also possible to establish the depth below Roman ground level that the bodies had been buried Fig 1.47). This depth was on average 0.54m (33.10m AOD) but ranged from 0.10m to 1.20m (although it must be remembered that the actual ground level of the burial plots may have been different to the levels of the surviving *in situ* surfaces located further to the north). Barber and Bowsher (2000, 83) have indicate that smaller (and consequently younger) corpses are likely to be buried in shallower graves since, in theory, it is more difficult to dig a deep small grave than a deep large grave. However, the evidence from these inhumations does not support this idea, as both adults and juveniles were buried across the depth range.

Human bone had only survived in eleven of the inhumation burials; due to the extremely acidic soil of the burial ground. Consequently, only a small amount of information on the age, sex and pathologies of the population buried in this plot could be determined. It was also impossible to compare the alignments and locations of the head, legs, arms and hands within each of the graves although, from the available evidence, all of the bodies appear to have been buried on their backs in the extended position.

Plate 1.7 All surviving bone in inhumation burial CF260, Area C2.

Adults were recorded in six of the eleven graves, a young adult was recorded in one grave and juveniles were recorded in four graves (three were aged from 0-5 years and one was aged from 10-15 years). However, using a basic length measurement it may also be possible to determine the approximate age of the deceased in the graves that contained no surviving bone. The average height of a man and woman in the Roman period was 1.69m and 1.59m respectively. So, on consultation with the bone specialist, 1.40m can be taken as the approximate cut-off point between adults and children. Eight of the thirteen inhumation burials without bone were below 1.40m in length and may represent the burials of children and adolescents. However, the problem with this simplistic approach to determining age is highlighted by three of the juvenile burials, identified through bone analysis, that were in graves and coffins over 1.40m in length. Similarly two of the adults identified through bone analysis were in graves and coffins under 1.40m in length. Thus the determination of age through grave length it is not necessarily representative of the actual age of the inhumed bodies.

It was also only possible to determine the sex of two of the bodies, one of which was a possible male and the other a possible female, and only one pathology was identified (a metabolic disease in the 10-15 year old juvenile). Of particular interest, though, is a possible decapitation burial (CF27: Plate 1.8) where the skull was had been buried underneath the feet. This does not necessarily mean that the head was removed while the individual was still alive, but does mean that the head was deliberately removed, by some means, either at the time of death or at some point afterwards. No evidence was found (on the vertebrae or any other parts of the bone), to indicate that this was a true decapitation, but it may be the result of post-burial practices such as leaving the grave opened to be viewed. This burial was of a young adult (20-35 years) who was possibly female. Sufficient of this skeleton had survived to enable measurements to be taken to indicate stature (this was not possible on any of the other skeletons), and this young adult would have measured 173.3cm +/- 3.72cm tall. This burial is addressed in detail in the discussion section.

Plate 1.8 Decapitation burial CF27, Area C2.

In eight of the inhumation burials it was also possible to positively identify the orientation of the body in the grave. This was based on the position of the skull, any other surviving skeletal remains, and on the position of any hobnail shoes, which are usually placed at the feet end of the grave. Six of the bodies were buried with their heads to the east, one with its head to the west, and one with its head to the north-west (Table 1.13), showing that bodies were typically buried east to west, with their heads at the eastern end. Furthermore, eight of the remaining fifteen graves (where the position of the head could not be positively identified – Table 1.14) were also buried in graves aligned east to west, with a further four buried north to south and three buried north-east to south-west. This data reveals that 62% of the total inhumation burials identified in Burial Plot 1 were orientated east to west. This is so radically different from the results of the excavations on the Butt Road Roman cemetery (500m to north-west of Area C2) that some comment here is appropriate. At Butt Road, 666 out of the 669 west to east-aligned Roman inhumation burials had their heads to the west, in the standard Christian alignment (*CAR* 9, 118). The alignment of the Area C2 burials is therefore in stark contrast to this. The explanation of this difference may as follows. As the majority of the inhumation burials in C2 Burial Plot 1 were located along the western edge of the site and close to east-west field boundary ditch CF174, it is possible that they were simply aligned on this ditch rather than in accordance with any symbolic factors, and it may therefore be wrong to interpret the alignment as a deliberate, non-Christian statement. Moreover, three of the four burials aligned north-east to south-west are only very slightly out of alignment with the ditch. That burials were aligned with boundaries rather than for

symbolic purposes accords with Roman burial orientations at the new garrison Area 6 excavation (CAT Report 292) where, in a rural location further to the south of the town, inhumations were positioned adjacent and parallel to the field ditches and tracks on both north-west to south-east and north-east to south-west orientations.

Table 1.13 Table showing the orientation of inhumation burials where the position of the head could be positively identified, Area C2.

Orientation of Burial (with the head to the...)	Number of Burials Positively Recorded on this Alignment
East	6
West	1
North-west	1

Table 1.14 Table showing the orientation of inhumations burials where the position of the head could not be positively identified, Area C2.

Orientation of Burial	Number of Burials Recorded on this Alignment
East to West	8
North to South	4
North-east to South-west	3

Fourteen of the inhumation burials were buried in nailed wooden coffins. These were identified through the distribution of coffin nails (planned *in situ*) and sometimes by patches of wood staining, although an absence of these indicators in other graves does not necessarily mean that no coffin was present. All of the coffins appear to have been simple rectangular boxes with nails clustering in the bottom four corners of the box, probably where the base, end and side pieces had been fixed together. The number of coffin nails present, varying from between eight and thirty, indicates that other methods, such as wooden pegs and dovetail joining, had also been used to attach some of the wooden pieces. The size of the nails used also varied greatly, a factor likely to be associated with the thickness of the wooden panels and general availability of the nails during construction. No other coffin fittings were identified in the graves, although in at least one case a lid was probably present. This was identified through the presence of a small number of coffins nails up to *c.* 50cm higher in the grave than the rest of the coffin nails pointing downwards to fix the lid to the rest of the coffin. Again, the absence of lid nails does not mean that lids were absent in other graves, as they could have been fixed by wooden pegs or rope/organic ties.

Six of the inhumations with coffins contained burial goods, as did two of the inhumations without coffins. Eight inhumations contained neither coffins nor burial goods. The burial goods totalled five pottery vessels, eight hobnails shoes, two coins and some animal bone. This represents an average of one or two items of burial goods in each grave, the exception being burial CF248 which contained two pottery vessels and a pair of shoes. The three graves containing animal bone are notable since the high-quality meat- bearing bones of roe deer, cattle, sheep/goat and pig/small boar are represented. This indicates that these meat joints were deposited with the deceased as food for the journey to the afterlife. One of the inhumations (CF246) contained bones from such a range of species that it may indicate a very high-status burial (Julie Curl, this volume).

The thirty cremation burials (unurned, urned and boxed) in Burial Plot 1 had generally been placed in small, circular or oval-shaped pits. These pits varied in length from 0.26m to 1.37m and in width from 0.25m to 0.99m (the average size being *c* 0.67m by 0.52m). Their average surviving depth was 0.17m. Taking the height of possible Roman ground level as 33.64m AOD (see above), it was also possible to work out the depth at which the cremations had been buried. This depth was, on average, 0.27m (ie, 33.37m AOD) but ranged from 0.12m to 0.56m. These figures unsurprisingly confirm that the cremation burials were generally shallower than inhumation burials.

The cremated human bone was much better preserved than the bone from the inhumations and had survived in all but one of the cremation burials (although only twenty-six of the burials were fully analysed, because the bone from one could only be identified as probably human and the bone from two others was insufficient for analysis). This meant that, contrary to the usual situation, more information than usual was available on the age, sex and pathologies of the cremated individuals. Three were female, two were male

and twenty-one were of unknown sex. Thirteen were identified as adults (over 20 years), two were young adults (20-35 years), four were middle adults (35-50 years), one was a middle/old adult (35-over 50 years) and six were juveniles (under 20 years). The juveniles were sub-divided further. Four were found to be 0-5 years old, one was 5-10 years old and one was under 20 years. Two of the middle adults, the middle/old adult and an adult also showed evidence of pathological conditions, which included arthritis of the spine (spinal disease) and joints, joint disease and dental disease (Boghi, see below).

Although many of the cremations contained a substantial quantity of cremated bone, none of the undisturbed burials appeared to contain 100% of the body. This would indicate that the process of collecting bone from the pyre site for burial was incomplete and it is possible that the collection of bone was simply a symbolic or token act, with, in some cases, only a few fragments from each part of the body being collected. During the excavation of the cremation urns themselves it was also possible to attempt to establish whether bone was selected from the pyre and deposited within the urn in a sequence (eg, starting from the head and working down the body). However, no evidence for any such sequences was apparent).

The unurned cremation burials exhibited a distinct, and deliberately placed, concentration of cremated bone at the bottom of the burial pit. Unlike the urned, boxed or amphora cremations no evidence of a container holding the cremated bone was recorded in any such features, and it is likely that the bone was either buried without a container or within an organic container which has completely degraded. These organic containers could have been made out of wood, leather or cloth, or any other material. From the available evidence there does not appear to have been any connection between the sex of the individual and the absence or presence of a burial container. However, all of the burials identified as juvenile were in this category, a fact which may indicate that it was customary for them to be buried either without a container or in an organic container.

If these burials had no container it might be considered that they were of lower status. This possibility may be strengthened by a finding that nine such burials contained no or very few associated burial goods. However, the remaining 11 cremation burials all contained two or more deliberately placed burial goods, which included pottery vessels, glass vessels, coins and many small finds. Of particular interest are three ostentatious cremation burials of juveniles, two of which were aged under ten years old (the age of the bone from the third cremation is uncertain). Of these burials CF166 included a small jar, an indented beaker, two colour-coated beakers, five copper-alloy coins, a small copper-alloy/silver ring, a silver ring with an intaglio, a silver pendant, two frit melon beads, a glass bead with iron and copper-alloy attached, a jet ring and a carved jet bear (Plate 1.9). Burial CF206 included two beakers, a flask, three coins, an amber bead and a glass counter, a fossil and two ivory dice. Lastly, CF164 included a beaker, two small copper-alloy armlets and 55 glass beads.

Plate 1.9 Jet bear from cremation burial CF166, Area C2

Of the remaining nine burials, seven were in cremation urns and two were in boxes. The seven urns were all jars, indicating that the jar was the dominant form of pottery vessel used as a cremation urn on this site. Two of the urns also had lids, consisting of a dish and a bowl, one of which had definitely been inverted and placed over the urn (see Plate 1.10). Barber and Bowsher (2000, 109) indicate that the use of lids acted to symbolically 'close' the grave and/or to confine the spirit of the deceased within the urn, but as only two of the urns had lids it may not have been such an important practice on this site. A number of other burial goods were also recorded. These were generally a second pottery vessel, but one burial did contain two copper-alloy tweezers.

In both of boxed cremation burials, the cremated remains of the deceased had been placed in the box rather than outside it. CF163 appeared to be a fairly wealthy burial containing not only the wooden box with copper-alloy and iron fittings, but also three copper-alloy coins and a large jar which itself contained a small beaker. This burial also had a lid in the form of large piece of *tegula* placed over the box, and an adjacent pottery scatter (CF230) may have been associated with it. In contrast the other box in burial CF147 appeared to be a fairly simple nailed wooden box with no other fittings, and only one accompanying bowl placed in the burial.

Placed animal bone was identified in eleven of the cremation burials. Most of this bone appears to represent either food for the afterlife, placed with the burial following cremation or burnt with the body on the pyre. However, two unurned cremation burials also contained corvid bones (CF127 and CF207). All corvids (ie crow, raven, rook, jackdaw, clough, magpie and jay) are scavengers and may well have been frequent visitors to burial sites, but it is possible that some corvids were kept as pets as they have the ability to mimic sounds, including human voices. These two burials may thus contain the occupants pets. It may be significant that both burials were of adult females and that both were buried in association with barrows (see below). A third barrow burial (CF242) also contained the remains of another bird, this time a partridge. This could simply be food for the journey to the afterlife or may have been more closely associated to the examples with corvids.

Plate 1.10 Urned cremation burials CF99 and CF100, Area C2.

It has been recognised elsewhere that sometimes cremation urns were buried such that the rim of the urn was above ground level. This meant that food, drink and other offerings could be placed into the urn after burial. Taking Roman ground level as 33.64m AOD (see above), it was possible to plot the height of five out of the seven urned cremation burials (the two urns buried under barrows were not included in the study) (see Fig 1.17). The data revealed that three out of the five urns may have been buried with their rims above ground level; although it must be remembered that the actual ground level of the burial plots may have been very different to the levels of the surviving *in situ* surfaces located further to the north (Alternatively, the burials may have been covered with small mounds). If these urns were buried in this way it may explain the use of a lid in two of the burials, as a lid could have been used to protect the contents of the urn and to make sure nothing entered the urn unintentionally. Moreover, aside from the 10 barrows (see below), this is the only direct evidence within Burial Plot 1 for the use of burial markers. Indirect evidence for the presence of markers is however provided by the fact that very few burial features were inter-cut (only two instances).

No pyres were identified on the site, indicating that either the bodies were cremated beyond the investigated area or that any pyre sites have been destroyed since the Roman period (a likely scenario if the pyres were built at ground level). However, four burial pits containing pyre debris (the dumped remains of pyres) were recorded in Burial Plot 1 and their occurrence probably confirms that pyres were located nearby. The existence of such pits may also indicate that pyre debris was not just considered to be 'rubbish' but was important enough to be buried on the burial site.

Unusually, if not uniquely in the context of Roman town cemeteries, eight of the cremation burials from Burial Plot 1 were associated with barrows. These generally consisted of a central burial enclosed by a ring-ditch, the up-cast from which would presumably have formed form a visible mound of earth over the burial. A total of ten ring-ditches of between 4m and 6.5m in diameter, with narrow (*c.* 0.60m wide) and usually shallow (*c.* 0.14m deep) defining ditches were recorded (Fig 1.11, Plates 11-12). Six of these ring-ditches enclosed a central burial. Ring-ditch CF108 enclosed unurned cremation burial CF105; ring-ditch CF122 enclosed unurned cremation burial CF127; ring-ditch CF222 enclosed unurned cremation burial CF242; ring-ditch CF225 enclosed urned cremation burial CF241; ring-ditch CF205 enclosed urned cremation burial CF162; and ring-ditch CF231 enclosed boxed cremation burial CF163. Of the remaining four ring-ditches, three (CF123, CF207 and CF209) had been disturbed by post-Roman activity which had removed all trace of any associated central burials, and the last ring-ditch (CF229) was only partially within the excavation area

so any associated burial was outside the limit of the site. However, one of these final four ring-ditches did contain a cremation burial within a section of its ditch (unurned cremation burial CF207 sx1). As no centrally enclosed burial had survived within this ring-ditch, it is uncertain if the cremation burial was buried at the same time as the main burial or at a later date, when the ditches had begun to silt up. A probable disturbed unurned or urned cremation burial had been dumped into ring-ditch CF231 (sx1).

Plate 1.11 Ring-ditches CF108, CF122 and CF123, Area C2, viewed from the north-east.

Plate 1.12 Ring-ditch CF231, Area C2.

All but one of the ring-ditches (CF231) had a clear 'entrance gap', presumably to allow visitors access to the internal mounds – perhaps to place offerings. The ditch of CF231 had been partially disturbed by a modern feature which may have removed any trace of an entrance although, perhaps more plausibly, this particular ring-ditch was unbroken. This particular ring-ditch was also unusual as it was deeper than the other examples (0.31m compared to the average depth of 0.14m for all of the ring-ditches). This indicates that the associated mound was more prominent. Significantly the central burial also contained the high status boxed cremation burial (CF163). It is possible to speculate that this prominent mound (based on the depth of its associated ditch) represented the 'founder burial' of this group.

As none of the ring-ditches cut through one another it is assumed that all were visible, with extant central mounds, when the last was constructed. This indicates that they were broadly contemporary. The eight associated burials range in date from the mid-late 3rd to the 4th century. However, five of the burials are

solely dated to the 4th century, indicating that the barrow group was focused on this late period. Unfortunately most of the dating evidence was not specific enough to phase the sequence of construction of the barrows. The use of barrow burials is atypical of Roman town cemeteries at Colchester. It can possibly be explained as either arising from Continental/Germanic influence, perhaps associated with the military, or in replication of a local barrow burial tradition (see discussion).

Burial Plot 2

Of the eight Roman burials within Burial Plot 2 there were two inhumation burials, one of which was associated with a quantity of cremated bone, one unurned cremation burial, four urned cremation burials and one burial pit containing pyre debris. Seven of the burials were positioned along the south-east edge of the site, to the south of boundary ditch CF174 and to the east of the droveway. The eighth burial (an urned cremation) was recorded at the far south-western end of evaluation trench C2T1 and to the south of a east to west-orientated ditch (CF45). It is possible that this ditch represents the boundary to a third burial plot and that the burial located to the south of this ditch is within that plot. However, this third burial plot cannot presently be confirmed and the burial to the south of the ditch is discussed here with those from Burial Plot 2. The eastern and southern edge of Burial Plot 2 was not located during the investigation but the burials presumably continued in both directions beyond the limits of the site. Moreover, the discovery of the single burial to the south of the track indicates that the burial area also continued further to the south-west of Area C2.

As in Plot 1, the five cremation burials were contained within small, circular or oval shaped pits. The lengths and widths of these pits varied from 0.46m to 0.66m (average 0.56m) and from 0.33m to 0.60m respectively (average, 0.47m), with surviving depth ranging from 0.14m to 0.27m (average, 0.15m). Cremated bone had survived within only four of the burials. Two were identified as adults of indeterminate sex, one as a young adult of indeterminate sex, and the remaining one as probably human.

As with Burial Plot 1, it was also possible to plot the height of the four urns to establish whether they were buried with their rims above Roman ground level (see above). The data (see Fig 1.17) revealed that three of the four urns were possibly buried in this way, which would have meant offerings could have been placed in the urn after burial and that the burial site was marked. Alternatively, the burials may have been covered with a small mound. Cremation burial CF219 was located within the north-west corner of the mausoleum (see below) and it is likely to be associated with this structure and the two inhumation burials buried there.

As with Burial Plot 1, no pyres were identified on the site, but a single burial pit containing pyre debris was recorded. This feature is of particular interest because it contained an unburnt miniature jar and a large quantity of both cremated and uncremated animal bone. It is possible that this material represents the remains of a burial feast that was dumped into the same pit as the pyre debris.

One of the unurned cremation burials (see above) and the two inhumation burials from Burial Plot 2 were associated with a mausoleum (CF34, CF46/CF54/CF55, CF175 and CL13). This represents the sole such structure found on the GAL sites to date. Only about half of the mausoleum was revealed. It was a stone-walled, rectangular structure measuring 10m (north to south) by 7m (east to west). The foundations of its walls had partially survived *in situ*. They measured approximately 0.75m wide and 0.15m deep, and consisted of fragments of brick/tile, greensand, and septaria set into mortar (possibly a limestone mortar: Plate 1.13). One of the inhumation burials associated with this structure (CF43) was located within evaluation trench C2T1 (just beyond the south-eastern edge of the excavation area). Only one corner of the burial was excavated but it revealed that the body had been buried in a lead coffin liner placed within a timber coffin (Plate 14). Since subsequent construction design established that the burial was not to be destroyed by the development it was decided to leave the lead coffin *in situ*. The location of this lead coffin in the centre of the southern end of the mausoleum indicates that it was the primary burial associated with the structure. Dating evidence from the walls of the mausoleum and from inhumation burial CF43 was poor, but appears to be late 2nd to the mid/late 3rd century (or later).

Plate 1.13 Mausoleum wall foundation CF175 and wall foundation CF113, Area C2, viewed from the north.

Plate 1.14 Inhumation burial within a lead coffin CF43, Area C2.

At some point after the construction of the mausoleum, another broadly north/south orientated Roman wall (CF113) was cut through the north wall of the mausoleum (Plate 1.13), although it does not appear to have extended as far as the southern wall. This wall, also consisting of fragments of brick/tile, greensand stone and septaria set into mortar, was recorded for a length of 3.7m, was 0.8m wide and had survived to a depth of 0.31m. It was not possible to define the nature of this wall. It is unclear whether it was associated with the use of the mausoleum, or with its destruction. However, the wall butted up against the terminal end of boundary ditch CF174, forming a right-angle, indicating that the ditch and the wall may have formed some kind of contemporary boundary. Two other probable walls (CF44 and CF57) were also located within the evaluation trench, although the relationship of these short remnants to either the mausoleum or the later wall is extremely uncertain. Wall foundation CF44 is on roughly the same alignment as both the mausoleum and wall CF113, but wall foundation CF57 is not aligned with any of the other surviving walls.

The second inhumation burial identified in this plot was set into/on top of wall footing CF113 (Plate 1.15). This burial was of a juvenile (0-5 years old) buried with the cremated remains of an adult (over 20 years) of indeterminate sex. It is possible that this represents the burial of a mother and a child. It is uncertain if this double burial was placed within the wall footing during the mausoleum's construction or on-top of the footing following demolition. The former is perhaps unlikely as it would seem too perfect a coincidence that the wall

was demolished to a depth that did not destroy the burial. However, no clearly defined burial cut was located that would confirm it as a later burial.

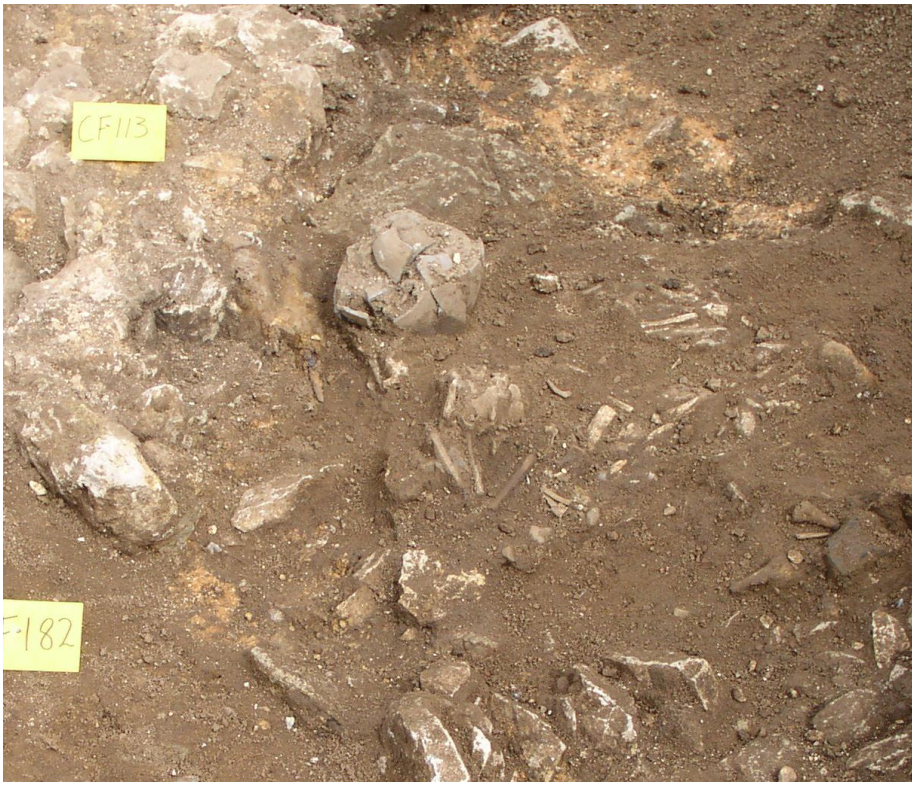

Plate 1.15 Inhumation burial CF182, Area C2.

Roman field system

Two aspects of the Roman field/plot system were identified in Area C2. The first was the right-angled track mentioned above. This track was located within the southern third of the site and, as well as acting as burial plot 2's western boundary, it may have been used to funnel stock and/or people around this landscape. The second aspect is a probable agricultural field or paddock identified to the west of the track and partially defined by it on its eastern and southern sides, with boundary ditch CF174 forming the northern edge. Such a field or paddock would have measured at least 3,500m². In this context, the track may have allowed both human access to the burial ground, via a gate to the east, and animal access to the paddock to the west.

Other Roman activity

Other Roman activity on Area C2 consisted of seventeen pits, six ditches, three post-holes, one pot scatter, one pit/post-hole, one pit/ditch, one quarry-pit and one gully. It is likely that the quarry-pit (CF169) would have been used to quarry building sand and gravel from the site, and its location immediately to the south of the Roman circus may indicate that the quarried raw materials were used in the construction of this structure. It is also possible that the pottery scatter located in burial plot 2 (CF37) was associated with a disturbed burial feature.

Period 7 – medieval

Two medieval features were recorded in Area C2, ie robber trenches CF107 and CF247 which had partially robbed out the two east-west orientated walls of the Roman circus. Although the wall robbing could not be directly dated by finds, other sections of the circus wall foundations appear to have been robbed at this time.

Period 8 – post-medieval

Post-medieval activity on the site is represented by eight pits, which would indicate some small-scale use of the site. None of these features could be securely dated.

Period 9 – modern/military

The modern features recorded on the site included 23 pits, five service pipes/trenches, two drains, one soakaway and eight military features. The military features dated to the Second World War and consisted of two trenches, four air-raid bunkers (only two of which were numbered), a communication trench which linked three of the bunkers and an unnumbered pit containing a stash of carefully stacked Home Guard petrol bombs ('Molotov Cocktails' – which were safely removed by explosive ordnance specialists). The two numbered bunkers (CF103 and CF104) were both 9.5m long, 2.5m wide, made with concrete slabs and had stairs at both ends (Plate 1.16). Both had survived to a depth of approximately 1.22m. (See CAT Report 319 for a more detailed report on the air-raid bunkers recorded on this site.)

Plate 1.16 World War II air-raid shelter CF103, Area C2.

Area E (Figs 1.18-1.23)

Introduction

Area E comprises a 1.32ha area located to the west of Mersea Road and to the east of Circular Road East and the Abbey Field (NGR: TL 9986 2427; Fig 1.18). Six World War II air-raid bunkers were found intact and in a row parallel to Mersea Road at the eastern edge of Area E. The remainder of area was a rectangular short-grassed sports field. A terrace ran along the northern side of Area E, separating it from another sports field to the north. The terrace dropped about 0.5m into Area E, which indicates that the area was subjected to a degree of levelling in the recent past.

As well as contributing to the overarching research themes the primary objective for Area E was to establish the presence/absence of Roman burials, to establish whether the site was rural or domestic in character, and to establish whether there were any buildings or other structures on the site (in the form of walls, post-holes, gullies, etc).

The first stage of the archaeological investigation of Area E has consisted of a trial-trenching evaluation. A total of four trenches were excavated, each 1.6m wide and totalling 213m in length.

Period 1 – Palaeolithic and Mesolithic

There was no evidence of activity in Area E in this period.

Period 2 – Neolithic

There were no Neolithic features in Area E. However, a residual Late Neolithic worked flint flake may be associated with the Late Neolithic activity recorded in Area C1 (located 350m to the north-west of the site).

Periods 3-4 – Bronze Age and the Early to Middle Iron Age

There were no Bronze Age or Early to Middle Iron Age features in Area E. However, a small number of residual Late Bronze Age pottery sherds may indicate some small-scale Late Bronze Age activity nearby (Late Bronze Age settlement was found on Area J1).

Period 5 – Late Iron Age to Early Roman

There was no definite evidence of activity in Area E in this period. However, many of the Roman features described below, especially the field boundary ditches, could, in theory, have originated in the Late Iron Age. However, the adherence of these ditches to the east-west/ north-south alignment of the Roman town and circus, combined with a lack of residual Late Iron Age pottery, probably indicates that the Early-Mid Roman date (indicated by pottery within) can be taken at face value.

Period 6 – Roman

Field boundary ditches

Five field boundary ditches (EF1, EF2, EF12, EF23 and EF24) were excavated. They were all single phased, U-shaped ditches that measured on average 1.13m wide and 0.34m deep. Pottery sherds from these ditches dates them broadly to the 2nd to the mid/late 3rd century period. However, at least two (EF23 and EF24) were cut by (and are therefore earlier than) the enclosure ditches and building (which are dated from the late 1st/early 2nd to the mid/late 3rd century – see below). Therefore these two ditches are more likely to date to the earlier part of the date range. All five ditches appear to be a part of the Roman field system laid out over the landscape during this period.

The enclosure and associated buildings

Ditch segments EF9, EF10, EF13, EF22 are interpreted as parts of the sides of a large, rectangular, single-ditched enclosure aligned north-south to east-west. It measured 36.5m by at least 46.5m respectively (its eastern side was not found in the evaluation trenches), giving an internal area of at least 1,696m^2. The enclosure ditches were all single phased, U-shaped, and fairly substantial features measuring, on average, 3m in width and 0.65m in depth (Plate 1.17). There was no evidence of an entrance in any of the four short sections investigated, so the location of the entrance is unknown.

However, there were a number of structural features and layers within the enclosure (and specifically in ET2), which represent at least two successive phases of a small Roman building.

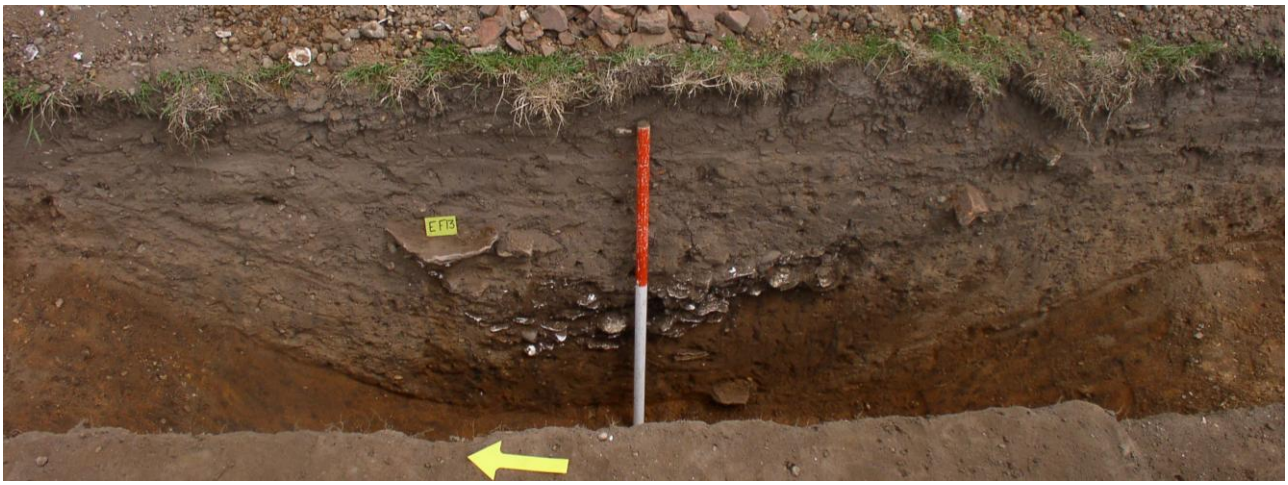

Plate 1.17 Enclosure ditch EF13, Area E.

The earliest phase was represented by a line of three post-holes (EF19, EF20, EF21). These post-holes were cut by two robber trenches (EF4 and EF7) which had robbed out a later Roman wall (Plate 1.18). This activity indicates that an early timber-framed building had been replaced by a building with masonry wall foundations (which was itself subsequently robbed-out). The fragmented remains of an internal clay floor (EL3) and an external metalled surface (EF5) were also recorded and appear to have been associated with the later masonry building. The robber trenches were overlain by a demolition spread (EL4) containing a significant quantity of Roman tile, including box flue tile from a possible hypocaust, *tessera* cubes from a possible floor and tegula and imbrex tiles, probably from a collapsed roof. A single piece of *opus signinum* was also found in one of the enclosure ditches. The occurrence of *opus signinum*, pieces of *tegula* and *imbrex*, flue tile and *tessera* cubes would indicate that the building on the site was fairly substantial in form, with masonry walls, a tiled roof, a paved courtyard and metalled road/trackway and a hypocaust heating system.

Plate 1.18 Structural features EF4, EF19-EF21 and EL4, Area E.

Pottery-dating evidence from the enclosure ditches and structural features/layers date the occupation of this site from the late 1st/early 2nd to the mid/late 3rd century, with no evidence that it continued in use beyond this date. Several phases of construction are clearly identifiable on the site with, as indicated, a ditched enclosure superseding a pre-existing field system and a probable timber-framed building replaced by a masonry one. However, a lack of reliable close dating evidence from many of the ditches and structural features/layers has meant that it has been impossible to attribute close dates to any of the phases. Thus the impression that the earlier timber-framed building may be contemporary with the earlier field system (and may pre-date the construction of the enclosure) cannot be substantiated from the available evidence.

It is likely, given the location of the building and the associated finds, that it formed a Roman villa/farmstead that operated as an administrative centre for the agricultural land within which it was set. The pottery evidence also indicates that the people of this villa/farmstead was at least moderately wealthy as it had access to a range of Roman commodities (amphora) and pottery types (including fine wares and utilitarian coarse wares), and it was a place where food was prepared, stored and consumed. Significantly the building was located immediately to the west of Mersea Road that probably follows the approximate line of a Roman road leading to the south-east gate of the Roman town. Thus the farmstead had easy access to the town and its hinterland to the south.

Other Roman features

Other Roman features included two pits, a post-hole and a stake hole. It is uncertain if any of these features are associated with the Roman farmstead. Three pottery vessels were found in the fill of enclosure ditch EF22. Judging by their completeness, they may have been disturbed from nearby burials (although no *in-situ* burials were identified on the site).

Period 7 – medieval

There was no evidence of activity in Area E in this period.

Period 8 – post-medieval

A post-medieval ditch (EF11) at the western end of the sports pitch on was a single phased, U-shaped feature, aligned east to west and measuring approximately 3.7m wide and 0.49m deep. A total of 227g of pottery was recovered from this ditch, which dates it to the 17th or 18th century.

Period 9 – modern/military

Modern/military activity on the site consisted of three areas of modern disturbance.

Undated features

There was a single undated post-hole.

Area J1 (Figs 1.24-1.48)

Introduction

Area J1 comprised a 5.44ha area located between Butt Road, Le Cateau Road, Circular Road North and the Cavalry Barracks (NGR: TL 9925 2445; Figs 1.1, 1.24). The area covered the southern half of the Le Cateau Barracks, built in the 1860s. The original barracks building comprised a central Officers' Mess facing onto the Abbey Field, with two parallel rows of three stable blocks/barracks facing in the same direction and ranked on either side of it. A fourth, slightly shorter, parallel building stood at the rear of each row. Two out of the four blocks to the south of the mess survive and fall within the north-eastern boundary of Area J1. There are a further three buildings to the south-west of these barrack buildings, but the area to the north-west and south-east is largely open. The area to the south-east has traditionally been used as paddocks and remains open grass. While the area of the north-west grassed paddocks appear not to have been developed, historic maps in fact indicate the former presence of a water tower and three long, narrow barracks buildings in the centre of the site, as well as smaller buildings in its western and northern corners. Until recently the surviving buildings and paddocks of the barracks were used by the Garrison Saddle Club.

As well as contributing to the over-arching research themes (see above), the primary objective for Area J1 was to characterise the nature of Bronze Age activity, to establish the nature of Iron Age activity, to excavate and record all human burials and associated funerary structures, and to establish whether there were any buildings or other structures on the site (in the form of walls, post-holes, gullies, etc).

The archaeological investigation of Area J1 consisted of a Stage 1b trial-trenching evaluation and four Stage 2 area excavations. The trial-trenching evaluation consisted of seventeen trenches totalling 536m in length and bringing the total evaluated sample up to the required 3%. The evaluations indicated that very extensive post-medieval quarrying had removed much of the potential for the survival of archaeological horizons in the central area of paddocks fronting onto Circular Road North, whilst foundations of former Cavalry Barracks structures and between ten and fourteen bunkers in the western and northern area of J1 had truncated these areas to a lesser degree. The combined evidence from the Stage 1a evaluation of 2002 and Stage 2 evaluation in 2004 indicated the existence of a Roman wall (found in three trenches) running east-west within the northern paddock fronting Circular Road North, several Roman burials (and the remains of former Cavalry barracks structures) in the northern area of J1 and two further burials and post-medieval ditches in the southern area, again in a paddock area fronting onto Circular Road North. Finally, a metalled track was identified in the western area of J1. RPS, in association with CAT, drafted proposals for four excavations, which were subsequently agreed as an appropriate mitigation response by CBC. The areas comprised Areas J1 North (JN), J1 South (JS), J1 East (JE) and J1 West (JW), which totalled a maximum excavation area of 0.98ha. Area J1 North consisted of a 0.37ha area of unmanaged grass, tarmac parking and a road in the northern corner of the site. Area J1 South consisted of a 0.4ha area in the southern

grassed paddock, Area J1 East consisted of a 0.2ha area in the north-eastern paddock, and Area J1 West consisted of a 100m² area within the grassed western area of the site.

Period 1 – Palaeolithic and Mesolithic

There was no evidence of activity in Area J1 in this period apart from a residual Mesolithic or Neolithic worked flint blade.

Period 2 – Neolithic

There was no evidence of activity in Area J1 in the Early to Middle Neolithic period. However, a residual Neolithic pottery sherd and two residual pieces of Late Neolithic worked flint (a scraper and a core) were found in later features. It is possible that this material is associated with the mid-Late Neolithic pits recorded in Area C1 (located 300m to the north-east of this site).

Period 3 – Bronze Age

There was no evidence of activity in Area J1 in the Early to Middle Bronze Age period. However, a number of features and finds in Area J1 North date to the Late Bronze Age period (*c* 1,000-900 BC; Figs 1.29b, 1.29e). In total, three pits (JNF37, JNF38, JNF93), a post-hole (JNF164) and a small gully (JNF134) contained sufficient quantities of Late Bronze Age plain ware to allow secure dating. The shallow pits formed a distinct cluster and may represent a focus for this activity. JNF38, the largest of the three, produced a substantial quantity of domestic refuse (see Sealey, Martingell and Fryer this volume). A further seven undated post-holes (JNF158-JNF162, JNF165 and JNF166) associated with post-hole JNF164, may represent a fence or rack structure. A small and undated four-post structure (JNF172, JNF173, JNF175, JNF176) measuring 1.0m by 1.0m located adjacent to gully JNF134, is also likely to be contemporary with the dated features (Plate 1.19). In addition to the pottery recorded from the Late Bronze Age features in Area J1 North, a significant quantity was also identified residually within later features (453 sherds). Furthermore, the worked flint assemblage, much of which was also recorded residually, includes a high proportion typical of the period.

Collectively, this evidence indicates that there was a Late Bronze Age settlement at this location which, judging by the large quantities of residual pottery in the Roman features, was largely destroyed by the digging of the graves in the later Roman cemetery (see below). The four-post structure (although unusually small), is typical of such sites, and may have been associated with raised storage.

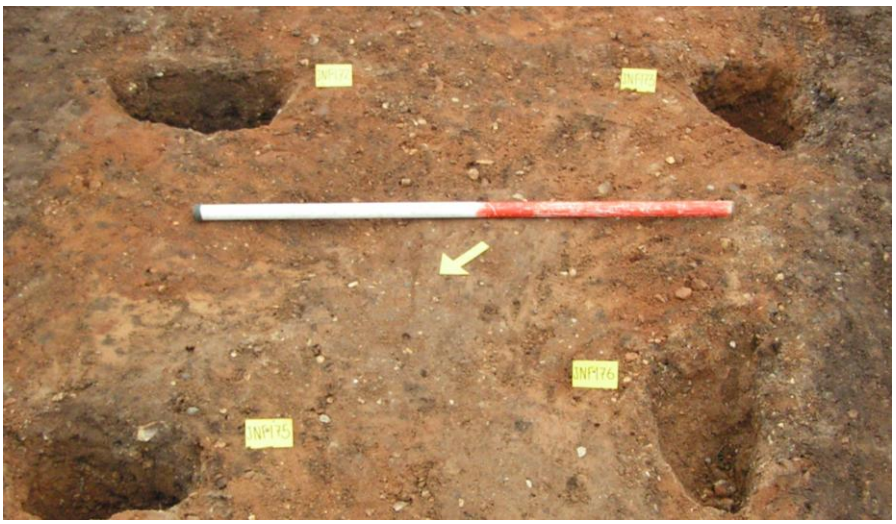

Plate 1.19 The 4-post structure, Area J1 North.

Periods 4-5 – Early/Mid Iron Age to Late Iron Age/Early Roman

There was no evidence of activity in Area J1 in this period.

Period 6 – Roman

Roman circus

The main feature of Area J1 East was the robbed-out remains of the two parallel foundations which supported the inner and outer walls of the south *cavea* of the Roman circus (Plate 1.20). The foundations included the remains of a *vomitorium* (entrance into the *cavea*) in the form of two short north-south robber trenches and a gravelled surface between the two. The south wall of the *cavea* incorporated a series of external buttresses set out on a different pattern to either side of the *vomitorium*. The foundations were first uncovered in evaluation trenches J1T23 and J1T24, and in evaluation trench J6 (in 2002). The feature numbers used here are those assigned at the excavation stage.

Plate 1.20 The inner (right) and outer (left) wall foundations of the south cavea, Area J1 East (view west).

The southern foundation (JEF6) of the *cavea* was the more substantial of the two (Figs 1.41-1.45, Plates 20-21). It was approximately 0.9m wide and 0.6m deep, and consisted of unworked lumps of greensand set in mortar. The foundation also included many greensand chips which were presumably masons' waste left over from the working of ashlar blocks. The remains of the foundation were uncovered over a distance of 93m and continued beyond the east and west limits of the excavation area. Most of the foundation had been completely robbed out, so that only a total of about 31m (JEF6) survived to any degree. These parts, apart from one relatively well-preserved section, had all had been so heavily robbed that only two or three courses were left in place.

Plate 1.21 Part of the surviving outer cavea wall foundation, Area J1 East.

A short section of *in situ* foundation at the extreme western edge of the site (JEF64) appeared to be slightly out of alignment with the rest of the foundation by about 240mm. This gave the impression that there had been a later phase of building or repair at the west end of the circus. The affected section coincided with the beginning of the curve inwards towards the *carceres* (starting gates). However, a second phase may be illusory if, as is quite possible, adjustments had been made as the groundworks progressed to achieve the correct degree of curvature and the foundation ended up slightly wider than was necessary or intended.

Twenty-one buttresses were found along the southern side of the southern foundation. Parts of some of the buttresses survived *in situ*, but most of them had been completely robbed out and were only apparent from the shape of the robber trenches. The form and patterning of the buttresses was different on either side of the *vomitorium*. The buttresses to the east were longer and slightly more closely spaced than those to the west. The latter were of two shapes and they were laid out such that their eastern edges were evenly spaced but every third buttress was about four times the width of those in between. The base of the foundation of one of the better-preserved buttresses (JEF21) appeared to butt against the base of the foundation of the outer wall as if the buttress was a later addition. However, this relationship was not certain and, as far as could be judged from the rest of the surviving foundations, the buttresses and the south wall appeared to have built as one. The two buttresses framing the entrance to the *vomitorium* were of the same type as those on its east side, thus indicating that the *vomitorium* must have been built at the same time as the section of stand to the east and that the two were presumably parts of the same structure.

The northern foundation for the podium wall (JEF13, JE26) lay parallel to the southern foundation at a distance of approximately 4m to its north. It was uncovered over a distance of 60m. The foundation had been almost completely robbed out so that all that survived was a small section (JEF48: on plan) across the front of the *vomitorium* measuring about 2m in length and a few blocks (JEF69) to the west. The existence of the foundation was made apparent during soil stripping by a scatter of greensand and mortar lumps in the base of the topsoil overlying what turned out to be its robber trench. The foundation was approximately 0.70m wide and was constructed of greensand set in mortar. It was not cut as deeply as the foundation of the southern wall, and there were no buttresses along its length. There is some uncertainty about the ground level when the circus was constructed and thus the depth of the foundation of the podium wall. However the evidence indicates that the foundation must have been no more than 100-150mm deep.

Six undated post-holes and post-pads were discovered along both sides of this foundation. They were in two clusters of three (ie post-pits JEF70-2 and post-pads JEF74-6). The clusters were similar to each other in plan and in their relationship to the northern foundation as if they did relate in some way to the podium wall.

The two cross-walls forming the sides of the *vomitorium* would have been 7m long (Plate 1.22). Their foundations had been completely robbed out. They were approximately 0.8m in width. They created an entranceway approximately 2m wide. The southern foundation was interrupted for the *vomitorium* whereas the podium wall passed across the end of it unbroken. The buttresses at the entrance were of the same kind as those to the east indicating that they had all probably been built at the same time. Some horizontal stratigraphy was evident inside the *vomitorium* where a thin layer of demolition debris (crushed mortar lumps in brown sandy loam) sealed the remains of a thin gravel floor 50 mm thick (JEL7). A sherd of a BB2 bowl securely stratified in the floor itself showed that the building could not have been knocked down or abandoned or left to decay before the 3rd century.

Plate 1.22 The vomitorium, Area J1 East.

Another surface, located to the immediate south of the southern wall and probably also associated with this structure, was an area of metalling (JEL14) underneath a layer of demolition debris (JEF35). The surface only survived in a very limited area, but it seems likely that it represents all that survived of a trackway or hardstanding along the southern side of this part of the circus. Similar metalled areas were found to the north of the circus in Area C1 and to the south of it in Area C2. The metalled surface was sealed by a layer of brown sandy loam (topsoil) containing demolition debris in the form of lumps of crushed mortar and fragments of greensand (including ashlar) and Roman brick.

Two finds from the debris backfilling the robber trenches consisted of a painted piece of *opus signinum* wall-plaster and a fragment of schist or marble veneer painted purple on one surface (Plate 1.23). These finds are unlikely to have been derived from elsewhere given the lack of other structures in this area, and therefore they indicate that the circus contained decorative elements.

Area J1 East presented an opportunity to examine the arena. The latter appeared to be featureless. Two sections were cut through the arena specifically to examine the soil profile there and to consider the nature of the arena surface when the building had been in use. Typically the soil profile consisted of 0.2-0.3m of topsoil (JEL1) over 0.25-0.4m of less humic soil (LEL5). The latter sealed natural sand and gravel. There was no evidence of any deliberately-introduced surfacing materials. The likely ground-level during the life of the circus was 34.1m AOD as indicated by the floor in the *vomitorium* and the gravel surface JEL14 along the south side of the building. If the surface of the arena were at the same level, then the lower part of the soil profile (ie the lowest 10-20mm) is likely to represent what survives of the arena floor. A few fragments of greensand at 34.1m AOD (Fig 1.46, 'arena test-pit') in section are consistent with this view if, as seems likely, they relate to the demolition of the circus. Thus the surface of the arena is likely to have been no more than the existing topsoil at the time. Conceivably it may have been dressed on occasions with sand, but the topsoil being sandy by nature makes it impossible to tell if this had been the case.

Between the buttresses east of the *vomitorium* were surviving spreads of demolition debris (JEL13, JEL16) in the form of pale brown sandy clay loam mixed with fragments of crushed mortar and greensand. This material spread southwards at the east end of the site and extended into the south section. The base of this material corresponds well with the likely ground-level of the circus as indicated by the floor of the *vomitorium* and the arena surface (both at 34.1m AOD).

A V-shaped ditch (JEF23) extended east-west across the full width of the site in almost the same position as the outer foundation of the *cavea* (Plate 1.24). The centre-line of the ditch was close to the centre-line of the *cavea* foundation although the correspondence was not exact. The *cavea* foundation was clearly later than the ditch since it cut the ditch backfill (Fig 1.44). The fill of the ditch was clean, light brown sandy loam (ie topsoil). It varied in depth from 0.45m to 0.76m (as measured from the assumed Roman ground-level at 34.1m AOD) and in width from 0.74m to 1.09m. The south edge of the ditch east of the *vomitorium* was slightly further south than it was on the west side of the *vomitorium*, by on average 250mm. Attempts were unsuccessful to determine if the course of the ditch at the west end of the site curved like the *cavea* foundation. Practically no finds, datable or otherwise, were recovered from the ditch, apart from a small quantity of pottery which appeared to be early 2nd to early 3rd century. The ditch fill was homogenous but it

is unclear whether it represents a slow silting or rapid backfilling. The latter would be consistent with preparations for the construction of the outer *cavea* wall on its line. It would also explain the date of the pottery within since an early 2nd-century date would be consistent with the probable construction date of monumental circus (see discussion below).

Plate 1.23 Opus signinum *painted wall-plaster (below) and ?limestone veneer (above) from the circus, Area J1 East.*

Plate 1.24 The ditch (JEF23) under the foundation of the outer cavea wall, Area J1 East.

Roman burials and burial related features in Area J1 in summary

A total of 361 burials and burial-related features were found in Area J1 - five in the evaluation trenches, 348 during the J1 North excavation, five during the Area J1 South excavation, and three during the Area J1 East excavation. This total breaks down into 204 inhumation burials, sixty-nine urned cremation burials, two amphora cremation burials, eleven unurned cremation burials, five pyre sites, four probable *busta,* four pyre sites/*busta*, fifty-four burial pits containing pyre debris, and eight other burial-related features.

Roman burials and burial related features in Area J1 North

Introduction

A total of 351 burials and burial-related features was found in Area J1 North. This total includes all burials found in evaluation trenches J1T10 and J1T11, and in the excavation of Area J1 North). These features consisted of 203 inhumation burials, 65 urned cremation burials, 51 burial pits containing pyre debris, eleven unurned cremation burials (including one possible boxed cremation burial), five pyre sites, four probable *busta*, four pyre sites/*busta*, and eight other burial-related features. All of these burials and burial features were located to the north-east of the large Roman road or trackway that ran across the site and also acted as the south-western boundary for the burial area (Fig 1.28). This burial area extended beyond the north, south and east sides of the excavated site, and many more Roman burials must lie beyond the site limits.

The burials ranged in date from the mid 1st to the 3rd century, with only two burials absolutely dating to the late 4th century (an inhumation burial containing a coin dated from AD 350-60 and a late inhumation burial which cut through this feature). The burial site also appears to have been in fairly constant use throughout this period with a small peak in burial numbers in the mid-1st to 2nd century. In contrast to the burials in Area C2, both the inhumation and the cremation burial rites were in contemporary use throughout the period, although there are slightly more later cremation burials cutting earlier inhumations than visa versa, which may indicate that cremation was slightly more common in the later period.

Burial plots

A number of gullies (JNF8, JNF48, JNF120, JNF343 and JNF499) appear to represent the boundaries of burial plots. The gullies were small, shallow features measuring on average 0.54m wide and 0.16m deep. All had been cut by later Roman and post-Roman features which meant that their survival was patchy. None were recorded for a length of more than 3.8m and all appear to have been orientated approximately north-east to south-west and north-west to south-east. This would have created a series of rectilinear burial plots (see Fig 1.31) and indeed there was a right-angled corner between gullies JNF343 and JNF499. The orientation of these plots is likely to be connected to the wide Roman road or track which was also aligned north-west to south-east, indicating that the plots conformed to the orientation of the road.

The gullies also display other interesting characteristics. Inhumation burial JNF360 was cut by gully JNF343 which would indicate that at least some of the burial plots were established after the site had begun to be used as a burial ground. Another characteristic is that all of the gullies, apart from JNF8, were cut by burial features dating from the 1st/2nd century. Therefore the burial plots were of an early Roman date and were not fully respected by the later burials on the site. Similar associations of rectilinear burial plots, defined by small and shallow gullies cut by later burials were also recorded at Colchester's Butt Road cemetery (located 250m to the north of the site (*CAR* **9**) and in Area C2. It is likely that many more gullies (or other methods of delineating burial plots) existed on the site but have been lost through subsequent activity.

Burial plots are generally perceived to be areas where families and/or groups could be buried together. In some cemeteries it has even been possible to identify genetic traits (showing family relations) during the analysis of the inhumed and cremated bone from the plots. However, the inhumed and cremated bone from this site was in such a poor condition (where it had survived at all) that no genetic traits were visible. Despite this, there were a small number of multiple burials which could possibly represent some form of familial relationship. These can be divided into three separate types, 1) dual burials, in which two or more individuals were buried within the same grave but in separate coffins or urns; 2) double burials, in which two or more individuals were buried within the same coffin or urn; 3) stacked burials, where two or more burials were stacked one on top of the other.

Two double burials were positively identified (Figs 1.28b-1.29b). Inhumation burial JNF218 contained two individuals buried in two separate coffins, and urned cremation burial JNF352 contained two individuals buried in two separate urns. In addition there were two separate urns in both JNF1 and JNF377, but in each

case only one individual was definitely identified. One dual burial was also identified. Urned cremation burial JNF325 consisted of two separate individuals buried in the same urn. These two individuals were a juvenile (0-5 years) and an adult of indeterminate sex, which may indicate that the burial was that of a mother and child. The characteristics of both the dual and double burials indicates that the two individuals in each burial were buried at the same time. However, the stacked burials were not contemporary and here the graves had been partially reopened for each subsequent burial. Examples of stacked burials could include inhumation burial JNF216 which was buried directly above inhumation burial JNF246, and inhumation burial JNF56 which was buried above inhumation JNF109, which was itself buried above inhumation JNF83. It is considered possible that these examples, plus others, represent stacked burials and familial relationships. However, due to the widespread inter-cutting of the burial features, it is difficult to separate the deliberately stacked burials from the accidental.

Inhumations

Inhumation burials were by far the most common type of burial identified on the site with a total of 196 single burials and one dual burial (Plates 25-26) (Figs 1.28, 1.29a-h, 1.30a-e). A further six inhumation burials were identified but left unexcavated as they were located at a depth too deep to safely excavate. Most of the graves were rectangular in plan with vertical sides and a flat base, and their size varied considerably, probably determined by the size of the body and/or the coffin. On average the graves measured 1.55m long, 0.68m wide, and had survived to a depth of 0.49m. The lengths varied from 0.55m to 2.78m with widths of between 0.28m and 1.8m. Taking the height of the surviving metalled road (see below) as an indication of possible Roman ground level (34.64m AOD) it was also possible to work out the depth the bodies had been buried at; although it must be remembered that the actual ground level of the burial site may have been very different to the levels of the surviving *in situ* road surface (which may have survived within depressions or pot-holes). This depth was on average 1.26m (33.38m AOD), but ranged from 0.55m to 2.76m. Some of the deepest burials were those recorded within the earlier Roman quarry-pits (see below), but it is likely that these depths represent graves being dug into the pits as they silted up rather than exceptionally deep graves being dug into a completely backfilled pits. There does not appear to have been any correlation between depth of burial and the age, sex or status of the individual buried.

Due to the extremely acidic soil conditions of the site, inhumed bone had survived in only sixty-one of the 197 excavated burials. These soil conditions also meant that all of the recorded bone was in a very poor state of preservation and no more than 25% of the expected skeletal elements had survived in any of the graves. Although difficult to determine, in most cases where body position was apparent it was laid out supine (on its back in the extended position), although at least one individual was buried slightly on its right side (Plate 1.24). However, due to the poor survival of the bone almost no information could be recorded about the arrangement of the corpse (ie, the positions of the head, arms, hands and legs).

Despite the poor condition of the bone it was possible to identify one juvenile (0-5 years old), forty-five adults (over 20 years) and three possible adults, eight young adults (20-35 years), three middle adults (35-50 years) and one young-middle adult (20-50 years) (Boghi, see below). This evidence alone could be used to indicate that few juveniles were buried here. However, this is almost certainly a bias in evidence since juvenile bones would have degraded more quickly in the acidic soil conditions than the adult bones. It may be possible to rectify this bias by looking at the length of the individual graves where no bone had survived. As in the analysis of burials in Area C2, a measurement of 1.40m was used as the cut-off point between adults and children (although this did mean that adolescent graves (15-20 years) would inevitably be hard to detect). The complete length measurement could only be taken from forty-eight of the 133 burials without bone, due to truncation (eighty-five could not be fully measured), and thirty of these forty-eight burials were in graves under 1.40m long. Therefore it is likely that at least another thirty juveniles were buried on the site. However, two of the inhumations containing bone from adults were in graves under 1.40m long, which indicates that the size of the graves is not always indicative of the age of the individuals within them.

It also proved difficult to sex the skeletons. Out of the sixty-one inhumation burials where bone had survived, three were identified as males, thirteen as possible males, none as female although one was identified as a possible female. A small number of pathologies were also identified on the surviving skeletons. Three contained evidence of periostitis (a non-specific infection), two contained evidence of arthritis of the spine (spinal disease) and one contained evidence of trauma in the form of a tibia fracture (Boghi, see below).

In fifty-three of the inhumation burials it was also possible to positively identify the orientation of the body within the grave. This was based on the position of the skull and any other surviving skeletal remains, and on the position of any hobnail shoes which are usually placed at the feet end of the grave. Sixteen bodies were buried with their heads to the south-east, twelve with their heads to the north-west, six with their heads to the north-east, six with their heads to the south-west, five with their heads to the south, four with their heads to the north, three with their heads to the east, and one with its head to the west (Table 1.15). Although no one particular alignment stands out, on closer inspection some useful information can be gleaned from the orientation of the inhumation burials on this burial site. The figures reveal that there is a bias towards burials

with the head placed to the south-east and to the north-west. This bias can probably be explained by the orientation of the Roman road, which acted as a boundary for the burial site, and was orientated north-west to south-east. This would indicate that 52.9% of the inhumation burials on a known alignment were aligned parallel to this boundary. Furthermore, fifty-five (or 36.7%) of the remaining 150 inhumation burials (where the position of the head could not be positively identified – Table 1.16) were also within graves orientated north-west to south-east.

Plates 25 and 26 Inhumation burials JNF228/229 (left) and JNF83 (right), Area J1 North.

The second most typical orientation of burials was with the head either to the north-east or the south-west. A total of 22.6% of the inhumation burials, where the orientation of the body is known, had the head placed either to the north-east or the south-west. Furthermore, 26% of the burials where the position of the head could not be identified were also on this alignment. As indicated above a number of gullies represent burial plots within the burial site on Area J1 North. All of these gullies were aligned either north-west to south-east or north-east to south-west which would have created rectilinear burial plots laid out in respect to the alignment of the Roman road. Therefore, the majority of the total number of inhumation burials (134 out of 203, or 66%) were orientated with respect to both the Roman road and the burial plots. These data confirm that the alignment of both the road and the internal boundaries within the burial site played an important part in the layout of the cemetery.

Table 1.15 Table showing the orientation of the 53 inhumation burials where the position of the head could be positively identified, Area J1 North.

Orientation of Burial (with the head to the...)	Number of Burials Positively Recorded on this Alignment	Percentage of whole
South-east	16	30.2%
North-west	12	22.7%
North-east	6	11.3%
South-west	6	11.3%
South	5	9.4%
North	4	7.5%
East	3	5.7%
West	1	1.9%

Table 1.16 Table showing the orientation of the 150 inhumations burials where the position of the head could not be positively identified, Area J1 North.

Orientation of Burial	Number of Burials Recorded on this Alignment	Percentage of whole
North-west to South-east	55	36.7%
North-east to South-west	39	26%
North to South	25	16.7%
East to West	23	15.3%
uncertain	8	5.3%

Thirty-six of the inhumation burials were certainly buried within wooden coffins, thirty of which were nailed. These coffins were identified by the distribution of coffin nails (planned *in situ*) and/or patches of wood staining within the grave; although their absence does not necessarily mean that no coffin was present. All of the coffins appear to have been simple rectangular boxes, although the presence of wood staining without nails may indicate that the body had actually been buried on a wooden plank rather than in a coffin. Where nails were present they clustered in the bottom four corners of the box, probably where the base, end and side-pieces had been fixed together. The number of coffin nails present, varying from between none to sixty, indicates that in some cases other methods, such as wooden pegs and dovetail joining, had also been used to fix some of the wooden pieces together. The size of the nails used also varied greatly, but is likely to be associated with the thickness of the wooden panels and what nails were available to use during construction. On average the coffins measured approximately 1.33m long by 0.48m wide. No other coffin fittings were identified within the graves although a number of lids may have been present. It was very difficult to determine the presence of a lid to the coffin as many of the graves were disturbed to such an extent that only the bottom of the feature had survived. However, a lid was identified through the presence of a small number of coffins nails, usually pointing downwards to fix the lid to the rest of the coffin, which were between 0.40m and 0.90m higher in the grave than the rest of the coffin nails. However, the absence of these nails does not mean that no lid was present, as it could have been fixed by inorganic means (ie being tied to the coffin) or it could have been placed on the coffin and left unfixed.

Nineteen of the inhumations with coffins contained other burial goods and forty-one of the inhumations without coffins also contained burial goods; leaving 120 inhumation burials which contained neither coffins nor burial goods. The range and number of burial goods placed with the sixty inhumations varied considerably, with pottery vessels and hobnail shoes being among the most common types of find. In total sixteen jars were recorded (including two small/miniature jars) along with fourteen flagons, nine beakers, six bowls (including two miniature bowls), three flasks (including one miniature flask), two cups, one tetina, one glass flask, twenty-six to twenty-eight shoes, thirty-six glass beads, nineteen copper-alloy objects (ten coins, four rings, one brooch, one cosmetic set, one armlet, one object and some mirror fragments), five iron objects (one ring with an intaglio, one brooch, one candlestick, one knife and one sheet fragment), two

composite objects, a piece of silver foil, some lead fragments and a possible box. As little information on the age or sex of the individuals buried could be gained from the surviving bone it was not possible to investigate whether any of these burial goods were more common with one males or females, or people of a certain age. Some animal bone, possibly representing 'food for the afterlife' was also identified in one of the inhumations. It is unusual that only one inhumation contained such animal bone, but the poor condition and survival of the inhumed human bone within these graves would indicate that any animal bone had also degraded.

Cremation burials

One hundred and forty cremation burials were excavated in Area J1 North (Figs 1.28, 1.29a-h, 1.30a-e, 1.31). (For individual plans, *see* the Area C2 catalogue of buirals below.). This total can be sub-divided into sixty-five urned cremation burials, fifty-one burial pits containing pyre debris, eleven unurned cremation burials (including one possible boxed cremation burial), five pyre sites, four probable *busta* and four pyre sites/*busta*. Although these features are listed as a group it must be remembered that the urned cremation burials, unurned cremation burials and the *busta* represent actual burials, whereas the burial pits containing pyre debris and the pyre sites are by-products of the cremation burial rite. From the evidence gathered there does not appear to have been any spatial or temporal difference in the use of the three different burial rituals (urned, unurned and *bustum*) on this site. However, the huge difference in the ratio of urned cremation burials to both unurned cremation burials and *busta* (65:11:4/8) indicates that the urned cremation burial was the predominant type of cremation burial rite used on the site. The small number of unurned cremation burials and *busta* burials recorded on the site also means that effective comparison of these deposits with the urned cremation burials was difficult.

The cremation and urned cremations were generally buried within small circular or oval shaped pits, whose length varied from 0.18m to 1.45m (average 0.50m), and whose width varied from 0.18m to 0.91m (average 0.43m). Their average surviving depth was 0.25m. Taking the height of possible Roman ground level as 34.64m AOD (see above), it was also possible to work out the depth the cremation burials had been buried at (Figs 1.47-1.48). This depth below Roman ground level was on average 0.94m (33.70m AOD) but ranged from 0.19m to 2.37m. This data confirms that the inhumation burials were generally buried at a greater depth than the cremation burials. The appearance of each pit was probably also determined by the size of the deposits, the size of any urns and the size of any associated burial goods.

Urned cremation burials

The sixty-five urned cremation burials consisted of sixty-one single burials, one dual burial, one double burial, and two possible double burials (although the bone analysis could only identify at least one individual present). This gives a total of sixty-eight cremation urns and sixty-two separate individuals (five of the single cremation urns were so disturbed that no cremated bone was recorded). Out of the sixty-two, three were identified as ‘probably human’, nine as male, three as possibly male, four as female, three as possibly female and the sex of the remaining forty-three individuals was indeterminate. The age of the individuals at death was varied (see Table 1.17), and 15 also displayed a range of pathologies. Three individuals had evidence of periostitis (a non-specific infection), six had evidence of spinal disease (five had arthritis and one had Schmorl's nodes), one had arthritis in the hip (joint disease), one had dental disease and one had enthesophytes (a degenerative disease). A young adult also had evidence of both arthritis in the hip and enthesophytes, and the old adult had arthritis in the hip, arthritis in the spine, Schmorl's nodes, periostitis and dental disease.

In common with the Area C2 cremation burials, many of the cremations contained a large quantity of cremated bone, but none of the undisturbed burials appeared to contain 100% of the body. This would indicate that the process of collecting bone from the pyre sites on this burial ground was also far from complete. A study of the bone within the urns also showed that there was no dominant sequence of deposition during collection.

Table 1.17 Age at death of the Area J1 North urned cremation burials.

Age at Death	Number of Individuals Recorded
Juvenile (0-5 years)	4
Juvenile (10-20 years)	5
Adult (over 20 years)	18
Possible Adults (over 20 years)	9
Young Adults (20-35 years)	8
Middle Adults (35-50 years)	13
Middle/Old Adults (25-over 50 years)	1
Old Adults (over 50 years)	1
TOTAL	59

Plate1. 27 Urned cremation burial JNF88, Area J1 North

Of the sixty-five cremation burials in cremation urns, fifty-six were in jars (including two face pots and one honey pot), and one each were in a beaker, a jar/bowl, a jar/flagon, a flagon, a vase, a flask, an unidentifiable vessel, and two were in bowls. Therefore jars were the predominant type of cremation vessel. Twelve of these urns also had lids of a variety of types including five lids, three bowls, one beaker, one pot base, one large potsherd, and one urn had been covered by several storage jar fragments. It has been indicated that lids were important in symbolically 'closing' the grave and/or confining the spirit of the deceased within the urn (Barber and Bowsher 2000, 109). However, the use of lids in only twelve examples here may indicate that this particular belief was not widely held or practised on this burial ground. Interestingly however, where the position of the lid over the urn could be determined (in seven cases), six had been inverted over the urn rather than being placed the right-way up. It is uncertain if this has a symbolic role.

Nineteen of these urned burials also contained a number of other burial goods, which consisted of twenty-six other pottery vessels, two pottery lamps, five small finds (two iron objects, one copper-alloy coin, one glass bead, one pot counter), and some nails, hobnails and glass fragments. The most elaborately furnished of these urned cremation burials, JNF125, included an urn containing the remains of a juvenile (0-5 years), five other pottery vessels, one pottery counter (which had been used as a lid and placed on top of one of the vessels) and several other items which had also been placed in the urn (a factory lamp, a copper-alloy coin, an iron tool and two iron nails). One of these, JNF154, also contained a rectangular area of wood staining in the bottom of the feature on to which the urn and burial goods had been placed. This possibly represents

either a plank or perhaps a wooden box, which had been used as a secondary container for the urn and cremated bone. Animal bone, probably representing 'food for the afterlife', was also present in eleven of the burials.

It has been recognised that cremation urns can be buried so that the rim of the urn was above ground level. This meant that food, drink and other offerings could be placed into the urn after burial. Using 34.64m AOD as Roman ground level (*see* above) it was possible to plot the height of most of the recorded cremation urns in the burial area (Fig 1.47). However, although two burials were estimated to be close to this level (JNF147 and JNF239), the available data show that none of the urns were certainly buried with their rims above ground level.

Unurned cremation burials

Only eleven unurned cremation burials were identified, usually characterised by a distinct, and deliberately placed, concentrated of cremated bone within the bottom of the burial pit (Figs 1.28, 1.29a-d). (For indivual burial plans, see the Area J1 North catalogue in the appendix below.) None contained trace of a container for the cremated bone (although one, JNF47, did contain the remains of disturbed box fittings) and it is likely that the bone was either buried without a container or in an organic container which has since completely decomposed. All of the eleven burials contained cremated bone, although one contained only a small amount of probable human bone. Of the ten definite individuals, five were adults, four were possible adults and one was a young adult. None of them could be identified as either male or female. Two showed evidence of spinal disease (arthritis of the spine and Schmorl's nodes).

Three of the cremation burials contained no burial goods, four contained a small number of burial goods (usually a single pottery vessel), and four contained a more elaborate range of goods (cremation burials JNF47, JNF91, JNF103 and JNF205). Only about a third of burial JNF205 had survived but it included five miniature jars and the remains of a wooden box (in the form of a copper-alloy lock plate and many iron fittings). Unfortunately, the exact nature of this burial feature could not be determined although it is possible that it was in fact a boxed cremation. Cremation burial JNF103 was one of the more elaborate burials identified comprising five pottery vessels, a picture lamp in fragments, a bone/ivory bead, two broken hairpins (one of which was gilded), some glass and melted glass, three iron sheet fragments, a piece of burnt copper-alloy debris and a quantity of nails and hobnails. Animal bone, probably representing 'food for the afterlife', was also recorded.

Busta

A total of thirteen features were identified as either pyre sites or *busta* (Figs 1.28, 1.29a-d and the appendix below of the catalogue of Area J1 North burials). This number consists of five features which have been identified as pyre sites (JNF4, JNF199, JNF248, JNF277, JNF279) and four are probably *busta* (JNF5, JNF34, JNF61, JNF183). The remaining four features could only be identified as pyre sites or *busta* (JNF112, JNF203, JNF204 and JNF465). Three had been badly truncated (JNF112, JNF203, JNF204) and the last was left unexcavated (JNF465).

Busta are a relatively uncommon form of burial and consisted of a grave-shaped pit over which a pyre had been constructed. When the body was laid out on this pyre and cremated, all the bone, burial goods and pyre debris fell into the grave below where they were usually left *in situ*. *Bustum* burials are therefore identified as grave-shaped pits with steep sides and burning around the edges of the feature indicating that a pyre had been placed over the pit (Plate 1.28). They should also contain high quantities of charcoal and burning at the base (the pyre fuel falls into the pit first), then a large amount of cremated bone (sometimes still in a recognisable anatomical form) sometimes with pieces of burnt and broken burial goods. The upper level within the *busta* comprises earth backfill. However, on this burial site, it has also been recognised that several of the *busta* (JNF5, JNF34 & JNF61) were well-furnished and included a number of burial goods which appear to have been placed into the pit after cremation (and as such are generally whole and unburnt). Five miniature jars and a coin appear to have been placed in JNF5 after cremation. Some of these five miniature jars had however been slightly heat affected, which may indicate that although they had been placed within the burial pit after cremation the embers were probably still hot.

Most true *busta* are c.0.5m deep or deeper (Jackie McKinley pers comm to Rob Masefield). Two *busta* survived over 0.5m deep; JNF34 was 0.73m deep whilst JNF183 was 0.67m deep. The other *busta* survived less than 0.5m deep and were less easy to distinguish from a draught pit under a pyre. The dating evidence from the *busta* indicates most date to the late 1st to early 2nd century, although JNF61 may be slightly later. Therefore the *busta* appear to be an early Roman phenomenon at this site and the limited evidence from the pyre/*bustum* features indicates they are similarly early in date.

The *bustum* burials contained cremated bone from three adults and a juvenile (15-20 years) all of indeterminate sex. Both JNF34 and JNF183 showed evidence of periostitis (a non-specific infection). Only JNF183 included part of the body in a recognisable anatomical form as the bone of the pelvis and legs had not been cremated at all (Plate 1.28). This would indicate that the pyre built to cremate this body was either

not hot enough or too small (had too little fuel) to complete the task and that the unburnt bone was then placed into the *bustum* on top of the cremated bone. As none of the other cremated remains from the *busta* were in recognisable anatomical layout it is possible that the remains had been raked over, to level the pit, before it was filled in.

Plate 1.28 Bustum JNF183, Area J1 North.

Pyre sites

In contrast to the *busta* burials, pyre sites are not actually associated with the burial of the body but with the cremation burial rite (Figs 1.28, 29a-b, and the appendix below of the catalogue of Area J1 North burials). The initial phase of this rite was to cremate the body of the deceased on a pyre. These pyres were usually rectangular piles of wood, built either over a slight draught pit or at ground level. The body and any associated gifts, personal possessions or pets were placed on top of the pyre and burnt. After being burnt the cremated bone would then have been collected and buried elsewhere, as in the urned and unurned cremation burials. As many pyres are believed to have been constructed at ground level (Barber and Bowsher 2000, 61), most are likely to have left no evidence in the archaeological record. However, some appear to have been constructed over draught pits and are archaeologically detectable (as with JNF199, JNF248, JNF277, JNF279). They are identified as grave-shaped pits or hollows with burning around the edges of the feature indicating that a pyre had been placed over the pit. They should also contain high quantities of charcoal and burning, a small amount of cremated bone (as most of it should have been collected for reburial) and sometimes pieces of burnt and broken burial goods.

The pyres on this site ranged from between 1.35m to 2.36m in length, 0.5m to 0.85m in width and survived to a depth of 0.16m to 0.29m. On average they were also buried at 1.34m (33.30m AOD) below Roman ground level, meaning that these recorded features were deeper than many of the inhumation burials, due to several being set within partially filled quarry-pits. It is possible that these locations were considered to be more discrete or more sheltered. Four of the five definite pyres contained cremated human bone, most of which was in small quantities (as would be expected if much of the remains had been collected for burial elsewhere). This cremated bone represented five separate individuals as JNF4 contained

bone from two individuals, which could represent either reuse of the pyre site or the cremation of two individuals at the same time. All of the bone was identified as adult (or possibly adult) of indeterminate sex and one of the bodies showed evidence of osteitis (a non-specific infection). All of the pyres also contained a small number of burial goods that had been burnt with the body.

It is unlikely that all of the seventy-seven cremation burials (urned and unurned) identified on this burial ground were from this small number of pyre sites, which would mean that many other associated pyre sites were not visible to the archaeological process. This may be due to a number of reasons. First, as already mentioned, many pyres may have been constructed at ground level and have been removed by later activity on the site. Second, it is common for no pyres to be identified on a burial ground which contained cremation burials. Classical writers have described an '*ustrinum*' as a separate place reserved for the cremation of the dead (Toynbee 1971, 49) and several other sites, for example Elms Farm at Heybridge, have shown that pyre sites can be located at a distance from the burial ground (ECC 2002, 9).

Burial pits containing pyre debris

As well as the pyre sites themselves, fifty-one 'burial pits' were also identified as containing mainly pyre debris (Figs 1.28, 1.29a-d, 29f-g, and the appendix below of the catalogue of Area J1 North burials). This debris is considered to potentially represent the disposal of surplus remains from pyre sites following formal burial of the cremation (ie urned or unurned cremation burials). The dumped material is fairly distinctive, consisting of a large quantity of charcoal and burning, a small quantity of cremated bone (as most of it would have been collected for reburial) and a quantity of burnt and broken burial goods, all of which were scattered throughout the fill of the receiving pit. This debris was generally buried within small circular or oval shaped pits, measuring on average 0.64m by 0.49m.

It is possible that many of these pits may simply have been intended as unurned cremation burials, despite their high pyre debris content. In some cases the quantity of cremated bone buried may not have been a primary consideration of the relatives or others involved in disposing of the dead and a collection of ash from the pyre may have been regarded as representative of the whole. In other words a symbolic act. Forty-four out of the fifty-one 'burial pits' contained some quantity of cremated bone, ranging from 1g to a maximum of 700g, whilst seven contained over 100g of bone. One possibility is that these burial pits were of a different tradition to cremations containing higher concentrations of bone. By means of comparison the Late Iron Age cremation from new garrison Area 6, despite containing four associated vessels and an iron item (and therefore being relatively well furnished) contained only 78g of cremated bone, whilst two Early Iron Age 'cremations' from Area 10 contained less than 1g each of human bone remains (Anderson in CAT Report 292). Therefore these burials are similar to the indigenous burial tradition. Out of the forty-four 44 burial pits with cremated bone in Area J1 North, thirty contained cremated human bone from a single individual, one contained cremated human bone from two individuals and 13 contained bone which was probably human.

Forty of these pits also included a varying number of burnt and broken burial goods which would have been burnt with the body, consisting of pottery sherds, nails, hobnails, melted glass, burnt flint and animal bone. However, ten included a larger amount of debris and pit JNF252 not only contained the largest quantity of bone recorded from one of these features (at 700g), but also contained a very wealthy set of burial goods which had been burnt and scattered throughout the burial pit (JNF252). These goods included the remains of four tazzas, two flagons, two picture lamps, one factory lamp, one double spouted lamp, six copper-alloy objects (four studs, one shank fragment and one fragment), one iron brooch, several fragments of glass and melted glass, a date and several nails and hobnails. Several pits also included the remains of near complete pottery vessels, some unburnt, as well as a copper-alloy coin. The presence of complete and partial burial goods in some of these pits confirms that the process of 'dumping' debris was completed with care, to the extent that burial goods which had survived the cremation fairly intact were carefully collected and reburied. These burial goods, especially the unburnt pots, may however also represent the remains of burial feasts and other rites practised by the grave side which were buried along with the pyre debris.

Unusual burials

Seven of the inhumation burials and a pyre site were identified within roadside ditch JNF10. Placement of the pyre within a partially silted ditch (the lower 0.64m having previously silted) may have been for convenience, for example due to restricted space within the burial ground. However, the placement of the inhumation burials is potentially significant since such a location may have been considered to be marginal. Therefore the placement of these inhumations, both outside the burial plot area and at a marginal location in a roadside ditch, may indicate these were people of lesser status. However, many (approximately 128) of the burials had also been inserted into the fourteen quarry-pits. Indeed the main concentrations of burials were in the quarry-pits. This may not in itself be significant – it may simply be the case that burials were placed in ground which had already been dug over, and was consequently easy ground to dig into.

Burial markers and other post-holes

Of the forty-five Roman post-holes in the Area J1 North burial area, twenty-five were clearly associated with Roman burials, and nine others possibly so. For the purposes of this report, post-holes which cut backfilled burials (Table 1.18) or were located within 0.45m of a burial (Table 1.19) are regarded as potentially associated with that burial. The twenty-five post-holes which cut backfilled burials were associated with twenty different burial types – sixteen with inhumation burials, one with a bustum, one with an urned cremation burial, and (interestingly, as they are not necessarily formal burials) two with burial pits containing pyre debris. Four of the post-holes associated with inhumation burials were cut into the 'head end' of the grave (in the twelve other inhumations, it is not certain which was the head-end). Of the other nine post-holes located close to burials, all but one was adjacent to an inhumation burial.

The above evidence almost certainly indicates that the post-holes represent burial markers predominately placed at the head-end of the grave. These markers were probably simple wooden posts erected, perhaps bearing the name of the deceased, after burial. However, three in particular appear to have been more elaborate. Inhumation burials JNF270 and JNF389 each had two post-holes cut into them, whilst inhumation burial JNF228 had a post-hole cut into each of the four corners of the bottom of the grave (at a depth of 0.65m). Notably, each of the four post-holes of JNF228 appear to have been sealed by the timber coffin, once placed into the grave. It is uncertain what these post-holes represent, although rather than being markers they may have been used as a lever or pulley system for manoeuvring the coffin (although this explanation is also somewhat unsatisfactory).

The small number of burials recorded with these markers may indicate that it was not a widely used part of the burial rite. However, the later disturbance caused by successive phases of burial (and particularly from modern foundations and services) may have removed many other post-holes.

Table 1.18 Table showing all definite burial markers, Area J1 North.

Post-hole number	Associated burial number	Type of burial	Location within/near to burial	Other notes
Eval JF19	JNF191	Inhumation burial	Post-hole cut into north-west end of grave	Burial was orientated with its head at the north-west end
JNF81	JNF78	Burial pit containing pyre debris	Post-hole cut into centre of the burial pit	-
JNF92	JNF62	Inhumation burial (grave)	Post-hole cut into the north-west end of the grave	-
JNF113	JNF174	Inhumation burial (grave)	Post-hole located at north-west end of the grave	-
JNF185	JNF179	Inhumation burial (grave)	Post-hole cut into north-eastern side of the grave	-
JNF197	JNF187	Inhumation burial (grave)	Post-hole cut into south-west end of the grave	-
JNF220	JNF153	Burial pit containing pyre debris	Post-hole cut into one edge of the burial pit	-
JNF233	JNF97	Inhumation burial (grave)	Post-hole cut along south-east edge of the grave	Burial was orientated with its head at the south-east end
JNF234	JNF96	Inhumation burial (grave)	Post-hole cut into north-west end of the grave	Burial was orientated with its head at the north-west end
JNF304– JNF307	JNF228	Inhumation burial (grave)	Post-holes cut into the four corners of the grave	Post-holes possibly formed a structure over the burial
JNF338– JNF339	JNF270	Inhumation burial (grave)	Post-holes cut into centre and edge of the grave	-
JNF340	JNF271	Inhumation burial (grave)	Post-hole cut into the eastern end of the grave	-
JNF344	JNF183	Bustum	Post-hole cut along one edge of feature	-
JNF362	JNF346	Inhumation burial (grave)	Post-hole cut into south-west end of the grave	Burial was orientated with its head at the south-west end
JNF363	JNF345	Inhumation burial	Post-hole cut into centre of	-

Post-hole number	Associated burial number	Type of burial	Location within/near to burial	Other notes
		(grave)	grave	
JNF376+ JNF390	JNF389	Inhumation burial (grave)	Post-holes cut into southern end of the grave	-
JNF443	JNF442	Inhumation burial (grave)	Post-hole cut into south-west edge of grave	-
JNF446	JNF431	Urned cremation burial	Post-hole cut into one edge of burial pit	-
JNF460	JNF449	Inhumation burial (grave)	Post-hole cut into south-east end of grave	-
JNF475	JNF402	Inhumation burial (grave)	Post-hole cut into south-east end of grave	-

Table 1.19 Table showing all possible burial markers, Area J1 North.

Post-hole number	Associated burial number	Type of burial	Location near to burial
JNF49	JNF28	Burial pit containing pyre debris	Post-hole located 0.1m away from burial
JNF102	JNF50 and/or JNF64	Inhumation burials (graves)	Post-hole located 0.3m from JNF64 and 45cm from JNF50
JNF152	JNF275	Inhumation burial (grave)	Post-hole located 0.1m away from burial
JNF198	JNF199 and/or JNF469	Pyre site and Inhumation burial (grave)	Post-hole located 0.05m from both burials
JNF219	JNF265	Inhumation burial (grave)	Post-hole located 0.1m from burial
JNF337	JNF293	Inhumation burial (grave)	Post-hole located 0.15m from burial
JNF398 and JNF476	JNF272, JNF396, JNF397, JNF399, JNF400 and/or JNF430	All inhumation burials (graves)	Post-holes located within cluster of graves
JNF445	JNF149 and/or JNF180	All inhumation burials (graves)	Post-hole located 0.2m from JNF149 and 10cm from JNF445

Other burial-related features

Two features (JNF242 and JNF333; see Appendix 1) contained an upright, whole jar, with the remains of a lid surviving *in situ*, set in a small pit. Neither pot contained cremated bone nor any other surviving finds, and it is clear that this was not due to later disturbance. The pots could originally have held food or drink and have been intended as an offering. Both cut inhumation burials and were perhaps associated with these.

Several other unclassifiable burial-related features were excavated. Two disturbed features (JNF41 and JNF311) each contained the remains of a pot but no cremated bone. One feature (JNF70) was probably a cremation burial redeposited in a grave. There were also two pottery scatters (JNF209 and JNF264) and one almost totally destroyed feature (JNF467).

Roman burials and burial related features in Area J1 South

Seven burials were excavated in Area J1 South (Fig 1.131 and the appendix below of the catalogue of Area J1 South burials). This total includes the burials found in evaluation trenches J1T19 and J1T20, and in the Area J1 South excavation site). These burials consisted of four urned cremation burials (Evaluation JF51, Evaluation JF52, JSF3 and JSF4), two amphora cremation burials (JSF9 and JSF10) and one inhumation burial (JSF12). The burials were located within a distinct burial plot, which was bounded to the east by the western flanking ditch of the large Roman road recorded traversing the centre of Area J1 (see below), and to the south and west by a narrow right-angled droveway (see below). The northern edge of the burial plot was

not identified, but the plot measured at least 14.5m by 15m (218m²). The location of the droveway leading into the burial plot would indicate that the plot was also used as an agricultural field/paddock. Therefore, the burial area is probably a part of a family plot within a small agricultural field or paddock. All of the burials appear to date from the early 2nd century to the late 2nd/early 3rd century, a period of approximately 100 years.

The inhumation burial was recorded within a sub-rectangular feature with vertical sides and a flat base, measuring 1.84m long, 0.83m wide and surviving to a depth of 0.22m. In contrast, the urned cremations were generally recorded within small circular or oval shaped pits which measured on average 0.60m by 0.54m, and had survived to 0.18m deep. Similarly, the amphora burials were recorded within larger oval shaped pits measuring, on average, 1.53m by 0.60m, and had survived to a depth of 0.11m deep. Using the height of the surviving road surface on this site (at 34.37m AOD) as an estimate of Roman ground level, it was possible to calculate at what depth these burials were placed. The inhumation burial appears to have buried 0.39m (33.98m AOD) below Roman ground level, with the urned cremations and the amphora cremations recorded at on average 0.13m (34.24 AOD) and 0.41m (33.96m AOD) respectively. Therefore all of the burials in this plot were buried at a relatively shallow depth. A comparison of these figures with the actual heights of the urns and amphoras is interesting, since it shows that all of these burial receptacles may have been buried with their rims above ground level (Fig 1.47). As mentioned above, this practice potentially allowed food, drink and other offerings to be placed with the deceased after burial. However, if this burial plot was also used as an agricultural field for stock (as strongly indicated by the double ditched drove flanking the plot), all six of these open burials would have been damaged under hoof and indeed have created an accident risk to the animals. This may indicate that the agricultural function of the field, and the droveway leading to it, was replaced by the burial plot, or that the burials were somehow protected at ground level. Alternatively, the burials could have been covered with a small mound.

No bone had survived within the inhumation burial (due to the acidic soil conditions) or amphora cremation burial JSF10 (probably due to later disturbance), and only the bone from three out of the remaining five burials could be analysed. All three burials consisted of adult individuals of indeterminate sex. Neither the inhumation burial nor three of the urned cremation burials contained associated burial goods, and the fourth urned cremation only contained a single flagon. The two amphora cremation burials were however more elaborate although JSF10 had been severely disturbed and only the remains of an amphora and a flagon were recorded. Amphora burial JSF9 was much better preserved, although only 8g of bone had survived in it. The burial contained two amphoras placed side by side, with a jar and bowl (used as a lid) placed next to the amphoras on one side and another jar placed to the other side (Plate 1.29). The neck had been deliberately removed from one of the amphoras which had allowed a jar, an elaborate copper-alloy open lamp, two frit melon beads, a bone shaft fragment and a bone bead to be placed into the vessel. It is likely that a wooden plank would have been placed above the jar in the amphora and the open lamp would have been lit and placed upon it. If the neck of this amphora was above ground level, it would have meant that the lamp could be refilled with oil and kept alight for some time after burial. It would also have been possible to view this lamp, and more importantly the shadow that the reflector plate made, from the surface.

Plate 1.29 Amphora burial JSF9, Area J1 South.

Roman burials and burial related features in Area J1 East

Three burial pits containing pyre debris (JEF1, JEF2 and JEF3) were excavated in Area J1 East (Fig 1.32, nd the appendix below of the catalogue of Area J1 South burials). They measured, on average, 0.60m long by 0.54m wide and had survived to a depth of 0.22m. JEF 1 had been cut into the backfill of the earlier quarry-pit JEF4. All three contained the remains of adults of indeterminate sex, although JEF1 only contained uncremated human bone which may indicate that the cremation of this individual had been of variable success. A small number of burnt and broken burial goods were also identified in two of the pits; this provided two dates from the early/mid to the late 2nd century (JEF1) and from the 1st to the 2nd century (JEF2). The burials were dispersed to the south of the Roman circus and it is possible that they were outliers of the Abbey Field cremation cemetery excavated in 2000 (CAT Report 138) and in 2007 on Circular Road North (CRN 2007; *see* report below).

The Abbey Field cremation cemetery is located approximately 40m to the immediate south of Area J1 East. Seventy-eight burial features were excavated at the site of the all-weather sports pitch in 2000 (CAT Report 138). These included cremation burials (unurned, urned and boxed) as well as some pits containing pyre debris, dating mainly from the 3rd to the 4th century, with some possible 2nd century activity. The location of the burial pits on Area J1 East, their date and their similarities to the burials recorded further to the south would appear to indicate that the burial pits recorded on this site were a part of the larger Abbey Field cemetery. This would mean that the cemetery area continued much further north than previously recorded and that the Roman circus probably acted as its northern boundary.

No definite pyre sites were identified either in Area J1 East or the Abbey Field cemetery area. However, the presence of a number of burial pits containing pyre debris indicates that either the bodies were not burnt on the site, or that the pyres have not survived or been found.

Roman road

A wide Roman road or track, defined by two large roadside ditches and several patches of surviving metalled surface, was recorded running through the centre of Area J1 (Fig 1.28, and sections on Figs 1.35-1.37). The road was identified and excavated in evaluation trench J1T10, in Area J1 North and in Area J1 South. The combined length of the recorded and extrapolated road (ie the gap between Areas J1North and J1South) was 254m traversing in a sweeping arc from the north-west to the south-west. Despite the gap between Area J1 North and J1 South the orientation of the ditches, the consistent distance between them in both areas, the similar gravel metalling in both and the consistency of the dimensions, fill types and finds types between the two areas, leaves no doubt that they represent a single routeway.

Within Area J1 North (including J1T10) the road was recorded for a distance of 82m and ran from north to south along the western half of the site. It was defined by two roadside ditches, (JNF10 and JNF501) 24m apart, and by several patches of metalled surface (JNL3/JNL6/JNL9) at approximately 34.64m AOD. The best area of preserved metalling was JNL3 in the north-west area of the site, where at least one phase of gravel metalling was recorded with possible small patches of repair. Roadside ditch JNF10, located on the eastern side of the road, was recorded for a distance of 82m. It was a large, U-shaped, single phased ditch which measured approximately 3m wide and 0.99m deep. Roadside ditch JNF501, located on the western side of the road, was recorded for a distance of 1.6m (though it is presumed to continue to the north of here, and its southerly continuation was found on the Abbey Field Sports Pitch site (CAT Report 138). It was also a large, U-shaped, single phased ditch which measured approximately 6.5m wide and 1.6m deep (section – Fig 1.37).

Plate 1.30 Patch of metalled surface JNL3/JNL6/JNL9, Area J1 North

Roadside ditch JNF10 acted as the south/south-west boundary for the cemetery area, and was found to contain a number of unusual features and finds. Seven inhumation burials and one pyre site were found in two sections of the ditch (see above). These burials could only have been buried in the ditch once it had begun to silt up, which would indicate that both the road and the cemetery had been in existence for some time prior to burial. In addition a significant quantity of cattle jaws was recorded in a pile above the remains of the pyre. It is uncertain what form of activity these cattle jaws represent, although it is possible that they form an offering associated with the burial ground.

Plate 1.31 Roadside ditch JNF10 with deposit of cattle jaws, Area J1 North.

Once it was established that the metalling and eastern flanking ditch represented a road within Area J1 North it was clear that a silt patch found in evaluation trench J1T10 to the west previously must, in fact represent the western flanking ditch. Re-examination of the trench confirmed the supposition. The base of the subsequently re-examined roadside ditch JNF501 contained several fragments of inscribed Purbeck marble associated with a Roman coin dated to AD 146-161. It is likely that inscribed fragments derived from a plaque on a roadside gravestone. The coin provides a useful indication of the date from which the ditch was allowed to silt up. It is thus considered to represent a final cleaning-out of the ditch. The equivalent ditch in Area J1 South produced a coin hoard whose latest coins were Hadrian's (therefore potentially deposited earlier than this coin) from midway through its fill. There appears to be little doubt, therefore, that when the J1 North segment of ditch was cleaned out that the segment further to the south was not. This requires some explanation and might most readily be explained by the location of the northern segment adjacent to a major cemetery. Here the separation of the cemetery from the agricultural hinterland (the sacred/liminal from the profane) may have been deliberately emphasised.

Plate 1.32 Roadside ditch JNF501, Area J1 North.

Within Area J1 South the road was recorded for a distance of 72m and ran north to south through the eastern half of the site. It was defined by two roadside ditches (JSF5 and JSF19/JSF20), again 24m apart, and by several patches of a metalled surface (JSF8). Roadside ditch JSF19/JSF20 was located on the eastern side of the road. The position of this flanking ditch was confirmed within two north-west extensions of Area J1 South with the alignment between the two extrapolated. This was a large, U-shaped, single phased ditch that measured approximately 2.5m wide and 0.96m deep. Notably, in common with the comparable roadside ditch (JNF10) in J1 North, ditch JNF19 contained a very small area of dumped pyre debris (a quantity of cremated bone, charcoal and charcoal) and a much larger deposit of burnt cattle bone. Therefore the eastern flanking ditch of the road appears to have been consistently used as a repository for burial ground related features and deposits along its length. This may indicate that pyre sites were located to the north (the area within Area J1 shown via evaluation to have been destroyed by intensive post-medieval quarrying).

Roadside ditch JSF5, located on the western side of the road, was recorded for a distance of 72m. It was also a large, U-shaped, single phased ditch which measured approximately 3.5m wide and 1.31m deep. As within Area J1 North this western flanking ditch was considerably larger than the eastern equivalent and similarly did not contain any burials or related features. However, as indicated, a hoard of forty-three silver coins was found within the middle to upper fill of the ditch. The coins were not found to be associated with a pottery vessel or purse but appear to have been scattered over a small area (6m by 2.5m), perhaps indicating that the coins had been lost or scattered as opposed to deliberately hidden with the intention of

being recovered. The coins cannot have been lost earlier than the latest (Hadrianic) issue period of AD119-122, so the ditch must have been silting up for a period of time before this date.

The metalled surface had survived in three small patches between the ditches (numbered JSF8). The surface was typically 0.20m in depth, was single phased and appears only to have survived later ploughing where the metalling had infilled dips or undulations in the route surface. The metalling was recorded at a height of 34.37m AOD.

Roman field System

Further landscape features associated with a Roman field/plot system were identified on Area J1 (Fig 1.32). These features were located to the south of the area and concentrated around evaluation trenches J1T18-J1T20 and Area J1 South. Droveway ditches first excavated in evaluation trenches J1T19 and J1T20 were renumbered during the excavation of Area J1 South, and the excavation numbering is used here.

A pair of droveway ditches (JSF2 and JSF1/JSF6) in Area J1 South defined and flanked two sides of a small square field or plot. The droveway was recorded for a total length of 62m and was 3.8m wide. Droveway ditch JSF1, located on the west and south side of the droveway, was a small, U-shaped, single phased ditch, on average 1.9m wide and 0.79m deep. Droveway ditch JSF2, located on the east and north side of the droveway, was also a small, U-shaped, single phased ditch, on average 1.4m wide and 0.62m deep. The droveway was aligned north to south, from the north-west edge of the excavation to the south-west edge, where it turned a 90 degree angle and ran from west to east. The east-west section of the droveway continued until it connected with roadside ditch JSF5 (see above). At this point droveway ditch JSF1/6 connected the larger ditch, but ditch JSF2 terminated before it met the ditch and thus created a 3m wide entrance. This entrance probably funnelled stock/people into the associated paddock and/or burial plot to the north. As droveways were essential for moving stock around the landscape, it is likely that the burial plot was also or predominantly used as an agricultural field. Although no evidence was found during the excavation, it is possible that a bridge existed joining the smaller droveway to the larger road further facilitating stock movements to the wider communication network. Finds from the ditches were broadly contemporary with the burials within the area defined by them.

There was no evidence for the function of the areas to the south and west of the droveway, nor of the area to the east of the road. However, a single field boundary ditch was identified within J1T18 (located further to the west of J1 South). Together this evidence would appear to indicate that much of the southern half of Area J1 was located within the Roman agricultural fields or paddocks.

Roman quarry-pits

Fifteen Roman quarry-pits were excavated in Area J1 - fourteen in Area J1 North (JNF2, JNF23-25, JNF72, JNF131, JNF140, JNF194, JNF227, JNF257, JNF379, JNF419, JNF420, JNF468) and one in Area J1 East (JEF4) (Figs 1.28, 1.33a). In Area J1 North, the quarry-pits were relatively large (measuring between 5.5m and 22m in diameter) and had probably been dug as sand or gravel quarries. For safety reasons, none were fully excavated, therefore their depths could not be established. They all appear to date to the early Roman period, mainly because they were cut by Roman burials which themselves dated from the 1st century onwards. In fact, 128 of the Roman burials had been dug into the backfill of these pits which had only partially silted-up, or been partially backfilled, prior to insertion of the burials. This thus confirms that the quarry-pits had not been backfilled after extraction of raw materials but had been left open for a time. Later Roman material was dumped in the upper levels of the quarry-pits. All but one of the quarry-pits in Area J1 North were distributed in a line along the east side of the Roman road, which may indicate that they were originally dug to quarry gravel for the road surface.

The lone quarry-pit in Area J1 East (Plate 1.33) was located immediately to the south of the Roman circus, and had probably been used to quarry the building sand and gravel used in the construction of this building. This was also the only quarry-pit to be excavated to the bottom of the feature and measured 1.4m deep by 7.5m in diameter. The quarry-pits in Area J1 North were evidently somewhat deeper. During the excavation it became apparent that the pit may have been left open for some time as its lower levels contained silt typical of waterlogging, which would indicate that, like the pits in J1 North, they were not backfilled but left open for a period to silt-up naturally. Few finds were recovered from the fill, although a dump of crushed tile fragments may link the backfilling to the construction period of the adjacent structure. Cremation JEF1 was cut into the top fill of this quarry pit

Plate 1.33 Quarry-pit JEF4, Area J1 East.

Other Roman features

Thirteen other Roman features were excavated in Area J1 - nineteen pits, eleven post-holes and one pit/post-hole in evaluation trench J1T11 and excavation Area J1 North; five pits and a small ditch in evaluation trenches J1T19-J1T20 and excavation Area J1 South, one pit in excavation Area J1 East, and one post-hole in evaluation trench J1T18. It is uncertain what this activity represents, although it is likely to be associated with either the Roman burials, the Roman field system, or the Roman circus.

Period 7 – medieval

Excavated medieval contexts included four robber trenches (JEF5, JEF12-14), four layers of demolition debris (JEF35, JEL2, JEL4 and JEL8) and a small pit (JEF34). The robber trenches had robbed out the four walls of the Roman circus and the demolition debris and pit was associated with this activity. These contexts date primarily to the 11th and 12th centuries (on the basis of the date of sixty potsherds from the robber trenches), although there is some evidence that this robbing continued in the 13th and very probably as late as the 15th century (based on the date of nineteen pottery sherds). It may be the case that the varying robbing dates represent, first, the robbing of the superstructure in the 11th-12th centuries, and second, the later and sporadic robbing of the foundations between the 13th and fifteenth centuries. It may or may not be possible to link these two episodes of robbing with the initial construction of the adjacent St John's Abbey, and with later episodes of repair or rebuilding.

Period 8 – post-medieval

Several post-medieval features were excavated in Area J1, specifically in evaluation trenches (J1T17-J1T20, J1T22 and J1T25), in Area J1 South, and in Area J1 West. The ditch and metalled surface in J1T17 were renumbered during the excavation of Area J1 West. Similarly, the ditch recorded in J1T19 was renumbered during the excavation of Area J1 South.

Two related post-medieval features were excavated in Area J1 West. These comprised a narrow road defined by a metalled surface (JWF1), within an eroded 'hollow way' and a flanking roadside ditch (JWF2) to the west (Plate 1.34). The road was aligned north to south and was recorded for a total distance of 10m. The area of exposed metalled surface measured approximately 3.65m wide, 0.51m deep within the slight hollow way. Heavy wheel-rutting and several phases of metalling represent prolonged or frequent use of the road (evidently at times in saturated conditions). The ditch was located to the west of the road, and consisted of two parallel gullies (0.5m wide by 0.12m deep and 0.6m wide by 0.22m deep) indicating that an

earlier ditch was recut by a later version (although it was unclear during the excavation which was the earlier ditch). Pottery from the metalled surface dates this road to the 17th and 18th centuries, and therefore it was potentially in use during the Civil War.

The late medieval to post-Medieval landscape in what is now Area J1 consisted of three field boundary ditches, a gully and three pits. The Roman field system had been replaced by this time (if not before) by post-medieval ditches in new positions which created at least three separate fields to the north, east and west of what is now Area J1. It is notable, however, that these ditches appear to follow the same orientations as the Roman paddock and adjacent segment of Roman road within Area J1 North (Figs 1.28, 1.32). Therefore hedgerows or other means of parcelling the landscape on this alignment must have continued in use between the Roman period and the post-medieval period. Ditch JSF17 was aligned east to west and ran across the northern edge of the site. Ditch JSF7 was aligned north to south beginning 5.4m to the south of ditch JSF17, and divided the site almost in two. The final ditch (JSF14) was located in the north-east corner of the site which, although out of alignment with the other post-medieval linear features, appears to belong to this phase. All of the ditches measured, on average, 1.14m wide and 0.29m deep. The gully (JSF16 – 0.69m wide and 0.16m deep) followed the line of ditch JSF7 and the pits (JF59, JSF13, JSF15) were all located to the east of the same ditch. Ditch JF40, located within evaluation trench J1T18, was also on the same alignment as JSF17 and is probably a part of this same ditch. This would indicate that the field system continued to the west of the site. Pottery in these features dates from the 15th to the 16th century, and indicates that JSF17 was being filled in during the later 16th century, or shortly afterwards.

The other post-medieval features in Area J1 were two quarry-pits in evaluation trenches J1T22 and J1T25, a ditch in trench J1T17 and a pit in J1T11. The length, width and depth of the two quarry-pits could not be determined during the evaluation but quarry-pit JF10 contained pottery dated from the 15th to 16th century. Ditch JF46, which measured 1.57m wide and 0.81m deep, dated from the 16th to the 17th centuries, as did pit JF28.

Plate 1.34 Rutted post-medieval road surface within a 'hollow way' JWF1, Area J1 West.

Period 9 – modern/military

A large multi-lobed quarry-pit was also recorded (but not excavated) in the north-eastern side of the site. This quarry-pit appeared to cut both the Roman and the post-medieval features so is of relatively late date and may be related to the construction of the garrison. The 2002 trial-trenching evaluation (CAT Report 206) shows that the ground between Areas J1 South and J1 East was heavily cut by a dense area of similar quarry-pits which may have been associated with a major period of building in Colchester town.

Ten pits, ten service trenches, two ditches and the foundations of two large late 19th century barrack buildings were also identified in Area J1 North, and a modern service trench in Area J1 West. Also, during

the machine excavation of the subsoil within Area J1 South, several military concrete pads were planned and then removed.

Five WWII air-raid shelters, four building foundations, four pits, three service trenches, two ditches and a cobbled road were recorded in eleven of the evaluation trenches. Many more military/modern features were planned but not given a feature number. All of these military/modern features are probably associated with the military barracks which have been situated on what is now Area J1 since the 1860s.

Finally, a total of thirty modern/military features were recorded on Area J1 East. These features included fourteen post-holes, four pits, four military trenches, three trenches, two service trenches, two ditches and an air-raid shelter/bunker. None of the military features were excavated because they had not been cleared of possible unexploded ordnance. One of the military practice trenches on he extreme eastern edge of the site had a plan typical of a 1st World War 'fire trench'.

Area O (Figs 1.49-1.50)

Introduction

Area O comprises a 6.917ha area located to the south of Abbey Field. It was bordered on its northern and western sides by Circular Road South and on its east by the former Ypres Road (which has recently been removed as part of the new garrison redevelopment) (NGR: TL 9953 2389) (Fig 1.1, 1.49). The site previously contained the extensive buildings of Sobraon Barracks and the Military Hospital both of which were demolished in the later 20th century. The western zone of Area O was largely concreted over while the eastern zone consisted of open areas of mown grass above buried foundations.

The site is located on the side of a dry valley which slopes down from south to north from a plateau upon which the former hospital was situated. The base of the valley is followed by the South Circular Road, running east-west. The drift geology of the area is predominantly sands and gravel occasionally in a clay matrix, and is sometimes capped by cover loam. Colluvial (hillwash) deposits are located at the base of the valley.

As well as contributing to the overarching research themes, the primary objective for Area O was to establish the presence/absence of human burials, to establish whether the site was rural or domestic in character, and to establish whether there were any buildings or other structures on the site (in the form of walls, post-holes, gullies, etc).

The archaeological investigation of Area O consisted of a trial-trenching evaluation. A single trench 1.8m wide and 50m long was excavated.

Periods 1-5 – Palaeolithic through to the Late Iron Age/Early Roman period

There is no evidence of activity in Area O in these periods.

Period 6 – Roman

A single Roman field boundary ditch (OF1) was identified within the evaluation trench. This ditch measured approximately 2.5m wide, 1.00m deep, was dated from the 1st to the 3rd century and included one later but undated recut (OF2). The east-west orientated boundary conforms with the orientation of the Roman town and the landscape ditches and 'villa' enclosure in Area E and the very large Roman circus identified in C1, C2 and J1.

Periods 7-9 – medieval to modern/military

There is no evidence of activity in Area O in these periods.

Area Q (Figs 1.51-1.55)

Introduction

Area Q comprised a 6.845ha area located to the east of Berechurch Road, approximately 400m north of the Roman Barracks, and situated on the northern slope of the Roman River valley (NGR: TL 996 244). The land was recently in arable cultivation but has not been worked agriculturally since the 2003 harvest. Previous trial-trenching evaluations in the area as part of phase 1a in 2002 revealed a number of prehistoric pits, two Late Iron Age/Roman trackways associated with the field system and numerous other pits, post-holes and features. The phase 1b archaeological evaluation of Area Q consisted of four more trenches totalling 200m in length. The results confirmed the existence of agricultural landscape features potentially associated with the oppidum landscape. RPS, in association with CAT, drafted an excavation proposal for an area of approximately 1ha, subsequently agreed by CBC. The excavation was designed to characterise the nature of the oppidum and Roman landscape in this area and as such contribute to the overarching research themes. It was also designed to establish the character of earlier prehistoric activity hinted at by the evaluations, the date, phasing, and function of the cropmark ditches, whether the site was rural or domestic in character, and whether there were any buildings or other structures on the site (in the form of post-holes, gullies, etc).

Period 1 – Palaeolithic to Mesolithic

No features of a Palaeolithic or Mesolithic date were revealed in the evaluation or excavation. However, two pieces of worked flint, dated broadly to the Palaeolithic period (*c* 500,000-10,000 BC), were found during the excavation (residually in a later context, and in a natural feature). These finds are derived from the underlying Pleistocene gravels, and indicate some form of intermittent Palaeolithic activity in the area.

Period 2 – Neolithic

A single sherd of Late Neolithic Peterborough Ware was found in one of the post-holes of a four-post structure (see below). As Neolithic four-post structures are not a regular component of Neolithic Britain (with very few having been positively identified), it is likely that the pottery is residual and that the structure is probably of Iron Age date (Paul Sealey pers comm. and see below). However, the presence of this small sherd of Neolithic pottery on the site hints at small scale Neolithic activity in the area.

Periods 3 - 4 – Bronze Age to Early-Mid Iron Age

There were no well-dated features of Bronze Age or Early to Middle Iron Age date. However, several residual pieces of Late Bronze Age pottery were found in later features. In addition, seventy sherds of Late Bronze Age/Early Iron Age pottery were recovered from what was originally thought to be a ditch in 2002 evaluation trench QT1. The excavation demonstrated that this feature was actually a tree throw hole and the presence of Late Bronze Age/Early Iron Age pottery in this 'grubbing out' tree pit provides an indication of the date of a phase of prehistoric tree clearance on the site.

However, also identified on the site was a four-post structure. This consisted of four-post-holes (QF71-QF74) set 2.5 by 2.5m apart with two additional post-holes (QF75 and QF77) forming a possibly extension 1.5m further to the north (creating an overall measurement of 2.5 by 7m) (Figs 1.53, 1.54, Plate 1.35). Although several small flint tempered pottery sherds were recorded from these features, the only diagnostic sherd was the probably residual Neolithic pottery sherd mentioned above. This type of structure is well known in the Late Bronze Age and Iron Age periods and two similar, Early Iron Age, four-posters were identified immediately to the south of Area Q (in Area 10 of the new garrison). It is therefore likely that the three structures were broadly contemporary.

Plate 1.35 Four-post structure, Area Q.

Period 5 – Late Iron Age

There were no definite Late Iron Age features or finds. However, the Roman field boundary ditches and the animal pens/erosion hollows (see below) may, in theory, have originated in this period. A problem with this interpretation, however, is the lack of residual Late Iron Age pottery from Area Q (Sealey this volume), which may indicate that this area was wooded in that period.

Period 6 – Roman

Field boundary ditches

Two field boundary ditches were excavated in Area Q. The first (QF29) was 1.20m wide and 0.30m deep and was orientated north-west to south-east. This was first seen in the 2002 evaluation trench QT2, where it was recorded as QF204 (CAT Report 207, fig 10). A total length of 160m of this ditch was visible on the excavated site. It does not appear to continue as a cropmark immediately to the north of the excavated site, but there is a cropmark continuing on the same alignment to the NW of the site after a gap of approximately 100m. A 3m-wide gap approximately halfway along the excavated part of the ditch may be an entrance.

The second ditch (QF109/130) was orientated north-east to south-west, and ran at a right-angle to the first ditch. This ditch was not visible as a cropmark, and so was not known prior to the 2002 evaluation.

On site, this ditch consisted of the 10m length of QF109, then a 13m gap, then a 7m length of QF130.

As for the continuation of this ditch beyond the site, a cropmark ditch on the same alignment is visible after a gap of 35m and continues for a distance of 140m. QF109/130 was 1.20m wide and 0.50m deep. The gap between the two presumably being an entrance.

Both ditches produced residual prehistoric pottery, and were dated to the 1st to the 3rd century (with some 4th century pottery in their uppermost fills). Ditch QF29 produced sufficient quantities of Roman pottery (including two near complete vessels) to indicate Roman occupation in the vicinity, although the nearest known farm was in the south-east corner of the former Kirkee & McMunn Barracks (now part of the Merville Barracks) (Shimmin 1998; CAT Report 292).

The two ditches define three separate fields (Figs 1.51, 1.53). Field 1 coincided with the north and eastern part of the excavated site, and was bounded along its south-east edge by ditch QF109/130 and along its south-west edge by ditch QF29. Field 2 coincided with the south-west corner of the excavated site. It was bounded along its north-east edge by ditch QF29, and probably along its south-west edge by a continuation of the droveway showing as two cropmarks in the far south-west corner of Area Q (Fig 1.51). Lastly, Field 3 coincided with the south-east corner of the excavated site. It was bounded along its north-west edge by ditch QF109/130, along its south-west edge by ditch QF29 and, probably, along its south-east edge by the droveway revealed by two cropmarks. The location of the cropmark droveways was confirmed during the 2003 excavation of Area 10 (immediately to the south of Area Q). The two entrances through the field boundaries were probably intended to provide easy movement of stock between the three fields.

Animal pens/erosion hollows
Two small irregular silt-filled hollows (QF13 and QF83) were probably created by the continuous use of the area by stock, perhaps during feeding or milking. A series of associated stake hole/post-holes (QF14-QF22 and QF84-QF85) may also indicate the presence of an enclosure fence around both areas. A prehistoric potsherd came from one of these features. However, a section of this feature in the 2002 evaluation produced Late Iron Age/Roman finds. This indicates that the animal erosion areas are likely to be contemporary with the field boundary ditches and therefore that the associated fields were probably pasture (at least during part of their Roman use).

Burials
Three, north-south orientated features (QF93, QF94 and QF99). are interpreted as inhumation burials although no human bone had survived (due to the high acidity of the gravel). These features were similar to the seven Roman inhumation burials excavated on Area 6 of the new garrison (CAT Report 292). They were also found within an agricultural landscape (placed next to contemporary field boundaries) and are believed to have formed small burial plots used by rural farmers and their families. The Area Q inhumation burials would appear to fit into this tradition. Two almost complete Roman pottery vessels found in one of the ditches (QF29) may also represent disturbed vessels from burials.

Other Roman activity
Other Roman features included three probable stake holes (QF56-QF58) and two hearths (QF47 and QF121).

Period 7 – medieval

There was no evidence of activity in Area Q in this period.

Period 8 – post-medieval

There were two post-medieval pits (QF43 and QF44).

Period 9 – modern/military

There was a single modern pit.

Area S1 (Figs 1.56-1.58)

Introduction

Area S1 comprised a 10.27ha area located on the north side of Berechurch Hall Road, and east of the perimeter fence of the Roman Barracks. This was an area of former arable land which is currently being used as 'set aside', (NGR: TL 9978 2213: Figs 1.1, 1.56). There are areas of woodland to the north and east, and public footpaths run around the site from to the east, north and west.

The dyke defining the eastern side of *Camulodunum*, Berechurch Dyke, runs down the western side of Area S1. Therefore the majority of the area lies to the east of (and outside) the *oppidum*. Area S1 was evaluated in 2002 as part of stage 1a when very low levels of archaeology were encountered. At stage 1b, ahead of the GAL redevelopment, the priority was to establish the expected alignment of the Berechurch Dyke through S1, so that an undeveloped green 'corridor' could be left in order to preserve its line and setting within the GAL scheme.

Therefore the primary objective for Area S1 was to identify the location and extent of Berechurch Dyke to ensure that it was avoided by both built development and also by a new service trench along the east side of Roman Barracks.

Three evaluation trenches, totalling 150m in length were excavated. These trenches located the defensive ditch of the dyke and a previously unknown second ditch. A further two trenches, totalling 9m in length, were placed over this second ditch to determine its nature.

Periods 1-5 – Palaeolithic to the Late Iron Age/Early Roman

There is no evidence of activity in Area S1 in these periods. However, it is possible that the Berechurch Dyke (see below) was constructed in the Late Iron Age/Early Roman period.

Period 6 – Roman

The remains of Berechurch Dyke, consisting of the ditch (SF1) and the surviving rampart (SF7), were located within the evaluation trenches (Figs 1.55-1.57). The Dyke ran north-north-east/ south-south-west through the western edge Area S1 with its ditch located on the eastern side of the rampart. T1 and T2 showed that the ditch survived to a width of 6.8m and a depth of over 1.4m. T3 showed that it had been cut away in the southern part of the site by another large post-medieval period ditch.

Period 7 – medieval

There was no evidence of activity in Area S1 in this period.

Period 8 – post-medieval

A single post-medieval ditch (SF2) also ran through T1 - T3. It ran north to south along the western side of the rampart between it and the perimeter fence of the Roman Barracks. The ditch had survived to a width of at least 3.7m and a depth of at least 1.00m and therefore represents a substantial boundary. The 20th-century material in its backfill indicates that it had not been filled in (or allowed to fully silt up) until recently.

Period 9 – modern/military

There was no evidence of activity in Area S1 in this period.

Undated features

There was a post-Roman post-hole in T4.

The 'Time Team' trenches (Figs 1.59-1.61)

Introduction

The ‘Time Team’ trenches (TTT) were positioned along the projected line of the Roman circus (as indicated by Areas C1, C2 and J1). Specifically, on the north-western edge of Area J1 East (TTT4: TL9940 2449), in the grounds of the Sergeant's Mess (TTT1-3: TL 9938 2450 centred), in the grounds of the Army Education Centre (TTT5: TL 9944 2457), and in close to the Garrison Sports Pitch (TTT6: TL 9957 2453, and TTT7: 9958 2450). The trenches were originally opened during the course of the filming of the 2005 Time Team Special but several were subsequently extended in order to provide further information.

Periods 1-5 – Palaeolithic to the Late Iron Age/Early Roman

There was no evidence of activity in these periods.

Period 6 – Roman

Roman circus

TTT1-2. Two trenches were dug in the garden of the Sergeants’ Mess in an attempt to locate the west end of the circus. TTT1 was 5m long, 1m wide, and 0.6m deep. The equivalent measurements for T2 were 3.5m, 1.0m, and 0.42m. All that was found was a north-south ditch (TTF1) which was 0.5m wide, 0.1m deep, and probably natural.
TTT3. No sign of the starting gates (*carceres*) at the west end of the circus had been seen in TTT1 or TTT2, so a third trench (TTT3) was dug in the garden of the Sergeants' Mess. TTT3 was set out east to west, and excavation proceeded in an easterly direction. The trench had to be stopped once it was 1.6m long despite not having found the gates.
TTT4. A trench was excavated by the side of Le Cateau Road to determine the exact location and curve of the west end of the outer foundation of the south *cavea* on Area J1 East. The curve proved to be tighter than expected, indicating that the west end was not semicircular in shape, but instead incorporated the *carceres*. The foundation (TTF4) had largely been robbed out and incorporated one of the long buttresses (TTF5) which characterised the section of *cavea* west of the *vomitorium* on Area J1E. The buttress was 3m wide (10 pM) and extended 1.00m (3 pM) from the main wall.
TTT5. A trench was dug in the garden of the Army Education Centre to establish the exact position northwards of the north *cavea*. A partially-robbed-out greensand foundation (TTF7) and buttress (TTF6) was

located within the trench and appear to be part of the outer wall of the *cavea*. The foundation was 1.0m wide. Its depth was not established. The remains of a buttress lay on the north side of the foundation. It extended out 0.7m from the foundation and was at least 0.5m wide, but continued into the east section so that its full width could not be determined. The foundation was further south than expected indicating that the circus tapered in width to the west. To the north of TTF6 was a pit (TTF8) which contained Roman pottery and tile. To the south of TTF7 was a layer containing rubble (TTL6), including possible masons' waste.
TTT6. A 2m long trench was dug to the west of the disused tennis courts on the south side of Circular Road North in the hope of locating the central barrier. No foundations or robber trenches were found.
TTT7. A trench to the south of the disused tennis courts on the south side of Circular Road North was dug to confirm the presence and precise position of the indications of two foundations which were detected during an earlier geophysical survey. The foundations corresponded to the north and south walls of the southern *cavea*. The robber trench for the north foundation (TTF3) was 0.75m wide and 0.16m deep, which conforms to the dimensions established elsewhere. It had been robbed out completely. The southern robber trench (TTF2) was up to 1m, but its depth could not be determined. Although also robbed, part of the foundation still survived *in situ*. Both robber trenches contained fragments of mortar and greensand.

TTT3 was later extended in a research investigation undertaken and funded by CAT. Two north-south trenches approximately 4m apart were revealed. These appeared to be parts of robber trenches, but tree-roots and the narrowness of the excavation trench made interpretation difficult and uncertain. The western trench (TTF9) was 0.8m wide and 0.10m deep. Part of a foundation (TTTF9) survived *in situ* in the bottom of it. The eastern trench (TTF11) was also 0.8m wide but, at 0.22m, it was clearly deeper although trees roots made its dimensions difficult to determine with certainty. A few large lumps of greensand lay in the bottom of the eastern trench as if they might have been *in situ*. Both trenches contained fragments of mortar and greensand, and there were some septaria fragments in TTF9. A spread of what looked like robbing debris for 2-5m west of TTF11 contained some greensand chips and three sherds of Roman pot.

An additional 6m of trench was also later dug to extend the north end TTT6 in a research investigation undertaken and funded by CAT. Critically part of the foundation of the central barrier was found in this trench in the form of an east-west robber trench (TTF12). This contained fragments of mortar and greensand but nothing *in situ*. It was 0.4m wide and 0.1m deep.

Period 6 – medieval

A total of seven medieval robber trenches were identified which had either completely or partially robbed out seven Roman walls. Where the walls had been completely robbed out, the robber trenches were numbered TTF2, TTF3, TTF11 and TTF12. Where robbing was only partial, no number other that the feature of the wall was used (ie, TTF6, TTF7, TTF9). Associated with this medieval robbing activity was a spread of demolition material recorded in TTT3 (TTF10), a layer of robbing debris recorded in TTT4 (TTL6) and two layers of robbing debris recorded in TTT6 (TTL5 and TTL9).

Periods 7-8 – post-medieval to modern/military

There is no evidence of activity in these periods.

Undated features

There was a ditch or natural feature (TTF1) in TTT1.

Watching brief ('strip and map': Figs 1.62-1.67)

Introduction

The GAL watching brief was carried out along the lines of Circular Road North, Circular Road East, Flagstaff Road, Napier Road and La Cateau Road (centred on TL 99660 24535) (Fig 1.62).

The watching brief consisted of the recording of archaeological features following contractors' removal of road surfaces and subsequent excavation of storm drains and service trenches. Contractors' work was concentrated around the crossroads of Circular Road North, Circular Road East, Flagstaff Road and Napier Road, and along Le Cateau Road. Although these works ran for a considerable length along the roads listed above, the watching brief reported here was only carried out in those areas where the works crossed the Roman circus and/or passed close to the edge of the Area C2 Roman cemetery. The extent of strip and map watching brief was established by RPS and consolidated in a WSI agreed by CBC (RPS 2005). 'Trench' WBT1 was positioned to intercept the line of the southern *cavea*, WBT2 to examine the track area within Area J1, WBT3 to encounter the central barrier of the circus, and WBT4 the northern *cavea*.

The primary objective for the GAL watching brief was to preserve, by record, any archaeological deposits that were to be removed or disturbed by the modern groundworks.

Periods 1-2 – Palaeolithic to Neolithic

There was no evidence of activity in the Watching Brief trenches in these periods.

Period 3 – Bronze Age

A pit (WBF25) containing an assemblage of Bronze Age pottery was excavated in WBT4. It measured 0.5m in diameter and was 0.19m deep. Two other undated pits (WBF24 and WBF27) were also excavated in the same trench. Both pits were located approximately 1m away from WBF25 and may be associated with this Late Bronze Age feature.

Periods 4-5 – Iron Age to the Late Iron Age/Early Roman

There was no evidence of activity in these periods.

Period 6 – Roman

Roman circus

WBT1. The line of the south *cavea* was recorded in this trench, although here the foundations of the circus proved to have been almost entirely robbed out. The robber trenches indicated the positions of two parallel east-west Roman foundations (WBF2 and WBF4) and a north-south one (WBF3). The latter incorporated a buttress (WBF5). Both east-west robber trenches were uncovered for a distance of 3m (but they must have continued in both directions beyond the limits of the trench). Two sections of foundation (WBF9 and WBF10) survived *in situ*. The larger southern foundation was approximately 1.2m wide and 0.30m deep, and the smaller northern one, located 4.7m to the north of the first foundation, was approximately 0.9m wide and 0.17m deep. The third foundation (as indicated by robber trench WBF3) was orientated north-south so that it

was at right-angles to and connecting the two other foundations. This foundation had been 8m long. It was approximately 1m wide and 0.20m deep, and it extended 1.4m beyond the southern foundation so as to form the base of a 1.0m wide buttress on the south side of the circus. Part of the foundation of the buttress survived *in situ*. The configuration of foundations is similar to those forming the *vomitorium* in Area J1 East, except that the foundation continued unbroken along the south side of the *cavea* as if there was no entrance in this position.

A gully-like feature (WBF8) immediately to the south of WBF4 was probably comparable to the ditch underlying the outer foundation of the south *cavea* on Area J1 East.

WBT2. This trench crossed the southern half of track area of the circus. No features of interest were seen.

WBT3. This trench coincided with the line of the central barrier, but there was no sign of any foundations which might have been part of it. However, in the centre of the trench, in a position corresponding to the centre of the central barrier were the remains of a substantial Roman foundation (Plate 1.36). Most of the foundation had been robbed out (WBF16) so that only about a quarter of it (WBF12) survived *in situ.* The robber trench indicated that the foundation had been about 3m long (north-south), 2.6m wide, and 0.48m deep. It was constructed of mortared greensand in exactly the same way as the *cavea* foundations seen elsewhere. A single post-hole (WBF17) against the east side of the foundation may also be associated with the structure because of its proximity to it. There was no dating evidence for the robbing of the foundation except that it pre-dated the construction of the road. Presumably it was of early medieval date, as was the case with better-dated episodes of robbing elsewhere on the circus site.

Plate 1.36 Roman circus 'monument' foundation in the centre of the 'central barrier' (WBF12 and WBF16), Watching Brief.

WBT4. Two medieval robber trenches (WBF20 and WBF21) had completely robbed out two east-west orientated Roman foundations (also numbered WBF20 and WBF21). Both robber trenches were uncovered over a distance of 1.5m and both were found to continue in both directions beyond the limits of the trench. The larger northern wall (WBF21) was approximately 0.9m wide and 0.4m deep, and the smaller southern wall (WBF20), located 4.2m to the south of the first one, was approximately 0.6m wide and 0.09m deep. An irregularity (WBF28) in the north side of the northern robber trench (WBF21) measured 0.5 x 0.3m and continued into the west section. It may have related to a buttress between WBT4 and Area C1, but too little could be uncovered of it to be certain. Also, located to the north of the northern wall was a gravelled surface (WBF22) which appears to be a continuation of the metalled area observed in Area C1 which had existed just outside the circus.

Roman burial and possible circus quarry

A Roman inhumation burial (WBF1) was excavated during construction works for a stormwater drain approximately 35m to the south of the Roman circus (Fig 1.62; plan in appendix below). The body had been buried within a lead coffin at a depth of 3.14m below modern ground level. The simple undecorated lead coffin liner was damaged during the machining but most of it was recorded *in situ* in the shored-up pipe trench (Plate 1.37). The burial was of a juvenile (0-5 years) who also showed evidence of cribra orbitalia (a

metabolic disease). No associated grave goods were found. It is assumed that the burial represents an outlier of the Area C2 cemetery group. The recorded section indicates that the vertical sided cut for the grave had been inserted into the base of an earlier flat-bottomed feature. Given that this feature into which the burial was cut was 1.6m deep (fills WBL1 and WBL2, Appendix figures) it is most likely that it represents another quarry-pit of the type seen south of the circus in Area J1 East (JEF4) and in Area C2 (feature CF143). Again the function is likely to have been the provision of gravel and sand used in the construction of the circus. Both the relative position of these three pits to the southern circus wall and their similar depths, indicate that a series of widely spaced quarry-pits were established outside of the circus structure during its construction in order to provide materials for the adjacent segment of structure. If so it makes sense that the mortar for each wall section was made at that location.

Plate 1.37 Inhumation burial within a lead coffin liner WBF1, Watching Brief.

Other Roman activity
Two other Roman features in WBT1, a small gully (WBF7) and a pit (WBF8), were of uncertain date and function.

Period 7 – medieval

Eight medieval robber trenches had either completely or partially robbed out eight features associated with the Roman circus (four east-west orientated walls, a north-south wall, a plinth, a definite buttress and a possible second buttress). None of these robber trenches could be dated, but are presumed to be medieval.

Period 8 – post-medieval

Four post-medieval features were excavated. These were a north-west to south-east orientated ditch (WBF11) in WBT2, a single pit (WBF19) cut into the medieval robber trench in WBT3, and two pits (WBF23 and WBF26) cut into the Roman metalled surface in WBT4. The ditch dated from the 15th to the 16th century and may be associated with several ditches of a similar date identified in Area J1.

Period 9 – modern/military

There were four service trenches in WBT3.

The find reports and environmental analysis

The pre-Roman pottery (Figs 1.68-1.71)

by Paul Sealey

Introduction

The GAL excavations produced 8.225kg of prehistoric pottery from 160 features. There are 863 sherds, with an average weight of 9.5g. A further thirty-one sherds weighing 288g were unstratified; they included nothing of intrinsic interest, and are not considered further here.

Prehistoric pottery was recovered from six of the areas examined and includes material from features up to 1.5km apart. All of it is handmade. Most sherds are tempered with flint or flint-with-sand; exclusively sand-tempered sherds are rare. The most important component of the prehistoric pottery is late Bronze Age plain ware dated *c* 1000-900 BC from Area J1 North. Six late Bronze Age features there produced 3.789kg of pottery; a further 3.257kg was present as a residual element in the Roman cemetery. Earlier pottery is present at the GAL, but in far smaller quantities. Five Neolithic pits in Area C1 had Peterborough Ware, with some Mildenhall sherds. A pit in Area C2 had an early Bronze Age Beaker assemblage. There is a single Peterborough Ware decorated rim from Area Q and a middle Bronze Age Deverel-Rimbury body sherd from Area J1 East. Only one sherd can be assigned to the Iron Age on the basis of its typology, a dished base from Area C1. There is no late Iron Age grog-tempered pottery. A summary of the prehistoric pottery is given in Table 1.20.

Table 1.20 Summary of the pehistoric pottery from the GAL ecavations.

region	weight (g)	comments
Area C1	328	Five pits have Peterborough Ware and Mildenhall sherds
Area C2	358	Pit CF223 has a small Beaker assemblage
Area E	17	Hand-made and flint-tempered, no diagnostic typology
Area J1 evaluation	76	Hand-made and flint-tempered, no diagnostic typology
Area J1 East	168	The group includes a Deverel-Rimbury body sherd
Area J1 North	3789	Late Bronze Age plain ware assemblage from six features
Area J1 North	3260	Late Bronze Age plain ware residual in Roman contexts
Area J1 South	113	Hand-made and flint-tempered, no diagnostic typology
Area Q	116	Hand-made, with a Peterborough Ware rim
total sherd weight	8225	

Pottery is described in chronological order, beginning with the Neolithic pits in Area C1. The few other Neolithic sherds from other areas are also described. Early and middle Bronze Age pottery from Areas C2 and J1 East are discussed next, followed by an account of the large group of late Bronze Age plain wares from Area J1 North.

Methodology and quantification

The pottery was studied along lines laid down by the *Prehistoric Ceramics Research Group*, including modified use of the format recommended for the publication of prehistoric pottery reports. All the sherds were examined macroscopically and with the aid of a hand lens to establish the fabrics present. Examination

of fabrics in a fresh fracture was avoided because of the tiny size of the sherds. Sherds from each find number were assigned to a fabric group, and then counted and weighed (to the nearest gramme). Sherd counts, sherd weights and average sherd weights were then established for each of the areas examined at the GAL sites. Calculations in the tables are correct to one decimal place; in the text, percentages have been rounded up or down to the nearest whole number.

Pottery archive

The primary units of excavated pottery kept by the Colchester Archaeological Trust are find numbers, rather than context numbers (an individual context may be made up of several find numbers). In the archive, there is a set of individual hand-written record sheets for each group of pottery by find number giving details of the sherd counts and weights for the fabric groups present, with details of decoration and any other significant features. This data was entered on a Microsoft Excel spreadsheet which gives details of fabric incidence by area and by features within areas. A copy on disc is present in the site archive.

Fabric groupings

Inclusions are described as temper whether or not there is reason to think they were deliberate additions to the clay by the potter. What little sand there is among the GAL fabrics is rounded and looks like a natural component of the clays. The only inclusions that might be described as temper in the technical sense are those which do not occur naturally: crushed burnt flint (which appears as angular white grains), chopped vegetable matter and grog (crushed pottery). Even some of these might be accidental additions introduced by the conditions in which the potter worked (Woudhuysen 1998,33).

The pottery was divided into fabric groups using a modified version of the scheme devised for Essex by Brown (1988,263-4). Sand and flint inclusions were divided on the basis of size with a numeric code as follows: 1, < 0.25mm; 2, < 1mm; and 3, < 2mm. Two more size categories were recognised with flint: 4, < 4mm; and 5, > 4mm. Inclusions were divided on the basis of their frequency into three categories designated A, B and C as follows: A, < 6 grains per cm²; B, 6-10 grains per cm²; and C, > 10 grains per cm². Combinations of numbers and letters indicate inclusion size and frequency. To a greater or lesser degree, all the GAL fabrics have inclusions of fine silver mica. The fabrics listed below are the same as those used by the writer to describe the pottery from earlier work on the Garrison sites as well as the other Colchester sites of Stanway and Abbotstone. At the GAL sites, Fabrics B, D, E, G and M were not present. The incidence of fabrics from the GAL sites in their totality is shown in Table 1.21.

Fabric A	fine sand < 0.25mm (1)
Fabric B	fine sand < 0.25mm (1) with vegetable temper
Fabric C	sand < 1mm (2A -2C)
Fabric D	sand < 1mm (2A -2C) with vegetable temper
Fabric E	coarse sand < 2mm (3A)
Fabric F	fine flint < 1mm (1A-1B and 2A-2B)
Fabric G	fine flint < 0.25mm and sand < 1mm (flint 1A, with sand 1 and 2A)
Fabric GTW	an omnibus fabric for all grog-tempered fabrics
Fabric H	flint < 1mm and sand < 1mm (flint 2A-2B, with sand 1 and 2A-2C)
Fabric I	coarse flint < 4mm (flint 3A-3C and 4A)
Fabric J	coarse flint < 2mm and sand < 2mm (flint 3A-3B, with sand 1, 2A-2C and 3A)
Fabric K	coarser flint < 4mm and sand < 1mm (flint 4A, with sand 1, and 2A-2B)
Fabric L	very coarse flint > 4mm (5A)
Fabric M	very coarse flint > 4mm and sand < 2mm (flint 5A, with sand 1, and 2A-3A)
Fabric N	chalk and sand

Table 1.21 Incidence of Fabrics in the GAL prehistoric pottery.

fabric	quantity	percentage by count	percentage by weight
Fabric A sherd count	21	2.4	
Fabric A sherd weight	92		1.1
Fabric C sherd count	12	1.4	
Fabric C sherd weight	58		0.7
Fabric F sherd count	174	20.2	
Fabric F sherd weight	1010		12.3
Fabric GTW sherd count	24	2.8	
Fabric GTW sherd weight	260		3.2
Fabric H sherd count	21	2.4	
Fabric H sherd weight	135		1.6
Fabric I sherd count	568	65.8	
Fabric I sherd weight	6266		76.2
Fabric J sherd count	1	0.1	
Fabric J sherd weight	11		0.1
Fabric K sherd count	39	4.5	
Fabric K sherd weight	348		4.2
Fabric L sherd count	2	0.2	
Fabric L sherd weight	20		0.2
Fabric N sherd count	1	0.1	
Fabric N sherd weight	25		0.3

Sources of the pottery

The sites explored at the GAL lie on a low plateau of glacial outwash sands and gravels, with no raw materials suitable for pottery. But clay suitable for potting lies within a 3.5km radius in outcrops of the London Clay in the valley of the river Colne to the east, in the Roman river valley to the south and just to the north of Colchester town. Locally there are limited exposures of London Clay in the gentle valleys of the brooks that drain the plateau and only some 1250m south-east of Area Q are the brickearth deposits at Maypole Green which could also have been exploited. On the presumption that prehistoric pottery was made close to where it was used, these may have been the sources of the clay used in the Garrison pottery.

Neolithic pottery from Area C1

There were 38 sherds of Neolithic pottery in Area C1 weighing 323g; the average sherd weight is 8.5g. It came from five pits within four metres of each other: CF10, CF11, CF15, CF72 and CF75. Details of the incidence of fabrics are given in Table 1.22. Half the pottery by weight is grog-tempered, sometimes with sparse flint and sand inclusions. Inclusions of grog are seldom apparent (even with the aid of a hand lens), but its presence is indicated by the soapy feel in the fracture (Brown 2001,123). Apart from Pit CF10, all these pits had some grog-tempered pottery. Sherds from eight of these Neolithic pots are illustrated (Fig 1.68, nos 2-9). The only other prehistoric pottery from Area C1 is a shallow dished base sherd of Iron Age date (Darmsden-Linton or middle Iron Age) from Pit CF7 in Fabric H weighing 5g.

Table 1.22 Incidence of fabrics in the Area C1 Neolithic pits.

fabric	quantity	percentage by count	percentage by weight
Fabric F sherd count	3	7.9%	
Fabric F sherd weight	10		3.1%
Fabric GTW sherd count	21	55.3%	
Fabric GTW sherd weight	189		58.5%
Fabric H sherd count	3	7.9%	
Fabric H sherd weight	22		6.8%
Fabric I sherd count	11	28.9%	
Fabric I sherd weight	102		31.6%

Stylistic affinities of the Area C1 Neolithic pottery

Four sherds from two vessels in Pit CF75 exemplify the Mildenhall style, the Essex and East Anglian middle Neolithic decorated ware. A rim (Fig 1.68, no 2) is explained by comments made by Smith (1954,224) when she defined Mildenhall Ware. One of its diagnostic features (she wrote) is 'a bowl form…rim…joined to a shoulder of approximately the same diameter by a nearly vertical neck, which otherwise appears to be confined to Essex and East Anglia'. Although our pot lacks the 'enlarged rim' of the vessel type Smith described, the affiliations of the vessel are clear enough. It developed from a form found in earlier Neolithic Grimston/Lyles Hill assemblages in Essex (Brown 1995a,75-6 fig 60 no 33). Parallels for the Colchester vessel include pottery from three Norfolk sites, Broome Heath (Wainwright 1972, fig34 P406), Eaton Heath (Wainwright 1974,31, fig.16 P18) and Kilverstone at Thetford (Knight 2006, fig 2.24 no P.59,45,fig.2.32 no P.164,50). A second Mildenhall vessel is represented by sherds incised with neat straight lines (Fig 1.68, nos 3-4); the orientation of the lines on the complete pot could not be established, but they are shown here as if they ran vertically down the pot. Parallels for this style of decoration in Mildenhall assemblages are to be found at the causewayed enclosures of Orsett (Essex: Kinnes 1978,264) and Etton (Cambridgeshire) (Kinnes 1998, fig.177 no M35,fig.190 no M204, fig 200 no M402). Parallel incised lines are also present on Mildenhall bowls from Spong Hill (Norfolk) (Healy 1988, 84, fig.70 no P121, fig.72 no P144, 89) and Hurst Fen at Mildenhall (Suffolk) (Longworth 1960,figs 24-6).

Most of the pottery from Area C1 is middle to late Neolithic Peterborough Ware. Five sherds of this impressed pottery are illustrated. One has two close-set finger-nail impressions just above a carination in the pot (Fig 1.68, no 5). Deeper finger-nail impressions are present on a second vessel, running obliquely in a row above two cordons; below each cordon there is a row of shallower finger-tip impressions running obliquely in the opposite direction to give a herringbone pattern of the kind found elsewhere on Peterborough Ware. Grimes (1960, fig 75 no 2, fig76) illustrates examples from Heathrow (Middlesex). A third vessel has shallow impressions of coarse whipped-cord arranged horizontally on the pot (Fig 1.68, no 7). Below a plain rounded rim on another vessel there is finger-tip and finger-nail rustication (Fig 1.68, no 8). Coarse finger rustication of this kind is common in Peterborough Ware, but it can sometimes be confused with Beaker coarse ware (Gibson 1982,154). Here the grog temper links the vessel with the other Neolithic pottery in Area C1. It is unlikely to be Grooved Ware because such rustication is very rare, at least to judge by its incidence at Tye Field Lawford (Essex) (Smith 1986,170, fig10 nos P70 and P73). The last figured vessel has three rows of short vertical stamps (Fig 1.68, no 9); such decoration is the classic bird-bone impressions recognised on Peterborough Ware at an early stage in its study (Liddell 1929).

Peterborough Ware has been divided into three successive typological phases, Ebbsfleet, Mortlake and Fengate Ware. No attempt has been made to allocate the Colchester material to one or other of these styles. Typological analysis is hampered by the small size of the assemblage and the modest size of the sherds. More importantly, there is now reason to question the validity of the traditional scheme. No one has been able to demonstrate geographical concentrations for any of the sub-styles in Peterborough Ware, so it would seem that we are not dealing with regional styles. A comprehensive review of the radiocarbon dates for Peterborough Ware has shown that all three styles were contemporary: the notion of a typological progression from Ebbsfleet through Mortlake to Fengate is unsustainable (Gibson & Kinnes 1997). Typological analysis at the level of individual sherds is further handicapped by a lack of clarity about how the three styles should be defined; the muddle is apparent in the evaluation of the Area Q Peterborough Ware rim (see below).

Chronology of the Area C1 Neolithic pottery

At Kilverstone (Norfolk), all but one of the seven radiocarbon dates for Mildenhall pottery fall within a time bracket of 3650-3350 cal BC (Garrow *et al* 2005,154). The causewayed enclosure at Etton (Cambridgeshire) confirms that such pottery was still in use in the second quarter of the 4th millennium cal BC (Ambers 1998; Pryor 1998,352). Healy (1993,115) has commented on the long currency of Mildenhall Ware, but it is still unclear how late in the 4th millennium BC the style lasted. Peterborough Ware had an even longer history, from *c* 3400-2500 cal BC (Gibson & Kinnes 1997,67). In Area C1 at Colchester, Peterborough Ware is more common than the Mildenhall style and a date later, rather than earlier in the third quarter of the 4th millennium BC might be appropriate when there may have been some overlap between the two styles.

Discussion of the Area C1 Neolithic pottery

Peterborough Ware is rare in Essex (Court & Mepham 2004,29) and so the Area C1 pottery is an interesting addition to a meagre database. It is also the first sign of Mildenhall pottery in the Colchester region. The Area C1 pits are also the earliest excavated features at Colchester, earlier than the ritual pit at Culver Street in the town centre with its placed deposit of later Neolithic Grooved Ware sherds (Brown 1992,317).

The distribution of the Neolithic pottery by pit for Area C1 is shown in Table 1.23. Despite the fact that the some of these five pits were large - if shallow - features, the average sherd count for each pit is only 7.6 sherds. This lends some weight to the suspicion that earlier prehistoric pottery in Britain was not produced and used in significant quantities (Woodward 2000,5; Morris & Woodward 2003,298). The corresponding figure for the pottery from the 236 earlier Neolithic pits at Kilverstone in Thetford (Norfolk) is 11 sherds per pit (Garrow *et al* 2005,13). Some of the Kilverstone pits had no artefactual finds at all; the presence there of 'empty' pits is circumstantial evidence that some of the 'empty' pits in Area C1 might also be Neolithic.

Table 1.23 Distribution of the Neolithic pottery in Area C1 by pit.

pit	sherd count	sherd weight (g)
CF10	3	13
CF11	10	47
CF15	3	13
CF72	6	34
CF75	16	216

Other Neolithic pottery from the GAL sites

The earliest Neolithic pottery is a splayed trumpet rim of Grimston/Lyles Hill type (Fig 1.68, no 1), residual in a Roman grave in Area J1 North. Local parallels include rims from North Shoebury in Essex (Brown 1995b,74-5, figs 59-60 nos 5,34,35 and 37-8). Grimston/Lyles pottery is the oldest in Britain (Smith 1974,106-7) and was the ceramic of the first farming communities here. The tradition had a long history, possibly lasting until the beginning of the third millennium BC (Gibson 1998,319-20). Some more (unstratified) Grimston/Lyles Hill sherds were recovered from the town centre of Colchester at Culver Street (Brown 1992,317).

There was a stamp-decorated Peterborough Ware rim from Area Q (Fig 1.68, no 10). Expansion of the rim to take decoration (as with this vessel) is one of the features of the Mortlake style as defined by Smith (1974,112) but our vessel is reminiscent of a bowl described as Ebbsfleet from the Etton (Cambridgeshire) causewayed enclosure (Kinnes 1998,195, fig 210 no E2). None of this inspires confidence in the traditional division of Peterborough Ware into sub-styles (see above).

The last Neolithic vessel is a Peterborough Ware sherd decorated with stamped sub-circular impressions retrieved from the Beaker period Pit CF223 in Area C2 (Fig 1.68, no 11). Circular stamps are found on Mildenhall pottery at (for instance) Hurst Fen at Mildenhall (Suffolk) (Clark *et al* 1960,pls 23-5; Longworth 1960,figs 25-6, fig 28) and Etton (Cambridgeshire) (Kinnes 1998,180, fig 191 no M205, fig199 no M395,195). But they are also occasionally found on Peterborough Ware, as at Ebbsfleet (Kent) (Piggott 1939, figs 4a-5,fig 7 nos 6 & 17). One was reluctant to identify the Colchester sherd as Mildenhall because of the mismatch in date between Mildenhall and Beaker pottery. It is also significant that the sherd has affinities of fabric and finish with the other Peterborough Ware from the site.

Beaker period pottery from pit CF223 in Area C2

The pit produced 32 oxidised sherds weighing 284g, with an average sherd weight of 8.9g. Details of this incidence of fabrics are given in Table 1.24. Three rims, two flat bases and two body sherds are illustrated (Fig 1.69, nos 12-17). A Peterborough Ware sherd from the pit has been discussed above. An (unillustrated) decorated Beaker sherd came from the Roman gully CF234, 15m away from CF223.

Table 1.24 Incidence of fabrics in Beaker pit CF223 in Area C2.

fabric	quantity	percentage by count	percentage by weight
Fabric F sherd count	9	28.1	
Fabric F sherd weight	67		23.6
Fabric I sherd count	23	71.9	
Fabric I sherd weight	217		76.4

Stylistic analysis of the Beaker pottery

We may begin with the fineware rim (Fig 1.69, no 12). The decoration is executed with carelessly incised lines; frequent use of incision is a feature of the East Anglian Beaker group defined by Clarke (1970,147,151). Around the flared rim of the Colchester vessel there are three discontinuous horizontal lines; below there is a pair of running chevrons, each of which is made up of two parallel lines. The running chevron design (with many variants) is a common one on Beaker pottery; it was part of the decorative repertoire inherited from the mainland European antecedents of Beakers in Britain (*op cit*,18, 425 motif 7).

Such running chevrons are widespread in Britain, from the Orkneys and Yorkshire to Wiltshire (Case 1993, fig 9 nos 1-2, fig12 no1). There are many examples from Essex and East Anglia. They are present on the near complete Beaker from a grave at Ardleigh (Essex) (Brown 2002a, 84). Further examples include Beakers from Fakenham Magna (Suffolk) (Grimes 1960, fig 101), Hockwold (Suffolk), Edingthorpe (Norfolk) (Bamford 1982, fig 3 nos P93.010 & P93.026 and fig 39a), Sutton Hoo (Suffolk) (Hummler 2005, pl 58, fig 191) and Fenstanton (Cambridgeshire) (Gibson 2005, 9, fig 4 no21).

The thicker walled rim sherd decorated with finger-tip with finer-nail rustication (Fig 1.69, no 13) exemplifies Beaker coarse ware; such rustication is common in East Anglian Beakers (Clarke 1970,147; Brown 1995a,128). It is seldom found on Beakers from graves but it is common in non-funerary contexts (Bamford 1982,59). Parallels for the Colchester rim include vessels from Narford (Norfolk) and Stainsby (Lincolnshire) (Gibson 1982,206, fig MET.3 no 15 and 244, fig STA.2 no 7 respectively). Likewise the row of finger-tip impressions on a body sherd (Fig 1.69, no 17) would be at home in a Beaker milieu, as would the two flat base sherds (Fig 1.69, nos 15-16). Not enough has survived of the vessel with a rim bearing two horizontal rows of impressed decoration to evaluate its typology (Fig 1.69, no14).

Chronology of the Beaker pottery

A Beaker from Barrow 24 at Shrewton (Wiltshire) affords a parallel for the GAL Beaker fineware rim with its running chevron motif (Green & Rollo-Smith 1984, fig 16 no P8, fig 22 no P8, 297). Radiocarbon dating of human bone from the grave gave results of 2280-2030 cal BC at 1σ and 2310-1970 cal BC at 2σ (Kinnes *et al* 1991,50; Needham 2005,190). Needham evaluated the result as useful. The inept execution of the Shrewton decoration refutes assertions that careless work must be late in the Beaker sequence (Bamford 1982,58). A Beaker from Fenstanton (Cambridgeshire) with the running chevron motif has a radiocarbon date of 2280-2030 cal BC at 1σ and 2340-1940 cal BC at 2σ (Gibson 2005,fig.4 no 21,12 for the pot; Chapman *et al* 2005,14 for the date). The sample came from wood charcoal of short-lived species so the date could be close to that of the associated pottery; oak (which might have been hundreds of years older than the pit contents) was not sampled. Combining that date with a radiocarbon date from an adjacent Beaker pit gave a new date with a reduced error of 2200-2030 cal BC at 1σ and 2280-2020 cal BC at 2σ. A third Beaker with the running chevron motif has a radiocarbon date. The pot in question comes from Burial 2286 at Balksbury (Hampshire) (Cleal 1995); the sample came from human bone in the grave. The date is 2010-1750 cal BC at 1σ and 2130-1680 cal BC at 2σ (Wainwright & Davies 1995,104).

In the light of these three radiocarbon determinations, a date towards the end of the 3rd millennium BC seems reasonable for the Colchester pit. An earlier date then - rather than later - makes it easier to accommodate the Peterborough Ware sherd in the pit. This early date is not compromised by the rusticated sherd in the pit because such pottery seems to have been present from the start of the Beaker phenomenon in Britain (Needham 2005,182).

Discussion of the Beaker pottery

Although the Beaker pit CF223 was found in the middle of a small (Roman) ring-ditch, it should be emphasised that the pit is not funerary. Only sherd material was present and there were no human remains. In fact Beaker graves are unusual in Essex (Brown 1986,91), and none is richly endowed with grave goods. Looked at from a national perspective, it is noticeable that – apart from Wessex – areas well-endowed with Beakers from graves tend to have little in the way of non-funerary Beaker material, and vice-versa. Essex and East Anglia conform to this pattern (Case 1993,241-3) and the Beaker pit from Area C2 exemplifies the trend. Gibson (2005,11) indicates that such pits were deliberately filled with samples of domestic material as part of rituals to ensure the continued fertility of nature.

Middle Bronze Age pottery from Area J1 East

A middle Bronze Age Deverel-Rimbury sherd in Fabric GTW weighing 34g came from post-Roman subsoil in Area J1 East (Fig 1.69, no 18). The sherd has a cordon decorated with a row of close-set finger-tip impressions, a stock technique in Ardleigh-style Essex Deverel-Rimbury pottery (Brown 1999, figs 55-81 *passim*). Deverel-Rimbury pottery is common in the county, with several hundred vessels surviving (Brown 1996,26). A date centred on the second half of the 2nd millennium BC can be proposed (Brown 1999,16, for radiocarbon dates from the Ardleigh cemetery itself).

Late Bronze Age plain ware from Area J1 North

The most important component of the prehistoric pottery from the GAL excavations is a late Bronze Age plain ware assemblage dated *c* 1000-900 BC from Area J1 North. Six late Bronze Age features there produced 250 sherds weighing 3.798kg, with an average sherd weight of 15.2g. Most came from Pit F38, which had 216 sherds weighing 3.288kg. This data for the Area J1 North Bronze Age features includes pottery recovered from the nearby Pit WB F25. In Area J1 North the late Bronze Age features are F37, F38, F93, F134 and F164. A further 453 sherds of prehistoric – and mostly late Bronze Age - pottery weighing 3.257kg were present as a residual element in Roman features, mainly graves. Their average sherd weight is 7.2g. Details of the incidence of fabrics are given in Tables 1.25-27.

It was noticed that the late Bronze Age pottery often had oxidised surfaces giving a red to brown finish. This has been reported in other late Bronze Age assemblages, such as the Reading Business Park (Berkshire) (Hall 1992, 69-70). At one end of the spectrum, thoroughly oxidised sherds are bright red (Munsell 2.5YR 5/8) but surface colours shift imperceptibly from red to light and dark browns. A record of the incidence of oxidised and unoxidised sherds was kept in the hope that the incidence of oxidised finishes could satisfactorily be quantified. But by the end of the exercise it was felt that the gradual shift in surface colour from sherd to sherd (let alone mottled surfaces with different colours) made it an impossible phenomenon to record objectively.

Table 1.25 Incidence of fabrics in the Late Bronze Age pits in Area J1 North.

fabric	quantity	percentage by count	percentage by weight
Fabric F sherd count	51	20.4	
Fabric F sherd weight	423		11.2
Fabric I sherd count	199	79.6	
Fabric I sherd weight	3366		88.8
total sherd count	250		
total sherd weight	3789		

Table 1.26 Incidence of fabrics in the Late Bronze Age pit F38 in Area J1 North.

fabric	quantity	percentage by count	percentage by weight
Fabric F sherd count	50	23.1	
Fabric F sherd weight	398		12.1
Fabric I sherd count	166	76.9	
Fabric I sherd weight	2890		87.9
total sherd count	216		
total sherd weight	3288		

Table 1.27 Incidence of fabrics in the prehistoric pottery from Roman features in Area J1 North.

fabric	quantity	percentage by count	percentage by weight
Fabric A sherd count	7	1.5	
Fabric A sherd weight	25		0.8
Fabric C sherd count	6	1.3	
Fabric C sherd weight	37		1.1
Fabric F sherd count	92	20.3	
Fabric F sherd weight	458		14.1
Fabric H sherd count	11	2.4	
Fabric H sherd weight	85		2.6
Fabric I sherd count	304	67.1	
Fabric I sherd weight	2335		71.7
Fabric J sherd count	1	0.2	
Fabric J sherd weight	11		0.3
Fabric K sherd count	32	7.1	
Fabric K sherd weight	309		9.5
total sherd count	453		
total sherd weight	3257		

An interpretation of the fabric incidence data

As one moves from the late Bronze Age into the initial (earliest), early and middle Iron Age in Essex there is a decline in the quantity of exclusively flint-tempered pottery and an increase in sand and flint-with-sand temper (Brown 1988,269). Moreover if Runnymede Bridge (Berkshire) was typical, as flint temper receded in importance the flint grains tended to become smaller and sparser (Needham 1996a,111). The same shift from flint to sand is found in Cambridgeshire (Woudhuysen 1998, 36-7), Suffolk (Martin 1988, 34) and Norfolk (Gregory 1995, 90). Indeed it is typical of much of southern Britain from the second quarter of the first millennium BC (Rigby 1988,103).

Pottery in late Bronze Age features is found exclusively in two flint-tempered fabrics, Fabrics F and I. No sand was present at all; the calcined flint is set in a consistently fine clay matrix. The finest fabrics have sparse flint invisible on the surfaces; sometimes wiping the surface has given a smooth and even finish to vessels. The coarsest fabrics on the other hand have large dense inclusions of crushed burnt flint that protrude through the surfaces to give a speckled white finish, rough and angular to the touch. Fabrics F and I are also the two most common fabrics among the residual prehistoric pottery from Roman features in Area J1 North. Indeed the percentages by weight are directly comparable. This indicates the residual pottery is

more or less exclusively late Bronze Age, a conclusion borne out by the typology of the residual pottery. Indeed there is a joining sherd between the Roman grave F69 and the late Bronze Age pit F38. Although the flint-with-sand tempered Fabrics H, J and K were not found in late Bronze Age pits, they could quite easily have derived from other Bronze Age activity in the vicinity. Exclusively sand-tempered fabrics (A and C) are only present in Roman contexts in negligible quantities, just less than 2% by weight. Such sherds will be Iron Age.

Pottery from pit F38

Pit F38 in Area J1 North had the largest single assemblage of prehistoric pottery from the GAL sites, with 216 sherds weighing 3.288kg. The average sherd weight is 15.2g and there were forty-four joining sherds. Coupled with the number of joining sherds, the relatively high average sherd weight indicates material deposited not long after breakage. None of it is decorated and the pottery is emphatically a plain ware tradition; much is illustrated (Fig 1.69, nos 19-32). There are joining sherds of a fineware cup from the pit and the Roman grave F69 that cut it (Fig 1.70, no 31). When the pottery from Pit F38 was examined alongside that from F69, the minimum number of complete vessels the pit represented was estimated at twenty pots.

Typology of the Late Bronze Age pottery

(i) Pit WB F25 Initial Late Bronze Age Pottery
Typologically the earliest strand in the late Bronze Age pottery comes from Pit WB F25 in the shape of a coarse bucket-shaped urn with a single horizontal row of lightly executed finger-tip with nail impressions below the rim (Fig 1.70, no 33). The protruding (everted) rim has an internal bevel. Inner and outer surfaces of the pot had been wiped with a cloth. A rather similar shaped urn (but without the decoration) from Great Holts Farm at Boreham (Essex) has been characterised as belonging to the transition from Deverel-Rimbury to late Bronze Age pottery (Brown 2003,93,fig.70 no 11). What sets the Colchester pot apart from Deverel-Rimbury is the relative thinness of the walls, the lack of a cordon for the finger-tip impressions, the inconspicuous rendering of those impressions, and the moulded rim. The same pit had a thickened (swollen) rim with a neat square profile (Fig 1.71, no 34).

(ii) Pit F38 Developed Late Bronze Age pottery
Large storage jars were much in evidence in the middle to lower fill of the pit; sherds from two are illustrated (Fig 1.69, nos 19 & 21). The first has a prominent plain cordon around the shoulder reminiscent of the ledge-like feature on an unusual late Bronze Age pot from Great Holts Farm at Boreham (Essex) (Brown 2003, 93,fig 71 no 15). The base sherd illustrated is flat, with the flint rough-casting on the under surface so typical of late Bronze Age and initial Iron Age pottery (O'Connell 1986, 62); its wall rises straight and steep from the base. Another rough-cast base is illustrated; its slightly dished lower surface is more unusual. A thin wall above rises in a gentle curve (Fig 1.69, no 22). Flint rough-casting means that quite small scraps of *flat* pottery can be identified as late Bronze Age or initial Iron Age if they have this feature. A third base shows no sign of rough-casting (Fig 1.70, no 23). A tall open form with a slight carination at the shoulder has a neat rim that looks as if it had been trimmed with a knife (Fig 1.69, no 20). Another open form is represented by a shallow bowl (Fig 1.70, no 25). Some bowls have a straight rim rising steeply from an unemphatic rounded shoulder; smaller versions of the type are cups (Fig 1.70, nos 26 & 31). Two closed (jar) forms have internal bevels to the rims; one is a slack s-form with weak neck, the other has a steep and gently curved neck (Fig 1.70, nos 24 & 27). The remaining illustrated vessels are represented by plain rims from thin-walled fineware bowls; one (29) has a flat upper surface to the rim (Fig 1.70, nos 28-29, 30 & 32). The thinnest of the vessels (notably no 32) were bowls whose inherent fragility would have meant a short life, unless carefully tended.

(iii) F69 Residual Late Bronze Age pottery
The three vessels illustrated from F69 derived from pit F38 when it was cut by the Roman grave; there are sherd joins between F69 and the fineware cup from F38 (Fig 1.70, no 31). One of the illustrated vessels is a splayed rim from a fineware bowl; another is a bowl with a straight everted rim above a weak shoulder, and the last is a squared flat rim (Fig 1.71, nos 39-41 respectively).

(iv) Residual prehistoric pottery in other Roman features
Apart from a sherd decorated with parallel straight lines cut obliquely across the top of the rim (Fig 1.71, no 42), all the illustrated vessels are late Bronze Age plain wares of the kind already described. Plain rounded rims are standard (Fig 1.71, no 36). Three rims have internal bevels (Fig 1.71, nos 37, 43 & 46). Some are

rounded rims thickened (swollen) at the tip (Fig 1.71, nos 35 & 47); other swollen rims have flat surfaces where the tops had been trimmed (Fig 1.71, nos 38 & 44). The thin walls and smooth surfaces of some vessels (Fig 70, no 45) represent delicate finewares at several removes from the coarser pottery (Fig 1.71, no 38)

Chronology of the Late Bronze Age pottery

The prehistoric pottery from Area J1 North is a late Bronze Age plain ware assemblage of the kind characterised by Barrett (1980). He envisaged two phases to the Late Bronze Age pottery that succeeded the Deverel-Rimbury tradition at the end of the 2nd millennium BC. The earlier was an essentially plain ware style (like the GAL) dated *c* 1000-800 BC in which decoration (when present) is rare and confined to the tops of rims. Out of this plain ware tradition gradually emerged a style current *c* 800-600 BC in which decoration is more conspicuous. Of course the formulation of chronology is such bald and precise terms can only be an approximation. We know all too little about the pace of regional developments or even where the pottery emerged in the first place: at Runnymede Bridge (Berkshire) - for instance - the trend towards significant decoration began rather earlier, before the end of the ninth century (Needham 1996b, 255). Decoration in the *c* 800-600 BC phase was no longer confined to rims but is found on the shoulders and bodies of vessels as well; sometimes there are panels of incised patterns. Both these styles are sometimes described collectively as Post Deverel-Rimbury or PDR.

The absolute chronology of PDR was underpinned by radiocarbon dates and by the occasional association with metalwork. It has stood the test of time well (Bradley & Hall 1992, 71). A radiocarbon date of 1005-830 cal BC at 1σ and 1130-790 cal BC at 2σ was provided by horse beans associated with Late Bronze Age plain ware at the Frog Hall Farm site in Fingringhoe, only 5 km south of the Garrison sites (Brooks 2002; Murphy 2002, 61; Jordan *et al* 1994, 56). The beans are a short-life sample, and so the date can be regarded as useful.

A drastic adjustment to the terminology of PDR pottery is necessary now because what we have called late Bronze Age decorated ware was in fact in use when iron had started to displace bronze as the staple metal for tools. This followed the redating of Late Bronze Age metalwork of Ewart Park type from *c* 900-700 BC to *c* 1020-800 BC through radiocarbon analyses of wood directly associated with metalwork (Needham *et al* 1998, 93, 98). The many hoards of scrap bronze buried at the end of the Ewart Park phase *c* 800 BC are seen as casualties of the new metal iron because its introduction made most existing stocks of bronze redundant and led directly to the bronze hoard phenomenon (Burgess 1979, 275-6; Needham 1990,130-40; Needham *et al* 1998, 93). It follows that Late Bronze Age decorated ware should now be seen as the ceramic of the *initial* Iron Age, followed after *c* 600 BC by Early Iron Age pottery of Darmsden-Linton type.

There is every reason to think that the Late Bronze Age plain ware from the GAL sites stands at the very start of the sequence. One notes that rounded rims are far more common than flattened ones; at Runnymede, it was flattened rims that were in the ascendant by the end of the PDR sequence there (Needham 1996a, 113, 160). We have already seen that the pottery from pit WB F25 is transitional between Deverel-Rimbury and Late Bronze Age. It is also remarkable that none of the pottery in the large assemblage from Pit F38 in Area J1 North is decorated. Indeed (apart from the pot with echoes of Deverel-Rimbury decoration from pit WB F25), only one other sherd from J1 North is decorated, the incised rim residual in a Roman grave (Fig 1.71, no 42). As it is residual, it could conceivably have come from an initial Iron Age decorated assemblage and not be part of the Late Bronze Age plain ware material at all. From the standpoint of decoration, the Late Bronze Age plain ware from the Garrison has much in common with the Frog Hall Farm pottery from Fingringhoe where only one sherd was decorated (Brown 2002b, 60). Both groups can reasonably be placed right at the start of Late Bronze Age PDR pottery and for this reason the GAL material is dated *c* 1000-900 BC.

Discussion of the Late Bronze Age pottery

Essex and East Anglia have little in the way of large assemblages of late Bronze Age plain ware (Needham 1996b, 254). There is nothing in Essex, yet, to match the very large assemblages from Thames valley sites like Area 16 East at Runnymede, significant with its 70kg of pottery (Needham 1996a, 196). Although the North Ring at Mucking in Essex had produced 133kg of pottery described as Late Bronze Age (Barrett 1988, 25), nearly all of it is a decorated assemblage of what we would now call initial Iron Age (as defined here). The largest published Late Bronze Age plain ware group from the county is the material from the enclosure at Broomfield in Chelmsford, where most of the 17.84kg of prehistoric pottery was of this type (Brown 1995b). Lofts Farm at Heybridge had 7.112kg (Brown 1988) and Fingringhoe another 6.25kg (Brown 2002b,

58). Mindful of this, the 7.049kg from the Colchester GAL sites can be seen to be of some regional significance, particularly as the absence of decorated pottery from pit F38 shows that post-Deverel-Rimbury pottery in Essex began with a true plain ware tradition devoid even of decorated rims.

The dearth of Iron Age pottery at the GAL sites

The GAL excavations produced next to nothing in the way of Iron Age pottery. A solitary dished base from Area C1 could be Darmsden-Linton or Middle Iron Age, whilst the northern sites of Areas J1, C1 and C2 produced only five sherds of grog-tempered ware of Late Iron Age or transitional date (Benfield, this volume). Typologically, there is nothing else that need be Iron Age at all. With the possible exception of these few sherds, there was no Late Iron Age wheel-thrown grog-tempered ware of Aylesford-Swarling or 'Belgic' type. Hand-made sand-tempered pottery first makes its debut in the Iron Age, and so the Fabric A and C sherds will be Iron Age - but they contributed less than 2% of the total by weight. The picture is starkest in Area J1 North where the prehistoric pottery found residual in Roman contexts is the same as the Late Bronze Age plain ware from that area, with the possible exception of three grog-tempered sherds (Benfield, this volume). There is next to nothing to put in the interval between the Late Bronze Age and Roman activity there. This indicates that the land was uncultivated or rarely cultivated: otherwise pottery of Iron Age date would have found its way there in midden material used for manuring the fields. Presumably the landscape reverted to woodland, either managed or unmanaged. Yet by the end of the Iron Age, Colchester was the celebrated royal seat of Camulodunum. The dearth of Iron Age material from the GAL sites shows that this tract of the *oppidum* was sparsely populated; unless it was a source of managed woodland timber, the area played no part in the exciting developments that saw Colchester become one of the major pre-Roman settlements of south-eastern Britain.

List of illustrated pottery

Fig 1.68 no 1. Fabric I. Light grey core with red surfaces, the inner with a large black patch. Early Neolithic Grimston/Lyles style. Area J1 North, F469 (Roman context)
Fig 1.68 no 2. Fabric GTW. Light brown core and surfaces. Middle Neolithic Mildenhall style. Area C1, pit CF75
Fig 1.68 no 3. Fabric GTW. Brown core and interior, exterior red (two joining sherds from the same vessel as the following). Middle Neolithic Mildenhall style. Area C1, pit CF75
Fig 1.68 no 4. Fabric GTW with sparse sand and flint. Brown core and interior, red exterior (a sherd from the same vessel as the preceding). Middle Neolithic Mildenhall style. Area C1, pit CF75
Fig 1.68 no 5. Fabric GTW. Brown core and interior, red exterior. Neolithic Peterborough Ware. Area C1, pit CF75.
Fig 1.68 no 6. Fabric I. Dark brown core and interior, mottled red and brown exterior. Neolithic Peterborough Ware. Area C1, pit CF75
Fig 1.68 no 7. Fabric I. Black core and red surfaces. Neolithic Peterborough Ware. Area C1, pit CF75
Fig 1.68 no 8. Fabric GTW. Red core and exterior, black interior. Neolithic Peterborough Ware. Area C1, pit CF72
Fig 1.68 no 9. Fabric GTW. Red core and exterior, black interior. Neolithic Peterborough Ware. Area C1, pit C11 T4
Fig 1.68 no 10. Fabric I. Black core with red surfaces. Neolithic Peterborough Ware. Area Q, F72
Fig 1.68 no 11. Fabric I. Brown core and interior, red exterior. Neolithic Peterborough Ware. Area C2, pit CF223
Fig 1.69 no 12. Fabric I. Red core and surfaces. Beaker. Area C2, pit CF223
Fig 1.69 no 13. Fabric I. Red core and surfaces. Beaker coarse ware; coil built. Area C2, pit CF223
Fig 1.69 no 14. Fabric I. Red core and surfaces. Beaker. Area C2 Pit CF223
Fig 1.69 no 15. Fabric I. Brown core with a light brown interior and red exterior. Beaker. Area C2, pit CF223
Fig 1.69 no 16. Fabric F. Brown core, red interior and light brown exterior. Beaker. Area C2, pit CF223
Fig 1.69 no 17. Fabric I. Red core and surfaces. Beaker. Area C2, pit CF223
Fig 1.69 no 18. Fabric GTW with some sand. Grey core and interior, red exterior. Middle Bronze Age Deverel-Rimbury. Area J1 East, L5 (post-Roman sub-soil)
Fig 1.69 no 19. Fabric I. Red core and surfaces. Late Bronze Age. Area J1 North, pit F38
Fig 1.69 no 20. Fabric I. Grey core and exterior, light grey interior. Late Bronze Age. Area J1 North, pit F38
Fig 1.69 no 21. Fabric I. Red core, mottled brown surfaces. Late Bronze Age. Area J1 North, pit F38

Fig 1.69 no 22. Fabric I. Red core and surfaces with some grey patches. Late Bronze Age. Area J1 North, pit F38
Fig 1.70 no 23. Fabric I. Grey core with red surfaces. Late Bronze Age. Area J1 North, Pit F38
Fig 1.70 no 24. Fabric I. Black core, dark grey exterior and brown interior. Late Bronze Age. Area J1 North, pit F38
Fig 1.70 no 25. Fabric I. Dark grey core and surfaces. Late Bronze Age. Area J1 North, pit F38
Fig 1.70 no 26. Fabric I. Red core and surfaces. Late Bronze Age. Area J1 North, pit F38
Fig 1.70 no 27. Fabric I. Red core and surfaces. Late Bronze Age. Area J1 North, pit F38
Fig 1.70 no 28. Fabric F. Red core and surfaces. Late Bronze Age. Area J1 North, pit F38
Fig 1.70 no 29. Fabric F. Light brown core and surfaces. Late Bronze Age. Area J1 North, pit F38
Fig 1.70 no 30. Fabric F. Grey core with light brown surfaces. Late Bronze Age. Area J1 North, pit F38
Fig1.70 no 31. Fabric F. Dark grey core and surfaces. Joining sherds from the Late Bronze Age, pit F38 in Area J1 North and the Roman grave F69 in the same area
Fig 1.70 no 32. Fabric F. Dark grey core and surfaces. Late Bronze Age. Area J1 North, pit F38
Fig 1.70 no 33. Fabric I. Red core and surfaces. Late Bronze Age. Area WB, pit F25
Fig 1.71, no 34. Fabric I. Black core and interior, dark brown exterior. Late Bronze Age. Area WB, pit F25
Fig 1.71, no 35. Fabric I. Light brown core and red surfaces. Residual in a Roman context. Area J1 North, F24
Fig 1.71, no 36. Fabric I. Grey core and surfaces. Residual in a Roman context. Area J1 North, F24
Fig 1.71, no 37. Fabric F. Light brown core and surfaces. Residual in a Roman grave. Area J1 North, F63
Fig 1.71, no 38. Fabric 38. Light grey core and interior, light brown exterior. Residual in a Roman grave. Area J1 North, F63
Fig 1.71, no 39. Fabric F. Light grey core and grey surfaces. Residual in a Roman grave. Area J1 North, F69
Fig 1.71, no 40. Fabric F. Grey core and light brown surfaces. Residual in a Roman grave. Area J1 North, F69
Fig 1.71, no 41. Fabric F. red core and brown surfaces. Residual in a Roman grave. Area J1 North, F69
Fig 1.71, no 42. Fabric I. Red core and surfaces. Residual in a Roman grave. Area J1 North, F133
Fig 1.71, no 43. Fabric I. Brown core and interior, mottled red exterior. Residual in a Roman grave. Area J1 North, F137
Fig 1.71, no 44. Fabric I. Light brown core and brown surfaces. Residual in a Roman grave. Area J1 North, F229
Fig 1.71, no 45. Fabric H. Light grey core and surfaces with black patches on the exterior. Residual in a Roman context. Area J1 North, F257
Fig 1.71, no 46. Fabric I. Light grey core and interior, light brown exterior. Residual in a Roman context. Area J1 North, F279
Fig 1.71, no 47. Fabric I. Dark grey core, light grey interior and mottled red and brown exterior. Residual in a Roman grave. Area J1 North, F487

The Roman pottery

by Stephen Benfield

Introduction

The pottery is presented in three sections. These are: pottery from the burials (Areas J1 East, J1 North, J1 South, and C2), the pottery associated with a building and ditched enclosure (Area E), and stratified pottery from other contexts for Areas C1, C2, J1 East, J1 North, J1 South and Q. The pottery associated with the circus is set out elsewhere. In respect of this, the Roman pottery fabric types recorded for all of the excavations are set out in Table 1.28. It is of note that only a very few sherds of Late Iron Age grog-tempered pottery (Fabric GTW) were recorded among the pottery from these excavations covered in this report. In total there are only seven grog-tempered sherds. These are four sherds (29 g) from Area J1 North, one sherd (21 g) from Area J1 South and two sherds (92 g) from Area Q.

Pottery fabrics and recording

The Roman pottery has been recorded using the Roman pottery fabric type series devised for *CAR* **10** in which the fabrics are recorded as two letter codes. These letter codes, together with the full fabric name, are set out in Table 1.28. In addition a fabric code has been included for grog tempered wares of Late Iron Age potting tradition (Fabric GTW) and Romanising coarse wares (Fabric GX(RCW)). These additional Fabric types are described below. Where appropriate the fabric code for the national Roman fabric reference collection has been included (Tomber & Dore 1998). The pot forms were recorded, where possible, using the Camulodunum (Cam) Roman pottery form type series (Hawkes & Hull 1947; Hull 1958). Samian vessels are recorded using Dragendorff (Dr) form numbers or other common form type references following those used in Webster 1996. Dating of the pottery broadly follows the dating of pottery fabric and forms in *CAR* **10**. For Nene Valley colour-coated wares (Fabric EA) form type date ranges indicated in Perrin 1999 have, where appropriate, been included. The jar form Cam 278, produced in BB2: black-burnished ware category 2 (Fabric GB) and pale grey ware (Fabric KX) in *CAR* **10** is not clearly chronologically divided between early, mid and late versions of the form. In this report, dating of these variations broadly follows that set out in the pottery classification for Southwark, London (Marsh & Tyers 1978, 546-80; Hammerson 1988, 193-209).

Fabric descriptions other than fabrics contained in *CAR* 10

Fabric GTW Grog tempered wares
Generally thick sherds with patchy or mottled red-brown to dark-brown surfaces. The fabric contains various quantities of crushed fired clay (grog) and is commonly grey to brown in colour.

Fabric GX(RCW) Romanising coarse wares
Sherd thickness is generally medium-thin. Fabric contains fragments of burnt organic matter (possibly dung) and some grog may also be present. The fabric is commonly grey-brown with dark grey-brown surfaces and has a tendency to laminate, though can be a harder pale brown to light grey fabric the surface of which often appears abraded.

Table 1.28 Roman pottery fabrics.

Fabric code	Fabric name	National Roman Fabric Reference Collection fabric code
AA	amphorae, all excluding Dressel 20 and Brockley Hill/Verulamium region amphoras	
AJ	amphoras, Dressel 20	BAT AM 1, BAT AM 3
AU	amphoras, miscellaneous, including examples possibly from the Brockley Hill/Verulamium region	
BA	plain samian forms	
SG	South Gaulish plain samian	LGF SA
CG	Central Gaulish plain samian	LEZ SA 2
EG	East Gaulish plain samian	
COL	Colchester plain samian	COL SA
BX	decorated samian forms	
SG	South Gaulish decorated samian	LGF SA
CG	Central Gaulish decorated samian	LEZ SA 2
EG	Central Gaulish decorated samian	
COL	Colchester decorated samian	
CB	Colchester red colour-coated roughcast ware	COL CC2
CH	oxidised Hadham wares	HAD OX
CL	Central Gaulish and ‘Rhenish-type’ fine colour-coated wares	
NF	Trier fabric	MOS BS
CZ	Colchester and other red colour-coated wares	COL CC2
DJ	coarse oxidised and related wares	COL WH
DZ	fine oxidised wares	
EA	Nene Valley colour-coated ware	LNV CC
EC	early Colchester colour-coated ware	COL CC 1

Fabric code	Fabric name	National Roman Fabric Reference Collection fabric code
EZ	other fine colour-coated wares, mostly white/buff	
LRW	Cologne (lower Rhineland) ware	KOL CC
FJ	Brockley Hill/Verulamium region oxidised ware	VER WH
GA	BB1: black-burnished ware, category 1	DOR BB1
GB	BB2: black-burnished ware, category 2	COL BB2
GP	fine grey wares (Colchester, London-type and north Kent wares)	LON FR, UPC FR
GR	fine grey wares imitating samian and terra nigra forms	
GTW	Late Iron Age grog-tempered ware	SOB GT
GX	other coarse wares, principally locally-produced grey wares	
RCW	Romanising coarse ware	
HD	shell-tempered and calcite-gritted wares	
HZ	large storage jars and other vessels in heavily-tempered grey wares	
KX	black-burnished ware (BB2) types in pale grey ware	
MP	Oxfordshire type red colour-coated ware	OXF RS
MQ	white slipped fine wares and parchment wares	
ON	mica-gilt wares	
TD	Verulamium region mortaria	VER WH
TY	mortaria, other British	
TE	Nene Valley mortaria, white fabric and black grits, unslipped or with reddish wash	LNV WH
TZ	mortaria, Colchester and mortaria imported from the Continent	
UR	*terra nigra* type wares	
LTC	local traded coarse ware	
UX	Romano-Saxon grey wares and types in similar fabric	
WA	silvery micaceous grey wares	
WC	miscellaneous grey and pale grey wares	

Part 1: Pottery from burials, pits containing pyre debris, pyres and *busta*

Introduction

Pottery grave goods or vessels forming part of a funeral assemblage were recovered from cremation burials, inhumation burials and other funerary features (pits with pyre debris, pyre sites, *busta* and burial related features) from Areas J1 East, J1 South, J1 North and C2. Most of this pottery is from features on Area J1 North and Area C2, with some from the small number of features on Areas J1 South and J1 East. Pottery is the most common datable find associated with the burials and other funerary features. In the absence of other dated finds, the most important contribution of the pottery is in helping to date these features and the period over which the burials took place.

Pots recovered from the cremation burials, inhumation burials and other funerary features were recovered in different states of completeness. These can be categorised as funerary features with whole pots (although some of these have suffered various degrees of damage), complete or near-complete pots recovered as sherds, sherds representing most or significant parts of pots and pots represented by small numbers of sherds or single sherds. The completeness of the pots can be related to the type of feature from which they were recovered. Most of the whole and complete pots come from the cremation burials and inhumation burials, although a small number of whole or complete pots were also recovered from some of the burial pits with pyre debris and two burial related features. Pots represented by sherds are mostly associated with the burial pits with pyre debris, the pyre sites and *busta*. Burnt sherds are common among the pottery recovered

from the burial pits with pyre debris, the pyre sites and *busta*, while only a very few pots from the cremation and inhumation burials show any sign of having been burnt or scorched. Given these differences in the nature of the pottery recovered from, on the one hand, the cremation and inhumation burials and, on the other, the features containing significant quantities of pyre debris. Where appropriate, the pottery from these features is discussed separately, as, where appropriate, is that from the cremation and inhumation burials.

Where possible, all of the pottery representing whole pots, or significant parts of pots, has been illustrated. The pottery represents single pots, or groups of pots, that were chosen to be part of a funerary assemblage. The illustrations allow the types of vessels to be seen, both as pots from individual burials and as an assemblage of pots from burials made in a particular area of the Roman burial grounds. Also, objects in other materials were recovered from some of the burials. In this case the pottery forms part of an assemblage of items illustrated together as a grave group. The pots, and objects in other materials, most probably represent a selection of items that was available because they were contemporary objects at the time of the burial. The association of items, groups of pots or other objects, has wider significance in relation to the dating of objects recovered from other contexts. However, it should be noted that pots whose dating indicates they were virtually antiques at the time of the burial have been recorded from other sites in Colchester (*CAR* **11**, 47-9). Also imperfect pots, that may not have been serviceable vessels and were possibly obtained specifically for the funeral rather than selected from among those in daily use, have previously been recorded from other sites (Philpott 1991, 36).

Date of the pottery

With a few exceptions, there is a clear distinction in the date of the pottery recovered from Areas J1 North, J1 East and J1 South, and that from Area C2. Almost all the more closely-datable pottery associated with the burials features from Areas J1 North, J1 East and J1 South is of 1st- to early 2nd- to mid 3rd-century date. The more closely-datable pottery associated with the burial features from Area C2 is of is of mid 3rd- to 4th- or 4th-century date. The difference in the date of the pottery from these areas is emphasised by the fabrics and forms represented from these sites. While there are a number of locally produced vessels on Area C2, much of the pottery consists of vessels in late Roman fabrics from regional sources, notably colour-coated ware the Nene Valley (Fabric EA) and oxidised Hadham (Fabric CH) wares. These fabric types are rare on Areas J1 North, J1 South and J1 East where local products, especially grey wares (Fabric GX), oxidised wares (Fabric DJ) and BB2: black burnished wares category 2 (Fabric GB) predominate. Also there is little overlap in the pottery form types recorded between the sites. The forms shared between Area C2 and the other Area J1 areas are restricted to Cam 40A, Cam 268, Cam 270B and Cam 278. Also, the jar form Cam 268 (dated early/mid 2nd to late 3rd/early 4th century) which is common among the pottery on Area J1 North, appears only once on Area C2 (CF163). The date of the pottery from the Area J1 areas is considered together, while that from Area C2 is discussed separately.

Areas J1 North, J1 South and J1 East

A total of only ten burials and other funerary features were located on Areas J1 South and J1 East. The small quantity of the more closely datable pottery from these can be encompassed within a date range of 1st-late 2nd/early 3rd century. However, the large number of pottery vessels recovered from Area J1 North allows for a wider consideration of the chronology of the burials from that site.

The earliest burials on Area J1 North can, in the main, only be dated as 1st century, or more commonly, 1st-early 2nd century. This broad dating results from the predominance of coarse ware vessels with the burials, which in general are not more closely datable than a period of about 50 to 100 years. However, it can be noted that among the pottery there is very little that can be specifically dated to the pre-Flavian period (AD 43-69). There are no Gallo-Belgic wares or local copies of Gallo-Belgic forms present, and no pre-Flavian fine wares. The only specifically pre-Flavian vessel form recorded is the ring-neck flagon Cam 154/155, dated Claudio-Neronian (*CAR* **10**, 469). There is a near-whole pot attributed to this form from the inhumation burial JNF221, one near-complete and another partial pot from the burial pit with pyre debris JNF252 and two sherds (probably from one pot) recovered from the *bustum* JNF34. However, the attribution of ring-neck flagons to particular closely dated Cam form types (Cam 154, Cam 154/155, Cam 155) is rather subjective. While these early dated pots may indicate at least some burials on the site are pre-Flavian, the pots are few in number and not firmly dated. They could simply reflect the use of old pots, or may simply be wrongly attributed to this particular form type and dated too early. For example, the similar ring-neck flagon form Cam 155 is dated as Claudio-Neronian to early Antonine (*CAR* **10**, 475).

The latest dated pottery is a hooked lid of a type dated to the late 3rd-4th century (*CAR* **10**, Fabric CH form Type 91). This came from burial-related feature JNF242. The lid was covering the mouth of a jar with a rusticated shoulder - a form that is uncommon at Colchester. There are two previous illustrated examples of sherds from jars with similar rustication in Fabric GX (*CAR* **10**, Fabric GX, fig 6.72 536 & 537) and one in Fabric WA (*CAR* **10**, fig 6.88 137). Neither of the examples in Fabric GX is well dated, although the example in Fabric WA is came from a context dated to period ending group (PEG) 16, up to *c* AD 350 (*CAR* **10**, 7, 421). At Brancaster, in Norfolk, similar jars occur in deposits dated to the 3rd century, and the form is considered there to be of 3rd to early 4th century date (Andrews 1985, 72, 96).

Otherwise the latest closely-dated pottery consists of a small number of vessels in Nene Valley colour-coated ware (Fabric EA), and later-dated vessel form types in BB2: black-burnished ware category 2 (Fabric GB) or black-burnished ware types in pale grey ware (Fabric KX). Nene Valley colour-coated ware begins to appear at Colchester from the second quarter of the 3rd century (after *c* AD 225), although the largest quantities are recovered from late 3rd and 4th century contexts (*CAR* **10**, 279). Associated with the cremation burials are a Cam 407 beaker (Fabric EA) dated second quarter of the 3rd century(?) to 4th century (*CAR* **10**, 487) from JNF41a. In BB2: black burnished ware category 2 there is a Cam 37B bowl, dated late 2nd century to third quarter of the 3rd century from JNF348, and in Fabric KX, late versions of the jar form Cam 278 (dated to the late 2nd-mid 3rd century or possibly a decade or so later (*CAR* **10**, 480) from JNF244. Also there is a grey coarse ware (Fabric GX) folded beaker of form Cam 406 dated late 2nd-mid 3rd century from JNF222. From among the inhumation burials there is a tall indented beaker, in Nene Valley colour-coated ware, of form *CAR* **10** Fabric EA Type 11, from JNF97. The form is that of beakers imported in the 3rd century from Gaul and the Rhineland (Symonds 1992, Group 35, 49-53). The earliest illustrated example of this form at Colchester is from deposits dated up to *c* AD 250 (*CAR* **10**, Fabric EA, Type 11, no 51) and the form is recorded at St Magnus House, London, from deposits dated to the second quarter of the 3rd century (Richardson 1986, 128 no 1.206). The lower half of a beaker, also attributed to the Nene Valley potteries, was recovered from the inhumation burial JNF286. In the absence of the rim the form type is not known, but both cornice and plain-rimmed beakers, dating from the early 2nd century to the second half of the 3rd century, were produced in the Nene Valley (Perrin 1999, 90-93). There is also a Cam form 411 folded beaker, a rare vessel type at Colchester, from the inhumation burial JNF64 and dated second quarter of the 3rd century(?) to 4th century (*CAR* **10**, 487). The earliest recorded example of this form at Colchester is from deposits dated up to *c* AD 250 (*CAR* **10**, 487).

Area C2

Almost all of the whole, complete or near-complete pots from Area C2 are from cremation burials. With these are four complete vessels from inhumation burials (CF224, CF246, CF251) and one from a burial pit with pyre debris (CF240). Although individually a few vessels have date ranges that begin in the Claudio-Neronian period or the early-mid 2nd century, for all of the pots the date ranges extend into the 3rd century. Also, most of the potentially early dated vessels occur in features with other closely dated pots that can be dated to the mid-late 3rd to 4th century or 4th century.

The earliest closely-datable pottery comes from CF167, identified as a probable cremation burial. This features contained a triple vase of form Cam 495, dated Claudio-Neronian to 3rd century, and an undated miniature jar. From the fill there is a sherd from a form Dr 31 samian bowl, dated later 2nd to earlier 3rd century, and sherds from a Cam 279 jar (Fabric GA). While not closely dated, on balance the jar is probably most likely to be the late version of the form, ie Cam 279C, dated early-mid 3rd century (not before *c* AD 220?) to late 4th century. This is because, where identifiable, all other examples of this jar form recorded from the site are of this late version. Overall the burial CF167 is at least of mid-late 2nd-century date and could date from the early-mid 3rd century or later.

There are also a number of pottery vessels associated with the burials in BB2: black-burnished ware category 2 (Fabric GB) and black-burnished ware forms in grey ware (Fabric KX), that are dated from the early 2nd century to mid/late 3rd century. From the cremation burial CF173 there are three dishes of form Cam 40A (Fabric GB) and dated as Trajanic/Hadrianic to third quarter of the 3rd century, although the flagon with them is probably from the Hadham potteries (Fabric CH) and should date to at least the mid-late 3rd century, if not the 4th century. Also in Fabric GB is a jar of form Cam 278, recovered from the cremation burial CF166. This rim of this jar is pronounced, extending to just beyond the widest part of the body and is similar to vessels of form Cam 279C in BB1: black-burnished ware category 1 (Fabric GA) dated early 3rd century (not before *c* AD 220) to 4th century (*CAR* **10**, 480). This pot should be one of the latest versions of form Cam 278 to be produced and is dated (by analogy with form Cam 279C) as early-mid 3rd century, or possibly a decade or so later (*CAR* **10**, 480). Of early Antonine to 3rd-century date is a burnt Cam 39 dish from the burial pit with pyre debris CF227. There is also a late version of the jar form Cam 278 (Fabric KX) dated early to mid 3rd century, from the cremation burial CF31. The small grey ware beaker from the

inhumation burial CF244, by analogy with similar vessels in late Colchester colour-coat wares (Fabrics CZ and CB), should also date to the late 2nd or 3rd century. Unless some of these vessels were heirlooms, they indicate that at least some of the burials date from the period of the mid-late 3rd century, or at the latest the early 4th century.

The dating of the latest burials on Area C2 is not clear as the date ranges of the later-dated forms and fabric types recorded span the mid-late 3rd to 4th century. Some of these, notably oxidised Hadham ware (Fabric CH) and pentice-moulded beakers of form Cam 395, while recorded from contexts dated to the mid-late 3rd century, are considered to be primarily of 4th-century date (*CAR* **10**, 297; Perrin 1999, 97). It can be noted that pottery with the latest date ranges at Colchester, Oxfordshire-type red colour coated ware (Fabric MP), Mayen ware (Fabric HG) or late vessel form types in shell-tempered ware (Fabric HD), are absent. While not necessarily significant or indicative of the overall date of the burials, the absence of the latest dated pottery types at Colchester could indicate that the majority of the burials pre-date the late 4th/early 5th century.

Of specific interest is the date of the pottery from a number of cremation burials at the centre of small ring-ditches. Ten vessels were recovered from five of these burials (CF105, CF127, CF162, CF163, CF242). The lower half of a Cam 278 jar (Fabric GB) from CF162 can be dated to the mid 2nd to mid 3rd century. Also a Cam 268 jar from CF163 should not be current beyond the late 3rd/early 4th century. There are also a number of pottery vessels in oxidised Hadham ware (Fabric CH) from CF105 and CF163, which, while recorded from mid-late 3rd-century contexts is primarily of 4th-century date at Colchester. The fill of the ring-ditches CF222 and CF231 contained sherds of Nene Valley colour-coated ware (Fabric EA), which appears in Colchester in the early to mid 3rd century, after *c* AD 225, but the largest quantities are recovered from late 3rd- to 4th-century contexts (*CAR* **10**, 278). Also a Cam 305A flanged bowl, dated to the third quarter of the 3rd century to the end of the Roman period (*CAR* **10**, 481) was recovered from the fill of the ring-ditch CF205. It can be noted that a cremation burial recovered from the fill of the ring-ditch CF207 contained a Cam 395 pentice-moulded beaker, dated mid 3rd(?) to 4th century, although probably of 4th-century date. The vessel is unusual as it is in a grey ware fabric (Fabric GX). Overall the pottery from the cremation burials that can be associated with the presence of a small ring-ditch surrounding them appears to be of the same type and date range as the pottery associated with the other burials.

Proportion of the burials with pottery vessels

The majority of the cremation burials on all of the areas were accompanied by one or more pots. This is to be expected, as a pottery vessel is a common provision as a receptacle for the cremated bone (Philpott 1991 p 30). The numbers of pots quoted here as associated with individual burials is based on complete or partial vessels and excludes sherds that are considered to be residual (Table 1.29).

On Area J1 North, six cremation burials (7 %) did not have a pottery vessel. This figure was slightly higher on C2 where nine cremation burials (23 %) have no record of any accompanying pot. The majority of the cremation burials on all the sites were accompanied by a single pot, and overall between about 70 % (C2) and 90 % (J1 North) of cremation burials had between one and three pots. The largest number of pots recorded from a cremation burial is six, with one cremation burial having this number of pots from Areas C2, J1 North and J1 South.

In contrast to the cremation burials, for all of the areas the majority of inhumation burials did not have any pottery vessel with them. For about three quarters (75 %) of inhumations on C2, and half (51 %) of the inhumations on J1 North, no pottery vessel was present. Where vessels occur they are almost always single pots, 20 % of inhumations on C2 having only one pot and 39 % on J1 North. These two groups (no accompanying pot, or just one pot) account for over 90 % of inhumation burials from both sites. There is also a marked difference in the numbers of pots accompanying individual inhumation burials between C2 and J1 North. While a few (eight) inhumations on J1 North have a number of pots with them (up to five pots are recorded), there is only one grave from C2 with more than one pot, and from this grave there was only one other vessel.

Table 1.29 Number of features with number of pottery vessels and number of features with burnt pottery by site and feature type.

types of feature by site	number of features with burnt pottery	features with no pottery vessel or just a few residual sherds	1 pot	2 pots	3 pots	4 pots	5 pots	6 pots	7 pots	8 pots	9 pots	10 pots	11 pots
Cremation burials:													
Area C2		9	16	8	3	1		1					
Area J1 North	4?	6	55	12	6		3	1					
Area J1 South			4	1				1					
Cremation features with pyre debris:													
Area C2	1		1	1						1			
Area J1 North	21	19	6	9	2	2	3	3	4	1	1		1
Area J1 East		2		1									
Area J1 North busta	4					1	1	1				1	
Area J1 North pyre site or pyre/bustum	4	1	1	1	2		2						
inhumations:													
Area C2		22	3	1									
Area J1 North	2?	152	32	4	2	1	1						
Area J1 South		1											
Watching Brief		1											

Pottery from the burial pits containing pyre debris, pyre sites and *busta*

The features containing significant quantities of pyre debris (burial pits containing pyre debris, pyre sites and *busta*) are not as numerous as the cremation burials with placed pots, although they form a substantial proportion of the funerary features on Area J1 North. By far the most common of these features are burial pits containing pyre debris. All three burial features recorded on J1 East are burial pits containing pyre debris.

There are several aspects of the features containing significant quantities of pyre debris that, in terms of the pottery, contrast with that from the cremation and inhumation burials. Most of the pots from the features containing significant quantities of pyre debris are broken and incomplete. Also, the quantity of pottery vessels represented in some of these features is the highest recorded and many show sign of having been scorched or burnt.

While a number of whole pots were recovered from some of the features containing significant quantities of pyre debris, the overwhelming majority of the pottery from these features consists of broken vessels or sherds. The proportion of an individual vessel represented varies from single sherds, to partial pots where a significant part of the vessel is represented, often by one or more large sherds. Also, the largest numbers of pots represented in individual features are recorded among theses features (Table 1.29), although it should be noted that this could be affected by the possibility of residual sherds among the features containing significant quantities of pyre debris. Residual sherds were much more easily identified and excluded from the vessel count for the cremation and inhumation burials. Heat damage is also common on sherds from the pyre debris features. Of the 51 features described as burial pits containing pyre debris on J1 North, 41 % contained at least some pottery that had been heat damaged. A similar proportion of the pyres and pyre/busta features (44 %) also contained some burnt pottery, while all (100 %) of the features identified as busta contained at least some pottery that was burnt. This contrasts with the whole pots recovered from the cremation burials where burnt pottery was very rare. Only three cremation burials, all on J1 North, contained pottery that appeared to have been scorched or burnt. Two pots that had been scorched or burnt were also recorded from inhumation burials on J1 North (JNF256, JNF426), although one of these (from JNF256) may be a kiln second rather than a burnt pot.

The contrast between the pottery recovered from the features containing significant quantities of pyre debris and the pots placed with the cremation burials indicates that there is a separation between the pots that formed the funerary assemblage and pots buried with the cremations. During the cremation process certain pots were placed on or around the pyre. These are recovered as burnt or scorched sherds or vessels

from the features containing significant quantities of pyre debris. Other pots that are not put onto the pyres, represented by the whole vessels from the cremation burials, are placed with the cremated bone recovered from the remains of the cremation pyre.

Types of pottery vessels

The majority of pottery vessels are jars, although beakers and flagons or flasks are common on Area C2. However, overall a wide range of vessel types are represented: amphorae, beakers, bowls, cups, dishes, face pots, flagons, flasks, honey jars, jars, miniature jars, pedestal vases, platters and a triple vase. The vessel forms and number of examples are listed in Table 1.30.

The status of the individuals, cremated or interred on these sites, as represented by the pottery is a difficult aspect to approach. However, there is little indication among the pottery vessels from J1 North, J1 East and J1 South of any particular display of wealth. Commonly only one or two pots are present and these vessels are almost entirely types common among domestic assemblages from the Roman town. Fine ware vessels are rare. The number of vessels of a form described as 'Honey jars', among the 1st-early 2nd century cremation burials, is of note (JNF58, JNF245? JNF325, JNF352, JNF472). Also there is the unusual occurrence of two Dressel 20 amphorae, recovered with other pots, from the cremation burial JSF9. A single vessel that stands out among the general pottery assemblage is a pedestal vase (used as the cremation urn) from the burial JNF380. One vessel type, rare among assemblages from Colchester, also stands out. This is a rusticated jar of Icenian type from the late Roman burial-related feature JNF242. There are also two face pots, one each from JNF138 and JNF377. Pottery classified as fine wares are much more common among the assemblage from C2. However, these fine ware vessels are mostly colour-coat beakers from the Nene Valley and burnished flagons from the Hadham potteries. These, as well as other fine ware vessels from these sources, are relatively common among assemblages from the late Roman town and are not particularly indicative of any visual display of wealth. One or two vessels or burials do however stand out from the general assemblage. The burial CF166 contains 4 pots, one of which is a Rhenish motto beaker and another a rare example of the form Cam 395 (pentice-moulded beaker) in a grey ware fabric. This small grave group stands out amongst the other pottery grave groups from the site. Also there is an unusual single vase, from the inhumation burial CF248. This appears to be a product of the Hadham kilns and is a striking individual vessel among the other pottery grave vessels from the site.

Table 1.30 Recorded pot forms showing the numbers of individual vessels recorded for the cremation and inhumation burials by site (crem -cremation burials, inhum - inhumations, BPPD - burial pit containing pyre debris, Bu –Bustum, Py – pyre site).

pottery form type	J1 North crem	J1 North BPPD	J1 North Py or Py/Bu	J1 North Bu	J1 North inhum	J1 South crem	J1 East BPPD	C2 crem	C2 BPPD	C2 inhum
Dressel 20						3				
Dr 18				1						
Dr 27	1									
Dr 29							1			
Dr 33					2					
Cam 37A	2					1				1
Cam 37B	1				1					
Cam 39A								2		
Cam 39B									2	
Cam 40A	1							3		
Cam 40B					2					
Cam 91	1									
Cam 104	1				1					
Cam 108	5	3		3						
Cam 119	1									
Cam 120				1						
Cam 122/123	1									
Cam 154/155		2		1	1					
Cam 155	6	1	1	1	7					
Cam 156	1				4	1				
Cam 175/177	4					1				
Cam 198		5	1	1						

pottery form type	J1 North crem	J1 North BPPD	J1 North Py or Py/Bu	J1 North Bu	J1 North inhum	J1 South crem	J1 East BPPD	C2 crem	C2 BPPD	C2 inhum
Cam 207/296					1					1
Cam 218	4	3		1	1					
Cam 221								1		
Cam 227					1					
Cam 231/232	2									
Cam 233/235	1				2					
Cam 241/242	1	1								
Cam 243-244/246	2	2		1	1					
Cam 266	12	3	4		5	1				
Cam 268	13	2	2	1	6	3		1		
Cam 270B	1	1			1			1		
Cam 271	1									
Cam 277					1					
Cam 278	20	1		5	5			5		1
Cam 279A/B	1		1				1			
Cam 279C		2?						1		
Cam 280-281								4		
Cam 283								1		
Cam 288	2									
Cam 299								1		
Cam 303			1							
Cam 305 A									1	
Cam 307		1						1		
Cam 328	1									
Cam 360/368								1		
Cam 365								1		
Cam 391					3					
Cam 392	1									
Cam 395								5		
Cam 405/406	1									
Cam 407	1				1					
Cam 408-410					1			5		1
Cam 411					1					
Cam 494/495								1		

Combinations of pottery vessels placed with the burials

The majority of the pottery vessels can be placed within a small number of category groups based on both their form and presumed function. These are: jar/bowl/large flask (J), flagon/small flask (F), cup/beaker (B) and dish/bowl (D) (Philpott 1991, 35). The numbers of types of pots and combinations of pots from the burials, set out in Table 1.31, is based on the categories and order of presentation used in Philpott (1991, 35 & table 11). It can be noted that two combinations of vessel types, recorded by Philpott, were not recorded. These are JFBD (jar, flagon, bowl, dish) and BD (bowl, dish). Also the cremation burials from the sites frequently produced combinations of pots that involved multiplication of the same vessel types. This multiplication of vessels types is shown in Table 1.31.

There are a number of combinations of vessels that are of particular interest. The pottery from J1 North is dominated by jars, sometimes in combination with flagons, dishes or beakers. However, there are a number of combinations of vessels that are of particular interest. There are two groups of small or miniature Cam 278 jars. From the cremation burial JNF205 there are five miniature jars of form Cam 278 and there are six of

these miniature jars of the same form from the bustum JNF5. JNF5 also included two other pots, one of these another form of miniature jar. Both features are dated as Hadrianic to late 2nd century. Some of the vessels from both the features appear to have been burnt or scorched. The similarity between these pottery groups, both with an unusually large number of similar small vessels of the same form, could indicate that there is some relation between the *bustum* JNF5 and the cremation burial JNF205. It can also be noted that while small pots are often associated with children (*CAR* **9**, 268-75) this is not the case with these two features. The small pots from both JNF5, JNF205, and also a group of small vessels from the inhumation burial JNF218, are all associated with the remains of adults over 20 years of age. There are also two cremation burials that include amphorae. The amphoras are all of form Dressel 20. Both burials are from Area J South (JSF9, JSF10) and both had been disturbed by later activity. Unusually the burial JSF9 contained 2 amphorae along with 4 other vessels, one of which (a jar) had been placed inside one of the two amphorae. The burial JSF9 is dated to the early-mid 2nd century. The second burial (JFS10) contained the remains of 1 amphora and a single flagon and the burial is dated as early 2nd-late 2nd/early 3rd century.

While jars are still common among the pottery from Area C2 there are also a large number of flagons, flasks and beakers. Although beakers occur as single vessels with cremation burials (CF101, CF164, CF231) and inhumations (CF224, CF244), apart from the jar/flask with cremation burial CF127 the flagons and flasks are usually accompanied by another vessel, even if of the same vessel type. An example of this is the two flagons associated with the cremation burial CF105. One cremation burial CF173 appears to represent an association of three vessels used to contain liquid (a flagon and two flasks) and three dishes. The cremation burials CF166 and CF206 both with more than one beaker, and CF105 with two flagons appear to emphasise an association of vessels related to drinking with the cremation burials and inhumation burials on C2.

Table 1.31 Types and combinations of pottery vessels by burial type and site (order of vessel combinations based on Philpott 1991, table 11) (J = jar/closed bowl F = flagon/flask B = cup/beaker D = dish/open bowl A = amphora O = amphora alone V = other vessel type (various)).

pottery vessel type(s) and combinations	C2 cremation burials	J1 North cremation burials	J1 South cremation burials	total cremation burials	C2 inhumations	J1 North inhumations	total inhumations
J F D				0		1	1
J F B		3		3		1	1
J J F B B		1		1			0
F B B D				0		1	1
F B B D D				0		1	1
J F	1	3	1	5			0
J J F		2		2			0
J B	2	3		5			0
J J B	1			1			0
J B B B	1			1			0
J D	1	3		4		2	2
F B B	1			1			0
F F F D D D	1			1			0
J	7	66	3	76	1	11	12
J J	2	1		3		1	1
J J J	1			1			0
J J J J		1		1			0
J J J J (J J?)		1		1			0
F		3		3		12	12
F F	1			1			0
B	4	5		9	1	6	7
D	2	1		3	1		1
B V				0	1		1
J V	1			1			0
A A J J J D			1	1			0
O			1?	1			0
V				0		2	2

Unusual pots

There are three unusual beakers from Area C2. Among the pottery from the cremation burial CF166 is unusual Indented beaker with shoulder moulding in grey ware fabric (Fabric GX). The form resembles, or can be considered to be, Cam 395 (pentice-moulded beaker) dated mid 3rd(?) century to 4th century, and is usually produced in fine ware, Fabrics CZ, DZ and EA (*CAR* **10**, 486). However, the shoulder moulding is rounded rather than angular, and the form is not usually indented, although similar vessels are attributed to form Cam 395 (Fabric EA fig 5.41 nos 131, 132, Fabric CZ, fig 5.36 no 183) or are referred to as a pentice-moulded beaker (*CAR* **10**, Fabric CH fig 5.52 number 37). The combination of the form and Fabric of this vessel from CF166 is of specific interest, as it appears to be unique at Colchester and was not recorded among the very large quantity of pottery reported in *CAR* **10**. However, this is one of three vessels from C2 in grey ware, which are, or can be attributed to Cam form 395. The two other examples are from cremation burials CF101 and CF207. The occurrence of vessels of this form in grey ware has been noted previously (Hull 1963, 190). There are also records of kiln wasters of form Cam 395 at Colchester. These are one probable example associated with kilns 7-11 and several associated with kiln 25 (Hull 1963, 5 & 155). These appear to be in colour-coated ware. The kilns were dated by Hull as *c* AD 300 and *c* AD 350 respectively (Hull 1963, chronological chart, 177-78).

Part 2: pottery from Area E

Introduction

The pottery from the Area E is from evaluation trenches. The pottery is of particular significance as it comes from the area of a Roman building and ditched enclosure. The evaluation of the site produced 774 sherds (21,302 g). All of the pottery that can be closely dated could fit within a dating bracket of *c* 43 AD to mid-late 3rd century, and within that bracket most can be dated to after the early 2nd century (Table 1.32).

Table 1.32 Roman pottery, quantity and forms recorded by fabric.

Fabric code	pottery forms	sherds	weight (g)
AA	Dressel 2-4? Gauloise 4	6	544
AJ	Dressel 20	30	5356
BA			
CG	Dr 18/31, Dr 31, Dr 31R, Dr 33	17	431
EG	Dr 18/31 Dr 31, Dr 33, Walters 79	14	710
BX			
CG	Dr 37	2	56
EG	Dr 37	1	63
CB	Cam 391, Cam 396	15	137
CZ	Cam 407	5	13
DJ	Cam 156, Cam 198, *CAR* **10** Fabric DJ Type 118	70	452
EZ			
LRW	Cam 391	2	8
GA		1	28
GB	Cam 37A, Cam 37B, Cam 40B, Cam 278	109	2160
GP		1	15
GX	Cam 218, Cam 266?, Cam 231/232, Cam 268 Cam 307?	429	7575
HD		6	761
HZ	Cam 270B	36	1943
KX	Cam 37/38, Cam 278	12	251
MQ		2	41
TD	Cam 497 variant	1	155

Fabric code	pottery forms	sherds	weight (g)
TZ	Cam 192A, Cam 195?, Cam 496, Cam 497	6	470
WA		8	122
WC		1	11

The pottery

Early Roman pottery is represented by a small number of vessel forms and pottery fabrics of 1st- to early 2nd-century date. These are the bowl form Cam 218 and possibly the jar form Cam 266, both in Fabric GX, and sherds from mortaria of form Cam 192A and Cam 195. There is also a small quantity of amphora sherds (Fabric AA) that can probably be attributed to the early Roman period of the 1st-early/mid 2nd century. Of particular note among these is a sherd of Italian (Campanian) Black Sand fabric (Tomber & Dore 1998, fabric CAM AM 1) from EL2 (finds no 36). Overall, the identifiable early Roman pottery forms only a small part of the assemblage and no 1st-century samian or other early Roman fine wares are present.

Much of the datable pottery can be attributed to the mid Roman period of the early 2nd to mid-late 3rd century. There is a small quantity of samian of 2nd- to early 3rd-century date, primarily from Central Gaul (Fabric BA(CG)). Forms recorded are Dragendorf (Dr) types Dr 18/31 (dated earlier 2nd century), Dr 31 (dated later 2nd-early 3rd century) and Walters form 79 (dated mid-late 2nd to early-mid 3rd century). The other fine wares present are late Colchester colour-coated wares (Fabric CZ & Fabric CB) dating to the early 2nd to mid-late 3rd century, and one or two sherds of imported Cologne (lower Rhineland) colour-coated ware (Fabric EZ(LRW)), which appears at Colchester from the early 2nd century (*CAR* **10**, 229). Regional imports are represented by a mortarium sherd from the Brockley Hill/Verulamium region kilns (Fabric TD). This mortarium appears to be a 2nd-century form type, approximating to Cam 497, and can probably be dated at Colchester to the early-mid 2nd century. The more closely-datable coarse wares consist of black-burnished wares and some local grey wares. The black-burnished wares are almost entirely BB2: black-burnished wares category 2 (Fabric GB) dating from the early 2nd to mid-late 3rd century. Vessel forms in Fabric GB include the bead-rim bowl forms Cam 37A (dated early 2nd-early 3rd century) and Cam 37B (dated late 2nd to mid-late 3rd century). There are none of the later black-burnished ware forms such as Cam 305 (flanged bowl) or Cam 279C (jar with wide flared rim) which begin to appear from the mid-late 3rd century. Amongst the local grey wares (Fabric GX) the most common form of jar present is Cam 268 (dated early-mid 2nd to 3rd/early 4th century).

There are two pots that could date from the late Roman period, but neither needs date later than the 3rd century. These are a Cam 307 bowl (F24, finds number 37) and sherds from a large shell-tempered jar (Fabric HD) (F13, finds no 6). While most examples of Cam 307 are from contexts dated to the 4th century, the form appears from the late 2nd/early 3rd century (*CAR* **10**, 482). The shell-tempered sherds are from a large vessel, probably a large storage jar, and cannot be closely dated. Shell-tempered wares are more common in the early Roman period of the 1st-early 2nd century, and in the very late Roman period of the later 4th century; however, they do occur throughout the Roman period (*CAR* **10**, 458).

Among assemblage there are three vessels that stand out because much of each of these vessels is present. There is a samian dish of form Walters 79 (EF22, finds no 32) of which about two thirds of the vessel is present as two large joining sherds. It is possibly east Gaulish (Fabric BA(EG)), and can be dated as *c* AD 160-earlier 3rd century. The other two vessels are both grey ware jars. The uppermost part of both vessels is missing and neither can be identified to a specific form type. One is broken into sherds and comes from the same context as the samian dish (EF22, finds no 32). The other consists of the intact lower third of the vessel and was recovered from EF22 (finds no 42). As partial pots it is possible that they may have been displaced from burials although they could simply be discarded broken vessels. In addition to these partial vessels there is a small flagon of form Cam 156 in Fabric DJ, (F13, finds no 6). This vessel is represented only by the neck and rim; however, it is a very small example and appears to be a miniature. As a miniature pot, it is possible that this vessel could also have been associated with a burial.

Discussion

The main interest of the pottery is in providing a dating framework for the site, and specifically for the Roman building and enclosure. In addition, some broad comments can be made concerning the composition of the pottery assemblage.

The date of the pottery

Pottery that is directly associated with the life of the building, or its occupation, is extremely sparse and not closely datable (Table 1.33). Pottery sherds from a clay floor (EL3), can only be dated as Roman, and sherds from a metalled surface (EF5) as probably 1st-2nd/3rd century. However, a small quantity of closely-datable pottery was recovered from the demolition (EL4). All the identifiable forms from EL4 can be encompassed within a date range of early 2nd to mid-late 3rd century, and the latest-dated vessel, a bowl of form Cam 37B, is datable to the late 2nd to mid-late 3rd century.

Almost all the pottery that can be associated with the occupation of the site comes from sections of the enclosure ditch (EF9, EF10 & EF13). A small quantity of the closely datable pottery from these features is of 1st- to early 2nd-century date, although the majority can be dated to the early 2nd to mid-late 3rd century. The latest-dated pottery forms among these date from the late 2nd to mid-late 3rd century.

In terms of the whole assemblage, there is no pottery of Late Iron Age type from the site and none of the closely-datable early Roman pottery is necessarily pre-Flavian. There is only a small quantity of early Roman pottery, with much larger quantities datable to the 2nd to mid-late 3rd century. This indicates either limited occupation in the 1st or early 2nd century, or that the site was not established until the late 1st or early 2nd century. The absence of pottery datable to the late Roman period, that is the late 3rd-4th century, indicates that the occupation had probably ended by the late 3rd century. This is most clearly indicated by the absence among the fine wares of Nene Valley colour-coat wares (Fabric EA) and oxidised Hadham wares (Fabric CH; Table 1.7). Nene Valley colour-coated wares begin to appear at Colchester from the second quarter of the 3rd century and arrived in increasing quantities from the mid-late 3rd century (*CAR* **10**, 278 & 496). Hadham wares began to appear in very small quantities from the third quarter of the 3rd century and increasingly from the late 3rd century (*CAR* **10**, 297 & 496).

Table 1.33 Pottery associated with the Roman building and the enclosure.

context	context type	Fabrics recorded	sherds	weight (g)	forms recorded	comments
EL3	clay floor	GX	2	3		
EF5	metalled surface	DJ GX	4	22		
EF9/EF10	enclosure ditch	AA DJ GX	3	362		Fabric AA 1 sherd is in Campanian (black sand) fabric CAM AM 2 (Tomber & Dore 1998)
EF10	enclosure ditch	GA GB HZ TZ	7	254	Cam 40B Cam 496	
EF13	enclosure ditch	AA AJ BA(CG) BA(EG) CB CZ DJ EZ(LRW) GB GX GP? HD HZ KX MQ TD? TZ WA WC	535	14217	Dr 18/31 Dr 31 Dr 31R Dr 33 Dressel 20 Cam 37A Cam 37B Cam 37/38 Cam 156 Cam 198-(*CAR* **10** Fabric DJ type 191) Cam 192A Cam 195? Cam 218 Cam 231/232? Cam 266? Cam 268 Cam 270B Cam 278 Cam 288? Cam 299 Cam 391 Cam 407 Cam 497 also *CAR* **10** Fabric DJ type 118?	samian stamp on Dr 33 cup, **BORILLIOF** stamp of potter Borillus i, dated *c* AD 150-180 (*CAR* **10**, p 132 S615)
EL4	demolition	GB GX HZ WA	9	289	Cam 278 Cam 37B Cam 40B (*CAR* **10** Fabric WA type 65)	
EF4	robber trench	GX	1	8		

The composition of the assemblage

The proportions of Fabrics are listed in Table 1.34. The majority of the pottery, as would be expected, consists of local coarse wares. These comprise about 85% of the sherds and about 60% of the assemblage by weight. Imports are most clearly represented by amphorae and samian. The sherds of amphorae are mostly from form Dressel 20, used to transport olive oil. However, other sherds probably represent at least three amphorae of other forms. These indicate that other commodities, probably wine, were also being brought to the site. The samian consists of both plain and decorated vessels. Probably at least eight plain vessels are represented and two decorated bowls. In all, fine wares, including samian, make up about 7% of the assemblage by sherd count and weight. There are also a number of mortaria that make up approximately 1% of sherds (about 3% by weight). The mortaria sherds represent at least five different vessels.

The nature of the assemblage indicates occupation on the site. The pottery includes fine ware vessels as well utilitarian coarse ware pots, while the amphorae represent a range of commodities brought to the site. The vessel types reflect preparation, consumption and storage of food. The range of pottery indicates at least moderate wealth or status, while the mortaria indicate specifically Roman introduced culinary practices.

Table 1.34 Quantification of the pottery by fabric as a percentage of the assemblage grouped by amphoras, fine wares and coarse wares.

Fabric code	% sherds	% weight
amphoras:		
AA	0.8	2.5
AJ	3.8	25.1
fine wares:		
BA		
CG	2.2	2.0
EG	1.8	3.3
BX		
CG	0.2	0.2
EG	0.1	0.2
CB	1.9	0.6
CZ	0.6	<0.1
EZ		
LRW	0.2	<0.1
MQ	0.2	0.2
coarse wares:		
DJ	9.0	2.1
GA	0.1	0.1
GB	14.0	10.1
GP	0.1	<0.1
GX	55.4	35.5
HD	0.8	3.5
HZ	4.6	9.1
KX	1.5	1.2
TD	0.1	0.7
TZ	0.8	2.2
WA	1.0	0.5
WC	0.1	<0.1

Part 3: Pottery from other contexts

Introduction

This section of the report covers the stratified Roman pottery from features or contexts other than burials and contexts relating to the Roman circus for Areas C1, C2, J1 East, J1 North, J1 South and all of the pottery from Area Q.

Area C1

There is only 326 g of pottery (Table 1.35). Most of the stratified material comes from pit or ditch fills and none of the contexts contained more than a few sherds. Only five vessels could be identified to form types: Dr 31, Cam 37A, Cam 108, Cam 243-244/246, Cam 268. Collectively the date range of these is 1st-late 3rd/early 4th century. Apart from one vessel (Cam 268) this range would be reduced to 1st to early-mid 3rd century. The earliest pottery is possibly pre-Flavian (AD 43-69). This consists of sherds that could be from a pedestal bowl (CL15, finds no 119). However, the vessel cannot be positively identified as a pedestal bowl. Apart from the Cam 268, the date range of which spans the earl/mid 2nd-late 3rd/early 4th century, the latest closely dated vessel is a Dr 31 samian patter of east Gaulish origin (Fabric BA(EG) that can be dated to the late 2nd-mid 3rd century.

Area C2

There is about 30 kg (29,705 g) of stratified pottery (Table 1.36). The pottery spans the 1st to the 4th century. Given the use of the site in the mid-late 3rd and 4th century for burials, some late Roman pottery is expected; however, much of the closely-datable pottery consists of vessel forms and fabrics datable to the 2nd-mid 3rd century, and many of these forms do not appear among the potter associated with Roman burials. However, as with the pottery from the burials, none of the latest-dated Roman pottery fabric types that occur at Colchester ie Oxfordshire red colour-coat ware, Mayen ware or late shell-tempered wares, were recorded. Of specific interest are the pottery associated with a ditched enclosure (CF170, CF174, CF181, CF201) and a large pit located within the enclosure (CF178).

Almost all of the closely-datable pottery associated with the enclosure ditches is of early-mid 2nd-century to mid 3rd-century date. This includes black-burnished wares (Fabrics GA and GB) and Central Gaulish samian (Fabric BA(CG)). At least a few of the pottery vessel forms present date from or after the late 2nd century (Cam 37B, Cam 307) but there are no forms of fabric types specifically dating to after the mid-late 3rd century.

There is a considerable quantity of pottery (4,652 g) from the large rectangular pit (CF178). As far as possible the pottery was pieced together to see if significant parts of a number of pots were present. However, this proved not to be the case. The pottery consists mostly of sherds from a number of pots that between them represent at least 15 different vessels form types. The latest closely dated pottery from the pit is of the same period as that from the ditches of the enclosure (late 2nd-mid 3rd century) although, in contrast to the ditches, there are sherds from vessels of 1st to early 2nd century date (Cam 120, Cam 218, Cam 243-244/246, Cam 266).

Although only a small quantity of pottery was recovered from the fill of another ditch further to the north (CF106) the closely datable pottery from this feature (Cam 37A, Cam 268) also dates to after the early 2nd century is also can be dated to the early 2nd-early 3rd century.

Area J1 East

There is only 106 g of stratified pottery (Table 1.37). The only feature with any significant quantity of pottery is a large pit JEF4.

Pottery (eight sherds, 69 g) was recovered from the lower, middle and upper fill of the large pit JEF4. The pottery from the lower fill included a sherd (finds number 384) from a Cam 37A bowl (Fabric GB) dated Trajanic/Hadrianic to late 2nd/early 3rd century. The only other closely datable pottery came from the upper fill. This is a sherd (finds number 338) from a Cam 40B dish (Fabric GB) dated Trajanic/Hadrianic to third quarter of the 3rd century, and a sherd of Central Gaulish plain samian (Fabric BA (CG)) dated as 2nd century.

Area J1 North

There is about 15 kg (15869 g) of stratified pottery (Table 1.38). The most significant of the features from which pottery was recovered are a Roman road and a number of quarry-pits.

The contexts relating to the Roman road from which pottery was recovered are the road ditches (JNF10, JNF501). Sections of the ditches of this road were also excavated on Area J South (JSF5, JSF19). All of the pottery recovered from the ditches of the Roman road comes from the north ditch JNF10. The closely datable pottery recorded from the lower fill of JNF10 is of 1st century or 1st-early 2nd century date, although there are sherds that may be from a vessel of early-mid 2nd century date or later. There are eight sherds from a platter in Fabric UR(LTC) (find 174). The eight sherds constitute about half of a platter, although the exact type form could not be identified from the sherds recovered. The Fabric type and the fact that the vessel is a platter indicate that this vessel is of pre-Flavian date. The only other closely datable pottery from the lower ditch fill is sherds (find no 708) from a Cam 243-244/246 bowl (Fabric GX) dated 1st-early 2nd century. Some sherds from the same find number in Fabric GX(RCW) are probably also of early Roman (1st century) date. These indicate that the lower fill of the north road ditch could date to the 1st century. However, there are a few sherds in Fabric GX from the lower fill of the north road ditch (find no 19) that appear to be from a Cam 268 jar, dated early/mid 2nd to late 3rd/early 4th century, although the vessel form type is not certainly identified.

There are a number of features identified as quarry-pits from which pottery was recovered (JNF2, JNF23, JNF24, JNF25, JNF227, JNF419, JNF420). The date range of the pottery from these features spans the whole of the Roman period (1st-4th century), although there are no pots that need be of 4th century date and the pottery could be accommodated with a date range of 1st-3rd century. Within this date range, most of the closely dated pottery associated with the pits is of 2nd-3rd century date. Eight pottery form types could be identified. These are Dr 15/17, Cam 218, Cam 266, Cam 268, Cam 270B, Cam 278, Cam 279C and Cam 317. In terms of dating, pottery from only one of the finds numbers (find 334) from the quarry-pit JNF2 is dated 1st-early 2nd century. The pottery from this find consists of the upper portion of a Cam 266 jar. As this is a partial pot (10 sherds forming about 20-30% of the vessel) it indicates that it could have been displaced from a burial. A partial pot was also recovered from the fill of the quarry-pit JNF23 (finds number 271) and two from F420 (finds 1090, 1065). Only one of the pots from JNF420 could be identified to from type, this is a Cam 268, dated early-mid 2nd to late 3rd/early 4th century. As partial pots it is possible that all of these vessels derive from disturbed burials. The base of a small or miniature jar of form Cam 278 (Fabric GB), dated Hadrianic-mid 3rd century, from JNF419 (finds number 1037) also may be a displaced burial pot. Overall the pottery associated with the quarry-pit fills is of the same date range and of the same form types as that associated with Roman burials cut into them. There is no indication of contexts from the excavated quarry-pit fills that can be dated earlier than the Roman burials, and it is indicated that most if not all of the pottery recovered from the quarry-pits probably derives from burials and is not related to the date of the quarry-pits themselves

Area J1 South

The site produced about 7 kg (7166 g) of stratified Roman pottery (Table 1.39). The pottery spans the 1st to mid-late 3rd century, although the majority is clearly of early 2nd to mid-late 3rd century date, including Fabrics CB, CZ, GB, and KX. There is no pottery recorded that need date to after the late 3rd century, and diagnostic late Roman (mid-late 3rd to 4th century) Fabrics types such as Nene Valley colour-coated ware (Fabric EA) and oxidised Hadham wares (Fabric CH) are not present among the assemblage. The most significant contribution of the pottery is in providing dating evidence for two major landscape features, a ditched droveway (JSF1/JSF6, JSF2) and a Roman road defined by two ditches (JSF5, JSF19). It should be noted that sections of the ditches of this road were also excavated on J1 North (JNF10, JNF501).

Pottery was only recovered from the lower ditch fill from the ditch JSF5. The most closely datable pottery from the lower fill consists of two pottery form types, Cam 278 (Fabric GB) dated early 2nd to mid-late 3rd century, and a probable example of the form Cam 268 (Fabric GX) dated early-mid 2nd to late 3rd/early 4th

century. These were recovered from F5 Sx2 (finds numbers 23, 26). Almost all of the other contexts associated with the Roman road, that is the mid to upper fills of the ditches JSF5 and JSF19, contain pottery of early 2nd-mid-late 3rd century date. Pottery form types recorded are Cam 156, Cam 259, Cam 279A/B and Cam 391. Also sherds in late Colchester colour-coated ware (Fabric CZ), dated early 2nd to mid-late 3rd century, are common among the pottery from the ditch fill. The latest dated pottery is sherds from a Cam 395 pentice-moulded beaker in Fabric CZ from the ditch F19 (finds number 87). This vessel form is usually dated to the 4th century, but this form could date from as early as the mid-late 3rd century (*CAR* **10**, 486). The Fabric would indicate a 3rd century date rather than 4th century, although wasters of this from were recorded at Colchester during the excavations of Kilns 7-11 and 25 which are dated as *c* AD 300 and *c* AD 350 respectively (Hull 1963, 5 & 155 and chronological chart, 177-78).

Of the two ditches forming the Roman droveway (JSF1/JSF6, JSF2) pottery was recovered from the lower fill of JSF2. The pottery from the lower fill included sherds of Colchester red colour-coated roughcast ware (Fabric CB) and BB2: black-burnished ware category 2 (Fabric GB) including the form type Cam 278 (finds numbers 10, 44, 45). Both Fabrics can be dated as early 2nd century to mid-late 3rd century. A small quantity of similar dated pottery was recovered from JSF6 including sherds from a Cam 278 jar. Pottery from the upper fill of the ditches was only recovered from F1 (find number 50). The sherds were all of local grey ware (Fabric GX) and are not closely datable. However, two of these sherds could be from a Cam 268 jar, dated early-mid 2nd to late 3rd/early 4th century, and a Cam 299 bowl, dated early Antonine-4th century.

Area Q

This section of the report covers all of the pottery recovered from Area Q. In total 1206 g of Roman pottery was recovered, of which 2 sherds (92 g) are in Late Iron Age (LIA) grog-temped pottery ware (Table 1.40). Much of this consisted of small-medium sized abraded sherds, and most came from two contexts, the ditches QF29 and QF109. The date range of the Roman pottery spans the whole Roman period from 1st-4th century, although none need be pre-Flavian (AD 43-69). However most of the closely datable pottery can be encompassed within a date range of the 1st-3rd century.

The 2 grog-tempered sherds (Fabric GTW) are probably of Late Iron Age date, although an early Roman date is possible. One is a large body sherd, from the lower fill of QF29, the other a small sherd from the middle fill of the same feature.

Most of the Roman pottery consisted of local coarse wares. The majority of this is coarse grey ware (Fabric GX). However, only two vessel forms could be identified in this Fabric. These are both jars, one is of form Cam 266 (dated 1st-early 2nd century) and one of from Cam 268 (dated mid 2nd-late 3rd/early 4th century), although another vessel is possibly also of this form. There are some oxidised ware sherds (Fabric DJ), probably from flagons. These sherds can be dated as 1st-2nd/3rd century. Also there are two sherds of BB2: black burnished ware Category 2 (Fabric GB) that came from a dish or bowl and can be dated as early 2nd to mid-late 3rd century. Unusually no sherds from large heavily tempered storage jars in Fabric HZ were recorded. Roman fine wares, other than imports, are represented by a single sherd of Colchester late colour coat ware (Fabric CZ), dated early 2nd-mid-late 3rd century. In addition there is a small quantity of late Roman regional imports from the Hadham kilns. These are sherds of oxidised Hadham ware (Fabric CH) that occurs at Colchester from the mid-late 3rd century but is more typical of the 4th century (*CAR* **10**, 297). The oxidised Hadham ware sherds are from bowls, one probably of form Cam 338, a small bowl with rounded impressions and bosses, dated as 4th century (*CAR* **10**, 483). The Cam 338 bowl sherd (find number 36) was recovered from the upper fill of the ditch QF29. A second sherd of oxidised Hadham ware, also from a small bowl (find number 22), was recovered from the same fill of this ditch. These sherds indicate that the ditch was at least a partly open feature in the 4th century.

Imported Roman wares consisted of a small quantity of samian, and a single amphora sherd. The amphora sherd is probably from a Spanish oil amphora of form Dressel 20, dated 1st-early 3rd century. The samian consists of two small sherds. One can be dated as probably 2nd-earlier 3rd century, the other is a very small and abraded fragment that can only be identified as of samian fabric.

Most of the Roman pottery consisted of small-medium sherds, often abraded, with predominantly only single or small numbers of sherds from individual vessels. This, together with the relatively small quantity of pottery recovered, indicates much originates from rubbish dispersed on an area away from a settlement. The most likely cause of this is agricultural activity. Also about 67% of the pottery by weight (808 g) is made up of just two vessels. These are two partial pots, although both are very broken. The two vessels are a jar of form Cam 266 and a flagon. The jar came from the lower fill of the ditch QF109 (find number Q29) and can be dated to the 1st-early 2nd century. It may have been partially burnt, although it is possible that it is just poorly fired. The flagon came from the lower fill of the ditch QF29 (find number Q73). The rim is missing and the form cannot be identified. Although both of these partial pots could simply represent discarded vessels their partial completeness indicates they could be disturbed grave goods from burials.

Table 1.35 Other pottery from Area C1 (sherd quantity: 1-1 sherd, 2-2 sherds, VSQ (very small quantity) 3-5 sherds, SQ (small quantity) < 10 sherds).

feature	find number	Fabric *CAR* 10	form	sherd quantity	weight (g)	pottery spot date
CL15	119	GX	?pedestal bowl	2	18	probably early Roman, ?pre-Flavian
CL15	123	BA(EG) DJ GX	Dr 31	5	21	later 2nd-early/mid 3rd century
CL15	125	AA DJ GX	Cam 108 Cam 243-244/46	SQ	90	1st-earlier 2nd century
CF2	3	GX		1	1	Roman
CF4	22	DJ		1	2	?Roman
CF12	32	DJ		1	4	1st-2nd century/3rd century
CF14	26	GX		1	4	Roman
CF17	28	GX		1	2	Roman
CF19	33	GX		2	5	Roman
CF47	121	DJ GB GX TZ	Cam 37A Cam 268	SQ	127	mid 2nd-early 3rd century
CF47	122	GX		VSQ	36	Roman
CF51	124	GX		VSQ	9	Roman
CF67	138	GX		2	7	Roman

Table 1.36 Other pottery from Area C2 (sherd quantity: 1-1 sherd, 2-2 sherds, VSQ (very small quantity) 3-5 sherds, SQ (small quantity) < 10 sherds, Q (quantity) < 20 sherds, LQ (large quantity) 20 or more sherds).

context	find number	fill location (selected features)	Fabric *CAR* 10	form types	sherd quantity	weight (g)	pottery spot date
CL24	495		CL(NF) GX		VSQ	40	3rd century
CL27	593		BA(CG) BX(CG) CB CZ DJ EA EZ(LRW) GB GX MP HZ	Dr 31 Dr 33 Dr 37 Walters form 79 Cam 37A Cam 40A Cam 40B Cam 156 Cam 243-244/246 Cam 268? Cam 278 Cam 314 Cam 391	Q	2899	mid 3rd-4th century, possibly 4th or later 4th century
CF53	114		BA(EG?)GB GX		4	15	mid 2nd to mid-late 3rd century
CF106	235	upper	GB	Cam 37A	1	9	early 2nd-early 3rd century
CF106	242	upper	GX	Cam 268	VSQ	12	early-mid 2nd to late 3rd/early 4th century
CF106	243	lower	GX		1	5	Roman
CF106	285	lower	EA? GX HZ		VSQ	73	early-mid 3rd to 4th century?
CF110	223		AJ? DJ GB GX	Cam 37A Cam 156	SQ	229	early 2nd-early 3rd century
CF118	241		GX	Cam 268	1	12	mid 2nd-early 4th century
CF125	274		GX		2	5	Roman
CF128	270		GX		1	6	Roman
CF129	226		AJ CZ DJ GX TE	Cam 406	SQ	254	later 3rd-4th century
CF129	298	lower	GX		3	17	Roman

context	find number	fill location (selected features)	Fabric *CAR* 10	form types	sherd quantity	weight (g)	pottery spot date
CF134	310		GX		1	9	Roman
CF139a	549		EA GA	Cam 39	SQ	154	early-mid 3rd to 4th century
CF139a	687		EA	Cam 395	VSQ	20	mid 3rd-4th century, probably 4th century
CF143	313		CH DJ GX HZ	Cam 207?	SQ	60	4th century
CF143	364	upper	CZ DJ GX	Cam 207? Cam 308	SQ	60	later Roman?
CF147	360		GB GX		3	8	early 2nd to mid-late 3rd century
CF161	423		BA(SG) GX		2	16	?1st century
CF170	535		AJ BA(CG?) DJ EZ GB GX	Dr 18/31 or 31 Cam 37A Cam 268 Cam 391	1	831	mid 2nd-early 3rd century
CF174	456	upper	KX	Cam 278	SQ	435	early 2nd to mid-late 3rd century
CF174	458		GX	Cam 268	Q	685	mid 2nd century+
CF174	473		DJ GX TE	Cam 503	Q	81	mid 3rd-4th century
CF174	474		GX TZ		VSQ	45	1st-2nd/3rd century
CF174	475		AJ BA(CG) BA(EG) CB CZ DJ GB GX HZ	Dr 18/31 or 31 Dr 27 Dr 33 Dr 35 Cam 37A Cam 37B Cam 156 Cam 268	Q	1057	late 2nd to early-mid 3rd century
CF174	525		AJ CB CZ FJ? GB GX HZ	Cam 37A Cam 391	Q	392	early 2nd-late 2nd/early 3rd century
CF174	669		AJ BA(EG?) CZ GX HZ KX	Cam 278 Cam 407	Q	1023	mid-late 3rd century+
CF175	558		BX(CG) GX	Dr 37	2	22	2nd century
CF176	441		GX		2	10	Roman
CF178	470, 499		AA BA(CG) BA(EG?)CB DJ GA GB GP GX KX ON? TZ WC	Dr 33 Cam 37A Cam 37B Cam 40B Cam 108 Cam 122-123 Cam 120B Cam 218 Cam 243-244/46 Cam 266 Cam 268 Cam 278 Cam 278 (miniature jar) Cam 279	LQ	4652	late 2nd to early-mid 3rd century
CF179	479		GX		VSQ	36	Roman
CF181	488	lower	AJ CZ DJ GX		1	422	early 2nd to mid-late 3rd century
CF181	509		DJ GX TZ	Cam 156 Cam 243/244-246 Cam 496	VSQ	476	early-mid 2nd to early 3rd century
CF181	512	surface	GX	Cam 268?	Q	100	?mid 2nd century+
CF181	514	surface	CB GB GX	Cam 37B Cam 268	LQ	1387	late 2nd to mid-late 3rd century
CF181	516		CB CZ GX	Cam 268 Cam 307	Q	720	late 2nd/early 3rd-4th

context	find number	fill location (selected features)	Fabric *CAR* 10	form types	sherd quantity	weight (g)	pottery spot date
							century
CF181	523		BA(CG) GX	Dr 18/31	1	133	earlier 2nd century
CF181	531		BX(CG) CZ GX	Dr 37	1	50	early 2nd to late 2nd/early 3rd century
CF190	526, 543		DJ GX		Q	97	1st-2nd/3rd century
CF192	493		AA AJ BA(CG?)BA(EG) BA(?Col)BX CB CZ EZ(LRW) GB GX KX HZ TZ	Dr 27 Dr 33 Dr 37 Dr 31 Dr 44 Cam 37A Cam 37B Cam 268 Cam 273 Cam 278 Cam 391 Cam 496 Cam 501	LQ	6348	late 2nd-early/mid 3rd century
CF192	537	upper	CB CZ DJ EA GB GX KX TZ	Cam 37A Cam 268 Cam 278 Cam 278 (miniature jar) Cam 406 Cam 407 Cam 496	LQ	1864	mid 3rd-4th century
CF193	54, 560		GX		3	15	Roman
CF196	540		CZ GX		VSQ	23	early 2nd to mid-late 3rd century
CF198	500		GX	Cam 227?	VSQ	46	Neronian-early 2nd century
CF199	496		BX(CG?)GX		3	1	earlier 2nd century?
CF203	516	mid	DJ GX		SQ	74	Roman ?1st-2nd century
CF205	524		GA	Cam 305A	SQ	160	mid-late 3rd to 4th century
CF207	594		BA(SG) GA GX		SQ	21	early 2nd-4th century, ?later 3rd-4th century
CF214	628		EA GX		SQ	69	later 3rd-4th century
CF216	529		GP	Cam 122-123	VSQ	39	late 1st-2nd century
CF218	538		GX		1	2	Roman
CF220	534		GB GX		1	17	early 2nd to mid-late 3rd century
CF225	583		GX		SQ	31	Roman
CF225	617		GX		1	24	Roman
CF228	605		AJ BA(CG) BA(EG) DJ GB GX HZ KX	Dr 18/31 Dr 33 Cam 37A Cam 278	SQ	484	early 2nd to mid-late 3rd century
CF229	649		DJ GX		VSQ	15	Roman, ?1st-2nd/3rd century
CF230	638		CZ DJ GB GX(RCW)	Cam 37A Cam 218 Cam 278 Cam 391	Q	379	early 2nd-early 3rd century
CF231	642, 643, 644, 645, 661, 663		BA(CG) CZ EA FJ? GA GB GX HZ MQ TZ	Walters 79 Cam 37A Cam 279C Cam 408-410	Q	2300	early-mid 3rd-4th century
CF232	635		BX(EG?) GX	Dr 37 Cam 243/44-246	VSQ	16	early-mid 2nd to early

context	find number	fill location (selected features)	Fabric *CAR* 10	form types	sherd quantity	weight (g)	pottery spot date
							3rd century
CF234	657, 658		CB GX		VSQ	17	early 2nd-mid 3rd century
CF243	715		AJ DJ CB GB GX HZ	Dressel 20 Cam 391 Cam 40B Cam 268	Q	1199	mid 2nd to mid-late 3rd century
CF258	722		GX		VSQ	4	Roman

Table 1.37 Other pottery from Area J1 East.

feature number	find number	fill location (selected features)	Fabric *CAR* 10	form types	sherd quantity	weight (g)	pottery spot date
JEF4	340	upper	GX		1	11	Roman
JEF4	372	lower	DJ		1	2	1st-2nd century/3rd century
JEF4	338	upper	BA(CG) GB GX	Cam 40B	4	12	early 2nd to mid-late 3rd century
JEF4	357	mid	DJ		1	2	1st-2nd century
JEF4	384	lower	GB	Cam 37A	1	42	early 2nd-early 3rd century
JEF29	102, 130		GX		3	19	Roman
JEF41	133		GX		2	15	Roman
JEF50	170		GX		1	3	Roman, possibly early Roman

Table 1.38 Other pottery from Area J1 North.

feature number	find number	fill location (selected features)	Fabric *CAR* 10	form types	sherd quantity	weight (g)	pottery spot date
JNF2	284, 334		AA BA(SG) DJ GB GX	Dr 15/17 Cam 266 Cam 268? Cam 218	47	575	1st-early 2nd century, with one pot mid 2nd century+
JNF9	9		BX(EG?) GX	Dr 37 Cam 108	7	78	2nd-earlier 3rd
JNF10	14		DJ GX		2	6	Roman, ?early Roman
JNF10	145	upper	GTW? GX (RCW?)		3	11	?pre-Flavian
JNF10	17	upper	BA(CG) GX	Dr.33	2	23	2nd century
JNF10	174	lower	AA UR (LTC)		8	258	?pre-Flavian
JNF10	18	mid	GX (RCW?) GX	Cam 268	28	314	mid 2nd century+
JNF10	19	lower	GX		3	56	Roman (?early 2nd century+)
JNF10	37		GX		4	35	Roman
JNF10	38		GB GX		5	89	early 2nd-mid-late 3rd century
JNF10	499	upper	AA DJ BA(CG) BA (EG) CZ GX	Dr. 18/31Cam 154/ 155	137	962	mid 2nd to mid-late 3rd century
JNF10	502		AA BA (CG) DJ GA GX HZ	Dr 18/31Cam 266 Cam 218 Cam 268 Cam 279C?	47	629	early 2nd-4th century, probably mid 3rd-4th century

feature number	find number	fill location (selected features)	Fabric *CAR* 10	form types	sherd quantity	weight (g)	pottery spot date
JNF10	569		AJ DJ GX	Cam 140 Cam 154/ 155 Cam 231/ 232 Cam 268 Cam 243-244/46	92	976	mid 2nd century+
JNF10	59	upper	AJ BX(EG) DJ GA GB GTW GX	Dr 37 Cam 37B Cam 39, Cam 279 Cam 241/ 242 ?Cam 268	33	141	late 2nd to 3rd century+
JNF10	60	mid	AJ DJ GA		29	373	early 2nd-4th century
JNF10	708	lower	AJ DJ GX	Cam 234-244/46	31	385	1st-early 2nd century
JNF16	22		GX		3	30	Roman
JNF18	29		GX		1	4	Roman
JNF20	26		AJ DJ GX		6	124	Roman
JNF23	66		AJ CZ DJ GX HZ KX	Cam 268? Cam 243-244/46, Cam 218 Cam 278	95	839	early 2nd to mid-late 3rd century
JNF24	64		GX		3	14	Roman ?early Roman
JNF25	331		CZ DJ GA GB GX TZ	Cam 270B Cam 278 Cam 279	30	459	mid 2nd to mid-late 3rd century, possibly early-mid 3rd to 4th century
JNF25	98		CZ GA GX HZ(GT)	Cam 268 Cam 279C	29	271	mid 3rd-4th century
JNF29	36, 40, 41		CZ GX	Cam 218 Cam 407	20	409	mid-late 3rd century
JNF38	737, 788, 789		DJ GTW GX		8	21	1st-2nd century
JNF39	140		DJ		3	2	1st-2nd century
JNF48	58, 367, 368		DJ GX GX(RCW)		8	46	Roman ?1st-early 2nd century
JNF55	67		CZ GA GX KX	Cam 278 Cam 279	10	223	mid 2nd-4th century, possibly later Roman mid 3rd-4th century
JNF108	217		GX		3	26	Roman
JNF110	216		CZ GX		12	60	2nd-3rd century
JNF131	282		GA	Cam 279C	3	27	mid 3rd-4th century
JNF132	286		GX		2	11	Roman
JNF151	332		AA GB GX	Cam 278	5	34	early 2nd to mid-late 3rd century
JNF209	419		GX		15	224	Roman
JNF227	397, 578, 1024		DJ GB GX WA	Cam 155 Cam 278 Cam 317	35	235	Roman probably late 3rd-4th century
JNF228	591	lower	AU GX	Gauloise type amphora	2	115	1st-mid 2nd century
JNF232	592		DJ EZ (LRW)GX		9	123	late 1st-2nd century
JNF251	592		DJ GX	Cam 243-244/46, Cam 268	13	162	?mid 2nd-late 2nd century
JNF253	559		GX	Cam 268	30	790	mid 2nd-late 3rd/early 4th century
JNF257	599, 600, 601, 602, 796		DJ EA EZ GA GX HZ WA	Cam 279 Cam 392 Cam 408-10	100	1610	mid 3rd-4th century
JNF267	593, 623, 694		CZ DJ GX GX(RCW)	Cam 392	49	191	2nd-3rd century, possibly mid 3rd-4th century
JNF280	598		GX		1	10	1st-century
JNF305	375		DJ GX	Cam 108 Cam 154/ 155 Cam 266	25	1299	1st-early 2nd century ?pre-

feature number	find number	fill location (selected features)	Fabric *CAR* 10	form types	sherd quantity	weight (g)	pottery spot date
							Flavian
JNF341	726		DJ GX	Cam 154/ 155 Cam 268	6	146	mid 2nd century+
JNF343	965		GA	Cam 279A/B	1	46	mid 2nd century+
JNF358	856		DJ GX		5	63	1st-2nd century
JNF398	906		GX		22	157	Roman, ?mid 2nd century+
JNF419	1037			Cam 155 Cam 268, Cam 218 Cam 266? Cam 278	116	1701	early-mid 2nd to mid-late 3rd century
JNF420	1064, 1065, 1090, 1092		DJ DZ GX KX	Cam 268 Cam 328	69	1043	early 2nd- mid-late 3rd century
JNF499	1083		GX		9	49	Roman
JNF501	1077		GX		26	283	Roman
JNF502	1021, 1072		GX		6	87	Roman
JNF503	1341, 1344		GX		4	24	Roman

Table 1.39 Other pottery from Area J1 South.

feature number	find number	fill location (selected features)	Fabric *CAR* 10	form types	sherd quantity	weight (g)	pottery spot date
JSF1	14		GX	Cam 268? Cam 299?	50	537	probably mid 2nd century or later
JSF2	9	mid	GX HZ		2	140	Roman
JSF2	10	lower	CB		24	198	early 2nd-mid 3rd century
JSF2	44	lower	GB		4	16	early 2nd to mid-late 3rd century
JSF2	45	lower	GB	Cam 278	50	919	early 2nd to mid-late 3rd century
JSF5	19		AJ GX HZ	Cam 259	15	60	Roman ?1st- 2nd century AD
JSF5	20		GX KX	Cam 268 Cam 278	42	585	mid 2nd to mid-late 3rd century
JSF5	23		DJ GX KX TZ	Cam 268? Cam 278	36	1092	mid 2nd to mid-late 3rd century
JSF5	26		AJ GX KX	Cam 268? Cam 278	31	571	mid 2nd to mid-late 3rd century
JSF6	13		GX		32	492	Roman
JSF6	18		GX KX	Cam 278	62	543	mid 2nd to mid-late 3rd century
JSF7	16, 51		AJ GX		3	39	Roman
JSF11	30		AJ DJ GB	Cam 278 (miniature jar)	38	900	early 2nd to mid-late 3rd century
JSF15	68		GX		2	6	Roman
JSF16	83		GTW GX		2	40	Roman
JSF19	73	mid-lower	CZ DJ HZ	Cam 156	17	481	early 2nd-mid 3rd century
JSF19	76	mid-upper	CZ DJ		15	75	early 2nd to mid-late 3rd century
JSF19	77	upper	DJ		3	43	1st-2nd/3rd century
JSF19	80	mid-lower	CZ DJ HZ		29	130	early 2nd to mid-late 3rd century
JSF19	81	upper	DJ GX		22	66	Roman ?1st-2nd/3rd century
JSF19	87	mid	CZ DZ GA GX TZ	Cam 279A/B Cam 391 Cam 395	20	233	mid 3rd? to 4th century

Table 1.40 Pottery from Area Q.

context	find number	Sx	fill location (selected features)	Fabric *CAR* 10	form types	sherd quantity	weight (g)	pottery spot date
QF21	76	Sx 21	mid fill	BA GX		2	10	Roman ?1st-2nd century
QF29	22	Sx 6		CH		1	71	late 3rd-4th century, probably 4th century
QF29	23	Sx 7	upper fill	GX		5	8	Roman ?1st-2nd century
QF29	26		surface	GX		1	1	Roman
QF29	28	Sx 7	lower fill	GTW		1	82	Late Iron Age-?early Roman
QF29	29	Sx 7	lower fill	DJ		50	129	1st-2nd/early 3rd century
QF29	33	Sx 9	mid fill	DJ		8	20	1st-2nd/early 3rd century
QF29	36		surface	CH		1	10	late 3rd-4th century, probably 4th century
QF29	59	Sx 11		GTW		2	10	Late Iron Age
QF29	63	Sx 17	mid fill	DJ		2	28	1st-2nd/early 3rd century
QF29	65	Sx 18		GX		1	30	Roman ?1st-2nd century
QF29	71	Sx 19	lower fill	CZ GX	Cam 268	4	9	mid 2nd to mid-late 3rd century
QF29	75	Sx 19	upper fill	DJ		1	1	1st-2nd/early 3rd century
QF29	80	Sx 20	mid fill	DJ GX		3	4	1st-2nd century/ 3rd century
QF29	81	Sx 22	lower fill	DJ GB GX		3	37	early 2nd to mid-late 3rd century
QF29	84		lower fill	GX	Cam 268	14	64	mid 2nd-late 3rd/early 4th century
QF29	91	Sx 23	upper fill	GX		1	2	Roman ?early Roman
QF83	53		mid fill	GX		2	6	Roman
QF104	58		lower fill	GB		1	2	early 2nd to mid-late 3rd century
QF109	70	Sx 3	lower fill	GX		1	2	Roman
QF109	73	Sx 4	lower fill	DJ GX(RCW)	Cam 266	57	622	?1st-early 2nd/2nd century
QF109	79	Sx 5	lower fill	GX?			5	Roman?
QL1/QL2	35			AJ BA GX		3	53	2nd-early 3rd century

The post-Roman pottery (Fig 1.72)

by Howard Brooks

Introduction

This is the report on 2.6kg of post-Roman pottery from Colchester Archaeological Trust excavations on the GAL sites, Colchester Garrison, Colchester, Essex.

Description of pottery

Fabrics present are as follows (after Cunningham 1985 and *CAR* **7**): 13 (early medieval ware), 13s (early medieval shell-dusted ware), 20 (medieval sandy greyware), 21 (sandy orange ware), 21a (Colchester-type ware), 40 (post-medieval red earthenware), 40a (Metropolitan slipware), 42 (Border Ware), 45c (Raeren stoneware), 45d (Frechen stoneware), 45f (Westerwald stoneware); 45m (English stoneware); 46 (tin-glazed earthenware), 48d (modern ironstone), and 50 (Staffordshire-type slipware). Pottery weights are listed in the site archive. (Unidentified fabrics are not listed).

Area C1

This is a small group of nine sherds, all post-medieval or modern fabrics, with some residual earlier material. The weight of pottery here is 102g, which is 3.9% of the total medieval, post-medieval group and modern group.

Pit CF8 and ditch CF124 are post-medieval, and subsoil CL2 is modern. The fabric 40 sherd associated with the circus demolition (CL18) is surprisingly late, and could be intrusive.

Table 1.41 Post-Roman pottery recorded in Area C1.

Finds Number	Feature Number (Context)	Comments	Date Range
4	Subsoil CL2	Ironstone (48d) blue and white dish, 12g	19th-20th
7	Pit CF8	Two adjoining sherds of PMRE with mottled glaze, possibly in imitation of another type of pottery (Whieldon?), 38g	17th-18th
124	Field boundary ditch CF51	2 sherds PMRE (40), 33g; 1 sherd sandy-orange ware (21) or Colchester-type ware (21a), 2g; 1 unrecognised sherd, 4g	17th-18th with residual
147	Demolition material CL18	PMRE (40), 9g, Metropolitan slipware (40a), 4g	17th-18th

Area C2

This is a small group of seven sherds, both medieval and post-medieval or modern. The weight of pottery here is 163g, which is 6% of the total medieval, post-medieval, and modern group.

The medieval sherd must be intrusive into the Roman cremation CF173. Modern ironstones are found in the WWII communication trench (CF118, CF125), and in modern pit CF193.

Table 1.42 Post-Roman pottery recorded in Area C2.

Finds Number	Feature Number (Context)	Comments	Date Range
185	C2 u/s	Ironstone (48d) plate rim, 74g	19th-20th
241	CF118 WWII trench	Ironstone (48d) plate rim, 30g	19th-20th
274	CF125 (as CF118)	Ironstone (48d) cup rim, 1g	19th-20th
460	CF173 Roman cremation burial	Early medieval ware (13) base sherd, 11g.	12th-13th
560	CF193 Pit	Ironstone (48d), 3 sherds 47g	19th-20th

Area E

This is a small group of six sherds, all post-medieval. The weight of pottery here is 227g, which is 8.9% of the medieval, post-medieval, and modern group.

Ditch EF11 was filling up in the 17th-18th centuries. It was presumably dug out shortly before this.

Table 1.43 Post-Roman pottery recorded in Area E.

Finds Number	Feature Number (Context)	Comments	Date Range
11	EF11 ditch	PMRE (40) six sherds, inc base and rim fragments, 227g	17th-18th

Area J1

Area J1 Evaluation

This is a small group of fourteen sherds, both medieval and post-medieval. The weight of pottery here is 134g, which is 5% of the medieval, post-medieval, and modern group.

The quarry-pit JF10 need not necessarily be any later than the 15th or 16th century. Pit JF28 is 16th-17th century, and ditch JF46 was filling up at the same time (though it could have been dug out slightly earlier than this).

Table 1.44 Post-Roman pottery recorded in the Area J1 evaluation.

Finds Number	Feature Number (Context)	Comments	Date Range
4	JF10 quarry-pit	three probable Colchester-type wares (21a), 15g; 1 medieval greyware, probably (20), 7g.	15th-16th with slightly residual
22	JF28 pit	German stoneware base fragment probably Frechen (45d), 11g; 2 sherds Colchester-type ware (21a), one is from thumbed base of large jar or cistern, other is from a rim close to a handle attachment, 37g	late 16th-17th with slightly residual
24	JF46 ditch	Frechen ware (45d) handle fragment, 9g; 1 PMRE (40), 5g; 1 early medieval ware (13) rim, 15g; 2 medieval greyware sherds (probably 13), 10g	late 16th-17th with residual
46	JF46 ditch	Early medieval sandy ware (13), 2 sherds, 25g	12th-13th

Area J1 North

This is a small group of three sherds, all post-medieval. The weight of pottery here is 21g, which is much less than 1% of the total medieval, post-medieval, and modern group.

Table 1.45 Post-Roman pottery recorded in Area J1 North.

Finds Number	Feature Number (Context)	Comments	Date Range
25	JNL1	PMRE (40), 2 sherds 15g	17th-18th
483	JNF136	Tin-glazed earthenware (46), from dish or charger, 6g	17th-18th

Area J1 South

This is a medium-sized group of twenty sherds, all post-medieval. The weight of pottery here is 441g, which is 17% of the total medieval, post-medieval and modern group. The two sherds from ditch JSF7 indicate it was filled in during the 15th or 16th century. The large group of PMRE sherds from ditch JSF17 (all from one vessel) indicate that ditch was also filled in during the later 16th century, or shortly afterwards.

Table 1.46 Post-Roman pottery recorded in Area J1 South.

Finds Number	Feature Number (Context)	Comments	Date Range
51	JSF7 sx3	Colchester-type ware (21a), body sherd and handle fragment, 52g	15th-16th
65	JSF17	Large part of a PMRE (40) mug, close parallel to *CAR* 7 fig 146.143. Fabric is sandy, like a 21a. There is a similar one from Stratified Group 16, dated c 1550-1600, 18 sherds, 382g.	late 16th
70	JSF7 sx2	Raeren (45c) body sherd, 7g	late 15th-16th

Area J1 East

This is the largest and most significant group of medieval and later pottery from the project, consisting of 160 sherds, of both medieval, post-medieval and modern date. The total sherd weight from Area J1 East is 1143g, which is 44% of the total medieval, post-medieval and modern fabrics.

There are two different groups here: first, the material from the robber trenches of the Roman circus (127 sherds, 872g, 33% by sherd weight of all pottery); second, everything else (thirty-three sherds, 271g, 11% by sherd weight of all pottery).

The material from the robber trenches is of some interest. The robber trench fills (and associated demolition debris) contain sixty sherds of fabric 13 pottery, which is the dominant fabric in Colchester in the 11th and 12th centuries (*CAR* **7**, 40-41). On the face of it, this would support the idea of the circus walls being robbed out in the 11th or 12th centuries. This is entirely consistent with the two other facts that indicate the robbing should have happened at that time. The first is that building work subsequent to the foundation of St John's Abbey in AD 1095 (VCH IX, 40, *CAR* **1**, 40-41), would have created a huge demand for building stone. The second is that the precinct wall of the Abbey is partially built on the line of the circus spina – clearly, at least part of the spina (if not all of it) could not have been robbed out after the construction of the precinct wall. There is a reference to the precinct wall being repaired in AD 1381 (VCH IX, 303) but its original date of construction must be during the main building phase at the Abbey, that is between AD 1095 and AD 1115 (*ibid*). All this would argue for the circus being robbed in the late 11th or 12th century, which again is consistent with the fabric 13 sherds in the robber trenches.

However, there is one aspect of the dating which is slightly odd. That is the fact that there are also ten sherds of medieval sandy greyware (fabric 20, late 12th-13th century), nine of either sandy-orange ware (fabric 21, 13th-16th centuries) or Colchester-type ware (fabric 21a, 15th-16th century), five of post-medieval red earthenware (PMRE fabric 40, 17th-18th century), and one of Border Ware (fabric 42, mid 16th-17th

century). It is probably reasonable to argue that the PMRE and fabric 42 are intrusive, and can therefore be ignored, but the earlier wares (in that quantity: nineteen sherds) are more difficult to ignore. Purely on the basis of the pottery, one could argue that the robbing was actually fifteenth century (based on the fabric 21a), the earlier material being residual sherds which found their way into the robber trenches.

On balance, the view taken here is that the bulk of the robbing took place in the later 11th or 12th century, when at least the east end of the circus must have been robbed of its stone (because the precinct wall was built over the east end of the central barrier). However, the pottery dates indicate that there were sporadic episodes of robbing (over the west side of the circus, away from St John's Abbey) in the thirteenth and very probably as late as the fifteenth century.

Two unusual sherds in Colchester-type ware are illustrated here (Fig 1.72). They are both from the robber trench fills, one is a Hedingham-type stamp, and the second a sgraffito sherd with stylised vegetation.

The other material from Area J1 East is of less importance than the robber trench material. It consists of modern fabrics (ie 19th-20th century) from modern topsoil layers (JEL1, JEL5), a modern pit (JEF17), modern ditches (JEF11, JEF58), a modern service trench (JEF61), and a modern military trench (JEF43).

Table 1.47 Post-Roman pottery recorded in the circus robber trench contexts, Area J1 East.

Finds No	Feature Number (Context)	Comments	Qt	Wt (g)	Date Range
11	JEF5 robber trench	Early medieval sandy ware (13) with incised decoration on surface, as on products from the Middleborough kiln (*CAR* 3, 186-89), 16g	1	16	11th-12th
55	JEF5	Early medieval sandy ware (13), everted thickened rim, no precise match in *CAR* **7,** fig 27, but generally in Types A and B, so late 11th – 12th, 8g	1	8	late 11th-12th
64	JEF5	Early medieval sandy ware (13), 3 sherds 18g, one with combed decoration as on products from the Middleborough kiln output.	3	18	11th-12th
113	JEF5	PMRE (40), 9g; Early medieval sandy ware (13), 1g	2	10	17th-18th
208	JEF5	Early medieval sandy ware (13) rim. Plain, thickened, everted. Nearest type is *CAR* **7,** fig 27, type B1b – late 11th-12th century, 4g	1	4	late 11th-12th
217	JEF5	Medieval sandy grey ware (20), 15g	1	15	13th-14th
219	JEF5	Early medieval sandy ware (13), 2 sherds, 7g	2	7	11th-12th
222	JEF5	Early medieval sandy ware (13), 4g, shell-dusted (13s), 3g; scalloped rim sherd, no close parallel in *CAR* **7**, 15g.	3	22	11th-12th
228	JEF5	Early medieval sandy ware (13), 2g; Medieval sandy grey ware (20) base/wall sherd, 18g	2	20	12th
232	JEF5	Early medieval sandy ware (13), 5g	1	5	11th-12th
248	JEF5	Early medieval sandy ware (13), 14g	1	14	11th-12th
251	JEF5	Medieval sandy grey ware (20), 16g	1	16	late 12th- late 13th-14th
264	JEF5	Early medieval sandy ware (13), 2 sherds 34g, one has incised surface decoration as on products from the Middleborough kiln.	2	34	
267	JEF5	Early medieval sandy ware (13) rim. Flat-topped type, as *CAR* **7,** fig 27, type B2 – 12th century, 8g	1	8	12th
273	JEF5	Early medieval sandy ware (13), 9g	1	9	11th-12th
301	JEF5	(Slightly overfired?) early Colchester-type ware (21a), 3g; green glazed and internally white-slipped sherd with stamp, 7g. There are no stamps on fabric 21a published by *CAR* **7**, but he illustrates a few on Hedingham stamped strip jugs which are a fairly close parallel to the Garrison example (*CAR* 7, fig 50, 19-22). These Hedingham ware jugs are commonest in the mid 13th century (*CAR* 7, fig 52). Illustrated here as Fig 1.72 nos 2 & 3	2	10	mid 13th?
307	JEF5	Rather grey interior, but probably Early medieval sandy ware (13), 5g	1	5	late 11th-12th
314	JEF5	Sandy orange (21) or Colchester-type ware (21a), 11g	1	11	13th-16th
316	JEF5	Medieval sandy grey ware (20), or Early medieval sandy ware (13), 9g	1	9	11th-14th
318	JEF5	Medieval sherd with stabbed, applied cordon. Good quality	1	6	medieval

Finds No	Feature Number (Context)	Comments fabric 20?, 6g.	Qt	Wt (g)	Date Range
334	JEF5	Colchester-type ware (21a), 25g	1	25	15th-16th
344	JEF5	Difficult group. Peg tile, 12g; Early medieval sandy ware (13), 5 sherds 32g; ?Roman sherd, 3g. Is peg tile intrusive, or is it early peg tile?	6	35	late 11th-12th, with peg tile
353	JEF5	Later Colchester-type ware (21a), 13g	1	13	15th-16th
365	JEF5	Nice Early medieval sandy ware (13) rim. Plain everted type, as *CAR* **7** fig 27, type A1a – mid to late 11th century, 9g	1	9	mid 11th to 12th century
377	JEF5	Beautiful sgraffito Colchester-type ware (21a), 8g (Fig 1.72 no 1). Decoration looks like part of tree, with upright trunk and four branches hanging down.	1	8	14th-15th
054	JEF5 sx2	Early Colchester-type ware handle fragment (21a), 9g;	1	9	13th-14th
146	JEF5 sx6	Medieval sandy grey ware (20) 3g, or Early medieval sandy ware (13), 2 sherds 16g	2	19	11th-14th
078	JEF5 sx7	Early medieval sandy ware (13) with incised decoration on surface, as in products of the Middleborough kiln, 11g	1	11	11th-12th
079	JEF5 sx7	Early medieval sandy ware (13) with wavy incised decoration on surface, as in products of the Middleborough kiln, 4g	1	4	11th-12th
080	JEF5 sx8	PMRE (40), 9g	1	9	17th-18th
086	JEF5 sx8	Early medieval sandy ware, shell-dusted (13s), 3g; Medieval sandy grey ware (20), 2g	2	5	12th
046	JEF5 sx10	Medieval sandy grey ware (20), 4g; ?Roman sherd, 3g	2	4	12th-13th
111	JEF5 sx12	Early medieval sandy ware (13), 1g	1	1	
140	JEF5 sx12	Rim fragment of Colchester-type ware (21a), 5g	1	5	15th-16th
104	JEF5 sx13	Early medieval sandy ware (13) rim. Flat-topped type, as *CAR* **7** fig 27, type B2 – 12th century, 5g	1	5	12th
106	JEF5 sx13	Early medieval sandy ware (13), 9 sherds including 1 upright rim, 44g; Early medieval sandy ware, shell-dusted (13s), 2g	10	46	11th-12th
117	JEF5 sx15	Early medieval sandy ware (13), 11g	1	11	late 11th-12th
298	JEF5 sx16	Early medieval sandy ware, shell-dusted (13s), scalloped rim sherd, no close parallel in *CAR* **7**, 24g.	1	24	
148	JEF5 sx18	Early medieval sandy ware (13), 4 sherds 32g; Border ware (42) 6g	5	38	mid-16th-17th
155	JEF5 sx18	Early medieval sandy ware (13), 3 sherds 15g, including a flat-topped rim *CAR* **7** type B2 (12th-early 13th) ; Early medieval sandy ware shell-dusted (13s), 2g	4	17	12th-early 13th
168	JEF5 sx20	Early medieval sandy ware (13), 10 sherds 35g, including a flat-topped rim *CAR* **7,** type B2	10	35	12th-early 13th
172	JEF5 sx20	Early medieval sandy ware (13), base/wall sherd, 14g	1	14	late 11th-12th
16	JEF12 robber trench	Early medieval sandy ware (13), 3 sherds 12g	3	12	late 11th-12th
28	JEF12	Early medieval sandy shell-dusted ware pleasingly scalloped rim (13s), 29g; Early medieval sandy ware (13), two sherds, 12g	3	41	11th-12th
85	JEF12	Early medieval sandy ware (13), 3 sherds, 16g; residual Roman greyware sherd, 4g	4	20	11th-12th
17	JEF13 robber trench	Early medieval sandy ware (13), 2 sherds, 9g: ?Roman BB sherd, 2g	3	11	11th-12th
33	JEF13	Colchester-type ware (21a), 2g	1	2	15th-16th
44	JEF13	Early medieval sandy ware (13), 2g.	1	2	12th
26	JEF14 robber trench	Early medieval sandy ware (13), flat-topped rim Cotter type B2, 11g; Early medieval sandy ware shell-dusted (13s), 6g	2	17	12th-early 13th
99	JEF14	Medieval sandy grey ware (20), 7g; Early medieval sandy ware (13), 5g	2	12	11th-14th
103	JEF14	Early medieval sandy ware (13) with incised decoration on	1	3	11th-12th

Finds No	Feature Number (Context)	Comments surface, 3g	Qt	Wt (g)	Date Range
123	JEF14	Early medieval sandy ware (13), 4 sherds, 30g	4	30	11th-12th
350	JEF26 (= JEF13)	PMRE (40), 4g	1	4	17th-18th
224	JEL2 robbing debris	Early medieval sandy ware (13), Middleborough kiln product with combed wavy-line decoration – see Cotter fig 37.99, 7g	1	7	late 11th-12th
243	JEL2	Rather pale sherds, probably Medieval sandy grey ware (20), 12g; flat-topped rim in PMRE (40) with tiny bit of decayed glaze, 10g	2	22	17th-18th
276	JEL2	Early medieval sandy ware (13), 2 sherds, 11g	2	11	11th-12th
280	JEL2	Ironstone (48d), 2g;	1	2	19th-20th
282	JEL2	Early medieval sandy shell-dusted ware scalloped rim (13s), 9g; Early medieval sandy ware (13), two sherds, 20g	3	29	11th-12th
283	JEL2	PMRE (40) body sherd, 7g	1	7	17th-18th
376	JEL2	Early medieval sandy ware (13) thickened, flat-topped rim as Cotter fig 27, type B2, 12th –early 13th century, 11g	1	11	12th –early 13th
118	JEL4 robbing debris	Curious piece. Roman grey fairly fine fabric with darker grey ?grog inclusions, but with medieval type applied cordons, merging on this sherd. Fabric happier as Roman. 12g.	1	12	Roman.
136	JEL8 robbing debris	Early medieval sandy ware (13), 3g; Colchester-type ware (21a), 4g	2	7	15th-16th
356	JEL8	Medieval sandy grey ware (20), 2g	1	2	late 12th?, usually late 13th-14th
167	JEL9 (=JEL2)	Early medieval sandy ware (13), 3g; Medieval sandy grey ware (20), rim, 7g	2	10	late 11th-12th, or 13th-14th+??
305	JEL9 (=JEL2)	Early medieval sandy ware (13), 4g	1	4	11th-12th
		totals	127	872	

Table 1.48 Post-Roman pottery recorded in other contexts, Area J1 East.

Finds No	Feature Number (Context)	Comments	Qt	Wt (g)	Date Range
65	JE u/s	Later Colchester-type ware (21a), 8g	1	8	15th-16th
199	JEF11 ditch	Ironstone (48d), 2g	1	2	19th-20th
32	JEF17 pit	Ironstone (48d), 2 sherds, 1g	2	1	19th-20th
127	JEF29 CAT evaluation trench	Modern stoneware (45m), 22g; Ironstone (48d) 3g; PMRE (40), 4g; Early medieval sandy ware (13), 3g; modern ceramic tile, 8g	4	40	20th
131	JEF43 Military trench	Either early medieval sandy ware (13), or Medieval sandy grey ware (20), 7g	1	7	11th-14th
310	JEF58 ditch	Ironstone (48d), 4g	1	4	19th-20th
320	JEF58 ditch	Ironstone (48d), 3 sherds 4g; Modern stoneware (45m), 2g	4	6	19th-20th
341	JEF61 service trench	Ironstone (48d), 1g	1	1	19th-20th
035	JEL1 topsoil	German stoneware (45) sherd, 6g. Westerwald	1	6	18th
225	JEL1 topsoil	Modern stoneware (45m), 27g	1	27	19th-20th
294	JEL1 topsoil	PMRE (40), 10g	1	10	17th-18th
297	JEL1 topsoil	Ironstone (48d), 2g; PMRE (40), 4 sherds, 57g; Colchester-type ware (21a), 3g; Medieval sandy grey ware (20), 2 sherds 14g; Early medieval sandy ware (13), 5g	9	81	19th-20th
309	JEL1 topsoil	PMRE (40), 4g	1	4	17th-18th
352	JEL1 topsoil	Later Colchester-type ware (21a), 3g. Traces of slip painting and glaze; Roman sherd, 2g.	2	5	15th-16th
390	JEL5 subsoil	Ironstone (48d), 4g; Modern stoneware (45m), 2 sherds 60g; Early medieval sandy ware (13), 5g	3	69	19th-20th
		totals	33	271	

Area J1 West

This is a small group of twelve sherds, all post-medieval or modern. The weight of pottery here is 393g, which is 15% of the total medieval, post-medieval, and modern group.

Table 1.49 Post-Roman pottery recorded in Area J1 West.

Finds Number	Feature Number (Context)	Comments	Date Range
1	JWF1 metalled surface	Frilled Raeren (45c) base 61g, late 16t; TGE (46) base sherd with foot ring 16g, late 16th-17th; Staffs-type slipware (50) body sherd 11g, 1680-1750; PMRE (40) 9 sherds inc base, 2 rims, handle fragment, 305g, 17th-18th.	17th-18th, probably 17th

Area Q

This is a small group of 2 sherds, both post-medieval or modern. The weight of pottery here is 22g, which is less than 1% of the total medieval and post-medieval group. Pit QF44 is given a 19th or 20th century date by the fabric 48d. The other PMRE sherd (in subsoil QL2) may be less meaningful.

Table 1.50 Post-Roman pottery recorded in Area Q.

Finds Number	Feature Number (Context)	Comments	Date Range
17	QF44	Ironstone (48d) 2 sherds, 4g	19th-20th
50	QL2	PMRE (40), handle fragment, 18g	17th-18th

The 'Time Team Trenches'

This is a small group of 2 sherds, including both medieval and post-medieval fabrics. The weight of pottery here is 66g, which is 2.5% of the total medieval and later group. This would normally give a straight 17th-18th century date to the robbing trench, with the medieval sherd being residual in that context. However, the context is interesting, in that it is the robber trench of the circus spina, and one would not normally expect robbing to be so late (it is usually medieval). The PMRE sherd is thick and glazed, and cannot realistically be any earlier than 17th century (*CAR* 7, 189). There are two equally valid interpretations here: first, the robbing is 17th century; second the robbing is 11th-12th century. However, the latter is preferred, as it fits in with other information about the likely robbing date (see Area J1 East comment, above).

Table 1.51 Post-Roman pottery recorded in the Time Team Trenches.

Finds Number	Feature Number (Context)	Comments	Date Range
5	TTF12	PMRE (40), 10g; base of large storage jar in Early medieval sandy ware (13), 56g	17th-18th

Watching brief

This is a single sherd of probable Colchester-type ware, giving a 15th-16th century date to this post-medieval ditch. The weight of pottery here is 3g, which is much less than 1% of the total medieval and later group. No further comment is appropriate.

Table 1.52 Post-Roman pottery recorded in the watching brief.

Finds Number	Feature Number (Context)	Comments	Date Range
13	WB F11	probably fabric 21a Colchester-type ware, 3g	15th-16th

The small finds

by Nina Crummy

Part 1: the small finds from the cemetery areas

Introduction

The burials lie over a wide area to the south of the Roman town and it is to be expected that most of the deceased lived within the walled area, but some may have come from the suburbs and some perhaps from farmsteads further to the south. The burials would have been located in several discrete cemeteries rather than one, the boundaries probably changing over time. Within those cemeteries some of the burials may have been sited in private plots, owned by families or perhaps professional burial clubs. The excavated areas were limited in extent by the planned development, and had been damaged, sometimes extensively, by post-Roman activity. Very few burials or other funerary features held small finds as grave deposits, and those that did range in date from the second half of the 1st century to the second half of the 4th century, effectively covering all the Roman period apart from the very earliest military occupation of the Colchester fortress and perhaps the very latest decades. All these factors mean that any clear trends of depositional practice evident from a study of the small finds, either across individual excavated areas or in the wider context of the town's cemeteries, are most likely to be only broad reflections of the periods of use of the excavated areas, while the dates of the individual burials and the age and status of the dead person can be expected to be the major elements governing conformity or disparity to other burials from elsewhere in Colchester or in south-east Britain in general.

The small finds from the cemetery areas are catalogued by burial in Appendix 1.1. The following is a general discussion of these small finds, which is subdivided by cemetery area, and within area by burial type and artefact type. Coins are treated separately immediately below in Part 3.

Area C2

Area C2 provides the most coherent deposition pattern of all in this burial assemblage, and, although the graves are mainly late Roman, it is appropriate to start with them.

Cremation burials and pits containing pyre debris (Tables 1.53-55)

Table 1.53 summarises the small finds and bulk metalwork from cremation burials in Area C2. Table 1.54 lists the metalwork from pits with pyre debris and Table 1.55 summarises the details of the coins deposited as grave goods.

The burial deposits fall into two overlapping principal groups: cremation burials with coins, some of which also contain jewellery and amulets, and cremation burials with nails and hobnails. The latter are all primary deposits, that is, they were burnt on the pyre and picked out of the burnt debris along with the cremated bone. The coins and amulets are all secondary deposits, they were unburnt and placed in the burial pit to provide the equipment considered necessary for the dead person to take with them into the afterlife.

Nails

Iron nails would have been the most numerous artefact type of metal object present in the pyre debris. They were found in nine cremation burials and four pits with pyre debris (Tables 1.53-54). They may have come from a variety of sources: scrap timber used as fuel for the pyre, a nailed framework on which to rest the fuel and the corpse, a bier used to carry the corpse from the house to the cemetery, or furniture burnt as grave

goods. They tend to vary in size, making the first possibility the most likely. All are of Manning Type 1b, which is shorter than 150 mm (1985, 134).

A further six cremation burials contained nails, but they were considered to be residual (*see* site archive).

Hobnails

Iron hobnails from nailed footwear were found in only three cremation burials (Table 1.53). Both shoes and sandals could have nailed composite soles, and both could also have stitched soles; thonging was also used on sandal soles (MacConnoran 1986). A recent study of the pyre debris from the mid to late first-century Roman cremation cemetery at Handford House, Colchester, showed that about half the funerary features (pyres and burials) contained hobnails in varying quantities, and that the absence of hobnails in a grave did not therefore necessarily mean an equal absence of footwear on the pyre, but that the random collection of debris from the cooled ashes had failed to include hobnails, or that thonged or stitched footwear had been worn by the dead person (Crummy 2006a). The same applied two hundred years later at the opposite end of the country in the third-century cemetery at Brougham, Cumbria, which served both the Roman fort and its associated *vicus* (Mould 2004, 392). The absence of hobnails from the remaining cremation burials on Area C2 can therefore be explained by the same reasons as applied at Handford House and Brougham.

Table 1.53 Garrison Urban Village: small finds and bulk metalwork from cremation burials on Area C2. P…primary deposit; S…secondary deposit.

Feature no	Date from SF evidence	Nails (all P)	Hobnails (all P)	Box	Coin	Dress accessories	Miscellaneous
CF24	late 3rd century	-	-	-	✓ (S)	-	-
CF33	-	✓	-	-	-	-	-
CF99	-	✓	-	-	-	-	-
CF100	-	✓	-	-	-	-	-
CF101	-	✓	-	-	-	-	
CF105	-	-	-	-	-	-	very small quantity slaggy pyre debris (P)
CF131	-	-	✓	-	-	-	-
CF147	-	✓	✓	?	-	-	-
CF163	late 3rd to early 4th century	-	-	✓ (S)	✓✓✓ (S, in box)	-	-
CF164	late 3rd to early 4th century	-	-	-	-	2 armlets (S) bead necklace (S)	-
CF165	2nd century +	-	-	-	-	-	2 tweezers (S)
CF166	late 3rd to early 4th century	-	-	-	✓✓✓✓✓ (S)	2 finger-rings (S) 3 beads (S) lunula pendant (S) bear pendant (S)	2 small rings (S) iron fragments (S)
CF173	-	✓	-	✓ (P)	-	-	-
CF206	4th century	✓	✓	-	✓✓✓ (S)	amber pendant (S)	glass setting (S) 2 dice (S) fossil (S)
CF207	late 3rd to early 4th century	✓	-	-	✓✓✓ (S)	-	-
CF213	mid 2nd to 3rd/4th century	-	-	-	✓✓ (S)	-	-
CF237	late 3rd to early 4th century	-	-	-	✓ (S)	-	-
CF241	-	✓	-	-	-	-	-
CF242	-	-	-	-	-	-	nailed iron strip
CF263	mid 2nd to 3rd/4th century	-	-	-	✓ (S)	bone hairpin (S)	-

Table 1.54 Garrison Urban Village: metalwork from pits with pyre debris on Area C2.

Feature no	Nails	Miscellaneous
CF115	✓	
CF126	✓	very small fragments copper-alloy sheet
CF227	✓	
CF240	✓	

Table 1.55 Garrison Urban Village: coins deposited as grave goods in Area C2. Coin periods are those defined by Reece (1995, table 1; 2002, 145).

Burial number	SF	Area	Find	Feature	Context description	Identification	Date	Reference	Diamr (mm)	Weight (g)	Coin Period
CF24.2	6	C2	43	F24	unurned cremation burial	Claudius II, *antoninianus*, rev. Consecratio, eagle	270	RIC 366	17	2.35	13
CF163.5	128	C2	404	F163	boxed cremation burial	Salonina, *antoninianus*, rev. Iuno Regina	260-8	RIC 13	20	3.05	13
CF163.4	127	C2	405			Postumus, *sestertius*, rev. Victori (Aug)	259-68	as RIC 170	30.5	16.29	13
CF163.6	174	C2	653			?Marcus Aurelius, *sestertius*, rev. standing female	161-80?	-	31.5	22.62	8?
CF166.5	134	C2	420	F166	unurned cremation burial	Faustina II, *sestertius*, rev. Venus	146-61	as RIC (AP) 2168	30	25.74	7
CF166.6	136	C2	422			Faustina II, *sestertius*, rev. Cybele	146-61	RIC (MA) 932	31	25.61	7
CF166.7 CF166.8	131	C2	417			.7) Claudius II, *antoninianus*, rev. Genius Exerci .8) Claudius II, rev. Virtus Aug	.7) 268-70 .8) 268-70	.7) as RIC 48 8.) RIC 109	.7) 22 .8) 21.5	.7) 2.67 .8) 2.32	.7) 13 .8) 13
CF166.9	132	C2	418			Gallienus, *antoninianus*, rev. Marti Pacifero	260-8	RIC 236	22	2.86	13
CF206.4 CF206.5	173	C2	580	F206	unurned cremation burial	.4) Tetricus I, *antoninianus*, rev. Salus Augg .5) Claudius II, *antoninianus*, rev. Consecratio, eagle	.4) 270-3 .5) 270	.4) RIC 126 .5) RIC 266	.4) 17.5 .5) 20	.4) 1.54 .5) 3.01	.4) 13 .5) 13
CF206.6	168	C2	573			Vespasian, *sestertius*, rev. Roma	69-79	as RIC 526	32	22.47	4
CF207.4 CF207.6	219	C2	588	F207	ring ditch with unurned cremation burial within sx1	.4) barbarous radiate, rev. Virtus .6) barbarous radiate, rev. Virtus	.4) 270-90 .6) 270-90	- -	.4) 13 .6) 15	.4) 0.95 .6) 1.62	.4) 14 .6) 14
CF207.5	220	C2	589			copper-alloy with silver wash; Tacitus, *antoninianus*, rev. Felicitas Saeculi	275-6	RIC 24	24	3.45	14
CF213.2	215	C2	622	F213	unurned cremation burial	Augustus, *as*, very worn, scratches on both faces	27 BC-AD 14	-	25	5.24	1
CF213.3	214	C2	623			Marcus Aurelius (Caesar), *sestertius*, rev. standing female	139-61	-	31	21.59	7
CF237.2	213	C2	712	F237	unurned cremation burial	Tetricus II, *antoninianus*, rev. Princ Iuvent	270-3	RIC 260	22.5	1.96	13
CF263.2	166	C2	569	F263	unurned cremation burial	Marcus Aurelius, *sestertius*, rev. Victory attaching shield to palm tree	171-2	as RIC 1430	20	24.57	8
CF224.2	164	C2	609	F224	inhumation; inside coffin	Hadrian, *sestertius*, rev. standing female	117-38	-	32	21.36	6
CF249.1	210	C2	711	F249	inhumation; in the mouth or on one eye	Faustina II, *sestertius*, rev. female deity with transverse sceptre	161-75	-	31	24.23	8

Boxes

Two cremation burials contained metal fittings from a wooden box. In one, CF173, the fittings are few and fragmentary, in the other, CF163, the box was a secondary deposit and contained most of the grave goods. Despite the fact that the burial pit had been disturbed, a reconstruction of the position of the fittings on the front of the box could be attempted (see Burial Plans) and is discussed in the catalogue of burial deposits.

Similar boxes were used for the storage of valuables, toilet equipment, cosmetics or clothes, and small ones such as the one in CF163 could be carried to the baths (Croom 2002, pl. 8). They could be quite old when used as cremation caskets, their elderly state probably a factor in their selection. The box in CF163 cannot be closely dated, but the coins buried within it provide a deposition date in the late 3rd or early 4th century.

Coins

The details of the coins from both cremation and inhumation burials on Area C2 are listed in Table 1.55. Leaving aside the 2nd century coins, which hoard evidence shows remained in circulation into the late 3rd century or even the early 4th, the latest coins from several of the cremation burials are *antoniniani* that fall within a date range from *c* AD 260 to 290. This close consistency of date points to a group of burials have taken place within that period or slightly later (CF24, CF163, CF166, CF206, CF207, CF237). The major reform of the coinage that began under Diocletian in AD 294 triggered a decline in casual coin loss because the issues replacing the small *antoniniani* were not only larger but also of greater value. Effectively, they were more carefully treated and also searched for if dropped, and therefore few issues from *c* AD 294 to 324/30 occur as general site finds (Reece 2002, 95). If this pattern also impacted on burial practice, that is, if people chose to bury with their dead the small earlier coins that had been effectively demonetised rather than the better quality post AD 294 issues, then some of the burials may date to the early years of the 4th century. Certainly wear on several of the coins show that they had been in circulation for some time before being buried, although it is pertinent to note that the designs on the two barbarous radiates from CF207 are very crisp and those, at least, are unlikely to have been in circulation long. The absence of any small coins of the House of Constantine dating from AD 330 to the mid 4th century either as grave goods or residual in burial fill (*see* General small finds report) certainly implies that burials had ceased by this date, as coin loss rose again from AD 330. On balance therefore, this group of burials took place before AD 330, and some possibly before AD 290.

As well as the 2nd century coins from some of the cremation burials, which were often in company with late 3rd century issues, two even earlier coins are present: a *sestertius* of Vespasian (AD 69-79) in CF206 and an *as* of Augustus (27 BC-AD14) in CF213. Both being large coins, although not as substantial as the 2nd century issues, they too may have lingered in circulation into the 3rd century. However, the very worn Augustan coin has scratches on both faces, as if there had been a deliberate attempt to remove what traces remained of its design. This introduces the possibility that another factor affected their selection for burial, a factor that also played a part in the selection of many of the coins, if not all.

It is becoming increasingly apparent that in many late Roman burials in Colchester and elsewhere the image on a coin's reverse was considered as the prime reason for its use (Crummy forthcoming (b)). The legend might be explicitly funerary, as here in CF24 and CF206 where commemorative coins of Claudius II with the legend *Consecratio* were placed in the burial. A burnt coin of Antoninus Pius with a funeral pyre on the reverse, found in a feature containing pyre debris at Holborough, Kent, shows much the same usage (Jessup 1954, 56; 1959, 7; Philpott 1991, 210). Funerary symbolism might also be at play with the coin of Marcus Aurelius in CF263 which has the reverse image of Victory and may imply belief in a saviour religion, such as Mithraism or Christianity. Alternatively the reverse might show a deity with explicit chthonic authority, such as the coins in CF163 and CF166 with the reverses of Iuno Regina and Cybele respectively. The reverse legend seems to express a parting wish, as with the coin of Tacitus in CF207 with the legend *Felicitas Saeculi*, which implies a belief in a continuing life beyond the grave and a desire for the dead person to lead a happy existence there over the centuries. In the case of the Augustan and Vespasianic coins from CF213 and CF206 respectively, the latter may have been curated for its reverse of Roma, the powerful female personification of the city heart of the empire, while the former, which is almost blank, may have been used not as a coin but as a solar wheel symbol, as were coins and rings on temple sites in both Gaul and Britain (Crummy 2006b, 56, 64-5). Coins with the images similarly worn and scratched away have been found in Colchester in association with Temple 10 on Balkerne Hill (*ibid*, fig 32, 6-9).

In child burials, and particularly in those of infants, a remarkable consistency of reverse image selection can often be seen, and the coins from Area C2 reinforce a pattern already visible in the Butt Road cemetery in Colchester, where the coin reverse types in infant burials are of either martial male figures or female deities or personifications, imagery that can be defined as both explicitly protective and invoking suitable deities as guardians, substitute parents, for the dead infant in the afterlife. This is most clearly expressed on

Area C2 in burial CF166. The burial contained five coins, two showing goddesses (Venus and Cybele) and three showing martial males (*Genius Exerci*, *Virtus* and Mars). The two former lay among the cremated bone, but were themselves unburnt, the three latter lay in a group between two beakers. These positions highlight the difference between the reverses and indicate that they define two different acts of deposition, one by the infant's mother, the other by the father. Cremation burial CF163 held three coins with a similar combination of a martial male (*Victori Aug*) and two female reverses (Iuno Regina and a worn image of a standing female).

In other Area C2 graves the reverse types may be either martial male or female, rather than both. For example, the coin of Tetricus II in CF237 has the reverse of *Princ Iuvent* (*Princeps Iuventutis*, leader of the youth, an honorific given to the son of the emperor), an image that is not only martial, as it shows the young Caesar in military dress, but perhaps also representative of what the parents of the dead child hoped he (male gender can be presumed here) would develop into in the afterlife, in which dead juveniles might be expected to continue to grow and age as they would if alive (Green 1993, 194-6). A parallel for this coin is an infant grave at Butt Road in which a pierced coin with the same reverse image had been deposited. The coin was minted for Diadumenian, the son of Macrinus (AD 217-18), and the grave dated to *c* AD 320/40-330/50, making the coin about 100 years old when buried (*CAR* **9**, 137, Grave 503). It was so little worn that it was probably curated almost from the time of minting and is rare, if not unique, in Roman Britain (R Reece, pers comm). The Tetricus II coin may also have been old when buried, perhaps up to 60 years.

Coins used in this way, as symbols of protection or personal reference, were therefore amuletic in function, rather than used as the fee for Charon the ferryman, as is generally supposed for coins in burials (Philpott 1991, 215-16). This is not to say that all coins were necessarily used in this way, and in some of the inhumations from the Garrison site coins were certainly clearly used as the ferryman's fee. Indeed, in some graves the coins were probably used as both fee and symbolic reverse, a usage clearly demonstrated by a coin from a late Roman cemetery at Watersmeet, Huntingdon. A late 1st century BC copper-alloy unit of Tasciovanus, at least 300 years old at the time of burial, had been placed either in the mouth or on the eye of a juvenile, both typical positions for coins used as Charon's fee. The reverse of the coin shows a horse, prompting association with Epona in her role as a goddess of death and the underworld (Green 1997a, 91-4, 171-5). Beneath the horse are the letters VIR, showing it to be a product of the mint at Verlamion. The height of the skeleton was that of a boy close to achieving, or who had just achieved, the status of a man (*vir*), making the coin either a promise of the status he would achieve in the afterlife or a token providing absolute proof that he had indeed already reached this stage in life (Crummy & Nicholson 2006).

Dress accessories and amulets

These two groups of objects (Table 1.53) are treated here as one because the latter may be worn and the former may have a significance deeper then the ornamental, just as the coins were often more than money.

In CF164 two armlets and a bead necklace appear to have been deposited purely as dress accessories. One armlet has rudimentary snake's head terminals, but any religious or funerary significance implied by the snakes (Cool 2000) can probably be discounted by the crudeness of the work.

In CF166 the child was clearly too young to have worn any of the jewellery, pointing to selection for a different purpose. In this grave we have already seen evidence of the deliberate selection of coin reverses, and the wide range of pieces of jewellery and pendants points to an equally careful choice of both materials and images. The jewellery consists of: a silver finger-ring with a carnelian intaglio; part of an ivory(?) finger-ring; two frit melon beads, one of which was found in association with a small silver ring of the type used as suspension links on earrings or sets of toilet instruments; an annular glass bead of cobalt blue with a white wave, found in association with a small copper-alloy suspension-type ring to which were attached some iron fragments, presumably from a pendant or toilet instrument; a silver lunula pendant; and a jet pendant in the form of a bear.

Together the three metals, ivory(?), jet, glass, frit and carnelian form a remarkable range when set against more ordinary suites of copper-alloy and glass dress accessories such as that found in CF164, and makes the group in CF166 comparable to collections of jewellery and/or amulets in infant graves from Butt Road, in particular Graves 278 and 503, in which there was clearly a deliberate attempt to maximise the range of materials represented (*CAR* **9**, 41, 137, 141; Crummy forthcoming (b)). The different materials might be symbolic of the range of materials the child might require in the afterlife, but they are far more likely to represent the deliberate harnessing of different amuletic powers to protect it, in the same way as the coin reverses invoke substitute parental protection. These powers might have been called upon during the child's brief life and possibly illness, and were then buried with it, or they were chosen solely for the burial.

In specific symbolic terms, the carnelian intaglio shows a stag, the animal of the moon goddess and huntress Diana and the lunula pendant is a common protective device that also invokes the moon. It was used, for example, on personal amulets and on jewellery, horse harness, both civilian and military, and other military equipment (*eg* Johns 1997, catalogue, nos 317-22; Hawkes & Hull 1947, pl 98, 170-3; Oldenstein 1976, Tafn 44-5; van Boekel 1987, 99, 102, 653-7). The jet bear may represent either the continental bear goddess Artio or the wider protective funerary power attributed to the animal. The latter is demonstrated

particularly clearly by other bear figurines in infant graves in Britain and Germany, by pipeclay bear figurines in graves in Switzerland and possibly also in an infant grave at Arrington, Cambridgeshire, and by a lamp in the shape of bear found in an infant grave at Brescia, Italy, an image that shows the bear as both guide and companion (von Gonzenbach 1995, 224-5; Green 1993, 199; Green 1997b, 166; Crummy 2001). Similar jet bears have been found in other infant burials in Colchester, York and Malton in Britain, and in Trier in Germany. Another example from Cologne, Germany, came from a cemetery area and may have been from a burial. Three of the four jet bears from Colchester come from the Abbey Field; the provenance of the fourth is unknown. At Malton the bear came from a burial immediately outside the Roman fort, and the York bear also came from close by the fortress there (Crummy forthcoming (b)). The two latter provenances imply that the infants could have been the children of military personnel.

Some, if not all, of the objects in CF206 were also amuletic, although some may have been curated as curiosities. The group consisted of an amber pendant, two ivory dice, a glass ?brooch setting and a fossil, again representing a range of materials, although metal is only present in the grave in the form of coins, an iron nail, and an iron hobnail. Certainly the amber pendant would have been credited with medical and amuletic properties. Pliny mentions that amber was a powerful protective amulets for babies, and that, worn on a necklace, it was a remedy for fever (*Hist Nat,* XXXVII, 48-51). The fossil may also have been used as an amulet, as may have been the glass setting. The two dice could have been playthings, but they may also be representative of *Fortuna* or some similar goddess of luck and good fortune, and may even have been valued for the noise they made when thrown. In its variety this unusual collection is best compared to groups of amulets found in graves from the prehistoric period onwards, in which the items fall into one of five categories: noise-making, of meaningful form, with special exterior qualities, unusual or curious and, lastly, made from a material with special qualities (Pauli 1975, 116-35; Martin-Kilcher 2000, 67). The amber pendant falls into the last category, the fossil into the fourth, and the dice and glass setting could be variously accommodated in the first, second or third.

Toilet instruments

One cremation burial, CF165, contained two tweezers (Table 1.53). Only two other Romano-British graves contained tweezers but no other toilet instruments, an amphora-burial from Ospringe, Kent (probably of a woman), and a mature female inhumation from Poundbury, Dorset (Whiting *et al* 1931, 80; Farwell & Molleson 1993, 96). The former dated to the 2nd century, the later to the late Roman period.

The tweezers may have been chosen for deposition in these graves solely for their use as grooming implements, but tweezers found in a grave from London appear to represent their medical usage in minor surgery on the eyes. The burial, the inhumation of an adult male, contained tweezers, a scoop-probe and a miniature pot of Black Burnished ware 1, as well as a coin used as Charon's fee (Whytehead 1986, 95). This set of equipment points to the dead man having been an eye-doctor, and the presence of not one but two tweezers in CF165 may point to their also having been working tools.

Miscellaneous

The only other metal items from the Area C2 cremation burials are a small fragment of slaggy pyre debris from CF105 and a nailed iron strip from CF242. The latter is likely to have derived from timber used on the pyre (Table 1.53). Only one pit with pyre debris contained metalwork other than iron nails. Pit CF126 produced some small fragments of copper-alloy sheet that cannot be attributed with certainty to any object, although a possibility, in the light of the deposits in the cremation burials (*see* above), may be a wooden box with copper-alloy sheet cladding (Table 1.54).

Table 1.56 Garrison Urban Village: small finds and bulk metalwork from inhumations on Area C2.

Feature no	Date	Lead coffin liner	Coffin nails	Hobnails	Coin
CF43	-	✓	-	-	-
CF102	-	-	✓	-	-
CF121	-	-	✓	-	-
CF182	-	-	✓	-	-
CF224	2nd century +	-	✓	-	✓
CF233	-	-	✓	-	-
CF235	-	-	✓	-	-
CF236	-	-	✓	-	-
CF244	-	-	✓	✓	-
CF245	-	-	✓	-	-
CF246	-	-	✓	-	-
CF248	-	-	-	✓	-
CF249	2nd century +	-	✓	-	✓
CF250	-	-	✓	-	-
CF251	-	-	✓	-	-
CF252	-	-	✓	-	-
CF254	-	-	✓	-	-
CF255	-	-	✓	✓	-
CF257	-	-	✓	-	-

Inhumations (Table 1.56)

Table 1.56 summarises the small finds and bulk metalwork from inhumation burials on Area C2. The only grave deposits were coins and hobnails, and the only other finds were a lead coffin liner and iron nails from timber coffins.

The coffin liner was only partially excavated and not lifted, but a fragment of bead-and-reel moulding shows it to have been decorated and therefore the grave (CF43) was that of a person of considerable socio-economic status (Toller 1977; *CAR* **9**, 123).

Seventeen graves produced nails from timber coffins, but the nails from a further two graves, CF259 and CF260, may not have been residual. All the coffins appear to be of standard construction (*CAR* **9**, 34, 120).

Hobnails

Iron hobnails from nailed footwear came from CF244, CF248 and CF255 (Table 1.56). In all three graves they had probably been on the feet of the corpse. As with hobnails in cremation burials, they represent what was worn at the time of burial and there need be no special significance in their presence.

Coins

Coins were found in CF224 and CF249 (Tables 1.55-6). Both appear to have been used as Charon's fee, with no other symbolic significance. The coin in CF249 may have been in the mouth or on the eyelid of the corpse.

Cremation burials and pyre-related features (Tables 1.57-60)

Table 1.57 summarises the small finds and bulk metalwork from cremation burials excluding *busta* on Areas J1 North and South, while Tables 1.58-59 list the metalwork from *busta* and other funerary features on Area J1 North. A distinctive feature of this assemblage is the presence of lighting equipment, which was absent from Area C2.

Nails

Iron nails were found in twelve cremation burials, eight *busta*/pyre sites, and 23 pits with pyre debris (Tables 1.57-59), making them the most numerous artefact type in this group of features and emphasising the point made above that nails were the objects most commonly present on pyres. Again all are of Manning Type 1b (see Area C2 above).

A further 25 cremation burials contained nails that were considered to be residual by the excavator . Distinguishing between residual nails deriving from earlier features and those making their way into the burial pit along with other pyre debris is difficult in cremation burials, here made even harder by the disturbed nature of many of the features, and it is possible that some of those defined as residual are primary deposits. The consistency of their presence alone cannot be taken as evidence for such an identification, given that they form the largest group of items on the site, but the paucity of other residual material is a strong argument that the nails were primary deposits, and where hobnails were also among the residual finds, as they were in JNF154, JNF325 and JNF368, there is a strong possibility that they too are not residual.

Hobnails

Eight cremation burials, three *busta*/pyre sites and ten burial pits with pyre debris contained iron hobnails, and in three cremation burials hobnails were present in the fill but considered to be residual (Tables 1.57-59). They are the second most numerous artefact type on the site, underlining the fact that the corpse would have been burnt fully dressed, even to the extent of wearing shoes or sandals.

Boxes

Two unurned cremation burials (JNF47 and JNF205) and a *bustum* (JNF61) contained a box, and a third unurned cremation burial (JNF103), a pyre site (JNF248) and one burial pit with pyre debris (JNF252) contained metal fittings that probably also came from boxes (Tables 1.57-59). The fittings of the box in JNF61, a secondary deposit, were sufficiently well-preserved to allow a reconstruction of its external fittings to be made (see Burial Plans, JNF61.9). In JNF47 the box had almost certainly been burnt on the pyre, although the few fittings that were present were not visibly burnt. The few copper-alloy and/or iron fittings in JNF103, JNF248 and JNF252 are not of types exclusively used on boxes, but, taken as a group, they are most likely to represent the remains of caskets used as pyre goods. In JNF205 the box was an unburnt secondary deposit but had been damaged by a later feature.

Table 1.57 Garrison Urban Village: small finds and bulk metalwork from cremation burials on Area J (JN, JS). P…primary deposit; S…secondary deposit.

Feature no	Date from SF evidence	Nails (all P)	Hobnails (all P)	Box	Coin	Dress accessories	Lighting equipment	Miscellaneous
JNF1	-	✓	✓	-	-	-	-	-
JNF47	Late 1st to 2nd century	✓	✓	✓ (P)	✓ (?S)	-	-	-
JNF67	-	✓	✓	-	-	-	-	-
JNF91	-	✓	-	-	-	-	-	-
JNF103	Flavian-Trajanic	✓	✓	? (P)	-	bone hairpin (P) bone ?bead (P) bone hairpin (S)	✓✓ (P)	-
JNF125	2nd century	✓	✓	-	✓ (S)	-	✓ (S)	iron strips (pyre debris)

								(P) pottery counter (S)
JNF145	-	✓	-	-	-	-	-	iron sheet (P)
JNF154	-	✓	✓	-	-	-	-	-
JNF192	-	✓	-	-	-	-	-	-
JNF205	-	-	-	✓ (S)	-	-	-	-
JNF222	-	✓	✓	-	-	-	-	iron collar (P?)
JNF226	-	-	-	-	-	-	✓ (P)	-
JNF260	-	✓	-	-	-	-	-	-
JNF323	late 1st to 2nd century	✓	-	-	-	-	✓ (P)	-
JNF461	-	-	✓	-	-	-	-	-
JSF9	late 1st to 2nd century	-	-	-	-	bone bead (P) 2 melon beads (S)	✓ (S)	bone ?handle (P)

Table 1.58 Garrison Urban Village: small finds and bulk metalwork from busta and pyre sites on Area J (JN, JS). P…primary deposit; S…secondary deposit.

Description	Feature no	Nails (all P)	Hobnails (all P)	Coin	Box	Jewellery	Toilet equipment	Lighting equipment	Miscellaneous
pyre site	JNF4	-	-	-	-	bead (?residual)	-	-	-
bustum	JNF5	✓	✓	✓ (P)	-	-	-	-	-
bustum	JNF34	✓	-	-	-	-	-	-	-
bustum	JNF61	✓	-	-	✓ (S)	-	mirror (S)	✓ (P) ✓✓ (S)	-
bustum	JNF183	✓	-	-	-	-	-		-
pyre site	JNF199	✓	✓	-	-	-	-		-
pyre site/ *bustum*	JNF203	✓	-	-	-	-	-	✓ (P) ✓ (S)	-
pyre site	JNF248	✓	✓	-	?(P)	-	-	-	iron chain (P)
pyre site	JNF279	✓	-	-	-	-	-	-	-

Table 1.59 Garrison Urban Village: small finds and bulk metalwork from burial pits with pyre debris on Area J (JN).

Feature no	Nails (all P)	Hobnails (all P)	Box	Coin	Lighting equipment	Miscellaneous
JNF30	✓	-	-	-	-	-
JNF31	✓	-	-	-	-	-
JNF65	✓	-	-	-	-	-
JNF73	✓	-	-	-	-	-
JNF94	✓	-	-	-	-	-
JNF99	✓	-	-	-	-	-
JNF114	✓	-	-	-	-	-
JNF118	-	-	-	-	-	cu-alloy shaft (?residual)
JNF153	✓	-	-	-	-	-
JNF156	✓	✓	-	-	-	-
JNF177	✓	✓	-	-	-	cu-alloy sheet (P)
JNF178	✓	-	-	-	-	-
JNF188	✓	-	-	-	-	-
JNF190	✓	✓	-	-	-	-
JNF196	✓	✓	-	-	-	-
JNF200	✓	-	-	-	-	-
JNF214	-	✓	-	-	-	-
JNF236	✓	✓	-	-	-	-
JNF252	✓	✓	?(P)	-	✓✓✓ (P) ✓✓ (S)	-
JNF268	✓	✓	-	-	-	-
JNF284	✓	✓	-	-	-	-
JNF287	✓	-	-	□	-	-
JNF373	✓	✓	-	-	-	-
JNF417	✓	-	-	-	-	-
JNF486	✓	-	-	-	-	-

The chief characteristics of the box in JNF61 are the use of faceted or channelled rings and a stout tapering hasp. Several similar boxes with such fittings are known both from Britain and the continent, and JNF47 also contained three rings of this type and would have been similar in appearance. Listing all the others is not appropriate here, but particularly pertinent examples come from Radnage, Bucks, and Chichester, West Sussex (Skilbeck 1923; Down & Rule 1971, fig. 5.16, 171k), and a well-preserved

specimen came from Wederath-Belginum, Germany (Riha 2001, Abb. 24). A box lifted from a well-furnished cremation burial in west Essex and excavated in Colchester Museums' conservation laboratory is a good example of the type and, like the box from JNF61, also contained a small rectangular mirror (Network Archaeology, site CMG01; Crummy & Hogarth 2004). It proved to have been covered with leather or hide of some kind before the metal fittings were attached, and rawhide was used to cover the box in JNF61. Another box of this type, from London, may also have been leather-covered or leather-lined as a waxy sediment was noted when it was excavated (Barber & Bowsher 2000, 193). These boxes first appeared in Britain in the Claudio-Neronian period, and repairs on some examples testify to a prolonged period of use. The box in JNF61 would have been deposited sometime in the late 1st or early 2nd century.

Lion-headed studs were sometimes used to attach the lock-plate to the box and the funerary symbolism of the lion has given rise to the supposition that the caskets were made specifically for use in burials (Borrill 1981, 315-16). More recent work by Philpott has shown that the bones were not always contained within the box (1991, 13-14, Table A4), and it is apparent from non-funerary site finds that they were used to store valuables, generally jewellery, clothes or other personalia, with the lion image identifiable as one of protection for the contents. As most excavated boxes from burials appear to have held only a few small items, the contents must have been organic and decayed away completely. These 'missing' objects were presumably garments, and sometimes mineralised textile remains have been found on the internal fittings, for example on the Sheepen box and on the contents of a box from Richborough. Textile has also been found on the outside of some boxes, perhaps from other items of clothing laid on top or spread over the entire contents of the grave (Saunders 1985, microfiche I:A13; Borrill 1981, 317, table 46). The absence from JNF61.9 of any contents other than a mirror therefore points to the box having held clothes.

Coins

Only two cremation burials on Area J1 North produced coins, JNF47 and JNF125 (Table 1.60). The former was found in the spread of cremated bone and the latter in the funerary urn. Coins also came from the *bustum* JNF5 and JNF287, a burial pit with pyre debris (Tables 1.58-59). None of these coins was visibly burnt. Their details are listed in Table 1.60. There is no indication that at this earlier period the reverse image was considered a factor in the choice of coin.

In all four features these single coins can be interpreted as the fee for the ferryman. Three are issues of Domitian (AD 81-96) and one is of Hadrian (AD 117-38). This small number of coins compared to the number of cremation burials and other funerary features on Area J1 North may be an indication that in many cases a coin had been burnt (to destruction) with the corpse and there was no perceived need to bury a second one with the cremated remains. As the idea of a fee for the ferryman was a Roman introduction, at this date those graves in which a coin was found can be considered to be of first, second or third generation immigrants or of fully Romanised Britons.

Dress accessories

Only one unurned cremation burial and one pyre site contained jewellery: JNF103 and JNF4 (Tables 1.57-58). In JNF4 only a small fragment of a glass bead was recovered, it is not visibly fire-damaged and may be residual. In JNF103 the jewellery consisted of both primary and secondary deposits, the latter, a bone hairpin, echoing the former, a fragment of a bone hairpin and what may be part of a bead. The unburnt bone hairpin is of considerable intrinsic interest. One of a Flavian to early 2nd century group found both in Britain and on the continent, it has a head in the form of a female bust which retains traces of gilding on the hair and one shoulder. A globular-headed bone hairpin from Colchester, some hairpins with small moulded heads from France, and some pieces of jet jewellery are also known to have been finished with gold leaf (*CAR* **2**, fig. 23, 438; Bertrand 2003, 103; Allason-Jones 1999), but such surface treatment is rare and no parallel has been found on any other hairpin of this specific form (Pooley & Crummy 2005). Hairpins of this type were high-status imported items and, like the coins, point to the person buried in JNF103 being an immigrant or a fully Romanised Briton.

Toilet equipment

A small mirror was found within the box in *bustum* JNF61. It is of Lloyd-Morgan's Type A, which was made on the continent and had an empire-wide distribution, being particularly popular in the 1st century AD. Many were deposited in cremation burials (Lloyd-Morgan 1977, 238-9; 1981, 3; Philpott 1991, 183).

Lighting equipment

Lamps and other lighting equipment form a major distinction in deposition between the cremation burials on Areas C2 and J1 North/J1 South, a feature due to the date of the burials. Ceramic lamps were much more

scarce in the late Roman period in Britain and other north-western provinces of the empire in general than they were in the 1st and early 2nd century AD.

Colchester has produced a substantial proportion of the lamps from Roman Britain, and Eckardt has shown that artificial lighting in general was a feature of military establishments and Romanised urban populations (2002, 37-55). The presence of lighting equipment on JN/JS implies that, like the coins and the hairpin discussed above, at least some of the population buried on Area J1 North followed a fully Romanised life-style and burial practices. Lamps were included among the grave goods not as useful household equipment, but to light the dead soul on the journey to the afterlife. In many cases lamps were alight when they were buried, the flame sometimes protected by a cavity formed by tiles or pot sherds. This was certainly the case with several burials on the Handford House site, Colchester (CAT Report 323), and with a candelabrum in JSF9 which was inside an amphora (*see* below). On Area JN this practice may be evident in JNF125, where the lamp was inside the cremation urn. No obvious cover was found that would have protected the flame when the burial was backfilled, but had a piece of wood been used it would not necessarily have been visible on excavation.

Table 1.60 Garrison Urban Village: coins deposited as grave goods, Area JN. Coin periods are those defined by Reece (1995, table 1; 2002, 145).

Burial number	SF	Area	Find	Feature	Context description	Identification	Date	Reference	Diameter (mm)	Weight (g)	Coin Period
JNF47.4	305	JN	86	F47	unurned cremation burial	Domitian, *dupondius*, rev.Fortunae Augusti	87-8	RIC 397	30.5	12.65	4
JNF125.9	523	JN	1367	F125	urned cremation burial	Hadrian, *dupondius*, rev. Pietas	119-38	RIC 1176	27.5	11.75	6
JNF5.9	542	JN	1458	F5	bustum	Domitian, *as*, rev. standing figure	81-96	-	27	6.88	4
JNF287.3	318	JN	622	F287	burial pit containing pyre debris	Domitian, *as*, rev.Moneta August	86-7	RIC 390	31	9.23	4
JNF96.1	337	JN	1118	F96	inhumation burial; held in the right hand	pierced; Nero, *as*, rev. Victory	64-8	as RIC 381	28.5	8.37	3
JNF111.1	528	JN	215	F111	inhumation burial; buried in the mouth or on the eyes	Vespasian, *as*, rev. standing figure, worn	69-79	-	25	8.05	4
JNF111.2	334	JN	215			Hadrian, *dupondius*, rev. Fortuna seated left, legend worn away, Fort Red S C in exergue	117-38	-	28	11.21	6
JNF270.1	328	JN	590	F270	inhumation burial; position unknown	Magnentius, rev. Victoriae DD NN Avg et Cae (2)	351-3	as CK 8	21.5	3.25	18
JNF285.1	320	JN	617	F285	inhumation burial; JNF285.2 held in right hand; JNF285.1 and JNF285.3 possibly residual	pierced, iron nail fragment adhering to reverse; Trajan, *as*, rev. standing figure	98-117	-	29	11.53	5
JNF285.2	352	JN	977								
JNF285.3	351	JN	978			Titus (Caesar), *as*, rev. Spes	75-6	RIC (Vesp) 868	27.5	9.22	4
						forgery - lead core plated with silver; Antoninus Pius, *denarius*, rev. Fortuna COS IIII	138-61	as RIC 976	18	2.28	7
JNF400.1	344	JN	900	F400	inhumation burial; JNF400.1 held in hand; position of JNF400.2 unknown	Constantinopolis, rev. Victory on prow, Trier mint	330-41	copy as HK 52	14	0.86	17
JNF400.2	342	JN	1119			Claudius I, *as*, rev. Minerva; textile impressions preserved in corrosion on obverse	41-54	copy as RIC 100	27	9.43	2
JNF427.1	350	JN	1004	F427	inhumation burial, position unknown	Claudius I, *as*, rev. Constantia Augusti	41-54	RIC 95	28	8.44	2
JNF434.1	343	JN	1122	F434	inhumation burial (?residual)	Otacilia Severa, *as*, rev. Miliarium Saeculum	244-9	RIC (Philip I) 199	24	6.92	12

Lamps were found in five cremation burials, two pyre sites/*busta* and one pit with pyre debris (Tables 1.57-59). In some cases more than one was present, often one or more primary deposits echoed by one or more secondary deposits, a practice already seen for the hairpins in JNF103 above. That both primary and secondary lamp deposits occur in the pyre sites/*busta* and in the pit with burial debris but not in any of the cremation burials (where they were one or the other but not both) can be presumed to be a significant characteristic of the assemblage. It tempts the supposition that these features contained the ashes of more than one person. They might, however, also be seen as a sign of special status, particularly where other distinctive burial deposits are present. For example, the *bustum* JNF61 also contained the complete box discussed above, and JNF252, a pit with burial debris, held five lamps and fragments of several tazze, making it comparable to a burial from Baldock which had 31 lamps and fifteen pedestalled cups (possibly used as candlesticks), and to a *bustum* from London that contained eight lamps and eight tazze (Stead & Rigby 1986, 78-9, fig. 34, B50; Mackinder 2000, 33-7).

Miscellaneous

Some of the miscellaneous items from Area J1 North consist of metal fragments that probably derive from timber used on the pyre or perhaps from burnt boxes or other furniture. Fragments of this type come from JNF125, JNF145 and JNF177 (Tables 1.57 and 59). A fragment of a copper-alloy shaft from a burial pit with pyre debris, JNF118, may be part of a dress accessory, a piece of toilet equipment, or a spoon (Table 1.59). An iron collar came from unurned cremation burial JNF222 and a chain from pyre site JNF248; the possible origins of these items are obscure (Tables 1.57-58).

A small unburnt pottery counter from unurned cremation burial JNF125 is an unusual deposit of uncertain significance (Table 1.57). It may be a representative token of a piece of household equipment or of a board or floor game, but this practice is not otherwise evident among the secondary deposits in the cremation burials. A counter was found in association with an infant burial at Brougham, Cumbria, but may not have been a deliberate deposit (Cool 2004, 205-7, no 235.17).

Inhumations

Table 1.61 summarises the small finds and bulk metalwork from inhumation burials on Area J1 North. The grave deposits are very varied, with hobnails, coins and finger-rings being the only artefact types present in more than one grave.

Fifty-five graves produced iron nails, in 54 cases from timber coffins, all apparently of standard construction (*CAR* **9**, 34, 120). In one grave, JNF76, the nails may be evidence for a plank burial. A possible plank burial was found at Butt Road, Colchester, and at Ashton, Northamptonshire, all the burials may have been on plank biers (*CAR* **9**, 123; Watts 1991, 189). Only a small area of JNF76 was excavated, so this interpretation is necessarily tentative, but all the complete nails, rather than the more usual occasional one, were clenched, a characteristic of nails joining two timbers laid on top of one another rather than abutting. The nails lay, as is usual where a coffin is present, around the edge of the wood stain, which indicates that the bier was made by nailing narrow boards across or along a rectangular frame made of battens, rather than as on a half-door or shutter from Tarrant Hinton villa, Dorset, where just a few battens were laid at intervals across a row of boards (Mills 2006, fig. 39).

In a further 33 graves only a few nails were recovered (*see* site archive). In nineteen cases they may be from coffins which were never detected either because the feature was damaged or not fully excavated, or because the rest of the nails and all the organic remains (both coffin and corpse) may have been destroyed by acidic soil conditions.

Table 1.61 Garrison Urban Village: small finds and bulk metalwork from inhumations on Area JN. U…unworn; W…worn; (-)…position unknown.

Feature no	Coffin nails	Hobnails	Box	Coin	Dress accessories	Toilet equipment	Lighting equipment	Miscellaneous
JNF50	✓	✓W✓U	-	-	-	-	-	-
JNF56	✓	-	-	-	-	-	-	pewter vessel? (?residual)
JNF62	✓	-	-	-	-	-	-	-
JNF64	✓	-	-	-	-	-	-	-
JNF69	✓	-	-	-	-	-	-	-
JNF76	✓ (?plank burial)	-	-	-	-	-	-	-

Feature no	Coffin nails	Hobnails	Box	Coin	Dress accessories	Toilet equipment	Lighting equipment	Miscellaneous
JNF83	✓	-	-	-	-	-	-	-
JNF85	✓	-	-	-	-	-	-	-
JNF86	-	-	-	-	finger-ring (W)	-	-	-
JNF90	✓	-	-	-	-	-	-	-
JNF96	-	-	-	✓ (in right hand)	-	-	-	-
JNF100	✓	-	-	-	-	-	-	-
JNF109	✓	-	-	-	-	-	-	-
JNF111	-	-	-	✓✓ (in mouth or on eyes)	-	-	-	-
JNF133	✓	✓U	-	-	-	-	-	-
JNF137	✓	✓(-)	-	-	-	-	-	-
JNF148	✓	-	-	-	-	-	-	-
JNF149	✓	-	-	-	finger-ring (-)	-	-	-
JNF191	✓	✓(?residual)	-	-	-	-	-	-
JNF218	✓	-	-	-	-	-	-	-
JNF224	✓	-	-	-	-	-	-	-
JNF228/229	✓	-	-	-	-	-	-	-
JNF238	-	✓W	-	-	-	-	-	-
JNF241	✓	✓W	-	-	-	-	-	-
JNF246	✓	-	-	-	-	-	-	-
JNF247	✓	-	-	-	-	-	-	-
JNF265	✓	-	-	-	-	-	-	-
JNF270	-	-	-	✓ (-)	-	-	-	-
JNF272	✓	-	-	-	-	-	-	-
JNF273	✓	-	-	-	-	-	-	-
JNF275	✓	-	-	-	-	-	-	-
JNF285	✓	-	-	✓✓✓ (one in right hand; two ?residual)	-	-	-	-
JNF288	✓	-	-	-	-	-	-	-
JNF289	✓	-	-	-	-	-	-	-
JNF291	✓	-	-	-	-	-	-	-
JNF294	✓	-	-	-	-	-	-	-
JNF308	✓	-	-	-	-	-	-	-
JNF316	✓	-	-	-	-	-	-	-
JNF318	✓	-	-	-	-	-	-	-
JNF322	✓	-	-	-	-	-	-	-
JNF328	-	✓W	-	-	-	-	-	-
JNF329	✓	-	-	-	-	-	-	-
JNF345	✓	-	-	-	-	-	-	-
JNF346	✓	-	-	-	armlet (W)	-	-	iron knife on chest
JNF351	-	-	-	-	beads (-)	-	-	-
JNF357	✓	✓W✓U	-	-	finger-ring (W)	-	-	cu-alloy sheet fragments (?residual)
JNF361	✓	✓U	-	-	-	-	-	silver foil (shoe ornament or residual)
JNF366	✓	✓-	-	-	-	-	-	-
JNF370	✓	-	-	-		-	-	
JNF383	✓	-	-	-	-	-	-	-
JNF395	✓	✓U	-	-	-	-	-	
JNF397	✓	✓U	-	-	-	-	-	
JNF400	-	-		✓✓ (one in right hand; one -)	-	-	-	-
JNF408	✓	-	-	-	-	-	-	-

Feature no	Coffin nails	Hobnails	Box	Coin	Dress accessories	Toilet equipment	Lighting equipment	Miscellaneous
JNF424	-	✓W	-			-	-	
JNF427	-	✓(-)	-	✓ (-)	-	-	-	-
JNF430	✓	-	-	-	-	-	-	-
JNF434	-	-	-	✓ (?residual)	-	-	-	-
JNF439	-	-	-	-	-	cosmetic set (beside head)	-	-
JNF452	✓	-	-	-	-	-	-	-
JNF453	-	-	-	-	brooch (W)	-	-	-
JNF455	✓	-	-	-	-	-	-	-
JNF466	✓	-	-	-	-	-	-	-
JNF473	✓	-	-	-	-	-	-	-
JNF488	✓	✓U	-	-	-	-	candlestick	-
JNF500	✓	-	-	-	finger-ring (-)	-	-	-
JNF506	✓	-	-	-	-	-	-	-

Hobnails

Iron hobnails from shoes or sandals were found in fifteen inhumation burials (Table 1.61). In some of the burials the footwear was worn at the time of burial, in other cases they were separate unworn deposits, sometimes placed in the coffin, sometimes outside it, and in at least one case perhaps on the lid (JNF133). In two graves (JNF50, JNF357) more than one pair was present, one worn, one not worn. In JNF361 a few tiny fragments of silver foil found among the hobnails probably come from decoration on the leather uppers, cf gilding on shoe uppers from London (MacConnoran 1986, 218, 223-5).

A few hobnails from inhumations were residual, perhaps deriving from disturbed cremation burials or pyre-related features (see General small finds report).

Box

A nailed wooden box lay in one corner of inhumation JNF400 (Table 1.61). No contents were recovered, but it probably contained clothes. A coin from the grave had textile impressions on one face and may have come from this area (its position was not recorded).

Coins

Eleven coins were found in seven inhumations (Tables 1.60-61). One, perhaps two, may have been residual in grave fill (JNF434, JNF285.1, JNF285.3). They range in date from 1st to 4th century, with some of the early coins being antique when deposited. Where the position of the coin in the grave had been recorded (Table 1.60), they lay either in the right hand or in the mouth or on the eyelids, positions indicating that they were intended as Charon's fee. In this group of coins there is some indication that at least some of the reverse images had been deliberately selected.

The late Roman burial JNF96 contained a coin of Nero (AD 64-8) that had been pierced and used as an amulet. The reverse image is of Victory, which indicates a belief in a saviour religion. Although pierced the coin was not worn in any way but was held in the right hand.

In one grave, JNF111, two coins lay near the teeth (the rest of the skull was missing). Either one had been placed on each eyelid or they both been buried in the mouth.

A second pierced coin, a worn issue of Trajan (AD 98-117) was found in JNF285 (JNF285.1). It came from an area of the grave that was not fully excavated and may be residual, but as an amulet it would have been a suitable burial deposit. The precise date of this grave is uncertain. The latest coin it held (a forgery) was of Antoninus Pius (JNF285.3) , but the burial may be as late as the 4th century. The forgery may also be residual as it was found outside the coffin, but a coin of Titus as Caesar (AD 75-6) with the reverse showing *Spes* (Hope) was found held in the right hand.

An antique coin of Claudius I (AD 41-54) was found in JNF400 along with one of Constantinopolis which was held in the right hand. The reverse of the latter shows Victory, an image already seen in JNF96. The position of the Claudian coin in the burial was not recorded, but it has textile impressions on the obverse and so probably either lay on the corpse with the reverse visible or it may have come from a wooden box in the

grave that probably held clothes (*see* above). The reverse shows Minerva in aggressive warlike stance with shield and spear and may have been intended as a symbol of protection.

Dress accessories

As on Area C2, none of the late Roman inhumation burials on Area J1 North (Table 1.61) contained suites of jewellery such as those found at Butt Road (*CAR* **9**, table 2.50). This may be a random effect of the areas available for excavation, or it might be an indication that this part of the town's cemeteries was used by a different socio-economic group or groups.

An iron brooch, used to fasten a cloak, was found in JNF453. The type dates to the late Iron Age or early Roman period. It can be taken, with reasonably certainty, as an indication that the dead person was of native British origin.

A copper-alloy finger-ring, but no other jewellery, was found in three inhumation burials, JNF86, JNF149 and JNF500. An iron finger-ring, again unaccompanied by any other jewellery, came from JNF357. The ring in JNF86 lay in the area of the pelvis and would have been worn at the time of burial. The positions of the two other copper-alloy rings were not recorded. The iron ring from JNF357 also lay in the pelvic region and would have been worn. It has an intaglio showing a ?satyr riding a goat and probably relates to the cult of Bacchus.

In JNF346 a worn and damaged armlet was found on the left arm. Its condition indicates that it was an old and treasured possession, with the underlying implication that it could not be replaced by a better one. A knife that may be a craft tool was also buried in the grave (*see* below).

A scatter of beads in JNF351 may have been deliberately strewn across the corpse or may have been disturbed by later activity. The beads cannot be closely dated but the grave is most likely to be late Roman.

Toilet equipment

In JNF439 a cosmetic set had been placed beside the head of the corpse (Table 1.61). Used for grinding coloured cosmetic pigments, these sets are a British artefact type occurring in both the Late Iron Age and Roman periods, with only one certain example having been found on the continent, at Thérouanne, close to the coast in Pas de Calais. The type found in JNF439, with both the pestle and mortar having a central loop, tends to occur in late Roman contexts, and the details of its form and decoration indicate it is of regional manufacture (Jackson 1985; 1993; 2006; forthcoming; Jackson & Thuillier 1999).

Lighting equipment

The only item of lighting equipment from the inhumation burials on Area J1 North is an iron tripod candlestick in JNF488 (Table 1.61). It was found inside the coffin and appears to have been placed on or near the legs. Late Roman candlesticks of this form have been found chiefly on military sites such as Portchester and Richborough, and at western sanctuaries such as Pagans Hill and Uley, but there are also examples from the north and east, such as those from the Mithraeum at Carrawburgh and Temple II at Springhead (Eckardt 2002, 251, 254, 337-8). This limited distribution could imply that the dead person in JNF488 had some form of special military or religious status.

Miscellaneous

In three inhumation burials on Area J1 North some pieces of metalwork are too fragmentary for certain identification (Table 1.61). Scraps of silver foil found among the hobnails in JNF361 are probably all that remains of decoration on the leather uppers of the shoes in that grave. A few small fragments of pewter found in JNF56 may come from a small decayed vessel or may be residual. Fragments of copper-alloy sheet in JNF357 are most likely to be residual.

The only complete object listed in Table 1.61 as miscellaneous is an iron knife blade that lay across the throat or on the upper chest of the corpse in JNF346. It has an unusual notched blade and would have had a specific craft function.

Area J1 South

Amphora-burial JSF9, a 2nd century child burial, contained both primary and secondary deposits (Table 1.57). The primary deposits are a bone shaft fragment and a bead, the secondary deposits are a copper-alloy candelabrum and two frit melon beads. The candelabrum, which consisted of a U-shaped reservoir with vegetal reflector on a tripod stand, is unparalleled, although there are some linked British and continental finds (*see* Catalogue of burials below).

The stand has feet in the form of horse hooves, and there has been some speculation that these implied a connection between the dead child and the nearby circus. While such a link can be neither proved nor disproved, had it existed it would have been a secondary consideration. A candelabrum from Friedburg that also had hooved feet is undoubtedly a product of the same maker, who would have been tapping into the wider iconography associated with horses. Both candelabra were miniature items and therefore of an appropriate size for inclusion in a burial, and the Colchester lamp was certainly buried upright and was lit when the grave was closed. The maker may therefore have intended a reference to either the Celtic rider god or to the horse goddess Epona, both of whom had a chthonic rôle and whose companion animal could act as the guide of dead souls (Green 1997b, 93).

Watching brief

No grave goods were found during the watching brief, but a plain lead liner came from WBF1. Such liners are rarely found and can be taken to be indicative of special status (*CAR* **9**, 123).

Summary

The burials, both cremation burials and inhumations, contain a wide range of object types deposited as grave goods, but with a general emphasis on footwear, boxes (probably used principally for clothing), coins and dress accessories. Lighting equipment occurred on Areas J1 North and J1 South, and toilet instruments on both Area C2 and J1 North. The footwear and to some extent the dress accessories were simply daily wear for the dead people and both groups of deposits occur frequently in Romano-British burials. Boxes are less common, but in many cases they reflect the perception that the dead required changes of dress as a basic necessity of their time in the underworld. In other cases they were reused as cremation caskets. Those with channelled rings from JNF47 and JNF61 are of an early Roman type introduced from the continent soon after the conquest that has a distribution that mirrors the advance of Roman, or Romano-Gallic, influence across southern Britain. Lighting equipment and coins used as Charon's fee are evidence for Romanised lifestyles, and burials containing these items are likely to be those of early colonists. In the late Roman period a more complex use of coins appears, with those selected often having been chosen for the symbolism of the reverse images. In this respect Area C2 has links to Colchester's late Roman Butt Road cemetery and to other late Roman graves both in Britain and on the continent.

The deposits in some graves are indicative, to a certain extent, of the identity of the dead person. The knife in JNF346 may indicate that the dead person worked in a specific craft. A degree of wealth is implicit in two late Roman graves containing lead coffin liners (CF43, WBF1), in a late Roman infant cremation burial (CF166) where silver objects were included in a group of dress accessories and amulets, in a late Roman inhumation where the shoes may have been decorated with silver foil (JNF361), and in an early Roman cremation burial (JNF103) which contained a bone hairpin with traces of gold leaf on the head. An iron tripod candlestick in an inhumation on Area J1 North is of a type usually found in military or religious contexts, which may have some relevance to the status of the person in that grave (JNF488).

Religious belief is evident in the lighting equipment, believed to light the way of the dead soul on the way to the underworld, in the coins that were used as the fee for the ferryman, in the collections of amulets in CF166 and in CF206, and in those burials where the reverses of coins had been selected for their imagery. Most pertinently for Area C2, the distribution of jet bears in Britain could point to their being associated with the children of military personnel.

In general the early Roman burials are poorly furnished, indicating either that the population in the southern cemetery was less wealthy overall than in the western cemetery, which was rich in grave deposits, or that the burials were chiefly of very late 1st century to 2nd century date. An early Roman inhumation containing an iron bow brooch is likely to be the burial of a native Briton (JNF453), but certain of the 1st century grave goods, such as the lamps and coins buried as Charon's fee, point to a thoroughly Romanised way of life. The absence of any other 1st century brooches supports a generally later date for many of the burials (brooches were used far less frequently after the Flavian period in south-east Britain), but, where the burials are of Claudian-Flavian date, the lack of brooches may be an indication that the cemetery was chiefly used for the burials of a Romanised population, as brooches are frequent finds in native British burials of Late Iron Age and early Roman period date in the region, such as Stanway, Stansted, Baldock and King Harry Lane, and but much rarer in burials in Colchester's western cemetery established in the first years of the new colony (Crummy *et al 2007*; Havis & Brooks 2004, 190-2, 194; Stead & Rigby 1989, 61-71; 1989, 87-102; May 1930, *passim*; Crummy 2006a). This is in keeping with a cemetery which, by its position, is most likely to have been used by the urban population of Colchester, but it appears that they were lower

down the social and economic scale than those colonists wealthy enough to be able to afford the funerary monuments known to have lined the Roman roads in the western cemetery.

Note on the catalogue of small finds located within the burial lists

All the iron nails catalogued in the burial lists are of Manning Type 1b (1985, 134), unless stated otherwise. The length is taken from the top of the head to the tip, or, in the case of clenched nails, from the top of the head to the outside of the bend. Only a selection of the nails were X-rayed, principally those from cremation burials, pyres or pyre-related features, where the chances of hobnails being present in the iron pyre debris was greatest, and a limited number of inhumations. The letters used in the catalogue entries for some of the nails and hobnails were generally allocated to them on site. Some nails are almost uncorroded, a feature occasionally seen on nails from pyre sites in Colchester.

Objects that were clearly residual in both cremation and inhumation burials are listed with those in the General small finds report. Where the stratigraphical evidence was insufficient to determine whether or not the objects were residual, they have been listed under the relevant burial.

Part 2: the other small finds

This part of the report covers the small finds and bulk metalwork from non-funerary features on the Garrison Urban Village site. It is divided into three sections: A) objects from the Roman circus on Areas C1, C2, J1 East and the Watching Brief; B) objects that were residual or intrusive in funerary features on Areas C2, J1 North and J1 South, together with objects from non-funerary and non-circus contexts on the same areas and Area C1; and C) objects from the rural sites Areas E and Q that lay further to the south. The catalogue is integrated into the various sections and the nails and hobnails are listed in tables for sections A and C. Nails from section B contexts are listed in Appendix 1.7. Coins are treated separately immediately below in Part 3.

A. The circus and watching brief (Table 1.62; Figs 1.73-1.74)

Compacted gravel surface around the perimeter of the circus

Only ironwork was recovered, consisting principally of Manning Type 1b nails and hobnails (Table 1.62). Seventy of the latter came from one area; they may have come from a pair of abandoned shoes, or they may have been recycled pieces incorporated within the gravel. Also found was a large Manning Type 2 nail with a triangular head no wider than the shank on one axis, a comparatively scarce type (Fig 1.73, no 1; Manning 1985, 134-5). Nails with a head of this kind could be driven completely into the timber, making them almost invisible, which could be useful on prestigious buildings. However, the absence of other examples from the site makes it unlikely that they were the type preferred for the construction of the circus generally.

Fig 1.73, no 1. SF 30. C1 (177) F78. Compacted Roman gravel surface. Large iron Manning Type 2 nail, with triangular head flattened at the top where it was hammered into the wood (Manning 1985, 135-6). This type of nail is uncommon, but when found is usually large. Length 197 mm.

SF 154. C2 (-) F159. Metalled surface. Small fragment of iron sheet, slightly curved at one end. 40 by 34 mm.

Demolition of the cavea walls

Although the type of object recovered from the demolition layers was more varied, the only item that could be even broadly dated was the shank of a late Roman hairpin that must post-date *c* AD 150. Nails were not particularly numerous (Table 1.62). A green glass counter (Fig 1.73, no 2) is larger than most board game counters and may have had a different use, perhaps as a reckoning counter.

Fig 1.73, no 2. SF 78. C2 (286) L20. Roman demolition material. Large green glass counter. Diameter 26 mm, height 7 mm.

SF 29. C1 (158) L18. Roman demolition material. Copper-alloy stud with raised concentric mouldings around a central boss. The shank is small and bent at an angle beneath the boss. Diameter 23 mm, length 5 mm.

SF 24. C1 (142) F6. Demolished wall (part of circus). Five small fragments of thin iron sheet. The largest is 23 by 16 mm.

SF 124. C2 (267) L20. Roman demolition material. Iron strip fragment with two nail holes for attachment. Length 55 mm, width 18 mm.

SF 89. C2 (320) L21. Roman occupation. Bone hairpin shaft fragment, with the swollen shaft typical of later 2nd to 4th century pins (CAR 2, 20-5). Length 41 mm.

SF 31. C1 (165) L18. Roman demolition material. Fragment of lava quern with no original surfaces remaining. Weight 133 g.

Robber trenches for outer circus walls and associated robbing debris

The majority of the objects recovered from the robber trenches and robbing debris are abundant nails and hobnails and a few small pieces of scrap iron (Table 1.62). Other objects are scarce, but a fragment of purple painted limestone veneer hints at the quality and decoration of the stonework (SF 462), while a stylus may relate to the keeping of records either by overseers of the racing factions or by people taking or placing bets on the outcome of the races (Fig 1.73, no 3). A parallel deposit to this stylus is a wax spatula, used for smoothing the wax on a writing tablet, that was found among the debris in the London amphitheatre (Crummy 2003, 16). A broken tanged chisel relates directly to the robbing of the circus foundations (Fig 1.74, no 2). In context, and presumably also in the circumstances of deposition, it is comparable to a bolster chisel from a medieval robber trench on the Culver Street site (*CAR* **5**, no 3124).

Undoubtedly the most important object in this group is a harness pendant (Fig 1.74, no 1). In form it is similar to the pendants used by auxiliary cavalry in the 2nd and 3rd century, and it is particularly close to one from Castleford, Yorkshire (Oldenstein 1976, tafn 34-5; Bishop 1990, fig. 2), although the Castleford piece lacks the upper element. A military origin is therefore a strong possibility for the Colchester pendant, even though its context points to its use on the harness of a horse used in the ritual parades, races or other entertainments in the circus. A combination of the two elements might be sought by speculating that the circus, when not in use for racing, was made available to a locally-based cavalry unit for exercising its horses or for its own formal parades (Pooley & Crummy 2005).

The presence of so many hobnails (Table 1.62) in the robber trenches and robbing debris is unusual and certainly not paralleled by any of the numerous robber trenches found so far in the town or suburbs. The most likely reason for their presence is that the trenches had been dug through shallow Roman burials, and such an interpretation is supported by the recovery of a small amount of human bone from both the robber trench JEF5 and the debris JEL2. One alternative is that recycled hobnails were added to the gravel metalling around the perimeter in this area, as may have happened on Area C2 (*see* above). Another is that the hobnails represent casual loss from the footwear of the huge crowds that could be accommodated within the circus, but the recovery of so few other objects militates against this. Even though there is a concentration of hobnails in the area of buttresses JEF30 through to JEF24, the absence of other material also means that there is no evidence to support the idea that the back wall of the circus was used as a dump, such as occurred outside the east wall of the London amphitheatre, where a pile of cullet, glass collected for recycling, was found (Bateman 2000, 89).

A lead fitting from Area C2 may be linked to the water supply for circus (*see* below; Fig 1.75, no 5).

SF 462. JE (45) F5, sx 11. Robber trench for outer wall of circus. Fragment of limestone veneer strip from a cornice or dado. The outer face has worn mouldings and is a purple colour perhaps to imitate imperial porphyry. The back is rough. Length 172 mm, width 54 mm, 28 mm thick.

Fig 1.73, no 3. SF 457. JE (77) F5, sx 6. Robber trench for outer wall of circus. Iron stylus with a small eraser and mouldings above a baluster-shaped point. The form falls into Manning's highly varied Type 4 (1985, 85). Length 97 mm.

Fig 1.74, no 1. SF 261. JE (60) F47 (F5). Robber trench for outer wall of circus. Copper-alloy two-piece harness pendant, complete apart from the loss of two small lugs. The upper part is a strap-slide in the

form of a nippled hollow-backed boss with small knobs at the top and sides (one missing) and a suspension loop on the bottom. The rectangular loop on the reverse of the boss is aligned to take a horizontal strap. The suspension loop has a small slide lug, set at 8 o'clock, which is marked with a ring-and-dot; a second lug, set at 4 o'clock, is missing. The loss of this lug and the small side knob above it, points to this side receiving the greatest wear or stress. The lower element, fixed in the suspension loop by a curved knob-ended bar, consists of a second nippled hollow-backed boss with side knobs above a plate with strong side volutes, marked by grooves and with ring-and-dots on the terminals, and a terminal knob. A shank at the lower end of the reverse is not burred at the point as it would have been if it had been attached to a second strap; its purpose is therefore obscure. Length 60 mm, maximum width 20.5 mm.

Fig 1.74, no 2. SF 439. JE (107) L2. Robbing debris. An iron tanged chisel with broken blade; medieval or later. Length 112 mm.

SF 417. JE (313) F5. Robber trench for outer wall of circus. Ribbed copper-alloy object, tapering very slightly from one end to another; both ends are original. Length 28 mm, diameter 3 to 2 mm. ?Medieval.

SF 410. JE (346) F5. Robber trench for outer wall of circus. Fragment of copper-alloy sheet. 10 by 11 mm.

SF 423. JE (120) F5, sx 13. Robber trench for outer wall of circus. Iron sheet fragment. 23 by 19 mm.

SF 427. JE (193) F5. Robber trench for outer wall of circus. Small curved fragment of iron sheet. 20 by 21 mm.

SF 438. JE (205) F5. Robber trench for outer wall of circus. Fragment of iron sheet with a small copper-alloy stud fixed into one end. 54 by 15 mm.

SF 437. JE (221) F5. Robber trench for outer wall of circus. Fragment of an iron plate or strip, broken across a nail hole. 37 by 21 mm.

SF 428. JE (272) F5. Robber trench. Small iron T-shaped fitting. length 14 mm, width 16 mm.

SF 430. JE (306) F5. Robber trench. Iron sheet fragment. 21 by 19 mm.

SF 434. JE (326) F5. Robber trench. Iron strip fragment broken across a ?nail hole at one end. Length 34 mm, width 12 mm.

SF 443. JE (354) F5. Robber trench. a) Fragment of a slightly tapering bar of dense iron, probably a smith's blank. Length 58 mm, maximum width 30 mm. b) Iron slag fragment. Weight 10 g.

SF 420. JE (53) F5. Robber trench for outer wall of circus. Fragment of sheet lead, probably an offcut. 27 by 18 mm.

SF 415. JE (220) F5. Robber trench for outer wall of circus. Lead-working offcut or waste. 20 by 16 mm.

SF 408. JE (296) F5. Robber trench. Lead drip. Length 9 mm.

SF 460. JE (241) F5. Robber trench. Fragment of Mayen lava from a rotary quernstone. One edge may be part of the rim. 112 by 78 mm, 57 mm thick. Weight 580 g.

SF 459. JE (292) F5. Robber trench. Small weathered fragments of Mayen lava from a rotary quernstone. Weight 25 g.

SF 458. JE (368) F5. Robber trench. Fragment of Mayen lava from a rotary quernstone. Weigh 57 g.

SF 432. JE (285) L2. Robbing debris. Elongated oval iron fragment, curved on one edge and slightly sunk in the centre. Length 44 mm, maximum width 16 mm.

SF 566. WB (12) F2. Robber trench. Small pottery counter made from a wall sherd of a greyware vessel. The edge is smooth. Diameter 33.5 mm, thickness 5 mm.

Table 1.62 Garrison Urban Village: contexts from the circus producing iron nails and hobnails. N…nails; H…hobnails.

Area	SF	Find	Feature/ Layer	Context description and date	N /H
From gravelled surface around perimeter					
C1	-	175	CF78	compacted gravel surface	N
C1	-	181	CF91	compacted gravel surface	N
C2	-	434	CF124	surface of stone chips	N
C2	121, 155	398	CF159	metalled surface	H (70)
C2	-	439	CL22	accumulation	N
JE	-	378	JEL7	metalled surface	N
Demolition of outer wall of *cavea*					
Area	SF	Find	Feature/ Layer	Context description and date	N /H
C1	-	148, 156, 167	CL18	demolition material	N
C2	-	299, 397	CL21	occupation	N
C2	-	115	CF34	spread of building material/demolition debris	N
Robber trenches and associated robbing debris					
Area	SF	Find	Feature/ Layer	Context description and date	N /H
C1	-	141	F6 sx 1	robber trench	N
C2	-	220	CF107	robber trench	N
JE	-, 412, 429	15, 59, 64, 67, 71, 113, 174, 189, 195, 214, 217, 219, 222, 231, 234, 246, 252, 301, 303, 314, 323, 344, 349, 355, 362, 367	JEF5	robber trench	N
JE	446, 448, 449, 451, 452, 453, 554, 556, 560	182, 185 (16), 188, 200, 204, 231, 235, 358, 370	JEF5	robber trench	H
JE	-	52	JE5 sx 2	robber trench	N
JE	563	54	JE5 sx 2	robber trench	N , H
JE	-	108	JE5 sx 4	robber trench	N
JE	-	90	JE5 sx 7	robber trench	N
JE	-	109, 119	JE5 sx 13	robber trench	N
JE	-	148	JE5 sx 18	robber trench	N
JE	-	168	JE5 sx 20	robber trench	N
JE	-	139	JEF13/F26	robber trench	N
JE	-	123	JEF14	robber trench	N
JE	-	105	JEF35	robber trench?/rubble spread	N
JE	-	243, 275, 276, 279, 282, 289	JEL2	robbing debris	N
JE	445, 447, 450, 557, 558, 561	226, 275, 279, 284 (10), 290, 376	JEL2	robbing debris	H
JE	-	167, 305	JEL9	robbing debris	N
JE	-	224	JEL10	robbing debris	N
Other contexts					
Area	SF	Find	Feature/ Layer	Context description and date	N /H
C1	-	120	CF50	spread of ragstone	N
JE	-	158	JEF28	buttress	N
WB	-	6	WBF5	buttress	N

JE	559	389	L16		H
JE	-	8, 342	JEF4	pit	N

B: Objects residual in funerary features and other objects from Areas C2, J1 North and J1 South

The objects are listed by area, with no distinction made between those that were residual in funerary features and those from other contexts. Iron nails are listed in the site archive.

Areas C1 and C2 (Fig 1.75)

As on many excavated sites, but in strong contrast to the objects recovered from the circus (*see* above), dress accessories and toilet instruments are well represented in this small assemblage. Where datable they are generally of 1st or 2nd century date.

Two objects are of particular interest: a small iron wool comb and a lead tubular fitting (Fig 1.75, nos 4-5). Small wool combs appear to date to the late 1st or 2nd century and (so far) have only been found in Essex, with examples coming from Great Dunmow, Chelmsford, Harlow temple and Elms Farm at Heybridge (Wickenden 1988, pl 3; Wickenden 1992, fig 42, 1, pl 10; Hilary Major pers comm) As miniature objects they may be votive deposits, or they may imply a specialised use in preparing for spinning a fibre other than wool. The lead fitting is similar to one in Lyon Museum, probably originally from Sainte Colombe near Vienne (Rhône), which has been identified as a drain-cock from a water-pipe or water-tank (Cochet 2000, 214, no 10). It differs only in being made from a single piece of metal and in having a fully circular head. It is almost certainly linked to the water supply for the circus, either to the tanks in the *eurippus* or perhaps to others outside the arena that provided drinking water for both men and horses.

Fig 1.75, no 1. SF 36. C1 (183) L19. Roman trample. Colchester B derivative brooch, pin missing. The spring has ten coils. The semicircular side-wings have a groove at each end. The bow has cavetto mouldings flanking a grooved ridge containing a raised zigzag. Length 36 mm. Date-range AD 50-70.

Fig 1.75, no 2. SF 28. C1 (174) L19. Roman trample. Small copper-alloy plate brooch in the form of a six-pointed star, with extended points over the hinge and catchplate. The pin is missing. The face of the brooch is decorated with a field of blue enamel in which six white roundels (one missing), set at the base of each point, surround a larger central roundel, the enamel of which is corroded and the original colour uncertain. Length 26 mm, width 16 mm. There is a similar brooch, probably of 2nd-century date, from the sanctuary site on Nornour, Isles of Scilly (Hull 1968, fig 22, 211).

Fig 1.75, no 3. SF 157. C2 (511) F178. Roman pit. Two copper-alloy shafts, both 30 mm long. Corrosion has damaged the upper ends, but at least one is certainly original. That both pieces are the same length indicates that they shared a common use, perhaps as leather-working awls or similar piercing tools. They may have been fitted into wooden handles.

Fig 1.75, no 4. SF 156. C2 (497) F178. Roman pit. Small iron wool-comb, with the stumps of two end segments and only a few teeth on one side surviving, although several detached teeth were also found. Unlike full-sized wool combs, there is no sign on this example that any of the teeth or end segments were welded on to the central plate (eg as Major 1999, 102, no 27, pl. 23, fig. 71). Width of plate 49 mm, maximum length of surviving teeth 22 mm.

Fig 1.75, no 5. SF 161. C2 (536) F192. Roman pit. Lead tubular fitting from a piped water system. The tube is formed from a piece of rolled sheet with the edges soldered together, although the lower part of the seam has now split. A perforation about halfway down the tube may be original but the edges are now damaged. A more or less semicircular cap is soldered to the top. Length 49 mm, diameter 17 mm, cap diameter 35 mm.

SF 144. C2 (462) F175. Roman wall foundation (part of mausoleum). Fragment of pink marble veneer, here probably reused as building stone. Length 56 mm, 16 mm wide (incomplete), 21 mm thick.

SF 11. C2 (117) F47. Roman pit/ditch. Copper-alloy furniture nail with characteristic faceted plano-convex head. Length 27 mm.

SF 90. C2 (321) F143. Roman ditch/pit? Copper-alloy hairpin with two pairs of grooves forming cordons below a simple rounded head. Length 111 mm. The type belongs to Cool's early Roman Group 3A (1990, 154).

SF 158. C2 (510) F181, sx 2. Roman ditch. Long-handled copper-alloy toilet spoon (now in four pieces) with the upper part of the shaft bent at right angles. Length (bent) 52 mm, originally about 100 mm. The small round scoop is flat but projects at a slight angle to the shaft. Diameter 5 mm.

*SF 150. C2 (494) F192. Roman pit. Copper-alloy hairpin with a groove around the top of the slender shaft, which then narrows to a baluster shape below a small bead at the head. There is an exact parallel from Balkerne Lane, Colchester, which was recovered from cultivated soil containing a high proportion of residual material (CAR **2**, fig. 31, 508). Like SF 90 above, the form is included in Cool's Group 3A, which dates from the mid 1st century into the 2nd century (1990, 154).*

SF 225. C2 (662) F231, sx 1. Roman ring-ditch. Copper-alloy furniture nail with faceted plano-convex head. Length 27 mm.

SF 209. C2 (659) F235. Residual in burial fill (inhumation). Small fragment of iron sheet or strip, with one original straight edge. 38 by 14 mm.

C2 (697) F235. Residual in burial fill (inhumation). Iron hobnail, length 14 mm.

C2 (696) F236. Residual in burial fill (inhumation). Three iron hobnails: two complete, lengths 18 and 14 mm; one incomplete, length 10 mm.

*SF 54. C2 (225) F110. Roman pit. The upper part of a Type 1 bone hairpin, with plain conical head and tapering shaft, dating from the mid 1st into the 2nd century (CAR **2**, 20-1). Length 48 mm.*

SF 165. C2 (693) L27. Roman dump. Two very slender bone shaft fragments, probably from two separate objects (?hairpins). Lengths 42 and 24 mm.

SF 151. C2 (471) F178. Roman pit. Two fragments from the lower-stone of a rotary quern of Mayen lava, and some comminuted fragments. The surfaces are very worn but may be original. Total weight 779 g.

SF 229. C2 (470) F178. Roman pit. Three small fragments of lava quern. Total weight 1g

SF 228. C2 (516) F201. Roman ditch. Two small fragments of lava quern. Total weight 4g

SF 231. C2 (604) F224/F228. Residual in burial fill (inhumation). Very weathered fragment of Purbeck marble. 79 by 36 mm, 24 mm thick.

SF 234. C2 (788) F239. Residual inside pot C2 (675) in cremation burial. Fragment of lava quern. Weight 10 g.

Area J1 North (Fig 1.76)

General site and residual finds are not numerous on Area J1 North. The best represented dress accessories are hobnails, with several residual in both cremation and inhumation burials and 25, perhaps a whole shoe or pair of shoes, found in the early Roman quarry-pit JNF420. Many of the hobnails, nails and lamp fragments in this section may have originally been deposits in burials or pyre-related features that were disturbed by later activity on the site, a possibility strengthened by the high number of nails and hobnails residual in funerary features (*see* site archive). Toilet instruments are represented by a mirror fragment, and votive or amuletic objects by part of a bell (Fig 1.76, nos 2-3), both also possibly disturbed grave deposits. A fragment of a weathered Purbeck marble inscription (SF 473; Plate 1.38) from the fill of the cemetery boundary ditch would originally have been set up on a funerary monument.

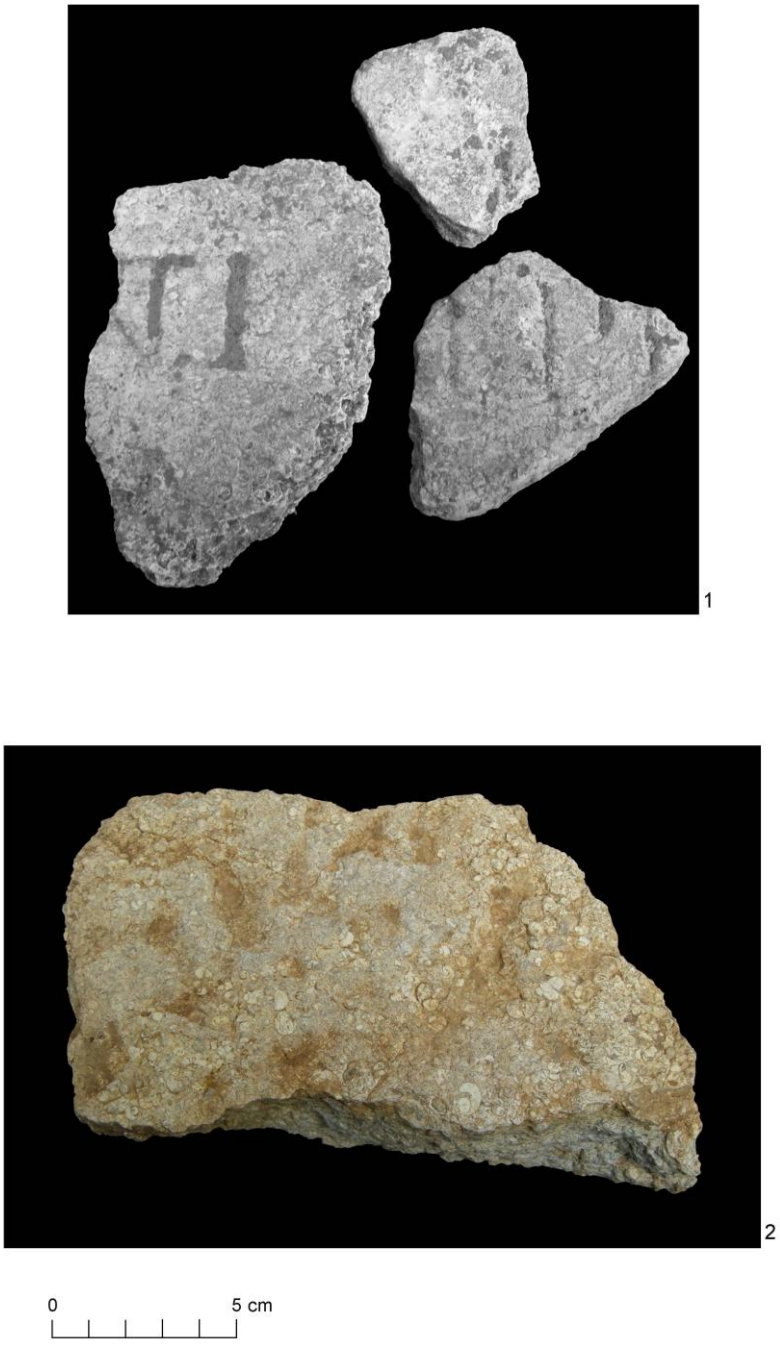

Plate 1.38 Purbeck marble. Above (no 1): fragments of inscribed Purbeck marble plaque from Area J1 North (SF 473). Below (no 2): fragment of a heavily weathered Purbeck marble slab from Area E (SF 5).

As with Area J1 East, the most important object from J1 North is a copper-alloy harness pendant residual in the fill of JNF366 (Fig 1.76, no 4). It is decorated by cut-outs that would have been filled by spangles, a distinctive form that is paralleled at the military site of Caerleon. Three similar pendants were found there, two damaged examples from the amphitheatre and a complete one from a gravel surface below a bedding layer for a floor in the basilica, possibly a votive deposit. The latter retains the spangles that dangled within the cut-outs; a single spangle survives from one of the amphitheatre pendants. Together the three give a date-range of the Hadrianic-Antonine period (Wheeler & Wheeler 1928, 168, no 44, fig 15; 169, no 5, pl 33, 5; Brewer 1986, 181, no 132; Chapman 2005, 151, Wd01-Wd03). All three have a short suspension loop, but a related pendant from London was fitted with only one central spangle, and has a longer suspension loop, which was attached to a medallion on a chain (Wheeler 1930, fig. 37, 1). The Colchester pendant almost certainly relates to the nearby circus and the grave lay not far to the west of the starting gates.

Fig 1.76, no 1. SF 347. JN (899) F395. Residual in burial fill (inhumation). Fragment of a Colchester BB derivative brooch, consisting of the spring, chord, head and upper bow. The latter has a central groove beginning immediately below the vestigial crest, a characteristic of BB derivatives. Length 13 mm. Date range c AD 65-80.

Fig 1.76, no 2. SF 333. JN (514) F241. Probably residual in burial fill (inhumation). Small fragment of a circular mirror of high-tin bronze of Lloyd-Morgans' Type K, which dates from the mid 1st century into the 2nd century, although the later examples may be survivals in use or residual fragments, as with the piece in JNF241 (1981, 490-56; Musty et al 1973, 278-81). The rim has a decorative band of perforations. On the reflecting side there are three shallow incised lines just inside this band, the central one broader and knurled. On the reverse there is also group of lines close to the rim, and another group set further in towards the centre. Diameter approximately 164 mm. Also two tiny fragments of the rim.
A product of the Nijmegen mirror workshops in the Netherlands, the mirror is part of a group that has a wide distribution across Britain, from Essex to Glamorgan and Kent to Northumberland. The highest concentration is a group of seven examples from Essex, with the Garrison fragment being the sixth Type K from Colchester; the seventh from the county is from a burial at Billericay (Lloyd-Morgan & Crummy 2001). With only one recorded from London (Lloyd-Morgan 1977, 244-8), it appears that the new colonia was the point of entry for the trade in the 50s AD and may have continued to be so even after the Boudican revolt.

Fig 1.76, no 3. SF 345. JN (147) F10, sx 4. Roman ditch. Fragment of a bell of high-tin bronze, with lathe-turned grooves on the outer face. Height (incomplete) 36 mm, maximum surviving diameter 42 mm.

Fig 1.76, no 4. SF 354. JN (814) F366. Surface find or intrusive in burial fill (inhumation). Copper-alloy harness pendant with broken flat shaft rising from the top and three cut-outs, above each of which is a small hole. Length 71 mm, diameter 40 mm.

Fig 1.76, no 5. SF 375. JN (195) F98. Roman pit. The discus with parts of the nozzle and handle of a factory lamp of Loeschcke Type IX with closed channel (1919, 256). The fabric is buff and hard, with traces of red slip. There are two rudimentary lugs on the shoulder. Length 79 mm, diameter 43.5 mm.

SF 473. JN (1070) F502. Lower fill of cemetery boundary ditch. Fragments of a weathered Purbeck marble plaque, three inscribed, and also a fragment of cream/white limestone formed from very much smaller shells invisible to the naked eye. The Purbeck marble fragments are thin, no more than 26 mm thick, while the piece of pale limestone is very weathered, has no worked surfaces, and is 52 mm thick. The former would presumably have been inserted into or attached to a wall or tombstone of some other material, while the latter is probably building rubble, perhaps reused. Mark Hassall has provided readings of the inscribed fragments: a) 75 by 116 mm, reads […]NTI (the N and T are ligatured) | […] N; b) 70 by 65 mm, reads […]TPI […], presumably t(estamento) p(oni) i(ussit), …left instructions in his will for this to be set up; c) 50 by 60 mm, reads N[…] (Tomlin & Hassall 2006, 457, fig.1).

SF 503. JN (503) F10, sx 4. Roman ditch. Copper-alloy escutcheon from a key-hole, with long central cut-out with rounded ends. There is a nail hole in each corner and one in the centre of each side; only part of one iron corner nail survives. Length 53 mm, width 30 mm.

SF 313. JN (506) F10, sx 4. Roman ditch. Copper-alloy twisted strip, probably an offcut from metal-working. Length 32 mm, width 4 mm.

SF 315. JN (505) F10, sx 4. Roman ditch. Curved elongated oval copper-alloy sheet fragment, probably an offcut. Length 69 mm, width 16.5 mm.

SF 346. JN (500) F10. Roman ditch. Amorphous copper-alloy lump, probably pyre or metal-working debris. 11 by 12 by 6 mm.

SF 326. JN (302) F137. Residual in burial fill (inhumation). Copper-alloy sheet fragment. 15 by 2 mm.

SF 341. JN (740) L2. Modern subsoil. Copper-alloy stud with flat round head with raised rim and central mouldings. The underside is hollow and the shank projects only very slightly beyond the rim. Roman. Diameter 27 mm, length 9.5 mm.

SF 476. JN (381) F20. Roman ditch. Iron corner braces from a wooden box. One is complete, only fragments remain of a second. The complete specimen has a nail in each rounded terminal, one is clenched, the other not. Length of arms 185 and 118 mm; length of nails 44 mm and 15 mm (bent).

SF 359. JN (571) F10. Roman ditch. Curved iron shank or loop fragment, length 34 mm.

SF 531. JN (1189) F76. Residual in burial fill (inhumation). Iron hobnail: ei) complete, length 13 mm.

JN (427) (1292/SF 482) (1356) F154. Residual in burial fill (cremation). Five iron hobnails.

SF 472. JN (1225) F286. Residual in burial fill (inhumation). Iron hobnails.

SF 468. JN (922) F325. Residual in burial fill (cremation). Iron hobnails.

JN (1255) F368. Residual in burial fill (cremation). Two iron hobnails.

JN (1064) F420. Early Roman quarry-pit. Iron hobnail.

SF 547. JN (1175) F420. Early Roman quarry-pit. Iron hobnail.

SF 467. JN (1176) F420. Early Roman quarry-pit. Twenty-four iron hobnails.

SF 580. JN (499) F10. Roman ditch. Wall/base sherd from a ceramic picture lamp, with characteristic terminal from the volute below the shoulder.

SF 387. JN (507) F10. Roman ditch. Opaque blue glass biconical bead. Length 5 mm, diameter 7.5 mm.

SF 581. JN (1008) F453. Residual in burial fill (inhumation). Small fragment of Hertfordshire Puddingstone from a rotary quern. Weight 68 g.

SF 481. JN (1289) F473. Residual in burial fill (inhumation). Iron hobnails.

Area J1 South (Figs 1.77-1.78)

This small group of objects includes two found together in a ditch – some shears lacking their blades and a large key. The shears had iron blades and, most unusually, a copper-alloy spring-loop. This construction may mean that the copper-alloy loop is a repair, or it may be an indication of specialised use. Without the blades the overall size of the shears is uncertain, but the size of the loop and the use of copper alloy indicates that they were small and so could be barber's shears (Manning 1985, 34; Boon 1991). The key is a substantial tumbler-lock slide type, with copper-alloy handle and iron bit. The proximity of these two objects in the ground may mean that they were some form of placed deposit.

A post-medieval pipeclay figurine of a bishop adds to the number of such objects now known from the town, including a second priest, again possibly a bishop (*CAR* **5**, fig. 53, 2113). Where they can be dated by either costume or context, many such figurines belong to the 17th century, such as several figures of gentlemen from London, Jamaica and Maryland, USA, and of dogs from Colchester (Weinstein 1984; *CAR* **5**, fig. 53, 2114-15).

Fig 1.77, no 1. SF 395. JS (12) F5. Roman ditch. Copper-alloy Bagendon brooch, lacking the end of the foot, the catchplate and the pin. Length 43.5 mm. The iron axial bar has knobbed ends, perhaps originally fitted with copper-alloy caps. The bow is divided and is fitted with three transverse iron pins; the lower one has a copper-alloy loop wrapped around it. There are transverse mouldings on the head and between the bow and foot. Date range c 43-60/1. The type is misnamed, as it is not British but a continental-made derivative of the Aucissa brooch associated with the Roman army.

Fig 1.77, no 2. SF 463. JS (43) F2, sx 6. Roman ditch. Tumbler-lock slide key, with iron bit and copper-alloy handle. The handle is plain apart from a double moulding all around the bottom and on the sides at the top; it is topped by a stout loop. Length 87 mm.

Fig 1.77, no 3. SF 464. JS (42) F2, sx 6. Roman ditch. Composite shears, with copper-alloy spring-loop and iron blades; only the loop and small parts of the blades remain. Copper-alloy bands were used to attach the loop to the blades, and the tight copper-alloy coils at the base of the loop probably acted as stops to prevent too much pressure being exerted upon it. Surviving length 71 mm.

Fig 1.78. SF 404. JS 32 F10. Roman amphora burial, disturbed by post-medieval pit. Post-medieval pipeclay figurine of a bishop, identifiable by the crook of a crozier resting against the right shoulder. The head and shoulders are missing and the base is damaged. The figure wears a long outer garment with

fine grooves indicating a deep fringed hem. The neck of the garment sweeps low around the upper arms and chest and has two long tassels falling to below the waist. Folds of cloth and a short tassel at the back show that it was hooded. The arms and hands are held within the garment. Height 49 mm, width 22 mm.

SF 396. JS (15) F1. Roman ditch. Copper-alloy stud with low conical head and riveted shank. Length 10 mm, head diameter 14 mm.

SF 401. JS (27) F5. Roman ditch. Fragment of sheet copper-alloy. 13 by 13 mm.

SF 564. JS (44) F2. Roman ditch. Iron curved strip, tapering to a point. Length 59 mm, maximum width 21 mm.

SF 405. JS (25) F5. Roman ditch. Fragment of Millstone Grit from a rotary quernstone, with two straight worked edges indicating reuse, probably as building stone. The edges are neither contiguous nor parallel. 159 by 170 mm, maximum thickness 55 mm.

SF 406. JS (84) F5. Roman ditch. Curved fragment of gritstone with well-worn external and internal surfaces but of irregular thickness. Possibly part of a prehistoric saddle quern. Maximum dimensions 152 by 73 mm.

Watching brief

A small group of fired clay fragments and a copper-alloy stud shank were found in a Late Bronze Age during the watching brief. The largest ceramic fragment has the differential colouring and vegetable tempering of a loomweight, but the pieces are very soft and may instead be structural clay from a kiln or oven.

SF 584. WB (20) F25. Late Bronze Age pit. 1) Seven fragments and several very small pieces of abraded ?fired clay. Total weight 128g. 2) Cylindrical fragment of hard fired clay with a central perforation. The section is ovoid, maximum diameter 30 mm, length 41 mm; diameter of perforation 5 mm. Weight 26g.

SF 583. WB (21) F25. Late Bronze Age pit. Copper-alloy stud shank fragment. Length 15 mm.

C: Objects from Areas E and Q (Table 1.63; Fig 1.79)

The assemblages from these two areas are too small to show markedly individual characteristics. However, this lack of character conforms to a wider pattern for many rural sites, even where they are, as here, not far from a Roman town. They tend not to produce many dress accessories or other small personalia such as toilet instruments, and in general copper-alloy and bone items are quite rare. Instead ironwork and stone objects predominate, the latter often consisting principally of tools such as hones, or of quernstones. This emphasises the working nature of such sites, with the nails (Table 1.63) and other iron fittings recovered probably deriving from fences, gates or farm vehicles, and hand-driven rotary querns representing the daily grinding of grain for basic foodstuffs such as porridge or bread. The small quernstone fragments recovered here from both areas probably also indicate the potential for reuse of broken stones, which might be used as rudimentary pestles, polishing stones, or hardcore, and could travel some distance from their original point of use.

Against this general background pattern of deposition, the presence of an iron stylus in posthole EF16 is strikingly different. Lacking its eraser, it can be seen as discarded rubbish, with its original use related to the keeping of farm records for tax or general management purposes, but the possibility that it relates to the ritual practice of depositing an *ex voto* in a foundation may also be appropriate here, particularly as styli were found in considerable numbers in the Middle Walbrook votive assemblage in London (Merrifield 1987, 26-7).

Area E

Fig 1.79, no 1. E (12) F16. Roman posthole. Iron stylus with long shouldered point; the eraser is missing. Length 99 mm.

1.79, no 2. SF 2. E (9) F13. Roman enclosure ditch. Narrow copper-alloy strip, doubled over for a short distance at one end; the other end is bent at right angles and has a hooked tip. Length 31.5 mm, 2.5 mm thick at the centre. Similar strips were used in the Saxon period to repair wooden vessels, and this object may have served the same purpose.

Plate 1.38, no 2. SF 5. E (40) F10. Roman enclosure ditch. Fragment of a heavily weathered Purbeck marble slab, the surface covered with random pitting and grooving. No original edges survive. Maximum dimensions 160 by 109 mm, 52 mm thick.

E (3) F10. Roman enclosure ditch. Iron joiner's dog; the ends of the arms are missing. Width 37 mm, length 28 mm.

SF 1. E (31) F13. Roman enclosure ditch. Bone shaft fragment, probably from a hairpin or needle. Length 49 mm.

E (8) F13. Roman enclosure ditch. Fragment of weathered tufa, with one right-angled corner the only sign of working. 92 by 59 by 41 mm.

SF 4. E (46) F22. Roman enclosure ditch. Fragment from a micaceous sandstone hone, with one face more worn than the others. One end is original. Length 40 mm, section 21 by 23 mm.

SF 6. E (38) F24. Roman field boundary ditch. Many small fragments of Mayen lava plus tiny comminuted fragments and powder. Total weight 295g.

Table 1.63 Garrison Urban Village: iron nails from Area E.

SF no	Find no	Feature/ Layer no	Context description and date	Description and length (mm)
-	E18	F4	robber trench; Roman	1 x complete, clenched, 65
-	E6	F13	enclosure ditch; Roman	8 x complete, 64, 59 x 2, 47, 46, 44, 42, 41; 2 x complete, clenched, 55, 51; 3 x incomplete, 37, 36, 33; 3 x shank fragments, 67 (clenched), 50, 30
-	E30	F13	enclosure ditch; Roman	5 x complete, 70, 64, 57, 56, 52; 1 x incomplete, 18; 1 x shank fragment, 13
3	E39	F24	field boundary ditch; Roman	1 x clenched, 44
-	E37	F24	field boundary ditch; Roman	1 x complete, 50
-	E19	L2	Subsoil; Roman	1 x complete, 43, 35, 30

Table 1.64 Garrison Urban Village: the hoard of denarii from Area J1 South, JSF5, (JS11). Identifications were provided by the British Museum under the Portable Antiquities Scheme. Dates are AD unless stated otherwise. Coin periods are those defined by Reece (1995, table 1; 2002, 145).

SF no	Identification	Date	Reference	No in PAS report to HM Coroner	Diameter (mm)	Weight (g)	Coin Period
248	Q Curtius, obv. head of Roma, rev. Jupiter in quadriga	116-15 BC	RRC 285/2	1	18	3.37	1
276	Postumius Albinus, obv. head of Hispana, rev. togate figure between standard and *fasces*	81 BC	RRC 372/2	2	19	3.24	1
281	C Julius Caesar, obv. priestly implements, rev. elephant	49-48 BC	RRC 443/1	3	17	3.34	1
286	C Julius Caesar, obv. head of Venus, rev. Aeneas carrying Anchises	47-43 BC	RRC 458/1	4	19	3.28	1
278	M Antonius, obv. galley, rev. eagle and standards (legion uncertain)	31-30 BC	RRC 544/?	5	17.5	2.74	1
296	Octavian Caesar, obv. bust of Victory, rev. *Caesar Divi F*, Neptune with foot on globe	31-29 BC	RIC 256	6	19.5	3.34	1
268	Nero, rev. *Salus*, Salus seated right	64-8	RIC 72	7	18.5	3.24	3
301	Galba, rev. *Diva Augusta*, Livia standing left, holding patera and sceptre	68-9	RIC 186	8	18	3.07	4
285	Vespasian, rev. *COS ITER TR POT*, Pax seated left holding branch and caduceus	69-79	RIC 10	9	17.5	2.63	4
269	Vespasian, rev. *COS VI[I]* in field, eagle on cippius, head left	69-79	RIC 89/99	10	17	2.79	4
297	Titus(?), rev. *Annona Aug*, Annona seated left	79-81	RIC as 218	11	19	2.23	4
266	Domitian, rev. *IMP XIIII COS IIII CENS P P P*, Minerva on prow, right, with javelin and shield	81-96	RIC 108a	12	19.5	3.27	4
284	Domitian, rev. *[IMP] X[XI] COS XIIII CENS P [P P]*, Minerva standing left	81-96	RIC 145?	13	19.5	2.75	4
260	Domitian, rev. *IMP XXII COS XVII CENS P P P*, Minerva, right, with javelin and shield	81-96	RIC 186	14	19.5	2.91	4
277	Nerva, rev. *Fortuna August*, Fortuna standing left, holding rudder and cornucopia	96-98	RIC 4	15	18	3.09	5
264	Nerva, rev. *Fortuna August*, Fortuna standing left, holding rudder and cornucopia	96-98	RIC 28	16	17	3.08	5
265	Trajan, rev. *PONT MAX TR POT COS II*, Victory seated left holding patera and palm	98-117	RIC 22	17	17	2.81	5
258	Trajan, rev. *PONT MAX TR POT COS II*, Victory seated left holding patera and palm	98-117	RIC 12	18	17	2.44	5
273	Trajan, rev. *PM TR P COS IIII P P*, Victory facing, wings spread, holding wreath and palm	98-117	RIC 58	19	18	2.40	5
267	Trajan, rev. *COS V P P S P Q R OPTIMO PRINC*, Aequitas standing left holding scales and cornucopiae	98-117	RIC 118 variant	20	18.5	3.12	5
270	Trajan, rev. *COS V P P S P Q R OPTIMO PRINC / DAC CAP* in exergue, Dacia seated left on pile of arms	98-117	RIC 96	21	18.5	2.79	5
298	Trajan, rev. *S P Q R OPTIMO PRINCIPI*, Aequitas standing left holding	98-117	RIC 169	22	18	2.88	5

	scales and cornucopiae						
280	Trajan, rev. *COS V P P S P Q R OPTIMO PRINC*, Roma seated left	98-117	RIC 116	23	19.5	3.09	5
274	Trajan, rev. *S P Q R OPTIMO PRINCIPI*, Aequitas standing left holding scales and cornucopiae	98-117	RIC 174	24	18.5	3.06	5
282	Trajan, rev. *COS V P P S P Q R OPTIMO PRINC*, Felicitas standing left	98-117	RIC 121	25	19	2.78	5
283	Trajan, rev. *COS V P P S P Q R OPTIMO PRINC*, Roma seated left	98-117	RIC 116	26	19	2.64	5
252	Trajan, rev. *[C]O[S] V P P S P [Q R OPTIMO] PRINC*, seated female, probably Aequitas	98-117	RIC as 119	27	19	1.95	5
257	Trajan, rev. *COS V P P S P Q R OPTIMO PRINC*, Aequitas standing left holding scales and cornucopiae	98-117	RIC 118 variant	28	17.5	2.99	5
253	Trajan, rev. *COS [V?] P P [S P Q R OPTIMO PRINC]*, Victory standing left	98-117	RIC as 128 etc	29	18.5	1.85	5
272	Trajan, rev. *S P Q R OPTIMO PRINCIPI*, reclining woman	98-117	RIC 266	30	18	2.67	5
249	Trajan, rev. *S P Q R OPTIMO PRINCIPI*, standing female holding cornucopiae, possibly Felicitas	98-117	RIC ?271	31	19	2.86	5
300	Trajan, rev. *S P Q R OPTIMO PRINCIPI / ARAB ADQ*, Arabia holding branch, camel at feet	98-117	RIC 245	32	19	2.93	5
263	Trajan, rev. *PM TR P COS VI P P S P Q R*, Genius standing facing with patera and corn-ears	98-117	RIC 347	33	18	2.97	5
254	Trajan, rev. *PARTHICO P M TR P COS VI P P S P Q R*, Felicitas standing left	98-117	RIC 332	34	19	2.86	5
279	Hadrian, rev. *PM TR P COS II / CONCORD*, Concordia seated left holding patera	117-38	RIC 39b	35	18	2.72	6
299	Hadrian, rev. *PM TR P COS II / IVSTITIA*, Justitia seated left holding patera and sceptre	117-38	RIC 42	36	19.5	2.62	5
251	Hadrian, rev. *PM TR P COS III*, Aeternitas standing holding heads of sun and moon	117-38	RIC 81	37	19	2.78	6
256	Hadrian, rev. *PM TR P COS III*, Roma seated left holding Victory and spear	117-38	RIC 78	38	18	2.88	6
259	Hadrian, rev. *PM TR P COS III*, Roma seated left holding Victory and spear, shield behind	117-38	RIC 77	39	19	2.79	6
250	Hadrian, rev. *PM TR P COS III / LIB PVB*, Libertas seated left	117-38	RIC 127b	40	18	2.74	6
255	Hadrian, *PM TR P COS III*, Fortuna standing left holding rudder and cornucopiae, leaning on column	117-38	RIC 86	41	18	2.45	6
271	Hadrian, rev. *PM TR P COS III / SALVS AUG* in exergue, Salus seated left feeding snake rising from altar	117-38	RIC 137c	42	20	2.47	6
275	Hadrian, rev. *PM TR P COS III*, Roma seated left holding Victory and spear	117-38	RIC 78	43	18	2.88	6

Area Q

SF 27. Q (27) F29. Roman field boundary ditch. Copper-alloy round-section ring, in fragments; probably modern. Diameter 76 mm, section diameter 6.5 mm.

SF 579. Q (71) F29. Roman field boundary ditch. Large D-shaped tile fragment, the curved side deliberately shaped and worn. The underside is irregularly convex. 89 by 78 mm, maximum thickness 23 mm.

SF 237. Q (34) F29. Roman field boundary ditch. Fragment of the upper stone of a rotary quern made from Hertfordshire puddingstone. The only original surfaces are a small part of the grinding surface and part of the hopper hole. The hole's figure-of-eight shape shows that it was drilled into the stone from both faces. Surviving height 79 mm.

The coins

The coins fall into five groups: A) a coin hoard from Area J1 South; B) the coins from the circus; C) the coins residual in the burials and the general site finds from all areas; D) the coins deliberately placed as grave deposits in burials or other funerary features on Areas C2 and J1 North; and E) the unstratified coins, mostly modern. Group E is listed in Appendix 1.7 and not further considered here. Group D is dealt with in the discussion of the burial deposits and is listed in Tables 1.55 and 1.60. The remaining groups are covered by this report.

A: the coin hoard (Tables 1.64-65)

A hoard of 43 *denarii* was found on Area J1 South in the fill of a roadside ditch that probably started to silt up sometime in the 2nd century. The coins range in date from the 1st century BC to the early 2nd century. Their details are given in Table 1.64 and summarised in Table 1.65. The earliest coins consists of five Roman Republican *denarii* and one of Augustus, but there are no issues of Tiberius, Gaius Caligula or Claudius. The earliest post-conquest issue present is Neronian, and from then on the successive emperors, apart from Otho and Vitellius from the period of the civil war in AD 68-9, are all represented, concluding with nine issues of Hadrian. Seven of the latter were minted between AD 117 and 122, which provides the closure date. The period between closure and deposition cannot be estimated precisely, but need not have been long.

In composition the hoard resembles others composed of *denarii* that were closed in the reign of Hadrian, with the same gap from Tiberius to Claudius (Robertson 2000, nos 131-2, 135, 145, 147, 154, 165.). This no doubt reflects the silver in circulation and available for collection in Britain when the hoard was formed, with Republican issues more frequent than those of the early 1st century AD.

Table 1.65 Garrison Urban Village: summary of coin hoard from Area JS.

Republic	5
Augustus	1
Nero	1
Galba	1
Vespasian	2
Titus	1
Domitian	3
Nerva	2
Trajan	18
Hadrian	9
Total	

Table 1.66 Garrison Urban Village: coins from the circus. Dates are AD. Coin periods are those defined by Reece (1995, table 1; 2002, 145).

Area C1

SF	Find	Feature	Context description	Identification	Date	Reference	Diameter (mm)	Weight (g)	Coin Period
2	13	F6	demolished circus wall	Tetricus II, *antoninianus*, obv. double struck (at 180°), rev. *Pax Aug*	270-3	as RIC 247	18.5	2.29	13

Area C2

SF	Find	Feature	Context description	Identification	Date	Reference	Diameter (mm)	Weight (g)	Coin Period
52	206	F107	robbed circus wall	Hadrian, *as*, rev. standing female	117-38	-	24	11.31	6
53	210			Gallienus, antoninianus, rev. Virtus	253-68	-	17	2.46	12/13
76	277			Salonina, antoninianus, rev. Iuno Regina	260-8	RIC 13	22.5	2.64	13

Area JE

SF	Find	Feature	Context description	Identification	Date	Reference	Diameter (mm)	Weight (g)	Coin Period
421	142	F5	robber trench (of outer wall of the circus)	barbarous radiate, obv. Tetricus I, rev. uncertain	270-90	-	18.5	1.73	14

B: the coins from the circus (Table 1.66)

Very few coins were recovered from the circus, with only one from the demolition debris and four from the robber trenches. The latter, all 2nd and 3rd century issues, are residual. The first is a double-struck *antoninianus* of Tetricus II, minted between AD 270-3. It provides a *terminus post quem* for the demolition of the circus walls, which may have taken place sometime in the last third of the 3rd century or perhaps the early years of the 4th.

C: the coins from non-funerary and non-circus contexts on Areas C1, C2, J1 North and J1 South (Table 1.67)

The coins are too few in number and too scattered for any analysis, using the methods defined by Reece (1995), to be of value in the interpretation of the site. Several are unstratified or from modern contexts. They range in date from the 1st century BC to Charles I (1625-49), and later post-medieval coins are listed in the site archive.

Two coins on Area J1 North were residual in inhumation burials. Both are 1st century, a *dupondius* of Germanicus and an *as* of Vespasian, and both may be displaced burial deposits.

Only four 4th century coins were recovered: one of the House of Constantine from quarry-pit JNF257, a House of Valentinian issue from modern subsoil on Area J1 North and another unstratified on Area C2, and an unstratified half-*siliqua* of Honorius (393-402+), rare as a site find, on Area C1. This low number, compared to the numerous quantities found in dark earth deposits on sites in the town and immediately adjacent suburbs, indicates that the area saw little activity other than for burials towards the end of the Roman period.

Table 1.67 Garrison Urban Village: coins from non-funerary and non-circus contexts on Areas C1, C2 and JN. Dates are all AD. Coin periods are those defined by Reece (1995, table 1; 2002, 145).

SF	Area	Find	Layer/ feature	Context description	Context date	Identification	Date	Reference	Diameter (mm)	Weight (g)	Coin period
4	C1	37	u/s	-	-	Postumus, antoninianus, rev. Herc Pacifero	259-268	RIC 67	22	3.65	13
1	C1	5	u/s	-	-	Honorius, half-siliqua, rev. Victoria Avggg	393-402+	-	14	0.63	21
91	C2	332	F143	ditch/pit?	early C2nd-C4th	Claudius I, *as*, rev. Minerva	41-54	copy as RIC 100	28.5	9.39	2
145	C2	457	F179	pit	Roman	illegible *as*	1st-2nd century	-	24	5.02	-
51	C2	184	L2	subsoil	modern	Hadrian, *sestertius*, very worn	117-38	-	31	21.70	6
77	C2	278	u/s	-	-	cut half coin; House of Valentinian, rev. *Gloria Romanorum*	364 – 78	-	17.5	1.32	19
212	C2	668	u/s	-	-	Mark Antony, *denarius*, very worn, obv. galley, rev. illegible	31-30 BC	RRC 544/8	17	2.90	1
504	J	J	u/s md	-	-	French jeton b) folded jeton, ?French	a) *c* 1400 b) late medieval-early post-medieval	a) as Michiner 285 b) -	a) 23 b) 25.5	a) 1.51 b) 2.58	-
505	J	J	u/s md	-	-	a) Charles I, halfpenny, very worn b) Mary, groat, portrait defaced by punched marks and scratchs, now invisible	a) 1625-49 b) 1553-4	a) - b) -	a) 15 b) 24	a) 0.37 b) 1.97	- -
506	J	J	u/s md	-	-	Trajan, *as*, rev. illegible	98-117	-	25	5.54	5
321	JN	283	F2	quarry pit	Roman	Nerva, denarius, rev. Aequitas Aug	96-8	as RIC 1 but Aug on rev. legend	18	2.49	5

SF	Area	Find	Layer/ feature	Context description	Context date	Identification	Date	Reference	Diameter (mm)	Weight (g)	Coin period
314	JN	572	F10	ditch	Roman	Republican *denarius*, obv. ?bare head right, rev. biga	1st century BC	-	16	2.82	1
322	JN	604	F257	quarry pit	Roman	part of circumference deliberately chipped off; House of Constantine, rev. *Gloria Exercitus*, 2 standards	330-5	-	17	0.98	17
262	JN	515	F351	residual in inhumation burial	Roman	Germanicus, dupondius, rev. Signis Recept Devictis Germ	37-41	RIC (Caligula) 93	29.5	13.61	1
325	JN	985	F419	quarry pit	Roman	Faustina II, *sestertius*, rev. Diana	146-61	as RIC (AP) 2180	31	23.46	7
317	JN	986	F420	quarry pit	Roman	Commodus, *sestertius*, rev. *Salus*	180-92	RIC 474	31.5	19.65	9
348	JN	1013	F452	residual in inhumation burial	Roman	Vespasian, *as*, rev. *Aequitas Augusti* (S of *Augusti* is retrograde)	71-2	RIC 600	28	9.00	4
576	JN	1093	F501	road ditch	Roman	Faustina II, *as*, rev. *Felicitas*	146-61	as RIC (AP) 2187	26.5	7.33	7
361	JN	1006	F207	service trench	modern	illegible	3rd-4th century	-	14.5	1.71	-
340	JN	27	L2	subsoil	modern	Claudius I, *as*, rev.	41-54	copy as RIC 100	26.5	6.07	2
339	JN	739				?House of Valentinian,	364-78?	-	13	0.73	19
336	JN	1117	u/s	-	-	fragment; Claudius II, rev. *Consecratio*, eagle	270	as RIC 266	11	0.41	13
398	JS	1	F2	ditch	Roman	illegible *as*	1st-2nd century	-	26.5	7.72	-
400	JS	56	F5	ditch	Roman	Trajan, *as*, rev. female	98-117	As RIC p. 151*	26	9.21	5
399	JS	60				Trajan, as,	1st-2nd	as RIC	25	6.41	5
397	JS	69				illegible *as*	1st-2nd	-	26	7.41	-
Unstratified											
585	TT6	3	L2	-	-	Gallienus, *antoninianus*, rev. *Dianae Cons Aug*, antelope	260-8	RIC 181	20	2.69	13

The leather

by Quita Mould

Summary and identification

An organic fragment SF370, believed to be leather, was found associated with the remains of a wooden box with metal fittings in a *bustum* from JNF61, Area J1 North. The leather fragment was recovered lying above a copper alloy lock plate, with small areas of wood, apparently from the box frame, lying on top of it. From studying the plan of the feature, the front board of the box appears to have fallen forward so that the back of the lock plate faced upward when excavated. The organic was preserved by proximity to the copper alloy. The organic material is raw hide, that is prepared animal hide (but not tanned leather); areas of grain pattern present indicate it to be bovine, probably cattle hide. The wet raw hide would have been placed on the wooden box frame, it shrunk on drying and set hard so helping to hold the box construction together. Raw hide has been commonly used to cover trunks and boxes to recent times for this very reason.

Context details received

JNF61 was a grave-shaped feature containing high levels of burning, with burnt sand around the edges and high levels of charcoal and over 500g of cremated bone within the feature itself. Above the cremated bone were found two pottery lamps and the remains of a wooden box. The wooden box included several copper alloy and iron fittings – from plan these can be seen to be large and smaller copper alloy rings (handles), a rectangular lock plate and a ?possible strap hasp or hinge, and iron nails. The piece of leather was recovered near to the copper alloy lock plate, possibly from the back of the lock plate. On the plan the leather can be seen lying on top of the lock plate with a fragment of wood lying on top of the leather. The visual evidence indicates that the surviving 'leather' was 'sandwiched' between the back of the copper alloy lock plate and the wooden box frame behind.

Description

Made from visual inspection under low powered magnification x10 and x20.

The fragment, 60mm long, 45mm wide and 0.5mm thick, is roughly rectangular in shape. It has two straight edges at a right angle, the corner of which is now missing, the other edges are broken. The two straight edges indicate that they lay directly below one corner of the lock plate and that the piece has survived because of the close proximity to the copper alloy. The piece is not flat but undulated. It is translucent in areas that are not blackened by scorching. The underside, concave face, has soil grains, small areas of wood and a rootlet present, with two small areas of copper alloy staining visible. The upper surface, convex face, appears scorched in areas. The remains of a grain pattern is present; the individual holes appear to be surrounded by a lighter coloured 'ring' around each hole (possibly from a 'fatty residue' produced as a result of intense heating). No hairs are present in the follicles indicating that they were removed during the initial hide processing. A series of small holes, random and varying slightly in size, is present running along one edge (left vertical side looking at the upper surface); they appear to be the result of insect infestation. Raw hide is particularly vulnerable to infestation when damp. A larger hole, no larger than 2mm in diameter, is present close to the upper edge on the left side. Though most of the hole is torn through, the surviving edge has a regular curve indicating it might have been pierced by a round-sectioned shank from a stud or nail.

Acknowledgements

The identification benefited from discussion with Roy Thomson who kindly provided a sample of modern raw hide for comparison.

The human bone

by Francesca Boghi

Introduction

Cremated human skeletal remains from 195 features and inhumed skeletal material from ninety-six features were received for analysis. The material derives from excavations carried out by CAT in 2004-5, which uncovered over 400 Roman burials. The burials were excavated on Areas C2, J1 and during a watching brief. A large late Roman cemetery area in use from mid 2nd to the 4th century, and divided into two distinct burial plots, was identified in Area C2 comprising both inhumation and cremation burials. Interestingly, the cremation rite appears to be intermixed with inhumation in the third century in this area (Pooley, *pers comm)*. Most of the inhumation burials contained either a coffin or associated grave goods. Two inhumation burials were contained within lead coffins. The presence of grave goods within the cremation burials varied from none to several pottery vessels and small finds. Atypically for a Roman town cemetery, ten barrow burials were also located within Burial Plot 1, possibly indicating a continental/Germanic influence. A probable mausoleum containing one inhumation burial was also located in Burial Plot 2. Another large Roman cemetery area in use from the 1st to the mid-late 3rd century and containing a total of 352 burials and burial related features was located in Area J1 North. Both inhumation and cremation rites appeared to have been used alongside throughout the period of use of the cemetery. A small burial plot including seven Roman burials and in use from the 2nd to the late 3rd/early 4th century was recorded in Area J1 South and three Roman burial pits containing pyre debris were recorded in Area J1 East (ibid).

The cremated bone

Methodology

The analysis of the cremated bone follows the guidelines drafted by McKinley (2004). The cremated bone was first analysed to determine whether it was human or non-human. The total weight of each assemblage was taken and then animal bone and inclusions were separated. The human bone was then dry-sieved through a stack of sieves with 10mm, 5mm and 2mm mesh sizes to maximise bone recovery and assess the degree of fragmentation. The identifiable bone fragments were divided into four skeletal areas – skull, axial skeleton, upper limb and lower limb – for further analysis, and bagged separately. A description of each feature, data on colour, degree of fragmentation, bone identification, age and sex determination and pathological conditions are available in Appendix 1.7.

Physical characteristics of the material

Sixteen boxes containing a total of 45123.5g (48866.5g with inclusions) of cremated human bone from 195 features was received for analysis. Features CF243 and JEF20 contained exclusively cremated animal bone

and feature JEF1 contained unburnt probably human bone and were therefore excluded from this analysis. Thirty features contained bone that was human in texture but that could not be positively identified as such and were therefore classified as probably human (human?). The bone contained in three features (CF146, CF190 and JNF59) could not be positively identified as either human or animal, due to the small quantity and heavily fragmented nature of the remains and the bone from these features was therefore classified as unidentified, giving a total of 159 features containing cremated human bone. The quantity of cremated bone per feature varied considerably from 0.9g to 1478g with an average weight of 235.4g (Table 1.68). The amount of bone was small (< 99g) in 100 features, medium (100-999g) in eighty-six features and large in five features (> 999g).

Table 1.68 Bone fragmentation.

	residue (%)	% of bone in the residue (visual estimate)	2mm (%)	5mm (%)	10mm (%)	max. fragment size (mm)	Total (g)
COUNT	81	81	192	192	192	192	192
MIN	0.2	40	0	0	0	9	0.9
MAX	33	90	61	100	100	147	1478
Mean	2.0	70.7	6.2	22.2	70.9	47.6	235.4
St. Dev.	4.8	8.4	10	21.9	24.4	24.7	312.6

The maximum fragment size ranged from 9mm to 147mm with an average of 47.6mm (Table 1.68). An assessment of the degree of fragmentation indicated that on average the vast majority (70.9%) of bone fragments was over 10mm in size. In the rest of the sample, 22.2% of bone fragments was 5mm and 6.2% of bone was on average 2mm in size (Table 1.68). The bone residue, which was present in eighty-one features was also found - by visual estimate - to contain on average a large proportion of bone (70.7%). For this reason the weight of the residue was included in the total weight.

The present sample was composed of seventy-one urned cremation burials, thirty-one unurned cremation burials, fifty-one assemblages of pyre debris, fifteen assemblages of cremated bone from inhumation graves, ten pyre sites/*busta*, one box cremation burial, two ring-ditches, two ditches, one amphora burial, two quarry-pits, five other pits and one posthole. Table 1.69 illustrates the weight of the bone according to context type.

Table 1.69 Assemblage weight according to context type.

Type	Count	Min	Max	Mean
Urned cremation burial	71	1	1478	473.4
Unurned cremation burial	31	8	686	167.5
Box cremation burial	1	-	-	572
Amphora cremation burial	1	-	-	8
Ring-ditch (containing a cremation burial and a disturbed cremation burial)	2	4	546	275
Pyre debris	51	0.9	475	57.4
Pyre site/*bustum*	10	0.9	440	145.5
Grave (baby burial)	1	-	-	229
Grave	14	0.9	207	29.9
Posthole	1	-	-	487
Quarry-pit	2	4	9	6.5
Pit	5	1	12	3.8
Ditch	2	1	14	7.5

The bone showed extensive evidence of dehydration such as fissuring, cracking both longitudinally and transversely and several long bones fragments were warped. Concentric fissuring was noticed on the articular surfaces.

The bone in the majority of assemblages (89.1%) was predominantly buff/white with small amounts of blue/grey areas. These were mainly shielded areas such as the medullary cavity of the long bones, the skull diploë and the cancellous bone. The predominant white colour indicates the full oxidisation of bone, which

occurs when a temperature in excess of 600° is reached. The bone from twenty-one features (10.9%) was incompletely oxidised as it included over 20% of blue/grey bone (indicative of a lower attained temperature) alongside simply charred bone and often a portion of fully oxidised bone. In three features (JNF21, JNF82 and JNF121) the lower extremities were notably less well oxidised than the rest of the body.

Biological anthropology

Identification

Fragments were considered identifiable when they could be attributed to a specific bone element rather than to a generic skeletal area. Identifiable bone was separated, quantified and classified into four skeletal areas: skull, axial skeleton, upper limb and lower limbs. It was possible to identify some skeletal elements in all but thirty-two features (16.7%). On average 26.1% of bone fragments could be identified (Table 1.70).

Table 1.70 Bone identification.

	% IDENTIFIED
N	192
MIN	0%
MAX	100%
Mean	26.1%
St. Dev.	21.6

As expected assemblage size and the degree of bone fragmentation played a part in the amount of bone that could be identified in each assemblage. The amount of bone that could be identified in each assemblage was directly proportional to the size of the assemblage and to the degree of fragmentation (Tables 1.71 and 1.72). On average the percentage of bone that could be identified grew from 23.9% in assemblages smaller than 100g to 41.9% in assemblages over 1000g (Table 1.71). Similarly the percentage of bone that could be identified increased from 2.8% in assemblages formed by under 30% of fragments over 10mm to 23.45 in assemblages which included over 70% of fragments over 10mm in size (Table 1.72).

Table 1.71 The effect of assemblage size over bone identification.

Size	Count	**Min**	Max	Mean	St. dev.
< 100g	100	0	100	23.9	26.1
100-499g	54	6.2	54.1	24.8	10.9
500-999g	32	8.1	74.7	30.5	15.6
>1000g	5	25.9	51.1	41.9	9.8

Table 1.72 The effect of fragment size over bone identification.

Fragments > 10mm (%)	Count	**Min**	Max	Mean	St. dev.
1-29%	5	0	7.7	2.8	3.8
30-69%	54	0	50	17.0	12.1
>70%	11	0	100	23.4	33.9

Bone elements from all four skeletal areas were identified in seventy-seven features (40.1%). With respect to the relative representation of skeletal areas, elements from the lower limbs were best represented, followed by the skull bones. Bones from the axial skeleton and upper limb fragments were the least represented. No axial bones were identified nor were visible in the unidentified portion of bone in three features (JNF103, JNF109 and JNF178). No skull bones were identified nor were visible in the unidentified

portion of bone in twelve features (JNF84, JNF109, JNF178, JNF253, JNF330, JNF332, JNF335, JNF348, JNF371, JNF372, JNF477, JNF496). No elements other than skull bones were found in JNF213.

Forty-eight features were excavated in spits in an attempt to ascertain whether the bone was distributed in a deliberate order, or whether it had been deposited randomly. No evidence for bone deposition in anatomical order was found in the vast majority of these features. A possible deposition in rough anatomical order was identified in only two features (JNF27 and JNF350).

Minimum number of individuals (MNI)

The minimum number of individuals was established according to the duplication of bone elements or if skeletons of different ages are represented in one feature. A minimum of 163 individuals were identified from 159 features containing cremated human bone, as four features contained bone elements from at least two individuals each. Feature JNF4, a probable pyre site contained bone elements from two adult individuals indicated by the duplication of the left mandibular condyle. Feature JNF114, an assemblage of pyre debris contained elements showing different developmental ages from one adult and one juvenile (0-5 years old). Urned cremation JNF325, contained elements from one adult and one juvenile (0-5 years old) and urned cremation JNF352 contained elements from two adults, one young adult female individual and one adult of indeterminate sex which were indicated by the duplication of several elements (left ischium, left distal humerus, left and right talus).

Age at death

Age at death was determined as in Buikstra and Ubelaker (1994) according to the rate of epiphyseal fusion combined with the morphology of the auricular surface (present in thirteen cases) and pubic simphysis (present in two cases) and the rate of suture closure of the cranial vault (present in thirty cases). The ageing of juvenile remains was based on metric and developmental data from Scheuer and Black (2000).

The estimation of age at death was difficult as most ageing features were unavailable. A total of 145 adults or probably adults were identified. Forty-seven individuals (32.4% of 145) were classified as probably adults (adults?) as indicated by the wall thickness of skull and long bones in the absence of any other more reliable age indicator. This category could mask the presence of adolescents. Sixty-two individuals (42.7%) were classified as adults (>20 years), generally based on the rate of epiphyseal fusion. A more precise indication of age at death could be obtained in thirty-six cases (24.8%). The group that could be aged more precisely was composed of thirteen young adults (20-35 years), twenty middle adults (35-50 years), two mid/old adults (>35 years), and one old adult (>50 years), and by eighteen juveniles. The juvenile group represented 11% of the assemblage and included ten 0-5 years olds, one 5-10 year old, two 10-15 year old, four 15-20 year olds and one individual below 20 years of age.

Determination of sex

Methods for sex determination in skeletal material rely on morphological and metric differences between male and female in body size, proportions, robusticity, development and different role in reproduction. The chosen criteria for sex determination included skull and pelvic morphology as in Buikstra and Ubelaker (1994). Metric criteria for sexing cremated material devised by Gejvall (1969) were also included. However, consistently with observations by McKinley (2000, 412) it was found that, in most cases, the overlap between male and female ranges was too great to achieve a determination of sex and that the necessary anatomical elements were difficult to identify. Overall, a determination of sex could be achieved in 24 adult individuals (25.5%) of adult individuals. This group was formed by eight females, two probable females, eleven males and three probable males.

Pathological changes

The incomplete and fragmented nature of cremated remains inevitably affects the diagnosis of pathological conditions. A detailed description of the pathological changes and prevalence rates according to the number of bone elements affected are given in the Appendix 1.7.

Arthritic changes in the spine consisting of lipping and macroporosity were noted in fifteen individuals. This type of change is age-progressive and very commonly diagnosed in skeletal material. Schmorl's nodes ie depressions caused by ageing and/or traumatic events were recorded six individuals.

Fourteen instances of non-specific infection were recorded in the cremated sample. Periostitis, ie infection of the periosteum, can occur secondary to soft tissue lesions with bacterial infection, repeated minor trauma, leg ulcers, varicose veins or through blood-stream spread.

Two individuals (JNF356 and JNF154) suffered a probable compression fracture of one or more vertebral bodies. Both a traumatic event such as a heavy fall on the feet or buttocks and underlying weakness of the spine due to osteoporosis can result in this type of fracture (Roberts and Manchester, 1995: 78).

Three instances of osteoarthritis of the hip, one of the elbow and three of the mandibular condyle were recorded in this sample. Osteo-arthritis is the result of one or more of these factors: ageing, injury, activity and genetic predisposition (Rogers and Waldron, 1995: 33).

Ante-mortem tooth loss was recorded in three individuals. Ante-mortem tooth loss may be caused by trauma, periodontal disease, continued eruption, extraction of carious teeth or to relieve acute periapical inflammation (abscesses). Periodontal disease was noted in two individuals. Periodontal disease is caused by inflammation of the gingival tissue, which results in the re-absorption of the alveolar bone exposing the roots of the affected teeth with the loss of the tooth in the most severe cases (Lukacs, 1989: 271).

Additional material

Inclusions of animal bone were found in thirty-four features. The bone was fully oxidised in most cases. Whole or part of animals carcasses had probably been placed on the pyre with the deceased as pyre goods and were selected later for inclusion in the grave. Unburnt animal bone was recorded in five instances and incompletely oxidised bone in one. Unburnt bone may be intrusive or may have been added during the burial process. Incomplete oxidisation may indicate that the animal remains had been placed on the pyre after the human remains or at the edges of the pyre, though it may just reflect differences in body size.

Summary and discussion

A total of 45123.5g of cremated human bone from 192 features was present in this sample. One hundred and fifty-nine features were found to contain human cremated remains, whilst the bone was probably human in thirty features and unidentified in three features. The quantity of cremated bone per feature varied considerably from 0.9g to 1478g with an average weight of 235.4g. The features in this sample appear incomplete in comparison to a modern cremation (1000–3600 g) (McKinley, 2000, 404), though (with the exception of those very disturbed and/or redeposited features) fall within the expected size range (57–3000g) for archaeological cremations (McKinley 2000, 408-409). The size of a cremation depends on the individual (age, sex, body size, bone density), the extent of bone recovery from the pyre site and during excavation, as well as on the rate of bone preservation (McKinley 1993, 285). All archaeological cremation burials (with the possible exception of *busta*) represent a partial collection (Mckinley 1998, 19). Cremations in containers are normally larger than those in pits and finely crushed cremations tend to be smaller due to poor preservation. Overall, the expected amount of bone was consistent with the type of context. As expected the average amount of bone within urned cremations (473.4g) was higher that that contained in cremation burials (167.5g). As also expected a comparatively small quantity of bone was found within pyre burials, burial pits containing pyre debris or redeposited within other types of contexts (inhumation graves, pits and ditches). A smaller than expected average amount of bone was found within the pyre sites/*busta* burials (145.5g) and the amphora burial (8g), though preservation and post-depositional factors may have played a role in the amount of bone actually recovered. A substantial amount of bone (487g) was found within a posthole (CF151), indicating that the inclusion of cremated bone in this context was probably deliberate.

The analysis of the degree of fragmentation showed that the maximum fragment size was on average of 47.6mm and that the vast majority (70.9%) of bone fragments were over 10mm in size. This figure was higher than that expected for archaeological cremations (50%) (McKinley 1994, 340). The average large

size of the fragments and the fact that the fractures largely occurred along fissure lines make it unlikely that the bone was deliberately crushed before burial.

Up to 41.9% of bone could be identified in the larger assemblages and on average 26.1% of bone fragments could be identified. This figure falls within the expected range (20-50%) of an archaeological cremation that is normally identifiable (McKinley 1989, 68). The collection of the cremated remains at the pyre site appears to have been meticulous enough to include bone elements from all four skeletal areas in over 40% of the features. With respect to the relative representation of skeletal areas, elements from the lower limbs and skull were best represented across the sample. The axial skeleton and upper limb bones were the least represented. These findings are likely to reflect the ease of identifying certain fragments of the skull and lower limbs with respect to bones from other areas as well as preservation factors affecting the more fragile upper limb and axial bones. A possible deliberate bias in the skeletal areas collected was however suspected in twelve features where no skull bones were identified nor appeared to be present in the unidentified portion of bone and in one feature where no elements other than skull bones were present.

Four features contained bone elements from at least two different individuals each. The remains found in two urned cremations (JNF325 and JNF352) probably represent deliberate double burials, whilst the bone from probable pyre site JNF4 and from JNF114, an assemblage of pyre debris, may derive from pyre sites used for more than one individual. Evidence for bone deposition in anatomical order was searched for in forty-eight features that were excavated in spits. A possible deposition in anatomical order was identified in only two features.

The estimation of precise age at death was difficult as most ageing features were unavailable. Forty-seven individuals were classified as probably adults (adults?) and sixty-two individuals were classified as adults (>20 years). A more precise indication of age at death could be obtained in fifty-four cases (28.1%). Mortality in the adult group that could be aged more precisely increased as expected with increasing age from the young adult to the middle adult group. There is however a marked absence of individuals in the old adult group (only one old adult). This result may in part be due to the general tendency to underage older adults using current ageing techniques combined with the difficulty of ageing very fragmentary material. Juveniles are slightly under-represented forming 11% of the sample. A juvenile mortality rate between 30-50% is to be expected in pre-industrial societies (White 1988, 30). As expected a large proportion of them was found in the 0-5 years age class where mortality is normally higher.

A determination of sex could be achieved in only just over 25% of the adult sample as few of the morphological criteria for determining sex were available and most of the metric features were either absent, insufficiently complete or ambiguous. The resulting female to male ratio was relatively balanced at 1:1.4. A small number of pathological changes were also observed in this sample including non-specific infection, arthritis, joint disease, trauma, spinal and dental disease.

The bodies were probably fleshed, and cremated soon after death, as the bones were extensively cracked and fissured as a result of dehydration and were also warped by the shortening of tendons during the cremation process.

The temperature of the cremation was probably in excess of 600° in most features. This assessment is based on the predominantly buff/white colour which is believed to result from exposure to high temperature (Shipman *et al* 1984). A small proportion (1-5%) of bone in most features exhibited signs of proportionately less exposure to heat in many shielded anatomical areas and reflects the typical pattern of burning on the bones of a skeleton. The bone from twenty-one features (10.9%) was incompletely oxidised as it included over 20% of blue/grey bone (indicative of a lower attained temperature) alongside simply charred bone and often a portion of fully oxidised bone. In these features, other factors may have affected the colour of the bone, including the type and amount of fuel (including the proportion and amount of body fat), the length of the cremation process, the availability of oxygen and the distance from the heat source. In three features (JNF21, JNF82 and JNF121) the lower extremities were notably less well oxidised than the rest of the body.

Animal bone was found in thirty-four burials. The bone was fully oxidised in twenty-nine cases and had probably been placed on the fire with the deceased. In another case the bone was incompletely oxidised indicating that the animal bone was placed at the margins of the pyre or added later. Cremation burials commonly contain cremated animal bone in progressively increasing quantities from the Bronze Age to the Anglo-Saxon period (McKinley 2000, 416). The remains generally represent pyre goods, food, amulets, pets, indicators of status or remnants of funeral feasts (*ibid*). The small quantity of uncremated animal bone found in four features was probably intrusive.

The inhumed human skeletal remains

Methodology

The sample was analysed according to the *Standards for data collection from human skeletal remains* (Buikstra and Ubelaker, 1994) and incorporates indications from the *Guidelines to the standards for recording of human remains*, (Brickley & McKinley 2004). The report follows the English Heritage guidelines on the preparation of analytical reports (Mays, Brickley & Dodwell 2002). The ageing of juvenile remains was based on data from Scheuer and Black (2000).

The material: quantity and condition

Seven boxes containing a total of 13,061g of inhumed human skeletal remains from ninety-six features were received for analysis. Four features containing exclusively animal bone were excluded from this analysis (JNF329, JNF440, JNF464 and WBF8). The material derived from seventy-four graves, one lead coffin inhumation burial, two pyre sites/*busta*, one cremation burial and one burial pit containing pyre debris. The human bone found in non-burial contexts came from two ditches, three quarry-pits, one layer of demolition material, one occupation layer, one accumulation layer, one posthole, one pit, one robber trench, one medieval robbing layer and one was unstratified. A summary of the basic characteristics of each feature and the minimum number of individuals, and a description of each feature are available in the Appendix 1.7.

The skeletal completeness was excellent or very good (~ or >75% of skeletal elements present) in three skeletons (3.3%), medium (50% of skeletal elements) in one skeleton (1.1%) and poor (<25% of skeletal elements present) in eighty-eight skeletons (95.6%) (Table 1.73).

Table 1.73 Skeletal completeness.

	> 75%	~ 75%	~50%	<25%	Total
N	0	3 (3.3%)	1 (1.1%)	88 (95.6%)	92

The degree of fragmentation was none/minimal in five skeletons (5.4%), medium in twenty-five skeletons (27.2%), and severe in sixty-two skeletons (67.4%). The degree of cortical damage was none/minimal in fourteen skeletons (15.2%), medium in twenty-two skeletons (23.9%) and severe in fifty-six skeletons (60.9%) (Table 1.74).

Table 1.74 Degree of fragmentation and cortical damage (number of burials).

	None/minimal	Medium	Severe	Total
Fragmentation	5 (5.4%)	25 (27.2%)	62 (67.4%)	92
Cortical damage	14 (15.2%)	22 (23.9%)	56 (60.9%)	92

No bone elements could be identified in thirteen contexts where bone survived (14.1%), whilst one or more bone elements could be identified in seventy-nine contexts (85.9%). The relative representation of individual skeletal elements shows a poor representation of dentitions (mandible and maxilla), vertebrae, ribs, pelves, upper limbs, hands and feet available for study (Table 1.75). These elements were missing from over 70% of the sample. The best represented elements were the skull (present in 50% of the features where bone had survived) and the lower limbs (present in 47.8% of the features where bone had survived), although only in a minority of these their completeness was more than poor.

Table 1.75 Preservation of skeletal elements (number of skeletons and percentage).

Complete-ness	Skull	Maxilla	Mandible	Vertebrae	Ribs	Pelvis	Upper limbs	Hands	Lower limbs	Feet
>75%	3 (3.3%)	4 (4.3%)	5 (5.4%)	1 (1.1%)	1 (1.1%)	0	1 (1.1%)	0	1 (1.1%)	0
25-75%	12 (13%)	4 (4.3%)	4 (4.3%)	1 (1.1%)	2 (2.2%)	3 (3.3%)	2 (2.2%)	0	6 (6.5%)	1 (1.1%)
< 25%	32 (34.7%)	6 (6.5%)	13 (14.1%)	11 (12%)	2 (2.2%)	16 (17.4%)	15 (16.3%)	2 (2.2%)	36 (39.1%)	5 (5.4%)
Missing	45 (48.9%)	78 (84.9%)	70 (76.1%)	79 (85.9%)	87 (94.5%)	73 (79.3%)	74 (80.4%)	90 (97.8%)	49 (53.3%)	86 (93.5%)
Total	92	92	92	92	92	92	92	92	92	92

Biological anthropology

Age at death

The assessment of age at death was carried out on the basis of skeletal, dental development and according to age-related morphological changes. The ageing of juvenile remains was based on the data from Scheuer and Black (2000). The adult group was formed by sixty adults (>20 years), eight young adults (20-35 years) and three middle adults (35-50 years). No old adult (> 50 years) were identified in this sample (Table 1.76). Eleven further adult skeletons were classified as probably adults on the basis of bone size, as all other ageing criteria including the epiphyseal ends were missing. This category could mask adolescent individuals.

Table 1.76 Population structure.

AGE	Total no	Total no
ADULT (> 20 years)	58	82
ADULT?	11	
Old adult (> 50 years)	0	
Middle adult (35-50 years)	3	
Young to middle adult (20-50	1	
Young adult (20-35 years)	9	
JUVENILE (<20 YEARS)	1	10
15-20 YEARS	1	
10-15 YEARS	1	
5-10 YEARS	1	
0-5 years	4	
Perinatal	2	
Total	92	92

Minimum number of individuals (MNI)

The minimum number of individuals was calculated separately for each age class based on the occurrence of bone elements, sorted by side and segment. The sample accounted for a minimum of 28 individuals, 24 adults (>20 years) and 4 juveniles (<20 years). Detailed bone counts are given in Appendix B. The low figure expressed by the minimum number of individuals based on the number of bone elements reflects preservation factors.

Sex determination

Attribution of sex is established on the basis of pelvic and cranial morphological features only in adult articulated samples due to the difficulty of scoring isolated disarticulated remains and the absence of diagnostic features in juveniles. The results are used to analyse gender differences in lifestyle, health and occupation. Details of the scores for each morphological feature used in the assessment of sex are given in the Appendix 1.7.

Table 1.77 Sex determination.

	Female (F)	Probable female (F?)	Indeterminate (?)	Probable male (M?)	Male (M)	Total
N	0	2	64	14	2	82

Gender could be determined in eighteen skeletons (21.9% of the adult group). The group was composed by two males, fourteen probable males and two probable females (Table 1.77). Males largely outnumber females.

Stature

Stature is considered to be an indication of dietary status as it is believed that a lack of adequate nutrition prevents individuals from attaining their maximum potential height (Roberts & Cox 2003, 248). Stature was calculated from the formulas provided by Trotter (1970), as outlined in Brickley & McKinley 2004. Stature could be estimated only for one probably female individual (CF27) at 173.6 cm +/- 3.72cm. This individual was tall with comparison to the mean value for females in the Roman period (159cm) (Roberts & Cox 2003, 142).

Pathological conditions

A detailed description of the pathological changes is given in the Appendix 1.7.

Metabolic disease

Cribra Orbitalia – Signs of Cribra Orbitalia ie porosity of the orbital roofs indicating anemia were recorded in two individuals or in 2 of the available 10 orbital roofs. This is a common occurrence in skeletal material and results mainly from an iron-deficient diet, blood loss through injury, chronic disease or parasitic infection (Roberts & Manchester 1995, 166).

Non-specific infection

Periostitis – Four tibiae and three femora (12.7% of the available lower limb bones available) were affected by non-specific infection of the periosteum or periostitis in four individuals. This condition can be caused by several factors including bacterial infection, repeated minor trauma or leg ulcers. The tibiae are the most common site for periostitis because of the lack of soft tissue covering the bone and because of slower blood circulation in the lower legs.

Trauma

Fractures – Fractures result from predictable patterns according to the type and direction of the force undergone by a bone and can therefore be studied in the attempt to detect the type of activity that caused the injury. Skeleton JNF328 had a spiral fracture of the middle 1/3 of the left tibia. This was probably the result of rotational together with longitudinal compression forces deriving from torsion on a weight-bearing limb. The bone had healed with a good degree of apposition and alignment but the marked overlap of the fractured bone segments produced 490mm limb shortening. Healing must have followed without complications as there was no evidence of infection though it was not possible to assess the presence of secondary degeneration of the articular surface in adjacent joints. This person would have suffered long-term discomfort and disability from a shortened limb. Healing in good alignment with a marked degree of shortening indicates that this fracture was splintered but may have not been sufficiently reduced.

Central barrierl disease

Osteophytosis – Osteophytosis or bony outgrowths extending from the margins of the vertebral bodies was recorded in 21.9% (7/32) of all vertebrae. The activity-related mechanical stress and strain of bending and lifting combined with age-related degeneration of the intravertebral disc are largely responsible for this common condition (*ibid,* 106-107).
Schmorl's nodes – Three vertebrae (9.4% of 32) were affected by Schmorl's nodes. These defects result from the prolapse of intervertebral disc material into the vertebral body and reflect the weakening of the intervertebral bodies as a consequence of ageing and/or trauma associated with an overload of the weight bearing capacity of the spine (*ibid*, 107).

Dental health and disease

Dental data can be informative on a range of subjects including diet, state of health, dental hygiene and technology in dental care. Location, type and severity of dental defects were recorded in each tooth and this data is available in Appendix 1.7. Sixteen adult skeletons had preserved dentitions, which comprised 204 permanent teeth (39.8% of 512, ie the number of expected teeth). Five teeth were lost ante-mortem (2.3% of the available 218 tooth sockets), a rate lower than that expected for the period (8.3%) (Roberts & Cox 2003, 135). Ante-mortem tooth loss may be caused by trauma, periodontal disease, continued eruption, extraction of carious teeth or to relieve acute periapical inflammation (abscesses). Nine teeth were lost post-mortem. The enamel was sometimes flaking, probably affecting the incidence of some dental hovelling such as calculus and hypoplastic defects. Two teeth (1% of 204) from the same individual (skeleton CF201) were carious. The rate of carious teeth is very low for the Roman period (7.5% of teeth affected) (*ibid*, 130). None of the available 218 teeth positions had abscesses. Calculus or calcified plaque is associated with levels of dental hygiene. In the adult sample, seven individuals had depositions of calculus on their teeth. Forty-five teeth, ie (22%) had calculus deposits on the labial side and 29 (14%) on the lingual side with respect to 43.4% of teeth in the Roman period (*ibid,* 131). The low levels of calculus can be attributed to degradation and post-mortem damage as the enamel was often flaking.

Periodontal disease is caused by inflammation of the gingival tissue, which results in the re-absorption of the alveolar bone exposing the roots of the affected teeth with the loss of the tooth in the most severe cases (Lukacs 1989, 271). It is diagnosed when alveolar bone re-absorption was associated with periostitis or remodelling of the alveolar margin (ibid). Periodontal disease has been recorded as affecting 12.3% of individuals in the Roman period (Roberts & Cox 2003, 135). Periodontal disease affected 2 teeth positions (0.9%) in one individual (skeleton JFN458).

Enamel hypoplasia consists of defects such as linear grooves and pits in dental enamel. These defects represent a disruption in the enamel formation as a consequence of episodes of stress including fever, starvation, congenital infection and low birth weight, occurring when the tooth was forming (Lewis 2000, 46). Since hypoplastic defects are not remodelled, they provide a permanent record of childhood stress from birth to early adolescence. Three adults (18.7%) of the sixteen with preserved dentitions were affected. Fourteen teeth (6.9%) had hypoplastic defects in comparison, similar to that registered in Roman period (6.7%) (Roberts & Cox, 2003, 140), though post-mortem enamel flaking may have played a part.

Two juveniles had preserved dentitions contributing forty-one permanent teeth and twelve deciduous teeth. The hovelling of the maxillary incisors, a morphological congenital variation was noted in skeletons

JNF216, WBF1 and JNF245. An extra cusp was noted in the molars of skeletons CF27, JNF328, JNF394 and JNF396. Chipping was noted in JNF216, JNF462, WBF1, CF245

Summary and discussion

The sample accounted for eighty-two adults and/or probable adults and ten juveniles (<20 years). The skeletal completeness was poor in the majority of the sample (95.6%). Poor preservation precluded most metric and non-metric analysis. The expected increasing mortality with age is not seen in the adult group, where old adults are entirely missing. Gender could be determined in only eighteen skeletons (21.9% of the adult group) and males largely outnumbered females with a female to male ratio of 1:8. This figure most probably reflects preservation factors: the more mineralised bone of males often survives better and poorly preserved, highly fragmentary material can result in a sexing bias due to the limited amount of dimorphic features available. In comparison with prevalence rates for the Roman period, the GAL group showed very low levels of dental disease for the Roman period. However, the recorded frequency of both dental and skeletal pathology is unlikely to reflect the true incidence because of the extremely poor preservation. This skeletal assemblage is therefore of limited value as a contribution to population studies of the period.

The animal bone

by Julie Curl

Summary

A total of 45.473kg of faunal remains, consisting of 6,955 pieces, was recovered from evaluation and excavation work at the garrison site. Remains were derived from a wide variety of fills, ranging from pit and ditch fills to remains with human burials and cremations. The bulk of the assemblage consists of the main domestic animals such as sheep/goat and cattle; some wild species are represented, including deer and birds such as goosander. The retrieval of cremated faunal remains alongside human bone would indicate that 'food for the afterlife' or offerings were included with a person's burial.

Methodology

All of the bone studied in this assemblage was hand-collected. No environmental samples were examined from this excavation. The mammal bones were recorded using a modified version described in Davis (1992). The following were always recorded: all upper and lower teeth, scapula (glenoid articulation), distal humerus, distal radius, proximal ulna, distal metacarpal, carpal 2-3, pelvis, distal femur, distal tibia, calcaneus, lateral part of the astragalus, cuboid, distal metatarsal, the proximal end of phalanges 1, 2 and 3. For all of these bones, at least 50% of the given part had to be present. However, due to quite poor preservation on this site, wherever possible, all bones were identified to species, including ribs and vertebrae.

For the birdbone, the following was always recorded: distal tarso-metatarsus, distal tibio-tarsus, distal femur, distal humerus, proximal coracoid, proximal ulna, proximal carpo-metacarpus and scapula (articular end).

Measurements (listed in the appendix) were taken, generally following Von Den Dreisch (1976). Humerus BT and HTC and metapodial "a" and "b" are recorded as indicated Davis (1992).

Wear stages for all P4's, dP4's and molars were noted for cattle, sheep/goat and pig following Grant (1982). However, there were too few mandibles with sufficient number of teeth in situ for any meaningful analysis.

Horncores were recorded when present and the following measurements were taken: greater length, maximum base width and minimum base width. The horncores were only measured when at least one of

the complete measurements could be taken, these measurements also appear in a separate table in the appendix.

Any butchering was also recorded, noting the type of butchering, such as cut, chopped or sawn. A note was also made of any burnt bone. All recognisable pathologies were also recorded with the type of injury or disease, the element affected and the location on the bone. Other modifications were also recorded, such as any possible working or animal gnawing. A table that summarises the butchering, animal gnawing and pathologies appears in the appendix for reference.

Weights and total number of pieces counts were also taken for each context and these appear in the appendix in a table form along with a general summary of information recorded.

Provenance and preservation

Faunal remains were recovered from a total of three hundred and thirty contexts. Features producing animal remains were varied, including pit and ditch fills, demolition debris, trackways, post-holes and an assortment of urned and other human burials and cremations. Generally bone preservation in the faunal assemblage is quite poor. Bone is heavily fragmented, much of this fragmentation is due to extensive butchering, but also due to wear and trampling. A good deal of the assemblage shows erosion of the bone surfaces to some degree, due to acidic soil conditions. Some bone also exhibited very powdery and porous surfaces which could be due to a combination of both soil conditions and exposure at times to weathering. Some canid gnawing was observed, which would indicate that some bone had lain exposed for a time before burial and open to scavenger activity or it may have simply been waste from meat remains given to domestic or working dogs.

Faunal remains were also recovered from a variety of human burials. Many of the animal bones from the human burials had been cremated.

Evaluation and watching brief summary

Faunal remains consisting of 128 pieces, weighing a total of 1.482kg, was recovered from three areas of the site – C1, C2 and Area J during evaluation work. Most of the faunal remains are derived from the butchering remains of cattle and sheep/goat, with sparse remains of pig/boar. A large metacarpal from a larger pony-sized equid was recovered from C2, F25, which showed clear signs of arthritis. A single chopped goose bone was also found in C2, CF34, which is of the larger greylag goose size.

Excavation summary

A total of 6811 pieces of bone, weighing 43.808kg, was found within fills during the excavation work at this site. Bone was derived from a wide variety of fills (see *Provenance and Preservation*), including faunal remains associated with various human burials. Cattle is by far the most dominant species in terms of the quantity of bones identified to species and by the amount of meat that they would have provided. The excavation material also produced evidence of hunting wild animals with two species of deer, wild boar and an unusual species of duck. One interesting pathology in particular was recorded with the cattle remains from this assemblage, a probable case of tuberculosis, which could have affected the human population at this site through contact with the live animal or consumption of products such as raw milk.

Species discussion

Table 1.78 Quantities of each species of fauna recovered for each area of the site.

Species	Area C1	Area C2	Area E	Area J1 Eval	Area J1 East	Area J1 North	Area J1 South	Area J1 West	Area O	Area Q	Watching Brief	Grand Total
Deer - Red		4	1		2		2					9
Deer - Roe		6			2							8
Dog/Wolf					13							13
Equid		29	5		21			2				57
Galliforme		1			1	2						4
?Corvid		1										1
Crow		1										1
Goosander			2									2
Goose		2								1		3
Partridge		1										1
Duck Sp.											1	1
Bird-No ID		1										1
Hare					3							3
HSR					3							3
Mammal	182	545	80	3	591	377	100		20	45	1	1944
Pig	5	1			6	2	1					15
Pig/boar		1			5	1						7
Sheep/goat	9	46		5	66	10						136
Cattle	70	89	4	4	79	337	45		8			636
Grand Total	266	728	92	12	792	729	148	2	28	46	2	2833

Cattle

Bovines were by far the most frequently recorded species, with over five times as many cattle bones being recorded as sheep/goat. Most of the cattle were adults when they died with and age of at least six years, presumably having had a life of working in traction before being culled for meat and other by-products. Most of the remains were from secondary butchering and food waste, particularly in Areas C1 and C2, although a good deal of primary waste was recorded.

Two pieces of cattle ribs from Area C2, CF178, Finds No: (470) exhibited swelling and sinuses (for draining of infected material) that indicate an infection such as tuberculoses. No obvious butchering was noticed on any of the cattle bones from this fill, but if this animal was eaten with an infection like TB, then this disease could have passed on to humans. Bovine TB can be transmitted from animals to humans and vice versa. Although young animals and humans can contract the disease by drinking raw milk from infected animals, the most common means of transmission is through respiration. Invisible droplets containing TB bacteria may be exhaled or coughed out by infected animals and then inhaled by susceptible animals or humans. The risk of exposure is greatest in enclosed areas, such as barns. Livestock also are more likely to infect each other when they share a common watering place contaminated with saliva and other discharges from infected animals. Calves, hogs, and humans can contract bovine TB when they drink unpasteurized milk from infected cows.

Butchering on cattle includes knife cuts on a mandible from JNF9, Finds No: (1408), these cuts on the inner mandible indicate that the tongue has been removed for consumption, providing over 1lb of meat.

A large cattle horn core, from a Long-Horn species, was recovered from JEF5, finds number 157; this horn core had been chopped to remove it from the skull and one piece of this horn showed several cuts. Presumably this horn had been removed for working and the finer cuts resulted when the outer sheath was taken away from the inner core.

Sheep/goat

Sheep/Goat were the second most frequently recorded species. Most remains are in fact of sheep, rather than goat, with only one positive identification of goat in this assemblage, which was found in an inhumation in Area C2. Most of the remains were of adult animals, although several juveniles were recovered; removal of the lambs from the mothers would have provided meat and facilitated the milking of the mother. Sheep/goat MC in area C2, CF106, Finds No: (386) showed arthritic disease on the proximal end of the MC. A well-worn third molar in this fill indicates an animal of at least 4 to 6 years old at death. The ages of the sheep indicate a life of providing milk, lambs and wool before being killed for their meat, hides, fat and other by-products.

The human remains yielded some remains of neonatal lambs/kids in JNF103 (226) and JNF217 Spit7 (1115). These juvenile ovicapra could have been offerings for the afterlife

Measurements of the sheep bones show that they are of the smaller size, comparable with the small Soay sheep that was commonly kept in Roman times. Both primary and secondary elements were present for sheep, which would indicate that they were processed and consumed on site. Butchering included fine knife cuts on metapodials and foot bones that would have occurred when the animals were skinned. Heavier chops and cuts would have been made when the carcass was divided up for meat.

Pig/wild boar

Eighteen fills yielded the remains of pig or boar. Most bones were from adult animals, with one juvenile and one neonatal present; the neonatal would indicate local breeding. The presence of at least some wild boar in this assemblage is strongly indicated by the recovery of two very large robust tusks from JEF5.

Equid

Equid were produced from twenty-two contexts. All equids were of mule or pony size stature. Most were from adults, although one neonatal equid was found in JEL1, which would indicate local breeding. There is no indication as to the cause of death of the foal, but it could have resulted from a defect with the mother or poor nutrition. A pathology recorded does indicate poor nutrition or stress in the form of enamel hypoplasia.

Four equid bones, a mandible, proximal phalange, femur and humerus fragment, were recovered from Area C2, CF107, Finds number 220. The teeth in the mandible were well worn, indicating an animal of approximately 15 years old at death. These equid teeth also showed enamel hypoplasia, ridges on the teeth that form as juveniles when they are under physical stress, such as malnutrition or a period of severe weather (possibly leading to malnutrition).

The proximal phalange of this pony-sized animal showed several knife cuts that show the animal had been skinned. A further knife cut was noted in the proximal femur that show that the equid was butchered further after skinning. Skins of many animals would have been utilised after the animals death and it is probably the case with this animal that the meat could have been used to feed domestic dogs or possibly for human consumption in times of hardship. Soldiers at Hod Hill in Dorset occasionally consumed horse flesh, although they did not like the taste of the meat (Alcock 2001).

Deer

Deer were recovered from fourteen contexts. Two species were identified, Red Deer and Roe Deer, both of which are native to Britain in the Roman period. Both red and Roe would have resided in local woods and forest areas. No Fallow deer were found, although their remains have been recorded on Roman sites before

(Baker, 1998). All deer found at this site were from adult animals. Although most areas of the body were noted, there were more lower limb and foot bones recorded, which may indicate that the main cuts of meat from these animals was consumed elsewhere. No antler working or working waste was recovered from this assemblage, it is probable that any removed from the deer in this assemblage was taken to another site for working.

Dog/wolf

Six fills produced remains of dog or wolf. All bones were from adults and one exhibited arthritis, which is common on both wild and domestic animals. Area JE, F5 produced remains of canid bones with fine knife cuts from skinning. These butchered remains may indicate that these bones are derived from wolves killed for their sought after fur.

Hare

Two fills in JEF5 produced the butchered remains of hare. These animals would have been readily available in more open areas around this site.

Bird bone

Few elements from birds were recovered from this assemblage, possibly due to a recovery bias, but more likely due to the poor soil conditions. The butchered remains of chicken in JEL u/s, JN, JNF103, (226) and JN, JNF154, (1354) and goose in QL1 and C2, CF173 (460) were found; both of these species would have been kept on or close to site for a supply of eggs, feathers and meat. One interesting bird was recovered, a Goosander in E2, EF13, finds number 95. This is a large and unusual species of duck that is a resident in Britain, spending more time on inland freshwaters in winter.

Corvid (Crow or Rook) bones were found in C2, CF127, (253) and those of a Crow in C2, CF207, (591). Corvids can be common on Roman sites (Maltby 1979). All corvids are scavengers and may well have been frequent visitors to rubbish or even to human remains. It is possible that some corvids were kept as pets as they do have the ability to mimic sounds, even human voices; it is possible that the corvids at this site were pets of some sort, especially as they were associated with human burials.

Faunal remains from human burials and cremations

A total of 2202g of faunal remains, consisting of 467 pieces, was recovered from sixty of the human burials (inhumations, cremation burials and remains of a pyre site/*bustum*). It is probable that at least some of the animal remains in the human burials were from 'offerings' or 'food for the afterlife' that was included at some stage of the burial practices – some during the cremation and some when the human remains were finally buried. It is possible that the corvid (crow/rook) remains recovered from the human remains could have been pets.

It is possible that some of the animal bone included in the cremations had been derived from bone used as fuel (Therry-Parisot *et al* 2002); fresh or dried bones are known to be used for fuel, burning as long as wood in many cases. Some animal remains could be waste from feasting that occurs at funeral rituals, this waste could often be thrown onto the fire. It is quite possible to speculate too that some people are buried or cremated with some of their favourite food, which may not necessarily be what is commonly thought of as 'good quality cuts of meat'; bones of a lesser quality cannot be dismissed as not being food offerings.

In this assemblage, the bone from C2, CF246, finds number (703), an inhumation, in particular was quite varied and included the remains of lamb, cattle and roe deer could indicate a higher status burial.

Table 1.79 Quantities of faunal remains associated with human remains from Areas C2 and J1.

Type of burial	Area C2		Area J1		Area J1 North		Area J1 East	
	Qt. of bone	Weight of bone	Qt. of bone	Weight of bone	Qt. of bone	Weight of bone	Qt. of bone	Weight of bone
Urned/boxed cremation burial	26	107			93	383		
Unurned cremation burial	28	54			51	89		
Inhumation	98	629	3	88	103	635		
Pyre debris	3	5			5	12	1	53
Pyre site/*bustum*	-	-			56	147		

Conclusions

The assemblage from the Colchester Garrison is quite typical of assemblages from a mixed site such as this one. The poor preservation almost certainly restricted the range of species present, particularly with the birds and small mammal remains.

Cattle dominated this assemblage, both in terms of quantity of elements recorded and the meat which they obviously provided for the inhabitants at this site. Sheep/goat clearly provided a good deal to the diet and economy too with meat, wool, milk and other by-products. Hunting of wild species also provided a good deal of meat as is attested by the presence of two species of deer and wild boar; all three wild mammals would have been available in local woodland. Hare was recorded and had clearly been butchered; these small mammals would have been resident in more open areas around the site.

The goosander is an interesting find. This large and uncommon species is native to Britain, but in low numbers. The goosander has been recorded before at later sites in East Anglia, such as at Ipswich (Curl 2003) and Norwich (Curl 2004).

The faunal remains associated with the human burials were not outstanding. Most of the remains were of good cuts of meat that could have been included in the burial as ‘food for the afterlife’. However, some animal bones in the human burials were from what is usually classed as ‘primary waste’ – metapodials, foot bones. These primary waste bones can be used for making soups and broths, but are unlikely to have been thought of as food in their own right; these bones may therefore be from general waste, bones used as fuel for the fire or redeposited material. Only one human burial on this site showed faunal remains more associated with higher status, in the form of mixed meats, including remains of deer.

It is quite possible that the corvid bones associated with the human remains are those of pets; all corvids are capable of being tamed and able to mimic sounds, even human speech. It is of course possible that these corvids were scavengers on the human or animal remains, all corvids are scavenging meat eaters; however, unless killed for scavenging, it is hard to explain how some were cremated.

Overall, the assemblage is derived from both primary and secondary butchering and food waste. Processing, skinning and meat production is certainly indicated from the butchering and elements present. While there is not a great deal of evidence for ritual placements of animal remains in with human burials, feasting associated with burial practices is indicated by the faunal remains with the human bone.

The Roman ceramic building material (CBM)

by Laura Pooley

Introduction

This is a report on the Roman ceramic building material (CBM) recorded on the GAL sites, in the Time Team Trenches and during the watching brief.

Summary of results and discussion

A total of 2,893 pieces of Roman CBM, weight 323,826g, was excavated from 216 different contexts. This material included a large quantity of tile (1,165 pieces of tile, 102 of which positively identified as tegula with flange), with smaller quantities of brick (127 pieces), imbrex (135), flue tile (22) and some tessera cubes (23). The total number of pieces also included 1,421 unidentifiable fragments.

The CBM from these sites forms three main concentrations: 1) material from the Roman circus; 2) material from the Roman villa/farmstead in Area J1 East; and 3) background scatters found across the remaining features of the site.

CBM from the Roman circus

A total of 1,078 pieces of Roman CBM, at 79,267g, were recorded from the Roman and medieval features directly associated with the Roman circus (Table 1.80), which calculates at 37% of the total quantity of CBM and 24% of the total weight.

Table 1.80 Roman ceramic building material recorded from features associated with the Roman circus.

Area	Tile qt.	Tile wt.	Tegula with flange qt.	Tegula with flange wt.	Imbrex qt.	Imbrex wt.	Brick qt.	Brick wt.	Flue tile qt.	Flue tile wt.	Tesserae wt.	Tesserae wt.	Fragments qt.	Fragments wt.
C1	30	5,547	1	229	2	252	-	-	-	-	-	-	93	1,382
C2	20	4,679	4	665	1	46	-	-	-	-	-	-	13	170
J1E	447	38,562	12	1,531	19	1,292	6	3,259	7	323	3	40	366	9,105
TT	1	864	1	347	1	64	-	-	-	-	-	-	1	45
WB	24	7,845	-	-	1	209	3	1,710	-	-	-	-	22	1,101
TOTAL	522	57,497	18	2,772	24	1,863	9	4,969	7	323	3	40	495	11,803

The Roman CBM from this site raises a number of interesting points about the circus:

1. Roman CBM was used in the construction of the Roman circus.

2. Tile dominates the record (at 48.4% of the total recorded) with the unidentified fragments coming second (at 46%). The remaining CBM represents very little of the combined total with tegula with flange at 1.7%, imbrex at 2.2%, brick at 0.8%, flue tile at 0.6% and tesserae cubes at 0.3%. These totals indicate that very little of the structure was roofed shown by the very low quantities of the roof tiles tegula with

flange and imbrex. This would be expected within a circus building where we would expect only the starting gates to be roofed. Also, given the very low quantities of brick, flue tile and tesserae it is likely that these represent chance inclusions within the fabric of the structure (such as coursing) rather than brick built sections, a hypocaust system or tessellated floor (although the latter may is more plausible given that individual floor cubes have low re-use potential).

3. Although the CBM recorded from these sites represents a significant quantity and weight, given that 100% of the circus was excavated in Areas C1, C2 and J1 East, and given the potential size of the circus, the total recorded amount is actually quite small. The tile recorded from Area J1 East represents a total area of approximately 264.28m2, with each individual piece measuring on average 0.63m2. Therefore, if complete tiles were being used in large quantities during the construction of the structure then we must assume that, like the building stone, much of this material was robbed out and reused elsewhere. The range of CBM recorded from these features is thus not necessarily representative of the range of CBM used in the structure.

4. In a high walled structure such as the circus it would be expected that lydion brick would be used for wall coursing. However, as mentioned above, only nine pieces of CBM were positively identified as brick. This indicates that either tile was used instead of brick, or the CBM recorded as tile has been misidentified and it is in fact brick. If correctly identified, the use of tile in wall coursing would be unusual, but there is one other possibility. The tile (most of which was small and fragmentary) may represent 'waste' pieces being used as rubble infill between the facing stones of the circus walls; a practice which was also used during the construction of the town walls. Many pieces of both the tile and unidentified fragments showed evidence of mortar on all of their surfaces, including any break edges, which would also indicate that perhaps some pieces were being used in this way. This possible use may also explain the flue tile and tesserae cubes recorded from the sites, as these fragments may also have become rubble.

5. A Roman tile kiln was identified in 1946 (Hull 1958) on the site of the Garrison sports club which is located immediately to the south of the circus structure. It is tempting to indicate that this kiln is in some way associated with the circus, and that it provided some of the CBM needed during its construction.

CBM from the Roman villa/farmstead

A second, but much smaller, concentration of material was associated with the Roman villa/farmstead located within Area E. This material totalled 82 pieces at 19,603g (Table 1.81). The large quantity of tile (which is likely to be tegula with the flange missing), tegula with flange and imbrex would appear to indicate that the villa/farmstead had a tiled roof. Furthermore, the pieces of flue tile indicate that it had a hypocaust and the tesserae cubes indicate that it probably had a tessellated floor/pavement.

Table 1.81 Roman ceramic building material recorded from the Roman villa/farmstead.

Tile qt.	Tile wt.	Tegula with flange qt.	Tegula with flange wt.	Imbrex qt.	Imbrex wt.	Brick qt.	Brick wt.	Flue tile qt.	Flue tile wt.	Tesserae cubes qt.	Tesserae cubes wt.	Fragments qt.	Fragments wt.
52	13,601	9	3,157	9	1,550	1	541	3	500	11	166	6	88

CBM from other features/layers

The bulk of the Roman CBM was recorded in other Roman and post-Roman features/layers recorded across the GAL sites. It is possible, especially on those sites nearest to the Roman circus, that some of the material was originally associated with this structure, while others may have originated from either the Roman villa/farmstead or the Roman tile kiln.

The Roman glass (Fig 1.80)

by H E M Cool

Summary

Roman vessel glass was recovered from sixteen burial-related contexts and nine other contexts during the excavations. Where dateable the majority of the glass in the burial related features relates to mid 1st century activity, but one vessel (from burial CF105) is of very late 4th century date indicating that the cremation rite continued at Colchester until the end of the Roman period. The glass from the burial-related features appears to have been used as both pyre goods and grave goods. Melted vessels came from six cremation-related features (cremation burials and pyre debris deposits etc) and in the fill of two inhumations. Vessels that were deliberately placed as grave goods came from two cremation burials (one urned) and one inhumation. Glass fragments were also found in five cremation-related features and two inhumations. In many cases these seem likely to be chance inclusions in the fill.

Of the glass from the other contexts, two pieces are of particular interest. One (from pit JNF9) is a cast polychrome fragment indicative of occupation in the immediate post-conquest period. The other consists of large fragments of an uncommon, probably 2nd century, bowl (from pit JNF178). There are also slight hints that the site was receiving debris from a glass-blowing site (from pits CF25 and CF192). One fragment of 1st to 3rd century window glass was also recovered from the medieval robbing trench JEF5 (114) (not catalogued).

In what follows, the glass is discussed according to the context in which it was found.

The glass from the burial contexts

Area C2

CF105 Unurned cremation burial
*The vessel from this burial is in such poor condition that it had to be studied with large parts still encased in soil as otherwise it would have effectively dissolved into many minute granules. The drawing is thus an approximation, and it has not been possible to ascertain if the rim edge is fire-rounded, whether there is a pontil scar, what the precise form of the lower handle attachment is, etc. Despite this it is clear that this is an example of a small single-handled jug of a type first studied by Harden (1979, 217 Class VI) and also discussed in connection with an example recovered from the Butt Road cemetery (CAR **8**, 137 fig. 8.12) and more recently in the East London Cemetery in London (Shepherd in Barber and Bowsher 2000, 206). These were a late 4th century form belonging to the range of vessels that developed in the last third of the century, and whose use continued into the 5th century. The presence of this vessel in Grave 105 provides good evidence of the cremation rite continuing in use at Colchester until the end of the Roman period there. The form appears to have been common in the town as it has been found not only here and at Butt Road, but there are also three unprovenanced examples in the Museum collections (CM, Accession nos. 76.41, 235, and 702.04).*
CF105 C(239). Jug, probably complete but now in many disintegrating fragments. Light greenish, colourless, bubbly glass. Vertical rim, edge probably fire-rounded; cylindrical neck; globular body, concave base. Oval-sectioned rod handle, simple upper attachment on neck, lower handle attachment with pinched projections. Height c 130mm, rim diameter c 35mm, base diameter c 55mm.

CF163 Boxed cremation burial
Blue/green glass was commonest in the 1st to 3rd centuries. This fragment shows no evidence of having been burnt and so may have been a chance inclusion in the fill.

CF163 C(763). Body fragment. Blue/green.

CF224 Inhumation
*Both of these fragments come from the range of blue/green bottles which were very common from the later 1st to early 3rd centuries (CAR **8**, 179). They are obviously chance inclusions in the fill.*

CF224 C(601). Bottle, handle fragment. Blue/green. Part of angular reeded handle.
CF224 C(601). Prismatic bottle body fragment. Blue/green.

CF254 Inhumation
This base fragment can only be dated generally to the Roman period and the form cannot be identified. It should be regarded as a chance inclusion in the fill.

CF254 C(721). Base fragment. Pale green. Outbent tubular pushed-in base ring, Base diameter 55mm.

Area J1 North

JNF34 Bustum
*The glass from JN(122) is from the dominant type of unguent bottle in use in the mid 1st century AD both in Britain and elsewhere which went out of use in the Flavian period (CAR **8**, 159; Price and Cottam 1998, 169). They were very commonly used both as pyre and grave goods at that time and their presence indicates the funeral took place not later than c AD 75 – 85. Glass JN(1456) could well have come from the same vessel. Though from a bustum neither show evidence of having come into contact with the heat.*

JNF34 JN(122). Tubular unguent bottle, lower body fragment. Blue/green. Weight 2g.
JNF34 JN(1456). Unguent bottle or flask, cylindrical neck fragment. Blue/green. Neck diameter 22mm. Weight 1.1g.

JNF50 Inhumation
Though now incomplete this vessel was clearly placed in the grave deliberately. The blue/green colour would indicate a 1st to 3rd century date. Other than this the vessel is difficult to date as it seems very likely that many of its more curious features, such as the rolled rim combined with the lightly impressed pontil sCAR and the rather cylindrical body, are the result of an incompetent glass blower. Certainly the asymmetric, lop-sided rim is an accidental feature. Globular flasks have a long life throughout the Roman period. Normally it would be possible to use details of the rim and base formation to indicate a narrower date range within that period, but it seems unwise to attempt this here.

JNF50 JN(117). Flask, in 16 fragments lacking large parts of body and base. Blue/green. Slightly out-bent rim with edge rolled in, rim opening oval and bent slightly to one side; long cylindrical neck curving out to convex shoulder, cylindrical body, shallow concave base with circular pontil scar. Height of joined fragments 155mm, rim diameter 37 x 30mm, base diameter 60mm, wall thickness 1mm.

JNF103 Unurned cremation burial
*This burial produced both glass from a vessel that had clearly been on the pyre (JN (257) and JN(224)) and a large fragment of the rim of either a jar or wide-mouthed flask (JN(265)). Similar rim fragments were common in the glass from the excavations on the city-centre sites where the contexts they came from indicated they were a later 1st to 2nd century form, perhaps most common in the 2nd century (CAR **8**, 112). JN(265) shows no evidence of having been on the pyre and given that relatively little of the vessel is present, it must be open to question as to whether this was a deliberate inclusion in the grave fill.*

JNF103 JN(265). Flask or jar, rim and neck fragment. Blue/green. Funnel rim, edge rolled in, cylindrical neck. Rim diameter 62mm, present height 28mm, wall thickness 1.5mm.
JNF103 JN(257). Melted fragments (3), blue/green. One incorporating fragments of burnt bone. 23.2g.
JNF103 JN(224). Melted fragment, blue/green. 1.5g.

JNF106 Urned cremation burial
This is an example of the commonest type of mid 1st century unguent bottle (see JNF34). It was clearly placed in the urn broken but shows no signs of having been exposed to the heat of the pyre. The contents may thus have been used in preparing the cremated bones for deposition. Of particular interest are the

scratches around the top of the neck, possibly derived from tying down a stopper and indicating that the vessel may have seen prolonged use.

JNF106 JN(808). Tubular unguent bottle, virtually complete lacking rim and part of lower body in two fragments. Blue/green. Tooled junction between neck and body; horizontal scratches around top of neck. Present height 100mm, maximum body diameter 23mm.

JNF133 Inhumation
All three groups are melted fragments of mid 1st century tubular unguent bottles (see JNF34). Presumably these were originally from pyre goods and have been incorporated into the fill of this disturbed grave by chance.

1. JNF133 JN(356). Tubular unguent bottle, 1 lower body and 1 base fragment. Blue/green affected by heat. Flattening at centre of base. Maximum body diameter 34mm. 7g.
2. JNF133 JN(356). Tubular unguent bottle, base fragment. Blue/green, melted and collapsed. Also one other melted blue/green fragment. Weight 6g.
3. JNF133 JN(356). Tubular unguent bottle, neck and upper body fragment. Blue/green, heat affected and distorted. Diameter of neck c 13mm. Weight 1g.

JNF153 Pit with pyre debris
Both groups come from mid 1st century tubular unguent bottles (see JNF34), possibly the same one. The melting visible on no 2 indicates this was probably a pyre good. The scratches on no 1 are similar to those on the glass from JNF106 and again probably indicate that a stopper had been attached.

1. JNF153 JN(1428). Tubular unguent bottle, three joining neck and body fragments. Blue/green. Cylindrical neck with pinched junction at body. Horizontal scratches on neck. Neck diameter c 15mm, present height 30mm. 1g.
2. JNF153 JN(1428). Tubular unguent bottle, base fragment. Blue/green. Small flattening at centre of base. Broken upper edges melted. Maximum body diameter 30mm. 5g.

JNF222 Unurned cremation burial
Not enough glass is present to be able to identify the type of unguent bottle it came from. It does not show any evidence of burning though JNF153 no 2, makes it clear that this could be localised and so an origin as a pyre good cannot be ruled out.

JNF222 JN(518). Unguent bottle, cylindrical neck fragment. Blue/green. Weight 0.7g.

JNF252 Pit with pyre debris
Three of the items from this deposit of pyre debris were clearly derived from pyre goods (JN(613), JN(581) and JN(612)). The base fragment JN(582) shows no evidence of burning. It probably came from a flask. The only indication of date for this group (1st to 3rd century) is provided by the colour.

JNF252 JN(581). Melted fragments (5), blue/green. 13.7g.
JNF252 JN(582). Base fragment. Blue/green. Very shallowly concave base, lightly impressed pontil scar. Base diameter 35mm, pontil sCAR diameter c 15mm, wall thickness 6mm.
JNF252 JN(612). Melted blue/green fragment. 1g.
JNF252 JN(613). Melted fragment, blue/green. Incorporating fragments of burnt bone. 2.2g.

JNF268 Pit with pyre debris
Though unprepossessing the fragments from this deposit of pyre debris are amongst the most interesting finds from the cemetery. They come from a mid 1st century tubular unguent bottle (see JNF34) that has clearly been burnt on the pyre. On one a thin opaque red coating can be seen fused to the interior, giving the impression that it might have been the result of reaction with the contents of the bottle. Such an effect may have come about through the reduction of copper in the glass. If there was some carbon-rich material in the bottle, then prolonged heat would result in a red layer or patches on the surface of the glass. There are grounds for thinking that these unguent bottles contained oil for the bathing regime (Manning et al 1995, 174), and such a content could have produced the carbon-rich reducing conditions that might have led to the internal red layer. If this supposition is correct it would indicate that at least some of the contents must have remained in the bottle when it was placed on the pyre. Given how common these bottles are as pyre goods, it is curious such an effect has not been noted before. It may be that this was an especially hot pyre. Certainly of all the melted glass from this cemetery, this is the most intensely burnt piece. (I am most grateful to Professor Ian Freestone for discussing this piece with me and indicating how the effect might have been produced).

JNF268 JN(692). Melted fragments (3), blue/green. Two fragments probably from lower body area of tubular unguent bottle, largest of these retains opaque red interior surface, other fragments retain opaque red flecks incorporated into surface. 11.3g.

JNF284 Pit with pyre debris
The melted glass from this deposit of pyre debris indicates a mid to late 1st century date as both a mid 1st century tubular unguent bottle and a funnel-mouthed flask or jar of the later 1st to 2nd centuries are represented.

JNF284 JN(1166). Melted fragments (11), blue/green. Two fragments retain rolled rim edges from a wide-mouthed flask or jar, three fragments are from a cylindrical neck or body of thin-walled tubular unguent bottle. Weight 13.4g.
JNF284 JN(656). Chip, blue/green. Probably from heat shattering. 0.2g.

JNF380 Urned cremation burial
The presence on the pyre of a thin-walled vessel is indicated by the glass, but the form of the vessel cannot be identified other than to say that it was not a tubular unguent bottle so common elsewhere in the cemetery as a pyre good.

JNF380 JN(880). Melted fragments (5), blue/green. From thin-walled vessel. Weight 2.6g.
JNF380 JN(916). Melted fragments (7), blue/green. From thin-walled vessel. 5.3g.

JNF452 Inhumation
The small melted fragment should probably be regarded as the chance inclusion of a fragment of pyre debris.

JNF452 JN(1015). Melted trail, blue/green. Weight 0.1g.

The glass from the non-burial contexts

Area C2
CL21occupation
*The diagnostic fragment from this context is JN(299) no 2, as it is a rim fragment from a mid 4th to early 5th century cup or beaker (CAR **8**, 92). No 1 cannot be closely identified but the blue/green colour would indicate it was of 1st to 3rd century date and so is probably residual.*

1. CL21 JN(299). Flask or jug, cylindrical neck fragment. Blue/green. Neck diameter c 15mm.
2. CL21 JN(299). Cup or beaker, light greenish bubbly. Out-turned rim, edge fire-rounded. Rim diameter 80mm, wall thickness 2mm, present height 11mm.

CF25 pit
*This feature produced the largest assemblage of glass from the excavations. It ranges in date from the mid 1st century represented by the tubular unguent bottle fragment (JN(46), no 3) to the mid 2nd century, as the colourless fragment no 1 probably comes from a wheel-cut beaker of that date (CAR **8**, 79). Other recognisable fragments are no 7 from a prismatic bottle of the later 1st to earlier 3rd century (ibid 179) and the fragment from a jug handle attachment with a pinched projection (no 5), a style that is commonest in the mid 1st to mid 2nd centuries. A number of melted and heat-affected fragments were also found (nos. 6 and 11) and given the cremation burial activity on the site it would be tempting to see these as derived from pyre debris. However, no 6 does not resemble any of the melted and heat affected glass found elsewhere, as the only vessel part they seem likely to have come from is a handle and there is no evidence of handled vessels being used as pyre goods. Another possibility is that they derive from glass blowing waste as the broken ends resemble those seen on fragments of twisted waste (ibid 210 nos. 2271-2273).*

1. CF25 C(46). Beaker (?), body fragment. Colourless. Straight side, 3 wheel-cut lines. Dimensions 16 x 8mm, wall thickness 0.5mm.
2. CF25 C(46). Body fragment. Colourless.
3. CF25 C(46). Tubular unguent bottle, base fragment. Blue/green. Dimensions 19 x 13mm.

4. CF25 C(46). Jug or flask, neck fragment. Blue/green. Cylindrical neck with fragment of tooled trail or handle attachment. Diameter of neck c 30mm.
5. CF25 C(46). Jug. Lower handle attachment with applied pinched trail. Blue/green. Dimensions 18 x 16mm.
6. CF25 C(46). Two heat affected fragments possibly from rod handles. Weight 6g.
7. CF25 C(46). Prismatic bottle, body fragment. Blue/green.
8. CF25 C(12). Body fragment. Blue/green.
9. CF25 C(46). Body fragments (24). Blue/green.
10. CF25 C(46). Chips (3). Blue/green.
11. CF25 C(46). Melted fragment and 2 small chips. Blue/green (1g).

CF174 ditch
*The only fragment of glass from this feature came fro a later 1st to earlier 3rd century prismatic bottle (CAR **8**, 179).*

CF174 C(525). Prismatic bottle, lower body and base fragment. Blue/green. Base design - tip of moulding, possibly from star or rayed design. Present height 25mm.

CF178 pit
The shallow bowl represented by several fragments in this pit is a most unusual form. A very similar vessel in blue/green glass originally in the Joslin collection was found acting as a lid to a glass urn in a cremation burial (May 1930, 271 no 440). A light green example, though with a applied true base ring rather than a pushed-in one, came from a grave group in the Jarmin collection (ibid 288, Grave 10). The other glass vessels found in the latter group would indicate a 2nd century date.
*Though this example is far from complete, an unusually large amount of it is present and there must be the possibility that it was placed in the pit as some form of structured rite. It is noticeable that both of the complete bowls were placed in graves where glass formed an unusually large component of the grave assemblage for Colchester so the vessels may have been perceived as special in some way. They would certainly have been recognised as uncommon. The excavations in the city centre, for example, have produced virtually no fragments that might have come from such bowls (CAR **8**, 103)*

Fig 1.80, no 1. CF178 C(470). Bowl, three rim, four body and one base fragments. Pale green-tinged colourless. Almost horizontally outbent rim, edge fire rounded, straight side with rounded carination to lower body, tubular pushed-in base ring, flat base. Rim diameter c 180mm, base diameter 100mm, wall thickness 1.5mm, present height 26mm.

CF192 pit
This glass is of such poor quality that it is hard to consider that it was ever in use. Even utilitarian Roman glass is generally of good quality but this fragment is so full of bubbles that it is virtually opaque. It would not be surprising to find a fragment such as this on a glass blowing site as part of the discarded cullet; it would be very surprising to find it in an ordinary domestic assemblage. Together with glass from CF25 it hints that somewhere in the vicinity there may have been glass blowing activity sometime in the 1st to 3rd century.

Fig 1.80, no 2. CF192 C(494). Flask or jug? Blue/green with many large bubbles producing an irregular surface. Slightly outbent asymmetric rim with fire-rounded edge, cylindrical neck. Rim diameter c 45mm, wall thickness 4.5mm, present height 27mm.
CF192 (493). Body fragments (5). Blue/green.

CF243 pit
The fragments in this pit may only be dated to the 1st to 3rd centuries

CF243 C(715). Body fragments (5). Blue/green.

Area J1 North

JNF9 pit
This is the earliest fragment of glass recovered during the excavations. It comes from a cast polychrome vessel, probably a small bowl. The ground colour (peacock) is unusual at Colchester where emerald green is most common. The fragment is too small for the cane pattern to be fully developed but the part

*remaining would be consistent with it coming from a floral design where the canes arranged around one of contrasting colour (CAR **8**, 28 see fig. 2.9 no 189). Colchester has produced more fragments of cast polychrome vessels such as these than other British sites (ibid, 27), but even with this fragment only about 20 are known from Sheepen and the city-centre sites. They belong to the earliest stages of the occupation at Colchester and so the recovery of this fragment on this site is noteworthy.*

Fig 1.80, no 3. JNF9 JN(9). Bowl, rim fragment. Cast. Translucent peacock green ground with segments of small canes opaque white surrounding peacock. Dimensions 20 x 12mm, wall thickness 4mm.

The glass from the post-Roman contexts

In the post Roman contexts one fragment (from JEF5) from a medieval robber trench is definitely of 1st to 3rd century date. The colour of another (from JEF13) would be consistent with it coming from a 1st century vessel placed on the pyre. In general though, glass vessels of colours other than blue/green were very rarely used as pyre goods at Colchester in the 1st century, so the possibility that this is a much more recent intrusive fragment cannot be ruled out.

JEF5 (210). Body fragment. Blue/green.
JEF13 (17). Melted fragment. Dark yellow/brown. Weight 8g.

A photomicrographic analysis of a sample of greensand from the circus

by Kevin Hayward

Introduction

A sample of the greensand stone (also known as Kentish Ragstone), used in the construction of the Colchester circus, was sent for photomicrographic analysis.

Methodology

A photomicrograph analysis was completed on the sample from Colchester. This sample was then analysed and compared with a photomicrograph taken of an unstratified sample of Kentish Ragstone rubble from site BBH 87 (Billingsgate Bath-house) at London (obtained during my work at LAARC (Mortimer Wheeler House) a few years back).

Results

The two photomicrographs are comparable (Plate 1.39). The ooid fragments derive from the Bathonian (Middle Jurassic). This is a diagnostic feature of Kentish Ragstone from the North Downs region, especially around the Maidstone area (Bruce Sellwood, pers comm). The rest of the section is made of green glauconite (the characteristic mineral from the Lower Greensand – Lower Cretaceous) and angular grey quartz, with calcite forming the matrix between the grains. Kentish Ragstone is a calcareous sandstone (not a limestone as often reported).

Comparative Photomicrograph of a thin sectioned sample of Kentish Ragstone from the Colchester Circus (KH259) and some Kentish Ragstone from a Roman site in London

Plate 1.39 The two photomicrographs of the greensand samples from the circus and London.

Conclusions

Kentish Ragstone was frequently used as a walling material in early 2nd to 4th century Roman London (eg, amphitheatre, Roman wall etc). It was also used during the 1st century at Southwark (Winchester Palace) and no doubt elsewhere.

The sample from Colchester was most likely brought up the Medway to Colchester by boat, probably from a source at Maidstone or around the Thames Estuary. This would have been a very large and separate consignment to the material being supplied to London at about the same time.

The worked flint (Fig 1.81)

by Hazel Martingell

Introduction

A total of 145 pieces of worked flint were recovered from five of the seven areas included in the Garrison GAL sites. Thirty-five worked flints were recovered from Area C1, seventeen from Area C2, two from Area E, seventy-one from Area J1, and twenty from Area Q.

The raw Material

The flint material varies in quality and colour, and would therefore appear to originate from the local gravels. A few pieces, some of the flakes, the blades and a blade core from Area C2 (Fig 1.81, no 2, C2 (233), SF60) are of better quality black flint which may have been imported from further away.

Patination

From Area J1 North, one of the cores and one bladelet are patinated, and from others areas one blade and one flake are slightly patinated.

Condition

The condition of the edges of the flints varies from worn to sharp. The worn areas tend to occur where use seems to be the cause. The sharp edges imply recent manufacture. Only one core and one blade show signs of fire cracking.

Results

Area C1

None of the 35 flints are diagnostic of any one date. There is one small retouched flake from Evaluation Trench 6 and 34 pieces, which includes a fragment of a retouched flake, from Evaluation Trench 4 and the overlying excavation area. Within this area there were pits containing Mid to Late Neolithic pottery sherds. It is probable that these 34 flints, from this area of pits, are waste material from Mid-Late Neolithic flint knapping.

Table 1.82 Total numbers of worked flint artefact types from Area C1.

Number of pieces	Description	Date
1	Waste block (CF10)	Mid/Late Neolithic
2	Cores (CF11, CF18)	Mid/Late Neolithic
3	Fragments	Mid/Late Neolithic
24	Flakes	Mid/Late Neolithic
1	Blade fragment (CF75)	Mid/Late Neolithic
1	Retouched flake (CF51)	Mid/Late Neolithic
1	Bifacially retouched flake (CF78)	Mid/Late Neolithic
1	Blade 'knife' (CF75)	Mid/Late Neolithic
1	Attempted gunflint (intrusive in CF10)	Post-medieval/modern

Area C2

In contrast with Area C1, Area C2 had only one prehistoric feature (a Late Neolithic pit), but ten of the seventeen flints collected are typical of prehistoric artefacts from the Palaeolithic to the Early Bronze Age. There is one Palaeolithic flake fragment; seven blades (of which two are retouched) dating to the Mesolithic or Early Neolithic; one bifacial flake fragment with an area of worn edge retouch, probably Neolithic; and one retouched flake/scraper of Early Bronze Age date. The scraper (Fig 1.81, no 1) has denticulate retouch across the distal end on an Early Bronze Age pressure flaked edge retouched 'knife'. It is likely that the denticulate retouch is of later date. There was also a good complete blade core in black flint (Fig 1.81, no 2). This piece is worn around the left corner and has slight cones of percussion on the dorsal surface, at some time it may have been used as a strike-a-light.

These worked flints came from features across the site, with no clustering. This indicates they are naturally redistributed in the soil.

Table 1.83 Total numbers of worked flint artefact types from Area C2.

Number of pieces	Description	Date
1	Blade core	-
6	Flakes	1 Palaeolithic
5	Blades	1 Mesolithic 1 Mesolithic/Early Neolithic
1	Retouched flake	-
2	Retouched blades	1 Mesolithic
1	Scraper fragment	Early Bronze Age
1	Bifacially worked flake	Neolithic

Area E

Only two flakes were recovered from Area E. One is probably Neolithic and the other could be late Prehistoric.

Table 1.84 Total numbers of worked flint artefact types from Area E.

Number of pieces	Description	Date
2	Flakes	1 probably Neolithic 1 later prehistoric

Area J1

Seventy-one flints were recovered from Area J1. Forty-five came from Area J1 North. They consisted of twenty-five flakes, eleven blades, seven cores and waste pieces, one retouched flake and one good and complete scraper with side and end pressure flaked retouch (Fig 1.81, no 3). There were several Late Bronze Age features recorded from amongst the Roman remains in this area and the presence of so many worked flints indicates they are related to these features.

Twenty-two flints came from Area J1 East. They included fourteen flakes, two cores, one broad blade segment, one retouched blade, one end scraper and one backed flake crescent shaped in outline, which may be a 'home made' gunflint (Fig 1.81, no 4). Only three flints came from Area J1 South. These were two cores and a flake. No prehistoric features were identified from the eastern or southern excavations.

Table 1.85 Total numbers of worked flint artefact types from Area J1.

Number of Pieces	Description	Date
1	Waste piece	-
1	Flaked block	-
8	Cores (2 blade and 6 flake)	1 Late Neolithic
2	Fragments	-
38	Flakes	-
2	Flake blades	-
1	Blade flake	-
12	Blades and bladelets (11 from J1 North and 1 from East)	1 Mesolithic/Neolithic
1	Retouched flake	-
1	Retouched blade	-
1	Backed flake	-
2	Scrapers	1 Neolithic? 1 Late Neolithic/Early Bronze Age
1	Broad blade with utilized edge	-

Area Q

Twenty worked flints were retained from this area. There were eleven flakes, three scrapers, two blades, one core, one retouched natural piece and unusually the butt part of a Palaeolithic hand axe and a retouched flake of the same age. The four retouched pieces, which includes three scrapers, would all seem to be Later Prehistoric in date. These flints came from features and topsoils across the site and would all seem to be redistributed from their original contexts.

Table 1.86 Total numbers of worked flint artefact types from Area Q.

Number of Pieces	Description	Date
1	Hand axe	Palaeolithic
2	Blades	
3	Scrapers	Later Prehistoric
1	Retouched flake	Palaeolithic
1	Retouched natural	
1	Core (flake)	
11	Flakes	

Summary

Due to the frequent disturbance of the landscape since prehistoric times, it is probable that all these 145 pieces of worked flint have been moved from their original contexts and are without provenance. Instead of dismissing them however, it seems preferable to see them as merely redistributed within the landscape they were first deposited in. These worked flints, and those from other areas within the new garrison redevelopment, enable us to consider the prehistoric utilization of this southern slope of the Colchester ridge. A total of about 300 flints have been recovered so far from the new garrison and the GAL sites. They represent all prehistoric periods in increasing numbers up to the Iron Age.

Over time, Palaeolithic hand axes and flakes have been found in the Colchester area, as have Mesolithic and Early Neolithic blades and blade cores (Wymer 1977, 29 and 1985, 255). The identification of Late Neolithic pottery in Area C1 associated with waste flint, and the other more diagnostic Late Neolithic and Early Bronze Age flint artefacts found in Areas C2 and J1, indicates some occupation and land use at this time. This is supported by similar finds of worked flint and pottery from the new garrison excavations sites (CAT Report 292). However, there is more general information on activity here during the Later Prehistoric/Iron Age. Much of the rough flint with criteria for Later Prehistoric flint knapping confirms this activity. There is also evidence that some early prehistoric flints may have been collected from elsewhere and reused during the later prehistoric; this could apply to the scraper on the Early Bronze Age 'knife'.

A final consideration is the possibility that some of the flints found in the Roman burials may have been deliberately buried as burial goods. However, analysis of the find spots of the worked flint found in the burials indicates that they were actually found residually within the soil fills.

The environmental report

by Val Fryer

Introduction

Excavations prior to redevelopment at the GAL sites, Colchester Garrison revealed a range of features of Neolithic to medieval/post-medieval date. These included an extensive Roman cemetery, which appears to have been in use between the 1st – 4th centuries A.D. Samples for the extraction of the plant macrofossil assemblages were taken from three of the excavation areas (C1, C2 and J1). Thirty two assemblages were assessed, along with the fills of four cremation urns (CAT Report 361). This assessment showed that plant macrofossils were generally scarce, and none of the assemblages studied contained sufficient material (ie 100+ specimens) for quantification. However, a group of nine samples did contain material, which was

considered to be significant to the interpretation of particular aspects of site use, and these form the basis of this report. In addition, a single charred fruit, which was hand picked from the fill of pit JNF252, is also included.

Methods

The samples were processed by manual water flotation/washover, and the flots were collected in a 500 micron mesh sieve. The dried flots were sorted under a binocular microscope at magnifications up to x 16, and the plant macrofossils and other remains noted are listed on Table 1.87. All plant remains were charred. Nomenclature within the table follows Stace (1997) and identifications were made by comparison with modern reference specimens. Material is classified within the table as follows: cereals, herbs, tree/shrub macrofossils and other plant macrofossils. The presence of other material types is also recorded. As quantification was not undertaken, the density of material within each assemblage is expressed in the table as follows: x = 1 – 10 specimens, xx = 10 – 100 specimens and xxx = 100+ specimens. Other abbreviations used in the table are explained at the end of the text section.

Sample composition

Plant macrofossils

Although rare, cereal grains, seeds or tree/shrub macrofossils are recorded from all nine of the assemblages studied. Preservation is poor to moderate, with most of the grains being either fragmented or puffed/distorted as a result of combustion at high temperatures.

Possible barley (*Hordeum* sp.) grains, with noticeably convex profiles, are present as single specimens within both the *bustum* context (sample 68) and the pits containing pyre debris (samples 8 and 69). However, none are sufficiently well preserved to enable close identification. Wheat (*Triticum* sp) grains are particularly abundant within sample 8 from pit with pyre debris CF126, along with a number of indeterminate grain fragments. The wheat grains are mostly of an elongated 'drop-form' shape typical of spelt (*T. spelta*), although occasional rounded hexaploid forms may also be present.

A single, large, heavily charred fruit was hand picked from the fill of pit with pyre debris JNF252 (sample 96). Although poorly preserved, the structure of the fruit most closely resembles that of a date (*Phoenix dactylifera*), having a large, elongated stone with a distinct longitudinal furrow. Portions of the charred mesocarp also survive. A small deposit of burnt dates was recorded from a 1st century A.D. context at Balkerne Lane, Colchester (Murphy 1984). Although the current specimen is damaged at one end, the dimensions (length 22mm x breadth 9mm x thickness 6mm) of the fruitstone are broadly consistent with the Balkerne Lane examples. Records of dates are exceedingly rare within Roman contexts, and finds are almost certainly indicative of degrees of both affluence and influence, as the fruits were exotic imports from the Mediterranean area.

Weed seeds are particularly rare within the current assemblages, and most are poorly preserved. A small number of legume (Fabaceae) seeds with elliptical cross sections are recorded from sample 9, from *bustum* context (JNF34). Similar seeds, some of which were identified as gorse (*Ulex* europaeus), are also recorded from cremation contexts at Handford House, Colchester (CAT Report 323). Hazel (*Corylus avellana*) nutshell fragments are particularly common within the three Late Neolithic pit assemblages (samples 1, 2 and 40), and small fragments are also present within two of the pits containing pyre debris (samples 16 and 69).

Charcoal fragments are common or abundant within all nine assemblages. Other plant macrofossils are rare, although pieces of charred root/stem are recorded within the *bustum* and unurned cremation burial deposits.

Other materials

Fragments of black porous or tarry material are present in all nine assemblages. Most are probable residues of the combustion of organic remains (either plant materials or possibly even body tissue) at very high temperatures, and are commonly seen within both cremation and pyre deposits. Burnt bone fragments are present or common within the unurned cremation burial, the *bustum* deposits and the pits containing pyre debris. Other remains are rare, but it should be noted that small coal fragments are recorded from a number of samples. However, it is considered most likely that these are modern contaminants within the contexts.

Discussion

The Late Neolithic pit fills

The Neolithic pit assemblages, containing principally charcoal and hazel nutshell fragments, are paralleled within a number of contemporary contexts within eastern England (for example at the Harford Park and Ride site, Norwich (Fryer, forthcoming) and RAF Lakenheath, Suffolk (Fryer 2003)). Although the exact nature of the Garrison assemblages is not fully understood, it would appear that similar small, uniformly composed groups of material are possibly indicative of the deposition of midden waste during the seasonal vacation of a site by a largely transhumant society.

The pits containing pyre debris

The four pit deposits included within this report all appear to illustrate specific aspects of cremation techniques used during the Roman period. The three main deposits all contain very high densities of charcoal, probably indicating that wood was the principal fuel used for most of the cremations. However, samples 16 (pit JNF31) and 69 (pit JNF200) also contain rare weed seeds and tree/shrub macrofossils, which may be constituents of the kindling used the light the pyre. Although sample 96 comprises only a single date fruit, this find is of considerable significance because of its rarity. The interpretation of a single specimen in isolation is difficult but, given the exotic nature of the fruit, it would appear most likely that it is present as part of an offering to the deceased, thereby possibly indicating a donor or recipient of some status. Similarly, the high density of grain within pit CF126 (sample 8) may also be indicative of some kind of small votive offering, which was possibly placed within the pyre prior to or during combustion.

The *bustum* deposits

As is to be expected, the *bustum* deposits are essentially similar to the above material from the pit fills. However, two additional aspects of cremation practise may be represented. The presence of possible gorse seeds within sample 9 has contemporary parallels elsewhere in Colchester (see above). Gorse was probably easily available locally, and may have been used as a supplementary fuel. When dry, it ignites easily, and burns at a very high temperature throughout combustion. Sample 68 (context JNF61) again contains a small number of cereal grains, weed seeds and pieces of charred root/stem, all of which may be derived from kindling.

Unurned cremation burial JNF103

This assemblage is of note because of the high density of root/stem fragments which it contains. Although these may be derived from material burnt *in situ* beneath a pyre, it is perhaps more likely that they are indicative of the use of uprooted dried plant material as kindling or fuel. Numerous parallels for this practise are known from contexts of Neolithic to Early Saxon date.

Conclusions

In summary, although the assemblages are small (only once exceeding 0.1 litres in volume) and limited in composition, they do appear to contain material related to various on site activities. The Late Neolithic pit assemblages may be indicative of some 'ritual' deposition of refuse on a seasonal basis, and this material will now supplement a growing corpus of similar records from elsewhere in eastern England. The Roman cremation-related assemblages show that while wood was probably the principal fuel of choice, other materials were almost certainly added to the pyres, either for use as kindling or as offerings to the deceased. The identification of a charred date within one of the cremations is of particular importance, as this exotic import may be indicative of the final rites of a person of some affluence in 1st century AD Colchester.

Table 1.87 Charred plant macrofossils and other remains.

Sample no		1	2	40	16	96	8	69	9	68	49
Feature no		CF75	CF72	CF233	JNF31	JNF252	CF126	JNF200	JNF34	JNF61	JNF103
Finds no		155	171	206	119	610	307	455	56	429	267
Feature date and type		Late Neo pit	late Neo pit	late Neo pit	1st/2nd pyre	1st/2nd pyre	3rd/4th pyre	Roman pyre	1st/2nd *bustum*	1st/2nd *bustum*	1st/2nd crem
Cereals and other food plants	Common name										
Hordeum sp (grains)	Barley						xcf	xcf		xcf	
Phoenix dactylifera L.	Date					xcf					
Triticum sp (grains)	Wheat						xx				xfg
cereal indet (grains)				x			xx			x	
Herbs											
Fabaceae indet								x	x	x	
Fallopia convolvulus (L.) A. Love	Black Bindweed				x						
Polygonaceae indet								x			
Vicia/Lathyrus sp	Vetch/vetchling										x
Tree/shrubs macrofossils											
Corylus avellana L.	Hazel	xx	x	xx	x			x			
Other plant macrofossils											
Charcoal <2mm		xxx	xx	xxx	xxx		xxx	xxx	xxx	xxx	xxx
Charcoal >2mm		xx	xx	xx	xxx		xxx	xx	xxx		xx
Charred root/stem									x	x	xx
Indet fruit stone/nutshell frag					x						
Indet seed					x						x
Other materials											
Black porous ‘cokey’ material		x	x	x	xx		xx	xx	x	xxx	x
Black tarry material		x	x					xx	x	x	xx
Bone					x xxb		x xb	xb	xb	xxb	xb
Burnt/fired clay		x			x		x		x		
Burnt organic concretion										x	
Ferrous globules								x			
Pottery		xcf									
Small coal frag		x	x		x			xx	x	x	x
Vitrified material		x						x	x	x	x
Sample volume (litres)		10ss	20	20	20	HP	10ss	40	30	10ss	50
Volume of flot (litres)		<0.1	<0.1	0.1	0.1		0.6	<0.1	<0.1	<0.1	<0.1
% flot sorted		100	100	100	100		25	100	100	100	100

Discussion

The research agenda

Before discussing the results of the Garrison GAL archaeological investigations, it will be useful to briefly state current research priorities. There are three strands: the project research design, the published Eastern Counties Agenda; and the Essex agenda. The research themes and project aims were laid out in the *Research Design for Archaeological Evaluations, Excavations and Watching briefs on GAL, new garrison, Colchester* (RPS 2004a) and in the RPS Written Schemes of Investigation under which the work described here has been carried out (RPS 2004 c-h). These priorities were updated by the phase 1 and 2 Map 2 assessment report (CAT Report 361) to include new themes arising from the excavations, most notably the Roman circus. Brief summaries of points included within the Eastern Counties and Essex agendas are provided as tables below, with the extent to which the Garrison GAL results impinge on these provided in the right column.

The Eastern Counties agenda (Brown & Glazebrook 2000)

The *Research agenda and strategy* for the Eastern Counties specifies a number of research aims for prehistory. These can be summarised (only those periods of relevance to this project are mentioned here) as:

Neolithic/Bronze Age

Agenda Item	Relevant Colchester Garrison data
The development of farming and the integration of monuments, fields and settlements	Mid-Late Neolithic pits, ?ditch and residual finds from Area C1. Peterborough Ware sherd from Area Q. Early to middle Bronze Age pit in Area C2. Late Bronze Age settlement features and residual finds in Area J1 North and the Watching Brief. The Late Bronze Age/Early Iron Age tree throw hole in Area Q as evidence of woodland clearance for agriculture and four-post structure

Iron Age

Agenda Item	Relevant Colchester Garrison data
The development of the agrarian economy	Pre-Roman circus fields and field systems in Area C1. Analysis of the fields and field systems across the GAL sites to establish if those dated to the Roman period are actually Late Iron Age in origin. Pottery finds as a means of detecting likely presence/absence of Iron Age arable (manuring finds)
Process of economic and social change and development during the Late Iron Age and Iron Age/Roman transition	Analysis of the origins of fields and field systems across the GAL, as above. The formation of the '*oppidum*', particularly Berechurch Dyke.

Roman

Agenda Item	Relevant Colchester Garrison data
Roman Military	Analysis of the burials in Area C2 and Area J1 to establish whether military links can confidently be made, in particular soldiers of Germanic descent working for the Roman army (the Area C2 'barrow burials', the jet bear burial) Busta as possible military graves (based on prevalence of busta at frontier forts)
Towns	Roman Circus, identified in Areas C1, C2, J1, in the TT Trenches and in the Watching Brief, as a monumental public building. Roman town cemeteries/burials identified in Areas C2 and J1. Large Roman road recorded in Area J1 and the roads around/leading to the circus. Quarry-pits and the construction of the circus, and other Roman structures. Defences - Berechurch Dyke.
Food: consumption and production	Fields, field systems and droveways across the GAL sites. Faunal assemblages from the sites. Area Q animal pens/stock erosion hollows. Area E farmstead.
Agricultural production	As above, fields and field systems across the GAL sites.
Landscapes	Fields, field systems and droveways across the GAL sites. Burial plots in Areas J1 South and Q on agricultural land and 'owned landscapes'. Road networks, in particular the roads leading from the walled town to the Area E farmstead, and the J1 route leading towards the Kirkee McMunn (now Merville Barracks) farmstead.
Rural Settlements	Area E farmstead.

Anglo-Saxon, Medieval and Post-Medieval (Urban)

Agenda Item	Relevant Colchester Garrison data
Social organisation	The building of St. John's Abbey (shown through the robbing of the Roman circus' foundations)
Economy	Post-medieval fields and field systems in Areas C1, J1 and S1 (probably originating earlier)
Culture and Religion	The building of St. John's Abbey (as above)

Post-Medieval and Modern

Agenda Item	Relevant Colchester Garrison data
Fortifications	English Civil War fortifications and associated features potentially identified in Area E and J1.

The Essex agenda (Bedwin 1996)

In the proceedings of the Writtle conference of 1993, the following priorities for future work were identified (only those periods of relevance to this project are mentioned here):

Neolithic/Bronze Age

Agenda Item	Relevant Colchester Garrison data
Location, excavation and analysis of sites	Mid-late Neolithic pits and a ditch from Area C1. Peterborough Ware sherd from Area Q. Early to middle Bronze Age pit in Area C2. Late Bronze Age settlement features and residual finds in Area J1 North and the Watching Brief. The Late Bronze Age/Early Iron Age tree throw hole in Area Q as evidence of woodland clearance for agriculture and four-post structure.

Iron Age

Agenda Item	Relevant Colchester Garrison data
Location, excavation and analysis of sites	The formation of the '*oppidum*', particularly Berechurch Dyke. Pre Roman circus fields and field systems in Area C1. Analysis of the origins of fields and field systems across the GAL sites to establish if those dated to the Roman period are actually Late Iron Age in origin. Pottery finds as a means of detecting likely presence/absence of Iron Age arable (manuring finds).

Research themes and project aims

The key research themes and project aims were laid out in the *Research Design for Archaeological Evaluations, Excavations and Watching Briefs on GAL, new garrison, Colchester* (RPS 2004a) and the Written Schemes of Investigation for each individual site (RPS 2004 c-h).

A full list of the Research Themes and Project Aims is as follows:

Overarching Research Theme – Aim 1*: To characterise the nature of landscape utilisation and change from the Neolithic (or earlier) to the Romano-British period.*
Overarching Research Theme – Aim 2*: To characterise the Roman, Anglo-Saxon, medieval and post-medieval extramural suburbs of Colchester, their relationships to one another, the town and the countryside.*

Project Aim 1*: What was the nature of small-scale Neolithic and early-middle Bronze Age agricultural activities within the site, and in particular can ritual and/or settlement areas be identified?*
Project Aim 2*: What was the nature of later Bronze Age/early Iron Age activities and in particular is there evidence of the emergence of more permanent settlements and field systems within the proposal site?*
Project Aim 3*: What was the nature of the Middle Iron Age settlement within the area of the later* oppidum *and are there indications of landscape division and settlement that might allude to the origins of the communities responsible for the later construction of the* oppidum*?*
Project Aim 4*: To elucidate the nature of spatial organization within the* oppidum*, establish how this relates to general agricultural settlement expansion at this time and establish what inferences can be made from the distribution of coins.*
Project Aim 5*: To clarify the form/function and duration of the trackways with respect to the* oppidum *and to establish which elements of the social landscape they connected.*
Project Aim 6*: To place Berechurch Dyke within a detailed chronology of the layout of other internal* oppida *features such as the curvilinear trackways and the co-axial track/field systems.*
Project Aim 7*: To establish whether there are any surviving remains of the rectilinear enclosure at the Musket Club or associated external features within the proposal site footprint, and to characterise the function of the enclosure within the* oppidum *complex.*
Project Aim 8*: To clarify the date, form and function of the co-axial field system, to establish the nature of its development within the* oppidum *and/or the Roman town's southern suburbs.*
Project Aim 9*: To define the extent and character of the southern suburbs of Colchester at successive periods of the Roman administration of Britain.*
Project Aim 10*: To achieve a better understanding of the distribution, chronology and morphology of the southern cemeteries of Roman Colchester.*
Project Aim 11*: Through study of the Roman cremations and inhumations, to analyse trends and variations in the health, wealth, culture and social status of the individuals buried in Colchester's Roman cemeteries, as well as of burial ritual itself.*

***Project Aim 12**: What was the nature of Saxon landscape within the development site and what was the relationship of the landscape to Saxon Colchester?*
***Project Aim 13**: To reach a clearer understanding of the layout and development of the precinct of St John's Abbey.*
***Project Aim 14**: If possible, to locate the Abbey Church and establish its basic form and structural development.*
***Project Aim 15**: To trace the development of St John's Abbey and its precincts after it was dissolved in 1538.*
***Project Aim 16**: To reach a clearer understanding of the layout and nature of the Civil War landscape.*
***Project Aim 17**: To record and contextualise any modern military features within the GAL site for which there are insufficient current records.*

Of these, Aim 7 is not relevant to this report whilst some of the aims are more relevant to the GAL Phases 3-5. In addition a new set of updated project aims is provided here with regard to the exceptional discovery of the monumental Roman circus:

***New Project Aim 18 – The form of the Roman circus**: To recreate the original ground plan and understand in three-dimensions the form and capacity of the structure and the functions of the component parts, utilizing accounts of standing remains of European circuses.*
***New Project Aim 19** – **The evidence for British circuses**: To place the structure within the context of Roman Britain and review the evidence for both Roman circus racing and other circus structures in the country.*

Land use before the Mid-Late Neolithic

No features of a Palaeolithic, Mesolithic or early to middle Neolithic date were recorded on the GAL sites. However, several pieces of residual worked flint were recorded which dated to these periods (from Areas C2, J1 North) including a Palaeolithic hand axe fragment from Area Q, that would indicate that some low level activities occurred in these areas. This lack of earlier Neolithic features and a paucity of finds of the period is of interest in itself since it implies that there were few inroads into the presumably still forested gravel plateau between Roman River and The River Colne. This is broadly in tune with the information from the new garrison, although a possible Neolithic pit in Area M (new sports pitches south of Merville Barracks) and a very low density of flint work of this date indicates some potential small-scale clearances for farming and/or hunting and gathering within a wooded environment.

Mid-Late Neolithic occupation/ritual activity

By the Mid-Late Neolithic period the amount of activity recorded on the GAL sites increases dramatically. It already exceeds the total evidence for the period within the new garrison redevelopment area, and indeed represents some of the earliest excavated features in Colchester. These features concentrated on Area C1 with only a small number of residual finds being recorded in Areas C2, E, J1 and Q. Six pits in Area C1 were securely dated to this phase, whilst a small quantity of residual finds, another three undated pits and a ditch were possibly associated with this activity.

It is common both on high ground and plateau locations in Southern Britain and Essex to find Neolithic sites consisting of small clusters/groups of pits (Brown and Murphy 1997, 12; Brown 1988), which often imply seasonal use of the location. The evidence from Area C1 would appear to indicate that the high ground at the northern edge of Abbey Field, and to the south of the town centre, was such an area of activity in the mid-late Neolithic period. Analysis of both the features and finds reveals that they were domestic in nature ('Peterborough Ware' and 'Mildenhall Ware' pottery, animal bone, worked flint and 'domestic' heath waste) and therefore may be indicative of a settlement or domestic site. Sealey (*see* below) postulates

that a date in the third quarter of the 4th millennium would be appropriate for the pottery assemblage.

Other sites with Neolithic pits in Essex include Lofts Farm, near Heybridge and Slough House Farm, both of which provided evidence of cereal production, and Harlowbury, Harlow (RPS 1998). Generally Neolithic sites seem to cluster in south-east and east Essex. The Area C1 pits are entirely consistent with the majority of published excavated pits. The literature demonstrates that the pits are small, shallow, bowl shaped in profile, have few or single homogenous fills, often contain burnt material such as charcoal, and generally exhibit fresh sides with little evidence of weathering or subsidence (Thomas 1991). The classic site at Hurst Fen, Mildenhall, Suffolk (Clark *et al* 1960), produced numerous early Neolithic pits and two ditches but no convincing structural evidence. Clark interpreted the pits as food stores and argued that the bowl shaped pits would have been lined with wickerwork. Such a function implied that sites which were characterised by pitting were likely to be long term settlements. Thomas (1991) has argued that Neolithic pits are not suitable for such a storage function. He reasoned that such pits would need to be much larger and deeper and have steep sides and flat bottoms. Such storage pits first appear in the archaeological record in the Middle Bronze Age.

A specialised use for Neolithic pits is indicated by Thomas (1991) and others since they were apparently backfilled soon after their excavation (deduced by the homogenous nature of the fills and unabraded nature of the sides). The pits also often contain special items such as complete axes, arrowheads or pots; such finds are not consistent with household waste. In addition a number of representative sherds of a range of vessels are often found which Thomas indicates may represent selected deposition of pottery from larger collections. Whittle (1996b 234) states that some of the pits were '*deliberately dug to receive depositions of material to mark the comings and goings of settlements*'. Here he follows Thomas (1991) who indicated that the digging of the pits and their subsequent filling was a symbolic act of establishing domesticity in the landscape. If these latter interpretations are correct the 'domestic refuse' within the C1 pits may have been 'ritually' or 'symbolically' disposed of. There is no reason to believe, however, that such activities were conducted beyond settlement sites.

Although there is little hard evidence for when forest clearance or woodland management began on the land which is now the northern GAL sites (ie, was it forested prior to the instigation of the town?) the existence of the pits combined with analogy with other similar sites, where preservation is better, indicates a probable association with farming clearances based predominantly on pastoral economy. Richards (1996) reasoned that although cereal production was evidently occurring it may have been relatively unimportant in the Neolithic. A study of 23 skeletons from 10 Neolithic sites in central and southern England indicates a heavy reliance upon animal meat and dairy produce whilst plant material was of minor importance. Pollen analysis elsewhere also indicates that Neolithic occupation clearances of woodland were relatively short lived. A model adapted by Whittle (1996a) proposed that clearances were limited and short lived and that populations moved around the within woodscapes practising an economy based on herding and hunting and gathering, with only small scale cultivation of crops. For Essex, Holgate (1988) stated that there is evidence at some sites of seasonal occupation. The existence of a mid-late Neolithic settlement area on the ridge above the modern town indicates that localised areas were at least cleared for a time. However, given the transitory and intermittent nature of Neolithic settlement these areas are likely to have reverted to woodland. Given the predominance of woodland in the Neolithic river systems were probably important lines of communication. Neolithic settlements are indeed often found in river valleys or on the higher ground nearby and the River Colne was perhaps utilised by the people active in the Colchester area as such a line of communication.

Neolithic structures associated with such pit sites have proved extremely difficult to detect in England probably due to their flimsy nature and the effects of subsequent ploughing. However a small structure has been excavated at Chigborough in Essex adjacent to both early and late Neolithic pits (R Holgate, pers comm).

A Neolithic date for the four-post structure with a possible two-post extension in Area Q of this investigation cannot entirely be ruled out since a Peterborough Ware sherd was the only diagnostic sherd from one its post-holes. Paul Sealey has commented on this structure as follows:

Very little pottery was retrieved from the four-post structure and its possible extension, but all of it was prehistoric. The largest single sherd was a Neolithic Peterborough Ware rim. It is unlikely the structure is Neolithic because no other Neolithic pottery was recovered from Area Q and four-posters are not a recognised category of Neolithic structure. An Iron Age date is more likely, in which case the Peterborough Ware rim is residual. Iron Age four-posters are well known in Essex and the dimensions of the Area Q structure falls within the size range of such structures. Thirty-five per cent of the Area Q pottery was exclusively sand-tempered and indicates that the area may have been a scene of activity until the middle Iron Age, although it should be borne in mind that the quantity of pottery retrieved was minimal. Two more possible Iron Age four-posters were found in earlier excavations at the Garrison, in Area 10. Like the example discussed here they are of some interest because they were in an agrarian landscape, not on a settlement.

Rectangular four-post structures are not a regular component of the Neolithic in Britain. In East Anglia there were none from the major Neolithic sites of Kilverstone site at Thetford (Garrow et al 2006), Eaton Heath (both Norfolk) (Wainwright 1974) or Hurst Fen (Suffolk) (Clark et al, 1960,205). At Broome Heath (Norfolk) there was a four-post structure measuring 2.3 by 2 metres but the angles of the four corners were not right-angles, making the plan a parallelogram (Wainwright 1972, 6 ,fig 6). Mark Germany (Essex County Council) tells me there were none from his Neolithic causewayed enclosure at St Osyth (report in the press). Nor were there any at another Essex causewayed enclosure, at Orsett in the south of the county (Hedges & Buckley 1978).

The only possible candidates for a four-poster from Neolithic Essex come from the cursus monument at Springfield on the outskirts of Chelmsford... Neither (potential candidate) is described as a four-poster in the published report (Buckley et al 2001, fig 4). The writer discussed these with Nigel Brown (Essex County Council, and one of the authors of the report), but he was non-committal.

An Early-Middle Bronze Age pit

Only one feature dated to the Early-Middle Bronze Age was identified on the sites (in Area C2). Although this feature was located within the centre of a much later Roman barrow (and was indeed cut by the centrally placed burial) it is considered unlikely that the features were in any way related. No Bronze Age barrow ring-ditches have been located during either the new garrison or GAL projects and none were previously known in the area from crop marks or survey, it appears therefore that such monuments were uncommon or absent in this area. This may reflect a significant gap in the early Bronze Age settlement pattern. Nevertheless the pit seems at least to indicate some small-scale activity. Indeed it is possible that the pit contained domestic material which had been ritually deposited; a practice thought to ensure the continued fertility of natural resources, crops and stock (Sealey, citing Gibson 2005 below in this chapter). Although unlikely, if the placement of the Roman barrow burial over this Bronze Age pit was deliberate, it would imply that the pit had been ritual in nature and as such had been marked in some way (most plausibly by a barrow without a ring-ditch) into the Roman period. If so, the placing of the Roman burial would have been an attempt to link an earlier barrow tradition.

The earliest ‘permanent’ settlements with well-defined field systems did not appear in eastern England until the Middle Bronze Age (Thomas 1991). However the Middle Bronze Age is even less well represented in the Phase 1 and 2 areas than the Early Bronze Age, with the sole find being a single residual Deverel-Rimbury sherd from excavation Area J1 East. The sherd probably dates to the second half of the 2nd millennium BC (Sealey below in this chapter). As no other activity of early-middle Bronze Age date was recorded on the GAL sites, or anywhere else nearby, it is difficult to place this limited evidence in a wider context.

After the Mid-Late Neolithic occupation the next period of settlement within the GAL sites is dated to the Late Bronze Age. If real, the gap between the Mid-Late Neolithic and Late Bronze Age represents a significant hiatus in occupation and would imply little exploitation of the sites during the early to middle Bronze Age periods (see above).

Late Bronze Age occupation activity

No evidence was found for delineation of the landscape in the Late Bronze Age, although the discovery of residual pottery sherds and at least one settlement indicates that parts of the landscape had been cleared for agriculture by this time. In particular the Late Bronze Age is represented by several features and finds (many residual) in Areas E, J1 and in WBT4 of the Watching Brief. Areas E and J1 (excluding J1 North) only produced a small quantity of residual pottery sherds, perhaps reflecting manuring of contemporary fields. However, WBT4 and Area J1 North produced a larger number of both features and finds. In total three pits of an early Late Bronze Age date (*c* 1000-900BC) were identified in WBT4 and three pits, eight post-holes, a gully and a possible small four-post structure, all of this date, were identified in Area J1 North along with 3.26kg of residual pottery.

The evidence from WBT4 and Area J1 North may represent unenclosed settlements (although a settlement at WBT4 may be too much to infer from a single pit). In particular, the large quantity of residual Late Bronze Age pottery from Area J1 North indicates that the site was significant and contained many more features later destroyed by the Roman cemetery (and the Garrison buildings). The four-post structure may have been used either to store food and/or hay (to keep it out of the reach of vermin and protected from the damp), or even to lay out bodies during exposure burials.

The GAL Phases 1-2 evidence, plus the identification of two further Late Bronze Age pits in this area in 1972, would indicate that the high ground at the northern edge of Abbey Field was a focus for settlement/domestic activity in the Late Bronze Age period. It is also interesting to note that the combined Late Bronze Age evidence from Areas E, J1 and the Watching Brief already exceeds the total evidence for the period within the new garrison redevelopment area (CAT Report 292). The evidence would also indicate that the Area J1 site was abandoned relatively quickly as no Early Iron Age features or finds were recorded. This abandonment is slightly too early to fit with the general pattern observed in the Thames Valley of abandonment of Latest Bronze Age settlements, due partially to changes in climate and groundwater, at or by the beginning of the Early Iron Age (Yates 1999 and 2001). Indeed the Late Bronze plain ware assemblage (Sealey below in this chapter) appears to represent a particularly short lived occupation compared with the often more stable settlements of the Late Bronze Age to Early Iron Age, for example at Swalecliffe, Kent where continuous occupation was proven over a c 500 year period (Masefield *et al* 2003; Masefield, Bayliss and McCormac 2004). The apparent failure of this site before the latest Bronze Age could reflect soil exhaustion or other economic or social factors.

Several residual pieces of Late Bronze Age/Early Iron Age pottery came from the more southerly Area Q, along with a large number of tree throw holes or grubbing out pits (pits dug in order to remove stumps so that cleared plots could be ploughed). Most of these features produced no evidence of their date, but one produced seventy sherds of Late Bronze Age/Early Iron Age pottery. The find may have symbolic associations, or may simply have been dumped as rubbish in a convenient hole. It is interesting to note that the poorly dated four-poster with possible two-post extension was immediately adjacent to this tree pit and is probably best regarded as of a similar date. Therefore, there is a small amount of evidence to indicate that the landscape on Area Q was at least partially wooded before the Late Bronze Age/Early Iron Age period and that part/all of this land was cleared, most plausibly for agriculture, at this time. This type of evidence, in concert with 'manuring scatters' of residual pottery within some areas (eg, Area E), implies arable agriculture and indicates the possibility that the lack of field boundary ditches in GAL areas is not a reflection of an absence of farmland. It may instead indicate that Late Bronze Age to Late Bronze Age/Early Iron Age fields in these areas were enclosed by hedges or fences (the free draining nature of the soils would certainly reduce the need for drainage ditches). Nevertheless, the evidence implies no more than small-scale agriculture rather than the type of highly organised droveway defined landscapes identified within the Fens region (Pryor 1999) or parts of the Thames Valley (Yates 1999 and 2001).These remains are thus further, though slight, evidence for the widespread and diverse forms of Late Bronze Age/Early Iron Age settlement known throughout south Essex (Brown and Murphy 1997, 18), particularly on gravel terraces.

The laying out of extensive, long-lived field systems and settlements implies the concept of land ownership and is a characteristic of the later Bronze Age in southern and eastern England. Settlements of this period within Essex much more extensively known than those of the preceding early-middle Bronze Age (Brown 1996). These include striking circular ditched

enclosures such as Mucking North Ring/South Ring, Springfield Lyons and other ditched enclosures such as at Lofts Farm (Brown 1988), all potentially of relatively high status. More commonly found unenclosed sites comprise wide scatters of pits and post-holes such as at Moor Hall, Harlow (Robertson 1975) and North Shoebury (Wymer and Brown 1995). This type of evidence has not been as pronounced in North East Essex. However, the evidence from J1 North may be added as an example of an unenclosed settlement.

Late Bronze settlements usually occur on the lighter terrace gravels and brickearths, as at Colchester, but have now also been identified on heavy clays such as the Boulder Clay of western Essex (eg Stansted) probably indicating high levels of competition for the more easily worked soils by this time. Further evidence for agricultural intensification at this time is derived from environmental studies and is particularly indicative of the primary importance of pastoralism (Murphy 1996). In view of this increased exploitation of heavy soils it is perhaps surprising to find that much of the gravel plateau between the River Roman and the River Colne was apparently so lightly exploited. The relative distance of the areas examined during the Colchester Garrison work from these rivers may partially explain this finding. The recent work by Yates (1999 and 2001) on the Late Bronze Age/Early Iron Age evidence for the Thames Valley indicated that zones of intensive field systems were associated with concentrations of votive metalwork in the adjacent River Thames. Yates has indicated that a pattern of intensive Late Bronze Age rural exploitation, focused on the main river valleys (rather than the plateaus), is repeated across central and south-eastern Britain (pers comm with RM). Associated major settlements potentially acted as re-distribution centres involved in trade. It is possible that the J1 North site, closer to the River Colne, and a potentially more significant Late Bronze Age settlement site at Sheepen (*CAR* **11**, 131-6) adjacent to the River Colne, were elements of a settlement cluster, and that these may fit the pattern indicated by Yates.

In his assessment report for GAL Phases 1-2, Paul Sealey noted that:

'There are still few large assemblages of prehistoric pottery from East Anglia and Essex to document developments after the end of Deverel-Rimbury pottery at the end of the 2nd millennium BC (Needham 1995, 164, 1996b, 254), although one might exonerate south and central Essex from that assessment (Brown & Murphy 2000, 9). In north-east Essex there is a positive dearth of late Bronze Age pottery. Frog Hall Farm at Fingringhoe produced 6.25 kilos; only six vessels were illustrated (Brown 2002b). In Colchester town it has been reported from New Kiln Road but the quantity was meagre (*CAR* **11**, 132-2, fig 6.23 no 1). The late Bronze Age pottery from the 1930-39 excavations at Sheepen remains unpublished (Hawkes and Hull 1947, 4). So, the late Bronze Age pottery from the GAL sites provides the first real opportunity to clarify developments in ceramics in the region after Deverel-Rimbury,'

The evidence from Area J1, together with that from Sheepen and possibly the New Kiln Road, indicates that the major areas of settlement and cleared agricultural landscape in the Late Bronze Age were probably those close to the River Colne and on the valley sides and terraces overlooking it.

Early/Middle Iron Age

There were hardly any Early or Middle Iron Age finds or features on the Phase 1-2 GAL sites. This negative evidence is itself useful as an indication of the very low density of occupation of that period within the area of the later oppidum. The exceptions are a few pottery sherds of Middle Iron Age date from Area J1 East and another sherd from J1 North. It is therefore indicated that these areas were probably not manured after the Late Bronze Age and therefore probably fell out of agricultural use and reverted to woodland. However, by contrast, all three of the new garrison excavation sites produced either Early Iron Age (structures and burial in Area 10), earlier Middle Iron Age (manuring scatters in Area 6) or later Middle Iron Age (enclosed farmstead in Area 2) settlement related evidence (CAT Report 292) and together confirm that surrounding tracts of land must have been open for agricultural use in these periods. Taken collectively the GAL and Colchester Garrison evidence would imply that there was little or no exploitation in some areas (the Alienated sites) whilst other areas were exploited periodically (new garrison). Overall it may be concluded that occupation in the area of the later *oppidum* was patchy at best.

The chronological sub-division between the Late Bronze/Early Iron Age and the Middle Iron Age sites at the Garrison is based on very limited artefact assemblages and should be regarded at tentative. The nature of the archaeological transition between the earlier and middle Iron Age (*c* 500 to 200 BC) still requires attention. In most regards the Middle Iron Age remains are consistent in scale and character with the preceding Late Bronze Age/Early Iron Age unenclosed settlements attached to small-scale field systems. Middle Iron Age field systems have rarely been studied in detail in Essex (Sealey 1996; Glazebrook (ed) 1997) and the new garrison and GAL excavations were intended to address such issues of landscape form and change. It was therefore hoped that the large-scale work would reveal more about continuity and change between the Early and Middle Iron Age and would compliment recent wide area excavations at Stansted and Heathrow. As indicated it is, to date, the new garrison elements that have provided the clearest picture.

The Middle Iron Age enclosure at Area 2 (Ypres Road) enclosed an approximately 12m-diameter round-house and produced pottery that has been dated *c* 100 BC to 75-50 BC, the very end of the Middle Iron Age. It was cut across by ditches belonging to the SW/NE system of Late Iron Age/Roman co-axial fields. This remains the only significant area of Middle Iron Age activity known on either the new garrison or GAL areas to date.

The majority of settlements of the period are likely to have been no more than hamlet sized, as at Wendens Ambo in Essex (Hodder 1982, 4-10, 24-9, 64; Halstead & Hodder 1982, 61-2; Halstead 1978; 1982), Asheldam Camp (Bedwin 1991) and the defended site at the Airport Catering Site (ACS) at Stansted Airport (Brooks 1987, 45-6; 1989a; 1989b, 6-7; 1993, 47-50; Brooks and Bedwin 1989, 8-11; Brooks and Wall 1994, 22, fig 5.5). The new garrison (Ypres Road) Area 2 enclosure is perhaps more typical of a single family unit. Larger 'village sized' settlements have also been found, such as Period II at Little Waltham (Drury 1978). The ACS Stansted site was occupied from c 75 BC to c 25 BC, the period immediately prior to and during the construction of the oppidum, and contemporary with the occupation of the Area 2 settlement enclosure at Colchester Garrison. It is possible that Area Q, to the east, lay within the farmland of this settlement, although once again field ditches are absent from the archaeological record. However a lack of residual pottery, indicative of manuring, would imply that if this land was used it was mainly pasture, or alternatively that it remained wooded. The same applies to the northern GAL areas although a few sherds from this area (J1 East) may indicate some potential arable attached to an unidentified farm or farms in this area.

At present, it is hard to place the start of Camulodunum much before *c* 25 BC, although the recent excavations of Stanway, Abbotstone and the new garrison Area 2 (Ypres Road) enclosure have produced some grounds for pushing this date back into the first half of the 1st century BC. The study of the earliest material within the Garrison site is of especial value in relation to the question of whether Colchester had been a major regional focus before the emergence of Camulodunum. The Area 2 enclosure remains the only settlement so far recorded within the *oppidum* that could date immediately prior to, or at the beginning of its use. The fact that this farm went out of use before *c* 50/25 BC, combined with the scarcity of archaeological evidence for intensive Early and Middle Iron Age settlement on this area of the Camulodunum plateau, may fit better with the notion that the oppidum was imposed on an area that was previously sparsely inhabited (that sparse occupation including the Area 2 enclosure). It is also worth noting that when Camulodunum was imposed it was clearly not intended to be densely occupied throughout its enclosed area.

Although none of the features and finds recorded on the GAL sites date to the Middle Iron Age period there is some evidence, mainly from the new garrison sites, to indicate that at least some of the Roman field boundary ditches originated within the later prehistoric period. The evidence indicates the possibility that a Middle Iron Age landscape (of the Trinovantes until *c* AD10) was in existence on much the same orientation as the much better defined (although still fragmentary) remnants of the late Iron Age landscape. This conclusion was based on the fact that an early Roman (and possibly earlier in original use) ditch defined drove cut through the Area 2 late Middle Iron Age enclosure on precisely the same alignment. The implication being that that alignment was sufficiently embedded that its form could be followed in the Late Iron Age. The features of a very fragmentary Late Iron Age landscape (notably within Area 10 but potentially also within Area 6) were then fully respected and indeed recut by the 1st to 3rd century Roman landscape ditches (see below). This slight evidence may indicate that co-axial landscape of fields existed before the Roman invasion south of Abbey Field and that this field system was simply incorporated and in places re-aligned into the Roman version. Therefore some of the landscape orientation and perhaps the

individual ditches identified as part of the Roman field system on the GAL sites may actually have originated in the Middle Iron Age. However, it must be remembered that no trace of either Middle or Late Iron Age ditches were found on any of the GAL sites and on balance this hypothetical argument for the earliest manifestation of a oppidum landscape, particularly in the Abbey Field area, is presently weak.

Late Iron Age/Early Roman period

Very little evidence dated to the Late Iron Age/Early Roman period was identified on any of the GAL sites. However, three single ditches in Area C1 were recorded forming the boundaries to three separate fields. Similar field boundary ditches from the Garrison sites have been associated with the Late Iron Age *oppidum* and these ditches may represent similar activity. Although no other features dated to this period were identified on the sites, it is possible that some of the field boundary ditches recorded as Roman actually originated within the Late Iron Age/Early Roman period. Evidence for this was recorded in Areas 6 and 10 of the 2003 new garrison excavations (CAT Report 292), but similar evidence on the GAL sites was absent. However, the absence of firmly dated Late Iron Age/Early Roman features associated with the *oppidum* may indicate that the area was kept largely wooded until the main Roman phase of activity.

Berechurch Dyke is a major feature of the Late Iron Age and early Romano-British landscape, forming *Camulodunum's* eastern defences. The dyke appears to have been intended to define the eastern edge of the oppidum and partially runs between GAL Areas S1 and S2, after which it continues north for a further *c* 600m before turning, at the modern municipal cemetery, north-eastward along the 'Barnhall Dyke'. Crummy (*CAR* **11**, 175-8) indicates Berechurch Dyke might be a late addition to the defences, perhaps even constructed after the Boudican revolt. It has been indicated, although it has largely been discounted in recent times, that it may have formed part of a road line connecting with that which runs from the South Gate of the town (*CAR* **11**, 24). The line and extent of Berechurch Dyke was successfully identified along the western edge of Area S1. However, no dating evidence was recorded to allow the dyke to be placed into the chronology of the *oppidum*. An important negative finding was confirmation that there was no associated road running adjacent to the dyke. Future investigations may permit a much more precise understanding of the chronology of the dyke's form, development and date of construction.

The surviving remains of Berechurch Dyke are of national importance, not simply because *oppida* are an important monument class, but also because it highlights a potentially significant aspect of a historic narrative which is specific to *Camulodunum* and the founding of *Colonia Victricensis*. The *oppidum* at *Camulodunum* is one of six monuments found in southern Britain, which are described by English Heritage as Territorial *Oppida* (English Heritage 1989). Berechurch Dyke is, therefore, a defining component of a rare monument class. The upstanding earthwork section of the Dyke, classified as a Scheduled Ancient Monument, stops immediately south of the boundary of the GAL developments.

The two centuries before the Claudian conquest saw dramatic changes in south-eastern Britain with the comparatively rapid enhancement of strong trading links with the adjacent continent associated with the Romanization of Gaul. The period saw the abandonment of hill forts, the establishment of lowland *oppida* and the rise of 'Belgic' influences including the use of cremation rites, coinage, the potter's wheel, and the acquisition of exotic goods derived from the Mediterranean. This transition included the emergence of *oppida* in the first century BC, as at Colchester. Territorial *oppida* are large sprawling riverine sites with extensive dyke defences over many hectares and are perceived to have been chieftains' strongholds, with diverse functions including manufacturing and the redistribution of goods (Cunliffe 1995). They frequently encompassed a number of substantial Late Iron Age settlement enclosures (Bryant and Niblett 1997). The scale of such defences (*Camulodunum* covers some 31 square km) implies centralisation or coercive leadership. It has been indicated (eg, Cunliffe 1995) that *oppida* were developed in direct response to Caesar's incursions of 55-54 BC as 'economic ports of trade'. It is of interest, with regard to the prominence of the *oppidum* of Camulodunum, that Caesar had established alliances with the Trinovantes. Cunliffe has indicated that these links could explain the reorientation of trade from southern to eastern

Britain around this time, as the pro-Roman tribes of Britain were given a virtual monopoly of trade from Roman Gaul.

Haselgrove *et al* (2001, 30) note that the roles of territorial *oppidum* are still poorly understood. For example: how did they relate to the general trend of settlement expansion in the later Iron Age? What role did they play in changes in the distribution, imagery and form of coinage? And how did they relate to the development of 'kingdoms' in the South East? Such questions have been hampered by a general lack of detailed archaeological investigation within *oppida*, although the Colchester *oppidum* offers some exceptions to this general rule, with important work undertaken at Sheepen and Gosbecks. Excavations at Sheepen have demonstrated trade with Gaul and metalworking evidence including the probable location of a mint, whilst at Gosbecks a probable religious complex has been identified. The Gosbecks site is likely to have been a particularly important focal centre. Further sites at Lexden and Stanway have produced very wealthy burials, indicative of the tribal aristocracy. The remains identified at the new garrison and GAL offer contemporary data from a major (160 ha) area in the eastern side of the *oppidum* that had not been examined previously.

Coinage at Colchester reflects the significant change of political leadership as the Trinovantes were subjugated by the Catuvellauni before about AD 5-10. The vast majority of Iron Age coins have been recovered by metal-detectorists from poorly provenanced locations. No Iron Age coins were recovered during the evaluation or excavations at the new garrison or GAL sites to date, despite intensive and extensive metal-detecting as a requirement of the both archaeological and munitions surveys. This negative evidence contributes to the understanding of zones of activity within the oppidum and reinforces the current agricultural interpretation of this area.

Co-axial ditches and double ditched trackways appear to be landscape elements that demonstrate the intensification of land-use in the later Iron Age to early Romano-British period. This process also involved the initial construction of the oppidum earthworks to the west of the Garrison Site at Gosbecks and Sheepen. The precise relationship between the appearance of the trackways and the construction of Berechurch Dyke, immediately to the east, is still unclear. The trackways enabled local communities to achieve greater mobility across the farmed landscape to the east of *Camulodunum's* western defences, which was subsequently protected with an eastern defensive earthwork. They were therefore a significant part of the local *oppidum* infrastructure and demonstrate a departure, in terms of scale, form and organisation, from the relatively small-scale structure of the preceding Late Bronze Age/Early Iron Age and Middle Iron Age landscape. Un-metalled double ditched trackways are known from both enclosed and unenclosed Late Iron Age and early Romano-British rural landscapes throughout southern Britain. Numerous examples occur locally within the *oppidum*, revealed by cropmarks and geophysical surveys at Sheepen and Gosbecks.

An aim of the project is to determine the extent to which the roads and trackways within the garrison site, and specifically the northern GAL areas, belonged to one system and also to determine its period of evolution and use. These are particularly important issues because the trackways within the GAL site are a small part of a much bigger network of trackways covering the whole of the *oppidum* and probably beyond. The trackways at Gosbecks represent a focal point for this system – probably the main one since they converge there on a single large enclosure (the so-called 'farmstead enclosure'). Dating evidence for the trackways at Gosbecks is slim because of limited excavations, but work in 1995-6 (CAT Report 138) did not provide evidence for use before the late Augustan period. The date of the field systems associated with the trackways across the new garrison and GAL is therefore of fundamental importance to the study of the eastern *oppidum*.

The archaeological investigation of the GAL sites produced a large number of features associated with the Roman co-axial field system – including a large road (Area J1), two droveways (Area C2 and J1 East), and a series of field boundary ditches (Areas C2, E, J1 East, O and Q). However, only one set of boundary ditches (recorded within Area C1) may actually date to the oppidum of the Late Iron Age period (based on the fact that they were cut by the circus and were not aligned with the early Roman landscape indicated by a ditch in J1 East underlying the circus walls). These could in theory relate to the *oppidum* but might equally pre date it. No Iron Age coins and only five sherds of possibly 'Belgic' pottery or were identified the Phases 1 and 2 GAL sites.

The alternative to a Late Iron Age field system, particularly in the northern GAL areas where evidence is weakest, is that the area remained wooded until the Roman invasion. Given the colonial status of the Roman town, if the track defined landscape had been

constructed in the early Roman in date one might expect its laying out to have been carried out using military surveying techniques which normally produce regular centuriated grids, however this does not appear to have been the case (see discussion in CAT Report 292).

The Roman period

Roman burials and burial related features

Two large cemetery areas and three smaller burial plots (one of which may actually be a part of the Abbey Field cemetery area) were located within the GAL sites (Areas C2, J1 North, J1 South, J1 East, Q and during the Watching Brief). The majority of the burials were located within the large cemetery areas (Area C2 and Area J1 North) but a small number were identified within the smaller burial plots. It appears that the variable means of burial within the larger cemeteries may be linked to real ethnic and social groups living at Colchester, whilst some of these plots were located within agricultural fields and were most probably connected to families/groups who worked on the land. A fundamental objective has been, and continues to be, to identify the main areas of Roman burial that fall within the Garrison and GAL sites with regard to the context of the surrounding suburban and rural topography. The burials spanned the Roman period from the 1st to the 4th century, and provide information on the use of different burial rites over time and on the population of the Roman town.

Total number of burials

A total number of 432 Roman burials and burial-related features were identified during the archaeological investigations on these particular sites. Sixty-seven burials and burial-related features were excavated on Area C2, 361 were excavated on Area J1 (351 from Area J1 North, seven from Area J1 South and three from Area J1 East), three on Area Q, and one was excavated during the watching brief. These 432 burials and burial-related features can be divided into 234 inhumation burials, 117 cremation burials (consisting of 80 urned cremation burials, 33 unurned cremation burials, two boxed cremation burials and two amphora cremation burials), 59 burial pits containing pyre debris, five pyre sites, four *busta* burials, four *busta*/pyre sites, and nine other burial-related features.

Cemetery areas

The 432 Roman burials and burial-related features were identified within Areas C2, J1, Q and during the watching brief (located immediately to the west of Area C2). With the exception of Area Q, each of these areas was known to be located within a part of Roman Colchester (to the south and west of the walled town) that was densely occupied by Roman burials; and a description and summary of all of the burials and cemeteries recorded before 1988 can be found in *Colchester Archaeological Report* ***9***. In previous years many of these concentrations of burials have been grouped into separate cemeteries. However, in this summary P Crummy indicates that this may be too simple an interpretation. The evidence rarely reveals a separate and distinct (in time and space) 'cemetery' as we would define the term today. Instead the evidence reveals wide tracts of land that contained many isolated burials, burial plots and concentrations of burials that are all multi-phased with complex layouts. He indicates that instead of thinking in terms of distinct 'cemeteries' we should instead think of 'cemetery areas'. So, instead of defining the concentrations of burials on the GAL sites as separate cemeteries,

we should instead think of them as 'cemetery areas' (ie, areas which contain a concentration of burials).

Area C2 cemetery area (including the watching brief burial)

Location

The burial area identified within Area C2 (including the burial identified during the watching brief) was located approximately 500m to the south of the walled town and immediately to the south of the Roman circus. It was also located within an area of Roman Colchester (to the south, south-west and west of the walled town) already known to include a high concentration of cemeteries, cemetery areas, burial plots and individual burials (*CAR* **9**, 258-275). Although the placement of burials so close to such a monumental and public building as the circus would seem strange by today's standards, it would not have been unusual in the Roman period and indeed the circus at Mérida was also surrounded by the town's early Roman cemeteries. In fact, the placement of burials close to such a monument would have ensured that all the burials, but especially the mausoleum and barrow burials (see below), were visible to as much of the population as possible.

Size of the burial area

The Area C2 cemetery area measured at least 72m from north to south (from the northern boundary ditch of Burial Plot 1 to the southern-most burial feature) and at least 50m from east to west. It was bounded to the north by an east-west orientated ditch located approximately 6m to the south of the Roman circus. The extent of the burial ground to the south, east and west was not identified during the archaeological excavations but it can be theorised. The discovery of an inhumation burial in Circular Road East (located during the watching brief) would indicate that the burial site continued further to the west of Area C2. However, excavations on the NAFFI site in 1946 (now the Arena Leisure Centre and located across the road from Area C2) identified a Roman kiln and rubbish pit but no burials (Hull 1958). This would either indicate that the western boundary of this particular cemetery area did not continue too much further to the west or that the kiln pre-dated the cemetery. The latter may be the more likely, especially if the kiln was associated with the construction of the circus in the 2nd century given that the burials were 3rd to 4th century in date. This being so the C2 cemetery may simply have connected with the similarly dated cremation cemetery located 250m to the west of Area C2 at Abbey Field (CAT Report 138). The excavation of Area E (to the south of Area C2) produced no burials and therefore the C2 burial ground did not extend this far south. This means that the southern edge of the cemetery area is probably located somewhere between Area E and the southern edge of Area C2 within the current cricket pitch. Given that a Roman road almost certainly ran north to south from the South East Gate of the walled town along the line of the modern day Mersea Road the eastern edge of the cemetery area was probably formed by this road or lay somewhere between it and Area C2.

Date

Dating evidence recovered from the Roman burials and burial related features appear to date the cemetery from the mid/late 3rd to the 4th century, with perhaps a small amount of activity occurring before this period. Thus this burial ground provides firm evidence for the continued occupation of the town well into the 4th century (evidence for which is otherwise slight). Due to poor dating evidence from many of the inhumations it was not possible to compare the dates of the different burial rites to ascertain whether one replaced the other. The evidence we do have indicates that both rites may have in contemporary use on this particular late Roman burial ground. However, only two instances of inter-cutting burial features were identified on the site and both were of later cremations cutting earlier inhumations.

In the pre-Roman Iron Age in south-east Britain the main visible burial rite was cremation, which was also being practised by the invading Romans. However, during the mid 2nd century inhumation began to gradually replace cremation, and the accepted theory has been that cremation was dominant through the 1st to early 3rd centuries, with inhumation becoming more prevalent in the 3rd and 4th centuries (Watson 2003, 38). Many of the burials previously recorded at Colchester fit within this pattern. For example, most of the cremation burials recorded from Colchester are 1st and 2nd century in date (*CAR* **9**, 257 & 262-4), the cremation burials identified within the Butt Road Cemetery date from *c* AD 200 whereas the inhumation burials were mostly later (*CAR* **9**, 4, 13 & 27), and the approximately 80 inhumation burials identified on the St. Mary's Hospital site were all mostly 3rd and 4th century in date (Benfield forthcoming).

The dating evidence recorded from the Area C2 cemetery area is however completely different from this pattern, and indeed recent evidence is also beginning to contradict this view. In London excavations at the eastern cemetery identified contemporary early inhumation and cremation burials (dating from the late 1st or early 2nd century) (Barber & Bowsher 2000) and similarly the excavations at the western cemetery revealed that both rites were practised throughout the 2nd and 3rd centuries (Watson 2003). The authors of the eastern cemetery report indicated that this evidence could represent either immigrants from other parts of Britain, or the wider Roman empire, who had their own inhumation traditions, or they indicated that perhaps inhumation was the cheaper of the two burial rites (Barber & Bowsher 2000, 19, 300). Watson indicated that the evidence from the western cemetery tends to support the view that the distinction between the two rites was more a matter of fashion and tradition than religious belief (Watson 2003, 38). Within Colchester itself, several early Roman inhumation burials have been previously been identified (*CAR* **9**, 264) and the 2000 excavation at Abbey Field also revealed a large number of late Roman (3rd and 4th century) cremations.

Burial plots

The cemetery area was divided into at least two distinct burial plots delineated either by boundary ditches or the Roman droveway. The occurrence of plots within this burial ground is likely to represent the burial of at least two separate families or groups of people. However, despite the existence of these separate plots, the burials within them and the burial traditions practised are extremely similar. For example, both plots date to the same period, both had a high status inhumation burial within a lead coffin (see below), and both had similar burial rites (how the body was buried, the burial goods used). In fact, the only difference between the burial plots appears to have been the use of barrow burials (see below) in Burial Plot 1 in the later Roman period; although not enough of Burial Plot 2 was excavated to say for definite that no barrow burials were located there. This evidence indicates that perhaps the separate families or groups of people buried in the two plots were broadly similar. Although, as only a small section of Burial Plot 2 was excavated and only seven burials identified it is difficult to compare the two plots with any certainty.

The cemetery population

A total of forty-three burials as well as four burial pits containing pyre debris contained human bone (consisting of inhumed bone from twelve burials and cremated bone from thirty-one burials). Thus the surviving human bone represents at least 41 separate individuals, plus another two which could only be identified as probably human. Of these 41, 11 were identified as juvenile (eight at 0-5 years old, one at 5-10 years, one at 10-15 and one under 20 years), 21 were identified as adult (over 20 years), four were identified as young adult (20-35 years), four were middle adult (35-50 years) and one was a middle/old adult (35-over 50 years). This shows that adults were more common on the site than juveniles by just under a 3:1 ratio and no old adults were present (which may indicate the population was dying before it reached this age). Also, three individuals were identified as male/possibly male, four were identified as female/possibly female and 34 were of indeterminate sex. Pathologies were only noted on five individuals and included spinal disease (Schmorl's Nodes and arthritis), joint disease (arthritis) and dental disease. Three of these five individuals were identified as middle adults

or middle/old adults and the other two were just identified as adults, which shows that the older individuals on the site suffered from more visible pathologies than the younger. It was not possible to identify any familial traits in the recorded human bone, although it is possible that the burials associated with each burial plot may represent a family group.

The inhumations

A total of 27 inhumation burials were identified within the Area C2 cemetery area. Twenty-four were identified within Burial Plot 1, two were identified within Burial Plot 2 and the last one was identified during the watching brief along Circular Road East.

Grave alignment: Sixteen out of the twenty-five inhumation burials identified in Burial Plot 1 were aligned east to west (total includes the inhumation burial identified within the watching brief). It is likely that these burials were orientated along the line of the boundary ditch (CF174), and the three graves aligned slightly north-east to south-west are also likely to have followed this orientation. The two inhumation burials identified within Burial Plot 2 however, are aligned north to south. The alignment of both of these burials is probably a result of their association with the mausoleum and later wall, both of which were also orientated north to south. As no other inhumation burials were identified within Burial Plot 2, it is uncertain if this north-south alignment is characteristic of the plot or simply a result of the orientation of the mausoleum.

Timber coffins: Fifteen of the inhumation burials had definitely been placed within a timber coffin. The presence of a coffin was revealed through a plan of the coffin nails and occasionally wood staining; although their absence does not necessarily indicate that no coffin was present. The presence of coffin nails indicate that that nails were used in the construction of the coffin, although the number of nails within each of the burials varied considerably from eight to thirty and it is likely that in some instances other techniques such as dovetail joining or wooden pegs were used to hold the wooden planks together (Watson 2003, 33-34). At least one coffin lid was identified although it is possible others existed that had been fixed by organic means or had not have been fixed at all. No other coffin fittings were identified.

Lead coffins: Two of the inhumation burials had been placed within a lead coffin liner. Unfortunately, little good evidence exists for either of these burials – one was located within the centre of the mausoleum and left unexcavated, and the other was located during the watching brief and excavated under watching brief conditions. However, we do know that the lead coffin liner inside the mausoleum had probably been placed within a wooden coffin and the excavated watching brief burial was of a juvenile (5-10 years).

Burial goods: Ten of the inhumation burials contained associated burial goods. These burial goods consisted of six small pottery vessels, eight pairs of hobnail shoes, two copper-alloy coins and animal bone probably representing 'food for the afterlife'. The pottery vessels consisted of three beakers, a jar, a vase and an unidentifiable pot which appears to have been deliberately broken before being placed within the burial. Shoes were often placed with burials to ensure that the dead were shod for their journey to the underworld and copper-alloy coins are common as they were associated with the tradition of providing Charon's fee for the journey across the river Styx. However, as only four of the inhumation burials contained shoes and two contained coins the tradition does not appear to have been too common on this burial site. The three burials containing 'food for the afterlife' are particularly interesting. All three contained good quality meat bearing bones, one from a pig/small boar, one from a sheep/goat, and the last contained meat from a roe deer, cattle and a juvenile sheep.

Status as shown from the presence of coffins and burial goods: The presence of coffins and burial goods within inhumation burials can be used as an indicator of status. Consequently, their absence could be an indicator of low status and their presence an indicator of higher status. As such the nine inhumations which were empty of finds were probably of low status, followed by the nine inhumations that contained timber coffins only. The inhumations that contained both timber coffins and other burial goods would then be of higher status and the two burials buried within a lead coffin would be of the highest status (especially as one of them was buried inside a mausoleum – see below). The inhumation burial which contained the good quality meat bearing bones from roe deer, cattle and lamb would also probably have been of fairly high status. However, it has been indicated that burial goods were used "...not to mark status, but to provide sustenance, comfort or protection

to the spirit of the departed while confined within the tomb, on the journey to, or in, the afterlife." (Barber & Bowsher, 2000, 325).

The decapitation burial

The probable ritual practice of decapitation and placing the skull at the feet of the individual is widely distributed, particularly in late Roman cemeteries. Holst (2004) has recently discussed decapitation in the Roman period for a report on two decapitated individuals within a small rural cemetery comprising five individuals at a recently excavated Roman farmstead in Gloucestershire. Holst stresses the continuation of the Iron Age practice of dismemberment and particularly the ritual significance of the skull and its placement at the feet of the deceased. Although Clarke (1979, 374) has indicated that decapitation burials are more commonly found at rural sites, a study of ten Romano-British cemeteries by Quensel-von-Kalben (2000, 218-219) found that all but three that contained decapitation burials (between 1 and 7% of the total burials) were in urban cemeteries of the late 3rd to 4th century. It is of interest that this is the likely date range for the C2 burial. Clarke (1979) found that decapitation burials were widespread in East Anglia and southern and western England generally, whilst Holst (2004) notes that recent work at Driffield Terrace in York has uncovered a Roman cemetery where 75% of individuals were decapitated. The practice was not restricted to one sex although decapitation of children is uncommon.

No cut marks, which would have shown that the head was removed soon after death, were noted on the neck vertebrae of the Area C2 burial as has been noticed with some other examples (Taylor 2003, 19; Clarke 1979, 415). Elsewhere there is evidence that the head was sometimes removed after at least partial decomposition and this has been linked with indications that graves were left open for considerable periods after body placement to allow mourners to view the corpse (Barber & Bowsher 2000, 310).

Holst (2004) stated the following with regard to interpretation:

'Interpretations for Roman decapitations have ranged from criminal execution to religious or superstitious motives. Execution of criminals through decapitation was a punishment in the Roman Empire, although it was apparently reserved for Roman citizens – the better rank of criminal (Taylor 2003, 19)…Other instances of decapitation have been interpreted as the dead person not being able to sever links with the world of the living and this may clarify why decapitation was sometimes carried out after decomposition. This might also be explained by the belief that the soul was thought to live in the head and the decapitation was a ritual separation of the body, which might have ensured that the individual could not return…'

The mausoleum

The mausoleum recorded within Burial Plot 2 is the only structure of its kind to have been identified on the GAL sites; although several have been identified in Colchester. It is thought that the mausoleum would have been a rectangular structure constructed out of ragstone, brick and tile, and the discovery of a single piece of marble veneer may also indicate that it was highly decorated. The presence of this mausoleum close to the circus would have ensured that visitors to the circus would see the structure, be impressed by it and remember the individual buried there.

Both the presence of the mausoleum and the burial of the body within a lead coffin indicate that the individual was someone of very high status and presumably of importance. The presence of this high status and visible inhumation burial in Burial Plot 2 contrasts completely with the later very high status and visible cremation burials under barrows in Burial Plot 1 (see below). This contrast, and indeed the separation of the two burial plots, might represent two different families or groups of people who dealt with their dead in very different ways. However, the discovery of a second inhumation burial within a lead coffin (found during the watching brief) confuses this picture as the location of this burial appears to be within Burial Plot 1 and not Plot 2. It is also possible that, as the western edge of Burial Plot 1 was not identified during the archaeological investigations, that this burial could represent another separate plot. If it is not a separate plot however then the two plots (during the period when inhumation was dominant) begin to look very similar, especially as both seem to have moved from inhumation to cremation at about the same time. This might indicate that instead of two

very different families or groups of people, two similar groups are represented. However, as only a small section of Burial Plot 2 was excavated it was not possible to fully compare the two burial plots.

The cremation burials

A total of thirty-six cremation burials (including one disturbed burial) were identified within the Area C2 cemetery area. Thirty-one were identified within Burial Plot 1 and five were identified within Burial Plot 2.

Urn, box or organic vessel/container: Within the Roman period the cremated remains of the deceased could be buried within a number of different receptacles. These could include pottery vessels (which became cremation urns), amphoras, glass vessels, wooden boxes and other organic containers such as cloth and purses. Of the thirty-six cremations, eleven had been buried within cremation urns and two had been buried within wooden boxes. Ten of the cremation urns were jars (three of which were possible jars) and one was unidentifiable, which would indicate that jars were the dominant choice of cremation urn. The wooden boxes used showed more variation in style. One was highly decorated with both copper-alloy and iron fittings and the other only consisted of a number of iron nails. No evidence of a receptacle was found within the remaining 24 burials. This may indicate that no receptacle had been used or that the bone was buried within a completely organic container that had degraded in the soil.

Burial goods: The majority of the cremation burials (urned, boxed and cremation) also contained other burial goods. Most contained one or two other items which could include a lid placed over the urn, a second pottery vessel, an iron nail, a small find and/or some animal bone representing either 'food for the afterlife' or the remains of pets. However, a small number of burials contained a larger quantity of goods. These included the three cremation burials associated with the burial of children (CF164, CF166 and CF206).

Status as shown from the presence of burial goods: The use of burial goods as an indicator of status can be misleading (see above), and the Area C2 cremation burials are a good example of this. Using the burial goods as an indicator we could indicate that the burials without goods would be of low status, that the burials with some goods would be of higher status and the three children's burials would be of the highest status. However, all three of the wealthiest burials were of children and, in general, children are treated differently with regard to burial and the burial goods placed with them. So, although they do represent wealthy burials they do not necessarily indicate high status. For example, numerous burial goods were placed with the young (those who had died before their time) to comfort the spirit of the child and to prevent it from walking the earth and exerting a malign influence over others (Barber & Bowsher, 2000, 325).

Furthermore, even if burial goods are absent, status can be indicated by the presence of large burial markers (such as the mausoleum associated with the lead coffin burial). As such the five cremations buried underneath the barrows, and the other cremation associated with one of these barrows, would be of the highest status within this burial site. Viewed in terms of burial goods only these seven burials would not have stood out as overly significant, but the presence of the barrows would indicate otherwise.

The barrow burials

The identification of ten Roman barrow burials within Burial Plot 1 is significant as the use of barrows (especially combined with the cremation burial rite) is atypical of Roman town cemeteries at Colchester and elsewhere. There are two possible explanations for their occurrence on this site. The first is that they were constructed in replication of a local barrow building tradition, and the second is that they stem from continental possibly Germanic influence.

The question of whether the Roman barrows represented an attempt to reconnect with past burial tradition is worth exploring. Several possible levelled barrow sites may be indicated by past finds of collared urn cremations in the vicinity whilst the remarkable coincidence of one of the Roman barrows cutting through a Early Bronze Age pit on this site could indicate a prehistoric barrow had previously overlaid the feature, which was then used as a reference for

the Roman burial. However, the lack of a prehistoric ring-ditch and the non-burial related nature of the prehistoric pit makes this highly unlikely. Along the same lines barrow building may have been considered as part of the cultural heritage of the Catuvellaunian aristocracy at Colchester, exemplified by the 'kingly' burial beneath Lexden tumulus. As the tumulus remained extant through the Roman period it is possible, though unlikely, that it retained spiritual significance to some of the occupants of the Roman town and that these people chose to resurrect barrow building. Roman barrows are known elsewhere in Essex, although not in the context of a Roman town cemetery and they are considerably larger. It is plausible that the barrow building at Area C2 was simply part of a poorly represented British tradition.

However, despite the possible ties to an earlier tradition the barrows, including those with entrance gaps, closely resemble early Saxon (5th/6th century) barrows. For example a series at the early Saxon cemetery at Morning Thorpe, Norfolk, which produced 365 inhumations (Green, Rogerson and White 1987). Despite the superficial resemblance of the early Saxon barrow burials to the Area C2 ring-ditches, the latter clearly pre-date the collapse of Roman rule around AD410. Another significant difference is that the Saxon examples usually contained inhumations and Saxon grave goods, whereas the Area C2 examples all contained fully Romanised cremations. Previously popular indications that significant numbers of Germanic mercenaries were hired by Roman town authorities to protect vulnerable locations from Saxon raiders, and that these federate settlements are archaeologically visible, are less popular at present (see below). In this case there appears to be no evidence to directly link the graves with a federate settlement (there are no military style artefacts or weapons, whilst the pottery and cremation style is wholly Roman). It does, however, appear likely that the burials belonged to, at least partially, Romanised Germanic citizens living in late Roman Colchester who preferred to bury their dead in accordance with their custom. In this sense it might be worth revisiting the idea that these burials were indeed linked to mercenaries– a possibility which might help to explain the previously known location of early Saxon graves adjacent to Mersea Road, as a later generation of federate settlers (see below for further discussion). There may be supporting artefactual evidence for this theory in the form of the jet bear from one of the child graves. The bear may represent a Germanic family's guardian spirit or totem (Richard North pers comm with RM, and *see* N Crummy above (small finds)). If so it may provide a link between the Area C2 cemetery to the belief systems of the Germanic region.

The possible explanations above are considered unlikely. However, although Roman town cemeteries lack similar burial rites, ring-ditch barrow burials containing central cremations are known in areas adjacent to the northern frontier forts. It is in this Roman military context to which the Colchester barrows may belong. The most informative site is that of Petty Knowes 400m south of the outpost fort of High Rochester (*Bremenium* – north of Hadrian's Wall) in Northumberland (Charlton and Mitcheson, 1981). The cemetery was located in 1975 adjacent to Dere Street and comprised of a major cluster of seventy-five (mainly) still visible low barrows and several smaller outlying clusters. Of the sample of sixteen that were excavated twelve had standing mounds, six had external ditches, five had external banks (as well as internal mounds), eight contained internal cremations, eight contained inhumations or had no bone surviving, fourteen contained nails (eight with hobnails), three contained coins and five had marker posts (op cit p6). The barrows ranged from 1.2m to 7m in diameter, very similar to the Colchester Area C2 diameters, but unlike Colchester the barrows were still standing up to 0.5m in height. In terms of grave goods there were also similarities in the use of Black Burnished Ware vessels at Area C2 and Petty Knowes. At Petty Knowes two separate burials contained cremations with BB1 vessels, one dated to the late 3rd/early 4th century and the other to the mid 2nd century. The burial group itself is dated from the early 2nd to the late 3rd/early 4th century, with the abandonment of the associated fort postulated by AD 314 when Constantine was withdrawing frontier troops (*op cit*, 16).

Within the Petty Knowes, High Rochester burial site two adult males, three other adults, one juvenile/female and one 5-10 year old were identified. Thus a cross section of individuals associated with the running of the fort were identified. Nearby the tombstones of a fort commander, a common soldier, a freedman and a tribune's foster child had been found previously. The excavators believed that the cemetery may have been for lower ranks or that the fort was impoverished, based on the rather poor grave goods (*op cit,* 18). The lack of weaponry or military equipment within the Petty Knowes graves is explained by the authors (citing the theory of DJ Breeze) that on death or retirement a soldiers equipment were retained by the unit. Therefore although the identity of the individuals, whether soldiers,

families of the soldiers or others, could not be ascertained *'almost certainly the occupants of Petty Knowes would be part of the garrison at High Rochester or closely associated with it'* (*op cit*,19). The troops would most likely have been auxiliary unit(s) although the precise units are unknown.

Other similar barrows have been found outside the Hadrian's Wall forts of South Shields, Great Chesters (two groups) and near Haltonchesters. Therefore, given the lack of such burials in civilian areas, it seems likely that the low barrow cremations are associated with the Roman army (and their families). The similarity in size of individual barrows, of the form of the barrow ring-ditches (many with entrances as at Colchester), of the unusual use of cremations in the late Roman period, of the similar types of grave goods and burial containers, and of the density and form of the burial grounds, it seems quite possible that the burials at Petty Knowes and Area C2 all conform to a common origin associated with the military. At Colchester the existence of a late Roman garrison was unknown. However, the Area C2 evidence strongly implies the existence of at least a temporary garrison in the late 3rd/4th century. The presence of such troops is to be expected from the later 3rd century onwards due to either (or both) civil wars (the Gallic Wars and the rebellion of Carausius and Allectus) and the continuing threat of Saxon and other barbarian raiders. The latter threat was of course sufficient to warrant the construction of the Saxon Shore Forts. The theme of declining fortunes at Colchester from the late 3rd century is also demonstrated by the new garrison archaeological findings, where the ditches connected to Roman field systems went into disuse before the 4th century (CAT Report 292). The town defences were also strengthened in the late 3rd century, with the widening of the town ditch and its extension across the Balkerne Gate entrance whilst a 3rd century coin hoard, found near Balkerne Gate, also charts the instability of the times. At the same time the town suburbs are abandoned and the late cemeteries were apparently located closer to the town. The abandonment of the residences in the countryside and the suburbs implies that people in the country were relocating inside the town walls for protection. It is within this context that we might understand the presence of late Roman auxiliary troops, their families and their support staff. The use of barrows might imply that these people were of Germanic origin. This would be in accordance with the recorded heavy reliance on soldiers of Germanic stock in the north-west provinces in the late Roman period.

If Burial Plot 1 can be connected to Germanic people burying their dead in a Germanic style, then it might explain why the cremation burial rite replaced inhumation in this cemetery area. Especially as in typical Roman cemeteries in Colchester, the inhumation burial rite replaced cremation during the 3rd century. However in 2000, 78 cremation burials and cremation-related features were recorded on Abbey Field (to the west of Area C2 and to the south of Area J1). Like the Area C2 cremation burials, these burials dated mainly to the 3rd and 4th centuries (with some possible 2nd-century activity) and contained high status burials including wealthy child burials. Of particular interest are the two jet bear amulets that were recorded from a child's burial on Abbey Field and a similar jet bear amulet found in a child's burial in Area C2. The discovery of jet bear amulets is so rare across Roman Britain that the occurrence of two burials containing these items in so close a proximity must be significant. If the interpretation of these jet bears as 'Germanic guardian spirits or totems' is correct, then the cemetery located within Abbey Field may also be Germanic in origin. This may also explain why we have two late Roman cemetery areas where cremation is the dominant burial rite (and not inhumation). Nina Crummy above has indicated that '... the distribution of jet bears could point to their being associated with the children of military personnel' in the light of other jet bears found immediately adjacent to a Roman fort at Malton, and from close to the fortress at York.

For a discussion of which military units might be represented, we need first to define what is meant by the terms *foederati*, *laeti* and regular troops. Foederati have been described as 'free barbarians under their own rule, who were allowed to settle under treaty in return for military duties' (Frere 1987, 226). Laeti or gentiles were 'settlements of barbarian irregulars perhaps from abroad' (*op cit*, 224). Regular troops were permanent units of Roman soldiers derived from a number of different nationalities.

The presence of *foederati* before the end of the 4th century is difficult to prove. It has been claimed that a cemetery at Caister by Norwich might represent a settlement of barbarians by the end of the 3rd century. However this date is disputed and may be significantly later (*op cit*, 226). Again much of the debate centres around the term *Litus Saxonicium* (Saxon Shore). It is debatable whether the reference to the late 3rd-4th century shore fort line around the eastern

and southern coasts as the 'Saxon shore' means the shore defended against Saxons or the shore settled by Saxon *foederati* or *laeti.* Frere indicates that there is little to support either category's settlement along the coasts, mainly because regular troops are known to have garrisoned the shore forts, whilst the evidence for Romano-Saxon pottery (as has been claimed) is unconvincing.

Frere (1987, 344) does however, state that detachments of *laeti* or *foederati* could have been dispatched to Hadrian's Wall from Germany in the later 4th century and these would have been independent of the Duke (therefore would not have been mentioned in Chapter X1 of the *Notitia Dignitatum* – a list of military commands probably compiled at the end of the 4th century). In potential support he cites possible Rhineland style coarse wares found at Birdoswald. It is clear, however, that the ring-ditches at Petty Knowes, High Rochester, date from the 2nd century onwards and would probably not represent *foederati* at such an early date at the frontier.

The notion that Germanic troops were serving in Britain as regular soldiers is known due to the writing of Ammianus Marcellinus (XXIX, 4, 7). Frere's interpretation of this AD 372 text led him to conclude that *'after the virtual annihilation of the Buanobantes (the division of the (Germanic) Alamanni of which he (Fraomar) had been made King. Fraomar was transferred to Britain with the rank of tribune to take command of a numerus of Alamanni which was already part of the garrison'.*

The clear implication is that numerous troops of Germanic descent (the Alamanni) were serving in Britain before AD 372 and that Fraomar's transfer at the rank of tribune means that these were regular Roman formations (neither *laeti* or *foederati*). It is these troops which might have been responsible for the barrow burials at Hadrian's Wall and the frontier forts such as South Shields and High Rochester but also, as seems likely, at the town of Colchester. The Notitia does not record town garrisons in Britain although certain military belt plates and buckles of the late 4th century and later in several Roman towns indicates town garrisons did exist (*op cit* 346). Indeed a buckle from Mersea Road, very close to the Area C2 cemetery, is just such an item. Frere states that these were part of the uniform of regular troops transferred to Britain by Theodosius, because they are also found within some of the Saxon Shore forts.

Such 'small detachments' would fit the burial evidence for C2 and possibly late Roman cremations excavated in 2000 at nearby Abbey Field. The fact that such city garrison troops are not listed in the Duke's list is, according to Frere, an indication that they were controlled by the Vicar of Britain, hence castellated enclosures (towns?) are shown at the head of Chapter xxiii of the *Notitia*. According to Frere, these troops gave the towns a means by which to defend themselves and allowed them to hold out into the 5th century in some cases (eg, at Verulamium where there is evidence for 5th-century rebuilding). In summary, the evidence of the ring gully cremations at Area C2 could indicate a detachment of regular troops of Germanic origin.

Pyre sites and burial pits containing pyre debris

The initial phase of the cremation burial rite was to cremated the body of the deceased on a pyre. These pyres were usually rectangular piles of wood on which the body and any associated gifts, personal possessions or pets could be burnt. After being burnt the cremated bone would then have been collected and placed into a receptacle. However, although thirty-six cremation burials were identified on Area C2 no pyre sites were recorded. This could mean that the pyres were located somewhere else. Classical writers have described an '*ustrinum*' as a separate place reserved for the cremation of the dead (Toynbee 1971, 49) and several other sites, for example Elms Farm at Heybridge, have identified pyre sites located at a distance from the burial ground (ECC 2002, 9). Also, pyres built straight onto the ground would have been completely removed by later activity (Barber & Bowsher 2000, 61).

Although no pyres were found, their existence close to the Area C2 burial ground is confirmed by the presence of five burial pits containing pyre debris. Similar pits have recently been identified at Handford House (CAT Report 323), Elms Farm, Heybridge (ECC 2002, 9), and London's eastern (Barber & Bowsher 2000, 60-3 and 265) and western (Watson 2003, 43) cemeteries. This debris represents the dumped remains of a pyre that were left behind after the cremated remains of the deceased had been collected for burial. One of these burial pits even appeared to contain the remains of a graveside feast along with the pyre debris.

The burial of this debris separately but within the same burial ground indicates that it had some significance, but what purpose the burial served and whether it was a purely symbolic act is uncertain (CAT Report 323).

Burial Markers

Roman burials were often marked by burial markers so that families could return to the graveside to commemorate the dead. The mausoleum and the ten barrows identified in Area C2 are examples of the high status burial markers that could be used (see above). These would have been visible monuments meant to impress and to remind others of the person buried there. The close proximity of these monuments to the circus would also have meant that much of the population would have passed by this burial site regularly.

Aside from the grand monuments like mausolea and barrows, burial markers could be constructed out of stones, wooden posts and pots. Occasionally cremation urns were also burial buried so that they were partially above ground level. This practice not only created a burial marker but also meant that food, drink and offerings could be placed with the deceased long after burial. Using the metalled surface to the south to the circus as an indicator of ground level, six out of the nine urned cremation burials studied were buried in this way. No evidence for any other markers was identified on Area C2. However, the fact that there are only two instances of a later cremation burial cutting an earlier inhumation would indicate that the burials had been marked in some way (otherwise the instance of inter-cutting would be expected to be a lot higher). If these burials were only marked on the surface with stones or pots then it would explain why we have no surviving evidence for their existence.

Area J1 North cemetery area

Location

The burial area identified within Area J1 North was located approximately 500m to the south of the walled town and immediately to the north-west of the Roman circus. It was also located within the general area of Roman Colchester (to the south, south-west and west of the walled town) which was known to include a high concentration of cemeteries, cemetery areas, burial plots and individual burials (*CAR* **9**, 258-275). This particular cluster of burials was however, only hinted at by two cremation burials located at the entrance to the Butt Road *CAR* park. It was located on the eastern side of a large Roman road which was identified running across the Area J1 (see below), and indeed this road acted as the western/south-western boundary of the cemetery area. The placement of burial sites along major roads is a well documented practice both within Roman Britain and Colchester, and this road was clearly a factor in the placement of this burial ground.

Size of burial area

The Area J1 North cemetery area measures at least 80m from north-west to south-east and at least 35m from north-east to south-west. It was bounded to the west/south-west by the large Roman road which was identified running across the middle of Area J1 (see below).The extent of the burial ground to the north, south and east was not identified during the archaeological excavations but it can be theorised.

All of the burials so far recorded within the GAL sites have respected the line of the Roman circus. Therefore, it is likely that the south/south-eastern boundary of this cemetery area was located somewhere between the edge of Area J1 North and the circus, and that the burials continued in this direction beyond the edge of the site. It has been indicated that a Roman road existed from the Head Gate to the Roman circus and it is possible that, if this road did exist, then it may have connected to the road identified in Area J1. If this hypothesis is correct then the southern/south-eastern boundary for the Area J1 North cemetery area is likely to have been this road.

In an overview of Colchester's cemeteries (*CAR* **9**) an area of burial activity is identified immediately to the north/north-east of Area J1 North (this burial activity is called 'Area F' in the overview). This evidence may indicate that the northern edge of the cemetery area is located much further to the north. This would have implications for the archaeological investigation of Area H, located within the next phase of GAL development, as the cemetery could continue into this site. Alternatively there could be a gap or boundary between the two burial clusters. In the same overview, Roman burials have also been identified in the area immediately to the north-west of Area J1 North which would indicate that the cemetery may also continue in this direction.

Date

The cemetery area within Area J1 North dates from the mid 1st to the 3rd century, with only two burials absolutely dating to the mid-late 4th century. The site appears to have been in fairly constant use throughout this period with perhaps a small increase in burial numbers in the mid 1st to 2nd century. The dating evidence also revealed that both the inhumation and cremation burial rites were in use throughout the period, although there were more later cremation burials cutting/sealing earlier inhumations than vice-versa which would indicate that cremation was becoming more dominant in the later period.

The burial plots

The presence of burial plots on the Area J1 North burial site is indicated by the presence of five gullies. All were orientated north-east to south-west or north-west to south-east, which would have created a series of rectilinear burial plots orientated along the same line as the Roman road. The presence of these plots would indicate that the cemetery area was planned and managed, and that a number of different families or groups had their own separate burial area. However, many of the gullies cut earlier burials and are cut by later burials. This has two implications for the burial site. First, it would indicate that the burial plots were laid out after the site had begun to be used as a burial ground. Second, the burial plots were not wholly respected in the later period, perhaps due to overcrowding within the plots or a lack of good management. Also, the severe inter-cutting of many of the burial features would indicate that the cemetery area was not planned or managed too effectively, which maybe was a result of the sheer quantity of burials and burial features located on the site.

The cemetery population

A total of 138 burials as well as fifty-five burial-related features (pyre sites, pyre sites/*busta*, burial pits containing pyre debris) contained surviving human bone (consisting of inhumed bone from sixty-one burials and cremated bone from seventy-seven burials). This means that the surviving human bone represents at least 134 separate individuals, plus another four which could only be identified as probably human. Of these 134, eleven were identified as juvenile (five at 0-5 years old and six at 10-20 years), eighty-seven were identified as adult (over 20 years), seventeen were identified as young adult (20-35 years), one was a young/middle adult (20-50 years), sixteen were middle adults (35-50 years), one was a middle/old adult (35-over 50 years) and one was a old adult (over 50 years). This adult to juvenile ratio is 11:1. However, through an analysis of grave length (for those graves which contained no bone) a further thirty possible juvenile and eighteen possible adult graves were identified which give a ratio of 3.4:1.

Twenty-eight individuals were identified as male/possibly male, eight were identified as female/possibly female and ninety-eight were of indeterminate sex. Pathologies were noted on twenty-six individuals, twenty-three of which had a single pathology. This included ten who had evidence of periostitis or osteitis (non-specific infections), seven who had arthritis of the spine, two who had Schmorl's Nodes (spinal disease), one who had arthritis of the hip, one who had dental disease, one who had a degenerative disease, and the last showed evidence of trauma (a tibia fracture). The remaining four individuals all had evidence of two or more of the above pathologies, including the only old adult identified on the site who had evidence of

arthritis in the spine and hip (spinal and joint disease), Schmorl's Nodes (spinal disease), periostitis (a non-specific infection) and dental disease. All but one of the individuals recorded who had evidence of pathologies were adults, and seven were middle to old adults. It was not possible to identify any familial traits in the recorded human bone, although it is possible that the dual, double and stacked burials represent family groups along with the division of the site into burial plots.

The inhumations

A total of 203 inhumation burials were identified within the Area J1 North cemetery area; six of which were left unexcavated.

Grave alignment: One hundred and thirty-four of the inhumation burials (or 66%) were aligned either north-west to south-east or north-east to south-west, with their heads buried at either end of the grave. This alignment would indicate that most of the burials were laid out on the same orientation as the Roman road and the rectilinear burial plots that stem from it.

Timber coffins: Thirty-six of the inhumation burials had definitely been placed within a timber coffin. No wood had survived, but the presence of a coffin was revealed through either the presence of coffin nails, wood staining or both; although their absence does not necessarily indicate that no coffin was present. The number of coffin nails within each burial varied considerably from none to sixty, which would indicate that the coffins were constructed in a number of different ways using both iron nails, wooden pegs and possibly other methods like dovetail joining. The evidence indicates that some of the coffins did have lids which had been nailed shut, others either did not have lids or had lids that were fixed by organic (and now degraded) materials. It is also possible that the coffins indicated by wood staining were not actually coffins at all but were burials placed on a wooden plank, however it is impossible to distinguish between the two. No other coffin fittings were identified within any of the graves.

Burial goods: A total of sixty of the inhumation burials contained burial goods. The goods varied in quantity but generally consisted of pottery vessels, hobnail shoes and a wide variety of small finds. Forty-one of the burials contained one burial good, eleven contained two, and nine contained three or more. The burial with the most goods included a jar, two pairs of hobnail shoes, a copper-alloy ring and an iron ring with a carnelian intaglio. Interestingly, only one of the inhumations on this site included evidence of 'food for the afterlife'. However, as the survival of bone within these graves was so poor, this absence may simply be because no evidence has survived.

Status as shown from presence of coffins and burial goods: The presence of coffins and burial goods within the inhumation burials can be used as an indicator of status, although there are problems with this interpretation (see above). Consequently, if viewed as such an indicator their absence would show low status and their presence high status. As such, the 120 burials without a coffin or associated burial goods would be low status and the seventy-seven burials either with coffin, burial goods or both would be of higher status. This would indicate that the burial with the coffin and the five burial goods was the highest status inhumation burial on this site. However, as already mentioned, the use of burial goods as an indicator of status can be misleading. For example, inhumation burial JNF228/9 only contained two burial goods, but it also had the most elaborate burial marker identified on the site (see below) which would indicate a higher status.

The cremation burials

A total of seventy-six cremation burials were identified within the Area J1 North cemetery area (not including the *busta*). They can be divided into sixty-five urned cremation burials and eleven unurned cremation burials (including one possible boxed cremation).

Urn, box or organic vessel/container: Of the seventy-six cremation burials identified on the site, sixty-five had been buried within cremation urns. Sixty (including two face pots, two possibles and two doubles) of the cremation urns were jars indicating that they were the dominant form of pottery vessel used. One of the eleven unurned cremation burials may have been buried within a box (although the burial was too badly disturbed to be certain), one contained evidence of having been placed within a cloth purse and the other nine contained

no evidence of a receptacle, although presumably it would have been some form of organic container.

Burial goods: Thirty-seven of the burials contained other burial goods. Most contained one or two items which could include a lid for the urn, a pottery vessel, a small find or some animal bone/food remains representing 'food for the afterlife'. Of especial interest is urned cremation burial JNF125 and unurned cremation burials JNF103 and JNF205. JNF125 included a cup, a miniature jar, a small/miniature pot, a necked jar, a pot and a pottery counter used as a lid and placed the small/miniature pot within the burial pit, and a factory lamp, a copper-alloy coin, an iron tool and two nails within the urn. Similarly, JNF103 also contained a wide variety of burial goods. It included, five pottery vessels, a picture lamp, a bone/ivory bead, two bone hairpins (one gilded), some glass and melted glass, three iron sheet fragments and a number of nails and hobnails. JNF205 included five miniature jars and a box which included an number of copper-alloy and iron fittings.

Status as shown from presence of burial goods: The presence of burial goods within cremation burials can be used as an indicator of status. For example, the 39 burials without burial goods would be low status, the 34 burials with burial goods would be of high status, and the three burials mentioned above would be of the highest status.

Busta

Generally in cremation burials the body of the deceased is burnt on a pyre and the cremated remains collected and buried within a cremation urn, a box, a glass vessel or an organic container. However, another type of cremation burial used is the *Grubenbusta* ('busta' for short). These types of burial are not commonly seen in Colchester; although two were recently identified on the Handford House site (CAT Report 323). In busta burials a rectangular pile of wood is laid out over a grave-shaped pit. The body is placed onto this wood and burnt, but instead of collecting the cremated bone for reburial (as with pyres) the remains fall into the pit below and are buried *in situ*. Therefore, all of the bone would be present within the pit and sometimes it has survived in roughly anatomical order.

Four probable *busta* burials were identified on Area J1 North and four others could either be *busta* or pyres. Only one of the burials had bone in partially anatomical order but the rest had probably been shovelled or raked over to level the pit. They also included a number of burial goods which had either been burnt with the body or placed within the burial pit after burning. One of the *busta* burials in particular, JNF61, included a wide variety of goods including three pottery vessels and a lamp that had been burnt with the body, and a wooden box (with copper-alloy and iron fittings, and surviving leather), two pottery lamps and some mirror fragments which had been placed in the pit after cremation. This process of placing burial goods with the body after cremation was also seen in one of the *busta* from Handford House, where fragments of an unburnt flagon were identified along with a unburnt hand mirror and copper-alloy spoon.

Cremation using *busta* is a tradition more commonly seen on the Continent and is usually associated with large settlements and military centres. It is also a practice thought to have been brought over by the Roman army (Barber & Bowsher 2000, 309; Struck 1993, 91-2). Similar *bustum* burials have been identified in London's eastern (Barber & Bowsher 2000, 62) and southern cemeteries (Mackinder 2000, 10-13), in St Albans (Barber & Bowsher 2000, 62; Frere 1987, 329) and in military centres in the north, especially around Hadrian's Wall (Struck 1993, 91). The association with the military derives from the fact that most examples to date have been found at the frontier forts (McKinley pers comm with RM). For example there was evidence at Petty Knowes, High Rochester that cremation pyres were constructed directly above some of the burial pits. These pits were similarly burnt around their edges with the draught through the pits creating higher pyre temperatures. Roman Colchester was both a large settlement and a military centre which would mean the use of *busta* burials here would not be unexpected, although their scarcity would indicate that it was not a commonly used burial rite.

Pyre sites and burial pits containing pyre debris

A total of five pyre sites were identified on Area J1 North. Their presence on the site would indicate that a separate location or '*ustrinum*' was not used to cremate at least some of the bodies buried within cemetery area. However, as only five were definitely identified it is likely that some of the pyre sites were either located elsewhere or had been removed by later activity on the site. One of the pyre features was also located within roadside ditch JNF10. This indicates that at least one of the pyre sites, but possibly more, were placed along the edge of the boundary for the cemetery area.

Four features were also identified that could be either pyres or *busta*. Of these one was left unexcavated and another was too badly disturbed to determine what form it represented. The remaining two features were unusual as they contained very little cremated bone (which would indicate a pyre site) but included a number of burial goods placed within the pit after cremation (which is more characteristic of a *busta* burial). It is uncertain what this activity represents.

Fifty-one burial pits containing pyre debris were also recorded. The possibility that many of these may simply represent unurned cremations with low bone content has been explored above. Most of these pits contained the usual dumped debris including large amounts of charcoal, a very small amount of cremated bone and a quantity of burnt and broken burial goods. However, some of the features contained a large quantity of cremated bone; nine had over 100g. It is possible that the process of collecting cremated bone from the pyre was not always as vigorous and that sometimes large quantities were left behind.

One of the burial pits containing pyre debris (JNF252) also contained a large quantity of material that indicates the variety of burial goods that could be cremated with the deceased. The remains included four tazzas, two flagons, two picture lamps, one factory lamp, one double spouted lamp, six copper-alloy objects, one iron brooch, several fragments of glass and melted glass, a date, and several nails and hobnails. This burial pit also contained the most cremated bone recorded from one of these features (475g).

Fuels used in pyres and busta

The environmental analysis of some of the deposits from the busta, the pyre sites and the burial pits containing pyre debris (including deposits from Area C2) has also proved interesting. It indicates that, while wood was probably used as the principal fuel type during cremation, a number of other materials were added either as kindling or as offerings to the deceased. These other materials include rare weed seeds (including gorse seeds), tree/shrub macrofossils, and cereal grains (Fryer, this report). All of these could have been used as kindling and indeed gorse, when dry, burns at a very high temperature throughout combustion. Similarly, some of the burnt animal bone identified on the burial sites could have been used as fuel as fresh or dried bones are known to be used for fuel, burning as long as wood in many cases (Curl, this report).

Burial markers

Roman burials were often distinguished by burial markers so that families could return to the graveside to commemorate the dead. These markers could be elaborate and high status stone mausolea or barrows (as at Area C2) or by wooden structures, pots, wooden post (containing the deceased's name and any other information) and piles of stones. Thirty-four post-holes were identified on Area J1 North that were cut into or near to burials. Twenty-eight were single post-holes which probably represented a single wooden post associated with a single burial. Two post-holes were also recorded in two of the burials. It is uncertain what these two post-holes would have represented above ground, although they are likely to have been either two simple wooden posts or two wooden posts with something attached between them. The last four post-holes were all recorded in one single burial. This burial is of especial importance as the post-holes were cut into each of the four corners of the grave but appear to have been sealed by the coffin. This may indicate that these posts were not used for burial markers but may have been used in a lever or pulley system to manoeuvre the coffin.

As well as placing pottery vessels as a marker, some cremation urns were buried with their rim above ground level. This would not only act as a marker but would allow food, drink and other items to be placed with the remains of the deceased for months and years after burial. On Area J1 North the surviving patches of metalled surface on the road provided an approximate height of ground level in Roman times. Using this data, we were able to determine if any of the cremation urns had been buried in this way on this site. However, the data indicates that they were not, as only two of the urns were buried high enough that their rims could have been above ground level.

The evidence from the post-holes and the cremation urns indicates that only a few of the burials on this site had markers. This could be explained in two different ways. First, it could simply be a matter of survival. It is possible that the severe inter-cutting of Roman features on the site and the modern disturbance has removed all trace of any markers and that any markers located above ground have been lost of the intervening years. Or second, few burial markers existed on the site, which is indicated by the large number of inter-cutting burial features. If the burial sites were being marked and remembered it is less likely that a later burial would be cut through it. As such, the inter-cutting would seem to indicate that few burial markers were used.

Burials within quarry-pits

A large number of the burials within Area J1 North had been placed in the fourteen quarry-pits identified on the site (see below). The quarry-pits are the earliest Roman features identified on the site and many of the concentrations of burials focus on these pits. This might be explained by the softer ground conditions in these locations; more burials were placed in these pits because the ground had already been dug over and so was easier to dig into. However, many of the burials appeared to have dug into the quarry-pits as they had been backfilled. This would indicate that the quarry-pits were not backfilled after being dug, but were allowed to gradually silt up, during which times a series of burials were cut into them.

Area J1 South Burial Plot

Location

The burial plot identified within Area J1 South was located approximately 550m to the south of the walled town, 150m to the south of Area J1 North and to the west of the Roman circus. It was also within an area of Roman Colchester (to the south, south-west and west of the walled town) which was known to include a high concentration of cemeteries, cemetery areas, burial plots and individual burials (*CAR* **9**, 258-275). It was located within a small agricultural field along the western side of a large Roman road which was identified running across the middle of Area J1 (see below); and indeed this road acted as the eastern boundary of the burial plot. The placement of burial sites along major roads is a well documented practice both within Roman Britain and Colchester, and this road was clearly a factor in the placement of this plot.

The tradition of burial within agricultural fields has been widely documented across the Garrison – on Area Q of GAL sites (this report) and Area 6 of new garrison redevelopment (CAT Report 292). It is usually associated with families or distinct groups of people who lived and worked on the land, and buried their dead in a symbolic relationship to that land. The existence of enclosed land with ancestral burials implies that the settlers regarded their land as private and as a resource not to be shared with neighbours.

Size of the burial plot

The Area J1 South burial plot measured at least 30m north to south by 30m across. It was bounded to the east by the large Roman road which was identified running across the middle of Area J1 (see below) and to the south and west by a right-angled droveway. The northern edge of the burial plot was not identified during the excavation although it should be located

somewhere between the northern edge of Area J1 South and the southern edge of Area J1 North.

Date

Dating evidence from the Roman burials indicate that this burial plot was in use from the 2nd to the late 3rd century, with no absolute evidence for it continuing into the 4th century. This would indicate that it was broadly contemporary with the Area J1 North cemetery area, although it does start slightly later in date.

The cemetery population

Human bone was only recorded from five of the cremation (urned and amphora) burials which represents five separate individuals, but the bone from two of them was subsequently lost during the post-excavation process. The remaining three individuals were all adult and of indeterminate sex. No pathologies or familial traits were identified.

The inhumations

A single inhumation burial was identified within the burial plot. The body had not been buried within a coffin and no burial goods were placed with it. The lack of material within the burial meant that it could not be dated, so we do not know whether this inhumation was earlier than the cremations or later. The absence of material would also indicate that this was a fairly low status burial.

The cremation burials

A total of six cremation burials were identified within the burial plot.

Urn or amphora: Four of the burials were urned cremations and buried within jars, and two were amphora cremations. Amphora cremation burials, although not common, are known from Colchester and usually contain a number of burial goods (*CAR* **9**, 265-6). Evidence from these previous burials indicated that the use of amphora cremation burials dated to the 2nd and 3rd centuries, and the dating evidence from the Area J1 South features ties in with this date. One of the amphora burials on this site also included two amphoras (although the second amphora was empty of finds).

Burial goods: Out of the four urned cremation burials only one contained extra burial goods which consisted of a single flagon. In contrast the one surviving amphora burial (the other having been almost completely destroyed by later activity) contained a quantity of goods. As well as the second amphora, two jars and a bowl (which had been used as a lid) had been placed next to the amphoras, and a jar, a copper-alloy open lamp, two frit melon beads, a bone shaft fragment and a bone bead were recorded from inside the amphora. The open lamp is an extremely unusual type and has strong visual links to horses, which may be significant given the location of the circus immediately to the east of the site.

Status as shown from presence of burial goods: Using the presence of burial goods as an indicator the three urned cremation burials without burial goods would be of low status, the urned cremation with flagon would be of slightly higher status and the amphora burials would be of the highest status.

Burial markers

Roman burials were often distinguished by burial markers so that families could return to the graveside to commemorate the dead. These markers could be elaborate and high status stone mausolea or barrows (as at Area C2), wooden structures or single wooden posts (as at Area J1 North) or they could be piles of stones and pots. None of these burial markers were identified on Area J1 South. However, cremation burials could also be buried with either the cremation urn (in urned cremation burials) or the amphora (in amphora cremation burials)

partially sticking out of the ground. This would mean that the vessels both acted as a marker and meant that food, drink and other offerings could be placed with the deceased long after burial. Using the surviving metalled surface of the Roman road it was possible to estimate Roman ground level and calculate if any of the burial pots were buried partially above ground. The data revealed that all of the urns and amphoras in the plot were buried in this way.

Area J1 East and the three burial pits containing pyre debris

Location

The burial features identified within Area J1 East were located approximately 500m to the south of the walled town and immediately to the south of the Roman circus. They were also within an area of Roman Colchester (to the south, south-west and west of the walled town) which was known to include a high concentration of cemeteries, cemetery areas, burial plots and individual burials (*CAR* **9**, 258-275).

Size of burial area

Given the evidence, it is likely that Roman circus acted as the northern boundary of the burial area, but the southern, eastern and western edges of the area were not identified during the excavation.

Date

Unfortunately only one of the burial pits contained a substantial amount of dating evidence and provided a date from the early-mid 2nd to the early 3rd century. Of the other two pits, one contained four sherds of pottery dated from the 1st to the 2nd/3rd century and the other contained no dating evidence.

Area J1 East and the Abbey Field cemetery area

It is possible that the burial features identified on Area J1 East formed part of an individual burial plot similar to that identified within Area J1 South. However, it is perhaps more likely that they are outliers of the Abbey Field cremation cemetery, identified in 2000 (CAT Report 138) and located 40m to the south of this site, although the date of these may be earlier. This cemetery area consisted of 78 burial features consisting of cremation burials (urned, unurned and boxed) and a number of pits containing pyre debris. The northern edge of this cemetery area was not identified during the 2000 excavation and it is possible that the burials continue underneath the modern road and that the Roman circus acted as this northern boundary.

Area Q burials

Three probable Roman inhumation burials were recorded within Area Q. The tradition of burial within agricultural fields has been widely documented across the Garrison – on Area J1 South of the GAL sites and Area 6 of new garrison redevelopment. It is usually associated with families or distinct groups of people who lived and worked on the land, and buried their dead in a symbolic relationship to that land. The existence of enclosed land with ancestral burials also implies that the settlers regarded their land as private and as a resource not to be shared with neighbours.

Comparison of four southern cemetery areas

The GAL cemetery excavations have provided a great deal of new information from which it is now possible to conclude that the Colchester cemeteries were extremely varied, even during the same periods of use. As indicated above, this probably relates to a large degree on the ethnicity of the group buried.

The following table illustrates the similarities and variations between the Butt Road cemetery (*CAR* **9**) the J1 North burial ground (this report), the Abbey Field cemetery area (CAT Report 138) and the C2 (Napier Road) cemetery (this report).

Table 1.88. Comparison of cemetery areas Area C2, Abbey Field, Area J1 North and Butt Road.

Characteristic	Area C2	Abbey Field	Area J1North	Butt Road
Early cremation burials (1st/2nd C)			✓	✓
Early inhumations (1st/2nd C)			✓	
Busta burials (1st/2nd C)			✓	
Pyre sites (1st/2nd C)			✓	
Late cremation burials (3rd/4th C)	✓	✓	✓	
Late Inhumations (3rd/4th C)	✓		✓	✓
Burial pits with pyre debris (1st/2nd C)			✓	
Burial pits with pyre debris (3rd/4th C)	✓	✓	✓	
Intercutting burials (significant nos)			✓	✓
Mausoleum	✓			?
E/W aligned graves dominant	✓			✓ (period 3, c 300-400+)
N/S aligned graves dominant				✓ (period 1 phase 3 c270-330)
Graves mainly aligned with landscape features (eg road)	✓		✓	
Presence of 3rd/4th C Roman Barrows	✓			
Jet Bears	✓	✓		
Evidence for burial plots	✓	✓	✓	✓
Decapitation burials	✓			

Table 1.88 shows that these burial areas have significant variations in character. The Butt Road cemetery, some 200m north of Area J1North, is dominated by inhumations with only a few cremation burials. In Period 1 phase 2 (?3rd century to *c* 270/300/320; *CAR* **9**, 4) the site was parcelled up into plots by ditches, and a few cremations and uncoffined inhumations followed. Later, in Period 1 phase 3 (*c* 270-330, ibid) a more formally-arranged pagan inhumation cemetery with north-south aligned inhumations was laid out across the site. In Period 2 (*c* 330-400+) the alignment of graves switches to east-west, at a time thought to coincide with the official coming of Christianity to Britain. The progression from pagan to Christian is not necessarily traced at all within the other three areas. The east-west aligned graves in C2 may simply respect the alignment of the ditch against which they were buried, whilst those in J1 North mainly follow the north-west/south-east alignment of the road in all periods.

The late cemeteries at Abbey Field and Area C2 are sufficiently similar to one another, particularly with respect to the presence of child burials containing jet bears and cremation burials, to indicate they form part of a wider burial zone of the same general character in the late period. It has been indicated above that this cemetery was set aside for peoples of Germanic origin at Colchester, potentially representing the late garrison. The discovery of a late barrow burial beneath Circular Road North (*see* CRN 2007 report below) almost certainly confirms this, although it is interesting to note that that burial contained an inhumation rather than a cremation burial (as found in C2). The J1 North cemetery is a complete mix of early to

late cremation burials and early to late inhumations of various alignments and may be considered to represent a mixture of Romano-British residents of the town and incomers from the continent. The presence of *busta* here may represent members of the Roman army or their families. Another *bustum* has recently been discovered beneath Circular Road North (*see* CRN 2007 below), although this lay some 80m to the west of the Abbey Field site, possibly in a separate cemetery area.

The Roman road (Area J1)

The road identified in the excavations of Area J1 North and South was recorded for a distance of 254m and it ran in a sweeping arch from a north-west to south-west direction across Area J1. It consisted of two substantial roadside ditches (particularly large on the western side) flanking a 24m wide section of road that was at least partially metalled. The scale of the road would indicate that it was a route of some importance and the manner in which the road curves westwards away from the circus may imply that the circus was already in existence when the road was conceived or that the two elements were part of a planned landscape.

If this road continued in a north-westerly direction it is likely to have linked up to a major Roman road junction (Fig 1.2). This junction stood approximately 500m from the south-west corner of the walled town and was at the point where the main road leading out of Balkerne Gate joined with the roads leading to Gosbecks, Sheepen, London and possibly also to the Hythe waterfront. Similarly, if it continued south then it would have connected to the track that led past the Roman villa/farmstead in Kirkee McMunn Barracks and on towards the Musket Club enclosure (CAT Report 292). The extent of this road to the south of Abbey Field has been well documented (as cropmarks and in the 2002 evaluation trenches), however the line of the road through Abbey Field can only be estimated. If this road does continue north-west and south/south-west along this projected lines then it would have been part of a major route leading from the road junction into the agricultural hinterland of the town, and would presumably have played a part in moving agricultural produce and people around the landscape. The wide nature of the route is particularly evocative of the movement of large herds of stock, and indicates that this area (eastern Camulodunum) was a major producer of stock.

Dating evidence from the ditches spans the 1st to 3rd centuries. A mid 2nd century Roman coin was recovered from the very base of the western roadside ditch in Area J1 North, indicating that the ditch had been cut and was in use in this period. However, the coin hoard identified in this same western roadside ditch in Area J1 East contained a coin hoard dating to the early 2nd century, within its mid to upper fill. It has been concluded (above) that this probably reflects recutting/cleaning of the ditch in J1 North, but that this had not been conducted beyond the main cemetery area, within the ditch to the south-east. It is also indicated that the cemetery in J1 North began against the road in the mid 1st century and therefore the road was in existence by then. There is no evidence that it was in existence at an earlier date. The 4th century date of at least two burials in J1 North indicates that the access was probably still in use to some extent at this time.

Roman quarry-pits

A total of sixteen quarry-pits were recorded on the GAL sites (fifteen in Area J1 North, one from Area J1 East and one from Area C2), which were probably used to quarry building sand and gravel for construction works around the town. As such, the proximity of the Area J1 East and Area C2 quarry-pits to the Roman circus would indicate that the quarried materials were used in the construction of this structure. Similarly, most of the quarry-pits in Area J1 North were located along the eastern edge of the Roman road. This would indicate that the pits were dug to quarry the gravel used to metal the road surface. All of the quarry-pits were earlier than the Roman burials identified on the site, and if the Area J1 North quarry-pits were used to gravel the road it would indicate that the road was earlier than the burials.

Similar quarry-pits were identified within the eastern cemetery of Roman London (Barber & Bowsher, 2000, 52-54). These pits were also some of the earliest Roman features identified on the cemetery sites and were earlier than most of the Roman burials recorded there. The quarry-pits identified both in London and on the Garrison site provide evidence for an early Roman land use, and indicate that the land was only given over for burials after it had been quarried.

Roman field system

The land to the south of the fort and later the town is likely to have supplied agricultural produce for the new market. The northern edge of this agricultural landscape appears to have been marked by the burial grounds to the immediate south of the Roman circus and by the Roman road within J1 (with agricultural areas to the south and south-west). Since the burial grounds developed over time it is likely that some cemetery areas in the northern area of Abbey Field had previously been used for agriculture.

A number of field boundary ditches and droveways were recorded on the GAL sites. One small plot was identified within in Area C2 immediately south of Burial Plot 1 and west of Burial Plot 2. This field appeared to have been accessed by a right-angled droveway, which ran around the southern and eastern sides of the field. A second very similar field or plot was identified within Area J1 South immediately to the west of the Area J1 road. This field was also accessed by a similar right-angled droveway, which ran around the western and southern sides of the field. This field had also been used as a burial plot and contained at least seven Roman burials, but it is uncertain if the area was used as both a burial plot and field concurrently or whether it was first used for one purpose then the other. Similar field boundary ditches were also recorded within the evaluation trenches on Area E, and O indicating that the Roman field system continued southwards. The north-south/east-west alignment of these divisions respects both the alignment of the Roman town and the circus. The only variation to these alignments is the road in Area J1 that kinks from a north/south alignment apparently to avoid the circus area.

The evidence from these sites would indicate that the land south of the circus and between the cemeteries/burial plots was farmed following the instigation of a designed landscape. The presence of two droveways would indicate that the fields had been predominately used to keep animals. The occurrence of fields, droveways leading to fields and animal pens (Area Q) indicate the importance of livestock to the Roman occupants of the area. Faunal analysis has demonstrated the dominance of cattle over sheep/goat (almost five times as many identifiable components) within the Phases 1-2 GAL sites (Curl, this volume). These include large numbers of cattle jaws and cremated bone apparently symbolically scattered or spread all the way along the eastern ditch defining the J1 road. It is perhaps most probable that these were remains of cattle burned on pyres during burial ceremonies connected with the adjacent Roman cemeteries. Other possibilities are that the bone was derived from feasting associated with either funerals or the nearby circus games. The presence of these fields also indicate that the large agricultural field system, known to have been laid out to the south of the walled town (CAT Report 292), probably extended from just beyond the southern walls of the circus. Given the proximity of the two fields to the circus it is tempting to indicate that they may have been used as paddocks to hold horses on race days. Alternatively it is possible that they were elements of permanent stud farms for the circus, although this possibility cannot be overstated on the basis of the evidence. Horse bones were the third most prominent animal remains (57 identifiable elements) with areas C2 and J1 East, adjacent to the circus, providing almost all of this bone (29 and 21 elements respectively). Interestingly, Curl (this report) notes that all were mule or pony sized, which fits with the known small size of horse used in circus racing on the continent. Horse teeth from Area C2 indicated an animal under physical stress that could be due to malnutrition but could also relate to racing.

The identification of the role of plant remains in the provision of fodder for stock, fuel, thatch, and bedding, in addition to the basic role of crops as provision of staple food for human consumption is a theme dependant on the results of environmental sampling, which has been disappointing. This should not be surprising given that most of the areas excavated had a dominantly non-agrarian function (circus and cemetery areas). All but one of the areas (Area S1) investigated during the GAL project contained part of the Roman co-axial field

system which was laid out over the Late Iron Age oppidum and the agricultural hinterland of the Roman town. The presence of field boundary ditches in Area Q revealed three Roman fields (possibly with Late Iron Age origins). The fields on Area Q were particularly large, with Field 2 measuring at least 24,800m2 and Field 3 18,000m2 (estimated).

Although the majority of the features associated with the co-axial field system were Roman in date, there was some evidence, primarily from the new garrison sites, to indicate that at least several of these Roman boundary ditches originated within the prehistoric period (see below). It appears that a north-east/south-west and north-west/south-east aligned landscape was already a ditch defined landscape of fields before the Roman invasion, at least in the area to the south of the Abbey Field (CAT Report 292). This existing field system was simply incorporated into the Roman version – which appears to have included the addition of double ditches to form 'droveways' for stock (as in Area C2 and Area J1 South). This finding is important as it indicates that there was not necessarily an aggressive or complete reorganisation of the landscape to the south of the new Roman town after AD43 (eg 'centuriation' – the creation of rigidly co-axial imperial estates). However, if the field boundary ditches of GAL Areas C2, E, J1, O and Q also originated within the Iron Age period no trace of the earlier landscape was found during these archaeological investigations.

As indicated the question remains as to whether the northern area of the garrison (the Abbey Field and adjacent area) was wooded at the time of the Roman invasion. The finds information, combined with the lack of datable Late Iron Age ditches indicates that this is possible, with virtually no data to support Late Iron Age activity within this area of the oppidum immediately prior to the early Roman phases. Indeed Sealey (above) has indicated that the landscape was forested after the Late Bronze Age until the Roman period based on pottery data. Given that many of the Roman ditches (including the ditch directly below the southern outer *cavea* wall of the circus) conform to the east-west and north-south orientation of the Roman town, the possibility exists that the landscape to the south town, at least as far as Area O, was part of a Roman re-organisation of the landscape following instigation of the fort, and later the town, This would explain the strange kink from this alignment to a north-east/south-west and north-west/south-east aligned landscape to the south of Area O, as an older oppidum influenced landscape then incorporated into the Roman landscape.

The southern Area Q ditches must be viewed in the context of the wider contemporary landscape. Several phases of ditch cutting were identified within the new garrison Areas 6 and 10, including a probable pre-conquest Late Iron Age phase (probable in the case of Area 10 and possible in the case of Areas 2 and 6) and several 1st to 3rd century Roman phases. As noted above it appears that there was already a defined co-axial landscape of fields before the Roman invasion and that the existing field system was simply incorporated into the Roman version (which appears to have included the addition of double ditches to form 'droveways' for stock). This finding is important as it indicates that there was no aggressive wholesale reorganisation of the landscape to the south of the new Roman town after AD 43 (eg 'centuriation' – the creation of rigidly co-axial imperial estates). However, the ditches from Areas O and Q (and C2, E and J1) appear to be solely Roman in date and if they did replace a Late Iron Age field system no trace of it was found within the archaeological investigations. As indicated above, it is therefore possible that certain areas were still wooded in the Late Iron Age and were not cleared until after AD 43.

The excavation of two possible Roman animal pens, via erosion hollows and stake holes, and a fence line in the Area Q fields, and the close proximity of two droveway ditches to those same fields, indicates that livestock was being kept and farmed on the site (possibly for meat, milk, wool etc). The evidence from this site is paralleled on Area 6 of the new garrison, where a larger animal pen was also found within a series of fields, which were connected by three droveways. Cumulatively, this evidence indicates that much of the field system laid out over the south of the walled town was used to keep domestic stock. The presence of two hearths on Area Q may also be associated with the people who kept and farmed the animals.

Roman villa/farmstead

The modest status villa/farmstead recorded on Area E is only Roman settlement activity to be recorded on any of the GAL sites and is the nearest settlement building to be (so far) identified to the south of the town. The villa/farmstead had existed in two phases – an earlier

timber-framed building replaced by a later building with masonry wall foundations – and had been placed within a ditched compound within a pre-existing ditched field system (two of which were cut by the structure). It is possible that the earlier timber building was associated with the early ditches and field system, and that the later building and rectilinear enclosure was built on top of it, but there is no firm evidence to corroborate this. The dating evidence reveals that the site was in use from the late 1st/early 2nd to the mid/late 3rd century.

Only one other Roman settlement has been discovered on the Garrison site. This building, located within the south-east corner of the Kirkee McMunn Barracks, interestingly also appears to have been a moderate status, simple Roman villa/farmstead. The presence of two similar villas/farmsteads within the agricultural hinterland of the Roman town would indicate that these buildings acted as the administrative farms for the agricultural land they were located in. This is supported by the fact that both villas/farmsteads were connected to the town by Roman roads – the new road recorded within Area J1 is believed to have passed close to the Kirkee McMunn building and the road leading south from the South East Gate of the town (down the line of the modern day Mersea Road) would have passed immediately to the east of Area E. If these two buildings did act as administrative centres, then being able to transport people, goods and animals from them to the town centre would have been of primary importance.

The ancestry of the owners of these two farms lies at the heart of the debate as to whether or not this land was confiscated for veterans following AD43. Neither villa/farmstead site contained any evidence for having been in existence in the Late Iron Age *oppidum*, although there is evidence (particularly around the Kirkee McMunn site) that field systems for agriculture were in operation at this time. Therefore, we have no firm evidence as to whether the occupants of these sites were Roman or native British.

Roman industry

Three fragments of glass were identified on Area C2 which may have been debris from a nearby glass-blowing site. No other evidence of Roman industry was identified on any of the GAL sites. A Roman tile kiln is however recorded at the Arena Club to the west of Circular Road East (and Area C2). As noted (Pooley, above) this may no be interpreted as built specifically to supply tile for the construction of the adjacent Roman circus.

The Roman landscape

The Roman conquest of *Camulodunum* inevitably had a significant effect on the settlement pattern of Britain and it is unlikely to be coincidental that a large number of Late Iron Age sites were abandoned at around this time. This need not always have been as a result of land confiscation or conflict as relocation of sites may equally have been stimulated by a need of more suitable locations to take advantage of the new Roman roads/market centres. Despite this apparent disruption, in many cases there appears to have been continuity of occupation at sites from before the invasion to well after it. It is clear from Tacitus that some land was indeed confiscated from the Iron Age inhabitants of *Camulodunum* and its surrounding farmlands, for reallocation to citizens of Rome. There will have been immediate and longer-term effect of the establishment of the Roman fortress of legion XX Valeria and subsequently of the *colonia* on the infrastructure of the Iron Age *oppidum* although it is clear from the excavations at Sheepen, to the north-west, that elements of the *oppidum* continued in use into the Roman period.

Some of the most striking changes are located along the northern ridge of the Abbey Field, on the high ground overlooking the Roman town. These changes included the establishment of the monumental stone circus (and presumably related ancillary activities); a road system leading from the town into the agricultural landscape; and the large cemetery areas and the smaller burial plots. Further to the south the changes were not necessarily so pronounced. The landscape continued to be farmed but included the addition of a number of droveways and at least one Roman villa/farmstead (Area E, see below), which presumably acted as an

estate centre. There is no direct evidence for the effects all of this activity had on the native population within GAL areas.

The lack of clearly identifiable Late Iron Age landscape features and almost total absence of pottery of the period in the northern GAL sites, to date, may be particularly significant. One possibility is that this area was wooded before the invasion and that the establishment of the legionary fortress had the initial effect of clearance of the trees from the surrounding area for its construction. A study of the fortress at Inchtuthil (Shirley 2001) has emphasized the very large quantities of timber and wood of various sorts needed to construct fortresses such as the one built at Colchester in the AD 40s. The subsequent town at Colchester would also have placed similar great pressure on the woodlands in north-east Essex – and again when it was rebuilt following the Boudican fire. It would thus not be surprising to find a marked reduction in woodland within the *oppidum* c AD 43-70. A related issue is whether the Roman authorities chose a wooded location for the town and its immediate surrounds rather than impose it upon an inhabited area. The limited evidence for late Iron Age landscape in the northern GAL areas, c 400m south of the town is clearly of interest in this context although it would be unwise to draw firm conclusions at this stage.

Medieval activity

Evidence for medieval activity on the GAL sites is directly associated with the demolition of the Roman circus. A total of 23 sections of medieval robber trench were identified over the Roman circus (over the outer and inner walls, the two entrance walls in Area J1 East and the cross-wall in WBT1 of the Watching Brief). In the centuries after the Roman period a number of building works took place within the town that required a large amount of building material. Surviving Roman structures were robbed of any and all usable stone, brick and tile which was then reused during these building works. The Norman Castle and the medieval St. John's Abbey are just two examples of post-Roman buildings being constructed out of Roman building material. From this evidence it would appear as though that, in the medieval period, the last remains of the Roman circus also succumbed to this fate.

Dating evidence recorded from these medieval 'robber' features dates this activity mainly to the 11th and 12th centuries. This date ties in nicely with the foundation of St. John's Abbey in AD 1095 (VCH IX, 40; *CAR* **1**, 40-41), which would have created a huge demand for building stone. As the remains of the Roman circus were located immediately next to St. John's Abbey it is likely that the destruction of circus is linked to the construction of the Abbey. Moreover, the Abbey's precinct wall was partially built along the line of the circus' spina. This would mean that the destruction of the spina would have to date to either before or to the same time as the construction of the wall (which is likely to have been constructed during the main phase of building at the Abbey, between AD 1095 and AD 1115) (VCH, 303). All this evidence indicates that the Roman circus had at least partially survived up to the 11th to 12th centuries at which point it was heavily robbed during the construction of St. John's Abbey.

However, a number of pottery sherds were identified within the robber trenches/demolition layers that date to the late 12th to 13th centuries, the 13th to 16th centuries and the 15th to 16th centuries. Although a number of these sherds may be intrusive, it is likely that several additional sporadic phases of robbing were occurring in the 13th and very probably as late as the 15th century.

Post-medieval activity and the English Civil War

Post-medieval activity on the GAL sites was identified on Areas C1, C2, E, J1 and during the Watching Brief. This activity consisted of 17 pits, seven ditches, two quarry-pits, a gully, a road and a roadside ditch. The eight pits identified on Area C2 and the three pits identified during the Watching Brief could not be dated. However, all of the remaining post-medieval features contained some dating evidence.

The earliest post-medieval activity recorded on the GAL sites dates from the 15th to the 16th centuries. These features included the quarry-pits identified on Area J1, the ditch

identified in the watching brief and all of the post-medieval features identified in Area J1 South. The evidence recorded from Area J1 South indicates that many of the ditches and the gully acted as field boundaries within a rural and agricultural landscape (and many of the pits were probably associated with this activity). However, the quarry-pits are likely to have been used for the quarrying of sand and gravel for building works within the town; which would indicate a more industrial function for at least part of this landscape.

A ditch and pit identified during the evaluation of Area J1 date from the 16th to the 17th centuries, but the remaining post-medieval features all date from the 17th to the 18th centuries. These features consist of two parts of the same ditch and a pit identified in Area C1, a ditch identified in Area E and a road and roadside ditch identified in Area J1 West. Due to the date and location of these features it is possible that they were associated with the English Civil War. The St. John's Abbey precinct (located immediately to the north of Area C2) was used as a fortified Royalist stronghold during the Parliamentarian siege of Colchester in 1648, and a Royalist defensive network is thought to run east-west through Abbey Field. During the siege the Parliamentarians also built a string of forts around the town linked by a substantial ditch and bank. Although the precise line of these fortifications has never been established, the 1648 siege map (CAT 1998) shows that some of these are located along the northern ridge of the Garrison PFI site. So, it is possible that some or all of these 16th to 17th century features were associated with the Civil War. The road/trackway in Area J1 West may have been connected to the Royalist defensive network running through the Abbey Field, and may have been used to transport armies and provisions. Also, the post-medieval ditch recorded in Area E may be part of the 'laager' (ditch and bank), which connected most of the various Parliamentarian forts and gun emplacements that surrounded Colchester during the siege. In particular this ditch may be associated with Fort Needham, which is thought to have been located on Mersea Road.

Modern/military features

A number of modern/military features were recorded across the GAL sites. The vast majority of these features were associated with the activities of the Colchester Garrison, which has been present on the sites since the late 18th century. The earliest military features identified on the sites were the foundations of the Le Cateau Barracks recorded in Area J1 North. These barracks were first set out in the 1860's and originally would have comprised a of a central Officer's Mess facing onto Abbey Field, with two parallel rows of three stable blocks/barracks facing in the same direction and ranked on either side of it. A fourth, and slightly shorter, parallel building would have stood at the rear of each row. Two out of the four blocks to the south of mess have survived and the foundations of the others were those identified during the investigations.

Several features dated to World War I and II were also identified. The World War I features consisted of several fire trenches recorded in Area J1 East. These consisted of a series of 'zigzag' trenches along the eastern side of the site which were similar to the trenches recorded in Area F during the 2002 evaluation (CAT Report 246). Trenches of this kind are mock-ups of front line fire trenches used to train troops before their deployment to France. The 'zigzag' construction of the trench system would prevent an enemy from firing a machine gun down the length of the trench.

A number of features dated to World War II were also identified on the sites. A total of six air-raid shelters were recorded on Area C2; four were identified during an earlier watching brief (CAT Report 319) and two were identified during the excavation of Area C2. A communication trench, also identified during the excavation, was also found to link three of the shelters. Lastly, the pit containing the stash of 'Molotov Cocktails' is also dated to this period. These petrol bombs would have been used by the Home Guard had Britain ever been invaded. Six World War II air-raid shelters were also identified on Area J1.

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Appendix 1.1: Area C2 catalogue of burials

Area C2 evaluation

CF24: unurned cremation burial
Description: Burial pit CF24 was an oval feature, 0.52m by 0.36m and 0.10m deep, containing a cremation burial.
Cremated human bone: Bone present but subsequently lost.
Burial goods: A bowl (CF24.1), a copper-alloy coin (.2) and an iron nail fragment.
Date: Late 3rd century.

CF24.1 Bowl (C39). Illustrated. Cam 299 bowl Much of pot present as sherds although the lower part of the base is broken away. Dark surfaces with sandy grey-brown fabric. Fabric GX. Early Antonine-4th century.

CF24.2 Coin (C43), small find no. 6. Coin of Claudius II, *antoninianus*, Claudius II, rev. *Consecratio*, eagle; *RIC* 366; AD 270. The coin in this grave shows no signs of burning. The reverse image and legend are funerary, as the type was issued to commemorate Claudius II after his death, and the type was also used in CF206. It is, however, also common as a site find.

Iron nail (C42). Iron shank fragment, length 25mm.

CF27: Inhumation burial (grave 1)
Description: Inhumation burial CF27 was located within grave 1. The grave was aligned north-west to south-east but the north-west end of the grave had been completely cut away. The surviving grave measured 1.3m by 0.53m and was 0.14m deep.

Inhumated human bone: Approximately 50% of the skeleton (1960g) had survived within the grave, consisting of the lower body and skull from a young adult (20-35 years) who was possibly female and measured 173.3cm +/- 3.72cm. The skull/head appears to have been decapitated from the body and buried under the feet, although little evidence for severance of the head prior to death or decomposition was recorded on the skull.
Residual finds: Pottery sherds, some tile and a single animal bone fragment.
Date: Late 2nd to the mid-late 3rd century + (based on the date of the residual pottery sherds).

CF30: urned cremation burial
Description: Burial pit CF30 was a sub-circular feature, 0.48m in diameter and 0.18m deep, containing a disturbed urned cremation burial.
Cremated human bone: No bone had survived.
Burial goods: A jar/bowl (CF30.1) had been used as a cremation urn.
Date: Late 2nd to the 4th century.

CF30.1 Jar or bowl used as a cremation urn (C56). Lid seated jar or bowl, much of upper part of pot present although there are no base sherds, possibly a Cam 307, Fabric GX. Late 2nd to 4th century.

CF31: urned cremation burial
Description: Burial pit CF31 was an oval feature, 0.66m by 0.59m and 0.24m deep, containing an urned cremation burial.
Cremated human bone: A total of 1232g of cremated bone was recorded from an adult individual (over 20 years) of indeterminate sex. Evidence of Schmorl's nodes (spinal disease) was identified on the bone.
Burial goods: A pottery vessel (CF31.1) had been used as a cremation urn.
Residual finds: Pottery sherds, some brick and tile, and a single animal bone fragment.
Date: Early to mid 3rd century

CF31.1 Jar used as a cremation urn (C55, C94). Illustrated. Cam 278 jar, most of lower part of pot though much of upper part is missing, Fabric KX. Early-mid 3rd century.

CF32: Inhumation burial (grave 29)
Description: Inhumation burial CF32 was located within grave 29. The grave was aligned north to south, measured 1.10m by 0.70m, and was 0.23m deep.
Inhumated human bone: No bone had survived.
Residual finds: Pottery sherds, a fragment of ceramic building material and an iron nail.
Date: 1st to the 2nd/3rd century + (based on the dates of the residual pottery sherds)

CF33: urned cremation burial
Description: Burial pit CF33 was an oval feature containing an urned cremation burial. Part of the feature was located outside the evaluation trench, but it measured approximately 0.65m in length and was 0.15m deep.
Cremated human bone: A total of 895g of cremated bone was recorded from an adult individual (over 20 years) of indeterminate sex.
Burial goods: A jar (CF33.1) had been used as a cremated urn, fragments of a lid (.2) were identified and a single iron nail was recorded from inside the urn.
Residual finds: Pottery sherds, some brick and tile.
Date: Probably 3rd or 4th century.

CF33.1 Jar used as a cremation urn (C51, C73). Illustrated. Jar with two bands of combed wavy line decoration around shoulder, much of pot present although upper part very broken up, Fabric GX.

CF33.2 Lid (C51, C73). Illustrated. Colour-coated lid with seated rim, much of centre of lid although most of the rim is missing. Surfaces slightly abraded especially around the two joining rim sherds although these have no join with the main body. Patchy brown colour-coat over reddish-brown fabric. Fabric CZ. Early 2nd to mid-late 3rd century.

Iron nail (C73), small find no. 12. Incomplete iron nail, length 23 mm.

CF38: urned cremation burial
Description: Burial pit CF38 was a sub-circular feature, 0.60m in diameter and 0.25m deep, containing an urned cremation burial.

Cremated human bone: A total of 641g of cremated bone was recorded from a young adult (20-35 years) of indeterminate sex. Evidence of Schmorl's nodes (spinal disease) was identified on the bone.
Burial goods: A jar (CF38.1) had been used as a cremation urn.
Residual finds: Pottery sherds, some brick and tile.
Date: Roman.

CF38.1 Jar used as a cremation urn (C85). Illustrated. Jar, complete lower half of pot although some sherds loose or broken away on one side, the old breaks around top of the surviving lower half form an uneven and ragged broken edge so that it does not appear that the pot was deliberately cut down in antiquity. Fabric GX.

CF43: Inhumation burial (grave 2)
Description: Inhumation burial CF43 was located within grave 2. The majority of the grave was located outside of the evaluation trench, but the excavated segment of grave measured 1.00m by 0.80m and 0.63m deep and was aligned north-east to south-west. As the remainder of this grave was not going to be disturbed by future groundworks the lead coffin (see below) was left *in situ*.
Timber and lead coffin: A corner of a lead coffin liner (CF43.1 – .2) was identified within this grave along with three iron nails (.3) suggesting that the liner had been placed within a wooden coffin.
Residual finds: Pottery sherds and tile fragments.
Date: Late 2nd to the mid/late 3rd century + (based on the date of the residual pottery sherds).
Burial marker: This inhumation appears to have been located within the centre of a rectangular walled mausoleum (CF175).

CF43.1 Lead coffin. Left *in situ*.

CF43.2 Lead coffin strip or boss (C105), small find no. 7. Fragment of a lead strip or boss with bead and reel moulding from a decorated lead coffin. Length 21.5 mm, width 25 mm.

CF43.3 Coffin nails

Area C2 excavation

CF99: urned cremation burial
Description: Burial pit CF99 was an oval shaped feature, 1.29m by 0.82m and 0.32m deep, containing an urned cremation burial.
Cremated human bone: A total of 952g of cremated bone was recorded from a middle adult (35-50 years) female. Evidence of arthritis in the spine (spinal disease) and elbow (joint disease) was also identified on the bone.
Burial goods: A jar (CF99.1) had been used as a cremation urn, a dish (.2) had been inverted and placed over the urn as a lid, two iron nails were found within the urn and 11g of animal bone was identified within the pit. The animal bone could not be identified to species but may represent the remains of food or 'food for the afterlife'.
Date: Early 2nd to 4th century, although probably 3rd century to 4th century

CF99.1 Jar used as a cremation urn (C191). Illustrated. Cam 270B large storage jar with hooked rim and rouletted band around shoulder. The base is damaged and sherds from rim are loose. Sandy grey fabric. Fabric GX. The form is dated 1st to 2nd/3rd century (*CAR* **10** p 479), although the earliest dated illustrated vessel of this form type in Fabric GX (*CAR* **10** Fabric GX, type 165 no 588) is pottery Period Ending Group (PEG) 12, *c* AD 225-250 (*CAR* **10** p 7).

CF99.2 Dish used as a lid (C305). Illustrated. Cam 39A dish used as a lid inverted over CF99.1. Burnished arcs around exterior wall and a small part of the side missing. Fabric GA. Early Antonine to 4th century.

Animal bone (C306). Three fragments of animal bone, weighing 11g, were recovered from inside the cremation urn. These fragments could be identified as vertebrae, but not to an individual species.

Iron nails: (C301) clenched, length 14 mm; (C302) shank fragment, length (bent) 30 mm.

CF100: urned cremation burial

Description: Burial pit CF100 was an oval feature, 0.69m by 0.53m and 0.21m deep, containing an urned cremation burial.
Cremated human bone: A total of 759g of cremated bone was recorded from an adult (over 20 years) of indeterminate sex.
Burial goods: A jar (CF100.1) had been used as a cremation urn, a bowl (.2) had been used as a lid, a single iron nail was recorded from inside the urn and a fragment of animal bone was identified in the pit. The animal bone fragment could not be identified to species but may represent the remains of food or 'food for the afterlife'.
Date: Late 2nd to the 4th century.

CF100.1 Jar used as a cremation urn (C193). Illustrated. Cam 281 large narrow necked jar with rouletted bands on shoulder. All or most of pot present, upper half broken, sandy grey ware, Fabric GX. Late 2nd to 4th century?

CF100.2 Bowl used as a lid (C431). Illustrated. Cam 299 bowl, partial pot used as a lid over CF100.1, about one third of pot present mostly as joining sherds, sandy reddish-grey fabric with grey surfaces, Fabric GX. Early Antonine to 4th century.

Animal bone (C319). A single fragment of mammal bone, weighing 5g, was found inside the cremation urn.

Iron nail (C317). Incomplete iron nail, length 34 mm.

CF101: unurned cremation burial

Description: Burial pit CF101 was a small sub-circular feature, 0.26m in diameter and 0.11m deep, containing an unurned cremation burial.
Cremated human bone: A total of 79g of cremated bone was recorded from a juvenile (0-5 years) of indeterminate sex.
Burial goods: A beaker (CF101.1) had been placed next to the cremated bone and an iron nail was recorded on top of the bone.
Date: Mid 3rd to the 4th century.

CF101.1 Beaker (C194). Illustrated. Cam 395 pentice moulded beaker, almost complete though part of neck and all of rim missing, sandy grey ware, Fabric GX. Mid 3rd(?) to 4th century. Cam 395 is not a usual form in Fabric GX, (*CAR* **10**, p. 486). See also unurned cremation burials CF166.4 and CF207.1.

Iron nail (C195). Clenched iron nail, length (bent) 21mm.

CF102: Inhumation burial (grave 3)

Description: Inhumation burial CF102 was located within grave 3. The grave measured 1.62m by 0.80m, was 0.13m deep and was aligned east to west with the head buried at the eastern end.
Inhumated human bone: Less than 25% of the skeleton (289g) had survived within the grave, consisting of elements of the skull, pelvis, and upper and lower limbs from an adult (over 20 years) who was possibly male.
Timber coffin: A plan of the iron nails (CF102.1) shows that the body had been buried within a coffin which measured 1.44m by 0.44m.
Date: Roman.

CF102.1 Iron coffin nails (C19-C201, C207-209, C216-18).

CF105: Unurned cremation burial within ring ditch CF108

Description: Burial pit CF105 was an oval feature, 1.05m by 0.50m and 0.26m deep, containing an unurned cremation burial.
Cremated human bone: A total of 625g of cremated bone was recorded from an adult (over 20 years) male.
Burial goods: Two flagons (CF105.1 – .2) and a glass vessel (.3) had been placed in a row along the north-east corner of the feature. The western half of the feature was completely empty of finds except for a piece of slaggy pyre debris.
Date: Late 4th century +.

Burial marker: Unurned cremation burial CF105 was located within the centre of ring ditch CF108 which would have formed a barrow burial. The ring ditch measured 0.48m wide, 0.16m deep and enclosed an area 4.3m in diameter. It contained a quantity of animal bone and had a single 1m wide entrance along the eastern side of the ditch. No dating evidence was recorded from the ring ditch, but it is assumed that it is contemporary with the late 4th century + burial. The ring ditch had also been cut in two places by a World War II communication trench (CF118).

CF105.1 Flagon (C237). Illustrated. Cam 365 flagon, sandy orange brown with red colour-coated surfaces, Fabric CH. Whole pot although base has become detached. Late 3rd to 4th century.

CF105.2 Flagon (C238). Illustrated. Flagon, form unknown. Burnished with vertical burnish on neck. Sandy reddish brown fabric. Fabric CH. Whole body present and lower part of neck with handle scar, although rim missing. Late 3rd to 4th century, probably 4th century (dating based on Fabric type, *CAR* **10** p 297)

CF105.3 Glass (C239). Illustrated. Jug, complete but deteriorated rapidly upon exposure to air and now in many disintegrating fragments. Light greenish colourless bubbly glass. Vertical rim, edge probably fire-rounded; cylindrical neck; globular body, concave base. Oval-sectioned rod handle, simple upper attachment on neck, lower handle attachment with pinched projections. Height c. 130mm, rim diameter c. 35mm, base diameter c. 55mm. The vessel from this burial is in such poor condition that it had to be studied with large parts still encased in soil as otherwise it would have effectively dissolved into many minute granules. The drawing is thus an approximation, and it has not been possible to ascertain if the rim edge is fire-rounded, whether there is a pontil scar, what the precise form of the lower handle attachment is, etc. Despite this it is clear that this is an example of a small single-handled jug of a type first studied by Harden (1979, 217 Class VI) and also discussed in connection with an example recovered from the Butt Road cemetery (Cool and Price 1995, 137 fig. 8.12) and more recently in the East London Cemetery in London (Shepherd in Barber and Bowsher 2000, 206). These were a late 4th century form belonging to the range of vessels that developed in the last third of the century, and whose use continued into the 5th century. The presence of this vessel in Grave 105 provides good evidence of the cremation rite continuing in use at Colchester until the end of the Roman period there. The form appears to have been common in the town as it has been found not only here and at Butt Rd., but there are also three unprovenanced examples in the Museum collections (CM, Accession nos. 76.41, 235, and 702.04).

Amorphous slaggy lump of pyre debris (C271). 12 by 10mm.

CF111: unurned cremation burial

Description: Burial pit CF111 was a sub-circular feature, 0.60m in diameter and 0.15m deep, containing an unurned cremation burial.
Cremated human bone: A total of 119g of cremated bone was recorded from an adult (over 20 years) of indeterminate sex.
Date: Roman.

CF112: Unurned cremation burial

Description: Burial pit CF112 was an oval feature, 0.63m by 0.56m and 0.13m deep, containing an unurned cremation burial.
Cremated human bone: A total of 163g of cremated bone was recorded from an adult (over 20 years) of indeterminate sex.
Date: Roman.

CF114: Inhumation burial (grave 4)

Description: Inhumation burial CF114 was located within grave 4. The grave measured 2.10m by 1.23m, was 0.38m deep and was aligned north-west to south-east.
Inhumated human bone: No bone had survived.
Date: Roman.

CF115: Burial pit containing pyre debris

Description: Burial pit CF115 was an oval feature, 0.53m by 0.28m and 0.13m deep, containing pyre debris. The pit contained a small amount of cremated bone along with a concentration of charcoal and burning scattered throughout.
Cremated human bone: A total of 2g of cremated bone was recorded from a possible adult (over 20 years) of indeterminate sex.
Burial goods: Two iron nails were identified scattered throughout the fill.
Date: Roman.

Iron nail (C229), small find no. 59. Complete iron nail with flat head, length 49mm.

Iron nail (C230). Clenched iron nail shank, length 27mm.

CF120: unurned cremation burial
Description: Burial pit CF120 was a sub-circular feature, 0.74m in diameter and 0.17m deep, containing an unurned cremation burial.
Cremated human bone: A total of 35g of cremated bone was recorded from a possible adult (over 20 years) of indeterminate sex.
Burial goods: Five pieces of mammal bone placed in the burial pit may represent the remains of food or 'food for the afterlife'.
Residual Finds: A single piece of tile.
Date: Roman.

Animal bone (C221). Five pieces of mammal bone, weighing 14g, were found in this context.

CF121: Inhumation burial (grave 5)
Description: Inhumation burial CF121 was located within grave 5. The grave measured 1.33m by 0.98m, was aligned east to west and was 0.60m deep.
Inhumated human bone: Less than 25% of the skeleton (15g) had survived within the grave, consisting of elements of the upper limbs from a possible adult (over 20 years) of indeterminate sex.
Burial goods: Hobnails (CF121.1) from footwear.
Residual finds: Some nails, pottery sherds and two fragments of ceramic building material.
Date: 2nd to the 4th (but possibly the later 3rd to the 4th) century + (based on the date of the residual pottery sherds.

CF121.1 Iron hobnails (C247-C251, C254-C262).

CF123: Ring ditch and burial marker
Description: Ring ditch CF123 had been truncated by air-raid shelter CF104 on its western side. The surviving ditch measured 0.45m wide, 0.09m deep and enclosed an area 3.6m in diameter. An entrance was identified on the north-west side, partly defined by terminal CF123sx2. No burial was located either within the centre of the ring ditch or within the ditch itself probably due to the truncation by the air-raid shelter.
Date: Although a quantity of animal bone was identified within the ditch, no dating evidence was recorded. However, all of the ring ditches recorded on this site are likely to be contemporary and so this feature probably dates from the mid/late 3rd to the 4th century.

CF126: burial pit containing pyre debris
Description: Burial pit CF126 was an irregular feature, 0.80m by 0.75m and 0.31m deep, containing pyre debris. The pit contained a concentration of cremated bone, charcoal and burning (including daub) scattered throughout.
Cremated human bone: A total of 69g of cremated bone was recorded from an adult (over 20 years) of indeterminate sex. .
Burial goods: Several pottery sherds, some copper-alloy sheet fragments, animal bone and three iron nails were identified scattered throughout the fill. The animal bone probably represents the remains of food or 'food for the afterlife'.
Date: Mid/late 3rd to the 4th century.

Pottery sherds. Small quantity of sherds in Fabric CZ (C273) from two pots, one with missing ?handle (dated early 2nd to mid-late 3rd century); two sherds of Fabric DJ (C273, C296) (dated 1st-2nd/3rd century); a small quantity of beaker sherds in Fabric EA (C273, C296) including form Cam 408-410 (dated second quarter of the 3rd century-4th century); two sherds of Fabric GA (C296) from a Cam 279C and Cam 305A (dated early 3rd century (not before c AD 220?) to late 4th century and third quarter of the 3rd century to 4th century); a quantity of sherds in Fabric GX (C273, C296); and several sherds in Fabric KX (C296) from a Cam 39B (dated early Antonine to 3rd century).

Copper-alloy sheet fragments (C297) small find no. 80. Five small fragments of copper-alloy sheet. Largest piece is curved on the short axis; 14 by 8mm.

Animal bone (C307). Three pieces of animal bone, weighing 5g, were found in this context. None of the bone could be positively identified to species.

Iron nails (C288-C290): (C288) clenched shank fragment, length 34mm; (289) complete, length (bent) 57mm; (290) clenched shank fragment, length 38mm.

CF127: Unurned cremation burial within ring ditch CF122

Description: Burial pit CF127 was an oval feature, 0.70m by 0.40m and 0.21m deep, containing an unurned cremation burial.
Cremated human bone: A total of 540g of cremated bone was recorded from a middle aged/old adult (over 35 years) who was female. Evidence of arthritis in the spine (spinal disease), arthritis in the mandibular condyle (joint disease) and periodontal disease (dental disease) was identified on the bone.
Burial goods: A jar (CF127.1) was found above the cremated bone at the south-west end of the burial pit and six small 'corvid' (bird) bones (.2) were also identified. All corvids are scavengers and may well have been frequent visitors to a burial site. However, it is possible that some corvids were kept as pets as they do have the ability to mimic sounds, even human voices; so the association of these bones with a human burial may suggest that the person buried here was buried with their pet.
Date: Mid/late 2nd to the 4th century?.
Burial marker: Unurned cremation burial CF127 was located within the centre of ring ditch CF122 which would have formed a barrow burial. The ditch had been cut away in two places by a modern service trench (CF116) but it measured 3.8m in (internal) diameter and was 0.50m in width and 0.16m deep. A single 1.10m wide entrance was also identified on the north-west edge of the ditch. No dating evidence was recorded from this feature, but it is assumed that the ring ditch is contemporary with the mid/late 2nd to 4th century cremation burial.

CF127.1 Jar (C252). Illustrated. Cam 280-281 narrow necked storage jar or flask, whole pot with chip missing from rim, Fabric GX. Mid to late 2nd to 4th century?

CF127.2 Animal bone (C253). Six small bird bones, weighing a total of 3g, were found in this context. These bones have Corvid (crow or rook) characteristics, but erosion/wear makes them difficult to determine to the exact species.

CF131: unurned cremation burial

Description: Burial pit CF131 was a sub-rectangular feature, 0.30m by 0.25m and 0.06m deep, containing an unurned cremation burial.
Cremated human bone: A total of 29g of cremated bone was recorded which was probably human.
Burial goods: A single iron hobnail was identified from within the cremated bone.
Date: Roman.

Iron hobnail (C280). Length 13mm.

CF145: urned cremation burial

Description: Burial pit CF145 was a sub-circular feature, 0.33m in diameter and 0.09m deep, containing a disturbed urned cremation burial.
Cremated human bone: No bone had survived.
Burial goods: A beaker/jar (CF145.1) had been used as a cremation urn.
Date: Late 3rd to 4th century, probably 4th century.

CF145.1 Beaker or jar used as a cremation urn (C316). Illustrated. Beaker or jar. Base and part of lower half of pot only. Fabric sandy brownish-red with grey surfaces, probably from the Hadham potteries. Fabric CH. Probably late 3rd to 4th century, and probably 4th century.

CF146: Burial pit containing pyre debris

Description: Burial pit CF146 was an oval feature, 0.82m by 0.62m and 0.17m deep, containing pyre debris. The pit contained a concentration of cremated bone, charcoal and burning scattered throughout.
Cremated human bone: A total of 74g of unidentifiable cremated bone was recorded.
Burial goods: A whole and unburnt miniature jar (CF146.1) was identified within the pit along with a large quantity (176g) of unburnt animal bone (.2). Most of the remains were from sheep/goat and included evidence of cut and chop marks. These unburnt items may suggest that the remains of a burial feast had been dumped into the pit with the pyre debris.
Date: Roman.

CF146.1 Miniature jar (C376). Illustrated. Miniature jar in sandy grey ware, Fabric GX.

CF146.2 Animal bone (C386). A total weight of 176g of bone was recovered from this burial pit. Most of the remains were of sheep/goat and included both adult and juvenile ovicapra fragments. The sheep/goat elements consisted of teeth, limb and footbones, some of which showed cut and chop marks which demonstrate their use for food. A cut talus shows the animal was skinned. Very small fragments of bone which could only be attributed to 'mammal' were also found.

CF147: Unurned/boxed cremation burial

Description: Burial pit CF147 was a large sub-rectangular feature, 1.23m by 0.88m and 0.45m deep, containing a disturbed cremation burial, probably unurned and possibly in a box.
Cremated human bone: A total of 164g of cremated bone was recorded from an adult (over 20 years) of indeterminate sex. .
Burial goods: A rectangular area of wood staining was identified underneath the cremated bone and appears to have been undisturbed. However, the top half of the feature (above the cremated bone) was extremely disturbed and included pieces of a broken dish (CF147.1), a widespread scatter of nails (CF147.3), hobnails (.2), and animal bone. It is likely that the wood staining and the nails were a part of a wooden box placed within the burial pit. The burnt animal bone may also represent the remains of food or 'food for the afterlife'.
Date: Early 2nd to the 4th century.

CF147.1 Dish (C378). Illustrated. Cam 39A dish with burnished arcs on side wall, most of pot broken into three pieces (sherds) and part of one side missing, Fabric GA. Early Antonine to 4th century.

CF147.2 Iron hobnails (C322-C323, C325-C327, C329-C330, C333-C338, C341-C345, C347, C350-C352, C354-C359, C365, C368, C371, C373-C374), small find nos. 84-88, 92-117, 119. Length 19mm. The high number of hobnails from this cremation could perhaps be evidence for the deposition of unburnt nailed footwear, but, matched with the high number of nails, is more likely to point to careful extraction of the hobnails from the pyre.

CF147.3 Iron nails: (C324) complete, length 74mm; (C328) complete, length 26mm; (C331) complete, length 30mm; (C339) incomplete, length 12mm, plus shank fragment, length 19mm; (C340) incomplete, length 23mm; (C348) incomplete, clenched, length 33mm; (C349) shank fragment, clenched, length 34mm; (C353) complete, length 89mm; (C369) complete, clenched, length 18mm; (C370) complete, length 28mm; (C372) incomplete, clenched, length 39mm; (C375) shank fragment, length 37mm; (C385) shank fragment, length 29mm; (C389) incomplete, length 43mm.

Animal bone (C378). Three fragments of burnt animal bone, weighing a total of 31g, were found in this cremation; these bones bore no diagnostic elements that allowed identification to species.

CF162: Urned cremation burial within ring ditch CF205

Description: Burial pit CF162 was an oval feature, 0.83m by 0.55m and 0.16m deep, containing an urned cremation burial.
Cremated human bone: A total of 91g of cremated bone was recorded from a young adult (20-35 years) of indeterminate sex.
Burial goods: A jar (CF162.1) had been used as the cremation urn, a second globular jar (.2) had been placed next to the urn and the remains of a third jar (.3) were also recorded.
Residual finds: Pottery sherds.
Date: Early/mid to late 3rd century.
Burial marker: Urned cremation burial CF162 was located within the centre of ring ditch CF205, which would have formed a low barrow over the burial. Only about half of the ring ditch had survived which measured 5m in internal diameter, 0.56m wide and 0.30m deep. An entrance was probably located on the south-east edge of the feature based on the existence of a single terminal end (the corresponding terminal was removed by truncation). A small quantity of pottery dating from the mid/late 3rd to the 4th century was recorded from the ditch.

CF162.1 Jar used as a cremation urn (C563). Illustrated. Cam 278 jar with burnished lattice decoration, Fabric GB. Lower half of pot only. Mid-late 2nd century to mid 3rd(?) century.

CF162.2 Jar (C562). Illustrated. Globular jar with slightly ledged shoulder and flared rim. The vessel has two bands of combed wavy line decoration and is burnished between the decoration on the body, the shoulder and the neck. Sandy grey ware. Fabric GX, The vessel has no direct parallel in the Cam type form series or in *CAR* **10**. Almost complete although parts of the rim are missing.

CF162.3 Jar (C563, C779). Illustrated. Cam 279C jar with burnish lattice decorated body, Fabric GA. Part of rim and a few non-joining body sherds only. Early 3rd century (not before *c* AD 220?) to 4th century.

CF163: Boxed cremation burial within ring ditch CF 231

Description: Burial pit CF163 was a sub-rectangular pit, 0.80m by 0.55m and 0.07m deep, containing a boxed cremation burial.

Cremated human bone: A total of 507g of cremated bone was recorded from an adult (over 20 years) of indeterminate sex.
Burial goods: The burial pit contained a jar (CF163.1), a beaker (.2) which had been placed within the jar and a small wooden box (including a number of copper-alloy and iron fittings) (CF163.3) which had been used to hold the cremated bone. Three copper-alloy coins (.4 – .6) were also identified within the wooden box and 15 fragments of cremated sheep/goat bone (.7) were recorded within the burial pit. The coins are all unburnt secondary deposits and ranged in date from the second half of the 2nd century to AD 268, but hoard evidence suggests that the earliest coin could still have been in circulation when deposited. Two of the reverses echo the protective female (*Iuno Regina*) and military male (*Victori Aug*) imagery seen in CF166 (*see Report*), and the third was probably a second protective female deity. Furthermore, the bone may represent either 'food for the afterlife' which had been cremated along with the body or bone had been used as fuel on the pyre. A large piece of Roman roof tile (.8) also appears to have been placed over the burial and used as a lid.
Surface finds: Tile, glass, burnt flint and a piece of sandstone.
Date: late 3rd-4th century.
Burial marker: The boxed cremation was located within the centre of ring ditch CF231, which would have formed a low barrow. The ditch formed a complete circle around the burial, measured 0.87m wide and 0.31m deep, and enclosed an area 4.5m in diameter. Several pieces of pottery, a moderate quantity of brick and tile, some animal bone, iron nails and a piece of sandstone were recovered from the ditch, which was also of 4th century date.

CF163.1 Jar (C710). Illustrated. Cam 268 jar, sandy grey ware, Fabric GX. Almost all of jar, upper half in sherds, lower half and base complete, part of rim missing. Early/mid 2nd to late 3rd/early 4th century.

CF163.2 Beaker (C751). Illustrated. Cam 408-410 beaker, whole pot, surfaces very degraded but originally burnished, fabric sandy brownish-orange, probably from the Hadham potteries, Fabric CH. Late 3rd to 4th century, probably 4th century.

CF163.3 A wooden box with iron and copper-alloy fittings (C406, C409, C408, C654, C655), small find nos. 126, 129, 130, 175, 176. Illustrated: the principal fragments are shown in position on the reconstruction, which is at 1:3.

Copper-alloy sheet and composite bosses

Small find no. 126, (C406)a. Illustrated. Sheet fragment with part of the central roundel and the inner linear moulding on a long side. 15.5 by 12.5 mm.
Small find no. 126, (C406)b. Illustrated. Plain sheet fragment from corner binding (right side). 26 by 19 mm.
Small find no. 126, (C406)c. Illustrated. Corner fragment with linear mouldings from corner binding (right side). 28 by 31 mm.
Small find no. 126, (C406)d. Illustrated. Sheet fragment with part of the central roundel. 27 by 27 mm.
Small find no. 126, (C406)e. Small sheet fragments, some with linear mouldings, and small wood fragments. Largest sheet fragment 12 by 12 mm.
Small find no. 126, (C406)f; *see also iron fittings below*. Illustrated. Three sheet fragments, one with part of the central roundel and a corner with linear mouldings (57 by 53), one with linear mouldings and a tiny part of the central roundel (44 by 44 mm), and one with linear mouldings only (39 by 17 mm); many other small sheet fragments, some with linear mouldings; four composite studs, diameter 12.5 mm.
Small find no. 126, (C406)g. Illustrated. Sheet fragments with parts of the central roundel and linear mouldings, largest illustrated, 43 by 38 mm; sheet fragments from corner binding with iron tack (+ wood) from corner joint (left side), 57 by 25 mm; two composite studs, diameter 12.5 mm; two small fragments of wood. One narrow original edge and the start of the right-angled bend survive on the corner binding. The tack is sited 51 mm up from one broken edge (to shank centre), which, assuming it was located half-way up the binding, gives a minimum height for the complete piece of 102 mm, and a conjectural one of between 114 and 120 mm. The tack also lies 15 mm in from the point at which the metal begins to bend around the joint, which implies an unusually stout board thickness of 30 mm, but this can be reduced to about 20 mm if it is accepted that the tack was not hammered precisely into the mid-point of the side-board.
Small find no. 188, (C656)k; *see also iron tack below*. Two small fragments of sheet. Largest fragmnt 12 by 10 mm.
Small find no. 175, (C654). Illustrated. Stout stud with the shank bent at an angle. Diameter 20 mm, length (bent) 21 mm. As it is the only example of the type in the grave, it must have either come from a prominent position such as the centre of the lid (the shank is too large to fit into the nail-hole in the central plate) or been used as a replacement for a missing composite stud.
Small find no. 176, (C655). One small composite boss and four tiny scraps of sheet.
Iron tacks from the joints of the box (not illustrated)
(C634): a) Small find no. (SF) 198; incomplete, length 17 mm; c) SF 200; incomplete, length 21 mm; e) SF 202; incomplete, length 6 mm; g) SF 204; complete, length 24 mm; i) SF 206; incomplete, length 15 mm.
Small find no. 575, (C641). Shank fragment, length 11 mm.

(C656): a) Small find no. (SF) 178; shank fragment, length 14 mm; b) SF 179; shank fragment, length 12 mm; f) SF 183; shank fragment, length 17 mm. g) SF 184; shank fragment, length 14 mm; h) SF 185; shank fragment, length 9 mm; j) SF 187; complete, length 23 mm; k) SF 188; shank fragment, length 20 mm; l) SF 189; incomplete, length 17 mm; m) SF 190; two shank fragments, lengths 7 and 8 mm; n) SF 191; shank fragment, length 9 mm; q) SF 194; shank fragment, length 13 mm; s) SF 196; complete, length 26 mm; t) SF 197; incomplete, length 10 mm.

Iron nails (not illustrated)

(C634): b) SF 199; small convex head, length 5 mm, incomplete; d) SF 201; large slightly convex head, length 23 m, incomplete; f) SF 203; small convex head, length 12 mm, incomplete; h) SF 205; round flat head, thin bent shank, length 14 mm, complete.

Small find no. 574, (C407). Round slightly convex head, length 68 mm.

Iron sheet and strap fragments (not illustrated)

Small find no. 129, (C409). Fragment of strap with nail for attachment. There are small fragments of mineral-replaced wood at one place on the edge. 50 by 32 mm. Found near the front of the box and possibly part of the upper element of the right-hand hinge.

Small find no. 130, (C408). Tapering ?strap fragment, found at the north-east corner of the box and so probably part of the lower element of the right-hand hinge. There are no surviving nail holes. Length 91 mm, width tapering from 32 to 26 mm.

Small find no. 192, (C656)o. Small fragment of sheet from the north-east corner, with a square shank hole surrounded by traces of copper alloy. 24 by 20 mm. Probably corner binding from the right joint at the back.

Small find no. 180, (C656)c. Small fragment of sheet from north-east corner, 25 by 17 mm.

Small find no. 181, (C656)d. Small fragment of sheet from north-east corner, 18 by 14 mm.

Small find no. 182, (C656)e. Small fragment of sheet from north-east corner, 16 by 14 mm.

Small find no. 186, (C656)i. Six fragments of thin sheet from the north-west corner, one has a square copper-alloy ?stud in it, the other a square shank hole surrounded by traces of copper alloy. Largest fragment 43 by 26 mm. These pieces are likely to be corner binding from the left joint at the back.

Small find no. 195, (C656)r. Fragment of sheet, plus six small associated fragments. There are no surviving nail holes. Length 75 mm, width 29 mm. Possibly from the left-hand hinge.

Small find no. 193, (C656)p. Two fragments of sheet, the smaller one has a nail for attachment. 1) Length 43 mm, width 33 mm. 2) Length 29 mm, width 33 mm. Possibly from the left-hand hinge.

Small find no. 126, (C406)f. Nineteen small fragments of sheet with varying thickness. The thicker pieces probably come from a strap-hinge, the thinner ones may come from an iron plate on the lid, or perhaps from the inner protective plate of a lock, although there is no solid evidence that a lock ever existed. Largest fragment 39 by 22 mm.

Small find no. 177, (C633). Fragment of sheet with square shank hole surrounded by traces of copper alloy, 18 by 15 mm.

The adverse circumstances affecting its excavation have prevented a fully accurate reconstruction to be made, and most of the upper fittings are missing, which may account for the apparent absence of a lock, but the reconstruction drawing is believed to be reasonably accurate. The box itself measured approximately 300 mm across the front by 250 mm deep (from front to back) and 150 mm high (including the lid), made from boards that were probably about 20 mm thick. There is no surviving evidence for joints at the corners, but a number of thin iron tacks were used either as the primary means of fixing the box together or to reinforce wooden joints. A few other nails of varying size and form in the grave probably came from strap-hinges, although one (SF 574) is wholly anomalous in size and is likely to be residual, and another incomplete nail (SF 201) was probably similar to it.

There was a decorative copper-alloy plaque on the front, with linear mouldings forming a frame around a central roundel. It was held in place by at least seven composite studs, with iron shanks and convex copper-alloy heads filled with lead-tin solder. Corner bindings lay to right and left of this plaque, with linear mouldings on the inner and upper edges, and probably also on the lower ones. A small nail hole in one fragment does not have a s*CAR* around it as would be expected if a composite stud had lain on the sheet, suggesting that smaller plain studs or nails were used to attach the corner pieces. No part of the side elements of these bindings survive; they may have been plain or had similar mouldings.

The remaining pieces consist mainly of iron sheet fragments; some are probably from strap-hinges, but a number of delicate fragments may be from corner binding on the back joints of the box, or from the casing for a lock (although there are no surviving elements of a lock mechanism), or from an iron plate on the lid. A single stout copper-alloy stud (SF 175) may have come from the lid or from one of the sides.

Reconstructions of wooden caskets, of which a number exist on the continent, demonstrate that the corner bindings often run the full height of the box (including the lid), while the lock-plate was shorter, as on this box. Roundels and linear mouldings seen on the fittings were often used as ornamentation, the former sometimes framing the keyhole (e.g. Henderson 1949, 142, no. 176, pl. 47; Riha 2001, Abb. 10, 14, 35, 38).

CF163.4 Coin (C405) small find no. 127. Coin of Postumus, *sestertius*, rev. Victori (*Aug*); *RIC* 170; AD 259-68.

CF163.5 Coin (C404) small find no. 128. Coin of Salonina, *antoninianus*, rev. *Iuno Regina*; *RIC* 13; AD 260-8.

CF163.6 Coin (C653) small find no. 174. Coin of ?Marcus Aurelius, *sestertius*, rev. standing female; ?AD 161-80.

CF163.7 Animal bone (C641). Fifteen fragments of burnt mammal bone, weighing 65g, was recovered from this cremation. The fragments were very small, burnt and slightly distorted from heat. Sheep/goat were identified in the form of butchered sub-adult bones.

CF163.8 Tile (C646). Piece of tegula, 5000g, 32mm thick.

CF164: unurned cremation burial

Description: Burial pit CF164 was an oval feature, 0.80m by 0.50m and 0.06m deep, containing an unurned cremation burial.
Cremated human bone: A total of 61g of cremated bone was recorded from a juvenile (0-5 years) of indeterminate sex.
Burial goods: An indented beaker (CF164.1) had been placed next to the cremated bone and two copper-alloy armlets (.2 – .3) and 55 glass beads (.4) were identified within the bone.
Date: Early/mid 3rd to 4th century.

CF164.1 Indented beaker (C522). Illustrated. Cam 408-410 indented beaker, pale cream and pastel orange fabric with dark brownish grey surfaces, Fabric EA. Most of pot is present up to the base of the neck, although the rim is missing. Second quarter of the 3rd century to 4th century.

CF164.2 Copper-alloy armlet (C520) small find no. 152. Illustrated. Small plain penannular copper-alloy armlet with blunt terminals. This section is D-shaped. Diameter 43mm, section 3mm high, 2mm thick.

CF164.3 Copper-alloy armlet (C521) small find no. 153. Illustrated. Small penannular copper-alloy armlet with plain hoop and blunt snake-head terminals. The form of the heads are conveyed by a series of impressed marks along each side, probably made with a clinching tool. The section is circular before narrowing to the terminals. Diameter 42mm, maximum section diameter of 2.5mm. The rudimentary snake's head terminals point to a late 3rd or early 4th century date for the deposit. It is a secondary, unburnt, deposit.

CF164.4 Glass beads (C527 and C802) small find nos. 538 and 588. Illustrated (one only). Fifty-five blue small square-section cylinder beads. Average length 4mm. Total strung length approximately 254mm. They are a secondary, unburnt, deposit.

CF165: urned cremation burial

Description: Burial pit CF165 was sub-circular feature, 0.36m in diameter and 0.32m deep, containing an urned cremation burial.
Cremated human bone: A total of 333g of cremated bone was recorded from a middle adult (35-50 years) of indeterminate sex. .
Burial goods: A jar (CF165.1) had been used as a cremation urn. Unusually the jar was recorded inverted in the burial pit and two copper-alloy tweezers (.2 – .3) were identified on the edge of the burial pit. It is uncertain if the jar had been inverted deliberately or was the result of later disturbance, however, the tweezers did not appear to have been deliberately placed on the edge of the pit and it is possible that they were originally inside the urn but fell out when it was inverted.
Residual finds: A single fragment of mammal skull.
Date: Early to mid 3rd century.

CF165.1 Jar used as a cremation urn (C561). Illustrated. Cam 278 jar. Whole pot with fragment of rim broken loose, surface corroded. Fabric GB. Early-mid 3rd century.

CF165.2 Copper-alloy tweezers (C564) small find no. 159. Illustrated. Copper-alloy tweezers with plain blades and sprung grip. Length 46mm. It is a secondary, unburnt, deposit.

CF165.3 Copper-alloy tweezers (C565) small find no. 160. Illustrated. Copper-alloy tweezers with plain blades and sprung grip, of stouter construction than CF165.2. Length 49mm. It is a secondary, unburnt, deposit.

CF166: unurned cremation burial

Description: Burial pit CF166 was an oval feature, 0.63m by 0.51m and 0.16m deep, containing an unurned cremation burial.
Cremated human bone: Bone present but subsequently lost.
Burial goods: Two colour-coated beakers (CF166.1 – .2), an indented beaker (.3) and a small jar (.4) had been placed around one edge of the pit, and three copper-alloy coins (.7 – .9) had been placed between the indented beaker and one of the colour-coated beakers. Two further copper-alloy coins (.5 – .6), a small silver ring (.10), a silver ring with an intaglio of a stag (.11), a silver pendant (.12), two frit melon beads (.13 – .14), a glass bead with iron and copper-alloy attached (.15), an ivory ring (.16) and a carved jet bear (.17) were also identified above the cremated bone.

The five coins were all deposited with the reverse uppermost, and their images are either protective maternal (Venus, goddess of domestic affairs, and Cybele, the Great Mother) or male and martial (*Genius Exerci*, *Virtus Aug*, *Marti Pacifero*). The two coins with maternal images (CF166.5-6) lay with the jewellery and those with martial images between

the beakers (CF166.7-9); the difference in location highlighting the difference in emphasis between the reverses and hinting at deposition by two different hands.

The jewellery and pendant are in a range of materials, silver, copper alloy, jet, glass, frit, ivory (or bone), with small fragments of corroded iron pointing to the inclusion of an iron object as well. Comparison with other infant graves suggests that the materials were intentionally diverse, perhaps to represent all the various forms of material wealth, or for prophylactic reasons during the child's short life, or to provide similar protection in the afterlife (*see Report*). The coins date the grave to later than AD 270, while a jet bear pendant and two frit melon beads among the jewellery suggest a date in the 4th century.
Date: Mid/late 3rd to early 4th century.

CF166.1 Beaker (C414). Illustrated. Cam 408-410 beaker from the Nene Valley potteries (Fabric EA). Damaged on discovery so that about a third of the rim and part of the neck is now missing, otherwise complete. Pale yellowish-red pastel fabric with dark colour-coat. Decorated with white barbotine consisting of lines of dots framing scrolls and roundels around the girth of the pot. The colour-coat is worn on the rim. Perrin vessel type *Funnel-Necked Beakers With Bead Rim* (*JRPS* **8** p 96) dated as late 3rd century to around the mid 4th century. *CAR* **10** dated as second quarter of the 3rd century to 4th century.

CF166.2 Beaker (C413). Illustrated. Rhenish ware beaker of Symonds Trier form 1(Symonds 1992). Whole pot with dark-grey metallic colour-coat. Two wavy line bands of white barbotine frame the central area around girth of the pot and between these are four white paint circles which separate the four letters of the motto **BIBE**. The motto was clearly legible when first excavated but has since degraded so that only the letter **I** remains clear. The colour-coat is worn on the rim. White barbotine decoration is restricted to 3rd century vessels (*CAR* **10** p 275). Fabric CL(NF), dated *c.* AD 200-275+ (Symonds 1992 p 51).

CF166.3 Beaker (C416). Illustrated. Indented beaker with shoulder moulding. Damaged on discovery so that about one third of the rim and part of the neck is now missing, otherwise complete. Fine sandy grey fabric and surfaces. The surface was originally burnished, including vertical burnishing over the indentations, but is now degraded with only one area of burnish remaining. The form approximates to Cam 395 (pentice-moulded beaker) however, the shoulder moulding is rounded rather than angular (although see *CAR* **10** Fabric CH fig 5.52 no 37 and Fabric EA fig 5.41 nos 131 and 132). Also the form is not usually indented, although indented vessels of form Cam 395 do occur (*CAR* **10** fig 5.36 183). The from Cam 395 was usually produced in colour-coat ware, and none were recorded in coarse ware fabrics among the very large quantity of pottery surveyed in *CAR* **10** (*CAR* **10** p 486), However, Hull notes the occurrence of copies of the form Cam 395 in grey ware (Hull 1963 p 190). Hull also records form Cam 395 wasters associated with kilns 7-11 and kiln 25 which he dates to *c* AD 300 and *c* AD 350 respectively (Hull 1963 p 5 & 155 and *Chronological chart* p 178), There are also two examples of Cam 395 in grey ware (fabric GX) from other burials on Area C2, cremation burial CF101 and cremation burial CF207. Cam 395 is usually dated to the 4th century (*CAR* **10** p 486) although it is possible the form could occur earlier, from the mid 3rd century (*CAR* **10** p 486). Vertical strokes of burnishing, especially on the necks and shoulders of vessels, is often seen on products from the Hadham potteries (for example see *CAR* 10, Fabric CH fig 5.53 no 55) However, the fabric of the vessel does not clearly suggest Hadham as a source. Classified as Fabric GX. Mid 3rd(?) century to 4th century.

CF166.4 Jar (C415). Illustrated. Cam 278, jar. Whole pot with splayed rim wider than the maximum girth of the body (see *CAR* 10 Fabric GB fig 6.48 nos 156-58). Burnished on shoulder and lower body, with a matt area between, decorated with burnished vertical lines. Sandy fabric. The vessel surface is abraded, although there is one large black patch on the side of the body body, and a number of small black patches on the body and rim, that appear to be remnants of the original surface (due in part to the occurrence of this black surface on several different areas of the vessel). However, the large black patch has a rather vitreous appearance, and it appears possible (although probably less likely than remnants of a surface coating) that this may be a deposit or residue on the surface. A small part of the rim is broken away. It is an old break and the sherd was not recovered among the other pottery. Fabric GB(?). Dated (by analogy with Cam 279C) as early-mid 3rd century (not before c AD 220?).

CF166.5 Coin (C420), small find no. 134. Coin of Faustina II, *sestertius*, rev. Venus; as *RIC* (AP) 2168; AD 146-61.

CF166.6 Coin (C422), small find no. 136. Coin of Faustina II, *sestertius*, rev. Cybele; *RIC* (MA) 932; AD 161-76.

CF166.7 Coin (C417), small find no. 131i. Coin of Claudius II, *antoninianus*, rev. *Genius Exerci*; as *RIC* 48; AD 268-70.

CF166.8 Coin (C417), small find no. 131ii. Coin of Claudius II, *antoninianus*, rev. *Virtus Aug*; *RIC* 109; AD 268-70.

CF166.9 Coin (C418), small find no. 132. Coin of Gallienus, *antoninianus*, rev. *Marti Pacifero*; *RIC* 236; AD 260-8.

CF166.10 Small silver ring (C421), small find no. 135. Illustrated. Small silver ring, probably used for suspension. Was found in association with melon bead CF166.13 but was not fitted onto it. Diameter 11.5 mm.

CF166.11 Finger-ring (C419), small find no. 133. Illustrated. Keeled silver finger-ring with prominent oval bezel set with a carnelian intaglio showing a stag or capricorn. Diameter 19 mm, maximum diameter of bezel

9.5 mm.

CF166.12 Lunula pendant (C425), small find 137. Illustrated. Silver lunula pendant with the tips of the crescent meeting in a grooved projection. The suspension loop has marginal mouldings and two transverse grooves across the base on each side. Maximum diameter 23 mm, length 27 mm.

CF166.13 Melon bead (C421), small find no. 135. Illustrated. Turquoise frit melon bead. Diameter 13 mm, length 10 mm.

CF166.14. Melon bead (C427), small find no. 139. Illustrated. Turquoise frit melon bead. Diameter 14.5 mm, length 12 mm.

CF166.15 Glass bead (C426), small find no. 138. Illustrated. Annular cobalt blue glass bead with white wave, oval rather than round due to distortion at the point where the two ends of the rod used to form the bead were joined. Maximum diameter 18 mm, minimum 15 mm, length 7 mm. A small copper-alloy ring, probably used for suspension, and some iron fragments were found in association with the bead.

CF166.16 Finger-ring (C429), small find no. 141. Illustrated. Two fragments of an incomplete ivory(?) finger-ring of D-shaped section, partly stained green from contact with copper alloy. Diameter 24 mm, height 6 mm, thickness 4.5 mm.

CF166.17 Jet bear pendant (C428), small find no. 140. Illustrated. Jet bear pendant, with the head and body grooved in places to show the shaggy pelt. The animal stands on a small platform and is shown eating an amorphous object, with a similar object lying nearby on the platform. These objects probably represent pieces of fruit. Length 35 mm, height 19 mm.

CF167: ?Unurned cremation burial

Description: Burial CF167 was destroyed during machining of the site. It was probably a shallow pit containing an unurned cremation burial.
Cremated human bone: A total of 19g of cremated bone was recorded from a juvenile (0-5 years) of indeterminate sex.
Burial goods: A miniature jar or beaker (CF167.1), triple vase (.2) and many other pottery sherds were all recovered from the spoil within the machine's bucket.
Date: 2nd century+.

CF167.1 Miniature jar or beaker (C410, C411). Illustrated. Miniature jar or beaker, reddish-brown fabric with dark grey surfaces Fabric GX. Most of the pot present with the lower half intact, but the upper half is broken into sherds and a large part of the rim is missing.

CF167.2 Triple vase (C410). Illustrated. Cam 495 triple vase, sandy brownish-red fabric with cream slip, Fabric MQ. One of the three connected pots is intact, the upper parts of the others are broken. The surfaces are degraded but traces of cream slip has survived on the body. Claudio-Neronian to 3rd century.

Pottery sherds. One sherd of Fabric BA(EG) or possibly BA(COL) from a Dr 31 bowl (dated later 2nd-earlier 3rd century) and 1 other sherd fragment (C410); a small quantity of body sherds in Fabric GA from a Cam 279 jar (C706) (dated early 2nd-4th century); one sherd in Fabric GB from a Cam 278 jar (dated early 2nd to mid-late 3rd century) (C410); a large number of sherds in Fabric GX (C412) mostly from one pot, possibly a Cam 278 (dated early 2nd to mid-late 3rd century) (C410); and the base of a pot in Fabric UX (C410) with thick brownish-red fabric and highly burnished glossy black surfaces (dated Roman, see *CAR* **10** p 444).

CF173: unurned cremation burial

Description: Burial pit CF173 was an oval feature, 1.37m by 0.99m and 0.16m deep, containing an unurned cremation burial.
Cremated human bone: A total of 113g of cremated bone was recorded from a juvenile (under 20 years) of indeterminate sex.
Burial goods: One flagon (CF173.1), two flasks (.2 – .3) and three dishes (.4 – .6) had been placed over the cremated bone and a small number of objects, probably from a wooden box which had been burnt on the pyre, were also identified. These objects included three iron and copper-alloy fittings (.7 – .9), some iron nails (.10) and some surviving wood fragments (.11).
Surface find: Two fragments of cremated goose bone.
Date: Mid/late 3rd to early 4th century?.

CF173.1 Flagon (C448). Illustrated. Cam 360/368 narrow neck flagon. Almost all of pot is present although broken into sherds that include the handle and small part of the neck. A small hole, the edges of which have spalled, has been drilled (post-firing) to the right of the handle s*CAR* on the body. The fabric has a sandy pale grey interior and orange-brown exterior. Probably Fabric CH. Late 3rd to 4th century, probably 4th century.

CF173.2 Flask (C446). Illustrated. Cam 281 flask, whole pot, though with top (neck and rim) cracked away from the body. The degraded surfaces retain traces of cream slip and the fabric is sandy brown-orange, Fabric MQ. Mid-late 2nd to 4th century?.

CF173.3 Flask (C447). Illustrated. Cam 281flask, whole pot, though with part of rim cracked away as loose sherds. The degraded surfaces retain traces of a cream slip and the fabric is sandy brown-orange, Fabric MQ. Mid-late 2nd to 4th century?.

CF173.4 Dish (C449). Illustrated. Cam 40A dish with small chamfer, Fabric GB. Almost whole although part of rim is missing, one side has cracked away and small patches of the outer surface on the same side have cracked loose. Trajanic/Hadrianic to third quarter of the 3rd century.

CF173.5 Dish (C450). Illustrated. Cam 40A dish with small chamfer, Fabric GB. Almost whole pot although part of the rim missing, small patches of outer surface have cracked loose and there is a large crack in one side extending part way across base. Trajanic/Hadrianic to third quarter of the 3rd century.

CF173.6 Dish (C451). Illustrated. Cam 40A dish, Fabric GB. Complete broken pot, but small patches of outer and inner surfaces on some sherds have cracked loose. Trajanic/Hadrianic to third quarter of the 3rd century.

CF173.7 Iron and copper-alloy sheets, box fitting (C461), small find no. 146. Illustrated. Fragment of a right-angled plate of sheet iron with copper-alloy sheet on one edge, secured by an iron shaft that is an integral part of the plate. A second shaft projects jest below the first. There are no nail holes in the iron plate to show how it was attached to the original box. There is no wood between the two metals, suggesting that it was an external strengthening plate or clamp. Maximum dimensions 41 by 35mm.

CF173.8 Nail with copper-alloy coating on head and wood, box fitting (C464), small find no. 147. Illustrated. Nail with iron shank (in fragments) and copper-alloy head, together with a small fragment of wood with patches of copper-alloy staining. Length of nail approximately 59mm, diameter of head 16mm; wood fragment 15 by 5mm.

CF173.9 Iron sheet fragment (C453), small find no. 148. Small fragment of iron sheet with one original straight edge, 29 by 20mm.

CF173.10 Iron nails and other pyre debris: (C445) complete, length 69mm; (C452) shank fragment, length 25mm; (C455) shank fragments, lengths 10 and 11mm; (C460) complete, length 60mm; (C463) shank fragment, length 23mm; (C465) five tiny slaggy lumps of pyre debris, largest 11 by 7mm.

CF173.11 Mineralised wood fragments (C466), small find no. 571.

CF177: unurned cremation burial

Description: Burial pit CF177 was a sub-rectangular feature, 0.88m long, 0.47m wide and 0.10m deep, containing an unurned cremation burial.
Cremated human bone: A total of 295g of cremated bone was recorded from a young adult (20-35 years) of indeterminate sex.
Burial goods: A single iron nail.
Date: Roman.

Iron nail (C547). Complete iron nail, length 48mm.

CF182: Inhumation burial (grave 9) and associated unurned cremation burial

Description: Inhumation burial CF182 was located on-top of the remains of Roman wall CF113 (part of the mausoleum). The burial contained the jumbled bones of a baby and a small concentration of cremated bone. It is uncertain if this double burial was buried within the wall or on-top of the wall after it was demolished to foundation level. If buried within the wall it would seem too perfect a coincidence that the wall was demolished to a depth that did not destroy the burials. However, no separate cut for the burials was identified.
Inhumated human bone: Approximately 75% of the skeleton (25g) had survived within the grave from a juvenile (0-5 years) of indeterminate sex.
Cremated human bone: A total of 229g of cremated bone was recorded from a adult (over 20 years) of indeterminate sex.
Burial goods: A small jar (CF182.1) and three iron nails (.2).
Date: Roman

CF182.1 Jar (C480, C482). Illustrated. Small jar of unclassified form, in sandy grey fabric. Almost all of pot present in sherds. Fabric GX.

CF182.2 Iron coffin nails (C483-C485).

CF206: unurned cremation burial

Description: Burial pit CF206 was a sub-circular feature, 0.55m in diameter and 0.16m deep, containing an unurned cremation burial.

Cremated human bone: A total of 208g of cremated bone was recorded from a juvenile (5-10 years) of indeterminate sex.
Burial goods: Two beakers (CF206.1 – .2) and a flask (.3) had been placed around the edge of the feature and three copper-alloy coins (.4 – .6), an amber bead (.7), a glass brooch setting (.8), a fossil which had possibly been used as a counter (.9) and two bone dice (.10 – .11) had been placed next to the cremated bone. A small number of iron nails (.12) and hobnails (.13) were also identified.

The iron hobnail CF206.13 in this burial was a primary deposit from footwear burnt on the pyre, while the nail CF206.12 was probably from timber used for the pyre itself. The other grave goods, CF206.4-11, were secondary unburnt deposits. Not having been found as part of a necklace, the amber pendant points to this being a child's grave (*see Report*). A fossil and a glass ?brooch setting may either have been included in the grave because they were credited with amuletic power, like the amber pendant, or because they had been collected by the child as exotic playthings. The small size of two ivory dice again point to their being a child's possessions. Of three coins in the burial, two date to the AD 270s and one is an issue of Vespasian which was some 200 years old when buried. The three reverses can all be seen as deliberately selected. The reverse of the Vespasianic coin is the goddess Roma, intrinsically suitable for deliberate collection and, as a female deity, a protective maternal figure suitable for deposition with a child (*see Report*). Both of the two other coin types are common as general site finds, but the *Consecratio* reverse also has funerary associations (*see Report* and CF24).
Date: Mid/late 3rd(?) to early 4th century, probably 4th century.

CF206.1 Beaker (C570). Illustrated. Cam 408-410, indented beaker with rouletted bands, reddish-brown fabric with dark grey surface, Fabric CZ. Pot mostly complete but part of neck and most of rim are missing, the neck is also slightly distorted. Second quarter of 3rd century to 4th century.

CF206.2 Beaker (C571). Illustrated. Cam 395 pentice moulded beaker with rouletted body, Fabric EA. A slightly distorted neck and rather poor rouletting may suggest this pot is possibly a kiln second. Mid 3rd century(?) to 4th century.

CF206.3 Flask (C572). Illustrated. Cam 283 small flask, traces of cream slip on body, sandy grey-brown and reddish fabric, Fabric MQ. Almost complete although part of rim is missing. *CAR* **10** dating uncertain, but possibly late 2nd to 3rd century (*CAR* **10** p 480).

CF206.4 Coin (C580a), small find no. 173a. Coin of Tetricus I, *antoninianus*, rev. Salus Augg; *RIC* 126; AD 270-3.

CF206.5 Coin (C580b), small find no. 173b. Coin of Claudius II, *antoninianus*, rev. Consecration, eagle; *RIC* 266; AD 270.

CF206.6 Coin (C573), small find no.168. Coin of Vespasian, *sestertius*, rev. Roma; *RIC* 526; AD 69-79.

CF206.7 Amber bead (C575), small find no. 167. Illustrated. Bag-shaped amber pendant, pierced above the neck. Length 14mm, maximum width 7mm, 3mm thick. A similar pendant was hung on a necklace in a female inhumation at Fordington, Dorset, dated to *c* AD 300 (Henig 1984, 244).

CF206.8 Glass setting (C581), small find no. 170. Illustrated. Oval green glass setting, probably from a brooch. Length 22mm, width 16mm, 5mm thick.

CF206.9 Fossil (C582), small find no. 169. Illustrated. Fossil, probably curated and used as an amulet. Diameter 20mm, height 12mm.

CF206.10 Ivory die (C574), small find no. 172. Illustrated. Small ivory die, stained green by contact with copper; opposite sides total seven. 8 by 8 by 8mm.

CF206.11 Ivory die (C579), small find no. 171. Illustrated. Small ivory die (as CF206.10), but much decayed on one side. 8 by 8 by 8mm.

CF206.12 Iron nail (C577). Incomplete, length 32mm.

CF206.13 Iron hobnail (C576). Incomplete, length 10mm.

CF207 sx1: Unurned cremation burial within ring ditch CF207

Description: Located within sx1 of ring ditch CF207 was an unurned cremation burial measuring 0.55m by 0.47m and 0.10m deep.
Cremated human bone: A total of 545g of cremated bone was recorded from a adult individual (over 20 years) who was female. Evidence of arthritis in the spine (spinal disease) and dental disease was also identified on the bone.

Burial goods: A beaker (CF207.1), two jars (.2 – .3), three copper-alloy coins (.4 – .6) and an iron nail (.8) were identified on-top of the bone. Two crow bones (.7) were also recorded from the burial (see CF127). The nails from CF207 are pyre debris and the three coins are unburnt secondary deposits. Two of the coins are barbarous radiates showing very little, if any wear, with the reverse of Virtus, a masculine martial reverse (*see Report*). The third coin has the female personification Felicitas, which combines the image of a protective maternal figure with a legend appropriate as a wish from parents to a child who has passed into the afterlife.
Residual finds: Three pieces of tile.
Date: Probably 4th century.
Burial marker: Although no central burial was identified during the excavation, ring ditch CF207 would have formed a barrow burial. Excavation of the ring ditch was partially restricted by the munitions pit and its exclusion zone, but it clearly enclosed an area 5m in diameter and was 0.48m wide and 0.09m deep. A 4m wide gap along the south-west edge of the ditch was also identified which formed an entrance into the barrow. The placement of this burial within the ditch must suggest that the burial was associated with the barrow and any central burial originally located there. No dating evidence was recorded from this feature, but it must be slightly earlier than the 4th century cremation burial placed into it.

CF207.1 Beaker (C586). Illustrated. Cam 395 pentice moulded beaker, burnished and rouletted, sandy red fabric with dark grey surfaces, Fabric GX. Almost complete although part of neck and rim missing. Mid 3rd century(?) to 4th century. Cam 395 is not a usual form in Fabric GX (*CAR* **10** p 486). See CF166.4 and also CF101.1.

CF207.2 Jar (C585). Illustrated. Small globular jar. Complete, although upper part broken, sandy red grey fabric with grey surfaces. Fabric GX.

CF207.3 Jar (C587). Illustrated. Small globular jar. Complete, although a tiny chip is missing from the rim, horizontal stripe burnished, sandy grey ware. Fabric GX.

CF207.4 Coin (C588), small find no. 219. Barbarous radiate, rev. Virtus; AD 270-90.

CF207.5 Coin (C589), small find no. 220. Coin of Tacitus, *antoninianus*, rev. *Felicitas Saeculi*; *RIC* 24; AD 275-6.

CF207.6 Coin (C588), small find no. 219. Barbarous radiate, rev. Virtus; AD 270-90.

CF207.7 Animal bone (C591). Two crow bones, weighing 2g, were found with human remains in this context. The bones comprised of tibiotarsus (leg) fragments.

CF207.8 Iron nails (C590): a) incomplete, length 38mm, plus shank fragment, 11mm; b) incomplete, length 19mm.

CF209: Ring ditch and burial marker
Description: Although no central burial was identified during the excavation, ring ditch CF209 would probably have formed a barrow burial. The 6.2m diameter ditch (internal diameter) was 0.46m wide and 0.07m deep and had been intersected by service trench CF116. An entrance was also identified along the western edge of the ditch. It is likely that any burial(s) associated with this ring ditch were destroyed either by the pipe trench or by later disturbance over the area.
Date: No dating evidence was recorded, however, several of the other ring ditches on the site date from the mid/late 3rd to the 4th century and it is likely that they were all approximately contemporary.

CF210: unurned cremation burial
Description: Burial pit CF210 was a rectangular feature, 0.70m by 0.58m and 0.26m deep, containing an unurned cremation burial.
Cremated human bone: A total of 340g of cremated bone was recorded from an adult (over 20 years) of indeterminate sex.
Residual finds: Pottery sherds, tegula tile, brick and flue tile.
Date: 1st to the 2nd/3rd century + (based on the date of the residual pottery sherds).

CF213: unurned cremation burial
Description: Burial pit CF213 was a sub-circular feature, 0.40m in diameter and 0.09m deep, containing an unurned cremation burial.
Cremated human bone: A total of 8g of cremated bone was recorded from a possible adult (over 20 years) of indeterminate sex.

Burial goods: A miniature jar or beaker (CF213.1) had been placed next to the cremated bone and two copper-alloy coins (.2 – .3) had been placed on top of the bone.
Date: AD 139-61+.

CF213.1 Miniature jar or beaker (C624). Illustrated. Miniature jar or beaker with groove on shoulder, almost all of body present although rim missing, sandy grey ware, Fabric GX.

CF213.2 Copper-alloy coin (C622) small find no. 215. Coin of Augustus, *as*, very worn, scratches on both faces; 27 BC-AD 14. Was about 150 years old when buried and had scratches on both surfaces, suggesting that at some point before burial there was an attempt to remove the design.

CF213.3 Copper-alloy coin (C623) small find no. 214. Coin of Marcus Aurelius (Caesar), sestertius, rev. standing female; AD 139-61.

CF219: unurned cremation burial
Description: Burial pit CF219 was an oval feature, 0.46m long by 0.33m and 0.13m deep, containing an unurned cremation burial.
Cremated human bone: A total of 50g of cremated bone was recorded which was probably human.
Residual finds: A single pottery sherd.
Date: Roman.

CF224: Inhumation burial (grave 10)
Description: Inhumation burial CF224 was located within grave 10. The grave measured 1.48m by 0.63m, was aligned north to south, and was 0.71m deep.
Inhumated human bone: Less than 25% of the skeleton (10g) had survived within the grave, consisting of elements of the lower limbs from a possible adult (over 20 years) of indeterminate sex.
Timber coffin: Wood staining in the bottom of the feature and a plan of the iron nails (CF224.3) show that the body had been buried within a coffin which measured 0.90m by 0.32m.
Burial goods: A beaker (.1) and copper-alloy coin (.2) were identified in the northern end of the coffin.
Residual finds: A large quantity of ceramic building material, some animal bone (63g) and glass, most of which is likely to have been associated with pit CF228 which was cut through by the grave.
Date: Late 3rd century to the mid-late 4th century.

CF224.1 Beaker (C578). Illustrated. Cam 408-410 beaker with cream barbotine decoration in repeating cross and dot motif between vertical lines. Cream fabric with reddish-brown colour-coat, Fabric EA. Whole pot. Perrin vessel type *Funnel-Necked Beakers With Bead Rim* (*JRPS* **8** p 96) dated as late 3rd century to around the mid 4th century. *CAR* **10** dated as second quarter of the 3rd century to 4th century.

CF224.2 Copper-alloy coin (C609), small find no. 164. Coin of Hadrian, *sestertius*, rev. standing female; AD 117-38. Would have been old when buried, but may still have been in circulation in the late 3rd century (*see Report*).

CF224.3 Iron coffin nails (C601, C606a).

CF227: burial pit containing pyre debris
Description: Burial pit CF227 was an oval feature, 0.70m by 0.55m and 0.09m deep, containing pyre debris. The pit contained a concentration of cremated bone, charcoal and burning scattered throughout.
Cremated human bone: A total of 74g of cremated bone was recorded from an adult (over 20 years) of indeterminate sex.
Burial goods: Several pottery sherds (CF227.1) and a number of iron nails (.2) were identified scattered throughout the fill. The nails varied in length from 21 to 86 mm and all probably derived from timber used on the pyre, although some may have been from wooden furniture burnt as primary burial deposits.
Date: Early 2nd to the 3rd century.

CF227.1 Pottery sherds (C589). Small quantity of sherds in Fabric KX from a Cam 39 dish, burnt on pyre. Much of the pot is completely burnt and the fabric has been expanded with gas release at, or virtually at, the melting point of the clay fabric. Early Antonine to 3rd century.

CF227.2 Iron nails (C584): a) complete, length 59mm; b) complete, length 61mm, with a shank fragment lying at right angles across the shank just below the head, length 15mm; c) complete, length 44mm; d) shank fragment, length 21mm; e) complete, length 60mm; f) shank fragment, length 30mm; g) shank fragment, length 63mm; h) complete, length 86mm; i) complete, bent, length 49mm; j) complete, length 40mm; k) incomplete, length 27mm; l) head only, diameter 14mm; m) incomplete, length 41mm; n) complete, length 25mm; o) complete, length 64mm; p) complete, length 47mm, plus shank fragment, length 48mm; q) incomplete, length 14mm; r) incomplete, clenched, length 32mm; s) incomplete, length 17mm; t) shank fragment, length 34mm; u) complete, length 31mm, plus shank fragment, length 14mm; v) incomplete, length 40mm; w) shank fragment, length 31mm; x) shank fragment, length 40mm; y) complete, length 50mm; z) incomplete, length 23mm; aa) complete, length 62mm; ab) complete, length 22mm; ac) incomplete, length 33mm; ad) complete, length 21mm; ae) complete, length 48mm; af) incomplete, length 12mm; ag) complete, clenched, length 24mm; ah) complete, length 23mm.

CF229: Ring ditch and burial marker

Description: Partially exposed ring ditch CF229 probably represents another barrow burial. Part of ring ditch CF229 was located outside of the excavation area, but the excavated section measured approximately 4.3m in length, 0.63m in width and was 0.17m deep. A single ditch terminal was identified along the south-west edge of the barrow which probably represents one side of an entrance. Several pottery sherds, some ceramic building material, animal bone and iron nails were also recorded from the feature, but any associated burial would have been located outside of the excavation area.
Date: This pottery sherds recorded from this feature are dated from the 1st to the 2nd/3rd century. However, it is likely that it is contemporary with the other ring ditches identified on the site and dates from the mid/late 3rd to the 4th century.

CF231 sx1: Disturbed burial

Description: The disturbed remains of an unurned or urned cremation burial were recorded as having been dumped into sx1 of ring ditch CF231. The disturbed material included a very small quantity of cremated bone, the remains of a beaker (CF231.1). Other finds recorded from this section of the ditch (including several other pottery sherds, some brick, tile and iron nails, and a copper-alloy furniture nail) are unlikely to have been associated with the disturbed burial.
Cremated human bone: A total of 4g of cremated bone was recorded which was probably human.
Date: Mid 3rd(?) to 4th century.

CF231.1 Pentice moulded beaker (C639). Illustrated. Cam 395 pentice moulded beaker, most of pot present as sherds although much of rim and neck missing, fabric is a pale yellow cream, Fabric EA. Mid 3rd(?) to 4th century, probably 4th century.

CF233: Inhumation burial (grave 11)

Description: Inhumation burial CF233 was located within grave 11. This grave measured 1.72m by 0.60m, was aligned east to west, and was 0.56m deep.
Inhumated human bone: No bone had survived.
Timber coffin: A plan of the iron nails (CF233.1) show that the body had been buried within a coffin which measured 1.50m by 0.30m.
Residual finds: Pottery sherds, some tile and a piece of worked flint.
Date: Early 2nd to the mid/late 3rd century + (based on the date of the residual pottery sherds).

CF233.1 Iron coffin nails (698): a) complete, length 34mm; b) incomplete, length 2mm; c) complete, length 84mm; d) complete, length 44mm; e) complete, length 81mm; f) shank fragment, length 31mm; g) shank fragment, length 40mm; h) shank fragment, length 22mm; i) incomplete, length 58mm; j) incomplete, length 28mm; k) incomplete, length 26mm; l) shank fragment, length 25mm; k) incomplete, length 26mm; l) shank fragment, length 25mm; m) incomplete, length 23mm; n) complete, length 63mm; o) incomplete, length 24mm; p) shank fragment, length 30mm; q) complete, length 70mm; r) complete, length 85mm; t) complete, length 67mm.

CF235: Inhumation burial (grave 13)

Description: Inhumation burial CF235 was located within grave 13. This grave measured 1.04m by 0.62m, was aligned north-east to south-west, and was 0.27m deep.
Inhumated human bone: No bone had survived.
Timber coffin: A plan of the iron nails (CF235.2) show that the body had been buried within a coffin which measured 0.70m by 0.32m.
Residual finds: Pottery sherds, a piece of imbrex, some slag, and an iron object and sheet fragment.

Date: Early 2nd to the mid 3rd century + (based on the date of the residual pottery sherds).

CF235.1 Iron coffin nails (697): a) incomplete, length 25mm, plus thin shank fragment, length 13mm; b) complete, length 50mm; c) shank fragment, length 21mm; d) complete, length 62mm; e) complete, length 55mm; f) complete, length 57mm; g) complete, length 72mm; h) incomplete, length 52mm; j) shank fragment, length 56mm; k) complete, length 59mm; l) two nails corroded together with one head lying just below the other, one is clenched, lengths 62 and 26mm; m) complete, length 54mm; n) incomplete, length 36mm; o) incomplete, length 47mm; p) complete, length 61mm.

CF236: Inhumation burial (grave 12)

Description: Inhumation burial CF236 was located within grave 12. The grave measured 1.12m by 0.76m, was aligned east to west, and was 0.22m deep.
Inhumated human bone: No bone had survived.
Timber coffin: A plan of the iron nails (CF236.1) show that the body had been buried within a coffin which measured 0.70cm by 0.34m.
Residual finds: Pottery sherds, some hobnails, tile, brick and a piece sandstone.
Date: Mid 2nd to the mid/late 3rd century + (based on the date of the residual pottery sherds).

CF236.1 Iron coffin nails (696): a) complete, length 72mm; b) incomplete, clenched, length 33mm; d) shank fragment, length 51mm; fii) complete, length 90mm; g) incomplete, length 68mm; h) incomplete, length 29mm; i) complete, bent, length 52mm; j) incomplete, length 47m; k) complete, length 61mm; l) incomplete, length 55mm; m) shank fragment, length 26mm; n) incomplete, length 59mm, plus shank fragment, length 17mm; o) incomplete, length 55mm; p) incomplete, length 42mm; q) incomplete, length 29mm.

CF237: unurned cremation burial

Description: Burial pit CF237 was an oval feature, 0.57m by 0.45m and was 0.08m deep, containing an unurned cremation burial.
Cremated human bone: A total of 14g of cremated bone was recorded from a juvenile (0-5 years) of indeterminate sex.
Burial goods: A miniature jar/beaker (CF237.1) had been placed in the centre of the pit and a copper-alloy coin (.2) had been placed to one side of the cremated bone.
Residual finds: Iron nails, some animal bone and a piece of slag.
Date: Late 3rd century+.

CF237.1 Miniature jar or beaker (C708). Illustrated. Miniature jar or beaker, whole pot with traces of sooting around inner lip, sandy grey-brown fabric, Fabric GX.

CF237.2 Coin (C712), small find no. 213. Coin of Tetricus II, *antoninianus*, rev. *Princ Iuvent*; *RIC* 260; AD 270-3. The reverse implies that the coin was selected for burial with a male child.

CF238: urned cremation burial

Description: Burial pit CF238 was an oval feature, 0.48m by 0.37m and 0.08m deep, containing an urned cremation burial.
Cremated human bone: A total of 359g of cremated bone was recorded from an adult (over 20 years) who was male.
Burial goods: A jar (CF238.1) had been used as a cremation urn and a flagon/jar (.2) had been placed next to the urn.
Date: Late 3rd(?) to early 4th century.

CF238.1 Jar used as a cremation urn (C672). Illustrated. Cam 278 Jar, most of base and body of pot, degraded surfaces with only faint traces of burnished lattice. Fabric KX. Hadrianic to mid 3rd century (possibly a decade or so later).

CF238.2 Flagon or jar used as a cremation urn (C673). Illustrated. Flagon or jar. Most of lower part of pot in orange-red fabric. Fabric CH. Late 3rd to 4th century, probably 4th century.

CF239: unurned cremation burial

Description: Burial pit CF239 was a sub-circular feature, 0.57m in diameter and 0.08m deep, containing an unurned cremation burial.
Cremated human bone: A total of 211g of cremated bone was recorded from an adult (over 20 years) of indeterminate sex.
Burial goods: A bowl (CF239.1) had been placed on top of the cremated bone.
Residual finds: Pottery sherds, a single fragment of mammal bone, an iron nail and a fragment of lava quern.
Date: Probably 4th century.

CF239.1 Bowl (C675). Illustrated. Beaker, with stab decorated cordon shoulder and a rouletted band above the pedestal base. There is also a horizontal stripe burnish on the body. Orange fabric with dark brown surfaces. Fabric CH. Pot complete to shoulder. Late 3rd to 4th century, probably 4th century.

CF240: burial pit containing pyre debris

Description: Burial pit CF240 was an oval shaped feature, 0.85m by 0.61m and 0.28m deep, containing pyre debris. The pit contained a small amount of cremated bone along with a concentration of charcoal and burning scattered throughout.
Cremated human bone: A total of 17g of cremated bone was recorded from a possible adult (over 20 years) of indeterminate sex.
Burial goods: The remains of a beaker (CF240.1), other pottery sherds and a number of iron nails were identified scattered throughout the fill.
Date: 4th century.

CF240.1 Pentice moulded beaker (C706). Illustrated. Cam 395 pentice moulded beaker. Pastel fabric with dark grey colour-coat. Fabric EA. Much of pot is present as sherds, although part of the body and much of the rim are missing. Mid 3rd(?) to 4th century.

Pottery sherds (C706). Small quantity of body sherds from a Cam 279 jar, Fabric GA (early 2nd to 4th century).

Iron nails (C606) and (CF706). (CF606): incomplete, length 41mm. (C706): a) incomplete, length 25mm; b) complete, length 37mm; c) incomplete, length 34mm; d) incomplete, length 44mm; e) shank fragment, length 31mm; f) incomplete, length 42mm; g) complete, length 57mm; h) incomplete, length 44mm; i) incomplete, length 17mm.

CF241: Urned cremation burial within ring ditch CF225

Description: Burial pit CF241 was an oval feature, 0.74m by 0.68m and 0.14m deep, containing an urned cremation burial.
Cremated human bone: A total of 819g of cremated bone was recorded from a middle adult (35-50 years) of indeterminate sex. Evidence of arthritis in the spine (spinal disease) was also identified on the bone.
Burial goods: A jar (CF241.1) had been used as the cremation urn, a miniature jar (.2) had been placed next to the urn, and three sheep/goat bones (.3) and an iron nail (.4) were identified inside the urn. The sheep/goat bones consisted of a cut scapula, femur and sacrum which is consistent with food preparation; this would suggest that the remains of food or 'food for the afterlife' had been placed in the urn on burial.
Date: Roman. However, all of the other burials associated with ring ditches on this site date from the mid/late 3rd to the 4th century and it is likely that this feature is contemporary with them.
Burial marker: Urned cremation burial CF241 was located within the centre of ring ditch CF225 which would probably have formed a barrow burial. Only about a quarter of the ring ditch had survived which meant that the overall diameter could not be determined and no entrance was located. However, the surviving section of ditch measured approximately 3.6m long, 0.3m wide and was 0.08m deep. A small quantity of pottery was also recovered from the ditch but could not be dated.

CF241.1 Jar used as a cremation urn (C683). Illustrated. Part of lower half of a plain jar in sandy grey ware, base and part of side detached as a large sherd, Fabric GX.

CF241.2 Small or miniature jar (C682). Illustrated. Small or miniature jar, whole pot in sandy grey ware, Fabric GX.

CF241.3 Animal bone (C748). Three juvenile sheep/goat bones, weighing 16g, were found inside the cremation urn. The bones consisted of a cut scapula, femur and sacrum; the butchering is consistent with food preparation.

CF241.4 Iron nail (C747). Incomplete, length 42mm

CF242: Unurned cremation burial within ring ditch CF222

Description: Burial pit CF242 was a small oval feature, 0.37m by 0.25m and 0.08m deep, containing an unurned cremation burial.
Cremated human bone: A total of 236g of cremated bone was recorded from an adult (over 20 years) of indeterminate sex.
Burial goods: An iron strip fragment (CF242.1) and 12 small bird bones (.2) were identified. Three of the bird bones were identified as partridge and may represent the remains of food or 'food for the afterlife' being placed within the burial pit.

Date: No dating evidence was recorded from this burial. However, the burial is likely to be contemporary with the the 4th century ring ditch.
Burial marker: Cremation burial CF242 was located within the centre of ring ditch CF139a/CF222 whose upcast would probably have formed a barrow over the burial. The ring ditch was 0.50m wide, 0.16m deep and enclosed an area 4.5m in diameter. A 1m wide entrance was also identified facing south-east. Several pottery sherds dated to the 4th century were found within the ditch along with some animal bone, tile, imbrex and iron nails.

CF242.1 Iron strip fragment (674) small find no. 211. Iron strip fragment with nail for attachment, length 22mm, width 20mm.

CF242.2 Animal bone (685). Twelve small bird bones, weighing 4g, were found with the human remains. Three of the bones (a tibiotarsus, femur and ulna) could be identified as partridge; the remaining bones were in poor condition and could not be identified to species.

CF244: Inhumation burial (grave 14)

Description: Inhumation burial CF244 was located within grave 14. The grave measured 2.60m by 1.26m wide, was 1.10m deep and was aligned east to west with the head at the eastern end.
Inhumated human bone: Less than 25% of the skeleton (1g) had survived within the grave, consisting of elements of the lower limbs from a juvenile (0-5 years) of indeterminate sex.
Timber coffin: Wood staining in the bottom of the feature and a plan of the iron nails (CF244.3) show that the body had been buried within a coffin which measured 2m by 0.40m.
Burial goods: A beaker (.1) and two hobnail shoes (.2) were identified within the western end of the coffin.
Residual finds: A piece of burnt flint, sandstone and tufa.
Date: Late 2nd to the 3rd century.

CF244.1 Beaker (C690). Illustrated. Beaker, Whole pot, although with a crack down one side. Sandy reddish-brown fabric with grey surfaces. Fabric GX.

CF244.2 Iron hobnails (C688-C689, C691). Hobnails from nailed footwear were found at the foot of the coffin and were probably been worn at the time of burial. The nailing pattern of the left sole is the least disturbed. It shows a marginal line with two curving lines, probably a leaf or S shape, in the centre (*cf.* MacConnoran 1986, 218).

CF244.3 Iron coffin nails (C693): a) incomplete, length 33mm, plus shank fragment (?fit), length 42mm; b) complete, length 77mm; c) incomplete, length 29mm; d) complete, length 77mm; e) incomplete, length 70mm; f) incomplete, length 57m; g) complete, length 76mm; h) complete, length 86mm; i) incomplete, length 71mm; j) shank fragment, length 75mm; k) complete, length 79mm; l) shank fragment, bent, length 77mm; m) complete, length 60mm; n) complete, length 75mm; o) complete, length 87mm; p) two shank fragments corroded together side by side, lengths 65 and 20mm; q) complete, length 85mm; r) complete, length 85mm; s) incomplete, length 68mm; t) complete, length 80mm; u) shank fragment, length 64mm; v) incomplete, length 40mm; w) incomplete, length 59mm; x) incomplete, length 55mm; y) incomplete, length 61mm.

CF245: Inhumation burial (grave 15)

Description: Inhumation burial CF245 was located within grave 15. This grave measured 1.76m by 0.70m, was 0.26m deep and was aligned east to west with the head buried at the eastern end.
Inhumated human bone: Approximately 75% of the skeleton (1182g) had survived from a juvenile (10-15 years) of indeterminate sex. Evidence of metabolic disease was also identified on the bone.
Timber coffin: A plan of the iron nails (CF245.1) show that the body had been buried within a coffin which measured 1.46m by 0.42m.
Residual finds: Pottery sherds and a piece of imbrex.
Date: 1st to the 2nd/3rd century + (based on the date of the residual pottery sherds).

CF245.1 Iron coffin nails (692): a) complete, length 58mm; b) complete, length 69mm; c) incomplete, length 48mm; d) complete, length 75mm, e) shank fragment, length 39mm; f) incomplete, length 55mm; g) complete, length 118mm; h) complete, length 72mm; i) incomplete, length 50mm; j) complete, length 68mm; k) incomplete, length 36mm; l) shank fragment, length 29mm; m) incomplete, length 52mm; n) incomplete, length 50mm; o) complete, length 71mm; p) complete, tip clenched, length 58mm; q) incomplete, length 37mm; r) incomplete, length 26mm; s) incomplete, length 65mm; unnumbered bag) complete, length 68mm.

CF246: Inhumation burial (grave 25)

Description: Inhumation burial CF246 was located within grave 25. Most of the grave had been cut away by boundary ditch CF174 but the surviving part measured at least 1.20m long, 0.80m wide, 0.15m deep and was aligned north-east to south-west.
Inhumated human bone: No bone had survived.
Timber coffin: A number of iron coffin nails were identified within the grave and may suggest that the body had been buried within a coffin.
Burial goods: A large quantity of animal bone (CF246.1) was recorded from the grave. It included the butchered remains of roe deer, cattle and sheep which represents good quality cuts of meat. The range of species (including deer) and the quality meat bearing bones in this burial could be indicative of a higher status burial.
Residual finds: Pottery sherds, some tile, imbrex and charcoal.
Date: Late 2nd to the mid/late 3rd century + (based on the date of the residual pottery sherds).

CF246.1 Animal bone (703). Seventeen pieces of animal bone, weighing a total of 287g was found in this inhumation. The butchered remains of Roe deer, cattle and a juvenile sheep were identified. Jaws from each of these species were included in the animal remains in this burial, all of which had been chopped and cut. A lamb humerus and a chopped fragment of cattle pelvis were also noted, suggesting good quality cuts of meat. The range of species (including deer) and the quality meat bearing bones in this burial could be indicative of a higher status for this human burial.

CF246.2 Iron coffin nails (C700 and C703).

CF248: Inhumation burial (grave 16)

Description: Inhumation burial CF248 was located within grave 16. The grave measured 1.8m by 0.77m, was 0.51m deep and was aligned east to west with the head buried at the eastern end (based on the location of the hobnails).
Inhumated human bone: Less than 25% of the skeleton (2g) had survived within the grave, consisting of unidentified fragments from a possible adult (over 20 years) of indeterminate sex.
Burial goods: A beaker (CF248.1) and two hobnail shoes (.3) was identified within the western end of the grave and a vase (.2) was identified in the eastern end.
Residual finds: Imbrex and tile fragments.
Date: Mid/late 3rd century to 4th(?) century

CF248.1 Beaker (C717). Illustrated. Cam 408-410 beaker with cream barbotine motif in repeating dot and scroll pattern. Fabric EA. Complete, but distorted and possibly a kiln second, also there is a small crack extending down from the rim. Second quarter of the 3rd century to 4th century.

CF248.2 Vase (C709). Illustrated. Cam 296 vase. Surfaces are degraded, but the pot retains marks from vertical burnishing around the body, and there are patches of a brownish burnished surface finish surviving, especially on the neck. Brownish-orange fabric. Fabric CH. Whole pot although has slight chip to base. Form is coupled with Cam 207 in *CAR* **10** (Cam 207/296) and together both forms are dated Claudio-Neronian to late 2nd or early 3rd century (*CAR* **10** p 477), although the date range of the Fabric type (Fabric CH) at Colchester indicates a date in the mid-late 3rd or 4th century for this vessel.

CF248.3 Iron hobnails (C718) small find no. 233. Hobnails from a pair of nailed shoes or sandals laying at one end of the grave. From their disposition they appear to have been worn at the time of burial. The nailing pattern on the right sole is of lines running from heel to toe over most of the surface (Rhodes 1980, 107, Type C).

CF249: Inhumation burial (grave 26)

Description: Inhumation burial CF249 was located within grave 26. The grave measured 1.24m by 0.75m, was 0.26m deep and was aligned east to west.
Inhumated human bone: No bone had survived.
Timber coffin: A plan of the iron nails (CF249.3) shows that the body had been buried within a coffin which measured 0.83m by 0.36m.
Burial goods: A copper-alloy coin (.1) was identified within the south-western end of the coffin and a pig/boar scapula (.2) was also recorded. This bone fragment may represent the remains of food or 'food for the afterlife'.
Residual finds: Pottery sherds, some tile, imbrex, animal bone and a tessera cube.
Date: Late 2nd century onwards.

CF249.1 Copper-alloy coin (C711) small find no. 210. Coin of Faustina II, *sestertius*, rev. remale deity with transverse sceptre; AD 161-75. It was found near one end of the grave and may have been placed in the mouth or on

one eye. The grave is phased to the late 2nd century onwards, making the coin old when buried, although possibly still in circulation.

CF249.2 Animal bone (C705). A scapula from a pig or small boar was produced from this inhumation; this bone is from the main meat bearing part of the body and the chop marks on this bone show it had been from a cut of meat. Small fragments of bone and a cattle molar were also within this burial.

CF249.3 Iron coffin nails (C694 and C705).

CF250: Inhumation burial (grave 27)

Description: Inhumation burial CF250 was located within grave 27. The grave measured 1.34m by 0.57m, was 0.16m deep and was aligned north-east to south-west.
Inhumated human bone: No bone had survived.
Timber coffin: A plan of the iron nails (CF250.2) shows that the body had been buried within a coffin which measured 0.95m by 0.27m.
Burial goods: A quantity of good quality meat bearing sheep/goat bones (.1) were identified representing the remains of food or 'food for the afterlife' being placed with the burial.
Residual finds: Pottery sherds, some tile, imbrex, animal bone and charcoal.
Date: Late 2nd to the mid/late 3rd century + (based on the date of the residual pottery sherds).

CF250.1 Animal bone (C704). Butchered remains of sheep/goat and cattle, weighing 77g, were recovered from this inhumation. The sheep/goat elements in particular were from good quality meat bearing bones and may have been from joints of meat as food for the afterlife.

CF250.2 Iron coffin nails (C695, C704).

CF251: Inhumation burial (grave 19)

Description: Inhumation burial CF251 was located within grave 19. The grave measured 1.11m by 0.58m, was 0.59m deep and was aligned north to south.
Inhumated human bone: No bone had survived.
Timber coffin: A plan of the iron nails (CF251.1) shows that the body had been buried within a coffin which measured 0.86m by 0.28m.
Date: Roman.

CF251.1 Iron coffin nails (C753).

CF252: Inhumation burial (grave 21)

Description: Inhumation burial CF252 was located within grave 21. The grave measured 2.45m by 0.55m, was 0.71m deep and was aligned east to west with the head buried in the eastern end.
Inhumated human bone: Less than 25% of the skeleton (1g) had survived within the grave, consisting of teeth crowns from a juvenile (0-5 years) of indeterminate sex.
Timber coffin: A plan of the iron nails (CF252.3) shows that the body had been buried within a coffin which measured 1.86m by 1.36m.
Burial goods: Most of a jar (.1) was identified in the western end of the coffin and two hobnail shoes (.2) were identified in the eastern end.
Residual finds: A piece of tile and two pieces of worked flint.
Date: Mid 3rd to the 4th century.

CF252.1 Jar (C736). Sherds from a Cam 279C jar, Fabric GA. Early 3rd century (not before *c* AD 220?) to 4th century.

CF252.2 Iron hobnails (C755) small find no. 232.

CF252.3 Iron coffin nails (C755 and C787).

CF253: Inhumation burial (grave 17)

Description: Inhumation burial CF253 was located within grave 17. The grave measured 0.75m by 0.37m, was 0.09m deep and was aligned east to west.
Inhumated human bone: No bone had survived.
Date: Roman.

CF254: Inhumation burial (grave 18)
Description: Inhumation burial CF254 was located within grave 18. The grave measured 1.15m by 0.46m, was 0.13m deep and was aligned east to west.
Inhumated human bone: Less than 25% of the skeleton (7g) had survived within the grave, consisting of part of the skull from a juvenile (0-5 years) of indeterminate sex.
Timber coffin: A plan of the iron nails (CF254.1) shows that the body had been buried within a coffin which measured 0.72m by 0.32m.
Residual finds: Pottery sherds, some tile, animal bone and glass.
Date: Mid 2nd to the mid/late 3rd century + (based on the date of the residual pottery sherds).

CF254.1 Iron coffin nails (C745)

CF255: Inhumation burial (grave 20)
Description: Inhumation burial CF255 was located within grave 20. The grave measured 2.05m by 0.51m, was 0.17m deep and was aligned north-west to south-east with the head buried at the north-western end.
Inhumated human bone: Less than 25% of the skeleton (3g) had survived within the grave, consisting of part of the skull from a possible adult (over 20 years) of indeterminate sex.
Timber coffin: A plan of the iron nails (CF255.2) shows that the body had been buried within a coffin which measured 1.72m by 0.40m.
Burial goods: A number of hobnails (probably from two hobnail shoes) (.1) were identified in the south-eastern end of the coffin.
Residual finds: Pottery sherds and two pieces of tile.
Date: Roman.

CF255.1 Iron hobnails (C746) small find no. 224. A group of hobnails from nailed footwear was found at one end of the grave, presumably the foot. The forms of the two soles could not be distinguished, perhaps because they were worn on feet placed so close together so that as the leather of the shoes or sandals decayed the hobnails dropped into a single heap.

CF255.2 Iron coffin nails (C746): a) incomplete, length 67mm; b) complete, length 101mm; c) incomplete, length 27mm; d) shank fragment, length 45mm; e) amorphous slaggy lump, 19 by 17mm; i) incomplete, length 49mm; k) complete, length 65mm; l) incomplete, length 60mm; m) shank fragment, length 61mm; n) complete, length 80mm; o) incomplete, length 32mm; s) incomplete, length 53mm; z) complete, length 85mm; ae) complete, length 82mm; ag) shank fragment, length 28mm; am) complete, length 64mm.

CF257: Inhumation burial (grave 23)
Description: Inhumation burial CF257 was located within grave 23. The grave had been partially cut away by pit CF256, but the surviving feature measured 1.15m by 0.64m, was 0.21m deep and was aligned east to west.
Inhumated human bone: No bone had survived.
Timber coffin: A plan of the iron nails (CF257.1) shows that the body had been buried within a coffin which measured at least 0.72m by 0.40m.
Residual finds: Pottery sherds and some fragments of brick/tile.
Date: 2nd century + (based on the date of the residual pottery sherds).

CF257.1 Iron coffin nails (C754): a) incomplete, length 51mm; b) complete, length 58mm; c) three shank fragments, lengths 31, 23 and 22mm; d) complete, length 60mm; e) complete, length 62mm; f) incomplete, length 24mm; g) incomplete, clenched, length 33mm; h) incomplete, length 32mm; i) incomplete, length 33mm; j) incomplete, length 22mm.

CF259: Inhumation burial (grave 24)
Description: Inhumation burial CF259 was located within grave 24. The grave measured 1.59m by 0.82m, was 0.42m deep and was aligned east to west.
Inhumated human bone: No bone had survived.
Residual finds: Pottery sherds, some tile, imbrex, tesserae cubes, animal bone and iron nails.
Date: Early 2nd to the mid/late 3rd century + (based on the date of the residual pottery sherds).

CF260: Inhumation burial (grave 22)
Description: Inhumation burial CF260 was located within grave 22. The grave measured 2.26 by 0.83m, was 0.50m deep and was aligned west to east with the head buried at the western end.

Inhumated human bone: Less than 25% of the skeleton (389g) had survived within the grave, consisting of elements of the pelvis, lower limbs and feet from an adult (over 20 years) of indeterminate sex.
Residual finds: Iron nails and three pieces of tile.
Date: Roman.

CF261: Inhumation burial (grave 28)
Description: Inhumation burial CF261 was located within grave 28. The grave measured 0.66m by 0.32m, was 0.08m deep and was aligned north to south.
Inhumated human bone: No bone had survived.
Date: Roman.

CF263: unurned cremation burial
Description: Burial pit CF263 was an oval feature, 0.80m by 0.67m and 0.21m deep, containing an unurned cremation burial.
Cremated human bone: A total of 295g of cremated bone was recorded from a middle adult (35-50 years) of indeterminate sex.
Burial goods: A miniature jar (CF263.1) had been placed on top of the cremated bone, and a copper-alloy coin (.2) had been placed to one side. A fragment of a bone pin (.3) was also recovered, although this was possibly residual.
Residual finds: Iron nails.
Date: Late 3rd to the 4th century + (must be later than inhumation burial CF224 which is dated from the late 3rd to the 4th century).

CF263.1 Miniature jar (C568). Illustrated. Miniature jar, with groove around shoulder. Almost complete pot although part of rim missing Sandy grey ware. Fabric GX.

CF263.2 Copper-alloy coin (C569) small find no. 166. Coin of Marcus Aurelius, sestertius, rev. Victory; *RIC* 1430; AD 171-2. The reverse of Victory in a funerary context may refer to a belief in a saviour religion.

CF263.3 Bone hairpin fragment (C608) small find no. 163. The upper part of a Type 1 bone hairpin, split along its length, with plain conical head and tapering shaft, dating from the mid 1st into the 2nd century (*CAR* **2**, 20-1). Length 57 mm.

Appendix 1.2: Area J1 North catalogue of burials

Area J1 evaluation (burial features located within the Area J1 North excavation area only)

JF7: urned cremation burial
Location: Evaluation trench JFT11
Description: Burial pit JF7 was a sub-circular feature, 0.48m in diameter and 0.17m deep, containing a disturbed urned cremation burial.
Cremated human bone: Bone present but subsequently lost.
Burial goods: A jar (JF7.1) had been used as a cremation urn.
Date: Early/mid 2nd to the late 3rd/early 4th century.

JF7.1 Jar used as a cremation urn (J1). Illustrated. Cam 268 jar, Fabric GX. Near complete pot in sherds although part of the rim is missing (old damage). Early/mid 2nd to late 3rd/early 4th century.

JF11: inhumation burial
Location: Evaluation trench JFT11.
Description: Inhumation burial JF11 was located within a grave aligned north-west to south-east. Only about half of the grave was recorded and it was not fully excavated, but it measured 2.54m by at least 0.48m, and was 0.86m deep. It had been cut into quarry pit JNF379.
Inhumated human bone: No bone had survived within the excavated part of the burial.
Residual finds: Pottery sherds, some animal bone, nails and a tile fragment.
Date: Roman.

JF13: urned cremation burial
Location: Evaluation trench JFT11.
Description: Burial pit JF13 contained a disturbed urned cremation burial. Part of the burial pit had been cut away by a modern building foundation and part of it was also located outside the evaluation trench, but the surviving feature measured 0.43m by 0.36m and was 0.6m deep.
Cremated human bone: No bone had survived.
Burial goods: A jar (JF13.1) had been used as a cremation urn.
Date: 1st to the early 2nd century.

JF13.1 Jar used as a cremation urn (J7). Cam 266 jar, Fabric GX. Partial pot with rim and body sherds only. 1st to early 2nd century.

Area J1 North excavation

JNF1: ?double urned cremation burial

Description: Burial pit JNF1 was an oval feature, 0.55m by 0.34m and 0.16m deep, containing a possible double urned cremation burial.
Cremated human bone: A total of 944g of cremated bone was recorded. Although it is likely that two individuals were present, only one could be positively identified and it was a middle adult (35-50 years) of indeterminate sex. Evidence of periostitis (non-specific infection) was also identified on the bone.
Burial Goods: Two jars (JNF1.1 – .2) had been used as cremation urns and placed side-by-side within the feature along with a flagon (.3), some iron nails and a hobnail.
Date: 3rd century + (although the pottery vessels are dated from the early 2nd to mid/late 2nd century, this feature must be later than inhumation burial JNF247 which is dated from the 3rd century +).

JNF1.1 Jar used as a cremation urn (JN1). Illustrated. Cam 278 jar, with burnished lattice decoration. Fabric KX. Complete pot although upper half is in sherds. Hadrianic to late 2nd century.

JNF1.2 Jar used as a cremation urn (JN2). Illustrated. Cam 268 jar, Fabric GX. Almost complete jar although upper half is in sherds and most of the rim is missing. Early/mid 2nd to late 3rd/early 4th century.

JNF1.3 Flagon (JN3). Illustrated. Almost complete small flagon with 2/3 ring slightly cupped mouth, form Cam 155. Fabric DJ. Claudio-Neronian to early Antonine.

Iron nails (JN6, JN246): a) incomplete, length 37mm; b) complete, length 44mm; c) one complete, clenched, corroded to another, incomplete, lengths 24 (bent) and 49mm; d) incomplete, length 19mm; e) incomplete, length 15mm; f) shank fragment, clenched, length (bent) 18mm.

Iron hobnail (JN6). Length 20mm.

JNF3a/JNF122: inhumation burial

Description: Inhumation burial JNF3a was located within a grave aligned north-east to south-west, with the head buried at the north-eastern end. The central area of the grave had been cut away by a modern service trench but it would have measured 2.22m by 0.46m and 0.32m deep.
Inhumated human bone: Less than 25% of the skeleton (26g) had survived within the grave, consisting of parts of the skull from an adult (over 20 years) of indeterminate sex.
Date: Roman.

JNF4: pyre site

Description: Burial pit JNF4 was a large grave-shaped feature, 1.65m by 0.85m and 0.18m deep, containing the remains of a pyre. Scorched sand around the edges of the feature suggests *in situ* burning and a concentrated amount of charcoal, burning and cremated bone was scattered throughout the fill.
Cremated human bone: A total of 304g of cremated bone was recorded from a minimum of two adults (over 20 years) of indeterminate sex. This would suggest that either two individuals were cremated together or that the pyre site had been reused.
Burial goods: Several pottery sherds and a fragment of a glass bead (JNF4.1).
Date: Early 2nd to mid 3rd century + (must be later than cremation burial JNF205, which is dated from the early 2nd to mid-late 2nd century).

JNF4.1 Bead fragment (JN668), small find no. 386. Fragment of a very small opaque blue glass round-section cylinder bead; not visibly burnt. Length 2.5mm, diameter 2-3mm.

Pottery sherds (JN21). Two sherds of Fabric DJ and seven sherds of Fabric GX from two pots (probably 1st to 2nd century).

JNF5: b*ustum*

Description: Burial pit JNF5 was a large grave-shaped feature, 1.35m by 0.5m and 0.29m deep, containing a probable *bustum* burial. Almost no scorched sand was recorded around the edges of the feature, although it is likely that there was some form of in situ burning. The pit contained a large concentration of charcoal and burning, and a small amount of cremated bone, scattered throughout.

Cremated human bone: A total of 99g of cremated bone was recorded from an adult (over 20 years) of indeterminate sex.

Burial goods: Seven miniature jars (JNF5.1 – .7), the broken remains of a large jar (.8), several other pottery sherds, a copper-alloy coin (.9) and some iron nails and a hobnail were recorded. Several of the miniature jars displayed evidence of being slightly heat affected but all appear to have been placed within the burial pit after cremation.

Date: Hadrianic to late 2nd century.

JNF5.1 Miniature jar (JN208). Illustrated. Cam 278 miniature jar, Fabric GB. Whole pot although cracked by pressure and four sherds are detached from the rim and shoulder on one side.
Hadrianic to late 2nd century.

JNF5.2 Miniature jar (JN209). Illustrated. Cam 278 miniature jar, Fabric GB. Whole pot. Earlier Hadrianic to late 2nd century.

JNF5.3 Miniature jar (JN210). Illustrated. Cam 278 miniature jar, Fabric KX. Whole pot though part of rim is missing in one place (old damage). Possibly slightly heat affected. Hadrianic to late 2nd century.

JNF5.4 Miniature jar (JN211). Illustrated. Whole miniature pot, approximating to jar form Cam 268 with possible slight heat discolouration. Fabric GX.

JNF5.5 Miniature jar (JN213). Illustrated. Cam 278 miniature jar, Fabric KX. Whole pot though rim chipped in several places (old damage). Possibly slightly heat affected (scorched). Hadrianic to late 2nd century.

JNF5.6 Miniature jar (JN214). Illustrated. Cam 278 miniature jar, Fabric KX. Whole pot, rim sherd missing in one place (ancient). Possibly slightly heat affected. Hadrianic to late 2nd century.

JNF5.7 Miniature jar (JN239). Illustrated. Cam 278 miniature jar, Fabric KX. Partial pot in three sherds, two of which join from the rim and shoulder. Hadrianic to late 2nd century.

JNF5.8 Jar (JN214). Cam 268 jar, Fabric GX. Almost complete though at least part of base and rim are missing. Early/mid 2nd to late 3rd/early 4th century.

JNF5.9 Copper-alloy coin (JN1458), small find no. 542. Coin of Domitian, *as*, rev. standing figure; AD 81-86. It is a secondary, unburnt, deposit.

Pottery sherds (JN214, JN239). Sixty-eight sherds in Fabrics AJ, DJ, GX and KX.

Iron nails (JN10): a) incomplete, length 15mm; b) shank fragment, length 67mm.

Iron hobnail (JN10). Length 14mm.

JNF6: inhumation burial

Description: Inhumation burial JNF6 was located within a grave measuring 1.5m by over 0.6m, 0.12m deep and aligned north-west to south-east.

Inhumated human bone: No bone had survived.

Date: Roman.

JNF11: unurned cremation burial

Description: Burial pit JNF11 was a sub-circular feature, 0.25m in diameter and 0.13m deep, containing an unurned cremation burial.

Cremated human bone: A total of 218g of cremated bone was recorded from an adult (over 20 years) of indeterminate sex. Evidence of Schmorl's nodes (spinal disease) was identified on the bone.

Date: Roman.

JNF12: inhumation burial

Description: Inhumation burial JNF12 was buried within a grave aligned south-east to north-west with the head buried at the south-eastern end. The south-eastern half of the grave had been cut away by a modern building foundation, but the surviving feature measured 0.62m by 0.55m and was 0.11m deep.
Inhumated human bone: Less than 25% of the skeleton (44g) had survived within the grave, consisting of parts of the lower limbs from an adult (over 20 years) of indeterminate sex.
Residual finds: Pottery sherds and 0.9g of probable cremated human bone.
Date: Early 2nd to the mid 3rd century + (based on the date of the residual pottery sherds).

JNF21: burial pit containing pyre debris

Description: Burial pit JNF21 was an oval feature containing pyre debris. Part of the burial pit had been cut away by a modern building foundation, but the surviving feature was 0.90m long and 0.76m wide. The burial pit contained a small amount of cremated bone along with a concentration of charcoal and burning scattered throughout.
Cremated human bone: A total of 15g of cremated bone was recorded from an adult (over 20 years) of indeterminate sex was recorded.
Date: Mid 2nd to the early/mid 3rd century + (must be later than inhumation burial JNF56, which is dated from the mid 2nd to the early/mid 3rd century +).

JNF22: urned cremation burial

Description: Burial pit JNF22 was an oval feature containing the disturbed remains of an urned cremation burial. Part of the burial pit was located outside the limit of excavation, but it measured at least 0.66m by over 0.43m and was 0.09m deep.
Cremated human bone: A total of 141g of cremated bone was recorded from an adult (over 20 years) of indeterminate sex.
Burial goods: A jar (JNF22.1) had probably been used as a cremation urn. Three fragments of animal bone were identified which may represent the remains of food/'food for the afterlife' or residual material.
Date: Hadrianic to late 2nd century.

JNF22.1 Jar used as a cremation urn (JN32). Illustrated. Cam 278 jar, Fabric KX. Almost complete pot in sherds though much of rim missing. Hadrianic to late 2nd century.

Animal bone (JN31). Three fragments of animal bone were recovered, weighing 14g.

JNF26: urned cremation burial

Description: Burial pit JNF26 was a sub-circular feature, 0.29m in diameter and 0.11m deep, containing an urned cremation burial.
Cremated human bone: A total of 461g of cremated bone was recorded from an adult (over 20 years) of indeterminate sex.
Burial goods: A pottery vessel (JNF26.1) had been used as a cremation urn.
Date: Roman.

JNF26.1 Cremation urn lost during the post-excavation process.

JNF27: urned cremation burial

Description: Burial pit JNF27 was a sub-circular feature, 0.34m in diameter and 0.23m deep, containing an urned cremation burial. It cut a burial pit with pyre debris (JNF59).
Cremated human bone: A total of 225g of cremated bone was recorded from an adult (over 20 years) of indeterminate sex.
Burial goods: A jar (JNF27.1) had been used as a cremation urn.
Residual finds: A single pottery sherd and two iron nails.
Date: 1st to the early 2nd century.

JNF27.1 Jar used as a cremation urn (JN43). Illustrated. Cam 266 jar, Fabric GX. Probably complete but the upper half is in sherds. 1st to early 2nd century.

JNF28: burial pit containing pyre debris
Description: Burial pit JNF28 was an oval feature, 0.65m by 0.49m and 0.14m deep, containing pyre debris. It contained small amount of cremated bone along with a concentration of charcoal and burning scattered throughout.
Cremated human bone: A total of 14g of cremated bone was recorded from an adult (over 20 years) of indeterminate sex.
Date: Roman.
Possible Burial Marker: A single post hole (JNF49: 0.34m in diameter and 0.44m deep) located 0.10m from the burial pit may have held a wooden post used as a burial marker.

JNF30: burial pit containing pyre debris
Description: Burial pit JNF30 was an oval feature, 0.55m by 0.44m and 0.11m deep, containing pyre debris. No cremated bone had survived but a concentration of charcoal and burning was recorded scattered throughout the fill.
Burial goods: A single iron nail was found.
Date: Roman.

Iron Nail (JN39). Shank fragment, length 45 mm.

JNF31: burial pit containing pyre debris
Description: Burial pit JNF31 was an oval feature, 0.57m by 0.45m and 0.06m deep, containing pyre debris. It contained a small amount of cremated bone along with a concentration of charcoal and burning scattered throughout.
Burial goods: A miniature jar (JNF31.1), the remains of a small or miniature bowl (.2), the burnt central knob from a lid (.3) and four iron nails.
Cremated human bone: A total of 21g of, probably human, cremated bone was recorded.
Date: 1st to the early 2nd century.

JNF31.1 Miniature jar (JN118). Illustrated. Cam 266 miniature jar, Fabric GX. Most of the pot is present in 10 sherds and fragments). 1st to early 2nd century.

JNF31.2 Bowl (JN105). Cam 218 bowl, small or miniature, consisting of nine sherds. Fabric GX. 1st to early 2nd century.

JNF31.3 Lid (JN105). Lid, part of central knob, probably burnt, Fabric WA.

Iron nails (JN1182): a) complete, length 54 mm; b) incomplete, length 44 mm; c) incomplete, length 29 mm; d) complete, length 42 mm.

JNF32: burial pit containing pyre debris
Description: Burial pit JNF32 was an oval feature, 0.41m by 0.36m and 0.09m deep, containing pyre debris. The pit contained a small amount of cremated bone, charcoal and burning scattered throughout.
Cremated human bone: A total of 18g of cremated bone was recorded which was probably human.
Burial goods: Several pottery sherds (JNF32.1).
Date: Roman.

JNF32.1 Pottery sherds (JN178, JN201). Twenty sherds in Fabric GX, probably from more than one pot.

JNF33: urned cremation burial
Description: Burial pit JNF33 was a sub-circular feature, 0.35m in diameter and 0.23m deep, containing an urned cremation burial.
Cremated human bone: A total of 75g of cremated bone was recorded from an adult (over 20 years) of indeterminate sex.
Burial goods: A jar (JNF33.1) had been used as a cremation urn.
Residual finds: A single burnt pottery sherd.
Date: Hadrianic to late 2nd century.

JNF33.1 Jar used as a cremation urn (JN141). Illustrated. Cam 278 jar, decorated with lattice burnish, Fabric KX. Much of pot is present in sherds, although most of neck and rim are missing. Hadrianic to late 2nd century.

JNF34: b*ustum*

Description: Burial pit JNF34 was a large grave-shaped feature, 1.80m by 1.35m and 0.73m deep, containing a *bustum* burial. Scorched sand around the edges of the feature suggests *in situ* burning and the fill itself contained concentrations of charcoal, burning and cremated bone scattered throughout.
Cremated human bone: A total of 361g of cremated bone was recorded from a juvenile or young adult (15-20 years) of indeterminate sex. Evidence of periostitis (non-specific infection) was identified on the bone.
Burial goods: A beaker (JNF34.1) and flagon (.2) appear to have been placed within the burial pit after cremation. Other pottery sherds (some burnt), some unguent bottle glass (.3) and iron nails (.4) were identified scattered throughout the fill.
Date: 1st to the early 2nd century, but probably no later than AD75-85 (based on unguent bottle).

JNF34.1 Beaker (JN103, JN139). Illustrated. Cam 108 beaker, Fabric GX. Most of pot is present although part of body and rim are missing. 1st to early 2nd century.

JNF34.2 Flagon (JN203). Illustrated. Ring neck flagon, Fabric DJ. Most of the pot is present (in 60 sherds) although the top of the neck is missing. 1st to early 2nd century.

JNF34.3 Glass (JN122, JN1456). (JN122) Tubular unguent bottle, lower body fragment, blue/green, weight 2g. (JN1456) Unguent bottle or flask, cylindrical neck fragment, blue/green, neck diameter 22mm, weight 1.1g. (JN122) is from the dominant type of unguent bottle in use in the mid 1st century AD both in Britain and elsewhere which went out of use in the Flavian period (Cool and Price 1995, 159; Price and Cottam 1998, 169). They were very commonly used both as pyre and grave goods at that time and their presence indicates the funeral took place not later than c. AD 75 – 85. (JN1456) could well have come from the same vessel. Though from a pyre neither show evidence of having come into contact with the heat.

JNF34. 4 Iron nails: (78) incomplete, length 44 mm; (104) complete, length 46 mm; (1299) c) shank fragment, length 21 mm; d) shank fragment, length 41 mm; e) incomplete, length 25 mm; f) complete, bent, length 32 mm; g) complete, bent, length 40 mm; h) incomplete, length 29 mm; i) complete, length 48 mm; j) shank fragment, length 36 mm; k) complete, length 62 mm; l) shank fragment, clenched, length (bent) 37 mm; m) two shank fragments, one attached to the end of the other by corrosion, lengths 55 and 23 mm; n) complete, 43 mm; o) complete, length 48 mm; q) complete, length 87 mm; s) complete, length 42 mm; t) complete, length 85 mm.

Other pottery sherds. Seventy-eight sherds of Fabric DJ (666g) including two sherds from a Cam 154/155 flagon (JN104) (dated pre-Flavian), 50 sherds also from a ring neck flagon (JN287) a quantity of which are burnt (dated 1st-mid 2nd century), other burnt sherds (JN128, JN152) and other sherds probably most if not all from flagon(s) (JN80, JN127, JN130, JN151, JN153, JN159, JN188, JN189, JN190) (dated 1st-2nd century). One sherd of Fabric GTW (JN80) (dated pre-Flavian). Twenty sherds of Fabric GX (55g) including 5 burnt sherds (JN77, JN125, JN153, JN287) and other sherds (JN56, JN101, JN121, JN126, JN150, JN154, JN159, JN188). Twenty-five sherds of Fabric GX(RCW) (77g) including sherds from a Cam 108 beaker (JN78, JN104, JN123) (dated 1st century) and other . sherds (JN121, JN124, JN129, JN153).

JNF35: burial pit containing pyre debris

Description: Burial pit JNF35 was an oval feature containing pyre debris. Part of the burial pit was located outside of the excavation area and part of it had also been cut away by modern disturbance, but the surviving feature measured 0.65m by 0.54m and was 0.10m deep. No bone had survived within the burial pit but it did contain a concentration of charcoal and burning scattered throughout.
Burial goods: A broken pottery bowl (JNF35.1).
Intrusive finds: A piece of clay pipe and slate.
Date: 1st century.

JNF35.1 Bowl (JN99). Illustrated. Cam 241/242 bowl, Fabric GX(RCW). Consists of one large sherd with rim and three other small sherds. 1st century.

JNF39: burial pit containing pyre debris

Description: Burial pit JNF39 was a sub-circular feature containing pyre debris. Part of the burial pit had been cut away by a modern building foundation but the surviving feature

measured 0.44m in diameter and 0.21m deep. It contained a very small amount of cremated bone along with a concentration of charcoal and burning scattered throughout.
Cremated human bone: A total of 7g of cremated bone was recorded from an adult (over 20 years) of indeterminate sex.
Burial goods: Three sherds of burnt pottery (JNF39.1).
Date: 1st to the 2nd century.

JNF39.1 Pottery sherds (JN140). Three sherds of Fabric DJ, all have been burnt (probably 1st to 2nd century).

JNF41: disturbed burial feature
Description: Burial pit JNF41 was an oval feature, 0.46m by 0.40m and 0.12m deep, which had a beaker (JNF41.1) at its centre. Although no cremated bone was recorded this feature is likely to have been either an unurned or urned cremation burial that had been badly disturbed.
Date: Early-mid 3rd to the 4th century.

JNF41.1 Beaker (JN134). Illustrated. Cam 407 beaker. Indented with scales between indents. Dark colour-coat. Fabric EA. Consists of a whole base and sherds from the lower body. Second quarter of 3rd century(?) to 4th century.

JNF42: urned cremation burial
Description: Burial pit JNF42 was an oval feature, 0.65m by 0.54m and 0.13m deep, containing a disturbed urned cremation burial.
Cremated human bone: A total of 10g of probably human cremated bone was recorded.
Burial goods: A jar (JNF42.1) had been used as a cremation urn.
Residual Finds: Pottery sherds.
Date: Early/mid 2nd to the late 3rd/early 4th century.

JNF42.1 Jar (JN194). Cam 268 jar, Fabric GX. Sherds from base, body and rim present, which are probably all part of this one pot. Early/mid 2nd to late 3rd/early 4th century.

JNF45: inhumation burial
Description: Inhumation burial JNF45 was located within a grave measuring 1.78m by 0.68m, 0.32m deep and aligned west to east with the head buried at the western end. The north-western corner of the grave had been slightly cut away by inhumation burial JNF69.
Inhumated human bone: Less than 25% of the skeleton (387g) had survived within grave, consisting of parts of the skull, pelvis and lower limbs from an male adult (over 20 years). Evidence of arthritis of the spine (spinal disease) was also identified.
Residual finds: Six pottery sherds.
Date: 1st to the 2nd century + (based on the date of the residual pottery sherds).

JNF47: unurned cremation burial
Description: Burial pit JNF47 was a sub-circular feature, 0.76m in diameter and 0.23m deep, containing an unurned cremation burial.
Cremated human bone: A total of 153g of cremated bone was recorded from an adult (over 20 years) of indeterminate sex.
Burial goods: Three copper-alloy rings with iron fittings (JNF47.1 – .3) were identified on top of the cremated bone along with a single copper-alloy coin (.4), several hobnails (.5) and an iron nail. The fittings were from a wooden box of 1st to early 2nd century type as JNF61.9. One ring (JNF46.1) was of the type fitted with two split-spike loops that could be used as hinges or to secure a leather strap used as a hinge, while two (JNF47.2-3) had a single split-spike loop and were used as guide rings for the leather straps that secured the box. Although none were visibly burnt, the fact that the box was clearly incomplete and that rings and coin were found in the spread of cremated bone suggests that they were all primary deposits. The coin reverse may have had funerary significance.
Residual finds: Pottery sherds.
Date: Late 1st to early 2nd century.

JNF47.1 Box fitting (JN48), small find no. 302. Copper-alloy ring as JNF47.3 (see below), with only two small fragments of the iron fittings. Traces of iron corrosion on opposite sides of the ring point to this example having been used as a box hinge (see JNF61 below). Diameter 30mm, thickness 4 mm.

JNF47.2 Box fitting (JN49), small find no. 303. Copper-alloy ring as JNF47.3 (see below), but with only the loop of the split-spike loop surviving. Diameter 30 mm, thickness 4 mm.

JNF47.3 Box fitting (JN72), small find no. 304. Illustrated. Copper-alloy faceted-section box ring (as those in JNF61) with most of an iron split-spike loop for attachment and a small fragment of the copper-alloy-coated iron escutcheon plate surviving; there is mineral-replaced wood on the shank of the split-spike loop. Ring diameter 30 mm, thickness 4 mm; surviving length of split-spike loop 20 mm.

JNF47.4 Copper-alloy coin (JN86), small find no. 305. Coin of Domitian, *dupondius*, rev. *Fortunae Augusti*; *RIC* 397; AD 87-8.

JNF47.5 Iron hobnails (JN85), small find no. 529.

Iron nail (JN85). Complete, length (bent) 46 mm.

JNF50: inhumation burial

Description: Inhumation burial JNF50 was located within a grave measuring 2.10m by 0.8m, 0.55m deep and aligned south-east to north-west with the head probably buried at the south-eastern end.
Inhumated human bone: No bone had survived.
Timber coffin: A plan of the iron nails (JNF50.3) show that the body had been buried within a coffin measuring 1.64m by 0.46m.
Burial goods: Fragments of a glass unguent bottle (.1) was recorded to the south-east end of the coffin. A pair of nailed shoes or sandals (.2) was also found inside the foot of the coffin, together with three other concentrations of hobnails, probably from a second pair. The better preserved soles lay at right angles to the length of the coffin and would not have been worn; they may have been placed beneath the heels or ankles as the others overlay them. The jumbled nature of the others suggests that they were worn.
Residual finds: Pottery sherds.
Date: 1st to the 3rd century.
Possible Burial Marker: A single post hole (JNF102: 0.37m in diameter and 0.21m deep) was located 0.30m away from this grave and 0.45m away from inhumation burial JNF64. It is possible that this feature would have held a wooden post used as a burial marker.

JNF50.1 Glass (JN117). Illustrated. Flask, in 16 fragments lacking large parts of body and base. Blue/green. Slightly out-bent rim with edge rolled in, rim opening oval and bent slightly to one side; long cylindrical neck curving out to convex shoulder, cylindrical body, shallow concave base with circular pontil scar. Height of joined fragments 155mm, rim diameter 37 x 30mm, base diameter 60mm, wall thickness 1mm. This glass, though now incomplete, was clearly placed in the grave deliberately. The blue/green colour would indicate a 1st to 3rd century date. Other than this the vessel is difficult to date as it seems very likely that many of its more curious features, such as the rolled rim combined with the lightly impressed pontil s*CAR* and the rather cylindrical body, are the result of an incompetent glass blower. Certainly the asymmetric, lop-sided rim is an accidental feature. Globular flasks have a long life throughout the Roman period. Normally it would be possible to use details of the rim and base formation to suggest a narrower date range within that period, but it seems unwise to attempt this here.

JNF50.2 Iron hobnails (JN87), small find no. 470, 169 hobnails.

JNF50.3 Iron coffin nails (JN87): a) incomplete, length 112 mm; b) complete, length 114 mm; c) shank fragment, length 68 mm; d) incomplete, length 70 mm; e) incomplete, length 44 mm, smaller, ?residual; f) shank fragment, length 110 mm; g) complete, length 130 mm; h) incomplete, length 104 mm; i) complete, length 115 mm; j) shank fragment, length 65 mm; k) shank fragment, bent, length 83 mm; l) shank fragment, length 120 mm; m) shank fragment, length 52 mm; n) complete, length 106 mm; o) shank fragment, length 102 mm; p) shank fragment, length 18 mm; q) incomplete, length 77 mm; r) incomplete, length 76 mm; s) shank fragment, length 52 mm; t) incomplete, length 17 mm; u) shank fragment, length 57 mm; v) incomplete, length 76 mm; w) shank fragment, length 52 mm; aa) incomplete, length 75 mm; ab) incomplete, length 51 mm; ad) complete, length 100 mm; aei) incomplete, length 95 mm; aeii) complete, length 78 mm; af) incomplete, length 29 mm; ah) shank fragment, length 43 mm; aj) complete, length 130 mm; al) complete, length 31 mm; bx) incomplete, length 61 mm, plus shank fragment, bent, length 87 mm; ca) complete, length 121 mm.

JNF56: inhumation burial

Description: Inhumation burial JNF56 was located within a grave measuring 2.20m by 1.00m, 0.57m deep and aligned south to north with the head buried at the southern end.

Inhumated Human Bone: No bone had survived, but the degraded remains of the human skull had left a stain in the base of the southern end of the grave.
Timber Coffin: Wood staining in the bottom of the grave and a plan of the iron nails (JNF56.2) recorded from it show that the body had been buried within a coffin which measured 2.06m by 0.70m.
Burial goods: A number of lead fragments (.1) were found within the coffin.
Residual finds: Pottery sherds (some burnt) and some hobnails.
Date: Mid 2nd to the early/mid 3rd century + (must be later than inhumation burial JNF83, which is dated from the mid 2nd to early/mid 3rd century).

JNF56.1 Lead-alloy fragments (JN1116), small find no. 335. Tiny fragments with a total weight of less than 1g. Probably all that remains of a small pewter vessel.

JNF56.2 Iron coffin nails (JN89), small find no. 497: a) two shank fragments, lengths 26 and 18 mm; b) head fragment, diameter 15 mm; u) incomplete, length 75 mm; ca) shank fragment, length 24 mm; cb) complete, length 60 mm; cc) shank fragment, length 36 mm; cd) complete, length 106 mm; ce) complete, length 89 mm; cf) incomplete, length 46 mm; cg) incomplete, length 73 mm; ch) incomplete, length 85 mm; ci) complete, length 94 mm; cj) incomplete, length 73 mm; ck) complete, length 90 mm; cl) incomplete, length 55 mm; cm) complete, length 64 mm; cni) incomplete, length 35 mm; cnii) complete, length 96 mm; co) shank fragment, length 41 mm; cp) complete, length 83 mm; cq) incomplete, length 46 mm; cr) complete, length 80 mm; cs) shank fragment, length 21 mm; cu) shank fragment, length 37 mm; cv) shank fragment, length (bent) 47 mm; cx) shank fragment, length 33 mm; cy) complete, length 66 mm; cz) shank fragment, length 31 mm; da) shank fragment, length 33 mm; db) complete, length (bent) 35 mm; dc) incomplete, length 36 mm; dd) shank fragment, length (bent) 23 mm; de) shank fragment, length 41 mm; df) incomplete, length 15 mm.

JNF58: urned cremation burial

Description: Burial pit JNF58 was a sub-circular feature, 0.60m in diameter and 0.21m deep, containing an urned cremation burial.
Cremated human bone: A total of 379g of cremated bone was recorded from a juvenile or young adult (15-20 years) of indeterminate sex.
Burial goods: A jar (JNF58.1) had been used as a cremation urn and a lid (.2) had been inverted and placed over the urn.
Residual finds: Pottery sherds.
Date: Mid 1st (Claudio/Neronian) to the late 1st/early 2nd century.

JNF58.1 Jar used as a cremation urn (JN46). Illustrated. Cam 177 jar ('Honey pot'), Fabric DJ. Whole pot but part of the rim and neck above the handles is broken away as sherds on one side. Claudio/Neronian to late 1st/early 2nd century.

JNF58.2 Lid (JN46, JN1130). Illustrated. Lid, Fabric GX. Consisting of 21 sherds including the central knob with other fragments, which are probably all part of same lid.

JNF59: burial pit containing pyre debris

Description: Burial pit JNF59 was an oval feature containing pyre debris. Part of the burial pit had been cut away by urned cremation burial JNF27, but the feature measured approximately 1.2m by 0.7m and 0.21m deep. The burial pit contained a small amount of cremated bone along with a concentration of charcoal and burning scattered throughout.
Cremated human bone: A total of 1g of unidentified cremated bone was recorded.
Burial goods: Several pottery sherds were identified.
Date: 1st to the early 2nd century.

Pottery sherds (JN53). Seventeen sherds of Fabric GX, from 4-5 pots, one sherd burnt and distorted, one or two others possibly burnt. Probably 1st to early 2nd century.

JNF61: b*ustum*

Description: Burial pit JNF61 was a large grave-shaped feature, 2.36m by 0.7m and 0.25m deep, contained a probable *bustum* burial. Scorched sand was identified around the edges of the feature, suggesting *in situ* burning, and it contained large amounts of charcoal, burning and cremated bone scattered throughout.
Cremated human bone: A total of 440g of cremated bone was recorded from an adult (over 20 years) of indeterminate sex.

Burial goods: Fragments of a beaker (JNF61.1), a tazza (.2), a bowl (.3), several other pottery sherds (.4) and a pottery lamp (.7) were identified as having been burnt with the body. A wooden box (with copper-alloy and iron fittings) (.9) and two complete pottery lamps (.5 – .6) had been placed in the burial pit after cremation. The wooden box also appeared to contain both a mirror (.8) and presumably clothes. Staining on the surviving edges of the largest fragment of the rectangular mirror suggest that, like many others of its type, it had a wooden frame. Some of these mirror frames were lidded, most pertinently one from a burial in west Essex (Crummy & Hogarth 2004) where the mirror was found in a wooden box very similar to JNF61.9. The lamps in JNF61 place the date of deposition of this box sometime in the late 1st or 2nd century.
Date: Late 1st to early 2nd century.

JNF61.1 Beaker (JN478, JN543, JN673, JN677). Illustrated. Cam 120 beaker (*CAR* **10** Fabric GX type 11.25), Fabric GX. This incomplete vessel is represented by 14 sherds and the sherds from find JN673 are possibly burnt. *c.* AD 55-90.

JN61.2 Tazza (JN673, JN681, JN859, JN860, JN864). Illustrated. Cam 198 tazza, Fabric DJ. This incomplete vessel is represented by 10 sherds and the sherds from find JN860 are discoloured and possibly burnt. Claudian to late 2nd or early 3rd century.

JN61.3 Bowl (JN478, JN480, JN673, JN677, JN678, JN860, JN861, JN862, JN863). Cam 218 bowl, Fabric GX. This incomplete vessel is represented by 58 sherds from all parts of the vessel, none of which had been burnt. 1st to early 2nd century.

JNF61.4 Pottery sherds. BA SG sherd Dr.18 (JN863) (dated 1st century); seven sherds of Fabric DJ including at least one sherd from a Cam 155 flagon (dated Claudio-Neronian to early Antonine) (JN478, JN677, JN678, JN860, JN861, JN862); and seven sherds of Fabric GX two of which (from find bag JN677) have been burnt (JN677, JN860).

JNF61.5 Pottery lamp (JN479), small find no. 372. Illustrated. Complete miniature factory lamp as JNF61.6 (see below). Length 59.5 mm, diameter 39.5 mm.

JNF61.6 Pottery lamp (JN1126), small find no. 371. Illustrated. Complete scorched miniature factory lamp of Loeschcke Type IXb with closed channel between discus and nozzle and no handle. There are two lugs on the shoulders. The fabric is buff with a dark grey-black slip Length 59.5 mm, diameter 39.5 mm.

JNF61.7 Pottery lamp fragments (JN431, JN1127), small find nos. 373 and 374. Illustrated. Nine sherds from a factory lamp. The area of the channel between discus and nozzle, which is diagnostic of the type, is missing, but this was almost certainly a larger example of the same type of lamp as JNF61.5 and .6 above. There are no sherds from a handle. The fabric is uniformly buff apart from a few traces of dark slip on a few sherds, mainly on the internal faces. Approximate surviving length 63 mm, surviving diameter 48 mm. Although incomplete, there is no evidence of burning, making this more likely to be a secondary deposit.

JNF61.8 Mirror fragments (JN1125), small find nos. 370c, 370ad and 370ah. Illustrated Rectangular mirror of high tin bronze (c, ah), now fragmentary and incomplete; found inside the box JNF61.9. It is of Lloyd-Morgan's Type A, which occurs primarily in 1st century AD contexts (Lloyd-Morgan 1981, 3). Only the largest piece, measuring 41 by 64 mm and with two contiguous edges, and an associated fitting are illustrated. Sharp edges on some fragments suggest that the mirror was incomplete when deposited, although severe corrosion on other pieces, particularly the small ones, could indicate that it was complete when buried, but shattered as the box decayed, with the smaller fragments corroding away completely. The fitting, found in association with the mirror is a small copper-alloy pin (ad; length 19 mm) which is similar to a split-spike loop but has the neck twisted through 90 degrees. An exactly similar pin was found embedded in one of the short sides of the wooden frame of the CMG01, Section 13 mirror. The precise use of these fittings has not yet been established; they may have been used to secured the lid of the frame, or to attach the mirror to the frame, but they are certainly too delicate to have fixed the frame to the box lid.

JNF61.9 Box fittings (JN1125), small find no. 370. Reconstruction drawing. Copper-alloy and iron fittings from a wooden box or casket. The reconstruction shows the external copper-alloy fittings and the lock-bolt only. No key was found. The internal iron fittings from the lock mechanism have not survived, or, at least, are not identifiable. The box measured approximately 330-350 mm by 220-250 mm in plan; its height, based on that of the lock-plate and of other examples, would have been about 150 mm (Borrill 1981, 304; Crummy & Hogarth 2004). The boards were held together by small iron nails or tacks; an L-shaped fitting (ai) r was probably used to reinforce a damaged corner. The box was covered with rawhide before the external copper-alloy fittings were attached (see report by Q.Mould). The box from CMG01 Section 13 cited above under JNF61.8 was covered both inside and out by leather (Crummy & Hogarth 2004), and leather was also found on a box from Sheepen, Colchester (Niblett 1985, 25-6; Saunders 1985). The lid was hinged by rings attached to the back-boards of both the lid and the body of the box by two iron split-spike loops that passed through copper-alloy escutcheons. Similar rings with two split-spike loops appear to have been used in pairs on the CMG01 box to secure the ends of leather straps used as hinges, but they could also be used as simple hinges, as on boxes in Baldock Burials 5 and 10, Wederath-Belginum Grave 2370 (Germany) and probably also on the box in Skeleton Green Burial 4 (Stead & Rigby 1986, fig. 27, 10-11, fig. 33, 5-6; Riha 2001, Abb. 24, bottom; Borrill 1981, 314, fig. 120, k-m). Six other rings of smaller diameter and attached by only one split-spike loop with the same type of escutcheon, were fitted to the front board and lid of the box.

One ring of the same size as those used for the hinges but with only one split-spike loop was probably one of a pair, the other having been lost and not replaced. It was apparent from the CMG01 Section 13 box that these rings with single attachment spikes probably acted as guide loops for leather straps tied around the box to secure it and possibly also to act as a means of suspension. This has informed the reconstruction of JNF61.9. Leather straps were also used on the Wederath-Belginum box (Riha 2001, Abb. 24).
370aa: Copper-alloy lock-plate and lock-bolt. The bolt (length 63 mm) is illustrated separately. The plate is rectangular (107 by 78 mm) and was fixed to the box by six convex-headed studs, only five of which survive. Incised lines radiate out from the corners of the hole for the hasp and the keyhole. They were probably used as guide lines to show where the holes should be cut, but are unnecessarily long. A fitting and a depression set beneath the keyhole relate to the use of the key.
370ab: Copper-alloy hasp with transverse mouldings at the top and the foot and a stout loop on the reverse to house the lock-bolt when the box was locked. A hinged plate at the top, used to attach the hasp to the lid, is fixed by an axial bar with knobbed ends. The foot is fitted with a wire loop used to lift the hasp when the box was unlocked. Length 69 mm.
370ae i: Copper-alloy ring of faceted section with two split-spike loops for attachment. Each loop retains part of a round copper-alloy escutcheon with concentric decorative mouldings. Diameter of ring 32 mm. Iron corrosion over the escutcheon has spread from the spilt-spike loop.
370m: Copper-alloy ring as 370ae i. Diameter of ring 32 mm.
370ae ii: Copper-alloy ring of faceted section with one split-spike loop for attachment and part of a round copper-alloy escutcheon with concentric decorative mouldings. Diameter of ring 27 mm. Iron corrosion over the escutcheon has spread from the spilt-spike loop.
370d: Copper-alloy ring as 370ae ii. Diameter 28 mm.
370p: Copper-alloy ring as 370ae ii. Diameter 28 mm.
370q: Copper-alloy ring as 370ae ii. Diameter 27 mm.
370z: Copper-alloy ring as 370ae ii. Diameter 26 mm.
370ac: Copper-alloy ring as 370ae ii. Diameter 27 mm.
370, no site letter but found near lock-plate: Copper-alloy ring as 370ae ii. Diameter 32 mm.
370s: Fragments of lead-tin solder, found near one bottom corner of the box; probably from a composite stud, although none of this type has been found. Weight 10 g.
370ai: Tapering iron L-shaped fitting, with nail for attachment in the broader arm. Width tapers from 18 to 12 mm; arm lengths 33 and 18 mm.
370aw: Iron fitting, probably from the lock mechanism, incorporating at least two nail shanks; 21 x 19 x 21 mm.
Small iron nails from the joints of the box: e) shank fragment, length 22 mm. h) shank fragment, length 22 mm; i) shank fragment, length 19 mm; j) incomplete, length 17 mm; k) shank fragment, length 26 mm; l) shank fragment, length 15 mm; r) shank fragment, length 20 mm; u) shank fragment, length 11 mm; t) complete, length 27 mm; v) incomplete, length 14 mm; w) two shank fragments, lengths 6 and 23 mm; x) shank fragment, length 24 mm; y) two shank fragments, lengths 12 and 18 mm; af) incomplete, length 14 mm; ag) complete, clenched, length (bent) 11 mm; aj) complete, length 28 mm; ak) incomplete, length 19 mm; al) incomplete, length 27 mm; an) complete, length 24 mm; ao) shank fragment, length 22 mm; ap) incomplete, length 23 mm; aq) shank fragment, length 21 mm; ar) shank fragment, length 16 mm; as) complete, clenched, length (bent) 15 mm; at) incomplete, length 17 mm; au) shank fragment, length 26 mm; av) incomplete, length (bent) 26 mm; bb) shank fragment, length 19 mm; bci) two shank fragments, lengths 10 and 7 mm; bd) incomplete, length 12 mm; be) shank fragment, length 9 mm, and small sheet fragments probably from an escutcheon or part of the lock casing; bf) shank fragment, length 28 mm; -) 2 x shank fragments, lengths 25 and 11 mm.
Iron nails, larger than those used on the joints of the box: a) shank fragment, length 39 mm; b) incomplete, length 30 mm; f) shank fragment, length 18 mm; bcii) nail head, diameter 17 mm; B1) incomplete, length 25 mm; B3) complete, length 75 mm; -) incomplete, length 25 mm.

Iron nail (JN477). Incomplete, length 31 mm; plus shank fragment, length 40 mm.

JNF62: inhumation burial

Description: Inhumation burial JNF62 was located within a grave measuring 1.4m by 0.68m, 0.18m deep and aligned north-west to south-east.
Inhumated human bone: No bone had survived.
Timber coffin: A plan of the iron nails (JNF61.2) recorded from the grave show that the body had been buried within a coffin measuring approximately 0.88m by 0.40m, which would suggest that this was a juvenile burial.
Burial goods: A flagon (.1) was recorded in the north-west corner of the coffin.
Residual finds: Pottery sherds and a hobnail.
Date: Late 1st to mid 2nd century.
Burial Marker: A single post hole (JNF92: 0.26m in diameter and 0.12m deep) had been cut into the north-west end of the grave and may have held a wooden post used as a burial marker.

JNF62.1 Flagon (JN90). Illustrated. Cam 155 flagon, Fabric DJ. Probably complete cup mouth flagon in sherds. Claudio-Neronian to early Antonine.

JNF62.2 Iron coffin nails (JN1216): a) incomplete, length 24 mm; b) incomplete, length 22 mm; c) 2 x incomplete, lengths 29 and 24 mm; d) incomplete, length 74 mm; f) shank fragment, length 42 mm; g) shank fragment, length 49 mm; h) complete, length 72 mm; i) head only, diameter 19 mm; j) complete, length 60 mm; k) shank fragment, length 61 mm; l) shank fragment, length 18 mm; m) shank fragment, length 29 mm.

JNF63: inhumation burial

Description: Inhumation burial JNF63 was located within a grave aligned north to south. About half of the grave had been cut away by a modern building foundation, but the surviving feature measured 1.4m by 0.6m and 0.64m deep.
Inhumated human bone: Less than 25% of the skeleton (20g) had survived within the grave, consisting of unidentifiable fragments from an adult (over 20 years) of indeterminate sex.
Residual finds: Pottery sherds and some iron nails.
Date: 2nd century + (based on the date of the residual pottery sherds).

JNF64: inhumation burial

Description: Inhumation burial JNF64 was located within a grave measuring 1.22m by 0.58m, 0.20m deep and aligned north-west to south-east.
Inhumated human bone: No bone had survived.
Timber coffin: The presence of several coffin nails (JNF64.2) would suggest that the body had been buried within a coffin.
Burial goods: The remains of a folded beaker (.1) were recorded scattered within the grave.
Residual finds: Pottery sherds and a number of iron nails.
Date: Mid 3rd to the 4th century.
Possible Burial Marker: A single post hole (JNF102: 0.37m in diameter and 0.21m deep) was located 0.45cm away from this grave and 0.30m away from inhumation burial JNF50. This feature would possibly have held a wooden post used as a burial marker for either or both of the burials.

JNF64.1 Folded beaker (JN62). Illustrated. Cam 411 folded beaker, Fabric GX. Pot is in sherds but it is probably complete. Early/mid 3rd to 4th century. This is a rare form type and is not usually recorded in Fabric GX (*CAR* **10** p 487). Second quarter of the 3rd century(?) to 4th century.

JNF64.2 Iron coffin nails (JN1143).

JNF65: burial pit containing pyre debris

Description: Burial pit JNF65 was a round feature containing pyre debris. Part of the burial pit had been cut away by a modern service trench, but the surviving feature measured 0.39m in diameter and was 0.22m deep. The burial pit contained a small amount of cremated bone along with a concentration of charcoal and burning scattered throughout.
Cremated human bone: A total of 82g of cremated bone was recorded from an adult (over 20 years) of indeterminate sex.
Burial goods: Several pottery sherds (JNF65.1) and an iron nail.
Date: Roman.

JNF65.1 Pottery sherds. Eight sherds of Fabric GX, all from one pot (JN74).

Iron nail (JN74). Shank fragment, length 24 mm.

JNF67: unurned cremation burial

Description: Burial pit JNF67 was an oval feature, 0.42m by 0.33m and 0.12m deep, containing a disturbed unurned cremation burial.
Cremated human bone: A total of 30g of probable human cremated bone was recorded.
Burial goods: A small number of hobnails and some iron nails.
Residual Finds: Two pottery sherds.
Date: 1st to the 2nd century + (based on the date of the residual pottery sherds).

Iron hobnails (JN1196), small find no. 532.

Iron nails (JN1196): a) complete, length 66 mm; b) three shank fragments, lengths 26, 24 and 17 mm.

JNF68: urned cremation burial

Description: Burial pit JNF68 was an oval feature, 0.34m by 0.23m and 0.10m deep, containing an urned cremation burial.
Cremated human bone: A total of 34g of cremated bone was recorded from a possible adult (over 20 years) of indeterminate sex.
Burial goods: A jar (JNF68.1) had been used as a cremation urn and a lid (.2) had been inverted and placed over the urn.
Residual finds: Two pottery sherds.
Date: Early/mid 2nd to the late 3rd/early 4th century.

JNF68.1 Jar used as a cremation urn (JN107). Illustrated. Cam 268 jar, Fabric GX. Most of the pot is present including the base, body and much of the rim. Early/mid 2nd to late 3rd/early 4th century.

JNF68.2 Lid (JN107). Illustrated. Sherds from a lid, Fabric GX.

JNF69: inhumation burial

Description: Inhumation burial JNF69 was located within a grave measuring 3m by 1.8m, 0.36m deep and aligned east to west with the head buried at the eastern end. The eastern half of the grave had been disturbed since burial.
Inhumated human bone: Less than 25% of the skeleton (49g) had survived within the grave, consisting of parts of the lower limbs from an adult (over 20 years) of indeterminate sex.
Timber coffin: Several iron nails (JNF69.1) recorded within the western half of the grave suggest that the body had been buried within a coffin measuring at least 0.60m wide. The coffin nails ranged in length from 42 to 78 mm.
Residual finds: Pottery sherds, some animal bone and worked flint.
Date: 3rd century + (based on the date of the residual pottery sherds).

JNF69.1 Coffin nails (JN91, JN114, JN1187). (91): complete, length 69 mm; shank fragment, length 20 mm. (114): incomplete, length 36 mm; three shank fragments, lengths 25 (bent), 20 and 11 mm; head, diameter 16 mm. (1187): a) shank fragment, length 21 mm; c) complete, length 60 mm; d) incomplete, length 50 mm; e) complete, length 60 mm; f) complete, length 74 mm; g) complete, clenched, length 42 mm; h) incomplete, length 26 mm; i) incomplete, length 51 mm; j) incomplete, length 43 mm; k) complete, length (bent) 68 mm; l) complete, length 74 mm; m) incomplete, length 60 mm; n) complete, length 78 mm; o) shank fragment, length 31 mm.

JNF70: disturbed burial feature

Description: The remains of a bowl (JNF70.1) and a quantity of cremated bone were recorded scattered throughout the upper fill of inhumation burial JNF69 to a depth of 0.15m and over an area of *c.*1.5m in diameter. It is probable that this material represents a disturbed cremation (either urned or unurned) of an earlier date that was re-deposited into the backfill of the later burial.
Cremated human bone: A total of 207g of cremated bone was recorded from an adult (over 20 years) of indeterminate sex.
Date: 1st-early 2nd century.

JNF70.1 Bowl (JN112). Cam 218 bowl, Fabric GX(RGW). Most of the pot is present including the base and body, with some rim and shoulder sherds missing. 1st century-early 2nd century.

JNF73: burial pit containing pyre debris

Description: Burial pit JNF73 was an oval feature, 0.53m by 0.42m and 0.26m deep, containing pyre debris. It contained a small amount of cremated bone along with a concentration of charcoal and burning scattered throughout.
Cremated human bone: A total of 0.9g of probably human cremated bone was recorded.
Burial goods: Several pottery sherds (JNF73.1) and an iron nail.
Date: Early/mid 2nd to the late 3rd/early 4th century.

JNF73.1 Pottery sherds. Nineteen sherds of Fabric GX from five or more pots, including a Cam 268 jar (dated early/mid 2nd to late 3rd/early 4th century) (JN280).

Iron nail (JN1377). Incomplete, length 26 mm.

JNF75: inhumation burial

Description: Inhumation burial JNF75 was located within a grave on an unknown alignment. Only a small section of the grave was excavated (0.4m by 0.4m and 0.11m deep) as part of it was located outside of the limit of excavation and the rest had been almost completely cut away by inhumation burial JNF76.
Inhumated human bone: Less than 25% of the skeleton (84g) had survived within the grave, consisting of part of the skull from an adult (over 20 years) of indeterminate sex.
Date: Mid 1st to the late 3rd/early 4th century (must be earlier than JNF76, which is dated from the early/mid 2nd to the late 3rd/early 4th century).

JNF76: inhumation burial

Description: Inhumation burial JNF76 was located within a grave on an unknown alignment, but possibly north-west to south-east. Most of the grave was located outside of the excavation area, but the excavated section measured 0.78m by 0.62m and 0.89m deep.
Inhumated human bone: No bone was identified
Timber coffin: A plan of the iron nails (JNF76.2) may suggest that the body had been buried within a coffin. However, the complete nails from this coffin, of which only a corner was excavated, are all clenched, pointing to a method of construction that involved two thin boards fixed together to produce a thicker one, rather than abutting boards where the nails passed through the thickness of one into another placed end on to it. The nails all lay on the floor of the grave, so this odd characteristic suggests that the body had been lain on two planks that had been nailed together to provide greater strength, rather than in a coffin. The distance between the underside of the head and the bend of the shank give an average double board thickness of between 44 and 46 mm.
Burial goods: The remains of jar (.1) was identified.
Residual finds: Pottery sherds.
Date: Early/mid 2nd to the late 3rd/early 4th century.

JNF76.1 Jar (JN108). Cam 268 jar, Fabric GX. Partial pot including most of a base, part of a rim and some body sherds. Early/mid 2nd to late 3rd/early 4th century.

JNF76.2 Iron coffin nails (JN1189): c) two shank fragments, lengths 36 and 7 (bent) mm; eii) incomplete, length 23 mm; f) complete, clenched, length (bent) 52 mm, giving a double board thickness of 44 mm; g) complete, clenched, length 54 mm, giving a double board thickness of 45 mm; h) complete, clenched, length (bent) 54 mm, giving a double board thickness of 44 mm; i) complete, clenched, length (bent) 61 mm, giving a double board thickness of 49 mm; j) shank fragment, length 41 mm; k) complete, clenched, length (bent) 52 mm, giving a double board thickness of 44 mm; l) complete, clenched, length (bent) 48 mm, giving a double board thickness of 44 mm; m) shank fragment, length 44 mm; n) complete, clenched, length (bent) 54 mm, giving a double board thickness of 46 mm; o) complete, clenched, length (bent) 45 mm, giving a double board thickness of 41 mm.

JNF77: urned cremation burial

Description: Burial pit JNF77 was an oval feature, 0.83m by 0.67m and 0.23m deep, containing a disturbed urned cremation burial.
Cremated human bone: A total of 851g of cremated bone was recorded from a middle adult (35-50 years) who was possibly female. Evidence of periostitis (non-specific infection) was also identified on the bone.
Burial goods: A large flagon (JNF77.1) had been used as a cremation urn.
Residual finds: An iron nail.
Date: 1st century to mid-late 2nd century.

JNF77.1 Flagon used as a cremation urn (JN142). Large flagon, Fabric DJ. Base and most of the body present but very broken-up. 1st century to mid-late 2nd century.

JNF78: burial pit containing pyre debris

Description: Burial pit JNF78 was a sub-circular feature, 0.65m in diameter and 0.19m deep, containing pyre debris. The pit contained a very small amount of cremated bone along with a concentration of charcoal and burning scattered throughout.
Cremated human bone: A total of 1g of probable human cremated bone was recorded.
Date: Roman.

Burial Marker: A single post hole (JNF81: 0.16m in diameter and 0.27m deep) had been cut into the centre of the burial pit. This post hole may have held a wooden post used as a burial marker.

JNF79: burial pit containing pyre debris

Description: Burial pit JNF79 was a sub-circular feature, 0.60m in diameter and 0.20m deep, containing pyre debris. It contained a small amount of cremated bone along with a concentration of charcoal and burning scattered throughout.
Cremated human bone: A total of 97g of cremated bone was recorded from a possible adult (over 20 years) of indeterminate sex.
Burial goods: The remains of a jar (heated and scorched) (JNF79.1) were identified scattered throughout the fill.
Date: 1st to the early 2nd century.

JNF79.1 Jar (JN132). Illustrated. Cam 266 jar, Fabric GX. Partial pot with parts of the base, body and rim present, degraded fabric and surfaces. Possibly heated or scorched. 1st to early 2nd century.

JNF82: urned cremation burial

Description: Burial pit JNF82 was an irregular shaped feature, 0.75m by over 0.45m and 0.28m deep, containing an urned cremation burial. Part of the burial pit had been cut away by a modern building foundation.
Cremated human bone: A total of 253g of cremated bone was recorded from a juvenile (15-20 years) of indeterminate sex.
Burial goods: A jar (JNF82.1) had been used as a cremation urn and a large pottery sherd (.2) had been used as a lid and placed over the urn.
Residual finds: Pottery sherds.
Date: Early to mid 2nd century.

JNF82.1 Jar used as a cremation urn (JN161). Illustrated. Cam 278A/B jar with upright rim, is decorated with wavy line, is lattice burnished and has a rounded body and a broad base, Fabric GB. Pot whole. Early to mid 2nd century.

JNF82.2 Pottery sherd used as a lid (JN161). One sherd of Fabric DJ (red oxidised fabric and white slip, possibly MQ).

JNF83: inhumation burial

Description: Inhumation burial JNF83 was located within a grave measuring 1.56m by 0.62m, 1.34m deep and aligned north to south.
Inhumated human bone: No bone had survived.
Timber coffin: Wood staining and a plan of the iron nails (JNF83.4) show that the body had been buried within a coffin which measured 0.99m long by 0.4m wide. The coffin nails ranged in length from 64 to 88 mm.
Burial goods: Three pottery vessels were recorded outside the coffin – a samian cup (.1) was located at the northern end of the grave and a flagon (.2) and jar (.3) were located to the south.
Date: Mid 2nd to the early/mid 3rd century.

JNF83.1 Cup (JN204). Illustrated. Dr 33 cup, central stamp illegible, Fabric BA(EG). Pot whole but has a small chip missing from the base (old damage). Early 2nd to late 2nd/early 3rd century.

JNF83.2 Flagon (JN205). Illustrated. Cam 156 flagon, Fabric DJ. Whole pot but now broken (recent damage). Hadrianic to early 3rd century.

JNF83.3 Jar (JN206). Illustrated. Cam 278 jar, is shouldered with a narrow base and has a broad burnished lattice decoration, Fabric GB. Whole pot but cracked on one side. Mid 2nd to early/mid 3rd.

JNF83.4 Iron coffin nails (JN1198): a) incomplete, length 42 mm; b) complete, length 68 mm; c) complete, length 70 mm; d) incomplete, length 45 mm; e) incomplete, length 38 mm; f) complete, length 80 mm; g) complete, length 69 mm; h) incomplete, length 43 mm; i) complete, length 74 mm; j) incomplete, length 63 mm; k) incomplete, length 56 mm; l) incomplete, length 71 mm; m) complete, length 72 mm; n) two shank fragments, lengths 30 and 10 mm; o) complete, length 74 mm; p) complete, length 64 mm; q) shank fragment, length 33 mm; r) complete, length 88 mm; s) shank fragment, length 34 mm; t) shank fragment, length 33 mm; u) complete, length 74 mm; v) shank

fragment, length 32 mm; w) complete, length 77 mm; x) complete, length 78 mm; y) complete, length 74 mm; z) shank fragment, clenched, length 35 mm; aa) complete, length 74 mm; ab) shank fragment, length 35 mm; ac) shank fragment, length (bent) 46 mm; ad) complete, length 72 mm; ae) complete, length 76 mm; af) complete, length 80 mm; ag) complete, length 81 mm; ah) complete, length 65 mm; ai) incomplete, length 54 mm; aj) incomplete, length 25 mm; ak) incomplete, length 61 mm.

JNF84: urned cremation burial

Description: Burial pit JNF84 was a sub-circular feature, 0.55m in diameter and 0.31m deep, containing an urned cremation burial.
Cremated human bone: A total of 364g of cremated bone was recorded from an female adult (over 20 years).
Burial goods: A jar (JNF84.1) had been used as a cremation urn.
Date: Early/mid to the late 2nd century.

JNF84.1 Jar (JN160). Illustrated. Cam 278 jar, whole pot with an upright slightly flaring rim, a rounded body, a broad base and is lattice burnished, Fabric KX. Surfaces degraded. Earlier vessel type within Cam form (*CAR* **10** p 480). Hadianic to late 2nd century.

JNF85: inhumation burial

Description: Inhumation burial JNF85 was located within a grave measuring 1.94m by 0.85m, 0.64m deep and aligned north-west to south-east.
Inhumated human bone: No bone had survived.
Timber coffin: A plan of the iron nails (JNF85.1) show that the body had been buried within a coffin measuring 1.76m by 0.45m. Most of the coffin nails are incomplete; the two complete and unbent examples are 78 and 96 mm long.
Date: Roman.

JNF85.1 Iron coffin nails (JN1184): a) shank fragment, length 55 mm; b) incomplete, length 32 mm; c) complete, length 96 mm; d) complete shank lacking head, length 78 mm; e) shank fragment, length 25 mm; f) incomplete, length 37 mm; g) incomplete, length 64 mm; h) shank fragment, length 33 mm; i) incomplete, length 55 mm; j) shank fragment, length 70 mm; k) incomplete, length 18 mm; l) incomplete, length 21 mm; m) incomplete, length 71 mm; n) incomplete, length 35 mm; o) shank fragment, length 54 mm; p) complete, length 78 mm; q) complete, clenched, length 52 mm; r) incomplete, length 75 mm; s) incomplete, length 23 mm.

JNF86: inhumation burial

Description: Inhumation burial JNF86 was located within a grave measuring 1.80m by 0.74m, 0.54m deep and aligned south-east to north-west with the head buried at the south-eastern end.
Inhumated human bone: Less than 25% of the skeleton (32g) had survived within the grave, consisting of parts of the skull from an adult (over 20 years) of indeterminate sex.
Burial goods: A copper-alloy ring (JNF86.1).
Residual finds: Three pottery sherds.
Date: Mid/late 3rd to the mid 4th century + (must be later than inhumation burial JNF97, which is dated from the mid/late 3rd to mid 4th century)..

JNF86.1 Finger-ring (JN170), small find no. 324. A narrow copper-alloy finger-ring of D-shaped section, with worn hoop. Diameter 19 mm, height 2 mm, thickness 1.5 mm. Found in the general area of the pelvis, and so probably worn at the time of burial.

JNF87: urned cremation burial

Description: Burial pit JNF87 was a sub-circular feature, 0.29m diameter and 0.09m deep, containing a very disturbed urned cremation burial.
Cremated human bone: A total of 1g of cremated bone was recorded from a possible adult (over 20 years) of indeterminate sex.
Burial goods: A jar (JNF87.1) had been used as a cremation urn.
Date: Roman.

JNF87.1 Jar used as a cremation urn (JN202). Jar, sherds from lower half of a jar, Fabric GX.

JNF88: urned cremation burial

Description: Burial pit JNF88 was an oval feature containing an urned cremation burial. Part of the feature had been cut away by a modern service trench, but the surviving section measured 0.70m by 0.55m and 0.24m deep.
Cremated human bone: A total of 130g of cremated bone was recorded from a juvenile (0-5 years) of indeterminate sex.
Burial goods: A jar (JNF88.1) had been used as a cremation urn, and a lid (.2) (which was found next to the urn rather than covering it) and flagon (.3) were recorded next to the urn. A small or miniature beaker (.4) was also identified inside the urn.
Residual finds: Two iron nails.
Date: 1st to early/mid 2nd century.

JNF88.1 Jar used as a cremation urn (JN181). Illustrated. Cam 266 jar, burnished around base, indentation from manufacture on body, possible workshop second, Fabric GX. Whole pot. 1st to early 2nd century.

JNF88.2 Lid (JN183). Illustrated. Lid, whole lid with firing crack around part of the edge, possible kiln second. Fabric DJ.

JNF88.3 Flagon (JN183). Illustrated. Cam 155 flagon. Is a three ring necked flagon with a slight cup to the mouth. Fabric DJ. Whole pot though small portion of body on one side has collapsed into sherds and the fabric has deteriorated from burial in the soil. Claudio-Neronian to early Antonine.

JNF88.4 Beaker (JN1137). Illustrated. Cam 119 beaker, small or miniature whole pot. Fabric GX. 1st to early 4th century.

JNF90: inhumation burial

Description: Inhumation burial JNF90 was located within a grave measuring 1.20m by 0.65m, 0.51m deep and aligned north to south.
Inhumated human bone: No bone had survived.
Timber coffin: The presence of several coffin nails (JNF90.1) and a small patch of wood staining would suggest that the body had been buried within a coffin.
Residual finds: Pottery sherds and a small number of hobnails.
Date: 1st to the early 2nd century + (must be later than burial pit containing pyre debris JNF91, which is dated from the 1st to the early 2nd century).

JNF90.1 Iron coffin nails (JN230, JN1185).

JNF91: unurned cremation burial

Description: Burial pit JNF91 was a sub-circular feature, 0.49m diameter and 0.28m deep, containing a probable unurned cremation burial.. Part of the burial pit had been cut away by inhumation burials JNF90 and JNF92. It contained a small amount of cremated bone along with a concentration of charcoal and burning scattered throughout.
Cremated human bone: A total of 10g of cremated bone was recorded from a possible adult (over 20 years) of indeterminate sex. Evidence of periostitis (non-specific infection) was also identified on the bone.
Burial goods: A small jar (JNF91.1) and a beaker (.2) appear to have been deliberately placed within the burial pit and several other pottery sherds (including the remains of two flagons), a number of iron nails, and a fragment of burnt flint.
Date: 1st to the early 2nd century.

JNF91.1 Jar (JN199). Illustrated. Cam 266 jar, Fabric GX. Whole small jar with large sherd of rim and neck missing and a second small chip missing from rim (all old damage). Has a dark sooty deposit around the shoulder. 1st to early 2nd century.

JNF91.2 Beaker (JN200). Illustrated. Cam 91 type globular beaker but plain, Fabric DJ. Whole pot with surfaces slightly degraded (see also F103.3). 1st ?Claudian.

Pottery sherds (JN288). Fabric DJ, sherds from two flagons: sherds from top fill mostly from the base of one flagon, discoloured by ?burning; sherds from lower fill also mostly from base of one flagon with some discoloured by ?burning, some sherds are definitely not the same pot as in top fill (dated 1st-2nd century). Also, there are 23 sherds of Fabric GX from two or more pots.

Iron Nails (JN229, JN1157). (229): two shank fragments, lengths 18 and 34 mm. (1157): a) incomplete, length 29 mm; b) incomplete, length 21 mm; c) complete, length 45 mm; d) incomplete, length 39 mm; e) incomplete, length

(bent) 20 mm; f) shank fragment, length 37 mm; g) shank fragment, length (bent) 27 mm; h) complete, length 51 mm. i) incomplete, length 24 mm.

JNF94: burial pit containing pyre debris

Description: Burial pit JNF94 was an oval features containing pyre debris. Part of the burial pit had been cut away by a modern building foundation, but the surviving feature measured 0.84m by 0.51m and 0.09m deep. The burial pit contained a small amount of cremated bone along with a concentration of charcoal and burning scattered throughout.
Cremated human bone: A total of 25g of cremated bone was recorded from a possible adult (over 20 years) of indeterminate sex.
Burial goods: Several pottery sherds (some burnt) (JNF94.1) along with some iron nails and burnt flint were scattered throughout the fill
Date: Mid to late 2nd century.

JNF94.1 Pottery sherds. Fifty sherds of Fabric GX, probably mostly from one jar (possibly a Cam 268); also includes rims and sherds from 6-7 other pots , including a probable Cam 307 bowl (JN400) (dated Roman, ?mid or late 2nd century +). One sherd of Fabric DJ, discoloured by ?heat (JN473).

Iron nails (JN400, JN1156): a) complete, length 47 mm, plus iron sheet fragment, 25 by 11 mm; b) complete, length 63 mm; c) complete, clenched, length (bent) 42 mm.

JNF95: inhumation burial

Description: Inhumation burial JNF95 was located within a grave aligned north-east to south-west. Part of the grave had been cut away by inhumation burials JNF137 and JNF258, and part of it was also located outside of the slot dug into quarry pit JNF257, but the excavated feature measured 0.82m by 0.70m and 0.89m deep.
Inhumated human bone: Less than 25% of the skeleton (43g) had survived within the grave, consisting of parts of the lower limbs from an adult (over 20 years) of indeterminate sex.
Date: Mid 1st to the mid 2nd century + (must be earlier than inhumation burial JNF137, which is dated from the mid 2nd century +).

JNF96: inhumation burial

Description: Inhumation burial JNF96 was located within a grave aligned north-west to south-east with the head buried at the north-western end. Although part of the grave had been cut away by inhumation burial JNF86 and by a modern service trench, it measured 2.30m by 0.70m and was 0.37m deep.
Inhumated human bone: Less than 25% of the skeleton (50g) had survived within the grave, consisting of parts of the skull from an adult (over 20 years) of indeterminate sex.
Burial goods: A pierced antique coin of Nero (JNF96.1) lay in the grave in a position that suggests it had been placed in or near the right hand. The hole was punched through the coin from the reverse side, but not so that the figure of Victory hung upright when the coin was suspended. The use of the Victory reverse occurs in other graves in the Garrison cemetery (cremation CF263) and may refer to belief in a saviour religon.
Date: Mid/late 3rd to the mid 4th century + (must be later than inhumation burial JNF97, which is dated from the mid/late 3rd to mid 4th century).
Burial Marker: A single post hole (JNF234: 0.30m in diameter and 0.48m deep) had been cut into the north-west end of the grave. This feature would have possibly held a wooden post used as a burial marker.

JNF96.1 Coin (JN1118), small find no. 337. Pierced *as* of Nero, rev. Victory; *RIC* 381; AD 64-8. The hole is large (5 mm) and smoothed-off burring on the obverse show that it was punched through from the reverse. It is set just below Victory's wings on the reverse, and through the emperor's lower face on the obverse. Although the hole appears to respect the image of Victory, both the reverse and obverse images would lie horizontally if the coin were suspended.

JNF97: inhumation burial

Description: Inhumation burial JNF97 was located within a grave aligned south-east to north-west, with the head buried at the south-eastern end. The far north-western edge of the grave had been cut away by inhumation burial JNF124, but it measured approximately 1.86m by 0.68m and was 0.26m deep.

Inhumated human bone: Less than 25% of the skeleton (43g) had survived within the grave, consisting of parts of the skull, pelvis and lower limbs from an adult (over 20 years) of indeterminate sex.
Burial goods: A folded beaker (JNF97.1) was identified to the left of the skull.
Residual finds: Pottery sherds.
Date: Mid-late 3rd to the mid 4th century.
Burial Marker: A single post hole (JNF233: 0.18m in diameter and 0.29m deep) had been cut along the south-east edge of the grave. This post hole would possibly have held a wooden post used as a burial marker.

JNF97.1 Folded beaker (JN340). Illustrated. Beaker, probably a folded beaker with a bead rim and a tall narrow body (*CAR* **10** EA type 11), Fabric EA. Buff fabric with very dark brown-grey colour coat. Much of the base and body (up to rim) has survive whole. Mid-late 3rd to mid 4th century.

JNF99: burial pit containing pyre debris
Description: Burial pit JNF99 was a sub-circular feature, 0.37m in diameter and 0.12m deep, containing pyre debris. It contained a small amount of cremated bone along with a concentration of charcoal and burning scattered throughout.
Cremated human bone: A total of 214g of probably human cremated bone was recorded.
Burial goods: The remains of a jar (JNF99.1), several other pottery sherds and a single iron nail.
Residual finds: A single fragment of animal bone.
Date: Early 2nd century + (although the pottery sherds are dated from the mid to late 1st century, this feature must be later than inhumation burial JNF111 which is dated from AD 117/8 to 138 +)

JNF99.1 Jar (JN220). Jar, possibly a small Cam 270B, sherds probably all from one pot. Fabric GX(RCW). Form dated pre conquest to 2nd/3rd century, Fabric suugests vessel is probably 1st century.

Pottery sherds (JN220). Three sherds of Fabric DJ.

Iron nail (JN1275). Incomplete, length 27 mm.

JNF100: inhumation burial
Description: Inhumation burial JNF100 was located within a grave aligned north-east to south-west. Most of the south-western end of the grave had been cut away by a modern building foundation, but the excavated feature measured 0.92m by 0.74m and 0.33m deep.
Timber coffin: The presence of several coffin nails (JNF100.1) would suggest that the body had been buried within a coffin. The only complete coffin nail recovered was 80 mm long.
Inhumated human bone: No bone had survived.
Residual finds: Pottery sherds, a small quantity of burnt bone and some hobnails.
Date: Roman.

JNF100.1 Iron coffin nails (JN1197): a) shank fragment, length 66 mm; b) incomplete, length 29 mm; c) incomplete, clenched, length 23 mm; h) complete, tip clenched, length 80 mm; i) incomplete, length 62 mm.

JNF103: unurned cremation burial
Description: Burial pit JNF103 was a rectangular shaped feature, 0.91m by 0.63m and 0.29m deep, containing an unurned cremation burial. Unusually for an unurned cremation burial, the burial pit contained a large quantity of charcoal scattered throughout the general fill of the pit, but it also included a distinct concentration of cremated bone placed along one edge of the feature.
Cremated human bone: A total of 605g of cremated bone was recorded from an adult (over 20 years) of indeterminate sex.
Burial goods: A bowl (JNF103.1), two beakers (.2 – .3), a flagon (.4) and a jar/bowl (.5) in sherds had been placed above the cremated bone. The remains of at least two lamps (.6), fragments from two bone shaft fragments (.7 – .8), a bone ?bead (.9), a small quantity of glass and melted glass (.14), and a large quantity of hobnails (.15) and iron nails (.16) were

scattered throughout the pit. Several iron sheet fragments (.11 – .13), an iron hinge (.18) and a piece of copper-alloy (.10) may also suggest the presence of a box.
The objects in this grave divide into primary and secondary deposits. The primary deposits consist of one of the bone shaft fragments (probably from a hairpin (.8)), the bone ?bead, the lamp fragments, the iron hobnails and the iron and copper-alloy fragments that may come from a box. Iron nails from the feature may be pyre debris or from the ?box. The only secondary, unburnt, deposit is a bone hairpin with the head in the form of a female bust (JNF103.7). It retains a few tiny flecks of gold leaf on the hair and on the right shoulder, suggesting that the whole bust was gilded (*see* Overview). The style of the hair suggests that it dates to the late 1st or 2nd century, and similar hairpins from Pompeii and Mainz date to the Flavian period (Croom 2002, fig. 46; Ward-Perkins & Claridge 1976, no. 71a; Mikler 1997, 48-9, Taf. 37, 2).
This is an unusual burial feature as the presence of a large quantity of charcoal and burning, along with a number of broken and burnt burial goods suggests that it is a burial pit containing pyre debris. However, the deliberate placement of the cremated bone, four of the five pottery vessels and one of the bone pins indicates a cremation burial. A quantity of animal bone was also identified within the burial pit. This included bone from a butchered pheasant, a sheep/goat and a pig/boar and may represent the remains of food or 'food for the afterlife' placed with the burial.
Date: 1st to early/mid 2nd century.

JNF103.1 Bowl (JN263). Illustrated. Cam 218 small bowl, Fabric GX. Whole pot but sherds broken loose from rim on one side, old or ancient damage, possibly deliberate, (see pot JNF103.2). 1st to early 2nd century.

JNF103.2 Beaker (JN261). Illustrated. Cam 104 beaker, Fabric GX. A small plain beaker with short everted rim and burnished all over (*CAR* **10** Fabric GX type 125 no. 423). Whole pot, but sherds broken loose from rim (old damage, see pot JNF103.1). Neronian-Flavian.

JNF103.3 Beaker (JN261). Illustrated. Beaker with mica coated surfaces. This pot appears similar to the small beaker JNF91.2 although that pot has no trace of mica and a more floury fabric. The beaker here is also slightly larger than JNF91.2 and has two or three distinct of-sets on the body rather than one, the fabric is also slightly darker and harder. Fabric ON. Two thirds of pot present and one side missing.

JNF103.4 Flagon (JN225). Cam 155 flagon, has four rings on neck and a three rib handle, Fabric DJ. Much of the pot is present in sherds but very broken up, including parts of the base, body, handle and rim. Some sherds also show slight discolouration from heating (scorching). Claudio-Neronian to early Antonine.

JNF103.5 Jar/Bowl (JN225). Jar or bowl, Fabric GX. Sherds from base, body and rim present, including one burnt sherd which may suggest pot was possibly broken before being burnt.

JNF103.6 Pottery lamp fragments (JN258), small find no. 384. Many small fragments from at least two lamps. Most sherds are thin and in a buff-orange fabric retaining traces of a red slip; weight 7 g. Two fit together, forming most of a shouldered nozzle with an air hole just above it. Probably a Loeschcke Type IXb lamp dating to the later 1st and early 2nd century (Loeschcke 1919, 256; Eckardt 2002, 188). Two sherds are thicker and paler than the rest and one increases slightly in thickness internally at one end, a characteristic of the junction of lamp wall/base sherds; weight 2 g. The lack of burning points to these fragments being secondary deposits, but their fragmentary nature is more in keeping with primary deposition.

JNF103.7 Bone hairpin (JN259), small find no. 391. Illustrated. Bone hairpin with the head in the form of a female bust with bare shoulders; the tip of the shaft is missing. There are traces of gold leaf on the surface of the head, not just on the hair, but also on the right shoulder; the whole head was probably gilded. The eyes and mouth are realistically shown but are rather over-prominent, and both nose and chin are pointed. The hairstyle is elaborate, with the waves and crimping shown by lattice-like grooves. It rises back from the face, and is fixed in a coil or bun at the back of the head. The bust rests on a double pedestal base. Length 103 mm.

JNF103.8 Bone shaft fragment (JN260), small find no. 390. Illustrated. Burnt long narrow bone shaft, in fragments. It tapers gradually towards one end, but quite sharply at the other end; the tip is missing at each end. Possibly a hairpin that narrows briefly below the head, but of a distinctly different form to that of examples with a swelling midway down the shaft. It may alternatively be a spindle, although it is more slender than most and lacks a clear thickened section towards the lower end to prevent the spindlewhorl from sliding off, there is an example of much the same size from Mainz (Mikler 1997, Taf. 38, 11). It is too slender to be a stylus. Length 117 mm.

JNF103.9 Bone cylinder ?bead (JN1459), small find no. 543. Illustrated. Burnt small turned cylinder of bone with a pair of mouldings at the centre and one at each end. Length 12 mm, diameter 6 mm. No parallel for this object has been found; it may be a bead.

JNF103.10 Copper-alloy shaft and iron nail/stud (JN278), small find no. 312. Small fragments from a copper-alloy shaft, length of the largest 7 mm, and the head from a small iron nail or stud.

JNF103.11 Iron sheet fragment (JN231), small find no. 356. 18 by 16 mm.

JNF103.12 Iron sheet fragment (JN311), small find no. 311. Sheet fragment with nail for attachment, 39 by 25 mm.

JNF103.13 Iron sheet fragment and nail (JN1318), small find no. 494. Iron sheet fragment, 27 by 24 mm. Iron nail shank fragment, length 31 mm.

JNF103.14 Glass (JN265, JN257 and JN224). (JN265) Flask or jar, rim and neck fragment, illustrated, blue/green. Funnel rim, edge rolled in, cylindrical neck. Rim diameter 62mm, present height 28mm, wall thickness 1.5mm. (JN257) Three melted fragments, blue/green, one incorporating fragments of burnt bone, 23.2g. (JN224) Melted fragment, blue/green, 1.5g. This burial produced both glass from a vessel that had clearly been on the pyre (nos. (JN257) and (JN224)) and a large fragment of the rim of either a jar or wide-mouthed flask (JN265). Similar rim fragments were common in the glass from the excavations on the city-centre sites where the contexts they came from suggested they were a later 1st to 2nd century form, perhaps most common in the 2nd century (Cool and Price 1995, 112). (JN265) shows no evidence of having been on the pyre and given that relatively little of the vessel is present, it must be open to question as to whether this was a deliberate inclusion in the grave fill.

JNF103.15 Iron hobnails (JN1318), small find no. 495.

JNF103.16 Iron nails (JN225, JN1318).

JNF103.17 Animal bone (JN226). Forty-eight pieces of animal bone, weighing a total of 86g, were found in this context. Bones from a butchered pheasant were identified, along with a neonatal talus from a sheep/goat and a fragment of a pig/boar mandible. Other bone identified as 'bird' or 'mammal' was also found in this context, but could not be identified to species.

JNF103.18 Iron split-spike loops and a nail (JN225). Two interlinked iron split-spike loops, probably used as a hinge; length of only complete spike 59 mm. Iron nail shank fragment, length 50 mm.

JNF104: burial pit containing pyre debris

Description: Burial pit JNF104 was a sub-circular feature, 0.29m in diameter and 0.08m deep, containing pyre debris. It contained a small amount of cremated bone along with a concentration of charcoal and burning scattered throughout.
Cremated human bone: A total of 3g of cremated bone was recorded from a possible adult (over 20 years) of indeterminate sex.
Burial goods: A single pottery sherd.
Date: Roman.

Pottery sherd (JN495). One sherd of Fabric GX.

JNF105: urned cremation burial

Description: Burial pit JNF105 was a sub-circular feature, 0.18m in diameter and 0.03m deep, containing a disturbed urned cremation burial.
Cremated human bone: A total of 1g of cremated bone was recorded from a possible adult (over 20 years) of indeterminate sex.
Burial goods: A jar/bowl (JNF105.1) had been used as a cremation urn and two fragments of animal teeth, both slightly burnt, were also identified in the burial pit. This bone may suggest that either 'food for the afterlife' was being burnt with the body or that animal bone was being used as fuel on the pyre.
Residual finds: Pottery sherds, a fragment of tile and an iron nail.
Date: Roman.

JNF105.1 Jar or bowl (JN207). Illustrated. Jar or bowl, lightly ridged, Fabric GX. Pot consists of base and body sherds from the lower half of the pot.

Animal bone (JN61). Two fragments of cattle molar, weighing 10g, were recovered from this cremation. Slight burning is evident, but not complete.

JNF106: urned cremation burial

Description: Burial pit JNF106 was a oval feature, 0.62m by 0.52m and 0.27m deep, containing a disturbed urned cremation burial.
Cremated human bone: A total of 833g of cremated bone was recorded from a male adult (over 20 years). Evidence of arthritis in the spine (spinal disease) was identified on the bone.

Burial goods: A jar (JNF106.1) had been used as a cremation urn, a flagon (.2) had been placed next to the urn, and some glass (.3) and 14 pieces of animal bone (.4) were identified from inside the urn. These sheep/goat remains included a cut pelvis and tibia, possibly part the remains of food or 'food for the afterlife'.
Residual finds: Pottery sherds, some glass and a single hobnail.
Date: 1st to the early/mid 2nd century.

JNF106.1 Jar used as a cremation urn (JN198). Illustrated. Necked jar, probably of form Cam 266, Fabric GX. Near complete pot in sherds though much of rim is missing. 1st to early 2nd century.

JNF106.2 Flagon (JN198). Illustrated. Cam 155 flagon Fabric DJ. Complete pot in sherds. Claudio-Neronian to early Antonine.

JNF106.3 Glass (JN808). Illustrated. Tubular unguent bottle, virtually complete lacking rim and part of lower body in two fragments. Blue/green. Tooled junction between neck and body; horizontal scratches around top of neck. Present height 100mm, maximum body diameter 23mm. (JN808) is an example of the commonest type of mid 1st century unguent bottle (see JNF34). It was clearly placed in the urn broken but shows no signs of having been exposed to the heat of the pyre. The contents may thus have been used in preparing the cremated bones for deposition. Of particular interest are the scratches around the top of the neck, possibly derived from tying down a stopper and indicating that the vessel may have seen prolonged use.

JNF106.4 Animal bone (JN812). Fourteen pieces of animal bone, weighing 47g, were recovered from inside the cremation urn. These included unidentifiable mammal bone and three bones from an adult sheep/goat. The sheep/goat remains included a cut pelvis and tibia, indicating cuts of meat.

JNF109: inhumation burial

Description: Inhumation burial JNF109 was located within a grave aligned south to north with the head buried at the southern end. Most of the northern part of the grave had been cut away by inhumation burial JNF56, but the surviving feature measured approximately 0.36m by 0.35m and 0.62m deep.
Inhumated human bone: Less than 25% of the skeleton (42g) had survived within the grave, consisting of parts of the skull and one tooth from a juvenile (0-5 years) of indeterminate sex.
Burial goods: At least one hobnail shoe (but probably two) (JNF109.1) was identified next to the skull.
Residual finds: Three grammes of cremated human bone from an adult (over 20 years) of indeterminate sex.
Date: Mid 2nd to the early/mid 3rd century + (must be later than inhumation burial JNF83, which is dated from the mid 2nd to the early/mid 3rd century).

JNF109.1 Iron hobnails (JN1320), small find no. 496.

JNF111: inhumation burial

Description: Inhumation burial JNF111 was located within a grave aligned north-west to south-east with the head buried at the north-western end. Most of the south-eastern end of the grave was located outside of the excavation area, but the excavated feature measured 0.60m by 0.36m and 0.14m deep.
Inhumated human bone: Less than 25% of the skeleton (7g) had survived, consisting of part of a maxilla from an adult (over 20 years) of indeterminate sex.
Burial goods: Two copper-alloy coins (JNF111.1 – .2) were identified close to some surviving teeth, which suggests that they had been placed in the mouth of the corpse.
Date: AD 117/8-138 +.

JNF111.1 Copper-alloy coin (JN215), small find no. 528. Coin of Vespasian, *as*, rev. standing figure, very worn; AD 69-79.

JNF111.2 Copper-alloy coin (JN215), small find no. 334. Coin of Hadrian, *dupondius*, rev. *Fortuna* seated left, legend worn away, FORT RED SC in exergue; AD 117-38.

JNF112: pyre site/*bustum*

Description: Burial pit JNF112 was a probable pyre site or *bustum* burial feature. The majority of this feature had been cut away by later activity, but the excavated segment feature measured 0.55m by 0.20m and was 0.19m deep. It had scorched sand around the edges of

the feature and contained a concentration of charcoal and burning scattered throughout the fill. Not enough of the feature had survived to definitively characterise it as either a pyre site or a *bustum* burial.
Date: Roman.

JNF114: burial pit containing pyre debris
Description: Burial pit JNF114 was an oval feature, 0.70m by 0.45m and 0.29m deep, containing pyre debris. It contained a large amount of cremated bone along with a concentration of charcoal and burning scattered throughout.
Cremated human bone: A total of 170g of cremated bone was recorded from a minimum of two individuals consisting of an adult (over 20 years) and a juvenile (0-5 years), both of indeterminate sex. This may suggest that either two bodies were cremated at the same time or that the pyre site had been reused.
Burial goods: Most of a burnt and broken bowl (JNF114.1) had been scattered throughout the fill along with several other pottery sherds (some burnt) (.2), five iron nails and some animal bone. The presence of animal bone may suggest that the remains of food/feasting were also buried with the pyre debris.
Date: Mid 1st to the early 2nd century.

JNF114.1 Bowl (JN311). Illustrated. Cam 218 bowl, Fabric GX. Approximately two thirds of the pot is present in sherds with two large sherds making up most of the remaining part of the pot. Is slightly sooted on one side, scorched? 1st to early 2nd century.

JNF114.2 Pottery sherds (JN311). Eleven sherds of Fabric DJ from two or more pots, or possibly from one pot with many sherds burnt to grey. Also three sherds of Fabric GX from three pots, one possibly burnt as it is oxidised.

Iron nail (JN1124), small find no. 365. Iron nail head, diameter 11mm.

Iron nails (JN1217). One incomplete nail and three shank fragments, lengths 21, 41, 25 and 27 mm.

Animal bone (JN311). Four pieces of animal bone, weighing 11g, were found in this context; butchering was evident on some of the bone. The remains are tentatively identified as cattle.

JNF115: Inhumation burial
Description: Inhumation burial JNF115 was located within a grave measuring 1.76m by 0.6m, 0.36m deep and aligned north-west to south-east with the head buried to the north-west.
Inhumated human bone: Less than 25% of the skeleton (7g) had survived, consisting of parts of the lower limbs from an adult (over 20 years) of indeterminate sex.
Residual finds: Pottery sherds.
Date: Early 2nd century +. Must be later than inhumation burial JNF111 which is dated from AD 117/8 to 138 +.

JNF116: urned cremation burial
Description: Burial pit JNF116 was a sub-circular feature, 0.35m in diameter and 0.11m deep, containing a disturbed urned cremation burial. .
Cremated human bone: A total of 2g of cremated bone was recorded from a possible adult (over 20 years) of indeterminate sex.
Burial goods: A beaker (JNF116.1) had been used as a cremation urn.
Date: Neronian/Flavian to the 2nd century.

JNF116.1 Beaker (JN268, JN298). Illustrated. Cam 122 or 123 panel dot beaker, Fabric GP. Much of the beaker is in sherds including the base and body, although the rim is missing. Neronian/Flavian to 2nd century.

JNF117: inhumation burial
Description: Inhumation burial JNF117 was located within a grave aligned north-west to south-east. The north-western end was located outside of the excavation area, but the excavated feature measured 1.02m by 0.50m and 0.48m deep.
Inhumated human bone: No bone had survived.
Residual finds: A single pottery sherd and two pieces of burnt flint.
Date: Roman.

JNF118: burial pit containing pyre debris

Description: Burial pit JNF118 was an irregular feature, 0.55m by 0.55m and 0.13m deep, containing pyre debris. One edge had been slightly cut away by burial pit containing pyre debris JNF123, but it contained a concentration of cremated bone, charcoal and burning scattered throughout.
Cremated human bone: A total of 188g of cremated bone was recorded from a possible adult (over 20 years) of indeterminate sex.
Burial goods: A copper-alloy shaft fragment (JNF118.1) and pottery sherds (some burnt).
Date: Mid 1st to 2nd century.

JNF118.1 Shaft fragment (JN1457), small find no. 541. Small fragment of a copper-alloy shaft, probably from a hairpin or needle. Length 11 mm. Probably not burnt, perhaps residual.

Pottery sherds (JN276). Eight sherds of Fabric DJ from two pots (dated probably 1st to 2nd) and six sherds of Fabric GX from 2-3 pots, some burnt and oxidised.

JNF119: inhumation burial

Description: Inhumation burial JNF119 was located within a grave measuring 0.61m by 0.35m, 0.22m deep and aligned north-east to south-west.
Inhumated human bone: No bone had survived.
Residual finds: Pottery sherds and a single fragment of cremated (probably human) bone.
Date: Mid 1st to the mid 2nd century + (based on the date of the residual pottery sherds).

JNF121: urned cremation burial

Description: Burial pit JNF121 was a sub-circular feature, 0.46m in diameter and 0.33m deep, containing an urned cremation burial.
Cremated human bone: A total of 1470g of cremated bone was recorded from a female adult (30-35 years old). Evidence of arthritis in the spine (spinal disease) was identified on the bone.
Burial goods: A jar (JNF121.1) had been used as a cremation urn and a bowl (.2) had been inverted and placed over the urn as a lid. A single fragment of animal bone was also identified inside the urn and may represent the remains of food or 'food for the afterlife'.
Date: Mid 2nd to late 2nd/early 3rd century.

JNF121.1 Jar used as a cremation urn (JN274, JN1131). Illustrated. Cam 278 jar, rounded with a broad base and a slightly flaring rim, probably early-mid production, Fabric GB. Whole pot with part of rim detached as five sherds. Mid-late 2nd century.

JNF121.2 Bowl (JN1131). Illustrated. Cam 37A bowl, probably complete but surfaces degraded so that the lattice decoration is very faint, Fabric GB. Trajanic/Hadrianic to late 2nd or early 3rd century.

Animal bone (JN1121). A single animal bone, weighing 3g, was found inside the cremation urn.

JNF123: burial pit containing pyre debris

Description: Burial pit JNF123 was an oval feature, 0.62m by 0.45m and 0.26m deep, containing pyre debris. It contained a small amount of cremated bone along with a concentration of charcoal and burning scattered throughout.
Cremated human bone: A total of 12g of cremated bone was recorded from an adult (over 20 years) of indeterminate sex.
Burial goods: Several pottery sherds (many burnt).
Date: Mid 1st to the 2nd century.

Pottery sherds (JN314). Twenty-five sherds of Fabric DJ probably from 2 pots (two flagons), sherds discoloured and may have been heated or scorched (dated 1st to 2nd century). Three sherds of Fabric GX, including one sherd of a beaker rim which is oxidised and possibly burnt.

JNF124: inhumation burial

Description: Inhumation burial JNF124 was located within a grave aligned east to west. The western edge of the grave had been partially cut away by a modern building foundation, but the excavated feature measured 0.72m by 0.40m and 0.35m deep.
Inhumated human bone: No bone had survived.
Burial goods: A flagon (JNF124.1), a miniature jar (.2) and a quarter of a bowl (.3).
Date: Late 2nd to the early 3rd century.

JNF124.1 Flagon (JN342). Illustrated. Cam 155 flagon, whole pot, Fabric DJ. Claudio-Neronian to early Antonine.

JNF124.2 Miniature jar (JN350). Illustrated. Cam 278 miniature jar, Fabric GB. There is a large firing spall on one side, which may suggest it is a kiln second (surface or detached spall not present). Whole pot though small area of rim has detached as two sherds (may be old damage). Hadrianic to late 2nd century.

JNF124.3 Bowl (JN358). Illustrated. Cam 37B bowl, Fabric GB. About one quarter of the pot is present in sherds. Late 2nd century to third quarter of the 3rd century.

JNF125: urned cremation burial

Description: Burial pit JNF125 was an oval feature, 0.73m by 0.68m and 0.14m deep, containing an urned cremation burial.
Cremated human bone: A total of 153g of cremated bone was recorded from a juvenile (0-5 years) of indeterminate sex.
Burial goods: A jar (JNF125.1) had been used as a cremation urn and a small jar (.2), a cup (.3), a miniature jar (.4), a small/miniature pot (.5) and most of another pot (.6) had been placed around the urn. A small pottery counter (.8) had been placed on top of the small/miniature pot and a factory lamp (.7), a copper-alloy coin (.9), several iron strips (.10) and two iron nails (.11) were recorded inside the urn. The iron nails and strips are pyre debris, while the lamp, pottery counter and coin are unburnt secondary deposits. The lamp and coin date the grave to the 2nd century.
Residual finds: Iron nails and hobnails.
Date: Early-mid 2nd century.

JNF125.1 Necked jar used as a cremation urn (JN309). Illustrated. Necked jar, moderately hard sandy fabric, oxidised dark red brown, some sherds crazed and probably exposed to heat, so either a kiln second or burnt, Fabric GX. Complete pot in sherds and fragments, although part of rim is missing.

JNF125.2 Small jar (JN304). Illustrated. Cam 218 jar, Fabric GX. Partial pot consisting of sherds and fragments, part of base and all of rim are missing. 1st-early 2nd century.

JNF125.3 Cup (JN305). Illustrated. Dr. 27 cup, complete pot in two large sherds with two other small sherds. Fabric BA(CG?). Early-mid 2nd century.

JNF125.4 Small/miniature jar (JN306). Illustrated. Cam 278 small or miniature jar, burnt with clay wipe or slip discoloured to white under heating, around the burnished shoulder this has dribbled down the side of the pot, Fabric GB. Probably complete pot but in sherds and fragments. Hadrianic-late 2nd century.

JNF125.5 Small/miniature pot (JN307). Illustrated. Probably complete small or miniature pot in sherds with some fragments, slightly discoloured and friable, possibly heated or burnt. Fabric DJ.

JNF125.6 Pot (JN308). Illustrated. Partial pot though mostly in small sherds and fragments (very broken-up). The largest sherds are the base which is complete and although part of the handle was recorded there are no neck sherds. Orange fabric, Fabric DJ.

JNF125.7 Pottery lamp (JN1366), small find no. 522. Illustrated. Small complete handled factory lamp of Loeschcke Type IX, with only a rudimentary groove representing the channel between the discus and the nozzle (1919, 256). There are four lugs on the shoulders and a fifth lies between the raised rim of the discus and the 'channel'. A raised area on the discus is probably a debased theatrical mask. The fabric is buff with a dark buff to grey-black slip. Length 79 mm.

JNF125.8 Pottery counter (JN310), small find no. 392. Illustrated. Small counter made from a sherd in a gritty fabric fired dark grey. The inner surface has spalled. The edge is rough but of even shape. Diameter 31 mm, 11.5 mm thick.

JNF125.9 Coin (JN1367), small find no. 523. Coin of Hadrian, *dupondius*, rev. *Pietas*; *RIC* 1176; AD 119-38.

JNF125.10 Iron strips (JN1368), small find no. 524. Fragments from at least three narrow iron strips, all delaminated and in poor condition. Fragments of wood and burnt bone are incorporated into the corrosion. The wood fragments are small and lie at random on the surface of the corrosion; they are not part of the

original object(s). i) A thin tapering strip crossed by two narrow straight-sided strips, one of which is 7 mm wide and has a looped terminal; lengths 78, 90 (with terminal) and 45 mm. ii) Two strips crossing at an acute angle, there is no rivet at the crossing point; lengths 108 by 83 mm. iii) Seven other fragments, at least two are probably part of the strip with the looped terminal but do not now join the fractured end; some are wider; lengths 46, 25 (both ?part of i), 44, 30, 23, 37 and 10 mm. The strip with the looped terminal is too narrow to be from a loop-hinge, but it could be part of a tool with an integral suspension loop on either the tang or handle. The identification of these fragments is obscure and their poor condition means that it is impossible to tell if they derive from one object or several, or if they represent a deliberate deposit or were fixed into the timber used as fuel on the pyre.

JNF125.11 Iron nails (JN1154) and (JN1365). (1154): a) incomplete, length 40 mm; b) complete, length 75 mm. (1365): d) incomplete, length 30 mm; f) Bent shank fragment, length 23 mm.

JNF126: urned cremation burial

Description: Burial pit JNF126 was a sub-circular feature, 0.45m in diameter and 0.17m deep, containing an urned cremation burial. .
Cremated human bone: A total of 9g of cremated bone was recorded from a possible adult (over 20 years) of indeterminate sex.
Burial goods: A jar (JNF126.1) had been used as a cremation urn.
Residual finds: Pottery sherds.
Date: Mid 1st to early 2nd century.

JNF126.1 Jar used as a cremation urn (JN322). Illustrated. Cam 266 jar, burnished around base, Fabric GX. Almost complete pot in sherds, although part of rim is missing. 1st to early 2nd century.

JNF127: urned cremation burial

Description: Burial pit JNF127 was a sub-square feature, 0.50m by 0.50m and 0.13m deep, containing an urned cremation burial.
Cremated human bone: A total of 77g of cremated bone was recorded from a juvenile (0-5 years) of indeterminate sex.
Burial goods: A jar (JNF127.1) had been used as a cremation urn and a beaker (.2) and a flagon (.3) had been placed next to the urn.
Residual finds: A single iron nail.
Date: Mid 1st to the early 2nd century.

JNF127.1 Jar used as a cremation urn (JN327). Illustrated. Lower half of jar complete with sherds from the mid area/girth. Fabric GX.

JNF127.2 Beaker (JN326). Illustrated. Cam 108 beaker, small sherd missing from rim (old break). Fabric GX. 1st to early 2nd century.

JNF127.3 Flagon (JN328). Illustrated. Flagon, most of pot up to the lower part of the neck is whole with rest consisting of 50 sherds and many small fragments. Fabric DJ. Probably 1st to 2nd century.

JNF128: urned cremation burial

Description: Burial pit JNF128 was a sub-circular feature, 0.25m in diameter and 0.05m deep, containing a disturbed urned cremation burial.
Cremated human bone: No bone had survived.
Burial goods: A jar (JNF128.1) had been used as a cremation urn.
Residual finds: Pottery sherds.
Date: Roman.

JNF128.1 Jar used as a cremation urn (JN330). Illustrated. Jar consisting of lower part of pot only in sherds and fragments, Fabric GX.

JNF129: urned cremation burial

Description: Burial pit JNF129 was a sub-circular feature, 0.31m in diameter and 0.08m deep, containing a disturbed urned cremation burial.
Cremated human bone: A total of 2g of probably human cremated bone was recorded.
Burial goods: A jar (JNF129.1) had been used as a cremation urn.
Residual finds: A single pottery sherd.
Date: Roman.

JNF129.1 Jar used as a cremation urn (JN329). Illustrated. Jar consisting of lower part of pot only in sherds and fragments (base whole), joining sherds up to girth, Fabric GX.

JNF133: Inhumation burial

Description: Inhumation burial JNF133 was located within a grave aligned east to west. Part of the grave was cut away by a modern building foundation, but the surviving feature measured 1.10m by 0.42m and was 0.57m deep.
Inhumated human bone: Less than 25% of the skeleton (2g) had survived within the grave, consisting of fragments of unidentified bone from an adult (over 20 years) of indeterminate sex.
Timber coffin: The presence of several coffin nails (JNF133.3) would suggest that the body had been buried within a coffin.
Burial goods: A jar (JNF133.1) and two hobnail shoes (.2).
Residual finds: Pottery sherds and some glass.
Date: Early/mid 2nd to the late 3rd/early 4th century.

JNF133.1 Jar (JN1050). Illustrated. Cam 268 jar, complete pot in sherds although base and lower part of body intact. Fabric GX. Early/mid 2nd to late 3rd/early 4th century.

JNF133.2 Iron hobnails (JN1053) and (JN1054), small find no. 526. One group of hobnails lay on one side of the grave and the other on the opposite side. This unusual combination suggests that the shoes or sandals may have been placed on the lid of the coffin and become separated as it collapsed.

JNF133.3 Iron coffin nails (JN293, JN1204).

JNF135: inhumation burial

Description: Inhumation burial JNF135 was located within a grave aligned north-east to south-west with the head buried in the north-eastern end. Most of the grave had been cut away by a modern building foundation, but the surviving north-east section measured approximately 0.58m by 0.72m and 0.97m deep.
Inhumated human bone: Less than 25% of the skeleton (82g) had survived within the grave, consisting of parts of the skull, left clavicle and scapula, and part of the mandible (no teeth) from an adult (over 20 years) who was possibly male.
Date: Roman.

JNF137: inhumation burial

Description: Inhumation burial JNF137 was located within a grave aligned east to west. Part of the grave was cut away by inhumation burial JNF255, but the excavated feature measured 1.70m by 0.96m and 0.98m deep.
Inhumated human bone: No bone was identified.
Timber coffin: The presence of a number of coffin nails (JNF137.2) would suggest that the body had been buried within a coffin. The coffin nails ranged in length from 48 to 80 mm.
Burial goods: Two hobnail shoes (.1).
Residual finds: Pottery sherds, some animal bone and a copper-alloy shank fragment.
Date: Mid 2nd century + (based on the date of the residual pottery sherds).

JNF137.1 Iron hobnails (JN1306), small find no. 238-43. The hobnails in this disturbed grave formed two clusters, but the nailing pattern and their specific location were obscure.

JNF137.2 Iron coffin nails (JN1306): a) complete, length 55 mm; h) incomplete, length 40 mm; i) complete, length 71 mm; k) complete, length 48 mm; s) incomplete, length 31 mm; ad) complete, length 58 mm; ag) shank fragment, length 35 mm; ah) incomplete, length 61 mm; au) incomplete, length 46 mm; av) incomplete, length 26 mm; aw) complete, length 64 mm; ba) incomplete, length 42 mm; bc) complete, length 61 mm; bg) shank fragment, length 43 mm; bl) complete, length 59 mm; bm) shank fragment, length 53 mm; bn) incomplete, length 35 mm; bo) shank fragment, length 72 mm; bp) complete, length 64 mm; br) complete, length 64 mm; bu) complete, length 73 mm; bw) complete, length 80 mm; bx) incomplete, length 32 mm; by) complete, length 61 mm; bz) shank fragment, length 31 mm; ca) incomplete, length 20 mm; cb) incomplete, length 33 mm; cg) shank fragment, length 30 mm; ch) incomplete, length 38 mm; ci) incomplete, length 42 mm; cj) shank fragment, length 30 mm; ck) incomplete, length 37 mm; cl) complete, 74 mm; cm) incomplete, length 27 mm; cn) incomplete, length 38 mm; co) complete, length 48 mm.

JNF138: urned cremation burial

Description: Burial pit JNF138 was an oval feature containing an urned cremation burial. Part of the burial pit had been cut away by gully JNF343, but the surviving feature measured 0.63m by 0.39m and 0.29m deep.
Cremated human bone: A total of 721g of cremated bone was recorded from a middle adult (35-50 years) who was possibly female. Evidence of dental disease was identified on the bone.
Burial goods: A face pot (JNF138.1) had been used as a cremation urn.
Residual finds: Pottery sherds.
Date: Early 2nd century + (the face pot is dated from the 1st to the 3rd century, however, the residual pottery sherds suggest that the burial cannot be earlier than the early 2nd century).

JNF138.1 Face pot used as a cremation urn (JN343). Illustrated. Cam 288 face pot, Fabric DJ. Near complete pot but very broken up with fragments of handles and of frilled rim present, the larger sherds include the face. Claudio-Neronian to 3rd century.

JNF139: urned cremation burial

Description: Burial pit JNF139 was an oval feature, 0.67m by 0.45m and 0.10m deep, containing a disturbed urned cremation burial.
Cremated human bone: No bone had survived.
Burial goods: A jar (JNF139.1) had been used as a cremation urn and a flagon (.2) and most of a small jar (.3) had been placed next to the urn.
Residual finds: Pottery sherds.
Date: Hadrianic-Antonine

JNF139.1 Jar used as a cremation urn (JN316, JN325). Illustrated. Cam 268 jar, Fabric GX. The main body of pot is in 2-3 main sherds. Early/mid 2nd to late 3rd/early 4th century.

JNF139.2 Flagon (JN316). Illustrated. Cam 155 flagon, whole pot though cupped ringed neck mouth broken away in sherds and about one third of the mouth is missing, slightly abraded surfaces. Fabric DJ. Claudio-Neronian to early Antonine.

JNF139.3 Small jar (JN319). Illustrated. Cam 328 small jar decorated with vertical burnished lines, Fabric GB. A single large sherd represents about two thirds of the profile. Early Antonine (probably Hadrianic) to late 2nd/early 3rd century.

JNF141: inhumation burial

Description: Inhumation burial JNF141 was located within a grave aligned north-east to south-west. The south-western end of the grave had been cut away by pit JNF136 and inhumation burial JNF144, but the surviving part measured 0.76m by 0.44m and 0.49m deep.
Inhumated human bone: No bone had survived.
Residual finds: Pottery sherds, a piece of imbrex, a tile fragment and three pieces of burnt flint.
Date: Roman.

JNF142: inhumation burial

Description: Inhumation burial JNF142 was located within a grave measuring 0.90m by 0.42m, 0.35m deep and aligned north-west to south-east. Part of one edge had also been cut away by inhumation burial JNF141. The size of the grave suggests a juvenile burial.
Inhumated human bone: No bone had survived.
Date: Roman.

JNF144: inhumation burial

Description: Inhumation burial JNF144 was located within a grave measuring 0.63m by 0.50m, 0.49m deep and aligned north-east to south-west.
Inhumated human bone: No bone had survived.
Date: Roman.

JNF145: urned cremation burial

Description: Burial pit JNF145 was a sub-circular feature, 0.37m in diameter and 0.19m deep, containing an urned cremation burial.
Cremated human bone: A total of 406g of cremated bone was recorded from an adult (over 20 years) of indeterminate sex.
Burial goods: A jar (JNF145.1) had been used as a cremation urn and an iron sheet fragment (.2) was identified within the urn.
Residual finds: A pottery sherd and iron nail.
Date: Early/mid 2nd to the late 3rd/early 4th century.

JNF145.1 Jar used as a cremation urn (JN652). Illustrated. Cam 268 jar, Fabric GX. Near complete pot with much of the lower half intact, upper part in sherds and rim missing. Early/mid 2nd to late 3rd/early 4th century.

JNF145.2 Iron sheet fragment (1315), small find no. 501. 17 by 15mm.

JNF146: urned cremation burial

Description: Burial pit JNF146 was a probable oval feature containing a disturbed urned cremation burial. The burial pit had been cut in half by a modern service trench but measured 0.48m by over 0.30m and 0.18m deep.
Cremated human bone: A total of 39g of cremated bone was recorded from an adult (over 20 years) of indeterminate sex.
Burial goods: A jar (JNF146.1) had been used as a cremation urn.
Residual finds: A single pottery sherd.
Date: Mid 1st to the early 2nd century + (based on the date of the residual pottery sherd).

JNF146.1 Jar used as a cremation urn (JN423). Jar, much of the lower part of a jar, base whole and sherds up to shoulder area. Fabric GX.

JNF147: urned cremation burial

Description: Burial pit JNF147 was an oval feature, 0.51m by 0.35m, containing a badly disturbed urned cremation burial.
Cremated human bone: No bone had survived.
Burial goods: A jar (JNF147.1) had been used as a cremation urn.
Residual finds: Pottery sherds.
Date: Mid 1st to the early 2nd century.

JNF147.1 Jar used as a cremation urn (JN625). Jar in moderately soft fabric, Fabric GX. Partial pot in sherds and fragments, includes rim, body and base sherds. Fabric suggests a date in the 1st to 2nd century.

JNF148: inhumation burial

Description: Inhumation burial JNF148 was located within a grave measuring 2.24m by 0.78m, 0.30m deep and aligned north to south with the head buried at the northern end.
Inhumated human bone: Less than 25% of the skeleton (37g) had survived within the grave, consisting of part of the skull from an adult (over 20 years) of indeterminate sex.
Timber coffin: A plan of the iron nails (JNF148.1) show that the body had been buried in a coffin measuring 1.80m by 0.40m.
Date: Early 2nd century + (must be later than pyre site/*bustum* JNF204, which is dated to the early 2nd century +).

JNF148.1 Iron coffin nails (JN1190).

JNF149: inhumation burial

Description: Inhumation burial JNF149 was located within a grave measuring 1.50m by 0.68m, 0.59m deep and aligned north-east to south-west.
Inhumated human bone: No bone had survived.
Timber coffin: The presence of several coffin nails (JNF149.2) would suggest that the body had been buried within a coffin.
Burial goods: A copper-alloy finger-ring (.1).
Residual finds: Pottery sherds.

Date: Mid 1st to the 2nd century + (based on the date of the residual pottery sherds).
Possible Burial Marker: A single post hole (JNF445: 0.17m in diameter and 0.35m deep) was located 0.20cm away from this grave and 0.10cm from inhumation burial JNF180. This post hole would possibly have held a wooden post used as a burial marker for either or both of these graves.

JNF149.1 Finger-ring (JN359), small find no. 327. Fragmentary narrow rectangular-section copper-alloy finger-ring. The surface may have punched dot decoration but is too pitted by corrosion for this to be certain. Diameter approximately 18 mm, height 3.5 mm, 2 mm thick.

JNF149.2 Iron coffin nails (JN1153).

JNF153: burial pit containing pyre debris

Description: Burial pit JNF153 was a large sub-circular feature, 0.84m in diameter and 0.27m deep, containing pyre debris. The burial pit contained a small amount of cremated bone along with a concentration of charcoal and burning scattered throughout.
Cremated human bone: A total of 20g of cremated bone was recorded from a possible adult (over 20 years) of indeterminate sex.
Burial goods: A small quantity of glass (JNF153.1) and several iron nails were identified scattered throughout the fill.
Date: Mid 1st century +.
Burial Marker: Post hole JNF220 (0.29m in diameter and 0.43m deep) had been cut into the edge of this burial pit and may have held a wooden post used as a burial marker.

JNF153.1 Glass (JN1428). Tubular unguent bottle, three joining neck and body fragments, blue/green, cylindrical neck with pinched junction at body, horizontal scratches on neck, neck diameter c. 15mm, present height 30mm, 1g. Also, tubular unguent bottle, base fragment, blue/green, small flattening at centre of base, broken upper edges melted, maximum body diameter 30mm, 5g. Both pieces come from mid 1st century tubular unguent bottles (see JNF34), possibly the same one. The melting visible on the base indicates this was probably a pyre good. The scratches on the neck probably indicate that a stopper had been attached.

Iron nails (JN1192): a) shank fragment, length 18 mm; b) complete, length 35 mm; c) complete, length 37 mm.

JNF154: urned cremation burial

Description: Burial pit JNF154 was an oval feature, 0.51m by 0.45m and 0.24m deep, containing a slightly disturbed urned cremation burial.
Cremated human bone: A total of 694g of cremated bone was recorded from a female middle adult (35-50 years). Evidence of a compression fracture on a thoracic vertebrae was identified, this could suggest trauma or spinal disease.
Burial goods: A jar (JNF154.1) had been used as a cremation urn and a beaker (.2) and flask (.3) had been placed next to the urn. All three vessels were sat on top of an area of charcoal staining, possibly representing the remains of a wooden plank or box in the bottom of the pit. A quantity of iron nails, as well as some hobnails, were recovered from the fill and may be associated with the wooden remains, although some could be residual. Two galliforme bones (.4) were also identified within the cremation urn representing the remains of food or 'food for the afterlife'.
Date: Mid 1st to the early 2nd century.

JNF154.1 Jar used as a cremation urn (JN386). Illustrated. Cam 266 jar, Fabric GX. The pot has uneven base and is possibly a kiln second. Whole with part of rim broken away in seven sherds. 1st to early 2nd century.

JNF154.2 Beaker (JN387). Illustrated. Cam 108 beaker, Fabric GX. Almost whole pot though sherds missing from rim in two areas (old breaks). 1st to early 2nd century.

JNF154.3 Flask (JN388). Illustrated. Small plain flask, almost whole pot though much of neck and rim missing, Fabric GX.

JNF154.4 Animal bone (JN1355). Two galliforme (chicken/pheasant) bones from an adult bird were recovered from the cremation urn; both pieces are fragments from a femur.

Iron nails fragments (JN427, JN1292, JN1356), 9 fragments.

Hobnails (482), 49 fragments.

JNF155: burial pit containing pyre debris

Description: Burial pit JNF155 was an oval feature, 0.42m by 0.32m and 0.18m deep, containing pyre debris. It contained a concentration of cremated bone, charcoal and burning scattered throughout.
Cremated human bone: A total of 159g of cremated bone was recorded from a young adult (20-35 years) of indeterminate sex.
Burial goods: Several pottery sherds (some burnt) (JNF155.1) were identified along with four fragments of animal bone probably representing the remains of food/feasting being buried with the pyre debris.
Date: Roman.

JNF155.1 Pottery sherds (JN363). Seven sherds of Fabric DJ, probably from a flagon (dated 1st-2nd century), and one sherd of Fabric GX, probably burnt.

Animal bone (JN364). Four fragments of animal bone, weighing 6g, were recorded from this context; these included a fragment of an adult sheep/goat radius.

JNF156: burial pit containing pyre debris

Description: Burial pit JNF156 was a sub-circular feature, 0.51m in diameter and 0.25m deep, containing pyre debris. It contained a concentration of cremated bone, charcoal and burning scattered throughout.
Cremated human bone: A total of 353g of cremated bone was recorded from an adult (over 20 years) of indeterminate sex.
Burial goods: Several pottery sherds (some burnt) and a number of iron hobnails and nails were identified scattered throughout the fill.
Date: Mid 1st to the 2nd century.

Pottery sherds (JN353). Five sherds (one burnt) of Fabric DJ from more than one pot, one sherd burnt (dated 1st to 2nd century) and one sherd of Fabric GX.

Iron hobnails (JN1146), small find no. 482.

Iron nails (JN1146): c) incomplete nail, length 20 mm; d) shank fragment, length 36 mm; e) incomplete, length 22 mm; h) complete, length 82 mm; l) incomplete, length 24 mm; o) head, diameter 12 mm; r) two complete nails and one shank fragment, lengths 44, 30 (bent) and 23 mm; s) incomplete, length 37 mm; t) head, diameter 16 mm; w) complete, length 40 mm.

JNF174: inhumation burial

Description: Inhumation burial JNF174 was located within a grave measuring 1.08m by 0.48m, 0.23m deep and aligned north-west to south-east. Its small size suggests that this was a juvenile burial.
Inhumated human bone: No bone had survived.
Burial goods: A flagon (JNF174.1).
Residual finds: Pottery sherds.
Date: Early 2nd century + (based on the date of the residual pottery sherds).
Burial Marker: A single post hole (JNF113: 0.25m in diameter and 0.05m deep) had been cut near to the north-west end of the grave and may have held a wooden post used as a burial marker.

JNF174.1 Flagon (JN348). Flagon, Fabric DJ. Most of pot present in sherds and and fragments. Vessel very broken-up and especially fragmented toward the top of the pot. No sherds from upper part of neck were found. Some sherd surfaces cracked and degraded. Probably 1st to 2nd century.

JNF177: burial pit containing pyre debris

Description: Burial pit JNF177 was a grave-shaped feature, 1.14m by 0.43m and 0.15m deep, containing pyre debris. A small part of one edge had been cut away by burial pit containing pyre debris JNF266 but most had survived. The burial pit contained a small amount of cremated bone along with a concentration of charcoal and burning scattered throughout.
Cremated human bone: A total of 8g of probably human cremated bone was recorded.

Burial goods: A burnt pottery sherd (JNF177.1), some burnt copper-alloy debris (.2) and a small number of iron nails and hobnails.
Date: Mid 1st to the early 2nd century (must be earlier than burial pit containing pyre debris JNF266, which is dated from the mid 1st to the early 2nd century).

JNF177.1 Pottery sherd (JN361). One sherd of Fabric GX, possibly burnt.

JNF177.2 Copper-alloy sheet (JN355), small find no. 319. Fragment of scorched copper-alloy sheet. 15 by 12 mm.

Iron nails (JN1191): b) incomplete, length 20 mm; c) shank fragment, length 15 mm; d) incomplete nail and shank fragment (?fit), lengths 17 and 23 mm.

Iron hobnails (JN1191): a) incomplete, length 8mm.

JNF178: burial pit containing pyre debris
Description: Burial pit JNF178 was an oval feature, 0.41m by 0.34m and 0.06m deep, containing pyre debris. It contained a very small amount of cremated bone along with a concentration of charcoal and burning scattered throughout.
Cremated human bone: A total of 11g of probably human cremated bone was recorded.
Burial goods: Two pottery sherds and some iron nails.
Date: Roman.

Pottery sherd (JN360). One sherd of fabric DJ and one sherd of Fabric GX.

Iron nails (JN1144).

JNF179: inhumation burial
Description: Inhumation burial JNF179 was located within a grave measuring 0.55m by 0.28m, 0.48m deep and aligned north-west to south-east.
Inhumated human bone: No bone had survived.
Residual finds: Pottery sherds and an iron nail.
Date: Mid 2nd century + (based on the date of the residual pottery sherds).
Burial Marker: A single post hole (JNF185: 0.30m deep) had been cut into the north-eastern side of the grave and may have held a wooden post used as a burial marker.

JNF180: inhumation burial
Description: Inhumation burial JNF180 was located within a grave aligned north to south. Most of the grave had been cut away by inhumation burial JNF181, but the surviving southern end measured 0.23m by 0.30m and was 0.13m deep.
Inhumated human bone: No bone had survived.
Date: Roman.
Possible Burial Marker: A single post hole (JNF445: 0.17m in diameter and 0.35m deep) was located 0.1m from this grave and 0.2m from inhumation burial JNF149. This feature may have held a wooden post used as a burial marker for either or both of these graves.

JNF181: inhumation burial
Description: Inhumation burial JNF181 was located within a grave aligned north to south. Most of the northern part of the grave was truncated by a modern foundation, but the excavated feature measured 0.40m by 0.30m and 0.28m deep.
Inhumated human bone: No bone had survived.
Date: Roman.

JNF183: *bustum*
Description: Burial pit JNF183 was a grave-shaped feature containing a *bustum* burial. It was aligned north-east to south-west and measured 2.45m by 0.90m and 0.67m deep. Part of the upper fill had been cut away by inhumation burial JNF288 but the feature was otherwise intact. The pit edges comprised of scorched sand suggesting in-situ burning and an area of fill (2.10m by 0.45m) contained a concentration of charcoal with cremated bone scattered

within. This even spread of cremated bone and charcoal suggests a highly controlled process with the pyre debris falling into a prepared coffin-shaped area. Notably several pieces of human bone had not been cremated or were only partially burnt which may suggest that the body had been poorly cremated/burnt (i.e. with too little fuel, at too low a temperature). The random positioning of the leg bones implies that some of the bone may have been collected and deposited within the cut after the initial pyre had collapsed into the pit.
Inhumated (unburnt) and cremated human bone: A total of 487g of inhumated (unburnt) bone and 74g of cremated bone was recorded from an adult (over 20 years) of indeterminate sex. Evidence of periostitis (a non-specific infection) was identified on the unburnt bone.
Burial goods: Several pottery sherds (JNF183.2.), some iron nails (JNF183.2) and burnt flint was recorded.
Date: Mid 1st to the early 2nd century.
Burial Marker: A single post hole (JNF344: 0.24m in diameter and 0.25m deep), had been cut into one edge of the grave and may have held a wooden post used as a burial marker.

Pottery sherds. Nine sherds of Fabric DJ, one or two may be burnt (JN800, JN958). Seventeen sherds (three burnt) of Fabric GX from five or more pots, including sheds from a beaker, probably of form Cam 108 (dated 1st to early 2nd century) and a Cam 243-244/ 246 bowl (dated 1st to early 2nd century) (JN800, JN958).

Iron nails (JN958) and (JN1274).

JNF186: burial pit containing pyre debris
Description: Cremation burial JNF186 was a sub-circular feature, 0.42m in diameter and a few centimeters in depth, containing pyre debris. It contained a small amount of cremated bone along with a concentration of charcoal and burning scattered throughout.
Cremated human bone: A total of 5g of probably human cremated bone was recorded.
Date: Roman.

JNF187: inhumation burial
Description: Inhumation burial JNF187 was located within a grave aligned north to south. Part of the grave was located outside of the excavation area, but the excavated feature measured 1.1m by 0.74m and 0.15m deep. Post hole JNF197 and burial pit containing pyre debris JNF196 were cut into the upper fill of the grave.
Inhumated human bone: No bone had survived.
Residual finds: Pottery sherds.
Date: Early 2nd to mid/late 3rd century+ (based on the date of the residual pottery sherds).
Burial Marker: A single post hole (JNF197: 0.31m in diameter and 0.26m deep) had been cut into the south-west end of the grave and may have held a wooden post used as a burial marker.

JNF188: burial pit containing pyre debris
Description: Burial pit JNF188 was an oval feature, 0.70m by 0.61m and 0.26m deep, containing pyre debris. The burial pit did not contain cremated bone but did include a concentration of charcoal and burning scattered throughout.
Burial goods: Several pottery sherds and an iron nail.
Date: Roman.

Pottery sherds (JN376). Two sherds of Fabric DJ and 15 sherds of Fabric GX from half a dozen pots including large sherds of a base and body possibly from one pot.

Iron nails (JN1155).

JNF190: burial pit containing pyre debris
Description: Burial pit JNF190 was a sub-square feature, 0.45m by 0.45m and 0.11m deep, containing pyre debris. Part of one corner had been cut away by pit JNF211. The burial pit contained a small amount of cremated bone with a concentration of charcoal and burning scattered throughout.
Cremated human bone: A total of 37g of cremated bone was recorded from a possible adult (over 20 years) of indeterminate sex.
Burial goods: Several pottery sherds, and some iron nails and hobnails.
Date: Mid 1st to the early 2nd century?

Pottery sherds (JN421). Eight sherds of Fabric GX, from two ?jars and a lid (pottery dated 1st to 2nd century?).

Iron nails (JN421, JN1152). (421): incomplete, length 15 mm. (1152): a) shank fragment, length 29 mm; b) shank fragment, length 35 mm; c) shank fragment, length 28 mm; d) incomplete, length 34 mm; e) incomplete, length 20 mm; g) incomplete, length 32 mm; h) incomplete, length 33 mm; i) shank fragment, length 21 mm; j) incomplete, length 25 mm; k) complete, length 27 mm; l) incomplete, length 36 mm; m) incomplete, length 37 mm; n) shank fragment, length 33 mm; q) incomplete, length 25 mm; r) incomplete, length 14 mm.

Iron hobnails (JN1152): f) length 17 mm; p) length 17 mm; o) length 12 mm.

JNF191: inhumation burial

Description: Inhumation burial JNF191 was located within a grave aligned north-west to south-east with the head buried at the north-western end. Part of the grave had been cut away by inhumation burial JF17 (recorded in the evaluation), but it measured 2.34m by 0.64m.
Inhumated human bone: Less than 25% of the skeleton (210g) had survived within the grave, consisting of parts of the lower limbs from a adult (over 20 years) of indeterminate sex. Evidence of periostitis (a non-specific infection) was identified on the bone.
Timber coffin: A plan of the iron nails (JNF191.2.) show that the body had been buried within a coffin that measured approximately 1.86m by 0.40m. Only two complete nails were recorded measuring 45 and 85mm long.
Burial goods: A number of hobnails (.1) were identified between the legs of the body.
Residual finds: Pottery sherds and a very small quantity of cremated bone (2g).
Date: Mid 1st to the early 2nd century + (based on the date of the residual pottery sherds)
Burial Marker: A post hole (JF19 – an Area J1 evaluation feature 0.25m in diameter and 0.39m deep) had been cut into the north-west end of the grave. This would probably have held a wooden post used as a burial marker.

JNF191.1 Iron hobnails (JN1313), small find no. 493: j) complete, length 14 mm; m) incomplete, length 11 mm; w) incomplete, length 10 mm; aa) complete, length 10 mm; ar) complete, length 12 mm. The hobnails from this grave were found in a cluster near the knees. Both the location and the small number is unusual for a complete pair of shoes or sandals, and they may be residual. However, the acid soil conditions may have destroyed a much greater number, as such must be the reason for the poor condition of the coffin nails.

JNF191.2. Iron coffin nails (J31, J38): Iron nails from upper part of JNF191. Iron coffin nails (JN1313): e) incomplete, length 22 mm; h) incomplete, length 22 mm; i) shank fragment, length 19 mm; r) incomplete, length 15 mm; s) incomplete, length 28 mm; t) shank fragment, length 24 mm; u) complete, length 44 mm; v) incomplete, length 44 mm; x) incomplete, length 64 mm; y) clenched shank fragment, length 22 mm; ad) incomplete, length 19 mm; ae) complete, length 85 mm; af) incomplete, length 48 mm; ag) incomplete, length 37 mm; ah) shank fragment, length 23 mm; aj) shank fragment, length 31 mm; al) complete, length 45 mm; am) incomplete, length 25 mm.

JNF192: urned cremation burial

Description: Burial pit JNF192 was an oval feature, 0.54m by 0.50m and 0.30m deep, containing a disturbed urned cremation burial.
Cremated human bone: A total of 592g of cremated bone was recorded from an adult (over 20 years) of indeterminate sex.
Burial goods: A jar (JNF192.1) had been used as a cremation urn.
Residual finds: Pottery sherds and some iron nails.
Date: Early/mid 2nd to the late 3rd/early 4th century.

JNF192.1 Jar used as a cremation urn (JN483, JN520). Cam 268 jar, Fabric GX. A probably complete pot in sherds. Early/mid 2nd to late 3rd/early 4th century.

JNF193: inhumation burial

Description: Inhumation burial JNF193 was located within a grave aligned north to south with the head probably buried to the north. Part of the southern end of the grave was outside of the excavation area, but the excavated feature measured 1.80m by 0.76m and 0.42m deep.
Inhumated human bone: Less than 25% of the skeleton (254g) had survived within the grave, consisting of parts of the upper and lower limbs, ribs, vertebrae and right shoulder from an

adult (over 20 years) of indeterminate sex. Evidence of arthritis of the spine (spinal disease) and Schmorl's nodes (spinal disease) was identified on the bone.
Residual finds: Pottery sherds.
Date: Mid 1st to 2nd century.

JNF195: inhumation burial
Description: Inhumation burial JNF195 was located within a grave aligned north-east to south-west. Most of the grave had been cut away by pyre site/*bustum* JNF34, but the excavated feature measured 0.68m by 0.76m and 0.33m deep.
Inhumated human bone: No bone had survived.
Residual finds: A single pottery sherd and a number of iron nails.
Date: Mid 1st to 2nd century + (based on the residual pottery sherds).

JNF196: burial pit containing pyre debris
Description: Burial pit JNF196 was an oval feature containing pyre debris. Part of the feature was located outside of the excavation area, but the excavation section measured 0.40m by 0.22m and 0.35m deep. The burial pit contained a very small amount of cremated bone along with a concentration of charcoal and burning scattered throughout.
Cremated human bone: A total of 2g of cremated bone was recorded from a possible adult (over 20 years) of indeterminate sex.
Burial goods: Several pottery sherds (some burnt), some hobnails and iron nails.
Date: Early 2nd to mid/late 3rd century + (must be later than inhumation burial JNF187, which is dated from the early 2nd to the mid/late 3rd century +).

Pottery sherds (JN394). Nine sherds of Fabric DJ, some possibly burnt, and seven sherds of fabric GX, some possibly burnt.

Iron hobnails (JN1145), small find no. 537.

Iron nails (JN1145): a) incomplete, length 25 mm; b) complete, bent, length 25 mm; c) incomplete, length 25 mm; d) shank fragment. Length 29 mm.

JNF199: pyre site
Description: Burial pit JNF199 was a grave-shaped feature, 1.71m by 0.80m and 0.16m deep, containing the remains of a pyre. Scorched sand around the edges of the feature suggest *in situ* burning and the pit contained a concentration of charcoal, burning and cremated bone scattered throughout.
Cremated human bone: A total of 42g of cremated bone was recorded from a possible adult (over 20 years) of indeterminate sex. Evidence of periostitis (non-specific infection) was identified on the bone.
Burial goods: Several pottery sherds (some burnt), some hobnails and iron nails.
Date: Mid 1st to the 2nd century + (must be later than inhumation burials JNF269 and JNF469, which are dated from the mid 1st to the 2nd century +).
Possible Burial Marker: A single post hole (JNF198: 0.36m in diameter and 0.23m deep) was located 0.05cm away from the pyre site and may have held a wooden post used as a burial marker.

Pottery sherds (JN895, JNF897). Ten sherds of fabric GX, three of which are probably burnt.

Iron hobnails (JN1250), small find no. 477.

Iron nails (JN1250).

JNF200: burial pit containing pyre debris
Description: Burial pit JNF200 was a sub-circular feature, 0.63m in diameter and 0.29m deep, containing pyre debris. No cremated bone was identified but the burial pit did contained a concentration of charcoal and burning scattered throughout.
Burial goods: Some iron nails.
Date: Roman.

Iron nails (JN1149): a) head and separate shank, length 11 mm; b) two shank fragments, lengths 11 and 8 mm; c) shank fragment, length 10 mm; d) incomplete, length 19 mm; e) incomplete, length 12 mm; f) complete, length 31 mm.

JNF201: burial pit containing pyre debris

Description: Burial pit JNF201 was an oval feature, 0.46m by 0.40m and 0.11m deep, containing pyre debris. It contained a very small amount of cremated bone and a concentration of charcoal and burning scattered throughout.
Cremated human bone: A total of 1g of probably human cremated bone was recorded.
Burial goods: Several pottery sherds.
Date: Mid 1st to the 2nd century.

Pottery sherds (JN802). Thirty-one sherds of Fabric GX, 26 of these sherds are from two pots and five from five different pots including the base of a small or miniature jar which has been burnt (pottery dated Roman ?1st to 2nd century).

JNF202: inhumation burial

Description: Inhumation burial JNF202 was located within a grave measuring 0.82m by 0.58m, 0.36m deep and aligned north-west to south-east.
Inhumated human bone: No bone had survived
Residual finds: Pottery sherds and one piece of oyster shell.
Date: 2nd century + (must be later than inhumation burial JNF462, which is dated from the 2nd to mid 3rd/4th century +).

JNF203: pyre site/*bustum*

Description: Burial pit JNF203 was a large grave-shaped feature containing either the remains of a pyre site or a *bustum* burial. Most of the feature had been cut away by inhumation burials JNF497 and JNF498, and by three modern service trenches. The surviving segments of the feature combined were 0.58m long (and suggest the original length was over a 1.41m). It also measured at least 0.50m wide and was 0.14m deep. Scorched sand was recorded around the edges of the feature and a concentration of charcoal, burning and some cremated bone was scattered throughout. Not enough of the feature had survived to confirm it as either a pyre site or a *bustum* burial.
Cremated human bone: A total of 20g of cremated bone was recorded from a possible adult (over 20 years) of indeterminate sex.
Burial goods: Several pottery sherds (some burnt) (JNF203.1), a fragment of pottery lamp (.2), a miniature lamp (.3) and some iron nails. Two pottery fragments, nails and lamp fragment are primary deposits, while the complete lamp, dating to the 1st century, is an unburnt secondary deposit.
Date: 1st century to early Antonine.

JNF203.1 Pottery sherds (JN1082). Seven sherds of Fabric DJ: four from a Cam 155 flagon (Claudio-Neronian to early Antonine), degraded and probably burnt; two from a second flagon, also degraded and probably burnt; and one other sherd. Eleven sherds of Fabric GX from three or more pots, some from one pot, abraded or degraded.

JNF203.2 Pottery lamp fragment (JN1082), small find no. 568. Burnt wall/base sherd, probably from an open lamp; there is very little curvature at the edge. The fabric is now grey both externally and internally. Diameter 100-120 mm, maximum surviving height 14 mm.

JNF203.3 Miniature lamp (JN663), small find no. 377. Illustrated. Complete miniature lamp with a wide shoulder decorated with a line of impressed dots and angled grooves on each edge, combining the simple form of Loeschcke Type VIII (1919, Abb. 7-8) with the decorative style of open lamps. The fabric is uniformly buff. Length 51 mm, diameter 38 mm.

Iron nails (JN1082). Two shank fragments, lengths 52 and 51 mm.

JNF204: pyre site/*bustum*

Description: Burial pit JNF204 was a large grave-shaped feature containing either the remains of a pyre site or a *bustum* burial. Most of the feature had been cut away by inhumation burial JNF238, but the surviving areas revealed that the burial pit would have measured 2.00m in length and 0.58m wide (a depth could not be determined). Scorched sand was recorded

around the edges of the feature and the fill contained concentrations of charcoal, burning and some cremated bone scattered throughout. Not enough of the feature had survived to confirm it as either a pyre site or a *bustum* burial.
Cremated human bone: A total of 2g of cremated bone was recorded possibly from an adult (over 20 years) of indeterminate sex.
Burial goods: Pottery sherds.
Date: Early 2nd century?

Pottery sherds (JN484). Three sherds of Fabric GA from a Cam 303 bowl (dated early 2nd century to early 3rd century); six sherds of Fabric GX, including sherds from two Cam 266 jars (dated 1st to early 2nd century); and one sherd of Fabric HZ.

JNF205: Unurned cremation or boxed cremation burial
Description: Burial pit JNF205 was a rectangular pit, 1.05m by 0.91m wide and 0.25m deep, containing a disturbed unurned cremation or a boxed cremation burial. About half of the feature had been cut away by inhumation burial JNF216 but the surviving portions confirm the dimensions of the original feature.
Cremated human bone: A total of 13g of cremated bone was recorded from a possible adult (over 20 years) of indeterminate sex.
Burial goods: The burial pit contained a miniature jar (JNF205.1) and the remains of a wooden box with iron fittings (.6). Two other box fittings (an iron fitting and copper-alloy lock plate) (.6) and five miniature jars (of the same form as that recorded in JNF205) (.2 – .5) were also identified as originating from within this feature (even though they were recorded as residual finds within inhumation burial JNF216). As the burial had been disturbed, it was not possible to positively identify it as either an unurned cremation or a boxed cremation burial.
Residual finds: Pottery sherds.
Date: Hadrianic to late 2nd century.

JNF205.1 Miniature jar (JN614). Illustrated. Cam 278 miniature jar, Fabric KX. Whole pot, surfaces slightly degraded, oddly this surface degrading is much worse over one side. Hadrianic to late 2nd century.

JNF205.2 Miniature jar (JN413). Illustrated. Cam 278 miniature jar, Fabric KX. Whole pot, surfaces slightly degraded. Hadrianic to late 2nd century.

JNF205.3 Miniature jar (JN414). Illustrated. Cam 278, miniature jar, Fabric GB. Whole pot, surfaces slightly degraded, heavily discoloured pale brown on one side, ?burnt, Hadrianic to late 2nd century.

JNF205.4 Miniature jar (JN415, JN486). Illustrated. Cam 278 miniature jar, Fabric KX. Pot base only, surfaces slightly degraded (body sherd from bag JN486). Hadrianic to late 2nd century.

JNF205.5 Miniature jar (JN486). Illustrated. Cam 278 miniature jar, Fabric KX. Consisting of two large sherds. Hadrianic to late 2nd century.

JNF205.6 Wooden box with copper-alloy and iron fittings. The burial contained an unburnt wooden box, but, as much of it had been removed when JNF216 was cut, no reconstruction has been attempted. It had iron loop-hinges, of which only one survives, plates of iron sheet reinforcing the corners, and a copper-alloy escutcheon plate for the key-hole. Like many boxes used for clothes, jewellery or toilet equipment, it was about 300 mm wide, but no other dimensions can be positively established.
(JN385), small find no. 330. Illustrated. Rectangular copper-alloy escutcheon plate from a key-hole, with a nail-hole in each corner but only staining from the iron nails. The cut-out for the key is more or less rectangular but is damaged in places. Length 50 mm, width 43 mm.
(JN615g), small find no. 332. Iron loop-hinge, articulated as if still *in situ* on a box, with two clenched nails in each arm. Looped arm width about 28 mm, length 93 mm; eyed arm width 24 mm, length 81 mm.
(JN615c), small find no. 332. Iron corner binding in many pieces. The largest fragment (88 by 55 mm) is broken at the corner and has two nails set halfway along its length and next to each other. One nail (length 25 mm) and five shank fragments are separate to the binding but included with this number.
(JN615f), small find no. 332. i) Two iron corner binding fragments, each broken at the corner, but not fitting. One (58 by 56 mm) has one nail hole, the other (58 by 87 mm) has two nails still in place. ii) Iron nail, incomplete, with mineralised wood on the shank; length 27 mm.
(JN412), small find no. 331. Four iron corner binding fragments from the wooden box, the largest is 65 by 51 mm and has two nail holes set 21 mm apart, centre to centre. The others are 36 by 38 mm; 17 by 14 mm; 10 by 10 mm.
(JN615), small find no. 332. Iron nails: a) two shank fragments, lengths 8 and 2 mm; b) shank fragment, length 23 mm; d) complete, length 25 mm; e) complete, tip clenched, length 30 mm.

JNF208: inhumation burial

Description: Inhumation burial JNF208 was located within a grave measuring 1.70m by 0.60m, 0.34m deep and aligned north-west to south-east.

Inhumated human bone: No bone had survived.
Date: Early 2nd century + (must be later than inhumation burial JNF148 and pyre site/*bustum* JNF204, which are dated from the early 2nd century +).

JNF209: pot scatter
Description: A scatter of pottery was recorded on the surface of inhumation burial JNF218. It is possible that this pottery was disturbed from a burial feature.
Date: Early 2nd to mid/late 3rd century + (must be later than inhumation burial JNF218, which is dated from the early 2nd to the mid/late 3rd century).

Pottery sherds (JN419). Fifteen sherds of Fabric GX from 2-3 different pots (Roman).

JNF212: inhumation burial
Description: Inhumation burial JNF212 was located within a grave aligned north-west to south-east. Most of the grave had been cut away by a modern service trench, but the surviving feature measured 0.48m by 0.48m and 0.21m deep.
Inhumated human bone: No bone had survived.
Date: Roman.

JNF213: burial pit containing pyre debris
Description: Burial pit JNF213 was an oval feature, 0.77m by 0.49m and 0.30m deep, containing pyre debris. It contained a very small amount of cremated bone with a concentration of charcoal and burning scattered throughout.
Cremated human bone: A total of 6g of cremated bone was recorded from a possible adult (over 20 years) of indeterminate sex.
Burial goods: Pottery sherds.
Date: Roman.

Pottery sherds (JN452, JN452). Three sherds of Fabric DJ and two sherds of Fabric GX.

JNF214: burial pit containing pyre debris
Description: Burial pit JNF214 was an oval feature, 0.54m by 0.34m and 0.19m deep, containing pyre debris. It contained a very small amount of cremated bone and a concentration of charcoal and burning scattered throughout.
Cremated human bone: A total of 5g of cremated bone was recorded from a possible adult (over 20 years) of indeterminate sex.
Burial goods: Several pottery sherds (some burnt) (JNF214.1) and some hobnails (.2).
Date: Roman.

JNF214.1 Pottery sherds (JN459). Thirteen sherds of Fabric DJ, probably from one pot, some affected by heat and scorched. One sherd of Fabric GX, possibly scorched.

JNF214.2 Iron hobnails (JN1142), small find no. 465.

JNF215: burial pit containing pyre debris
Description: Burial pit JNF215 was an oval feature, 0.42m by 0.28m and 0.09m deep, containing pyre debris. Part of the burial pit had been cut away by inhumation burial JNF119. The burial pit contained no cremated bone but did include a concentration of charcoal and burning scattered throughout
Date: Mid 1st to the mid 2nd century + (must be earlier than JNF119, which is dated from the mid 1st to mid 2nd century +).

JNF216: inhumation burial
Description: Inhumation burial JNF216 was located within a grave aligned south-west to north-east with the head buried to the south-west. The north-west edge of the grave had

been slightly cut away by inhumation burial JNF432, but the surviving feature was near intact and measured 1.76m by 0.96m and 0.59m deep.
Inhumated human bone: Less than 25% of the skeleton (90g) had survived within the grave, consisting of parts of the skull and some teeth crowns from a young adult (20-35 years) of indeterminate sex.
Burial goods: Most of a beaker (JNF216.1) was identified in the grave.
Residual finds: A copper-alloy lock plate, an iron fitting and four miniature jars were identified as residual finds which had been displaced from earlier unurned cremation or boxed cremation burial JNF205. Several pottery sherds and some iron nails were also identified as residual.
Date: Early/mid to the mid/late 3rd century.

JNF216.1 Beaker (JN486, JN552). Illustrated. Cam 408-410 beaker, Fabric CZ. Most of the beaker present in two main sherds. Second quarter of 3rd century to mid/late 3rd century.

JNF217: urned cremation burial
Description: Burial pit JNF217 was a round feature, 0.36m in diameter and 0.25m deep, containing an urned cremation burial.
Cremated human bone: A total of 915g of cremated bone was recorded from a middle adult (35-50 years) of indeterminate sex. Evidence of Schmorl's nodes (spinal disease) was identified on the bone.
Burial goods: A jar (JNF217.1) had been used as a cremation urn and a single bone from a neonatal sheep/goat was also identified within the cremation urn. It is unlikely that this bone would have represented 'food for the afterlife' and it is uncertain if it was a deliberate or accidental inclusion in the urn.
Date: Early/mid to the mid/late 3rd century + (the jar is dated from the early to mid 2nd century, however, the burial must be later than inhumation burial JNF216, which is dated from the early/mid to the mid/late 3rd century. This would suggest that the jar was used as a cremation urn approximately 100 years after it was made).

JNF217.1 Jar used as a cremation urn (JN383). Illustrated. Cam 278 jar, rounded with slightly everted rim, pale firing blemish up one side, possibly a kiln second, Fabric KX. Whole pot. Mid-late 2nd century.

Animal bone (1115). One neonatal (less than a month old at death) sheep/goat talus was recovered from the human remains in this context.

JNF218: double inhumation burial
Description: Inhumation burial JNF218 was a dual burial located within a grave measuring 1.88m by 0.90m, 0.96m deep and aligned north-east to south-west.
Inhumated human bone: Less than 25% of one of the skeletons (20g) had survived within the grave, consisting of parts of the skull. This burial was of a young adult (20-35 years) of indeterminate sex and it is uncertain which coffin this bone came from.
Timber coffins: A plan of the iron nails (JNF218.6) show that the grave contained two coffins. Coffin A measured approximately 1.10m by 0.34m and coffin B 1.04m by 0.36m.
Burial goods: Coffin A contained most of a beaker (.5) and coffin B contained two miniature dishes/bowls (.1 – .2), a miniature flask/bottle (.3) and a cup (.4).
Date: Early 2nd to the mid/late 3rd century.

JNF218.1 Miniature dish/bowl (JN389). Illustrated. Cam 40B miniature dish/bowl, chamfered, plain, Fabric KX. Whole. This pot fits snugly (nests) inside the slightly larger GB bowl JNF218.2. Trajanic/Hadrianic to thrid quarter of the 3rd century.

JNF218.2 Miniature dish/bowl (JN390). Illustrated. Cam 40B miniature dish/bowl, chamfered, decorated with wavy line, Fabric GB. Whole. Trajanic/Hadrianic to thrid quarter of the 3rd century.

JNF218.3 Miniature flask/bottle (JN391). Illustrated. Miniature flask or bottle, Fabric DJ. Whole although upper neck/rim is missing.

JNF218.4 Cup (JN410). Illustrated. Dr.33 cup, Fabric BA(EG). Complete but in sherds, much of surface coating degraded and missing. 2nd to early 3rd century.

JNF218.5 Beaker (JN411). Illustrated. Beaker, Fabric CB. Partial pot in joining sherds, including the upper body and rim. Early 2nd to mid 3rd century.

JNF218.6 Iron coffin nails (1159).

JNF221: inhumation burial

Description: Inhumation burial JNF221 was located within a grave probably aligned north-east to south-west. Most of the grave had been cut away by two modern service trenches, but the surviving feature measured 0.60m by 0.86m and 0.84m deep.
Inhumated human bone: No bone had survived.
Burial goods: A broken flagon (JNF221.1).
Date: Mid 1st to mid/late 1st century (Claudio-Neronian).

JNF221.1 Flagon (JN467). Illustrated. Cam 154/155 flagon, Fabric DJ. Probably near complete although only one fragment from the base of the pot is present. Claudio-Neronian.

JNF222: unurned cremation burial

Description: Burial pit JNF222 contained a disturbed unurned cremation burial. The burial pit had been disturbed by an adjacent modern service trench and was scattered beyond its original cut. Finds were recorded over an area 1.45m by 0.45m in extent and within a 0.16m deep depression or irregular cut.
Cremated human bone: A total of 23g of cremated bone was recorded from possible adult (over 20 years) of indeterminate sex.
Burial goods: The scattered finds included remains of a beaker (JNF222.1), an iron collar (.2), and some glass (.3), hobnails (.4) and nails (.5). All of the iron objects from this feature appear to be pyre debris.
Residual finds: Six grammes of inhumated bone.
Date: Late 2nd to the mid 3rd century.

JNF222.1 Beaker (JN516). Illustrated. Cam 406 folded beaker with rouletted decoration, Fabric GX. Probably a complete pot in sherds. Late 2nd to mid 3rd century.

JNF222.2 Iron collar (JN382), small find no. 357. Iron collar, broken on one side and originally either annular or penannular. Diameter 38 mm, height 17.5 mm.

JNF222.3 Glass (JN518). Unguent bottle, cylindrical neck fragment. Blue/green. Weight 0.7g. Insufficient of (JN518) is present to be able to identify the type of unguent bottle it came from. It does not show any evidence of burning though the glass from JNF153 makes it clear that this could be localised and so an origin as a pyre good cannot be ruled out.

JNF222.4 Iron hobnails (JN1310), small find no. 491.

JNF222.5 Iron nails (JN1310): b) complete, length 38 mm; c) complete, length 32 mm; d) shank fragment (length) 32 mm; e) incomplete, length 26 mm; f) incomplete, length 14 mm; i) incomplete, length 18 mm; j) incomplete, length 44 mm; n) incomplete, length 45 mm; r) two complete nails corroded together at an acute angle, lengths 63 and 79 mm; s) incomplete, length 20 mm; t) shank fragment, length (bent) 78 mm; u) complete, length 65 mm; v) complete, length 37 mm; w) incomplete, length 39 mm; x) complete, length (bent) 35 mm; y) incomplete, length 24 mm; z) shank fragment, length 37 mm; aa) incomplete, length 43 mm; ab) shank fragment, length (bent) 23 mm; ac) complete, length 68 mm; ad) incomplete, length 38 mm; ae) incomplete, length 44 mm; af) complete, length (bent) 51 mm; ah) shank fragment, length 32 mm; ai) complete, length 80 mm; ag) complete, length 83 mm; aj) incomplete, length 55 mm; ak) incomplete, length 50 mm.

JNF224: inhumation burial

Description: Inhumation burial JNF224 was located within a grave measuring 2.22m by 0.70m, 0.26m deep and aligned south-east to north-west with the head buried at the south-eastern end. The grave had been slightly truncated by a modern service trench and urned cremation burial JNF145.
Inhumated human bone: Less than 25% of the skeleton (224g) had survived within the grave, consisting of parts of the skull and limbs from an adult (over 20 years) who was possibly male.
Timber coffin: A plan of the iron nails (JNF224.1) shows that the body had been buried within a coffin measuring 1.85m by 0.49m.
Residual finds: Pottery sherds.

Date: 1st to 2nd/3rd century (must be earlier than urned cremation burial JNF145 and cremation burial JNF226, which are dated from the 1st to the 2nd/3rd centuries).

JNF224.1 Iron coffin nails (JN1168).

JNF225: inhumation burial

Description: Inhumation burial JNF225 was located within a grave aligned north-east to south-west. Most of the grave had been cut away by inhumation burial JNF241, but the surviving corner measured 1.00m by 0.50m.
Inhumated human bone: No bone had survived.
Residual finds: A single iron nail.
Date: Mid 1st to early 3rd century (must be earlier than inhumation burial JNF241, which is dated from the early 2nd to the early 3rd century).

JNF226: unurned cremation burial

Description: Burial pit JNF226 was an oval feature containing a disturbed unurned cremation burial. Half of the burial pit had been cut away by inhumation burial JNF224, but the excavated feature measured 0.51m by 0.30m and 0.26m deep.
Cremated human bone: A total of 162g of cremated bone was recorded from a young adult (20-35 years) of indeterminate sex.
Burial goods: A beaker (JNF226.1) and a single lamp fragment (.2). The lamp fragment is probably pyre debris although it is not noticeably burnt
Residual finds: Two pottery sherds.
Date: Second half of 2nd century to the mid 3rd century.

JNF226.1 Beaker (JN630). Illustrated. Cam 392 beaker, Fabric CZ. Much of the beaker present although part of one side from the base to rim missing. Second half of 2nd century to mid 3rd century.

JNF226.2 Picture lamp fragment (JN629), small find no. 383. Two fitting fragments from a closed lamp. There are two concentric mouldings on the shoulder and the centre rises in an ogee curve towards the centre. The fabric is buff and has traces of a dark red-brown slip. Diameter 53 mm. The complete form may be circular.

JNF228/JNF229: inhumation burial

Description: Inhumation burial JNF228/JNF229 was located within a grave measuring 2.10m by 0.56m, 0.65m deep and aligned south-east to north-west with the head at the south-eastern end.
Inhumated human bone: Less than 25% of the skeleton (720g) had survived within the grave, consisting of parts of the skull, vertebrae, pelvis and lower limbs from a young adult (20-35 years) who was possibly male.
Timber coffin: A plan of the iron nails (JNF228.3) show that the body had been buried within a coffin which measured 2.00m by 0.44m.
Burial goods: A jar (.1) and a bowl (.2) were identified within the grave, although it is uncertain if they were buried inside the coffin or on top of it.
Residual finds: Pottery sherds.
Date: Mid 1st to the early 2nd century.
Post holes: Four post holes (JNF303, JNF304, JNF306, JNF307 (on average 0.26m in diameter and 0.27m deep) were recorded underneath the four corners of the coffin and although they pre-date the burial they must be associated with it in some way. It is uncertain what these post holes represent although it is possible that they were used as lever or pulley holes to manoeuvre the coffin.

JNF228.1 Bowl (JN598). Illustrated. Cam 243-244/246 bowl, Fabric GX. Whole pot but a small section of rim has been removed (old break) and there is also a crack down one side of the pot. 1st to early 2nd century.

JNF228.2 Jar (JN471). Illustrated. Cam 266 jar, Fabric GX. Complete pot in sherds. 1st-early 2nd century.

JNF228.3 Iron coffin nails (JN1313).

JNF230: inhumation burial

Description: Inhumation burial JNF230 was located within a grave aligned north-east to south-west. Part of the grave had been cut away at one end by urned cremation burial JNF127, but the surviving feature was near complete and measured 0.82m by 0.56m and 1.00m deep. The size of the grave suggests a juvenile burial.
Inhumated human bone: No bone had survived.
Date: Mid 1st to early 2nd century (must be earlier than urned cremation burial JNF127 and later than inhumation burial JNF364, both of which date from the 1st to the early 2nd century).

JNF235: inhumation burial

Description: Inhumation burial JNF235 was located within a grave aligned north-east to south-west. Part of the feature had been cut away by a modern building foundation and by pit JNF136 but the excavated feature measured 0.80m by 0.78m and 0.49m deep.
Inhumated human bone: No bone had survived.
Burial goods: A flask (JNF235.1).
Date: Mid 1st to the mid/late 2nd century.

JNF235.1 Flask (JN450). Illustrated. Cam 233-235 flask, Fabric GX(RCW). Whole pot, surface flaking on one side and internally, fabric surface laminating. 1st to mid/late 2nd century.

JNF236: burial pit containing pyre debris

Description: Inhumation burial JNF236 was an oval feature, 0.66m by 0.33m and 0.42m deep, containing pyre debris. It contained a small amount of cremated bone and a concentration of charcoal and burning scattered throughout.
Cremated human bone: A total of 120g of cremated bone was recorded from a middle adult (35-50 years) of indeterminate sex.
Burial goods: A miniature jar (JNF236.1), the remains of a bowl (burnt) (.2), several other pottery sherds (many burnt) and a quantity of hobnails and iron nails.
Date: Early 2nd to the mid 3rd century.

JNF236.1 Miniature jar (JN463). Illustrated. Cam 278 miniature jar, Fabric GB. Body of pot consists of one main piece including the base with sherds making up most of one side, some rim sherds and part of the rim into the shoulder is missing. Pot is oddly discoloured to dirt brown below burnished shoulder. Hadrianic to late 2nd century.

JNF236.2 Bowl (?). Illustrated. Bowl, Fabric UR (LTC). Very broken-up, burnt and some sherds blistered. The main base sherd has a central potters mark stamp. The stamp consists of five dots with an angled stroke between the first and second dots at one end (illustrated with vessel).

Pottery sherds (JN465). Thirteen sherds of Fabric DJ from three or more pots, some sherds are clearly burnt; eleven sherds of Fabric GX from at least four pots including a beaker, two or three sherds are burnt and discoloured a brownish red; and 13 sherds of Fabric UR(LTC) including two sherds from a second dish or bowl (not part of F236.2) with a low footring which are burnt and blistered, and sherds from a carinated cup or beaker which includes base, body and rim sherds, most if not all heated or burnt.

Iron hobnails (JN1140), small find no. 483.

Iron nails (JN1140): i) complete, length 48mm; p) complete, clenched, length 22 mm; r) shank fragment, length 42 mm; w) complete, length 39 mm; ad) incomplete, length 26 mm; ae) incomplete, length 30 mm; ah) complete, length 43 mm; ai) complete, length 39 mm; aq) complete, length 41 mm;) ax) shank fragment, length 42 mm; ay) incomplete, length 32 mm.

JNF238: inhumation burial

Description: Inhumation burial JNF238 was located within a grave measuring 2.00m by 0.90m, 0.74m deep and aligned north-west to south-east with the head buried at the north-western end.
Inhumated human bone: No bone had survived, but the degraded human skull had left a stain within the bottom of the feature.
Burial goods: Two hobnail shoes (JNF238.1) had been placed in the south-east end of the feature.
Date: Early 2nd century + (must be later than pyre site/*bustum* JNF204, which is dated to the early 2nd century +).

JNF238.1 Iron hobnails (JN573), small find no. 498. A pair of nailed shoes or sandals lay near the foot of the grave and were probably worn at the time of burial. The hobnails appear to have only lain around the margins of the soles.

JNF239: urned cremation burial

Description: Burial pit JNF239 contained a disturbed urned cremation burial. Part of the burial pit had been cut away by a modern service trench and the burial was extremely scattered and not within a well-defined cut. The finds recorded from the feature were scattered over an area measuring 0.63m by 0.53m and 0.04m deep.
Cremated human bone: A total of 14g of cremated bone was recorded from a possible adult (over 20 years) of indeterminate sex.
Burial goods: A jar (JNF239.1) had been used as a cremation urn.
Residual finds: A single pottery sherd.
Date: Roman.

JNF239.1 Jar used as a cremation urn (JN618). Jar, Fabric GX. Sherds from most of base and part of one side present.

JNF241: inhumation burial

Description: Inhumation burial JNF241 was located within a grave measuring 2.78m by 1.00m, 1.08m deep and aligned north-east to south-west with the head buried at the north-eastern end. One edge of the grave had been partially cut away by inhumation burial JNF464.
Inhumated human bone: Less than 25% of the skeleton (66g) had survived within the grave, consisting of parts of the skull from an adult (over 20 years) who was possibly female.
Timber coffin: Wood staining and a plan of the iron nails (JNF241.3) show that the body had been buried within a coffin which measured 1.80m by 0.40m.
Burial goods: Two hobnail shoes (.2) were identified within the south-western end of the coffin and a flagon (.1) was recorded in the north-east end (although it is uncertain if this was buried within the coffin or on top of it). A second area of wood staining and a single iron nail was also recorded next to the coffin and may represent the remains of a wooden box, measuring 0.60m long and 0.40m wide. Three small fragments of a copper-alloy mirror were found approximately 0.25m above the bottom of the grave between the coffin and the box. They were initially assumed to be residual although they could possibly be associated with the ?box.
Residual finds: A very small quantity of cremated bone, a copper-alloy mirror fragment, three pieces of burnt flint, a piece of worked flint and a piece of imbrex.
Date: Hadrianic to the early 3rd century.

JNF241.1 Flagon (JN555). Illustrated. Cam 156 flagon with 4-5 neck rings (the top ring being large and expanded) and a three rib handle, Fabric DJ. Complete. Hadrianic to early 3rd century.

JNF241.2 Iron hobnails (JN553) and (JN554), small find no. 483. A pair of nailed shoes or sandals was found inside the foot end of the coffin; they were probably worn at the time of burial. The hobnails lay around the margins the soles with others in the centre, but not in any discernible pattern.

JNF241.3 Iron coffin nails (JN555) and (JN1296).

JNF242: burial-related feature

Description: Burial pit JNF242 was a sub-circular feature, 0.40m in diameter and 0.06m deep, containing an upright, whole pot and lid.
Cremated human bone: No bone had survived.
Burial goods: A jar (JNF242.1) lay upright and part of a hooked lid (.2) was recorded inverted and *in situ* over it. The jar presumably held food or drink and was an offering of some kind. It was possibly associated with inhumation burial JNF425 or perhaps JNF296.
Date: Mid?-late 3rd to the 4th century.

JNF242.1 Jar (JN658). Illustrated. Jar with rusticated decoration around shoulder, Fabric GX. Near whole pot, though about half of neck and rim missing on one side. This jar is not common at Colchester and there are only two examples illustrated in *CAR* **10** GX numbers 536 and 537. The vessel appears to be of a type referred to in Norfolk as Icenian Rusticated Ware, and are known from 3rd century contexts at Brancaster, on the north Norfolk coast (Excavations at Brancaster 1974 & 1977, EAA 23, 1985).

JNF242.2 Hooked lid (JN658). Illustrated. Hooked lid, *CAR* **10** CH type 91, knob and just over two thirds of rim. Fabric CH. Mid?-Late 3rd to 4th century.

JNF243: urned cremation burial

Description: Burial pit JNF243 was an oval feature, 0.37m by 0.31m and 0.13m deep, containing a disturbed urned cremation burial.
Cremated human bone: A total of 6g of cremated bone was recorded from a possible adult (over 20 years) of indeterminate sex.
Burial goods: A jar (JNF243.1) had been used as a cremation urn.
Surface finds: A single piece of animal bone.
Date: Early/mid 2nd to the late 3rd/early 4th century?.

JNF243.1 Jar used as a cremation urn (JN461, JN510). Illustrated. Jar, Fabric GX. Rim is similar to Cam 268 and it may just be a large version of this form. Most of lower part of pot intact (JN461), upper part in sherds (JN510). Cam 268 is dated Early/mid 2nd to 3rd/early 4th century.

JNF244: urned cremation burial

Description: Burial pit JNF244 was an oval feature, 0.60m by 0.44m and 0.22m deep, containing an urned cremation burial.
Cremated human bone: A total of 1146g of cremated bone was recorded from a middle adult (35-50 years) who was possibly male. Evidence of enthesophytes (a degenerative process) was identified on the bone.
Burial goods: A jar (JNF244.1) had been used as a cremation urn.
Residual finds: A single iron nail and two pottery sherds.
Date: Late 2nd to the mid 3rd century.

JNF244.1 Jar used as a cremation urn (JN462). Illustrated. Cam 278 jar, with lattice decoration, Fabric KX. Most of pot present in sherds, surface degraded. Late 2nd to mid 3rd century.

JNF245: urned cremation burial

Description: Burial pit JNF245 was an oval feature, 0.35m by 0.30 and 0.25m deep, containing an urned cremation burial.
Cremated human bone: A total of 793g of cremated bone was recorded from a male young adult (20-35 years).
Burial goods: A jar or flagon (JNF245.1) had been used as a cremation urn and several fragments of a large storage jar (.2) had been placed over the urn and used as a lid. The remains of a third vessel (.3) were also identified.
Residual finds: Animal bone.
Date: Probably 1st to the 2nd century.

JNF245.1 Flagon or jar (JN511). Illustrated. Ja r or two handled flagon with wide mouth. Rim slightly uneven/distorted, and one rim sherd is detached (recent damage). Surface of the vessel (colour and feel) appears similar to Fabric FJ (Verulamium region white ware) but the Fabric itself is not so sandy. Classified as Fabric DJ. Whole pot. Probably 1st to 2nd century.

JNF245.2 Large sherd used as a lid (JN512). Illustrated. Probably part of large storage jar in grey ware, Fabric GX.

JNF245.3 Pot (JN585). Many small body sherds all from the same pot, no rim or base present, Fabric GX.

JNF246: inhumation burial

Description: Inhumation burial JNF246 was located within a grave aligned north-east to south-west with the head buried in the north-eastern end. Part of the south-western end of the grave had been cut away by inhumation burial JNF433 and the top half of the grave had been cut away by inhumation burial JNF216 (which was located directly on top of JNF246). The surviving grave measured 0.82m by 0.45m and 0.75m deep.
Inhumated human bone: No bone was identified, but the degraded skull had left a stain in the bottom of the feature.
Timber coffin: A plan of the iron nails (JNF246.1) show that the body had been buried within a coffin which measured at least 0.80m by 0.40m.

Date: Mid 1st to the 3rd century (must be earlier than inhumation burials JNF216 and JNF433, which are dated from the 3rd century).

JNF246.1 Iron coffin nails (JN1151).

JNF247: inhumation burial

Description: Inhumation burial JNF247 was located within a grave probably aligned east to west, with the head buried at the eastern end. The majority of the feature was located under a modern service trench and consequently only the far north-east corner of the grave was excavated. The excavated section measured approximately 1.00m by 0.36m.
Inhumated human bone: No bone had survived, but the degraded skull had left a stain in the bottom of the feature.
Timber coffin: The presence of several coffin nails (JNF247.3) would suggest that the body had been buried within a coffin.
Burial goods: A flagon (.1) and part of a miniature jar (.2).
Description: Pottery sherds.
Date: 3rd century + (although the pottery is dated from the Hadrianic to late 2nd century the feature must be later than inhumation burial JNF432, which is dated from the early/mid to the mid/late 3rd century +).

JNF247.1 Flagon (JN510). Illustrated. Cam 155, whole cup mouthed flagon, 3-4 rings and a two rib handle, Fabric DJ. Claudio-Neronian to early Antonine.

JNF247.2 Miniature jar (JN161). Cam 278 miniature jar, 6 sherds representing a partial pot, Fabric KX. Hadrianic to late 2nd century.

JNF247.3 Iron coffin nails (JN616, JN1158).

JNF248: pyre site

Description: Burial pit JNF248 was a large grave-shaped feature, 1.40m by 0.71m and 0.15m deep, containing the remains of a pyre. The pyre site had been cut into roadside ditch JNF10 (sx4) and had scorched sand around the edges of the feature suggesting *in situ* burning. The pit also contained concentrations of charcoal and burning scattered throughout along with a very small amount of human bone. The human bone had both burnt and unburnt elements which may indicate that the pyre did not burn too successfully (i.e. at too low a temperature, with too little fuel).
Inhumated (unburnt) and cremated human bone: A total of 33g of inhumated (unburnt) bone and 0.9g of probably cremated human bone was recorded from an adult (over 20 years) of indeterminate sex.
Burial goods: A quantity of pottery sherds (some burnt) (JNF248.1), an iron sheet fragment (.2), three iron objects (.3 – .5), and some iron nails (.6) and hobnails (.7). The miscellanous iron items from this feature are not a coherent group. There are some hobnails; sheet, strip and strap-hinge fragments that may point to a box having been burnt in the pyre; and a chain fragment that may also have come from a burnt burial deposit. Alternatively, some or all of the latter may have been fittings associated with timber used as pyre fuel.
Date: Early to late 2nd century.

JNF248.1 Pottery sherds. Eighty-six sherds of Fabric GX including sherds from a Cam 266 jar (dated 1st to early 2nd century) and a Cam 268 jar (dated early/mid 2nd to late 3rd/early 4th century) (JN533 JN534 JN531 JN535), some sherds are burnt. Also 2 sherds of Fabric DJ (JN531, JN533) (dated 1st to 2nd/ 3rd century) and 12 sherds of Fabric GA including a Cam 279A/B (JN534, JN535) (dated early 2nd to early 3rd century);

JNF248.2 Iron sheet fragment (JN524), small find no. 363. Iron sheet fragment, with no holes for attachment. 80 by 58 mm.

JNF248.3 Iron chain (JN525), small find no. 367. Length of iron chain made up of alternate oval and figure-of-eight-shaped loops. Oval loops 41 mm, figure-of-eight-shaped loops 37 mm. Minimum length of chain (crumpled) 180 mm.

JNF248.4 Iron strap-hinge (JN526), small find no. 366. Iron strap-hinge fragment, with most of the arm with an eyed terminal surviving (length 70 mm, width 20 mm), but only a small part of the other arm (length 21 mm). An nail for attachment survives in the longer arm.

JNF248.5 Iron strip (JN527), small find no. 364. Length 117 mm, width 7 mm.

JNF248.6 Iron nails (JN1164): k) complete, length 47 mm; l) incomplete, with a shank fragment from another lying across it at right angles just below the head, lengths 43 and 19 mm; m) complete, clenched tip, length 80 mm; n) complete, length 63 mm; o) shank fragment with another lying across it at right angles near the tip, lengths 69 and 26 mm; q) complete, bent, length 66 mm; r) complete, clenched tip, length 82 mm; s) shank fragment, length 45 mm; tii) incomplete, length 35 mm; u) shank fragment, length 47 mm; v) complete, clenched, length (bent) 37 mm.

JNF248.7 Iron hobnails (JN1164): p) two, incomplete, length of longest 10 mm; ti) three corroded onto a strip of mineral-replaced leather; length of hobnails 12 mm, strip 83 by 7 mm.

JNF250: urned cremation burial

Description: Burial pit JNF250 was an oval feature, 0.45m by 0.43m and 0.33m deep, containing an urned cremation burial. Part of the burial pit had been cut away by burial pit containing pyre debris JNF283.
Cremated human bone: A total of 376g of cremated bone was recorded from an adult (over 20 years) of indeterminate sex. Evidence of arthritis in the spine (spinal disease) was identified on the bone.
Burial goods: A jar (JNF250.1) had been used as a cremation urn.
Residual finds: Pottery sherds, a piece of imbrex, and some burnt and worked flint.
Date: Hadrianic to late 2nd century.

JNF250.1 Jar used as a cremation urn (JN1160). Illustrated. Cam 278 jar, burnish lattice decorated, Fabric GB. Almost complete pot (approximately 80% present) in sherds but base and lower body are intact. Hadrianic to late 2nd century.

JNF252: burial pit containing pyre debris

Description: Burial pit JNF252 was an oval feature, 0.86m by 0.77m and 0.47m deep containing pyre debris. It contained a concentration of cremated bone along with charcoal and burning scattered throughout.
Cremated human bone: A total of 475g of cremated bone was recorded from a middle adult (35-50 years) of indeterminate sex. Evidence of arthritis in the spine (spinal disease) and periostitis (non-specific infection) was identified on the bone.
Burial goods: Scattered throughout the pit were four tazzas (sherds mostly burnt) (JNF252.1 – .4), two flagons (sherds mostly burnt) (.5 – .6), several other burnt pottery sherds (.7), the remains of four lamps (two picture lamps (.8 – .9), a factory lamp (.10) and a double spouted factory lamp (.11)), six copper-alloy objects (.12 – .17), eight fragments of glass and melted glass (.19), some hobnails (.20) and iron nails (.18 and .21), and the remains of a heavily charred fruit, probably a date (.22). Records of dates are exceedingly rare within Roman contexts, and finds are almost certainly indicative of degrees of both affluence and influence, as the fruits were exotic imports from the Mediterranean area.
The five lamps were all damaged to some extent, but one is represented by only four sherds (.23), two are missing considerable parts of their bases and walls (.8-.9), one lacks its discus but may have been used in that state (.11), and one is complete but damaged (.10). The two latter appear to be secondary deposits, the others are pyre debris. A late Neronian or early Flavian date is suggested for this feature by the presence of factory lamps, which do not occur on town centre sites until after the Boudican revolt of AD 60/1.
The pit also contained hobnails from nailed footwear, iron nails, and several copper-alloy studs, all alike. The studs probably come from a box, and some of the nails may be part of the same object. The absence of more elaborate fittings may point to the box have been more simply decorated that those from CF163 and JNF61 (*cf*. Riha 2001, Abb. 5), or may simply be the result of random collection from the pyre.
Date: Claudio-Neronian?

JNF252.1-JNF252.4 Four tazzas (JN530). Illustrated. Most parts of four tazzas, Cam 198, in sherds and very broken up, some sherds discoloured and may have been burnt, two small sherds also have glass melted onto their surface. Fabric DJ. Claudian to late 2nd or early 3rd century.

JNF252.5 Flagon (JN530). Illustrated. Cam 154/155 flagon in sherds, very broken up, some sherds discoloured and may have been burnt, Fabric DJ. Claudio-Neronian.

JNF252.6 Flagon (JN530). Most parts of a second Cam 154/155 flagon in sherds, very broken up, some sherds discoloured and may have been burnt, Fabric DJ. Claudio-Neronian.

JNF252.7 Pottery sherds (JN530). Seventeen sherds of Fabric GX from 3-4 pots, including a Cam 243-244/246 bowl (dated 1st to early 2nd century), all sherds appear to have been burnt.

JNF252.8. Pottery picture lamp (JN549, JN580, JN665), small find nos. 381, 378, 379. Illustrated. Fragmentary Central Gaulish picture lamp of Loeschcke's Type IV (1919, Abb. 5; Eckardt 2002, 182, 185), lacking the base and a large part of the wall. The fabric is buff with a dark reddish-brown slip that has worn off in places. The surviving wall sherds show varying degrees of burning on the internal surface. The discus design is that of a fallen gladiator. He sits on the ground, supported by his right arm, his shield stands upright in front of him. Length 97 mm, diameter 67 mm. Four other example of this figure type are known, three from London and one from Colchester (Bailey 1988, 161, Q 1530, fig. 67, pl. 3; Eckardt 2002, 376). The Colchester example forms part of grave group 88/19 in the Joslin Collection, but the unreliability of these groups is shown by the inclusion of this lamp in a group of late Roman grave goods (May 1930, 182, 277-8, pl. 72, 22 and pl. 86). One of the London lamps came from a late 1st century or 2nd century *bustum* that contained eight lamps in total and eight tazze, all secondary deposits (Mackinder 2000, 33-7, esp. <P1>).

JNF252.9 Pottery factory lamp (JN580, JN665), small find no. 378, 379. Illustrated. The discus and a small part of the wall/base of a Loeschcke Type IX factory lamp. There are two lugs on the shoulder and only a slight groove indicating the channel on the nozzle. The fabric is soft and buff coloured. The discus and nozzle are darkened by scorching, but the wall and base sherds are only discoloured internally and on the undersurface. Length 83 mm, diameter 51 mm.

JNF252.10 Pottery picture lamp (JN666), small find no. 380. Illustrated. Complete picture lamp of Loeschcke Type IV, with damaged nozzle and discus. The central design on the latter is a theatrical mask, but it was never very clear and now spalling has made it indistinct. The fabric is buff and quite soft, with very little slip remaining on the surface. Length 80 mm, diameter 53 mm.

JNF252.11 Double-spouted pottery lamp (JN579), small find no. 382. Illustrated. A double-spouted Loeschcke Type IX factory lamp, with slight grooves on the nozzles to suggest the channels. There are two lugs on the shoulder. The discus is missing, but the breaks are neatly set around the perimeter, as if the lamp has been trimmed to this state. The perimeter of the base is marked by angled grooves. The fabric is soft and buff coloured, with no slip. There is some localised reduction on the shoulder and down onto the discus, possibly caused during firing. Length 83 mm, diameter 56 mm.

JNF252.12 Stud fragment (JN548), small find no. 306. As JNF252.18 (below).

JNF252.13 Stud fragment (JN1111), small find no. 307. As JNF252.18 (below).

JNF252.14 Stud fragment (JN1112), small find no. 308. As JNF252.18 (below).

JNF252.15 Stud fragment (JN1113), small find no. 309. Illustrated. Copper-alloy stud with damaged flat head and short shank; there is a marginal groove on the head. Diameter 14 mm.

JNF252.16 Stud fragment (JN1114), small find no. 310. As JNF252.18 (above).

JNF252.17 Stud fragment (JN1123), small find no. 353. As JNF252.18 (above).

JNF252.18 Iron nail (JN1326), small find no. Shank fragment, with a curved fragment of another corroded onto it. Lengths 27 and 14 mm.

JNF252.19 Glass (JN581), (JN582), (JN612) and (JN613). (JN582) Base fragment, blue/green, very shallowly concave base, lightly impressed pontil scar. Base diameter 35mm, pontil s*CAR* diameter c. 15mm, wall thickness 6mm. (JN613) Melted fragment, blue/green, incorporating fragments of burnt bone, 2.2g. (JN581) Five melted fragments, blue/green, 13.7g. (JN612) Melted blue/green fragment, 1g. Three of the items from this deposit of pyre debris were clearly derived from pyre goods (nos. (JN581), (JN612), (JN613)). The base fragment (JN582) shows no evidence of burning. It probably came from a flask. The only indication of date for this group (1st to 3rd century) is provided by the colour.

JNF252.20 Iron hobnails (JN1306), small find no. 488.

JNF252.21 Iron nails (JN1306): a) incomplete, length 25 mm; b) complete, clenched, length (bent) 20 mm; c) incomplete, length 27 mm; i) incomplete, length 22 mm; j) incomplete, length 38 mm; k) incomplete, length 18 mm; m) complete, with a small shank fragment corroded onto the head, lengths 42 and 12 mm; p) incomplete, length 19 mm; q) shank fragment, length 26 mm; r) incomplete, length 27 mm; t?) incomplete, length 35 mm; u) incomplete, length 21 mm; vi) complete, length (bent) 32 mm; vii) incomplete, length 25 mm; w) complete, length 39 mm; x) complete, length 30 mm (bent); z) shank fragment, length 23 mm; aa) incomplete, length 25 mm; ab) incomplete, length 32 mm.

JNF252.22 Carbonised Date (JN610).

JNF252.23 Pottery lamp fragments (JN530), small find no. 381. Four sherds (three fitting) from the wall/base of a factory lamp with angled grooves on the perimeter of the base, as on JNF252.11 below.

JNF253: urned cremation burial
Description: Burial pit JNF253 was an oval feature, 0.35m by 0.30m and 0.10m deep, containing a disturbed urned cremation burial.
Cremated human bone: A total of 189g of cremated bone was recorded from an adult (over 20 years) of indeterminate sex.
Burial goods: A jar (JNF253.1) had been used as a cremation urn.
Date: Mid 2nd to the late 3rd/early 4th century.

JNF253.1 Jar used as a cremation urn (JN559). Thirty sherds of a Cam 268 jar, Fabric GX. Early/mid 2nd to late 3rd/4th century.

JNF254: inhumation burial
Description: Inhumation burial JNF254 was located within a grave aligned north-east to south-west. Most of the grave was located outside of the excavation area, but the exposed area measured over 0.24m by 0.82m and was 0.39m deep.
Inhumated human bone: No bone had survived.
Residual finds: Pottery sherds.
Date: Mid 2nd to the 4th century (must be later than pit JNF251, which is dated from the mid 2nd to the 4th century).

JNF255: inhumation burial
Description: Inhumation burial JNF255 was located within a grave aligned north-west to south-east. Most of the grave had been cut away by a modern building foundation, but the surviving feature measured 0.22m by 0.90m and 0.77m deep.
Inhumated human bone: No bone had survived.
Residual finds: Pottery sherds.
Date: Mid 2nd century + (must be later than inhumation burial JNF137, which is dated from the mid 2nd century +).

JNF258: inhumation burial
Description: Inhumation burial JNF258 was located within a grave probably aligned north-east to south-west. Most of the grave had been cut away by inhumation burial JNF137, but the surviving feature measured 1.40m by 0.20m.
Inhumated human bone: No bone had survived.
Date: Mid 1st to the mid 2nd century + (must be earlier in date than inhumation burial JNF137 but later than inhumation burial JNF95, which are dated from the mid 2nd century + and the mid 1st to the mid 2nd century + respectively).

JNF259: inhumation burial
Description: Inhumation burial JNF259 was located within a grave aligned north to south. Most of the grave had been cut away by inhumation burials JNF95 and JNF258, but the surviving northern end measured approximately 0.50m by 0.80m and 0.85m deep.
Inhumated human bone: No bone had survived.
Date: Mid 1st to the mid 2nd century + (must be earlier in date than inhumation burial JNF95, which is dated from the mid 1st to the mid 2nd century +).

JNF260: urned cremation burial
Description: Burial pit JNF260 was a sub-circular feature, 0.37m in diameter and 0.21m deep, containing an urned cremation burial.
Cremated human bone: A total of 612g of cremated bone was recorded from a middle adult (35-50 years) of indeterminate sex.
Burial goods: A bowl (JNF260.1) had been used as a cremation urn. A single iron nail was identified within the urn.
Date: Mid 1st to the early 2nd century.

JNF260.1 Bowl (JN566). Illustrated. Cam 218 bowl, complete pot in sherds, Fabric GX. 1st to early 2nd century.

Iron nail (JN1351). Clenched iron nail. Length (bent) 39 mm.

JNF261: inhumation burial

Description: Inhumation burial JNF261 was located within a grave aligned north-west to south-east. The south-eastern end of the grave was located outside of the excavation area and part of the excavated section had been cut away by urned cremation burial JNF262, but the excavated feature measured 1.12m by 0.80m and 0.23m deep.
Inhumated human bone: No bone had survived.
Residual finds: Pottery sherds and a piece of burnt flint.
Date: Mid 1st to the 2nd century + (based on the date of the residual pottery sherds).

JNF262: urned cremation burial

Description: Burial pit JNF262 was a sub-circular feature, 0.41m in diameter and 0.29m deep, containing a disturbed urned cremation burial.
Cremated human bone: A total of 448g of cremated bone was recorded from a middle adult (35-50 years) of indeterminate sex.
Burial goods: A flask (JNF262.1) had been used as a cremation urn.
Date: Mid 2nd to late 3rd/early 4th century + (must be later than inhumation burial JNF361, which is dated from the mid 2nd to the late 3rd/early 4th century).

JNF262.1 Flask used as a cremation urn (JN565, JN567). Illustrated. Cam 231/232 flask, partial pot in sherds, Fabric GX. 1st to mid-late 2nd century.

JNF263: burial pit containing pyre debris

Description: Burial pit JNF263 was a sub-triangular shaped feature, 0.42m by 0.46m by 0.57m, and 0.20m deep, containing pyre debris. The burial pit contained a small amount of cremated bone along with a concentration of charcoal and burning scattered throughout.
Cremated human bone: A total of 37g of cremated bone was recorded from a possible adult (over 20 years) of indeterminate sex.
Burial goods: A single burnt pottery sherd was identified in the fill.
Date: Roman.

Pottery sherd (JN562). One sherd of Fabric GX, possibly burnt.

JNF264: Pot scatter

Description: A scatter of pottery (JNF264.1), consisting of the remains of a beaker, a large jar/beaker and a jar, was recorded in the corner of two modern service trenches. It is possible that this pottery was disturbed from a burial feature.

JNF264.1 Pottery sherds (JN624). Fifty sherds of Fabric GX including body sherds from a Cam 108 beaker (dated 1st to early 2nd century), the base of a jar or possibly large beaker, and sherds from a jar which have been burnt (Roman ?1st to 2nd century).

JNF265: inhumation burial

Description: Inhumation burial JNF265 was located within a grave measuring 1.10m by 0.43m, 0.38m deep and aligned north-west to south-east.
Inhumated human bone: No bone had survived.
Timber coffin: The presence of several coffin nails (JNF265.2) would suggest that the body had been buried within a coffin.
Burial goods: Small jar (JNF265.1).
Residual finds: A single pottery sherd.
Date: Mid 1st to the early 2nd century.
Possible Burial Marker: A post hole (JNF219: 0.16m in diameter and 0.12m deep) was located 0.1m from the grave and may have held a wooden post used as a burial marker.

JNF265.1 Jar (JN596, JN648). Illustrated. Jar form Cam 266, Fabric GX. Small slightly crudely fashioned jar with sandy fabric, possibly burnt or badly fired. There is a small (2 mm diameter) original small hole through the body on

one side possibly from a burnt out piece of temper. The vessel is possibly a kiln second. Almost complete pot in sherds. 1st to early 2nd century.

JNF265.2 Iron coffin nails (JN1351).

JNF266: burial pit containing pyre debris

Description: Burial pit JNF266 was an oval feature, 0.91m by 0.47m and 0.24m deep, containing pyre debris. It contained a small amount of cremated bone with a concentration of charcoal and burning scattered throughout.
Cremated Human Bone: A total of 1g of probably human cremated bone was recorded.
Date: Mid 1st to early 2nd century (must be earlier than inhumation burial JNF265, which is dated from the mid 1st to the early 2nd century).

JNF268: burial pit containing pyre debris

Description: Burial pit JNF268 was an oval feature, 0.63m by 0.50m and 0.37m deep, containing pyre debris. It contained a concentration of cremated bone, charcoal and burning scattered throughout.
Cremated human bone: A total of 257g of cremated human bone was recorded from an adult (over 20 years) of indeterminate sex.
Burial goods: Several pottery sherds (some burnt) (JNF268.1), three pieces of melted glass (.2) and a number of iron hobnails (.3) and nails (.4) were scattered throughout the fill.
Date: Mid 1st to the 2nd century, probably mid 1st.

JNF268.1 Pottery sherds (JN690). Seventeen sherds of Fabric GX from several pots but mostly from one jar, one or two of the other sherds may be burnt. Also three sherds of Fabric BA(SG) from one or two dishes or bowls; eight sherds of Fabric DJ, scorched; and one thick sherd of Fabric TZ (or possibly Fabric AA) (1st to 2nd? Century).

JNF268.2 Glass (JN692). Photo. Three melted fragments, blue/green. Two fragments probably from lower body area of tubular unguent bottle, largest of these retains opaque red interior surface, other fragments retain opaque red flecks incorporated into surface. 11.3g. Though unprepossessing the fragments from this deposit of pyre debris are amongst the most interesting finds from the cemetery. They come from a mid 1st century tubular unguent bottle (see JNF34) that has clearly been burnt on the pyre. On one a thin opaque red coating can be seen fused to the interior, giving the impression that it might have been the result of reaction with the contents of the bottle. Such an effect may have come about through the reduction of copper in the glass. If there was some carbon-rich material in the bottle, then prolonged heat would result in a red layer or patches on the surface of the glass. There are grounds for thinking that these unguent bottles contained oil for the bathing regime (Manning *et al* 1995, 174), and such a content could have produced the carbon-rich reducing conditions that might have led to the internal red layer. If this supposition is correct it would suggest that at least some of the contents must have remained in the bottle when it was placed on the pyre. Given how common these bottles are as pyre goods, it is curious such an effect has not been noted before. It may be that this was an especially hot pyre. Certainly of all the melted glass from this cemetery, this is the most intensely burnt piece. (I am most grateful to Professor Ian Freestone for discussing this piece with me and suggesting how the effect might have been produced HC).

JNF268.3 Iron hobnails (JN1301), small find no. 486.

JNF268.4 Iron nails (JN1301): a) shank fragment, length 23 mm; b) shank fragment, length 40 mm; x) incomplete, length 31 mm; aa) shank fragment, length 34 mm; af) shank fragment, length 37 mm; ag) incomplete, length 19 mm.

JNF269: inhumation burial

Description: Inhumation burial JNF269 was located within a grave aligned north-east to south-west with the head at the north-eastern end. The far north-eastern end of the grave was cut by inhumation burial JNF506, but the surviving feature measured 1.70m by 0.90m and 0.66m deep.
Inhumated human bone: Less than 25% of the skeleton (266g) had survived within the grave, consisting of part of the skull, vertebrae and upper and lower limbs from an adult (over 20 years) who was possibly male.
Burial goods: A jar (JNF269.1).
Date: 1st to early 2nd century.

JNF269.1 Jar (JN971). Illustrated. Cam 266 jar, almost complete pot in several main sherds with other smaller sherds, part of rim missing, Fabric GX(RCW). 1st century-early 2nd century.

JNF270: inhumation burial
Description: Inhumation burial JNF270 was located within a grave aligned north to south. Part of the grave was cut away by inhumation burial JNF271 and post hole JNF338, but the feature measured 1.58m by 0.70m and 0.26m deep.
Inhumated human bone: No bone had survived.
Burial goods: A copper-alloy coin (JNF270.1).
Residual finds: Pottery sherds.
Date: Late 4th century +.
Burial Marker: Two post holes (JNF338 (0.24m in diameter and 0.45m deep) and JNF339 (0.16m in diameter and 0.17m deep), cut into this feature may have held wooden posts used as burial markers.

JNF270.1 Coin (JN590), small find no. 328. Coin of Magnentius, rev. *Victoriae DD NN Aug et Cae* (2); as CK 8; AD 351-3. The two Victories shown on the reverse may refer to a saviour religion.

JNF271: inhumation burial
Description: Inhumation burial JNF271 was located within a grave measuring 1.10m by 0.80m, 0.47m deep and aligned east to west.
Inhumated human bone: No bone had survived.
Residual finds: Pottery sherds.
Date: Late 4th century (must be later than inhumation burial JNF270, which dates from the late 4th century +)
Burial Marker: A single post hole (JNF340: 0.13m in diameter and 0.38m deep) cut into this feature may have held a wooden post used as a burial marker.

JNF272: inhumation burial
Description: Inhumation burial JNF272 was located within a grave aligned north-east to south-west. Part of the grave had been cut away by inhumation burial JNF286, but the surviving feature measured 3.00m by 0.86m and was 0.48m deep.
Inhumated human bone: No bone had survived.
Timber coffin: The presence of several coffin nails (JNF272.1) would suggest that the body had been buried within a coffin.
Residual finds: Two pottery sherds.
Date: 1st to 3rd/4th century (must be earlier than inhumation burial JNF286, which is dated from the mid 3rd to the 4th century).
Possible Burial Marker: Two post holes (JNF398 (0.13m in diameter and 0.52m deep) and JNF476 (0.15m in diameter and 0.50m deep)) were located near to a cluster a graves (also including JNF396, JNF397, JNF399, JNF400 and JNF430). These post holes may have held a wooden post used as a burial marker.

JNF272.1 Iron coffin nails (JN1277).

JNF273: inhumation burial
Description: Inhumation burial JNF273 was located within a grave aligned north-east to south-west aligned. Part of the grave had been cut away by a modern service trench, but the surviving south-west end measured 0.96m by 0.80m and was 0.50m deep.
Inhumated human bone: No bone had survived.
Timber coffin: A plan of the iron nails (JNF273.1) and an area of wood staining show that the body had been buried in a coffin which measured at least 0.78m long and 0.58m wide.
Residual finds: Pottery sherds, some hobnails and a piece of worked flint.
Date: Mid 1st to the early 2nd century (must be earlier than urned cremation burial JNF302, which is dated from the mid 1st to the early 2nd century).

JNF273.1 Iron coffin nails (JN1309): a) incomplete, length 32 mm; c) complete, clenched tip, length (bent) 41 mm; e) complete, clenched, length (bent) 32 mm; f) incomplete, length 29 mm; j) shank fragment, length 33 mm; o) incomplete, length 35 mm; s) complete, length 47 mm; t) incomplete, length 20 mm; v) two shank fragments, lengths 32 and 15 mm; w) two, incomplete, lengths 30 and 17 mm.

JNF275: inhumation burial

Description: Inhumation burial JNF275 was located within a grave measuring 1.42m by 0.86m, 0.41m deep and aligned north-west to south-east.
Inhumated human bone: No bone had survived.
Timber Coffin: A plan of the iron nails (JNF275.1) show that the body had been buried within a coffin measuring 0.94m by 0.38m.
Date: Roman
Possible Burial Marker: A single post hole (JNF152: 0.24m in diameter and 0.23m deep) was located 0.1m away from the grave. This post hole may have held a wooden post used as a burial marker.

JNF275.1 Iron coffin nails (JN627) and (JN1165).

JNF277: pyre site

Description: Burial pit JNF277 was a grave-shaped feature containing the remains of a pyre. The south-east end of the feature had been cut away by a modern service trench, but the surviving feature measured 0.85m by 0.38m and exhibited burnt sand sides demonstrating in situ burning. The feature contained concentrations of charcoal and burning scattered throughout the fill. No cremated bone or burial goods were identified within the burial pit, but the feature does have many of the characteristics of a pyre site.
Date: Early 2nd to the mid/late 3rd century + (must be later than inhumation burial JNF458, which is dated from the early 2nd to the mid/late 3rd century).

JNF278: burial pit containing pyre debris

Description: Burial pit JNF278 was a sub-circular feature, 0.36m in diameter, containing pyre debris. The burial pit contained no cremated bone but did include a large quantity of charcoal and burning scattered throughout.
Burial goods: Several pottery sherds were scattered throughout the fill.
Date: Early 2nd to the mid/late 3rd century + (must be later than inhumation burial JNF458, which is dated from the early 2nd to the mid/late 3rd century).

Pottery sherds (JN700). Two sherds in Fabric DJ and three sherds in Fabric GX.

JNF279: pyre site

Description: Burial pit JNF279 was a large grave-shaped feature containing the remains of a pyre. Part of the feature had been cut away by two modern service trenches and by later inhumation burials JNF458 and JNF497, but the surviving feature measured (over) 1.52m by (over) 0.81m wide and was 0.21m deep. The burial pit contained scorched sand around its edges and contained large amounts of charcoal, burning and cremated bone scattered throughout.
Cremated human bone: A total of 112g of cremated bone was recorded from a possible adult (over 20 years) of indeterminate sex. Evidence of osteitis (non-specific infection) was identified on the bone.
Burial goods: Several fragments from a tazza (JNF279.1), a jar (.2) were identified scattered throughout the fill along with several other pottery sherds (some burnt) including a flagon (.3) and two iron nails.
Date: Early to mid 2nd (although the pottery sherds are dated from the early/mid 2nd to the late 2nd/early 3rd century, this feature must be earlier than inhumation burial JNF458 which is dated from the mid 1st to the early/mid 2nd century).

JNF279.1 Tazza fragments (JN1331). Cam 198 tazza, Fabric DJ. Incomplete pot in three sherds, burnt. Claudian to late 2nd or early 3rd century.

JNF279.2 Jar fragments (JN1331, JN1339). Cam 266 jar, a bowl form, Fabric GX. Early/mid 2nd to late 3rd/early 4th century.

JNF279.3 Pottery sherds. Thirty-three sherds of Fabric DJ from a flagon (dated 1st to 2nd century) (JN1331 JN1339). Also 28 sherds of Fabric GX, including sherds from a Cam 268 jar (dated early/mid 2nd to late 3rd/early 4th century) and sherds from one or two others vessels (JN1331, JN1339), a number of which have been burnt.

Iron nails (JN1167). One complete and one incomplete nail, lengths 43 and 17 mm.

JNF280/JNF490: inhumation burial

Description: Inhumation burial JNF280 was located within a grave aligned east to west with the head buried at the eastern end. Part of the grave had been cut away by a modern service trench and inhumation burial JNF355, but the surviving feature measured 0.83m by 0.40m and 0.22m deep.
Inhumated human bone: Less than 25% of the skeleton (133g) had survived within the grave, consisting of parts of the right arm and lower limbs from an adult (over 20 years) of indeterminate sex.
Residual finds: A single pottery sherd.
Date: 1st to 2nd/3rd century (must be earlier than urned cremation burials JNF146, cremation burial JNF226 and inhumation burial JNF224, which date from the 1st to 2nd/3rd century).

JNF282: unurned cremation burial

Description: Burial pit JNF282 was an oval feature, 0.70m by 0.48m, containing a probable disturbed unurned cremation burial.
Cremated human bone: A total of 88g of cremated bone was recorded from an adult (over 20 years) of indeterminate sex.
Burial goods: A flask (JNF282.1).
Residual finds: Pottery sherds and two iron nails.
Date: 1st to the mid-late 2nd century.

JNF282.1 Flask (JN745). Cam 231/232 flask decorated with rouleted bands, Fabric GX. Much of pot represented in 22 sherds, although the rim is altogether missing. 1st to mid-late 2nd century.

JNF283: burial pit containing pyre debris

Description: Burial pit JNF283 was an oval feature, 0.46m by 0.28m and 0.29m deep containing pyre debris. It contained a very small amount of cremated bone and a concentration of charcoal and burning scattered throughout
Cremated human bone: A total of 5g of probably human cremated bone was recorded.
Burial goods: Three pottery sherds.
Date: Early to late 2nd century +, (must later than urned cremation burial JNF250, which is dated from the early to the late 2nd century).

Pottery sherds (JN606). Three sherds of Fabric GX.

JNF284: burial pit containing pyre debris

Description: Burial pit JNF284 was an oval feature, 0.98m by 0.62m and 0.17m deep, containing pyre debris. The pit was cut at one end by burial pit containing pyre debris JNF298. The burial pit contained a very small amount of cremated bone along with a concentration of charcoal and burning scattered throughout.
Cremated human bone: A total of 18g of cremated bone was recorded from a possible adult (over 20 years) of indeterminate sex.
Burial goods: Pottery sherds (some burnt) (JNF284.1), 12 pieces of melted glass (.2), and a small number of iron hobnails and nails were identified scattered throughout the fill.
Date: Mid/late1st to the 2nd century.

JNF284.1 Pottery sherds. Fifty sherds of Fabric DJ mostly from one flagon (base, body and part of handle) and one sherd identified as part of a Cam 198 tazza (dated Claudian to late 2nd or early 3rd century), some sherds discoloured and may be pyre scorched (JN654). Thirty-three sherds of Fabric GX (JN654) including sherds (some scorched) from two Cam 108 beakers in medium grey coloured fabric (dated 1st to early 2nd century) and sherds from the base and lower body of a jar or ?bowl, fabric probably early Roman, Fabric HZ. One sherd of Fabric MQ from a ?bowl with thick cream/white slip, scorched?

JNF284.2 Glass (JN656) and (JN1166). (JN1166) Eleven melted fragments, blue/green. Two fragments retain rolled rim edges from a wide-mouthed flask or jar, three fragments are from a cylindrical neck or body of thin-walled tubular unguent bottle. Weight 13.4g. (JN656) Chip, blue/green, probably from heat shattering, 0.2g. The melted glass from this deposit of pyre debris suggests a mid to late 1st century date as both a mid 1st century tubular unguent bottle and a funnel-mouthed flask or jar of the later 1st to 2nd centuries (see JNF103 (JN265)) are represented.

Iron hobnails (JN1173), small find no. 466.

Iron nails (JN1173): b) shank fragment, length 24 mm; d) nail, tip missing, length 30 mm; e) shank fragment, length 31 mm.

JNF285: inhumation burial

Description: Inhumation burial JNF285 was located within a grave aligned south-west to north-east with the head at the south-western end. Part of the grave was located outside of the excavation area and a 0.70m long baulk against the edge of the site was left unexcavated for safety reasons. The grave was also cut by inhumation burial JNF439, so the total excavated segment of grave measured 0.68m by 1.12m and was 0.61m deep.
Inhumated human bone: Less than 25% of the skeleton (1g) had survived within the grave, consisting of a single unidentifiable fragment from an adult (over 20 years) of indeterminate sex.
Timber coffin: A plan of the iron nails (JNF285.4) show that the body had been buried within a coffin which measured approximately 0.88m wide.
Burial goods: Two copper-alloy coins (.1 – .2) and a forgery of a silver coin (.3). Of the three coins from this burial only one (.2), which was probably in or near the right hand, is certainly a grave deposit. JNF285.1 was found in the part of the grave that was not fully excavated and may be residual, but, being pierced, it classes as an amulet rather than a coin and was therefore an appropriate funerary deposit. JNF285.3, a plated lead forgery of a *denarius*, lay outside the coffin and may also be residual. Howevere, as a 'silver' coin it too may have been a grave gift. It is impossible to tell if its status as a forgery was known by the person who placed it in the grave.
The latest coin (the forgery) places the burial later than *c* AD 140. The coin of Vespasian in or near the right hand was therefore of some antiquity when buried, although hoard evidence suggests that it could still have been in circulation into the 3rd century. Its reverse image, *Spes* (Hope), occurs on other coins selected as grave deposits in infant graves (Crummy forthcoming (b)) and probably held a personal significance for the depositor.
Date: Terminus post quem of AD 138-61.

JNF285.1 Coin (JN617), small find no. 320. From an area of the grave that was not fully excavated; either residual or within the coffin near the feet. Coin is a pierced *as* of Trajan, rev. standing figure to right; AD 98-117. The hole is set behind the emperor's head on the obverse and behind the figure on the reverse; both obverse and reverse images would lie horizontally if the coin were suspended. A fragment of an iron nail is attached to the reverse of the coin by corrosion.

JNF285.2 Coin (JN977), small find no.352. Probably in or near the right hand. Coin of Titus (Caesar), *as*, rev. *Spes*; *RIC* (Vespasian) 868; AD 75-6.

JNF285.3 Coin (JN978), small find no. 351. Outside the coffin; possibly residual. Coin is a forgery of a *denarius* of Antoninus Pius (AD 138-61), made from a lead core plated with silver. The reverse type is *Fortuna COS IIII*, as *RIC* 976. Probably contemporary with the coin used as the model by the forger.

JNF285.4 Iron coffin nails (JN1298).

JNF286: inhumation burial

Description: Inhumation burial JNF286 was located within a grave measuring 0.86m by 0.62m, 0.19m deep and aligned north-east to south-west.
Inhumated human bone: No bone was identified.
Timber coffin: The presence of several coffin nails (JNF286.3) would suggest that the body had been buried within a coffin.
Burial goods: A beaker (JNF286.1) and some hobnails (JNF286.2).
Date: Mid 3rd to the 4th century.

JNF286.1 Beaker (JN649). Illustrated. Beaker, decorated with barbotine scrolls, off-white fabric with patchy brown-grey slip, Fabric EA. Lower part of body intact with two small detached sherds. Mid 3rd to 4th century.

JNF286.2 Hobnails (JN472).

JNF286.2 Iron coffin nails (JN1225).

JNF287: burial pit containing pyre debris

Description: Burial pit JNF287 was an oval feature, 0.71m by 0.52m and 0.81m deep, containing pyre debris. It contained a very small amount of cremated bone and a concentration of charcoal and burning scattered throughout.
Cremated human bone: A total of 18g of cremated bone was recorded from a possible adult (over 20 years) of indeterminate sex.
Burial goods: The remains of a bowl (JNF287.1) were identified scattered throughout the fill along with several other pottery sherds (.2) and a copper-alloy coin (.3).
Date: Mid 1st to the early 2nd century.

JNF287.1 Bowl (?). Cam 243-244/246 bowl, Fabric GX. Sherds from upper part of pot only. 1st to early 2nd century.

JNF287.2 Pottery sherds (JN632). Twenty-four sherds of Fabric GX including sherds from a Cam 108 beaker (1st to early 2nd century).

JNF287.3 Coin (JN622), small find no. 318. Coin of Domitian, *as*, rev. *Moneta Augusti*; *RIC* 390; AD 86-7.

JNF288: inhumation burial

Description: Inhumation burial JNF288 was located within a grave measuring 2.38m by 0.76m, 0.37m deep and aligned north-west to south-east with the head at the north-western end.
Inhumated human bone: Less than 25% of the skeleton (379g) had survived within the grave, consisting of parts of the skull and lower limbs from an adult (over 20 years) who was probably male. Evidence of periostitis (a non-specific infection) was identified on the bone.
Timber coffin: A plan of the iron nails (JNF288.2) show that the body had been buried within a coffin which measured 1.85m by 0.57m.
Burial goods: A flagon (.1) was identified within the north-western end of the grave, although it is uncertain if it had been buried within the coffin or on top of it.
Surface finds: The remains of a storage jar and a small quantity of inhumated human bone was recorded on the surface of the feature. This material is likely to have been disturbed from an early inhumation burial.
Date: Probably 1st to the 2nd century.

JNF288.1 Flagon (JN719). Illustrated. Small flagon, with simple expanded neck forming mouth and with a pear shaped body (*CAR* **10** Fabric DJ type 100), Fabric DJ. Whole pot. Probably 1st to 2nd century.

JNF288.2 Iron coffin nails (JN1172).

JNF289: inhumation burial

Description: Inhumation burial JNF289 was located within a grave aligned north-east to south-west. Part of the grave had been cut away by *bustum* burial JNF183, but the surviving feature measured 1.30m by 0.74m and 0.41m deep.
Inhumated human bone: No bone had survived, although some staining was present.
Timber coffin: The presence of several coffin nails (JNF289.1) would suggest that the body had been buried within a coffin.
Residual finds: Pottery sherds (dated from the 1st to the early 2nd century).
Date: Mid 1st to the early 2nd century +.

JNF289.1 Iron coffin nails (JN1270).

JNF291: inhumation burial

Description: Inhumation burial JNF291 was located within a grave measuring 0.78m by 0.34m, 0.09m deep and aligned east to west aligned. The small grave size indicates that this was a juvenile burial.
Inhumated human bone: No bone was identified.
Timber coffin: A plan of the iron nails (JNF291.1) show that the body had been buried within a coffin which measured 0.64m by 0.20m.
Residual finds: A single pottery sherd (dated from the 1st to the 2nd century).
Date: Mid 1st to the 2nd century +.

JNF291.1 Iron coffin nails (JN1272).

JNF292: inhumation burial
Description: Inhumation burial JNF292 was located within a grave measuring 1.24m by 0.42m, 0.16m deep and aligned north-west to south-east.
Inhumated human bone: No bone had survived.
Date: Roman.

JNF293: inhumation burial
Description: Inhumation burial JNF292 was located within a grave measuring 1.04m by 0.42m, 0.28m deep and aligned north-west to south-east aligned. The small size of the grave suggests a juvenile burial.
Inhumated human bone: No bone had survived.
Date: Roman.
Possible Burial Marker: A single post hole (JNF337: 0.20m in diameter by 0.48m deep), was located 0.15cm away from the grave and may have held a wooden post used as a burial marker.

JNF294: inhumation burial
Description: Inhumation burial JNF294 was located within a grave measuring 0.82m by 0.50m, 0.01m deep and aligned north to south. The small size of the grave suggests a juvenile burial.
Inhumated human bone: No bone had survived.
Timber coffin: The presence of two coffin nails (JNF294.1) would suggest that the body had been buried within a coffin.
Date: Roman.

JNF294.1 Iron coffin nails (JN1281).

JNF295: inhumation burial
Description: Inhumation burial JNF295 was located within a grave aligned north to south. The northern half of the grave was located outside of the excavation area, but the excavated feature measured over 0.62m by 0.42m and 0.09m deep. The small size of the grave suggests a juvenile burial.
Inhumated human bone: No bone had survived.
Date: Roman.

JNF296: inhumation burial
Description: Inhumation burial JNF296 was located within a grave measuring 1.08m by 0.60m, 0.2m deep and aligned north-west to south-east. Much of the grave had been cut away by inhumation burials JNF241 and JNF425.
Inhumated human bone: No bone had survived.
Burial goods: Most of a tetina (JNF296.1).
Date: Probably 1st to the 2nd century.

JNF296.1 Tetina (JN645). Illustrated. Tetina, sherds in brownish orange fabric, Fabric DJ, abraded. Sherds include base, part of rim, handle s*CAR* and mouth piece. Pot complete on one side up to handle s*CAR* but other half is missing (indicated in the drawing by dashed lines) so that the position of the spout on the pot cannot be located precisely. Probably 1st to 2nd century.

JNF298: burial pit containing pyre debris
Description: Burial pit JNF298 was an oval feature, 0.71m by 0.28m and 0.07m deep, containing pyre debris. It contained a very small amount of cremated bone and a concentration of charcoal and burning scattered throughout.
Cremated human bone: A total of 15g of cremated bone was recorded from a possible adult (over 20 years) of indeterminate sex.
Burial goods: Two pottery sherds were identified scattered throughout the fill.

Date: 2nd century + (must be later than inhumation burials JNF284 and JNF328, which are dated from the 1st to the 2nd century and the 2nd century respectively).

Pottery sherds (JN646). One sherd of Fabric DJ and one sherd of Fabric GX (?1st to 2nd century).

JNF299: burial pit containing pyre debris

Description: Burial pit JNF299 was a sub-circular feature, 0.28m in diameter and 0.06m deep, containing pyre debris. It contained a very small amount of cremated bone and a concentration of charcoal and burning scattered throughout
Cremated human bone: A total of 8g of probably human cremated bone was recorded.
Date: Roman.

JNF301: inhumation burial

Description: Inhumation burial JNF301 was located within a grave aligned north-west to south-east. Part of the grave had been cut away by a modern building foundation, but the surviving north-western end measured 0.82m by 0.58m and 0.37m deep.
Inhumated human bone: No bone had survived.
Residual finds: Pottery sherds (dating from the 1st to the 2nd century).
Date: Mid 1st to the 2nd century +.

JNF302: urned cremation burial

Description: Burial pit JNF302 was an oval feature, 0.51m by 0.45m and 0.18m deep, containing an urned cremation burial.
Cremated human bone: A total of 568g of cremated bone was recorded from an adult (over 20 years) of indeterminate sex. Evidence of periostitis (non-specific infection) was identified on the bone.
Burial goods: A jar (JNF302.1) had been used as the cremation urn.
Residual finds: Pottery sherds and iron nails.
Date: Mid 1st to the early 2nd century.

JNF302.1 Jar (JN657). Illustrated. Large jar with short everted rim, decorated with wavy lines around girth, one side broken away as a large sherd, rim broken and consists only of sherds. The form is essentially that of the beaker Cam 108. Fabric GX. 1st to early 2nd century?

JNF303: unurned cremation burial

Description: Burial pit JNF303 was a sub-circular feature, 0.30m in diameter and 0.51m deep, containing a probable unurned cremation burial.
Cremated human bone: A total of 155g of cremated bone was recorded from an adult (over 20 years) of indeterminate sex. Evidence of arthritis in the spine (spinal disease) was identified on the bone.
Residual finds: Three pottery sherds.
Date: Mid 1st to the 2nd/early 2nd century.

JNF308: inhumation burial

Description: Inhumation burial JNF308 was located within a grave aligned north-west to south-east. Part of the grave was located outside of the excavation area, but the excavated feature measured 1.24m by 0.66m and 0.34m deep.
Inhumated human bone: No bone had survived.
Timber coffin: The presence of several coffin nails (JNF308.1) would suggest that the body had been buried within a coffin.
Residual finds: A single piece of Roman tile.
Date: Roman.

JNF308.1 Iron coffin nails (JN1271).

JNF309: urned cremation burial

Description: Burial pit JNF309 was a rectangular-shaped feature, 0.41m by 0.28m wide and 0.16m deep, containing a disturbed urned cremation burial.
Cremated human bone: A total of 72g of cremated bone was recorded from a middle adult (35-50 years) of indeterminate sex.
Burial goods: A jar (JNF309.1) had been used as a cremation urn and a beaker (.2) had been placed next to the urn.
Residual finds: Pottery sherds and some iron nails.
Date: Hadrianic to late 2nd century.

JNF309.1 Jar used as a cremation urn (JN1231). Illustrated. Very sandy fabric but is probably a Colchester product rather than of the Verulamium region (Fabric FJ), probably scorched, Fabric GX. Complete or almost complete pot in many sherds.

JNF309.2 Beaker (JN1236). Illustrated. Cam 396. Almost complete pot in many sherds, base complete, part of rim missing, slightly abraded, Fabric CZ. Hadrianic to late 2nd century.

JNF310: urned cremation burial

Description: Burial pit JNF310 was a sub-circular feature, 0.34m in diameter and 0.14m deep, containing an urned cremation burial.
Cremated human bone: A total of 699g of cremated bone was recorded from a male young adult (20-35 years). Evidence of arthritis in the shoulder (joint disease) and enthesophytes (a degenerative process) was identified on the bone.
Burial goods: A jar (JNF310.1) had been used as a cremation urn.
Date: Early/mid 2nd to the late 3rd/early 4th century.

JNF310.1 Jar used as a cremation urn (JN1218). Illustrated. Cam 268 jar, probably a complete pot in sherds, Fabric GX. Early/mid 2nd to late 3rd/early 4th century.

JNF311: Disturbed burial feature

Description: Burial pit JNF311 contained a disturbed burial feature. The burial pit had been cut away by inhumation burials JNF238 and JNF474, but it measured over 0.56m by 0.44m and was 0.15m deep. No bone or cremated bone was recorded from the feature, but most of a jar or bowl (JNF311.1) was identified. This feature is likely to have been a burial or burial related feature, but the disturbance has made it impossible to define any further.
Date: 1st to the early 2nd century (must be earlier than pyre site/*bustum* JNF204, which is dated from the early 2nd century).

JNF311.1 Jar or bowl (JN1036). Illustrated. Jar or bowl, base and lower body in sherds, Fabric GX.

JNF312: burial pit containing pyre debris

Description: Burial pit JNF312/315 contained pyre debris. The burial pit had been severely truncated by inhumation burials JNF238, JNF313, JNF314, JNF316 and JNF474, but the surviving feature measured 1.70m by 0.86m wide. The burial pit did not contain any cremated bone but did include a concentration of charcoal and burning scattered throughout.
Date: Mid 1st to the early 2nd century (must be earlier than inhumation burials JNF238, JNF313, JNF314, and JNF474, which suggest that the burial must dated from the mid 1st or the early 2nd century).

JNF313: inhumation burial

Description: Inhumation burial JNF313 had been almost completely cut away by inhumation burial JNF238 and only one small section of one edge had survived (measuring 1.00m by 0.20m wide).
Inhumated human bone: No bone had survived.
Residual finds: A single iron nail.
Date: 1st to the early 2nd century + (must be later than inhumation burial JNF474, which is dated from the 1st to the early 2nd century +).

JNF314: inhumation burial

Description: Inhumation burial JNF314 was located within a grave aligned north-east to south-west. One edge of the grave had been cut away by inhumation burial JNF313 and the south-western end was located under a modern service trench, but the excavated feature measured 1.04m by 0.90m and 0.60m deep.
Inhumated human bone: Less than 25% of the skeleton (27g) had survived within the grave, consisting of parts of the axial skeleton from an adult (over 20 years) of indeterminate sex.
Residual finds: A single pottery sherd.
Date: 1st to 2nd century + (must be earlier than urned cremation burial JNF121, which is dated from the mid 2nd to the late 2nd/early 3rd century).

JNF316: inhumation burial

Description: Inhumation burial JNF316 was located within a grave measuring 1.18m by 0.96m, 0.40m deep and aligned north-west to south-east. The north-western half of the grave had been cut away by inhumation burials JNF216 and JNF432, and part of it was located under a modern service trench and left excavated.
Inhumated human bone: Less than 25% of the skeleton (77g) had survived within the grave, consisting of fragments of the midshaft femur and one fragment of ilium (unsided) from an adult (over 20 years) of indeterminate sex.
Timber coffin: A plan of the iron nails (JNF316.2) show that the body had been buried within a coffin which measured at least 0.92m long and 0.52m wide.
Burial goods: A jar (.1) was recorded inside the coffin.
Residual finds: Pottery sherds.
Date: Mid 1st to the early 2nd century.

JNF316.1 Jar (JN933). Illustrated. Cam 266 jar, whole pot, Fabric GX. 1st to early 2nd century.

JNF316.2 Iron coffin nails (JN1259).

JNF317: inhumation burial

Description: Inhumation burial JNF317 was located within sx2 of roadway ditch JNF10. Part of the grave was located outside of sx2 and was unexcavated, but the feature measured 1.60m by 0.64m wide, was 0.35m deep, and was aligned north-west to south-east.
Inhumated human bone: No bone had survived.
Date: Roman, probably mid 2nd century + (must be later than roadside ditch JNF10, whose lower fill dates from the mid 2nd century +).

JNF318: inhumation burial

Description: Inhumation burial JNF318 was located within sx2 of roadway ditch JNF10. Most of the grave was located outside of sx2 but the excavated feature measured 0.28m by 0.86m, 1.13m deep and was aligned north-west to south-east.
Inhumated human bone: No bone had survived.
Timber coffin: The presence of several coffin nails (JNF318.1) would suggest that the body may have been buried within a coffin.
Date: Roman, probably mid 2nd century + (must be later than roadside ditch JNF10, whose lower fill dates from the mid 2nd century +).

JNF318.1 Iron coffin nails (1228).

JNF319: inhumation burial

Description: Inhumation burial JNF319 was located within sx2 of roadway ditch JNF10. Most of the grave had been cut away by inhumation burials JNF318 and JNF322, but the excavated featured measured 0.40m by 0.46m and was aligned east to west.
Inhumated human bone: No bone had survived.
Date: Roman, probably mid 2nd century + (must be later than roadside ditch JNF10, whose lower fill dates from the mid 2nd century +).

JNF320: inhumation burial
Description: Inhumation burial JNF320 was located within sx2 of roadway ditch JNF10. Most of the grave had been cut away by inhumation burials JNF319, JNF321 and JNF322, but the excavated featured measured 1.36m by 0.50m and was aligned north-west to south-east.
Inhumated human bone: No bone had survived.
Date: Roman, probably mid 2nd century + (must be later than roadside ditch JNF10, whose lower fill dates from the mid 2nd century +).

JNF321: inhumation burial
Description: Inhumation burial JNF320 was located within sx2 of roadway ditch JNF10. Most of the grave was either located outside of sx2 or had been cut away by inhumation burial JNF322, but the excavated area measured 0.64m by 0.34m, was 0.37m deep, and was aligned north-west to south-east.
Inhumated human bone: No bone had survived.
Date: Roman, probably mid 2nd century + (must be later than roadside ditch JNF10, whose lower fill dates from the mid 2nd century +).

JNF322: inhumation burial
Description: Inhumation burial JNF320 was located within sx2 of roadway ditch JNF10. Part of the grave was located outside of sx2 and part of it had been cut away by inhumation burials JNF317 and JNF318, but the excavated feature measured 1.76m by 0.70m, was 0.22m deep, and was aligned north-west to south-east.
Inhumated human bone: No bone had survived.
Timber coffin: The presence of several coffin nails (JNF322.1) would suggest that the body had been buried within a coffin.
Residual finds: Two hobnails.
Date: Roman, probably mid 2nd century + (must be later than roadside ditch JNF10, whose lower fill dates from the mid 2nd century +).

JNF322.1 Iron coffin nails (1221).

JNF323: urned cremation burial
Description: Burial pit JNF323 was an oval feature, 0.56m by 0.50m and 0.32m deep, containing an urned cremation burial.
Cremated human bone: A total of 645g of cremated bone was recorded from a juvenile to yound adult female (15-20 years).
Burial goods: A jar (JNF323.1) had been used as a cremation urn, a bowl had been inverted and placed over the urn (.2), and a factory lamp (.3) and two pieces of pig bone (.4) were identified within the urn. The pig bone may represent the remains of food or 'food for the afterlife' or, as one of the bones was burnt, they might represent either food being cremated with the body or bone being used as fuel on the pyre. The lamp also appears to have been burnt on the pyre.
Residual finds: A single iron nail.
Date: Mid/late 2nd to the early 3rd century.

JNF323.1 Jar used as a cremation urn (JN703). Illustrated. Cam 278 jar, rim and body shape perhaps indicate a mid production date, body slightly distorted and surface degraded, possible kiln second, Fabric KX. Whole pot with about 50% or rim cracked away as sherds. Mid-late 2nd to early 3rd century.

JNF323.2 Bowl which had been used as a lid (JN702). Illustrated. Cam 37A bowl, Fabric GB. Probably complete bowl in sherds, surfaces degraded and burnished, angled line pattern on outside only barely visible on some sherds. Trajanic/Hadrianic to the late 2nd or early 3rd century.

JNF323.3 Pottery factory lamp (JN704), small find no. 376. Illustrated. Complete handled factory lamp of Loeschcke Type IX with the channel between the discus and the nozzle closed off at each end (1919, 256). There are two lugs on the shoulder at the point where the nozzle starts to develop. Length 99 mm.The fabric is uniformly grey with a few flecks of mica on the surface. It is probably a London product that has gone through a second firing in the pyre.

JNF323.4 Animal bone (JN1106). Two pieces of juvenile pig were recorded from inside the cremation urn. A cut femur and a distal tibia suggest waste from meat. The tibia was quite heavily burnt while the femur showed no obvious burning.

JNF324: urned cremation burial

Description: Burial pit JNF324 was an oval feature, 0.60m by 0.54m and 0.21m deep, containing an urned cremation burial.
Cremated human bone: A total of 535g of cremated bone was recorded from young adult (20-35 years) who was possibly male. Evidence of Schmorl's nodes (spinal disease), periostitis (non-specific infection) and periodontal disease (dental disease) was identified on the bone.
Burial goods: A jar (JNF324.1) had been used as a cremation urn and a small or miniature beaker (.2) had been placed next to the urn.
Residual finds: Pottery sherds and some iron nails.
Date: Early to the mid 2nd century.

JNF324.1 Jar used as a cremation urn (JN1316). Illustrated. Cam 278 jar, ovoid with fairly upright rim so probably early in production, surfaces degraded, Fabric GB. Whole pot, probably all present though with rim and upper body in sherds. Hadrianic to late 2nd century.

JNF324.2 Small or miniature beaker (JN1321). Illustrated. Cam 108 small or miniature beaker, Fabric GX. Probably complete pot in 10 sherds and fragments. 1st to early 2nd century.

JNF325: dual urned cremation burial

Description: Burial pit JNF325 was an oval feature, 0.58m by 0.53m and 0.31m deep, containing a dual urned cremation burial.
Cremated human bone: A total of 288g of cremated bone was recorded from two separate individuals – a juvenile (0-5 years) and an adult (over 20 years), both of which were of indeterminate sex.
Burial goods: A jar (JNF325.1) had been used as a cremation urn.
Residual finds: Pottery sherds, a number of iron nails and hobnails, and a piece of worked flint.
Date: Mid 1st to the late 1st/early 2nd century.

JNF325.1 Jar used as a cremation urn (JN961). Illustrated. Cam 177 jar, probably complete or near complete pot in sherds and fragments, Fabric DJ. Claudio-Neronian to late 1st or early 2nd century.

JNF326: urned cremation burial

Description: Burial pit JNF326 was a sub-circular feature, 0.72m in diameter and 0.29m deep, containing a disturbed urned cremation burial.
Cremated human bone: A total of 687g of cremated bone was recorded from a male middle adult (35-50 years). Evidence of arthritis in the spine (spinal disease) was also identified on the bone.
Burial goods: A jar (JNF326.1) had been used as a cremation urn.
Residual finds: Pottery sherds and an iron nail.
Date: Mid 1st to the early 2nd century.

JNF326.1 Jar (JN684). Illustrated. Cam 266 jar, small chip (old damage) missing from rim edge, Fabric GX. 1st to early 2nd century.

JNF327: urned cremation burial

Description: Burial pit JNF327 was a sub-circular feature, 0.50m in diameter and 0.2m deep, containing a disturbed urned cremation burial.
Cremated human bone: A total of 23g of cremated bone was recorded from a juvenile (10-15 years) of indeterminate sex.
Burial goods: A jar (JNF327.1) had been used as a cremation urn.
Date: Mid 2nd to late 2nd century.

JNF327.1 Jar (JN687). Illustrated. Cam 278 jar, lower part of pot almost complete, upper part represented by sherds and only one rim sherd recovered, Fabric KX. Mid 2nd to late 2nd century.

JNF328: inhumation burial

Description: Inhumation burial JNF328 was located within a grave measuring 2.56m by 0.88m, 0.87m deep and aligned north-west to south-east with the head at the north-western end.
Inhumated human bone: Less than 25% of the skeleton (494g) had survived within the grave, consisting of parts of the skull, upper and lower limbs, and the feet. The burial was of a young adult (20-35 years) who was possibly male. Evidence of a complete fracture on the tibia was also identified, which suggests trauma.
Burial goods: A flagon (JNF328.1) was identified next to the right shoulder of the body and two hobnail shoes (.2) were recorded by the feet.
Residual finds: Pottery sherds.
Date: 1st century-early Antonine.

JNF328.1 Flagon (JN762). Illustrated. Cam 155 flagon, complete small flagon with a slightly cupped mouth in orange fabric, Fabric DJ. Claudio-Neronian to early Antonine.

JNF328.2 Iron hobnails (JN1288), small find no. 480. The position of the hobnails in this grave show that the corpse wore nailed shoes or sandals when buried.

JNF329: inhumation burial

Description: Inhumation burial JNF329 was located within a grave aligned north-east to south-west. Part of the grave was located outside of the excavation area, but the excavated north-eastern end measured 1.20m by 1.04m and was 0.66m deep.
Inhumated human bone: No bone had survived.
Timber coffin: The presence of several coffin nails (JNF329.2) would suggest that the body had been buried within a coffin.
Burial goods: A jar (JNF329.1).
Residual finds: Pottery sherds, some iron nails and three pieces of animal bone.
Date: Early/mid 2nd to the late 3rd/early 4th century.

JNF329.1 Jar (JN741). Illustrated. Cam 268 jar, near complete pot in sherds and fragments although much of the rim missing, many sherds burnt, Fabric GX. Early/mid 2nd to late 3rd/early 4th century.

JNF329.2 Iron coffin nails (JN741, JN1246).

JNF330: unurned cremation burial

Description: Burial pit JNF330 contained a probable disturbed unurned cremation burial, 0.69m by over 0.22m in extent and 0.19m deep. Much of the pit was located outside of the excavation area, but an area 0.69m by 0.22m and 0.19m deep was excavated.
Cremated human bone: A total of 21g of cremated bone was recorded from a possible adult (over 20 years) of indeterminate sex.
Date: Mid 1st to the 2nd century + (must be later than inhumation burial JNF331, which cannot be earlier in date than the mid 1st to the 2nd century).

JNF331: inhumation burial

Description: Inhumation burial JNF331 was located within a grave aligned north-east to south-west. Part of the grave had been cut away by cremation burial JNF330 and part of it was also located outside of the excavation area, but the excavated feature was 0.70m long by 0.72m and 0.62m deep.
Inhumated human bone: No bone had survived.
Residual finds: A single pottery sherd (dated from the mid 1st to the 2nd century).
Date: Mid 1st to the 2nd century +.

JNF332: burial pit containing pyre debris

Description: Burial pit JNF332 was an oval feature, 0.96m by 0.66m and 0.41m deep, containing pyre debris. The burial pit contained a very small amount of cremated bone along with a concentration of charcoal and burning scattered throughout.
Cremated human bone: A total of 19g of probably human cremated bone was recorded.

Burial goods: Several burnt pottery sherds (JNF332.1) were identified scattered throughout the fill.
Date: Mid 1st to the 2nd century.

JNF332.1 Pottery sherds (JN711). Eight sherds of Fabric DJ (1st to 2nd? century).

JNF333: burial-related feature
Description: Burial pit JNF333 was a sub-circular feature, 0.30m in diameter and 0.21m deep, containing an upright, whole pot and lid.
Cremated human bone: No bone had survived.
Burial goods: A jar (JNF333.1) lay upright and several fragments of an inverted lid (.2) were identified covering the jar. The jar presumably held food or drink and was an offering of some kind. It was possibly associated with inhumation burial JNF463 or JNF478.
Residual finds: Pottery sherds.
Date: Early/mid 2nd to the late 3rd/early 4th century.

JNF333.1 Jar used as a cremation urn (JN722). Illustrated. Cam 268 jar, most of pot with part of rim missing (recent damage), slightly indented on one side, Fabric GX. Early/mid 2nd to late 3rd/early 4th century.

JNF333.2 Lid (JN721). Illustrated. Lid, complete lid in sherds with hooked rim, Fabric GX.

JNF334: inhumation burial
Description: Inhumation burial JNF334 was located within sx4 of roadway ditch JNF10 and within a grave aligned north-west to south-east. Most of the grave was located outside of sx4 and was left unexcavated but the excavated feature measured 0.20m by 0.54m.
Inhumated human bone: Less than 25% of the skeleton (14g) had survived within the grave, consisting of unidentifiable fragments from an adult (over 20 years) of indeterminate sex.
Residual finds: Animal bone, pottery sherds and some iron nails.
Date: Roman, probably mid 2nd century + (must be later than roadside ditch JNF10, whose lower fill dates from the mid 2nd century +).

JNF335/JNF409: inhumation burial
Description: Inhumation burial JNF335 was located within a grave measuring 1.50m by 1.00m, 0.16m deep and aligned south-east to north-west with the head at the south-eastern end.
Inhumated human bone: Less than 25% of the skeleton (15g) had survived within the grave, consisting of parts of the long bones from an adult (over 20 years) of indeterminate sex.
Residual finds: Pottery sherds (dated from the 1st to the early 2nd century) and a small quantity of cremated bone.
Date: Mid 1st to the early 2nd century +.

JNF336: inhumation burial
Description: Inhumation burial JNF336 was located within a grave aligned north-west to south-east. Part of the grave was located outside of the excavation area, but the excavated south-east end measured over 0.91m by 0.65m and was 0.39m deep.
Inhumated human bone: No bone had survived.
Date: Roman.

JNF341: inhumation burial
Description: Inhumation burial JNF341 was located within a grave aligned east to west. Most of the grave had been cut away by inhumation burials JNF462, JNF463, JNF466 and JNF469, but the surviving feature measured 0.90m by 0.22m.
Inhumated human bone: No bone had survived.
Residual finds: Pottery sherds (dated from the mid 1st to the 2nd century), tile/brick, animal bone, worked flint and iron nails.
Date: Mid 1st to the 2nd century +.

JNF342: inhumation burial

Description: Inhumation burial JNF342 was located within a grave aligned north-east to south-west. Most of the grave had been cut away by inhumation burial JNF336, but the surviving north-east end measured 0.28m long by 0.82m and was 0.22m deep.
Inhumated human bone: No bone had survived.
Date: Roman.

JNF345: inhumation burial

Description: Inhumation burial JNF345 was located within a grave aligned north-east to south-west. One corner of the grave had been cut away by a modern building foundation, but it measured 2.34m by 0.86m and 0.14m deep.
Inhumated human bone: No bone had survived.
Timber coffin: A plan of the iron nails (JNF345.5) show that the body had been buried within a coffin which measured 1.84m long and 0.42m wide.
Burial goods: A whole flagon (.1) and the remains of two beakers (.2 and .4) and a bowl (.3) were identified inside the coffin.
Residual finds: A single pottery sherd and two hobnails.
Date: Late 2nd to the early 3rd century.
Burial Marker: A single post hole (JNF363: 0.14m in diameter and 0.48m deep) had been cut into the centre of the grave and may have held a wooden post used as a burial marker.

JNF345.1 Flagon (JN784). Illustrated. Cam 156 flagon, whole and in pale orange fabric, Fabric DJ. Hadrianic to early 3rd century.

JNF345.2 Beaker (JN786). Illustrated. Cam 391 beaker, probably complete pot in sherds and fragments, Fabric CB. AD 110-125 to late 2nd/early 3rd century.

JNF345.3 Bowl (JN785). Illustrated. Bowl, partial pot in three main sherds, slightly micaceous fabric, Fabric GX.

JNF345.4 Beaker (JN786). Illustrated. Cam 391C beaker, whole base with about one third of remainder of pot in sherds, decorated with barbotine phalli (orientated left to right) of which there is one whole example and parts of two others of similar form, red-brown fabric with very dark grey colour-coat, Fabric CZ. Late 2nd to 3rd century?

JNF345.5 Iron coffin nails (JN1220).

JNF346: inhumation burial

Description: Inhumation burial JNF346 was located within a grave measuring 1.80m by 0.58m, 0.2m deep and aligned south-west to north-east with the head buried at the south-western end.
Inhumated human bone: Less than 25% of the skeleton (75g) had survived within the grave, consisting of parts of the skull, and the upper and lower limbs from an adult (over 20 years) of indeterminate sex.
Timber coffin: The presence of a single coffin nail (JNF346.3) may suggest that the body had been buried within a coffin.
Burial goods: A damaged twisted wire armlet (JNF346.1) was found on the upper left arm and an iron knife lay across the upper chest or throat (.2). The armlet was damaged when it was put in the grave, but the loss of some of the thin metal strands may post-date deposition. The armlet is likely to date to the late 3rd or 4th century. The knife has an unusual notched blade. A blade of this type would have had a specific craft function, a clue to which may lie in medieval notched 'fish' knives (Cowgill *et al* 1987, fig. 14).
Residual finds: Pottery sherds (dated from the mid 1st to the 2nd century) and a single iron nail.
Date: Late 3rd or 4th century.
Burial Marker: A single post hole (JNF362: 0.15m in diameter and 0.40m deep) had been cut into the south-west end of the grave. This post hole may have held a wooden post used as a burial marker.

JNF346.1. Armlet (JN782), small find no. 355. Illustrated. Damaged copper-alloy three-strand wire armlet, with the remains of a elaborately twisted clasp. Maximum diameter 78 mm.

JNF346.2 Iron knife (JN781), small find no. 358. Illustrated. Iron knife with tang for an organic handle. The back of the blade is convex, the edge concave. The edge is notched about halfway along its length, and is narrower beyond the notch. Length 128 mm.

JNF346.3 Iron coffin nail (JN1226).

JNF348: urned cremation burial

Description: Burial pit JNF348 was an oval feature, 0.47m by 0.37m and 0.43m deep, containing an urned cremation burial.
Cremated human bone: A total of 737g of cremated bone was recorded from a male young adult (20-35 years).
Burial goods: A jar (JNF348.1) had been used as a cremation urn and a bowl (.2) had probably been used as a lid.
Date: Late 2nd to the third quarter of the 3rd century.

JNF348.1 Jar used as a cremation urn (JN753, JN754). Illustrated. Cam 268 jar. Large example of the form. A mostly whole pot although much of rim missing, Fabric GX. Early/mid 2nd to late 3rd/early 4th century.

JNF348.2 Bowl/dish (JN753). Illustrated. Cam 37B bowl/dish, approximately 50% of the bowl is present, Fabric GB. Late 2nd century to third quarter of the 3rd century.

JNF349: inhumation burial

Description: Inhumation burial JNF349 was located within a grave measuring 1.80m by 0.60m and aligned north-west to south-east. The size of the grave suggests an adult burial.
Inhumated human bone: No bone had survived.
Date: Roman.

JNF350: urned cremation burial

Description: Burial pit JNF350 was a sub-circular feature, 0.35m in diameter and 0.27m deep, containing an urned cremation burial.
Cremated human bone: A total of 589g of cremated bone was recorded from a male middle adult (35-50 years).
Burial goods: A jar (JNF350.1) had been used as a cremation urn.
Date: Hadrianic to late 2nd century.

JNF350.1 Jar used as a cremation urn (JN752). Illustrated. Cam 278 jar, much of pot in sherds, Fabric GB. Hadrianic to late 2nd century.

JNF351: inhumation burial

Description: Inhumation burial JNF351 was located within a grave measuring 1.78m by 0.60m, 0.28m deep and aligned south-west to north-east, with the head probably at the south-western end.
Inhumated human bone: Less than 25% of the skeleton (10g) had survived within the grave, consisting of parts of the skull from an adult (over 20 years) of indeterminate sex.
Burial goods: Thirteen glass beads (.1 – .3). As little of the skeleton remained in this grave, the position of a number of glass beads relative to the corpse is uncertain. They were found scattered over quite a wide area and appear to have been deliberately deposited like that; animal disturbance is unlikely to account for such a spread. If the head lay to the south they would have been scattered on the chest and possibly the neck. Only sufficient are present to form an armlet or the front part of a necklace. They cannot be precisely dated as both forms, a blue annular bead with white wave and a green cylinder, are long-lived. Similar green glass beads, although generally more neatly made, occur at Augst throughout the Roman period, while in Britain the annular blue bead with white wave is found in contexts dating from the Late Iron Age into the Pagan Saxon period (Riha 1990, 89, 11.23; Zepezauer 1993, Group 4.2.6; Guido 1978, Group 5a; Guido 1999, Group 6ix; Charlesworth 1972, 213, fig 79, 71). The date of this burial is therefore uncertain, but, being an inhumation, it is more likely to be of late Roman date.
Date: Mid to late 4th century +.

JNF351.1. Annular bead (JN475), small find no. 388. Illustrated. Annular bead of translucent cobalt blue glass with white marvered zigzag trail. Length 7.5 mm, diameter 18 mm.

JNF351.2-3. Glass beads (JN476), small find no. 389. Illustrated (one circular and one hexagonal only).

JNF351.2: Two long opaque green glass cylinder beads of hexagonal section. **JNF351.3**: Nine long opaque green glass cylinder beads of faceted circular section, and fragments of a tenth. All twelve beads were cut from a long rod of glass and are effectively the same type, but all show slight twisting along the length and the two hexagonal examples are just more sharply angular. Average length 11 mm, diameter 6 mm. Strung length (of twelve) 132 mm.

JNF352: double urned cremation burial

Description: Burial pit JNF352 was an oval feature, 0.63m by 0.42m and 0.25m deep, containing a double urned cremation burial.
Cremated human bone: A total of 1480g of cremated bone was recorded from two separate individuals within two separate urns. The bone was from a female young adult (20-35 years) and an adult (over 20 years) of indeterminate sex. Evidence of arthritis in the spine (spinal disease) was identified on the bone.
Burial goods: Two jars (JNF352.1 – .2) had been used as cremation urns and placed side-by-side within the feature. An inverted lid (.3) had been placed over urn JNF352.1. A small piece of animal bone was recorded from inside it.
Residual finds: Pottery sherds and a single iron nail.
Date: Mid 1st to the early 2nd century.

JNF352.1 Jar used as a cremation urn (JN794). Illustrated. Cam 266 jar, whole pot, although part of rim (3 sherds) broken away, surface slightly degraded, Fabric GX. 1st to early 2nd century.

JNF352.2 Jar used as a cremation urn (JN795). Illustrated. Cam 177 jar, complete pot, body more fragmented than base or rim, Fabric DJ. 1st to late 1st or early 2nd century.

JNF352.3 Lid (JN869). Illustrated. Lid, probably complete lid with bead rim, used as a lid for pot JNF352.1, Fabric GX.

Animal bone (JN875). One mammal bone weighing 1g was found inside the cremation urn JNF352.1.

JNF354: inhumation burial

Description: Inhumation burial JNF354 was located within a grave measuring 0.58m by 0.30m, 0.17m deep and aligned east to west. The size of the grave suggests a baby or young juvenile burial.
Inhumated human bone: No bone had survived.
Date: Mid 2nd to the mid 3rd century + (must be later than urned cremation burial JNF431, which is dated from the mid 2nd to the mid 3rd century).

JNF355: inhumation burial

Description: Inhumation burial JNF355 was located within a grave aligned south-east to north-west with the head buried at the south-western end. Part of the grave had been cut away by a modern service trench, but the surviving north-west end measured 1.20m by 0.64m wide and 0.18m deep.
Inhumated human bone: Less than 25% of the skeleton (128g) had survived within the grave, consisting of parts of the lower limbs and one fragment of ilium from an adult (over 20 years) of indeterminate sex.
Timber coffin: A small patch of wood staining may suggest that the body had been buried either within a wooden coffin or on a plank.
Residual finds: Eight grammes of cremated bone, pottery sherds and a single iron nail.
Date: Mid/late 2nd to the mid 3rd century + (must be later than cremation burial JNF226, which is dated from the mid/late 2nd to the mid 3rd century).

JNF356: urned cremation burial

Description: Burial pit JNF356 was a sub-circular feature, 0.57m in diameter and 0.34m deep, containing an urned cremation burial.

Cremated human bone: A total of 1079g of cremated bone was recorded from an adult (over 20 years) of indeterminate sex. Evidence of arthritis in the spine (spinal disease) and arthritis of the mandibular condyle (joint disease) was identified on the bone, along with a compression fracture of a thoracic vertebrae suggesting trauma.
Burial goods: A jar (JNF356.1) had been used as a cremation urn and an everted rim beaker (.2) had been placed over the urn and used as a lid.
Residual finds: Pottery sherds.
Date: 1st to the early 2nd/2nd century

JNF356.1 Jar used as a cremation urn (JN792). Illustrated. Jar with small bead on neck, similar to *CAR* **10** Fabric GX fig 6.71 no 532 from a context in pottery Period Ending Group (PEG) 10, *c* AD 150-200 (*CAR* 10 p 7 & 385). Whole pot, cracked on one side especially towards base, small burnt out organic temper voids across surfaces, Fabric GX.

JNF356.2 Beaker (JN793, JN878). Beaker, possibly of form Cam 108. Probably an everted rim beaker, decorated with overlapping series of wavy lines, degraded and crushed into numerous small sherds, Fabric GX(RCW). 1st to early 2nd century?

JNF357: inhumation burial

Description: Inhumation burial JNF357 was located within a grave measuring 2.22m by 0.72m, 0.41m deep and aligned south-east to north-west with the head buried at the south-eastern end.
Inhumated human bone: No bone had survived.
Timber coffin: A plan of the iron nails (JNF357.5) shows that the body had been buried within a coffin which measured 1.66m long and 0.44m wide.
Burial goods: Most of a jar (.1) was identified within the grave along with some copper-alloy fragments (.2), an iron ring with a carnelian intaglio and a copper-alloy ring (.3) and four hobnail shoes (.4). There were four scatters of iron hobnails, two near the feet and two outside the right hand side of the coffin. This implies that the corpse wore one pair of shoes or sandals and a second pair were deposited outside the coffin.
The finger-ring was found in the pelvic area and was probably worn at the time of burial. It dates to the later 1st or 2nd century and is likely to have been either an heirloom or placed in the grave for its symbolic significance (Manning 1985, 78). The scene, a ?satyr riding a goat and carrying a hunting stick, is a 'comic' version of the well-known image of a mounted warrior or rider god wielding a sword or spear (Thevenot 1968, 47-50; Ferris 1985; Johns 1990; Green 1997a, 114-17). Similar inversions of the heroic image occur on pottery, and Webster has suggested that they relate to the cult of Bacchus (Hull 1963, fig. 53, 13; Webster 1989, 6). A related scene with an unmounted satyr occurs on two rings from London (Manning 1985, 77).
Residual finds: Pottery sherds, some animal bone and 0.9g of cremated bone.
Date: Hadrianic to late 2nd century.

JNF357.1 Jar (JN979). Illustrated. Cam 278 jar, almost whole pot, part of one side in sherds, small sherd missing from rim (old damage), Fabric GB. Hadrianic to late 2nd century.

JNF357.2 Copper-alloy fragments (JN983), small find no. 362. Total weight <1 gm.

JNF357.3 Finger-ring (JN980), small find no. 294. Photographed. Heavily corroded and delaminated iron finger-ring with a carnelian intaglio showing a ?satyr carrying a hooked stick (*lagobolon*) on a goat walking to the left. For a comparable animal see Henig 1978, pl. 19, 613, and for satyrs with hunting sticks see *ibid.*, nos 143 and 320, Appendix, no. 2). Maximum internal diameter of ring approximately 19 mm; intaglio 14 by 10.5 mm.

JNF357.4 Iron hobnails (JN1303), small find no. 487.

JNF357.5. Iron coffin nails (JN1205, JN1303).

JNF360: inhumation burial

Description: Inhumation burial JNF360 was located within a grave measuring 2.30m by 0.68m, 0.72m deep and aligned south-east to north-west with the head at the south-eastern end.
Inhumated human bone: Less than 25% of the skeleton (324g) had survived within the grave, consisting of parts of the skull, limbs and pelvis from a male adult (over 20 years).

Residual finds: Pottery sherds (dated from the 1st to the 2nd century) and some iron nails.
Date: Mid 1st to 2nd century.

JNF361: inhumation burial

Description: Inhumation burial JNF361 was located within a grave aligned south-east to north-west with the head buried at the south-eastern end. Part of the feature was located outside of the excavation area but it measured 1.46m by 1.00m and 0.53m deep.
Inhumated human bone: Less than 25% of the skeleton (15g) had survived within the grave, consisting of parts of the lower limbs from an adult (over 20 years) of indeterminate sex.
Timber coffin: A plan of the iron nails (JNF361.4) shows that the body was buried within a coffin which measured at least 1.30m long and 0.52m wide.
Burial goods: Most of a jar (.1) was identified along with a piece of silver foil (.2) and two or three concentration of hobnails (.3). The hobnails lay inside the coffin (at the foot end), one close to the end board of the coffin and the other further in; positions that suggest that the shoes were not worn at the time of burial. The small fragment of silver foil found with one of the groups is probably all that remains of a delicate decorative motif on the shoe uppers.
Residual finds: Pottery sherds, a fragment of animal bone, a piece of worked flint and some cremated bone (1g).
Date: Early/mid 2nd to the late 3rd/early 4th century.

JNF361.1 Jar (JN970). Illustrated. Cam 268 jar, Fabric GX. Most of pot in sherds, although much of rim missing. Early/Mid 2nd to late 3rd/early 4th century.

JNF361.2. Silver foil (JN809), small find no. 349. Tiny fragment of thin silver foil associated with a concentration of hobnails. 5 by 5 mm.

JNF361.3 Iron hobnails (JN1312), small find no. 492.

JNF361.4 Iron coffin nails (JN968, JN1312).

JNF364: inhumation burial

Description: Inhumation burial JNF364 was located within a grave aligned north-east to south-west aligned. Areas around the edge of the grave had been cut away by urned cremation burials JNF126, JNF127, JNF302 and JNF309, but the feature measured 2.15m by 0.82m and 0.12m deep.
Inhumated human bone: No bone had survived.
Residual finds: Pottery sherds.
Date: Mid 1st to the early 2nd century (must be earlier in date than urned cremation burials JNF126, JNF127, JNF302, JNF309, JNF352 and inhumation burial JNF230, and must be later in date than urned cremation burial JNF482 and inhumation burials JNF426 and JNF482. These relationships indicate a date within the mid 1st to the early 2nd century).

JNF365: inhumation burial

Location: Not located.
Description: Inhumation burial JNF365 was located within a grave measuring 1.68m by 0.80m, 0.64m deep and aligned north to south.
Inhumated human bone: No bone was identified.
Date: Roman.

JNF366: inhumation burial

Description: Inhumation burial JNF366 was located within a grave measuring 1.00m by 0.65m, 0.32m deep and aligned north-west to south-east.
Inhumated human bone: No bone had survived.
Timber coffin: A small area of wood staining and several iron nails (JNF366.2) indicates that the body had been buried within a coffin measuring 0.72m long and 0.22m wide. The size of this coffin suggests a child/juvenile burial.
Burial goods: Iron hobnails (.1).
Residual finds: Pottery sherds and a copper-alloy object.

Date: Roman.

JNF366.1 Iron hobnails (JN1075), small find no. 368. Two iron hobnails fixed into a fragment of mineral-replaced leather. Length of best preserved 13 mm.

JNF366.2 Iron coffin nails (JN1075).

JNF367: inhumation burial

Description: Inhumation burial JNF367 was located within a grave measuring 2.31m by 1.00m wide, 0.33m deep and aligned east to west.
Inhumated human bone: Less than 25% of the skeleton (7g) had survived within the grave, consisting of parts of the left lower limb and left humerus from an adult (over 20 years) of indeterminate sex.
Timber coffin: The presence of several iron nails (JNF367.2) suggests that the body was buried within a coffin.
Burial goods: A jar (JNF367.1) was identified within the south-west corner of the grave.
Residual finds: Pottery sherds.
Date: Early/mid 2nd to the late 3rd/early 4th century.

JNF367.1 Jar (JN850). Illustrated. Cam 268 jar, complete pot, lower half whole, upper half in sherds and rim complete, Fabric GX. Early/mid 2nd to late 3rd/early 4th century.

JNF367.2 Iron coffin nails (JN1252).

JNF368: urned cremation burial

Description: Burial pit JNF368 was a sub-circular feature, 0.44m in diameter and 0.20m deep, containing a disturbed urned cremation burial.
Cremated human bone: A total of 742g of cremated bone was recorded from an old adult male (over 50 years). Evidence of arthritis of the spine (spinal disease), arthritis of the hip (joint disease), Schmorl's nodes (spinal disease), periostitis (a non-specific infection) and dental disease was identified on the bone.
Burial goods: A jar (JNF368.1) had been used as a cremation urn and a flagon (.2) and part of a second jar (.3) had been placed next to urn. Several fragments of burnt animal bone (.4) were also identified and may represent either 'food for the afterlife' or animal bone being used as fuel on the pyre.
Residual finds: Pottery sherds and some iron nails.
Date: Mid-late 2nd century.

JNF368.1 Jar used as a cremation urn (JN1000). Illustrated. Cam 278 jar, shouldered with narrow base and burnished line decoration, Fabric GB. Whole pot but cracks through rim on each side of pot. Mid-late 2nd century.

JNF368.2 Flagon (JN999). Illustrated. Cam 156 flagon, complete pot in sherds, Fabric DJ. Hadrianic to early 3rd century.

JNF368.3 Jar (JN892). Cam 268 jar, partial pot with rim and body sherds, Fabric GX. Early/mid 2nd to late 3rd/early 4th century.

JNF368.4 Animal bone (JN893). Five pieces of mammal bone, weighing 23g, were produced from this context. A distal tibia of a juvenile pig was noted but the remaining bone was burnt and in very poor condition making positive identification impossible.

JNF370: inhumation burial

Description: Inhumation burial JNF370 was located within a grave aligned north-west to south-east. Most of the grave was located outside of the excavation area, but the excavated feature measured 0.96m by 1.10 wide and 0.71m deep.
Timber coffin: The presence of several coffin nails (JNF370.1) would suggest that the body had been buried within a coffin.
Inhumated human bone: No bone had survived.
Residual finds: Two fragments of animal bone.
Date: Roman.

JNF370.1 Iron coffin nails (J13 (eval)).

JNF371: urned cremation burial

Description: Burial pit JNF371 was an oval feature containing a probable urned cremation burial. Much of the burial pit had been cut away by inhumation burial JNF357, but it measured 0.70m by 0.21m and 0.27m deep.
Cremated human bone: A total of 98g of cremated bone was recorded from an adult (over 20 years) of indeterminate sex. Evidence of periostitis (a non-specific infection) was identified on the bone.
Burial goods: A jar (JNF371.1) had probably been used as a cremation urn.
Residual finds: Two pieces of burnt flint.
Date: 1st to the 2nd/3rd century?.

JNF371.1 Jar used as a cremation urn (JN996). Large storage jar with hooked rim, all of base and much of lower body present although rim is missing, possibly form Cam 270B? 1st to 2nd/3rd century?

JNF372: urned cremation burial

Description: Burial pit JNF372 was a sub-circular feature, 0.38m in diameter and 0.18m deep, containing a disturbed urned cremation burial.
Cremated human bone: A total of 8g of probably human cremated bone was recorded.
Burial goods: A jar (JNF372.1) had probably been used as a cremation urn.
Residual finds: Two pottery sherds and four iron nails.
Date: Mid 1st to the early 2nd century.

JNF372.1 Jar used as a cremation urn (JN881). Illustrated. Cam 266 jar, almost complete pot in sherds although part of rim and shoulder missing, Fabric GX. 1st to early 2nd century.

JNF373: burial pit containing pyre debris

Description: Burial pit JNF373 was an oval feature, 0.94m by 0.80m and 0.27m, containing pyre debris. It contained a very small amount of cremated bone along with a concentration of charcoal and burning scattered throughout
Cremated human bone: A total of 22g of cremated bone was recorded from a possible adult (over 20 years) of indeterminate sex.
Burial goods: Several pottery sherds, some hobnails, nails and a fragment of animal tooth were identified scattered throughout the fill.
Date: 1st century to early Antonine.

Pottery sherds (JN891). Fifty sherds of Fabric DJ probably all from two very broken-up ring-neck flagons of form Cam 155 (dated Claudio-Neronian to early Antonine). Forty sherds of Fabric GX from several (probably 4-5) pots including a Cam 266 jar (dated 1st to early 2nd century) and a large storage jar.

Iron hobnails (JN1256), small find no. 478. ac) Iron hobnail, length 18 mm.

Iron nail (JN885), small find no. 577. Complete iron nail, tip clenched, length 23 mm.
Iron nails (JN1256): b) shank fragment, length 23 mm; i) incomplete, length 34 mm; j) incomplete, length 26 mm; l) incomplete, length 25 mm; m) incomplete, length 43 mm; q) shank fragment, length 11 mm; w) incomplete, length 34 mm; z) shank fragment, length 23 mm.

Animal bone (JN892). One sheep/goat molar was found, weighing 1g.

JNF374: inhumation burial

Description: Inhumation burial JNF374 was located within a grave aligned north-west to south-east aligned. Part of the grave had been cut away by a modern building foundation, but the surviving feature measured approximately 0.70m long, 0.58m wide and 0.20m deep.
Inhumated human bone: No bone had survived.
Residual finds: Iron nails.
Date: Mid 1st to mid/late 3rd century (must be earlier than urned cremation burial JNF348, which is dated from the late 2nd to the mid/late 3rd century).

JNF375: inhumation burial
Description: Inhumation burial JNF375 was located within a grave aligned east to west. Most of the grave had been cut away by inhumation burial JNF367, but the surviving feature measured 0.36m by 0.60m and 0.31m deep.
Inhumated human bone: No bone had survived.
Date: 1st to the late 3rd/early 4th century (must be earlier than inhumation burial JNF367, which is dated from the early/mid 2nd to the late 3rd/early 4th century).

JNF377: urned cremation burial
Description: Burial pit JNF377 was a sub-circular feature, 0.54m in diameter and 0.37m deep, containing an urned cremation burial.
Cremated human bone: A total of 413g of cremated bone was recorded from a male middle adult (35-50 years).
Burial goods: A jar (a face pot) (JNF377.1) and a beaker (.2) had both been used as cremation urns and placed side-by-side within the feature. The cremated bone suggests that only one individual was present.
Residual finds: Pottery sherds and some iron nails.
Date: Early to late 2nd century + (the pottery vessels date from the 1st to early 2nd century, however this feature must be later than inhumation burial JNF357 which is dated from the early to late 2nd century).

JNF377.1 Face pot (JN909). Illustrated. Face pot jar, grey ware with frilled rim and no handles. The form of the vessel does not fit within the definitions of Cam 287-290 face pots (*CAR* **10** p 480). Fabric GX. Whole pot though all of frilled rim and parts of face loose in sherds. Claudio-Neronian to 3rd century.

JNF377.2 Beaker (JN910). Illustrated. Essentially a Cam 108 beaker though with wavy line decoration rather than the usual stab dots, Fabric GX. Most of pot with one side intact. 1st to early 2nd century.

JNF378: inhumation burial
Description: Burial pit JNF378 was located within a grave aligned north-east to south-west. Most of the grave was located outside of the excavation area, but the feature measured 0.50m by 0.40 and 0.24m deep.
Inhumated human bone: No bone had survived.
Date: Mid 1st to 2nd/early 3rd century + (must be later than inhumation burial JNF512 which is dated from the mid 1st to 2nd/early 3rd century +).

JNF380: urned cremation burial
Description: Burial pit JNF380 was a probable oval feature containing an urned cremation burial. Part of the pit had been cut away by inhumation burial JNF512, but the surviving feature measured 0.65m by 0.38m and 0.34m deep.
Cremated human bone: A total of 806g of cremated bone was recorded from an adult (over 20 years) of indeterminate sex.
Burial goods: A vase (JNF380.1) had been used as a cremation urn and 12 fragments of melted glass (.2) were identified inside the urn.
Residual finds: Pottery sherds, two pieces of burnt flint and an iron nail.
Date: Claudio-Neronian to late 2nd/early 3rd century.

JNF380.1 Vase (JN908). Illustrated. Cam 207/296 plain pedestal vase with high shoulder, cracked on one side, surfaces degraded, Fabric DJ. Whole pot. Claudio-Neronian to late 2nd or early 3rd century.

JNF380.2 Glass (JN880) and (JN916). (JN880) Five melted fragments, blue/green, from thin-walled vessel, weight 2.6g. (JN916) Seven melted fragments, blue/green, from thin-walled vessel, 5.3g. The presence on the pyre of a thin-walled vessel is indicated these metal fragments, but the form of the vessel cannot be identified other than to say that it was not a tubular unguent bottle so common elsewhere in the cemetery as a pyre good.

JNF381: inhumation burial
Description: Inhumation burial JNF381 was located within a grave aligned north-west to south-east. Most of the grave was located outside of the excavation area and had been cut

away by inhumation burial JNF382, but the excavated feature measured 0.46m by 0.30 and 0.30m deep.
Inhumated human bone: No bone had survived.
Date: Mid 1st to the early 2nd century + (must be earlier than inhumation burial JNF382 , which cannot be earlier in date than the mid 1st to the early 2nd century +).

JNF382: inhumation burial
Description: Inhumation burial JNF382 was located within a grave aligned north-west to south-east. Most of the grave was located outside of the excavation area, but the excavated feature measured 0.68m by 0.50 and 0.38m deep.
Inhumated human bone: No bone had survived.
Residual finds: Pottery sherds (dated from the 1st to the early 2nd century).
Date: Mid 1st to the early 2nd century +.

JNF383: inhumation burial
Description: Inhumation burial JNF383 was located within a grave aligned north-west to south-east. Most of the grave was cut away by a modern building foundation, but the surviving feature measured 0.52m by 0.86m wide and 0.82m deep.
Inhumated human bone: Less than 25% of the skeleton (15g) had survived within the grave, consisting of parts of the skull from an adult (over 20 years) of indeterminate sex.
Timber coffin: A plan of three iron nails (JNF383.1) show that the body may have been buried within a coffin.
Date: Roman.

JNF383.1 Iron coffin nails (JN1254).

JNF384: inhumation burial
Description: Inhumation burial JNF384 was located within a grave measuring 0.82m by 0.63m, 0.37m deep and aligned east to west. The small size of the grave suggests a child burial.
Inhumated human bone: No bone had survived.
Date: Early/mid 2nd to the late 3rd/early 4th century + (must be later than inhumation burial JNF367, which is dated from the early/mid 2nd to the late 3rd/early 4th century).

JNF385: inhumation burial
Description: Inhumation burial JNF385 was located within a grave aligned east to west. One edge of the grave had been cut away by inhumation burial JNF384, but it measured 1.36m by 0.38m and 0.3m deep. The small grave size suggests a juvenile or short adult.
Inhumated human bone: No bone had survived.
Date: Early/mid 2nd to the late 3rd/early 4th century + (must be later than inhumation burial JNF367, which is dated from the early/mid 2nd to the late 3rd/early 4th century).

JNF387: inhumation burial
Description: Inhumation burial JNF387 was located within a grave probably aligned north to south. Most of the grave was located outside of a slot dug into the excavation area and had been cut away by urned cremation burial JNF380, but the excavated feature measured 0.80m by 1.00 and 0.21m deep.
Inhumated human bone: No bone had survived.
Residual finds: Pottery sherds, some iron nails and animal bone.
Date: Mid 1st to the late 2nd/early 3rd century (must be earlier than urned cremation burial JNF380, which is dated from the mid 1st to the late 2nd/early 3rd century).

JNF388: inhumation burial
Description: Inhumation burial JNF388 was located within a grave aligned east to west. Part of the grave had been cut away by both inhumation burial JNF389 and a modern foundation,

but the surviving feature measured 0.50m by 0.36m wide and 0.09m deep. The narrow width suggests a child burial.
Inhumated human bone: No bone had survived.
Date: Roman.

JNF389: inhumation burial
Description: Inhumation burial JNF389 was located within a grave aligned north to south. Most of the grave was located outside of the excavation area or had been cut away by inhumation burial JNF370, but the excavated feature measured 0.84m by 0.54 and was 0.16m deep.
Inhumated human bone: No bone had survived.
Date: Roman.
Burial Marker: Two post holes (JNF376 (0.20m in diameter and 0.29m deep) and JNF390 (0.19m in diameter and 0.32m deep)) may have held wooden posts used as burial markers.

JNF392: inhumation burial
Description: Inhumation burial JNF392 was located within a grave aligned north-east to south-west. Most of the grave had been cut away by inhumation burials JNF393 and JNF394, and by a modern building foundation, but the surviving feature measured 1.00m and 0.26m wide.
Inhumated human bone: No bone had survived.
Date: Roman.

JNF393: inhumation burial
Description: Inhumation burial JNF393 was located within a grave aligned north to south. Part of the grave was located outside of a slot dug into the excavation area and had been cut away by inhumation burial JNF394, but the feature measured at least 1.25m by 0.48m.
Inhumated human bone: No bone had survived.
Date: Roman.

JNF394: inhumation burial
Description: Inhumation burial JNF394 was located within a grave aligned north-east to south-west with the head at the north-eastern end. One edge of the grave had been cut away by a modern building foundation, but it measured 2.00 by 0.76m wide.
Inhumated human bone: Less than 25% of the skeleton (174g) had survived within the grave, consisting of parts of the skull and limbs from an adult (over 20 years) of indeterminate sex.
Residual finds: Part of a human skull (probably from an earlier inhumation that had been disturbed during the digging of JNF394), several iron nails and a piece of worked flint.
Date: Roman.

JNF395: inhumation burial
Description: Inhumation burial JNF395 was located within a grave measuring at least 1.46m by 0.80m, 1.10m deep and aligned south to north aligned with the head at the southern end. Most of the grave was located outside of the excavation area.
Inhumated human bone: Less than 25% of the skeleton (47g) had survived within the grave, consisting of parts of the long bones from an adult (over 20 years) of indeterminate sex. Evidence of periostitis (a non-specific infection) was identified on the bone.
Timber coffin: A plan of the iron nails (JNF395.3) shows that the body had been buried within a coffin measuring at least 1.22m by 0.54m.
Burial goods: Most of one jar (.1) and two hobnails shoes (.2).
Residual finds: A copper-alloy brooch fragment.
Date: Early/mid 2nd to the late 3rd/early 4th century.

JNF395.1 Jar (JN1019). Illustrated. Cam 268 jar, almost whole pot although part of one side detached as sherds, Fabric GX. Early/mid 2nd to late 3rd/early 4th century.

JNF395.2 Iron hobnails (JN1016) and (JN1017), small find no. 525. The position of the hobnails suggests that they came from shoes or sandals that were not worn at the time of burial.

JNF395.3 Iron coffin nails (JN1283).

JNF396: inhumation burial

Description: Inhumation burial JNF396 was located within a grave measuring 1.44m by 0.64m, 0.35m deep and aligned north to south with the head at the northern end.
Inhumated human bone: Less than 25% of the skeleton (36g) had survived within the grave, consisting of parts of the skull from a young adult (20-35 years) of indeterminate sex.
Timber coffin: An area of wood staining may suggest that the body had been buried either in a wooden coffin or on a plank.
Date: Roman.
Possible Burial Marker: Two post holes (JNF398 (0.13m in diameter and 0.52m deep) and JNF476 (0.15m in diameter and 0.50m deep)) were located close to this burial and may have held wooden posts used as burial markers.

JNF397: inhumation burial

Description: Inhumation burial JNF397 was located within a grave measuring 2.26m by 0.76m, 0.63m deep and aligned north to south with the head at the northern end.
Inhumated human bone: No bone had survived.
Timber coffin: A plan of the iron nails (JNF397.3) from the feature show that the body had been buried within a coffin measuring approximately 2.02m long and 0.46m wide.
Burial goods: A bowl (.1) and one or more hobnail shoes (.2) were identified within the coffin.
Date: Mid 1st to early 2nd century.
Possible Burial Marker: Two post holes (JNF398 (0.13m in diameter and 0.52m deep) and JNF476 (0.15m in diameter and 0.50m deep)) were located close to this burial and may have held wooden posts used as burial markers.

JNF397.1 Cam 227, plain carinated bowl. Most or all of pot in sherds. Surfaces originally burnished but now very degraded. Fabric GX. Neronian to early 2nd century.

JNF397.2 Iron hobnails (JN1248), small find no. 484. A cluster of hobnails overlay the coffin stain, suggesting that they had been placed on the lid.

JNF397.3 Iron coffin nails (JN1248).

JNF399: inhumation burial

Description: Inhumation burial JNF399 was located within a grave aligned east to west. Part of the grave was cut away by inhumation burial JNF397, but the surviving feature measured 1.54m long and 0.82m wide.
Inhumated human bone: No bone had survived.
Residual finds: Iron nails.
Date: Roman.
Possible Burial Marker: Two post holes (JNF398 (0.13m in diameter and 0.52m deep) and JNF476 (0.15m in diameter and 0.50m deep)) were located close to this burial and may have held wooden posts used as burial markers.

JNF400: inhumation burial

Description: Inhumation burial JNF400 was located within a grave measuring 1.24m by 0.66m, 0.51m deep and aligned north-west to south-east.
Inhumated human bone: No bone had survived.
Burial goods: Two copper-alloy coins (JNF400.1 – .2) and a number of iron nails (.3) forming a wooden box. No skeletal material survived in this grave, but the position of coin .1, just over halfway down the western side, is appropriate for a coin held in the right hand. It dates the grave to the middle or end of the 4th century. A nailed wooden box (.3) lay near the lower left leg or foot. As no contents survived, it probably contained clothing (*see Report*). The position of coin .2 was not recorded, but textile impressions are visible in the corrosion on the obverse, suggesting that it lay reverse side up either on the body or on the (presumed) clothing in the

box. It pre-dates .1 by about 300 years, and is an example of an antique coin buried for the protective significance of the reverse image, Minerva advancing with shield and spear (*see Report*).
Date: Mid/late 4th century.
Possible burial marker: Two post holes (JNF398 (0.13m in diameter and 0.52m deep) and JNF476 (0.15m in diameter and 0.50m deep)) were located close to this burial and may have held wooden posts used as burial markers.

JNF400.1 Coin (JN900), small find no. 344. West side; probably held in the right hand. Coin of Constantinopolis, rev. Victory on prow; Trier mint; copy as HK 52; AD 330-41.

JNF400.2 Coin (JN1119), small find no. 342. Position not recorded. Coin of Claudius I, *as*, rev. Minerva; copy as *RIC* 100; AD 41-54. There are textile impressions preserved in corrosion on the obverse.

JNF400.3 Iron nails (JN1249). In the south-east corner. Iron nails forming the outline of a wooden box about 200 by 150 mm in plan.

JNF401: inhumation burial
Description: Inhumation burial JNF401 was located within a grave aligned north-west to south-east. Most of the grave was located outside of the excavation area, but the excavated feature measured 0.44m by 0.48m wide and 0.2mdeep
Inhumated human bone: No bone had survived.
Date: Roman.

JNF402: inhumation burial
Description: Inhumation burial JNF402 was located within a grave aligned north-west to south-east . Much of the grave had been cut away by a modern building foundation, but the surviving feature measured 0.44m by 0.80m and 0.78m deep.
Inhumated human bone: No bone had survived.
Burial goods: A jar (JNF402.1).
Residual finds: Iron nails.
Date: 1st to the early 2nd century?
Burial Marker: A single post hole (JNF475: 0.13m in diameter and 0.61m deep) cut into the grave may have held a wooden post used as a burial marker.

JNF402.1 Jar (JN905). Illustrated. Jar, probably a Cam 266, Fabric GX. Probably a complete pot in sherds and fragments. 1st to early 2nd century?

JNF403: urned cremation burial
Description: Burial pit JNF403 was an oval feature, 0.43m by 0.34m+ and 0.25m deep, containing an urned cremation burial. The burial was located within quarry pit JNF194 and part of it was unexcavated.
Cremated human bone: A total of 778g of cremated bone was recorded was recorded from an adult (over 20 yeas) of indeterminate sex.
Burial goods: A jar (JNF403.1) had been used as a cremation urn.
Residual finds: A single iron nail.
Date: Mid 1st to the early 2nd century.

JNF403.1 Jar used as a cremation urn (JN1243). Illustrated. Cam 266 jar, Fabric GX. Whole pot, upper part of one side broken away as sherds and small fragment of rim missing (recent damage). 1st to early 2nd century.

JNF404: inhumation burial
Description: Inhumation burial JNF404 was located within a north to south. Part of the grave had been cut away by a modern building foundation, but the surviving feature measured approximately 1.30m by 0.62m and 0.77m deep.
Inhumated human bone: No bone had survived.
Date: 1st to 2nd century + (must be later than inhumation burials JNF405 and JNF410, which are dated from the 1st to the 2nd century +).

JNF405: inhumation burial
Description: Inhumation burial JNF405 was located within a grave aligned north to south. Part of the grave had been cut away by inhumation burials JNF404, JNF407 and by pit JNF406, but the surviving feature measured 1.00m by 0.24m wide and 0.29m deep. The size of the grave suggests a juvenile burial.
Inhumated human bone: No bone had survived.
Date: 1st to 2nd century + (must be earlier than inhumation burial JNF407, which is dated from the 1st to the 2nd century +).

JNF407: inhumation burial
Description: Inhumation burial JNF407 was located within a grave measuring 0.88m by 0.48m, 0.44m deep and aligned north-east to south-west. The size of the grave suggests a juvenile burial.
Inhumated human bone: No bone had survived.
Residual finds: A single pottery sherd (dated from the mid 1st to the 2nd century).
Date: Mid 1st to the 2nd century +.

JNF408: inhumation burial
Description: Inhumation burial JNF408 was located within a grave measuring 1.10m by 0.59m wide, 0.12m deep and aligned north-west to south-east.
Inhumated human bone: No bone had survived.
Timber coffin: A plan of the iron nails (JNF408.2) shows that the body had been buried within a coffin which measured 0.81m by 0.36m. The size of the coffin suggests a juvenile burial.
Burial goods: A flask (JNF408.1).
Residual finds: Pottery sherds, iron nails, tile fragments and cremated bone (2g).
Date: 1st to mid-late 2nd century, probably the 1st-early 2nd century.

JNF408.1 Flask (JN1038). Illustrated. Cam 233-235 flask with cordoned shoulder and a rounded body. Complete pot although neck and one side in sherds. Fabric GX(RCW). 1st to mid-late 2nd century, Fabric suggests probably 1st-early 2nd century.

JNF408.2 Iron coffin nails (JN1284).

JNF410: inhumation burial
Description: Inhumation burial JNF410 was located within a grave aligned north to south. Part of the grave had been cut away by a modern building foundation and by inhumation burials JNF404, JNF405 and JNF407, but the surviving feature measured 0.84m by 0.42m and 0.40m deep.
Inhumated human bone: No bone had survived.
Date: 1st to 2nd century + (must be earlier than inhumation burial JNF407, which is dated from the 1st to the 2nd century +).

JNF417: burial pit containing pyre debris
Description: Burial pit JNF417 was an oval feature, 0.91m by 0.73m and 0.31m deep, containing pyre debris. It contained a very small amount of cremated bone and a concentration of charcoal and burning scattered throughout.
Burial goods: A quantity of pottery sherds (some burnt) and a number of iron nails were identified throughout the fill.
Cremated human bone: A total of 5g of cremated bone was recorded from a possible adult (over 20 years) of indeterminate sex.
Date: Mid 1st to the early 2nd century.

Pottery sherds (JN907). Twenty sherds of Fabric DJ from 2-3 pots, several burnt and 20 sherds of Fabric GX from 4-5 pots, which include a Cam 218 (dated 1st to early 2nd century) and a beaker rim, several sherds are burnt (pottery dated 1st to early 2nd century).

Iron nails (JN1268): a) shank fragment, length 27 mm; b) shank fragment, length 24 mm; c) ?two shank fragments corroded together, length 13 mm; d) incomplete (tip only missing), length 39 mm; e) complete, length 45 mm; f)

complete, length 62 mm; g) complete, length 55 mm; h) incomplete (tip only missing), length 58 mm; i) incomplete, length 22 mm.

JNF418: inhumation burial
Description: Inhumation burial JNF418 was located within a grave aligned north to south. Part of the grave had been cut away by a modern building foundation, but the surviving feature measured 1.00m by 0.50m and 0.11m deep.
Inhumated human bone: No bone had survived.
Date: Roman.

JNF421: inhumation burial
Description: Inhumation burial JNF421 was located within a grave aligned east to west. Part of the grave was located outside the excavation area, but the excavated feature measured 0.90m by 0.60m and 0.26m deep.
Inhumated human bone: No bone had survived.
Date: Roman.

JNF423: inhumation burial
Description: Inhumation burial JNF423 was located within a grave aligned south-east to north-west with the head at the south-eastern end. Part of the grave was located outside of the excavation area, but the excavated feature measured 0.48m by 0.38m and 0.23m deep.
Inhumated human bone: Less than 25% of the skeleton (264g) had survived within the grave, consisting of parts of the skull from a young-middle adult (20-50 years) who was possibly male.
Date: Roman.

JNF424: inhumation burial
Description: Inhumation burial JNF424 was located within a grave measuring 2.10m by 0.72m, 0.48m deep and aligned south-west to north-east with the head at the south-western end.
Inhumated human bone: Less than 25% of the skeleton (163g) had survived within the grave, consisting of parts of the skull and limbs from an adult (over 20 years) who was possibly male.
Burial goods: Two hobnail shoes (JNF424.1) were also identified within the north-east end of the grave.
Residual finds: Pottery sherds.
Date: Mid 1st to the 2nd century (must be earlier than inhumation burial JNF296, which is dated from the mid 1st to the 2nd century).

JNF424.1 Hobnails (JN946) and (JN947), small find no. 527. The positions of the two scatters of hobnails at the foot of this grave imply that they came from shoes or sandals worn at the time of burial.

JNF425: inhumation burial
Description: Inhumation burial JNF425 was located within a measuring 1.00m by 0.52m and aligned north to south. The size of the grave is typical of a juvenile burial.
Inhumated human bone: No bone had survived.
Date: Mid 1st to 2nd century (must be earlier than urned cremation burials JNF350, which is dated from the early to late 2nd century).

JNF426: inhumation burial
Description: Inhumation burial JNF426 was located within a grave aligned north-east to south-west. One end of the grave had been cut way by urned cremation burial JNF482, but it measured 1.58m by 0.60m and 0.51m deep.
Inhumated human bone: No bone had survived.
Burial goods: A bowl (JNF426.1).
Residual finds: A single pottery sherd.

Date: Mid 1st to the early 2nd century.

JNF426.1 Bowl (JN1081, JN1336). Cam 218 bowl, less than 50% of the pot is present in sherds, some discoloured sherds indicate that the vessel had been scorched, Fabric GX. 1st to early 2nd century.

JNF427: inhumation burial

Description: Inhumation burial JNF427 was located within a grave aligned north-east to south-west. Part of the grave had been cut away by urned cremation burials JNF302, JNF324 and JNF431, and by inhumation burial JNF364, but the surviving feature measured 1.30m by 0.96m and 0.24m deep.
Inhumated human bone: No bone had survived.
Burial goods: A copper-alloy coin (JNF427.1) and some hobnails (.2).
Date: Mid 1st century +.

JNF427.1 Coin (JN1004), small find no. 350. Coin of Claudius I, *as*, rev. *Constantia Augusti*; *RIC* 95; AD 41-54.

JNF427.2 Iron hobnails (JN1242).

JNF428: inhumation burial

Description: Inhumation burial JNF428 was located within a aligned north-east to south-west. Part of the grave had been cut away by inhumation burial JNF506, but the surviving feature measured 0.52m by 0.46m and 0.37m deep.
Inhumated human bone: No bone had survived.
Date: Mid 1st to the mid 3rd century (must be earlier than inhumation burial JNF506, which is dated from the mid 1st to the mid 3rd century).

JNF430: inhumation burial
Description: Inhumation burial JNF430 was located within a grave measuring 1.82m by 0.80m, 0.21m deep and aligned north-west to south-east.
Inhumated human bone: No bone had survived.
Timber coffin: The presence of several coffin nails (JNF430.2) would suggest that the body had been buried within a coffin.
Burial goods: A flagon (.1).
Date: Hadrianic to the early 3rd century.
Possible Burial Marker: Two post holes (JNF398 (0.13m in diameter and 0.52m deep) and JNF476 (0.15m in diameter and 0.50m deep)) were located close to this burial and may have held wooden posts used as burial markers.

JNF430.1 Flagon (JN913). Illustrated. Cam 156 flagon, whole pot, although intact top broken away as one piece, Fabric DJ. Hadrianic to early 3rd century.

JNF430.2 Iron coffin nails (JN1262).

JNF431: urned cremation burial

Description: Burial pit JNF431 was an oval feature, 0.88m by 0.73m and 0.32m deep, containing an urned cremation burial.
Cremated human bone: A total of 585g of cremated bone was recorded from a mid/old adult (35-over 50 years) who was possibly male. Evidence of arthritis of the hip (joint disease) was identified on the bone.
Burial goods: A jar (JNF431.1) had been used as a cremation urn and a beaker (.2), a miniature jar (.3), a bowl (.4) and part of another pot (.5) had been placed around the urn.
Residual finds: Three hobnails and several pottery sherds.
Intrusive finds: Some 4th century pottery sherds.
Date: Mid 2nd to the mid 3rd century.
Burial Marker: A single post hole (JNF446: 0.26m in diameter by 0.20m deep) had been cut into the edge of this burial and may have held a wooden post used as a burial marker.

JNF431.1 Jar used as a cremation urn (JN939). Illustrated. Jar, whole pot in orange coloured fabric, faint traces of cream slip, slightly degraded surfaces, Fabric FJ. The orange fabric colour suggests a mid 2nd century date (*CAR* **10** p 347).

JNF431.2 Beaker (JN938). Illustrated. Small or possibly miniature beaker, Fabric GX. Whole pot.

JNF431.3 Miniature jar (JN937). Illustrated. Cam 279A/B miniature jar, burnish lattice decorated with burnished wavy line around rim, slightly degraded, Fabric GA. Whole pot although has small chip to rim (old damage) and crack in one side with adjacent spall. Early to mid-late 2nd century.

JNF431.4 Bowl (JN940). Illustrated. Cam 243-245/246 bowl, most of pot in softish red-brown sandy black surfaced ware, slightly angular profile, Fabric GX. 1st to early 2nd century.

JNF431.5 Pot (JN941). Illustrated. Cam 243-245/246 partial pot, about half of one side with base, rounded profile, Fabric GX. 1st to early 2nd century.

JNF432: inhumation burial

Description: Inhumation burial JNF432 was located within a grave aligned north-west to south-east. Part of the grave had been cut away by a modern service trench, but the surviving feature measured 1.30m by 0.36m wide.
Inhumated human bone: No bone was identified.
Date: Early/mid to the mid/late 3rd century + (must be later than inhumation burial JNF216, which is dated from the early/mid to the mid/late 3rd century).

JNF433: inhumation burial

Description: Inhumation burial JNF433 was located within a grave probably aligned east to west. Due to a number of safety concerns this grave was left unexcavated.
Surface finds: Three iron nails.
Date: Mid 3rd century + (must be later than inhumation burial JNF434, which is dated from the mid 3rd century +).

JNF434: inhumation burial

Description: Inhumation burial JNF434 was located within a grave probably aligned north-east to south-west. Due to a number of safety concerns this grave was left unexcavated.
Burial goods: A copper-alloy coin (JNF434.1) was recorded on the surface of the feature but it is uncertain if the coin was a deliberately placed burial good or a residual find.
Date: Mid 3rd century +.

JNF434.1 Coin (JN1122), small find no. 343. Coin of Otacilia Severa, *as*, rev. *Miliarium Saeculum*; *RIC* (Philip I) 199; AD 244-9.

JNF435: inhumation burial

Description: Inhumation burial JNF435 was located within a grave aligned east to west. Due to a number of safety considerations this grave was left unexcavated. *Date*: 1st to 2nd century + (must be earlier than inhumation burial JNF439, which is dated from the 2nd century +).

JNF436: inhumation burial

Description: Inhumation burial JNF436 was located within a grave on an unknown alignment. Due to a number of safety considerations this grave was left unexcavated.
Date: 1st to 2nd century +.

JNF437: inhumation burial

Description: Inhumation burial JNF437 was located within a grave probably aligned north-west to south-east. Due to a number of safety considerations this grave was left unexcavated.
Residual finds: Two pottery sherds.
Date: 1st to 2nd century +.

JNF439: inhumation burial

Description: Inhumation burial JNF439 was located within a grave measuring 1.60m by 0.62m, 0.22m deep and aligned south-east to north-west with the head at the south-eastern end. One edge of the grave was partly cut away by inhumation burial JNF433.
Inhumated human bone: Less than 25% of the skeleton (37g) had survived within the grave, consisting of parts of the skull from an adult (over 20 years) of indeterminate sex.
Burial goods: A copper-alloy cosmetic set (JNF439.1) was identified next to the skull. A cosmetic set was used for grinding coloured pigments used to paint the face (at least). They were used from the Late Iron Age to about the late 3rd century or early 4th century AD, and centre-looped sets such as this one tend to occur in contexts dated to late within that range (Jackson 2006, 106, 110).
Residual finds: Ten pieces of animal bone.
Date: Mid 2nd + (must be later than inhumation burial JNF285 which is dated from AD 138 to 61 +).

JNF439.1. Cosmetic set (JN976), small find no. 295. Illustrated. The description of the cosmetic set is by Ralph Jackson, British Museum (Jackson 2006): copper-alloy cosmetic set with centre-looped pestle, length 54 mm, and centre-looped mortar, length 68 mm. The pestle has a crescentic twin-tapered rod and a prominent, strutted loop with ovoid eye and triangular aperture. The mortar, also with strutted loop and triangular aperture, has a crescentic bow with tiny knobbed terminals, a capacious U-sectioned groove and relatively thick walls decorated with an incuse paired zigzag motif. The shared and distinctive form of the loop assembly demonstrates that the two components were made together as a matching set. It may be a regional type, for this is a feature paralleled on an unprovenanced mortar from Norfolk (Jackson forthcoming, no,. 362; British Museum P&E1986, 8-1, 1), which also has small, knobbed terminals and an incuse, zigzag motif on the bow, and on three pestles (*ibid.*, nos 433, 525, 590) from Saham Toney, Norfolk and Wenhaston, Suffolk (both in private hands) and an unprovenanced example (British Museum P1999, 8-2, 88). The incuse, zigzag decoration of the bow is a common motif on mortars, including several from Colchester (Jackson 1985, nos 8, 69, 80; forthcoming, nos 113-14, 119).

JNF440: urned cremation burial

Description: Burial pit JNF440 was a sub-circular feature, 0.31m in diameter, containing an urned cremation burial.
Cremated human bone: A total of 559g of cremated bone was recorded from a male young adult (20-35 years). Evidence of a spinal disease was identified on the bone.
Burial goods: A jar (JNF440.1) had been used as a cremation urn.
Residual finds: Pottery sherds, some animal bone and a single iron nail.
Date: Mid-late 2nd century.

JNF440.1 Jar (JN987). Illustrated. Cam 278 jar, shouldered with a narrow base and a flared rim, lattice decorated, surface degraded, Fabric KX. Complete pot although three sherds have broken away from the rim and shoulder. Mid-late 2nd century.

JNF442: inhumation burial

Description: Inhumation burial JNF442 was located within a grave aligned north-east to south-west. Most of the grave had been cut away by inhumation burial JNF361 and by post hole JNF443, but the surviving south-west end measured 0.34m by 0.80m and was 0.34m deep.
Inhumated human bone: No bone had survived.
Date: Mid 2nd century to late 3rd/4th century (must be earlier than cremation burial JNF192 and later than gully JNF343, which date from the mid 2nd to the late 3rd/4th and the mid 2nd century + respectively).
Burial Marker : A single post hole (JNF443: 0.20m in diameter and 0.22m deep) had been cut into the edge of the burial pit and may have held a wooden post used as a burial marker.

JNF444: inhumation burial

Description: Inhumation burial JNF444 was located within a grave measuring 0.89m by 0.46m, 0.29m deep and aligned north-west to south-east. The size of the grave suggests a juvenile burial.
Inhumated human bone: No bone had survived.
Residual finds: Iron nails.

Date: Mid 1st to the mid 2nd century + (must be later than inhumation burial JNF470, which is dated from the mid 1st to the mid 2nd century).

JNF447: inhumation burial

Description: Inhumation burial JNF447 was located within a grave aligned north-east to south-west. Part of the grave had been cut away by inhumation burials JNF387 and JNF430, but the surviving feature measured 0.82m by 0.22m and 0.09m deep. The grave size suggests a juvenile burial.
Inhumated human bone: No bone had survived.
Date: Mid 1st to early 3rd century (must be earlier than cremation burial JNF430, which is dated from the early 2nd to the early 3rd century).

JNF448: inhumation burial

Description: Inhumation burial JNF448 was located within a grave measuring 1.04m+ by 0.66m, 0.53m deep and aligned north-west to south-east with the head buried at the north-western end. Part of the grave was located outside of the excavation area and part of it had been cut away by inhumation burials JNF488 and JNF489.
Inhumated human bone: No bone had survived.
Date: Mid 1st to the early 2nd century (must be earlier in date than inhumation burial JNF488, which is dated from the early 2nd century).

JNF449: inhumation burial

Description: Inhumation burial JNF449 was located within a grave measuring 0.80m by 0.42m, 0.22m deep and aligned north-east to south-west. The grave size suggests a juvenile burial.
Inhumated human bone: No bone had survived.
Date: Roman.
Burial Marker: A single post hole (JNF460: 0.14m in diameter and 0.25m deep) had been cut into the grave and may have held a wooden post used as a burial marker.

JNF450: urned cremation burial

Description: Burial pit JNF450 was a sub-circular feature, 0.29m in diameter and 0.14m deep, containing an urned cremation burial.
Cremated human bone: A total of 357g of cremated bone was recorded from a juvenile (10-15 years) of indeterminate sex.
Burial goods: A jar (JNF450.1) had been used as a cremation urn.
Date: Early/mid 2nd to the late 3rd/early 4th century.

JNF450.1 Jar (JN1005). Illustrated. Cam 268 jar, whole pot with small sherd missing from rim (old damage), Fabric GX. Early/mid 2nd to late 3rd/early 4th century.

JNF451: burial pit containing pyre debris

Description: Burial pit JNF451 was an oval feature, 0.39m by 0.25m+ and 0.13m deep, containing pyre debris. Part of the feature was located outside of the excavation area. The burial pit contained a very small amount of cremated bone and a concentration of charcoal and burning scattered throughout.
Cremated human bone: A total of 2g of cremated bone was recorded from a possible adult (over 20 years) of indeterminate sex.
Date: Roman.

JNF452: inhumation burial

Description: Inhumation burial JNF452 was located within a grave aligned north to south. The southern half of the grave and part of the northern edge was located outside of the excavated area, but the excavated section measured approximately 1.00m long, 0.94m wide and 0.72m deep.

Inhumated human bone: No bone had survived.
Timber coffin: A plan of the iron nails (JNF452.2) shows that the body had been buried within a coffin measuring more than 0.60m in length by 0.54m in width.
Burial goods: A beaker (.1) was identified within the coffin.
Residual finds: Pottery sherds, a piece of glass and a copper-alloy coin.
Date: Early 2nd to the late 2nd/early 3rd century.

JNF452.1 Beaker (JN1012). Illustrated. Cam 391 beaker, whole pot, Fabric CZ. AD 110-125 to late 2nd/early 3rd century.

JNF452.2 Iron coffin nails (JN1257).

JNF453: inhumation burial
Description: Inhumation burial JNF453 was located within a grave aligned north-east to south-west. Due to service runs both ends of the grave were located outside of the excavated area (and had potentially been entirely removed by the modern cuts), but the feature measured 1.10m long, 0.78m wide and 0.45m deep.
Inhumated human bone: Less than 25% of the skeleton (63g) had survived within the grave, consisting of parts of the lower limbs and mandibles from an adult (over 20 years) of indeterminate sex.
Burial goods: Part of an iron brooch (JNF453.1) worn on the chest where it would have been used to fasten a cloak. The type is plain and occurs in 1st century AD contexts both before and after the conquest, e.g. at Sheepen, Dragonby and the King Harry Lane settlement at Verulamium (Hawkes & Hull, 1947, pl. 89, 4; Olivier 1996, 235-7; Stead & Rigby 1989, 20). Five were found in cremation burials in the King Harry Lane cemetery ranging in date from Phase 1 to Phase 3 (*c* 1-60 AD).
Residual finds: Pottery sherds and three iron nails.
Date: Roman.

JNF453.1 Brooch (JN1008), small find no. 360. Illustrated. Sprung iron bow brooch with inferior chord and solid catchplate, complete apart from the tips of both pin and catchplate. Length 51 mm.

JNF454: inhumation burial
Description: Inhumation burial JNF454 was located within a grave measuring 0.90m+ by 0.70m, 0.20m deep and aligned. The south-eastern half of the grave was located outside of the excavation area.
Inhumated human bone: No bone had survived.
Residual finds: A single pottery sherd.
Date: Roman.

JNF455: inhumation burial
Description: Inhumation burial JNF455 was located within a grave aligned north to south. The northern end of the grave had been cut away by burial pit containing pyre debris JNF486, but the surviving feature measured 1.00m by 0.60m and 0.31m deep.
Inhumated human bone: Less than 25% of the skeleton (2g) had survived within the grave, consisting of fragments of unidentifiable bone from a possible adult (over 20 years) of indeterminate sex.
Timber coffin: A plan of the iron nails (JNF455.1) show that the body had been buried within a coffin which measured at least 0.86m long and 0.36m wide.
Date: Mid 1st to 2nd century (must be earlier than burial pit JNF486, which is dated from the mid1st to the 2nd century).

JNF455.1 Iron coffin nails (JN1203).

JNF456: inhumation burial
Description: Inhumation burial JNF456 was located within a grave aligned north-west to south-east. The south-eastern end of the grave had been cut away by a modern service trench, but the surviving feature measure 0.90m by 0.64m and 0.40m deep.

Inhumated human bone: No bone had survived.
Timber coffins: Several patches of wood staining in the bottom of the feature show that the body had probably been buried either within a wooden coffin or on a plank.
Residual finds: Pottery sherds (dated from the mid 2nd to the mid 3rd century) and two pieces of burnt flint.
Date: Mid 2nd to the mid 3rd century +.

JNF457: inhumation burial
Description: Inhumation burial JNF457 was located within a grave aligned, with the head buried at the south-eastern end. Part of both the north-west and the south-east edges were beyond the limit of excavation, but the excavated section measured 2.08m by 0.74m wide and 0.40m deep.
Inhumated human bone: Less than 25% of the skeleton (62g) had survived within the grave, consisting of parts of the skull and lower leg from an adult (over 20 years) who was possibly male.
Residual finds: Two iron nails.
Date: Mid 1st to mid/late 2nd century (must be earlier than urned cremation burials JNF368 and JNF440, which are dated from the mid-late 2nd century).

JNF458: inhumation burial
Description: Inhumation burial JNF458 was located within a grave measuring 2.22m by 0.94m, 0.76m deep and aligned north-west to south-east with the head buried at the north-western end. A small part of the grave had been cut away by pit JNF211.
Inhumated human bone: Less than 25% of the skeleton (364g) had survived within the grave, consisting of parts of the skull and lower leg from a middle adult (35-50 years) of indeterminate sex.
Burial goods: A flagon (JNF458.1) was identified next to the skull.
Residual finds: Pottery sherds and a piece of worked flint.
Date: Mid 1st to early/mid 2nd century.

JNF458.1 Flagon (JN1021). Illustrated. Cam 155 flagon, three rings on neck, Fabric DJ. Probably complete but in many sherds and fragments. Claudio-Neronian to early Antonine.

JNF459: inhumation burial
Description: Inhumation burial JNF459 was located within a grave on an unknown alignment. Most of the grave had been cut away by inhumation burial JNF453 and a service trench, but the excavated segment measured 0.30m by 0.20m and was 0.23m deep.
Inhumated human bone: Several fragments of bone were recorded within the grave but were left *in situ*.
Date: Roman.

JNF461: urned cremation burial
Description: Burial pit JNF461 was an oval feature, 0.45m by 0.33m and 0.23m deep, containing a disturbed urned cremation burial. Part of the feature had been cut away by inhumation burial JNF360.
Cremated human bone: A total of 357g of cremated bone was recorded from a young adult (20-35 years) of indeterminate sex. Evidence of periostitis (a non-specific infection) was identified on the bone.
Burial goods: A jar (JNF461.1) had been used as a cremation urn and three hobnails (.2) were identified within the urn.
Date: Mid 1st to 2nd century.

JNF461.1 Jar used as a cremation urn (JN1014). Illustrated. Cam 271 jar (*CAR* **10** Fabric HZ type 27.54), probably complete storage jar in many sherds and fragments, Fabric HZ. 1st to 2nd/3rd century.

JNF461.2 Iron hobnails (JN1098), small find no. 499.

JNF462: inhumation burial
Description: Inhumation burial JNF462 was located within a grave measuring 0.80m+ by 0.56m and aligned west to east aligned with the head buried at the western end. The eastern half of the grave had been cut away by inhumation burial JNF478.
Inhumated human bone: Less than 25% of the skeleton (82g) had survived within the grave, consisting of parts of the skull and upper limbs from a middle adult (35-50 years) of indeterminate sex.
Residual finds: Pottery sherds (dated from the 2nd to the mid 3rd to 4th century) and an iron nail.
Date: 2nd to the mid 3rd/4th century +.

JNF463: inhumation burial
Description: Inhumation burial JNF463 was located within a grave aligned north-west to south-east. Part of the grave had been cut away by a modern service trench and by inhumation burial JNF466, but the surviving north-west end measured 1.20m by 0.64m.
Inhumated human bone: Less than 25% of the skeleton (50g) had survived within the grave, consisting of parts of the lower limbs from an adult (over 20 years) of indeterminate sex.
Burial goods: A number of iron nails, possibly from a coffin, and some hobnails were recovered from the fill.
Residual finds: Pottery sherds (dated from the 2nd century).
Date: 2nd century +.

Iron hobnails (JN551).

Iron nails (JN1215).

JNF464: inhumation burial
Description: Inhumation burial JNF464 was located within a grave measuring 0.70m+ by 0.44m, 0.21m deep and aligned east to west. The eastern half of the grave had been cut away by inhumation burial JNF479.
Inhumated human bone: No bone had survived.
Residual finds: Pottery sherds.
Burial goods: Several fragments of animal bone (JNF464.1) were identified within the grave which may represent the remains of food or 'food for the afterlife'.
Date: Early 2nd to early 3rd century + (must be later than inhumation burial JNF241, which is dated from the early 2nd to the early 3rd century).

JNF464.1 Animal bone (JN1394). Seven fragments of large mammal bone were found in this context; the remains totalled 43g.

JNF465: Pyre site/*bustum*
Description: Burial pit JNF465 contained either the remains of a pyre site or a *bustum* burial feature. Most of the feature had been cut away by inhumation burials JNF341 and JNF469 but the surviving fragment demonstrated in situ burning and a concentration of charcoal indicative of a pyre or *bustum*.
Date: Mid 1st to 2nd century (must to earlier than inhumation burial JNF341 and JNF469, which are dated from the mid 1st to the 2nd century).

JNF466: inhumation burial
Description: Inhumation burial JNF466 was located within a grave measuring 0.56m by 0.50m and aligned north-west to south-east aligned. The south-eastern half of the grave had been cut away by a modern service trench.
Inhumated human bone: No bone had survived.
Timber coffin: The presence of several coffin nails (JNF466.1) would suggest that the body had been buried within a coffin.
Residual finds: Two pottery sherds.
Date: 2nd century + (must be later than inhumation burials JNF341 and JNF463).

JNF466.1 Iron coffin nails (JN1212).

JNF467: burial related feature

Description: Most of feature JNF467 had been cut away by a modern service trench, by pyre site/bustum JNF203 and by inhumation burial JNF341, but one edge fragment measuring 0.19m by 0.10m wide had survived. Although this is probably a burial related feature no evidence was recovered to define it further.
Date: Mid 1st to the early 2nd century (must be earlier than pyre/bustum JNF203, which is dated from the mid 1st to the early 2nd century).

JNF469: inhumation burial

Description: Inhumation burial JNF469 was located within a grave measuring 1.76m by 0.88m, 0.70m deep and aligned south-east to north-west with the head buried at the south-eastern end.
Inhumated human bone: Less than 25% of the skeleton (153g) had survived within the grave, consisting of parts of the pelvis and lower limbs from an adult (over 20 years) of indeterminate sex.
Residual finds: A single pottery sherd.
Date: Mid 1st to 2nd century + (must be later than inhumation burial JNF341, which is dated from the 1st to the 2nd century).
Possible Burial Marker: A single post hole (JNF219: 0.16m in diameter and 0.12m deep) located 0.05m from the grave would possibly have held a wooden post used as a burial marker.

JNF470: inhumation burial

Description: Inhumation burial JNF470 was located within a grave. Part of the grave had been cut away by inhumation burials JNF360 and JNF444, but it measured 0.80m by 0.46m and 0.17m deep.
Inhumated human bone: Less than 25% of the skeleton (3g) had survived within the grave, consisting of unidentifiable fragments from a possible adult (over 20 years) of indeterminate sex. However the small size of the grave suggests that this was in fact a child's burial.
Burial goods: A flagon (JNF470.1).
Residual finds: Four iron nails.
Date: 1st century to early Antonine.

JNF470.1 Flagon (JN1055). Illustrated. Cam 155 ring-necked flagon with four rings on neck, Fabric DJ. Probably complete but in many sherds and fragments. Claudio-Neronian to early Antonine.

JNF471: inhumation burial

Description: Inhumation burial JNF471 was located within a grave aligned east to west. Part of the grave was located beyond the limit of excavation, but the excavated feature measured 1.64m by 0.72m.
Inhumated human bone: No bone had survived.
Timber coffin: Two patches of wood staining on the bottom of the feature may suggest that the body had been buried either within a wooden coffin or on a plank.
Date: Roman.

JNF472: urned cremation burial

Description: Burial pit JNF472 was a rectangular feature, 0.81m by 0.74m and 0.43m deep, containing an urned cremation burial.
Cremated human bone: A total of 258g of cremated bone was recorded from a middle adult (35-50 years)of indeterminate sex.
Burial goods: A jar (JNF472.1) had been used as a cremation urn, a flagon (.2) had been placed next to the urn and 25 pieces of burnt animal bone (.3) were identified within the urn, probably representing either 'food for the afterlife' being cremated with the body or animal bone being used as fuel on the pyre.

Date: 1st to early 2nd century?.

JNF472.1 Jar used as a cremation urn (JN1073). Illustrated. Cam 177 jar, whole pot, Fabric DJ. 1st to ?early 2nd century.

JNF472.2 Flagon (JN1074). Illustrated. Cam 155 flagon, whole pot, small chip missing from rim (old damage), surface body very degraded and crazed in patches, Fabric DJ. Claudio-Neronian to early Antonine.

JNF472.3 Animal bone (JN1378). Twenty-five pieces of animal bone, weighing 17g, were found inside the cremation urn. Two pieces of sheep/goat metacarpal and an unidentifiable fragment were recorded, all of which had been burnt black, indicating burning at a lower temperature.

JNF473: inhumation burial

Description: Inhumation burial JNF473 was located within a grave measuring 2.22m by 0.75m, 0.52m deep and aligned north-west to south-east with the head buried at the north-west end.
Inhumated human bone: Less than 25% of the skeleton (108g) had survived within the grave, consisting of parts of the skull and lower limbs from an adult (over 20 years) who was possibly male.
Timber coffin: The presence of several coffin nails (JNF473.1) would suggest that the body had been buried within a coffin.
Burial goods: Some hobnails (JNF473.2).
Date: Mid 1st to the mid/late 2nd (must be earlier than inhumation burial JNF457, which is dated from the mid 1st to the mid/late 2nd).

JNF473.1 Iron coffin nails (JN1289).

JNF473.2 Iron hobnails (JN481).

JNF474: inhumation burial

Description: Inhumation burial JNF474 was located within a grave of unknown alignment. Most of the grave had been cut away by inhumation burials JNF238, JNF313 and JNF314, but the surviving fragment measured 0.60m by 0.10m and was 0.30m deep.
Inhumated human bone: No bone had survived.
Residual finds: Four pottery sherds (dated from the 1st to the 2nd century) and an iron nail.
Date: Mid 1st to the 2nd century +.

JNF477: inhumation burial

Description: Inhumation burial JNF477 was located within a grave measuring 0.88m+ by 0.44m, 0.18m deep and aligned south-east to north-west with the head buried at the south-eastern end. The south-eastern end had been cut away by a modern service trench.
Inhumated human bone: Less than 25% of the skeleton (150g) had survived within the grave, consisting of parts of the pelvis and lower limbs from an adult (over 20 years) of indeterminate sex.
Burial goods: The base of a jar/bowl (JNF477.1) was identified within the grave.
Residual finds: Several pottery sherds, some iron nails, a piece of worked flint and 172g of cremated human bone from an adult (over 20 years) of indeterminate sex who had joint disease.
Date: Early 2nd to early 3rd century + (must be later than inhumation burial JNF241, which is dated from the early 2nd to the early 3rd century).

JNF477.1 Jar/bowl (JN1059). Base of large jar or bowl, broken up into sherds. Fabric GX.

JNF478: inhumation burial

Description: Inhumation burial JNF478 was located within a grave measuring 1.40m+ by 0.68m and aligned north-east to south-west. The south-eastern end of the grave had been cut away by a modern service trench.

Inhumated human bone: Less than 25% of the skeleton (4g) had survived within the grave, consisting of unidentifiable fragments from a possible adult (over 20 years) of indeterminate sex.
Residual finds: Five pottery sherds and some iron nails.
Date: 2nd century + (must be earlier than urned cremation burial JNF333 and inhumation burial JNF463, and must be later than inhumation burials JNF462 and JNF479).

JNF479: inhumation burial
Description: Inhumation burial JNF479 was located within a grave measuring 1.20m+ by 0.60m and aligned south to north with the head buried at the southern end. Part of the grave had been cut away by a modern service trench and by inhumation burials JNF462 and JNF478.
Inhumated human bone: Less than 25% of the skeleton (203g) had survived within the grave, consisting of parts of the pelvis and lower limbs from an adult (over 20 years) of indeterminate sex.
Residual finds: A single iron nail.
Date: 1st to 2nd/3rd century (must be earlier than numerous other burial features).

JNF480: inhumation burial
Description: Inhumation burial JNF480 was located within a grave aligned north-east to south-west. Most of the grave was located under a modern service trench, but the excavated segment measured 0.16m by 0.42m and 0.32m deep.
Inhumated human bone: No bone had survived.
Date: Mid 1st to the early 2nd century + (must be later than burial pit containing pyre debris JNF312, which is dated from the mid 1st to the early 2nd century +).

JNF481: urned cremation burial
Description: Burial pit JNF481 was a sub circular feature, 0.33m in diameter and 0.22m deep, containing a disturbed urned cremation burial.
Cremated human bone: A total of 843g of cremated bone was recorded from a possible adult (over 20 years) of indeterminate sex.
Burial goods: A jar (JNF481.1) had been used as a cremation urn and part of a pot base (.2) had probably been used as a lid. Two iron nails were also recorded inside the urn.
Residual finds: Three iron nails and several pottery sherds.
Date: Early/mid 2nd to the late 3rd/early 4th century.

JNF481.1 Jar used as a cremation urn (JN1043). Illustrated. Cam 268 jar, whole pot with rim cracked away as sherds and a sherd cracked out of the upper body, Fabric GX. Early/mid 2nd to late 3rd/early 4th century.

JNF481.2 Jar/bowl used as a lid (JN1194). Illustrated. Lower part of a jar or bowl, degraded soft thick sandy sherds, probably used as a lid for JNF481.1, Fabric GX.

JNF482: urned cremation burial
Description: Burial pit JNF482 was an oval feature, 0.63m by 0.53m wide and 0.32m deep containing an urned cremation burial.
Cremated human bone: A total of 437g of cremated bone was recorded from a middle adult (35-50 years) of indeterminate sex. Evidence of arthritis of the spine (spinal disease) and arthritis of the mandibular condyle (joint disease) was identified on the bone.
Burial goods: A large bowl (JNF482.1) had been used as a cremation urn.
Residual finds: A single iron nail.
Date: Early 2nd century.

JNF482.1 Bowl used as a cremation urn (JN1057). Illustrated. Bowl or jar, probably complete but broken in sherds, with reed rim and two bands of wavy line decoration around body separated by grooved bands, the vessel form is Cam 110 (*CAR* **10** p 472). This is the Verulamium form 485 (Frere 1972 fig 113) which is dated there to 115-30 AD, but earlier occurrences are known (*CAR* **10** p 472). The pot is moderately blackened with soot externally over much of the upper half of the body and may have been scorched or burnt. Among the soot are also patches of thicker sooty residue. The sooting or burning is mostly confined to one side of the pot body, over the rim, and internally in the upper part of the pot on the opposite side of the vessel to the main area of external sooting. On the external

surface, immediately below the carination, there are a few dark streaks where soot has been washed down by small runs of liquid. These steaks are original as they cross over sherd breaks. The pattern of the sooting suggests that rather than sitting on or above a fire the pot has lain on or next to a fire, possibly a pyre. Fabric FJ. Probably 2nd century.

JNF483: inhumation burial

Description: Inhumation burial JNF483 was located within a grave of unknown alignment. Most of the grave had been cut away by a modern building foundation, but the surviving feature measured 1.00m by 0.70m and 0.09m deep.
Inhumated human bone: No bone had survived.
Burial goods: A beaker (JNF483.1).
Residual finds: Pottery sherds.
Date: 1st to early 2nd century, possibly c AD 55-90.

JNF483.1 Beaker (JN1333). Illustrated. Beaker, possibly of form Cam 104 (dated c AD 55-90) partial pot, burnt. Fabric GX. 1st to early 2nd century, possibly c AD 55-90.

JNF486: burial pit containing pyre debris

Description: Burial pit JNF486 was a rectangular feature containing pyre debris. Part of one edge had been cut away by pit JNF485, but the feature measures 0.90m by 0.60m and 0.15m deep. The burial pit contained a very small amount of cremated bone along with a concentration of charcoal and burning scattered throughout.
Cremated human bone: A total of 6g of cremated bone was recorded from a possible adult (over 20 years) of indeterminate sex.
Burial goods: Most of a flagon (JNF486.1) and a single iron nail were identified scattered throughout the fill.
Date: Mid 1st to the 2nd century.

JNF486.1 Flagon (JN1044). Flagon, probably complete with narrow plain slightly flaring neck in many sherds and fragments, Fabric DJ. Probably 1st to 2nd century.

Iron nails (JN1044). Complete iron nail plus shank fragment, lengths 68 and 29 mm.

JNF487: inhumation burial

Description: Inhumation burial JNF487 was located within a grave aligned north to south. The eastern half of the grave had been cut away by inhumation burial JNF488, but the surviving feature measured 1.40m by 0.25m.
Inhumated human bone: No bone had survived.
Residual finds: Pottery sherds (dated from the early 2nd century), some iron nails and a piece of burnt flint.
Date: Early 2nd century +.

JNF488: inhumation burial

Description: Inhumation burial JNF488 was located within a grave measuring 2.34m by 1.02m, 0.32m deep and aligned south to north with the head buried at the southern end.
Inhumated human bone: Less than 25% of the skeleton (377g) had survived within the grave, consisting of parts of the skull and vertebrae from a young adult (20-35 years) who was possible male.
Timber coffin: The presence of several coffin nails (JNF488.2) would suggest that the body had been buried within a coffin.
Burial goods: The remains of an iron tripod candlestick (JNF488.1) and a quantity of hobnails (.3).
Residual finds: Pottery sherds, a piece of tile and a piece of worked flint.
Date: Early 2nd century.

JNF488.1 Iron tripod candlestick (JN1235), small find no. 369. Illustrated. Iron tripod candlestick, in very poor condition. The upper part of the socket is missing and one leg is detached. Surviving height 97 mm. Late Roman, although some may be 2nd century.

JNF488.2 Iron coffin nails (JN1286).

JNF488.3 Iron hobnails (JN1286), small find no. 479.

JNF489: inhumation burial

Description: Inhumation burial JNF489 was located within a grave aligned east to west. The western half of the grave had been cut away by inhumation burial JNF488, but the surviving feature measured approximately 0.78m long, 0.54m wide and 0.39m deep.
Inhumated human bone: No bone had survived.
Residual finds: A single pottery sherd and several cattle teeth.
Date: Mid 1st to the early 2nd century (must be earlier in date than inhumation burial JNF488, which is dated from the early 2nd century).

JNF491: inhumation burial

Description: Inhumation burial JNF491 was located within a probably aligned east to west. Most of the grave had been cut away by inhumation burial JNF280 and a modern service trench, but the surviving feature measured 1.00m by 0.70m and 0.14m deep.
Inhumated human bone: No bone had survived.
Date: 1st to 2nd/3rd century (must be earlier than urned cremation burials JNF145, JNF146 and inhumation burial JNF280, which date from the 1st to 2nd/3rd century).

JNF492: burial pit containing pyre debris

Description: Burial pit JNF492 was an irregularly shaped feature, 0.70m by 0.60m and 0.10m deep, containing pyre debris. It contained a very small amount of cremated bone along with a small concentration of charcoal and burning scattered throughout.
Cremated human bone: A total of 26g of cremated bone was recorded from an adult (over 20 years) of indeterminate sex.
Burial goods: Several pottery sherds (some burnt) were identified scattered throughout the fill.
Date: Mid 1st to 2nd century.

Pottery sherds (JN1079). Eight sherds of Fabric DJ from 2 pots, possibly scorched, and two sherds of Fabric GX consisting of a rim and one small sherd from a small beaker, burnt (pottery dated probably 1st to 2nd century).

JNF493: inhumation burial

Description: Inhumation burial JNF493 was located within a grave aligned south-west to north-east, with the head buried at the south-western end. A part of the grave had been cut away by a modern building foundation, but the surviving south-west end measured 0.94m by 0.64m and 0.34m deep.
Inhumated human bone: Less than 25% of the skeleton (18g) had survived within the grave, consisting of parts of the skull from a young adult (20-35 years) of indeterminate sex.
Burial goods: A flagon (JNF493.1).
Date: Mid 1st to the mid 2nd century.

JNF493.1 Flagon (JN1068). Illustrated. Cam 155 flagon, almost complete ring-neck flagon in many sherds and fragments, some sherds missing from area of shoulder/neck, Fabric DJ. Claudio-Neronian to early Antonine.

JNF494: inhumation burial

Description: Inhumation burial JNF494 was located within a grave on an uncertain alignment. Most of the grave had been cut away by inhumation burials JNF224, JNF241, JNF464, JNF477 and JNF479, but the surviving feature measured 0.64m by 0.22m.
Inhumated human bone: No bone had survived.
Date: 1st to 2nd/3rd century (must be earlier than inhumation burials JNF224 , JNF241, JNF464, JNF477 and JNF479, which date from the 1st to the 2nd/3rd century).

JNF496: burial pit containing pyre debris

Description: Burial pit JNF496 was an oval feature, 0.50m by 0.25m+ and 0.41m deep, containing a probable cremation burial. Part of the burial pit had been cut away by a modern

service trench. The feature contained a small amount of cremated bone along with a concentration of charcoal and burning scattered throughout.
Cremated human bone: A total of 106g of cremated bone was recorded from an adult (over 20 years) of indeterminate sex.
Burial goods: Two pottery sherds (some burnt) were identified scattered throughout in the fill.
Date: Mid 1st to the early 2nd century.

JNF497: inhumation burial
Description: Inhumation burial JNF497 was located within a grave measuring 0.49m+ by 0.40m, 0.21m deep and aligned north-west to south-east. The south-eastern half of the grave had been cut away by a modern building foundation. The scale of the feature suggests a juvenile burial.
Inhumated human bone: No bone had survived.
Date: Early to mid 2nd century + (must be later than pyre JNF279, which is dated from the early to mid 2nd century).

JNF498: inhumation burial
Description: Inhumation burial JNF498 was located within a grave aligned north-west to south-east. Most of the grave had been cut away by a modern service trench, but the surviving feature measured 0.86m by 0.20m and 0.28m deep.
Inhumated human bone: No bone had survived.
Date: Mid 1st to the early 2nd century + (must be later than pyre/bustum JNF203, which is dated from the mid 1st to the early 2nd century).

JNF500: inhumation burial
Description: Inhumation burial JNF500 was located within a grave measuring 0.70m+ by 0.62m, 0.06m deep and aligned north-east to south-west. Part of the grave had been cut away by inhumation burial JNF360.
Inhumated human bone: Less than 25% of the skeleton (4g) had survived within the grave, consisting of parts of the skull from an adult (over 20 years) of indeterminate sex.
Timber coffin: The presence of several coffin nails (JNF500.2) would suggest that the body had been buried within a coffin.
Burial goods: A copper-alloy ring (JNF500.1).
Date: Mid 1st to the mid 2nd century + (must be later than inhumation burial JNF470, which is dated from the mid 1st to the mid 2nd century).

JNF500.1 Ring (JN1327), small find no. 385. Illustrated. Copper-alloy ring of angular D-shaped section, with small mouldings on both rims and the central angle. Diameter 24 mm, height 6 mm, maximum thickness 4 mm.

JNF500.2 Iron coffin nails (JN1245).

JNF504: inhumation burial
Description: Inhumation burial JNF504 was located within a grave aligned north to south. Part of the grave had been cut away by a modern building foundation and by inhumation burial JNF487, but the surviving feature measured 1.21m by 0.42m wide and 0.18m deep.
Inhumated human bone: No bone had survived.
Residual finds: One pottery sherd and one piece of burnt flint.
Date: Mid 1st to the early 2nd century (must be earlier than inhumation burials JNF488 and JNF487, which are dated from the early 2nd century).

JNF505: inhumation burial
Description: Inhumation burial JNF505 was located within a grave aligned south-west to north-east, with the head buried at the south-western end. The south-western end of the grave had mostly been cut away by later features and so was left unexcavated, but the excavated segment measured 1.58m by 1.14m and 0.38m deep.
Inhumated human bone: No bone had survived.

Residual finds: Pottery sherds (dated from the mid 2nd to the late 3rd century), some iron nails and animal bone.
Date: Mid 2nd to the late 3rd century +.

JNF506: inhumation burial
Description: Inhumation burial JNF506 was located within a grave aligned north-west to south-east, with the head buried at the north-western end. One edge of the grave had been cut away by a modern service trench, but the surviving feature measured 2.16m by 0.75m and 0.62m deep.
Inhumated human bone: Less than 25% of the skeleton (348g) had survived within the grave, consisting of parts of the skull and the upper and lower limbs from a young adult (20-35 years) who was male.
Timber coffin: A plan of the iron nails (JNF506.1) shows that the body had been buried within a coffin measuring over 0.52m by 0.46m.
Date: Mid 1st to mid 3rd century (must be earlier than cremation burial JNF222, which is dated from the late 2nd to the mid 3rd century).

JNF506.1 Iron coffin nails (JN1311).

JNF507: inhumation burial
Description: Inhumation burial JNF507 was located within a grave aligned north-west to south-east. It was located directly underneath inhumation burial JNF458 and was left unexcavated.
Date: Mid 1st to the 2nd century (must be earlier than inhumation burial JNF458, which is dated from the 1st to the 2nd century).

JNF509: Inhumation burial
Description: Inhumation burial JNF509 was located within a grave measuring 0.65m by 0.34m, 0.22m deep and aligned east to west. The size of the grave suggests a child burial.
Inhumated human bone: No bone had survived.
Date: Roman.

JNF510: inhumation burial
Description: Inhumation burial JNF510 was located within a grave aligned north to south. Part of the grave was located outside of the excavated area and part had been cut away by inhumation burial JNF488, but the excavated section measured 1.10m by 0.57m and 0.35m deep.
Inhumated human bone: No bone had survived.
Residual Finds: Four iron nails.
Date: Mid 1st to the early 2nd century (must be earlier than inhumation burial JNF488, which is dated from the early 2nd century +).

JNF511: inhumation burial
Description: Inhumation burial JNF511 was located within a grave aligned north-west to south-east. The south-eastern end of the grave was located outside of excavation area, but the excavated feature measured 0.44m by 0.36m and 0.23m deep.
Inhumated human bone: No bone had survived.
Date: Roman.

JNF512: inhumation burial
Description: Inhumation burial JNF512 was located within a grave measuring 2.24m by 0.70m+, 0.65m deep and aligned north-west to south-east. Part of the grave was located outside the excavation area.
Inhumated human bone: No bone had survived.

Date: Mid 1st to the 2nd/early 3rd century + (must be later than urned cremation burial JNF380, which is dated from the late mid 1st to the 2nd/early 3rd century).

JNF513: inhumation burial
Description: Inhumation burial JNF513 was located within a aligned north-west to south-east. Part of the grave had been cut away by inhumation burials JNF457 and JNF473, but the surviving feature measured 1.47m by 0.62m and 0.60m deep.
Inhumated human bone: No bone had survived.
Date: Mid 1st to the mid/late 2nd (must be earlier than inhumation burial JNF457, which is dated from the mid 1st to the mid/late 2nd).

JNF515: inhumation burial
Description: Inhumation burial JNF515 was located within a aligned north-east to south-west. Part of the grave had been cut away by a modern service trench, but the surviving feature measured 1.50m by 0.65m and 1.4m deep.
Inhumated human bone: No bone had survived.
Date: Roman.

JNF516: inhumation burial
Description: Inhumation burial JNF516 was located within a grave measuring 0.80m by 0.38m, 0.21m deep, and aligned north-west to south-east. The size of the grave suggests a child burial.
Inhumated human bone: No bone had survived.
Date: Mid 1st to the early 2nd century + (must be later than inhumation burial JNF191, which itself cannot be earlier in date than the mid 1st to the early 2nd century).

Appendix 1.3: Area J1 South catalogue of burials

Area J1 South evaluation (burials located within the Area J1 South excavation area only)

JF51: urned cremation burial
Description: Burial pit JF51 (found within trench 20 of the J1 evaluation) was a sub-circular feature, 0.35m in diameter by 0.20m deep, containing an urned cremation burial.
Cremated human bone: Bone present but subsequently lost.
Burial goods: A jar (JF51.1) had been used as a cremation urn.
Date: Early/mid 2nd to the late 3rd/early 4th century.

JF51.1 Jar used as a cremation urn (J30). Illustrated. Cam 268 jar, whole pot though very small part of rim missing (old damage) and shoulder to rim sherd loose on one side, Fabric GX. Early-mid 2nd to late 3rd/early 4th century.

JF52: urned cremation burial
Description: Burial pit JF52 (found within trench 20 of the J1 evaluation) was a sub-circular feature, 0.44m in diameter and 0.25m deep, containing an urned cremation burial.
Cremated human bone: Bone present but subsequently lost.
Burial goods: A jar (JF52.1) had been used as a cremation urn.
Date: 1st to the early 2nd century.

JF52.1 Jar used as a cremation urn (J40). Illustrated. Cam 266 jar, whole pot though small part of neck and rim missing (old damage), pot badly cracked and there is a small hole below rim on one side, fabric moderately soft and laminated, short neck but with off-set and essentially form Cam 266, Fabric GX. 1st-early 2nd century.

Area J1 South excavation

JSF3: urned cremation burial
Description: Burial pit JSF3 was an oval feature, 0.87m by 0.71m and 0.16m deep, containing an urned cremation burial.
Cremated Human Bone: A total of 246g of cremated bone was recorded from an adult (over 20 years) of indeterminate sex.
Burial goods: A jar (JSF3.1) had been used as a cremation urn and a flagon (.2) had been placed next to the urn. An iron nail was recorded inside the urn.
Date: Early 2nd to early 3rd century.

JSF3.1 Jar used as a cremation urn (JS2). Illustrated. Cam 268 jar, complete pot in five sherds, rim slightly distorted, possibly a kiln second or waster, Fabric GX. Early/mid 2nd-late 3rd/early 4th century.

JSF3.2 Flagon (JS3). Illustrated. Cam 156 flagon, almost complete flagon, sherds missing from rim and handle, much of body whole, Fabric DJ. Hadrianic to early 3rd century.

Iron nail (JS90).

JSF4: urned cremation burial

Description: Burial pit JSF4 was an oval feature, 0.75m by 0.65m and 0.10m deep, containing an urned cremation burial.
Cremated Human Bone: A total of 155g of cremated bone was recorded from an adult (over 20 years) of indeterminate sex.
Burial goods: A jar (JSF4.1) had been used as a cremation urn.
Date: Roman.

JSF4.1 Jar used as a cremation urn (JS4). Illustrated. Jar with rilled body in pale brown fabric, lower part of pot present in sherds, upper part missing, Fabric GX.

JSF9: amphora cremation burial

Description: Burial pit JSF9 was an oval feature, 1.60m by 1.20m and 0.28m deep, containing an amphora cremation burial.
Cremated Human Bone: A total of 8g of cremated bone was recorded from an adult (over 20 years) of indeterminate sex. The bone was recorded scattered over amphora B (.2) and from around one of the jars (.3), but as all of the vessels were very disturbed this may explain why there was so little cremated bone.
Burial goods: The burial pit contained the remains of two amphoras (JSF9.1 – .2) which had been deliberately placed side-by-side (north to south). A jar (.3) and a bowl which had possibly been used as a lid (.4) had been placed on the western side of the two amphoras and a second jar (.5) had been placed on the eastern side. Only the bottom half of amphora A (.1) had survived within the ground and it was completely empty of associated burial goods. Most of amphora B (.2) had survived and it contained a jar (.6) along with a copper-alloy open lamp (.7), two frit melon beads (.8 – .9), a bone shaft fragment (.10), and a bone bead (.11). To place the jar within the amphora, the neck of the amphora would have had to have been broken off and then replaced during burial.
The objects in this burial can be divided into primary and secondary deposits. The bone shaft fragment and bead are primary deposits, while the copper-alloy candelabrum (consisting of an open lamp on a tripod stand) and two frit melon beads are unburnt secondary deposits. The lamp has vertical ribs that show it to come from the same workshop as a group of figure-of-eight-shaped copper-alloy open lamps, some with hollow footrings (e.g. Gage 1836, pl. 33, fig. 2; Henderson 1949, pl. 64, 353). Seven full-sized ribbed lamps have been found in Britain, all from the east of the country: Richborough (Kent), Colchester (Essex), the Bartlow Hills (on the Cambridgeshire/Essex border), Boxmoor (Herts), Bayford, Kent, and Caistor St Edmund (Norfolk); the seventh example, 'from Norwich', may (speculatively) also be from Caistor St Edmund, which lies only 5 km away from the city and is the site of the Roman *civitas* capital, *Venta Icenorum*. Where from dated contexts, these pieces suggest a date range from the late 1st into the 2nd century. Several were funerary deposits: the Boxmoor lamp was found in a cist burial and the Bayford lamp comes from a well-furnished grave, while the lamp from the Bartlow Hills was among the grave goods deposited in the largest tumulus of the group, together with several fine glass and metal vessels and a folding chair (Gage 1836; Bailey 1996, 56-7, pls 64 and 192; Eckardt 2002, 243, 333). The Colchester lamp, which has a large leaf-shaped reflector, probably came from the Warren Field and has no associated contextual evidence (*CMR* 1957-1962, 37, Pl. II).
The candelabrum is unparalleled, but there are some associated items from the continent. It has a tripod stand with hoofed feet, which is paralleled on a miniature candelabrum from Friedberg, Hessen, Germany, and, although the shaft of the Friedberg lamp has an enamelled block in the central section and the reservoir and reflector are of different forms, the two are sufficiently close to show that both must have been made by the same bronzesmith. Large ribbed open lamps with crescentic rather than U-shaped reservoir have been found at Angers, France, and Avenches, Switzerland. The former is dated to the 1st- to

2nd-century and the latter to the 1st century (C. Lydamore, pers. comm; Musée des Beaux-Arts d'Angers, inv. MA I R 276; Provost 1988, 121, no. 224; Musee Romain d'Avenches, inv. 6037; Leibundgut 1977, 62, no. 1016, pl. 19; Chrzanovski 2003, 90-1, no. 108). (I am grateful to Laurent Chrzanovski of the International Lychnological Association and Chris Lydamore of Harlow Museum for information on these lamps).
Date: early-mid 2nd century.

JSF9.1 Amphora A (JS40). Dressel 20 amphora, most present in sherds and fragments but neck, rim and handles are missing, Fabric AJ. 1st-2nd/early 3rd century.

JSF9.2 Amphora B (JS39, JS47, JS50). Illustrated. Dressel 20 amphora, complete but in sherds, Fabric AJ. Late 1st to early-mid 2nd century. (Vessel date based on rim profile, Peacock & Williams fig 66 no 31).

JSF9.3 Jar (JS50). Illustrated. Cam 268 jar, most of pot in sherds, Fabric GX. Early/mid 2nd-late 3rd/early 4th century.

JSF9.4 Bowl used as a lid (JS47, JS50). Cam 37A bowl, most of pot present as sherds, Fabric GB. Trajanic/Hadrianic to late 2nd or early 3rd century.

JSF9.5 Honey jar (JS46). Cam 175 or Cam 177 'Honey Jar', most of pot present in sherds and fragments although one handle, all of neck and rim are missing, Fabric DJ. Claudio-Neronian to late 1st or early 2nd century.

JSF9.6 Jar (JS38). Illustrated. Jar probably of form Cam 268, whole pot in several sherds, Fabric GX. Early/mid 2nd-late 3rd/early 4th century.

JSF9.7. Miniature candelabrum (JS34, JS54, JS55), small find nos. 287-289. Illustrated. Copper-alloy composite miniature candelabrum consisting of a U-shaped open lamp, with reflector, mounted on a delicate tripod lampstand. Total height 122 mm.
The terminals of the U-shaped reservoir are rounded. The possibility that the shape was intended to represent a horse's hoof-print is suggested by the use of hooves on the tripod stand (*see below*). The walls have vertical ribs, some plain, some finely fluted. The underside of the lamp bears a s*CAR* close to the back wall, and slightly off-centre, where it was soldered to the stand. The location of this s*CAR* highlights the use of the reflector as a counterbalance to the weight of the lamp body (*see below*).
The reflector has broken off the lamp, presumably when it came under pressure as the grave filled with soil. If it were now to be re-attached, it would lie at a lower angle than it originally should do. It is in the form of a stylised leaf with openwork curlicues and five petals at the top, the central one knobbed. The petals are defined by grooves running from a small engraved circle and each bears a similar circle near the outer edge, as do the terminals of the curlicues. The back of the reflector is plain. Although its vegetal form originated in the elaborate leaves used as reflectors on some metal lamps, its design is far simpler and in general character is matched on other metalwork, including the wide range of openwork decorative mounts used by auxiliary units of the Roman army (e.g. Oldenstein 1976, Tafn 31-3, 53-4). Sir Michael Faraday, in his examination of the Bartlow Hills lamp, drew attention to the fact that the reflector doubled as a counterpoise, a fact also noted of the reflector on a similar lamp from Xanten and clearly demonstrated by the Garrison candelabrum, which, without the reflector to balance it, would not remain upright (Faraday in Gage 1836, 308; Henderson 1949, 156).
The tripod stand was made in two separately cast pieces, the tripod foot and the baluster-shaped shaft. The latter has mouldings at the base and a circular plate at the top where it was soldered to the lamp. A small projection at the lower end was passed through a hole at the centre of the foot and hammered flat. The foot has three narrow legs, set almost horizontally and terminating in the lower part of a horse's leg, from fetlock to hoof. The doubling of the metal to form the angular fetlocks provides a sturdy base without detracting from the general delicacy of the design. The use of the hoof motif here could be taken to imply that the U-shape of the lamp was intended to represent a hoof-print.

JSF9.8 Melon bead (JS36), small find no. 292. Illustrated. Turquoise frit melon bead. Length 12 mm, diameter 14.5 mm.

JSF9.9 Melon bead (JS37), small find no. 290. Illustrated. Turquoise frit melon bead, chipped on one side. Length 10 mm, diameter 14 mm.

JSF9.10 Bone shaft (JS35), small find no. 291. Illustrated. Burnt tapering bone shaft with iron tang; both ends broken. Length 26 mm, maximum width 8 mm. Probably part of the handle from a small knife or other implement.

JSF9.11 Bead (JS33), small find no. 293. Illustrated. ?Burnt D-shaped bone bead, stained by contact with copper alloy (presumably the candelabrum SF 287-289 below). All surfaces are scarred by tool marks, but the irregular form and cruder finish of the straight end, coupled with a chip missing from an adjacent part of the edge, shows that the bead was originally discoid but the straight edge broke and was smoothed off to allow it to remain in use. Length 15.5 mm, diameter 21 mm. The form is related to circular or rectangular jet and shale beads with two perforations, *e.g.* Lawson 1976, fig. 1, 5-8; Allason-Jones 1996, 29, nos 50-1).

JSF10: amphora cremation burial

Description: Burial pit JSF10 was an oval feature, 1.46m by 1.20m and 0.17m deep, containing a very disturbed amphora cremation burial.
Cremated human bone: No bone had survived.
Burial goods: The remains of an extremely disturbed amphora (JSF10.1) and flagon (.2) were identified.
Intrusive Finds: The bottom half of a post-medieval pipe clay figurine.
Date: Early 2nd to the late 2nd/early 3rd century.

JSF10.1 Amphora. The burial feature contained sherds representing the remains of a broken Dressel 20 amphora, form dated 1st-2nd/early 3rd century. The sherds from this broken vessel have since been lost.

JSF10.2 Flagon (JS4, JS40, JS41). Cam 156 flagon, incomplete and in sherds, Fabric DJ. Hadrianic to early 3rd century.

JSF12: inhumation burial

Description: Inhumation burial JSF12 was located within a grave measuring 1.84m by 0.83m, 0.22m deep and aligned north to south.
Inhumated human bone: No bone had survived.
Date: Roman.

Appendix 1.4: Area J1 East catalogue of burials

JEF1: burial pit containing pyre debris
Description: Burial pit JEF1 was an sub-circular feature, 0.70m in diameter and 0.22m deep, containing pyre debris. It had a scorched earth base and a charcoal rich fill.
Inhumated (unburnt) human bone: A total of 39g of unburnt bone was recorded from an adult (over 20 years) of indeterminate sex. As unburnt bone was recorded from this feature it may suggest that the entire body had not been successfully cremated (i.e. at too low a temperature or with too little fuel).
Burial goods: Most of a jar (JEF1.1) and several pottery sherds (.2) were identified scattered throughout the fill.
Surface finds: A single piece of animal bone.
Date: Early/mid to the late 2nd century.

JEF1.1 Jar (JE2). Cam 279A/B jar, much of the pot present although very broken up, Fabric GA. Early-mid 2nd century to late 2nd century.

JEF1.2 Pottery sherds (JE2). Three sherds of Fabric BX(SG) from a form Dr 29 decorated bowl. Potters stamp OF ( )ASSEN (the two letters S are reversed) reads OF. PASSEN. This is a stamp of the potter Passienus, dated c AD 50 – 75 (*CAR* 10 p 127).

JEF2: burial pit containing pyre debris
Description: Burial pit JEF2 was an oval feature, 0.50m by 0.39m and 0.18m deep, containing pyre debris. The pit had burnt edges and a charcoal rich fill with a very small amount of cremated bone scattered within it.
Cremated human bone: A total of 18g of cremated bone was recorded, possibly from an adult (over 20 years) of indeterminate sex.
Burial goods: A pottery sherd was found in the fill.
Date: Probably 1st to the 2nd century.

Pottery sherd (JE51). One sherd of Fabric DJ (probably 1st-2nd century).

JEF3: burial pit containing pyre debris
Description: Burial Pit JEF3 was an oval feature, 0.59m by 0.54m and 0.25m deep, containing pyre debris. It had burnt edges and a charcoal rich fill with a very small amount of cremated bone scattered within it.
Cremated human bone: A total of 18g of cremated bone was recorded from an adult (over 20 years) of indeterminate sex.
Date: Roman.

Appendix 1.5: Area Q catalogue of burials

QF93: inhumation burial
Description: Inhumation burial QF93 was located within a grave measuring 2.20m by 0.94m, 0.28m deep and aligned north to south.
Inhumated human bone: No bone had survived.
Date: Roman.

QF94: inhumation burial
Description: Inhumation burial QF94 was located within a grave measuring 2.20m by 0.90m, 0.40m deep and aligned north to south.
Inhumated human bone: No bone had survived.
Date: Roman.

QF99: inhumation burial
Description: Inhumation burial QF99 was located within a grave measuring 2.40m by 1.00m, 0.20m deep and aligned north to south.
Inhumated human bone: No bone had survived.
Date: Roman.

Appendix 1.6: watching brief burial WBF1

WBF1: inhumation burial

Description: Inhumation burial WBF1 was located beneath Circular Road East (to the west of Area C2) and was only partially excavated. The grave was recorded sealed by WBL1 (a modern topsoil layer) and WBL2 (a Roman soil layer), and at a depth of 2.68m (at its deepest) below modern ground level. The depth of this burial is significant, especially as most of the burials on Area C2 were relatively shallow. It is possible that this inhumation was dug into the bottom of another feature such as a quarry pit, but no definite evidence was recorded to support this theory. The grave was aligned north-west to south-east and the excavated segment measured 1.15m by 0.95m.

Inhumated Bone: Approximately 75% of the skeleton (838g) had survived laying on the base of a lead coffin liner whose interior had not silted up. The burial was of a juvenile (5-10 years) of indeterminate sex. Evidence of cribra orbitalia (a metabolic disease) was identified on the bone.

Lead Coffin: A lead coffin liner (WBF1.1) was identified in the grave.

Residual Finds: Iron nails.

Date: Roman.

WBF1.1 Lead coffin liner (WB1), small find no. 567. A plain lead inner coffin, severely corroded and broken into fragments. Original length approximately 1.42 m, maximum width approximately 0.35m. The wall at the head end is marked by a lightly incised cross, and there is a similar cross on the lid. As with other liners, the lid was cast separately and the body was cast as a rectangular sheet, the corners of which were then cut away so that it could be folded to form a lidless box (*CAR* 9, 123). The sheets of lead were cast in a sand mould which had not been worked to a very smooth surface, as flows of lead appear on the outer faces and in at least two places holes caused by pebbles or small mounds of sand projecting above the mould floor have been plugged later. That it was felt necessary to fill what were only small gaps in the sheet suggests that an airtight fit was considered essential, and thus that either the body was not buried for some time or it was considered to be particularly contagious.

Appendix 1.7: archival data

Cremated human bone

compiled by Francesca Boghi

Summary

N	Feature	Human / Animal[1]	Bone state[2]	MNI[3]	Age class[4]	Sex	Pathologies	Inclusions	Total weight (inclusions included)
1	CF31	Human	IO	1	ADULT	?	Spinal	FO animal bone (3g)	1235
2	CF33	Human	FO	1	ADULT	?	-	Pottery (<1g)	896
3	CF38	Human	FO	1	YOUNG ADULT	?	Spinal	-	641
4	CF99	Human	IO	1	MIDDLE ADULT	F	Spinal, Joint Disease	FO animal bone (9g)	961
5	CF100	Human	FO	1	ADULT	?	-	FO animal bone (3g); iron nail (5g)	767
6	CF101	Human	FO	1	JUVENILE (0-5YRS)	-	-	-	79
7	CF105	Human	FO	1	ADULT	M	-	-	625
8	CF110	Human	FO	1	ADULT?	?	-	-	1
9	CF111	Human	FO	1	ADULT	?	-	-	119
10	CF112	Human	FO	1	ADULT	?	-	-	163
11	CF115	Human	FO	1	ADULT?	?	-	-	2
12	CF120	Human	FO	1	ADULT?	?	-	FO animal bone (12g)	47
13	CF126	Human	IO	1	ADULT	?	-	FO animal bone (2g):	71
14	CF127	Human	FO	1	MIDDLE/OLD ADULT	F	Spinal, Joint Disease, Dental	FO animal bone (3g)	543
15	CF131	Human?	FO	-	-	-	-	-	29

[1]Human? = probably human
[2]Bone state categories: FO = fully oxidised; IO = incompletely oxidised; unburnt: = not exposed to heat
[3] MNI = Minimum Number of individuals
[4] Age class categories: ADULT? = probably adult; ADULT = > 20 years; YOUNG ADULT (20-35 years); MIDDLE ADULT (35-50 years); MIDDLE/OLD ADULT (> 35 years); OLD ADULT (>50 years); JUVENILE (<20 years).

N	Feature	Human / Animal[1]	Bone state[2]	MNI[3]	Age class[4]	Sex	Pathologies	Inclusions	Total weight (inclusions included)
16	CF146	Unidentified	IO	-	-	-	-	FO and unburnt animal bone (21g)	95
17	CF147	Human	FO	1	ADULT	?	-	-	164
18	CF151	Human	FO	1	ADULT	?	-	-	487
19	CF154	Human?	FO	-	-	-	-	-	1
20	CF162	Human	FO	1	YOUNG ADULT	?	-	-	91
21	CF163	Human	FO	1	ADULT	?	-	FO animal bone (65g)	572
22	CF164	Human	FO	1	JUVENILE (0-5YRS)	-	-	FO animal bone (14g)	61
23	CF165	Human	FO	1	MIDDLE ADULT	?	-	-	333
24	CF167	Human	FO	1	JUVENILE (0-5YRS)	-	-	-	19
25	CF173	Human	FO	1	JUVENILE (<20yrs)	-	-	FO animal bone (<1g)	114
26	CF177	Human	FO	1	YOUNG ADULT	?	-	-	295
27	CF178	Human	FO	1	JUVENILE (0-5YRS)	-	-	FO animal bone (10g), 1g charcoal	13
28	CF182	Human	FO	1	ADULT	?	-	-	229
29	CF190	Unidentified	IO	-	-	-	-	-	3
30	CF206	Human	FO	1	JUVENILE (5-10YRS)	-	-	-	208
31	CF207	Human	FO	1	ADULT	F	Dental, Spinal	<1g FO animal bone, 1g iron nail	547
32	CF210	Human	FO	1	ADULT	?	-	-	340
33	CF213	Human	FO	1	ADULT?	?	-	-	8
34	CF219	Human?	FO	-	-	−	-	-	50
35	CF227	Human	FO	1	ADULT	?	-	5g iron object	79
36	CF231	Human?	FO	-	-	−	-	-	4
37	CF237	Human	FO	1	JUVENILE (0-5YRS)	-	-	-	14
38	CF238	Human	IO	1	ADULT	M	-	-	359
39	CF239	Human	FO	1	ADULT	?	-	7g FO animal bone	218
40	CF240	Human	FO	1	ADULT?	?	-	-	17
41	CF241	Human	FO	1	MIDDLE ADULT	?	Spinal	15g FO animal bone	834
42	CF242	Human	FO	1	ADULT	?	-	3g FO animal bone; 1g iron object	240
43	CF243	Animal	IO	-	-	-	-	-	1
44	CF263	Human	IO	1	MIDDLE ADULT	?	-	-	295
45	JNF1	Human	FO	1	MIDDLE ADULT	?	Non Specific Infection	1 iron nail shank (1g)	945
46	JNF2	Human	FO	1	ADULT?	?	Non Specific	-	9

N	Feature	Human / Animal[1]	Bone state[2]	MNI[3]	Age class[4]	Sex	Pathologies	Inclusions	Total weight (inclusions included)
							Infection		
47	JNF4	Human	FO	2	ADULT; ADULT	?; ?	-	-	304
48	JNF5	Human	FO	1	ADULT	?	-	1 iron nail stuck to M1/3 tibia; charcoal (1g)	100
49	JNF10	Human?	FO	-	-	–	-	-	1
50	JNF11	Human	FO	1	ADULT	?	Spinal disease	-	218
51	JNF12	Human?	FO	-	-	-	-	-	0.9
52	JNF21	Human	FO	1	ADULT	?	-	-	15
53	JNF22	Human	FO	1	ADULT	?	-	Unburnt animal bone (13g); 1 iron nail (<1g)	143
54	JNF26	Human	IO	1	ADULT	?	-	-	461
55	JNF27	Human	FO	1	ADULT	?	-	-	225
56	JNF28	Human	FO	1	ADULT	?	-	-	14
57	JNF31	Human?	FO	-	-	-	-	-	21
58	JNF32	Human?	FO	-	-	-	-	-	18
59	JNF33	Human	IO	1	ADULT	?	-	-	75
60	JNF34	Human	FO	1	JUVENILE (15-20YRS)	-	Non Specific Infection	-	361
61	JNF38	Human?	FO	-	-	-	-	-	2
62	JNF39	Human	IO	1	ADULT	?	-	-	7
63	JNF42	Human?	FO	-	-	-	-	-	10
64	JNF47	Human	FO	1	ADULT	?	-	-	153
65	JNF58	Human	FO	1	JUVENILE (15-20YRS)	-	-	-	379
66	JNF59	Unidentified	FO	-	-	-	-	-	1
67	JNF61	Human	FO	1	ADULT	?	-	-	440
68	JNF65	Human	FO	1	ADULT	?	-	-	82
69	JNF67	Human?	FO	-	-	-	-	-	30
70	JNF68	Human	FO	1	ADULT?	?	-	-	34
71	JNF70	Human	FO	1	ADULT	?	-	-	207
72	JNF73	Human?	FO	-	-	-	-	-	0.9
73	JNF77	Human	FO	1	MIDDLE ADULT	F?	Non Specific Infection	Unburnt pottery sherds (9g)	860
74	JNF78	Human?	FO	-	-	-	-	-	1
75	JNF79	Human	FO	1	ADULT?	?	-	-	97
76	JNF82	Human	FO	1	JUVENILE (15-20YRS)	-	-	-	253
77	JNF84	Human	FO	1	ADULT	F	-	-	364
78	JNF87	Human	FO	1	ADULT?	?	-	-	1
79	JNF88	Human	FO	1	JUVENILE (0-5YRS)	-	-	-	130
80	JNF91	Human	FO	1	ADULT?	?	Non Specific Infection	-	10
81	JNF94	Human	FO	1	ADULT?	?	-	-	25
82	JNF99	Human	FO	1	ADULT	?	-	2 frags pottery (<1g);	216

N	Feature	Human / Animal[1]	Bone state[2]	MNI[3]	Age class[4]	Sex	Pathologies	Inclusions	Total weight (inclusions included)
								unburnt animal bone (<1g)	
83	JNF100	Human?	FO	-	-	-	-	-	2
84	JNF103	Human	FO	1	ADULT	?	-	FO animal bone (66g); animal bone encrusted with iron corrosion material (15g); iron corrosion material and 1 iron nail (3g)	689
85	JNF104	Human	IO	1	ADULT?	?	-	-	3
86	JNF105	Human	FO	1	ADULT?	?	-	-	1
87	JNF106	Human	FO	1	ADULT	M	Spinal disease	FO animal bone (49g)	882
88	JNF109	Human	FO	1	ADULT?	?	-	-	3
89	JNF114	Human	IO	2	1 ADULT; 1 JUVENILE (0-5YRS)	? -	-	FO animal bone (10g)	180
90	JNF116	Human	FO	1	ADULT?	?	-	-	2
91	JNF118	Human	FO	1	ADULT?	?	-	-	188
92	JNF119	Human?	FO	-	-	-	-	-	0.9
93	JNF121	Human	FO	1	YOUNG ADULT	F	Spinal disease	FO animal bone (2g)	1472
94	JNF123	Human	FO	1	ADULT?	?	-	-	12
95	JNF125	Human	FO	1	JUVENILE (0-5YRS)	-	-	Iron corrosion material on several bone fragments	153
96	JNF126	Human	FO	1	ADULT?	?	-	-	9
97	JNF127	Human	FO	1	JUVENILE (0-5YRS)	-	-	-	77
98	JNF129	Human?	FO	-	-	–	-	-	2
99	JNF138	Human	FO	1	MIDDLE ADULT	F?	Dental disease	-	721
100	JNF145	Human	FO	1	ADULT	?	-	Iron corrosion material on 1 frag. Green staining on scapula	406
101	JNF146	Human	FO	1	ADULT	?	-	-	39
102	JNF153	Human	FO	1	ADULT?	?	-	-	20
103	JNF154	Human	FO	1	MIDDLE ADULT	F	Spinal/Trauma	Iron corrosion material on two fragments; FO animal bone (<1g)	695

N	Feature	Human / Animal[1]	Bone state[2]	MNI[3]	Age class[4]	Sex	Pathologies	Inclusions	Total weight (inclusions included)
104	JNF155	Human	FO	1	YOUNG ADULT	?	-	FO animal bone (4g)	163
105	JNF156	Human	FO	1	ADULT	?	-	-	353
106	JNF177	Human?	FO	-	-	–	-	-	8
107	JNF178	Human?	FO	-	-	–	-	Iron corrosion material on 3 fragments	11
108	JNF183	Human	IO	1	ADULT?	?	-	Iron corrosion material on 1 fragment	74
109	JNF186	Human?	FO	-	-	–	-	-	5
110	JNF190	Human	FO	1	ADULT?	?	-	Iron corrosion material on 4 frags.	37
111	JNF191	Human?	FO	-	-	–	-	-	2
112	JNF192	Human	IO	1	ADULT	?	-	-	592
113	JNF196	Human	FO	1	ADULT?	?	-	-	2
114	JNF199	Human	FO	1	ADULT?	?	Non Specific Infection	Iron corrosion material on 1 fragment	42
115	JNF201	Human?	FO	-	-	–	-	-	1
116	JNF203	Human	FO	1	ADULT?	?	-	-	20
117	JNF204	Human	FO	1	ADULT?	?	-	Charcoal (<1g)	3
118	JNF205	Human	FO	1	ADULT?	?	-	-	13
119	JNF213	Human	FO	1	ADULT?	?	-	-	6
120	JNF214	Human	FO	1	ADULT?	?	-	-	5
121	JNF217	Human	FO	1	MIDDLE ADULT	?	Spinal	FO animal bone (<1g)	916
122	JNF222	Human	FO	1	ADULT?	?	-	Iron corrosion material on 1 frag.; FO animal bone (2g)	25
123	JNF226	Human	FO	1	YOUNG ADULT	?	-	-	162
124	JNF236	Human	FO	1	MIDDLE ADULT	?	-	-	120
125	JNF239	Human	FO	1	ADULT?	?	-	-	14
126	JNF241	Human	FO	1	ADULT?	?	-	-	11
127	JNF243	Human	IO	1	ADULT?	?	-	-	6
128	JNF244	Human	FO	1	MIDDLE ADULT	M?	Enthesophytes	Potterry (<1g)	1147
129	JNF245	Human	IO	1	YOUNG ADULT	M	-	-	793
130	JNF248	Human?	FO	-	-	–	-	Unburnt animal bone (22g)	0.9
131	JNF250	Human	FO	1	ADULT	?	Spinal		376
132	JNF252	Human	IO	1	MIDDLE ADULT	?	Spinal, Non Specific Infection	-	475
133	JNF253	Human	FO	1	ADULT	?	-	1 pottery	190

N	Feature	Human / Animal[1]	Bone state[2]	MNI[3]	Age class[4]	Sex	Pathologies	Inclusions	Total weight (inclusions included)
								frag. (<1g)	
134	JNF260	Human	FO	1	MIDDLE ADULT	?	-	-	612
135	JNF262	Human	FO	1	MIDDLE ADULT	?	-	-	448
136	JNF263	Human	FO	1	ADULT?	?	-	-	37
137	JNF266	Human?	FO	-	-	–	-	-	1
138	JNF268	Human	FO	1	ADULT	?	-	Iron corrosion material on skull, axial skeleton and long bones; 1 frag. Pottery (<1g)	258
139	JNF279	Human	FO	1	ADULT?	?	Non Specific Infection	-	112
140	JNF282	Human	FO	1	ADULT	?	-	Iron corrosion material (5g)	93
141	JNF283	Human?	FO	-	-	–	-	-	5
142	JNF284	Human	FO	1	ADULT?	?	-	1 frag. Pottery (<1g)	19
143	JNF287	Human	FO	1	ADULT?	?	-	-	18
144	JNF288	Human?	FO	-	-	–	-	-	1
145	JNF298	Human	FO	1	ADULT?	?	-	-	15
146	JNF299	Human?	FO	-	-	–	-	1 frag. of copper alloy object	8
147	JNF302	Human	FO	1	ADULT	?	Non Specific Infection	3 frags pottery (3g)	571
148	JNF303	Human	FO	1	ADULT	?	Spinal	1 frag tile	155
149	JNF309	Human	FO	1	MIDDLE ADULT	?	-	-	72
150	JNF310	Human	IO	1	YOUNG ADULT	M	Joint disease, enthesophytes	Iron corrosion material on 1 long bone fragment	699
151	JNF323	Human	FO	1	JUVENILE (15-20YRS)	(F)	-	FO animal bone (15g)	660
152	JNF324	Human	FO	1	YOUNG ADULT	M?	Non Specific Infection, Dental, Spinal	-	535
153	JNF325	Human	FO	2	1 JUVENILE (0-5YRS); 1 ADULT	-; ?	-	Charcoal (<1g); iron corrosion material on 1 frag of long bone	288
154	JNF326	Human	FO	1	MIDDLE ADULT	M	Spinal	Iron concretion material on several	689

N	Feature	Human / Animal[1]	Bone state[2]	MNI[3]	Age class[4]	Sex	Pathologies	Inclusions	Total weight (inclusions included)
								fragments; pottery (2g)	
155	JNF327	Human	FO	1	JUVENILE (10-15YRS)	-	-	-	23
156	JNF330	Human	FO	1	ADULT?	?	-	-	21
157	JNF332	Human?	FO	-	-	–	-	-	19
158	JNF335	Human	FO	1	ADULT?	?	-	-	2
159	JNF348	Human	IO	1	YOUNG ADULT	M	-	-	737
160	JNF350	Human	IO	1	MIDDLE ADULT	M	-	-	589
161	JNF352	Human	FO	2	1 YOUNG ADULT; 1 ADULT	1 F; 1 ?	Spinal	FO animal bone (<1g); 1 burnt flint; 1 FO pottery frag. (2g)	1480
162	JNF355	Human	FO	1	ADULT?	?	-	-	8
163	JNF356	Human	FO	1	ADULT	?	Joint disease, spinal trauma	Iron corrosion material on 1 vertebra	1079
164	JNF357	Human?	FO	-	-	–	-	-	0.9
165	JNF361	Human	FO	1	ADULT	?	-	FO animal bone (5g)	6
166	JNF368	Human	FO	1	OLD ADULT	M	Joint disease, Dental, Spinal, Non Specific Infection	FO animal bone (7g)	749
167	JNF371	Human	FO	1	ADULT	?	Non Specific Infection	-	98
168	JNF372	Human?	FO	-	-	–	-	-	8
169	JNF373	Human	FO	1	ADULT?	?	-	FO animal bone (<1g)	23
170	JNF377	Human	FO	1	MIDDLE ADULT	M	-	-	413
171	JNF380	Human	IO	1	ADULT	?	-	-	806
172	JNF403	Human	FO	1	ADULT	?	-	-	778
173	JNF408	Human?	FO	-	-	–	-	-	2
174	JNF417	Human	FO	1	ADULT?	?	-	-	5
175	JNF420	Human	FO	1	ADULT	?	-	-	4
176	JNF431	Human	FO	1	MID/OLD ADULT	M?	Joint disease	-	585
177	JNF440	Human	FO	1	YOUNG ADULT	M	Spinal	Unburnt animal bone (13g)	572
178	JNF450	Human	FO	1	JUVENILE (10-15YRS)	-	-	-	357
179	JNF451	Human	FO	1	ADULT?	?	-	-	2
180	JNF461	Human	FO	1	YOUNG ADULT	?	Non Specific Infection	-	357
181	JNF472	Human	FO	1	MIDDLE ADULT	?	-	IO animal bone (32g)	258
182	JNF477	Human	FO	1	ADULT	?	Joint disease	-	172
183	JNF481	Human	FO	1	ADULT?	?	-	-	843
184	JNF482	Human	FO	1	MIDLE ADULT	?	Joint disease, Spinal	Iron staining on	437

N	Feature	Human / Animal[1]	Bone state[2]	MNI[3]	Age class[4]	Sex	Pathologies	Inclusions	Total weight (inclusions included)
								two frags.	
185	JNF486	Human	FO	1	ADULT?	?	-	-	6
186	JNF492	Human	FO	1	ADULT	?	-	-	26
187	JNF496	Human	FO	1	ADULT	?	-	-	106
188	JSF3	Human	FO	1	ADULT	?	-	-	246
189	JSF4	Human	FO	1	ADULT	?	-	Iron corrosion material on 1 frag of long bone	155
190	JSF9	Human	FO	1	ADULT	?	-	--	8
191	JSF18	Human	FO	1	ADULT?	?	-	-	14
192	JSF20	Animal	IO and unburnt	-	-	-	-	-	3270
193	JEF1	Human?	Unburnt	-	-	–	-	unburnt animal bone (52g)	56
194	JEF2	Human	FO	1	ADULT?	?	-	-	18
195	JEF3	Human	FO	1	ADULT	?	-	-	18

Context description

(Size[5], type of bone[6], degree of oxidisation[7], MNI[8], skeletal areas represented[9], age[10], sex, pathologies, inclusions)

N	Feature	Description
1	CF31	This feature includes one large assemblage of incompletely oxidised human bone from a minimum of 1 adult individual of indeterminate sex. Spinal pathology. The identified portion of bone includes elements from all skeletal areas (skull, axial, upper limbs and lower limbs). The bones were deposited in no apparent anatomical order. Inclusions: fully oxidised animal bone (3g).
2	CF33	This feature includes one medium assemblage of fully oxidised human bone from a minimum of 1 adult individual of indeterminate sex. The identified portion of bone includes elements from all skeletal areas (skull, axial, upper limbs and lower limbs). The bones were deposited in no apparent anatomical order. Inclusions: pottery (<1g).
3	CF38	This feature includes one medium assemblage of fully oxidised human bone from a minimum of 1 young adult (20-35 years) individual of indeterminate sex. Spinal pathology. The identified portion of bone includes elements from all skeletal areas (skull, axial, upper limbs and lower limbs). The bones were deposited in no apparent anatomical order.
4	CF99	This feature includes one medium assemblage of incompletely oxidised human bone from a minimum of 1 middle adult (35-50 years) female. Spinal pathology and joint disease. The identified portion of bone includes elements from all skeletal areas (skull, axial, upper limbs and lower limbs). Inclusions: fully oxidised animal bone (9g).
5	CF100	This feature includes one medium assemblage of fully oxidised human bone from a minimum of 1 adult individual of indeterminate sex. The identified portion of bone includes elements from all skeletal areas (skull, axial, upper limbs and lower limbs). Inclusions: fully oxidised animal bone (3g); iron nail (5g).
6	CF101	This feature includes one small assemblage of fully oxidised human bone from a minimum of 1 juvenile (0-5 years) individual. The identified portion of bone includes elements of skull and lower limbs. No inclusions.
7	CF105	This feature includes one medium assemblage of fully oxidised human bone from a minimum of 1 adult male. The identified portion of bone includes elements from all skeletal areas (skull, axial, upper limbs and lower limbs). No inclusions.
8	CF110	This feature includes one small assemblage of fully oxidised human bone from a minimum of 1 probably adult individual of indeterminate sex. The identified portion of bone includes elements of upper limbs. No inclusions.
9	CF111	This feature includes one medium assemblage of fully oxidised human bone from a minimum of 1 adult individual of indeterminate sex. The identified portion of bone includes elements of skull and lower limbs. No inclusions.
10	CF112	This feature includes one small assemblage of fully oxidised human bone from a minimum of 1 adult individual of indeterminate sex.The identified portion of bone includes elements of upper limbs.
11	CF115	This feature includes one small assemblage of incompletely oxidised human bone from a minimum of 1 probably adult individual of indeterminate sex. No inclusions.

[5] Size categories: 0-99g; small; 100-999g: medium; >999g: large.
[6] Type of bone categories: human /animal
[7] Degree of oxidisation categories: unburnt, charred, incompletely oxidised, fully oxidised
[8] MNI: Minimum Number of Individuals
[9] Skeletal areas: skull, axial skeleton, upper limbs, lower limbs
[10] Age at death: adult = >20 years. Young adult: 20-35 years; Middle adult: 35-50 years; Old adult >50 years.

N	Feature	Description
12	CF120	This feature includes one small assemblage of fully oxidised human bone from a minimum of 1 probably adult individual of indeterminate sex. The identified portion of bone includes elements of skull and upper limbs. Inclusions: fully oxidised animal bone (12g).
13	CF126	This feature includes one small assemblage of incompletely oxidised human bone from a minimum of 1 adult individual of indeterminate sex.The identified portion of bone includes elements of skull and axial skeleton. Inclusions: fully oxidised animal bone (2g).
14	CF127	This feature includes one medium assemblage of fully oxidised human bone from a minimum of 1 middle/old (35+ years) adult female. Spinal pathology, joint and dental disease . The identified portion of bone includes elements from all skeletal areas (skull, axial, upper limbs and lower limbs). Inclusions: fully oxidised animal bone (3g).
15	CF131	This feature includes one small assemblage of fully oxidised bone with human texture though no skeletal elements could be identified. No inclusions.
16	CF146	This feature includes one small assemblage of incompletely oxidised unidentified bone comprising long bone fragments that could be either human or animal. No skeletal elements could be identified. Inclusions: fully oxidised and unburnt animal bone (21g).
17	CF147	This feature includes one medium assemblage of fully oxidised human bone from a minimum of 1 adult individual of indeterminate sex.The identified portion of bone includes elements from all skeletal areas (skull, axial, upper limbs and lower limbs). No inclusions.
18	CF151	This feature includes one medium assemblage of fully oxidised human bone from a minimum of 1 adult individual of indeterminate sex. The identified portion of bone includes elements of skull, axial skeleton and lower limbs. No inclusions.
19	CF154	This feature includes one small assemblage of fully oxidised bone with human texture though no skeletal elements could be identified. No inclusions.
20	CF162	This feature includes one small assemblage of fully oxidised human bone from a minimum of 1 young adult (20-35 years) individual The identified portion of bone includes elements of skull. The bones were deposited in no apparent anatomical order. No inclusions.
21	CF163	This feature includes one medium assemblage of fully oxidised human bone from a minimum of 1 adult individual of indeterminate sex. The identified portion of bone includes elements of skull and axial skeleton. Inclusions: fully oxidised animal bone (65g).
22	CF164	This feature includes one small assemblage of fully oxidised human bone from a minimum of 1 juvenile (0-5 years) individual. Inclusions: fully oxidised animal bone (14g).
23	CF165	This feature includes one medium assemblage of fully oxidised human bone from a minimum of 1 middle adult (35-50 years) individual of indeterminate sex.
24	CF167	This feature includes one small assemblage of fully oxidised human bone from a minimum of 1 juvenile (0-5 years) individual. The identified portion of bone includes elements of skull and lower limbs. No inclusions.
25	CF173	This feature includes one medium assemblage of fully oxidised human bone from a minimum of 1 juvenile (0-5 years) individual. Inclusions: fully oxidised animal bone (<1g).
26	CF177	This feature includes one medium assemblage of fully oxidised human bone from a minimum of 1 young adult (20-35 years) individual of indeterminate sex.
27	CF178	This feature includes one small assemblage of fully oxidised human bone from a minimum of 1 juvenile (0-5 years) individual. Inclusions: fully oxidised animal bone (10g), 1g charcoal.

N	Feature	Description
28	CF182	This feature includes one medium assemblage of fully oxidised human bone from a minimum of 1 adult individual of indeterminate sex.
29	CF190	This feature includes one small assemblage of incompletely oxidised bone with human texture though no skeletal elements could be identified. No inclusions.
30	CF206	This feature includes one medium assemblage of fully oxidised human bone from a minimum of 1 juvenile (0-5 years) individual.
31	CF207	This feature includes one medium assemblage of fully oxidised human bone from a minimum of 1 adult female. Spinal pathology and dental disease. Inclusions: <1g fully oxidised animal bone, 1g iron nail.
32	CF210	This feature includes one medium assemblage of fully oxidised human bone from a minimum of 1 adult individual of indeterminate sex.
33	CF213	This feature includes one small assemblage of fully oxidised human bone from a minimum of 1 probably adult individual of indeterminate sex. The identified portion of bone includes elements of skull. No inclusions.
34	CF219	This feature includes one small assemblage of fully oxidised bone with human texture though no skeletal elements could be identified. No inclusions.
35	CF227	This feature includes one small assemblage of fully oxidised human bone from a minimum of 1 adult individual of indeterminate sex. Inclusions: 5g iron object.
36	CF231	This feature includes one small assemblage of fully oxidised bone with human texture though no skeletal elements could be identified. No inclusions.
37	CF237	This feature includes one small assemblage of fully oxidised human bone from a minimum of 1 juvenile (0-5 years) individual. The identified portion of bone includes elements of skull and axial skeleton. No inclusions.
38	CF238	This feature includes one medium assemblage of incompletely oxidised human bone from a minimum of 1 adult male.). The bones were deposited in no apparent anatomical order.
39	CF239	This feature includes one medium assemblage of fully oxidised human bone from a minimum of 1 adult individual of indeterminate sex. Inclusions: fully oxidised animal bone (7g).
40	CF240	This feature includes one small assemblage of fully oxidised human bone from a minimum of 1 probably adult individual of indeterminate sex. The identified portion of bone includes elements of skull. No inclusions.
41	CF241	This feature includes one medium assemblage of fully oxidised human bone from a minimum of 1 middle adult (35-50 years). Spinal pathology.). The bones were deposited in no apparent anatomical order. Inclusions: fully oxidised animal bone (15g)
42	CF242	This feature includes one medium assemblage of fully oxidised human bone from a minimum of 1 adult individual of indeterminate sex. Inclusions: fully oxidised animal bone (3g); 1g iron object
43	CF243	This feature includes one small assemblage of incompletely oxidised animal bone.
44	CF263	This feature includes one medium assemblage of incompletely oxidised human bone from a minimum of 1 middle adult (35-50 years) individual of indeterminate sex.
45	JNF1	This feature includes one medium assemblage of fully oxidised human bone from a minimum of 1 adult individual of indeterminate sex. The identified portion of bone includes elements from all skeletal areas (skull, axial, upper limbs and lower limbs). The bones were deposited in no apparent anatomical order. Inclusions: 1 iron nail shank (1g).
46	JNF2	This feature includes one small assemblage of fully oxidised human bone from a minimum of 1 probably adult individual of indeterminate sex. The identified portion of bone includes elements of lower limbs. Non specific infection.

N	Feature	Description
47	JNF4	This feature includes one medium assemblage of fully oxidised human bone from a minimum of 1 adult individual of indeterminate sex.The identified portion of bone includes elements from all skeletal areas (skull, axial, upper limbs and lower limbs). The bones were deposited in no apparent anatomical order.
48	JNF5	This feature includes one medium assemblage of fully oxidised human bone from a minimum of 1 adult individual of indeterminate sex.The identified portion of bone includes elements of skull, axial skeleton and lower limbs.). The bones were deposited in no apparent anatomical order.Inclusions: 1 iron nail stuck to m1/3 tibia; charcoal (1g).
49	JNF10	This feature includes one small assemblage of fully oxidised bone with human texture though no skeletal elements could be identified. No inclusions.
50	JNF11	This feature includes one small assemblage of fully oxidised human bone from a minimum of 1 adult individual of indeterminate sex. Spinal pathology. The identified portion of bone includes elements from all skeletal areas (skull, axial, upper limbs and lower limbs).
51	JNF12	From inhumated material
52	JNF21	This feature includes one small assemblage of fully oxidised human bone from a minimum of 1 adult individual of indeterminate sex. The identified portion of bone includes elements of skull and lower limbs.
53	JNF22	This feature includes one medium assemblage of fully oxidised human bone from a minimum of 1 adult individual of indeterminate sex.The identified portion of bone includes elements of skull, axial skeleton and lower limbs. Inclusions: unburnt animal bone (13g); 1 iron nail (<1g).
54	JNF26	This feature includes one medium assemblage of incompletely oxidised human bone from a minimum of 1 adult individual of indeterminate sex.The identified portion of bone includes elements from all skeletal areas (skull, axial, upper limbs and lower limbs).
55	JNF27	This feature includes one medium assemblage of fully oxidised human bone from a minimum of 1 adult individual of indeterminate sex.The identified portion of bone includes elements of axial skeleton, upper limbs and lower limbs. The bones were deposited in possible anatomical order.
56	JNF28	This feature includes one small assemblage of fully oxidised human bone from a minimum of 1 adult individual of indeterminate sex.The identified portion of bone includes elements of skull and axial skeleton.
57	JNF31	This feature includes one small assemblage of fully oxidised bone with human texture though no skeletal elements could be identified. No inclusions.
58	JNF32	This feature includes one small assemblage of incompletely oxidised human bone from a minimum of The identified portion of bone includes elements of skull. No inclusions.
59	JNF33	This feature includes one small assemblage of incompletely oxidised human bone from a minimum of 1 adult individual of indeterminate sex. The identified portion of bone includes elements from all skeletal areas (skull, axial, upper limbs and lower limbs). The bones were deposited in no apparent anatomical order. No inclusions.
60	JNF34	This feature includes one medium assemblage of fully oxidised human bone from a minimum of 1 juvenile (<20 years) individual. Non specific infection. The identified portion of bone includes elements from all skeletal areas (skull, axial, upper limbs and lower limbs). The bones were deposited in no apparent anatomical order.
61	JNF38	This feature includes one small assemblage of fully oxidised bone with human texture though no skeletal elements could be identified. No inclusions.

N	Feature	Description
62	JNF39	This feature includes one small assemblage of incompletely oxidised human bone from a minimum of 1 adult individual of indeterminate sex. The identified portion of bone includes elements of lower limbs. No inclusions.
63	JNF42	This feature includes one small assemblage of fully oxidised bone with human texture though no skeletal elements could be identified. No inclusions.
64	JNF47	This feature includes one medium assemblage of fully oxidised human bone from a minimum of 1 adult individual of indeterminate sex. The identified portion of bone includes elements of skull, axial skeleton and lower limbs. No inclusions.
65	JNF58	This feature includes one medium assemblage of fully oxidised human bone from a minimum of 1 juvenile (15-20 years) individual of indeterminate sex. The identified portion of bone includes elements of skull, axial skeleton and lower limbs. The bones were deposited in no apparent anatomical order.
66	JNF59	This feature includes one small assemblage of fully oxidised unidentified bone which could be either human or animal. No inclusions.
67	JNF61	This feature includes one medium assemblage of fully oxidised human bone from a minimum of 1 adult individual of indeterminate sex. The identified portion of bone includes elements from all skeletal areas (skull, axial, upper limbs and lower limbs). The bones were deposited in no apparent anatomical order.
68	JNF65	This feature includes one small assemblage of fully oxidised human bone from a minimum of 1 adult individual of indeterminate sex.The identified portion of bone includes elements of skull and lower limbs. No inclusions.
69	JNF67	This feature includes one small assemblage of fully oxidised bone with human texture though no skeletal elements could be identified. No inclusions.
70	JNF68	This feature includes one small assemblage of fully oxidised human bone from a minimum of 1 probably adult individual of indeterminate sex. The identified portion of bone includes elements of skull. No inclusions.
71	JNF70	This feature includes one medium assemblage of fully oxidised human bone from a minimum of 1 adult individual of indeterminate sex.
72	JNF73	This feature includes one small assemblage of fully oxidised bone with human texture though no skeletal elements could be identified. No inclusions.
73	JNF77	This feature includes one medium assemblage of fully oxidised human bone from a minimum of 1 probably female middle adult (35-50 years) individual. Non specific infection. The identified portion of bone includes elements from all skeletal areas (skull, axial, upper limbs and lower limbs). Inclusions: unburnt pottery sherds (9g).
74	JNF78	This feature includes one small assemblage of fully oxidised bone with human texture though no skeletal elements could be identified. No inclusions.
75	JNF79	This feature includes one small assemblage of fully oxidised human bone from a minimum of 1 probably adult individual of indeterminate sex. The identified portion of bone includes elements of skull and lower limbs. No inclusions.
76	JNF82	This feature includes one medium assemblage of fully oxidised human bone from a minimum of 1 juvenile (15-20 years) individual. The identified portion of bone includes elements from all skeletal areas (skull, axial, upper limbs and lower limbs). The bones were deposited in no apparent anatomical order. No inclusions.
77	JNF84	This feature includes one medium assemblage of fully oxidised human bone from a minimum of 1 adult individual of indeterminate sex.The identified portion of bone includes elements of axial skeleton and lower limbs. The bones were deposited in no apparent anatomical order. No inclusions.

N	Feature	Description
78	JNF87	This feature includes one small assemblage of fully oxidised human bone from a minimum of 1 probably adult individual of indeterminate sex. The identified portion of bone includes elements of skull. No inclusions.
79	JNF88	This feature includes one medium assemblage of fully oxidised human bone from a minimum of 1 juvenile (0-5 years) individual. The identified portion of bone includes elements from all skeletal areas (skull, axial, upper limbs and lower limbs). No inclusions.
80	JNF91	This feature includes one small assemblage of fully oxidised human bone from a minimum of 1 probably adult individual of indeterminate sex. The identified portion of bone includes elements of skull and upper limbs. Non specific infection. No inclusions.
81	JNF94	This feature includes one small assemblage of fully oxidised human bone from a minimum of 1 probably adult individual of indeterminate sex. The identified portion of bone includes elements of skull and lower limbs. No inclusions.
82	JNF99	This feature includes one medium assemblage of fully oxidised human bone from a minimum of 1 adult individual of indeterminate sex. The identified portion of bone includes elements from all skeletal areas (skull, axial, upper limbs and lower limbs). Inclusions: 2 frags pottery (<1g); unburnt animal bone (<1g).
83	JNF100	This feature includes one small assemblage of fully oxidised bone with human texture though no skeletal elements could be identified. No inclusions.
84	JNF103	This feature includes one medium assemblage of fully oxidised human bone from a minimum of 1 adult individual of indeterminate sex. The identified portion of bone includes elements of skull and lower limbs. Inclusions: fully oxidised animal bone (66g); animal bone encrusted with iron corrosion material (15g); iron corrosion material and 1 iron nail (3g).
85	JNF104	This feature includes one small assemblage of incompletely oxidised human bone from a minimum of 1 probably adult individual of indeterminate sex. The identified portion of bone includes elements of upper limbs. No inclusions.
86	JNF105	This feature includes one small assemblage of fully oxidised human bone from a minimum of 1 probably adult individual of indeterminate sex. The identified portion of bone includes elements of skull. No inclusions.
87	JNF106	This feature includes one medium assemblage of fully oxidised human bone from a minimum of 1 adult male individual of indeterminate sex. Spinal pathology. The identified portion of bone includes elements from all skeletal areas (skull, axial, upper limbs and lower limbs). The bones were deposited in no apparent anatomical order. Inclusions: fully oxidised animal bone (49g).
88	JNF109	This feature includes one small assemblage of fully oxidised human bone from a minimum of 1 probably adult individual of indeterminate sex.
89	JNF114	This feature includes one medium assemblage of incompletely oxidised human bone from a minimum of 2 individuals: 1 adult individual of indeterminate sex and 1 juvenile (0-5 years) individual. The identified portion of bone includes elements from all skeletal areas (skull, axial, upper limbs and lower limbs). Inclusions: fully oxidised animal bone (10g).
90	JNF116	This feature includes one small assemblage of fully oxidised human bone from a minimum of 1 probably adult individual of indeterminate sex. The identified portion of bone includes elements of axial skeleton and upper limbs. No inclusions.
91	JNF118	This feature includes one medium assemblage of fully oxidised human bone from a minimum of 1 probably adult individual of indeterminate sex. The identified portion of bone includes elements of skull, axial skeleton and lower limbs. No inclusions.
92	JNF119	This feature includes one small assemblage of fully oxidised bone with human texture though no skeletal elements could be identified. No inclusions.

N	Feature	Description
93	JNF121	This feature includes one large assemblage of fully oxidised human bone from a minimum of 1 young adult (20-35 years) female individual. Spinal pathology. The identified portion of bone includes elements from all skeletal areas (skull, axial, upper limbs and lower limbs). The bones were deposited in no apparent anatomical order. Inclusions: fully oxidised animal bone (2g).
94	JNF123	This feature includes one small assemblage of fully oxidised human bone from a minimum of 1 probably adult individual of indeterminate sex. The identified portion of bone includes elements of skull and upper limbs. No inclusions.
95	JNF125	This feature includes one small assemblage of fully oxidised human bone from a minimum of 1 juvenile (0-5 years) individual. The identified portion of bone includes elements from all skeletal areas (skull, axial, upper limbs and lower limbs). The bones were deposited in no apparent anatomical order. Inclusions: iron corrosion material on several bone fragments.
96	JNF126	This feature includes one small assemblage of fully oxidised human bone from a minimum of 1 probably adult individual of indeterminate sex. The identified portion of bone includes elements of skull and lower limbs. The bones were deposited in no apparent anatomical order. The bones were deposited in no apparent anatomical order. No inclusions.
97	JNF127	This feature includes one small assemblage of fully oxidised human bone from a minimum of 1 juvenile (0-5 years) individual. The identified portion of bone includes elements of skull, axial skeleton and lower limbs. The bones were deposited in no apparent anatomical order.
98	JNF129	This feature includes one small assemblage of fully oxidised bone with human texture though no skeletal elements could be identified. No inclusions.
99	JNF138	This feature includes one medium assemblage of fully oxidised human bone from a minimum of 1 probably female middle adult (35-50 years) individual. Dental disease. The identified portion of bone includes elements from all skeletal areas (skull, axial, upper limbs and lower limbs). No inclusions.
100	JNF145	This feature includes one medium assemblage of fully oxidised human bone from a minimum of 1 adult individual of indeterminate sex. The identified portion of bone includes elements from all skeletal areas (skull, axial, upper limbs and lower limbs). The bones were deposited in no apparent anatomical order. Inclusions: iron corrosion material on 1 frag. green staining on scapula.
101	JNF146	This feature includes one small assemblage of fully oxidised human bone from a minimum of 1 adult individual of indeterminate sex.The identified portion of bone includes elements from all skeletal areas (skull, axial, upper limbs and lower limbs). No inclusions.
102	JNF153	This feature includes one small assemblage of fully oxidised human bone from a minimum of 1 probably adult individual of indeterminate sex. The identified portion of bone includes elements of skull, upper limbs and lower limbs. No inclusions.
103	JNF154	This feature includes one medium assemblage of fully oxidised human bone from a minimum of 1 middle adult (35-50 years) female. Spinal pathology / trauma. The identified portion of bone includes elements from all skeletal areas (skull, axial, upper limbs and lower limbs). The bones were deposited in no apparent anatomical order. Inclusions: iron corrosion material on two fragments; fully oxidised animal bone (<1g).
104	JNF155	This feature includes one medium assemblage of fully oxidised human bone from a minimum of 1 young adult (20-35 years) individual of indeterminate sex. The identified portion of bone includes elements of skull, axial skeleton and upper limbs. Inclusions: fully oxidised animal bone (4g).
105	JNF156	This feature includes one medium assemblage of fully oxidised human bone from a minimum of 1 adult individual of indeterminate sex. The identified portion of bone includes elements from all skeletal areas (skull, axial, upper limbs and lower limbs). No inclusions.

N	Feature	Description
106	JNF177	This feature includes one small assemblage of fully oxidised bone with human texture though no skeletal elements could be identified. No inclusions.
107	JNF178	This feature includes one small assemblage of fully oxidised bone with human texture though no skeletal elements could be identified. Inclusions: iron corrosion material on 3 fragments.
108	JNF183	This feature includes one small assemblage of incompletely oxidised human bone from a minimum of 1 probably adult individual of indeterminate sex. The identified portion of bone includes elements of skull, axial skeleton and lower limbs. The bones were deposited in no apparent anatomical order. Inclusions: iron corrosion material on 1 fragment.
109	JNF186	This feature includes one small assemblage of fully oxidised bone with human texture though no skeletal elements could be identified. No inclusions.
110	JNF190	This feature includes one small assemblage of fully oxidised human bone from a minimum of 1 probably adult individual of indeterminate sex. The identified portion of bone includes elements of skull, axial skeleton and upper limbs. Inclusions: iron corrosion material on 4 frags.
111	JNF191	This feature includes one small assemblage of fully oxidised bone with human texture though no skeletal elements could be identified. No inclusions.
112	JNF192	This feature includes one medium assemblage of incompletely oxidised human bone from a minimum of 1 adult individual of indeterminate sex. The identified portion of bone includes elements from all skeletal areas (skull, axial, upper limbs and lower limbs). No inclusions.
113	JNF196	This feature includes one small assemblage of fully oxidised human bone from a minimum of 1 probably adult individual of indeterminate sex. The identified portion of bone includes elements of skull. No inclusions.
114	JNF199	This feature includes one small assemblage of fully oxidised human bone from a minimum of 1 probably adult individual of indeterminate sex. Non-specific infection. The identified portion of bone includes elements of lower limbs. The bones were deposited in no apparent anatomical order. Inclusions: iron corrosion material on 1 fragment.
115	JNF201	This feature includes one small assemblage of fully oxidised bone with human texture though no skeletal elements could be identified. No inclusions.
116	JNF203	This feature includes one small assemblage of fully oxidised human bone from a minimum of 1 probably adult individual of indeterminate sex. The identified portion of bone includes elements of skull and lower limbs. No inclusions.
117	JNF204	This feature includes one small assemblage of fully oxidised human bone from a minimum of 1 probably adult individual of indeterminate sex. The identified portion of bone includes elements of skull. Inclusions: charcoal (<1g).
118	JNF205	This feature includes one small assemblage of fully oxidised human bone from a minimum of 1 probably adult individual of indeterminate sex. The identified portion of bone includes elements of skull. No inclusions.
119	JNF213	This feature includes one small assemblage of fully oxidised human bone from a minimum of 1 probably adult individual of indeterminate sex. The identified portion of bone includes elements of skull. No inclusions.
120	JNF214	This feature includes one small assemblage of fully oxidised human bone from a minimum of 1 probably adult individual of indeterminate sex. The identified portion of bone includes elements of skull. No inclusions.

N	Feature	Description
121	JNF217	This feature includes one medium assemblage of fully oxidised human bone from a minimum of 1 middle adult (35-50 years) individual of indeterminate sex. Spinal pathology. The identified portion of bone includes elements from all skeletal areas (skull, axial, upper limbs and lower limbs). The bones were deposited in no apparent anatomical order. Inclusions: fully oxidised animal bone (<1g).
122	JNF222	This feature includes one small assemblage of fully oxidised human bone from a minimum of 1 probably adult individual of indeterminate sex. The identified portion of bone includes elements of skull and lower limbs. Inclusions: iron corrosion material on 1 frag.; fully oxidised animal bone (2g).
123	JNF226	This feature includes one medium assemblage of fully oxidised human bone from a minimum of 1 young adult (20-35 years) individual of indeterminate sex. The identified portion of bone includes elements of skull, axial skeleton and upper limbs. No inclusions.
124	JNF236	This feature includes one medium assemblage of fully oxidised human bone from a minimum of 1 middle adult (35-50 years) individual of indeterminate sex. The identified portion of bone includes elements of skull, axial skeleton and lower limbs. No inclusions.
125	JNF239	This feature includes one small assemblage of fully oxidised human bone from a minimum of 1 probably adult individual of indeterminate sex. The identified portion of bone includes elements of skull, axial skeleton and upper limbs. No inclusions.
126	JNF241	This feature includes one small assemblage of fully oxidised human bone from a minimum of 1 probably adult individual of indeterminate sex. The identified portion of bone includes elements of lower limbs. No inclusions.
127	JNF243	This feature includes one small assemblage of incompletely oxidised human bone from a minimum of 1 probably adult individual of indeterminate sex. The identified portion of bone includes elements of lower limbs. No inclusions.
128	JNF244	This feature includes one large assemblage of fully oxidised human bone from a minimum of 1 probably male middle adult (35-50 years) individual. The identified portion of bone includes elements from all skeletal areas (skull, axial, upper limbs and lower limbs). Enthesophytes. The bones were deposited in no apparent anatomical order. Inclusions: pottery (<1g).
129	JNF245	This feature includes one medium assemblage of incompletely oxidised human bone from a minimum of 1 young adult (20-35 years) male. Non-metric traits: incomplete metopic suture. The identified portion of bone includes elements from all skeletal areas (skull, axial, upper limbs and lower limbs). The bones were deposited in no apparent anatomical order. No inclusions.
130	JNF248	This feature includes one small assemblage of fully oxidised bone with human texture though no skeletal elements could be identified. It includes 22g of unburnt animal bone. Inclusions: unburnt animal bone (22g).
131	JNF250	This feature includes one medium assemblage of fully oxidised human bone from a minimum of 1 adult individual of indeterminate sex. Spinal pathology. The identified portion of bone includes elements from all skeletal areas (skull, axial, upper limbs and lower limbs). No inclusions.
132	JNF252	This feature includes one medium assemblage of incompletely oxidised human bone from a minimum of 1 middle adult (35-50 years) of indeterminate sex. Spinal pathology, non-specific infection. The identified portion of bone includes elements from all skeletal areas (skull, axial, upper limbs and lower limbs).
133	JNF253	This feature includes one medium assemblage of fully oxidised human bone from a minimum of 1 adult individual of indeterminate sex. The identified portion of bone includes elements of axial skeleton, upper limbs and lower limbs. Inclusions: 1 pottery frag. (<1g).

N	Feature	Description
134	JNF260	This feature includes one medium assemblage of fully oxidised human bone from a minimum of 1 middle adult (35-50 years) The identified portion of bone includes elements from all skeletal areas (skull, axial, upper limbs and lower limbs). No inclusions.
135	JNF262	This feature includes one medium assemblage of fully oxidised human bone from a minimum of 1 middle adult (35-50 years) individual of indeterminate sex. The identified portion of bone includes elements from all skeletal areas (skull, axial, upper limbs and lower limbs). No inclusions.
136	JNF263	This feature includes one small assemblage of fully oxidised human bone from a minimum of 1 probably adult individual of indeterminate sex. The identified portion of bone includes elements of skull, axial skeleton and lower limbs. No inclusions.
137	JNF266	This feature includes one small assemblage of fully oxidised bone with human texture though no skeletal elements could be identified. No inclusions.
138	JNF268	This feature includes one medium assemblage of fully oxidised human bone from a minimum of 1 adult individual of indeterminate sex. The identified portion of bone includes elements of skull, axial skeleton and lower limbs. Inclusions: iron corrosion material on skull, axial skeleton and long bones; 1 frag. pottery (<1g).
139	JNF279	This feature includes one medium assemblage of fully oxidised human bone from a minimum of 1 probably adult individual of indeterminate sex. Non-specific infection. The identified portion of bone includes elements of skull, axial skeleton and lower limbs. The bones were deposited in no apparent anatomical order. No inclusions.
140	JNF282	This feature includes one small assemblage of fully oxidised human bone from a minimum of 1 adult individual of indeterminate sex.The identified portion of bone includes elements from all skeletal areas (skull, axial, upper limbs and lower limbs). Inclusions: iron corrosion material (5g).
141	JNF283	This feature includes one small assemblage of fully oxidised bone with human texture though no skeletal elements could be identified. No inclusions.
142	JNF284	This feature includes one small assemblage of fully oxidised human bone from a minimum of 1 probably adult individual of indeterminate sex. The identified portion of bone includes elements of skull and lower limbs. Inclusions: 1 frag. pottery (<1g).
143	JNF287	This feature includes one small assemblage of fully oxidised human bone from a minimum of 1 probably adult individual of indeterminate sex. The identified portion of bone includes elements of lower limbs. No inclusions.
144	JNF288	This feature includes one small assemblage of fully oxidised bone with human texture though no skeletal elements could be identified. No inclusions.
145	JNF298	This feature includes one small assemblage of fully oxidised human bone from a minimum of 1 probably adult individual of indeterminate sex. The identified portion of bone includes elements of upper limbs and lower limbs. No inclusions.
146	JNF299	This feature includes one small assemblage of fully oxidised bone with human texture though no skeletal elements could be identified. Inclusions: 1 fragment of coper alloy object.
147	JNF302	This feature includes one medium assemblage of fully oxidised human bone from a minimum of 1 adult individual of indeterminate sex. Non-specific infection. The identified portion of bone includes elements of skull, axial skeleton and lower limbs. The bones were deposited in no apparent anatomical order. Inclusions: 3 frags pottery (3g).
148	JNF303	This feature includes one medium assemblage of fully oxidised human bone from a minimum of 1 adult individual of indeterminate sex. Spinal pathology. The identified portion of bone includes elements from all skeletal areas (skull, axial, upper limbs and lower limbs). Inclusions: 1 frag tile.

N	Feature	Description
149	JNF309	This feature includes one small assemblage of fully oxidised human bone from a minimum of 1 middle adult (35-50 years) of indeterminate sex. The identified portion of bone includes elements from all skeletal areas (skull, axial, upper limbs and lower limbs). No inclusions.
150	JNF310	This feature includes one medium assemblage of incompletely oxidised human bone from a minimum of 1 young adult (20-35 years) male. Joint disease and enthesophytes. The identified portion of bone includes elements from all skeletal areas (skull, axial, upper limbs and lower limbs). Inclusions: iron corrosion material on 1 long bone fragment.
151	JNF323	This feature includes one medium assemblage of fully oxidised human bone from a minimum of 1 female adolescent (15-20 years). The identified portion of bone includes elements from all skeletal areas (skull, axial, upper limbs and lower limbs). The bones were deposited in no apparent anatomical order. Inclusions fully oxidised animal bone (15g).
152	JNF324	This feature includes one medium assemblage of fully oxidised human bone from a minimum of 1 probably male young adult (20-35 years) individual. Spinal pathology, non-specific infection and dental disease. The identified portion of bone includes elements from all skeletal areas (skull, axial, upper limbs and lower limbs). The bones were deposited in no apparent anatomical order. No inclusions.
153	JNF325	This feature includes one medium assemblage of fully oxidised human bone from a minimum of 2 individuals: 1 juvenile (0-5 years) and 1 adult of indeterminate sex. The identified portion of bone includes elements of skull, axial skeleton and lower limbs. Inclusions: charcoal (<1g); iron corrosion material on 1 frag of long bone.
154	JNF326	This feature includes one medium assemblage of fully oxidised human bone from a minimum of 1 middle adult (35-50 years) male. Spinal pathology. The identified portion of bone includes elements from all skeletal areas (skull, axial, upper limbs and lower limbs). The bones were deposited in no apparent anatomical order. Inclusions: iron corrosion material on several fragments; pottery (2g).
155	JNF327	This feature includes one small assemblage of fully oxidised human bone from a minimum of 1 juvenile (10-15 years) individual. The identified portion of bone includes elements of skull, axial skeleton and upper limbs. The bones were deposited in no apparent anatomical order. No inclusions.
156	JNF330	This feature includes one small assemblage of fully oxidised human bone from a minimum of 1 probably adult individual of indeterminate sex. The identified portion of bone includes elements of axial skeleton and upper limbs. No inclusions.
157	JNF332	This feature includes one small assemblage of fully oxidised human bone from a minimum of No inclusions.
158	JNF335	This feature includes one small assemblage of incompletely oxidised human bone from a minimum of 1 probably adult individual of indeterminate sex. The identified portion of bone includes elements of upper limbs. No inclusions.
159	JNF348	This feature includes one medium assemblage of incompletely oxidised human bone from a minimum of 1 young adult (20-35 years) male. The identified portion of bone includes elements from all skeletal areas (skull, axial, upper limbs and lower limbs). The bones were deposited in no apparent anatomical order. No inclusions.
160	JNF350	This feature includes one medium assemblage of incompletely oxidised human bone from a minimum of 1 middle adult (35-50 years) male. The identified portion of bone includes elements from all skeletal areas (skull, axial, upper limbs and lower limbs). The bones were deposited in possible anatomical order.No inclusions.

N	Feature	Description
161	JNF352	This feature includes one large assemblage of fully oxidised human bone from a minimum of 2 individuals: 1 young adult (20-35 years) female and 1 adult of indeterminate sex.. Spinal pathology. The identified portion of bone includes elements from all skeletal areas (skull, axial, upper limbs and lower limbs). The bones were deposited in no apparent anatomical order. Inclusions: fully oxidised animal bone (<1g); 1 burnt flint; 1 fully oxidised pottery frag.
162	JNF355	This feature includes one small assemblage of fully oxidised human bone from a minimum of 1 probably adult individual of indeterminate sex. The identified portion of bone includes elements of skull and upper limbs. No inclusions.
163	JNF356	This feature includes one large assemblage of fully oxidised human bone from a minimum of 1 adult individual of indeterminate sex. Spinal pathology, joint disease and trauma. The identified portion of bone includes elements from all skeletal areas (skull, axial, upper limbs and lower limbs). Very strong muscle attachments in humerus and femur. The bones were deposited in no apparent anatomical order. Inclusions: iron corrosion material on 1 vertebra.
164	JNF357	This feature includes one small assemblage of fully oxidised bone with human texture though no skeletal elements could be identified. No inclusions.
165	JNF361	This feature includes one small assemblage of fully oxidised human bone from a minimum of 1 adult individual of indeterminate sex.The identified portion of bone includes elements of skull. Inclusions: fully oxidised animal bone (5g).
166	JNF368	This feature includes one medium assemblage of fully oxidised human bone from a minimum of 1 old adult (50+) male. Spinal pathology, non-specific infection, joint and dental disease.The identified portion of bone includes elements from all skeletal areas (skull, axial, upper limbs and lower limbs). The bones were deposited in no apparent anatomical order. Inclusions: fully oxidised animal bone (7g).
167	JNF371	This feature includes one small assemblage of fully oxidised human bone from a minimum of 1 adult individual of indeterminate sex. Non-specific infection. The identified portion of bone includes elements of axial skeleton, upper limbs and lower limbs. No inclusions.
168	JNF372	This feature includes one small assemblage of fully oxidised bone with human texture though no skeletal elements could be identified. No inclusions.
169	JNF373	This feature includes one small assemblage of fully oxidised human bone from a minimum of 1 probably adult individual of indeterminate sex. The identified portion of bone includes elements of skull, axial skeleton and upper limbs. Inclusions: fully oxidised animal bone (<1g).
170	JNF377	This feature includes one medium assemblage of fully oxidised human bone from a minimum of 1 middle adult (35-50 years) male. The identified portion of bone includes elements from all skeletal areas (skull, axial, upper limbs and lower limbs). The bones were deposited in no apparent anatomical order. No inclusions.
171	JNF380	This feature includes one medium assemblage of incompletely oxidised human bone from a minimum of 1 adult individual of indeterminate sex. The identified portion of bone includes elements from all skeletal areas (skull, axial, upper limbs and lower limbs). No inclusions.
172	JNF403	This feature includes one medium assemblage of fully oxidised human bone from a minimum of 1 adult individual of indeterminate sex. The identified portion of bone includes elements from all skeletal areas (skull, axial, upper limbs and lower limbs). The bones were deposited in no apparent anatomical order. No inclusions.
173	JNF408	This feature includes one small assemblage of fully oxidised bone with human texture though no skeletal elements could be identified. No inclusions.

N	Feature	Description
174	JNF417	This feature includes one small assemblage of fully oxidised human bone from a minimum of 1 adult individual of indeterminate sex.The identified portion of bone includes elements of skull. No inclusions.
175	JNF420	This feature includes one small assemblage of fully oxidised human bone from a minimum of 1 adult individual of indeterminate sex.The identified portion of bone includes elements of axial skeleton. The bones were deposited in no apparent anatomical order. No inclusions.
176	JNF431	This feature includes one medium assemblage of fully oxidised human bone from a minimum of 1 probably male middle/old adult (35+ years). Joint disease. The identified portion of bone includes elements from all skeletal areas (skull, axial, upper limbs and lower limbs). The bones were deposited in no apparent anatomical order. No inclusions.
177	JNF440	This feature includes one medium assemblage of fully oxidised human bone from a minimum of 1 young adult (20-35 years) male. Spinal pathology. The identified portion of bone includes elements from all skeletal areas (skull, axial, upper limbs and lower limbs). The bones were deposited in no apparent anatomical order. Inclusions: unburnt animal bone (13g).
178	JNF450	This feature includes one medium assemblage of fully oxidised human bone from a minimum of 1 juvenile (10-15 years) individual. The identified portion of bone includes elements from all skeletal areas (skull, axial, upper limbs and lower limbs). The bones were deposited in no apparent anatomical order. No inclusions.
179	JNF451	This feature includes one small assemblage of fully oxidised human bone from a minimum of 1 probably adult individual of indeterminate sex. The identified portion of bone includes elements of skull. No inclusions.
180	JNF461	This feature includes one medium assemblage of fully oxidised human bone from a minimum of 1 young adult (20-35 years) individual of indeterminate sex. Non-specific infection. The identified portion of bone includes elements from all skeletal areas (skull, axial, upper limbs and lower limbs).
181	JNF472	This feature includes one medium assemblage of fully oxidised human bone from a minimum of 1 middle adult (35-50 years) of indeterminate sex.The identified portion of bone includes elements of skull, axial skeleton and lower limbs. The bones were deposited in no apparent anatomical order. Inclusions: incompletely oxidised animal bone (32g).
182	JNF477	This feature includes one medium assemblage of fully oxidised human bone from a minimum of 1 adult individual of indeterminate sex. Joint disease. The identified portion of bone includes elements of axial skeleton, upper limbs and lower limbs.
183	JNF481	This feature includes one medium assemblage of fully oxidised human bone from a minimum of 1 probably adult individual of indeterminate sex. The identified portion of bone includes elements from all skeletal areas (skull, axial, upper limbs and lower limbs). The bones were deposited in no apparent anatomical order.
184	JNF482	This feature includes one medium assemblage of fully oxidised human bone from a minimum of 1 middle adult (35-50 years) individual of indeterminate sex. Spinal pathology and joint disease. The identified portion of bone includes elements from all skeletal areas (skull, axial, upper limbs and lower limbs). Inclusions: iron staining on two frags.
185	JNF486	This feature includes one small assemblage of fully oxidised human bone from a minimum of 1 probably adult individual of indeterminate sex. The identified portion of bone includes elements of skull and axial skeleton. No inclusions.
186	JNF492	This feature includes one small assemblage of fully oxidised human bone from a minimum of 1 adult individual of indeterminate sex.The identified portion of bone includes elements from all skeletal areas (skull, axial, upper limbs and lower limbs). No inclusions.

N	Feature	Description
187	JNF496	This feature includes one medium assemblage of fully oxidised human bone from a minimum of 1 adult individual of indeterminate sex. The identified portion of bone includes elements of axial skeleton, upper limbs and lower limbs. No inclusions.
188	JSF3	This feature includes one medium assemblage of fully oxidised human bone from a minimum of 1 adult individual of indeterminate sex. The identified portion of bone includes elements from all skeletal areas (skull, axial, upper limbs and lower limbs). The bones were deposited in no apparent anatomical order. No inclusions.
189	JSF4	This feature includes one medium assemblage of fully oxidised human bone from a minimum of 1 adult individual of indeterminate sex. The identified portion of bone includes elements from all skeletal areas (skull, axial, upper limbs and lower limbs). Iron corrosion material was found on 1 frag of long bone.
190	JSF9	This feature includes one small assemblageof fully oxidised human bone from a minimum of one adult individual of indeterminate sex. No bone elements were identified. No inclusions.
191	JSF18	This feature includes one small assemblage of fully oxidised human bone from a minimum of 1 probably adult individual of indeterminate sex. The identified portion of bone includes elements of skull and upper limbs. No inclusions.
192	JSF20	This feature includes one large assemblage of incompletely oxidised and unburnt animal bone.
193	JEF1	This feature includes one small assemblage of unburnt bone with human texture though no skeletal elements could be identified. Inclusions: unburnt animal bone (52g).
194	JEF2	This feature includes one small assemblage of fully oxidised human bone from a minimum of 1 adult individual of indeterminate sex. No inclusions.
195	JEF3	This feature includes one small assemblage of fully oxidised human bone from a minimum of 1 adult individual of indeterminate sex.The identified portion of bone includes elements from all skeletal areas (skull, axial, upper limbs and lower limbs). No inclusions.

Bone fragmentation

N	Feature	2mm (extracted weight)	%	residue	%	% of bone in the residue	5 mm	%	10 mm	%	max. fragment size	total
1	CF31	112	9.1	62	5	70	142	11.5	916	74.4	98	1232
2	CF33	48	5.4	3	0.3	70	242	27	603	67.3	57	896
3	CF38	57	8.9	4	0.6	70	81	12.7	499	77.8	89	641
4	CF99	52	5.5	28	3.0	70	79	8.2	793	83.3	94	952
5	CF100	59	7.7	15	1.8	60	121	15.8	568	74.7	67	759
6	CF101	14	17.7	1	1.3	50	21	26.6	43	54.4	41	79
7	CF105	54	8.6	10	1.6	80	104	16.7	457	73.1	75	625
8	CF110	0	0	0	0	0	1	100	0	0	17	1
9	CF111	9	7.6	0	0	0	29	24.4	81	68.0	37	119
10	CF112	29	17.8	1	0.6	90	49	0	84	51.5	48	163
11	CF115	0	0	0	0	0	2	100	0	0	17	2
12	CF120	1	2.9	0	0	0	5	14.3	29	82.8	45	35
13	CF126	14	20.3	0	0	0	24	34.8	31	44.9	45	69
14	CF127	19	3.5	3	0.5	70	91	16.8	427	79.1	54	540

N	Feature	2mm (extracted weight)	%	residue	%	% of bone in the residue	5 mm	%	10 mm	%	max. fragment size	total
15	CF131	12	41.5	1	3.4	70	13	44.8	3	10.3	21	29
16	CF146	7	9.4	2	30	70	26	35.1	39	52.8	43	74
17	CF147	14	8.5	1	0.6	70	36	21.9	113	69	71	164
18	CF151	85	17.5	7	2.7	60	169	34.7	226	46.4	54	487
19	CF154	0	0	0	0	0	1	100	0	0	17	1
20	CF162	6	6.6	0	0	0	33	36.3	52	57.1	29	91
21	CF163	28	5.5	2	0.4	80	118	23.3	359	70.8	102	507
22	CF164	20	42.5	3	4.9	50	8	17	16	34.1	69	47
23	CF165	30	9.0	17	5.1	70	42	12.6	244	73.3	74	333
24	CF167	3	5.8	0	0	0	6	31.6	10	52.6	39	19
25	CF173	38	33.3	0	0	0	38	33.3	38	33.3	31	114
26	CF177	31	10.6	1	0.3	70	52	17.6	211	71.5	51	295
27	CF178	0	0	0	0	0	0	0	3	100	30	3
28	CF182	12	5.2	0	0	0	26	11.4	191	83.4	39	229
29	CF190	0	0	0	0	0	0	0	3	100	19	3
30	CF206	97	46.6	10	4.8	50	45	21.6	56	27	57	208
31	CF207	20	3.7	8	1.5	70	33	6.0	485	88.8	78	546
32	CF210	28	8.2	1	0.3	70	48	14.1	263	77.4	59	340
33	CF213	3	37.5	0	0	0	2	25	3	37.5	18	8
34	CF219	6	12	0	0	0	12	24	32	64	33	50
35	CF227	17	23	0	0	0	19	25.7	39	52.7	35	74
36	CF231	0	0	0	0	0	1	25	3	75	37	4
37	CF237	1	7.2	0	0	0	5	35.7	8	57.1	29	14
38	CF238	11	3.1	0	0	0	26	7.3	322	89.6	54	359
39	CF239	6	2.7	1.8	0.8	40	18	8.4	186	88.1	55	211
40	CF240	4	23.5	0	0	0	6	35.3	7	41.2	22	17
41	CF241	14	1.7	4	0.5	70	23	2.7	793	95	58	819
42	CF242	11	4.7	1	0.4	70	41	17.4	183	77.5	43	236
43	CF243	-	-	-	-	-	-	-	-	-	-	-
44	CF263	28	9.4	0	0	0	39	13.3	228	77.3	59	295
45	JNF1	37	3.9	9	0.9	70	128	13.6	771	81.6	61	944
46	JNF2	0	0	0	0	0	0	0	9	100	39	9
47	JNF4	34	11.2	3	1	70	43	14.1	224	73.7	53	304
48	JNF5	7	7	0	0	0	19	19	74	74	41	100
49	JNF10	0	0	0	0	0	0	0	1	100	22	1
50	JNF11	4	1.8	1	0.4	70	7	3.3	206	94.5	58	218
51	JNF12	0	0	0	0	0	0	0	0.9	100	14	0.9
52	JNF21	0	0	0	0	0	1	6.9	14	93.3	35	15
53	JNF22	5	3.8	1	0.8	70	9	6.3	115	88.5	62	130
54	JNF26	9	1.9	3	0.7	70	67	14.5	382	82.9	47	461
55	JNF27	9	4	1	0.5	70	18	8	197	87.6	109	225
56	JNF28	1	7.1	0	0	0	2	14.3	11	78.6	42	14
57	JNF31	10	47.6	0	0	0	6	28.6	5	23.8	20	21
58	JNF32	5	27.8	0	0	0	4	22.2	9	50	31	18
59	JNF33	2	2.7	0	0	0	7	9.3	66	88	50	75
60	JNF34	25	6.9	3	0.8	70	60	16.6	273	75.6	65	361
61	JNF38	0	0	0	0	0	0	0	2	100	23	2
62	JNF39	0	0	0	0	0	1	14.3	6	85.7	28	7
63	JNF42	0	0	0	0	0	0	0	10	100	41	10
64	JNF47	17	11.1	0	0	0	46	30	90	58.9	34	153
65	JNF58	11	2.9	6	1.6	70	47	12.4	315	83.1	46	379
66	JNF59	0	0	0	0	0	1	100	0	0	13	1

N	Feature	2mm (extracted weight)	%	residue	%	% of bone in the residue	5 mm	%	10 mm	%	max. fragment size	total
67	JNF61	18	4.1	3	0.7	70	55	12.5	364	82.7	83	440
68	JNF65	7	8.5	0	0	0	18	22	57	69.5	55	82
69	JNF67	5	16.7	1	33	70	7	23.3	17	56.7	29	30
70	JNF68	5	14.7	0	0	0	10	29.4	19	55.9	31	34
71	JNF70	1	0.5	0	0	0	53	25.6	153	73.9	44	207
72	JNF73	0	0	0	0	0	0.9	100	0	0	9	0.9
73	JNF77	19	2.2	16	1.9	80	142	16.7	674	79.2	84	851
74	JNF78	0	0	0	0	0	0	0	1	100	11	1
75	JNF79	1	1.1	0	0	0	23	23.7	73	75.2	51	97
76	JNF82	1	0.4	7	2.7	70	26	10.3	219	86.6	64	253
77	JNF84	3	0.8	4	1.1	70	36	9.9	321	88.2	67	364
78	JNF87	0	0	0	0	0	1	100	0	0	18	1
79	JNF88	1	0.8	1	0.8	70	25	19.2	103	79.2	51	130
80	JNF91	0	0	0	0	0	4	40	6	60	31	10
81	JNF94	1	4	0	0	0	4	16	20	80	48	25
82	JNF99	1	0.5	0	0	0	41	19	174	80.5	75	216
83	JNF100	0	0	0	0	0	1	50	1	50	27	2
84	JNF103	34	5.6	6	0.9	70	184	30.4	382	63.1	86	605
85	JNF104	0	0	0	0	0	1	33.3	2	66.7	17	3
86	JNF105	0	0	0	0	0	1	100	0	0	18	1
87	JNF106	14	1.6	3	0.4	70	123	14.8	693	83.2	83	833
88	JNF109	0	0	0	0	0	0	0	3	100	25	3
89	JNF114	5	2.7	1	0.5	70	69	18.4	105	58.4	65	180
90	JNF116	0	0	0	0	0	0	0	2	100	29	2
91	JNF118	2	1.1	0	0	0	62	33	124	65.9	44	188
92	JNF119	0	0	0	0	0	0	0	0.9	100	27	0.9
93	JNF121	8	0.5	9	0.6	90	124	8.5	1329	90.4	147	1470
94	JNF123	2	16.7	0	0	0	3	25	7	58.3	25	12
95	JNF125	1	0.6	4	2.7	70	55	35.9	93	60.8	43	153
96	JNF126	1	11.1	0	0	0	5	55.6	3	33.3	24	9
97	JNF127	2	2.6	0	0	0	23	29.9	52	67.5	35	77
98	JNF129	0	0	0	0	0	0	0	2	100	18	2
99	JNF138	17	2.3	7	1	80	45	6.3	652	90.4	91	721
100	JNF145	3	0.7	1	0.2	70	65	16	337	84	73	406
101	JNF146	1	2.6	0	0	0	2	5.1	36	92.3	41	39
102	JNF153	1	5	0	0	0	3	15	16	80	32	20
103	JNF154	4	0.6	3	0.4	70	181	26	507	73	55	695
104	JNF155	23	14.5	1	0.6	70	39	24.5	96	60.4	38	159
105	JNF156	9	2.5	1	0.3	70	20	5.7	323	91.5	47	353
106	JNF177	3	37.5	0	0	0	1	12.5	4	50	20	8
107	JNF178	2	18.2	0	0	0	5	45.4	4	36.4	23	11
108	JNF183	0	0	1	1.4	70	14	18.9	59	79.7	56	74
109	JNF186	0	0	0	0	0	5	80	1	20	14	5
110	JNF190	2	5.4	0	0	0	7	18.9	28	75.7	36	37
111	JNF191	0	0	0	0	0	0	0	2	100	40	2
112	JNF192	103	17.4	3	0.5	80	96	16.2	390	65.9	46	592
113	JNF196	0	0	0	0	0	0	0	2	100	16	2
114	JNF199	2	4.8	0	0	0	19	45.2	21	50	36	42
115	JNF201	0	0	0	0	0	0	0	1	100	21	1
116	JNF203	3	15	0	0	0	3	15	14	70	33	20
117	JNF204	0	0	0	0	0	1	33.3	2	66.7	20	3
118	JNF205	5	38.5	0	0	0	6	46.1	2	15.4	31	13

N	Feature	2mm (extracted weight)	%	residue	%	% of bone in the residue	5 mm	%	10 mm	%	max. fragment size	total
119	JNF213	0	0	0	0	0	0	0	6	100	28	6
120	JNF214	1	20	0	0	0	2	40	2	40	21	5
121	JNF217	13	1.4	1.7	1.9	90	141	15.4	745	81.3	62	916
122	JNF222	1	4.1	0	0	0	4	16.7	19	79.2	45	24
123	JNF226	11	6.8	0	0	0	32	19.8	119	73.4	47	162
124	JNF236	1	0.8	0	0	0	8	6.7	111	92.5	48	120
125	JNF239	1	7.1	0	0	0	1	7.1	12	85.8	25	14
126	JNF241	0	0	0	0	0	0	0	11	100	59	11
127	JNF243	0	0	0	0	0	1	16.7	5	83.3	34	6
128	JNF244	6	0.5	9	0.8	80	188	16.4	944	82.3	66	1147
129	JNF245	11	1.4	11	1.4	70	121	15.2	650	82	116	793
130	JNF248	0	0	0	0	0	0.9	100	0	0	17	0.9
131	JNF250	3	0.8	4	1.1	80	84	22.3	285	75.8	48	376
132	JNF252	2	0.4	1	0.2	70	64	13.5	408	85.9	47	475
133	JNF253	0	0	1	0.5	70	17	8.9	172	91	54	190
134	JNF260	6	1	10	1.7	90	129	21.1	466	76.2	79	612
135	JNF262	18	4	3	0.7	50	151	33.7	276	61.6	53	448
136	JNF263	0	0	0	0	0	0	10	27	73	46	37
137	JNF266	0	0	0	0	0	1	100	0	0	13	1
138	JNF268	4	1.6	3	1.2	70	93	36	158	61.2	55	258
139	JNF279	4	3.6	0	0	0	42	37.5	66	58.9	42	112
140	JNF282	1	1.1	1	1.1	70	4	4.3	87	93.5	42	93
141	JNF283	0	0	0	0	0	2	40	3	60	37	5
142	JNF284	1	5.4	0	0	0	9	47.3	9	47.3	30	19
143	JNF287	0	0	0	0	0	9	50	9	50	35	18
144	JNF288	0	0	0	0	0	0	0	1	100	31	1
145	JNF298	1	6.7	0	0	0	5	33.3	9	60	26	15
146	JNF299	2	25	0	0	0	2	25	4	50	20	8
147	JNF302	13	2.3	6	1	70	41	7.2	508	89.5	103	568
148	JNF303	4	2.5	0	0	50	24	15.5	127	82	87	155
149	JNF309	2	2.7	1	1.4	70	9	12.5	61	84.8	45	72
150	JNF310	10	1.5	15	0.7	70	62	8.9	622	88.9	73	699
151	JNF323	19	2.9	17	2.7	90	41	6.3	568	88.1	74	645
152	JNF324	12	2.3	5	0.9	70	124	23.2	394	73.6	96	535
153	JNF325	17	5.9	0	0	0	63	22	208	72.1	61	288
154	JNF326	7	1	4	0.6	70	75	10.9	601	87.5	73	687
155	JNF327	3	13	0	0	0	9	39.2	11	47.8	47	23
156	JNF330	1	4.8	0	0	0	8	38	12	57.2	35	21
157	JNF332	3	15.8	0	0	0	8	42.1	8	42.1	23	19
158	JNF335	0	0	0	0	0	0	0	2	100	25	2
159	JNF348	5	0.7	8	1.1	70	96	13	628	85.2	64	737
160	JNF350	4	0.6	6	1	70	90	15.3	489	83.1	91	589
161	JNF352	28	1.9	36	2.4	70	149	16.7	1267	85.7	103	1478
162	JNF355	0	0	0	0	0	3	37.5	5	62.5	34	8
163	JNF356	22	2	22	2	70	105	9.8	930	86.2	128	1079
164	JNF357	0	0	0	0	0	0	0	0.9	100	19	0.9
165	JNF361	0	0	0	0	0	1	10	5	83.3	46	6
166	JNF368	34	4.5	14	1.9	70	34	4.5	662	89.1	96	742
167	JNF371	6	61	1	1	70	9	9.2	82	83.7	45	98
168	JNF372	0	0	0	0	0	1	12.5	7	87.7	24	8
169	JNF373	4	17.4	0	0	0	6	26.1	13	56.5	29	23
170	JNF377	20	4.8	3	0.7	70	28	6.8	362	87.7	75	413

N	Feature	2mm (extracted weight)	%	residue	%	% of bone in the residue	5 mm	%	10 mm	%	max. fragment size	total
171	JNF380	37	4.6	11	1.4	90	58	7.2	700	86.8	91	806
172	JNF403	16	2	14	1.8	70	82	10.6	666	85.6	75	778
173	JNF408	0	0	0	0	0	0	0	2	100	21	2
174	JNF417	0	0	0	0	0	1	20	4	80	22	5
175	JNF420	0	0	0	0	0	0	0	4	100	32	4
176	JNF431	14	2.4	2	0.3	70	32	5.5	537	91.8	71	585
177	JNF440	36	6.4	5	0.9	70	59	10.5	461	82.3	62	559
178	JNF450	2	0.6	0	0	0	72	20.1	283	79.3	74	357
179	JNF451	0	0	0	0	0	1	50	1	50	22	2
180	JNF461	13	3.6	2	0.6	70	81	22.7	261	73.1	46	357
181	JNF472	7	3.1	3	1.3	70	50	22.2	166	73.4	54	226
182	JNF477	2	1.3	0	0	0	18	10.4	152	88.3	62	172
183	JNF481	12	1.4	8	1	70	142	16.8	681	80.8	69	843
184	JNF482	15	3.4	3	0.7	70	94	21.5	325	74.4	63	437
185	JNF486	0	0	0	0	0	1	16.7	5	83.3	28	6
186	JNF492	0	0	0	0	0	2	7.7	24	92.3	46	26
187	JNF496	8	7.5	0	0	0	31	29.3	67	63.2	50	106
188	JSF3	4	1.5	0	0	0	24	9.6	218	88.6	59	246
189	JSF4	6	3.9	1	0.6	70	18	11.6	130	83.9	56	155
190	JSF9	0	0	0	0	0	1	12.5	7	87.5	27	8
191	JSF18	1	7.2	0	0	0	3	21.4	10	71.4	23	14
192	JSF20	-	-	-	-	-	-	-	-	-	-	-
193	JEF1	-	-	-	-	-	-	-	-	-	-	-
194	JEF2	1	11.2	0	0	0	6	33.3	10	55.5	47	18
195	JEF3	1	5.5	0	0	0	3	16.7	14	77.8	35	18

Bone colour[11] and colour changes distribution

(exocranial / endocranial / diploë; cortical / medullary surface; skeletal area / side)

N	Feature	Colour (visual estimate of % affected)	Degree of oxidisation and estimated temperature
1	CF31	Predominant colour: BUFF/WHITE. BLUE/GREY (10%) medullar cavity femur and radius and cancellous bone calcaneus. BLACK (20%) maxilla and pelvis	Incompletely oxidised (up to 600°)
2	CF33	Predominant colour: BUFF/WHITE. BLUE/GREY (10%) endocranial skull, cortical surface femur.	Fully oxidised (>600°)
3	CF38	Predominant colour: BUFF/WHITE. BLUE/GREY (5%) cancellous bone ilium and femur, cortical surface femur	Fully oxidised (>600°)
4	CF99	Predominant colour: BUFF/WHITE. BLUE/GREY (20%) skull al aspects, petrous temporal, ilium body, medullary cavity of long bones, cancellous bone	Incompletely oxidised (up to 600°)
5	CF100	Predominant colour: BUFF/WHITE. BLUE/GREY (10%) cortical bone, medullary cavity of long bones, cancellous bone	Fully oxidised (>600°)
6	CF101	Predominant colour: Predominant colour: BUFF/WHITE. BLUE/GREY (1%) medullary cavity upper limbs and patches on cortical surface of lower limbs	Fully oxidised (>600°)
7	CF105	Predominant colour: BUFF/WHITE. BLUE/GREY (1%) medullary cavity	Fully oxidised (>600°)
8	CF110	Predominant colour: BUFF/WHITE. BLUE/GREY (5%) medullary cavity upper limbs	Fully oxidised (>600°)
9	CF111	Predominant colour: BUFF/WHITE. BLUE/GREY (5%) medullary cavity of long bones	Fully oxidised (>600°)
10	CF112	Predominant colour: BUFF/WHITE. BLUE/GREY (1%) medullary cavity of long bones	Fully oxidised (>600°)
11	CF115	Predominant colour: BUFF/WHITE. BLUE/GREY (20%) patches on cortical surface	Incompletely oxidised (up to 600°)
12	CF120	Predominant colour: BUFF/WHITE. BLUE/GREY (1%) medullary cavity of long bones	Fully oxidised (>600°)
13	CF126	Predominant colour: BUFF/WHITE. BLACK (30%) vertebral bodies, cancellous bone	Incompletely oxidised (up to 600°)
14	CF127	Predominant colour: BUFF/WHITE. BLUE/GREY (5%) medullary cavity of long bones, cortical surface	Fully oxidised (>600°)

[11] Colour categories and corresponding estimated temperature: BROWN/ORANGE: unburnt; BLACK: charred (*c.*300°); BLUE/GREY: incompletely oxidised (up to 600°); BUFF/WHITE; fully oxidised (> 600°).

N	Feature	Colour (visual estimate of % affected)	Degree of oxidisation and estimated temperature
15	CF131	Predominant colour: BUFF/WHITE. BLACK (1%) cortical surface of one long bone fragment	Fully oxidised (>600°)
16	CF146	BUFF/WHITE (40%) cortical bone; BLACK (40%) medullary cavity; BLUE/GREY (20%) cortical bone	Incompletely oxidised (up to 600°)
17	CF147	Predominant colour: BUFF/WHITE. BLACK (10%) cortical and cancellous bone of long bones	Fully oxidised (>600°)
18	CF151	BUFF/WHITE.	Fully oxidised (>600°)
19	CF154	BUFF/WHITE.	Fully oxidised (>600°)
20	CF162	Predominant colour: BUFF/WHITE. BLUE/GREY (10%) medullary cavity of long bones, cancellous bone, skull endocranial	Fully oxidised (>600°)
21	CF163	Predominant colour: BUFF/WHITE. BLUE/GREY (5%) medullary cavity; BLACK (5%) cortical and medullary surfaces of long bones	Fully oxidised (>600°)
22	CF164	Predominant colour: BUFF/WHITE. BLUE/GREY (1%) skull endocranial and exocranial	Fully oxidised (>600°)
23	CF165	Predominant colour: BUFF/WHITE. BLUE/GREY (5%) medullary cavity of long bones	Fully oxidised (>600°)
24	CF167	BUFF/WHITE.	Fully oxidised (>600°)
25	CF173	Predominant colour: BUFF/WHITE. BLUE/GREY (1%) medullary cavity of long bones	Fully oxidised (>600°)
26	CF177	Predominant colour: BUFF/WHITE. BLUE/GREY (1%) medullary cavity of long bones	Fully oxidised (>600°)
27	CF178	BUFF/WHITE.	Fully oxidised (>600°)
28	CF182	Predominant colour: BUFF/WHITE. BLUE/GREY (1%) medullary cavity of long bones	Fully oxidised (>600°)
29	CF190	Predominant colour: BLUE/GREY (60%). BUFF/WHITE (40%)	Incompletely oxidised (up to 600°)
30	CF206	Predominant colour: BUFF/WHITE. BLUE/GREY (1%) unerupted dental caries, skull endocranial	Fully oxidised (>600°)
31	CF207	Predominant colour: BUFF/WHITE. BLUE/GREY (5%) cancellous bone	Fully oxidised (>600°)
32	CF210	Predominant colour: BUFF/WHITE. BLUE/GREY (5%) medullary cavity of long bones	Fully oxidised

N	Feature	Colour (visual estimate of % affected)	Degree of oxidisation and estimated temperature
			(>600°)
33	CF213	Predominant colour: BUFF/WHITE. BLUE/GREY (1%) medullary cavity of long bones, petrous temporal	Fully oxidised (>600°)
34	CF219	Predominant colour: BUFF/WHITE. BLUE/GREY (5%) medullary cavity of long bones	Fully oxidised (>600°)
35	CF227	Predominant colour: BUFF/WHITE. BLUE/GREY (10%) cancellous bone	Fully oxidised (>600°)
36	CF231	BUFF/WHITE.	Fully oxidised (>600°)
37	CF237	BUFF/WHITE.	Fully oxidised (>600°)
38	CF238	Predominant colour: BLUE/GREY (60%) long bones medullary cavity of long bones and cortical bone, ilium; BUFF/WHITE (40%) cortical bone and medullary cavity	Incompletely oxidised (up to 600°)
39	CF239	Predominant colour: BUFF/WHITE. BLACK (10%) long bones and cancellous bone, BLUE/GREY (5%) cortical bone long bones	Fully oxidised (>600°)
40	CF240	Predominant colour: BUFF/WHITE. BLUE/GREY (10%) medullary cavity of long bones	Fully oxidised (>600°)
41	CF241	Predominant colour: BUFF/WHITE.	
42	CF242	Predominant colour: BUFF/WHITE. BLUE/GREY (1%) medullary cavity of long bones	Fully oxidised (>600°)
43	CF243	-	-
44	CF263	Predominant colour: BLUE/GREY 60%) endocranial and exocranial; BUFF/WHITE (35%) cortical surface and medullary cavity; BLACK (5%) exocranial and internal surface long bones	Incompletely oxidised (up to 600°)
45	JNF1	Predominant colour: BUFF/WHITE. BLUE/GREY (<5%) cancellous bone	Fully oxidised (>600°)
46	JNF2	BUFF/WHITE.	Fully oxidised (>600°)
47	JNF4	Predominant colour: BUFF/WHITE. Charcoal staining	Fully oxidised (>600°)
48	JNF5	BUFF/WHITE.	Fully oxidised (>600°)
49	JNF10	BUFF/WHITE.	Fully oxidised (>600°)
50	JNF11	BUFF/WHITE.	Fully oxidised (>600°)
51	JNF12	Predominant colour: BUFF/WHITE. BLUE/GREY (1%)	Fully

N	Feature	Colour (visual estimate of % affected)	Degree of oxidisation and estimated temperature
		medullary cavity of long bones	oxidised (>600°)
52	JNF21	Predominant colour: BUFF/WHITE. BLUE/GREY (1%) talus and articular surfaces	Fully oxidised (>600°)
53	JNF22	Predominant colour: BUFF/WHITE. BLUE/GREY (5%) diploë skull, and medullary cavity of long bones	Fully oxidised (>600°)
54	JNF26	Predominant colour: BUFF/WHITE. BLUE/GREY (30%) cancellous bone	Incompletely oxidised (up to 600°)
55	JNF27	BUFF/WHITE.	Fully oxidised (>600°)
56	JNF28	BUFF/WHITE.	Fully oxidised (>600°)
57	JNF31	BUFF/WHITE.	Fully oxidised (>600°)
58	JNF32	BUFF/WHITE.	Fully oxidised (>600°)
59	JNF33	Predominant colour: BUFF/WHITE. BLUE/GREY (20%) articular surfaces and tibial M1/3	Incompletely oxidised (up to 600°)
60	JNF34	Predominant colour: BUFF/WHITE. BLACK (1%) cancellous bone; GREY (5%) articular surfaces	Fully oxidised (>600°)
61	JNF38	BUFF/WHITE.	Fully oxidised (>600°)
62	JNF39	Predominant colour: BUFF/WHITE. BLUE/GREY (30%) tibia proximal epiphysis and medullary cavity of long bones	Incompletely oxidised (up to 600°)
63	JNF42	BUFF/WHITE.	Fully oxidised (>600°)
64	JNF47	Predominant colour: BUFF/WHITE. Green staining on JN 193	Fully oxidised (>600°)
65	JNF58	Predominant colour: BUFF/WHITE. BLUE/GREY (5%) cancellous bone	Fully oxidised (>600°)
66	JNF59	BUFF/WHITE.	Fully oxidised (>600°)
67	JNF61	Predominant colour: BUFF/WHITE. BLUE/GREY (10%) cancellous bone	Fully oxidised (>600°)
68	JNF65	Predominant colour: BUFF/WHITE. BLUE/GREY (1%) femur distal epiphysis	Fully oxidised (>600°)

N	Feature	Colour (visual estimate of % affected)	Degree of oxidisation and estimated temperature
69	JNF67	BUFF/WHITE.	Fully oxidised (>600°)
70	JNF68	BUFF/WHITE.	Fully oxidised (>600°)
71	JNF70	Predominant colour: BUFF/WHITE. BLUE/GREY (1%) medullary cavity of long bones	Fully oxidised (>600°)
72	JNF73	Predominant colour: BUFF/WHITE.	Fully oxidised (>600°)
73	JNF77	Predominant colour: BUFF/WHITE. BLUE/GREY (5%) diploë skull, medullary cavity of long bones	Fully oxidised (>600°)
74	JNF78	BUFF/WHITE.	Fully oxidised (>600°)
75	JNF79	Predominant colour: BUFF/WHITE. BLUE/GREY (5%) medullary cavity of long bones	Fully oxidised (>600°)
76	JNF82	Predominant colour: BUFF/WHITE. BLUE/GREY (5%) articular surfaces, talus and calcaneus	Fully oxidised (>600°)
77	JNF84	Predominant colour: BUFF/WHITE. BLUE/GREY (5%) medullary cavity of long bones	Fully oxidised (>600°)
78	JNF87	BUFF/WHITE.	Fully oxidised (>600°)
79	JNF88	BUFF/WHITE.	Fully oxidised (>600°)
80	JNF91	BUFF/WHITE.	Fully oxidised (>600°)
81	JNF94	Predominant colour: BUFF/WHITE. BLUE/GREY (5%) medullary cavity of long bones	Fully oxidised (>600°)
82	JNF99	Predominant colour: BUFF/WHITE. BLUE/GREY (5%) medullary cavity of long bones, cancellous bone	Fully oxidised (>600°)
83	JNF100	Predominant colour: BUFF/WHITE.	Fully oxidised (>600°)
84	JNF103	Predominant colour: BUFF/WHITE. BLUE/GREY (5%) medullary cavity of long bones, cancellous bone	Fully oxidised (>600°)
85	JNF104	Predominant colour: BUFF/WHITE. BLUE/GREY (20%) petrous temporal and medullary cavity of long bones	Fully oxidised (>600°)
86	JNF105	Predominant colour: BUFF/WHITE.	Fully

N	Feature	Colour (visual estimate of % affected)	Degree of oxidisation and estimated temperature
			oxidised (>600°)
87	JNF106	Predominant colour: BUFF/WHITE. BLUE/GREY (<5%) medullary cavity of long bones	Fully oxidised (>600°)
88	JNF109	Predominant colour: BUFF/WHITE. BLUE/GREY (1%) medullary cavity of long bones	Fully oxidised (>600°)
89	JNF114	Predominant colour: BUFF/WHITE. BLUE/GREY (20%) diploë skull, medullary cavity of long bones, cancellous bone, patches throughout the body	Incompletely oxidised (up to 600°)
90	JNF116	BUFF/WHITE.	Fully oxidised (>600°)
91	JNF118	Predominant colour: BUFF/WHITE. BLUE/GREY (1%) medullary cavity of long bones	Fully oxidised (>600°)
92	JNF119	Predominant colour: BUFF/WHITE.	Fully oxidised (>600°)
93	JNF121	Predominant colour: BUFF/WHITE. BLUE/GREY (1%) cancellous bone, talus and calcaneus	Fully oxidised (>600°)
94	JNF123	BUFF/WHITE.	Fully oxidised (>600°)
95	JNF125	BUFF/WHITE.	Fully oxidised (>600°)
96	JNF126	Predominant colour: BUFF/WHITE. BLUE/GREY (1%) cancellous bone	Fully oxidised (>600°)
97	JNF127	BUFF/WHITE.	Fully oxidised (>600°)
98	JNF129	BUFF/WHITE.	Fully oxidised (>600°)
99	JNF138	Predominant colour: BUFF/WHITE. BLACK (1%) proximal tibia	Fully oxidised (>600°)
100	JNF145	Predominant colour: BUFF/WHITE. BLUE/GREY (5%) medullary cavity of long bones, cancellous bone	Fully oxidised (>600°)
101	JNF146	Predominant colour: BUFF/WHITE. BLUE/GREY (5%) medullary cavity of long bones, cancellous bone	Fully oxidised (>600°)
102	JNF153	Predominant colour: BUFF/WHITE. BLUE/GREY (1%) medullary cavity	Fully oxidised (>600°)
103	JNF154	Predominant colour: BUFF/WHITE. BLUE/GREY (5%) medullary cavity of long bones, cancellous bone, skull	Fully oxidised

N	Feature	Colour (visual estimate of % affected)	Degree of oxidisation and estimated temperature
		endocranial	(>600°)
104	JNF155	Predominant colour: BUFF/WHITE. BLUE/GREY (1%) ancellous bone, articular surfaces	Fully oxidised (>600°)
105	JNF156	Predominant colour: BUFF/WHITE. BLUE/GREY (5%) medullary cavity of long bones, cancellous bone	Fully oxidised (>600°)
106	JNF177	BUFF/WHITE.	Fully oxidised (>600°)
107	JNF178	BUFF/WHITE.	Fully oxidised (>600°)
108	JNF183	Predominant colour: BUFF/WHITE. BLUE/GREY (20%) cortical bone, articular surfaces, skull endocranial	Incompletely oxidised (up to 600°)
109	JNF186	BUFF/WHITE.	Fully oxidised (>600°)
110	JNF190	Predominant colour: BUFF/WHITE. BLUE/GREY (1%) cortical bone	Fully oxidised (>600°)
111	JNF191	Predominant colour: BUFF/WHITE. BLUE/GREY (1%) cortical bone	Fully oxidised (>600°)
112	JNF192	Predominant colour: BLACK (60%) cortical bone. BLUE/GREY (20%) medullary cavity. BUFF/WHITE (20%) cortical bone	Incompletely oxidised (up to 600°)
113	JNF196	BUFF/WHITE.	Fully oxidised (>600°)
114	JNF199	BUFF/WHITE.	Fully oxidised (>600°)
115	JNF201	BUFF/WHITE.	Fully oxidised (>600°)
116	JNF203	Predominant colour: BUFF/WHITE. BLUE/GREY (1%) cancellous bone	Fully oxidised (>600°)
117	JNF204	BUFF/WHITE. Charcoal stained	Fully oxidised (>600°)
118	JNF205	BUFF/WHITE.	Fully oxidised (>600°)
119	JNF213	BUFF/WHITE.	Fully oxidised (>600°)
120	JNF214	BUFF/WHITE.	Fully oxidised (>600°)
121	JNF217	Predominant colour: BUFF/WHITE. BLUE/GREY (10%)	Fully

N	Feature	Colour (visual estimate of % affected)	Degree of oxidisation and estimated temperature
		medullary cavity of long bones, cancellous bone, skull endocranial	oxidised (>600°)
122	JNF222	Predominant colour: BUFF/WHITE. BLUE/GREY (5%) medullary cavity of long bones, skull endocranial	Fully oxidised (>600°)
123	JNF226	Predominant colour: BUFF/WHITE. BLUE/GREY (1%) medullary cavity of long bones, cancellous bone	Fully oxidised (>600°)
124	JNF236	Predominant colour: BUFF/WHITE. BLUE/GREY (1%) medullary cavity of long bones	Fully oxidised (>600°)
125	JNF239	BUFF/WHITE.	Fully oxidised (>600°)
126	JNF241	Predominant colour: BUFF/WHITE. BLUE/GREY (1%) medullary cavity of long bones	Fully oxidised (>600°)
127	JNF243	Predominant colour: BLACK. BUFF/WHITE (20%) cortical surface, BLUE/GREY (1%) cortical surface	Incompletely oxidised (up to 600°)
128	JNF244	Predominant colour: BUFF/WHITE. BLUE/GREY (5%) medullary cavity and cancellous bone	Fully oxidised (>600°)
129	JNF245	Predominant colour: BLUE/GREY. BUFF/WHITE (30%) skull, small bones and some vertebral bodies; BLACK (10%) medullary cavity and cancellous bone	Incompletely oxidised (up to 600°)
130	JNF248	Predominant colour: BUFF/WHITE. BLUE/GREY (1%) medullary cavity; BLACK (1%) medullary cavity	Fully oxidised (>600°)
131	JNF250	Predominant colour: BUFF/WHITE. BLUE/GREY (5%) medullary cavity and cancellous bone	Fully oxidised (>600°)
132	JNF252	Predominant colour: BUFF/WHITE. BLACK (30%) one vertebral body, feet and lower limbs; BLUE/GREY (10%) medullary cavity	Incompletely oxidised (up to 600°)
133	JNF253	Predominant colour: BUFF/WHITE. BLUE/GREY (1%) medullary cavity of long bones	Fully oxidised (>600°)
134	JNF260	Predominant colour: BUFF/WHITE. BLUE/GREY (1%) medullary cavity of long bones	Fully oxidised (>600°)
135	JNF262	Predominant colour: BUFF/WHITE. BLUE/GREY (1%) endocranial skull	Fully oxidised (>600°)
136	JNF263	BUFF/WHITE.	Fully oxidised (>600°)
137	JNF266	BUFF/WHITE.	Fully oxidised (>600°)
138	JNF268	Predominant colour: BUFF/WHITE. BLUE/GREY (1%) articular surfaces. Charcoal staining	Fully oxidised (>600°)

N	Feature	Colour (visual estimate of % affected)	Degree of oxidisation and estimated temperature
139	JNF279	Predominant colour: BUFF/WHITE. BLUE/GREY (1%) cancellous bone	Fully oxidised (>600°)
140	JNF282	Predominant colour: BUFF/WHITE. BLUE/GREY (1%) cancellous bone	Fully oxidised (>600°)
141	JNF283	Predominant colour: BUFF/WHITE. BLUE/GREY (5%) medullary cavity	Fully oxidised (>600°)
142	JNF284	BUFF/WHITE.	Fully oxidised (>600°)
143	JNF287	Predominant colour: BUFF/WHITE. BLUE/GREY (1%) medullary cavity	Fully oxidised (>600°)
144	JNF288	BUFF/WHITE.	Fully oxidised (>600°)
145	JNF298	BUFF/WHITE.	Fully oxidised (>600°)
146	JNF299	BUFF/WHITE.	Fully oxidised (>600°)
147	JNF302	Predominant colour: BUFF/WHITE. BLUE/GREY (5%) medullary cavity of long bones, cancellous bone	Fully oxidised (>600°)
148	JNF303	Predominant colour: BUFF/WHITE. BLUE/GREY (5%) medullary cavity and articular surfaces	Fully oxidised (>600°)
149	JNF309	Predominant colour: BUFF/WHITE. BLUE/GREY (5%) medullary cavity of long bones	Fully oxidised (>600°)
150	JNF310	Predominant colour: BUFF/WHITE. BLUE/GREY (30%) lower limbs, cancellous bone, articular surfaces, skull endocranial	Incompletely oxidised (up to 600°)
151	JNF323	Predominant colour: BUFF/WHITE. BLUE/GREY (10%) cancellous bone	Fully oxidised (>600°)
152	JNF324	Predominant colour: BUFF/WHITE. BLUE/GREY (1%) medullary cavity of long bones, cancellous bone. BLACK (10%) distal tibia and feet bones	Fully oxidised (>600°)
153	JNF325	Predominant colour: BUFF/WHITE. BLUE/GREY (1%) articular surface.	Fully oxidised (>600°)
154	JNF326	Predominant colour: BUFF/WHITE. BLUE/GREY (5%) medullary cavity of long bones, cancellous bone	Fully oxidised (>600°)
155	JNF327	BUFF/WHITE.	Fully oxidised (>600°)
156	JNF330	Predominant colour: BUFF/WHITE. BLUE/GREY (1%) medullary cavity	Fully oxidised

N	Feature	Colour (visual estimate of % affected)	Degree of oxidisation and estimated temperature
			(>600°)
157	JNF332	BUFF/WHITE.	Fully oxidised (>600°)
158	JNF335	Predominant colour: BUFF/WHITE. BLUE/GREY (1%) medullary cavity	Fully oxidised (>600°)
159	JNF348	Predominant colour: BLUE/GREY. BLACK (20%); BUFF/WHITE (20%) cortical surface.	Incompletely oxidised (up to 600°)
160	JNF350	Predominant colour: BUFF/WHITE. BLUE/GREY (30%) cancellous bone and medullary cavity; BLACK (10%) medullary cavity	Incompletely oxidised (up to 600°)
161	JNF352	Predominant colour: BUFF/WHITE. BLUE/GREY (10%) acetabulum, ischium, articular surfaces, cancellous bone; BLACK (1%) cancellous bone	Fully oxidised (>600°)
162	JNF355	Predominant colour: BUFF/WHITE. BLUE/GREY (1%) medullary cavity	Fully oxidised (>600°)
163	JNF356	Predominant colour: BUFF/WHITE. BLUE/GREY (10%) medullary cavity and cancellous bone	Fully oxidised (>600°)
164	JNF357	Predominant colour: BUFF/WHITE. BLUE/GREY (1%) medullary cavity	Fully oxidised (>600°)
165	JNF361	Predominant colour: BUFF/WHITE. BLUE/GREY (1%) skull diploë	Fully oxidised (>600°)
166	JNF368	Predominant colour: BUFF/WHITE. BLUE/GREY (10%) medullary cavity of long bones, cancellous bone, cortical bone	Fully oxidised (>600°)
167	JNF371	Predominant colour: BUFF/WHITE. BLUE/GREY (1%) medullary cavity	Fully oxidised (>600°)
168	JNF372	Predominant colour: BUFF/WHITE. BLUE/GREY (1%) medullary cavity	Fully oxidised (>600°)
169	JNF373	BUFF/WHITE.	Fully oxidised (>600°)
170	JNF377	Predominant colour: BUFF/WHITE. BLUE/GREY (1%) medullary cavity of long bones, cancellous bone	Fully oxidised (>600°)
171	JNF380	Predominant colour: BUFF/WHITE. BLUE/GREY (30%) medullary cavity of long bones, cancellous bone, cortical bone. BLACK (10%) cortical and cancellous bone, scapula	Incompletely oxidised (up to 600°)
172	JNF403	Predominant colour: BUFF/WHITE. BLUE/GREY (10%) medullary cavity of long bones, cancellous bone, skull endocranial	Fully oxidised (>600°)
173	JNF408	Predominant colour: BUFF/WHITE. BLUE/GREY (1%) medullary cavity of long bones	Fully oxidised (>600°)
174	JNF417	BUFF/WHITE.	Fully

N	Feature	Colour (visual estimate of % affected)	Degree of oxidisation and estimated temperature
			oxidised (>600°)
175	JNF420	BUFF/WHITE.	Fully oxidised (>600°)
176	JNF431	Predominant colour: BUFF/WHITE. BLUE/GREY (1%) medullary cavity, skull endocranial	Fully oxidised (>600°)
177	JNF440	Predominant colour: BUFF/WHITE. BLUE/GREY (10%) medullary cavity of long bones, cancellous bone, skull endocranial	Fully oxidised (>600°)
178	JNF450	Predominant colour: BUFF/WHITE. BLUE/GREY (1%) cancellous bone	Fully oxidised (>600°)
179	JNF451	Predominant colour: BUFF/WHITE.	Fully oxidised (>600°)
180	JNF461	Predominant colour: BUFF/WHITE. BLUE/GREY (1%) cancellous bone	Fully oxidised (>600°)
181	JNF472	Predominant colour: BUFF/WHITE. BLUE/GREY (1%) medullary cavity. Animal bone incompletely oxidised (90% black or charred)	Fully oxidised (>600°)
182	JNF477	Predominant colour: BUFF/WHITE. BLUE/GREY (5%) ilium, cortical surfaces and medullary cavity	Fully oxidised (>600°)
183	JNF481	Predominant colour: BUFF/WHITE. BLUE/GREY (5%) cancellous bone; BLACK (1%) medullary cavity	Fully oxidised (>600°)
184	JNF482	Predominant colour: BUFF/WHITE. BLUE/GREY (1%) medullary cavity, petrous temporal and articualr surfaces	Fully oxidised (>600°)
185	JNF486	Predominant colour: BUFF/WHITE. BLUE/GREY (1%) cancellous bone	Fully oxidised (>600°)
186	JNF492	Predominant colour: BUFF/WHITE. BLUE/GREY (1%) medullary cavity	Fully oxidised (>600°)
187	JNF496	Predominant colour: BUFF/WHITE. BLACK (5%) medullary cavity; BLUE/GREY (1%) medullary cavity	Fully oxidised (>600°)
188	JSF3	Predominant colour: BUFF/WHITE. BLUE/GREY (1%) medullary cavity	Fully oxidised (>600°)
189	JSF4	Predominant colour: BUFF/WHITE. BLUE/GREY (5%) medullary cavity; BLACK (1%) medullary cavity	Fully oxidised (>600°)
190	JSF9	Predominant colour: BUFF/WHITE. BLUE/GREY (1%) medullary cavity of long bones	Fully oxidised (>600°)
191	JSF18	Predominant colour: BUFF/WHITE. BLUE/GREY (5%) medullary cavity	Fully oxidised (>600°)

N	Feature	Colour (visual estimate of % affected)	Degree of oxidisation and estimated temperature
192	JSF20	All identified bone: animal bone. BROWN/ORANGE (20%) (unburnt); BUFF/WHITE (30%) BLUE/GREY (30%) BLACK (20%)	Incompletely oxidised (up to 600°)
193	JEF1	Predominant colour: BROWN/ORANGE.	Unburnt
194	JEF2	Predominant colour: BUFF/WHITE. BLUE/GREY (5%) medullary cavity; BLACK (5%) one long bone fragment	Fully oxidised (>600°)
195	JEF3	Predominant colour: BUFF/WHITE. BLUE/GREY (10%) cancellous bone	Fully oxidised (>600°)

Bone identification

N	Feature	SKULL (g.)	AXIAL SKELETON (g.)	UPPER LIMBS (g.)	LOWER LIMBS (g.)	TOTAL IDENTIFIED (g.)	% IDENTIFIED	WEIGHT (g.)
1	CF31	73	94	202	155	524	42.7	1232
2	CF33	134	18	17	72	241	26.9	896
3	CF38	40	86	62	135	323	50.4	641
4	CF99	133	88	72	160	453	47.6	952
5	CF100	63	37	46	18	164	21.6	759
6	CF101	18	0	0	6	24	30.4	79
7	CF105	53	15	13	41	122	19.5	625
8	CF110	0	0	1	0	1	100	1
9	CF111	33	0	0	3	36	30.2	119
10	CF112	1	1	4	8	14	8.5	163
11	CF115	0	0	1	0	1	50	2
12	CF120	1	0	3	0	4	11.4	35
13	CF126	1	4	0	0	5	7.2	69
14	CF127	106	28	33	35	202	37.4	540
15	CF131	0	0	0	0	0	0	29
16	CF146	0	0	0	0	0	0	74
17	CF147	6	2	6	23	37	22.6	164
18	CF151	19	12	0	15	46	9.4	487
19	CF154	0	0	0	0	0	0	1
20	CF162	20	0	0	0	20	21.9	91
21	CF163	17	15	0	9	41	8.1	507
22	CF164	3	0	0	1	4	8.5	47
23	CF165	8	1	6	32	47	14.2	333
24	CF167	4	0	0	1	5	26.3	19
25	CF173	15	1	0	0	16	14	114
26	CF177	32	5	0	28	65	22	295
27	CF178	0	0.9	0	0	0.9	30	3
28	CF182	13	7	4	13	37	16.1	229
29	CF190	0	0	0	0	0	0	3
30	CF206	12	1	0	0	13	6.2	208
31	CF207	63	9	14	64	150	27.5	546

N	Feature	SKULL (g.)	AXIAL SKELETON (g.)	UPPER LIMBS (g.)	LOWER LIMBS (g.)	TOTAL IDENTIFIED (g.)	% IDENTIFIED	WEIGHT (g.)
32	CF210	21	7	11	54	93	27.3	340
33	CF213	1	0	0	0	1	12.5	8
34	CF219	0	0	0	0	0	0	50
35	CF227	4	1	1	4	10	13.5	74
36	CF231	0	0	0	0	0	0	4
37	CF237	2	3	0	0	5	35.7	14
38	CF238	14	22	6	74	116	32.3	359
39	CF239	31	3	20	25	79	37.4	211
40	CF240	4	0	0	0	4	23.5	17
41	CF241	56	7	3	88	154	18.8	819
42	CF242	12	6	7	15	40	16.9	236
43	CF243	-	-	-	-	-	-	-
44	CF263	35	1	30	20	86	29.1	295
45	JNF1	69	28	48	63	208	22	944
46	JNF2	0	0	0	0	7	77.8	9
47	JNF4	129	1	3	9	142	46.7	304
48	JNF5	2	6	2	10	20	20	100
49	JNF10	0	0	0	0	0	0	1
50	JNF11	4	20	1	4	29	13.3	218
51	JNF12	0	0	0	0	0	0	0.9
52	JNF21	0.9	0	0	2	2.9	19.3	15
53	JNF22	38	1	0	11	50	38.5	130
54	JNF26	11	11	2	68	92	19.9	461
55	JNF27	2	1	6	36	45	20	225
56	JNF28	9	1	0	0	10	71.4	14
57	JNF31	0	0	0	0	0	0	21
58	JNF32	0.9	0	0	0	0.9	5	18
59	JNF33	3	8	6	4	21	28	75
60	JNF34	4	14	1	25	44	12.2	361
61	JNF38	0	0	0	0	0	0	2
62	JNF39	0	0	0	1	1	14.3	7
63	JNF42	0	0	0	0	0	0	10
64	JNF47	6	12	0	0.9	18.9	12.3	153
65	JNF58	90	9	10	46	119	31.4	379
66	JNF59	0	0	0	0	0	0	1
67	JNF61	9	22	7	19	57	12.9	440
68	JNF65	4	0	0	12	16	19.5	82
69	JNF67	0	0	0	0	0	0	30
70	JNF68	1	0	0	0	1	2.9	34
71	JNF70	4	9	7	30	50	24.1	207
72	JNF73	0	0	0	0	0	0	0.9
73	JNF77	100	123	90	53	366	43	851
74	JNF78	0	0	0	0	0	0	1
75	JNF79	6	0	0	18	24	24.7	97
76	JNF82	10	10	3	46	69	27.3	253
77	JNF84	0	17	9	138	164	45	364
78	JNF87	0.5	0	0	0	0.5	50	1
79	JNF88	21	7	4	10	42	32.3	130
80	JNF91	1	0	2	0	3	30	10
81	JNF94	4	1	0	13	18	72	25
82	JNF99	10	3	7	59	79	36.6	216

N	Feature	SKULL (g.)	AXIAL SKELETON (g.)	UPPER LIMBS (g.)	LOWER LIMBS (g.)	TOTAL IDENTIFIED (g.)	% IDENTIFIED	WEIGHT (g.)
83	JNF100	0	0	0	0	0	0	2
84	JNF103	9	0	0	60	69	11.4	605
85	JNF104	0	0	1	0	1	33.3	3
86	JNF105	0.5	0	0	0	0.5	50	1
87	JNF106	33	30	0	62	125	15	833
88	JNF109	0	0	0	3	3	100	3
89	JNF114	12	1	2	14	29	16.1	180
90	JNF116	0	1	1	0	2	100	2
91	JNF118	2	1	0	29	32	17	188
92	JNF119	0	0	0	0	0	0	0.9
93	JNF121	94	95	126	398	713	48.5	1470
94	JNF123	3	0	1	0	4	33.3	12
95	JNF125	20	1	5	4	30	19.6	153
96	JNF126	2	0	0	1	3	33.3	9
97	JNF127	27	3	0	3	33	42.8	77
98	JNF129	0	0	0	0	0	0	2
99	JNF138	104	48	27	73	252	34.9	721
100	JNF145	12	18	14	84	128	31.5	406
101	JNF146	2	3	2	10	17	43.6	39
102	JNF153	1	0	3	2	6	30	20
103	JNF154	37	42	11	35	125	17.9	695
104	JNF155	28	2	1	2	33	20.7	159
105	JNF156	46	3	5	30	84	23.8	353
106	JNF177	0	0	0	0	0	0	8
107	JNF178	0	0	0	0	0	0	11
108	JNF183	9	7	0	7	23	31.1	74
109	JNF186	0	0	0	0	0	0	5
110	JNF190	7	3	2	0	12	32.4	37
111	JNF191	0	0	0	0	0	0	2
112	JNF192	37	11	3	43	94	15.9	592
113	JNF196	1	0	0	0	1	50	2
114	JNF199	0	0	0	5	5	11.9	42
115	JNF201	0	0	0	0	0	0	1
116	JNF203	3	0	0	1	4	20	20
117	JNF204	1	0	0	0	1	33.3	3
118	JNF205	1	0	0	0	1	7.7	13
119	JNF213	6	0	0	0	6	100	6
120	JNF214	1	0	0	0	1	20	5
121	JNF217	33	39	51	130	253	27.6	916
122	JNF222	1	0	0	5	6	25	24
123	JNF226	9	7	3	0	19	11.7	162
124	JNF236	19	1	0	14	34	28.3	120
125	JNF239	2	0	3	0	5	35.7	14
126	JNF241	0	0	0	11	11	100	11
127	JNF243	0	0	0	2	2	33.3	6
128	JNF244	116	68	15	99	298	25.9	1147
129	JNF245	66	75	4	133	278	35	793
130	JNF248	0	0	0	0	0	0	0.9
131	JNF250	44	19	25	22	110	29.2	376
132	JNF252	70	41	22	83	216	45.5	475
133	JNF253	0	13	5	47	65	34.2	190

N	Feature	SKULL (g.)	AXIAL SKELETON (g.)	UPPER LIMBS (g.)	LOWER LIMBS (g.)	TOTAL IDENTIFIED (g.)	% IDENTIFIED	WEIGHT (g.)
134	JNF260	105	50	21	67	457	74.7	612
135	JNF262	62	14	3	27	106	23.6	448
136	JNF263	1	9	0	3	13	35.1	37
137	JNF266	0	0	0	0	0	0	1
138	JNF268	8	24	1	17	50	19.4	258
139	JNF279	10	1	0	7	18	16	112
140	JNF282	7	27	8	7	49	52.7	93
141	JNF283	0	0	0	0	0	0	5
142	JNF284	2	0	0	1	3	15.8	19
143	JNF287	0	0	0	2	2	11.1	18
144	JNF288	0	0	0	0	0	0	1
145	JNF298	0	0	1	1	2	13.3	15
146	JNF299	0	0	0	0	0	0	8
147	JNF302	30	9	0	168	207	36.4	568
148	JNF303	5	1	18	45	69	44.5	155
149	JNF309	10	1	2	12	25	34.7	72
150	JNF310	51	18	11	77	157	22.5	699
151	JNF323	6	50	38	69	163	25.2	645
152	JNF324	123	123	25	114	385	71.9	535
153	JNF325	32	7	0	30	69	23.9	288
154	JNF326	87	73	16	81	257	37.4	687
155	JNF327	1	1	5	0	7	30.4	23
156	JNF330	0	1	1	0	2	9.5	21
157	JNF332	0	0	0	0	0	0	19
158	JNF335	0	0	1	0	1	50	2
159	JNF348	14	54	32	89	179	24.3	737
160	JNF350	10	20	12	69	111	18.8	589
161	JNF352	217	236	75	227	755	51.1	1478
162	JNF355	1	0	1	0	2	25	8
163	JNF356	40	53	70	285	448	41.5	1079
164	JNF357	0	0	0	0	0	0	0.9
165	JNF361	1	0	0	0	1	16.7	6
166	JNF368	30	81	34	181	326	43.9	742
167	JNF371	0	5	13	9	27	27.5	98
168	JNF372	0	0	0	0	0	0	8
169	JNF373	1	1	4	0	6	26.1	23
170	JNF377	42	5	3	83	133	32.2	413
171	JNF380	25	11	36	73	145	17.9	806
172	JNF403	49	70	12	61	192	24.7	778
173	JNF408	0	0	0	0	0	0	2
174	JNF417	1	0	0	0	1	20	5
175	JNF420	0	2	0	0	2	100	4
176	JNF431	64	115	31	65	275	47	585
177	JNF440	37	12	28	60	137	24.5	559
178	JNF450	6	18	9	70	103	28.8	357
179	JNF451	1	0	0	0	1	50	2
180	JNF461	51	34	3	46	134	37.5	357
181	JNF472	23	2	0	5	30	13.3	226
182	JNF477	0	40	4	49	93	54.1	172
183	JNF481	66	31	9	125	231	27.4	843
184	JNF482	27	36	8	23	94	21.5	437

N	Feature	SKULL (g.)	AXIAL SKELETON (g.)	UPPER LIMBS (g.)	LOWER LIMBS (g.)	TOTAL IDENTIFIED (g.)	% IDENTIFIED	WEIGHT (g.)
185	JNF486	1	2	0	0	3	50	6
186	JNF492	1	5	1	3	10	38.5	26
187	JNF496	0	3	13	4	20	18.9	106
188	JSF3	3	11	6	31	51	20.7	246
189	JSF4	2	1	16	26	45	29	155
190	JSF9	1	1	2	1	5	62.5	8
191	JSF18	0	1	4	0	5	35.7	14
192	JSF20	-	-	-	-	-	-	-
193	JEF1	-	-	-	-	-	-	-
194	JEF2	1	0	1	0	2	11.1	18
195	JEF3	3	1	1	1	6	33.3	18

Anatomical distribution of bone by spit[12]

Feature	SPIT 1	SPIT 2	SPIT 3	SPIT 4	SPIT 5	SPIT 6	SPIT 7	SPIT 8	SPIT 9	SPIT 10	DEPOSITION ORDER
CF31	SK, AX, UL, LL	SK, AX, UL, LL	AX, UL, LL	SK, AX, UL, LL	UL, LL	-	-	-	-	-	MIXED
CF33	LB, SK, AX, LL	SK, AX, LL	SK, AX, UL, LL	SK, LL	SK, AX, UL, LL	-	-	-	-	-	MIXED
CF38	-	SK, LL	AX, UL, LL	AX, LL	SK, AX, UL, LL	-	-	-	-	-	MIXED
CF162	-	-	-	-	-	-	SK, LB	SK, LB	-	-	MIXED
CF238	SK, AX, UL, LL	UL, LL	AX, UL, LL	UL, LL	SK, AX, LL	-	-	-	-	-	MIXED
CF241	SK, UL	-	SK, UL, AX, LB	SK	SK	SK, AX, UL, LL	SK, LL	-	-	-	MIXED
JNF1	SK, AX, UL, LL	SK, AX, UL, LL	SK, AX, UL, LL	SK, AX, UL, LL	SK, AX, UL, LL	-	-	-	-	-	MIXED
JNF4	-	-	LB	SK, LL	-	-	-	-	-	-	MIXED (including bags a-r)
JNF5	-	-	LL	SK, AX, LB	LB	-	SK, AX, LL	-	-	-	MIXED
JNF27	-	-	AX, UL,	LL	LL	-	-	-	-	-	POSSIBLE

[12] SK = skull; AX = axial skeleton; UL = upper limbs; LL = lower limbs; LB = unidentified limb bones

Feature	SPIT 1	SPIT 2	SPIT 3	SPIT 4	SPIT 5	SPIT 6	SPIT 7	SPIT 8	SPIT 9	SPIT 10	DEPOSITION ORDER
			LL								ANATOMICAL ORDER
JNF33	-	SK, UL	SK, AX, LL	-	-	-	-	-	-	-	MIXED
JNF34	-	-	-	SK, UL	-	-	LL	SK	SK, AX, LL (spit 10)	-	MIXED
JNF58	-	-	-	-	SK, AX, LL	SK, AX, LL	-	-	-	-	MIXED
JNF61	LL, SK	SK, UL, LL	AX, UL, LL	-	-		-	-	-	-	MIXED
JNF82	AX, LB	UL	SK, AX, UL, LL	SK, AX	-	LL	-	-	-	-	MIXED
JNF84	UL, LL	AX, LL	AX, LL	AX, LL	UL, LL	-	-	-	-	-	MIXED
JNF88	-	-	-	-	SK, AX, LL	SK, AX, UL, LL	-	-	-	-	MIXED
JNF106	-	LB	LB	LB	SK, UL, LL	-	-	-	-	-	MIXED
JNF121	-	SK, AX, LL	SK, AX, LL	SK, AX, UL, LL	SK, AX, UL, LL	SK, AX, UL, LL	SK, UL, LL	AX, LL	-	-	MIXED
JNF125	-	SK, LB	SK, LB	SK, UL, LB	SK, LL	-	-	-	-	-	MIXED
JNF126	-	-	-	-	-	SK, LB	SK, LB		-	-	MIXED
JNF127	-	-	SK, AX, LL	-		SK, AX, LL	SK, AX, LB	SK, LB	-	-	MIXED
JNF145	AX, UL, LL	LL	UL, LL	SK, AX, LL	AX, LL	-	-	-	-	-	MIXED
JNF154	SK, LB	-	-	SK, AX, LL	AX, LL	-	-	-	-	-	MIXED
JNF183	SK (Q1, spit 2)	LB (Q2, spit 2)	LB (Q3, spit 2)	SK (Q4, spit 2)	-	-	-	-	-	-	MIXED
JNF199	LB	LB	LB	-	-	-	-	-	-	-	MIXED? (No anatomical order in quadrants)
JNF217	-	-	-	-	-	SK, AX, LB	SK, UL, LL	SK, AX, LL	SK, AX, LL	SK, AX, LL	MIXED
JNF244	-	-	AX	-	SK	SK,	SK,	-	SK,	-	MIXED

Feature	SPIT 1	SPIT 2	SPIT 3	SPIT 4	SPIT 5	SPIT 6	SPIT 7	SPIT 8	SPIT 9	SPIT 10	DEPOSITION ORDER
						AX, LL	AX, LB		AX, LB		
JNF245	-	-	AX, LL	AX	SK, AX, LL	AX	-	-	-	-	MIXED
JNF279	-	SK, LL (spit 2 quadrant 1)	SK, LL (spit 2 quadrant 2)	-	-	-	-	-	-	-	MIXED
JNF302	SK, AX, LL	-	LL	LL	SK, AX, LL	SK, AX, LL	SK, AX, LL	-	-	-	MIXED
JNF323	AX	SK, AX, UL	SK, AX, UL, LL	-	AX, UL, LL	-	-	-	-	-	MIXED
JNF324	SK, AX, UL, LL	-	SK, AX, LL	SK, AX, UL, LL	SK, AX, LL	SK, AX, LL	-	-	-	-	MIXED
JNF326	AX, LL	SK, AX, LL	SK, AX, LL	SK, AX, UL, LL	-	-	-	-	-	-	MIXED
JNF327	-	AX, LB	SK, AX, UL	-	-	-	-	-	-	-	MIXED
JNF348	-	-	SK, AX, UL, LL	SK, AX, LL	SK, AX, LL	SK, AX, UL, LL	UL, LL	AX, UL	-	-	MIXED
JNF350	-	SK, AX	SK, AX, UL	SK, AX, LL	SK, AX, LL	LL	LL	-	-	-	POSSIBLE ANATOMICAL ORDER
JNF352	UL, LL	SK, UL	SK, AX, UL, LL	AX, LL	SK, AX, UL, LL	SK, UL	AX, UL, LL	-	-	-	MIXED
JNF356	-	SK, AX, UL, LL	SK, LL	SK, AX, UL, LL	-	SK	-	-	-	-	MIXED
JNF368	-	SK, AX, UL, LL	SK, AX, UL, LL	AX, UL, LL	AX, UL, LL	LL	-	-	-	-	MIXED
JNF377	SK	-	UL	SK, LL	SK, LL	SK, LL	AX, SK, LL	-	-	-	MIXED
JNF403	SK, AX, LL	SK, AX, LL	SK, AX, LL	SK, AX, UL, LL	AX, UL	-	-	-	-	-	MIXED
JNF431	-	-	-	-	-	SK, AX, UL, LL	SK, AX, UL, LL	SK, AX, LL	AX, LL	-	MIXED
JNF440	-	-	SK, UL	-	SK, UL	SK, LL	-	SK, AX, UL,	AX, LL	SK, LL	MIXED

Feature	SPIT 1	SPIT 2	SPIT 3	SPIT 4	SPIT 5	SPIT 6	SPIT 7	SPIT 8	SPIT 9	SPIT 10	DEPOSITION ORDER
								LL			
JNF450	-	AX	AX, LB	SK, AX, LL	SK, LL	AX, LL	LL	-	-	-	MIXED
JNF472	-	-	-	-	-	LB	SK, LB	SK, AX, LB	-	-	MIXED
JNF481	AX, LB SK, LL	SK, UL, LL	AX, LL	SK, AX, LL	-	-	-	-	-	-	MIXED
JSF3	LL	SK, LL	AX, LL	SK, UL, LL	-	AX, UL, LL	LL	UL, LL	-	-	MIXED

Sex determination

N	Context	PELVIS						SKULL						Metric data	SEX
		Ventral Arc (1-3)	**Sub pubic Concavity (1-3)**	**Ridge on I-P Ramus (1-3)**	**Greater Sciatic Notch (1-5)**	**Pre auricular Sulcus (0-4)**	**Pelvis Sex**	**Nuchal Crest (1-5)**	**Mastoid Process (1-5)**	**Supra orbital Margin (1-5)**	**Glabella (1-5)**	**Mental Eminence (1-5)**	**Skull Sex**		
4	CF99				2		F		1					11mm occipital (?)	F
7	CF105							5	4					15mm occipital (?)	M
14	CF127								1	1					F
31	CF207									1					F
38	CF238									5					M
73	JNF77				2	2	F							36∅ L humerus	F
75	JNF79													9mm occipital	?
77	JNF84				1		F								F
87	JNF106								4				M		M
93	JNF121				1		F							40∅ L humerus 10mm occipital (?)	F
99	JNF138								3 (long but thin)				F?		F?
103	JNF154				1		F								F

N	Context	PELVIS						SKULL						Metric data	SEX
		Ventral Arc (1-3)	**Sub pubic Concavity (1-3)**	**Ridge on I-P Ramus (1-3)**	**Greater Sciatic Notch (1-5)**	**Pre auricular Sulcus (0-4)**	**Pelvis Sex**	**Nuchal Crest (1-5)**	**Mastoid Process (1-5)**	**Supra orbital Margin (1-5)**	**Glabella (1-5)**	**Mental Eminence (1-5)**	**Skull Sex**		
127	JNF241													7mm femur wall 8mm occipit. (?)	?
129	JNF244				3		M?							10mm ocipit. (?)	M?
130	JNF245									4	4		M		M
151	JNF310													9mm femur wall (M)	M
152	JNF323				1		F								(F) Juvenile
153	JNF324				3		M?								M?
155	JNF326								4				M		M
160	JNF348													19mm ∅ PROX radius (?), 10mm femur wall (M)	M
161	JNF350	3	3	3			M								M

N	Context	PELVIS						SKULL						Metric data	SEX
		Ventral Arc (1-3)	**Sub pubic Concavity (1-3)**	**Ridge on I-P Ramus (1-3)**	**Greater Sciatic Notch (1-5)**	**Pre auricular Sulcus (0-4)**	**Pelvis Sex**	**Nuchal Crest (1-5)**	**Mastoid Process (1-5)**	**Supra orbital Margin (1-5)**	**Glabella (1-5)**	**Mental Eminence (1-5)**	**Skull Sex**		
162	JNF352				1		F							18mm∅ PROX radius (?) 2mm radius wall (?), 11mm occipit (?), 19mm glenoid width (?)	F
164	JNF356													21mm∅ PROX radius (?)	?
167	JNF368								4				M		M
171	JNF377							4						12mm occipital (?)	M
177	JNF431				3		M?								M?
178	JNF440				4		M								M

Age at death

N	CTXT	EPIPHYSEAL UNION	AURICULAR SURFACE (SUCHEY-BROOKES)	PUBIC SYMPHYSIS	SUTURE CLOSURE: EXTERNAL CRANIAL VAULT	SUTURE CLOSURE: LATERAL-ANTERIOR	SUMMARY AGE CODE:
3	CF38		III (30-34 years)				YOUNG ADULT (20-35 YEARS)
4	CF99		IV (35-39 years)		1		MIDDLE ADULT (35-50 YEARS)
14	CF127				2 and 3		MIDDLE/OLD ADULT (35+ YEARS)
45	JNF1		V (40-44 years)				MIDDLE ADULT (35-50 YEARS)
73	JNF77		III (30-34 years)				MIDDLE ADULT (35-50 YEARS)
93	JNF121			II			YOUNG ADULT (20-35 YEARS)
99	JNF138				2		MIDDLE ADULT (35-50 YEARS)
122	JNF217		IV (35-39 years)				MIDDLE ADULT (35-50 YEARS)
129	JNF244		V (40-44 years)		2		MIDDLE ADULT (35-50 YEARS)
133	JNF252		VI (45-49 years)		2		MIDDLE ADULT (35-50 YEARS)
153	JNF324		III (30-34 years)		1		YOUNG ADULT (20-35 YEARS)
155	JNF326		IV (35-39 years)				MIDDLE ADULT (35-50 YEARS)
160	JNF348		II (25-29 years)		1		YOUNG ADULT (20-35 YEARS)
162	JNF352		III (30-34 years)		1		YOUNG ADULT (20-35 YEARS)
164	JNF356				2		MIDDLE ADULT (35-50 YEARS)
167	JNF368		VII (50-59 years)		2		OLD ADULT (50+ YEARS)
171	JNF377				2		MIDDLE ADULT (35-50 YEARS)
185	JNF482				2		MIDDLE ADULT (35-50 YEARS)
103	JNF154		V (40-44 years)		2		MIDDLE ADULT (35-

N	CTXT	EPIPHYSEAL UNION	AURICULAR SURFACE (SUCHEY-BROOKES)	PUBIC SYMPHYSIS	SUTURE CLOSURE: EXTERNAL CRANIAL VAULT	SUTURE CLOSURE: LATERAL-ANTERIOR	SUMMARY AGE CODE:
							50 YEARS)
20	CF162				1		YOUNG ADULT (20-35 YEARS)
23	CF165				2		MIDDLE ADULT (35-50 YEARS)
26	CF177				1		YOUNG ADULT (20-35 YEARS)
41	CF241				2		MIDDLE ADULT (35-50 YEARS)
44	CF263				2		MIDDLE ADULT (35-50 YEARS)
104	JNF155				1		YOUNG ADULT (20-35 YEARS)
123	JNF226				1		YOUNG ADULT (20-35 YEARS)
124	JNF236				2		MIDDLE ADULT (35-50 YEARS)
134	JNF260				2		MIDDLE ADULT (35-50 YEARS)
135	JNF262				2		MIDDLE ADULT (35-50 YEARS)
149	JNF309				2		MIDDLE ADULT (35-50 YEARS)
150	JNF310				1		YOUNG ADULT (20-35 YEARS)
160	JNF350			mad			MIDDLE ADULT (35-50 YEARS)
176	JNF431				3		MIDDLE/OLD ADULT (>35-YEARS)
177	JNF440				1		YOUNG ADULT (20-35 YEARS)
180	JNF461				1		YOUNG ADULT (20-35 YEARS)
181	JNF472				2		MIDDLE ADULT (35-50 YEARS)
184	JNF482				2		MIDDLE ADULT (35-50 YEARS)

Subadults age at death comparison table[13]

N	CTXT	EPIPHYSEAL UNION	DENTAL DEVELOPMENT	METRIC DEVELOPMENT	AGE CLASS
6	CF101			R, l femur (eroded) 18mm∅	0-5 YEARS
22	CF164		2 permanent mandibular molars in crypt crown complete	Femur P1/3 (eroded) 16mm∅	0-5 YEARS
24	CF167			Fragment of tibia D1/3 (by comparison)	0-5 YEARS
25	CF173			Skull thickness (2mm), open sutures	< 20 YEARS
27	CF178	Unfused vertebral body			0-5 YEARS
30	CF206		1 1st maxillary incisor(crown ½ complete but fragmentary); 1 permanent canine (crown complete); 4 premolars (crown ½ complete but fragmentary); 2 mandibular molars (crown ½ complete), 2 maxillary molars (crown ¾ complete) (5-6 years)		5-10 YEARS
37	CF237	Unfused thoracic body			0-5 YEARS
60	JNF34	R, L humerus PEPI open R, L femur PEPI open			15-20 YEARS
65	JNF58	Humerus PEPI open; Pubic symphisis stage 1			15-20 YEARS
76	JNF82	iliac crest open femur DEPI, PEPI open humerus PEPI open 3 molar dental roots apex closed acetabulum formed(ischium to ilium not clear if		41∅ femur PEPI (eroded) adult size	15-20 YEARS

[13] Stages of fusion from Buikstra, J. E. and Ubelaker, D. H. (1994). *Standards for data Collection From Human Skeletal Remains.* Arkansas Archaeological Survey 44 and Brickley, M and McKinley, J. (eds) 2004 *Guidelines to the Standards for Recording of Human Remains.* Reading: British Association for Biological Anthropology and Osteoarchaeology / Institute of Field Archaeologists. Code key: 0 = open; 1 = initial fusion; 2 = fused; CTXT = context; S = sacrum; prox. = proximal; epi. = epiphysis

N	CTXT	EPIPHYSEAL UNION	DENTAL DEVELOPMENT	METRIC DEVELOPMENT	AGE CLASS
		fused) talus fused (>16F, >18M)			
79	JNF88			23∅ femur PEPI (3mths-1yr) 22∅ humerus PEPI (1yr)	0-5 YEARS
89	JNF114	JUVENILE: Humerus PEPI open Femur PEPI, DEPI open ADULT : Distal phalanx foot (fused stage 2) Prox. Phalanx foot (fused stage 2) (>11-13 F; > 14-16 M)-		27∅ femur PEPI (3mths-1yr) (JUVENILE)	0-5 YEARS AND 1 ADULT
95	JNF125			Humerus P1/3 (eroded) 20mm∅; femur P1/3 (eroded) 23mm∅	0-5 YEARS
97	JNF127	Lumbar vertebrae unfused (neurocentral)		R, L Femur P1/3 (eroded) 19mm∅	0-5 YEARS
152	JNF 323	R, L femur PEPI fused (line retained) R, L ischium open R, L humerus DEPI fused, PEPI open Iliac crest open Radius PEPI open			15-20 YEARS
154	JNF325			24∅ femur PEPI (3mmths-1year)	0-5 YEARS
156	JNF327	Humerus PROX 1/3 open (<13-17F) (<16-20M)			10-15 YEARS
179	JNF450	S1-S2 open Femur PEPI, DEPI open Tibia DEPI open Talus fused			10-15 YEARS

GUV CREMATED HUMAN REMAINS – Pathological conditions

N	Context	Side	Bone	Section	Aspect	Nature of lesion	Description / extent	Healing state	Distribution	Diagnosis	Pathology class
1	CF31	-	4 thoracic vertebrae	body	4 superior; 1 inferior	Resorptive	Schmorl's nodes moderate expression	-	4 of 10	Schmorl's nodes	Spinal disease
3	CF38	-	1 thoracic vertebra	body	superior	Resorptive	Schmorl's nodes marked expression	-	1 of 6	Schmorl's nodes	Spinal disease
4	CF99	-	5 thoracic vertebrae	body	Superior, inferior	Combination	Lipping (sharp ridge, sometimes curled with spicules) in > 2/3; porosity with coalescence of foramina in 1/3-2/3	-	5 of 7	Arthritis	Spinal disease
4	CF99	R	radius	Proximal epiphysis	all	Proliferative	Lipping (sharp ridge, sometimes curled with spicules) in > 2/3	-	-	Arthritis of the elbow	Joint disease
31	CF207	L	mandible	P1, P2	-	Resorptive	Resorbing sockets	Healing	-	Ante mortem Tooth loss	Dental disease
31	CF207	-	2 thoracic vertebrae	body	Superior, inferior	Combination	Lipping (sharp ridge, sometimes curled with spicules) in > 2/3; porosity	-	2 of 2	Arthritis	Spinal disease

N	Context	Side	Bone	Section	Aspect	Nature of lesion	Description / extent	Healing state	Distribution	Diagnosis	Pathology class
							with coalescence of foramina in 1/3-2/3				
41	CF241	-	1 thoracic vertebra	body	Superior, inferior	Combination	Lipping (sharp ridge, sometimes curled with spicules) in > 2/3; porosity with coalescence of foramina in 1/3-2/3	-	-	Arthritis	Spinal disease
45	JNF1	-	tibia	M1/3	anterior	Proliferative process	Remodelled new bone formation (lamellar bone) on periosteal surface on 1/3-2/3	healed	-	Periostitis	Non-Specific infection
46	JNF2	-	tibia	M1/3	anterior	Proliferative process	Remodelled new bone formation (lamellar bone) on periosteal surface on 1/3-2/3	healed	-	Periostitis	Non-Specific infection
50	JNF11	-	1 vertebra	body	superior	Resorptive	Schmorl's nodes moderate expression	-	1 of 3	Schmorl's nodes	Spinal disease
60	JNF34	-	tibia	M1/3	anterior	Proliferative process	New bone formation	healing	-	Periostitis	Non-Specific infection

N	Context	Side	Bone	Section	Aspect	Nature of lesion	Description / extent	Healing state	Distribution	Diagnosis	Pathology class
							(woven bone) on periosteal surface on 1/3-2/3				
73	JNF77	-	tibia	M1/3	anterior	Proliferative process	Remodelled new bone formation (lamellar bone) on periosteal surface on 1/3-2/3	healed	-	Periostitis	Non-Specific infection
81	JNF94	-	femur	M1/3	anterior	Proliferative process	Remodelled new bone formation (lamellar bone) on periosteal surface on 1/3-2/3	healed	-	Periostitis	Non-Specific infection
87	JNF106	-	2 Thoracic vertebrae	body	Superior, inferior	Combination	Lipping (sharp ridge, sometimes curled with spicules) in > 2/3; porosity with coalescence of foramina in 1/3-2/3	-	2 of 4	Arthritis	Spinal disease
93	JNF121	-	Cervical vertebra	body	Superior, inferior	Combination	Lipping (sharp ridge, sometimes curled with spicules) in >	-	1 of 3	Arthritis	Spinal disease

N	Context	Side	Bone	Section	Aspect	Nature of lesion	Description / extent	Healing state	Distribution	Diagnosis	Pathology class
							2/3; porosity with coalescence of foramina in 1/3-2/3				
93	JNF121	-	Thoracic vertebra	body	Superior, inferior	Combination	Lipping (sharp ridge, sometimes curled with spicules) in > 2/3; porosity with coalescence of foramina in 1/3-2/3	-	2 of 5	Arthritis	Spinal disease
97	CF127	-	1 cervical, 1 thoracic	body	Superior, inferior	Combination	Lipping (sharp ridge, sometimes curled with spicules) in > 2/3; porosity with coalescence of foramina in 1/3-2/3	-	2 of 2	Arthritis	Spinal disease
97	CF127	L	mandible	condyle	all	Proliferative	Lipping (sharp ridge, sometimes curled with spicules) in 1/3-2/3	-	R condyle unaffected	Arthritis of the mandibular condyle	Joint disease
97	CF127	L	mandible	I1	-	Combination	Reactive and resorbing bone	Active	1 of 2	Periodontal disease	Dental disease

N	Context	Side	Bone	Section	Aspect	Nature of lesion	Description / extent	Healing state	Distribution	Diagnosis	Pathology class
							margin with slight lipping				
99	JNF138	L	mandible	M3, M2	-	Resorptive	Resorbed M3 socket and resorbing M2 socket	Healing	-	Ante mortem Tooth loss	Dental disease
103	JNF154	-	1 thoracic vertebra	body	all	Combination	Marked posterior body height reduction with slight lipping.	-	-	Compression fracture	Trauma/Spinal
115	JNF199	-	femur	M1/3	anterior	Proliferative process	Thick deposit of lamellar bone on periosteal surface on 1/3-2/3	healed	-	Periostitis	Non-Specific infection
122	JNF217	-	2 thoracic vertebrae	body	superior	Resorptive	Schmorl's nodes moderate expression	-	-	Schmorl's nodes	Spinal disease
129	JNF244	-	ilium	Iliac crest	-	Proliferative	Enthesophytes (lipping (sharp ridge, sometimes curled with spicules) in 1/3-2/3	-	-	Enthesophytes	Degenerative process
132	JNF250	-	Lumbar vertebra	body	Superior, inferior	Combination	Lipping (sharp ridge, sometimes curled with spicules) in > 2/3; porosity with	-	-	Arthritis	Spinal disease

N	Context	Side	Bone	Section	Aspect	Nature of lesion	Description / extent	Healing state	Distribution	Diagnosis	Pathology class
							coalescence of foramina in 1/3-2/3				
133	JNF252	-	2 Thoracic vertebrae	body	Superior, inferior	Combination	Lipping (sharp ridge, sometimes curled with spicules) in > 2/3; pinpoint porosity in 1/3-2/3	-	2 of 2	Arthritis	Spinal disease
133	JNF252	-	femur	M1/3	anterior	Proliferative process	Remodelled new bone formation (lamellar bone) on periosteal surface on 1/3-2/3	healed	-	Periostitis	Non-Specific infection
140	JNF279	-	femur	M1/3	anterior	Proliferative process	Remodelled new bone formation (lamellar bone) affecting the cortical bone (medullary cavity unaffected)on 1/3-2/3	healed	-	Osteitis	Non-Specific infection
148	JNF302	-	femur	M1/3	anterior	Proliferative process	3mm thick deposit of woven bone on periosteal surface on 1/3-	Healing	-	Periostitis	Non-Specific infection

N	Context	Side	Bone	Section	Aspect	Nature of lesion	Description / extent	Healing state	Distribution	Diagnosis	Pathology class
							2/3				
149	JNF303	-	1 cervical vertebra	body	Superior, inferior	Combination	Lipping (sharp ridge, sometimes curled with spicules) in > 2/3; porosity with coalescence of foramina in 1/3-2/3	-	-	Arthritis	Spinal disease
151	JNF310	-	scapula	glenoid	rim	Proliferative	Lipping (sharp ridge, sometimes curled with spicules) in 1/3-2/3	-	-	Arthritis of the shoulder	Joint disease
151	JNF310	-	humerus	Proximal epiphysis	all	Proliferative	Lipping (sharp ridge, sometimes curled with spicules) in 1/3-2/3	-	-	Arthritis of the shoulder	Joint disease
151	JNF310	L	patella	-	superior	Proliferative	Enthesophytes (lipping (sharp ridge, sometimes curled with spicules) in 1/3-2/3	-	-	Enthesophytes	Degenerative process
153	JNF324	L	maxilla	M2, M1	-	Combination	Reactive and resorbing bone margin with	Active		Periodontal disease	Dental disease

N	Context	Side	Bone	Section	Aspect	Nature of lesion	Description / extent	Healing state	Distribution	Diagnosis	Pathology class
							slight lipping				
153	JNF324	-	tibia	M1/3	anterior	Proliferative process	2mm thick deposit of lamellar bone on periosteal surface on 1/3-2/3	healed	-	Periostitis	Non-Specific infection
153	JNF324	-	2 vertebral body	-	2 superior, 1 inferior	Resorptive	Schmorl's nodes moderate expression	-	-	Schmorl's nodes	Spinal disease
155	JNF326	-	2 thoracic	body	Superior, inferior	Combination	Lipping (sharp ridge, sometimes curled with spicules) in 1/3-2/3; pinpoint porosity in 1/3-2/3	-	2 of 5	Arthritis	Spinal disease
162	JNF352	-	2 cervical vertebrae	body	Superior, inferior	Combination	Lipping (sharp ridge, sometimes curled with spicules) in > 2/3; porosity with coalescence of foramina in 1/3-2/3	-	-	Arthritis	Spinal disease
164	JNF356	-	5 Thoracic vertebrae	body	Superior, inferior	Combination	Lipping (sharp ridge, sometimes curled with spicules) in >	-	-	Arthritis	Spinal disease

N	Context	Side	Bone	Section	Aspect	Nature of lesion	Description / extent	Healing state	Distribution	Diagnosis	Pathology class
							2/3; porosity with coalescence of foramina in 1/3-2/3; projecting osteophyte				
164	JNF356	L	mandible	condyle	all	Proliferative	Slight lipping in 1/3-2/3	-	Other side not afected	Arthritis of the mandibular condyle	Joint disease
164	JNF356	-	1 thoracic vertebra	body	all	Combination	Biconcave shape of body with marked lipping	-	-	Compression fracture	Trauma
167	JNF368	R	mandible	M1, M2	-	Resorptive	Resorbing sockets	Healing	-	Ante mortem Tooth loss	Dental disease
167	JNF368	-	4 thoracic, 2 lumbar vertebrae	body	Superior, inferior	Combination	Lipping (sharp ridge, sometimes curled with spicules) in 1/3-2/3; pinpoint porosity in 1/3-2/3	-	4 of 6 (thoracic), 2 of 4 lumbar	Arthritis	Spinal disease
167	JNF368	R	femur	Distal epiphysis	all	Proliferative	Lipping (sharp ridge, sometimes curled with spicules) in 1/3-2/3	-	--	Arthritis of the hip	Joint disease
167	JNF368	-	tibia	M1/3	anterior	Proliferative process	3mm thick deposit of woven bone over a thick	Reoccurring healing infection	-	Periostitis	Non-Specific infection

N	Context	Side	Bone	Section	Aspect	Nature of lesion	Description / extent	Healing state	Distribution	Diagnosis	Pathology class
							deposit of lamellar bone on periosteal surface (medullary cavity not affected) on 1/3-2/3				
167	JNF368	-	2 lumbar vertebrae	body	superior	Resorptive	Schmorl's nodes moderate expression	-	2 of 4	Schmorl's nodes	Spinal disease
168	JNF371	-	fibula	M1/3	anterior	Proliferative process	Remodelled new bone formation (lamellar bone) on periosteal surface on 1/3-2/3	healing	-	Periostitis	Non-Specific infection
177	JNF431	L	ilium	acetabulum	rim	Proliferative	Lipping (sharp ridge, sometimes curled with spicules) in 1/3-2/3	-	Other side not affected	Arthritis of the hip	Joint disease
177	JNF431	-	femur	head	all	Proliferative	Lipping (sharp ridge, sometimes curled with spicules) in 1/3-2/3	-		Arthritis of the hip	Joint disease
181	JNF461	-	tibia	M1/3	anterior	Proliferative process	Thin deposit of woven bone over a thick	Reoccurring healing infection	-	Periostitis	Non-Specific infection

N	Context	Side	Bone	Section	Aspect	Nature of lesion	Description / extent	Healing state	Distribution	Diagnosis	Pathology class
							deposit of lamellar bone on periosteal surface on 1/3-2/3				
185	JNF482	-	1 Thoracic vertebra	body	Superior, inferior	Combination	Lipping (sharp ridge, sometimes curled with spicules) in > 2/3; porosity with coalescence of foramina in 1/3-2/3	-	1 of 2	Arthritis	Spinal disease
185	JNF482	R	mandible	condyle	all	Proliferative	Slight lipping in 1/3-2/3	-	Other side not available	Arthritis of the mandibular condyle	Joint disease

Inhumated human skeletal remains (HSR)

compiled by Francesca Boghi

Summary

N	Skeleton	Complete-ness	Weight (g)	Age at death[14]	Sex	Stature	Inclusions	Pathologies
1	CF27	~ 50%	1960g	YOUNG ADULT	F?	173.3cm ± 3.72	Animal bone	
2	CF102	< 25%	289g	ADULT	M?			
3	CF121	< 25%	15g	ADULT?	?			
4	CF174	< 25%	8g	ADULT?	?			
5	CF182	~ 75%	25g	JUVENILE (0-5 years)	-			
6	CF201	< 25%	21g	ADULT	?			
7	CF224	< 25%	10g	ADULT?	?			
8	CF244	< 25%	1g	JUVENILE (0-5 years)	-			
9	CF245	~ 75%	1182g	JUVENILE (10-15 years)	-			Metabolic disease
10	CF248	< 25%	2g	ADULT?	?			
11	CF252	< 25%	1g	JUVENILE (0-5 years)	-			
12	CF254	< 25%	7g	JUVENILE (0-5 years)	-			
13	CF255	< 25%	3g	ADULT?	?			
14	CF260	< 25%	389g	ADULT	?			
15	CL20	< 25%	16g	ADULT?	?		Animal bone	
16	CL21	< 25%	9g	JUVENILE (0-5 years)	-			
17	CL22	< 25%	4g	JUVENILE (0-5 years)	-			
18	U/S (C2 595)	< 25%	22g	JUVENILE (15-20 years)	-			
19	JNF3	< 25%	26g	ADULT	?			
20	JNF12	< 25%	44g	ADULT	?		Cremated bone	
21	JNF24	< 25%	1g	ADULT?	?			
22	JNF29	< 25%	5g	ADULT	?			
23	JNF45	< 25%	387g	ADULT	M			Spinal pathology
24	JNF63	< 25%	20g	ADULT	?			
25	JNF69	< 25%	49g	ADULT	?			
26	JNF75	< 25%	84g	ADULT	?			
27	JNF86	< 25%	32g	ADULT	?			
28	JNF95	< 25%	43g	ADULT	?			

[14] Age class categories: ADULT? = probably adult; ADULT = > 20 years; YOUNG ADULT (20-35 years); MIDDLE ADULT (35-50 years); MIDDLE/OLD ADULT (> 35 years); OLD ADULT (>50 years); JUVENILE (<20 years)

N	Skeleton	Complete-ness	Weight (g)	Age at death[14]	Sex	Stature	Inclusions	Pathologies
29	JNF96	< 25%	50g	ADULT	?			
30	JNF97	< 25%	285g	MIDDLE ADULT	M?			
31	JNF109	< 25%	42g	JUVENILE (0-5 years)	-		Cremated bone	
32	JNF111	< 25%	7g	ADULT	?			
33	JNF115	< 25%	69g	ADULT	?			
34	JNF133	< 25%	2g	ADULT	?			
35	JNF135	< 25%	82g	ADULT	M?			
36	JNF148	< 25%	37g	ADULT	?			
37	JNF169	< 25%	17g	ADULT	?			
38	JNF183	< 25%	487g	ADULT	?			Non-specific infection
39	JNF191	< 25%	210g	ADULT	?		Cremated bone	Non-specific infection
40	JNF193	< 25%	254g	ADULT	?			Spinal pathology
41	JNF216	< 25%	90g	YOUNG ADULT	?			
42	JNF218	< 25%	20g	YOUNG ADULT	?			
43	JNF222	< 25%	6g	ADULT	?			
44	JNF224	< 25%	224g	ADULT	M?			
45	JNF229	< 25%	720g	YOUNG ADULT	M??			
46	JNF241	< 25%	66g	ADULT	F?			
47	JNF248	< 25%	33g	ADULT	?			
48	JNF269	< 25%	266g	ADULT	M?			
49	JNF285	< 25%	1g	ADULT	?			
50	JNF288	< 25%	379g	ADULT	M?			Non-specific infection
51	JNF314	< 25%	27g	ADULT	?			
52	JNF316	< 25%	77g	ADULT	?			
53	JNF328	< 25%	494g	YOUNG ADULT	M?			Trauma
54	JNF329	-	-	-	-	-	All animal bone	-
55	JNF334	< 25%	14g	ADULT	?			
56	JNF335	< 25%	27g	ADULT	?			
57	JNF346	< 25%	75g	ADULT	?			
58	JNF351	< 25%	10g	ADULT	?			
59	JNF355	< 25%	128g	ADULT	?			
60	JNF360	< 25%	324g	ADULT	M	55mm □ femur		
61	JNF361	< 25%	15g	ADULT	?			
62	JNF367	< 25%	7g	ADULT	?			
63	JNF383	< 25%	15g	ADULT	?			
64	JNF394	< 25%	174g	ADULT	?			
65	JNF395	< 25%	47g	ADULT	?			Non-specific infection
66	JNF396	< 25%	36g	YOUNG ADULT	?			
67	JNF409	< 25%	1g	ADULT	?			
68	JNF419	< 25%	10g	ADULT	?			
69	JNF420	< 25%	18g	ADULT?	?			
70	JNF423	< 25%	264g	YOUNG-MIDDLE ADULT	M?		2 frags. pottery	

N	Skeleton	Complete-ness	Weight (g)	Age at death[14]	Sex	Stature	Inclusions	Pathologies
71	JNF424	< 25%	163g	ADULT	M?			
72	JNF439	< 25%	37g	ADULT	?		Animal bone	
73	JNF440	< 25%	-	-	-		All animal bone	
74	JNF453	< 25%	63g	ADULT	?			
75	JNF455	< 25%	2g	ADULT?	?			
76	JNF457	< 25%	62g	ADULT	M?			
77	JNF458	< 25%	364g	MIDDLE ADULT	?			
78	JNF462	< 25%	82g	MIDDLE ADULT	?			
79	JNF463	< 25%	50g	ADULT	?			
80	JNF464	-	-	-	-		Animal bone	
81	JNF469	< 25%	153g	ADULT	?			
82	JNF470	< 25%	3g	ADULT?	?			
83	JNF473	< 25%	108g	ADULT	M?			
84	JNF477	< 25%	150g	ADULT	?			
85	JNF478	< 25%	4g	ADULT?	?			
86	JNF479	< 25%	203g	ADULT	?			
87	JNF488	< 25%	337g	YOUNG ADULT	M?			
88	JNF490	< 25%	133g	ADULT	?			
89	JNF493	< 25%	18g	YOUNG ADULT	?			
90	JNF500	< 25%	4g	ADULT	?			
91	JNF506	< 25%	348g	YOUNG ADULT	M?			
92	JEF1	< 25%	35g	ADULT	?		Animal bone	
93	JEF5	< 25%	89g	ADULT	?			
94	JEL2	< 25%	50g	ADULT	?			
95	WBF1	~ 75%	838g	JUVENILE (5-10 years)	-			metabolic disease
96	WBF8	-	-	-	-	-	All animal bone	-

Minimum number of individuals

	SIDE / BONE ELEMENT / BONE SECTION	MNI Adults	MNI Juveniles	Tot. MNI
SKULL	LEFT FRONTAL	6	2	**8**
	LEFT ORBIT	4	1	**5**
	Left frontal sinus*	3	0	**3**
	RIGHT FRONTAL	5	2	**7**
	RIGHT ORBIT	3	2	**5**
	Right frontal sinus*	1	0	**1**
	LEFT PARIETAL	18	4	**22**
	RIGHT PARIETAL	19	3	**22**
	OCCIPITAL	14	1	**14**
	LEFT TEMPORAL	8	2	**9**
	Left petrous temporal*	24	2	**25**
	RIGHT TEMPORAL	12	3	**15**
	left tmj*	5	2	**6**

	SIDE / BONE ELEMENT / BONE SECTION	MNI Adults	MNI Juveniles	Tot. MNI
	Right petrous temporal*.	23	2	**25**
	right tmj*	9	1	**9**
	LEFT ZYGOMATIC	2	3	**5**
	RIGHT ZYGOMATIC	2	2	**4**
	LEFT MAXILLA	5	1	**6**
	Left maxillary sinus*	2	1	**3**
	RIGHT MAXILLA	7	1	**8**
	Right maxillary sinus*	3	1	**4**
	LEFT PALATINE	2	2	**4**
	RIGHT PALATINE	4	2	**6**
	LEFT NASAL	1	1	**2**
	RIGHT NASAL	1	1	**2**
	LEFT LACRIMAL	1	0	**1**
	RIGHT LACRIMAL	1	0	**1**
	SPHENOID	4	1	**5**
	VOMER	1	0	**1**
	ETHMOID	0	0	**0**
	LEFT MANDIBLE	9	2	**10**
	left condyle*	6	0	**5**
	RIGHT MANDIBLE	7	3	**9**
	right condyle*	3	1	**4**
	HYOID	0	0	**0**
	CRICOID	0	0	**0**
	THYROID	0	0	**0**
	Ear bones (n.6)*	6	0	**0**
SHOULDER	LEFT CLAVICLE medial end*	0	1	**1**
	LEFT CLAVICLE acromial end*	1	1	**2**
	RIGHT CLAVICLE medial end*	1	1	**2**
	RIGHT CLAVICLE acromial end*	0	2	**2**
	LEFT SCAPULA	1	1	**2**
	LEFT ACROMION*	0	1	**1**
	LEFT GLENOID*	0	2	**2**
	RIGHT SCAPULA	2	2	**4**
	RIGHT ACROMION*	0	1	**1**
	RIGHT GLENOID*	1	2	**3**
	STERNUM MANUB	0	0	**0**
	STERNUM BODY	0	0	**0**
PELVIS	LEFT ILIUM	2	2	**4**
	LEFT PUBIS	1	1	**2**
	LEFT ISCHIUM	1	1	**2**
	left acetabulum*	5	1	**6**
	left auricular*	1	2	**3**
	RIGHT ILIUM	7	1	**3**
	RIGHT PUBIS	1	0	**1**
	RIGHT ISCHIUM	2	1	**3**
	right acetabulum*	9	1	**10**
	right auricular*	2	1	**3**
SACRUM	s1	0	0	**0**
	s2	0	0	**0**
	s3	1	0	**1**
	s4	0	0	**0**
	s5	0	0	**0**
	COCCYX	1	0	**1**
UP	LEFT HUMERUS PROXIMAL EPIPHYSIS	1	0	**1**

	SIDE / BONE ELEMENT / BONE SECTION	MNI Adults	MNI Juveniles	Tot. MNI
PERLIMBS	LEFT HUMERUS PROXIMAL 1/3	3	1	**4**
	LEFT HUMERUS MIDDLE 1/3	5	3	**8**
	LEFT HUMERUS DISTAL 1/3	1	3	**4**
	LEFT HUMERUS DISTAL EPIPHYSIS	0	0	**0**
	RIGHT HUMERUS PROX EPIPHYSIS	0	0	**0**
	RIGHT HUMERUS PROXIMAL 1/3	0	3	**3**
	RIGHT HUMERUS MIDDLE 1/3	1	3	**4**
	RIGHT HUMERUS DISTAL 1/3	1	3	**4**
	RIGHT HUMERUS DISTAL EPIPHYSIS	0	0	**0**
	LEFT RADIUS PROXIMAL EPIPHYSIS	0	0	**0**
	LEFT RADIUS PROXIMAL 1/3	0	1	**1**
	LEFT RADIUS MIDDLE 1/3	0	2	**4**
	LEFT RADIUS DISTAL 1/3	2	0	**0**
	LEFT RADIUS DISTAL EPIPHYSIS	0	0	**0**
	RIGHT RADIUS PROXIMAL EPIPHYSIS	0	0	**0**
	RIGHT RADIUS PROXIMAL 1/3	0	1	**1**
	RIGHT RADIUS MIDDLE 1/3	0	1	**1**
	RIGHT RADIUS DISTAL 1/3	0	1	**1**
	RIGHT RADIUS DISTAL EPIPHYSIS	0	0	**0**
	LEFT ULNA PROXIMAL EPIPHYSIS	1	0	**1**
	LEFT ULNA PROXIMAL 1/3	1	3	**4**
	LEFT ULNA MIDDLE 1/3	1	3	**4**
	LEFT ULNA DISTAL 1/3	0	3	**3**
	LEFT ULNA DISTAL EPIPHYSIS	0	0	**0**
	RIGHT ULNA PROXIMAL EPIPHYSIS	2	0	**2**
	RIGHT ULNA PROXIMAL 1/3	1	2	**3**
	RIGHT ULNA MIDDLE 1/3	3	2	**5**
	RIGHT ULNA DISTAL 1/3	0	2	**2**
	RIGHT ULNA DISTAL EPIPHYSIS	0	0	**0**
LOWERLIMBS	LEFT FEMUR PROXIMAL EPIPHYSIS	11	2	**13**
	LEFT FEMUR PROXIMAL 1/3	3	1	**4**
	LEFT FEMUR MIDDLE 1/3	18	1	**19**
	LEFT FEMUR DISTAL 1/3	1	0	**1**
	LEFT FEMUR DISTAL EPIPHYSIS	8	0	**8**
	RIGHT FEMUR PROXIMAL EPIPHYSIS	9	1	**10**
	RIGHT FEMUR PROXIMAL 1/3	2	2	**4**
	RIGHT FEMUR MIDDLE 1/3	9	2	**11**
	RIGHT FEMUR DISTAL 1/3	1	2	**3**
	RIGHT FEMUR DISTAL EPIPHYSIS	4	1	**5**
	LEFT PATELLA	1	0	**1**
	RIGHT PATELLA	0	0	**0**
	LEFT TIBIA PROXIMAL EPIPHYSIS	8	0	**8**
	LEFT TIBIA PROXIMAL 1/3	1	1	**2**
	LEFT TIBIA MIDDLE 1/3	13	2	**15**

	SIDE / BONE ELEMENT / BONE SECTION	MNI Adults	MNI Juveniles	Tot. MNI
	LEFT TIBIA DISTAL 1/3	1	2	**3**
	LEFT TIBIA DISTAL EPIPHYSIS	0	0	**0**
	RIGHT TIBIA PROXIMAL EPIPHYSIS	2	0	**2**
	RIGHT TIBIA PROXIMAL 1/3	1	1	**2**
	RIGHT TIBIA MIDDLE 1/3	7	3	**10**
	RIGHT TIBIA DISTAL 1/3	1	1	**2**
	RIGHT TIBIA DISTAL EPIPHYSIS	1	0	**1**
	LEFT FIBULA PROXIMAL EPIPHYSIS	0	0	**0**
	LEFT FIBULA PROXIMAL 1/3	0	0	**0**
	LEFT FIBULA MIDDLE 1/3	2	1	**3**
	LEFT FIBULA DISTAL 1/3	0	1	**1**
	LEFT FIBULA DISTAL EPIPHYSIS	0	0	**0**
	RIGHT FIBULA PROXIMAL EPIPHYSIS	0	0	**0**
	RIGHT FIBULA PROXIMAL 1/3	0	0	**0**
	RIGHT FIBULA MIDDLE 1/3	2	1	**3**
	RIGHT FIBULA DISTAL 1/3	0	0	**0**
	RIGHT FIBULA DISTAL EPIPHYSIS	0	0	**0**
HANDS	LEFT SCAPHOID	0	0	**0**
	LEFT LUNATE	0	0	**0**
	LEFT TRIQUETRAL	0		**0**
	LEFT PISIFORM	0	0	**0**
	LEFT TRAPEZIUM	0	0	**0**
	LEFT TRAPEZOID	0	0	**0**
	LEFT CAPITATE	0	0	**0**
	LEFT HAMATE	0	0	**0**
	LEFT SESMOID	0	0	**0**
	LEFT 1ST METACARPAL	0	0	**0**
	LEFT 2ND METACARPAL	0	0	**0**
	LEFT 3RD METACARPAL	0	0	**0**
	LEFT 4TH METACARPAL	0	0	**0**
	LEFT 5TH METACARPAL	0	0	**0**
	RIGHT SCAPHOID	0	0	**0**
	RIGHT LUNATE	0	0	**0**
	RIGHT TRIQUETRAL	0	0	**0**
	RIGHT PISIFORM	0	0	**0**
	RIGHT TRAPEZIUM	0	0	**0**
	RIGHT TRAPEZOID	0	0	**0**
	RIGHT CAPITATE	0	0	**0**
	RIGHT HAMATE	0	0	**0**
	RIGHT SESMOID	0	0	**0**
	RIGHT 1ST METACARPAL	0	0	**0**
	RIGHT 2ND METACARPAL	0	0	**0**
	RIGHT 3RD METACARPAL	0	0	**0**
	RIGHT 4TH METACARPAL	0	0	**0**
	RIGHT 5TH METACARPAL	0	0	**0**
	PHALANGES [HANDS] PROXIMAL* (n. 10)	3	0	**0**
	PHALANGES [HANDS] MEDIAL* (n. 8)	0	0	**0**
	PHALANGES [HANDS] DISTAL* (n. 10)	0	0	**0**
F	LEFT TALUS	3	0	**3**

	SIDE / BONE ELEMENT / BONE SECTION	MNI Adults	MNI Juveniles	Tot. MNI
E E T	LEFT CALCANEUS	2	0	**2**
	LEFT 1ST CUNEIFORM	0	0	**0**
	LEFT 2ND CUNEIFORM	1	0	**1**
	LEFT 3RD CUNEIFORM	0	0	**0**
	LEFT NAVICULAR	1	0	**1**
	LEFT CUBOID	0	0	**0**
	LEFT SESMOID	0	0	**0**
	LEFT 1ST METATARSAL	0	0	**0**
	LEFT 2ND METATARSAL	0	0	**0**
	LEFT 3RD METATARSAL	0	0	**0**
	LEFT 4TH METATARSAL	0	0	**0**
	LEFT 5TH METATARSAL	0	0	**0**
	RIGHT TALUS	4	0	**4**
	RIGHT CALCANEUS	3	0	**3**
	RIGHT 1ST CUNEIFORM	1	0	**1**
	RIGHT 2ND CUNEIFORM	1	0	**1**
	RIGHT 3RD CUNEIFORM	0	0	**0**
	RIGHT NAVICULAR	0	0	**0**
	RIGHT CUBOID	0	0	**0**
	RIGHT SESMOID	0	0	**0**
	RIGHT 1ST METATARSAL	0	0	**0**
	RIGHT 2ND METATARSAL	0	0	**0**
	RIGHT 3RD METATARSAL	0	0	**0**
	RIGHT 4TH METATARSAL	0	0	**0**
	RIGHT 5TH METATARSAL	0	0	**0**
	PHALANGES [FEET] PROXIMAL* (n. 10)	0	0	**0**
	PHALANGES [FEET] MEDIAL* (n. 8)	0	0	**0**
	PHALANGES [FEET] DISTAL* (n. 10)	0	0	**0**
R I B S	LEFT RIBS (n. 12)	0	15	**-**
	RIGHT RIBS (n. 12)	0	16	**-**
	unsided rib fragments*	0	3	**-**
V E R TE B R A E	1ST CERVICAL	4	2	**6**
	2ND CERVICAL	7	2	**9**
	3RD CERVICAL	3	0	**-**
	4TH CERVICAL	2	0	**-**
	5TH CERVICAL	2	0	**-**
	6TH CERVICAL	3	0	**-**
	7TH CERVICAL	1	0	**-**
	unidentified cervicals*	0	7	**-**
	1ST THORACIC	1	0	**-**
	2ND THORACIC	1	0	**-**
	3RD THORACIC	1	0	**-**
	4TH THORACIC	1	0	**-**
	5TH THORACIC	1	0	**-**
	6TH THORACIC	1	0	**-**
	7TH THORACIC	1	0	**-**
	8TH THORACIC	1	0	**-**
	9TH THORACIC	0	0	**-**
	10TH THORACIC	0	0	**-**
	11TH THORACIC	0	0	**-**
	12TH THORACIC	0	0	**-**
	unidentified thoracic vertebrae*	0	6	**-**

	SIDE / BONE ELEMENT / BONE SECTION	MNI Adults	MNI Juveniles	Tot. MNI
	1ST LUMBAR	0	0	-
	2ND LUMBAR	0	0	-
	3RD LUMBAR	0	0	-
	4TH LUMBAR	0	0	-
	5TH LUMBAR	0	0	-
	unidentified lumbar vertebrae*	0	3	-

Number of bone elements present (articulated and disarticulated adults)[15]

[15]Code key: * = additional recorded element; tmj = temporo-mandibular joint; S1-5 = sacrum vertebrae 1-5. List of bone elements from Brickley, M and McKinley, J. (eds) 2004 *Guidelines to the Standards for Recording of Human Remains.* Reading: British Association for Biological Anthropology and Osteoarchaeology / Institute of Field Archaeologists.

Context descriptions

N	SKELETON	DESCRIPTION
1	CF27	The human skeletal remains included the remains of one probably female young adult (20-35 years) individual. This skeleton was formed by ~50% of expected skeletal elements and included elements from most skeletal areas. Her stature was estimated to be 173.3cm ± 3.72cm. Inclusions: 1 frag. of animal bone.
2	CF102	The human skeletal remains included the remains of one probably male adult individual. This skeleton was formed by <25% of expected skeletal elements and included elements of skull, pelvis, upper and lower limbs.
3	CF121	The human skeletal remains included the remains of one probably adult individual of indeterminate sex. This skeleton was formed by <25% of expected skeletal elements and included elements of upper limbs.
4	CF174	The human skeletal remains included the remains of one probably adult individual of indeterminate sex. This skeleton was formed by <25% of expected skeletal elements and included unidentified bone.
5	CF182	The human skeletal remains included the remains of one juvenile (0-5 years) individual. This skeleton was formed by ~ 75% of expected skeletal elements.
6	CF201	The human skeletal remains included the remains of one adult individual of indeterminate sex. This skeleton was formed by <25% of expected skeletal elements and included elements of skull.
7	CF224	The human skeletal remains included the remains of one probably adult individual of indeterminate sex. This skeleton was formed by <25% of expected skeletal elements and included elements of lower limbs.
8	CF244	The human skeletal remains included the remains of one juvenile (0-5 years) individual. This skeleton was formed by <25% of expected skeletal elements and included only teeth crowns.
9	CF245	The human skeletal remains included the remains of one juvenile (10-15 years) individual. This skeleton was formed by ~75% of expected skeletal elements, though the bone suffered medium fragmenttion and severe erosion. Pathologies: metabolic disease.
10	CF248	The human skeletal remains included the remains of one probably adult individual of indeterminate sex. This skeleton was formed by <25% of expected skeletal elements and included only unidentified bone.
11	CF252	The human skeletal remains included the remains of one juvenile (0-5 years) individual. This skeleton was formed by <25% of expected skeletal elements and included only teeth crowns.
12	CF254	The human skeletal remains included the remains of one juvenile (0-5 years) individual. This skeleton was formed by <25% of expected skeletal elements and included only part of the skull.

N	SKELETON	DESCRIPTION
13	CF255	The human skeletal remains included the remains of one probably adult individual of indeterminate sex. This skeleton was formed by <25% of expected skeletal elements and included elements of skull (2 fragments of petrous temporal).
14	CF260	The human skeletal remains included the remains of one adult individual of indeterminate sex. This skeleton was formed by <25% of expected skeletal elements and included elements of pelvis, lower limbs and feet.
15	CL20	The human skeletal remains included the remains of one probably adult individual of indeterminate sex. This skeleton was formed by <25% of expected skeletal elements and included elements of upper limbs. Inclusions: 2 fragments of animal bone
16	CL21	The human skeletal remains included the remains of one juvenile (0-5 years) individual. This skeleton was formed by <25% of expected skeletal elements and included elements of skull.
17	CL22	The human skeletal remains included the remains of one juvenile (0-5 years) individual. This skeleton was formed by <25% of expected skeletal elements and included only the right tibia, though this was complete enough to allow the ageing of this individual.
18	U/S (595)	The human skeletal remains included the remains of one juvenile (15-20 years) individual. This skeleton was formed by <25% of expected skeletal elements and included elements of lower limbs.
19	JNF3	The human skeletal remains included the remains of one adult individual of indeterminate sex. This skeleton was formed by <25% of expected skeletal elements and included elements of skull.
20	JNF12	The human skeletal remains included the remains of one adult individual of indeterminate sex. This skeleton was formed by <25% of expected skeletal elements and included elements of lower limbs. Inclusions:1 frag. of cremated bone.
21	JNF24	The human skeletal remains included the remains of one probably adult individual of indeterminate sex. This skeleton was formed by <25% of expected skeletal elements and included 1g unidentified bone.
22	JNF29	The human skeletal remains included the remains of one adult individual of indeterminate sex. This skeleton was formed by <25% of expected skeletal elements and included 5g of unidentified human bone.
23	JNF45	The human skeletal remains included the remains of one male adult individual. This skeleton was formed by <25% of expected skeletal elements and included elements of skull, pelvis and lower limbs. Pathologies: spinal disease.
24	JNF63	The human skeletal remains included the remains of one adult individual of indeterminate sex. This skeleton was formed by <25% of expected skeletal elements comprising unidentified human bone.
25	JNF69	The human skeletal remains included the remains of one adult individual of indeterminate sex. This skeleton was formed by <25% of expected skeletal elements and included elements of lower limbs.
26	JNF75	The human skeletal remains included the remains of one adult individual of indeterminate sex. This skeleton was formed by <25% of expected skeletal elements and included elements of skull.
27	JNF86	The human skeletal remains included the remains of one adult individual of indeterminate sex. This skeleton was formed by <25% of expected skeletal elements and included elements of skull including one molar crown showing some wear.
28	JNF95	The human skeletal remains included the remains of one adult individual of indeterminate sex. This skeleton was formed by <25% of expected skeletal elements and included elements of lower limbs.

N	SKELETON	DESCRIPTION
29	JNF96	The human skeletal remains included the remains of one adult individual of indeterminate sex. This skeleton was formed by <25% of expected skeletal elements and included elements of skull.
30	JNF97	The human skeletal remains included the remains of one middle adult (35-50 years) probably male individual. This skeleton was formed by <25% of expected skeletal elements and included elements of skull, pelvis and lower limbs.
31	JNF109	The human skeletal remains included the remains of one juvenile (<20 years) individual. This skeleton was formed by <25% of expected skeletal elements and included elements of skull, 1 juvenile tooth, 1 adult tooth (intrusive?). Inclusions: 1 fragment of cremated bone
32	JNF111	The human skeletal remains included the remains of one adult individual of indeterminate sex. This skeleton was formed by <25% of expected skeletal elements and included part of maxilla. Heavy green staining was noted on bone, roots and teeth enamel.
33	JNF115	The human skeletal remains included the remains of one adult individual of indeterminate sex. This skeleton was formed by <25% of expected skeletal elements and included elements of lower limbs.
34	JNF133	The human skeletal remains included the remains of one probably adult individual of indeterminate sex. This skeleton was formed by <25% of expected skeletal elements and included unidentified bone.
35	JNF135	The human skeletal remains included the remains of one probably male adult individual. This skeleton was formed by <25% of expected skeletal elements and included elements of skull, L clavicle, L scapula and part of mandible (no teeth).
36	JNF148	The human skeletal remains included the remains of one adult individual of indeterminate sex. This skeleton was formed by <25% of expected skeletal elements and included elements of skull.
37	JNF169	The human skeletal remains included the remains of one adult individual of indeterminate sex. This skeleton was formed by <25% of expected skeletal elements and included elements of skull and lower limbs.
38	JNF183	The human skeletal remains included the remains of one adult individual of indeterminate sex. This skeleton was formed by <25% of expected skeletal elements and included elements of pelvis and lower limbs. Pathologies: non-specific infection.
39	JNF191	The human skeletal remains included the remains of one adult individual of indeterminate sex. This skeleton was formed by <25% of expected skeletal elements and included elements of lower limbs. Pathologies: non-specific infection. Inclusions: 1 fragment of cremated bone.
40	JNF193	The human skeletal remains included the remains of one adult individual of indeterminate sex. This skeleton was formed by <25% of expected skeletal elements and included elements of upper, lower limbs, ribs, vertebrae and righ shoulder. The humerus showed a very pronounced attachment of the deltoid muscle. Pathologies: spinal disease.
41	JNF216	The human skeletal remains included the remains of one young adult (20-35 years) individual of indeterminate sex. This skeleton was formed by <25% of expected skeletal elements and included elements of skull plus several tooth crowns (roots decayed).
42	JNF218	The human skeletal remains included the remains of one young adult (20-35 years) individual of indeterminate sex. This skeleton was formed by <25% of expected skeletal elements and included elements of skull.
43	JNF222	The human skeletal remains included the remains of one adult individual of indeterminate sex. This skeleton was formed by

N	SKELETON	DESCRIPTION
		<25% of expected skeletal elements and included unidentified human long bones.
44	JNF224	The human skeletal remains included the remains of one probably male adult individual. This skeleton was formed by <25% of expected skeletal elements and included elements of skull and limbs.
45	JNF229	The human skeletal remains included the remains of one probably male young adult (20-35 years) individual. This skeleton was formed by <25% of expected skeletal elements and included elements of skull, vertebrae, pelvis and lower limbs.
46	JNF241	The human skeletal remains included the remains of one probably female adult individual. This skeleton was formed by <25% of expected skeletal elements and included elements of skull.
47	JNF248	The human skeletal remains included the remains of one adult individual of indeterminate sex. This skeleton was formed by <25% of expected skeletal elements and included elements of skull.
48	JNF269	The human skeletal remains included the remains of one probably male adult individual. This skeleton was formed by <25% of expected skeletal elements and included elements of skull , vertebrae, upper and lower limbs.
49	JNF285	The human skeletal remains included the remains of one adult individual of indeterminate sex. This skeleton was formed by <25% of expected skeletal elements and included 1g unidentified bone.
50	JNF288	The human skeletal remains included the remains of one probably male adult individual. This skeleton was formed by <25% of expected skeletal elements and included elements of skull and lower limbs. Pathologies: non-specific infection.
51	JNF314	The human skeletal remains included the remains of one adult individual of indeterminate sex. This skeleton was formed by <25% of expected skeletal elements and included fragments of axial skeleton.
52	JNF316	The human skeletal remains included the remains of one adult individual of indeterminate sex. This skeleton was formed by <25% of expected skeletal elements and included fragments of midshaft femur and 1 fragment of ilium (unsided).
53	JNF328	The human skeletal remains included the remains of one probably male young adult (20-35 years) individual. This skeleton was formed by <25% of expected skeletal elements and included elements of skull, upper and lower limbs and feet. Pathologies: fracture of the left tibia.
54	JNF329	This feature included only a small assemblage of unburnt animal bone.
55	JNF334	The human skeletal remains included the remains of one adult individual of indeterminate sex. This skeleton was formed by <25% of expected skeletal elements and included only unidentified bone.
56	JNF335	The human skeletal remains included the remains of one adult individual of indeterminate sex. This skeleton was formed by <25% of expected skeletal elements and included elements of long bone.
57	JNF346	The human skeletal remains included the remains of one adult individual of indeterminate sex. This skeleton was formed by <25% of expected skeletal elements and included elements of skull, upper and lower limbs. Green staining was noted on the left humerus.
58	JNF351	The human skeletal remains included the remains of one adult individual of indeterminate sex. This skeleton was formed by <25% of expected skeletal elements and included elements of skull.
59	JNF355	The human skeletal remains included the remains of one adult individual of indeterminate sex. This skeleton was formed by

N	SKELETON	DESCRIPTION
		<25% of expected skeletal elements and included elements of lower libs and 1 frag. of ilium.
60	JNF360	The human skeletal remains included the remains of one male adult individual. This skeleton was formed by <25% of expected skeletal elements and included elements of skull, limbs and pelvis.
61	JNF361	The human skeletal remains included the remains of one adult individual of indeterminate sex. This skeleton was formed by <25% of expected skeletal elements and included elements of lower limbs.
62	JNF367	The human skeletal remains included the remains of one adult individual of indeterminate sex. This skeleton was formed by <25% of expected skeletal elements and included elements of left lower limb and left humerus.
63	JNF383	The human skeletal remains included the remains of one adult individual of indeterminate sex. This skeleton was formed by <25% of expected skeletal elements and included elements of skull.
64	JNF394	The human skeletal remains included the remains of one adult individual of indeterminate sex. This skeleton was formed by <25% of expected skeletal elements and included elements of skull and limbs.
65	JNF395	The human skeletal remains included the remains of one adult individual of indeterminate sex. This skeleton was formed by <25% of expected skeletal elements and included elements of long bones. Pathologies: non-specific infection.
66	JNF396	The human skeletal remains included the remains of one young adult (20-35 years) individual of indeterminate sex. This skeleton was formed by <25% of expected skeletal elements and included elements of skull.
67	JNF409	The human skeletal remains included the remains of one adult individual of indeterminate sex. This skeleton was formed by <25% of expected skeletal elements and included elements of skull (mandible only).
68	JNF419	The human skeletal remains included the remains of one adult individual of indeterminate sex. This skeleton was formed by <25% of expected skeletal elements and included elements of unidentified long bone.
69	JNF420	The human skeletal remains included the remains of one probably adult individual of indeterminate sex. This skeleton was formed by <25% of expected skeletal elements and included elements of unidentified long bone.
70	JNF423	The human skeletal remains included the remains of one probably male young to middle adult (20-50 years) individual. This skeleton was formed by <25% of expected skeletal elements and included elements of skull.
71	JNF424	The human skeletal remains included the remains of one probably male adult individual. This skeleton was formed by <25% of expected skeletal elements and included elements of skull and limbs.
72	JNF439	The human skeletal remains included the remains of one adult individual of indeterminate sex. This skeleton was formed by <25% of expected skeletal elements and included elements of skull. Inclusions: 3 fragments of animal bone.
73	JNF440	This feature included only a small assemblage of unburnt animal bone.
74	JNF453	The human skeletal remains included the remains of one adult individual of indeterminate sex. This skeleton was formed by <25% of expected skeletal elements and included elements of lower limbs and mandible.
75	JNF455	The human skeletal remains included the remains of one probably adult individual of indeterminate sex. This skeleton was formed by <25% of expected skeletal elements and included 2g of unidentified bone.
76	JNF457	The human skeletal remains included the remains of one probably male adult individual. This skeleton was formed by <25% of

N	SKELETON	DESCRIPTION
		expected skeletal elements and included elements of skull and lower leg.
77	JNF458	The human skeletal remains included the remains of one adult individual of indeterminate sex. This skeleton was formed by <25% of expected skeletal elements and included elements of skull and lower leg.
78	JNF462	The human skeletal remains included the remains of one adult individual of indeterminate sex. This skeleton was formed by <25% of expected skeletal elements and included elements of skull and upper limbs.
79	JNF463	The human skeletal remains included the remains of one adult individual of indeterminate sex. This skeleton was formed by <25% of expected skeletal elements and included elements of lower limbs.
80	JNF464	This feature included only a small assemblage of unburnt animal bone.
81	JNF469	The human skeletal remains included the remains of one adult individual of indeterminate sex. This skeleton was formed by <25% of expected skeletal elements and included elements of pelvis and lower limbs.
82	JNF470	The human skeletal remains included the remains of one probably adult individual of indeterminate sex This skeleton was formed by <25% of expected skeletal elements and included 3g of unidentified bone.
83	JNF473	The human skeletal remains included the remains of one probably male adult individual. This skeleton was formed by <25% of expected skeletal elements and included elements of skull and of lower limbs.
84	JNF477	The human skeletal remains included the remains of one adult individual of indeterminate sex. This skeleton was formed by <25% of expected skeletal elements and included elements of pelvis and lower limbs.
85	JNF478	The human skeletal remains included the remains of one probably adult individual of indeterminate sex. This skeleton was formed by <25% of expected skeletal elements and included 4g unidentified human bone.
86	JNF479	The human skeletal remains included the remains of one adult individual of indeterminate sex. This skeleton was formed by <25% of expected skeletal elements and included elements of pelvis and lower limbs.
87	JNF488	The human skeletal remains included the remains of one probably male young adult (20-35 years) individual. This skeleton was formed by <25% of expected skeletal elements and included elements of skull and vertebrae.
88	JNF490	The human skeletal remains included the remains of one adult individual of indeterminate sex. This skeleton was formed by <25% of expected skeletal elements and included elements of right arm and lower limbs (very fragmentary and eroded).
89	JNF493	The human skeletal remains included the remains of one young adult (20-35 years) individual of indeterminate sex. This skeleton was formed by <25% of expected skeletal elements and included elements of skull.
90	JNF500	The human skeletal remains included the remains of one adult individual of indeterminate sex. This skeleton was formed by <25% of expected skeletal elements and included elements of skull.
91	JNF506	The human skeletal remains included the remains of one probably male young adult (20-35 years) individual. This skeleton was formed by <25% of expected skeletal elements and included the majority of skull present though in a very fragmentary state and elements of upper and lower limbs.
92	JEF1	The human skeletal remains included the remains of one adult individual of indeterminate sex. This skeleton was formed by <25% of expected skeletal elements and included elements of lower limbs. Inclusions: 1 fragment of animal bone.

N	SKELETON	DESCRIPTION
93	JEF5	The human skeletal remains included the remains of one adult individual of indeterminate sex. This skeleton was formed by <25% of expected skeletal elements and included elements of skull and upper limbs.
94	JEL2	The human skeletal remains included the remains of one adult individual of indeterminate sex. This skeleton was formed by <25% of expected skeletal elements and included elements of skull.
95	F1 (W/B 2)	The human skeletal remains included the remains of one juvenile (5-10 years) individual. This skeleton was formed by ~75% of expected skeletal elements. Pathologies: metabolic disease.
96	F8 (W/B 3)	This feature included only a small assemblage of unburnt animal bone.

Preservation

N	SKELETON	AGE CLASS[16]	COMPLETENESS	FRAGMENTATION	CORTICAL DAMAGE
1	CF27	Adult	~ 50%	Medium	Severe
2	CF102	Adult	< 25%	Medium	Severe
3	CF121	Adult?	< 25%	Medium	Severe
4	CF174	Adult?	< 25%	Medium	Severe
5	CF182	Juvenile	~ 75%	None/minimal	None/minimal
6	CF201	Adult	< 25%	Severe	Medium
7	CF224	Adult	< 25%	Medium	Medium
8	CF244	Juvenile	< 25%	None/minimal	None/minimal
9	CF245	Juvenile	~ 75%	Medium	Severe
10	CF248	Adult?	< 25%	Severe	Medium
11	CF252	Juvenile	< 25%	Severe	None/minimal
12	CF254	Juvenile	< 25%	Medium	None/minimal
13	CF255	Adult?	< 25%	Severe	Medium
14	CF260	Adult	< 25%	Severe	Severe
15	CL20	Adult?	< 25%	Medium	Severe
16	CL21	Juvenile	< 25%	None/minimal	None/minimal
17	CL22	Juvenile	< 25%	None/minimal	None/minimal
18	U/S (C2 595)	Juvenile	< 25%	Medium	Medium
19	JNF3/JNF122	Adult	< 25%	Severe	Severe
20	JNF12	Adult	< 25%	Severe	Severe
21	JNF24	Adult?	< 25%	Severe	Severe
22	JNF29	Adult?	< 25%	Severe	Severe

[16] Categories: Juvenile = < 20 years; Adult = > 20 years

N	SKELETON	AGE CLASS[16]	COMPLETENESS	FRAGMENTATION	CORTICAL DAMAGE
23	JNF45	Adult	< 25%	Severe	Medium
24	JNF63	Adult?	< 25%	Severe	Severe
25	JNF69	Adult	< 25%	Severe	Severe
26	JNF75	Adult	< 25%	Medium	None/minimal
27	JNF86	Adult	< 25%	Severe	Severe
28	JNF95	Adult	< 25%	Severe	Severe
29	JNF96	Adult	< 25%	Medium	Severe
30	JNF97	Adult	< 25%	Severe	Severe
31	JNF109	Juvenile	< 25%	Severe	Severe
32	JNF111	Adult	< 25%	Medium	None/minimal
33	JNF115	Adult	< 25%	Severe	Severe
34	JNF133	Adult?	< 25%	Severe	Severe
35	JNF135	Adult	< 25%	Medium	Medium
36	JNF148	Adult	< 25%	Severe	Severe
37	JNF169	Adult	< 25%	Severe	Severe
38	JNF183	Adult	< 25%	Severe	Severe
39	JNF191	Adult	< 25%	Medium	None/minimal
40	JNF193	Adult	< 25%	Severe	Medium
41	JNF216	Adult	< 25%	Severe	Severe
42	JNF218	Juvenile	< 25%	Severe	Severe
43	JNF222	Adult	< 25%	Severe	Severe
44	JNF224	Adult	< 25%	Severe	Severe
45	JNF229	Adult	< 25%	Medium	Severe
46	JNF241	Adult	< 25%	Severe	Medium
47	JNF248	Adult	< 25%	Severe	Medium
48	JNF269/JNF4	Adult	< 25%	Severe	Medium
49	JNF285	Adult	< 25%	Medium	Medium
50	JNF288	Adult	< 25%	Medium	Medium

N	SKELETON	AGE CLASS[16]	COMPLETENESS	FRAGMENTATION	CORTICAL DAMAGE
51	JNF314	Adult	< 25%	Severe	Severe
52	JNF316	Adult	< 25%	Severe	Severe
53	JNF328	Adult	< 25%	Severe	Medium
54	JNF329	-	-	-	-
55	JNF334	Adult?	< 25%	Severe	Severe
56	JNF335	Adult	< 25%	Severe	Severe
57	JNF346	Adult	< 25%	Severe	Severe
58	JNF351	Adult	< 25%	Severe	Severe
59	JNF355	Adult	< 25%	Severe	Severe
60	JNF360	Adult	< 25%	Severe	Severe
61	JNF361	Adult?	< 25%	Severe	Severe
62	JNF367	Adult?	< 25%	Severe	Severe
63	JNF383	Adult	< 25%	Severe	None/minimal
64	JNF394	Adult	< 25%	Severe	Severe
65	JNF395	Adult	< 25%	Severe	Medium
66	JNF396	Adult	< 25%	Medium	Severe
67	JNF409	Adult	< 25%	Medium	None/minimal
68	JNF419	Adult	< 25%	Severe	Severe
69	JNF420	Adult?	< 25%	Severe	Severe
70	JNF423	Adult	< 25%	Medium	Medium
71	JNF424	Adult	< 25%	Severe	Medium
72	JNF439	Adult	< 25%	Severe	None/minimal
73	JNF440	-	-	-	-
74	JNF453	Adult	< 25%	Severe	Severe
75	JNF455	Adult?	< 25%	Severe	Severe
76	JNF457	Adult	< 25%	Severe	Medium
77	JNF458	Adult	< 25%	Severe	Severe
78	JNF462	Adult	< 25%	Severe	Medium

N	SKELETON	AGE CLASS[16]	COMPLETENESS	FRAGMENTATION	CORTICAL DAMAGE
79	JNF463	Adult	< 25%	Medium	Severe
80	JNF464	-	-	-	-
81	JNF469	Adult	< 25%	Severe	Severe
82	JNF470	?	< 25%	Severe	Severe
83	JNF473	Adult	< 25%	Severe	Severe
84	JNF477	Adult	< 25%	Medium	Medium
85	JNF478	Adult?	< 25%	Severe	Severe
86	JNF479	Adult	< 25%	Severe	Severe
87	JNF488	Adult	< 25%	Severe	Severe
88	JNF490	Adult	< 25%	Severe	Severe
89	JNF493	Adult	< 25%	Severe	Severe
90	JNF500	Adult	< 25%	Severe	Medium
91	JNF506	Adult	< 25%	Severe	Severe
92	JEF1	Adult	< 25%	Medium	Severe
93	JEF5	Adult	< 25%	Medium	None/minimal
94	JEL2	Adult	< 25%	Medium	Medium
95	F1 (W/B2)	Juvenile	~ 75%	None/minimal	None/minimal
96	F8 (W/B)	-	-	-	-

Preservation of skeletal elements[17]

N	CON-TEXT	SKULL	MAXILLA	MANDIBLE	VERTEBRAE	RIBS	PELVIS	UPPER LIMBS	HANDS	LOWER LIMBS	FEET	NOTES
1	CF27	1	1	1	3		2	3	3	1	3	
2	CF102	2					3	3		3		
3	CF121							3				
4	CF174											Unidentified bone
5	CF182	2		2	3	2		1		2		
6	CF201	3	3	3								
7	CF224									3		
8	CF244		3	3								
9	CF245	1	1	1	3	2	2	2		2		
10	CF248											Unidentified bone
11	CF252			3								
12	CF254	2										
13	CF255	3										
14	CF260						3			2	2	
15	CL20							3				
16	CL21	3										
17	CL22									2		
18	U/S (C2 595)											
19	JNF3/J	3										

[17] BLANK = missing

N	CON-TEXT	SKULL	MAXILLA	MANDIBLE	VERTEBRAE	RIBS	PELVIS	UPPER LIMBS	HANDS	LOWER LIMBS	FEET	NOTES
	NF122											
20	JNF12									3		
21	JNF24											Unidentified bone
22	JNF29											Unidentified bone
23	JNF45	2		3	3		3			3		
24	JNF63											Unidentified bone
25	JNF69									3		
26	JNF75	3										
27	JNF86	3		3								
28	JNF95									3		
29	JNF96	3										
30	JNF97	2	3	1	2		3	3		3		
31	JNF109	3										
32	JNF111		3									
33	JNF115									3		
34	JNF133											Unidentified bone
35	JNF135	3		3								
36	JNF148	3										
37	JNF169	3								3		
38	JNF183						3			3	3	
39	JNF191						3			2		
40	JNF193				3	3		3		3		
41	JNF216	3										
42	JNF218	3										
43	JNF222											Unidentified bone
44	JNF224	3								3		

N	CON-TEXT	SKULL	MAXILLA	MANDIBLE	VERTEBRAE	RIBS	PELVIS	UPPER LIMBS	HANDS	LOWER LIMBS	FEET	NOTES
45	JNF229	2	2	2	3		3			3		
46	JNF241	3										
47	JNF248	3										
48	JNF269/ JNF429	2			3			3		3		
49	JNF285	3										
50	JNF288	3								3		
51	JNF314						3					
52	JNF316						3			3		
53	JNF328	2	2	2				3		3	3	
54	JNF329											Animal bone
55	JNF334											Unidentified bone
56	JNF335									3		
57	JNF346	3						3		3		
58	JNF351											
59	JNF355						3			3	3	
60	JNF360	3		3	3		3			3	3	
61	JNF361									3		
62	JNF367							3		3		
63	JNF383	3										
64	JNF394	3	3	3		3						
65	JNF395									3		
66	JNF396	3	2	2								
67	JNF409			3								
68	JNF419											Unidentified bone
69	JNF420											Unidentified bone

N	CON-TEXT	SKULL	MAXILLA	MANDIBLE	VERTEBRAE	RIBS	PELVIS	UPPER LIMBS	HANDS	LOWER LIMBS	FEET	NOTES
70	JNF423	2		3	3							
71	JNF424	3					3			3		
72	JNF439	3										
73	JNF440											Animal bone
74	JNF453			3			3			3		
75	JNF455											Unidentified bone
76	JNF457	3								3		
77	JNF458	3	3							3		
78	JNF462	3		3				3				
79	JNF463									3		
80	JNF464											Animal bone
81	JNF469						3			3		
82	JNF470											Unidentified bone
83	JNF473	2		3				3		3		
84	JNF477						3			3		
85	JNF478											Unidentified bone
86	JNF479						3			3		
87	JNF488	2	1	1	3							
88	JNF490							3		3		
89	JNF493	3										
90	JNF500	3										
91	JNF506	2	2		3			3		3		
92	JEF1									3		
93	JEF5	3						3				
94	JEL2	3										
95	F1	1	1	1	1	1	2	2	3	2		

N	CON-TEXT	SKULL	MAXILLA	MANDIBLE	VERTEBRAE	RIBS	PELVIS	UPPER LIMBS	HANDS	LOWER LIMBS	FEET	NOTES
	(W/B2)											
96	F8 (W/B)											

Sex determination

Context	PELVIS						SKULL						Metric data	SEX
	Ventral Arc (1-3)	**Subpubic Concavity (1-3)**	**Ridge on I-P Ramus (1-3)**	**Greater Sciatic Notch (1-5)**	**Pre auricular Sulcus (0-4)**	**Pelvis Sex**	**Nuchal Crest (1-5)**	**Mastoid Process (1-5)**	**Supra orbital Margin (1-5)**	**Glabella (1-5)**	**Mental Eminence (1-5)**	**Skull Sex**		
CF27				2	0	F?	2	2	2	2		F?	49mm ∅ R femur	F?
CF102								5				M		M?
JNF45								5				M?		M
JNF97							4	3			4	M?		M?
JNF135								4				M?		M?
JNF224							5					M?		M?
JNF229							3	3		2	5	M?		M?
JNF241								2				F?		F?
JNF269/ JNF429							4	4						M?
JNF288										4				M?
JNF328									4	3	4			M?
JNF346							3					?		?
JNF360								4			5	M		M
JNF423								4				M?		M?
JNF424								5				M?		M?
JNF457								4				M?		M?
JNF458							1					F?		?
JNF473							3	4				M?		M?
JNF488								4			4	M?		M?
JNF506									4			M?		M?

Age at death

CTXT	EPIPHYSEAL UNION	AURICULAR SURFACE (SUCHEY-BROOKES)	PUBIC SYMPHYSIS	SUTURE CLOSURE: EXTERNAL CRANIAL VAULT	SUTURE CLOSURE: LATERAL-ANTERIOR	DENTAL ATTRITION (BROTHWELL, 1981)	SUMMARY AGE CODE:
CF27	ADULT	2 (25-29 years)		S2 (20-35 years)	S1 (20-35 years)	17-25 years	YOUNG ADULT (20-35 years)
JNF97	ADULT	5 (40-44 years)					MIDDLE ADULT (35-50 years)
JNF216						17-25 years	YOUNG ADULT (20-35 years)
JNF218						17-25 years	YOUNG ADULT (20-35 years)
--JNF229						17-25 years	YOUNG ADULT (20-35 years)
JNF328						17-25 years	YOUNG ADULT (20-35 years)
JNF396						17-25 years	YOUNG ADULT (20-35 years)
JNF423				S2 or S3 (3 sites scored, 3 missing: 6 points)			YOUNG to MIDDLE ADULT (20-50 years)
JNF458						25-35 years	MIDDLE ADULT (35-50 years)
JNF462						25-35 years	MIDDLE ADULT (35-50 years)
JNF488						17-25 years	YOUNG ADULT (20-35 years)
JNF493						17-25 years	YOUNG ADULT (20-35 years)
JNF506						17-25 years	YOUNG ADULT (20-35 years)

Stature

CTXT	STATURE (CM)	+ -	BONES USED	FORMULA
CF27	173.6	3.72	L FEMUR	WHITE FEMALES

Subadults age at death comparison table[18]

CTXT	EPIPHYSEAL UNION	DENTAL DEVELOPMENT	METRIC DEVELOPMENT	ESTIMATED AGE AT DEATH	AGE CLASS
CF 182		-	R femur 76mm	1.5mth-3mths	0-5 YEARS
CF 244		M1 crown complete; M2 crown ½ complete	-	1year ±4mths 0.4-0.8 years	0-5 YEARS
CF 245	10-15 (F) acetabulum 14-17 (M)	M2 present > 13.5 (F); > 13.9 (M).	R femur >330 < 350 (9-10 years)	10-15 YEARS	10-15 YEARS
CF 252		0.4-0.8 years M1 crown 0.7-1.4 years M2 mandibular crown complete	-	0.4-2years	0-5 YEARS
CF 254			Skull cannot be measured	perinatal/infant by comparison	0-5 YEARS
CL 21		-	Scapula 27mm eroded	38-40 weeks	PERINATAL
CL 22			R tibia 66mm	39 weeks (Scheuer regression equation)	PERINATAL

[18] Stages of fusion from Buikstra, J. E. and Ubelaker, D. H. (1994). *Standards for data Collection From Human Skeletal Remains.* Arkansas Archaeological Survey 44 and Brickley, M and McKinley, J. (eds) 2004 *Guidelines to the Standards for Recording of Human Remains.* Reading: British Association for Biological Anthropology and Osteoarchaeology / Institute of Field Archaeologists. Code key: 0 = open; 1 = initial fusion; 2 = fused; CTXT = context; S = sacrum; prox. = proximal; epi. = epiphysis

U/S 595	Femoral proximal epiphysis just fused	14-19 (M), 12-16 (F)			15-20 YEARS
JNF 109	METOPIC SUTURE NOT FUSED	M1 crown complete (2.4 years) M2 (intrusive) wear score: 16			< 20 YEARS
F1 (W/B 2)	< 11-15 years <14-17 years	9 years ± 24 mths (Ubelaker)	L humerus 217mm (8.0 years); L tibia 245mm (7.5 years)		5-10 YEARS

Cranial measurements[19]

CTXT	1	2	3	5	6	7	8	10	12	13	14
CF27	188	143				62		71		50	24

CTXT	15	16	17	19	20	21	28	29	30	33
CF27	36	34		116					35	

[19] Measurement numbering and definition from Buikstra, J. E. and Ubelaker, D. H. (1994). *Standards for data Collection From Human Skeletal Remains.* Arkansas Archaeological Survey 44 unless stated otherwise. Minimum recommended measurements from Brickley, M and McKinley, J. (eds) 2004 *Guidelines to the Standards for Recording of Human Remains.* Reading: British Association for Biological Anthropology and Osteoarchaeology / Institute of Field Archaeologists. Code key: CTXT: context; 1: maximum cranial length; 2: maximum cranial breadth; 3: bizygomatic diameter; 5:cranial base length; 6: basion-prosthion length; 7: maxillo-alveolar breadth; 8: maxillo-alveolar length; 10: upper facial height; 12: upper facial breadth; 13: nasal height; 14: nasal breadth; 15: orbital breadth; 16: orbital height; 17: biorbital breadth; 19: frontal chord; 20: parietal chord; 21: occipital chord; 28: bigonial width; 29: bicondylar breadth; 30: minimum ramus breadth; 33: mandibular length.

Postcranial measurements[20]

CTXT	35L*	35R*	40L	41L	42L*	43L*	44L*	40R	41R	42R*	43R*	44R*	45L	45R	48L	48R

CTXT	53L*	54L*	56L*	57L*	58L*	59L*	56R*	57R*	58R*	59R*	60L	62L	63L*	64L	65L
CF 27											48.4			27	36

CTXT	60R	62R	63R*	64R	65R	LCT L	72L*	73L*	LCT R	72R*	73R*	75L	75R
CF 27			49										

[20] Measurement numbering and definition from Buikstra, J. E. and Ubelaker, D. H. (1994). *Standards for data Collection From Human Skeletal Remains.* Arkansas Archaeological Survey 44 unless stated otherwise. Minimum recommended measurements from Brickley, M and McKinley, J. (eds) 2004 *Guidelines to the Standards for Recording of Human Remains.* Reading: British Association for Biological Anthropology and Osteoarchaeology / Institute of Field Archaeologists. Additional measurements marked with *. Code key: CTXT: context; 35: clavicle (maximum length); 40: Humerus (maximum length); 41: Humerus (epicondylar breadth); 42: Humerus (vertical diameter of head); 43: Humerus (maximum diameter at midshaft); 44: Humerus (minimum diameter at midshaft); 45: Radius (maximum length); 48: Ulna (maximum length); 53: Sacrum (anterior length); 54: Sacrum (anterior superior breadth); 56: Os coxae (height); 57: Os coxae (iliac breadth); 58: Os coxae (pubis length); 59: Os coxae (ischium length); 60: Femur (maximum length); 62: Femur (epicondylar breadth); 63: Femur (maximum diameter of the femur head; 64: Femur (anterior-posterior subtrocanteric diameter; 65: Femur (medial-lateral subtrocanteric diameter); LCT: Tibia (whole length); 72: Maximum diameter at the nutrient foramen; 73: Medial-lateral diameter at the nutrient foramen; 75: Fibula: (maximum length).

Non-metric traits[21]

CTXT	1	4	6	7A	7B	7C	7D	7E	7F	7G	7H
CF 27	A	M	A	ML AR	ML AR	A	A	P	P	ML AR	ML AR
CF 245	A	P P	ML PR	ML AR	A A	A	A	A	ML PR	ML	AR

CTXT	fronto-temporal articulation	palatine torus	maxillary torus	10	17	18	20	22B	23	24
CF 27	A	A	A	M	A A	ML AR	A A	M	M	M
CF 245	A	A	A	M	A A	AR	A A	M	M	M

[21] Traits definitions from Buikstra, J. E. and Ubelaker, D. H. (1994). *Standards for data Collection From Human Skeletal Remains.* Arkansas Archaeological Survey 44. Minimum recommended traits from Brickley, M and McKinley, J. (eds) 2004 *Guidelines to the Standards for Recording of Human Remains.* Reading: British Association for Biological Anthropology and Osteoarchaeology / Institute of Field Archaeologists. Code key: CTXT: context; M= missing relevant bone segment; A: trait absent; P = trait present; L = left; R = right; 1: metopism; 4: infraorbital foramen; 6: parietal foramen; 7: sutural bones (a = epiteric; b = coronal; c = bregmatic; d = sagittal; e = apical; f = lamboid; g: asterionic bones; h = occipito-mastoid; I = parietal); 10: hypoglossal canal; 17: auditory exostosis; 18: mastoid foramen exsutural; 20: mandibular torus; 22b: posterior atlas bridge; 23: accessory transverse foramina in cervical vertebrae; 24: distal septal aperture.

Subadults metric recording[22]

CTXT	1LA	1LB	1RA	1RB	2LA	2LB	2RA	2RB	3A	3B	4LA	4LB	4RA	4RB

CTXT	5A	5B	6LA	6LB	6RA	6RB	7LA	7LB	7LBC	7RA	7RB	7RC	8LA	8LB	8LBC	8RA	8RB	8RC
CF 182	12	14	22	22														

CTXT	9LA	9LB	9RA	9RB	10LA	10LB	10LC	10RA	10RB	10RC	11LA	11LB	11RA	11RB	12LA	12LB	12RA	12RB	13L	13R

CTXT	14LA	14LB	14LC	14LD	14RA	14RB	14RC	15LA	15LB	15RA	15RB	16LA	16LB	16RA	16RB
WBF1	217		14												

CTXT	17LA	17LB	17LC	17LD*	17RA	17RB	17RC	18LA	18LB	18LC*	18RA	18RB	18RC*	19LA	19LB	19RA	19RB
CF182					76	19	7										
CL22											66	7					
WBF1								245	24								

[22] Buikstra and Ubelaker (1994). * = eroded

Dental inventory and pathology

CODE KEY FOR DENTAL INVENTORY AND PATHOLOGY[23]:

NUMBERING SYSTEM
Permanent dentition

Maxillary		Mandibular	
Right	**Left**	**Left**	**Right**
1 = 3rd molar	9 = 1st incisor	17 = 3rd molar	25 = 1st incisor
2 = 2nd molar	10 = 2nd incisor	18 = 2nd molar	26 = 2nd incisor
3 = 1st molar	11 = canine	19 = 1st molar	27 = canine
4 = 2nd premolar	12 = 1st premolar	20 = 2nd premolar	28 = 1st premolar
5 = 1st premolar	13 = 2nd premolar	21 = 1st premolar	29 = 2nd premolar
6 = canine	14 = 1st molar	22 = canine	30 = 1st molar
7 = 2nd incisor	15 = 2nd molar	23 = 2nd incisor	31 = 2nd molar
8 = 1st incisor	16 = 3rd molar	24 = 1st incisor	32 = 3rd molar

Deciduous dentition

Maxillary		Mandibular	
Right	**Left**	**Left**	**Right**
51 = 1st molar	56 = 1st incisor	61 = 2nd molar	66 = 1st incisor
52 = 2nd molar	57 = 2nd incisor	62 = 1st molar	67 = 2nd incisor
53 = canine	58 = canine	63 = canine	68 = canine
54 = 1st incisor	59 = 1st premolar	64 = 2nd incisor	69 = 1st molar
55 = 2nd incisor	60 = 2nd premolar	65 = 1st incisor	70 = 2nd molar

DENTAL PRESENCE CATEGORIES

Inventory categories for recording the dentition	
Presence	
1 = Present, but not in occlusion	
2 = Present, development completed, in occlusion	
3 = Missing, with no associated alveolar bone	
4 = Missing with alveolus resorbing or resorbed : premortem loss	
5 = Missing with no alveolar resorption: postmortem loss	
6 = missing, congenital absence	
7 = present, damage renders measurement impossible	
8 = present but unobservable (e.g. in crypt)	
Development (permanent mandibular molars)	
1 = initial cusp formation	8 = initial cleft formation
2 = coalescence of cusp	9 = root length ¼
3 = usp outline complete	10 = root length ½
4 = crown ½ complete	11 = root length ¾
5 = crown ¾ complete	12 = root length complete
6 = crown complete	13 = apex ½ closed
7 = initial root formation	14 = apex closed

[23] From Buikstra, J. E. and Ubelaker, D. H. (1994) *Standards for Data Collection from Human Skeletal Remains.* Arkansas Archaeological Survey 44. Wear scores in molars are presented as the sum of wear in each quadrant. Alveolar disease and enamel hypoplasia recorded according to Brickley, M. and McKinley, J. (eds) 2004 *Guidelines to the Standards for Recording of Human Remains.* Reading: British Association for Biological Anthropology and Osteoarchaeology / Institute of Field Archaeologists.

DENTAL WEAR CATEGORIES

Incisors/canines	
1 = Unworn to polished	5 = Large dentine area with enamel rim complete
2 = Point or hairline of dentine exposure	6 = Large dentine area with enamel rim lost on one side or very thin enamel only
3 = Dentine of distinct line thickness	7 = Enamel rim lost on two sides or small remnants of enamel remain
4 = Moderate dentine exposure	8 = Complete loss of crown, no enamel remaining; crown surface takes on shape of roots
Premolars	
1 = Unworn to polished	5 = Two large dentine areas (may be slight coalescence)
2 = Moderate cusp removal	6 = Dentinal areas coalesced, enamel rim still complete.
3 = Full cusp removal and/or moderate dentine patches	7 = Full dentine exposure, loss of rim on at least one side
4 = At least one large dentine exposure on one cusp	8 = Severe loss of crown height; crown surface takes on shape of roots
Molars	
0 = No information available (tooth not occluding, unerupted, antemortem or postmortem loss etc.)	
1 = Wear facets invisible or very small	6 = Dentine exposure greater: more than one fourth of quadrant area is involved, but there is still much enamel present.
2 = Wear facets large. Possible pinprick size dentine exposure	7 = Enamel is found on only two sides of the quadrant
3 = Any cusp in the quadrant area is rounded rather than being clearly defined as in 2. The cusp is becoming obliterated but it is not yet worn flat	8 =Enamel only on one side, but enamel is thick to medium on this edge
4 = Quadrant area is worn flat, but there is no dentine exposure other than a possible pinprick sized dot	9 =Enamel only on one side as in 8, but the enamel is very thin.
5 = Quadrant is flat, with dentine exposure one-fourth of quadrant or less.	10 = No enamel on any part of the quadrant-dentine exposure complete.

DENTAL PATHOLOGY CATEGORIES

Caries		
1 = occlusal surface	5 = root caries	
2 = interproximal surface	6 = large caries	
3 = smooth surfaces	7 = non-carious pulp exposure	
4 = cervical caries		
Abscesses		
1 = buccal or labial alveolar channel	2 = lingual perforation	
Calculus		
1 = small amount	3 = large amount	
2 =moderate amount		
Alveolar disease		
1 = 2-3 mm	2 = 3-5 mm	
3 = majority of tooth root exposed		
Enamel hypoplasia		
Type of defect	Position	Severity
1 = linear horizontal grooves	1= cusp	1 = just discernible line
2 = linear vertical grooves	2 = middle section of crown	2 = clear groove
3 = linear horizontal pits	3 = neck	3 = gross defect
4 = non-linear array of pits		
5 = single pits		

Dental inventory and pathology[24]

Permanent dentition

SKELETON CF 27

MAXILLA	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Presence	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Wear	4	8	14	1	1	2	2	3	3	2	2	1	1	14	8	4
Caries																
Abscess																
Calculus (labial)				1	1	1				1						
Calculus (lingual)																
Enamel hypoplasia								1/2/1	1/2/1							
Periodontal disease																
Continued eruption																
Congenital defects																

SKELETON CF 27

MANDIBLE	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17
Presence	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Wear	4	8	18	1	1	2	3	3	3	2	1	1	1	18	8	6
Caries																
Abscess																
Calculus (labial)				1	1	1	1	2	2	2	2	2	1	1		
Calculus (lingual)			1	1	1	1	1	1	1	2	2	2	2	2	1	
Enamel Hypoplasia						1/2/1					1/2/1					
Periodontal disease																
Continued eruption																
Congenital defects																

Note: CF27: teeth 30, 19: extra cusp

SKELETON CF 201

MANDIBLE	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17
Presence											1	1		1	1	1
Wear											3	3		18	16	14
Caries															2	2
Abscess																
Calculus (labial)																
Calculus (lingual)																
Enamel Hypoplasia																
Periodontal disease																
Continued eruption																
Congenital defects																

[24] From Buikstra, J. E. and Ubelaker, D. H. (1994). *Standards for data Collection From Human Skeletal Remains.* Arkansas Archaeological Survey 44.

SKELETON JNF 97

MAXILLA	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Presence	4	2	3	3	3	1	5	1	1	1	1	3	3	2	2	2
Wear																
Caries																
Abscess																
Calculus (labial)																
Calculus (lingual)																
Enamel hypoplasia																
Periodontal disease																
Continued eruption																
Congenital defects																

SKELETON JNF 97

MANDIBLE	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17
Presence	4	2	2	1	1	1	1	1	2	2	2	2	2	2	2	4
Wear		26	28	4	4	5	5	5	5	5	5	4	4	26	20	
Caries																
Abscess																
Calculus (labial)																
Calculus (lingual)																
Enamel Hypoplasia																
Periodontal disease																
Continued eruption																
Congenital defects																

SKELETON JNF 111

MAXILLA	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Presence		1	1		1	1	1									
Wear		18	22		3	3	3									
Caries																
Abscess																
Calculus (labial)																
Calculus (lingual)																
Enamel hypoplasia					1/ 2/ 1											
Periodontal disease																
Continued eruption																
Congenital defects																

SKELETON JNF 216

MAXILLA	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Presence					1	1	1				1	1	1			
Wear					3	4	4				4	3	2			
Caries																
Abscess																
Calculus (labial)																
Calculus (lingual)																
Enamel hypoplasia																
Periodontal disease																
Continued eruption																
Congenital defects																

SKELETON JNF 216

MANDIBLE	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17
Presence	1	1	1											1	1	1
Wear	12	20	28											26	18	12
Caries																
Abscess																
Calculus (labial)																
Calculus (lingual)																
Enamel Hypoplasia																
Periodontal disease																
Continued eruption																
Congenital defects																

Note JNF 216: teeth 7, 6 and 11: shovelling; tooth 30: chipping on buccal aspect

SKELETON JNF 218

MANDIBLE	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17
Presence		1	1												1	
Wear		14	18												12	
Caries																
Abscess																
Calculus (labial)																
Calculus (lingual)																
Enamel Hypoplasia																
Periodontal disease																
Continued eruption																
Congenital defects																

SKELETON JNF 229

MAXILLA	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Presence	2	2	2	3	1	1	1	1	3	1	3	2	2	2	2	2
Wear	4	4	8		1	2	3	4		4		3	3	8	6	4
Caries																
Abscess																
Calculus (labial)																
Calculus (lingual)																
Enamel hypoplasia																
Periodontal disease																
Continued eruption																
Congenital defects																

SKELETON JNF 229

MANDIBLE	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17
Presence	2	2	2	2	2	1	1	3	3	3	1	1	1	2	2	2
Wear	4	6	14	1	1	3	4				3	1	1	14	6	4
Caries																
Abscess																
Calculus (labial)																
Calculus (lingual)																
Enamel Hypoplasia																
Periodontal disease																
Continued eruption																
Congenital defects																

Note: JNF 229: tooth 32: non-carious pit, lingual aspect; tooth 5: curved root

SKELETON JNF 328

MAXILLA	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Presence	2	2	11	1	1	1	1	1	1	1	1	1	1			1
Wear	6	16	20	2	2	4	4	5	5	4	4	2	3			8
Caries																
Abscess																
Calculus (labial)	1	1	1													
Calculus (lingual)	1	1	1													
Enamel hypoplasia																
Periodontal disease	1	1														
Continued eruption																
Congenital defects																

SKELETON JNF 328

MANDIBLE	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17
Presence	2	2	2	2	1	1	1	1	1	1	1	1	3	2	2	3
Wear	6	8	18	4	2	4	4	4	4	4	2	2		18	14	6
Caries																
Abscess																
Calculus (labial)		2	2													
Calculus (lingual)		1														
Enamel Hypoplasia																
Periodontal disease																
Continued eruption																
Congenital defects																

Note: JNF 328: teeth 30 and 19 extra cusp posterior aspect

SKELETON JNF 394

MAXILLA	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Presence											1	1	1		1	1
Wear											5	4	4		18	12
Caries													2			
Abscess																
Calculus (labial)																
Calculus (lingual)																
Enamel hypoplasia													1/ 2/ 1			
Periodontal disease																
Continued eruption																
Congenital defects																

SKELETON JNF 394

MANDIBLE	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17
Presence	2	2	2	1	1											
Wear	14	20	26	4	4											
Caries	3	3														
Abscess																
Calculus (labial)	1	1	1	1												
Calculus (lingual)	1	1														
Enamel Hypoplasia																
Periodontal disease																
Continued eruption																
Congenital defects																

Note; JNF 394: teeth 30 and 32; extra cusp posteriorly

SKELETON JNF 396

MAXILLA	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Presence	2	2	2	2	2	2	1	1								
Wear	8	14	18	2	3	4	4	5								
Caries																
Abscess																
Calculus (labial)	2	2	2	1	1	2	2	2								
Calculus (lingual)			1													
Enamel hypoplasia																
Periodontal disease																
Continued eruption																
Congenital defects																

SKELETON JNF 396

MANDIBLE	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17
Presence	2	2	2	2	2	1										
Wear	8	8	18	3	3	5										
Caries																
Abscess																
Calculus (labial)	1	1	1		1	2										
Calculus (lingual)	1	2			2	2										
Enamel Hypoplasia																
Periodontal disease																
Continued eruption																
Congenital defects																

Note: JNF 396: tooth 30: extra cusp posteriorly

SKELETON JNF 423

MAXILLA	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Presence																
Wear																
Caries																
Abscess																
Calculus (labial)																
Calculus (lingual)																
Enamel hypoplasia																
Periodontal disease																
Continued eruption																
Congenital defects																

SKELETON JNF 453

MANDIBLE	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17
Presence									5	5	2	2	4	4	3	3
Wear											5	5				
Caries																
Abscess																
Calculus (labial)																
Calculus (lingual)																
Enamel Hypoplasia																
Periodontal disease																
Continued eruption																
Congenital defects																

SKELETON JNF 458

MAXILLA	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Presence								3	3	3	3	3	2	2	2	3
Wear													4	26	20	
Caries																
Abscess																
Calculus (labial)													1	1	1	
Calculus (lingual)																
Enamel hypoplasia																
Periodontal disease														1	2	
Continued eruption																
Congenital defects																

SKELETON JNF 462

MAXILLA	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Presence											1	1				
Wear											5	6				
Caries																
Abscess																
Calculus (labial)											1	1				
Calculus (lingual)											1	1				
Enamel hypoplasia																
Periodontal disease																
Continued eruption																
Congenital defects																

SKELETON JNF 462

MANDIBLE	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17
Presence		1	1											1		
Wear		26	26											24		
Caries																
Abscess																
Calculus (labial)		1	1											1		
Calculus (lingual)		1	1											1		
Enamel Hypoplasia																
Periodontal disease																
Continued eruption																
Congenital defects																

Note: JNF 462: tooth 19: chipping anterior/buccal aspect

SKELETON JNF 488

MAXILLA	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Presence	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Wear	6	8	12	2	2	4	4	4	4	4	4	2	2	20	10	6
Caries																
Abscess																
Calculus (labial)																
Calculus (lingual)																
Enamel hypoplasia			3/ 2/ 3					3/ 1/ 3	3/ 1/ 3					3/ 2/ 3		
Periodontal disease																
Continued eruption																
Congenital defects																

SKELETON JNF 488

MANDIBLE	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17
Presence	2	2	4	5	1	1	3	3	3	1	1	1	2	4	2	2
Wear	8	12			4	4				4	2	2	2		12	8
Caries																
Abscess																
Calculus (labial)																
Calculus (lingual)																
Enamel Hypoplasia										3/ 1/ 3	3/ 1/ 3					
Periodontal disease																
Continued eruption																
Congenital defects																

SKELETON JNF 506

MAXILLA	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Presence	2	2	2	2												
Wear	8	10	18	2												
Caries																
Abscess																
Calculus (labial)																
Calculus (lingual)																
Enamel hypoplasia																
Periodontal disease																
Continued eruption																
Congenital defects																

Dental presence, development and pathology: deciduous teeth and mixed dentition

Articulated HSR Subadults Dental Presence Deciduous Teeth

WBF1

	AGE CLASS	51	52	53	54	55	56	57	58	59	60	70	69	68	67	66	65	64	63	62	61
Presence	5-10yrs	2	2	2					2	2	2	2	2	2					2	2	2
caries		Non-carious pit																			Non-carious pit
Enamel hypoplasia									1/2/1	1/2/1	1/2/1	1/2/1	1/2/1	1/2/1							

Note: WBF1: teeth 53 and 58: chipping

Articulated HSR Subadults Dental Presence And Pathology Permanent Teeth

WBF1

CTXT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17
Presence			2				2	2	2	2				2									2	2	2	2						
Enamel hypoplasia			1/2/2				1/2/2	1/2/2	1/2/2	1/2/1													1/2/1	1/2/1	1/2/1	1/2/1						

Note: WBF1: teeth 7, 8, 9, 10 shovelling

CF 245

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17
Presence	1	2	2	2	2	2	2	5	2	2	2	2	2	2	2	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1
Enamel hypoplasia																				1/2/1	1/2/1		1/2/1				1/2/1	1/2/1				
Caries														1C																		

Note: CF245: tooth 19: extra cusp; teeth 23. 24: chipping

Articulated HSR Subadults Dental Development Stage Permanent Teeth

WBF1

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17
		R1/2					A 1/2	Ac															A1/2	Ac	Ac	A1/2						

CF245

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17
	R1/2															R1/2	R1/2															

Pathological conditions

N	Context	Side	Bone	Section	Aspect	Nature of lesion	Description / extent	Healing state	Distribution	Diagnosis	Pathology class
9	CF 245	R	frontal	orbit	roof	Resorptive	Cribra orbitalia with coalesced porosity in <1/3	healing		Cribra orbitalia	Metabolic disease
23	JNF 45		C3	body	Superior, inferior	Combination	Lipping (sharp ridge, sometimes curled with spicules) in > 2/3; porosity with coalescence of foramina in 1/3-2/3	-	-	Arthritis	Spinal disease
38	JNF183		Tibia	M1/3	lateral	Proliferative	Deposit of woven bone over lamellar bone in 1/3-2/3	Active/healed		Periostitis	Non-specific infection
39	JNF191	R	Femur	P1/3	posterior	Proliferative	Remodelling lamellar bone in >2/3	healed	Unilateral (other side not available)	Periostitis	Non-specific infection

N	Context	Side	Bone	Section	Aspect	Nature of lesion	Description / extent	Healing state	Distribution	Diagnosis	Pathology class
39	JNF191	L	Femur	M1/3	Posterior / lateral	Proliferative	Remodelling lamellar bone in 1/3-2/3	healing		Periostitis	Non-specific infection
39	JNF191	L	Tibia	M1/3	lateral	Proliferative	Deposit of lamellar bone over lamellar bone in >2/3	Active / healed	Unilateral (other side not available)	Periostitis	Non-specific infection
40	JNF193	-	T8, T7	body	Superior, inferior	Combination	Lipping (sharp ridge, sometimes curled with spicules) in > 2/3; porosity with coalescence of foramina in 1/3-2/3	-	-	Arthritis	Spinal disease
40	JNF193	-	T4	body	Superior, inferior	Combination	Lipping (sharp ridge, sometimes curled with spicules) in > 2/3; porosity with coalescence of foramina in < 1/3	-	-	Arthritis	Spinal disease
40	JNF193		C6 (inferior), C7 inferior superior	body	-	Combination	Lipping (sharp ridge, sometimes curled with spicules) in > 2/3; porosity with coalescence of foramina in 1/3-2/3	-	-	Arthritis	Spinal disease
40	JNF193	-	T8, T7	body	superior	Resorptive	Schmorl's nodes moderate expression	-	-	Schmorl's nodes	Spinal disease
40	JNF193	-	T6	body	Superior, inferior	Resorptive	Schmorl's nodes moderate expression	-	-	Schmorl's nodes	Spinal disease
45	JNF229	-	Frontal		internal	Proliferative	Small projections of cortical bone (3 x 2 x 2mm thick)	-	-	Normal variation	Normal variation

N	Context	Side	Bone	Section	Aspect	Nature of lesion	Description / extent	Healing state	Distribution	Diagnosis	Pathology class
50	JNF288	L	Tibia	M1/3	Medial / lateral	Proliferative	Thick deposit of lamellar bone in >2/3	healing	Unilateral (other side not available)	Periostitis	Non-specific infection
53	JNF328	L	Tibia	M1/3	All	Proliferative	Well healed fracture in good alignment but with 49mm - malapposition	healed	Unilateral (other side and fibula not available)	Complete fracture	Trauma
65	JNF395	R	Femur	M1/3	anterior	Remodelled lamellar bone	>2/3	healed	Unilateral (other side not available)	Periostitis	Non-specific infection
95	F1		Frontal	orbit	roof	Resorptive	Cribra orbitalia with porosity only in 1/3-2/3	active	Unilateral (other side not available)	Cribra orbitalia	Metabolic disease
178	JNF440	-	1 cervical vertebra	body	Superior, inferior	Combination	Lipping (sharp ridge, sometimes curled with spicules) in 1/3-2/3; pinpoint porosity in 1/3-2/3	-	1 of 1	Arthritis	Spinal disease
183	JNF477	-	Femur, tibia	M1/3	anterior	Proliferative process	Thin deposit of lamellar bone on periosteal surface on 1/3-2/3	healed	-	Periostitis	Non-Specific infection

Adult skeletal inventory

	SIDE / BONE ELEMENT / **BONE SECTION**	**CF27**	**CF102**	**CF 260**	**JNF3**	**JNF12**	**JNF 45**	**JNF 69**	**JNF 75**	**JNF86**	**JNF95**	**JNF96**	**JNF97**	**JNF109**	**JNF111**	**JNF115**	**JNF135**	**JNF148**	**JNF169**	**JNF183**	**JNF191**	**JNF193**	**JNF216**
SKULL	LEFT FRONTAL	1												1									
	LEFT ORBIT	1																					
	Left frontal sinus*																						
	RIGHT FRONTAL	1												1									
	RIGHT ORBIT	1												1									
	Right frontal sinus*																						
	LEFT PARIETAL	1					1		1			1	1										1
	RIGHT PARIETAL	1	1				1		1			1	1										1
	OCCIPITAL	1	1		1		1						1										1
	LEFT TEMPORAL								1								1	1					
	Left petrous temporal*	1			1		1		1	1		1	1				1	1					
	RIGHT TEMPORAL	1	1																				
	left tmj	1																					
	Right petrous temporal*.	1			1		1			1		1	1	1				1					
	right tmj	1																					
	LEFT ZYGOMATIC	1																					
	RIGHT ZYGOMATIC	1																					
	LEFT MAXILLA	1											1										
	Left maxillary sinus*												1										
	RIGHT MAXILLA	1											1		1								
	Right maxillary sinus*												1										
	LEFT PALATINE	1																					
	RIGHT PALATINE	1											1										
	LEFT NASAL	1																					
	RIGHT NASAL	1																					
	LEFT LACRIMAL	1																					
	RIGHT LACRIMAL	1																					

	SIDE / BONE ELEMENT / **BONE SECTION**	**CF27**	**CF102**	**CF 260**	**JNF3**	**JNF12**	**JNF 45**	**JNF 69**	**JNF 75**	**JNF86**	**JNF95**	**JNF96**	**JNF97**	**JNF109**	**JNF111**	**JNF115**	**JNF135**	**JNF148**	**JNF169**	**JNF183**	**JNF191**	**JNF193**	**JNF216**
	SPHENOID	1																					
	VOMER	1																					
	ETHMOID																						
	LEFT MANDIBLE	1											1				1						
	left condyle								1								1						
	RIGHT MANDIBLE	1					1						1										
	right condyle	1																					
	HYOID																						
	CRICOID																						
	THYROID																						
	Ear bones (n.6)	3										2											
SHOULDER	LEFT CLAVICLE medial end																						
	LEFT CLAVICLE acromial end																1						
	RIGHT CLAVICLE medial end																					1	
	RIGHT CLAVICLE acromial end																						
	LEFT SCAPULA																1						
	LEFT ACROMION																						
	LEFT GLENOID																						
	RIGHT SCAPULA																					1	
	RIGHT ACROMION																						
	RIGHT GLENOID																					1	
	STERNUM MANUB																						
	STERNUM BODY																						
PELVIS	LEFT ILIUM	1																					
	LEFT PUBIS	1																					
	LEFT ISCHIUM	1																					
	left acetabulum	1		1		1							1										
	left auricular	1																					
	RIGHT ILIUM	1					1													1			
	RIGHT PUBIS	1																					

	SIDE / BONE ELEMENT / **BONE SECTION**	**CF27**	**CF102**	**CF 260**	**JNF3**	**JNF12**	**JNF 45**	**JNF 69**	**JNF 75**	**JNF86**	**JNF95**	**JNF96**	**JNF97**	**JNF109**	**JNF111**	**JNF115**	**JNF135**	**JNF148**	**JNF169**	**JNF183**	**JNF191**	**JNF193**	**JNF216**
	RIGHT ISCHIUM	1											1										
	right acetabulum	1	1	1									1							1			
	right auricular	1											1										
SACRUM	s1																						
	s2																						
	s3	1																					
	s4																						
	s5																						
	COCCYX																						
UPPER LIMBS	LEFT HUMERUS PROXIMAL EPIPHYSIS																					1	
	LEFT HUMERUS PROXIMAL 1/3																					1	
	LEFT HUMERUS MIDDLE 1/3																					1	
	LEFT HUMERUS DISTAL 1/3																					1	
	LEFT HUMERUS DISTAL EPIPHYSIS																						
	RIGHT HUMERUS PROX EPIPHYSIS																						
	RIGHT HUMERUS PROXIMAL 1/3																						
	RIGHT HUMERUS MIDDLE 1/3																						
	RIGHT HUMERUS DISTAL 1/3																						
	RIGHT HUMERUS DISTAL EPIPHYSIS																						
	LEFT RADIUS PROXIMAL EPIPHYSIS																						
	LEFT RADIUS PROXIMAL 1/3																						
	LEFT RADIUS MIDDLE 1/3												1									1	

	SIDE / BONE ELEMENT / **BONE SECTION**	**CF27**	**CF102**	**CF 260**	**JNF3**	**JNF12**	**JNF 45**	**JNF 69**	**JNF 75**	**JNF86**	**JNF95**	**JNF96**	**JNF97**	**JNF109**	**JNF111**	**JNF115**	**JNF135**	**JNF148**	**JNF169**	**JNF183**	**JNF191**	**JNF193**	**JNF216**
	LEFT RADIUS DISTAL 1/3																						
	LEFT RADIUS DISTAL EPIPHYSIS																						
	RIGHT RADIUS PROXIMAL EPIPHYSIS																						
	RIGHT RADIUS PROXIMAL 1/3																						
	RIGHT RADIUS MIDDLE 1/3																						
	RIGHT RADIUS DISTAL 1/3																						
	RIGHT RADIUS DISTAL EPIPHYSIS																						
	LEFT ULNA PROXIMAL EPIPHYSIS	1																					
	LEFT ULNA PROXIMAL 1/3	1																					
	LEFT ULNA MIDDLE 1/3	1																					
	LEFT ULNA DISTAL 1/3																						
	LEFT ULNA DISTAL EPIPHYSIS																						
	RIGHT ULNA PROXIMAL EPIPHYSIS		1																				
	RIGHT ULNA PROXIMAL 1/3																						
	RIGHT ULNA MIDDLE 1/3	1																					
	RIGHT ULNA DISTAL 1/3																						
	RIGHT ULNA DISTAL EPIPHYSIS																						
LOWER LIMBS	LEFT FEMUR PROXIMAL EPIPHYSIS	1	1	1			1						1							1			
	LEFT FEMUR PROXIMAL 1/3	1	1																				
	LEFT FEMUR MIDDLE 1/3	1	1	1			1				1					1				1			
	LEFT FEMUR DISTAL 1/3	1																					

	SIDE / BONE ELEMENT / **BONE SECTION**	**CF27**	**CF102**	**CF 260**	**JNF3**	**JNF12**	**JNF 45**	**JNF 69**	**JNF 75**	**JNF86**	**JNF95**	**JNF96**	**JNF97**	**JNF109**	**JNF111**	**JNF115**	**JNF135**	**JNF148**	**JNF169**	**JNF183**	**JNF191**	**JNF193**	**JNF216**
	LEFT FEMUR DISTAL EPIPHYSIS	1					1													1			
	RIGHT FEMUR PROXIMAL EPIPHYSIS	1		1									1							1			
	RIGHT FEMUR PROXIMAL 1/3	1																					
	RIGHT FEMUR MIDDLE 1/3	1		1																			
	RIGHT FEMUR DISTAL 1/3	1																					
	RIGHT FEMUR DISTAL EPIPHYSIS	1																					
	LEFT PATELLA	1																					
	RIGHT PATELLA																						
	LEFT TIBIA PROXIMAL EPIPHYSIS	1				1	1	1					1						1		1		
	LEFT TIBIA PROXIMAL 1/3	1																					
	LEFT TIBIA MIDDLE 1/3	1		1		1							1			1				1			
	LEFT TIBIA DISTAL 1/3	1																					
	LEFT TIBIA DISTAL EPIPHYSIS																						
	RIGHT TIBIA PROXIMAL EPIPHYSIS	1																		1			
	RIGHT TIBIA PROXIMAL 1/3	1																					
	RIGHT TIBIA MIDDLE 1/3	1		1																1			
	RIGHT TIBIA DISTAL 1/3	1																					
	RIGHT TIBIA DISTAL EPIPHYSIS	1																					
	LEFT FIBULA PROXIMAL EPIPHYSIS																						
	LEFT FIBULA PROXIMAL 1/3																						
	LEFT FIBULA MIDDLE 1/3																						
	LEFT FIBULA DISTAL 1/3																						

	SIDE / BONE ELEMENT / **BONE SECTION**	**CF27**	**CF102**	**CF 260**	**JNF3**	**JNF12**	**JNF 45**	**JNF 69**	**JNF 75**	**JNF86**	**JNF95**	**JNF96**	**JNF97**	**JNF109**	**JNF111**	**JNF115**	**JNF135**	**JNF148**	**JNF169**	**JNF183**	**JNF191**	**JNF193**	**JNF216**
	LEFT FIBULA DISTAL EPIPHYSIS																						
	RIGHT FIBULA PROXIMAL EPIPHYSIS																						
	RIGHT FIBULA PROXIMAL 1/3																						
	RIGHT FIBULA MIDDLE 1/3	1																					
	RIGHT FIBULA DISTAL 1/3																						
	RIGHT FIBULA DISTAL EPIPHYSIS																						
HANDS	left carpals (n. 7)																						
	LEFT SCAPHOID																						
	LEFT LUNATE																						
	LEFT TRIQUETRAL																						
	LEFT PISIFORM																						
	LEFT TRAPEZIUM																						
	LEFT TRAPEZOID																						
	LEFT CAPITATE																						
	LEFT HAMATE																						
	LEFT SESMOID																						
	left metacarpals proximal* (n. 5)																						
	left metacarpals distal* (n. 5)																						
	LEFT 1ST METACARPAL																						
	LEFT 2ND METACARPAL																						
	LEFT 3RD METACARPAL																						
	LEFT 4TH METACARPAL																						
	LEFT 5TH METACARPAL																						
	right carpals (n. 7)																						
	RIGHT SCAPHOID																						
	RIGHT LUNATE																						
	RIGHT TRIQUETRAL																						
	RIGHT PISIFORM																						

	SIDE / BONE ELEMENT / **BONE SECTION**	**CF27**	**CF102**	**CF 260**	**JNF3**	**JNF12**	**JNF 45**	**JNF 69**	**JNF 75**	**JNF86**	**JNF95**	**JNF96**	**JNF97**	**JNF109**	**JNF111**	**JNF115**	**JNF135**	**JNF148**	**JNF169**	**JNF183**	**JNF191**	**JNF193**	**JNF216**
	RIGHT TRAPEZIUM																						
	RIGHT TRAPEZOID																						
	RIGHT CAPITATE																						
	RIGHT HAMATE																						
	RIGHT SESMOID																						
	right metacarpals proximal* (n. 5)																						
	right metacarpals distal* (n. 5)																						
	RIGHT 1ST METACARPAL																						
	RIGHT 2ND METACARPAL																						
	RIGHT 3RD METACARPAL																						
	RIGHT 4TH METACARPAL																						
	RIGHT 5TH METACARPAL																						
	unsided carpals																						
	unsided metacarpals *																						
	PHALANGES [HANDS] PROXIMAL* (n. 10)	3																					
	PHALANGES [HANDS] MEDIAL* (n. 8)																						
	PHALANGES [HANDS] DISTAL* (n. 10)																						
FEET	LEFT TALUS			1																1			
	LEFT CALCANEUS			1																			
	LEFT 1ST CUNEIFORM																						
	LEFT 2ND CUNEIFORM			1																			
	LEFT 3RD CUNEIFORM																						
	LEFT NAVICULAR			1																			
	LEFT CUBOID																						
	LEFT SESMOID																						
	left tarsals (n. 8)																						
	left metatarsals proximal* (n. 5)																						

	SIDE / BONE ELEMENT / **BONE SECTION**	**CF27**	**CF102**	**CF 260**	**JNF3**	**JNF12**	**JNF 45**	**JNF 69**	**JNF 75**	**JNF86**	**JNF95**	**JNF96**	**JNF97**	**JNF109**	**JNF111**	**JNF115**	**JNF135**	**JNF148**	**JNF169**	**JNF183**	**JNF191**	**JNF193**	**JNF216**
	left metatarsals distal * (n. 5)																						
	RIGHT TALUS			1																1			
	RIGHT CALCANEUS			1																1			
	RIGHT 1ST CUNEIFORM			1																			
	RIGHT 2ND CUNEIFORM			1																			
	RIGHT 3RD CUNEIFORM																						
	RIGHT NAVICULAR																						
	RIGHT CUBOID																						
	RIGHT SESMOID																						
	right tarsals (n. 8)																						
	right metatarsals proximal * (n. 5)																						
	right metatarsals distal* (n. 5)																						
	unsided tarsals																						
	unsided metatarsals	1																					
	PHALANGES [FEET] PROXIMAL* (n. 10)																						
	PHALANGES [FEET] MEDIAL* (n. 8)																						
	PHALANGES [FEET] DISTAL* (n. 10)																						
RIBS	LEFT RIBS (n. 12)																						
	RIGHT RIBS (n. 12)																						
	unsided rib fragments																					15	
VERTEBRAE	1ST CERVICAL						1						1							1			
	2ND CERVICAL	1					1						1							1			
	3RD CERVICAL						1						1							1			
	4TH CERVICAL												1							1			
	5TH CERVICAL												1							1			
	6TH CERVICAL												1							1		1	
	7TH CERVICAL																					1	
	unidentified cervicals																						

	SIDE / BONE ELEMENT / **BONE SECTION**	**CF27**	**CF102**	**CF 260**	**JNF3**	**JNF12**	**JNF 45**	**JNF 69**	**JNF 75**	**JNF86**	**JNF95**	**JNF96**	**JNF97**	**JNF109**	**JNF111**	**JNF115**	**JNF135**	**JNF148**	**JNF169**	**JNF183**	**JNF191**	**JNF193**	**JNF216**
	1ST THORACIC																					1	
	2ND THORACIC																					1	
	3RD THORACIC																					1	
	4TH THORACIC																					1	
	5TH THORACIC																					1	
	6TH THORACIC																					1	
	7TH THORACIC																					1	
	8TH THORACIC																					1	
	9TH THORACIC																						
	10TH THORACIC																						
	11TH THORACIC																						
	12TH THORACIC																						
	unidentified thoracic vert.																						
	1ST LUMBAR																						
	2ND LUMBAR																						
	3RD LUMBAR																						
	4TH LUMBAR																						
	5TH LUMBAR																						
	unidentified lumbar vert.*																						

	SIDE / BONE ELEMENT / **BONE SECTION**	**JNF224**	**JNF229**	**JNF241**	**JNF248**	**JNF269**	**JNF285**	**JNF288**	**JNF328**	**JNF335**	**JNF346**	**JNF355**	**JNF360**	**JNF383**	**JNF394**	**JNF395**	**JNF396**	**JNF423**	**JNF424**	**JNF439**	**JNF453**	**JNF457**	**JNF458**
SKULL	LEFT FRONTAL		1					1	1								1						
	LEFT ORBIT								1								1						
	Left frontal sinus*							1	1								1						
	RIGHT FRONTAL		1					1	1														
	RIGHT ORBIT																						
	Right frontal sinus*																1						
	LEFT PARIETAL	1	1	1		1			1						1			1		1		1	
	RIGHT PARIETAL	1	1	1		1			1						1			1		1		1	1
	OCCIPITAL	1				1												1				1	1

	SIDE / BONE ELEMENT / **BONE SECTION**	**JNF224**	**JNF229**	**JNF241**	**JNF248**	**JNF269**	**JNF285**	**JNF288**	**JNF328**	**JNF335**	**JNF346**	**JNF355**	**JNF360**	**JNF383**	**JNF394**	**JNF395**	**JNF396**	**JNF423**	**JNF424**	**JNF439**	**JNF453**	**JNF457**	**JNF458**
	LEFT TEMPORAL																		1				
	Left petrous temporal*		1	1	1	1			1						1			1				1	1
	RIGHT TEMPORAL		1		1	1	1	1	1						1			1				1	
	left tmj																						
	Right petrous temporal*.		1	1	1	1		1	1					1	1			1				1	1
	right tmj		1			1												1				1	1
	LEFT ZYGOMATIC																						
	RIGHT ZYGOMATIC																						1
	LEFT MAXILLA		1						1														
	Left maxillary sinus*																						
	RIGHT MAXILLA		1						1								1						
	Right maxillary sinus*																						
	LEFT PALATINE																						
	RIGHT PALATINE																						
	LEFT NASAL																						
	RIGHT NASAL																						
	LEFT LACRIMAL																						
	RIGHT LACRIMAL																						
	SPHENOID		1																				
	VOMER																						
	ETHMOID																						
	LEFT MANDIBLE		1						1									1			1		
	left condyle		1												1								
	RIGHT MANDIBLE		1												1		1						
	right condyle														1							1	
	HYOID																						
	CRICOID																						
	THYROID																						
	Ear bones (n.6)													1									
SHOULDER	LEFT CLAVICLE medial end																						
	LEFT CLAVICLE acromial end																						
	RIGHT CLAVICLE medial end																						
	RIGHT CLAVICLE acromial end																						
	LEFT SCAPULA																						
	LEFT ACROMION																						
	LEFT GLENOID					1																	
	RIGHT SCAPULA												1										
	RIGHT ACROMION																						

	SIDE / BONE ELEMENT / **BONE SECTION**	JNF224	JNF229	JNF241	JNF248	JNF269	JNF285	JNF288	JNF328	JNF335	JNF346	JNF355	JNF360	JNF383	JNF394	JNF395	JNF396	JNF423	JNF424	JNF439	JNF453	JNF457	JNF458
	RIGHT GLENOID																						
	STERNUM MANUB																						
	STERNUM BODY																						
PELVIS	LEFT ILIUM																						
	LEFT PUBIS																						
	LEFT ISCHIUM																						
	left acetabulum												1										
	left auricular																						
	RIGHT ILIUM		1																		1		
	RIGHT PUBIS																						
	RIGHT ISCHIUM																						
	right acetabulum		1																1				
	right auricular																						
SACRUM	s1																						
	s2																						
	s3																						
	s4																						
	s5																						
	COCCYX					1																	
UPPER LIMBS	LEFT HUMERUS PROXIMAL EPIPHYSIS																						
	LEFT HUMERUS PROXIMAL 1/3					1			1														
	LEFT HUMERUS MIDDLE 1/3								1		1										1		
	LEFT HUMERUS DISTAL 1/3																						
	LEFT HUMERUS DISTAL EPIPHYSIS																						
	RIGHT HUMERUS PROX EPIPHYSIS																						
	RIGHT HUMERUS PROXIMAL 1/3																						
	RIGHT HUMERUS MIDDLE 1/3								1														
	RIGHT HUMERUS DISTAL 1/3							1															
	RIGHT HUMERUS DISTAL EPIPHYSIS																						
	LEFT RADIUS PROXIMAL EPIPHYSIS																						
	LEFT RADIUS PROXIMAL 1/3																						
	LEFT RADIUS MIDDLE 1/3																						
	LEFT RADIUS DISTAL 1/3																						
	LEFT RADIUS DISTAL EPIPHYSIS																						
	RIGHT RADIUS PROXIMAL EPIPHYSIS																						

	SIDE / BONE ELEMENT / **BONE SECTION**	JNF224	JNF229	JNF241	JNF248	JNF269	JNF285	JNF288	JNF328	JNF335	JNF346	JNF355	JNF360	JNF383	JNF394	JNF395	JNF396	JNF423	JNF424	JNF439	JNF453	JNF457	JNF458
	RIGHT RADIUS PROXIMAL 1/3																						
	RIGHT RADIUS MIDDLE 1/3																						
	RIGHT RADIUS DISTAL 1/3																						
	RIGHT RADIUS DISTAL EPIPHYSIS																						
	LEFT ULNA PROXIMAL EPIPHYSIS																						
	LEFT ULNA PROXIMAL 1/3																						
	LEFT ULNA MIDDLE 1/3																						
	LEFT ULNA DISTAL 1/3																						
	LEFT ULNA DISTAL EPIPHYSIS																						
	RIGHT ULNA PROXIMAL EPIPHYSIS							1															
	RIGHT ULNA PROXIMAL 1/3							1															
	RIGHT ULNA MIDDLE 1/3																						
	RIGHT ULNA DISTAL 1/3																						
	RIGHT ULNA DISTAL EPIPHYSIS																						
	LEFT FEMUR PROXIMAL EPIPHYSIS		1										1						1		1		
	LEFT FEMUR PROXIMAL 1/3		1																				
	LEFT FEMUR MIDDLE 1/3		1						1		1		1			1			1		1		1
	LEFT FEMUR DISTAL 1/3																						
	LEFT FEMUR DISTAL EPIPHYSIS		1						1				1						1				1
	RIGHT FEMUR PROXIMAL EPIPHYSIS		1																		1		
	RIGHT FEMUR PROXIMAL 1/3		1																				
	RIGHT FEMUR MIDDLE 1/3		1						1		1					1							
	RIGHT FEMUR DISTAL 1/3																						
	RIGHT FEMUR DISTAL EPIPHYSIS		1						1														
	LEFT PATELLA																						
	RIGHT PATELLA																						
	LEFT TIBIA PROXIMAL EPIPHYSIS																						1
	LEFT TIBIA PROXIMAL 1/3																						
	LEFT TIBIA MIDDLE 1/3		1					1	1	1		1											
	LEFT TIBIA DISTAL 1/3																						
	LEFT TIBIA DISTAL EPIPHYSIS																						
	RIGHT TIBIA PROXIMAL EPIPHYSIS																						
	RIGHT TIBIA PROXIMAL 1/3																						
	RIGHT TIBIA MIDDLE 1/3					1						1											1
	RIGHT TIBIA DISTAL 1/3																						
	RIGHT TIBIA DISTAL EPIPHYSIS																						
LOWER LIMBS																							

	SIDE / BONE ELEMENT / **BONE SECTION**	**JNF224**	**JNF229**	**JNF241**	**JNF248**	**JNF269**	**JNF285**	**JNF288**	**JNF328**	**JNF335**	**JNF346**	**JNF355**	**JNF360**	**JNF383**	**JNF394**	**JNF395**	**JNF396**	**JNF423**	**JNF424**	**JNF439**	**JNF453**	**JNF457**	**JNF458**
	LEFT FIBULA PROXIMAL EPIPHYSIS																						
	LEFT FIBULA PROXIMAL 1/3																						
	LEFT FIBULA MIDDLE 1/3								1	1													
	LEFT FIBULA DISTAL 1/3																						
	LEFT FIBULA DISTAL EPIPHYSIS																						
	RIGHT FIBULA PROXIMAL EPIPHYSIS																						
	RIGHT FIBULA PROXIMAL 1/3																						
	RIGHT FIBULA MIDDLE 1/3								1														
	RIGHT FIBULA DISTAL 1/3																						
	RIGHT FIBULA DISTAL EPIPHYSIS																						
HANDS	left carpals (n. 7)																						
	LEFT SCAPHOID																						
	LEFT LUNATE																						
	LEFT TRIQUETRAL																						
	LEFT PISIFORM																						
	LEFT TRAPEZIUM																						
	LEFT TRAPEZOID																						
	LEFT CAPITATE																						
	LEFT HAMATE																						
	LEFT SESMOID																						
	left metacarpals proximal* (n. 5)												2										
	left metacarpals distal* (n. 5)												2										
	LEFT 1ST METACARPAL																						
	LEFT 2ND METACARPAL																						
	LEFT 3RD METACARPAL																						
	LEFT 4TH METACARPAL																						
	LEFT 5TH METACARPAL																						
	right carpals (n. 7)																						
	RIGHT SCAPHOID																						
	RIGHT LUNATE																						
	RIGHT TRIQUETRAL																						
	RIGHT PISIFORM																						
	RIGHT TRAPEZIUM																						
	RIGHT TRAPEZOID																						
	RIGHT CAPITATE																						
	RIGHT HAMATE																						
	RIGHT SESMOID																						

	SIDE / BONE ELEMENT / **BONE SECTION**	**JNF224**	**JNF229**	**JNF241**	**JNF248**	**JNF269**	**JNF285**	**JNF288**	**JNF328**	**JNF335**	**JNF346**	**JNF355**	**JNF360**	**JNF383**	**JNF394**	**JNF395**	**JNF396**	**JNF423**	**JNF424**	**JNF439**	**JNF453**	**JNF457**	**JNF458**
	right metacarpals proximal* (n. 5)																						
	right metacarpals distal* (n. 5)																						
	RIGHT 1ST METACARPAL																						
	RIGHT 2ND METACARPAL																						
	RIGHT 3RD METACARPAL																						
	RIGHT 4TH METACARPAL																						
	RIGHT 5TH METACARPAL																						
	unsided carpals																						
	unsided metacarpals *																						
	PHALANGES [HANDS] PROXIMAL* (n. 10)																						
	PHALANGES [HANDS] MEDIAL* (n. 8)																						
	PHALANGES [HANDS] DISTAL* (n. 10)																						
FEET	LEFT TALUS								1														
	LEFT CALCANEUS											1											
	LEFT 1ST CUNEIFORM																						
	LEFT 2ND CUNEIFORM																						
	LEFT 3RD CUNEIFORM																						
	LEFT NAVICULAR																						
	LEFT CUBOID																						
	LEFT SESMOID																						
	left tarsals (n. 8)																						
	left metatarsals proximal* (n. 5)																						
	left metatarsals distal * (n. 5)																						
	RIGHT TALUS								1			1											
	RIGHT CALCANEUS											1											
	RIGHT 1ST CUNEIFORM																						
	RIGHT 2ND CUNEIFORM																						
	RIGHT 3RD CUNEIFORM																						
	RIGHT NAVICULAR																						
	RIGHT CUBOID																						
	RIGHT SESMOID																						
	right tarsals (n. 8)																						
	right metatarsals proximal * (n. 5)																						
	right metatarsals distal* (n. 5)																						
	unsided tarsals																						
	unsided metatarsals																						

	SIDE / BONE ELEMENT / **BONE SECTION**	JNF224	JNF229	JNF241	JNF248	JNF269	JNF285	JNF288	JNF328	JNF335	JNF346	JNF355	JNF360	JNF383	JNF394	JNF395	JNF396	JNF423	JNF424	JNF439	JNF453	JNF457	JNF458
	PHALANGES [FEET] PROXIMAL* (n. 10)																						
	PHALANGES [FEET] MEDIAL* (n. 8)																						
	PHALANGES [FEET] DISTAL* (n. 10)																						
RIBS	LEFT RIBS (n. 12)																						
	RIGHT RIBS (n. 12)																						
	unsided rib fragments																						
VERTEBRAE	1ST CERVICAL		1																				
	2ND CERVICAL		1			1																	
	3RD CERVICAL																						
	4TH CERVICAL																						
	5TH CERVICAL																						
	6TH CERVICAL																						
	7TH CERVICAL																						
	unidentified cervicals																						
	1ST THORACIC																						
	2ND THORACIC																						
	3RD THORACIC																						
	4TH THORACIC																						
	5TH THORACIC																						
	6TH THORACIC																						
	7TH THORACIC																						
	8TH THORACIC																						
	9TH THORACIC																						
	10TH THORACIC																						
	11TH THORACIC																						
	12TH THORACIC																						
	unidentified thoracic vert.																						
	1ST LUMBAR																						
	2ND LUMBAR																						
	3RD LUMBAR																						
	4TH LUMBAR																						
	5TH LUMBAR																						
	unidentified lumbar vert.*																						

	SIDE / BONE ELEMENT / **BONE SECTION**	JNF462	JNF469	JNF473	JNF477	JNF479	JNF488	JNF490	JNF493	JNF506
SKULL	LEFT FRONTAL									1
	LEFT ORBIT									1
	Left frontal sinus*									
	RIGHT FRONTAL									
	RIGHT ORBIT									1
	Right frontal sinus*									
	LEFT PARIETAL			1			1			1
	RIGHT PARIETAL						1			1
	OCCIPITAL			1			1			
	LEFT TEMPORAL	1		1						1
	Left petrous temporal*	1		1			1		1	1
	RIGHT TEMPORAL									1
	left tmj			1			1			1
	Right petrous temporal*.	1					1		1	1
	right tmj						1			1
	LEFT ZYGOMATIC						1			
	RIGHT ZYGOMATIC									
	LEFT MAXILLA						1			
	Left maxillary sinus*						1			
	RIGHT MAXILLA									1
	Right maxillary sinus*						1			1
	LEFT PALATINE						1			
	RIGHT PALATINE						1			1
	LEFT NASAL									
	RIGHT NASAL									
	LEFT LACRIMAL									
	RIGHT LACRIMAL									
	SPHENOID						1			1
	VOMER									
	ETHMOID									
	LEFT MANDIBLE			1						
	left condyle			1						
	RIGHT MANDIBLE									
	right condyle									
	HYOID									
	CRICOID									
	THYROID									
	Ear bones (n.6)									
SHOULDER	LEFT CLAVICLE medial end									
	LEFT CLAVICLE acromial end									
	RIGHT CLAVICLE medial end									
	RIGHT CLAVICLE acromial end									
	LEFT SCAPULA									
	LEFT ACROMION									
	LEFT GLENOID									
	RIGHT SCAPULA									
	RIGHT ACROMION									
	RIGHT GLENOID									
	STERNUM MANUB									
	STERNUM BODY									
PELVIS	LEFT ILIUM		1							
	LEFT PUBIS									
	LEFT ISCHIUM									
	left acetabulum									
	left auricular									
	RIGHT ILIUM		1		1					
	RIGHT PUBIS									
	RIGHT ISCHIUM									

	SIDE / BONE ELEMENT / **BONE SECTION**	JNF462	JNF469	JNF473	JNF477	JNF479	JNF488	JNF490	JNF493	JNF506
	right acetabulum				1	1				
	right auricular									
SACRUM	s1									
	s2									
	s3									
	s4									
	s5									
	COCCYX									
UPPER LIMBS	LEFT HUMERUS PROXIMAL EPIPHYSIS									
	LEFT HUMERUS PROXIMAL 1/3									
	LEFT HUMERUS MIDDLE 1/3									1
	LEFT HUMERUS DISTAL 1/3									
	LEFT HUMERUS DISTAL EPIPHYSIS									
	RIGHT HUMERUS PROX EPIPHYSIS									
	RIGHT HUMERUS PROXIMAL 1/3									
	RIGHT HUMERUS MIDDLE 1/3									
	RIGHT HUMERUS DISTAL 1/3									
	RIGHT HUMERUS DISTAL EPIPHYSIS									
	LEFT RADIUS PROXIMAL EPIPHYSIS									
	LEFT RADIUS PROXIMAL 1/3									
	LEFT RADIUS MIDDLE 1/3									
	LEFT RADIUS DISTAL 1/3									
	LEFT RADIUS DISTAL EPIPHYSIS									
	RIGHT RADIUS PROXIMAL EPIPHYSIS									
	RIGHT RADIUS PROXIMAL 1/3									
	RIGHT RADIUS MIDDLE 1/3									
	RIGHT RADIUS DISTAL 1/3									
	RIGHT RADIUS DISTAL EPIPHYSIS									
	LEFT ULNA PROXIMAL EPIPHYSIS									
	LEFT ULNA PROXIMAL 1/3									
	LEFT ULNA MIDDLE 1/3									
	LEFT ULNA DISTAL 1/3									
	LEFT ULNA DISTAL EPIPHYSIS									
	RIGHT ULNA PROXIMAL EPIPHYSIS									
	RIGHT ULNA PROXIMAL 1/3									
	RIGHT ULNA MIDDLE 1/3							1	1	
	RIGHT ULNA DISTAL 1/3									
	RIGHT ULNA DISTAL EPIPHYSIS									
LOWER LIMBS	LEFT FEMUR PROXIMAL EPIPHYSIS					1				
	LEFT FEMUR PROXIMAL 1/3									
	LEFT FEMUR MIDDLE 1/3		1			1				1
	LEFT FEMUR DISTAL 1/3									
	LEFT FEMUR DISTAL EPIPHYSIS									
	RIGHT FEMUR PROXIMAL EPIPHYSIS				1	1		1		
	RIGHT FEMUR PROXIMAL 1/3									
	RIGHT FEMUR MIDDLE 1/3					1		1		1
	RIGHT FEMUR DISTAL 1/3									
	RIGHT FEMUR DISTAL EPIPHYSIS		1							
	LEFT PATELLA									
	RIGHT PATELLA									
	LEFT TIBIA PROXIMAL EPIPHYSIS									
	LEFT TIBIA PROXIMAL 1/3									
	LEFT TIBIA MIDDLE 1/3				1			1		
	LEFT TIBIA DISTAL 1/3									
	LEFT TIBIA DISTAL EPIPHYSIS									
	RIGHT TIBIA PROXIMAL EPIPHYSIS									
	RIGHT TIBIA PROXIMAL 1/3									
	RIGHT TIBIA MIDDLE 1/3				1					
	RIGHT TIBIA DISTAL 1/3									
	RIGHT TIBIA DISTAL EPIPHYSIS									

	SIDE / BONE ELEMENT / **BONE SECTION**	JNF462	JNF469	JNF473	JNF477	JNF479	JNF488	JNF490	JNF493	JNF506
	LEFT FIBULA PROXIMAL EPIPHYSIS									
	LEFT FIBULA PROXIMAL 1/3									
	LEFT FIBULA MIDDLE 1/3									
	LEFT FIBULA DISTAL 1/3									
	LEFT FIBULA DISTAL EPIPHYSIS									
	RIGHT FIBULA PROXIMAL EPIPHYSIS									
	RIGHT FIBULA PROXIMAL 1/3									
	RIGHT FIBULA MIDDLE 1/3									
	RIGHT FIBULA DISTAL 1/3									
	RIGHT FIBULA DISTAL EPIPHYSIS									
HANDS	left carpals (n. 7)									
	LEFT SCAPHOID									
	LEFT LUNATE									
	LEFT TRIQUETRAL									
	LEFT PISIFORM									
	LEFT TRAPEZIUM									
	LEFT TRAPEZOID									
	LEFT CAPITATE									
	LEFT HAMATE									
	LEFT SESMOID									
	left metacarpals proximal* (n. 5)									
	left metacarpals distal* (n. 5)									
	LEFT 1ST METACARPAL									
	LEFT 2ND METACARPAL									
	LEFT 3RD METACARPAL									
	LEFT 4TH METACARPAL									
	LEFT 5TH METACARPAL									
	right carpals (n. 7)									
	RIGHT SCAPHOID									
	RIGHT LUNATE									
	RIGHT TRIQUETRAL									
	RIGHT PISIFORM									
	RIGHT TRAPEZIUM									
	RIGHT TRAPEZOID									
	RIGHT CAPITATE									
	RIGHT HAMATE									
	RIGHT SESMOID									
	right metacarpals proximal* (n. 5)									
	right metacarpals distal* (n. 5)									
	RIGHT 1ST METACARPAL									
	RIGHT 2ND METACARPAL									
	RIGHT 3RD METACARPAL									
	RIGHT 4TH METACARPAL									
	RIGHT 5TH METACARPAL									
	unsided carpals									
	unsided metacarpals *									
	PHALANGES [HANDS] PROXIMAL* (n. 10)									
	PHALANGES [HANDS] MEDIAL* (n. 8)									
	PHALANGES [HANDS] DISTAL* (n. 10)									
FEET	LEFT TALUS									
	LEFT CALCANEUS									
	LEFT 1ST CUNEIFORM									
	LEFT 2ND CUNEIFORM									
	LEFT 3RD CUNEIFORM									
	LEFT NAVICULAR									
	LEFT CUBOID									
	LEFT SESMOID									
	left tarsals (n. 8)									
	left metatarsals proximal* (n. 5)									
	left metatarsals distal * (n. 5)									

	SIDE / BONE ELEMENT / **BONE SECTION**	JNF462	JNF469	JNF473	JNF477	JNF479	JNF488	JNF490	JNF493	JNF506
	RIGHT TALUS									
	RIGHT CALCANEUS									
	RIGHT 1ST CUNEIFORM									
	RIGHT 2ND CUNEIFORM									
	RIGHT 3RD CUNEIFORM									
	RIGHT NAVICULAR									
	RIGHT CUBOID									
	RIGHT SESMOID									
	right tarsals (n. 8)									
	right metatarsals proximal * (n. 5)									
	right metatarsals distal* (n. 5)									
	unsided tarsals									
	unsided metatarsals									
	PHALANGES [FEET] PROXIMAL* (n. 10)									
	PHALANGES [FEET] MEDIAL* (n. 8)									
	PHALANGES [FEET] DISTAL* (n. 10)									
RIBS	LEFT RIBS (n. 12)									
	RIGHT RIBS (n. 12)									
	unsided rib fragments									
VERTEBRAE	1ST CERVICAL									
	2ND CERVICAL									1
	3RD CERVICAL									
	4TH CERVICAL									
	5TH CERVICAL									
	6TH CERVICAL									
	7TH CERVICAL									
	unidentified cervicals									
	1ST THORACIC									
	2ND THORACIC									
	3RD THORACIC									
	4TH THORACIC									
	5TH THORACIC									
	6TH THORACIC									
	7TH THORACIC									
	8TH THORACIC									
	9TH THORACIC									
	10TH THORACIC									
	11TH THORACIC									
	12TH THORACIC									
	unidentified thoracic vert.									
	1ST LUMBAR									
	2ND LUMBAR									
	3RD LUMBAR									
	4TH LUMBAR									
	5TH LUMBAR									
	unidentified lumbar vert.*									

Juvenile skeletal inventory

	SIDE / BONE ELEMENT / BONE SECTION	CF 182	CF 245	CF 254	WB F1	CL 22			MNI
SKULL	Left FRONTAL		1		1				
	Left orbital roof		1						
	Left frontal sinus								
	Right FRONTAL		1		1				
	Right orbital roof		1		1				
	Right frontal sinus								
	LEFT PARIETAL	1	1	1	1				
	RIGHT PARIETAL		1	1	1				
	LEFT TEMPORAL		1		1				
	Left petrous temporal		1		1				
	Left TMJ		1		1				
	RIGHT TEMPORAL	1	1		1				
	Right petrous temporal	1	1						
	Right TMJ		1						
	LEFT MAXILLA		1						
	OCCIPITAL		1						
	RIGHT MAXILLA		1						
	Left maxillary sinus				1				
	Right maxillary sinus				1				
	LEFT NASAL				1				
	RIGHT NASAL				1				
	LEFT ZYGOMATIC	1		1	1				
	RIGHT ZYGOMATIC	1			1				
	LEFT LACRIMAL								
	RIGHT LACRIMAL								
	LEFT PALATINE		1		1				
	RIGHT PALATINE		1		1				
	LEFT MANDIBLE		1		1				
	Left condyle								
	RIGHT MANDIBLE	1	1		1				
	Right condyle				1				
	LEFT PARS LATERALIS	1							
	RIGHT PARS LATERALIS								
	PARS BASILARIS	1							
	ETHMOID								
	SPENOID			1					
	FONTANELLE								
	HYOID								
	Ear bones* (n.6)								
SHOULDER	LEFT CLAVICLE medial end				1				
	LEFT CLAVICLE acromial end		1						
	RIGHT CLAVICLE medial end		1						
	RIGHT CLAVICLE acromial end		1		1				
	LEFT SCAPULA		1						
	LEFT ACROMION				1				
	LEFT GLENOID		1		1				
	RIGHT SCAPULA		1		1				
	RIGHT ACROMION				1				
	RIGHT GLENOID		1		1				
	STERNUM Manubrium								
	STERNUM BODY								
	STERNUM (n. sternebrae)								
PELVIS	LEFT ILIUM		1		1				
	LEFT AURICULAR		1		1				
	LEFT ACETABULUM		1						
	LEFT PUBIS		1						
	LEFT ISCHIUM		1						
	RIGHT ILIUM		1						
	RIGHT AURICULAR		1						
	RIGHT ACETABULUM		1						
	RIGHT PUBIS								

	SIDE / BONE ELEMENT / BONE SECTION	CF 182	CF 245	CF 254	WB F1	CL 22			MNI
	RIGHT ISCHIUM		1						
SACRUM	SACRUM		1		1				
	SACRUM (N.BODIES)		2		2				
	SACRUM (N. RIGHT ARCHES)								
	SACRUM (N.LEFT ARCHES)								
	Coccyx								
UPPER LIMBS	LEFT HUMERUS PROXIMAL EPIPHYSIS								
	LEFT HUMERUS PROXIMAL 1/3				1				
	LEFT HUMERUS MIDDLE 1/3	1	1		1				
	LEFT HUMERUS DISTAL 1/3	1	1		1				
	LEFT HUMERUS DISTAL EPIPHYSIS								
	RIGHT HUMERUS PROX EPIPHYSIS								
	RIGHT HUMERUS PROXIMAL 1/3	1	1		1				
	RIGHT HUMERUS MIDDLE 1/3	1	1		1				
	RIGHT HUMERUS DISTAL 1/3	1	1		1				
	RIGHT HUMERUS DISTAL EPIPHYSIS								
	LEFT RADIUS PROXIMAL EPIPHYSIS								
	LEFT RADIUS PROXIMAL 1/3	1							
	LEFT RADIUS MIDDLE 1/3	1	1						
	LEFT RADIUS DISTAL 1/3								
	LEFT RADIUS DISTAL EPIPHYSIS								
	RIGHT RADIUS PROXIMAL EPIPHYSIS								
	RIGHT RADIUS PROXIMAL 1/3				1				
	RIGHT RADIUS MIDDLE 1/3				1				
	RIGHT RADIUS DISTAL 1/3				1				
	RIGHT RADIUS DISTAL EPIPHYSIS								
	LEFT ULNA PROXIMAL EPIPHYSIS								
	LEFT ULNA PROXIMAL 1/3	1	1		1				
	LEFT ULNA MIDDLE 1/3	1	1		1				
	LEFT ULNA DISTAL 1/3	1	1		1				
	LEFT ULNA DISTAL EPIPHYSIS								
	RIGHT ULNA PROXIMAL EPIPHYSIS								
	RIGHT ULNA PROXIMAL 1/3	1			1				
	RIGHT ULNA MIDDLE 1/3	1			1				
	RIGHT ULNA DISTAL 1/3	1			1				
	RIGHT ULNA DISTAL EPIPHYSIS								
LOWER LIMBS	LEFT FEMUR PROXIMAL EPIPHYSIS		1		1				
	LEFT FEMUR PROXIMAL 1/3		1						
	LEFT FEMUR MIDDLE 1/3		1						
	LEFT FEMUR DISTAL 1/3								
	LEFT FEMUR DISTAL EPIPHYSIS								
	RIGHT FEMUR PROXIMAL EPIPHYSIS		1						
	RIGHT FEMUR PROXIMAL 1/3	1	1						
	RIGHT FEMUR MIDDLE 1/3	1	1						
	RIGHT FEMUR DISTAL 1/3	1	1						
	RIGHT FEMUR DISTAL EPIPHYSIS		1						
	LEFT PATELLA								
	RIGHT PATELLA								
	LEFT TIBIA PROXIMAL EPIPHYSIS								
	LEFT TIBIA PROXIMAL 1/3				1				
	LEFT TIBIA MIDDLE 1/3		1		1				
	LEFT TIBIA DISTAL 1/3	1			1				
	LEFT TIBIA DISTAL EPIPHYSIS								
	RIGHT TIBIA PROXIMAL EPIPHYSIS								
	RIGHT TIBIA PROXIMAL 1/3					1			
	RIGHT TIBIA MIDDLE 1/3		1		1	1			
	RIGHT TIBIA DISTAL 1/3					1			
	RIGHT TIBIA DISTAL EPIPHYSIS								
	LEFT FIBULA PROXIMAL EPIPHYSIS								
	LEFT FIBULA PROXIMAL 1/3								
	LEFT FIBULA MIDDLE 1/3				1				
	LEFT FIBULA DISTAL 1/3				1				
	LEFT FIBULA DISTAL EPIPHYSIS								
	RIGHT FIBULA PROXIMAL EPIPHYSIS								
	RIGHT FIBULA PROXIMAL 1/3								
	RIGHT FIBULA MIDDLE 1/3				1				

	SIDE / BONE ELEMENT / BONE SECTION	CF 182	CF 245	CF 254	WB F1	CL 22			MNI
	RIGHT FIBULA DISTAL 1/3								
	RIGHT FIBULA DISTAL EPIPHYSIS								
HANDS	CARPALS (n. 7)								
	METACARPALS (n. 10)				1				
	HAND PHALANGES				5				
FEET	TARSALS (n. 7)								
	METATARSALS (n. 10)								
	FEET PHALANGES								
RIBS	LEFT RIBS		3		12				
	RIGHT RIBS		7		9				
	Unsided rib fragments				3				
VERTEBRAE	ATLAS		1		1				
	AXIS		1		1				
	CERVICAL (N. BODIES)				7				
	CERVICAL (N. RIGHT ARCHES)				5				
	CERVICAL (N. LEFT ARCHES)				3				
	THORACIC (N. BODIES)				6				
	THORACIC (N. RIGHT ARCHES)				8				
	THORACIC (N. LEFT ARCHES)	1	12		7				
	LUMBAR (N. BODIES)				3				
	LUMBAR (N. RIGHT ARCHES)				3				
	LUMBAR (N. LEFT ARCHES)				3				
OTHER UNFUSED BONE ELEMENTS PRESENT									

Faunal remains

by Julie Curl

May 2006

CODES USED IN APPENDIX:

Parts of skeleton are coded as follows:

HC	horncore
HU	humerus
MC	metacarpal
MT	metatarsal
MP	metapodial
PE	pelvis
FE	femur
TI	tibia (tibiotarsus in birds)
AS	astragalus
CA	calcaneum
PH	phalange
CU	cuboid
COR	coracoid
UL	ulna
RA	radius
TMT	tarso-metatarsus
CAM	carpo-metacarpus

Ages

Adult = **a**
Juvenile (over one month old, but bones not fused) = **j**
Neonatal (one month or less) = **neo**

Bones are fully fused/adult unless coded

U = unfused; UF = unfused epiphysis; PF = part-fused; J = juvenile (for birds)

Butchering

Cut = **c**, Chopped = **ch**, Cut & chopped = **c/ch**, general butchering = **b**.

Catalogue of the faunal remains recovered from the evaluation and excavation work. Listed in order of area, feature number then finds number.

F No	L No	Finds No	Type	Total Qty	Wt (g)	Species	Species Qty	Measure	Count	Age	Butchering	Comments
Area C1												
CF2		3	pit	1	3	mammal	1					
CF7		6	robbed wall	3	30	mammal	3					
CF7		159	robbed wall	3	80	Cattle	1			a	ch	scap
CF7		159	robbed wall			Mammal	2			a	b	
CF8		7	pit	2	47	mammal	2					
CF14		26	pit	1	10	mammal	1					
CF47		121	ditch/pit	8	461	cattle	4			a	ch	vert
CF47		121	ditch/pit			pig	1			a	ch	pelvis

CF47		121	ditch/pit			mammal	3				b	
CF50		120	dump	6	95	cattle	2			a	ch	pel frags
CF50		120	dump			mammal	4				c/ch	
CF51		124	ditch/pit	1	3	mammal	1					
CF58		118	pit	3	39	sheep/goat	1			a	ch	tib
CF58		118	pit			mammal	2					
CF60		34	surface	5	5	cattle	2			a	ch	mt frags
CF60		34	surface			mammal	3				b	
CF60		126	surface	3	8	mammal	3					
CF73		152	pit	22	555	Cattle	22			a	c/ch	ribs and vert
CF73		152	pit	15	495	Cattle	15			sub a	b	vert and ribs
CF75		133	pit	1	1	Mammal	1					
CF78		175	trample	27	367	Cattle	4			a	c/ch	3 proximal MTs, pathologies
CF78		175	trample			Mammal	21			a	b	
CF78		175	trample			pig	1			a		proximal phalange
CF78		175	trample			Sheep/goat	1			a		molar
CF91		181	surface	1	2	Mammal	1					
CF95		180	surface	3	10	Mammal	1					
	CL15	125	subsoil	10	85	cattle	2			a	ch	short horncore, molar
	CL15	125	subsoil			pig	1			a	ch	jaw with worn molar
	CL15	125	subsoil			mammal	7				b	
	CL18	146	demo	20	571	Cattle	2			a	ch	cuboid, pelvis
	CL18	146	demo			Mammal	17				b	
	CL18	146	demo			Sheep/goat	1			j	ch	tibia
	CL18	147	demo	4	16	Mammal	4					
	CL18	148	demo	21	646	Cattle	2			a	c/ch	scapula and pelvis
	CL18	148	demo			Mammal	19				b	
	CL18	151	demo	2	62	Cattle	2			a	ch	rad
	CL18	156	demo	11	343	Cattle	3			a	c/ch	cut and ch calc, hu, ch pelvis
	CL18	156	demo			Mammal	7					
	CL18	157	demo			Mammal	13				b	
	CL18	157	demo	14	152	Sheep/goat	1			a	ch	small humerus
	CL18	160	demo			Mammal	15				b	
	CL18	160	demo			pig	1			a	ch	femur
	CL18	160	demo	18	715	Sheep/goat	2			a	ch	femur head
	CL18	166	demo	21	406	Cattle	1			a	v.h.ch	very heavily chopped scapula
	CL18	166	demo			Mammal	18				b	fragmentary
	CL18	166	demo			pig	1			a	ch	femur
	CL18	166	demo			Sheep/goat	1			a	ch	humerus
	CL18	167	demo	10	229	Cattle	1			a	ch	humerus
	CL18	167	demo			Mammal	9					
	CL19	173	trample	8	58	Mammal	8					
	CL19	176	trample	12	165	Cattle	2			a		molars
	CL19	176	trample			Mammal	10				b	
	CL19	182	trample	13	496	Cattle	5			a	c/ch	2 horns, calc, radius, femur
	CL19	182	trample			Mammal	6				b	
	CL19	182	trample			Sheep/goat	2				ch	pelvis, hu,
Area C2												
CF25		12	pit	1	3	mammal	1					burnt white
CF25		45	pit	5	182	cattle	1			a	ch	large MC with arthritis
CF25		45	pit			equid	1			a		very small tibia
CF25		45	pit			mammal	2					
CF25		45	pit			bird	1					humerus, chicken?
CF27		67	inhumation	40	60	mammal	39					fragmentary, powdery

CF27		67	inhumation			pig	1			a		Intermediate phalange
CF29		62	trench	8	59	mammal	8					
CF31		?	cremation	1		Sheep/goat	1			a	c	Talus footbone
CF34		92	dump	8	212	mammal	8				ch	rib shafts, 2 burnt black
CF34		107	dump	1	6	goose	1			a	ch	femur, Greylag sized
CF99		306	cremation	3	11	mammal	1					vertebrae
CF100		319	cremation	1	5	mammal	1					
CF106 sx1		234	ditch	1	5	Mammal	1					
CF106 sx6		243	ditch	1	3	Mammal	1					
CF106 sx6		285	ditch	3	14	Mammal	3					
CF107		220	wall	25	975	Cattle	6	1	4	a	c/ch	talus, mts, hu,
CF107		220	wall			Deer - Red	1		1	a	ch	calc
CF107		220	wall			Equid	4	1	3	a	c/ch	fe, mandible, pph, hu frag
CF107		220	wall			Mammal	14				b	slight burning on several bones
CF107		275	wall	6	383	Cattle	1	1	1		ch	hu
CF107		275	wall			Deer - Roe	2				ch	tibias
CF107		275	wall			Mammal	3					
CF108 sx7		232	ring ditch	8	132	Cattle	2			a	ch	vert,hu
CF108 sx7		232	ring ditch			Mammal	6					
CF110		223	pit	2	4	Mammal	2					
CF110		224	pit	2	3	Mammal	2					med size mammal
CF120		221	cremation	5	14	mammal	1					
CF123		271	ring ditch	1	6	Sheep/goat	1		1	a	ch	mt
CF124		434	surface	12	225	Cattle	3		2	a	c/ch	scap,calc, vert
CF124		434	surface			Deer - Roe	1		1	a	ch	tib
CF124		434	surface			Equid	1			a		molar, well worn, enamel hypoplasia
CF124		434	surface			Mammal	7					
CF126		307	pyre debris	3	5	mammal	1					
CF127		253	cremation	6	3	corvid	1					
CF129		266	ditch	2	26	Cattle	1		1	a	ch	mt
CF129		266	ditch			Sheep/goat	1		0.5	a		pph
CF129		298	ditch	5	95	Mammal	5					
CF134		287	ring ditch	32	546	Cattle	5					scap, pelvis fragments, vert
CF134		287	ring ditch			Mammal	27					many small fragments
CF146		386	burial		176	Mammal	32					small fragments
CF146		386	burial			Sheep/goat	23	2	7	range	c/ch	uf mc; ad tib, hu, pph, iph, teeth +
CF147		378	cremation	3	31	Mammal	3					
CF159		602	surface	4	62	Mammal	4					
CF163		641	cremation	15	66	Sheep/goat	1					burnt
CF165		556	cremation	1	5	mammal	1					skull
CF169		433	quarry pit	1	22	Mammal	1					
CF173		460	cremation	2	3	goose	1					Cremated phalanges
CF174 sx1		458	ditch	5	44	Cattle	1			a		molar
CF174 sx1		458	ditch			Mammal	4					
CF174 sx1		474	ditch			Mammal	7					
CF174 sx1		474	ditch	8	22	Sheep/goat	1				ch	rad
CF174 sx2		473	ditch	7	233	Cattle	2		1	a	ch	distal hu, molar
CF174 sx2		473	ditch			Mammal	5					
CF174 sx3		475	ditch	6	85	Cattle	2		1	a	ch	hu, mc
CF174 sx3		475	ditch			Mammal	4					poor condition
CF175		558	wall	1	3	Cattle	1			a		molarfrag
CF178		470	pit	53	354	Cattle	10		2	a		horn frags, mt, iph, pel, pathology

CF178		470	pit			Mammal	43					many small fragments
CF187		491	ditch	57	1515	Cattle	15		4	a	c/ch	mt, mc,fe
CF187		491	ditch			Mammal	42					fragments of large mammal bone
CF187		491	ditch	55	495	Mammal	55					fragmentary and very poor condition
CF192		493	pit	26	254	Cattle	3		1	a	ch	pelvis frags,mt frag
CF192		493	pit			Deer - Red	1		1	a	ch	talus
CF192		493	pit			Mammal	22					
CF196		540	pit	3	5	Mammal	3					
CF198		500	hole-post	8	12	Mammal	1					fragments of large mammal
CF201		513	ditch	18	1720	Equid	18	2	4	a		rad, tibs, pel, and other frags
CF201		514	ditch	3	2	Mammal	3					
CF201		516	ditch	4	39	Deer - Red	1		0.5	a		pph
CF201		516	ditch			Mammal	1					
CF201		516	ditch			Sheep/goat	2		1	a	ch	tibia,molar
CF201		523	ditch	8	50	Mammal	8					
CF201		531	ditch	5	65	Deer - Red	1		1	a	ch	scap
CF201		531	ditch			Mammal	4					
CF202		603	pit	1	81	Cattle	1		1	a	ch	scap
CF207		591	cremation	2	2	crow	1					Tibiotarsus fragments
CF217		530	pit	1	1	Mammal	1					
CF221		535	ditch	4	109	Cattle	1		1	juv	ch	tib
CF221		535	ditch			Mammal	3					fragments of large mammal
CF224		601	inhumation	14	63	Cattle	1			a		molar
CF224		601	inhumation			Mammal	12					fragments
CF224		601	inhumation			Sheep/goat	1		1	a	cut	calcaeneus, GOAT, arthritic
CF226		669	ditch	9	523	Cattle	1		1	a	ch	mc
CF226		669	ditch			Equid	1		1	a	cut	tibia
CF226		669	ditch			Mammal	7					
CF228		605	pit	2	10	Mammal	2					
CF228/229		604	ring ditch	1	27	Cattle	1			a		molar
CF232		635	pit	1	6	Mammal	1					
CF237		604	ring ditch	7	15	Mammal	7					
CF229 sx2		648	ring ditch	6	25	Mammal	6					
CF231 sx3		644		1	5	Mammal	1					
CF231 sx4		645	ring ditch	12	39	Mammal						fragmentary and very poor condition
CF231		661	ring ditch	1	4	Mammal	1					
CF237		664	ring ditch	1	10	Sheep/goat	1		1	a	ch	juv
CF239		677	cremation	1	9	mammal	1					
CF241		748	cremation	3	16	Sheep/goat	1				C/b	Cut scapula, femur and sacrum
CF242		685	cremation	12	4	bird	1					
CF242		685	cremation			partridge	1					Tibiotarsus, femur and ulna
CF243		715	pit	12	632	Cattle	3	1	3	a	ch	hu, jaw, mp frag
CF243		715	pit			Mammal	8				b	
CF243		715	pit			Sheep/goat	1		1	a	ch	mt
CF246		703	inhumation	17	287	Cattle	4		2.5	range	c/ch	pel, pph,mc, jaw
CF246		703	inhumation			Deer - Roe	1		1	a	c/ch	mandible, third molar in wear
CF246		703	inhumation			Mammal	8				b	
CF246		703	inhumation			Sheep/goat	4		2	juv	c/ch	heavily cut hu, mandible with Dp4
CF249		705	inhumation			Cattle	`1			a		molar
CF249		705	inhumation			Mammal	2					

CF249		705	inhumation	4	55	pig/boar	1		1	a	ch	scap
CF250		704	inhumation	5	77	Cattle	1		a	j	ch	mt
CF250		704	inhumation			Mammal	2					
CF250		704	inhumation			Sheep/goat	2		2	a	ch	tib, hu
CF254		721	inhumation	3	10	Mammal	3					
CF259		728	inhumation	15	77	Equid	1		1	a	ch	mt
CF259		728	inhumation			Mammal	14					fragmentary, poor condition
	CL2	11	subsoil	11	35	mammal	11					
	CL20	267	demo	20	420	Cattle	5		2	a	ch	hu, tib.talus, vert
	CL20	267	demo			Mammal	15					
	CL20	291	demo	2	28	Sheep/goat	1			a	c/ch	Skull, mandible
	CL21	299	occupation	25	539	Cattle	4		2	a	c/ch	iph, cuboid, jaw frag,
	CL21	299	occupation	38	775	Cattle	12		3	a	c/ch	radius, tibia, talus, molars
	CL21	299	occupation			Deer - Roe	1		1	a	ch	pelvis
	CL21	299	occupation			Equid	1		1	a		iph, arthritis - mild
	CL21	299	occupation			Mammal	19					
	CL21	299	occupation			Mammal	21					med-large mammal fragments
	CL21	299	occupation			Sheep/goat	1			1		molar
	CL21	299	occupation			Sheep/goat	4		2	a	ch	hu,tib, rad, ul
	CL21	397	occupation	7	78	Equid	2			a		worn molar and incisor
	CL21	397	occupation			Mammal	5					
	CL22	439	accumulation	5	41	Mammal	5					
	CL24	495	demo	1	8	Mammal	1					
	CL27	593	dump	8	48	Deer - Roe	1		1	a	ch	tibia
	CL27	593	dump			Mammal	7					
U/S		204	u/s	2	39	Cattle	1		1	a	ch	scap
U/S		204	u/s			Mammal	1					
Area E												
EF4		18	robber trench	1	24	Mammal	1					
EF9		3	ditch	1	17	Equid	1			a		molar
EF13		6	ditch	41	170	Cattle	2			a	c/ch	pph, molar
EF13		6	ditch			Deer - Red	1			a	ch	radius, distal end
EF13		6	ditch			GOOSANDER	2			a	cut	humerus with several knife cuts, radius
EF13		6	ditch			Mammal	36				butchered	small fragments, two burnt black
EF13		7	ditch	3	82	Mammal	3					
EF13		8	ditch	3	257	Equid	2			a	ch	vert, humerus
EF13		8	ditch			Mammal	1					
EF13		30	ditch	41	458	Cattle	3			a	c/ch	long horn, jaw with M3 worn - 6 yrs, hu
EF13		30	ditch			Mammal	38					
EF16		12	hole-post	2	84	Equid	2			a		molars
EF24		37	ditch	1	10	Mammal	1					
Area J1 Evaluation												
JF2		3	wall	1	34	cattle	1			a	ch	scap
JF11		5	inhumation	1	87	cattle	1			a	ch	hu - large individual, poor condition
JF16		41	inhumation	2	1	sheep/goat	2					molar frags, burnt white
JF40		44	ditch/pit	2	3	sheep/goat	2					molar frags
JF46		46	ditch/pit	3	10	sheep/goat	1			a		molar
JF46		46	ditch/pit			mammal	2					
JF59		48	ditch/pit	2	2	cattle	2			a		molar frags
	JL4	15	subsoil	1	3	mammal	1					burnt white
Area J1 East												
JEF1		3	pyre debris	1	53	cattle	1					Dexter breed

JEF4		164	pit	1	5	Mammal	1					
JEF4		192	pit	1	12	Mammal	1					
JEF4		329	pit	4	90	Mammal	4					very poor condition
JEF4		340	pit	1	26	Equid	1		1	a		iph, burnt white
JEF5		9	robber trench	1	18	Mammal	1					
JEF5		11	robber trench	8	34	Mammal	8					
JEF5		15	robber trench	1	12	Sheep/goat	1	1	1	a	ch	tib
JEF5		18	robber trench	1	32	Mammal	1					
JEF5		52	robber trench	4	94	Mammal	4					poor condition
JEF5		64	robber trench			Mammal	2					
JEF5		64	robber trench	3	64	Sheep/goat	1		1	j	ch	fe
JEF5		70	robber trench	5	62	Cattle	1			a	ch	vert
JEF5		70	robber trench			Mammal	4					
JEF5		71	robber trench	29	413	Equid	5		1	a		jaw, molars, enamel hypoplasia
JEF5		71	robber trench			Mammal	23					
JEF5		71	robber trench			Pig/Boar	1			a		Wild Boar tusk, large and robust
JEF5		171	robber trench	2	39	Cattle	2			a	ch	Metapodial shaft frag, rib
JEF5		174	robber trench	2	18	Mammal	2					
JEF5		190	robber trench			Mammal	1				b	
JEF5		190	robber trench	2	9	Sheep/goat	1				ch	tib
JEF5		196	robber trench	5	17	Mammal	5					one burnt black
JEF5		202	robber trench	1	3	Mammal	1					
JEF5		203	robber trench	9	350	Cattle	1		1		c/ch	heavily butchered pelvis
JEF5		203	robber trench			Equid	1	1	1	a	cut	tib
JEF5		203	robber trench			Mammal	7				b	
JEF5		206	robber trench	1	23	Mammal	1					skull frag, ?pig/boar
JEF5		206	robber trench			Mammal	8					
JEF5		206	robber trench	9	60	Sheep/goat	1			a		molar
JEF5		208	robber trench			Mammal	4					
JEF5		208	robber trench	5	116	Sheep/goat	1		1	a	ch	scap
JEF5		210	robber trench	14	29	dog/wolf	1			a		molar
JEF5		210	robber trench			Mammal	13					small frags
JEF5		210	robber trench	1	3	Sheep/goat	1			a		molar
JEF5		211	robber trench	1	21	Cattle	1			a		molar
JEF5		211	robber trench			Mammal	3					
JEF5		211	robber trench	4	35	Pig/Boar	1		1	a	ch	hu
JEF5		212	robber trench	2	7	Mammal	2					
JEF5		217	robber trench	5	34	dog/wolf	1	1	1	a		hu
JEF5		217	robber trench	2	3	Mammal	2					
JEF5		217	robber			Mammal	4					

			trench									
JEF5		219	robber trench	3	107	Cattle	3		1	a	c/ch	chopped fe head, c/ch mt
JEF5		222	robber trench	12	76	Cattle	2				ch	metacarpal frags
JEF5		222	robber trench			Mammal	10				b	
JEF5		228	robber trench	1	8	Mammal	1					
JEF5		231	robber trench			Mammal	22				b	fragmentary
JEF5		231	robber trench	23	126	Sheep/goat	1			a		molar
JEF5		234	robber trench	7	245	Cattle	1		1	a	ch	mandible
JEF5		234	robber trench			Mammal	6					poor condition
JEF5		234	robber trench	1	5	Pig	1			a		well worn molar
JEF5		236	robber trench	1	3	Mammal	1					
JEF5		242	robber trench	1	12	Mammal	1					
JEF5		244	robber trench	1	5	Mammal	1					rib, ?cattle
JEL5		245	subsoil	3	8	Mammal	3					
JEF5		246	robber trench	5	28	Mammal	5					
JEF5		247	robber trench	3	10	Mammal	3					
JEF5		249	robber trench	2	26	Mammal	2					
JEF5		254	robber trench	5	63	Mammal	5					
JEF5		259	robber trench	1	14	Pig/Boar	1		1	a	ch	hu
JEF5		260	robber trench	3	149	Cattle	1		1	a	ch	hu
JEF5		260	robber trench			Mammal	2					
JEF5		264	robber trench	1	4	Mammal	1					
JEF5		265	robber trench	1	2	Deer - Roe	1		0.5	a		pph
JEF5		267	robber trench	1	29	Mammal	1					
JEF5		268	robber trench	6	89	Cattle	1		1	a	ch	tibia
JEF5		268	robber trench	4	49	Cattle	1			a	ch	vert
JEF5		268	robber trench			Mammal	5					
JEF5		268	robber trench			Mammal	3					
JEF5		273	robber trench	1	7	Mammal	1					
JEF5		274	robber trench	1	10	Mammal	1					
JEF5		288	robber trench	21	138	dog/wolf	5		1	a		scap, vertebrae, teeth
JEF5		288	robber trench			Mammal	16					small fragments
JEF5		291	robber trench	3	7	Mammal	3					
JEF5		301	robber tr	5	8	Mammal	5					fragmentary
JEF5		307	robber trench	2	53	Cattle	2			a	ch	hu, worn M3
JEF5		307	robber trench	1	4	Mammal	1					
JEF5		314	robber trench	5	33	Cattle	1		1	a	ch	calc
JEF5		314	robber trench			Mammal	4					
JEF5		316	robber trench	3	8	Sheep/goat	3			a		molar

JEF5		323	robber trench	1	42	Cattle	1		1	a	ch	rad
JEF5		323	robber trench	1	21	Mammal	1					
JEF5		332	robber trench	5	104	Cattle	2			a	ch	hu, molar
JEF5		332	robber trench			Mammal	3					
JEF5		344	robber trench	11	63	Cattle	1		0.3	a	cut	large, robust pph
JEF5		344	robber trench			Mammal	10					
JEF5		367	robber trench	1	18	Mammal	1					
JEF5		369	robber trench	4	197	Cattle	1	1	1	a	cut	calc
JEF5		369	robber trench			Mammal	3					
JEF5		374	robber trench	1	15	Mammal	1				ch	rib, probably cattle
JEF5 sx2		49	robber trench	2	115	Cattle	1		1	j	ch	pel
JEF5 sx2		49	robber trench			Mammal	1					
JEF5 sx2		54	robber trench	1	17	Mammal	1					
JEF5 sx2		54	robber trench	2	4	Mammal	2					
JEF5 sx3		104	robber trench	8	190	Equid	1		1	a	ch	mt
JEF5 sx3		104	robber trench			Mammal	5				b	
JEF5 sx3		104	robber trench			Sheep/goat	2		1	a	ch	sheep horn, hu
JEF5 sx4		108	robber trench	7	253	Cattle	7		2	j	c/ch	scap, femur head, vertebrae, rib
JEF5 sx5		240	robber trench	2	13	Mammal	2				ch	
JEF5 sx6		74	robber trench	2	100	Cattle	1	1	1	j	ch/worked	mt, worked into a point?
JEF5 sx6		74	robber trench			Hare	1		1	a	c/ch	tibia
JEF5 sx6		75	robber trench	5	40	Hare	2		2	a	c/ch	fe, tib
JEF5 sx6		75	robber trench			Mammal	3					
JEF5 sx6		82	robber trench	3	14	Sheep/goat	3		1	a	ch	hu, metacarpal fragments
JEF5 sx6		146	robber trench			Mammal	11					
JEF5 sx6		146	robber trench	12	110	Pig	1		1	j	ch	mandible, no M2
JEF5 sx7		78	robber trench	1	3	Mammal	1					
JEF5 sx7		89	robber trench	1	4	Mammal	4					
JEF5 sx7		90	robber trench	3	11	Mammal	3					
JEF5 sx7		144	robber trench	5	42	Mammal	5					
JEF5 sx7		145	robber trench	7	87	Equid	1	1	1	a	c/ch	pph
JEF5 sx7		145	robber trench			Mammal	5					
JEF5 sx7		145	robber trench			Sheep/goat	1	1	1	a	ch	tib
JEF5 sx7		149	robber trench	2	24	Mammal	2					
JEF5 sx8		80	robber trench	1	7	Mammal	1					
JEF5 sx8		92	robber trench	5	26	Mammal	5					poor condition
JEF5 sx9		157	robber trench	7	66	Cattle	7			a	cut/ch	large horn frags, several cuts
JEF5 sx10		55	robber trench	2	86	Cattle	1			a	ch	cervical vert

JEF5 sx10		55	robber trench			Sheep/goat	1	1	1	a	cut	mc,several cuts, gnawed
JEF5 sx11		47	robber trench	8	87	Mammal	8				b	large mammal fragments
JEF5 sx11		47	robber trench			Mammal	1				ch	
JEF5 sx11		47	robber trench	2	51	Sheep/goat	1	1	1	a	ch	hu
JEF5 sx11		56	robber trench	3	40	Mammal	3					
JEF5 sx11		57	robber trench	2	21	Sheep/goat	2		1	a	ch	radius
JEF5 sx11		62	robber trench			HSR	1					tooth - given to HSR specialist
JEF5 sx11		62	robber trench	4	6	Mammal	3					mammal,
JEF5 sx11		63	robber trench	5	12	Mammal	5					poor condition
JEF5 sx12		97	robber trench	1	3	Cattle	1					metapodial fragment
JEF5 sx12		100	robber trench	4	30	Mammal	4				b	
JEF5 sx12		140	robber trench	1	8	Mammal	1				ch	
JEF5 sx13		106	robber trench	31	280	Cattle	4			a	ch	rib frags
JEF5 sx13		106	robber trench			HSR	2			a		clavicle, scap, to HSR specialist
JEF5 sx13		106	robber trench			Mammal	19					
JEF5 sx13		106	robber trench			Pig/Boar	2		1	a		Neo HU, V.lge robust tusk - BOAR
JEF5 sx13		106	robber trench			Sheep/goat	4		1	a		jaw frag, molars
JEF5 sx13		109	robber trench	8	79	Cattle	2		1	a	ch	mt frags
JEF5 sx13		109	robber trench			Mammal	6					
JEF5 sx13		119	robber trench			Mammal	6					
JEF5 sx13		119	robber trench			Sheep/goat	1		1	a	ch	tibia
JEF5 sx13		119	robber trench	8	107	Dog/Wolf	1		1	a	ch	fibula, slight arthritis
JEF5 sx13		161	robber trench	1	30	Cattle	1				ch	mt shaft frag
JEF5 sx13		162	robber trench	3	16	Sheep/goat	3		1	a	ch	molar, mt and fe frags
JEF5 sx14		112	robber trench	1	22	Cattle	1		1	a	ch	radius
JEF5 sx15		113	robber trench			Mammal	1					
JEF5 sx15		113	robber trench	2	11	Pig	1			a		phalange
JEF5 sx15		117	robber trench	1	3	Mammal	1					
JEF5 sx16		150	robber trench	1	6	Mammal	1					rib fragment,?s/g
JEF5 sx16		150	robber trench	1	6	Mammal	1					rib fragment,?s/g
JEF5 sx18		148	robber trench			Mammal	1				ch	rib fragment,?s/g
JEF5 sx18		148	robber trench	1	8	Mammal	1					
JEF5 sx18		148	robber trench	2	9	Sheep/goat	1		1	a	ch	hu
JEF5 sx18		155	robber trench			Mammal	2					
JEF5 sx18		166	robber trench	2	7	Dog/Wolf	2		1	a	cut	fibula, fine knife cut
JEF5 sx18		169	robber trench	1	20	Deer - Red	1		1	a	c/ch	calc
JEF5 sx19		159	robber trench	1	3	Sheep/goat	1					shaft, ?Fowl humerus
JEF5 sx19		165	robber trench	2	8	Sheep/goat	2		1	a	ch	radius and tibia

JEF5 sx20		168	robber trench	1	4	Mammal	1				b	
JEF5 sx20		168	robber trench	2	8	Sheep/goat	2				ch	mt frags
JEF5 sx20		172	robber trench			Dog/Wolf	3		1	a	cut	teeth and cut mandible - Skinned
JEF5 sx20		172	robber trench	6	41	Sheep/goat	3			a	ch	molars and tibia
JEF12		16	robber trench	2	11	Mammal	2					
JEF12 sx2		85	robber trench	2	19	Mammal	2					
JEF12 sx3		156	robber trench	1	2	Mammal	1					
JEF12 sx4		94	robber trench	2	35	Cattle	2			a	ch	rib, sacrum
JEF13		17	robber trench	3	87	Cattle	2		1	a	ch	pelvis
JEF13		17	robber trench			Sheep/goat	1		1	a	ch	tib
JEF13		41	robber trench	1	6	Sheep/goat	1				ch	mt
JEF13 sx2		44	robber trench	14	117	Mammal	14				b	lareg mammal frags, ?cattle
JEF14		26	robber trench	2	35	Cattle	2		0.5	a		pph, molar
JEF14		40	robber trench	2	13	Mammal	2					
JEF14 sx1		37	robber trench	1	10	Sheep/goat	1		1	a	ch	mt shaft frag
JEF14 sx5		98	robber trench	1	8	Sheep/goat	1		1		ch	mt
JEF23		181	ditch	2	9	Sheep/goat	1		1	a	c/ch	scap frags
JEF23		266	ditch	19	9	Mammal	19					fragmentary, poor condition
JEF23 sx1		381	ditch	9	495	Cattle	2		2	a	ch	hu, mt
JEF23 sx1		381	ditch			Equid	1		1	a		talus
JEF23 sx1		381	ditch			Mammal	6					
JEF23 sx2		380	ditch	3	53	Mammal	3					
JEF23 sx3		387	ditch	10	179	Cattle	1			a	ch	horncore
JEF23 sx3		387	ditch			Deer - Red	1		1	a	ch	tibia
JEF23 sx3		387	ditch			Mammal	5					
JEF23 sx3		387	ditch			Sheep/goat	3			a		molars
JEF23 sx6		385	ditch	3	185	Cattle	3		3	a	c/ch	calc, talus, hu, poor condition
JEF23 sx5		386	ditch			Mammal	2					
JEF23 sx5		386	ditch	3	23	Sheep/goat	1			j		Dp4
JEF26		139		4	52	Cattle	1					mt frag
JEF26		139				Mammal	3					
JEF29		130	eval trench	1	8	Cattle	1			a	ch	mt shaft frag
JEF29		130	eval trench	3	72	Equid	1	1	1	a		pph
JEF29		130	eval trench			Mammal	2					
JEF29		230	eval trench	1	28	Mammal	1					large rib fragment - Bos/Eq
JEF50		311	robber trench	2	3	Mammal	2					
JEF54		184	hole - post	3	31	Mammal	3					
	JEL1	225	topsoil	10	92	Equid	5			neonatal		molars and jaw, neonatal foal
	JEL1	225	topsoil			Mammal						probably the foal, poor condition
	JEL1	297	robber trench	2	44	Equid	2			a		molar
	JEL1	343	topsoil	1	5	Mammal	1					
	JEL1	355	topsoil	1	11	Cattle	1			?a		molar
	JEL2	10	debris-rob	14	292	Cattle	1			a	cut	skinned pph
	JEL2	10	debris-rob			Mammal	11					
	JEL2	10	debris-rob			Sheep/goat	2			a	c/ch	pph, fe

	JEL2	13	debris-rob	12	430	Cattle	2			a	c/ch	large robust tib, mt
	JEL2	13	debris-rob			Mammal	10					
	JEL2	224	debris-rob			Cattle	1			a	ch	large robust PPH, some arthritis
	JEL2	224	debris-rob			Deer - Roe	1			a	ch	Roe deer tibia
	JEL2	224	debris-rob	21	382	Equid	1			a	c/ch	mt, horse, arthritic @ distal end
	JEL2	224	debris-rob			Mammal	18				b	
	JEL2	275	debris-rob	18	240	Cattle	2			a	ch	jaw, mp frag
	JEL2	275	debris-rob			Mammal	15				b	
	JEL2	275	debris-rob			Sheep/goat	1			a		molar
	JEL2	276	debris-rob			Mammal	25					
	JEL2	276	debris-rob	31	387	Sheep/goat	6			range	ch	DP4, mc, molars
	JEL2	279	debris-rob	4	88	Cattle	1			a	ch	tib
	JEL2	279	debris-rob			Mammal	2					
	JEL2	279	debris-rob			Sheep/goat	1			a	ch	fe
	JEL2	280	debris-rob	1	5	Sheep/goat	1			a		tooth
	JEL2	281	debris-rob			Mammal	3					
	JEL2	281	debris-rob	4	45	Sheep/goat	1			a	ch	tib
	JEL2	282	debris-rob	33	748	Cattle	5			a	c/ch	rad, cub, 2 pel, tib
	JEL2	282	debris-rob			Mammal	21				b	
	JEL2	282	debris-rob			Sheep/goat	6			a	c/ch	heavily chopped fe, tib, hu, pph
	JEL2	283	debris-rob			Mammal	5				b	
	JEL2	283	debris-rob	6	81	pig	1			a	ch	tib
	JEL2	289	debris-rob	14	93	Cattle	1			a	ch	cub
	JEL2	289	debris-rob			Mammal	12				b	
	JEL2	289	debris-rob			Sheep/goat	1			a	ch	tib
	JEL2	376	debris-rob	4	45	Mammal	4					
	JEL4	81	demo	1	10	Mammal	1					
	JEL5	390	subsoil	5	8	Mammal	5					
	JEL7	356	gravel	8	96	Mammal	8				b	
	JEL7	378	gravel			Mammal	1					
	JEL7	378	gravel	2	17	Sheep/goat	1			a	ch	hu
	JEL8	136	rubble	1	30	Mammal	1				ch	
	JEL9	167	debris-rob	3	27	Mammal	3					
	JEL9	305	robber trench	8	76	Mammal	8					
	JEL9	312	debris-rob	1	5	Mammal	1					
	JEL10	324	debris-rob	10	272	Cattle	1			a	ch	tib
	JEL10	324	debris-rob			Mammal	7				b	
	JEL10	324	debris-rob			pig	2			a	c/ch	tib, hu
	JEL11	179	debris-rob	5	9	Mammal	5					
	JEL12	375	make-up	7	76	Equid	1			a		DPH, large pony, poor condition
	JEL12	375	make-up			Mammal	6					
	JEL16	389	surface	3	14	Mammal	3					
U/S		24		2	23	Mammal	2					
U/S		65		11	107	Equid	1			a		molar, mule sized
U/S		65				Mammal	10					
U/S		95		2	84	Cattle	1			a	ch	hu
U/S		95				galiforme	1			a	ch	ulna
Area J1 North												
JNF9		1408	pit	217	2715	Cattle	92		6	a	c/ch	jaw, 4mts, 1 mc, teeth inc worn M3s
JNF9		1408	pit			Mammal	125					fragmentary, powdery, ?cattle
JNF10		17	ditch	31	315	Cattle	19		1	a	ch	mt, molars
JNF10		17	ditch			Mammal	12					
JNF10		18	ditch	25	86	Cattle	6			a		molar fragments

JNF10		18	ditch			Mammal	19					small fragments
JNF10		19	ditch	1	4	Mammal	1					
JNF10		37	ditch	17	21	Cattle	17					molar fragments
JNF10/29		38	ditch	15	18	Cattle	1			a		worn third molar
JNF10/29		38	ditch			Mammal						very small fragments/powdery
JNF10 sx2		60	ditch	12	41	Cattle	12			a		molars
JNF10 sx4		378	ditch	24	203	Cattle	1			a	ch	mt
JNF10 sx4		378	ditch			Mammal	23				b	
JNF10 sx4		499	ditch	27	375	Cattle	2			a	ch	radius, molar
JNF10 sx4		499	ditch			Mammal	25					
JNF10 sx4		502	ditch	125	3125	Cattle	85			a	c/ch	jaws, MPs, molars
JNF10 sx4		502	ditch			Mammal	40				b	probably cow, poor condition
JNF10 sx4		570	ditch	84	942	Cattle	40		1	a	ch	chopped MT, molars and teeth frags
JNF10 sx4		570	ditch			Mammal	42					fragmentary, powdery, poor cond.
JNF22		31	cremation	3	14	mammal	1					
JNF34		152	pyre/butsum	1	3	Mammal	1					
JNF69		114	inhumation	1	13	Cattle	1					teeth
JNF99		219	cremation	1	1	mammal	1					
JNF103		226	cremation	48	86	pheasant	1				b	
JNF103		226	cremation			sheep/goat	1					Neonatal talus
JNF103		226	cremation			pig/boar	1					mandible
JNF103		226	cremation			mammal	1					
JNF105		61	cremation	27	96	Cattle	2					Molars (burnt)
JNF106		812	cremation	14	47	Sheep/goat	1			a	c	Pelvis and tibia
JNF106		812	cremation			mammal	1					
JNF114		311	pyre debris	4	11	cattle					b	
JNF121		1121	cremation	1	3	mammal	1					
JNF137		303	inhumation	11	85	Cattle	3		2	a	ch	hu, scap, mc, poor condition
JNF137		303	inhumation			Mammal	8				b	poor condition
JNF154		1355	cremation	2		galliforme	1			a		Femur fragments
JNF155		364	pyre debris	4	6	Sheep/goat	1					radius
JNF217		1115	cremation	1		Sheep/goat	1					Neonatal talus
JNF222		734	cremation	2	2	Sheep/goat	1					
JNF243		510	urned crem	1	146	Cattle	1		1	a	ch	large (Bull) MT, poor condition
JNF245		586	urned crem			Mammal	3					
JNF245		586	urned crem	4	10	Sheep/goat	1			a		molar
JNF248		532	pyre/butsum	12	118	Cattle	3			a	ch	mc, molar frags
JNF248		532	pyre/butsum			Mammal	9					
JNF248		1440	pyre/butsum	43	26	Mammal	1					
JNF248		1440	pyre/butsum			cattle	1					teeth
JNF257		602	quarry pit	1	6	Cattle	1					tooth frag
JNF257		602	quarry pit	6	10	Cattle	6			a		molar fragments
JNF257		603	quarry pit	11	132	Cattle	1			a		molar
JNF257		603	quarry pit			Mammal	10					poor condition
JNF257		796	quarry pit	5	14	Cattle	5			a		molar fragments
JNF323		1106	cremation	2		pig	1			j	c	Cut femur and distal tibia, 1 burnt
JNF329		743	inhumation	3	48	cattle	1			j		vertebrae
JNF329		743	inhumation			mammal	1					
JNF334		706	inhumation	3	49	Cattle	2			a		molars
JNF334		706	inhumation			Mammal	1					
JNF341		726	quarry pit	4	41	Cattle	4			a		teeth
JNF352		875	cremation	1	1	mammal	1					
JNF357		998	inhumation	16	57	Cattle	9			a		teeth fragments

JNF357		998	inhumation			Mammal	7					
JNF361		967	inhumation	1	7	Sheep/goat	1			a		pelvis
JNF368		893	cremation	4	15	Mammal	4					vert poor condition
JNF368		927	cremation	1	8	pit	1				juv	Distal tibia
JNF373		892	pyre debris	1	1	Sheep/goat	1					Molar frag
JNF386		1003	inhumation	15	71	Mammal	15					fragments, poor condition
JNF387		915	inhumation	4	10	Cattle	4					molar frags
JNF419		1037	pit	1	56	Cattle	1			a	ch	scap
JNF439		992	inhumation	10	50	cattle	1			juv		tibia
JNF440		1002	cremation	3	16	mammal	1					
JNF464		1394	inhumation	7	43	mammal	1					Large mammal
JNF472		1378	cremation	25	17	Sheep/goat	1					Metacarpal, all burnt
JNF472		1378	cremation			mammal	1					
JNF489		1085	inhumation	27	200	Cattle	12			a		teeth fragments
JNF489		1085	inhumation			Mammal	15					small fragments
JNF505		1088	inhumation	5	2	Mammal	5					
	JNL1	25	subsoil	1	19	Cattle	1		1	juv		fe, unfused head
	JNL2	23	topsoil	2	43	Cattle	1			1	ch	vert
	JNL2	23	topsoil			Sheep/goat	1		1	a	ch	tib
Area J1 South												
JSF5 sx1		21	ditch	16	422	Cattle	6			a	ch	hu, mt frags, molars
JSF5 sx1		21	ditch			Mammal	10					
JSF5 sx2		24	ditch	10	182	Mammal	10					poor condition
JSF5 sx2		26	ditch	7	18	Cattle	7			a		molar frags
JSF5 sx3		62	ditch	20	279	Cattle	2			a	ch	mt, molar, poor condition
JSF5 sx3		62	ditch			Mammal	18					
JSF6 sx2		13	ditch	25	44	Mammal	25					fragmentary, powdery
JSF7 sx2		70	Pmditch			Mammal	2					
JSF7 sx2		70	Pmditch	3	76	pig	1			a	ch	hu
JSF7 sx3		71	Pmditch	8	72	Mammal	8				ch	
JSF14 sx1		66	Pmditch	1	42	Mammal	1					
JSF15		68	Pmditch	1	82	Cattle	1			a	ch	rib
JSF19 sx1		74	ditch	11	17	Cattle	11					molar frags
JSF19 sx1		75	ditch	7	135	Cattle	2				b	burnt MP frag, pel frag
JSF19 sx1		75	ditch			Mammal	5					burnt white
JSF19 sx1		78	ditch	17	163	Cattle	3			a		molar frags, poor condition
JSF19 sx1		78	ditch			Mammal	14					poor condition, fragmentary, powdery
JSF19 sx1		79	ditch	7	102	Mammal	7					
JSF19 sx1		81	ditch	12	37	Cattle	12			a		molar frags
JSF20		85	ditch	4000	3.085kg	Cattle	1+			a	b	39 frags of butchered adult cattle bone consisting of horn core fragments, phalanges, humeri, scapula; quantity suggests one or more whole adult (+ others) was burnt
JSF20		85	ditch			Red Deer	2			a		Proximal phalanges
AreaJ1 West												
JW1	5 x 1	1	trackway	2	423	Equid	2			a	c/ch	large tib, scap
Area O												
OF1		1	ditch-bound	28	260	Cattle	8			a		molars - wear suggests age of c.2 yrs
OF1		1	ditch-bound			Mammal	20					fragments of molar and bone

Area Q												
QF29 sx8		30	ditch-bound	17	45	Mammal	45					fragmentary
QL1		25	topsoil	1	5	Goose	1			j	cut	coracoid
Watching Brief												
WBF1		2	inhumation	10	5	duck	1			j		Natural death?
WBF8		3		1	17	mammal	1					

Measurements taken from suitable bones. Listed in order of species, then area and then finds number.

Area	Finds No	F/L No	Species	Element	Fusion	Gl	Bd	Bt	Htc	BatF	Bfd	Sd	A	B	Bwmin	Bwmax
C1	182	CF73	Cattle	horn											35.8	41.4
C1	182	CF73	Cattle	horn											34.9	45.6
C1	182	CF73	Cattle	calc	f	84.5										
C2	220	CF107	Cattle	talus	f	53										
C2	275	CF107	Cattle	hu	f			71.4	31.6			36.8				
C2	715	CF243	Cattle	hu	f			67.2	33.8			35				
E	30	EF13	Cattle	horn		95									32	48
JE	74	JEF5	Cattle	mt	uf					46.2		29.8				
JE	369	JEF5	Cattle	calc	f	137										
JE	217	JEF5	Dog/wolf	hu	f			21.2	12.2			15.2				
C2	220	CF107	Equid	pph	f	74.2	40.5									
C2	513	CF201	Equid	tib	f	330	86.2					48				
C2	513	CF201	Equid	rad	f	356	78.4					52.2				
JE	104	JEF5	Equid	mt	f					44.4	45.2					
JE	130	JEF29	Equid	pph	f	82.1										
JE	145	JEF5	Equid	pph	f	73.8										
JE	203	JEF5	Equid	tib	f		47.8					38				
C2	386	CF106	S/G	mc	uf	114				24.5		16.4				
C2	386	CF106	S/G	tib	f		25.5					15.8				
JE	15	JEF5	S/G	tib	f		27.1					16.5				
JE	47	JEF5	S/G	hu	f			31.5	15.6							
JE	55	JEF5	S/G	mc	f	127				22.5	23.2	14.6	10.4	10.2		
JE	145	JEF5	S/G	tib	f	26.8						25.2				

Small and bulk finds from post-Roman and unstratified contexts

by Nina Crummy

[For iron-working debris, copper-alloy-working debris and clay tobacco pipes, *see* Appendix 2B in CAT Report 361.]

Areas C1 and C2

SF 35. C1 (179) F95. Late or post-Roman pit. Iron sheet fragment. 39 by 22 mm.
SF 123. C2 (274) F125. Modern ditch. Iron dinner fork fragment, with bolster stop on the tang where a bone or ivory handle ended. Length 73 mm.
SF 230. C2 (423) F161. Modern pit. Iron wedge-shaped fragment, possibly part of a punch or chisel. Length 61 mm, width 21 mm.
SF 149. C2 (492) F187. Ditch. Iron sheet fragment. 23 by 15 mm.
SF 162. C2 (542) F193. Post-medieval pit. Copper-alloy washer or stud head. Diameter 8.5 mm.
SF 56. C2 (189) L2. Modern subsoil. Flange fragment from a copper-alloy stud head. Diameter approximately 20 mm.
SF 3. C1 (36). Unstratified. Bent fragment of iron wire, possibly part of a Late Iron Age or early Roman brooch pin and spring. Length 25 mm.
SF 5. C1 (38). Unstratified. Offcut of sheet lead. 37 by 21 mm.
SF 9. C1 (112). Unstratified. Lead disc weight. Diameter 40 mm, 5 mm thick. Weight 60 g.
SF 10. C1 (113). Unstratified. Lead cloth seal or token. The obverse has a border of widely-spaced pellets and in the centre the letter A set above two other letters flanking a central pellet. The letter on the left has worn away, that on the right is a T. Two crescents lie above and to the immediate left of the T. Further letters or decorative motifs lie in the bottom third of the face. The reverse is plain. Diameter 24 mm. Medieval or early post-medieval.
SF 21. C1 (128). Unstratified. Narrow iron strip fragment, slightly expanded towards one end. Length 122 mm.
SF 26. C1 (130). Unstratified. Gilt copper-alloy boss with alternating bands of vertical and horizontal hatching radiating out from the centre. Slightly crushed and distorted; original diameter about 15 mm, height 6.5 mm. Post-medieval.
SF 22. C1 (131). Unstratified. Roughly-shaped conical weight or plumbob with central perforation. Height 31.5 mm, maximum diameter 33.5 mm. Probably medieval.
SF 27. C1 (172). Unstratified. Small dress or sewing pin, Colchester Type 2. Length 33 mm.
SF 57. C2 (190). Unstratified. Copper-alloy handle or ferrule with military insignia. Length 42.5 mm. Late post-medieval to modern.
SF 58. C2 (211). Unstratified. Fragment of copper-alloy disc with irregularly scalloped edge. Maximum diameter 31 mm. Late post-medieval to modern.
SF 79. C2 (292). Unstratified. Flat discoid piece of lead, possibly a weight or a blank for a token or seal. Maximum diameter 28 mm.

Area J

SF 244. J (18) F34. Roman ditch. Iron sheet fragment. 43 by 15 mm.
SF 246. J (21). Trench 16, unstratified. Hollow globular button with loop for attachment. Diameter 19.5 mm. Late post-medieval to modern.
SF 245. J (29) F46. Modern ditch. Military fitting consisting of a crown on a curved strip. Length 46 mm. Modern.
SF 521. J (521). Unstratified. i) Medieval cast copper-alloy vessel foot in the form of an animal paw. The centre of the back is concave. Length 51 mm, maximum width 36 mm. ii) Slightly asymmetrical cast copper-alloy fragment, either the end of a vessel handle or casting debris. Length 41 mm, width 21 mm.

SF 509. J unstratified. Lead plano-convex spindlewhorl with central perforation. Diameter 23 mm, height 10 mm; diameter of spindle hole 8 mm.

Area J1 East

Some of these objects were supposedly stratified in the medieval robber trenches F5/F13, but are late post-medieval or modern and therefore intrusive.
SF 416. JE (116) F5, sx 13. Robber trench for outer wall of circus. Iron sheet fragment; the metal quality suggests this is part of SF 424/442/444. 22 by 18 mm. Modern.
SF 424. JE (183) F5. Robber trench for outer wall of circus. Curved sheet iron fragment with slightly everted rim; almost certainly part of SF 442/444, although no edges fit together. A similar fragment, SF 153, came from the re-excavation of the 2002 evaluation trench. Diameter 90 mm, maximum length 44 mm. Modern.
SF 442. JE (216) F5. Robber trench for outer wall of circus. Curved sheet iron fragment with slightly everted rim; almost certainly part of SF 444, although no edges fit together. Diameter 90 mm, maximum length 53 mm. Modern.
SF 444. JE (187) F5. Robber trench for outer wall of circus. Thin curved sheet iron fragment with slightly everted rim. SFs 424 and 442 may be part of the same object. Diameter 90 mm, maximum length 46 mm. Modern.
SF 414. JE (229) F5. Robber trench for outer wall of circus. Convex iron stud head with the stump of a square-section shank. Diameter 26 mm. Modern.
SF 411. JE (232) F5. Robber trench for outer wall of circus. Thin iron wire fragment, bent into a loop at one end. Length 27 mm, diameter 1 mm. Modern.
SF 407. JE (295) F5. Robber trench for outer wall of circus. Convex-headed copper-alloy stud with short shank. Diameter 11.5 mm, length 7 mm. Modern?
SF 433. JE (319) F5. Robber trench for outer wall of circus. Tangled clump of thin iron wire. Maximum length 28 mm. Modern.
SF 426. JE (322) F5. Robber trench for outer wall of circus. Length of iron chain made up of three ‘double figure-of-eight’ links. Length 63 mm. Modern.
SF 555. JE (199) F11. Modern ditch. Tin sheet fragment. 48 by 47 mm. Modern.
SF 441. JE (25) F13. Robber trench for outer wall of circus. Iron A-shaped fitting, with two circular-section cross-rivets for attachment. The heads of the rivets are almost flush with the surface of the arms. There are traces of wood on the inner face of each arm. Length 87 mm, arm width 20 mm. mm, maximum width between arms 37 mm. This may be a ferrule from a rectangular pole, pointed to allow secure insertion into the ground. Modern.
SF 440. JE (153) F16. 2002 evaluation trench. Curved strip fragment with slightly everted rim, as SF 424/442/444. Diameter 93 mm, length 48 mm. Modern.
SF 461. JE (327) F61. Modern trench. Worn stone counter of regular discoid shape, possibly Roman. Diameter 19.5 mm, 6 mm thick.
SF 455. JE (330) F61. Modern trench. Post-medieval stone marble or naturally-formed flint spheroid. Diameter 19 mm.
SF 552. JE (225) L1. Modern topsoil. Crescentic iron boot-plate. Length 31 mm. Modern.
SF 553. JE (225) L1. Modern topsoil. Iron T-shaped tool handle, similar to those used to open drain covers, hydrants etc. Length 70 mm, width 85 mm. Modern.
SF 425. JE (227) L1. Modern topsoil. Fragments of eyelet binding, probably from a Victorian or later military tent. Maximum width 6 mm, diameter 27 mm.
SF 435. JE (315) L1. Modern topsoil. Iron strip fragment. Length 46 mm, width 20 mm. Modern?
SF 409. JE (286) L2. Robbing debris. Fragment of a copper-alloy fitting with open centre and an integral riveted shank on the reverse for attachment to a leather strap. Length 14 mm, width 15 mm.
SF 419. JE (61) L5. Modern subsoil. Copper-alloy bullet tip, flattened. Length 15 mm.
SF 431. JE (124) L5. Modern subsoil. Amorphous iron fragment. 29 by 29 by 17 mm. Modern?
SF 436. JE (333) L5. Modern subsoil. Iron strip fragment. Length 65 mm, width 13.5 mm. Modern.
SF 562. JE (365) L12. Undated make-up layer. Iron nail with flat round head; shank incomplete. Length 14 mm.
SF 454. JE (68). Unstratified. Lead shot. Diameter 18 mm.
SF 422. JE (69). Unstratified. Copper-alloy countersunk four–hole button. Diameter 18 mm. Late post-medieval to modern.
SF 413. JE (126). Unstratified. Copper-alloy fob-watch chain toggle bar, with one link of the chain surviving. Length 34 mm. Victorian or later.
SF 418. JE (213). Unstratified. Lead drip. Length 16 mm.

Area J North

SF 550. JN (216) F110. Post-medieval/modern pit. Fragment of gritstone with fine grooving on one face. 133 by 55 mm, 33.5 mm thick. Modern?
SF 394. JN (561) F207. Modern service trench. Limestone fragment with one small worked surface. Medieval?
JN (1208) F359. Modern pit. Iron nail.
JN (25) L1. Modern topsoil. Iron nail.
SF 338. JN (278) L2. Modern subsoil. Iron strip, length 91 mm, width 12 mm.
SF 393. JN (24) L2. Modern subsoil. Mudstone ?hone fragment, with flat surfaces and rounded edges. Length 42 mm, width 54.5 mm, 13 mm thick. Medieval?
SF 323. JN (333). Unstratified. Iron nail shank fragment. The tip is asymmetrically bifurcated, giving the object a superficial resemblance to a Late Iron Age or Roman nail-cleaner. Length 44 mm.

Area J South

SF 403. JS (53) F7. Medieval ditch. Fragment of Mayen lava from a rotary quernstone. The depth and spacing of the grooving on the grinding surface point to a medieval or later date for this fragment. Weight 198 g.
SF 545. JS (52) F7. Medieval ditch. Iron strip fragment. Length 57 mm, width 29 mm.
SF 565. JS (30) F11. a) Iron strip. Length 91 mm, width 15 mm. b) Iron point, ?socketed. Length 70 mm, maximum width 25 mm.
SF 402. JS (28). Unstratified. Lead shot, diameter 18 mm.

Watching brief

SF 582. WB (17) F19. Medieval or post-medieval pit. Fragment from the rim of the upperstone of a Mayen lava rotary quern. Thickness at rim 53 mm. Weight 886 g.

Trial trenches

SF 587. Time Team Trench 6. TT (11) L2. Copper-alloy 4-hole button with inscribed flange, reading . Late post-medieval to modern. Diameter 17 mm.

Area Q

SF 578. Q (77) F118. Undated pit or tree throw. Waterworn spalled sandstone pebble fragment. Maximum dimensions 145 by 103 by 68 mm.
SF 42. Q (1). Unstratified. Lead sheet fragment, 25 by 24 mm.
SF 43. Q (2). Unstratified. Two copper-alloy buttons, late post-medieval to modern. Diameters 18.5 and 14 mm.
SF 50. Q (4). Unstratified. Lead disc weight, late post-medieval to modern. Diameter 28 mm, 12 mm thick. Weight 64 g.
SF 44. Q (5). Unstratified. Lead plug and sheet fragments. The plug may be the back of a cloth seal. Plug diameter 19 mm; sheet fragments 17 by 12 mm, 21 by 18 mm (folded).
SF 45. Q (6). Unstratified. Lead shot. Diameter 18 mm.
SF 48. Q (7). Unstratified. Three copper-alloy buttons, late post-medieval to modern. Diameters 16.5, 16, 14.5 mm.
SF 49. Q (8). Unstratified. Copper-alloy curtain ring, late post-medieval to modern. Diameter 27 mm.
SF 46. Q (9). Unstratified. Copper-alloy sheet fragment, modern. Length 54 mm, width 19 mm.
SF 235. Q (10). Unstratified. Iron square-headed stud fragment, modern. Length 30 mm.

Coins from post-Roman and unstratified contexts

by Nina Crummy

SF	Area	Find	Layer/ Feature	Context description	Context date	Identification	Date	Reference	Diameter (mm)	Weight (g)	**Coin Period**
Area C1											
25	C1	129	u/s	-	-	Victoria, halfpenny	1866	-	-	-	-
Area JE											
456	JE	23	F16	evaluation trench	2002	George V, penny	modern	-	-	-	-
Area Q											
47	Q	Q3	u/s	T6, md	-	coin	post-medieval/modern	-	25	-	-
Unstratified											
586	TT6	12	L2	-	-	Victoria, farthing	1861	-	-	-	-
-	-	-	md	-	-	modern coins x 19: penny, 1883; penny, 10 pfennig, 1908; 1913 x 2; penny, 1914; halfpenny, 1915; halfpenny, 1916; penny, 1920; halfpenny, 1920; penny, 1921; halfpenny, 1942 x 2; two shillings, 1943; halfpenny, 1948; halfpenny, 1956; sixpence, 1958; halfpenny, 1959; threepenny bit, 1966; ten pence, 1977	1883-1977	-	-	-	-

Nails

by Nina Crummy

C2, J & JN burial fill producing residual iron nails and hobnails. N…*nails;* H…*hobnail(s).*

Find	**Feature/Layer**	**Context description**	**N/H**
Cremations			
42	CF24		N
547	CF177		N
643, 661	CF231		N
667	CF237		N
678	CF239		N
606	CF263		N
549, 680	CF139/F222	(ring-ditch)	N
650	CF229	(ring-ditch)	N
137, 1346	JNF27	urned	N
163	JNF77	urned	N
1186	JNF88	urned	N

61	JNF105	urned	N
813	JNF106	urned	H
1154	JNF125	urned	H
1188	JNF127	urned	N
427, 1292, 1356	JNF154	urned	N/H
483	JNF192	urned	N
751	JNF244	urned	N
559	JNF253	urned	N
1229	JNF282	urned	N
777	JNF302	urned	N
697	JNF309	urned	N
1280	JNF323	urned	N
1240	JNF324	urned	N
922, 964, 1273	JNF325	urned	N/H
1324	JNF326	urned	N
1269	JNF352	urned	N
1255	JNF368	urned	N/H
1251	JNF372	urned	N
1209	JNF377	urned	N
1241	JNF380	urned	N
1258	JNF403	urned	N
JN 949	F431	urned	H
1210	JNF440	urned	N
1193, 1338	JNF481	urned	N
1171	JNF482	urned	N
Inhumations			
C 58	F32		N
C 244 (SF 75), 245-6, 265	F121		N
C 722	F259	(?coffin nails	N
C 730	F260	(?coffin nails	N
5, 50	JF11	?coffin nails	N
69	JNF63	?coffin nail	N
1185	JNF90		H
1197	JNF100		H
1195	JNF179		N
372, 1239	JNF195	?coffin nails	N
1150	JNF216	?residual from cremation JNF205	N
1276	JNF225		N
1313	JNF228		H
1309	JNF273		H
1225	JNF286		N/H
1181	JNF313	?coffin nail	N
1221	JNF322		H
706	JNF334	?coffin nail	N
950	JNF341	?coffin nail	N
1220	JNF345		H
804	JNF355	?coffin nail	N
1183, 1410	JNF360		N
1252	JNF367	?coffin nails	N
1222	JNF374	?coffin nails	N
855	JNF387		N
1227	JNF394		N
1247	JNF399	?coffin nails	N
1223	JNF402	?coffin nails	N
1224	JNF418	?coffin nails	N
1263	JNF433	?coffin nails	N
973, 1211	JNF444	?coffin nails	N
1177	JNF453		N
1206	JNF457		N
1201	JNF462		N
1215	JNF463	disturbed or residual	N/H
1207	JNF470		N
1289	JNF473		H
1180	JNF474	?coffin nail	N
1060	JNF477		N
1213	JNF478	?coffin nails	N
1214	JNF479		N
1084	JNF487	?coffin nail	N
1088	JNF505	?coffin nails	N
1459	JNF510	?coffin nails	N

Non-funerary and non-circus contexts producing iron nails on Areas C1, C2 and JN.

Area	SF	Find	Feature/Layer	Context description and date
C1	-	3	CF2	pit; Roman
C1	-	33	CF19	pit; Roman
C1	-	124	CF51	ditch; post-medieval
C1	23	137	CF66	pit; post-medieval
C1	-	138	CF67	pit; Roman
C1	-	179	CF95	pit; Roman
C1	-	180	CF98	pit; undated
C1	-	172	CL19	trample; Roman
C2	-	44	CF25	pit; Roman
C2	-	53	CF53	ditch; Roman
C2	-	242-243	CF106	ditch; Roman
C2	-	223	CF110	pit; Roman
C2	-	226	CF129	ditch; Roman
C2	-	310	CF134	pit; Roman
C2	-	364	CF143	ditch/pit; Roman
C2	-	602	CF159	metalled surface; Roman
C2	-	496, 518, 535, 546	CF170/F199/F221	ditch; Roman
C2	-	473, 475, 525, 669	CF174/F226	ditch; Roman
C2	-	470, 477, 499	CF178	pit; Roman
C2	-	509, 516, 531	CF181/F201	ditch; Roman
C2	-	487	CF183	pit; post-medieval
C2	-	478	CF185	pit; Roman
C2	-	509, 516, 531	CF181/F201	ditch; Roman
C2	-	478	CF185	pit; Roman
C2	-	505-507	CF187	ditch; Roman
C2	-	543	CF190	pit; Roman
C2	-	493, 537	CF192	pit; Roman
C2	-	502	CF195	pit; post-medieval
C2	-	540	CF196	pit; Roman
C2	-	539	CF197	pit; post-medieval
C2	-	627	CF214	pit; Roman
C2	-	605	CF228	pit; Roman
C2	-	638	C	pot scatter; Roman
C2	-	722	CF258	ditch; Roman
C2	-	593	CL27	dump; Roman
JE	-	72	JEF25	posthole; post-Roman
JE	-	66, 390	JEL5	subsoil; post-Roman
JN	-	9	JNF9	pit; Roman
JN	-	18-19, 34, 145, 380, 475, 499	JNF10 sx 1	ditch; Roman
JN	-	60	JNF10 sx 2	
JN	-	502, 569, 1163	JN sx 4	
JN	-	409	JNF10	
JN	-	38, 40-41, 84	JNF10/F29	
JN	-	26	JNF23	quarry pit; early Roman
JN	-	88	JNF24/F55	quarry pit; early Roman
JN	-	98	JNF25	quarry pit; early Roman
JN	-	44	JNF36	posthole; Roman
JN	-	58	JNF48	gully; Roman
JN	-	1196	JNF167	posthole; Roman
JN	-	593	JNF267	two pits; Roman
JN	-	1037	JNF419	quarry pit; early Roman
JN	-	1065, 1175	JNF420	quarry pit; early Roman
Q	-	17	QF44	pit; post-medieval

Ceramic building material

Area C1

The Roman CBM from Area C1 was generally made up of small broken pieces of tile with some imbrex and lots of un-diagnostic fragments.
A few pieces of CBM, recorded as tile, measured over 35mm = they may be either thick pieces of tile or thin pieces of brick = only 1 certain piece of brick was identified.

From 26 different contexts:

Tile	87	11,663.3g		Fragments	261
	3656.5g				
Tile with Flange	4	555.5g	Peg Tile		35
	921.3g				
Imbrex	9	635.8g			
Brick	1	146.2g			
Flue Tile	1	39.7g			

Area C1 evaluation

Feature No.	*Feature Type*	*Finds No.*	*Type*	*Qt.*	*Wt(g)*	*Thickness (mm)*	*Features*
CF1 T4	Pit	1	Tile	1	18.0	17	
			fragments	2	19.0	-	
CF2 T4	Pit	3	Imbrex	1	41.0	14	
			fragments	5	22.7	-	
CF4 T4	Pit	22	Tile	1	227.0	35	
			fragment	1	16.0	-	
CF6 T4	Demolished Wall	34	Tile	11	3669.5	33-36	
			Imbrex	1	217.8	18	
			fragments	28	427.4	-	
CF7 T4	Robbed Wall	6	Tile	2	225.1	32	
			Imbrex	1	34.4	14	
			fragments	4	57.9	-	
CF8 T4	Pit	7	Tile	1	79.5	-	
CF9 T4	Pit	8	Tile	3	155.9	33	
			Peg Tile	1	22.3	12	
CF13 T4	Pit	21	Tile with Flange	1	181.9	14	
			Peg Tile	2	21.3	10	
CF16 T4	Slot	23	Peg Tile	1	20.8	12	
			fragment	1	17.4	-	
CF17 T4	Pit	28	Peg Tile	1	46.0	13	
			fragments	4	18.1	-	
CF20 T4	Pit	31	fragments	3	16.4	-	
CF47 T5	Pit/Ditch	121	Tile	3	531.3	33	
			Peg Tile	1	69.9	12	
			fragments	4	54.6	-	
		122	Tile	1	159.8	30	
			fragment	1	36.2	-	
CF50 T6	Dump/Spread of Ragstone	120	Tile	3	266.0	30-39	1 piece in grey/brown fabric
			fragment	1	12.5	-	
CF51 T6	Ditch	124	Flange	1	38.9	-	
			Tile	6	228.9	18-22	
			Peg Tile	18	456.1	9-11	
			fragments	15	235.2	-	

Feature No.	Feature Type	Finds No.	Type	Qt.	Wt(g)	Thickness (mm)	Features
CF60 T6	Cobbled Surface	126	fragments	1	18.6	-	
CL2	Subsoil	4	Tile	3	474.1	27	
			Peg Tile	1	40.3	11	
			Imbrex	1	120.3	13	
CL15	Subsoil	123	Tile	1	87.2	17	
U/S		2	Peg Tile	1	32.7	11	

Flue tile

Feature No.	Feature Type	Finds No.	Qt.	Wt. (g)	Thickness (g)
CL2	Subsoil	4	1	39.7	15

Area C1 excavation

Feature No.	Feature Type	Finds No.	Type	Qt.	Wt(g)	Thickness (mm)	Features
CF6 sx1	Wall	141	Tile with Flange	1	229.0	25	
			Peg Tile	2	27.7	11	
			fragments	7	42.1	-	
sx2		143	fragments	2	11.4	-	
		153	Tile	1	24.0	15	
			fragments	2	12.7	-	
CF7	Wall	139	fragments	4	34.4	-	
sx3		145	fragment	1	84.9	-	
sx4		150	fragments	5	8.8	-	
		159	Tile	7	584.4	23-40	1 signature, with mortar
			fragments	32	527.5	-	with mortar
CF48	Ditch	180	fragment	1	7.9	-	
CF64	Pit	135	Brick	1	146.2	50	In grey/brown fabric
			Peg Tile	2	45.0	10-11	
CF66	Pit/Posthole	136	Peg Tile	1	23.7	11	
			fragments	5	9.3	-	
CF67	Pit/Posthole	138	fragments	11	73.7	-	
CF70	Ditch	140	Peg Tile	1	16.9	9	
CF75	Pit	133	fragments	1	2.5	-	
CF78	Gravel Surface	175	Tile	6	575.9	17-35	
			fragments	7	161.9	-	
CF83	Pit/Tree Bowl	168	fragments	1	3.8	-	
CF95	Pit	180	fragments	6	19.5	-	
CL18	Demolition Material	146	Tile	4	261.5	20-35	1 piece in grey fabric
			fragments	10	73.6	-	
		147	Fragments	17	118.0	-	
		148	Tile with Flange	1	105.7	-	1 piece in grey/brown fabic
			Tile	7	1229.9	22-35	1 with mortar
			Imbrex	2	128.1	15-17	1 piece in grey/brown fabric
			fragments	10	337.2	-	
		149	Tile	1	153.9	33	
		151	Tile	2	80.0	-	
			fragments	22	338.4	-	

Feature No.	Feature Type	Finds No.	Type	Qt.	Wt(g)	Thickness (mm)	Features
		156	Tile Peg Tile fragments	1 2 2	144.5 33.5 43.0	28 9-11 -	
		157	Tile fragments	6 19	607.5 339.1	32-42 -	
		160	Tile Imbrex fragments	7 2 15	572.1 67.3 207.8	17-34 13 -	
		166	Tile Peg Tile fragments	4 1 2	1134.4 65.1 114.5	32-34 13 -	1 reused – mortar around breaks
		167	Tile fragments	1 4	63.5 106.4	18 -	
CL19	Roman Trample	173	Tile	1	58.3	30	
		176	Tile fragments	1 5	37.5 26.1	- -	
		182	Tile Imbrex	1 1	13.6 26.9	14 -	

Area C2

CBM is generally small (with some larger) broken pieces of tile with some imbrex and lots of unidentifiable fragments.
A few of the pieces of CBM recorded as tile are over 35mm thick and may either be thick tile or thin brick = no absolute pieces of brick were recorded.

Pieces from 91 different contexts:

Tile	339	58,564.4g
Flue tile	11	1101.2g
Tile with flange	51	12,799.4g
Tesserae	8	153.6g
Imbrex	82	8960.0g
Peg tile	22	851.5g
Brick	89	17,049.0g
P/med tile	1	78.9g
Fragments	447	5672.2g

Area C2 Evaluation

Feature No.	Also Known as	Feature Type	Finds No.	Type	Qt.	Wt(g)	Thickness (mm)	Features
CF25 T3		Pit/Cremation	12	Tile Imbrex fragments	2 2 1	379.0 188.6 3.1	22-24 14-17 -	
			47	Tile fragments	1 4	360.0 109.1	35 -	
CF27 T3		Grave	71	Tile	1	18.5	11	
			81	Tile	1	243.5	-	
CF28 T3		Slot	57	fragments	1	1.2	-	
CF29 T3		Service Trench	50	Tile fragments	13 5	446.0 95.9	9-28 -	
CF31 T1		Urned Cremation	55	fragment	1	37.0	-	
			94	fragments	5	11.9	-	
CF32 T3		Grave	59	fragments	1	1.9	-	

Feature No.	Also Known as	Feature Type	Finds No.	Type	Qt.	Wt(g)	Thickness (mm)	Features
CF33 T1		Urned Cremation	64	fragments	1	1.7	-	
			73	fragments	6	8.1	-	From fill of urn – Spit 1
				fragments	2	5.3	-	From fill of urn – Spit 3
CF34 T1		Wall	92	Tile	1	1222.2	34	
			93	Tile	3	2687.5	32-39	
			107	fragments	2	52.6	-	
			115	fragment	1	33.5	-	
CF36 T2		Ditch	74	Tile	2	1271.5	34-36	
				fragments	7	357.7	-	
CF37 T1		Pottery Spread	76	Tile	1	66.0	31	
CF38 T1		Urned Cremation	84	fragments	5	48.2	-	
CF41 T2		Military Trench	75	Flange	1	66.3	-	
				Peg Tile	7	428.5	9-12	
CF43 T1		Wall	88	Tile	3	533.7	15-36	
				fragments	7	263.6	-	
CF44 T1		Wall	103	Tile	1	95.4	26	
CF53 T1		Ditch	114	Tile	2	111.7	14-20	
				fragments	13	106.3	-	
CL1		Topsoil	9	Tile	3	282.3	14	
				Imbrex	1	61.3	17	
				fragments	2	66.8	-	
CL2		Subsoil	10	Tile	2	434.2	19-24	
				Imbrex	3	643.2	19-22	
			11	Imbrex	1	21.3	18	
CL10			65	Tile with Flange	1	373.3	17	
				Tile	1	172.9	17	
CL11		Subsoil	52	Tile with Flange	1	779.0	21	
			53	Tile	1	201.8	19	
				Imbrex	1	199.5	20	
			63	fragment	1	77.9	-	
			66	Tile	1	460.0	34	

Flue tile

Feature No.	Feature Type	Finds No.	Qt.	Wt. (g)	Thickness (g)
CL11	Subsoil	53	1	24.4	18

Area C2 excavation

Feature No.	Also known as	Feature Type	Finds No.	Type	Qt	Wt(g)	Thickness (mm)	Features
CF100		Urned Cremation	367	fragments	5	12.1	-	From inside urn
CF105		Cremation	164	fragments	2	19.2	-	
CF106 sx1		Ditch	234	Tile	4	142.6	20-29	
sx2			235	Imbrex	1	94.4	12	
				fragments	11	164.1	-	
sx3			242	Tile	2	147.3	-	
				fragments	4	35.4	-	

Feature No.	Also known as	Feature Type	Finds No.	Type	Qt	Wt(g)	Thickness (mm)	Features
			243	fragments	8	30.2	-	
sx5			285	Brick Imbrex fragments	2 2 9	133.5 118.2 102.1	40 13-15 -	
sx6			284	fragments	4	48.4	-	
CF107		Robber trench	220	Tile fragments	8 3	1180.2 33.1	25 -	
			275	Tile	4	1902.6	34-40	
CF108 sx4		Ring Ditch	231	Tile fragments	1 1	145.3 6.0	35 -	
sx7			232	fragments	3	24.4	-	
CF110		Pit	-	Tile fragments	1 33	24.0 197.6	17 -	
CF118 sx2		WW2 Communication Trecnh	241	Tile fragments	8 1	58.5 27.4	12 -	
CF120		Cremation	222	Tile	1	13.3	18	
CF121		Grave	265	Imbrex fragments	1 1	129.5 6.0	14 -	
CF122		Ring Ditch	312	fragments	6	46.9	-	
CF124		Ragstone Chip Surface	434	Tile with Flange Tile Imbrex fragments	4 3 1 10	665.0 564.7 45.8 137.1	34 35 11 -	
CF125		Modern Ditch	274	Peg Tile fragments	4 18	128.6 192.7	10 -	
CF126		Pyre Remains	273	Tile fragments	1 2	45.8 6.0	17 -	
			296	fragments	5	23.7	-	
CF129		Ditch	298	Tile Imbrex	4 1	509.8 38.6	23-30 12	
CF139a		Ring Ditch	287	Imbrex	1	11.5	10	
	CF222 sx1		548	Tile	1	27.0	-	
	CF222 sx2		549	Imbrex fragment	1 1	162.2 49.6	16 -	
CF142		Metalled Surface	396	Tile	5	1031.3	35-37	
CF143		Ditch/Pit?	313	Tile with Flange Tile Brick?	1 2 1	421.5 126.8 71.5	35 - -	
			364	fragments	5	111.7	-	
CF156		Pit	394	Peg Tile	1	70.6	10	
CF159		Metalled Surface	602	Tile	7	193.1	13	
CF161		Pit	423	Flange	1	145.3	25	
CF163		Box Cremation	641	Tile fragments	1 4	52 14	27 -	
			646	Tile	1	5000	32	
CF170		Ditch						
	CF199		496	Tile fragments	2 2	72.4 11.1	9-29	part of Flange
			518	Imbrex fragments	1 2	68.7 1.5	15 -	
	CF221		535	Tile with Flange Imbrex fragments	6 1 20	500.8 44.8 119.6	20-25 15 20	

Feature No.	Also known as	Feature Type	Finds No.	Type	Qt	Wt(g)	Thickness (mm)	Features
CF173		Cremation	460	Tile	4	111.4	-	
CF174 sx1		Ditch	458	Tile	2	471.9	14-25	
			474	Tile	2	761.0	22-30	2 signatures
				Brick	1	515.2	40	
				fragments	1	4.2	-	
sx2			473	Flange	4	666.6	18-25	1 signature+1burnt
				Tile	4	287.4	14-36	2 signatures
				Brick	6	1182.7	30-37	
				fragments	1	7.4	-	
sx3			475	Flange	1	209	25	
				Tile	9	1540.7	15-33	
				Brick	4	633.0	30-40	
				Imbrex	6	673.5	12-19	
				fragments	6	172.7	-	
sx4			525	Tile	3	281.4	10-17	
				Brick?	1	149.6	36	
				Imbrex	3	239.6	11-14	
				fragments	1	32.4	-	
	CF226	Ditch recut	669	Tile with Flange	7	1617.2	20-26	
				Tile	2	308.6	-	Burnt
				Imbrex	7	956.1	10-17	
CF175 sx1		Wall Foundation	558	Tile	2	170.6	-	
CF178		Cremation	470 (in 2 bags)	Tile with Flange	7	908.4	12-24	
				Tile	26	1489.6	9-30	2 bits in buff/grey + peg tile
				Imbrex	13	1304.4	10-20	3 bits in buff/grey
				Brick	6	677.8	25-45	1 signature
				fragments	41	436.6	-	
			499	Flange	2	390.5	20-40	
				Tile	7	1200.0	15-25	
				Brick	5	1400.0	35-40	1 signature
				Imbrex	3	412.7	11	
				fragments	6	110.4	-	
CF179		Pit	479	fragment	1	6.7	-	
CF180		Pit	504	fragments	5	48.2	-	
CF181		Ditch	488	Tile	1	182.3	22	
				fragments	6	17.8	-	
sx2			509	Tile	5	430.9	24-27	
	CF201 sx1		516	Flange	1	341.9	-	
				Tile	5	520.4	17-34	
				Brick	2	1251.2	37	
				fragments	2	52.4	-	
	sx2		523	Tile	2	507.3	30-35	
			531	Tile with Flange	1	382.2	19-35	1 with Flange
	sx3			Tile	1	300.1	-	
				fragments	1	14.0		
CF185		Pit	479	Tile with Flange	1	118.3	10	
				Tile	3	77.4	15	
CF187		Ditch	491	Tile	17	844.1	10-25	
				Flange	1	15.5	10	
				Imbrex	1	93.8	14	
				fragments	9	84.5	-	
CF190		Cremation	543	Brick	4	249.8	35	
CF192		Pit	493	Tile	8	363.2	12-21	
				Brick	1	49.1	37	
				Flange	3	681.2	17-20	
				Imbrex	2	94.6	12-13	
CF193		Modern Pit	560	Peg Tile	2	50.9	12	
CF195		Pit	501	Tile	1	41.2	27	
				Peg Tile	6	113.3	11-12	
CF196		Pit	540	fragments	5	86.2	-	

Feature No.	Also known as	Feature Type	Finds No.	Type	Qt	Wt(g)	Thickness (mm)	Features
CF198		Posthole	500	Tile	1	52.5	27	
CF203		Pit	517	Peg Tile	1	31.1	10	
CF207 sx1		Ring Ditch	594	Tile	3	67.3	19	
CF210		Cremation	651	Tile	2	189.9	20-25	
				Brick	1	324.1	35	
				Imbrex	1	100.0	15	
				fragments	15	119.1	-	
CF216		Modern Pit	529	Tile with Flange	1	60.8	-	
				Tile	5	74.4	24	
CF219		Cremation	532	fragments	3	17.6	-	
CF224		Grave	601	Flange	2	146.8	24	
				Tile	15	1484.4	20-27	
				Brick	2	906.0	38-40	
				Imbrex	4	647.0	13-16	
				fragments	5	242.4	-	
CF224/CF228		Grave/Pit	604	Brick	1	216.4	40+	
CF225		Ring Ditch	583	Peg Tile	1	28.5	13	
CF228		Pit	655	Tile(1 with Flange)	12	4262.0	17-22	1 with signature
CF229 sx2 (in2bags)		Ring Ditch	647	Flange	1	87.7	24	
				Tile	12	8113.6	12-37	1 signature
				Imbrex	2	155.8	14-17	
				fragments	4	22.8	-	
CF230		Pot Scatter	638	Tile	1	36.4	17	
CF231		Ring Ditch	661	Flange	1	116.3	16	
				Tile	4	405.0	22	
				Brick	4	520.5	36	
				Imbrex	3	170.0	15	
				fragments	5	80.3	-	
	sx1		642	fragments	1	9.1	-	
	sx2		643	Flange	1	99.2	22	
				Tile	2	391.0	12-22	
				Imbrex	1	42.0	14	
				fragments	5	78.0	-	
	sx3		644	Tile	7	391.8	14-25	1 signature
	sx4		645	fragments	4	69.3	-	
CF232		Pit	635	Tile	8	129.7	10-11	
CF233		Grave	707	Flange	1	47.8	10	
				Tile	1	14	-	Burnt
CF234 sx2		Gully	657	Tile	1	148.0	24	
				Imbrex	1	69.7	11	
CF235		Cremation	660	Imbrex	1	67.5	17	
				fragments	1	29.3	-	
CF236		Grave	670	Tile	2	67.2	17-30	
				Brick	1	44.6	36	
				fragments	1	25.9	-	
CF237		Cremation	604	fragments	2	4.3	-	
			664	Flange	1	48.0	14	
				Tile	4	207.0	15-20	1 burnt
				fragments	3	52.6	-	
			665	Tile	1	586.0	32-35	
				fragments	2	23.0	-	
CF239		Cremation	675	Imbrex	1	61.8	12	
				P/Med Tile	1	78.9	13	
				fragment	1	4.8	-	spit 4
				fragment	3	8.0	-	spit 5
CF243		Pit	715	Brick	1	148.7	35	
				Imbrex	1	136.0	17	
				fragments	2	39.6	-	

Feature No.	Also known as	Feature Type	Finds No.	Type	Qt	Wt(g)	Thickness (mm)	Features
CF244		Grave	702	Flange	1	169.0	21	
				Tile	6	355.0	15-24	1 signature
				Brick	2	304.7	37	1 signature
CF245		Grave	716	Imbrex	1	102.5	14	
CF246		Grave	703	Tile	4	359.2	19-25	
				Imbrex	2	212.5	13-15	
CF248		Grave	725	Imbrex	1	101.3	19	
				fragments	5	24.7	-	
CF249		Grave	705	Tile(1withFlange)	4	740.0	15-25	1 signature
				Imbrex	1	85.4	11	
				fragments	5	52.7	-	
CF250		Grave	704	Tile	8	369.3	15-19	2 bits of grey
				Imbrex	1	114.8	14	
				fragments	2	46.3	-	
CF252		Grave	738	Tile (fragment)	1	8.3	-	
CF254		Grave	721	Flange	1	70.2	12	
				fragments	2	19.5	-	
CF255		Grave	727	Tile	1	34.7	12	
				fragment	1	13.6		
CF257		Grave	723	fragments	5	56.2	-	
CF258		Ditch	722	Tile	1	113.2	23	
CF259		Grave	728	Tile	4	206.0	13-25	
				Imbrex	1	31.3	13	
				fragments	3	20.8	-	
CF260		Grave	730	Tile	1	58.3	26	
				fragments	2	2.7	-	
CL2		Subsoil	299	Flange	1	55.3	-	
				Brick	25	2791.9	20-45	
CL20		Demolition Material	384	Tile	1	618.2	32	
			267	Tile	13	8720.9	22-40	
				Imbrex	3	949.3	19	
				fragments	15	261.3	-	
CL21		Occupation Level	299	Brick	8	3717.8	33-41	
				Tile with Flange	1	19.3	-	
				Tile	8	222.3	20-34	
				Imbrex	1	42.3	14	
			397	Tile	7	493.0	10-30	1 with mortar
CL24		Demolition Material	495	Tile	5	3000.0	32-40	
				Brick	2	677.0	46	1 Burnt,1 Cut-away
CL27		Dump Layer	593	Tile	5	363.1	14-21	
				Brick	9	709.8	33-38	
				Imbrex	3	268.5	14	
				fragments	40	575.8	-	

Flue tile

Feature No.	Feature Type	Finds No.	Qt.	Wt. (g)	Thickness (g)
CF107	Robber trench	220	1	151.1	20
CF124	Ragstone Chip Surface	434	1	41.6	15
CF178	Grave/Pit?	470	3	554.5	12-22
CF210	Cremation	651	1	75.6	13
CF229 sx2	Ring Ditch	647	1	21.4	18
CF231	Ring Ditch	661	2	191.0	18
CL27	Dump Layer	593	1	41.6	18

Tesserae cubes

Feature No.	*Feature Type*	*Finds No.*	*Qt.*	*Wt.(g)*	*Thickness (g)*	*Description*
CF107	Robber trench	220	1	25.9	17	
CF178	Grave/Pit?	470	1	25.4	13	
CF192	Pit	493	2	25.4	11-20	1 in buff fabric
CF229 sx2	Ring Ditch	647	1	21.9	15	
CF231 sx3	Ring Ditch	644	1	22.4	-	
CF249	Grave	705	1	15.9	15	
CF259	Grave	728	1	16.7	15	

JE ceramic building material by type

Tile

Feature	Finds Number	Length (cm)	Width (cm)	Area (cm²)	Thickness (cm)	Volume (cm³)	Interesting features
JEF2	JE177	11.3	6.1		3.2	220.6	
	JE212	4.1	6.4		3.7	97.1	
		4.6	9.4		4	173.0	
JEF4	JE4	5.9	5.4		2.4	76.5	
	JE8	4.3	10.1		3.3	143.3	
		4.8	4.7		1.6	36.1	
		8.2	8.2		3.2	215.2	
		8.2	6.7		3.1	170.3	
	JE338	9	10		3.3	297.0	
		7.3	9		3.1	204	
		4.5	5.3		2	47.7	
		9.4	4.9		3.1	142.8	
		9	6.6		3.5	207.9	
		2.8	7.6		3.2	68.1	
		11	9.3		3.5	358.1	
		6.2	9.8		3.6	218.7	
		4.1	6.8		2.6	72.5	
		7.2	7.8		3.2	179.7	
		10.5	15.2		3.5	558.6	
		12.5	12		2.9	435.0	
JEF5	JE11	6	7.8	46.8	3	140.4	
	JE18	3.6	5.6	20.16	3	60.5	
	JE20	7.8	6.7	52.26	4.1	214.3	
		7	7	49	3.2	156.8	
		6.2	10.4	64.48	4	257.9	
	JE22	6.8	7.7	52.36	2.9	151.8	
	JE26	5	5.5	27.5	3	82.5	
	JE30	5.6	10	56	3.4	190.4	
		7.5	9.4	70.5	3.4	239.7	
		20	19	380	3.4	1292.0	
		9.6	16.4	157.44	3.7	582.5	
	JE34	3	4.4	13.2	3.3	43.6	
	JE47	10.4	9	93.6	3.2	299.5	
		9.8	9.4	92.12	4.2	386.9	
		4.4	10.4	45.76	3.4	155.6	
		9	10.2	91.8	3.7	339.7	
		7.4	5.5	40.7	4.1	166.9	
	JE49	16.5	15.6	257.4	4.4	1132.6	Large lump of mortar on top
	JE52	7	8.8	61.6	3.5	215.6	
		8	5	40	3.4	136	
		4.6	4.8	22.08	3.5	77.3	
	JE54	10	12.9	129	3.3	425.7	
		2.6	7	18.2	3.2	58.2	
		4	5.2	20.8	3.2	66.6	Mortar on top and bottom
		3	7.5	22.5	4	90	
	JE55	3.2	5.4	17.28	2.8	48.4	
	JE56	6.3	6.9	43.47	3.3	143.5	
		7.5	10.1	75.75	3.1	243.8	

	JE58	10.1	9.2	92.92	3.2	297.3	
	JE62	12.2	14.9	181.78	3.3	599.9	Corner piece
		3.4	8.2	278.8	3	83.6	
		15	10.7	160.5	2.9	465.5	
		5	7.7	38.5	1.7	65.5	
		2.4	9	21.6	3.3	71.3	
		7.7	8.3	63.91	3	191.7	
		6.3	9.5	59.85	3.6	215.5	
	JE63	4	8.1	32.4	4	129.6	
	JE64	3.5	4	14	3.3	46.2	
		6	5.5	33	3.3	108.9	
	JE69	5	5.6	28	3	84	
		9.1	10	91	3.1	282.1	
	JE74	3.7	9.4	34.78	3.4	118.3	
	JE75	7.4	10	74	2.2	162.8	
	JE78	6.3	4.1	25.83	1.4	36.2	
	JE79	11	6.8	74.8	3.2	239.4	Mortar on top and bottom
		10	9.7	97	3.7	358.9	
		6.9	5.4	37.26	2.9	108.1	Mortar on top
	JE84	14	8.3	116.2	4	464.8	Mortar on top and bottom
	JE86	6	7.7	46.2	2.7	124.7	
	JE88	7.3	10	73	7.5	547.5	
	JE89	7	3.6	25.2	1.7	42.8	
		4.4	7	30.8	3.5	107.8	
		3.1	7.4	22.94	3.2	73.4	
	JE97	2.6	9	23.4	3.6	84.2	
	JE104	5.5	8.4	51.7	3	138.6	
		10.2	11.2	114.24	3.5	399.8	
		4.1	4.1	16.81	3.3	55.5	
	JE106	6	6	36	2.8	100.8	
		14.8	8.1	119.88	3.2	383.6	
		9.4	5.7	53.58	3.1	166.1	
		11	14.2	156.2	3.3	515.5	
		8.3	12.1	100.43	3	301.3	
		5.6	5.4	30.24	2.9	87.7	
	JE108	4.5	7.2	32.4	3.6	116.6	
	JE112	8	8	64	3.2	204.8	
		2.6	10	26	3.3	85.8	
		16	9.2	147.2	3.5	515.2	
		6.6	5.2	34.32	2.5	85.8	
		5	6.6	33	3.4	112.2	
		4.3	8.1	34.83	3.7	554.1	
	JE119	6.1	7.5	45.75	3.4	155.6	
	JE121	7	8.2	57.4	3.1	177.9	
	JE127	4.3	9.7	41.71	3.2	124.2	
	JE137	6.1	9.4	57.34	3.4	195.0	
	JE144	4.1	5.6	22.96	1.8	41.3	
		10.2	9	91.8	3.4	312.1	
		7.6	8.7	66.12	3.6	238.0	
	JE145	10.6	8	84.8	4.5	381.6	
	JE146	8.3	11	91.3	3.2	292.2	Mortar on top surface
		9	9.3	83.7	3.1	259.5	
		5.4	7.5	40.5	1.7	68.9	
		11.1	10	111	2.9	321.9	
	JE150	5	6	30	3.3	99.0	
		3.3	7.6	25.08	3.4	85.3	
		2	2.8	5.6	2	11.2	
	JE157	6	8.7	52.2	3	156.6	
		3.8	6.7	25.46	3.7	94.2	
		7.1	9.1	64.61	3.6	232.6	
		8	7.3	58.4	3.8	221.9	
		7.7	11.6	89.32	3.6	321.6	
	JE161	5.5	8.9	48.95	1.3	63.6	
		7.3	11.5	83.95	3.4	285.4	
		9	6.4	57.6	3	172.8	
		15.1	9.8	147.98	3	443.9	Burnt
	JE162	5	8.4	42	3.4	142.8	
	JE163	5	4.4	22	3.7	81.4	
	JE168	3.1	2.5	7.75	2.1	16.3	
		4.7	4.6	21.62	3.1	67.0	
	JE171	13.5	5	67.5	5.7	384.8	Burnt
		12.1	9	108.9	5	544.5	
		8	8.4	67.2	3.1	208.3	
		14.3	17.1	244.53	3.1	758.0	
		10	8.2	82	3.6	295.2	Signature

		17.1	20.4	348.84	6.5	2267.5	
	JE172	4.5	5.7	25.65	2.1	53.9	
		4.4	7.3	32.12	2.7	86.7	
	JE175	4.4	7.2	31.68	2	63.4	
	JE176	4.1	4.2	17.22	1.7	29.3	
		7.1	11.1	78.81	3.2	252.2	
		5.7	7.5	42.75	3.1	132.5	
	JE179	9	5	45	1.7	76.5	
	JE182	12.3	12	147.6	3.5	516.6	Mortar on top
		13.7	11	150.7	4	602.8	Heated
		6.3	9.1	57.33	3.3	189.2	Mortar on top
		15	24	360	3.3	1188.0	
	JE190	9.6	14	134.4	3.7	497.3	Mortar on top and bottom
		6	8.4	50.4	3.9	196.6	
		9	10.9	98.1	2	196.2	
		9	14	126	3.5	441.0	Mortar on top and bottom
		7.1	6.6	46.86	3.2	150.0	Mortar on bottom
		5.6	6	33.6	3.3	110.9	
		7.4	9.2	68.08	2.8	190.6	
		11.7	8.4	98.28	3.6	353.8	
		7.7	5.5	42.35	3.2	135.5	
		3	10.7	32.1	3.8	122.0	
		4.7	11.4	53.58	3.5	187.5	
		7.3	9.7	70.81	2.9	205.3	Mortar on bottom
		4.6	9.6	44.16	3.9	172.2	
		5	4.9	24.5	3.6	88.2	
	JE195	4.5	5.2	23.4	3.5	81.9	
	JE200	3.3	7.5	24.75	3.7	91.6	
		5.8	5.7	33.06	3.3	225.6	
	JE201	9.4	8	75.2	3	225.6	Corner piece
		10.8	14.4	155.52	3.6	559.9	Lots of mortar on top surface
		8	7.2	57.6	3.5	201.6	Mortar on top surface
	JE203	6.1	10.5	64.05	4	256.2	
		7	10.2	71.4	3.2	228.5	
		5.2	7.3	37.96	4	151.8	
		14.9	10	149	2.8	417.2	
		12.4	10	124	3.9	483.6	
		10.2	7.6	77.52	3.6	279.1	
	JE205	5.9	5.8	34.22	3.1	106.1	
	JE206	19.4	3.4	65.96	4.4	290.2	
		6.1	6.8	41.48	3.3	136.9	
		4.1	8.5	34.85	2.9	101.1	
		6	4.6	27.6	3	82.8	
		5.4	8.2	44.28	2.8	124.0	
		10	6.2	62	2.9	179.8	
		9.7	7.4	71.78	3.3	236.9	Mortar on bottom
		8.5	5.5	46.75	3.9	182.3	
		7	5.3	37.1	3.5	129.9	
	JE210	7.5	7	52.5	3.4	178.5	
		6	8.2	49.2	3.5	172.2	Mortar on sides
		3.4	7	23.8	2.6	61.9	Corner piece
		4	7.5	30	3.3	99.0	
		9.2	8	73.6	3.3	242.9	
		9.5	8	76	3.2	243.2	
		8.6	5.5	47.3	3	141.9	
		9.6	6.8	65.28	2.9	189.3	
		9	7	63	3.4	214.2	
	JE211	9.4	2.4	22.56	3.9	88.0	
	JE212	7.1	15.4	109.34	2.3	251.5	
		5.1	8.3	42.33	3.2	135.5	
		4.5	5.8	26.1	2.9	75.7	
		6.5	6	39	3.4	132.6	
		7.5	14.3	107.25	3.8	407.6	
		5	5.2	26	2.2	57.2	
	JE217	4.4	1.6	7.04	3.1	21.8	
		6.1	6.9	42.09	3.7	155.7	
	JE219	9.2	8.2	75.44	3.2	241.4	
		6.4	4	25.6	2.3	58.9	
	JE222	12	12	144	4.6	662.4	
		7	4.5	31.5	3.4	107.1	
		5.5	4.1	22.55	3.4	76.7	
		7.9	6.4	50.56	3.1	156.7	
		6.2	9.7	60.14	3.1	186.4	
	JE231	8.9	7.6	67.64	3.4	230.0	
		9	18	162	3.8	615.6	

		5.2	7.2	37.44	3.6	134.8	
		3.8	6.4	24.32	3.2	77.8	
		5.5	8	44	2.3	101.2	
		8.3	7.2	59.76	2.6	155.4	
		11.5	9.4	108.1	3.3	356.7	
		9.2	7	64.4	3.4	219.0	Signature
		2.9	5	14.5	4.2	60.9	
		5.2	8.2	42.64	3.5	149.2	
		5.9	6	35.4	3.3	116.8	
		5.5	5	27.5	3.2	88	
		4.6	6.6	30.36	3.2	97.2	
		4.3	7.5	32.25	3.1	100.0	
		8.6	7.6	65.36	3.5	228.8	
		9.5	8	76	3.4	258.4	
		2.2	5.4	11.88	3.2	38.0	
	JE234	8.4	12.8	107.52	3.4	365.6	
		4.1	4.7	19.27	2.8	54.0	
		6	6.7	40.2	3.9	156.78	
		4.8	7.7	36.96	2.4	88.7	
		7	12.6	88.2	3.8	335.2	
	JE236	6.4	7.2	46.08	3	138.2	Slightly burnt top and bottom surfaces
		5.9	6.2	36.58	1.8	65.8	
	JE238	8.3	9	74.7	3.3	246.5	
	JE240	9.1	5.1	46.41	3.8	176.4	
		5.6	7.4	41.44	3.2	132.6	
		5.3	10.2	54.06	3.8	205.4	
		8.6	8.9	76.54	3.4	260.2	
	JE242	8.5	6.4	54.4	4	217.6	
		8.4	8	67.2	3.8	255.4	
		4.5	6.8	30.6	4	122.4	
		5	4.4	22	3.1	68.2	
		8.9	10.4	92.56	3.6	333.2	
		9.8	12.1	118.58	3.2	379.5	
	JE246	11.5	17.1	196.65	3.6	707.9	Mortar on top surface
		5.7	7	39.9	3.6	143.6	
		6.7	8	53.6	3.9	209.0	
		6	8.3	49.8	3.4	169.3	
		9.4	10.9	102.46	3.6	368.9	Mortar on bottom
	JE251	3.4	5.4	18.36	3	55	
		4.3	10	43	1.9	81.7	
		6.1	8.4	51.24	3.6	184.5	
	JE252	1.1	3.5	3.85	2.4	9.2	
	JE253	3.1	7	21.7	3.6	78.1	
		6.2	6.4	39.68	3.3	130.9	
	JE254	8.5	7	59.5	4.3	255.9	Mortar on top
	JE256	6.4	7.4	47.36	2.6	123.1	
	JE257	4.6	6.4	29.44	4	117.8	Cream
	JE259	7.6	9	68.4	3.2	218.9	
		4.8	6.3	30.24	3.8	114.9	
	JE260	7.8	5.1	39.78	3.9	155.1	
	JE268	9.2	12.2	112.24	4.1	460.2	
		6.1	8	48.8	2	97.6	
	JE269	4.2	6.3	26.46	3.6	95.3	
	JE273	14	11	154	3.2	492.8	
	JE274	6.2	5.1	31.62	3.1	98.0	
	JE279	7	5.5	38.5	3.2	123.2	
	JE280	6.1	6.2	37.82	3.4	128.6	
	JE288	5.2	6.6	34.32	3.4	116.7	
		5.1	6.5	33.15	3	99.45	
		3	5.2	15.6	3	46.8	
		7.3	5.5	40.15	3.4	136.5	
		5.3	7.3	38.69	3	116.1	
		7.3	5.7	41.61	3.8	158.1	
		5.1	9.4	47.94	4	191.8	
		9.2	8.8	80.96	3.2	259.1	
		4.2	8.6	36.12	2.6	93.9	
	JE293	3.6	7.9	28.44	3.3	93.9	
	JE301	11.5	11.2	128.8	3.6	463.7	Corner piece
		4	9.7	38.8	3.1	120.3	
		10	13.2	132	3	396.0	
	JE307	5.6	11.4	63.84	3.4	217.1	
		7	8.3	58.1	3.7	215.0	Blackened surfaces
		5	5	25	2.4	60.0	
	JE308	3.5	7.7	26.95	3.3	88.9	

	JE314	2.3	3.1	7.13	1.3	9.3	
		3.4	4.6	15.64	1.2	18.8	
		4.1	3.2	13.12	2.3	30.2	
		5.6	6.7	37.52	1.2	45.0	
		3	6.5	19.5	3.3	64.4	
		3.2	4.5	14.4	3.3	47.5	
	JE318	3.9	9	35.1	3.7	129.9	
	JE319	8	8.4	67.2	0.9	60.5	
	JE323	8.9	14.1	125.49	1.2	150.6	
		8.9	8.4	74.76	0.9	67.3	
		2.6	3.2	8.32	1.1	9.2	
		9	7.9	71.1	3.7	263.1	
	JE332	6.2	7.2	44.64	2.7	120.5	
	JE344	3.5	4.6	16.1	5.6	90.2	
		2.1	3.1	6.51	2.1	13.7	
	JE348	7.5	5.2	39	3.1	120.9	
	JE349	6.3	8.1	51.03	3.5	178.6	
	JE351	4.2	5.3	22.26	3.8	84.6	
	JE353	4.7	6.6	31.02	1	31.0	Mortar on top and edges
		4.6	3.9	17.94	1.4	25.1	
	JE362	6	8.1	48.6	3.3	160.4	
	JE369	6.3	5.1	32.13	3.7	118.9	
		6.2	8.3	51.46	2.9	149.2	
	JE390	4.4	4.6	20.24	2.9	58.7	
	JE482	6	12.7	76.2	4.8	365.8	Heated
JEF12	JE96	1.9	3.5	6.65	2.6	17.3	
		6.4	9	57.6	3.8	218.9	
JEF13	JE17	7.5	4.4	33	4.8	158.4	
	JE40	9.3	6.1	56.73	3.3	187.2	
	JE41	19.1	11.7	30.8	3.4	759.8	
	JE73	3.7	4.7	17.39	2.2	38.3	
JEF14	JE38	3.2	5.5	17.6	2.2	38.7	
	JE81	10.3	9.8	100.94	2.7	272.5	
	JE98	11.5	12.3	141.45	3.3	466.8	
	JE99	5.1	5.7	29.07	3.6	104.6	
	JE120	3.6	5.6	20.16	3.3	66.5	Mortar on all sides
	JE123	3.8	7.5	28.5	3.2	91.2	
	JE128	7	6.2	43.4	3.6	156.2	
JEF23	JE381	2.7	5.3	14.31	3.4	48.7	
JEF26	JE129	6.4	6.7	42.88	2	85.8	
	JE139	12.5	20.1	251.25	4.1	1030.1	
		4.8	6	28.8	3.4	97.9	
		4.8	6.7	32.16	3	96.5	
		3.2	5	16	4.3	68.8	
		3.4	5.9	20.06	9.2	184.6	
		7	8.1	56.7	3.4	192.8	
		9.6	8.4	80.64	2.8	225.8	
JEF28	JE320	5.2	6.7	34.84	2.3	80.1	
JEF29	JE230	2.5	6	15	3.1	46.5	
		5.4	9.6	51.84	3.7	191.8	
		10	12	120	2.7	324	
JEF35	JE137	5.3	6	31.8	4	127.2	
	JE138	4.7	5.9	27.73	2.6	72.1	
JEF46	JE141	5.6	5.7	31.92	3.8	121.3	
JEF47	JE207	4.2	4.4	18.48	1.4	25.9	
	JE304	5.4	5.2	28.08	3.8	106.7	
	JE345	8.1	3.6	29.16	4.1	119.6	Mortar on all sides
		3.2	3.4	10.88	3	32.6	
		3.6	6.5	23.4	2.1	49.1	Mortar on top
JEF67	JE364	12.6	6	75.6	7	529.2	
JEL1	JE225	3.5	7.7		1.7	45.8	
	JE292	5	6.9		3.1	107.0	
	JE294	3	4.5		1.5	20.3	
		6.1	8.9		3.2	173.7	
		6.4	8.2		3.2	167.9	
		12.1	12.5		2.9	438.6	
	JE297	4.9	6.1		2.2	65.8	
	JE343	7.1	11.5		3.7	302.1	
		2.7	2.1		7.6	43.1	
		4.7	5.5		3	77.6	
JEL2	JE28	17.5	14.7	257.25	2.9	746.0	Mortar on edges and bottom
	JE224	8.2	9.1	74.62	3.3	246.2	
		5.7	8.2	46.74	2.7	126.2	

		5.9	10.5	61.95	3.4	210.6	
		6.4	7.9	50.56	2.9	146.6	
		7	7.7	53.9	3	161.7	
		5.6	8.8	49.28	3	147.8	
	JE243	14.8	6	88.8	3.1	275.3	Blackened top surface
		6.9	4	27.6	3.1	85.6	
	JE275	10.5	10.5	110.25	3	330.8	
		4.6	7	32.2	3	96.6	
	JE276	1.3	2.4	3.12	3.2	10.0	
		20.4	9.1	185.64	3.4	631.2	
		7.8	8.1	63.18	3.7	233.8	
		12.1	8.2	99.22	2.7	267.9	
		8	7.8	62.4	2.4	149.8	
		8.5	9.4	79.9	3.1	247.7	
		2.7	9.9	26.73	3.5	93.6	
		7.7	6.7	51.59	3.8	196.0	
		9	13.9	125.1	2.9	362.8	
	JE279	6.9	9.5	65.55	3.6	236.0	
		9	12.3	110.7	2.8	310.0	Corner piece
		3.8	7.6	28.88	2.4	69.3	Corner piece
		5	8.5	42.5	2.9	123.3	
	JE280	4.2	7.1	29.82	3.8	113.3	
		3	3.6	10.8	2.9	31.3	
		1.4	5.2	7.28	3.1	22.6	
		4.2	5.4	22.68	3.6	81.6	
		8.5	8.8	74.8	2	149.6	
		9.5	6.6	62.7	2.8	175.6	
	JE282	17.8	15.5	275.9	3.3	910.5	
		16.6	11.3	187.58	3.4	637.8	
		3.4	3.7	12.58	1.6	20.1	
		10.3	8.5	87.55	4.3	376.5	
		4.6	5.7	26.22	3.5	91.8	
		3	3.5	10.5	2.4	25.2	
		4.2	8	33.6	3.5	117.6	
		5.3	5.2	27.56	3.8	104.7	
		5.2	5.2	27.04	3.1	83.8	
		4.8	4.8	23.04	2.2	50.7	
		5.7	6.4	36.48	2.3	83.9	
		9	16.7	150.3	2.6	390.8	
		6	9	54	3.3	178.2	
		6.1	8.1	49.41	3.1	153.2	
		8.3	7	58.1	3.5	203.4	
		10.2	14.6	148.92	3.2	476.5	
		4.7	10	47	2.8	131.6	
		17.8	12	213.6	3.2	683.5	
		7.2	7.2	51.84	2.8	145.1	
		12.4	14.1	174.84	3.3	577.0	
		2.5	4.7	11.75	2.8	399.0	
		9	8.9	80.1	2.8	224.3	
		5.4	9	48.6	3.4	165.2	
	JE283	2.7	5.1	13.77	1.4	19.3	
		3	3.3	9.9	6.2	61.4	
	JE286	6.2	6.8	42.16	2.5	105.4	
		2.6	8.1	21.06	3.4	71.6	
	JE287	8.6	5.1	43.86	3.1	136.0	
	JE289	11	11.8	129.8	3	389.4	
		4.3	7.2	30.96	2.6	80.5	
	JE376	7.7	6.5	50.05	3.4	170.2	
JEL4	JE19	4.5	2.4	10.8	1.6	17.3	
	JE81	14.5	9.1	131.95	3	395.9	Mortar on top surface
		6.8	8.5	57.8	2.8	161.8	
		8	13.3	106.4	3.2	340.5	Heated
		7.6	7.8	59.28	5	296.4	
		6	7.2	43.2	3	129.6	
		6.4	8.5	54.4	2.9	157.8	
		8.4	16.2	136.08	3.2	435.5	
		3.7	9.4	34.78	3.1	107.8	
	JE94	4.5	7.7	34.65	3.1	107.4	
		5.3	12.1	64.13	3.3	211.6	
		10.4	14.3	148.72	4.5	669.2	Mortar on bottom
		7	8.2	57.4	2.9	166.5	
		9	12.7	114.3	3.7	422.9	
	JE118	6.3	10.4	65.52	3.3	216.2	Mortar on top and bottom
		4.1	8	32.8	3.3	108.2	
		9.6	7.3	70.08	3	210.2	

	JE121	10.2	11.9	121.38	3.5	424.8	
		5.7	15.4	87.78	3.7	324.8	
		12.4	14	173.6	3.4	590.2	
		8.8	13.3	117.04	3.4	397.9	
		6.1	13	79.3	3	237.9	
	JE370	8	9.7	77.6	3.3	256.1	
	JE379	13.1	14.1	184.71	5.2	960.5	
JEL5	JE240	6.2	8.2	50.84	4	213.2	
	JE275	4	8	32	3.4	108.8	
	JE309	7.6	12.4	94.24	3.4	320.4	
		6.1	7.2	43.92	3.4	149.3	
		7.6	10.1	76.76	3.6	276.3	
	JE390	2.7	4.6	12.42	3	37.3	
		4.6	5.6	25.76	2.4	61.8	
JEL7	JE378	7	8.3	58.1	3.3	191.7	
JEL8	JE356	2.2	6.4	18.48	2	28.2	
JEL9	JE167	4.3	3.3	14.19	3.7	52.5	Cream
	JE305	9.5	14.2	134.9	3	404.7	
		8	8.8	70.4	2.8	197.1	Corner piece
		10	12.6	126	3.4	428.4	
		7.3	9.4	68.62	3.7	253.9	
		10.9	7.2	78.48	3	235.4	
		5	6	30	3.2	96	
		7.8	14.6	113.88	2.8	318.9	Corner piece
		5.5	5.4	29.7	3	89.1	
		7.4	4.4	32.56	2.9	94.4	
	JE312	4.7	10	47	3.4	159.8	
		6.8	8.5	57.8	3.3	190.7	
JEL10	JE324	10	15.9	159	3.2	508.8	Mortar on top surface
		16	13.7	219.2	3.5	767.2	
		8	5.5	44	3.6	158.4	
		5.1	8.3	47.43	3.3	139.7	
JEL14	JE382	7.2	7.1	51.12	2.1	107.4	
JEL16	JE389	4.3	5.8	24.94	3	74.8	
U/S	JE137	3.6	4.4		1.7	26.9	
	JE300	7.2	14.1		3.3	335.0	

Tile with flange / flange

Feature	Finds Number	Length (cm)	Width (cm)	Thickness (cm)	Volume (cm^3)	Interesting features
JEF5	JE56	11.1	10.3	3.3	377.3	
		9.2	5.2	3.2	153.1	
	JE62	4.5	6.6	3	89.1	
	JE106	1.7	4.6	2.9	22.7	
	JE190	7.2	6.9	3.3	163.9	
	JE195	5.6	5.1	3.9	111.4	
	JE206	7	11	2	154	
	JE212	7.8	9	2.7	189.5	
	JE240	5.5	13.3	3.9	285.3	
	JE231	5	8.1	4.6	186.3	
	JE234	4.7	7	3.1	102.0	
	JE244	3.7	7	2.4	62.2	
	JE307	3.3	9.6	2.8	88.7	
		3.1	6	2.2	40.9	
	JE314	3.5	4.1	1.2	17.2	
		5.2	3.2	3.7	61.6	
JEL1	JE294	6	12.5	3.2	240	
	JE342	3.1	9.5	4.6	135.5	
JEL2	JE243	10.8	7.3	4.5	354.8	
	JE282	4.2	7.7	6	194.0	
JEL4	JE19	7	10	4.9	343	
	JE81	5.4	5.6	4.6	139.1	
		6.7	7	4.1	192.3	Mortar on surface
JEL5	JE390	2.7	4	3.8	41.0	
JEL10	JE324	6.4	9.1	3.2	186.4	

Imbrex

Feature	Finds Number	Length (cm)	Width (cm)	Thickness (cm)	Volume (cm³)	Interesting features
JEF5	JE112	4.7	5.6	1.2	31.6	
	JE190	8.4	8.4	1.7	120.0	
	JE210	6.3	5	1.7	53.6	
	JE268	5.3	5	1.9	50.4	
	JE314	9.3	9.7	1.8	162.4	
JEF14	JE40	4.9	5.1	2.2	55.0	
JEL2	JE3	5.6	6	2.4	80.6	
	JE281	5.3	6.3	1.4	46.7	

Flue tile

Feature	Finds Number	Length (cm)	Width (cm)	Thickness (cm)	Volume (cm³)	Interesting features
JEF5	JE200	14.5	9.5	3.1		

Area J East ceramic building material by context

Pieces from 28 different contexts:

Tile	488	115,112.0g
Fragments	493	11,726.9g
Tile with flange	15	1,746.3g
Peg tile	206	6,095.3g
Brick	6	3,259.3g
Post-med tile	3	1,483.5g
Imbrex	21	1,375.2g
Post-med brick	1	551.1g
Flue tile	7	323.4g
Tesserae	4	56.9g

Pieces from JEF5, JEF12, JEF13, JEF14 (all circus related):

Tile	328	73,403g
Peg tile	102	3,364g
Tile with flange	7	908g
Post-med tile	3	1,484g
Brick	5	2,961g
Imbrex	13	1,027g
Flue tile	6	312g
Tesserae	3	40g
Fragments	248	7,134g

Feature Number	*Feature Also Known As*	*Feature Type*	*Finds Number*	*Type of CBM*	*Quantity*	*Weight (g)*	*Thickness (cm)*	*Notes*
JEF4		Roman Pit	JE8	Roman Tile Peg Tile Fragments	4 1 2	793.6 13.5 63.0	26-32 9 -	With traces of mortar
			JE329	Roman Tile Peg Tile	1 1	11.1 10.7	16 11	
			JE338 x2	Roman Tile Fragments	14 27	3886.1 536.6	25-35 -	
JEF5		Medieval robber trench (trench that robbed the outer wall of the circus)	JE9	Roman Tile	1	23.7	25	
			JE11	Roman Tile Fragments	2	226.4	-	

Feature Number	Feature Also Known As	Feature Type	Finds Number	Type of CBM	Quantity	Weight (g)	Thickness (cm)	Notes
			JE18	Roman Tile	1	69.1	34	With traces of mortar
				Peg Tile	1	54.9	13	
				Fragments	3	88.9	-	
			JE20	Roman Tile	3	510.3	35-38	
			JE22 x2	Roman Tile	1	175.8	30	
				Peg Tile	1	27.8	10	
				Fragment	1	35.4	-	
			JE30 x2	Roman Tile	5	3223.4	32-37	With traces of mortar
			JE64	Roman Tile	4	615.1	29-32	1 with signature
			JE70	Fragment	1	89.4	-	
			JE71	Roman Tile	1	53.8	24	
				Peg Tile	4	136.5	10-13	
				Post-Med Fragment	1	24.3	-	
			JE113	Roman Tile	2	26.9	16	
				Fragments	4	33.5	-	
			JE171	Roman Tile	6	1938.6	30-36	With traces of mortar
				Roman Brick	3	2314.5	43-60	
			JE174	Roman Tile	1	35.2	37	With traces of mortar
				Fragment	1	83.9	-	
			JE182 x2	Roman Tile	6	3106.8	32-40	With traces of mortar
				Fragments	3	220.3	-	
			JE190	Roman Tile	13	3516.5	30-40	With traces of mortar
				Roman Imbrex	1	148.3	17	
			JE195	Roman Tile	2	195.3	35	
			JE196	Roman Tile	1	171.6	30	With traces of mortar
				Fragments	2	53.6	-	
			JE201	Roman Tile	3	1255.2	25-32	1 with mortar on 1 side
			JE203 x2	Roman Tile	6	2421.2	34-39	With traces of mortar
				Peg Tile	1	17.3	10	
				Fragments	9	222.9	-	
			JE206 x3	Roman Tile	13	3251.3	27-37	With traces of mortar
				Roman Tile with Flange Fragments	1 9	222.8 391.2	17 -	+ 1 with incised lines
			JE208	Roman Tile	1	95.9	32	With traces of mortar
			JE210 x2	Roman Tile	11	1800.4	18-37	With traces of mortar
			JE211	Roman Tile	1	388.3	40	
			JE212	Roman Tile	9	1676.5	21-35	
				Roman Tile with Flange Fragments	1 2	218.1 70.3	24 -	
			JE217 x2	Roman Tile	2	298.9	34-35	
				Roman Imbrex	1	72.9	13	
				Peg Tile	1	13.2	10	
				Fragment	1	43.7	-	
			JE219 x2	Roman Tile	3	499.1	29-34	
				Fragment	1	41.0	-	
				Roman Imbrex	1	83.9	19	
			JE222	Roman Tile	5	679.9	30-37	With traces of mortar
				Roman Brick	1	633.1	46	
				Peg Tile	1	49.0	12	
				Fragments	6	90.0	-	
			JE228 x2	Roman Tile	2	98.2	30	With traces of mortar
				Fragment	1	26.5	-	
			JE231 x3	Roman Tile	14	3421.9	15-36	
				Roman Brick	1	13.6	40	
				Roman Imbrex	1	138.8	20	
				Fragments	18	1092.0	-	

Feature Number	Feature Also Known As	Feature Type	Finds Number	Type of CBM	Quantity	Weight (g)	Thickness (cm)	Notes
			JE234	Roman Tile	5	1084.0	25-35	With traces of mortar
				Peg Tile	1	5.5	6	
				Fragment	1	126.0	-	
			JE236	Roman Tile	1	116.2	17	With traces of mortar
				Post-Med Tile	1	197.3	32	
				Fragments	2	38.6	-	
			JE238	Roman Tile	1	204.6	34	
			JE242	Roman Tile	6	1872.3	28-39	With traces of mortar
				Fragments	2	24.8	-	
			JE244	Roman Tile	1	122.1	38	
				Fragments	2	18.4	-	
			JE246	Roman Tile	4	1652.3	33-36	With traces of mortar
			JE248	Fragment	1	11.0	-	
			JE251 x2	Roman Tile	2	330.9	31-37	With traces of mortar
				Fragments	9	183.9	-	
			JE253	Roman Tile	2	346.2	32-37	With traces of mortar
				Fragments	2	34.5	-	
			JE254	Roman Tile	1	256.7	33	With traces of mortar
				Fragment	1	45.7	-	
			JE256	Roman Tile	1	164.9	25	
			JE257	Roman Tile	1	105.3	-	With traces of mortar
			JE259	Roman Tile	2	390.0	30-37	With traces of mortar
				Peg Tile	1	8.0	12	
				Fragments	4	45.5	-	
			JE260	Roman Tile	1	179.3	35	
			JE262	Fragments	2	12.9	-	
			JE268 x2	Roman Tile	4	861.0	17-35	
				Roman Imbrex	1	59.4	15	
				Fragments	28	475.3	-	
			JE270	Fragment	1	29.3	-	
			JE273	Roman Tile	2	1003.6	30-34	With traces of mortar
			JE274	Roman Tile	2	216.2	30	With traces of mortar
			JE288	Roman Tile	11	1699.1	18-36	Some with traces of mortar
				Flange Fragment	1	25.9	-	
				Fragments	10	241.8	-	
			JE301	Roman Tile	3	1245.2	29-30	
				Roman Flange	1	19.9	-	
				Fragments	3	181.5	-	
			JE307 x3	Roman Tile	5	868.7	30-35	
				Fragments	1	16.6	9	
				Peg Tile	19	392.5	-	
			JE314	Roman Tile	8	545.0	22-35	
				Roman Imbrex	2	261.7	10-15	
				Peg Tile	17	678.9	9-14	
				Fragments	4	71.0	-	
			JE316	Fragments	1	46.1	-	
			JE318	Roman Tile	1	112.5	33	
				Fragments	1	42.5	-	
			JE323	Roman Tile	1	283.7	35	
				Fragments	5	221.8	-	
				Peg Tile	8	465.2	9-14	
			JE332	Roman Tile	2	150.7	24-27	
				Fragments	3	96.2	-	
			JE334	Fragment	1	57.8	-	
			JE335	Roman Tile	1	122.6	38	
			JE337	Fragment	1	22.2	-	
			JE344	Roman Tile	4	273.0	23-38	1 with signature

Feature Number	Feature Also Known As	Feature Type	Finds Number	Type of CBM	Quantity	Weight (g)	Thickness (cm)	Notes
				Peg Tile	5	140.7	9-12	
				Fragments	3	44.7	-	
			JE348	Roman Tile	1	157.7	33	
				Peg Tile	1	29.5	10	
				Fragments	3	82.4	-	
			JE353	Roman Tile	2	65.8	15	
				Peg Tile	10	422.9	8-11	
				Fragments	3	30.1	-	
			JE358	Fragments	6	71.4	-	
			JE362	Roman Tile	2	265.5	13-30	
			JE367	Fragments	3	74.8	-	
			JE369	Roman Tile	4	583.7	31-40	
				Fragments	7	300.0	-	
sx2			JE49 x2	Roman Tile	1	33.6	-	With traces of mortar
				Post-Med Tile	1	1261.9	37	
				Fragment	1	60.1	-	
			JE51	Fragments	3	63.1	-	
			JE54	Roman Tile	4	655.9	-	With traces of mortar
sx3			JE106	Roman Tile	4	1194.1	29-35	Finger Impressions With traces of mortar
			JE240	Roman Tile	8	1619.0	30-36	With traces of mortar
				Roman Tile with	1	231.2	12	
				Flange	1	13.5	-	
				Fragment				
sx4			JE108	Roman Tile	1	108.3	34	
				Fragments	3	108.9	-	
sx5			JE52	Roman Tile	5	1396.4	32-35	
			JE74	Roman Tile	2	190.0	31-34	With traces of mortar
				Peg Tile	9	457.3	9-13	
				Fragments	3	60.9	-	
sx6			JE75	Roman Tile	2	243.2	15-25	
			JE76	Roman Tile	1	30.5	17	
				Fragment	1	2.1	-	
			JE87	Fragment	1	4.4	-	
			JE97	Peg Tile	3	93.8	10-15	
				Fragments	3	91.2	-	
			JE146 x3	Roman Tile	6	1513.8	17-34	With traces of mortar
				Peg Tile	2	11.3	10	
				Roman Tile Fragment	2	82.9	-	
			JE150	Roman Tile	2	291.3	33-34	
			JE151	Roman Tile	1	34.7	15	With traces of mortar
				Fragment	1	48.2	-	
sx7			JE78	Roman Imbrex	1	55.3	13	
			JE79	Roman Tile	3	788.6	29-36	With traces of mortar
			JE84	Roman Tile	2	600.9	33	With traces of mortar
			JE88	Roman Tile	1	164.4	22	
				Peg Tile	1	42.1	13	
			JE89	Roman Tile	1	100.5	31	
				Roman Imbrex	1	64.4	15	
				Fragment	1	31.6	-	
			JE144	Roman Tile	3	562.8	28-37	
			JE145	Roman Tile	1	374.6	37	
sx8			JE86	Roman Tile	1	106.8	27	
				Peg Tile	1	11.0	10	
				Fragment	1	32.5	-	
sx9			JE157	Roman Tile	7	1465.1	27-37	With traces of mortar

Feature Number	Feature Also Known As	Feature Type	Finds Number	Type of CBM	Quantity	Weight (g)	Thickness (cm)	Notes
			JE163	Roman Tile	1	82.9	37	
			JE55	Roman Tile	1	64.3	24	
sx10								
			JE58	Roman Tile	1	289.1	30	
				Fragments	1	29.5	-	
			JE47	Roman Tile	5	1477.7	34-40	
sx11								
			JE56	Roman Tile	4	1263.9	32-35	With traces of mortar
				Fragments	2	44.5	-	
			JE62	Roman Tile	5	1560.8	16-35	
				Roman Tile with Flange	1	128.2	16	
			JE63	Roman Tile	1	151.0	35	With traces of mortar
			JE100	Fragment	1	26.4	-	
sx12								
			JE101	Peg Tile	1	15.9	10	
				Fragment	1	2.6	-	
			JE111	Fragments	5	13.4	-	
			JE140	Fragments	2	13.1	-	
			JE143	Peg Tile	1	19.4	13	
				Fragments	2	7.0	-	
			JE104	Roman Tile	4	824.3	28-35	
sx13				Peg Tile	1	16.8	10	
				Fragments	4	12.0	-	
			JE106 x3	Roman Tile	3	694.6	27-31	With traces of mortar
				Roman Tile with Flange	1	62.1	-	
				Fragments	2	106.2	-	
			JE115	Roman Tile	1	26.1	14	
				Fragment	1	45.7	-	
			JE119 x2	Roman Tile	1	222.7	32	With traces of mortar
				Fragments	1	127.9	-	
			JE161	Roman Tile	4	1223.7	13-35	
			JE162	Roman Tile	1	214.9	32	
			JE112	Roman Tile	5	1287.6	32-35	
sx14				Peg Tile	2	82.1	11	
			JE123	Roman Tile	1	89.5	30	
				Fragment	1	46.9	-	
			JE113	Peg Tile	3	16.8	10-14	
sx15				Fragments	3	51.6		
			JE298	Roman Tile	1	110.8	17	
sx16								
			JE148	Fragment	1	60.6	-	
sx18								
			JE159	Fragment	1	16.5	-	
sx19								
			JE165	Fragments	2	55.7	-	With traces of mortar
			JE168 x2	Roman Imbrex	1	20.9	12	
sx20				Roman Tile	1	64.3	30	
				Peg Tile	3	47.3	9-14	
				Fragments	4	35.1	-	
			JE172	Roman Tile	2	155.8	14-22	
				Fragment	1	11.2	-	
			JE176	Roman Tile	4	622.1	20-32	
				Roman Imbrex	1	41.2	16	
				Fragments	2	65.9	-	
JEF12 sx1		Medieval robber trench (trench	JE28	Fragments	1	86.6	-	

Feature Number	Feature Also Known As	Feature Type	Finds Number	Type of CBM	Quantity	Weight (g)	Thickness (cm)	Notes
		that robbed the western entrance wall of the circus)						
			JE156	Fragment	1	44.5	-	
sx3								
			JE96 x2	Roman Tile	1	298.3	37	With
sx4				Fragment	2	76.9	-	finger?Impressions + traces of mortar
			JE87	Fragment	1	19.0	-	
sx6								
JEF13		Medieval robber trench (trench that robbed the inner wall of the circus)	JE17	Roman Tile	1	124.6	39	
			JE41	Roman Tile	1	919.2	35	
				Peg Tile	1	32.7	11	
				Fragment	1	26.8	-	
sx1			JE33	Roman Tile	1	165.1	32	
				Fragment	1	38.2	-	
sx2			JE44	Roman Imbrex	1	15.0	11	
			JE73	Fragment	1	54.9	-	
sx4			JE93	Fragment	1	30.0	-	
	JEF26		JE139	Roman Tile	7	2708.7	33-39	
sx4			JE129	Roman Tile	1	104.1	19	
				Peg Tile	1	32.5	12	
	JEF47		JE207	Roman Tile	1	82.2	36	
				Fragment	1	24.6	-	
			JE304	Roman Tile	1	129.5	36	
			JE345	Roman Tile	5	342.3	30-40	Some with mortar
				Fragments	3	100.8	-	
JEF14		Medieval robber trench (trench that robbed the eastern entrance wall of the circus)	JE40	Roman Tile	2	271.1	31	
				Roman Imbrex	1	64.8	17	
				Peg Tile	2	43.2	10-13	
sx1			JE37	Fragments	2	15.4	-	
			JE38	Fragments	2	59.1	-	
sx2			JE42	Roman Tile	1	99.2	35	
				Fragment	1	11.9	-	
sx3			JE98	Roman Tile	1	774.1	36	
			JE99	Roman Tile	1	136.7	33	With traces of mortar
				Fragment	1	31.2	-	
			JE103	Roman Tile	1	44.6	24	
sx4			JE128	Roman Tile	2	248.6	32-33	
JEF23 sx1		Roman Ditch	JE381	Fragment	1	37.1	-	
JEF25		Post-Roman Post-hole	JE72	Fragments	2	32.6	-	
JEF29		2002 CAT Evaluation Trench	JE13	Peg Tile	1	59.1	12	
			JE127 x2	Peg Tile	2	51.0	11-12	
			JE230	Roman Tile	3	727.9	26-30	
				Peg Tile	2	46.8	11-12	
JEF35 sx1		Medieval robber trench/Rubble	JE138	Fragments	3	255.3	-	

Feature Number	Feature Also Known As	Feature Type	Finds Number	Type of CBM	Quantity	Weight (g)	Thickness (cm)	Notes
		Spread						
sx2			JE137	Roman Tile	1	157.5	34	
JEF43		Modern Trench	JE131	Fragment	1	17.2	-	
JEF44		Modern Pit	JE135	Peg Tile	4	29.0	9-11	
JEF46		Modern Pit	JE141	Roman Tile	1	135.3	28	
JEF50		Post-Med/Modern Post-hole	JE311	Fragments	2	41.5	-	
JEF52		Roman Pit	JE178	Fragment	1	23.6	-	
JEF58		Modern Ditch	JE310	Peg Tile	2	56.0	9-11	
			JE320	Roman Tile Peg Tile Fragment	1 3 1	93.1 120.4 14.8	23 10-11 -	
JEF61			JE328	Peg Tile	1	21.6	9	
			JE331	Peg Tile	2	30.1	8-11	
JEF65		Modern Post-hole	JE363	Peg Tile	1	11.0	8	
JEF67		Modern Post-hole	JE364	Post-Med/Modern Brick	1	551.1	62	
JEL1		Topsoil	JE225 x3	Roman Tile Peg Tile	2 6	152.5 169.8	15-17 10-13	
			JE294	Roman Tile Peg Tile Fragments	4 4 2	1199.3 124.9 141.3	30-33 10-12 -	
			JE297 x2	Roman Tile Peg Tile	2 1	199.2 394.0	22-29 9-12	
			JE309	Roman Tile	1	26.4	15	
			JE317	Peg Tile	3	50.6	10-12	
			JE336	Peg Tile	2	57.6	9-12	
			JE343 x2	Roman Tile Roman Tile with Flange Peg Tile Fragments	2 2 30 8	488.1 178.8 574.9 135.0	27-39 - 7-15 -	
			JE352	Peg Tile Fragments	3 6	64.0 69.6	9-12 -	
			JE355	Peg Tile	3	47.3	8-10	
JEL2		Medieval Robbing Debris	JE13	Roman Imbrex	1	88.0	16	
			JE224	Roman Tile Roman Tile with Flange Roman Imbrex Fragments	9 1 1 3	1505.3 65.3 38.7 99.2	28-35 20 17 -	With traces of mortar
			JE243	Roman Tile Peg Tile	3 1	859.2 36.6	31-33 37	
			JE275	Roman Tile	3	622.3	30-32	
			JE276	Roman Tile Roman Imbrex Peg Tile Fragments	9 1 3 11	2719.9 37.0 41.6 135.6	29-35 12 10-13 -	With traces of mortar
			JE279	Roman Tile	4	1192.5	30-35	
			JE280	Roman Tile Fragments	3 9	194.8 67.6	30-37 -	With traces of mortar
			JE281	Roman Tile Peg Tile	1 1	81.6 34.2	30 11	

Feature Number	Feature Also Known As	Feature Type	Finds Number	Type of CBM	Quantity	Weight (g)	Thickness (cm)	Notes
			JE282 x7	Roman Tile Roman Tile with Flange Roman Imbrex Peg Tile Fragments	29 1 1 5 58	8964.8 187.7 62.7 215.5 1345.6	28-40 25 13 12-17 -	1 with signature
			JE283	Fragments	13	188.1	-	With traces of mortar
			JE289	Roman Tile Peg Tile	3 2	905.5 42.9	26-30 9	1 with signature
			JE376	Roman Tile Fragments	2 4	103.7 221.9	15-34 -	
JEL4		Roman Demolition Debris	JE19	Roman Tile with Flange Roman Imbrex Peg Tile Fragments	1 1 1 2	159.1 21.7 21.0 9.7	17 14 10 -	With traces of mortar
			JE81 x2	Roman Tile Roman Tile with Flange	10 2	3275.1 210.5	28-35 -	7 with mortar traces 1 with mortar
			JE118	Roman Tile	3	816.4	30-34	With traces of mortar
			JE121	Roman Tile	5	2585.0	30-35	3 with mortar traces
			JE194	Roman Tile	5	1750.8	27-32	Evidence of being set in op-sig + mortar
			JE379	Roman Tile Peg Tile	2 1	1401.4 37.0	35-40 11	
JEL5		Post-Roman Subsoil	JE110	Fragments	23	137.9	-	
			JE245	Fragments	3	22.4	-	
			JE390	Roman Tile Roman Flange Roman Imbrex Peg Tile Fragments	4 1 2 10 41	237.7 36.7 87.7 162.2 278.5	25-28 - 13-15 9-14 -	
JEL7		Roman Metalled Surface	JE378	Roman Tile Fragments	1 2	220.4 85.4	34 -	
JEL8		Medieval Rubble Spread	JE356	Roman Tile Roman Imbrex Peg Tile Fragments	1 1 1 4	79.8 12.8 18.8 106.7	15 12 11 -	
JEL9		Medieval Robbing Debris	JE167	Fragment	1	51.7	-	
			JE305	Roman Tile Roman Brick Fragments	12 1 1	2875.4 298.1 30.8	15-34 36+ -	
			JE312	Roman Tile Peg Tile Fragment	2 1 1	367.5 29.4 60.2	32-33 11 -	
JEL10		Medieval Robbing Debris	JE324	Roman Tile	6	2097.1	16-34	
JEL14		Roman Gravel Spread	JE382	Roman Tile Fragments	1 3	136.2 201.4	21 -	2 with mortar traces
JEL16		Roman Surface	JE389	Roman Tile Fragments	1 9	88.4 149.2	30 -	
U/S			JE14	Peg Tile	1	28.2	11	
			JE31	Peg Tile	2	53.4	9	
			JE95	Roman Tile Peg Tile	1 1	75.1 46.7	34 10	
			JE132	Roman Tile	2	98.0	17-19	

Feature Number	Feature Also Known As	Feature Type	Finds Number	Type of CBM	Quantity	Weight (g)	Thickness (cm)	Notes
				Peg Tile Fragments	2 1	60.4 33.5	10-12 -	
			JE300	Roman Tile	1	534.3	-	
			JE361	Roman Tile	1	51.1	16	

Flue tile and tesserae cubes

Feature Number	Feature Type	Finds Number	Type of CBM	Quantity	Weight (g)	Thickness (cm)	Notes
JEF5	Medieval robber trench (trench that robbed the outer wall of the circus)	JE217	Flue Tile	1	76.6	15	
		JE222	Flue Tile	1	19.2	14	
		JE358	Flue Tile	1	22.4	14	
sx5		JE74	Flue Tile	1	120.1	20	
sx7		JE90	Tesserae	1	12.9	20	
sx18		JE155	Tesserae	1	10.8	12	
sx20		JE168	Flue Tile	1	34.2	17	
		JE176	Tesserae	1	16.0	25	
JEF14 sx3	Medieval robber trench (trench that robbed the eastern entrance wall of the circus)	JE103	Flue Tile	1	39.1	14	
JEL8		JE356	Flue Tile	1	11.8	-	
U/S		JE132	Tesserae	1	17.2	12	

Time Team trenches ceramic building material

Feature Number	Trench Number	Feature Type	Find Number	Find Type	Quantity	Weight (g)
TTF3	T3	Robber trench – trench which robbed the inner wall of the circus	3	Tile Fragment	1 1	864 45
TTF10	T3	Mason's Waste	1	Tile	1	48
TTF11	T3	Robber trench - trench which robbed inner wall of starting gates	2	Tile with Flange Imbrex	1 1	347 64
TTF12	T6	Foundations – remains of spina	5	Peg Tile	4	80
TTL7	T6	Redeposited Natural	9	Tile Fragment	1 7	591 151

WB ceramic building material

Total of 9 contexts:

Tile		25	7912.6g	7 contexts
Brick		7	4401.4g	1 context + U/S
Imbrex		1	208.9g	1 context
Fragments	40	1500.7g	7 contexts	

Feature No.	*Feature Type*	*Finds No.*	*Finds Type*	*Quantity*	*Weight (g)*	*Thickness (mm)*
WBF2 sx2	Medieval robber trench (inner wall)	WB 11	Tile	1	110.2	31
WBF4 sx1	Medieval robber trench (outer wall)	WB 7	Tile	1	380.1	38
		WB 8	Fragments	4	79.0	-
WBF5	Medieval robber trench (Buttress)	WB 6	Tile	1	212.2	35
			Fragments	9	198.3	-
WBF7	Roman Gully	WB 4	Fragments	5	74.9	-
WBF8	RomanPit	WB 3	Fragments	8	241.0	-
WBF16	Medieval robber trench (plinth)	WB 15	Tile	16	4468.6	20-39
			Brick	3	1709.7	40-42
			Tile with Mortar	1	1139.6	-
			Fragments	6	431.7	- (1 with incised lines)
WBF17	Roman Post Hole	WB 18	Tile	2	1218.5	30-33
WBF21	Medieval robber trench (outer wall)	WB 22	Tile	2	315.6	16-34
			Imbrex	1	208.9	14
			Fragments	5	401.7	-
WBF23	Med/Post-Med Pit	WB 23	Tile	1	67.8	17
			Fragments	3	74.1	-
U/S		WB 4	Brick	4	2691.7	35-45

Daub

Area J1 East

Feature Number	Feature Type	Finds Number	Quantity	Weight (g)
JEF5 sx12	Medieval robber trench (trench that robbed the outer wall of the circus)	JE97	1	8.1

Worked flint

Area C1

Feature Number	Finds Number	Small Finds Number	Description	Date
CF10 T4	16	18	1 flake, primary 5 flakes, secondary 3 flakes, tertiary 1 waster block fragment 1 attempted gunflint?	recent
CF11 T4	17	19	1 core fragment, sharp, poor quality flint 3 flakes, secondary, two with cortex platforms, good 3 waste fragments	
CF12 T4	20	15	1 flake, large, tertiary, small area of cortex, good black flint	
CF15 T4	25	20	1 flake, small, converging, tertiary, sharp	
CF16 T4	23	16	1 flake, secondary	
CF18 T4	27	17	1 core fragment 1 flake, tertiary	
CF23 T6	30	14	1 flake, fragment, small, tertiary	
CF51 T6	124	13	1 retouched flake, secondary	
CF72	170	32	1 flake, trimming, tertiary, good	
CF72	154	39	1 flake, small, converging, tertiary, good	
CF72	134	41	1 flake, distal end, secondary, good	
CF75	164	33	1 flake, tertiary	
CF75	163	34	1 blade/knife, utilised edge 1 blade fragment, tertiary, slight patination 1 flake, thinning	
CF75	133	40	2 flakes, thinning, secondary	
CF78	175	38	1 retouched flake, bifacial, part of ? tertiary	

Area C2

Feature Number	Finds Number	Small Finds Number	Description	Date
CF107	275	125	1 flake fragment, butt end	
CF143	363	115	1 blade, converging, tertiary, complete, 53mml, good	Mesolithic?
CF147	379	120	1 flake, preparation, tertiary	
CF172	442	143	1 flake, tertiary	
CF174	473	247	1 retouched flake/scraper. Butt part of Bronze Age knife with edge pressure flaking. Later? denticulate retouch across distal end	Early Bronze Age
CF174	475	227	1 retouched blade, 40mml, tertiary	Mesolithic?
CF178	499		2 large flint nodules, one with area of flaking. Grey flint with inclusions. Either prehistoric raw material or building material of any date.	

Feature Number	Finds Number	Small Finds Number	Description	Date
CF181	488	226	1 broad blade, part of, tertiary, good black flint 1 retouched blade	
CF203	516	221	1 blade, minus proximal and distal parts, tertiary	
CF224	601	208	1 bifacial fragment, distal end, secondary	
CF252	739	222	1 flake from prepared core, butt part, scraperblank?	
CF252	737	223	1 flake fragment, worn, grey flint	Early Paleolithic
CL2	188	55	1 flake, secondary	
CL22	440	142	1 blade with edge damage, tertiary	Mesolithic/Early Neolithic
U/S	233	60	1 blade core strike-a-light, good black flint	
U/S	204	83	1 retouched flake, worn retouch along left edge	

Area J1

Area J1 North

Feature Number	Finds Number	Description	Date
JNF10	JN145	1 flake-blade, trimming, tertiary, good black flint	
JNF10	JN499	1 flake, tertiary 1 flake, secondary 1 flake, irregular, thick section	
JNF10	JN569	1 flake, butt part, secondary	
JNF24	JN65	1 flake, small, butt part, secondary	
JNF24	JN55	1 flake, small, secondary	
JNF25	JN331	1 fragment, secondary	
JNF34	JN56	1 waste piece, secondary	
JNF34	JN76	1 fragment, tertiary, was good, neolithic scraper?	Neolithic?
JNF35	JN57	1 natural	
JNF35	JN99	1 flake, small, tertiary	
JNF38	JN737	1 flake, small, tertiary	
JNF38	JN790	1 flake from blade core, thin section, fine, tertiary	
JNF59	JN54	1 flake, large, tertiary, good black flint 1 flake, platform edge removal, tertiary	
JNF69	JN92	1 flake, irregular, tertiary, sharp	
JNF69	JN114	1 flake, irregular, secondary, thick section	
JNF94	JN400	1 flake, distal end, secondary	
JNF204	JN453	1 blade, complete, punch struck, grey flint	Mesolithic/Neolithic
JNF222	JN699	1 flake, secondary, axe thinning flake	
JNF241	JN556	1 tortoise core, complete	Late Neolithic
JNF241	JN557	1 core fragment, fire crackled area, good black flint 1 flake, irregular, tertiary, sharp	
JNF241	JN693	1 blade, broken, burnt?, in two pieces	
JNF250	JN609	1 side and end scraper on a flake, pressure flaked retouch	Late Neolithic/ Early Bronze Age
JNF273	JN643	1 blade, butt part, small fragment, tertiary	
JNF325	JN695	1 flake, secondary, good black flint	
JNF333	JN723	1 blade, thick section, tertiary, 45mml, good black flint	
JNF341	JN726	1 flake, butt part, primary	
JNF341	JN731	1 flake, secondary	
JNF343	JN746	1 flake, tertiary, good black flint, burnt 1 flake, secondary	

Feature Number	Finds Number	Description	Date
JNF361	JN974	1 bladelet, secondary, 30mml 1 bladelet ? irregular, secondary, patinated	
JNF394	JN898	1 bladelet fragment, tertiary, white flint	
JNF458	JN1025	2 blade fragments, (1 white flint and 1 grey flint)	
JNF477	JN1060	1 flake, tertiary, deep bulbs, good black flint 1 flake, tertiary, thinning, waste 1 bladelet fragment, white flint	Later Prehistoric
JNF488	JN1406	1 retouched ? flake, tertiary, good black flint	
JNL1	JN25	1 core fragment, rolled	
JNL2	JN28	1 blade core, two adjacent platforms, complete, good	
JNL2	JN729	1 core, one platform, patinated and one patinated knapped surface, good	
U/S	JN761	1 blade fragment? secondary	

Area J1 South

Feature Number	Finds Number	Description	Date
JSF5	JS22	1 core fragment, one platform 1 flake, thin section, double core, cortex platform	
JSF19	JS87	1 flake, large and thick, reused as blade core or vice-versa	

Area J1 East

Feature Number	Finds Number	Description	Date
JEF4	JE8	1 scraper on end of flake, secondary, broken	
JEF4	JE324	1 flake, platform widest part, slight patination	
JEF5	JE147	1 flake, opposing platforms, large, tertiary, glossy black flint 1 flake, secondary, good	
	JE173	1 flaked block fragment, tertiary, good black flint 1 flake, small, tertiary	
	JE191	1 core fragment, sharp, recent?	
	JE223	1 flake, deep dorsal surface bulb, tertiary	
	JE237	1 flake, gravel?, secondary	
	JE263	1 flake, tertiary, glossy black flint	
	JE299	1 flake core, four removals	
	JE302	1 flake, rough, irregular, brown stained flint	
JEF13	JE34	1 flake, small, trimming, tertiary	
JEF14	JE43	1 blade flake, converging, secondary, 51mml	
JEF61	JE339	1 flake, primary, natural	
JEL2	JE287	1 retouched blade, fine retouch on right edge, secondary 1 flake, primary	
JEL5	JE245	1 backed flake, crescent in outline, gunflint?, tertiary	
JEL9	JE308	1 flake, trimming, tertiary	
U/S	JE122	1 broad blade, utilised left edge, secondary	
	JE175	1 flake, secondary	
	JE388	1 blade core fragment, light grey flint	

Area Q

Feature Number	*Finds Number*	*Description*	*Date*
QF25	15	1 flake, tertiary, thinning	
	16	1 palaeolithic hand-axe, butt half, plano-convex in section, light grey/white flint	Palaeolithic
QF29 sx10	37	1 flake, converging, tertiary, good	Neolithic
QF29 sx17	63	1 flake, tertiary, waste	
QF29 sx18	65	1 flake	
QF48	21	1 notched blade, tertiary, butt half, punch struck, notch of left edge	
QF71	41	1 flake fragment, secondary	
QF83	53	1 core on flake	
QF106	64	1 natural thermally split flint with edge retouched/damage? Rolled	Late Prehistoric
QF109 sx4	67	1 flake, secondary, very squat and curved	Late Prehistoric
QL1-2	35	1 blade, secondary, distal half, 4.5cml 1 flaked flake, secondary, thick section 1 side scraper on secondary flake 1 flake, tertiary, converging	Late Prehistoric
QL1-2	39	1 'tanged'? scraper, secondary	Late Prehistoric
QL2	40	1 flake, thinning, cortex butt	
QL2	43	1 core scrapper. Block with retouched edge	Late Prehistoric
QL2	49	1 retouched flake, secondary	Palaeolithic
QL2	82	1 flake, tertiary	
U/S	12	2 flakes, tertiary, trimming	

Burnt flint

312 pieces weighing 16,908g from 69 contexts

Area C1

Feature No.	Feature Type	Finds No.	Qt.	Wt.(g)
CF10 T4	Pit	15	2	331.9
CF11 T4	Pit	19	2	83.3
CF78	Gravel Surface	175	3	119.6
CL18	Demolition Material	160	1	54.0

Area C2

Feature No.	Feature Type	Finds No.	Find Type	Qt	Wt(g)
CF29 T3	Service Trench	50	Burnt Flint	1	48.0
CF124	Ragstone Chip Surface	434	Burnt Flint	1	116.6
CF159	Metalled Surface	602	Burnt Flint	1	69.8
CF163	Box Cremation	641	Burnt Flint	1	3.1
CF174 sx1	Ditch	474	Burnt Flint	1	52.0
		475	Burnt Flint	1	152.3
CF223	Pit	554	Burnt Flint	3	35.8
CF240	Cremation	706	Burnt Flint	1	12.0
CF244	Grave	702	Burnt Flint	1	17.4
CL21	Occupation Layer	299	Burnt Flint	2	68.9

Area E

Feature (F) and Trench (T) Number	Feature Type	Date of Feature	Finds Number	Quantity	Weight (g)
EF13	Enclosure Ditch	Roman	16	2	65.0

Area J1

J1 Evaluation

Feature (F) and Trench (T) Number	Feature Type	Date of Feature	Finds Number	Quantity	Weight (g)
JF16	Inhumation Burial (Grave)	Roman	11	1	24.4

J1 North

Feature Number	Feature Type	Finds Number	Quantity	Weight (g)
JNF2	Quarry Pit	JN23	1	14.5
JNF10 sx2	Ditch	JN59	1	7.1
		JN60	2	35.3
sx4		JN145	2	31.0
		JN146	1	5.2

Feature Number		Feature Type	Finds Number	Quantity	Weight (g)
	sx10		JN499	2	23.2
JNF22		Urned Cremation Burial	JN32	2	17.2
JNF23		Quarry Pit	JN26	7	82.7
			JN271	2	81.4
JNF24		Quarry Pit	JN64	32	590.0
JNF25		Quarry Pit	JN98	37	564.9
JNF27		Urned Cremation Burial	JN138	4	50.1
JNF34	Quad 1 Spit 1	Pyre/Bustum	JN79	2	126.7
	Quad 2 Spit 2		JN103	1	5.6
	Quad 3 Spit 3		JN104	1	2.8
	Quad 2 Spit 4		JN124	1	29.3
	Quad 3 Spit 5		JN128	1	8.3
	Quad 4 Spit 6		JN151	1	66.4
JNF36		Posthole	JN44	2	15.4
JNF37		Pit	JN45	4	31.4
JNF38		Pit	JN735	14	394.7
			JN788	1	4.0
JNF47		Cremation Burial	JN71	2	26.3
JNF59		Burial Pit containing Pyre Debris	JN53	48	1214.9
JNF78		Burial Pit containing Pyre Debris	JN144	2	6.9
JNF89		Ditch	JN175	6	170.8
JNF91		Burial Pit containing Pyre Debris	JN229	3	63.1
JNF93		Posthole	JN289	7	117.8
JNF94		Cremation Burial	JN400	1	10.1
			JN473	1	39.5
JNF117		Inhumation Burial (Grave)	JN281	2	10.2
JNF134		Gully	JN297	1	36.7
JNF141		Inhumation Burial (Grave)	JN402	3	177.2
JNF170		Posthole	JN392	1	9.5
JNF183		Pyre/Bustum	JN958	2	39.9
JNF191		Inhumation Burial (Grave)	JN577	1	21.5
JNF227		Pit	JN397	2	51.2
JNF229		Inhumation Burial (Grave)	JN576	1	7.2
JNF241		Inhumation Burial (Grave)	JN555	3	128.0
JNF248		Pyre/Bustum	JN535	3	16.2
JNF250		Urned Cremation Burial	JN584	1	7.1
JNF252		Burial Pit containing Pyre Debris	JN600	3	111.7
JNF257		Quarry Pit	JN602	2	200.4
JNF261		Inhumation Burial (Grave)	JN567	1	10.8
JNF371		Urned Cremation Burial	JN996	2	58.3
JNF373		Burial Pit containing Pyre Debris	JN891	1	1.1

Feature Number	Feature Type	Finds Number	Quantity	Weight (g)
JNF380	Urned Cremation Burial	JN1405	2	82.8
JNF419	Quarry Pit	JN1037	2	36.2
JNF420	Quarry Pit	JN1065	1	76.9
JNF456	Inhumation Burial (Grave)	JN1063	1	93.3
		JN1066	1	8.9
JNF487	Inhumation Burial (Grave)	JN1086	1	6.9
JNF503	Pit	JN1344	5	141.4
JNF504	Inhumation Burial (Grave)	JN1342	1	8.9
JNL2	Subsoil	JN730	2	83.4

J1 South

Feature Number	Feature Type	Finds Number	Quantity	Weight (g)
JSF5 sx1	Roman Ditch	JS22	2	62.6
JSF19 sx1	Roman Ditch	JS76	1	11.8

J1 East

Feature Number	Feature Type	Finds Number	Quantity	Weight (g)
JEF4	Roman Pit	JE8	1	55.0
JEF5	Medieval Robber Trench (trench that robbed the outer wall of the circus)	JE206	1	210.4
		JE238	1	14.0
		JE316	1	113.8
		JE344	1	5.1
sx7		JE90	1	27.0
sx13		JE106	1	40.6
		JE109	2	74.3
JE13 sx2	Medieval Robber Trench (trench that robbed the inner wall of the circus)	JE44	1	35.5
JE23	Roman Ditch	JE380	2	30.7
JEL2	Medieval Robbing Debris	JE282	1	136.8
U/S		JE95	31	360.8

Area Q

Feature Number	Feature Type	Date of Feature	Finds Number	Quantity	Weight (g)
QF23	Natural		31	1	9.6
QF29	Ditch	LIA/Roman	60	1	87.7
QL1-2	Topsoil/Subsoil		35	1	59.8

Area S1

Feature (F) and Trench (T) Number	Feature Type	Date of Feature	Finds Number	Quantity	Weight (g)
SF2	Ditch	Post-Med	S3	1	41

Watching Brief

Feature (F) and Trench (T) Number	Feature Type	Date of Feature	Finds Number	Quantity	Weight (g)
WBF25	Pit	Prehistoric	WB 20	1	32.4

Charcoal

75 pieces weighing125.8g from 10 different contexts

Area C2

Feature No.	Feature Type	Finds No.	Qt	Wt(g)
CF29 T3	Service Trench	50	3	2.9
CF192	Pit	493	17	28.0
CF246	Grave	703	4	2.2
CF250	Grave	704	1	2.3
CL11 T1	Subsoil	63	4	1.4

Feature No.	Feature Type	Finds No.	Qt	Wt(g)
CL27	Dump Layer	593	2	1.0

Area J1

J1 North

Feature Number	Feature Type	Finds Number	Quantity	Weight (g)
JNF38	Pit	JN789	4	0.1
JNF273	Inhumation burial	JN644	25	76.8
JNF361	Inhumation burial	JN970	8	2.1

Area Q

Feature/Layer No.	Feature Type	Find No.	Quantity	Weight
QF109 sx5	LIA/Roman Ditch	Q79	7	9

Opus signinum and mortar fragments

143 fragments of *opus signinum* weighing 11,285g from 21 different contexts and 71 fragments of mortar weighing 11,296g from 12 different contexts

Area C1

Feature No.	Feature Type	Finds No.	Find Type	Qt.	Wt.(g)
CF6 T4	Robbed Wall/Demolished Wall	34	Op Sig	25	616.6
CF7 T4	Robbed Wall	6	Mortar	2	102.1
CF7 T4	Robbed Wall	150	Mortar	1	30.5
CL18	Demolition Material	146	Op Sig	5	187.3
		147	Mortar	3	12.9

Area C2

Feature No.	Feature Type	Finds No.	Find Type	Qt	Wt(g)
CF107	Robbed out Wall Line	220	Op Sig	2	493.2
CF143	Ditch	313	Op Sig	1	151.7
CF159	Metalled Surface	602	Op Sig	1	22.0
CL21	Occupation Layer	299 397	Op Sig	7 1	773.7 86.3
CL24	Demolition Material	495	Op Sig	2	2557.4
U/S		204	Op Sig	9	89.3

Area E

Feature Number	Feature Type	Finds Number	Find Type	Quantity	Weight (g)
EF13	Enclosure Ditch	30	Op sig	1	19

Area J1

Arae J1 East

Feature Number	Feature Also Known As	Feature Type	Finds Number	Find Type	Quantity	Weight (g)
JEF5		Medieval Robber Trench (trench that robbed the outer wall of the circus)	JE52	Op Sig	1	31.8
			JE56	Op Sig	1	5.1
			JE59	Op Sig	3	113.3
			JE149	Op Sig	1	34.8
			JE171	Op Sig	2	144.6
			JE174	mortar	1	16.0

Feature Number	Feature Also Known As	Feature Type	Finds Number	Find Type	Quantity	Weight (g)
			JE190	Op Sig	7	808.3
				mortar	1	217.5
			JE195	mortar	1	183.1
			JE196	Op Sig	1	330.1
				mortar	3	879.1
			JE203	mortar	2	261.8
			JE206	Op Sig	1	55.3
				mortar	1	192.7
			JE210	Op Sig	2	8.2
			JE217	Op Sig	1	37.5
			JE234	Op Sig	6	139.7
			JE240	mortar	1	295.3
			JE254	Op Sig	1	114.4
				mortar	1	304.7
			JE270	mortar	1	660.7
			JE273	Op Sig	3	117.7
			JE314	mortar	1	97.1
			JE373	mortar	3	35.2
	sx2		JE49	Op Sig	1	71.0
				mortar	1	228.8
			JE52	Op Sig	2	166.0
			JE54	Op Sig	1	31.3
	sx3		JE240	mortar	1	38.4
	sx6		JE83	mortar	4	1893.4
			JE146	mortar	2	1029.3
	sx9		JE157	Op Sig	2	325.8
				mortar	1	112.6
	sx11		JE47	Op Sig	1	14.6
			JE63	mortar	2	50.9
	sx12		JE100	mortar	1	27.1
	sx13		JE106	Op Sig	2	38.4
	sx14		JE112	mortar	2	388.4
	sx15		JE117	mortar	1	127.0
	sx18		JE155	mortar	4	31.0
	sx19		JE165	mortar	2	154.6
	sx20		JE172	Op Sig	2	110.4
JEF12		Medieval Robber Trench (trench that robbed the western entrance wall of the circus)	JE16	Op Sig	1	35.2
JEF13 sx2		Medieval Robber Trench (trench that robbed the inner wall of the circus)	JE44	Op Sig + mortar	4	174.6
	JEF26		JE139	Op Sig	1	36.0

Feature Number	Feature Also Known As	Feature Type	Finds Number	Find Type	Quantity	Weight (g)
	JEF47		JE207	Op Sig	1	74.1
JEF14		Medieval Robber Trench (trench that robbed the eastern entrance wall of the circus)	JE26	Op Sig mortar	1 1	23.1 58.6
JEF29		2002 CAT Evaluation Trench	JE130	Op Sig	2	95.1
JEL2		Medieval Robbing Debris	JE282	Op Sig Op Sig + mortar	1 3	25.9 78.8
JEL4		Roman Demolition Debris	JE81	Op Sig mortar	6 4	583.5 470.4
			JE118	Op Sig mortar	4 3	415.0 379.5
			JE194	Op Sig mortar	4 4	720.5 270.5
			JE379	mortar	5	194.4
JEL10		Medieval Robbing Debris	JE324	mortar Op Sig + mortar Op Sig	1 1 1	561.0 99.3 98.8
JEL11		Medieval Robbing Debris	JE179	Op Sig	1	64.9

Time Team

Feature Number	Trench Number	Feature Type	Find Number	Find Type	Quantity	Weight (g)
TTF11	T3	Robber Trench – trench which robbed the inner wall of the starting gates	2	Op Sig	1	267

Watching Brief

Feature No.	Feature Type	Finds No.	Finds Type	Quantity	Weight (g)
WBF3	Medieval Robber Trench (entrance wall)	WB 9	Op Sig	10	29.7
WBF7	Roman Gully	WB 4	Mortar	2	471.5
WBF16	Medieval Robber Trench (Plinth)	WB 15	Op sig Mortar	4 7	475.5 1125.3
WBF17	Roman Post Hole	WB 18	Op sig	1	352.9
WBF21	Robber Trench (outer wall of circus)	WB 22	Mortar	1	394.9

Shell

339 pieces weighing 3192g from 36 different contexts

Area C1

Feature No.	Feature Type	Finds No.	Find Type	Qt.	Wt.(g)
CF7	Robbed Wall	150	Oyster Shell	1	0.5
CF47 T5	Pit/Ditch	121	Oyster Shell	1	34.1
CL18	Demolition Material	147	Oyster Shell	1	15.7
		148	Oyster Shell	1	17.8
CL19	Roman Trample	173	Oyster Shell	3	28.3

Area C2

Feature No.	Also known as	Feature Type	Finds No.	Find Type	Qt	Wt(g)
CF106 sx2		Ditch	235	Oyster	5	25.6
CF110		Pit	223	Oyster + Mussel	50+	851.1
CF124		Ragstone Chip Surface	434	Oyster	2	13.6
CF159		Metalled Surface	602	Oyster	1	28.9
CF181		Ditch				
	CF201 sx1		516	Oyster	1	2.1
CF217		Pit	530	Oyster	1	7.6
CL20		Demolition Material	267	Oyster	1	7.5
CL21		Occupation Layer	299	Oyster	3	60.2
CL22		Accumulation Layer	439	Oyster	4	23.3
U/S			204	Oyster	6	23.0

Area E

Feature (F) and Trench (T) Number	Feature Type	Date of Feature	Finds Number	Find Type	Quantity	Weight (g)
EF13 ET2	Enclosure Ditch	Roman	E30	Whelk Cockel	2 1	34 4

Area J1

Arae J1 Evaluation

Feature (F) and Trench (T) Number		Feature Type	Date of Feature	Finds Number	Find Type	Quantity	Weight (g)
JF46	T17	Ditch	Modern	46	Oyster	1	5.7

Area J1 North

Feature Number	Feature Type	Finds Number	Finds Type	Quantity	Weight (g)
JNF202	Inhumation Burial (Grave)	JN374	Mussel Shell?	1	0.1

Area J1 East

Feature Number	Feature Also Known As	Feature Type	Finds Number	Find Type	Quantity	Weight (g)
JEF4		Roman Pit	JE384	oyster	1	15.5
JEF5		Medieval Robber Trench (trench that robbed the outer wall of the circus)	JE11	oyster	4	40.9
			JE18	oyster	1	12.7
			JE52	oyster	2	6.6
			JE56	oyster	1	10.5
			JE59	mussel	3	0.6
			JE64	oyster	2	19.0
			JE70	oyster	3	7.4
			JE71	oyster	5	57.2
			JE177	snail	1	1.7

Feature Number	Feature Also Known As	Feature Type	Finds Number	Find Type	Quantity	Weight (g)
			JE190	oyster	1	11.5
			JE196	snail	1	3.9
			JE203	snail	6	14.0
				oyster	1	7.2
			JE206 (2 bags)	snail	9	22.6
				oyster	3	40.7
			JE208	oyster	1	5.6
			JE210	oyster	3	33.0
			JE211	cockle	1	2.2
				oyster	1	11.7
			JE212	oyster	3	18.9
			JE217	oyster	1	1.1
			JE222	snail	4	8.0
				oyster	7	73.3
			JE231	snail	1	3.6
				oyster	1	2.1
			JE234	snail	3	1.0
				oyster	1	6.1
			JE246	oyster	1	20.2
			JE249	snail	1	0.6
			JE251	oyster	1	1.7
			JE254	oyster	1	2.9
			JE258	snail	1	2.1
				oyster	1	7.4
			JE260	snail	3	5.9
			JE262	oyster	1	8.9
			JE264	oyster	1	21.8
			JE267	snail	1	5.0
				oyster	1	14.0
			JE268	oyster	1	2.3
			JE269	oyster	1	32.9
			JE288 (2 bags)	oyster	6	93.7
				snail	7	8.4
			JE291	oyster	1	5.1
			JE301	oyster	1	2.6
			JE307	oyster	1	13.9
			JE314	oyster	3	11.3
			JE316	oyster	1	1.7
			JE323	oyster	5	45.5
			JE332	oyster	2	14.6
			JE334	oyster	1	8.8
			JE344	oyster	1	36.0
			JE353	oyster	1	2.6

Feature Number	Feature Also Known As	Feature Type	Finds Number	Find Type	Quantity	Weight (g)
			JE358	oyster	1	6.8
			JE369	oyster	1	3.2
sx3			JE240	oyster	1	24.1
sx6			JE75	oyster	1	14.7
			JE82	snail	5	6.6
			JE146	oyster	1	21.4
			JE152	snail	1	1.1
sx7			JE78	whelk	1	3.3
			JE88	oyster	1	6.3
			JE145	oyster	1	33.9
sx11			JE62	snail	2	1.9
sx12			JE101	oyster	1	8.3
			JE140	oyster	1	3.2
			JE143	oyster	1	7.1
sx13			JE106	snail oyster	3 1	6.9 6.3
			JE109	oyster	1	12.1
			JE119	snail whelk cockle oyster	3 2 1 1	0.6 15.9 1.7 25.0
			JE161	oyster	1	15.2
sx15			JE113	oyster	4	19.8
sx18			JE155	snail oyster	1 1	2.3 21.3
sx19			JE159	snail oyster	2 1	0.9 14.1
sx20			JE168	snail oyster	4 2	0.3 40.3
			JE172	snail oyster	3 3	0.9 22.5
JEF12 sx3		Medieval Robber Trench (trench that robbed the western entrance wall of the circus)	JE91	oyster	1	23.0
			JE156	oyster	1	5.7
JEF13 sx2		Medieval Robber Trench (trench that robbed the inner wall of the circus)	JE44	oyster	1	2.2
	JNF47		JE345	oyster	1	17.5
JEF14		Medieval Robber Trench (trench that robbed the eastern entrance wall of the circus)	JE26	oyster	1	49.4
sx1			JE37	oyster	1	6.7
sx3			JE99	oyster	1	38.9
JEF23		Roman Ditch	JE380	oyster	3	22.6

Feature Number	Feature Also Known As	Feature Type	Finds Number	Find Type	Quantity	Weight (g)
sx1			JE381	oyster	3	12.5
sx3			JE387	oyster	1	6.8
JEF29		2002 CAT Evaluation Trench	JE230	snail	2	1.4
JEF46		Modern Pit	JE141	oyster	1	6.1
JEL1		Topsoil	JE297	oyster	3	61.5
			JE336	oyster	1	12.6
			JE343	oyster	1	6.7
JEL2		Medieval Robbing Debris	JE13	oyster	2	32.3
			JE224	oyster	5	71.4
			JE275	oyster	2	24.4
			JE276	snail mussel oyster	6 2 8	19.4 2.3 78.2
			JE279	oyster	1	6.1
			JE280	snail oyster	2 1	1.2 7.3
			JE282 (2 bags)	oyster	17	191.3
			JE283	snail oyster	4 1	6.7 5.4
			JE289	oyster	1	36.0
JEL4		Roman Demolition Debris	JE19	oyster	1	9.9
JEL5		Post-Roman Subsoil	JE245	oyster	1	13.0
JEL8		Medieval Rubble Spread	JE356	oyster	1	6.7
JEL9		Medieval Robbing Debris	JE305	snail oyster	1 1	1.1 17.0
			JE312	snail	1	1.5
JEL10		Medieval Robbing Debris	JE324	oyster	1	17.3
JEL12		Make-up	JE375	oyster	1	7.0
JEL16		Roman Surface	JE389	oyster	1	10.0

Area J1 West

Feature Number	Feature Type	Finds Number	Finds Type	Quantity	Weight (g)
JWF1 sx1	Post-Medieval Metalled Trackway	JW1	Oyster	1	4.0

Watching Brief

Feature No.	Feature Type	Finds No.	Finds Type	Quantity	Weight (g)
WBF7	Roman Gully	WB 4	Oyster	1	9.8
WBF8	Roman Pit	WB 3	Oyster	2	10.2
WBF21	Medieval Robber Trench (outer wall)	WB 21	Oyster	2	26.8

Non-worked stone

168 pieces weighing 42,803g from 45 different contexts

Area C1

Feature No.	Feature Type	Finds No.	Find Type	Qt.	Wt.(g)
CF1 T4	Pit	1	Sandstone	1	58.5
			Septaria	1	30.5
CF6 T4	Robbed Wall/Demolished Wall	34	Ragstone	3	297.3
CF6	Robbed Wall/Demolished Wall	153	Ragstone	1	66.1
CF7 T4	Robbed Wall	6	Ragstone	1	70.7
CF8 T4	Pit	7	Ragstone	1	375.9
CF19 T4	Pit	33	Sandstone/Ragstone	4	245.5
CF51 T6	Ditch	124	Ragstone	2	65.2
CL2 T4	Subsoil	4	Ragstone	1	37.7
CL18	Demolition Material	149	Flint?	1	234.1
		156	Ragstone	1	816.7
		166	Sandstone	1	390.5

Area C2

Feature No.	Also known as	Feature Type	Find No.	Find Type	Qt	Wt(g)
CF27 T3		Grave	71	Sandstone	2	45.5
CF29 T3		Service Trench	50	Sandstone	2	67.7

Feature No.	Also known as	Feature Type	Find No.	Find Type	Qt	Wt(g)
CF44 T1		Wall	103	Ragstone	1	224.5
CF105		*Cremation*	*164*	*Ragstone*	*1*	*57.1*
CF106 sx2		*Ditch*	*235*	*Ragstone Chip (with mortar)*	*1*	*18.5*
CF106 sx3			*242*	*Sandstone*	*1*	*3.4*
CF110		*Pit*	*223*	*Sandstone* *Ragstone*	*1* *1*	*136.0* *105.1*
CF124		*Ragstone Chip Surface*	*434*	*Sandstone*	*1*	*143.8*
CF139a		*Ring Ditch*				
	CF222	Ring Ditch	549	Sandstone	2	18.9
CF163		Box Cremation	641	Sandstone	1	66.5
CF169		Sand Quarry Pit	728	Sandstone	1	28.7
CF174 sx1		Ditch	458	Sandstone	2	158.3
sx3			475	Sandstone	1	224.7
CF190		Cremation	526	Ragstone	1	36.3
CF207 sx1		Ring Ditch	594	Chalk	1	12.0
CF217		Pit	530	Septaria	1	1298.0
CF231 sx2		Ring Ditch	643	Sandstone	1	534.1
CF236		Grave	670	Sandstone/Tufa?	1	121.3
CF243		Pit	715	Chalk	3	38.8
CF244		Grave	702	Sandstone Tufa?	1 1	69.4 20.1
CF259		Grave	728	Sandstone Chalk	1 1	48.5 130.0
CL27		Dump Layer	593	Sandstone Septaria	2 1	61.9 14.5
U/S			204	Ragstone Chalk	2 1	675.4 29.2

Area E

Feature Number	Feature Type	Finds Number	Find Type	Quantity	Weight (g)
EF13 ET2	Roman Enclosure Ditch	*E8*	*Tufa*	*1*	*121*

Area J1

Area J1 East

Feature Number	Feature Type	Finds Number	Find Type	Quantity	Weight (g)
JEF5	Medieval Robber Trench (trench that robbed the outer wall of the circus)	*JE231*	*Ragstone chips*	*6*	*447.9*
sx11		JE47	Ragstone	2	509.1
JEF23 sx5	Roman Ditch	JE386	Septaria	1	549.2

Time Team trenches (all ragstone)

Feature Number	Trench Number	Feature Type	Find Number	Quantity	Weight (g)
TTF3	T3	Robber Trench – trench which robbed the inner wall of the circus	3	1	974
TTF11	T3	Robber Trench – trench which robbed the inner wall of the starting gates	2	2	2010
TTF12	T6	Foundations – remains of spina	10	45	2891
TTL2	T6	Subsoil	8	3	1776
TTL7	T6	Redeposited Natural	9	25	5510

Watching Brief

Feature No.	Feature Type	Finds No.	Find Type	Quantity	Weight (g)
WBF2	Medieval Robber Trench (inner wall)	WB 11	Ragstone	1	4500.0
WBF3 sx2	Medieval Robber Trench (entrance wall)	WB 10	Flint Nodule	4	5000.0
WBF5	Medieval Robber Trench (buttress)	WB 3	Ragstone	5	1116.1
WBF7	Roman Gully	WB 4	Ragstone	1	173.1
WBF16	Medieval Robber Trench (Plinth)	WB 15	Ragstone	6	1603.4
WBF17	Roman Post Hole	WB 18	Ragstone	2	3610.2
WBF19	Med/Post-Med Pit	WB 16	Ragstone	2	3821.0
WBF21	Medieval Robber Trench (outer wall)	WB 22	Ragstone	4	703.8

Feature No.	Feature Type	Finds No.	Find Type	Quantity	Weight (g)
WBF23	Med/Post-Med Pit	WB 23	Ragstone	3	412.0

Slate

19 pieces weighing 105g from 11 different contexts

Area C1

Feature No.	Feature Type	Finds No.	Qt.	Wt.(g)
CF20 T4	Pit	31	1	3.7

Area C2

Feature No.	Feature Type	Finds No.	Qt	Wt(g)
CF106	Ditch	285	1	0.9
CF193	Pit	541	1	23.4

Area J1

Area J1 Evaluation

Feature (F) and Trench (T) Number		Feature Type	Date of Feature	Finds Number	Quantity	Weight (g)
JF10	T	Quarry Pit	Post-Medieval	4	1	3.8

Area J1 North

Feature Number	Feature Type	Finds Number	Quantity	Weight (g)
JNF23	Quarry Pit	JN66	1	6.6
JNF35	Cremation Burial	JN57	1	3.8

Area J1 East

Feature Number	Feature Type	Finds Number	Quantity	Weight (g)
JEF5	Medieval Robber Trench (trench that robbed the outer wall of the circus)	JE52	1	2.2
		JE307	1	12.8
		JE314	1	0.7
sx20		JE168	1	0.9
JEL1	Topsoil	JE294	1	18.1
		JE343	1	11.1
JEL2	Medieval Robbing Debris	JE376	1	4.5
JEL5	Post-Roman Subsoil	JE390	2	9.5

Time Team Trench 6

Feature Number	Trench Number	Feature Type	Find Number	Quantity	Weight (g)
TTF12	T6	Foundations – remains of ?central barrier	5	1	3

Wall plaster

Area J1 East

Feature Number	Feature Type	Finds Number	Quantity	Area cm2	Description
JEF5	Medieval robber trench (trench that robbed the outer wall of the circus)	JE234	1	63	Painted red

Column plaster

Area C2

Feature No.	Feature Type	Finds No.	Qt	Wt(g)	Area cm2	Description
CL20	Demolition material	383	2	519.3	165	Painted white over red

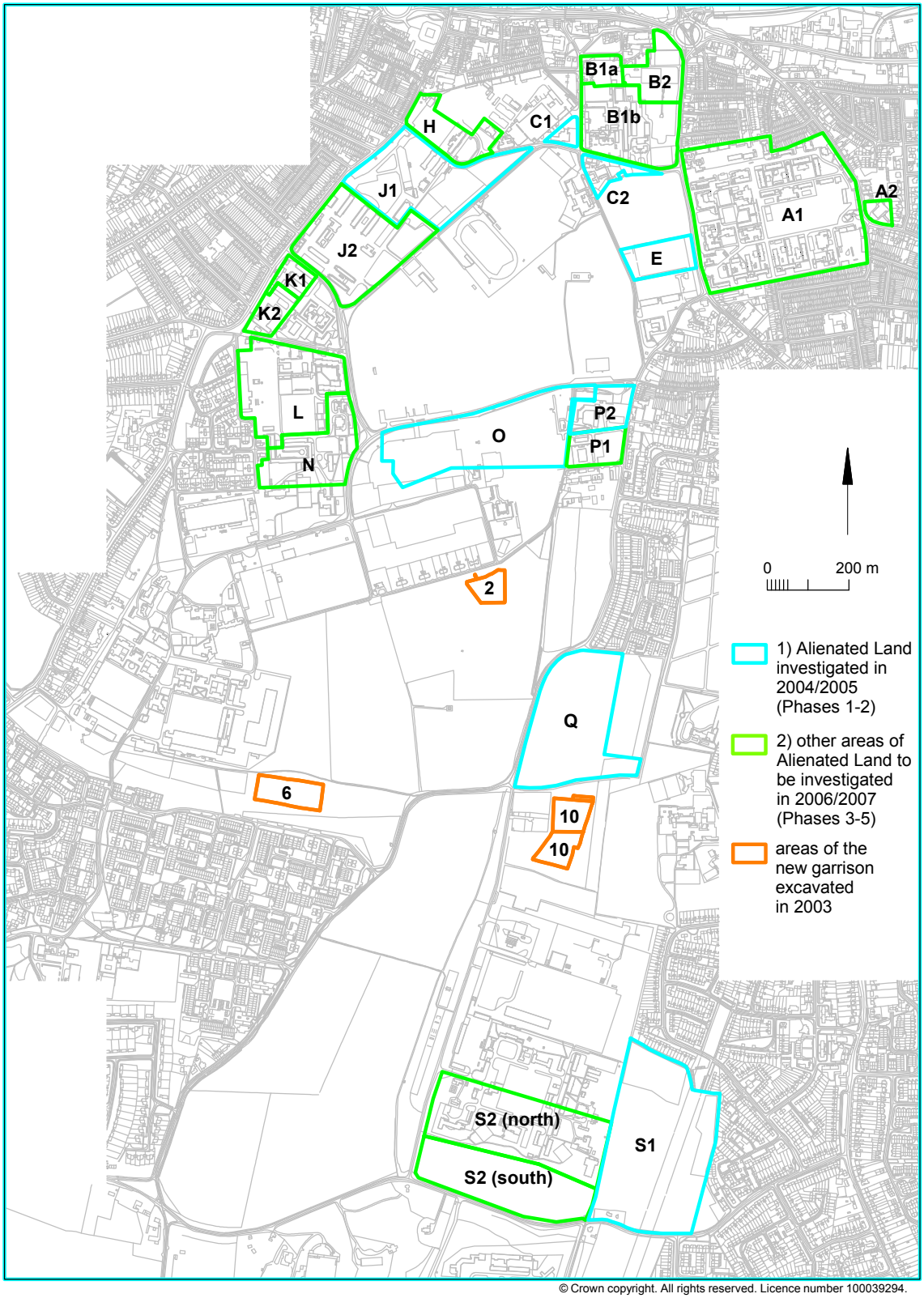

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Fig 1.1 Colchester Garrison, showing location of Alienated Land.

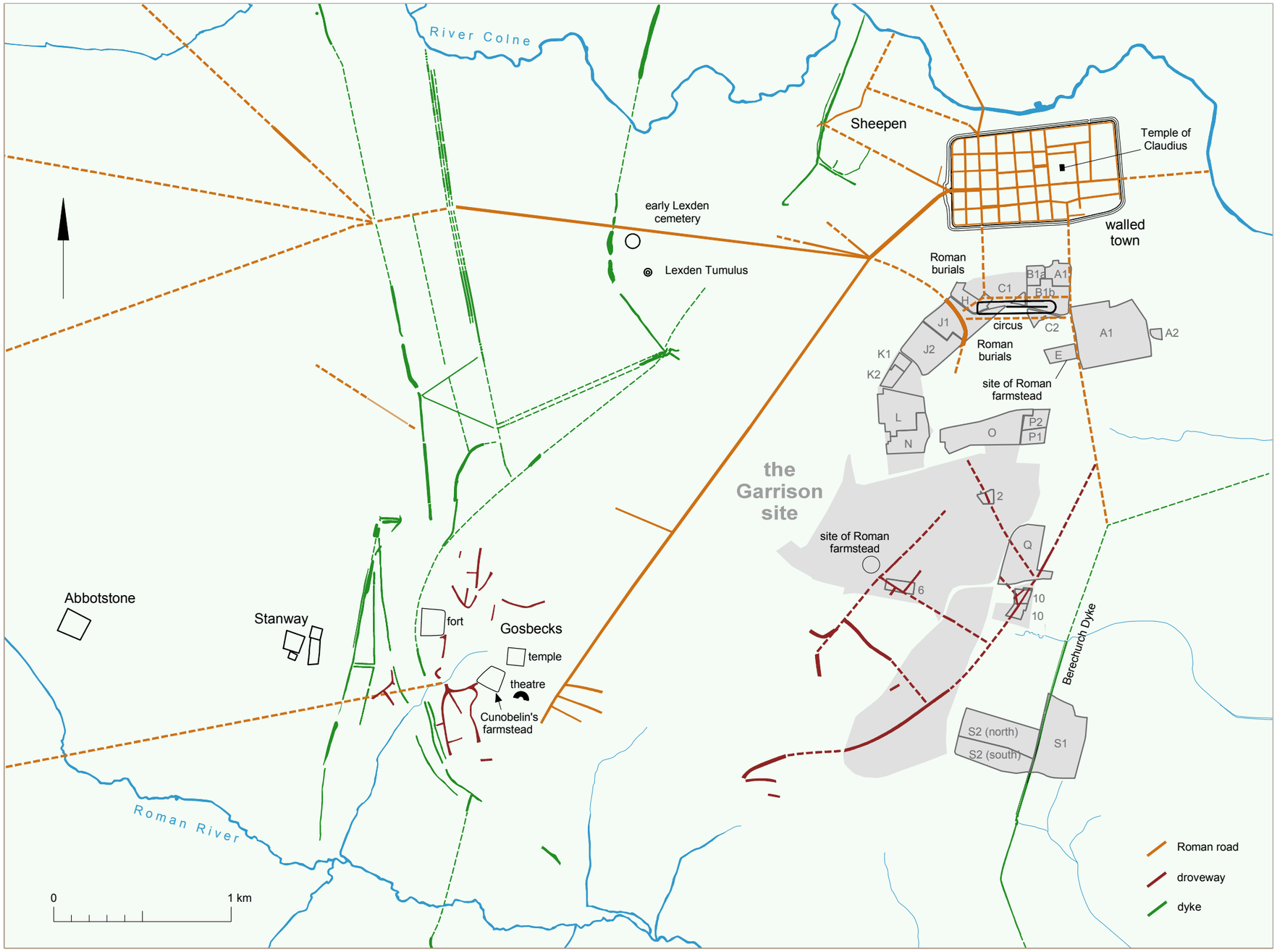

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Fig 1.2 Colchester Garrison redevelopment area, prior to Alienated Land Phases 1-2, in the context of the *oppidum* of Camulodunum, and the Roman and modern towns.

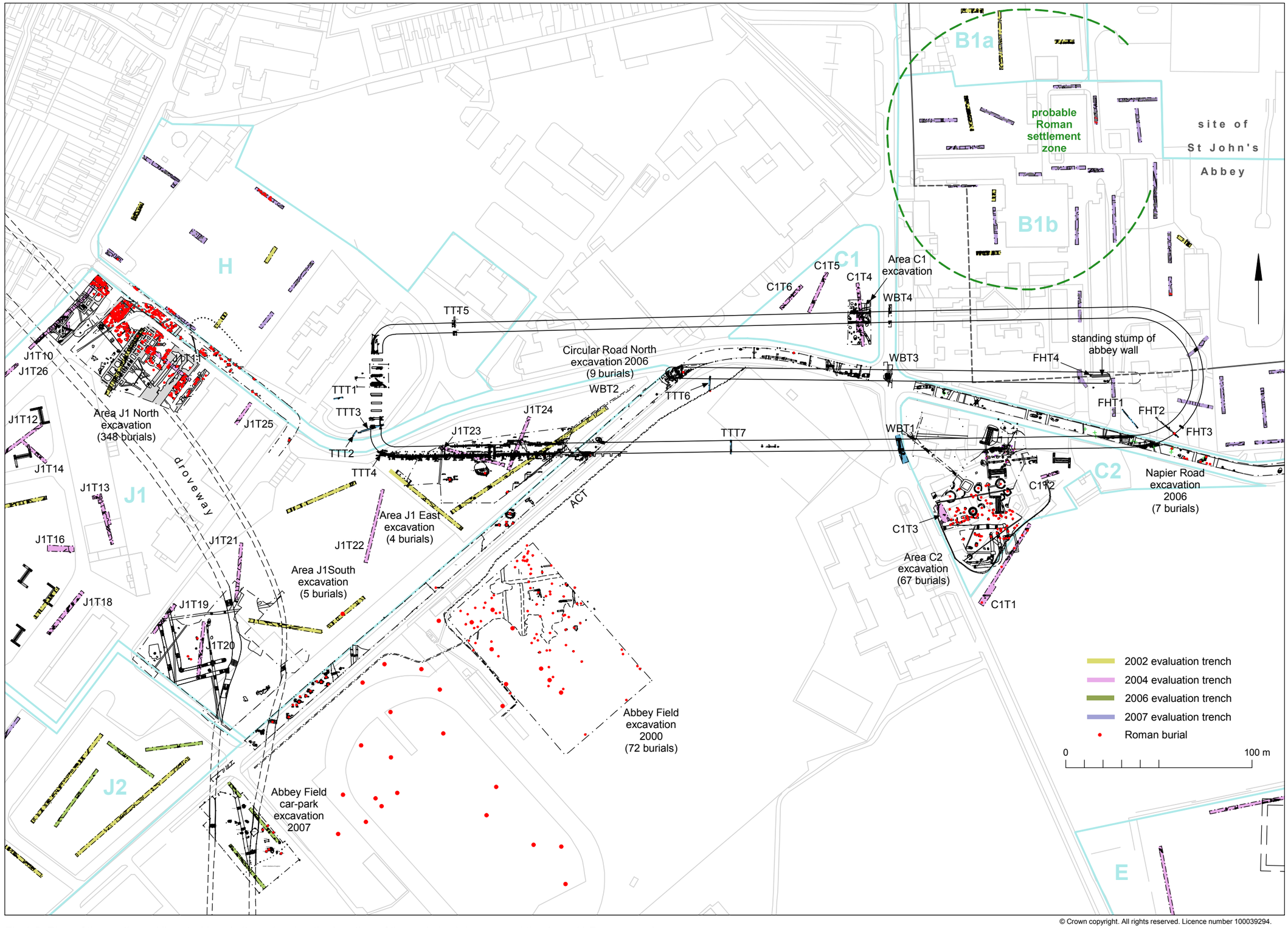

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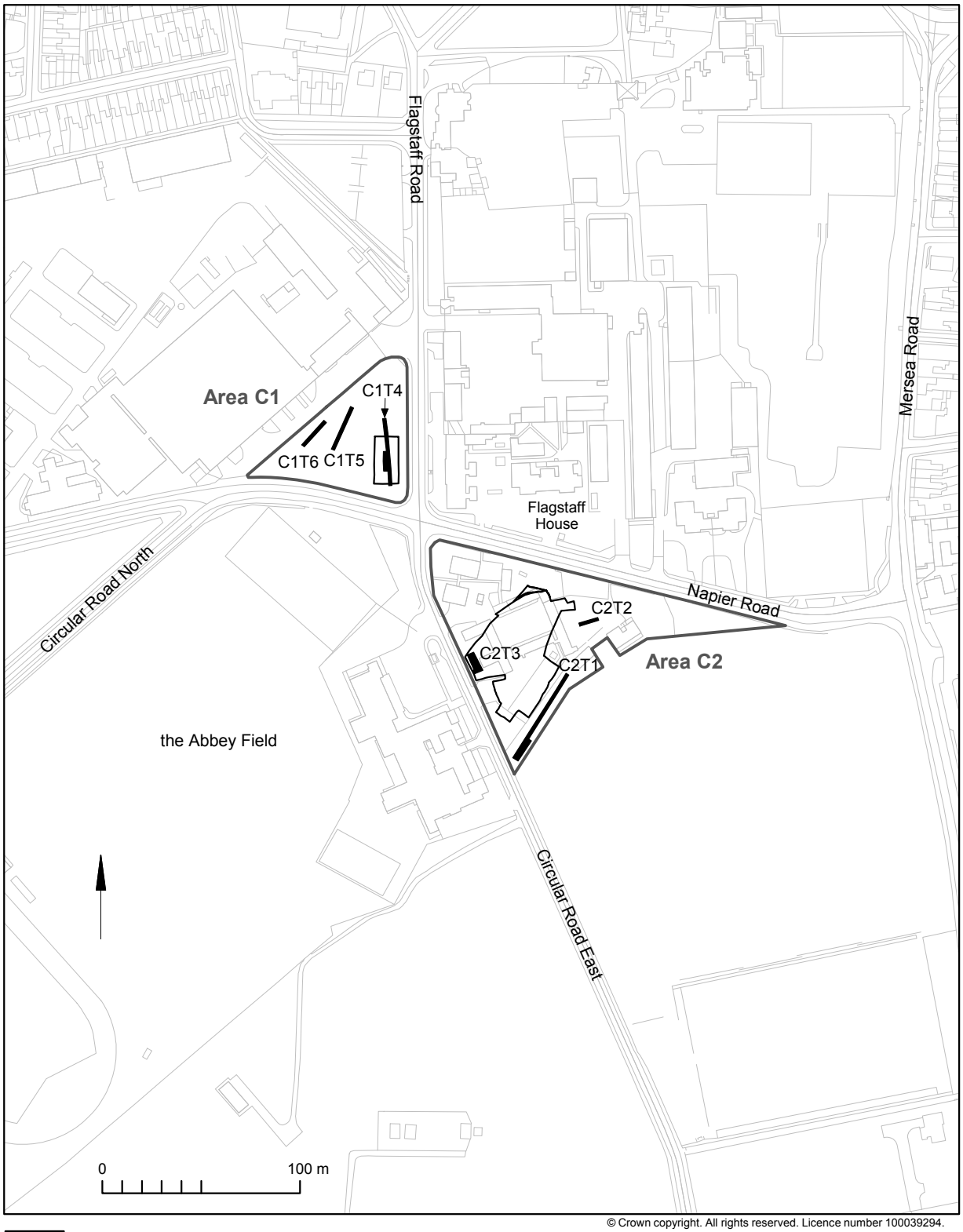
Fig 1.3 Plan of the northern Alienated Land sites, showing the location of the main burial areas and the Area J1 Roman road.



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edge of excavation

Fig 1.4 Areas C1 and C2: location of evaluation trenches C1T4-C1T6 and C2T1-C2T3, and excavation areas.

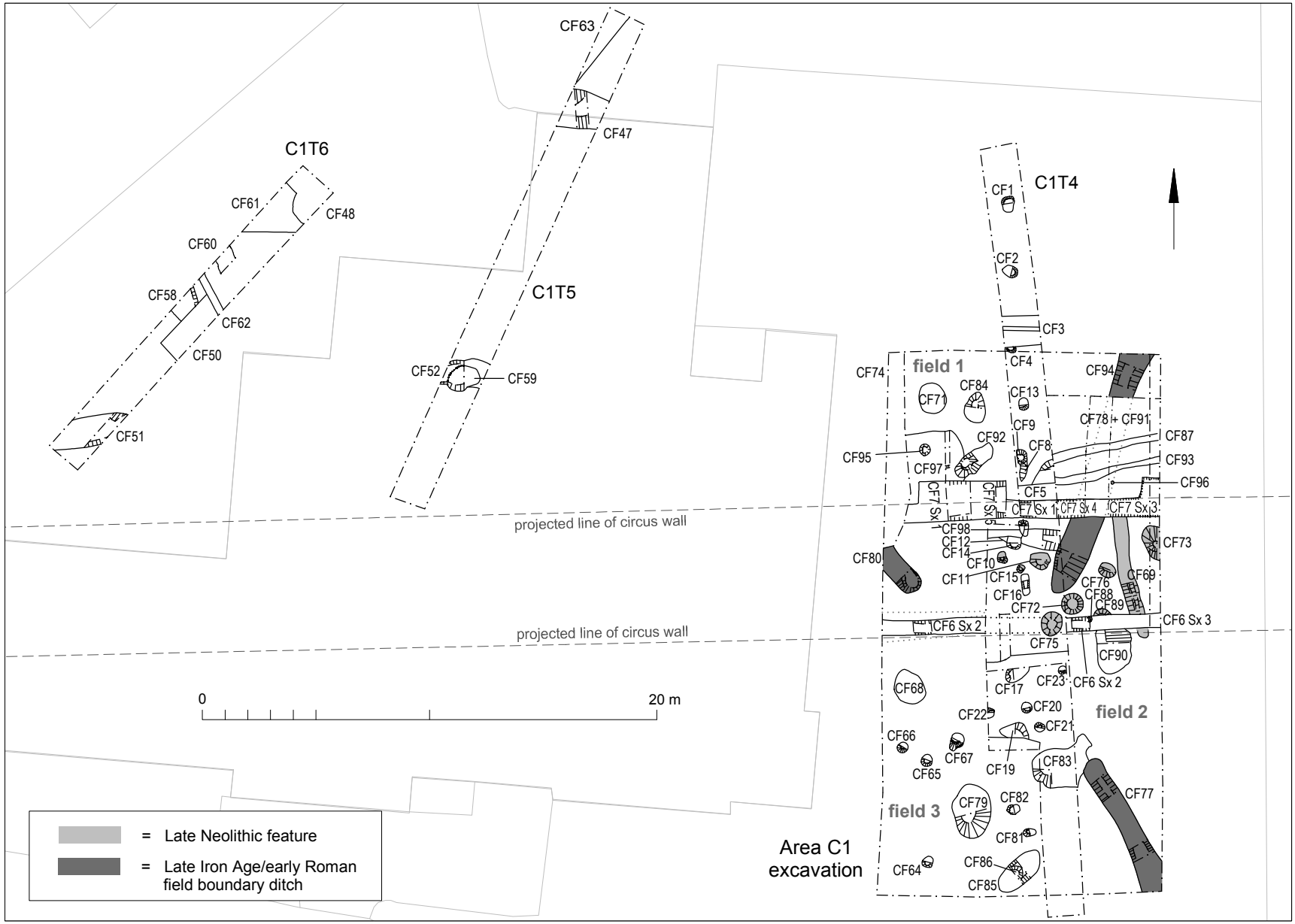

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Fig 1.5 Area C1: plan of evaluation trenches C1T4-C1T6 and excavation area.

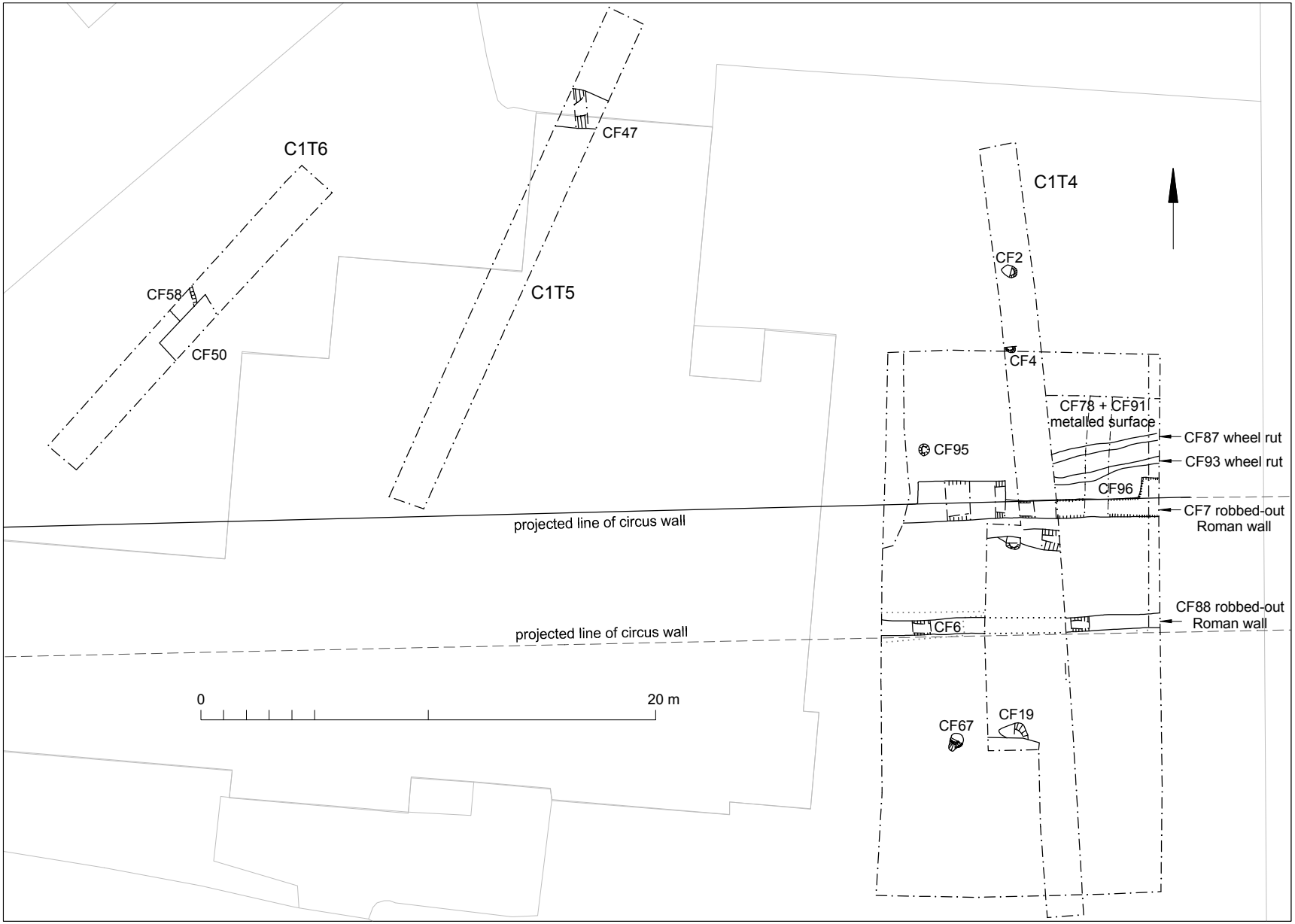

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Fig 1.6 Area C1: plan of all Roman features.

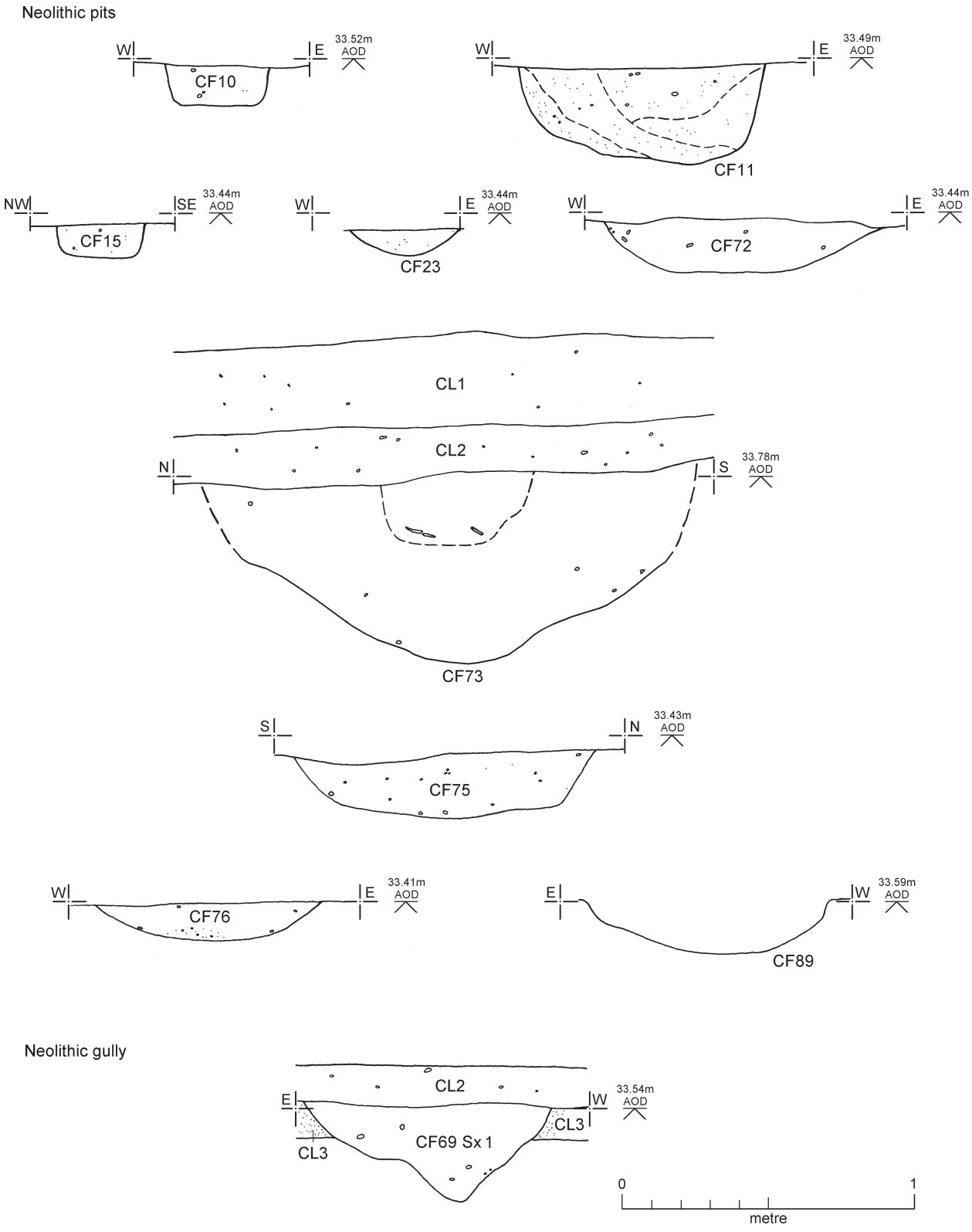


Fig 1.7 Area C1: sections (excluding the Roman circus).

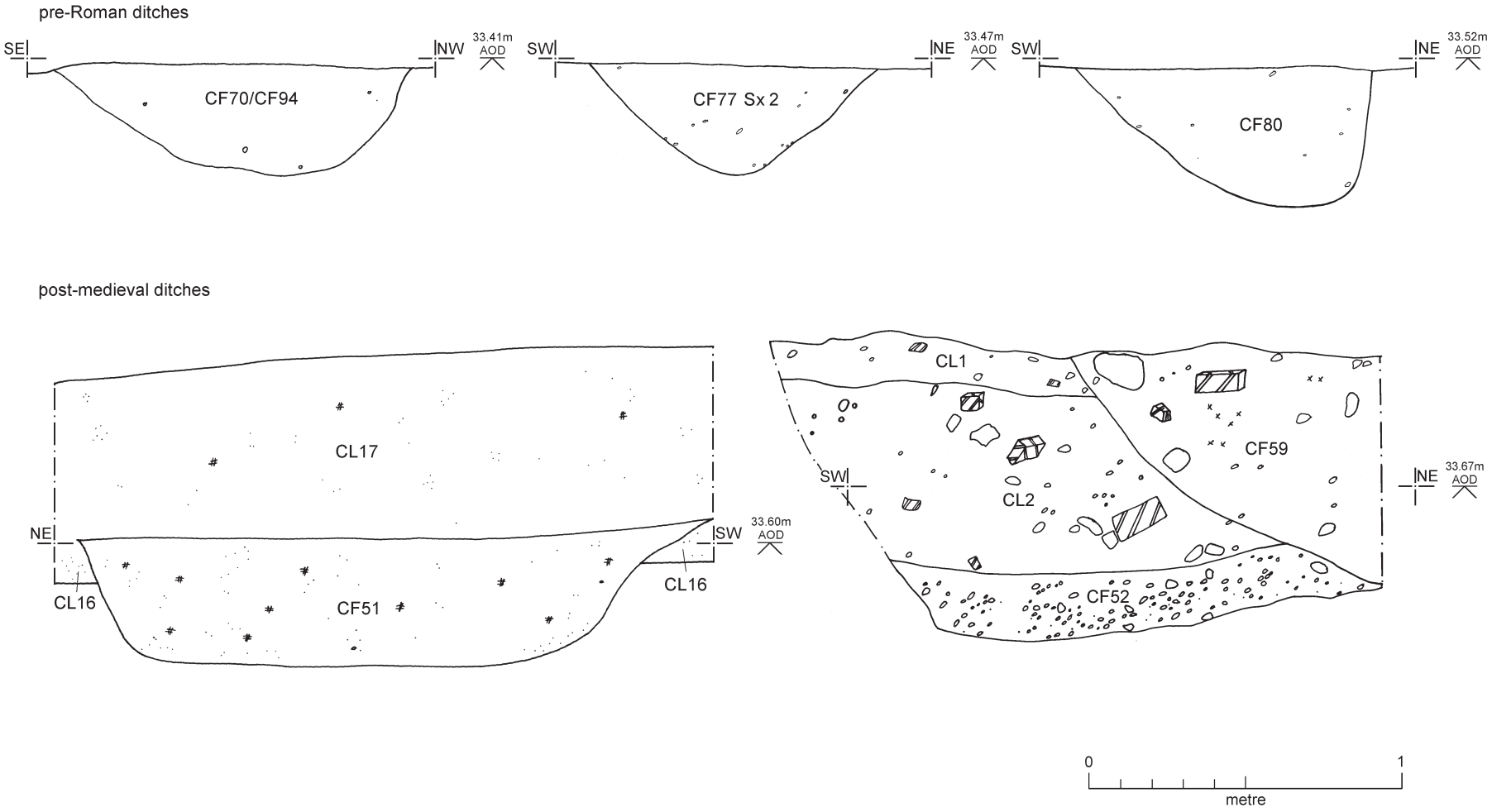
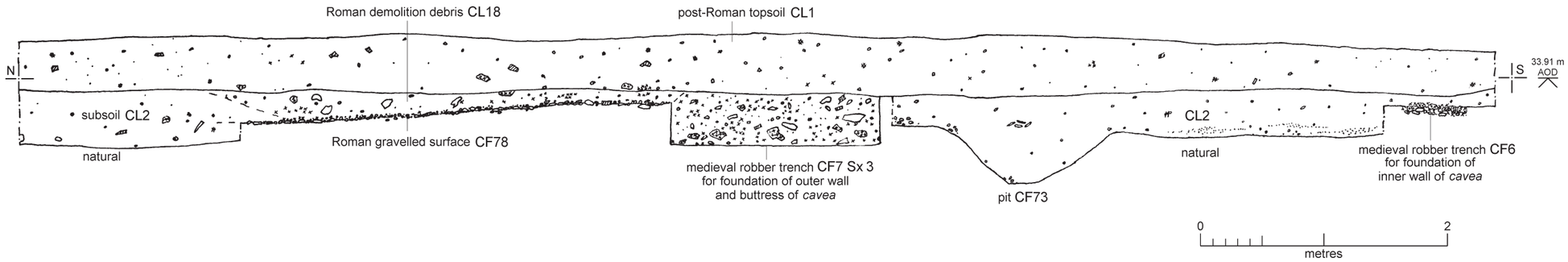
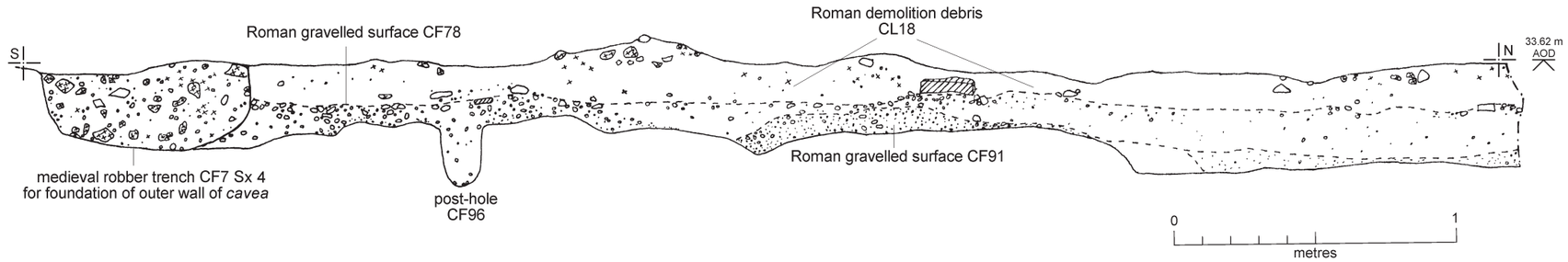
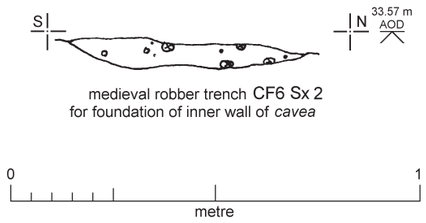
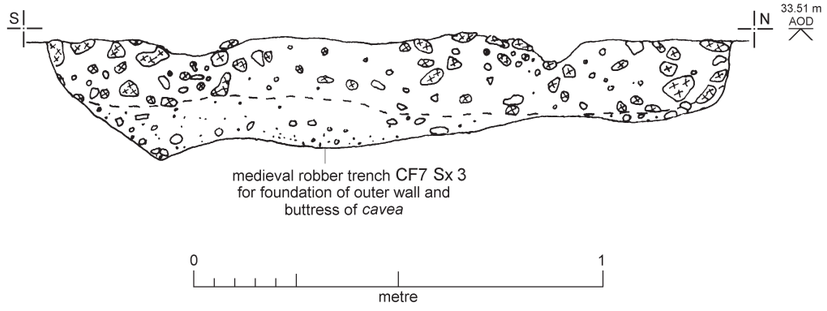


Fig 1.8 Area C1: sections (excluding the Roman circus).









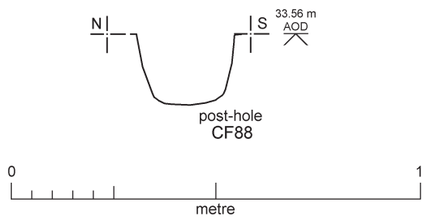


Fig 1.9 Area C1: sections (the Roman circus).

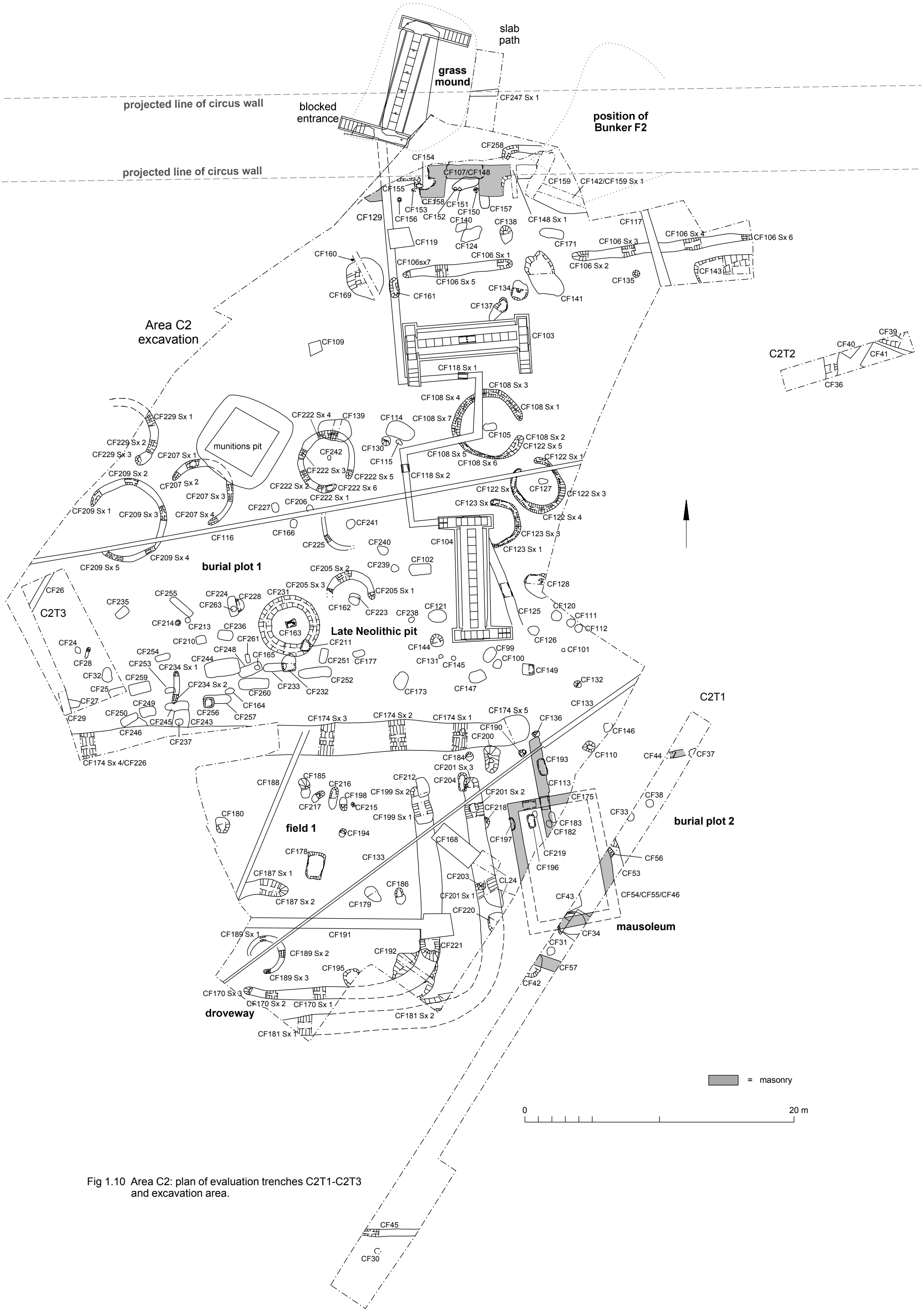


Fig 1.10 Area C2: plan of evaluation trenches C2T1-C2T3 and excavation area.

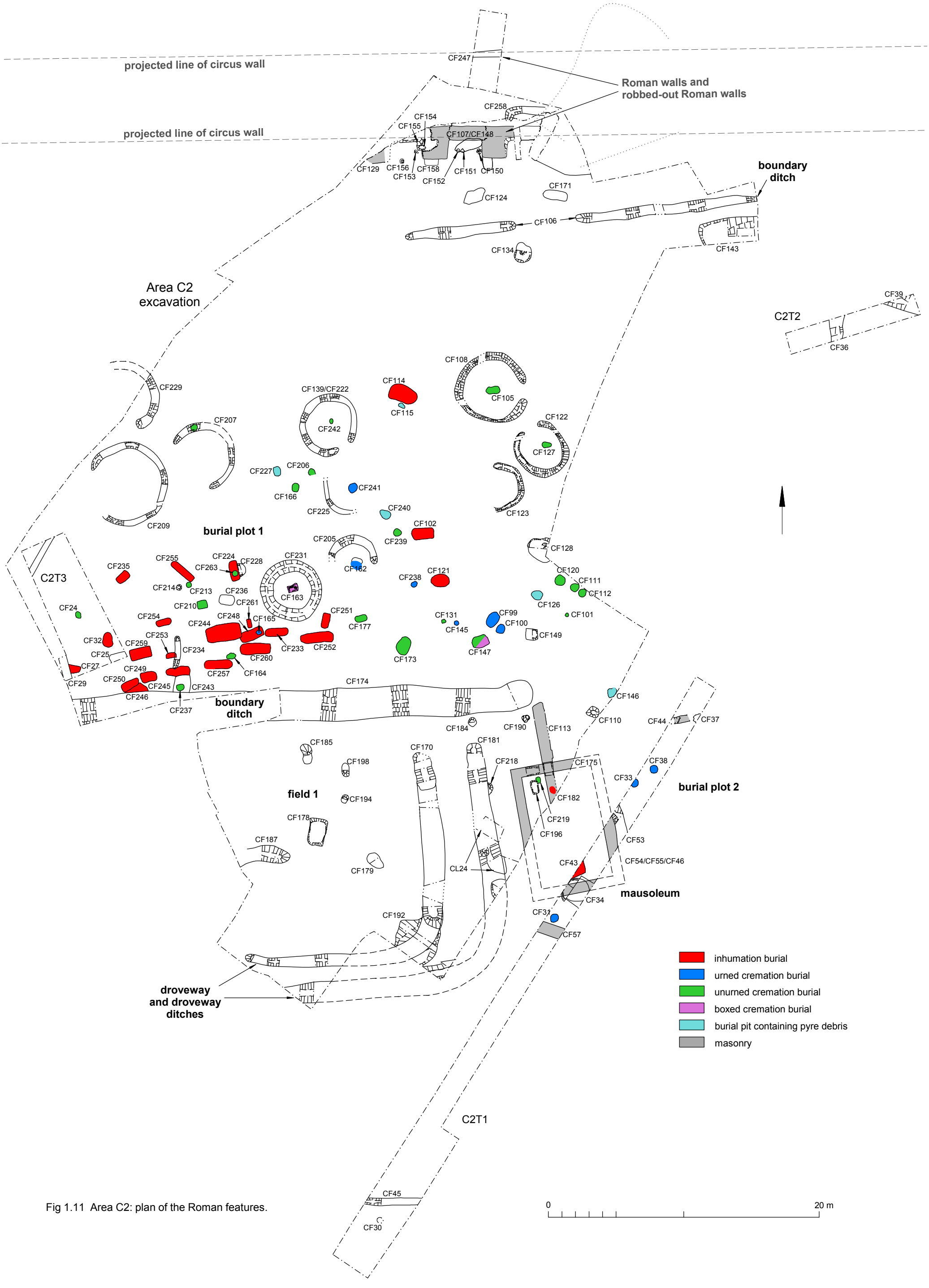


Fig 1.11 Area C2: plan of the Roman features.

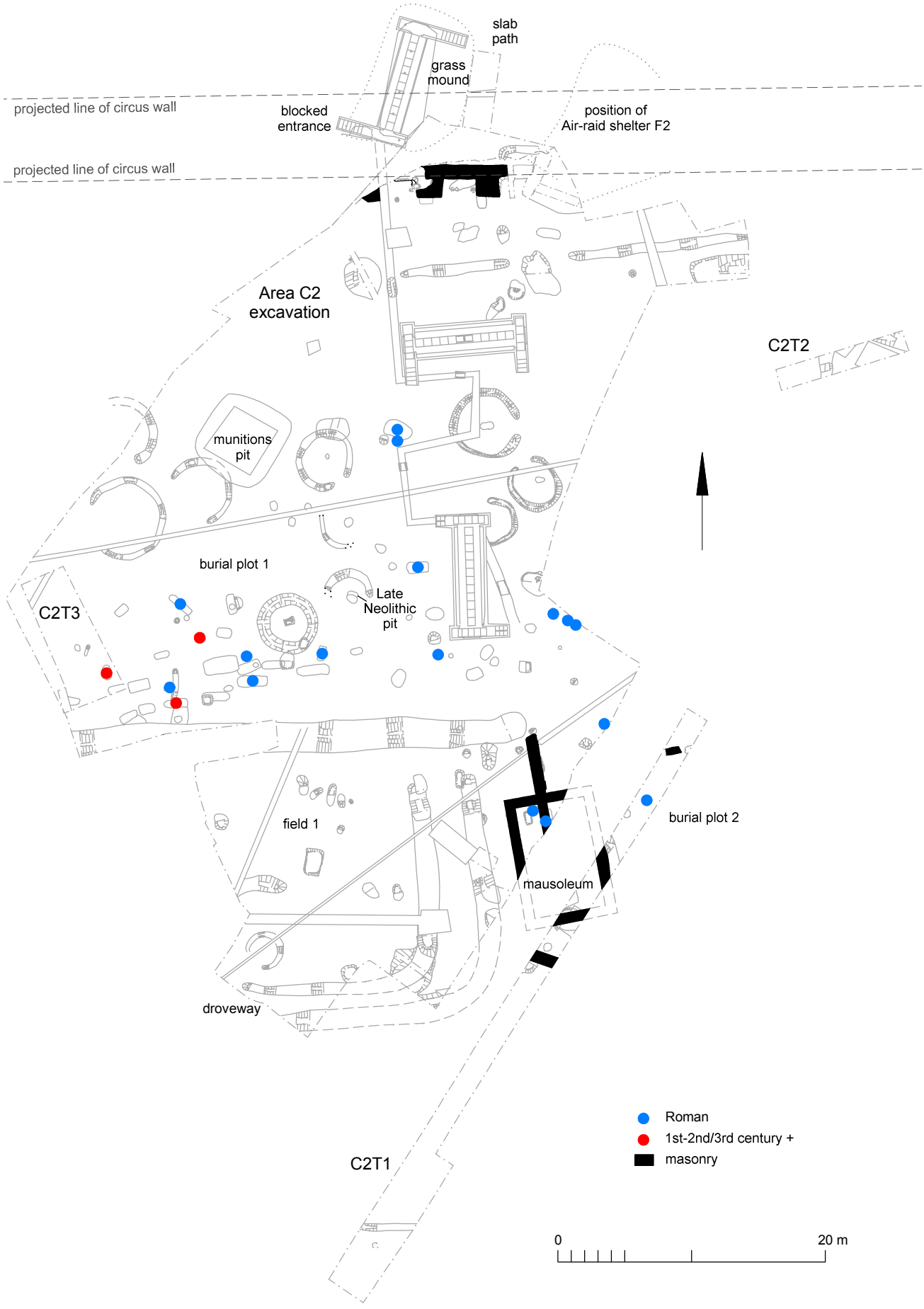


Fig 1.12 Area C2: burials dated as Roman and 1st century onwards.

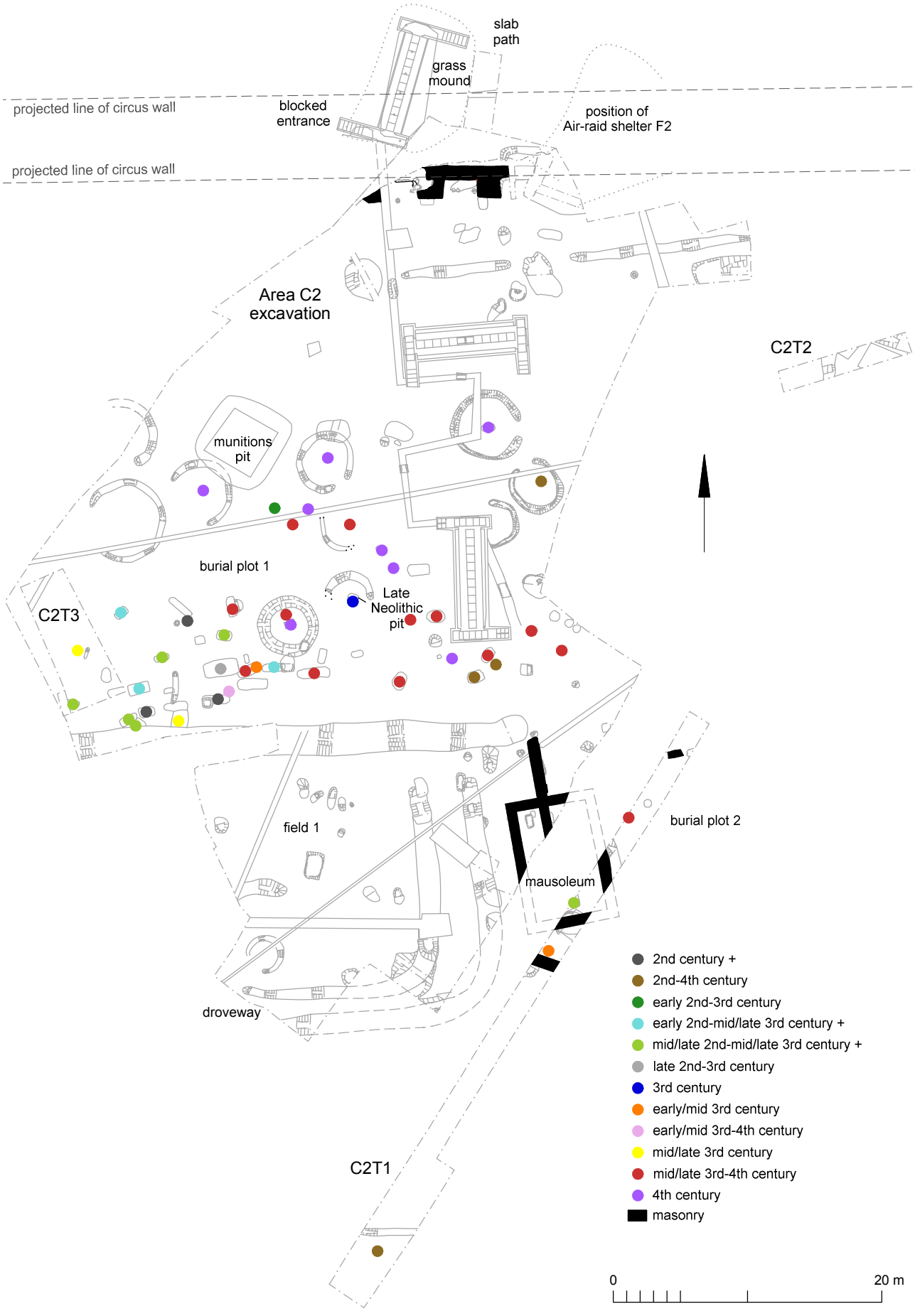


Fig 1.13 Area C2: burials dated as 2nd century onwards.

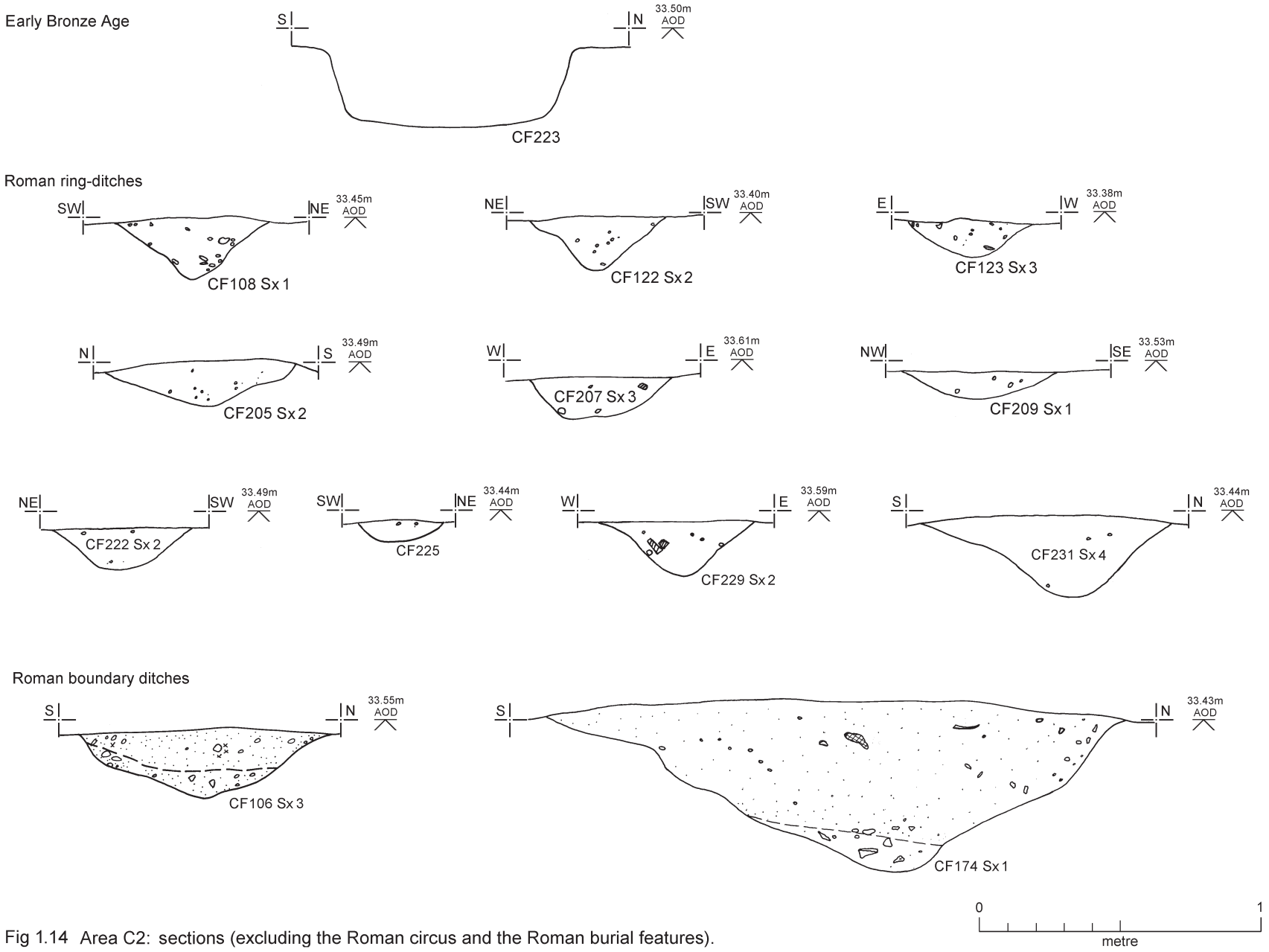


Fig 1.14 Area C2: sections (excluding the Roman circus and the Roman burial features).

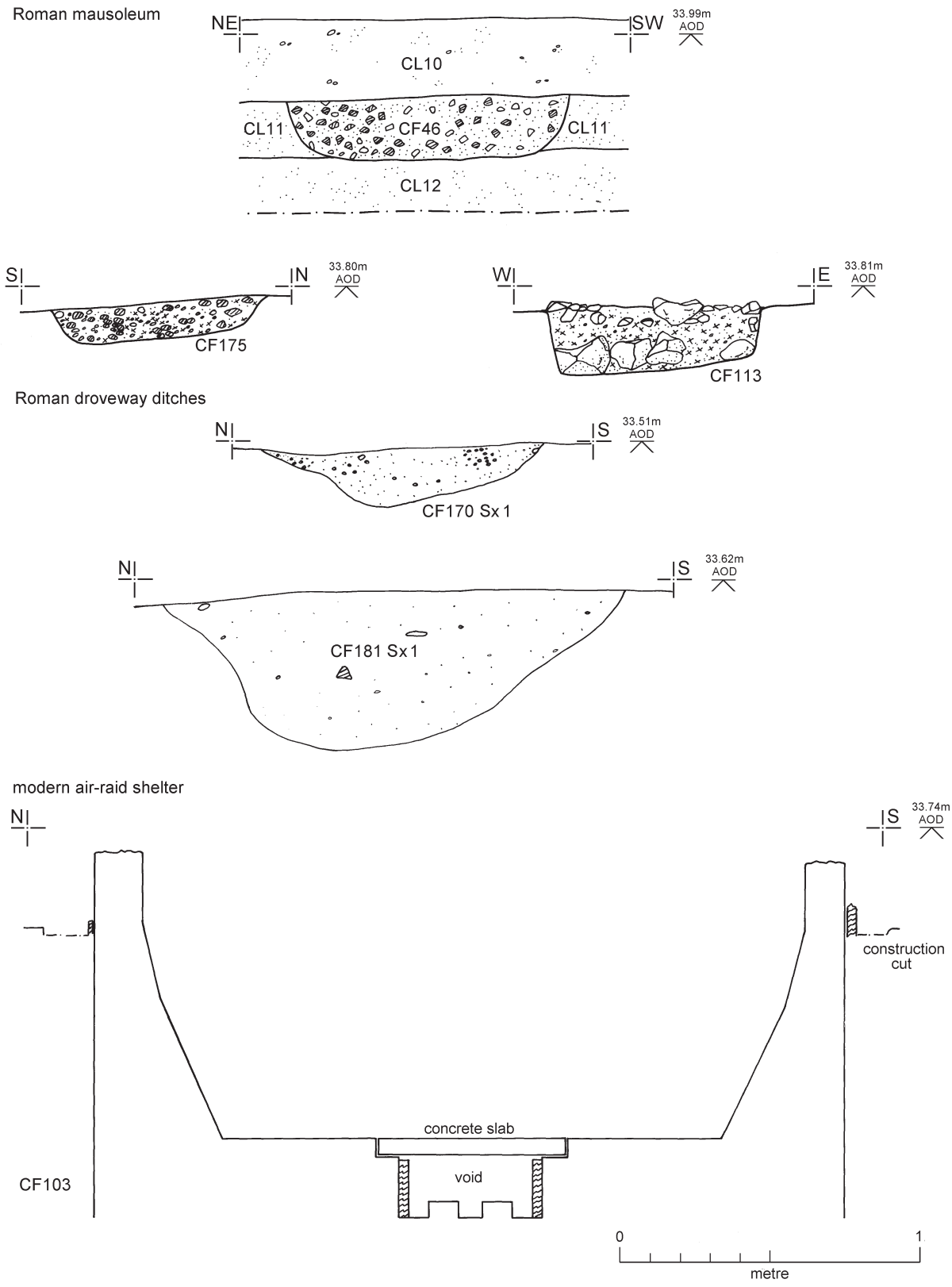


Fig 1.15 Area C2: sections (excluding the Roman circus and the Roman burial features).

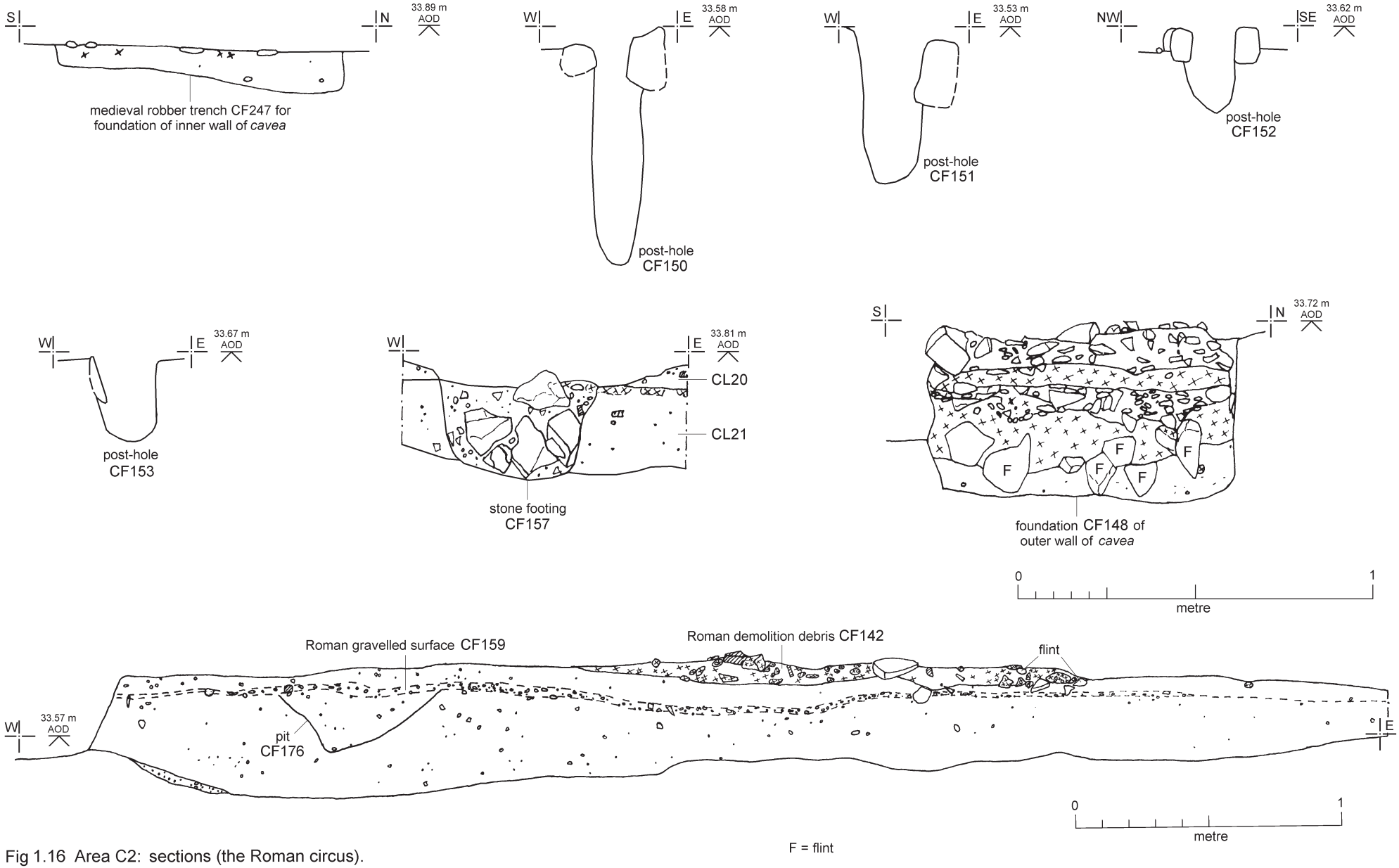


Fig 1.16 Area C2: sections (the Roman circus).

F = flint

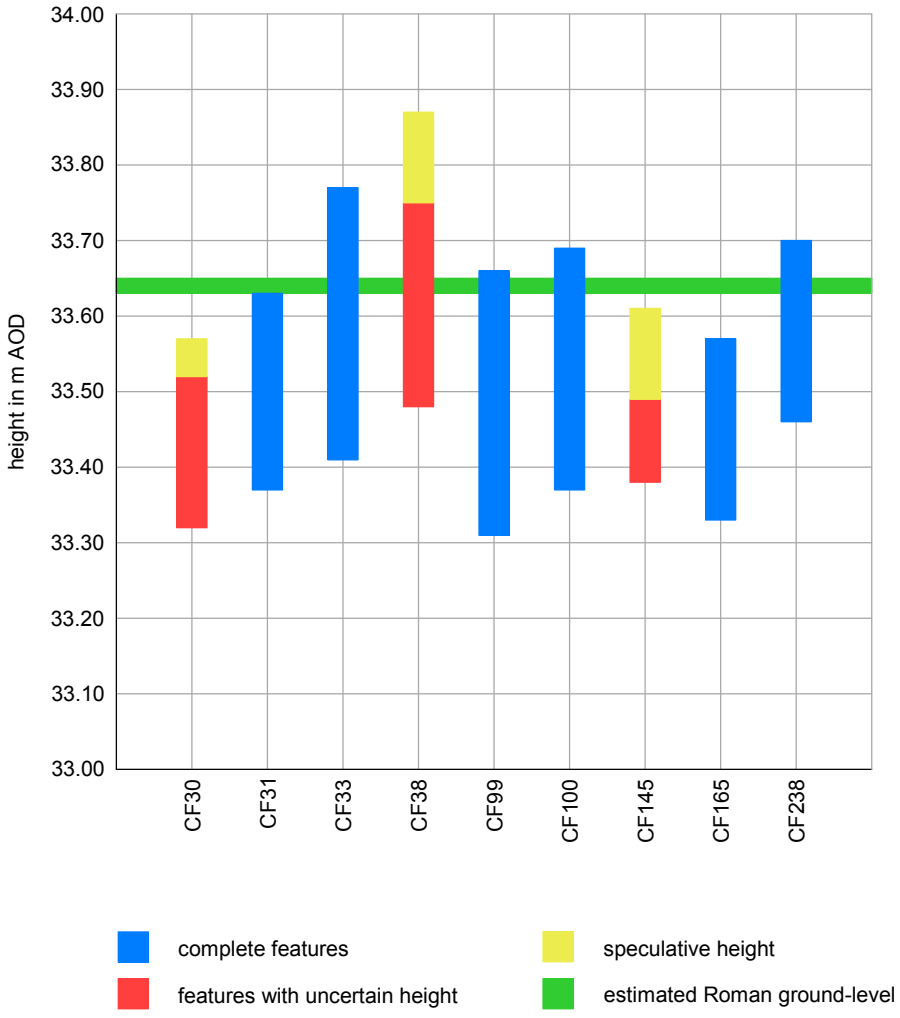


Fig 1.17 Area C2: graph showing heights above ordnance datum of the top and bottom of urned cremation burials in relation to estimated Roman ground-level.

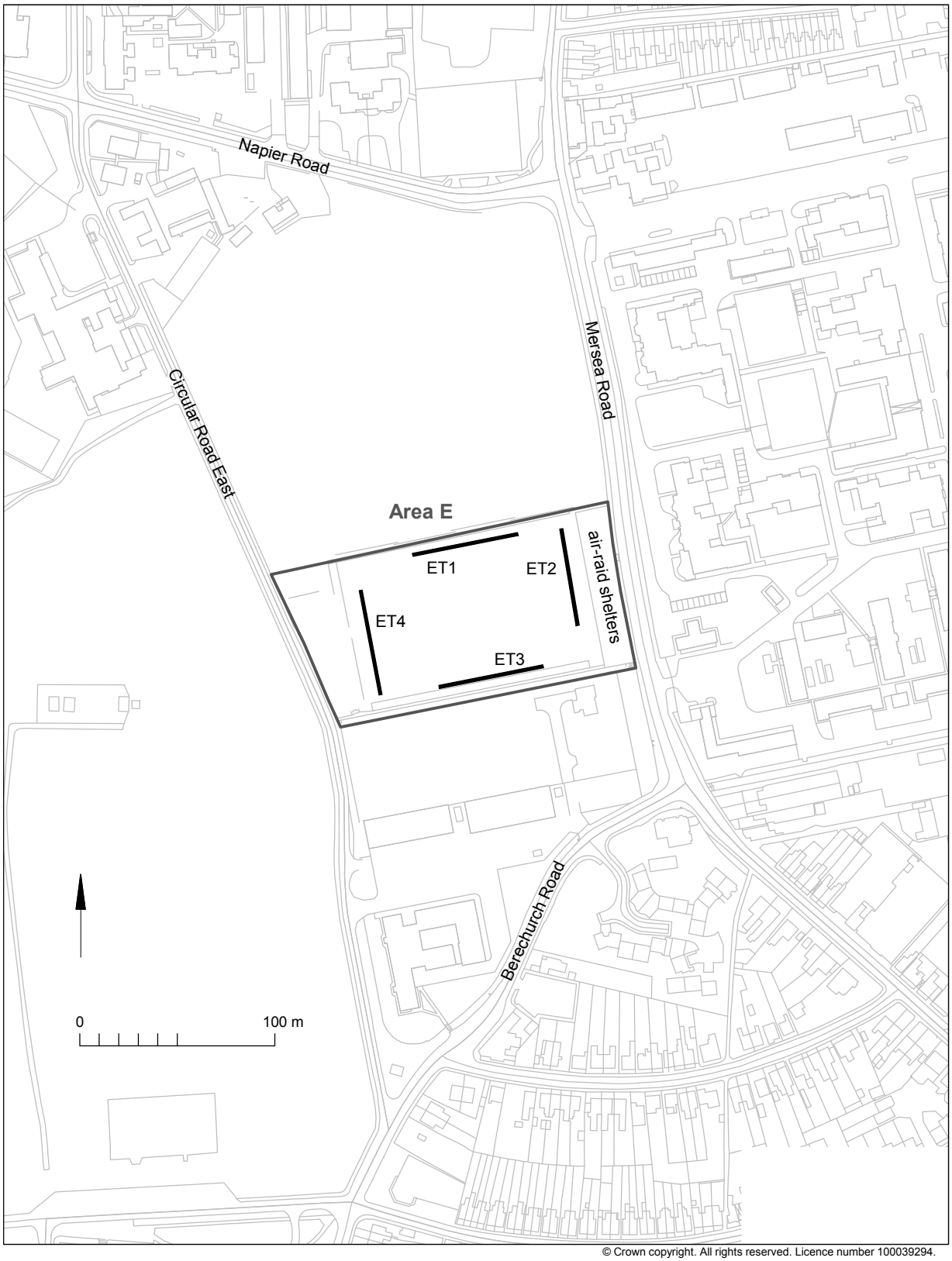


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Fig 1.18 Area E: location of evaluation trenches ET1-ET4.

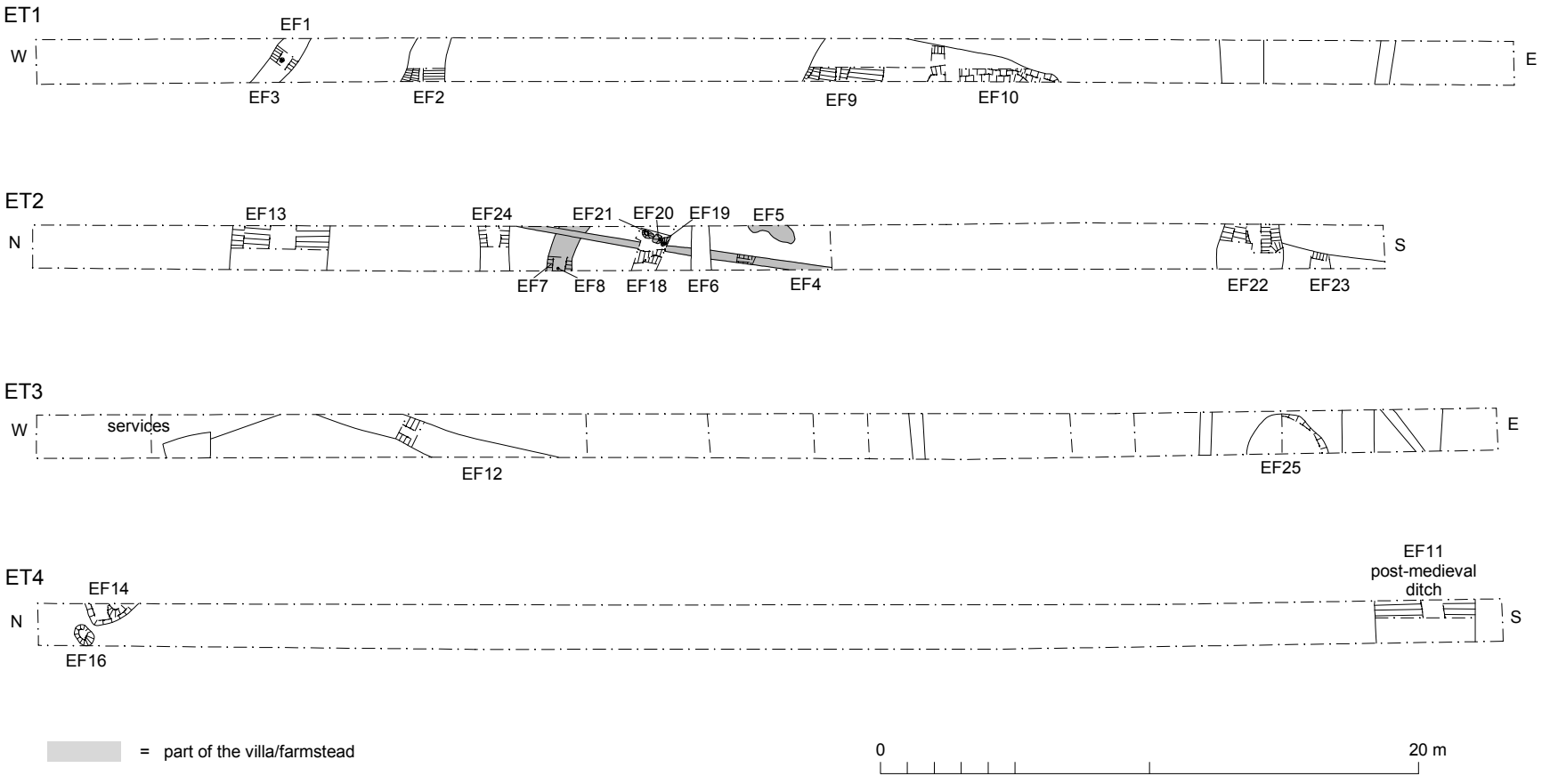


Fig 1.19 Area E: plan of evaluation trenches ET1-ET4.

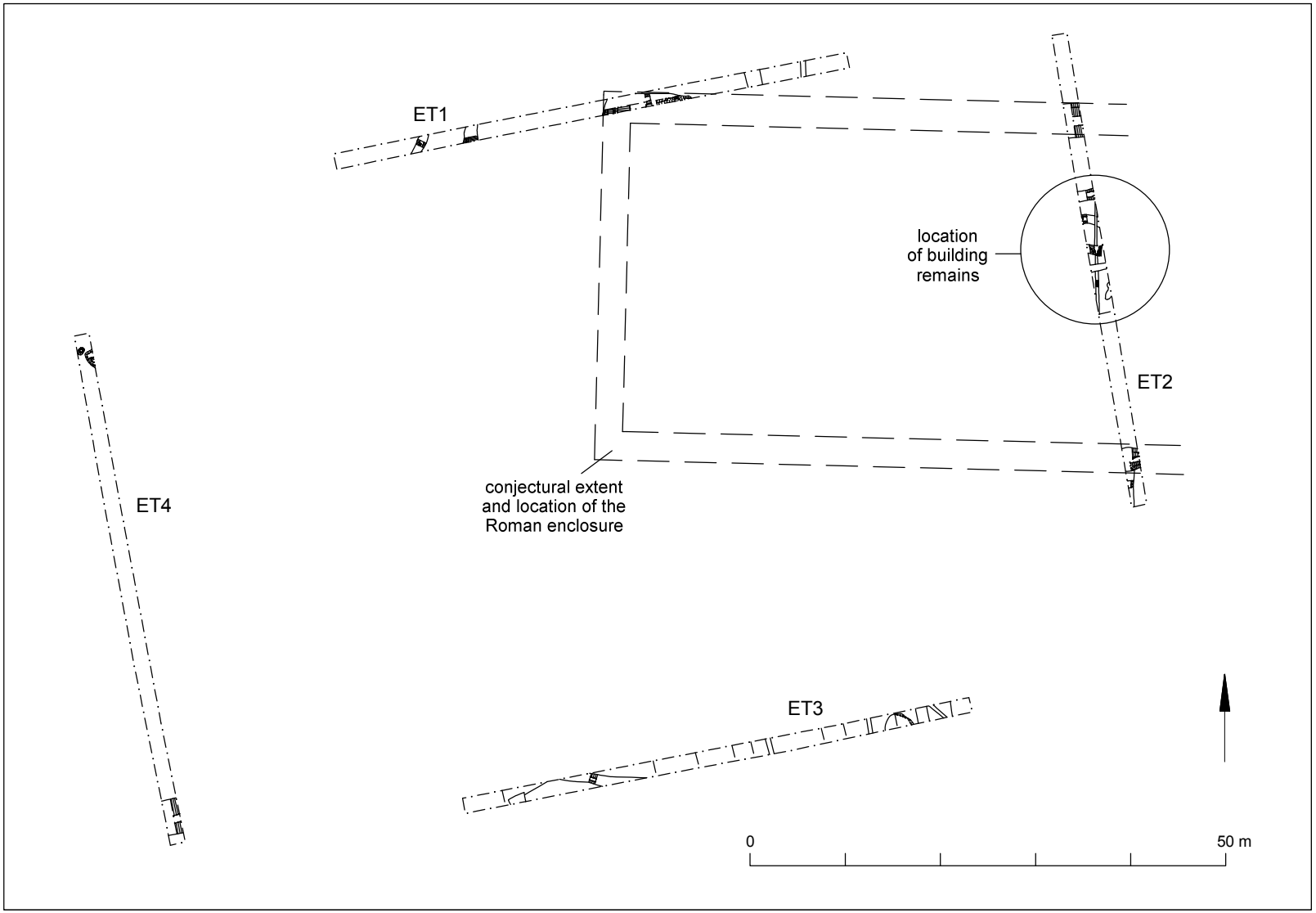
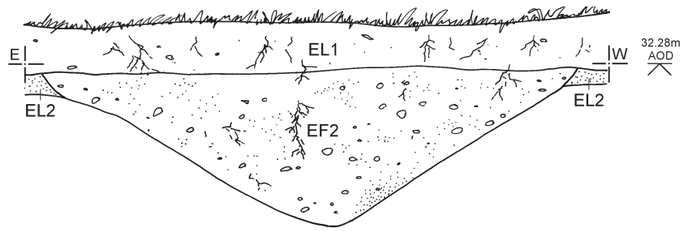
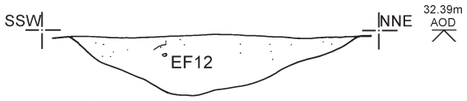
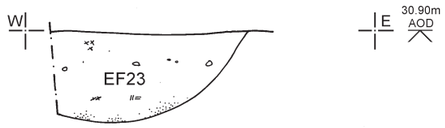


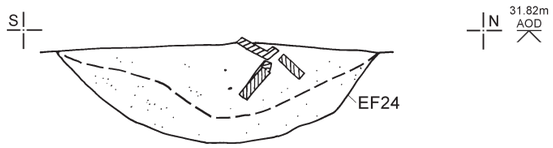
Fig 1.20 Area E: conjectural extent and location of the Roman enclosure.

Roman field ditches









Roman enclosure ditches

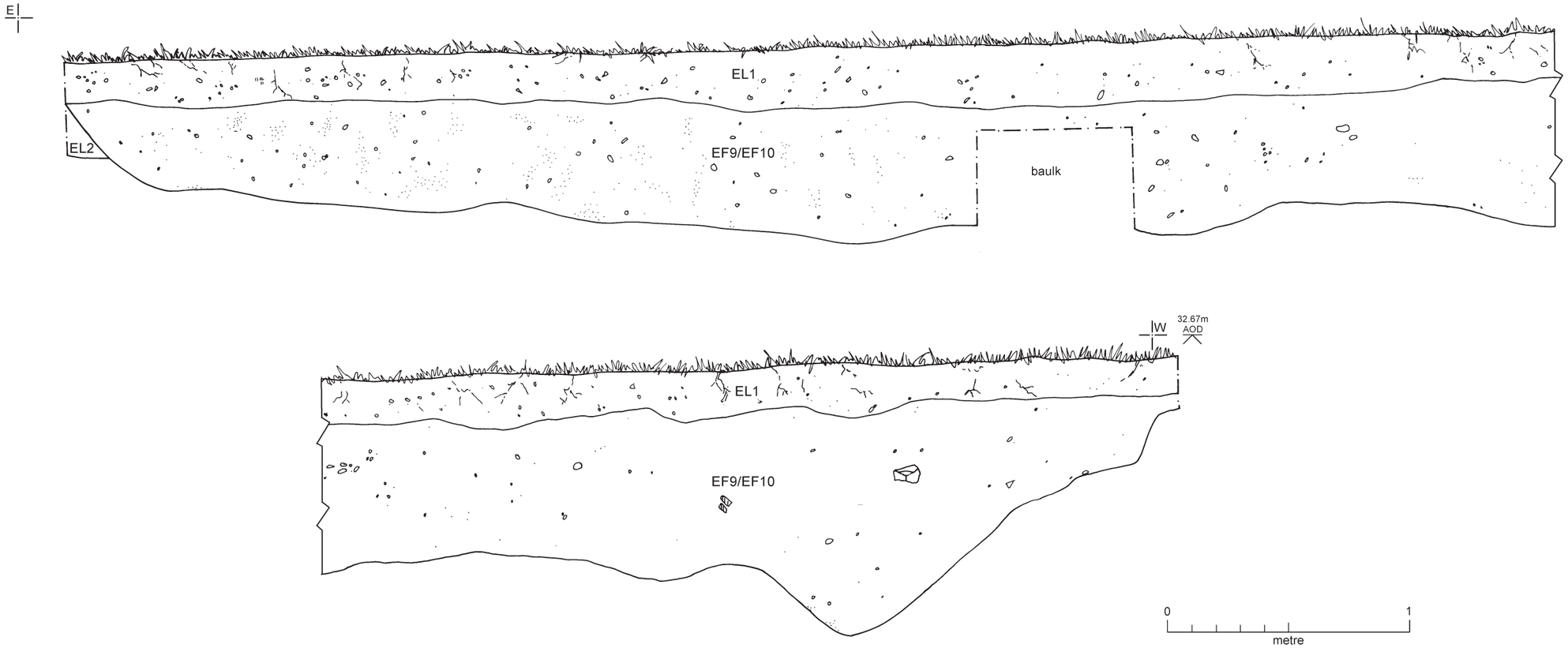


Fig 1.21 Area E: sections.

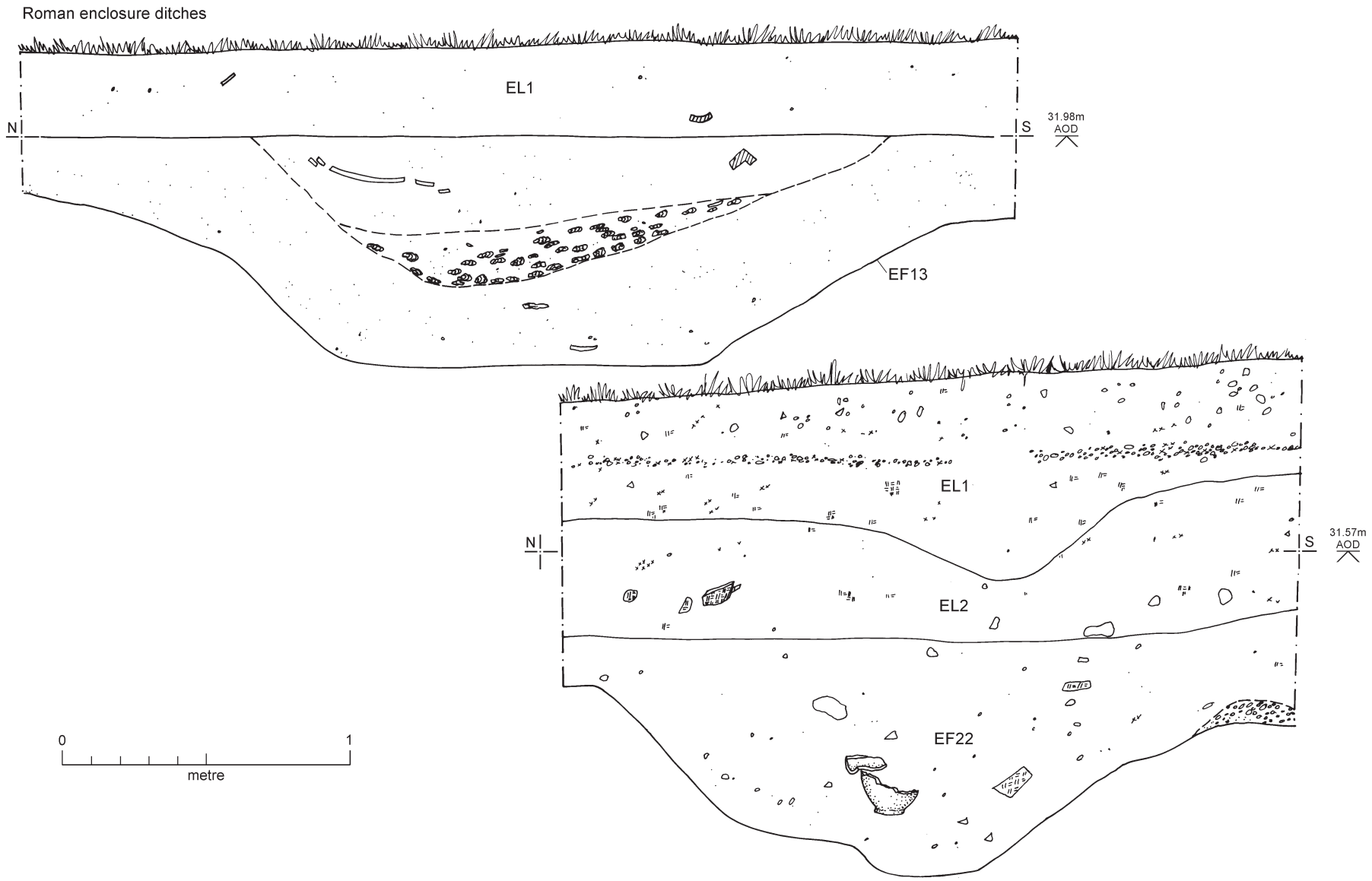


Fig 1.22 Area E: sections.

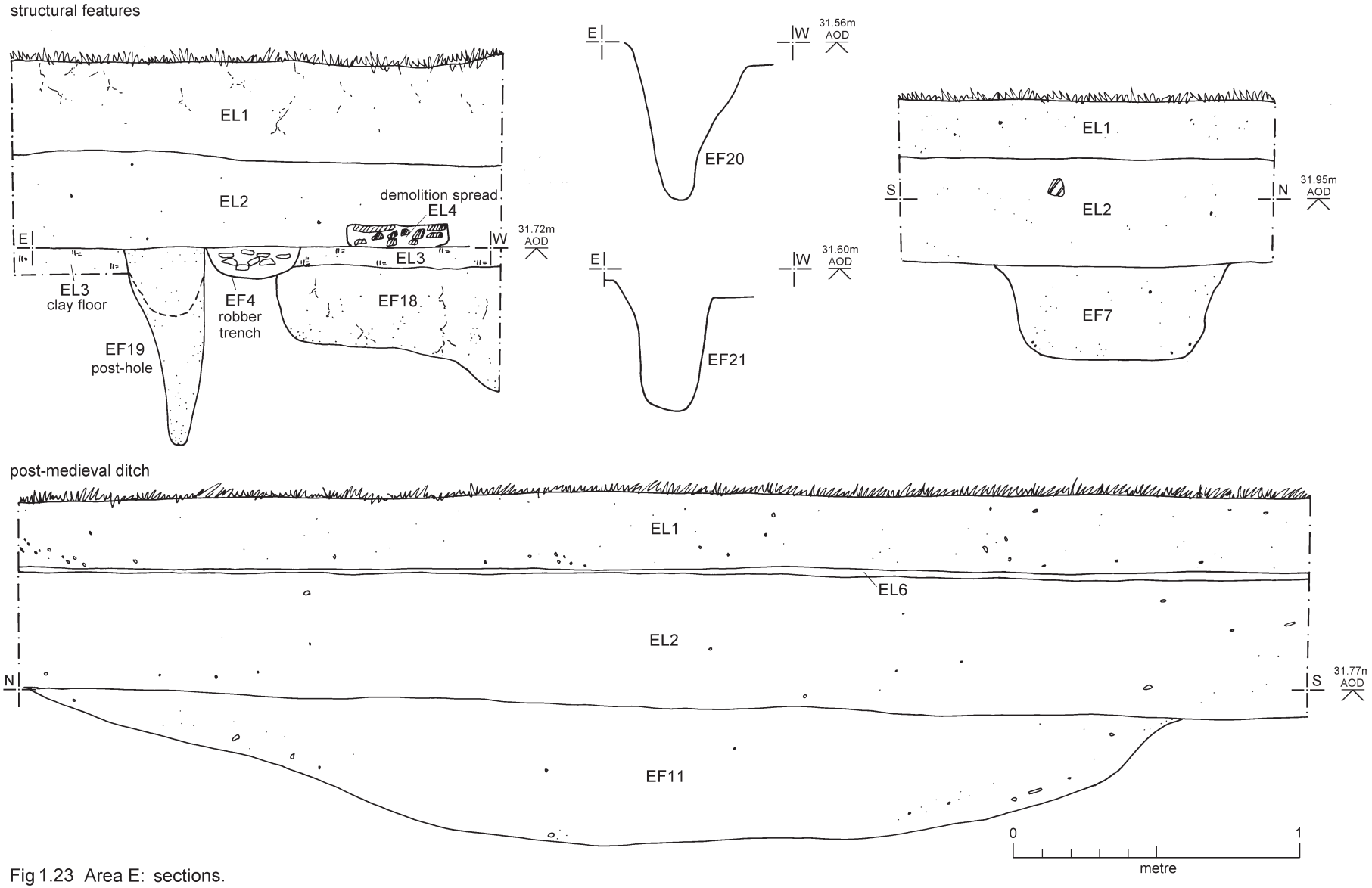


Fig 1.23 Area E: sections.

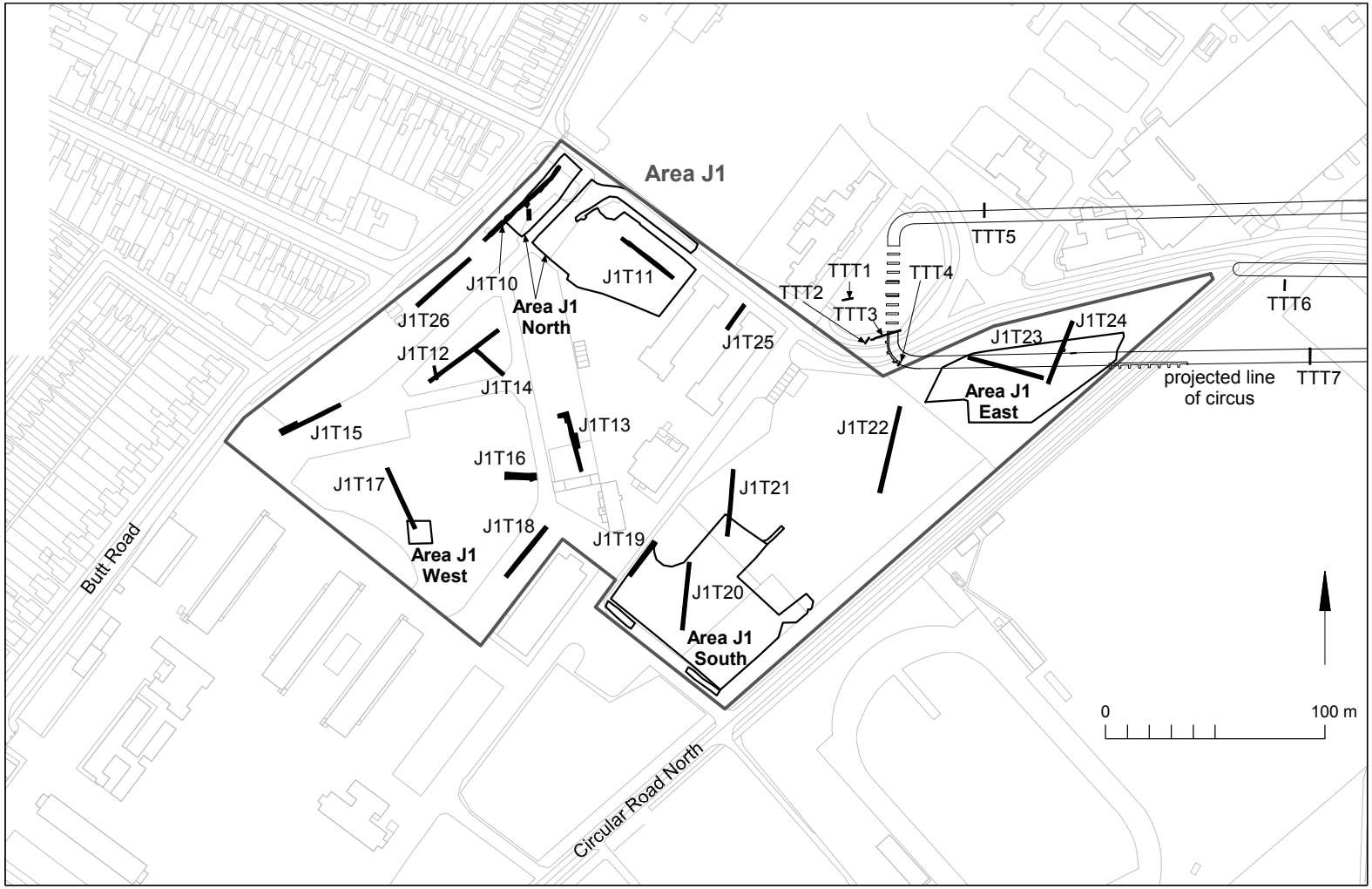


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Fig 1.24 Area J1: location of evaluation trenches J1T10-J1T26 and excavation Areas J1 North, J1 South, J1 East and J1 West.

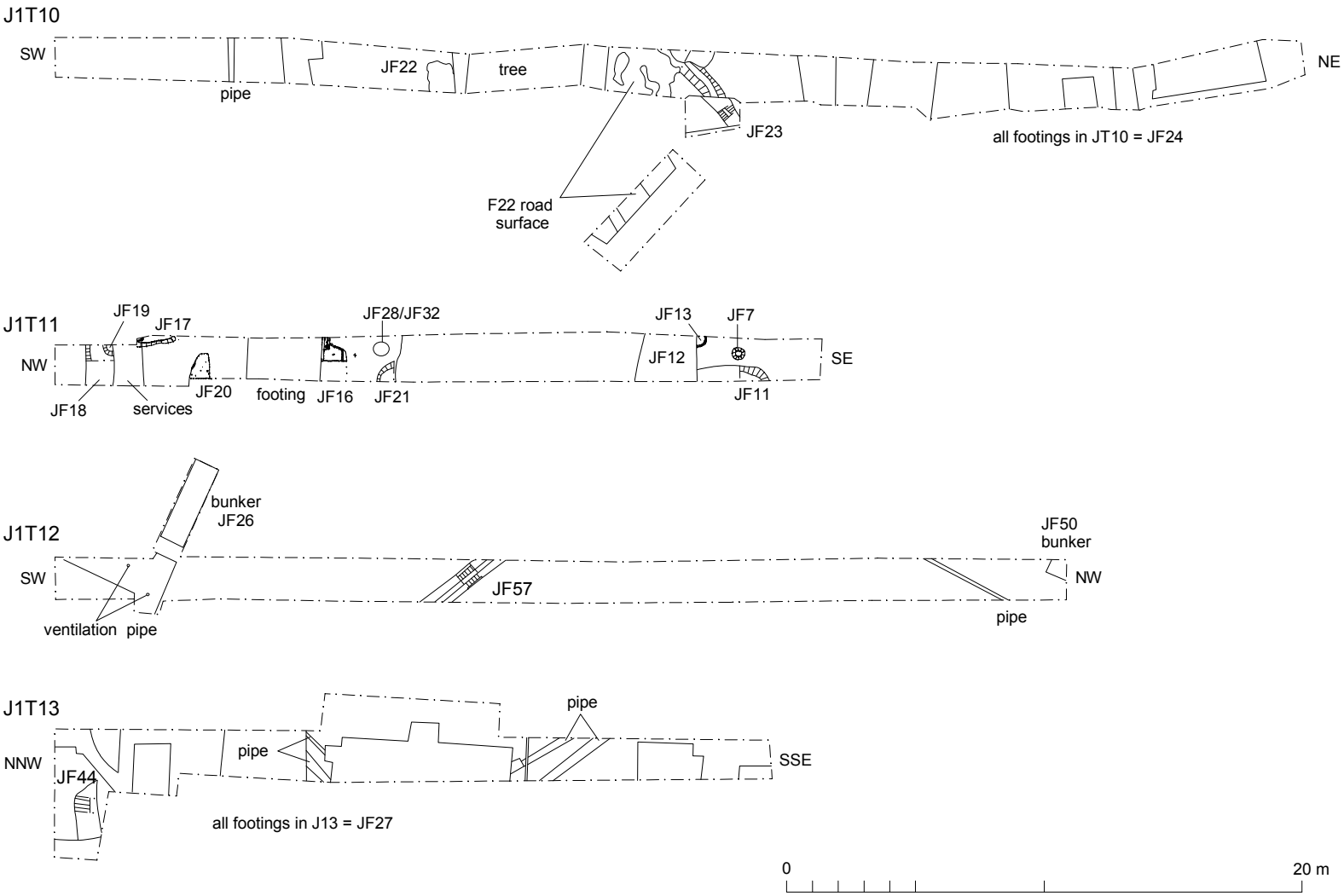

Fig 1.25 Area J1: plan of evaluation trenches J1T10-J1T13.

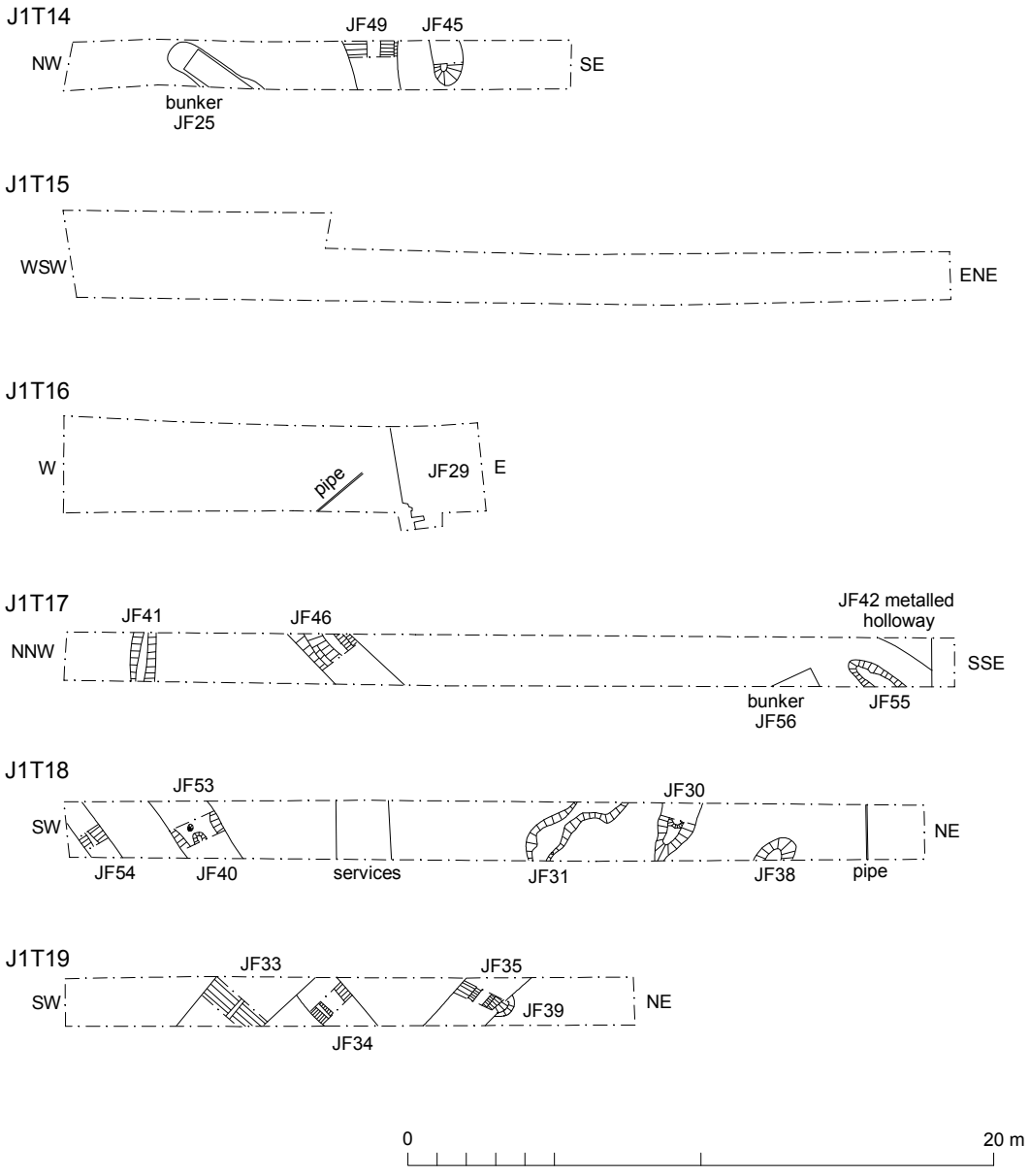

Fig 1.26 Area J1: plan of evaluation trenches J1T14- J1T19.

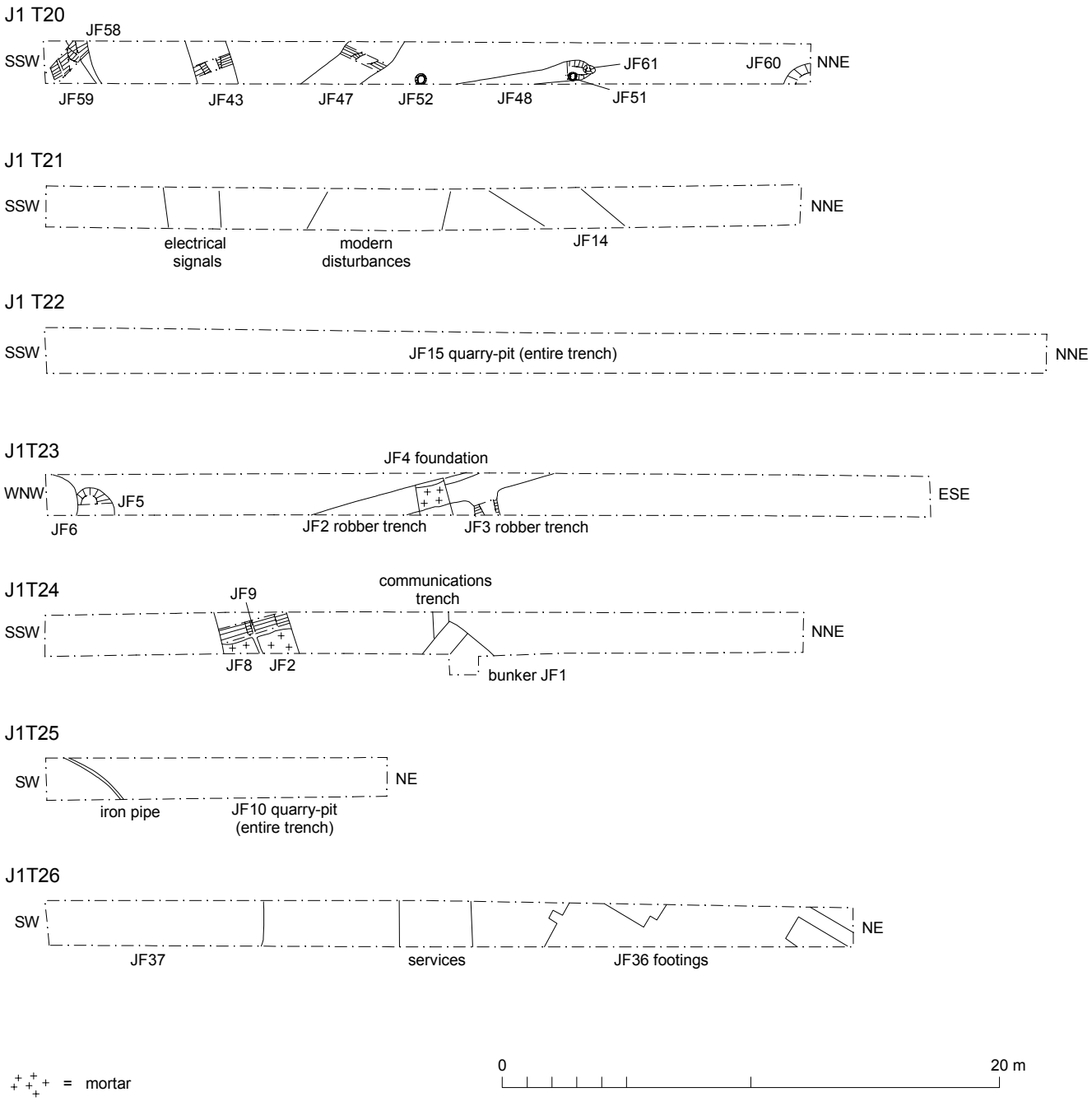

Fig 1.27 Area J1: plan of evaluation trenches J1T20-J1T26.

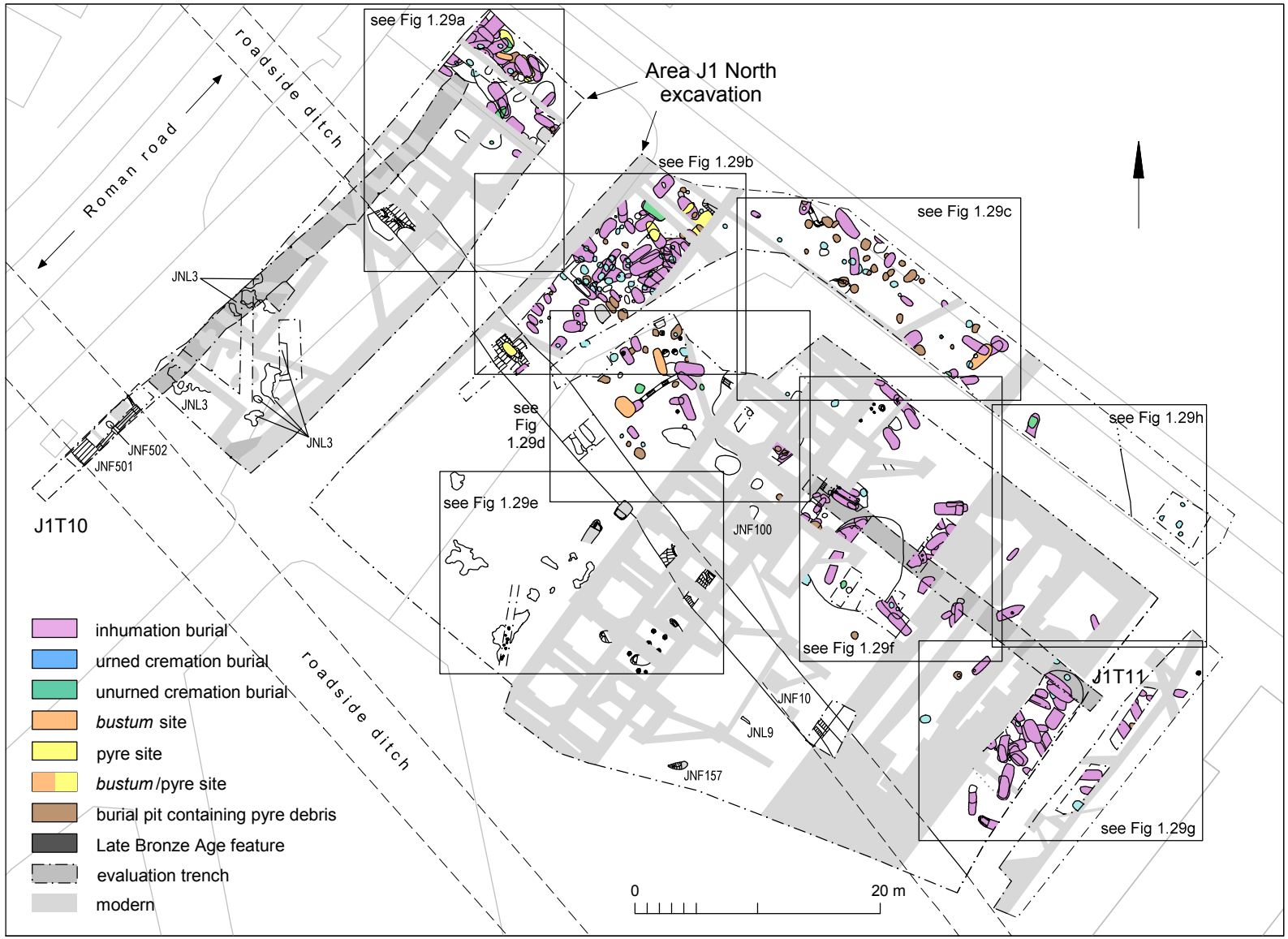

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Fig 1.28 Area J1 North: plan of excavation area.

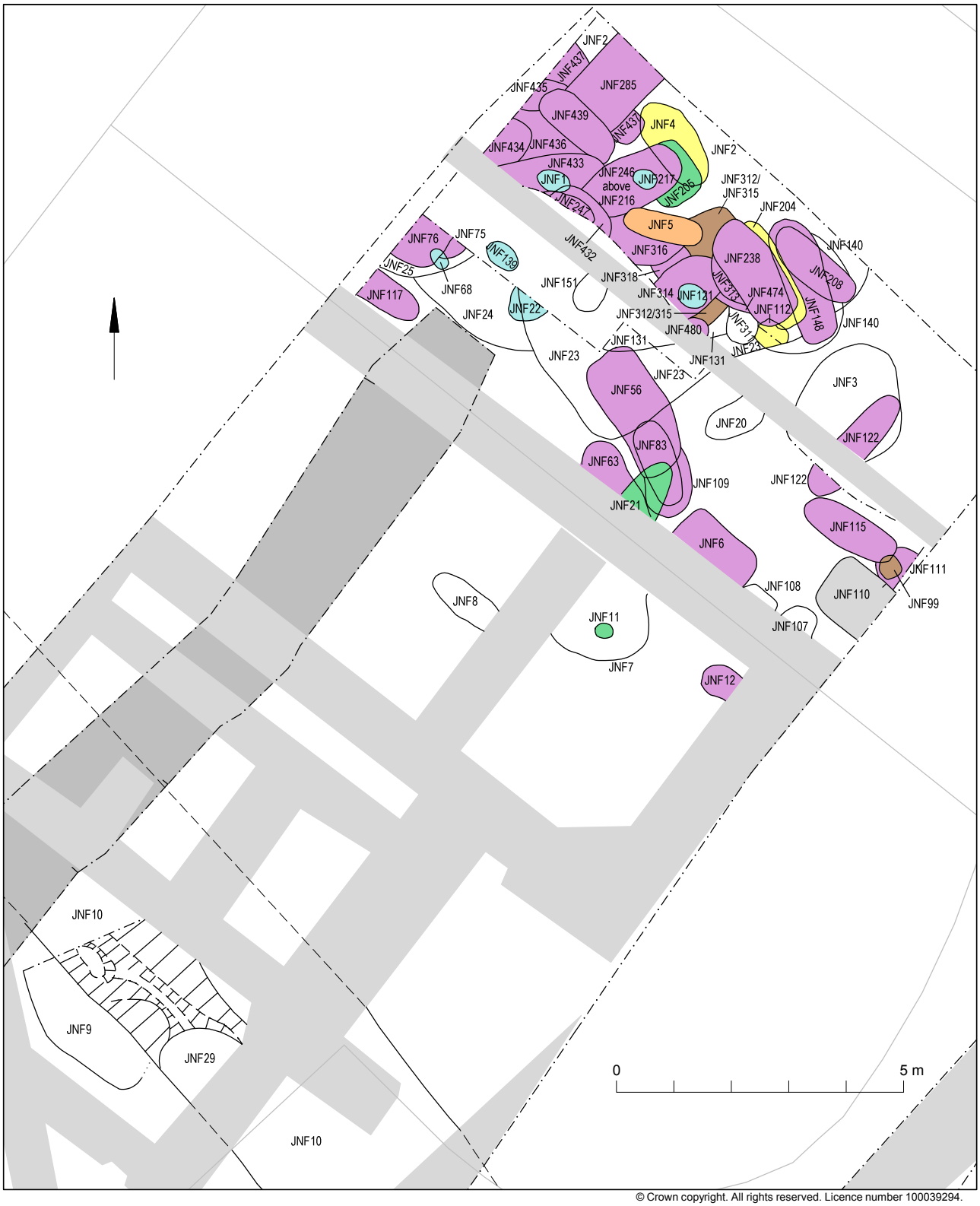

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Fig 1.29a Inset to Figure 1.28.

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Fig 1.29b Inset to Figure 1.28.

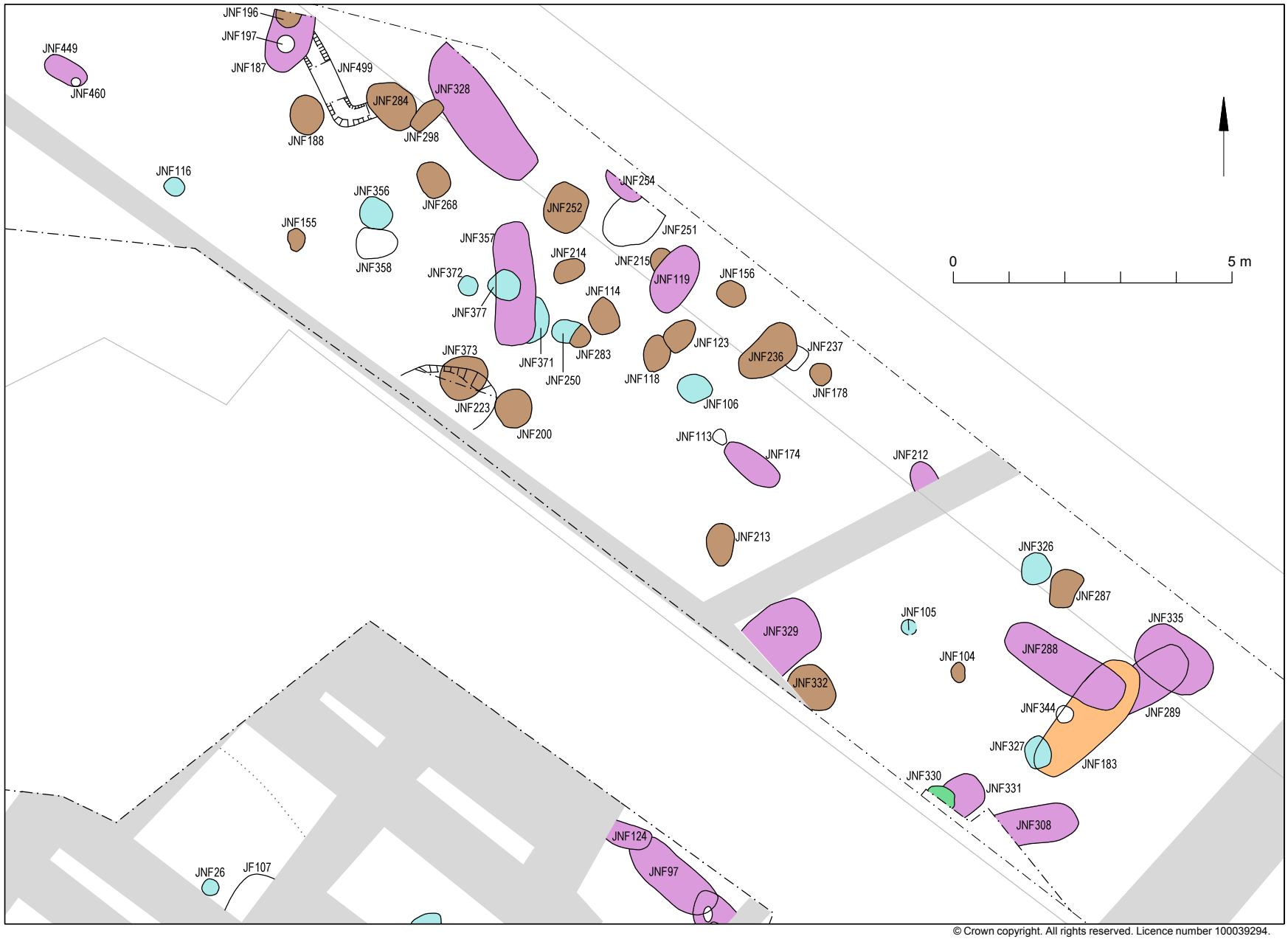

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Fig 1.29c Inset to Figure 1.28.

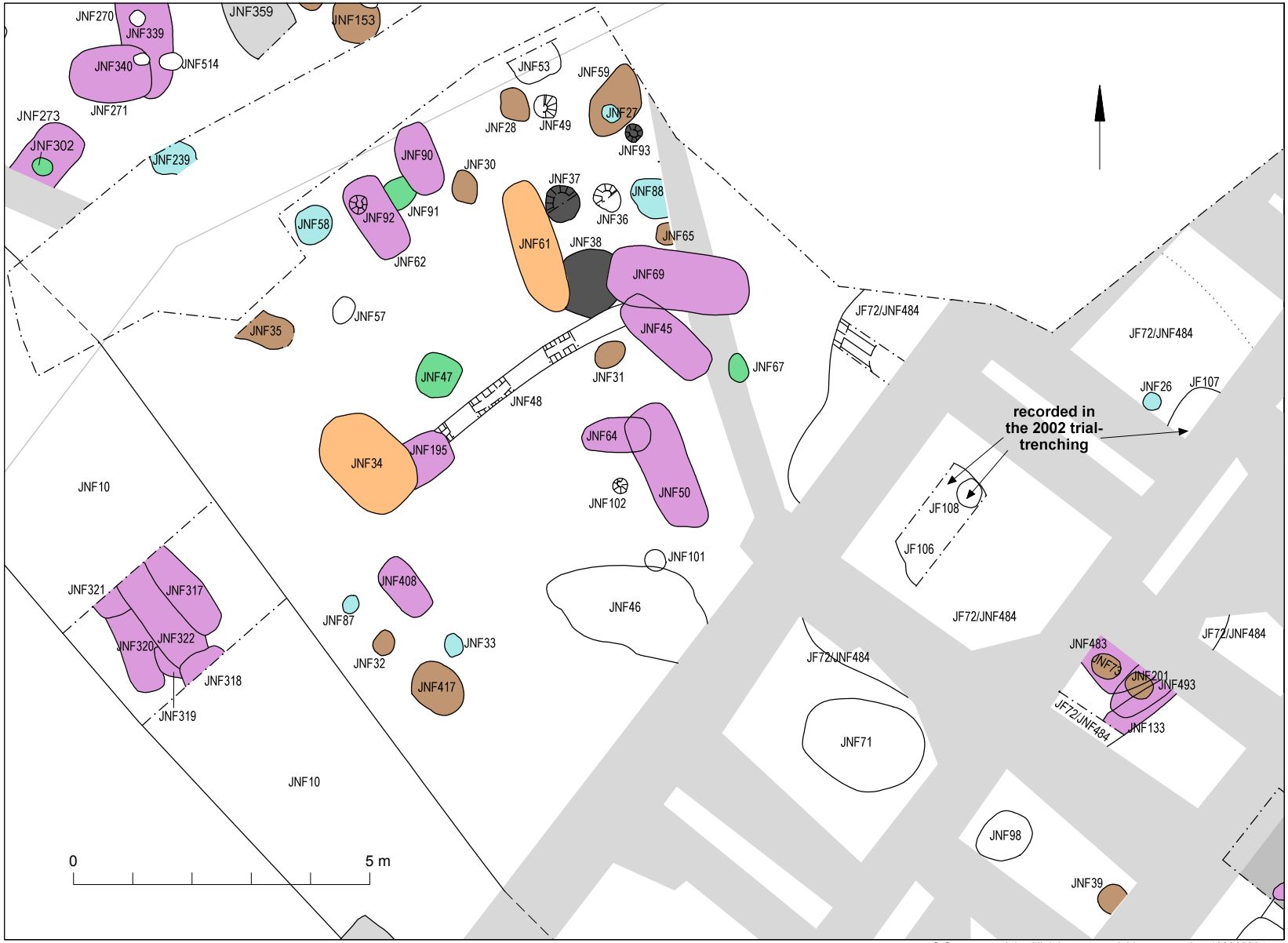

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Fig 1.29d Inset to Figure 1.28.

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Fig 1.29e Inset to Figure 1.28.

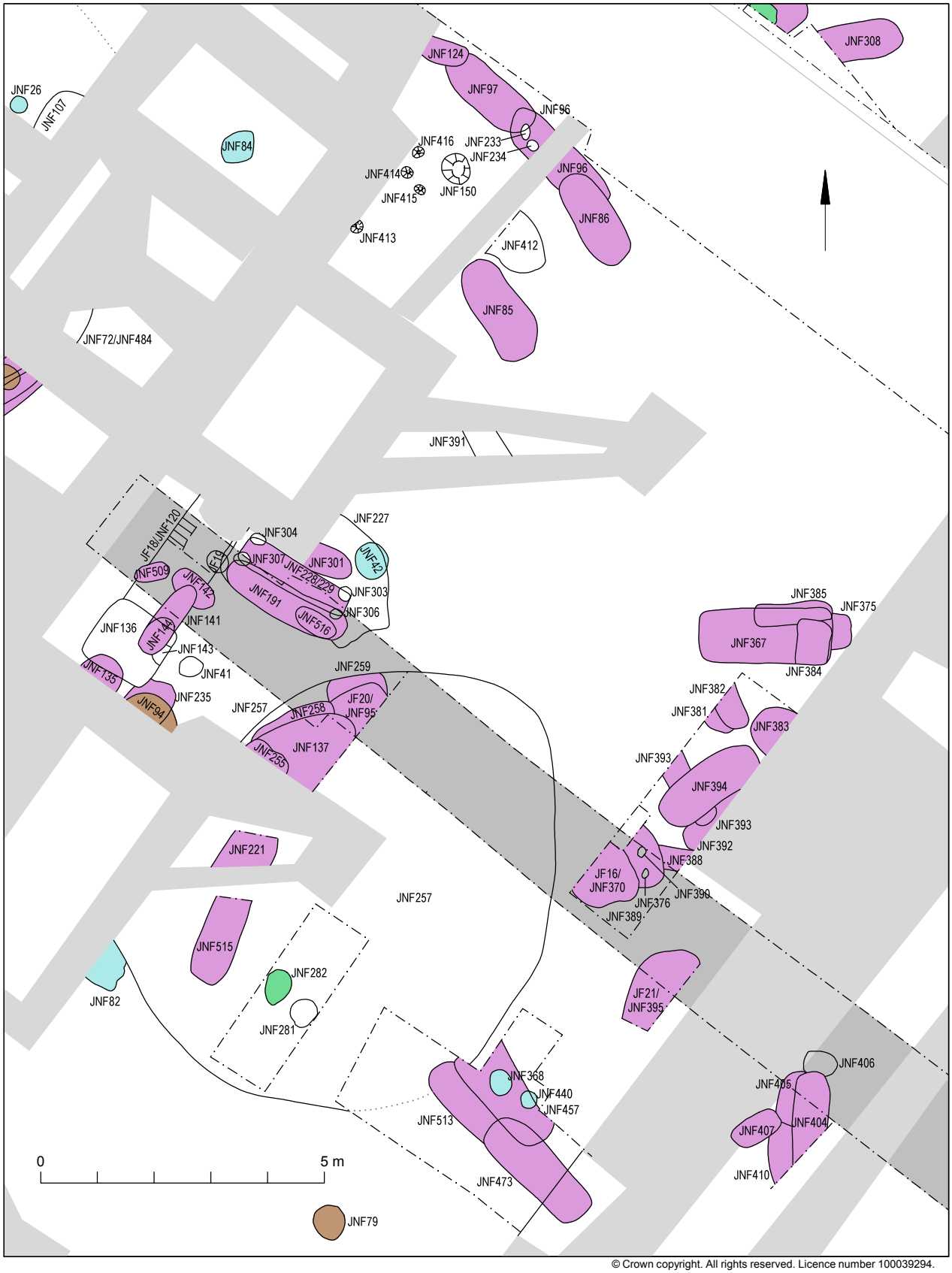

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Fig 1.29f Inset to Figure 1.28.

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Fig 1.29g Inset to Figure 1.28.

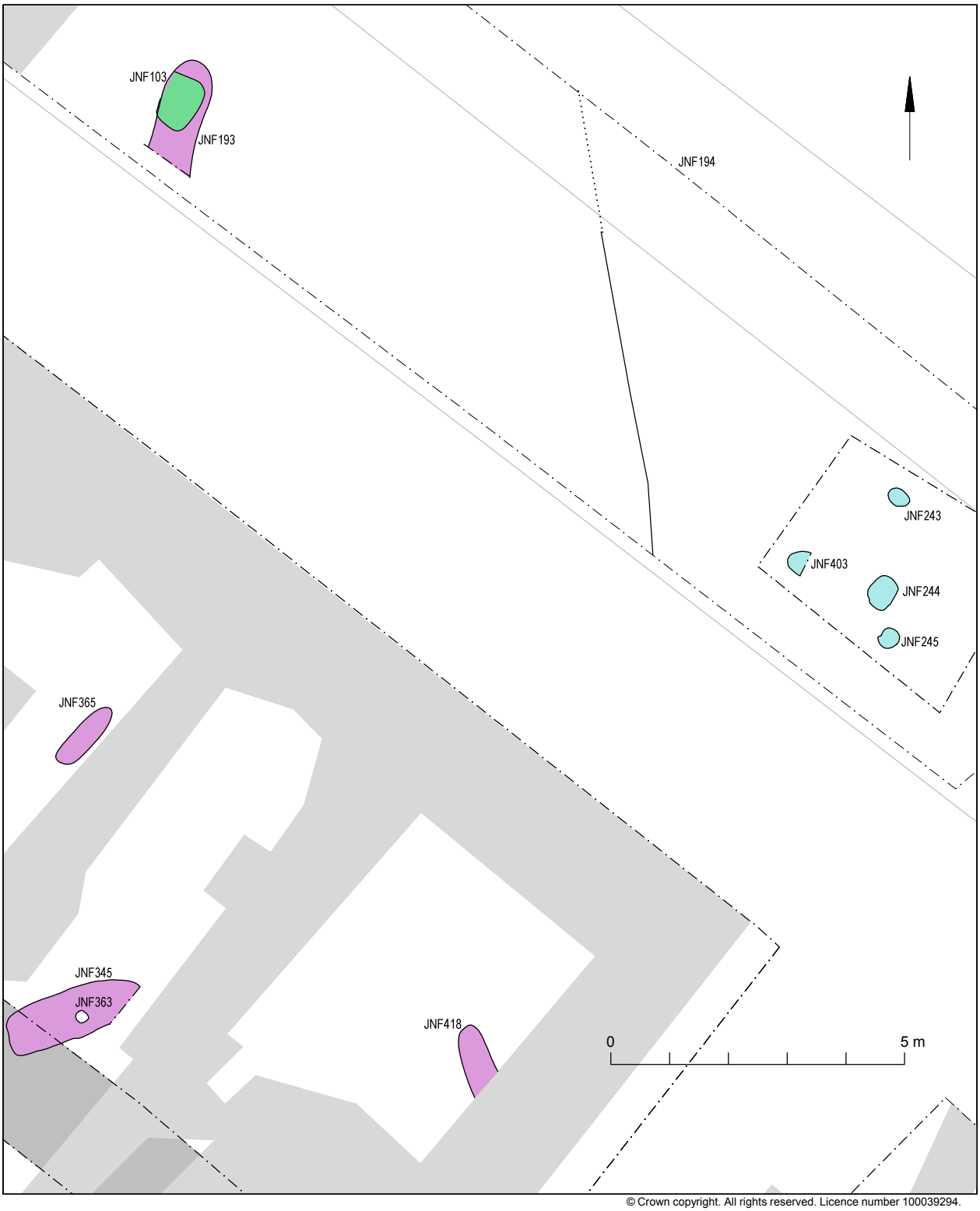

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Fig 1.29h Inset to Figure 1.28.

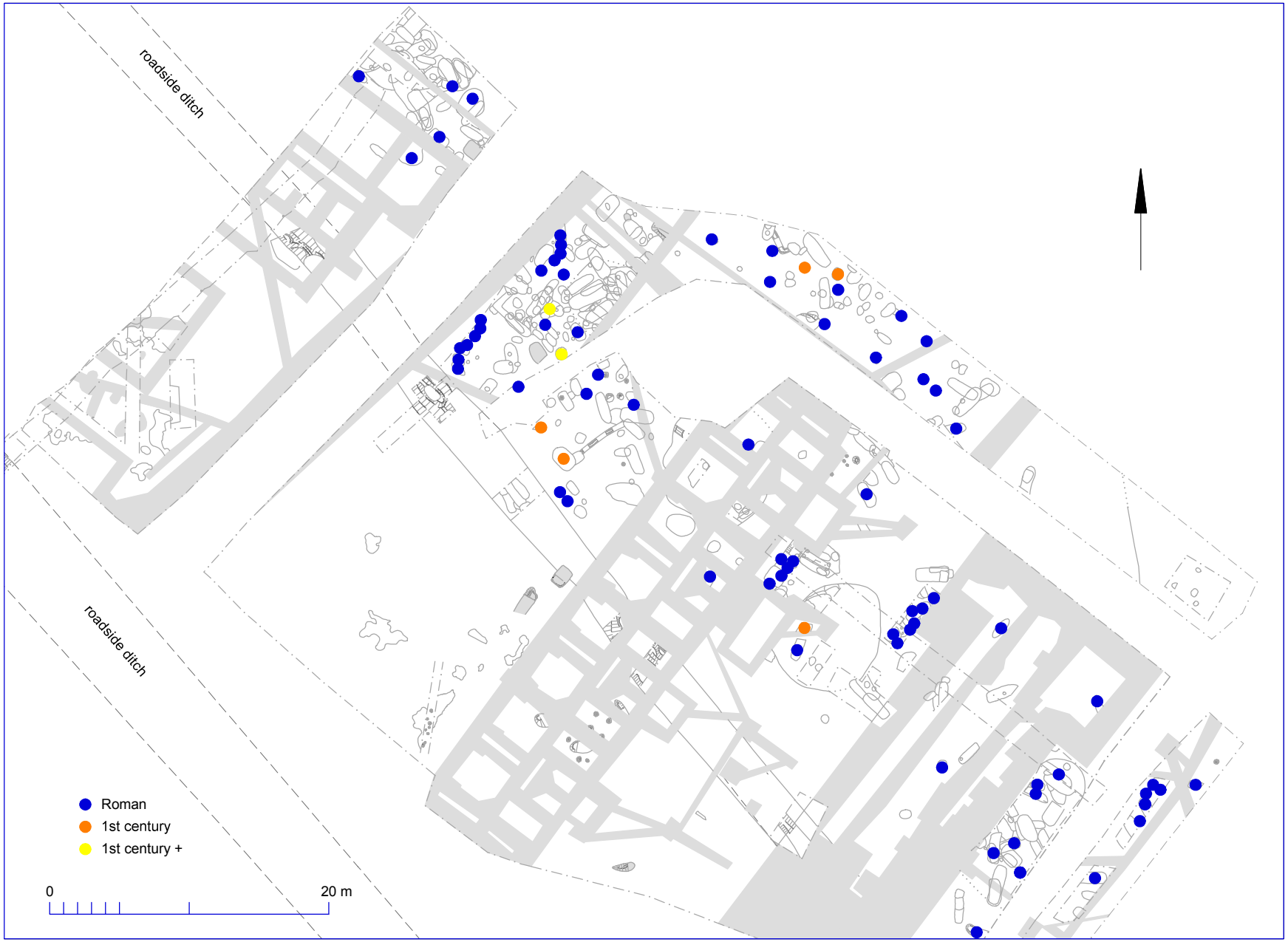

Fig 1.30a Area J1 North: burials dated as Roman and 1st century.

Fig 1.30b Area J1 North: burials dated as 1st century and onwards.

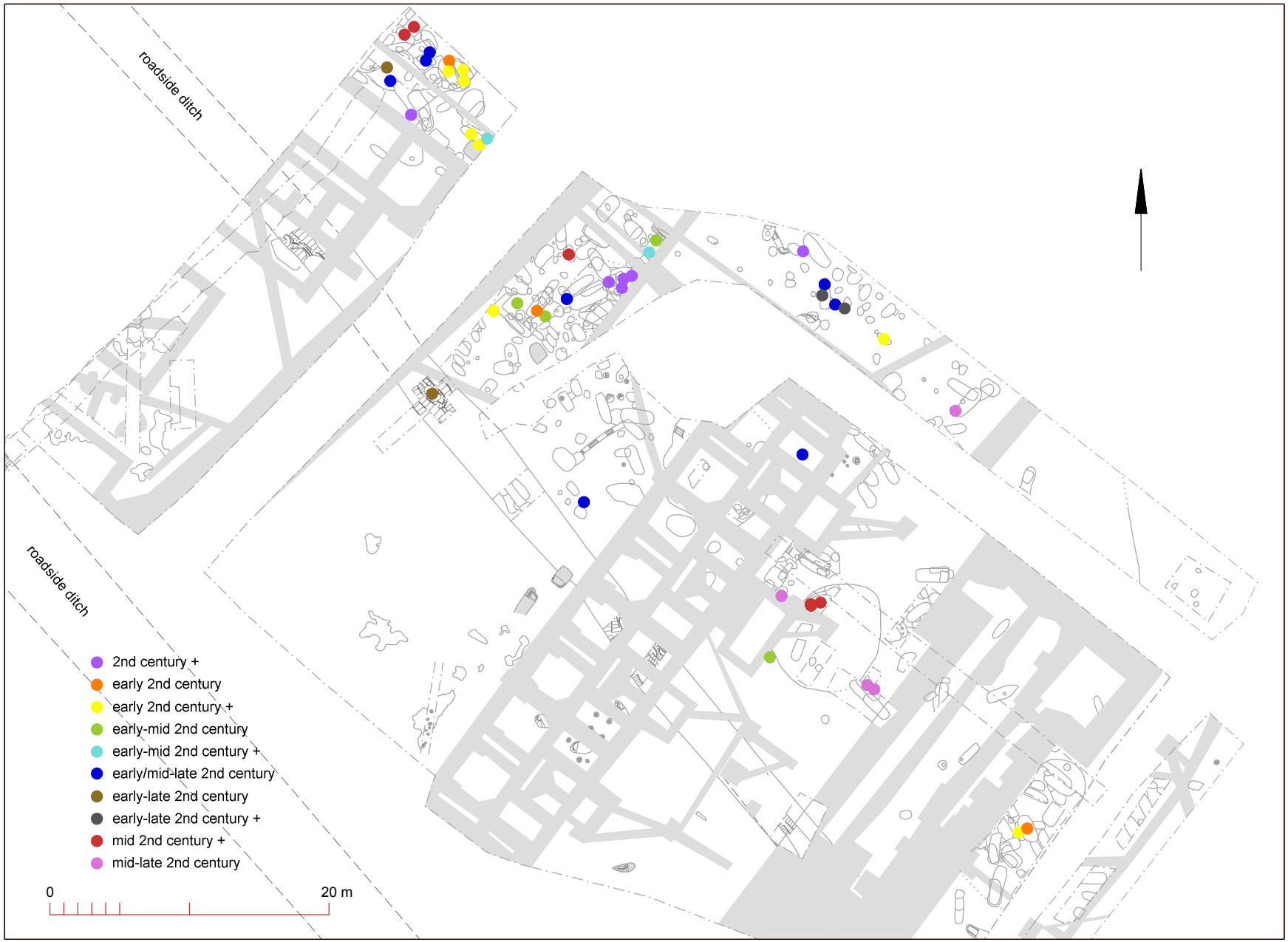

Fig 1.30c Area J1 North: burials dated as 2nd century.

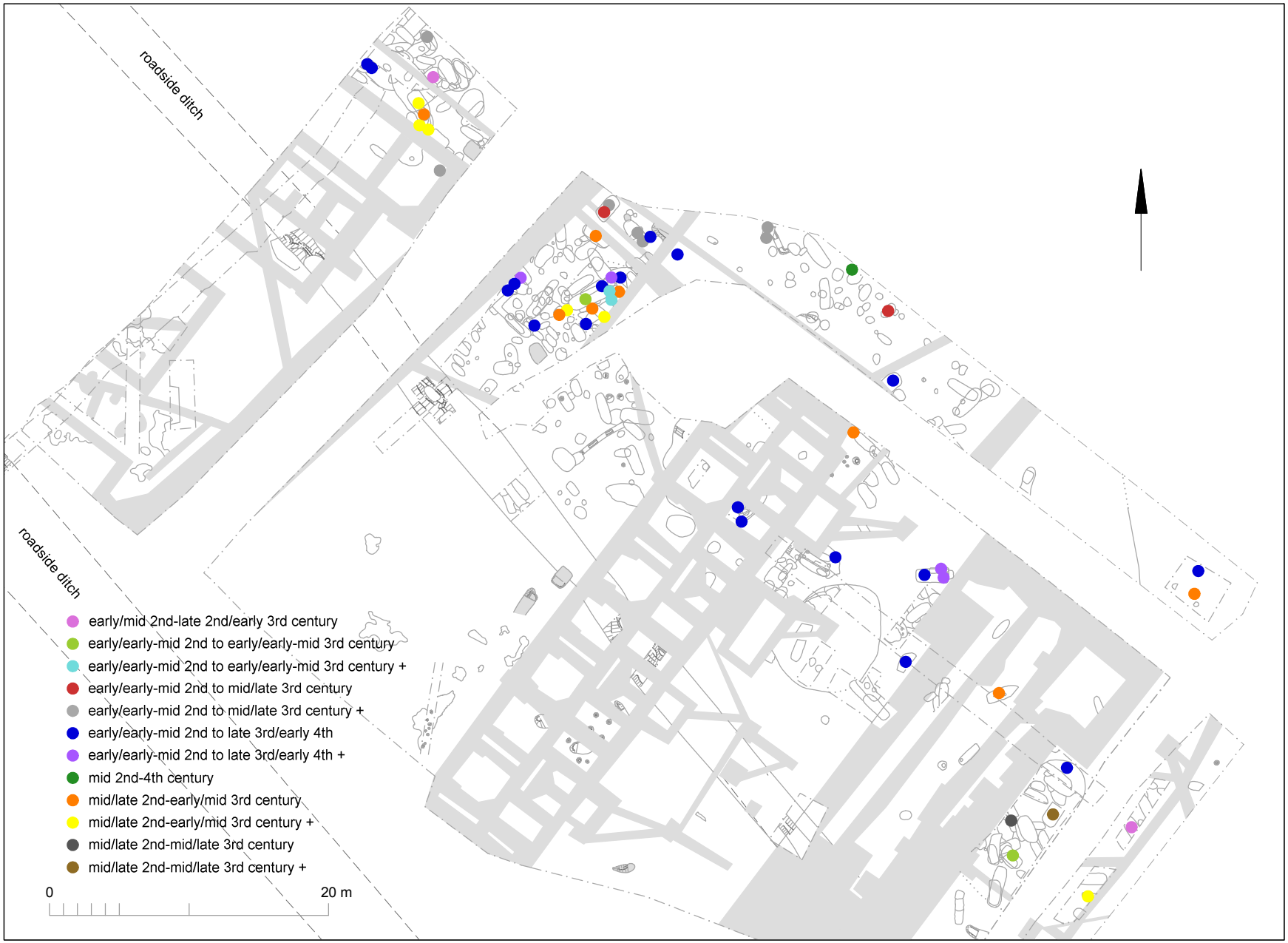

Fig 1.30d Area J1 North: burials dated as 2nd century and onwards.

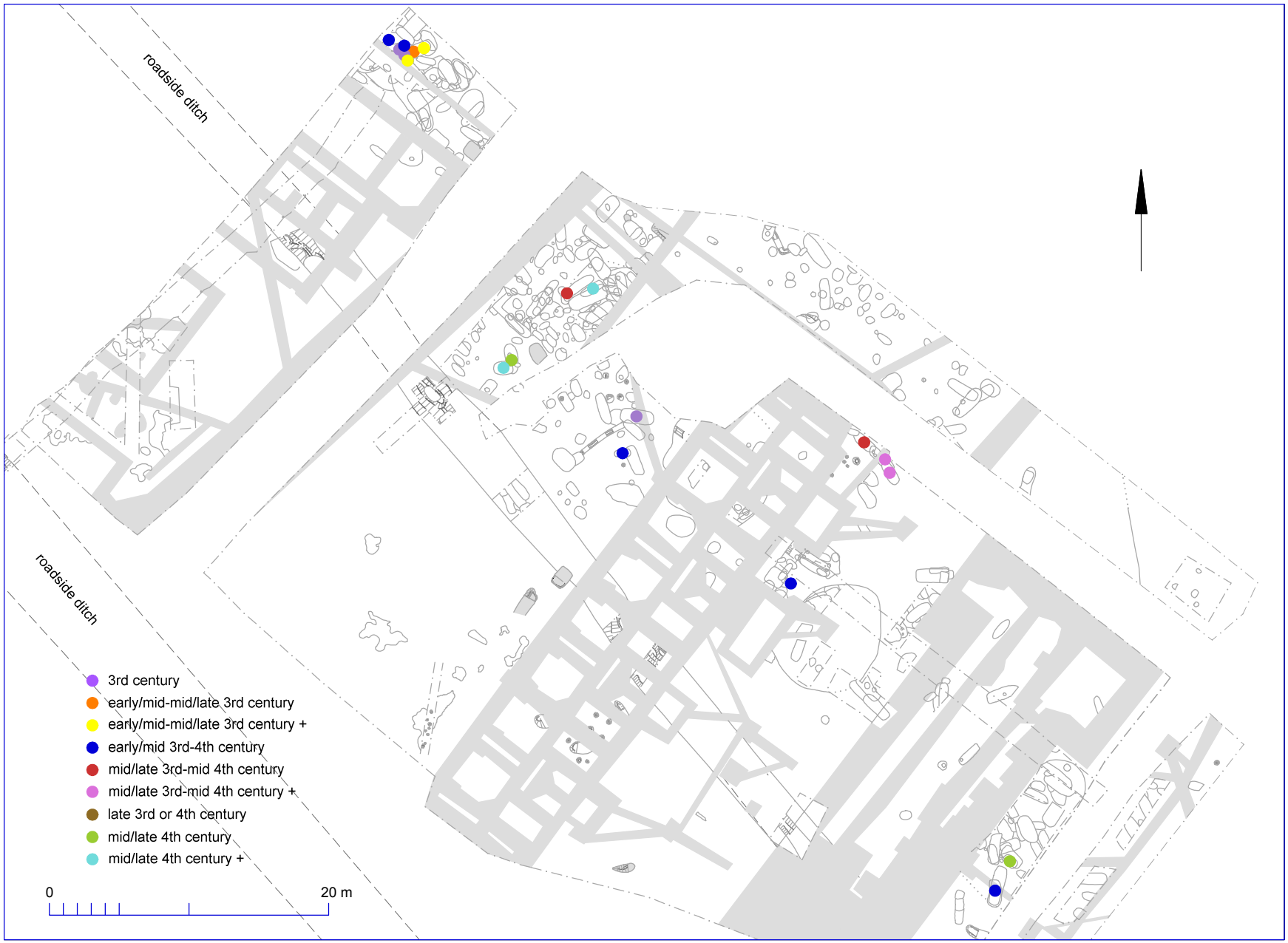

Fig 1.30e Area J1 North: burials dated as 3rd/4th century.

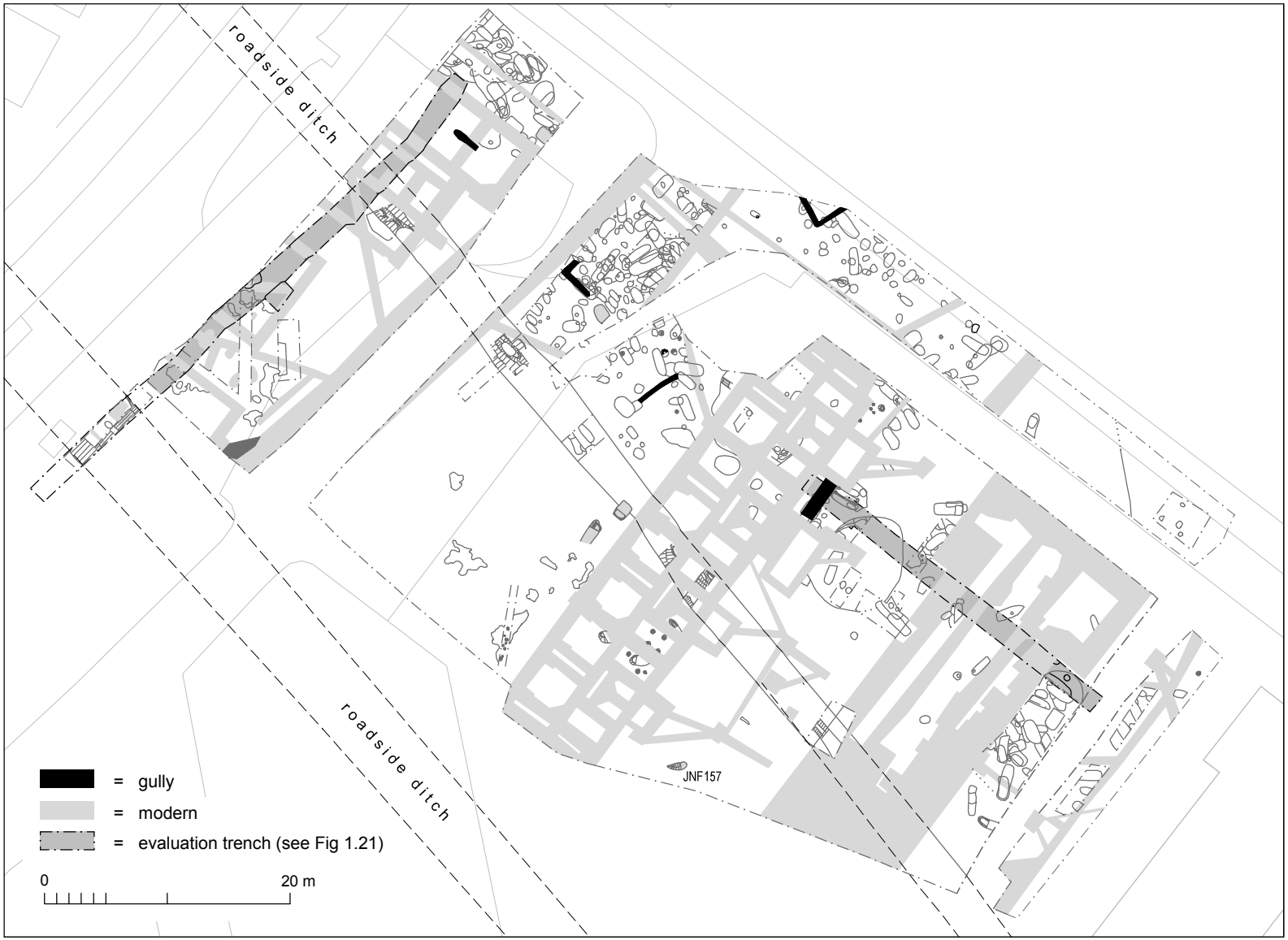

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Fig 1.31 Area J1 North: plan of the Roman gullies which possibly represent burial plots.

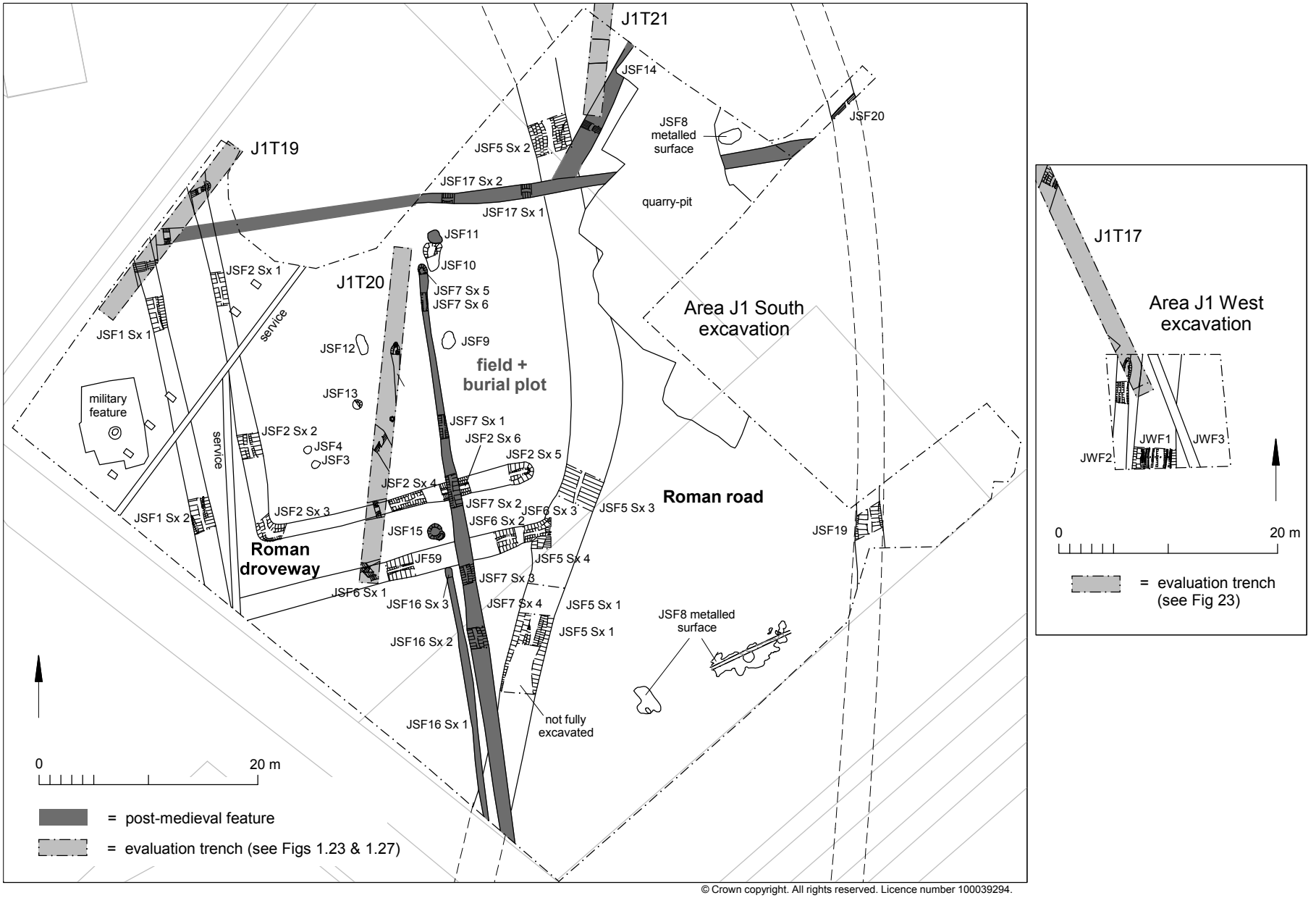

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Fig 1.32 Area J1 South: plan of excavation area (left).
Area J1 West: plan of excavation area (right).

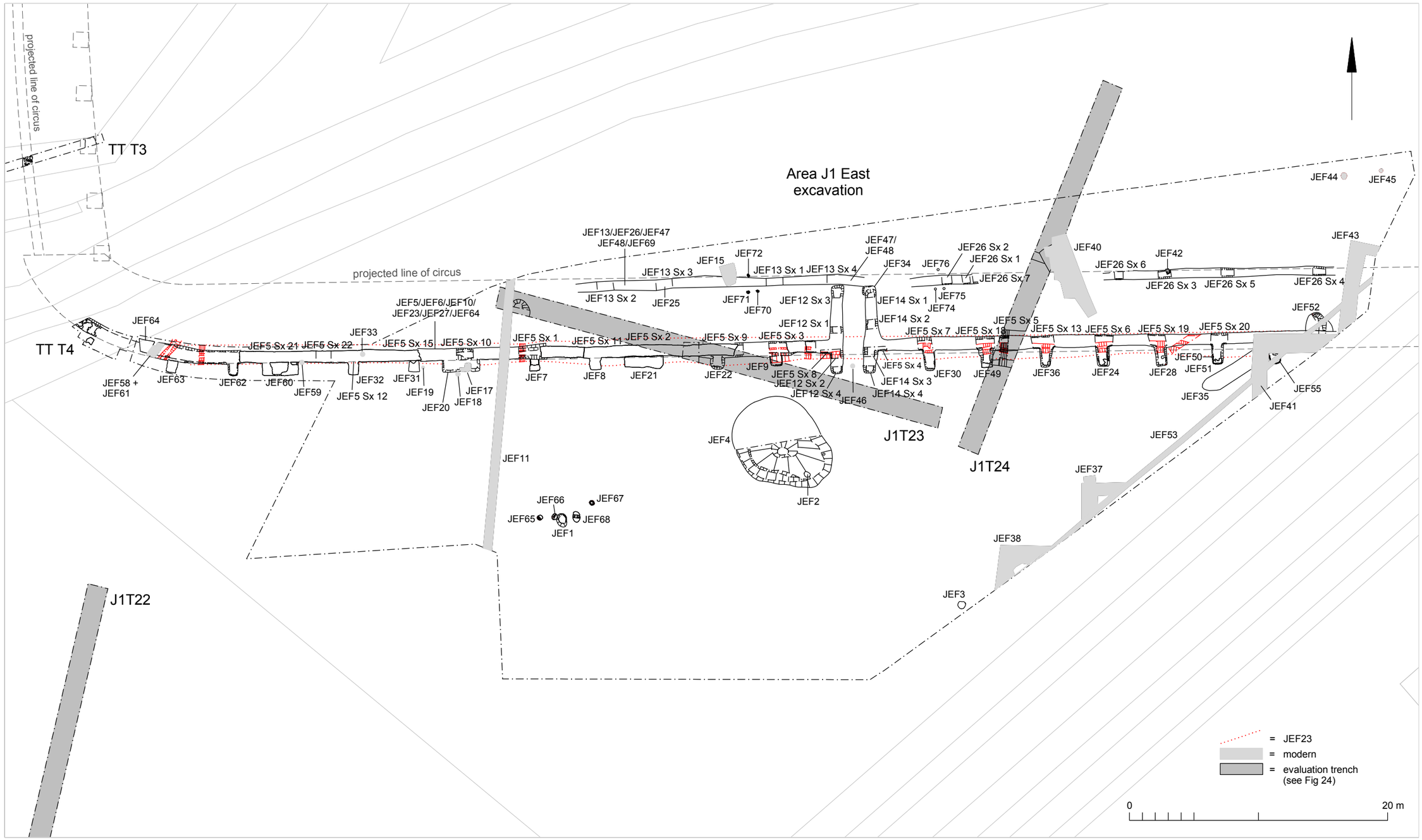

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Fig 1.33a Area J1 East: plan of excavation area.

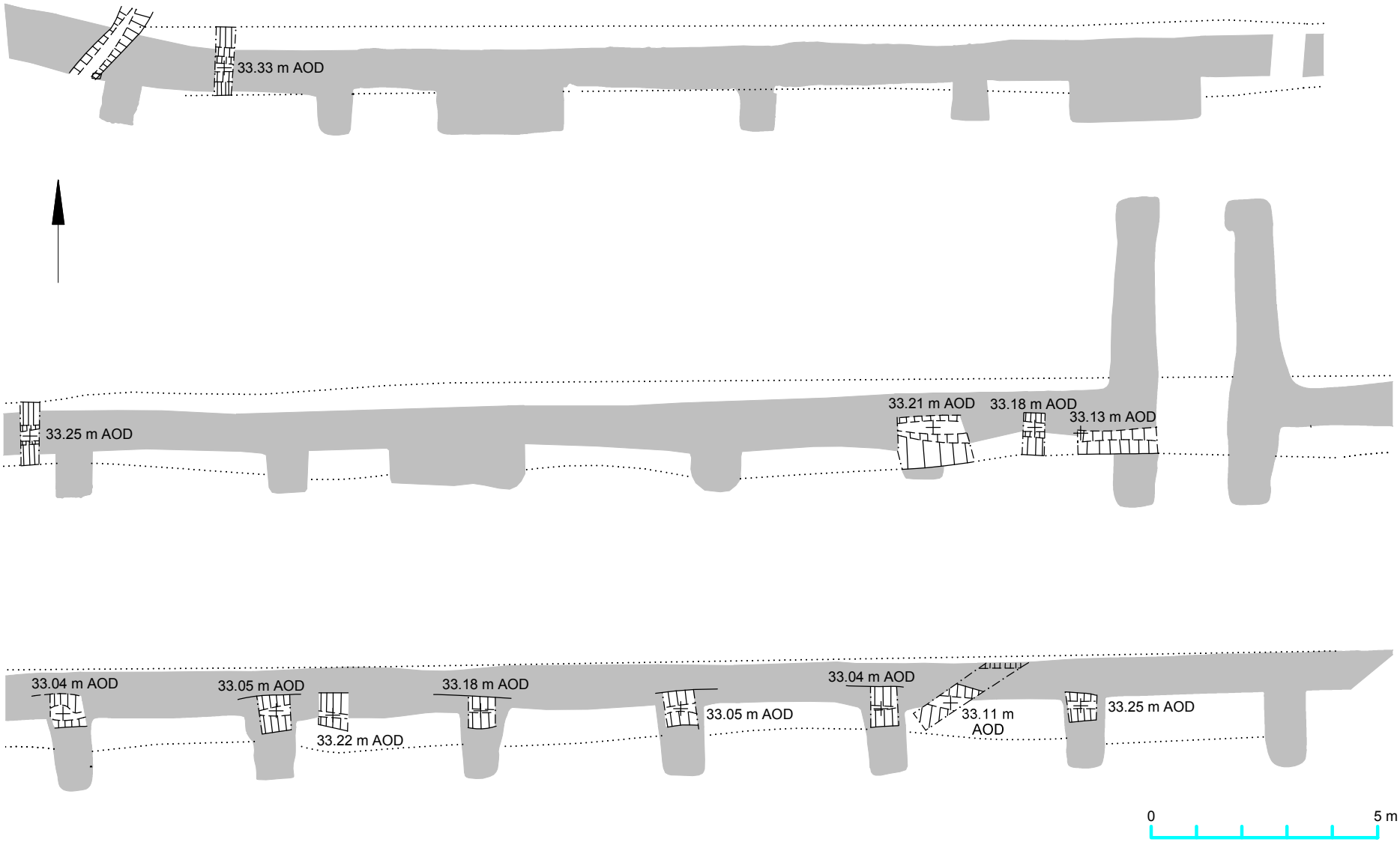


Fig 1.33b Area J1 East: ditch JEF23 in relation to outer wall of the cavea. The levels were taken on the bottom of the ditch.

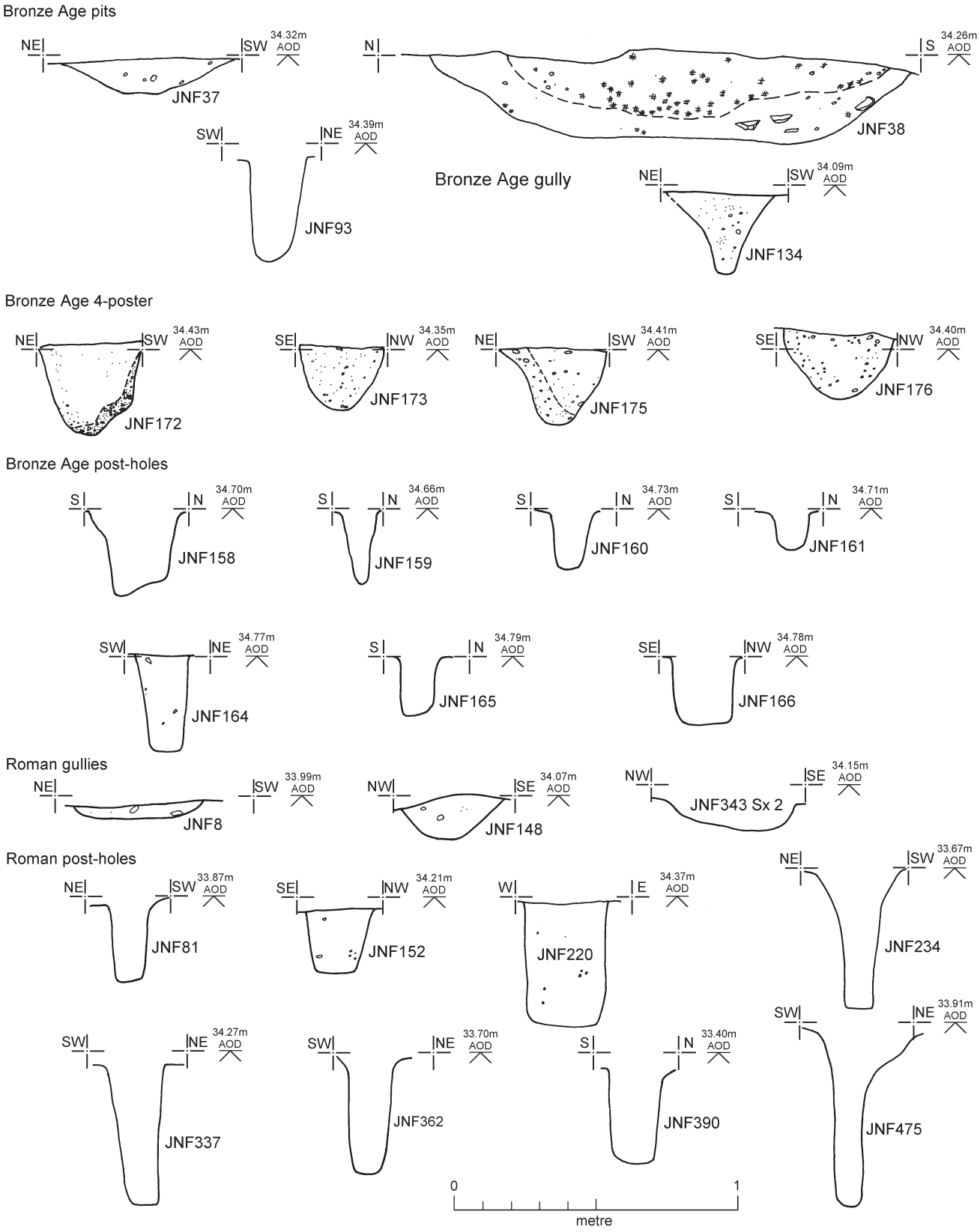


Fig 1.34 Area J1: sections (excluding the Roman circus and the Roman burial features).

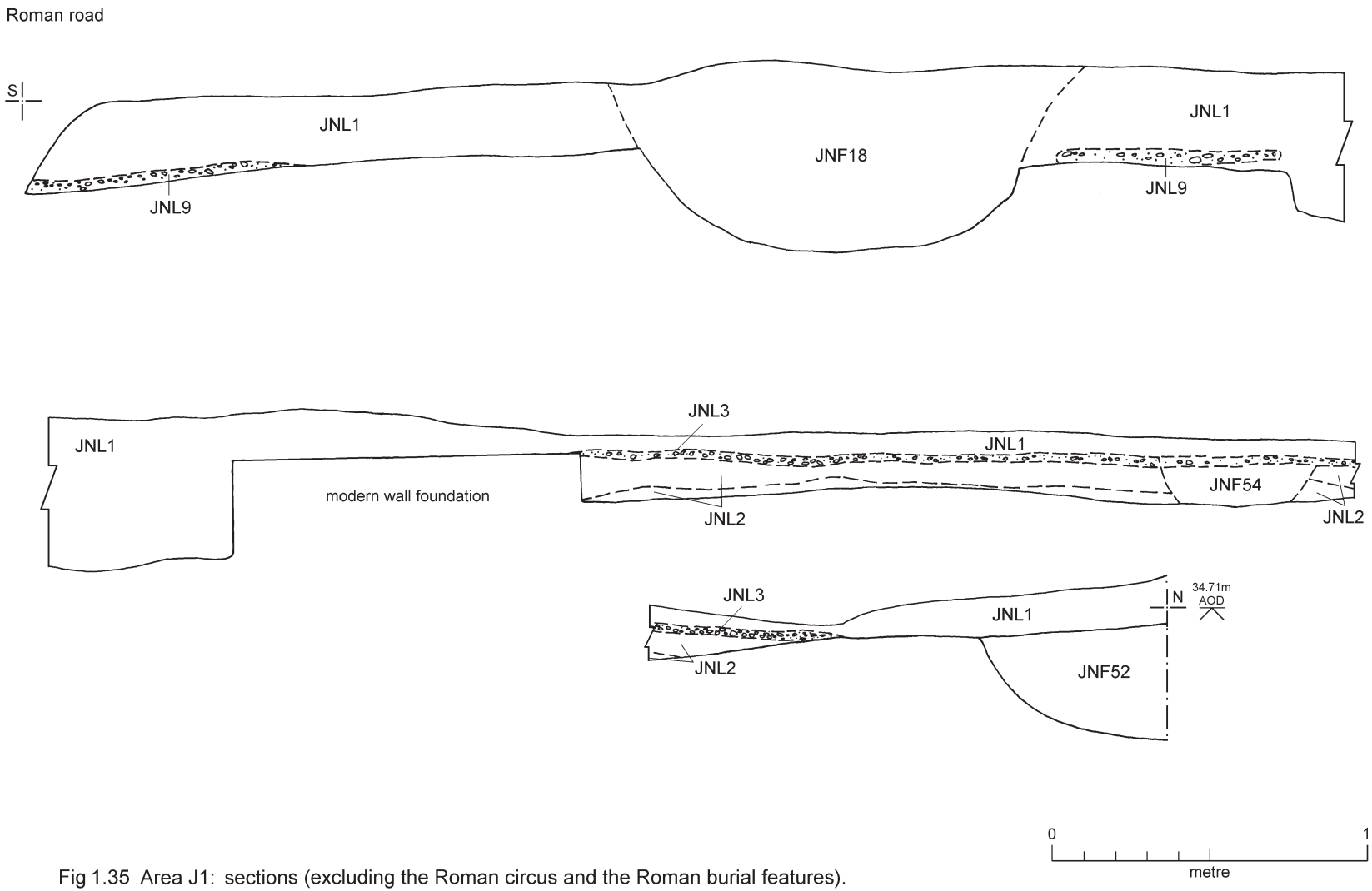


Fig 1.35 Area J1: sections (excluding the Roman circus and the Roman burial features).

Roman roadside ditches

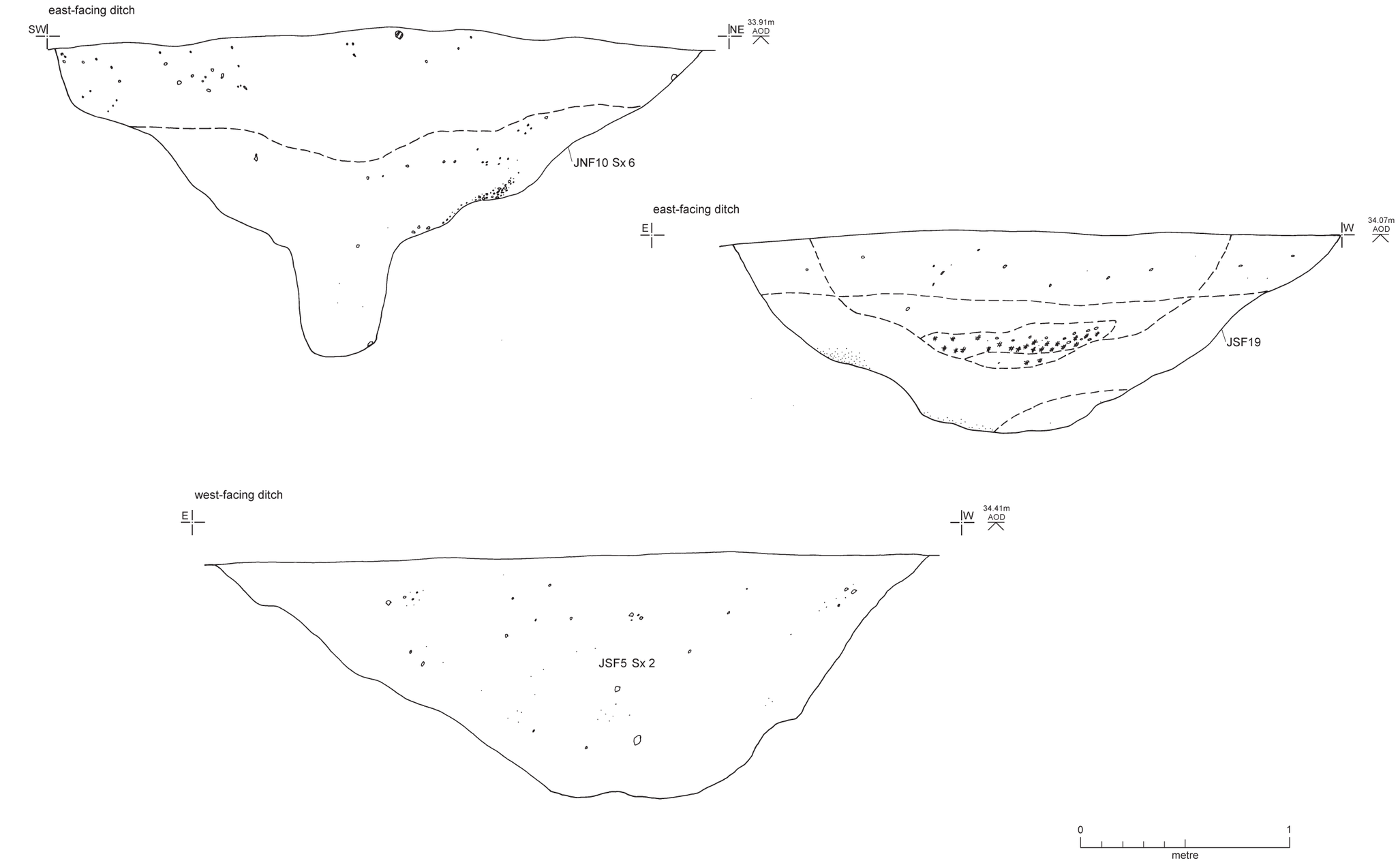


Fig 1.36 Area J1: sections (excluding the Roman circus and the Roman burial features).

Roman roadside ditch

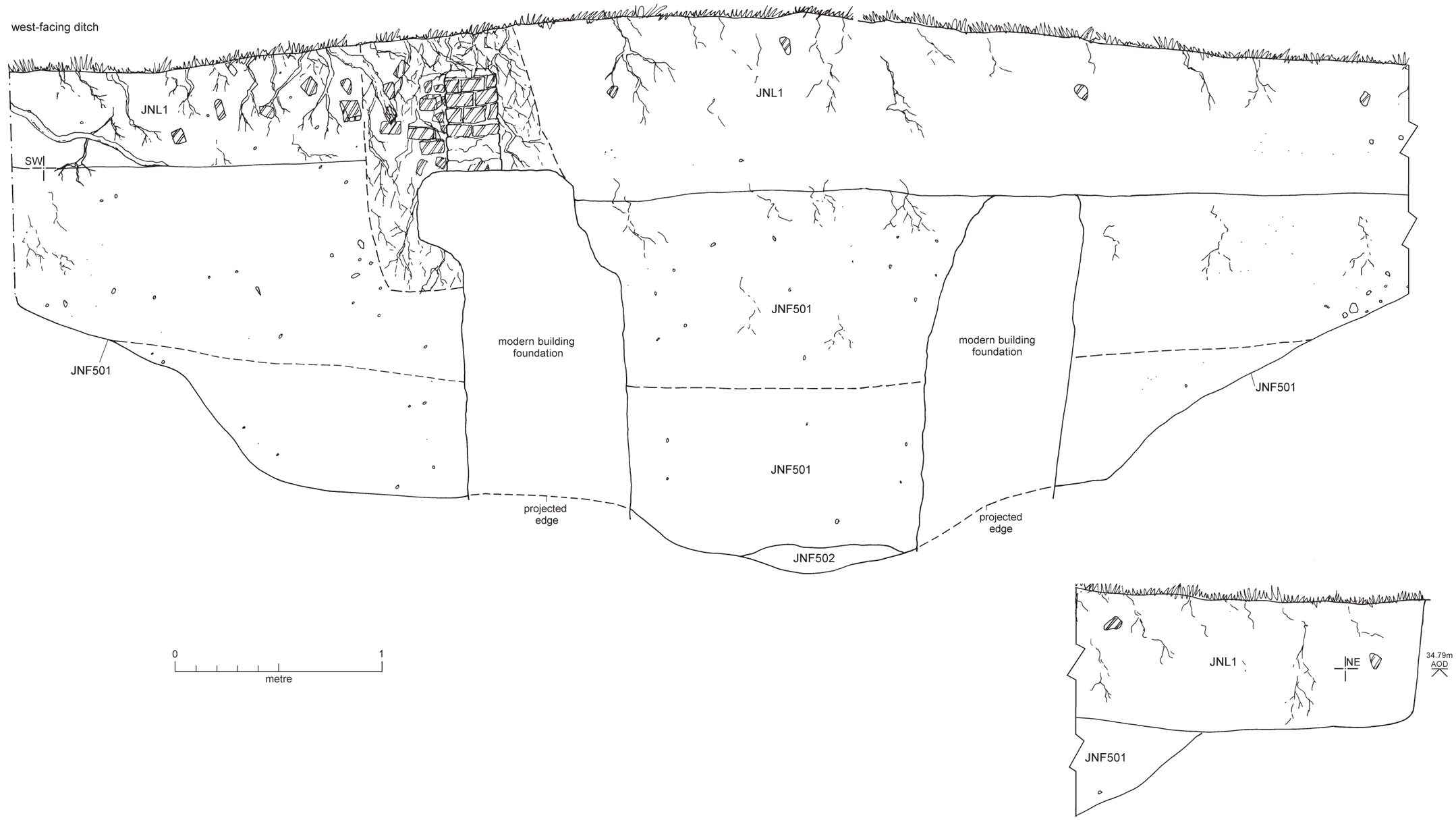
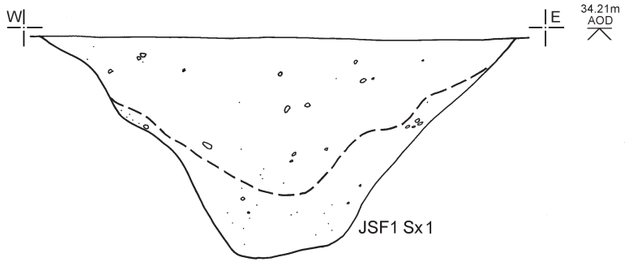
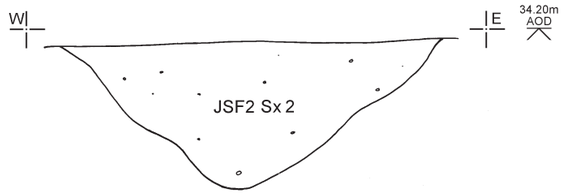


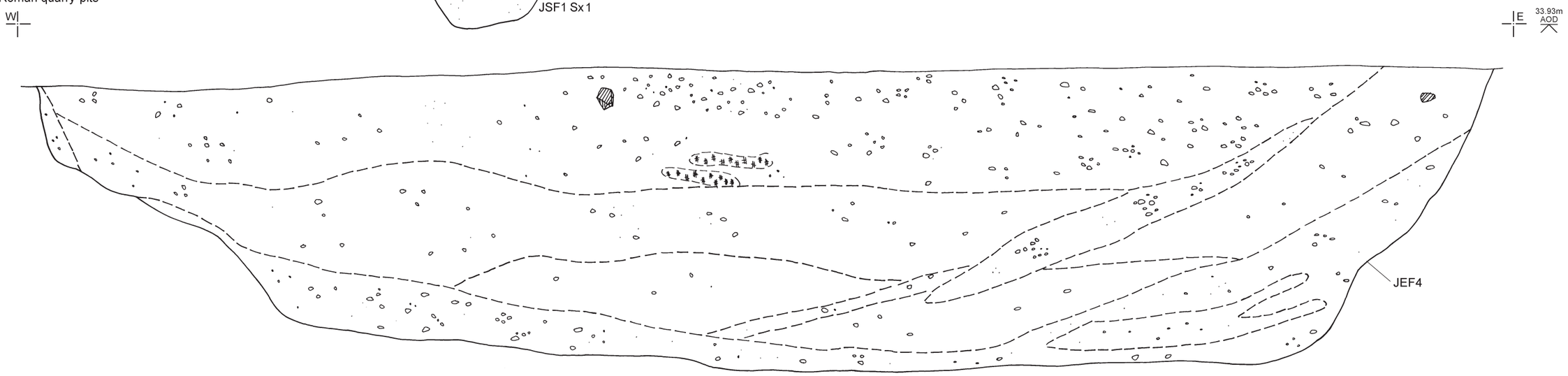
Fig 1.37 Area J1: sections (excluding the Roman circus and the Roman burial features).

Roman field ditches





Roman quarry-pits



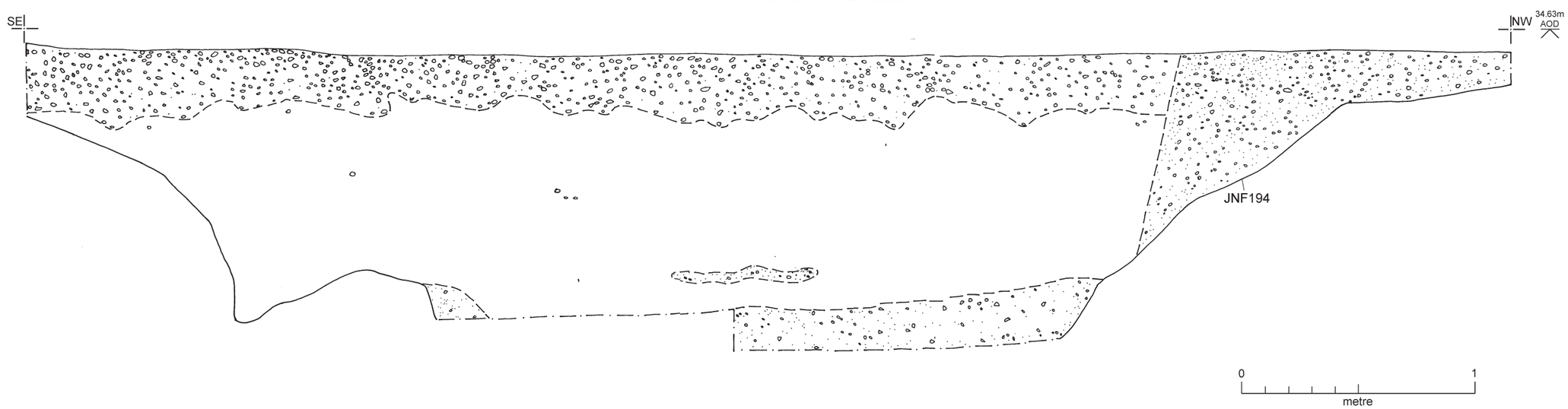


Fig 1.38 Area J1: sections (excluding the Roman circus and the Roman burial features).

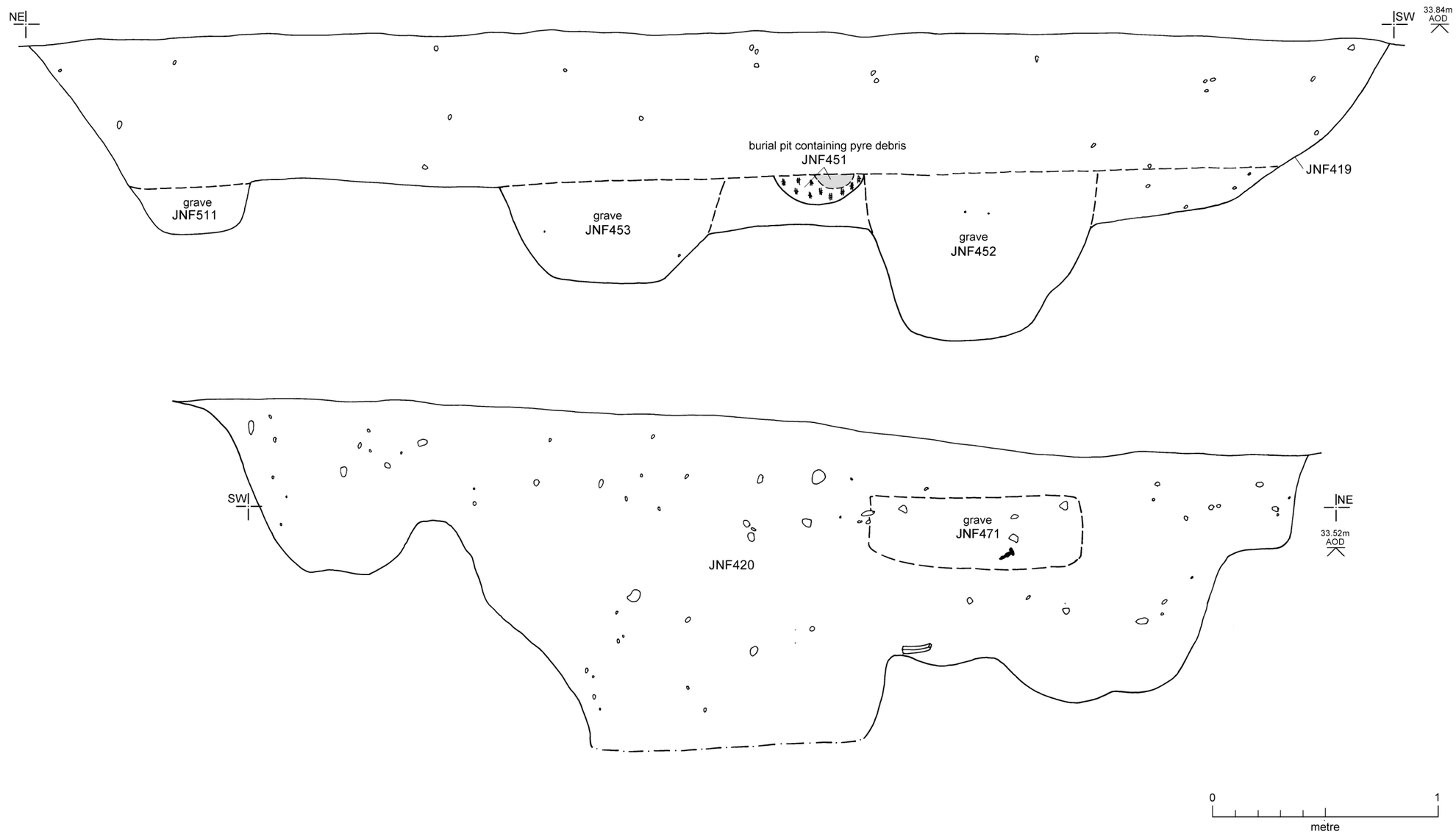
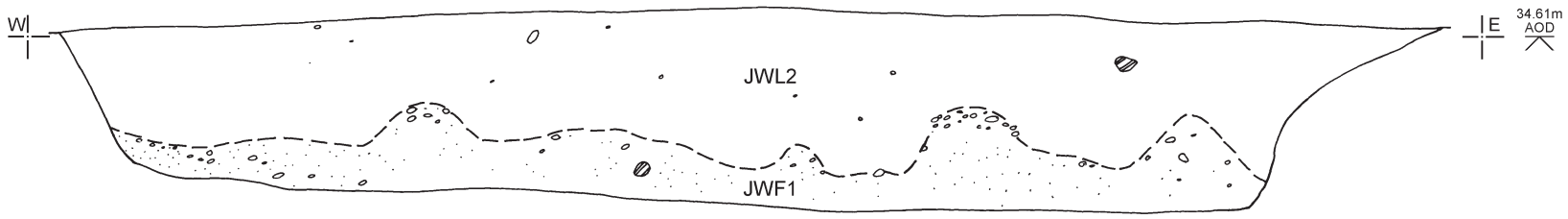
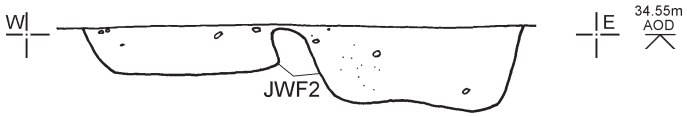


Fig 1.39 Area J1: sections (excluding the Roman circus and the Roman burial features).

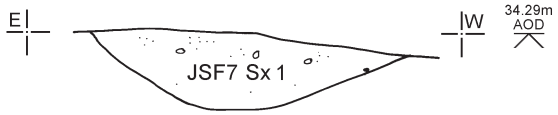
post-Roman metalled surface

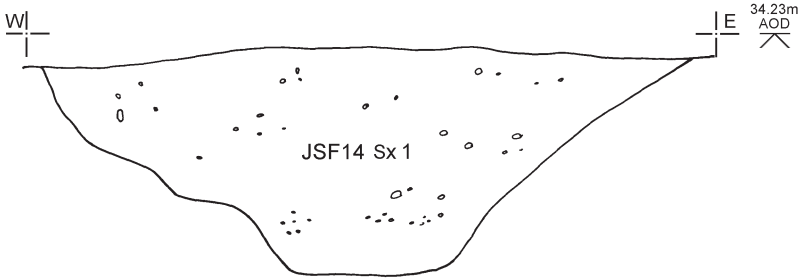


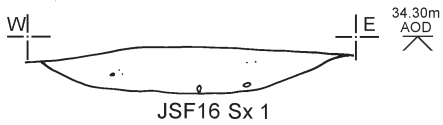
post-Roman roadside ditch

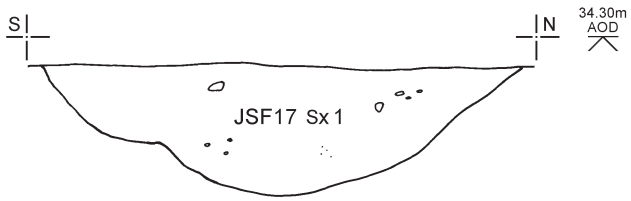


post-Roman ditches









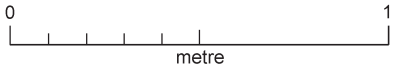


Fig 1.40 Area J1: sections (excluding the Roman circus and the Roman burial features).

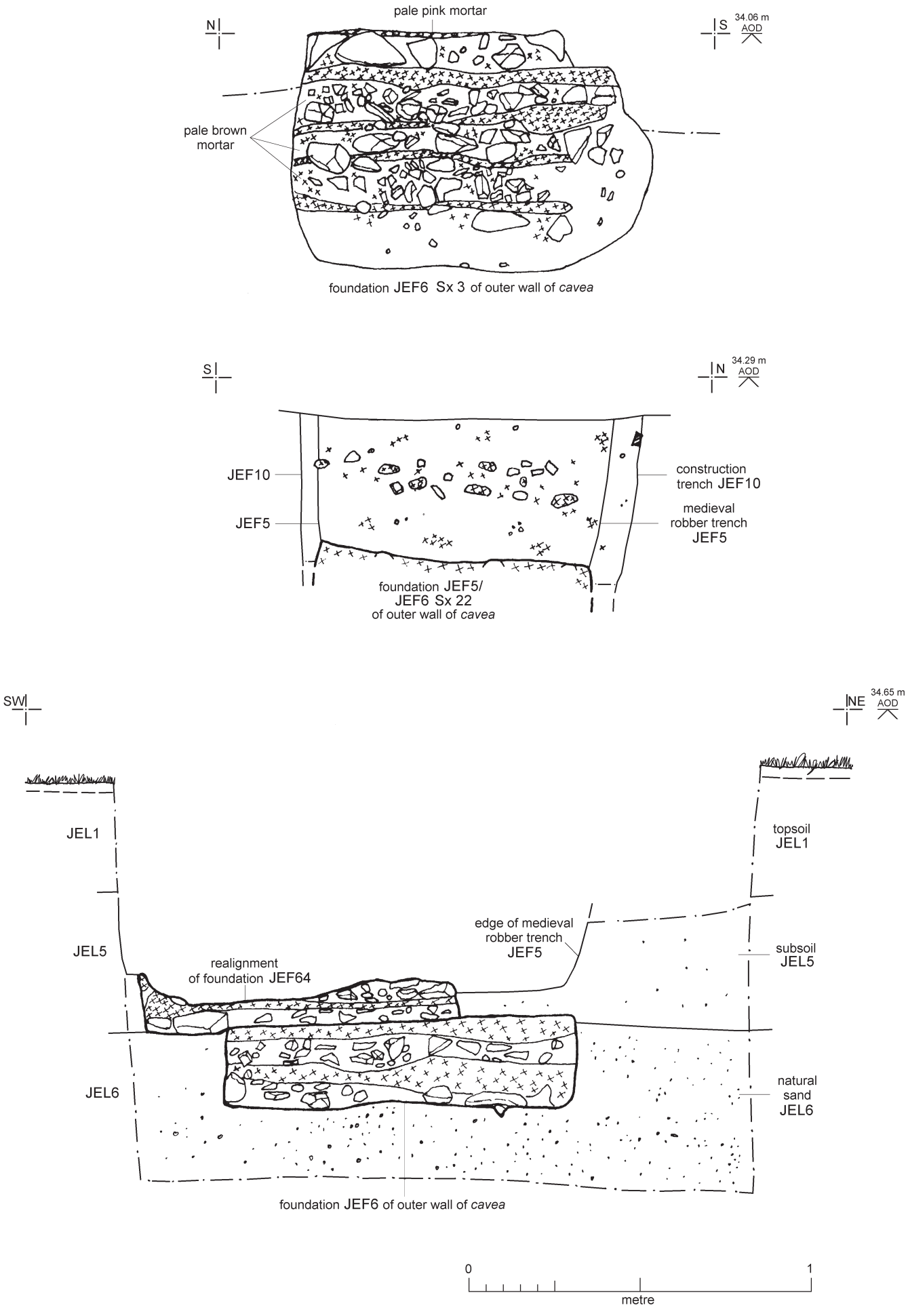


Fig 1.41 Area J1 East: the Roman circus - sections across the outer wall foundation west of the *vomitorium*.

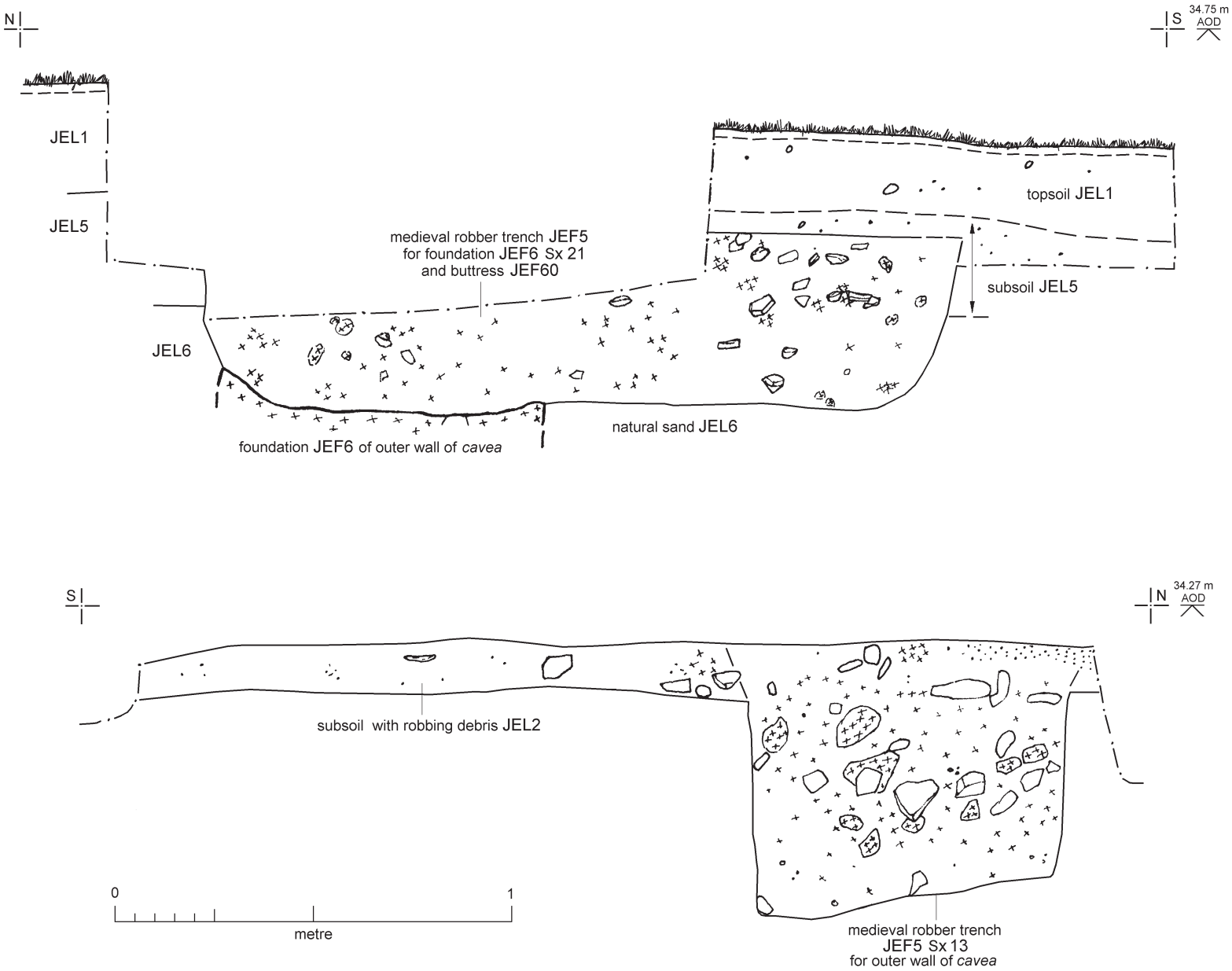


Fig 1.42 Area J1 East: the Roman circus - sections across the outer wall foundation west of the *vomitorium* (above) and east of the *vomitorium* (below).

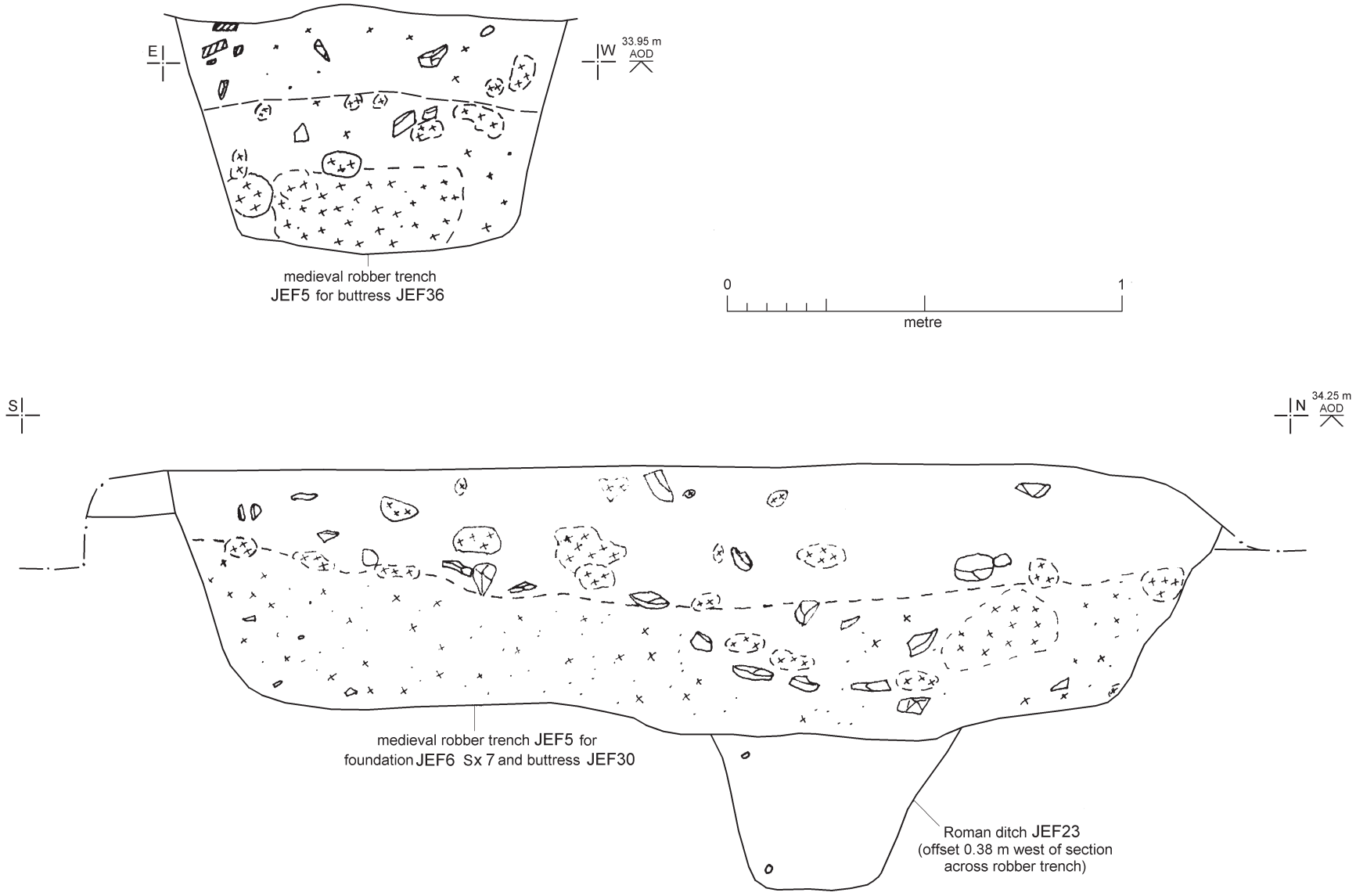


Fig 1.43 Area J1 East: the Roman circus - sections across the outer wall foundation east of the *vomitorium.*

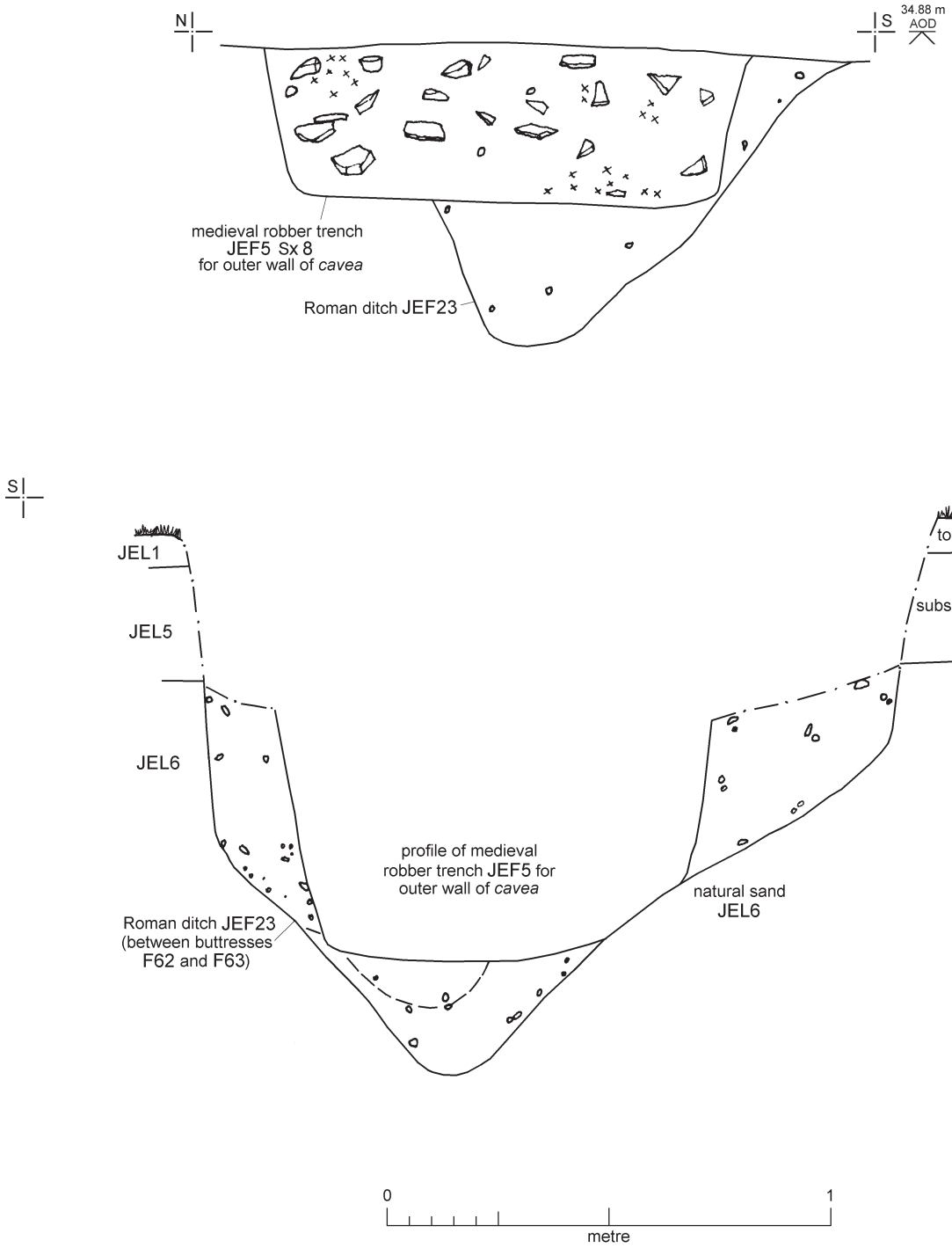


Fig 1.44 Area J1 East: the Roman circus - sections across the ditch JEF23.

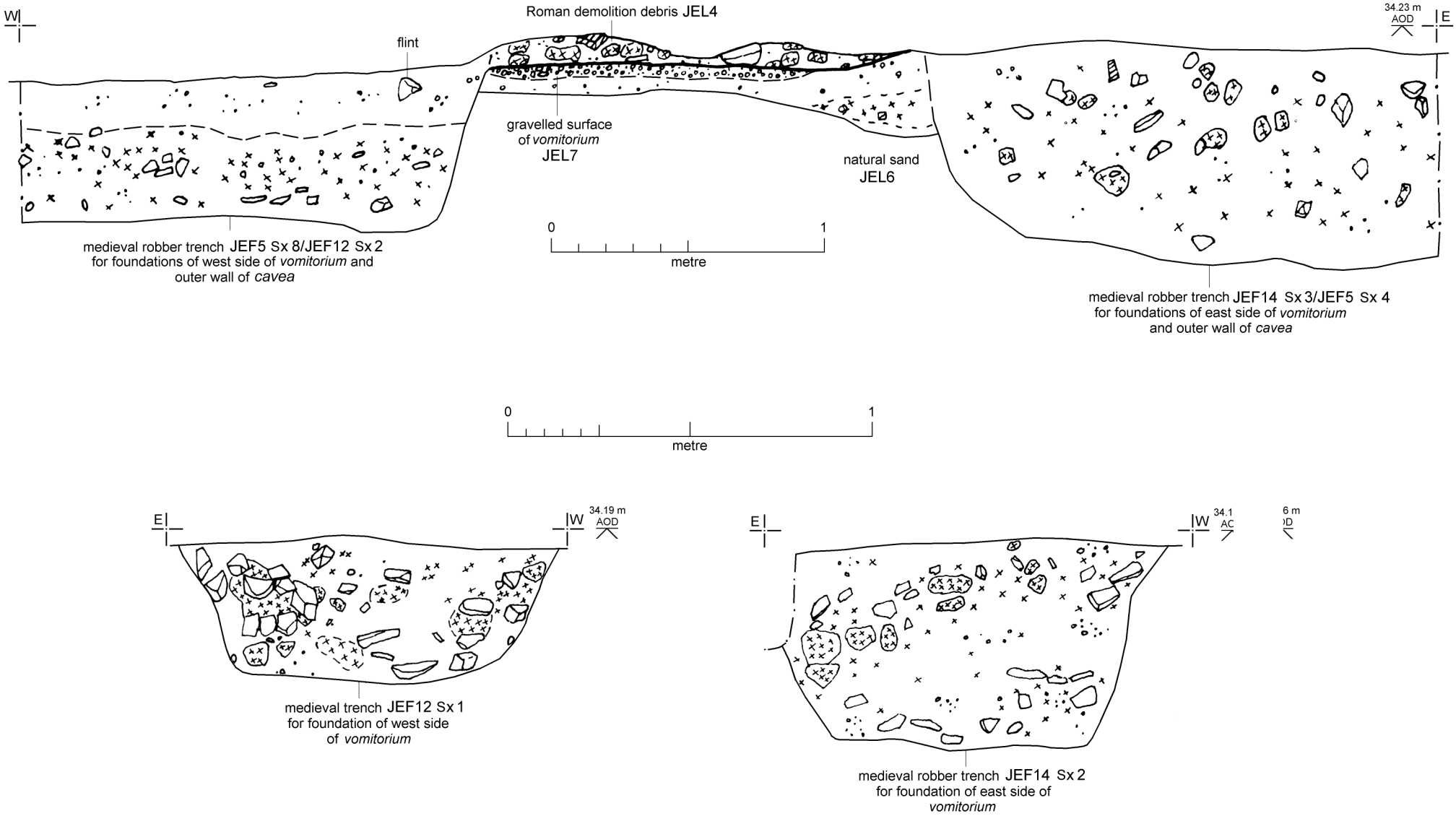


Fig 1.45 Area J1 East: the Roman circus - sections across the *vomitorium.*

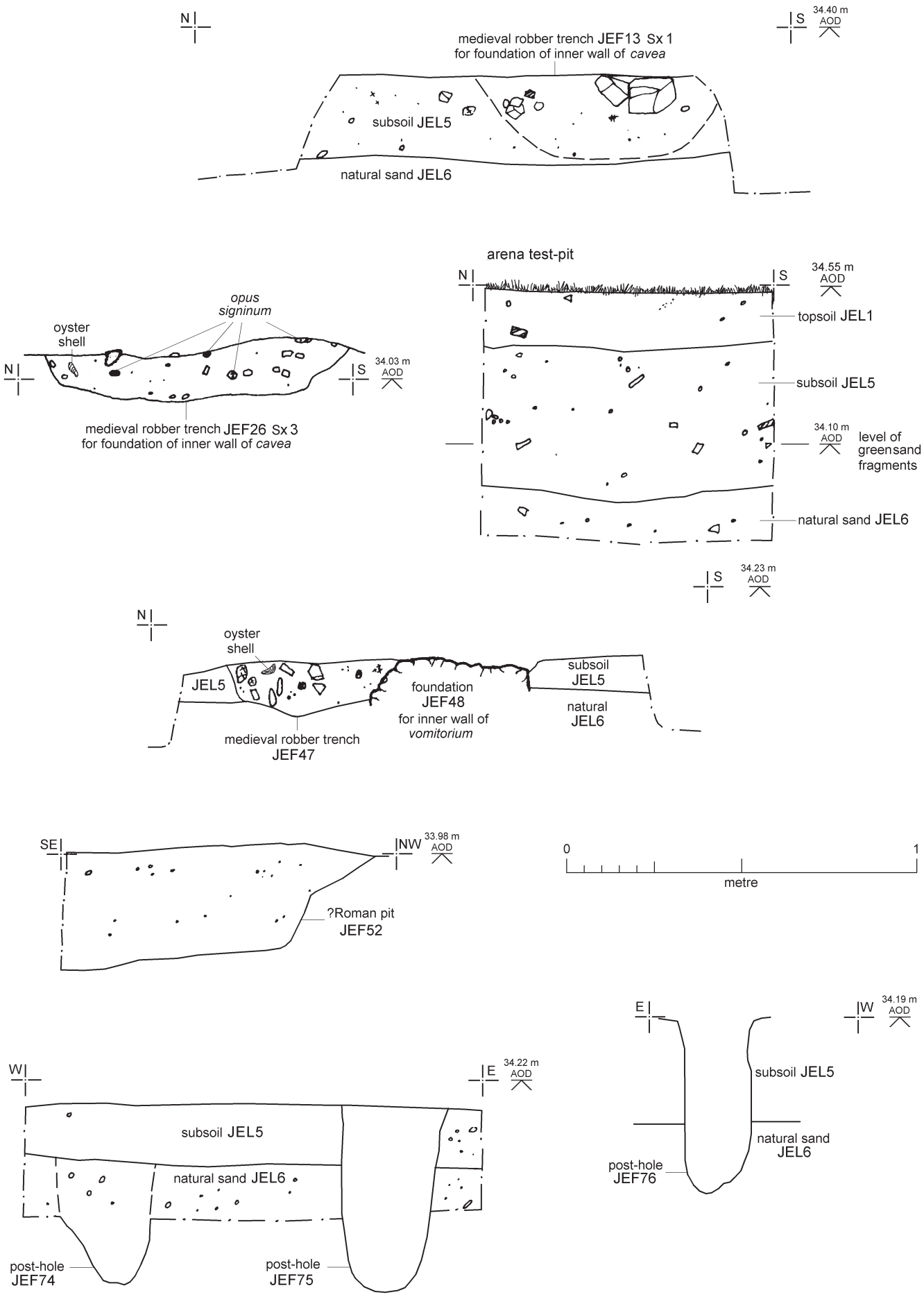


Fig 1.46 Area J1 East: the Roman circus - sections across the inner wall foundation, the arena and other features associated with the circus.

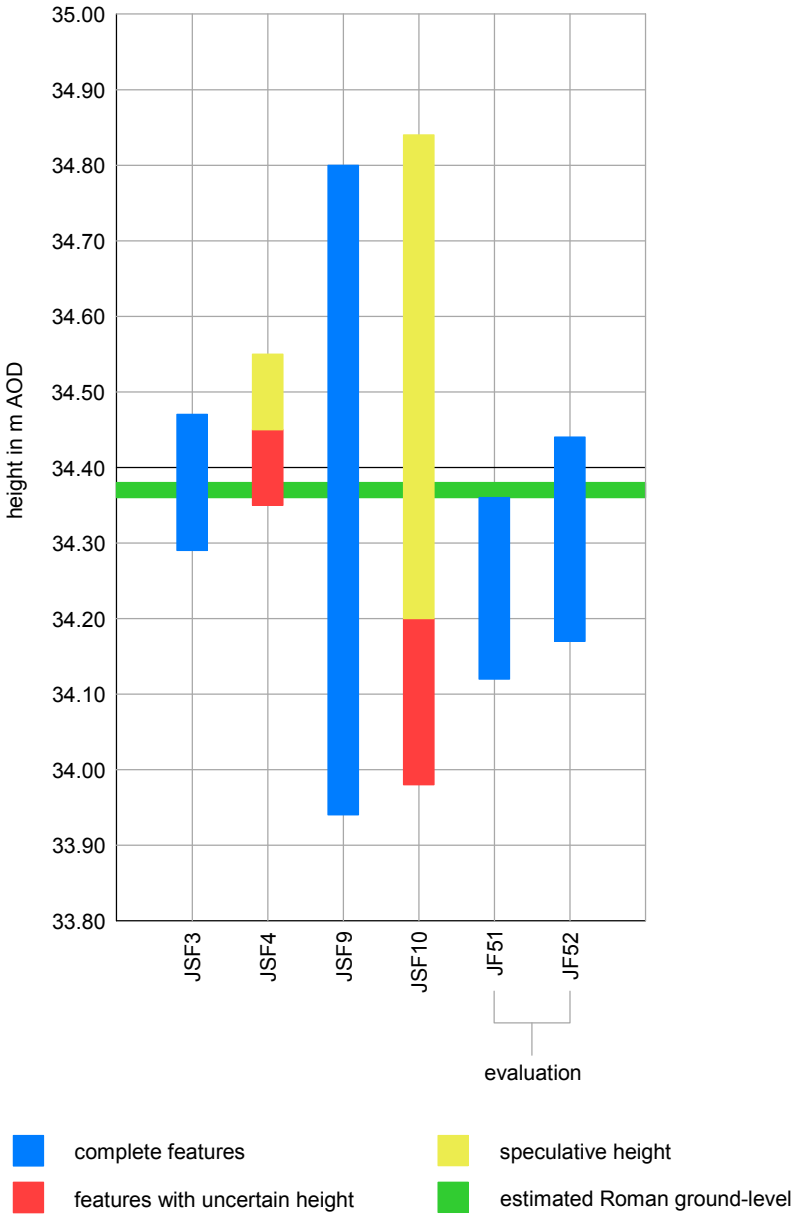


Fig 1.47 Area J1 South: graph showing heights above ordnance datum of the top and bottom of urned cremation burials in relation to estimated Roman ground-level.

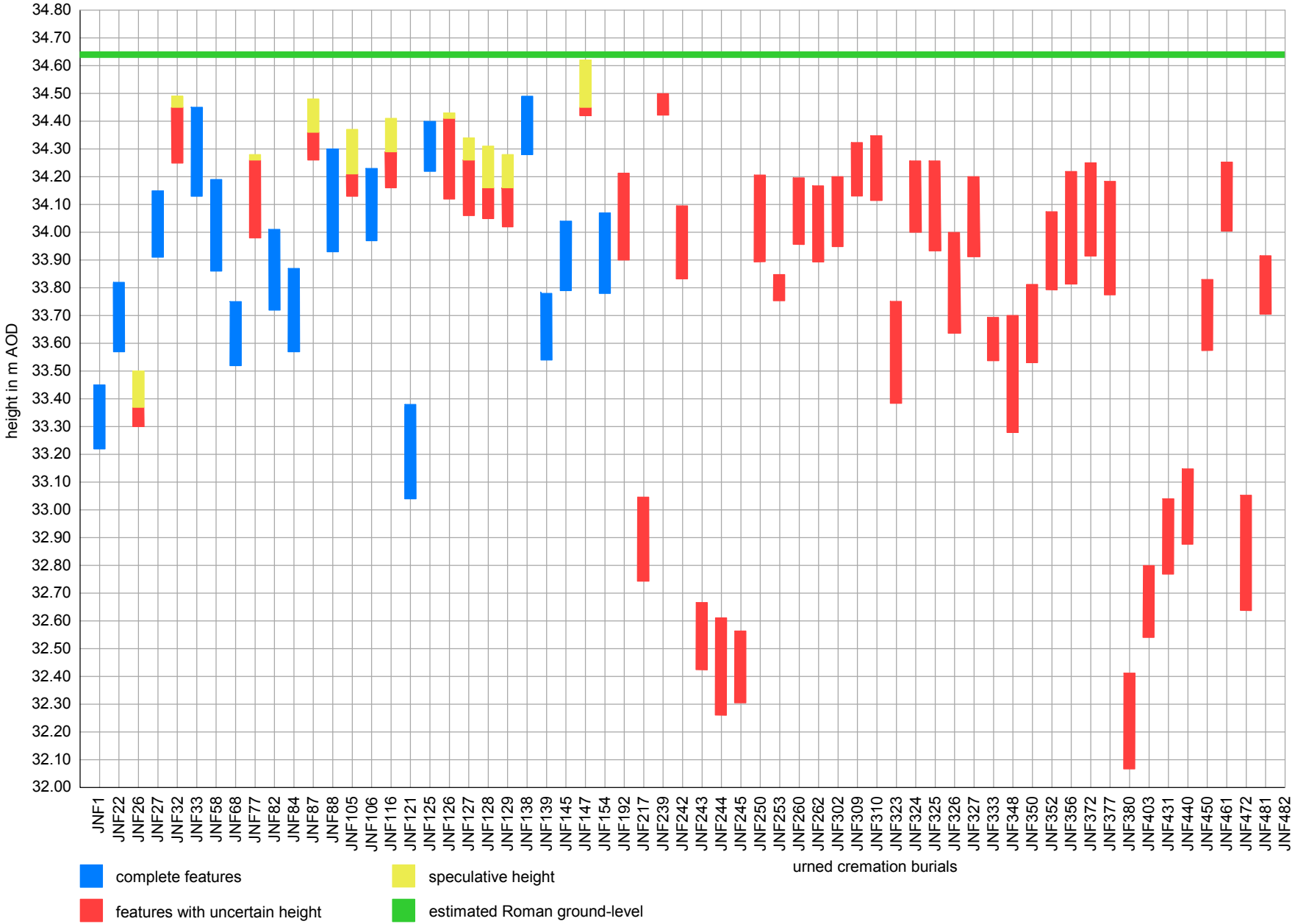


Fig 1.48 Area J1 North: graph showing heights above ordnance datum of the top and bottom of urned cremation burials in relation to estimated Roman ground-level.

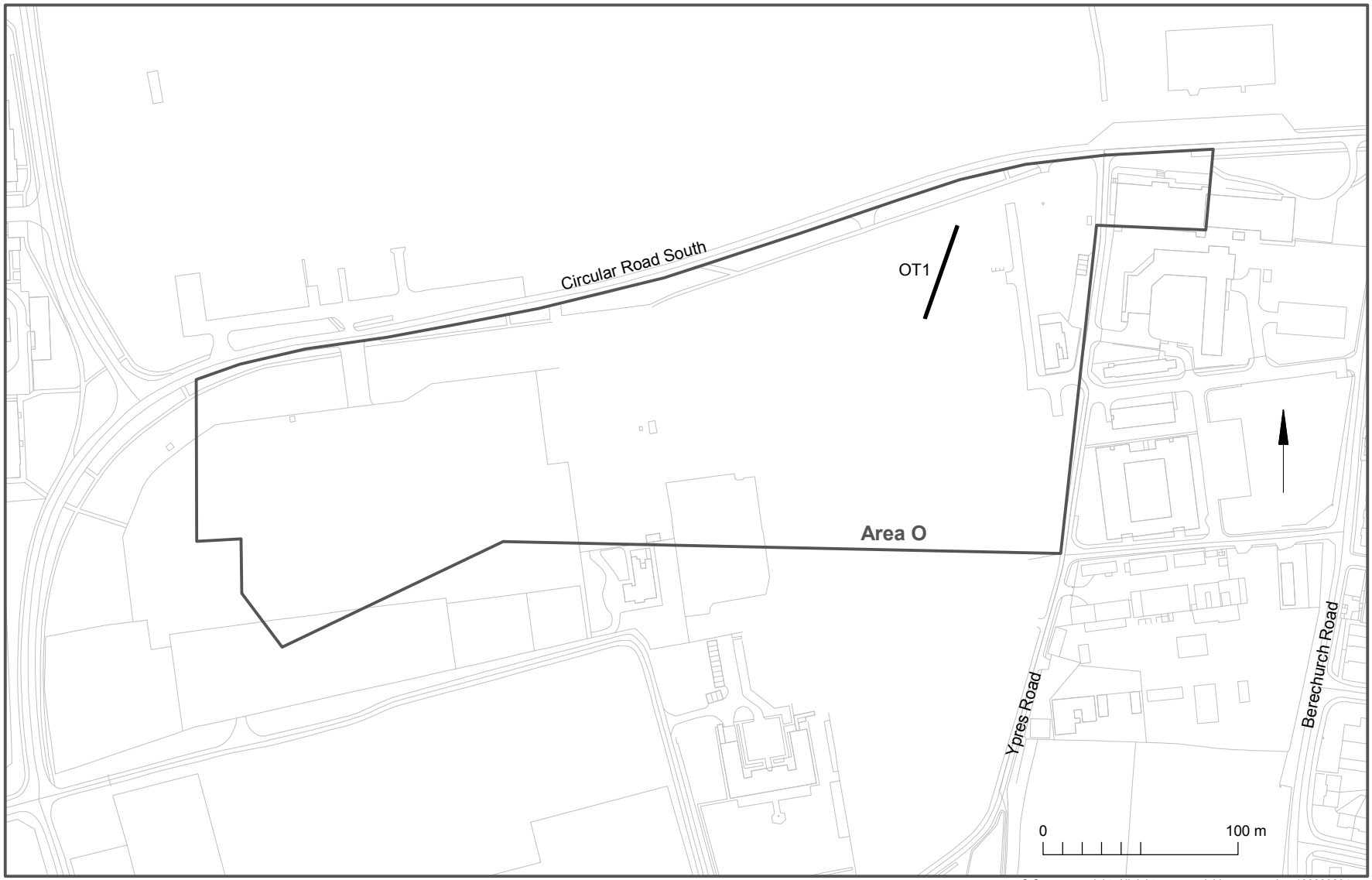


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Fig 1.49 Area O: location of evaluation trench OT1.

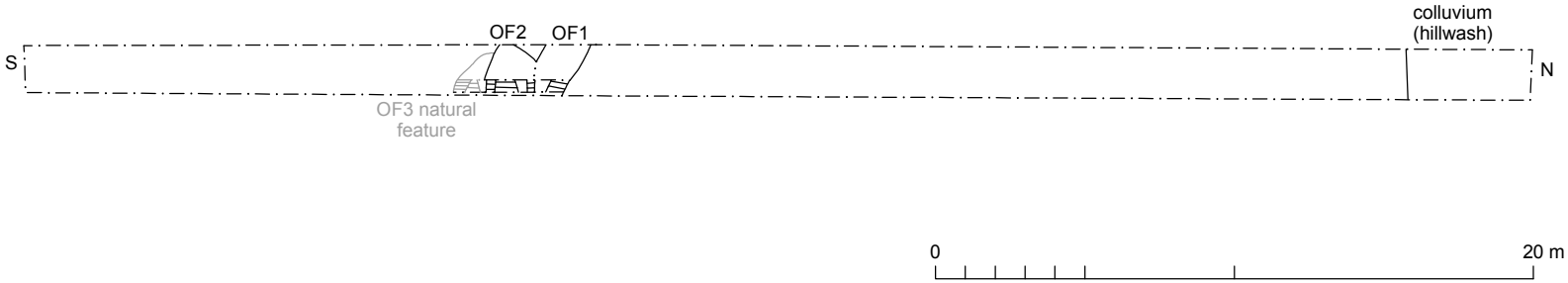

Fig 1.50 Area O: plan of evaluation trench OT1.

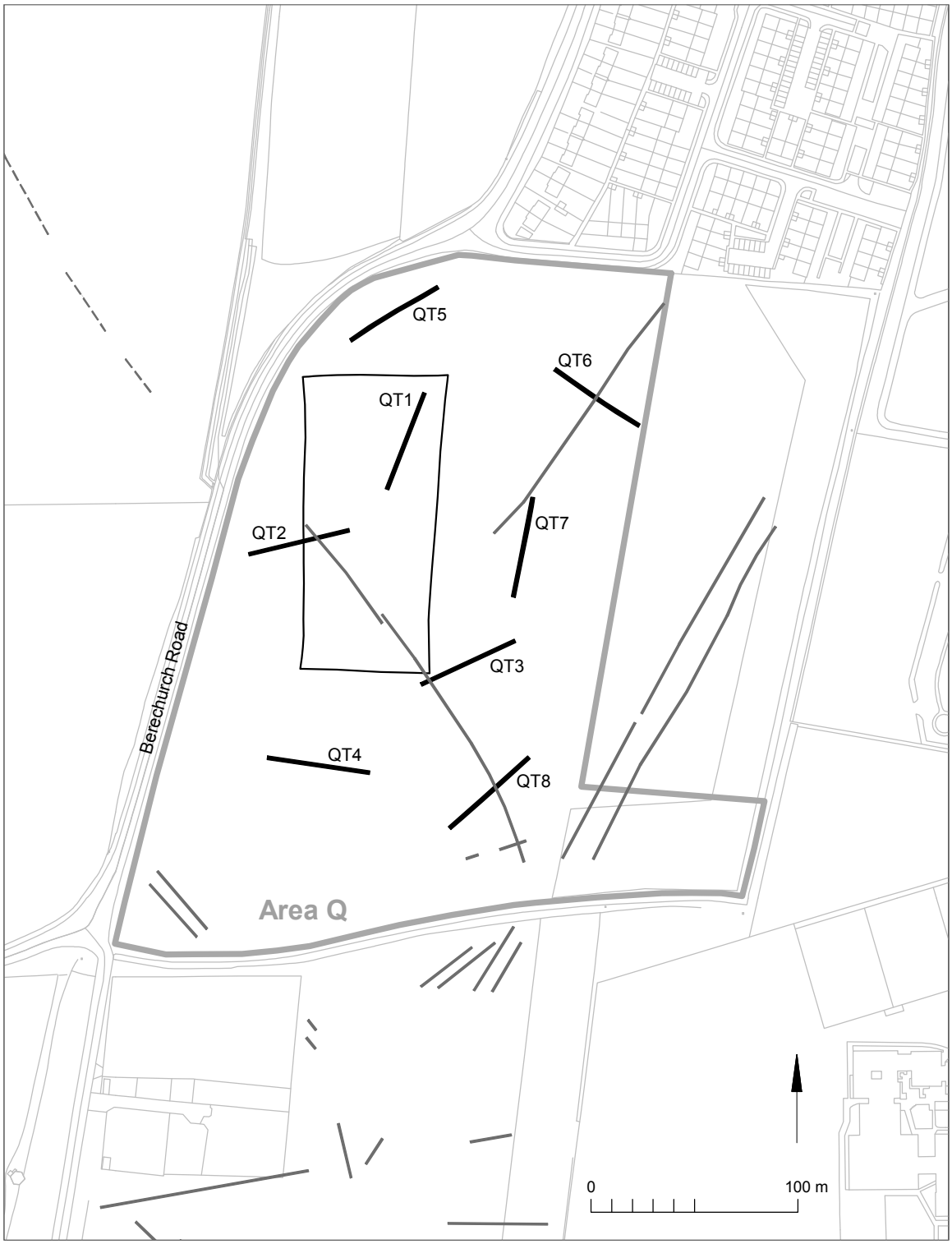

Fig 1.51 Area Q: location of evaluation trenches QT1-QT8 and excavation area.

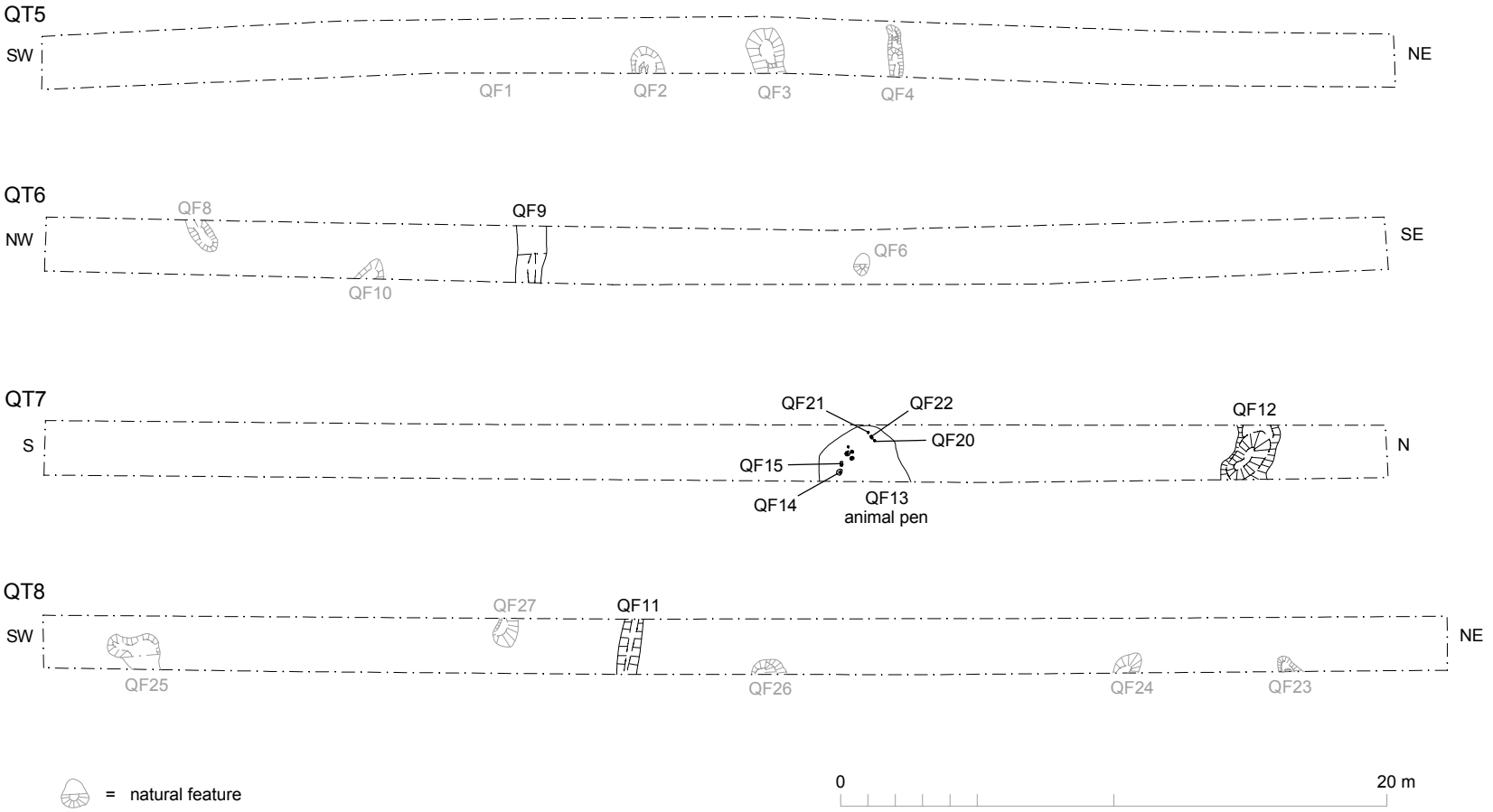

Fig 1.52 Area Q: plan of evaluation trenches QT5-QT8.

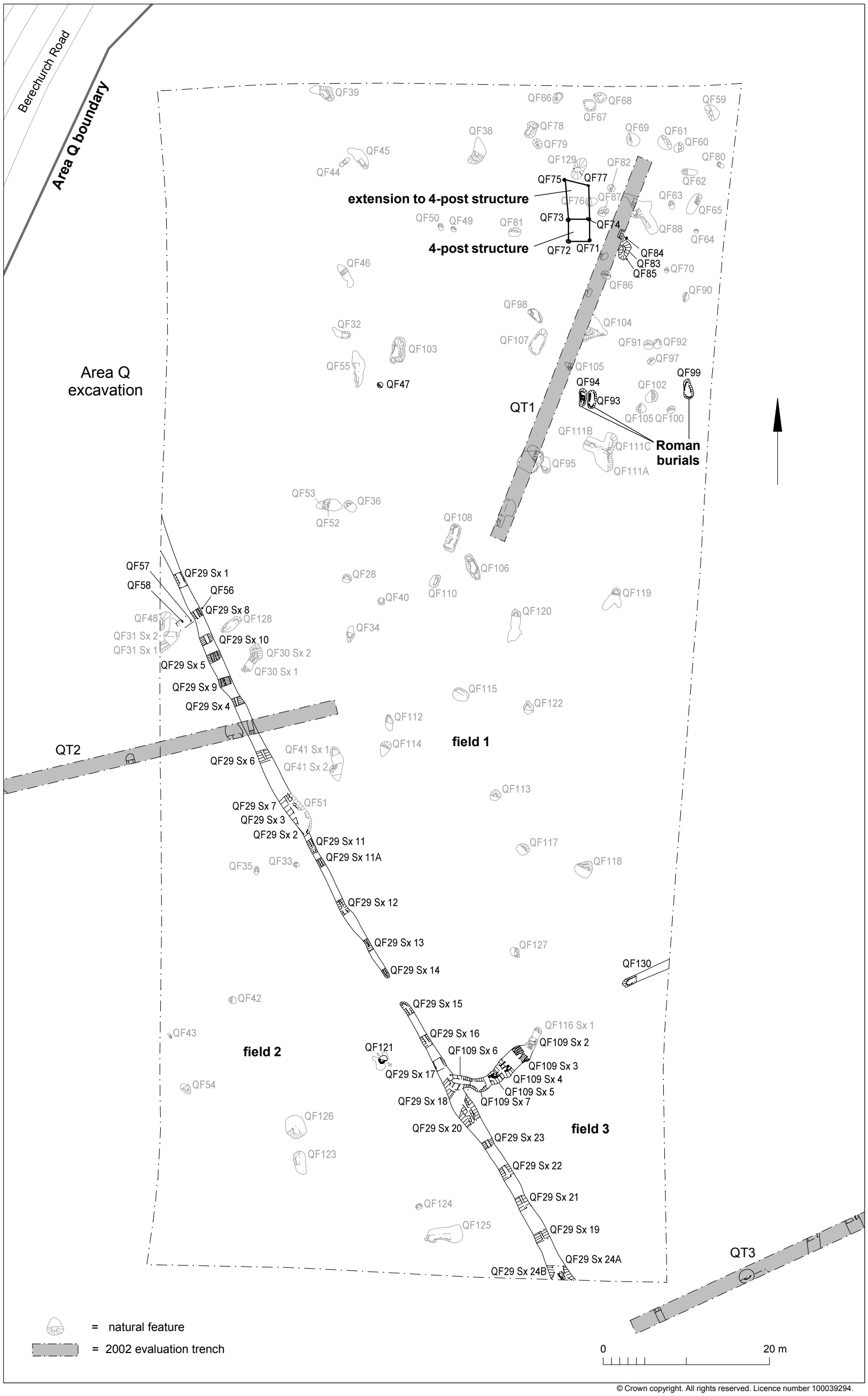

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Fig 1.53 Area Q: plan of excavation area, with distinction between natural and archaeological features.

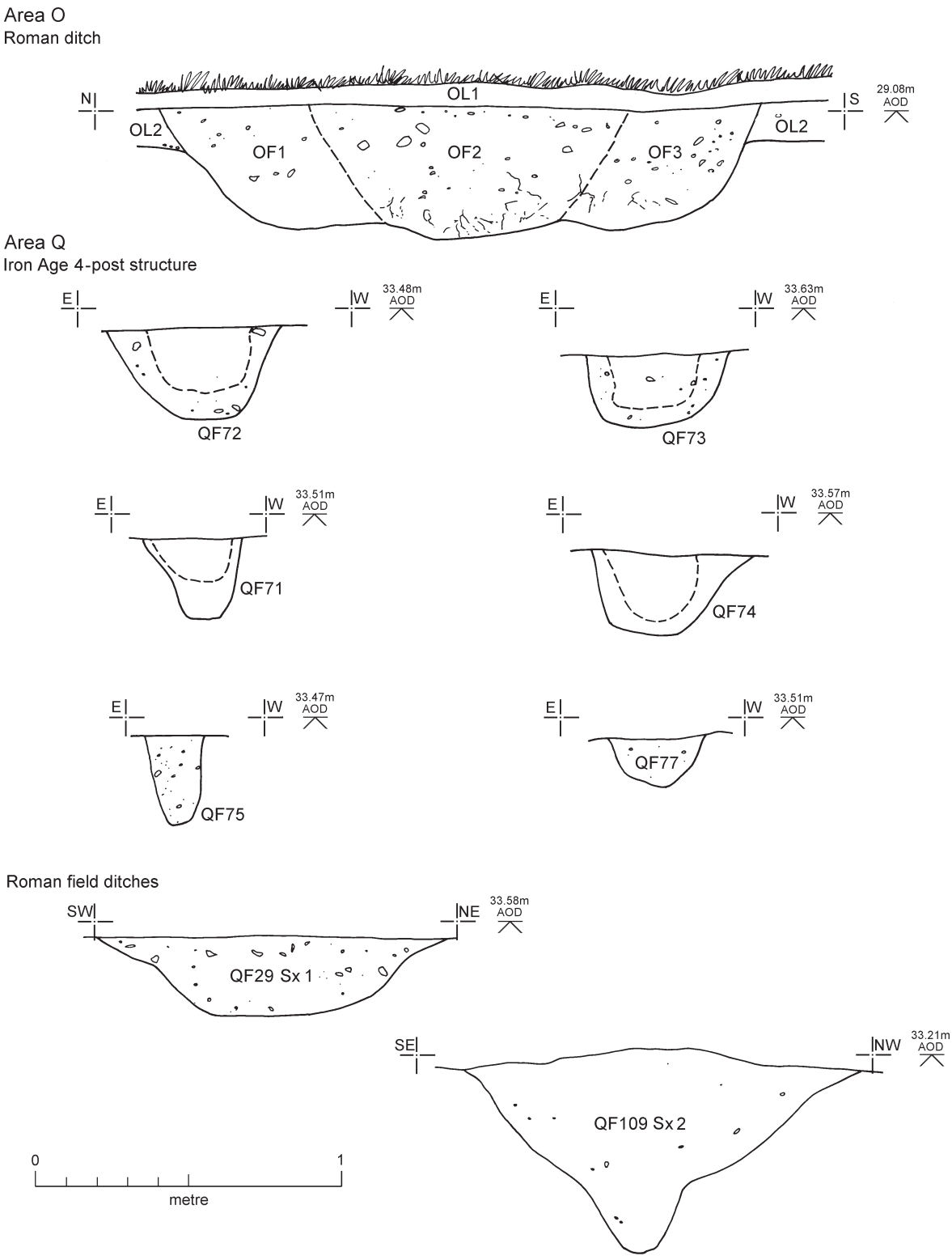
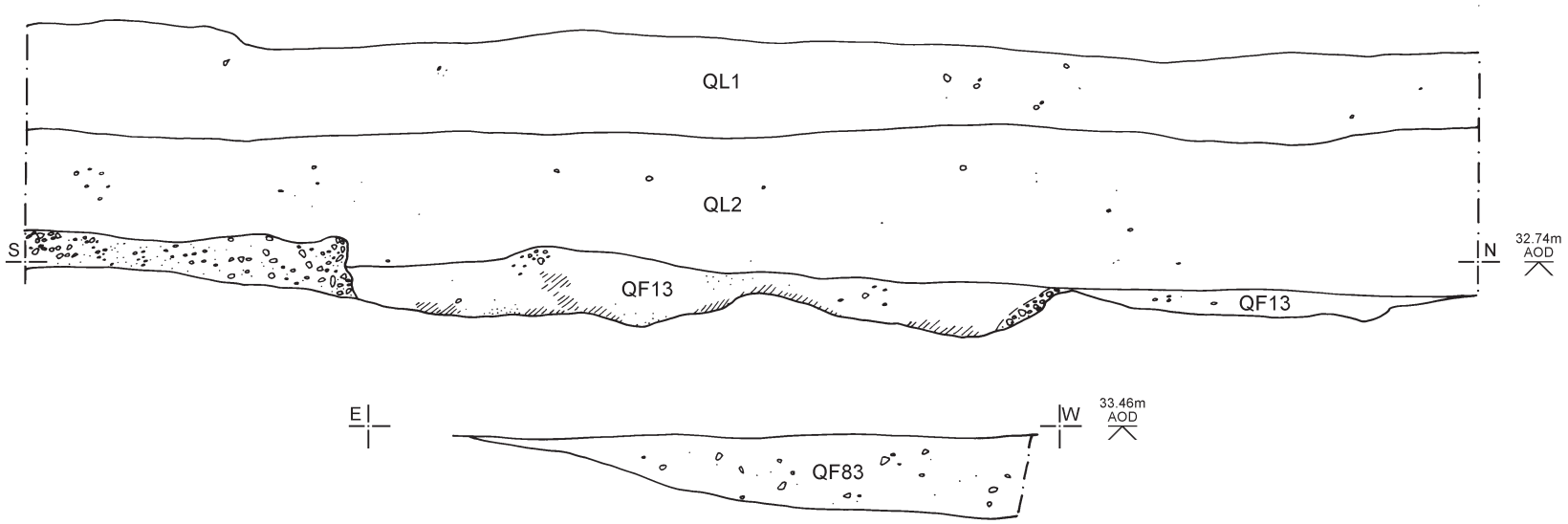


Fig 1.54 Areas O and Q: sections (excluding all Roman burial features).

hollow for (possible) Roman animal pens



Roman post-holes

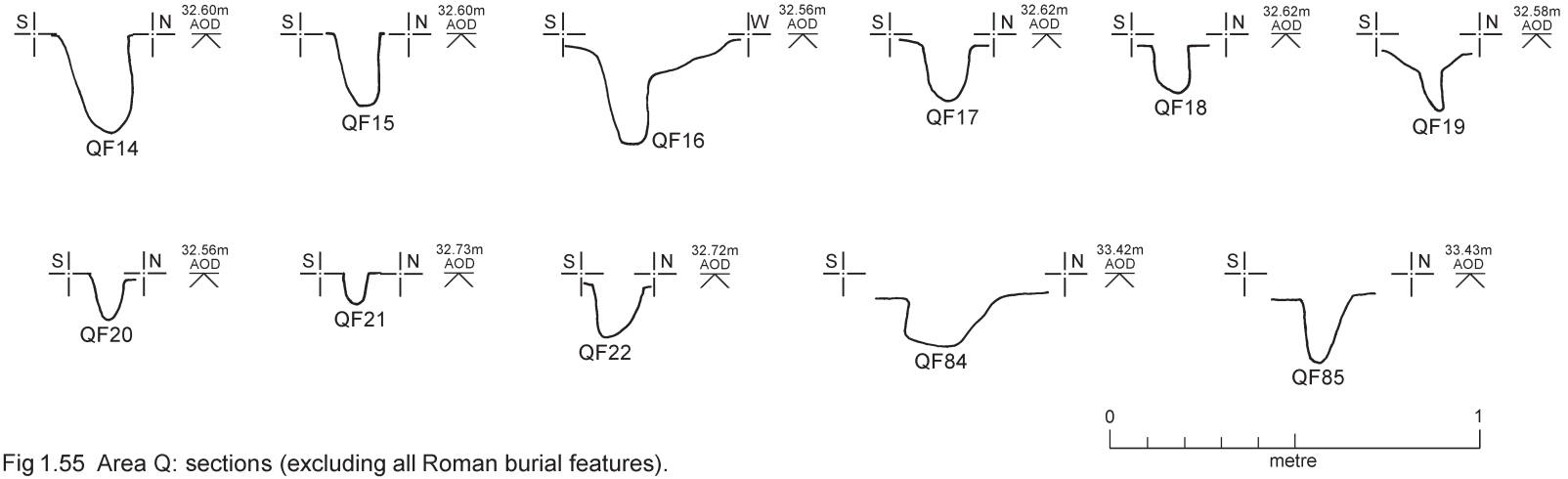


Fig 1.55 Area Q: sections (excluding all Roman burial features).

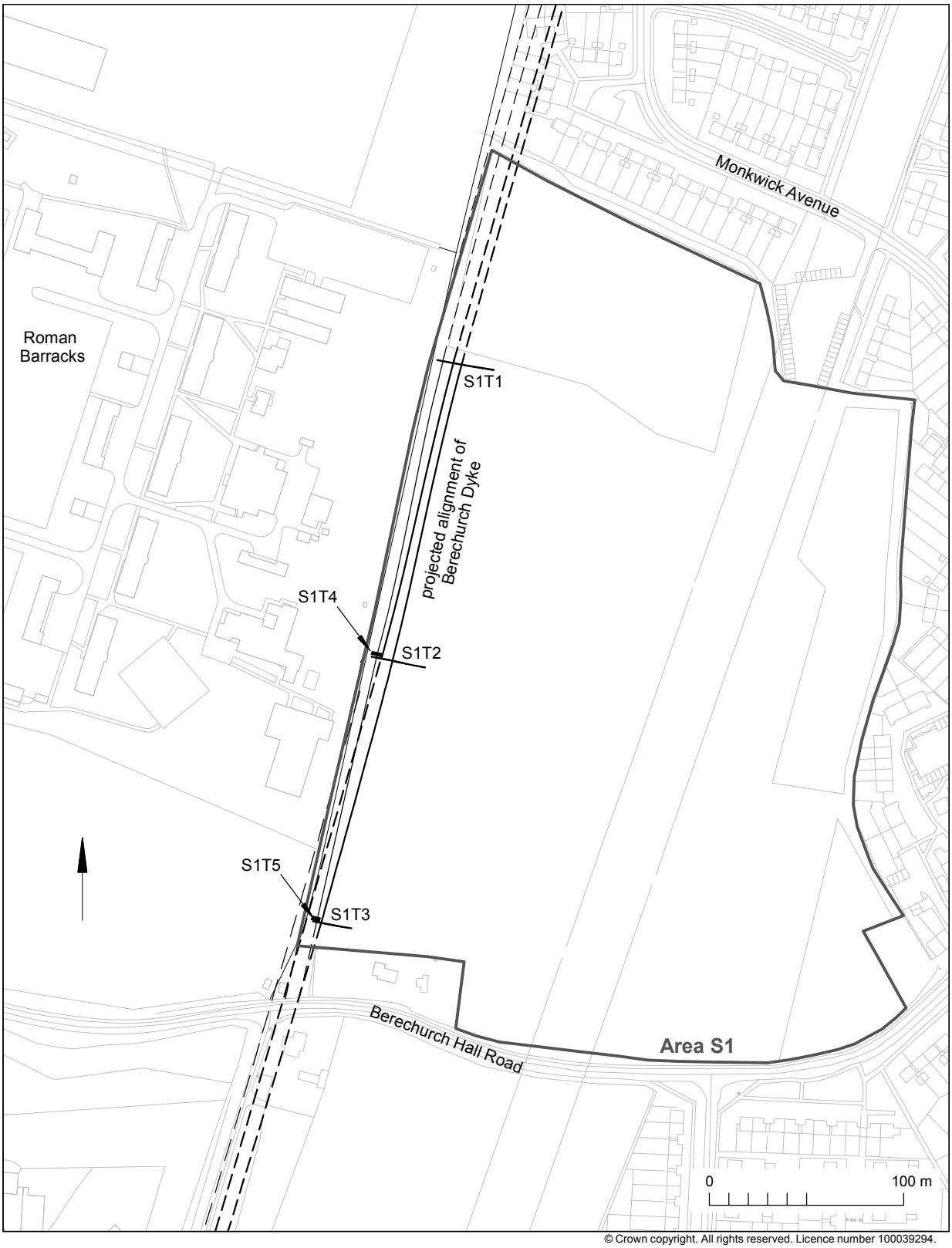


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Fig 1.56 Area S1: location of evaluation trenches S1T1-S1T5, and also showing the projected alignment of Berechurch Dyke.

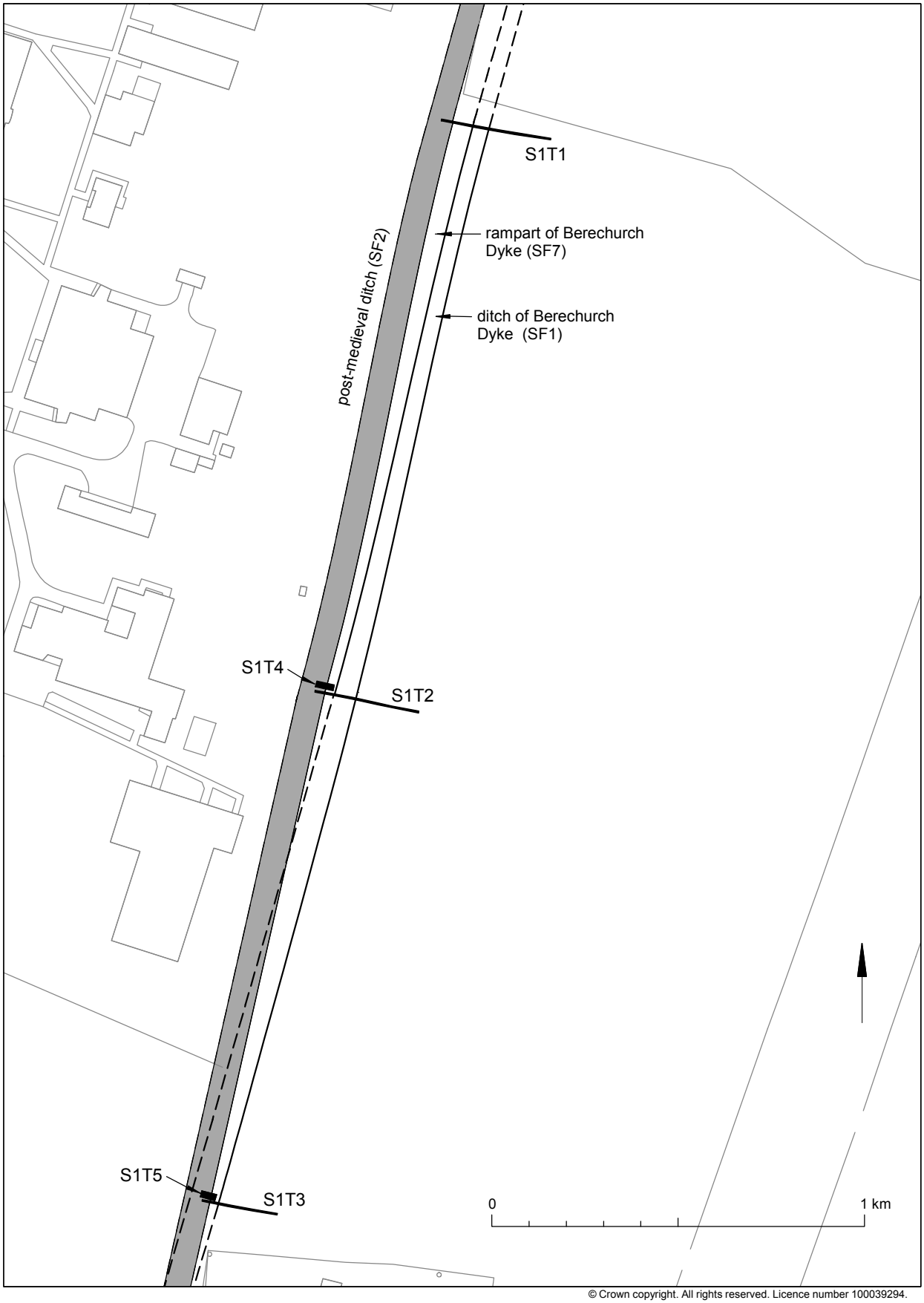

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Fig 1.57 Area S1: plan showing the location of evaluation trenches S1T1-S1T5 and features SF1, SF2 and SF7.

Roman Berechurch Dyke and post-Roman ditch (across trench S1T1)

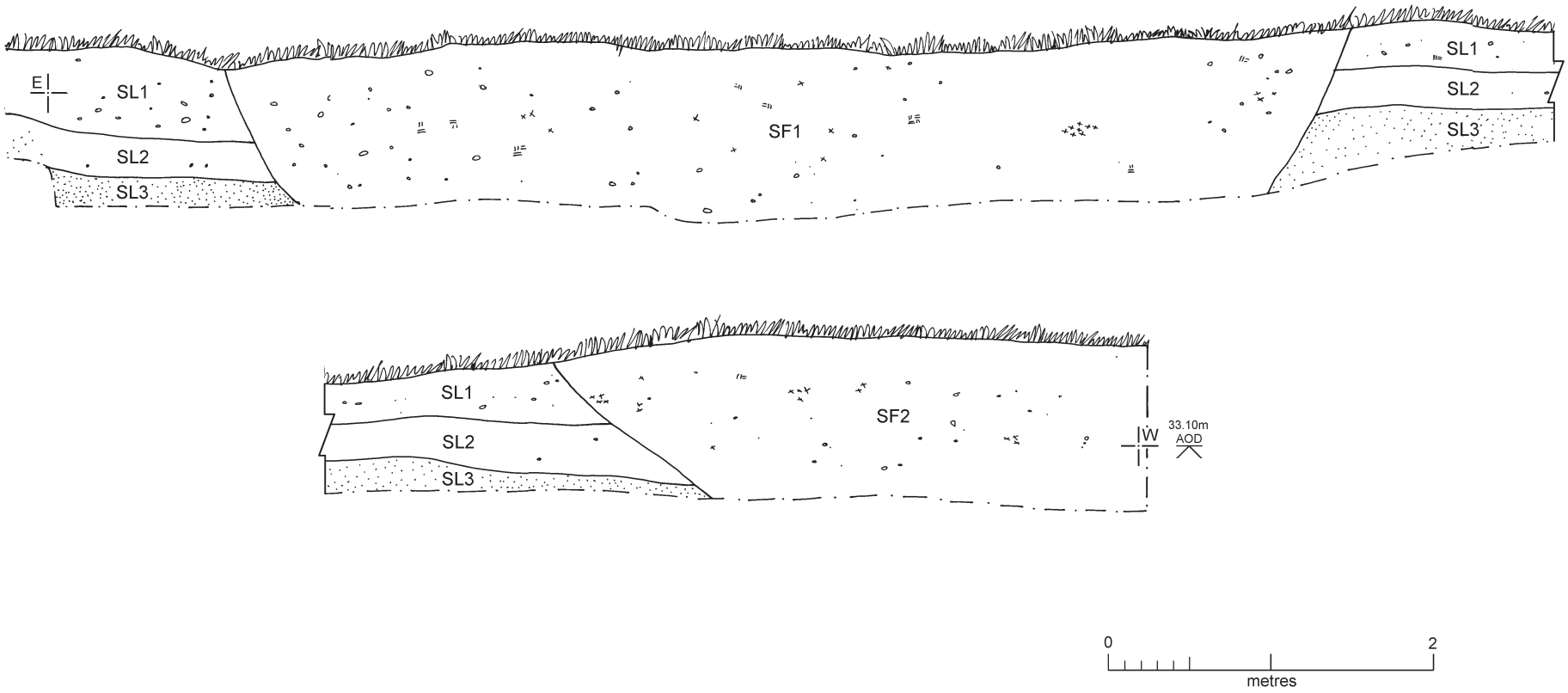

Fig 1.58 Area S1: sections.

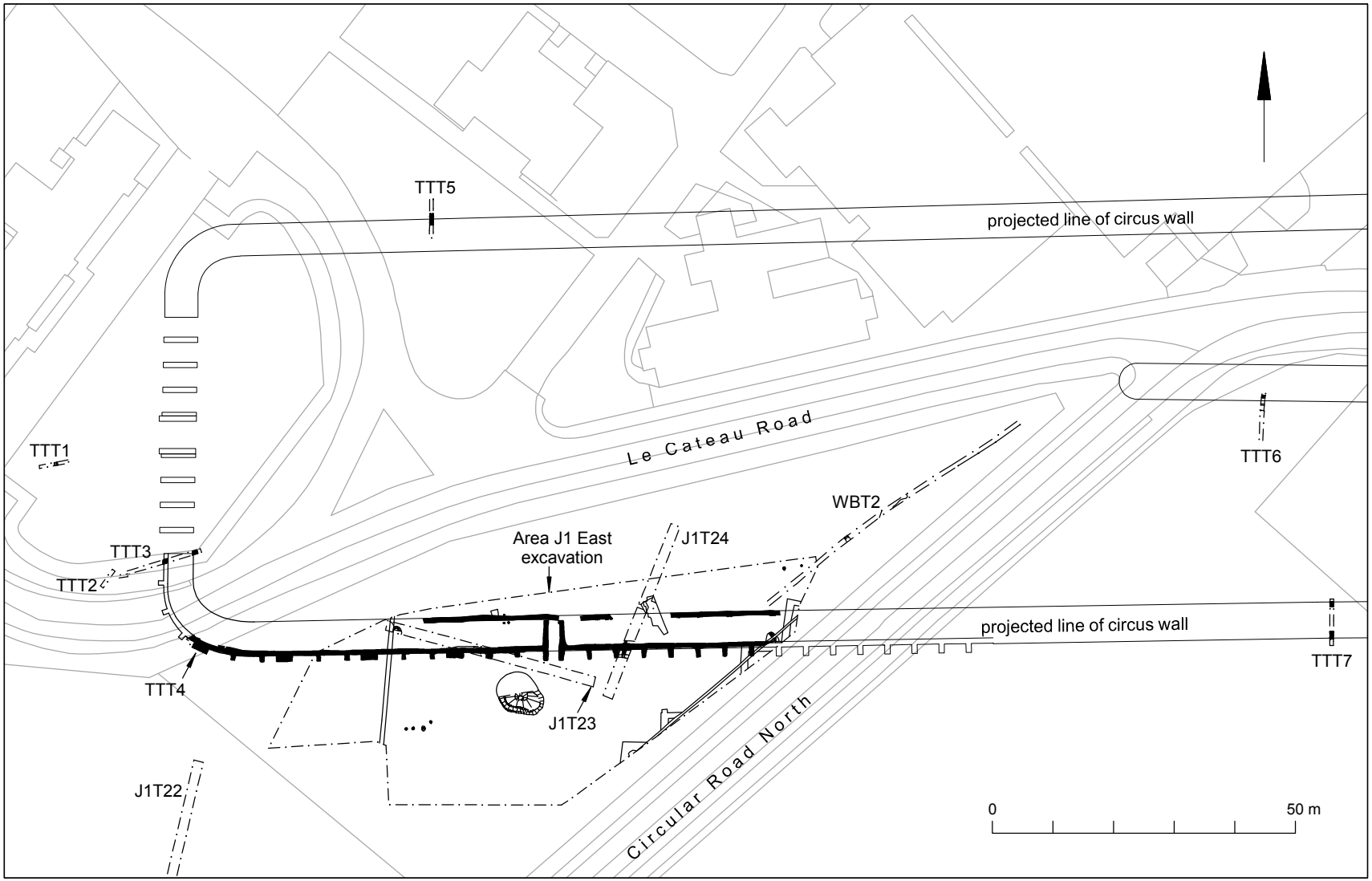

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Fig 1.59 Time Team trenches TTT1-TTT7: location.

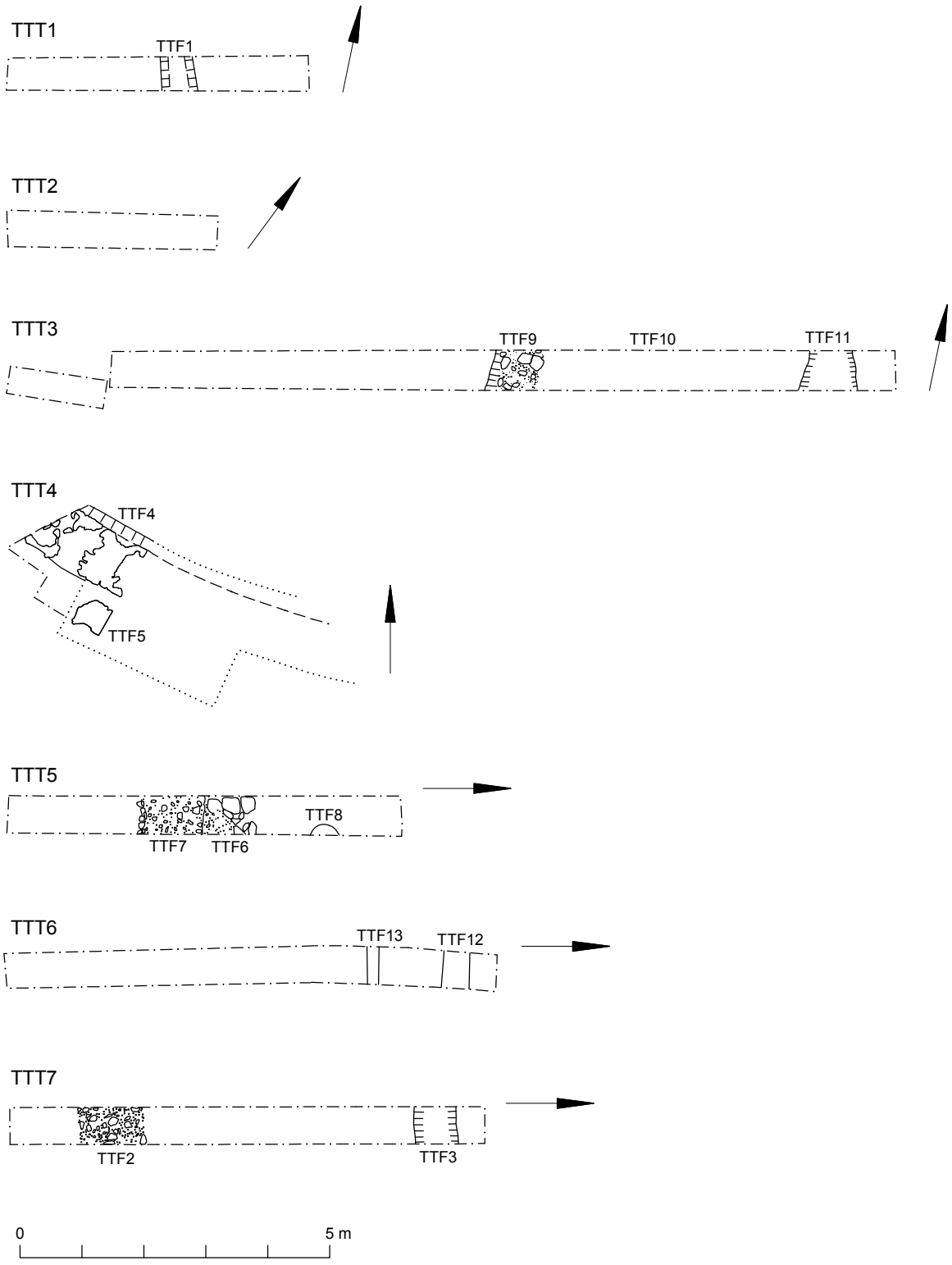

Fig 1.60 Time Team trenches TTT1-TTT7: plan.

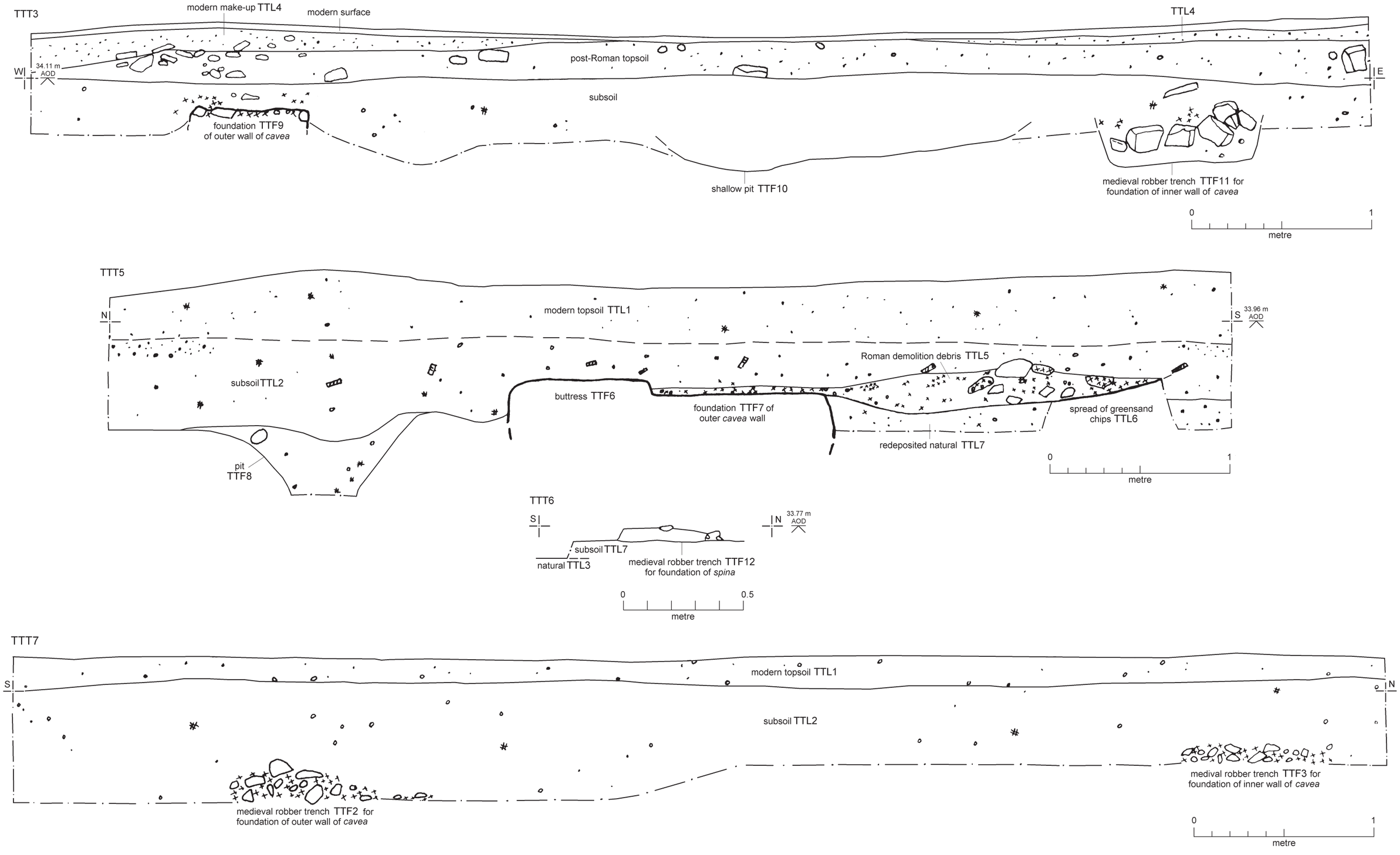

Fig 1.61 Time Team trenches (TTT3, TTT5, TTT6, TTT7): sections (the Roman circus).

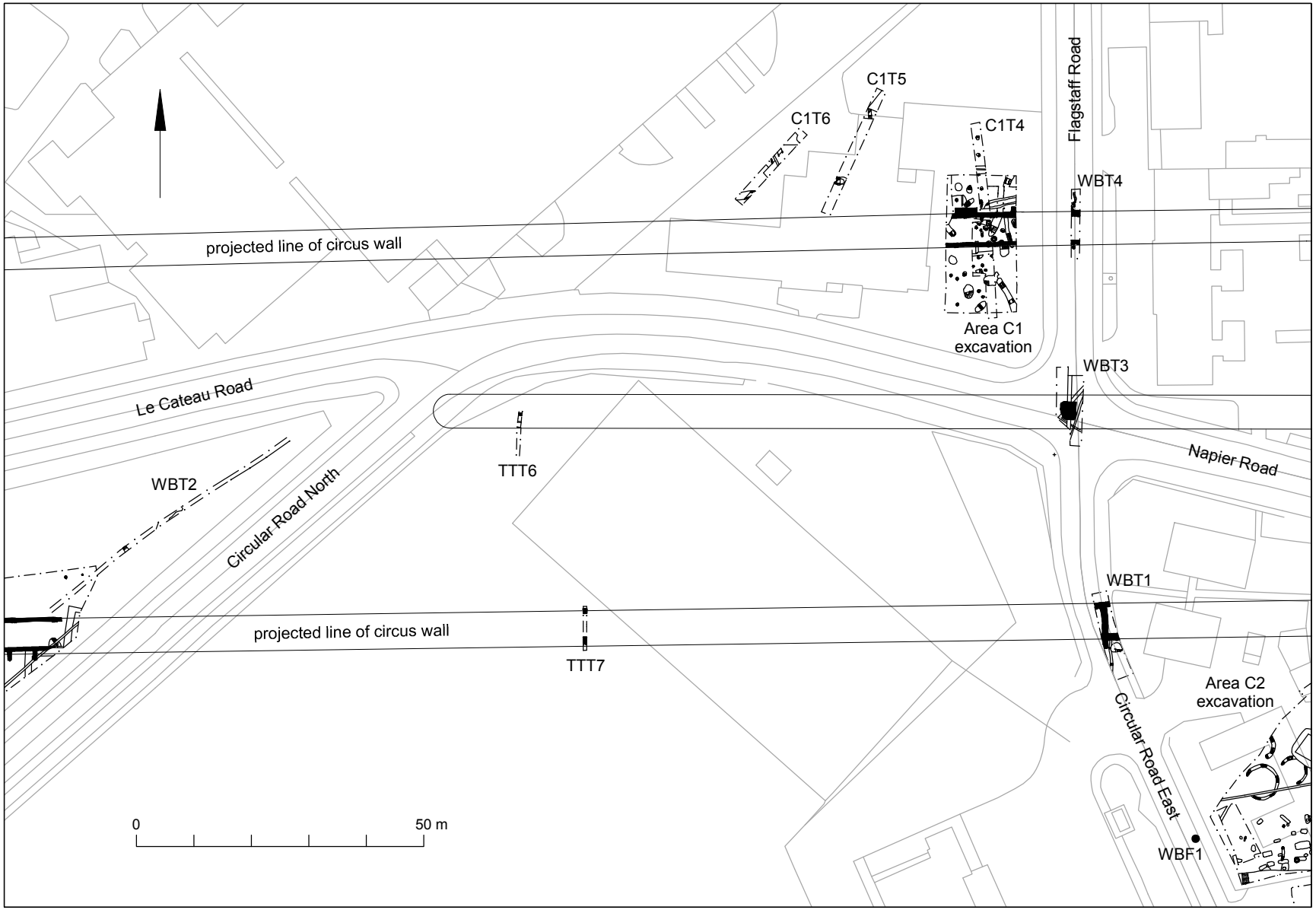

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Fig 1.62 Watching brief trenches WBT1-WBT4: location.

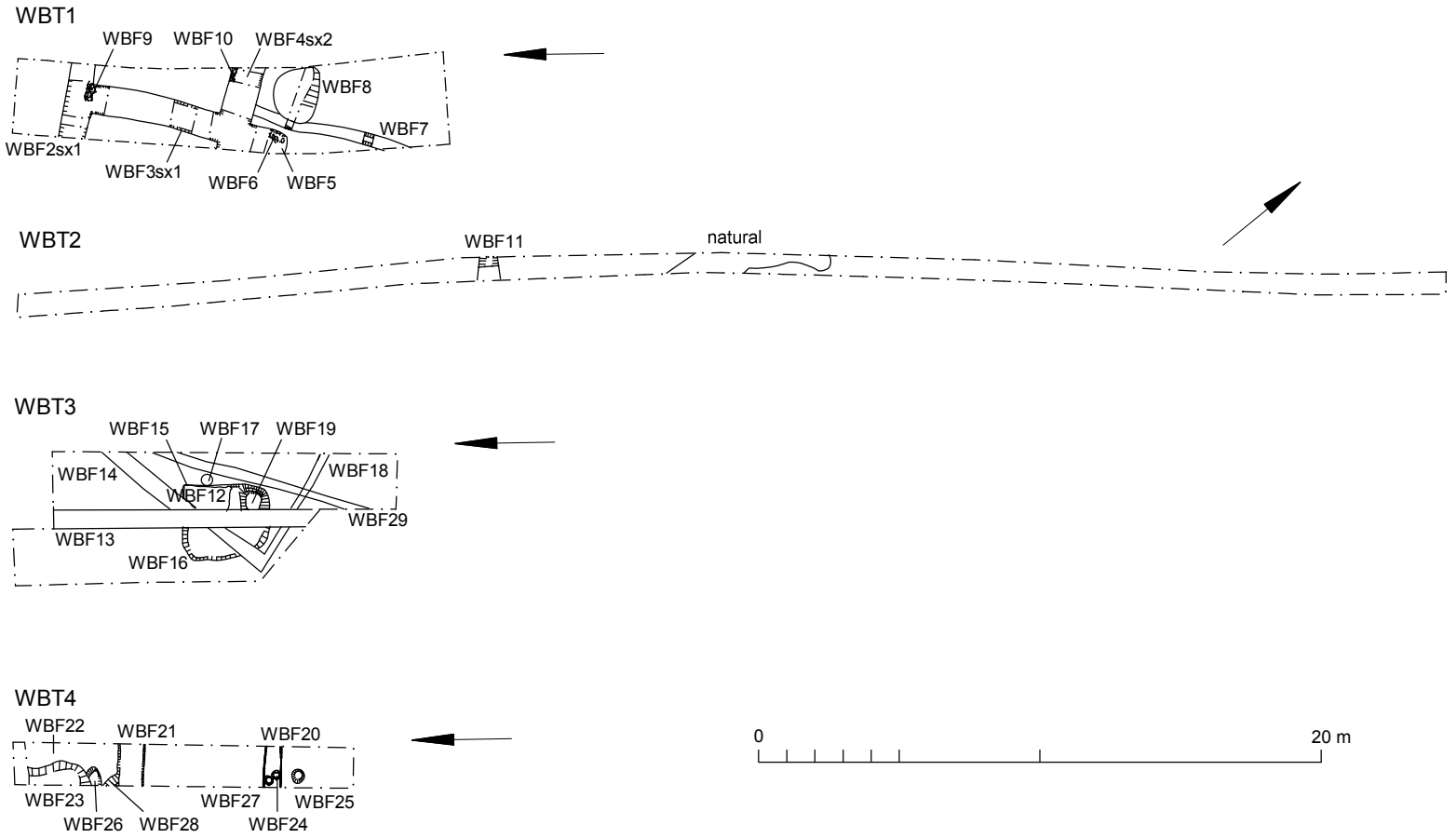


Fig 1.63 Watching brief trenches WBT1-WBT4: plan.

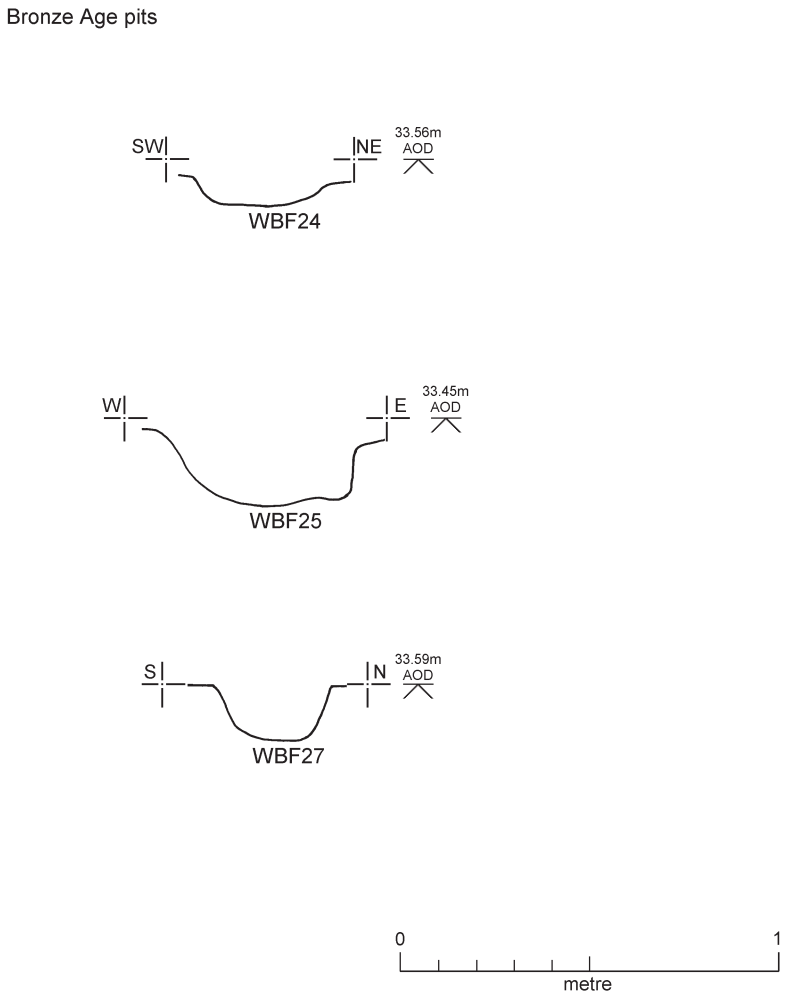


Fig 1.64 Watching brief: sections (excluding the Roman circus and the Roman burial features).

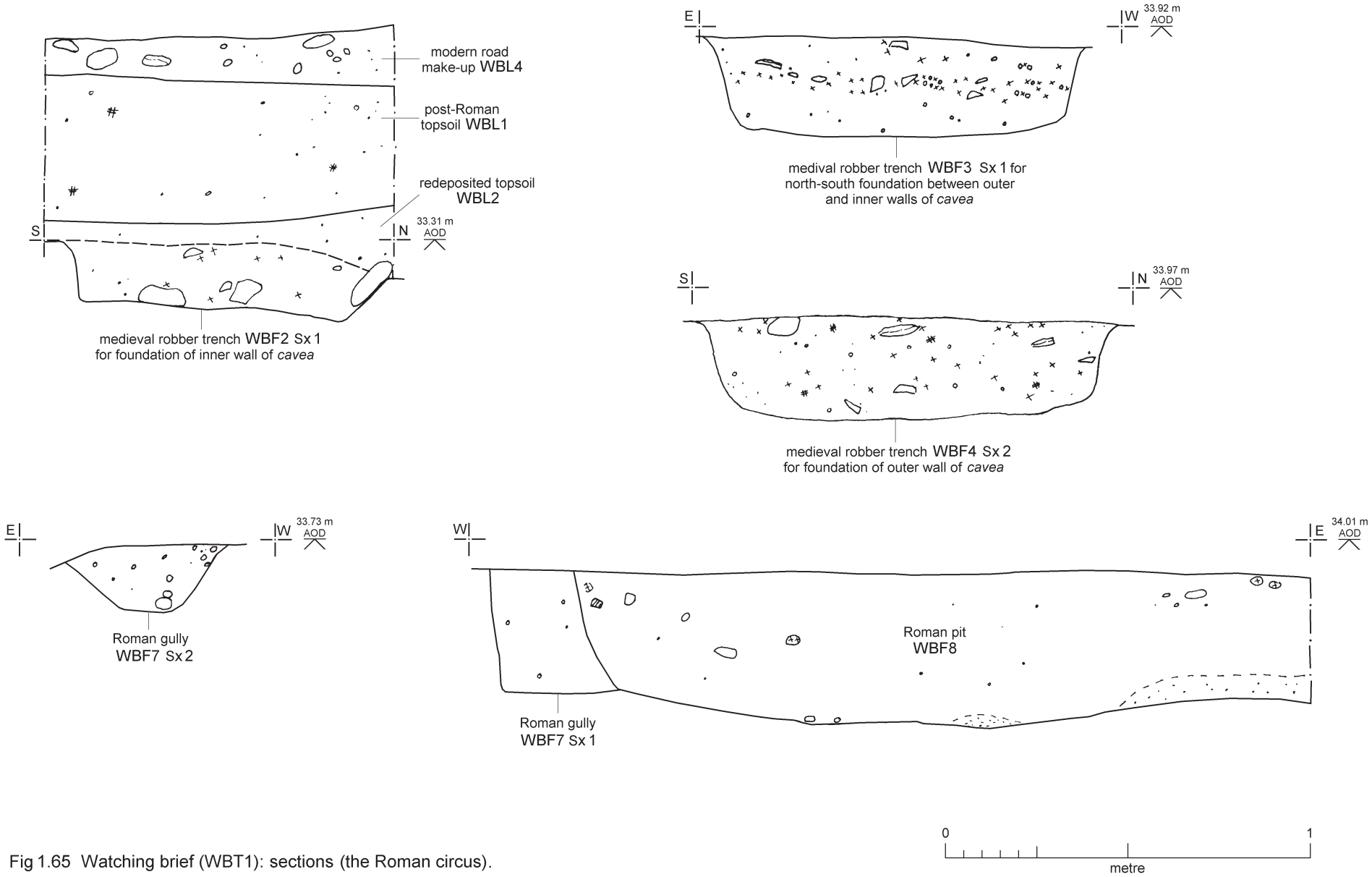


Fig 1.65 Watching brief (WBT1): sections (the Roman circus).

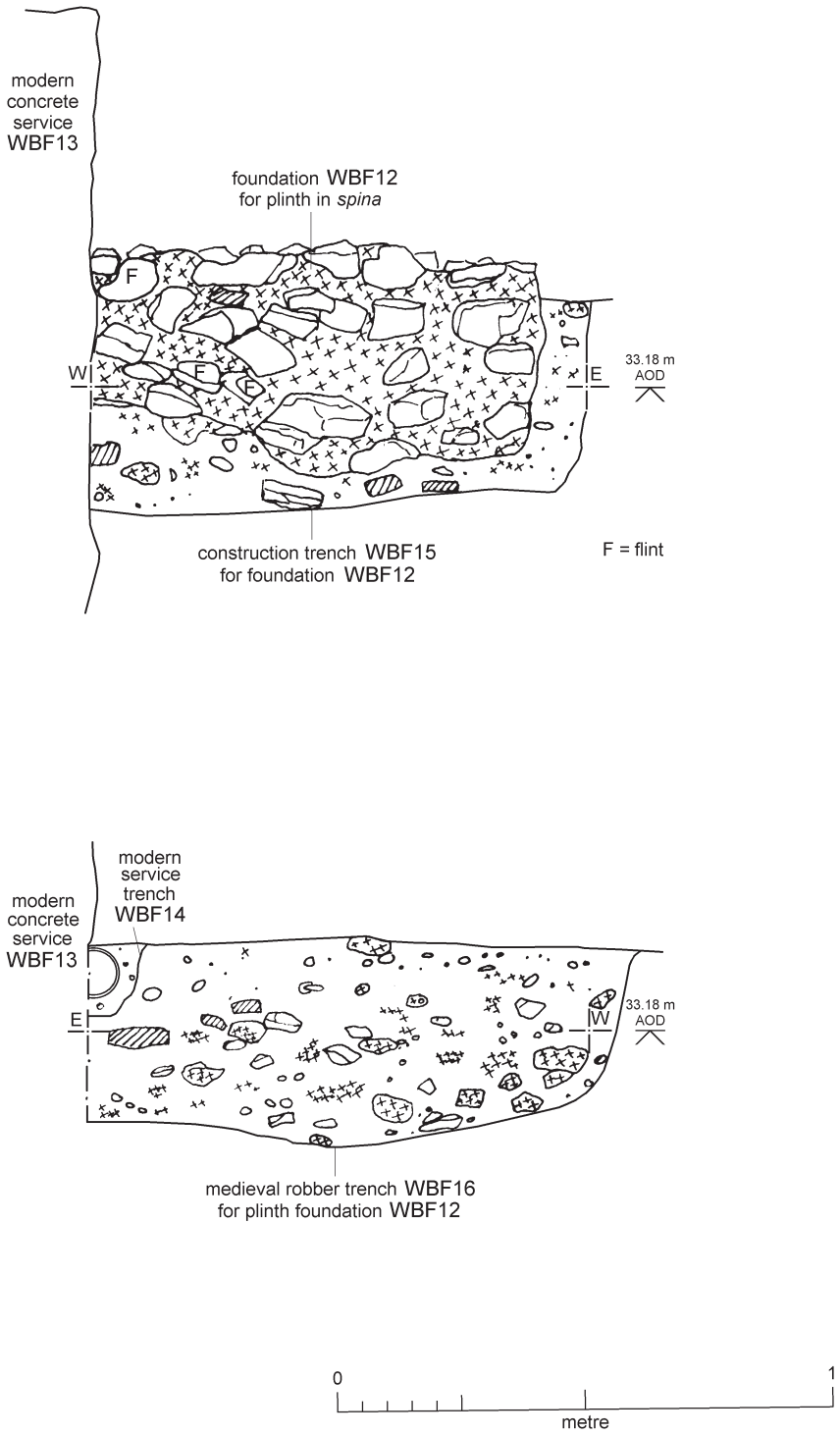


Fig 1.66 Watching brief (WBT3): sections (the Roman circus).

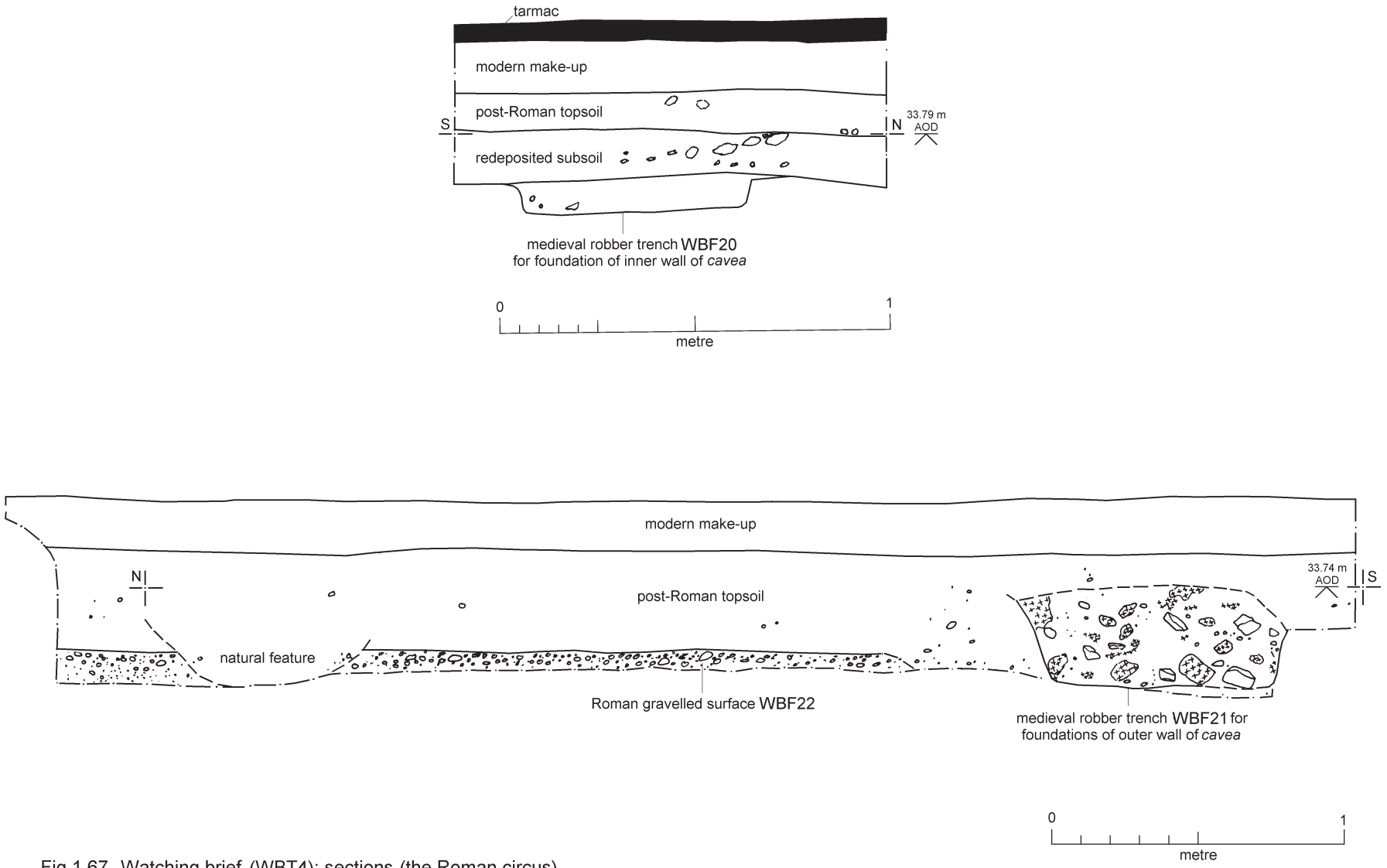


Fig 1.67 Watching brief (WBT4): sections (the Roman circus).

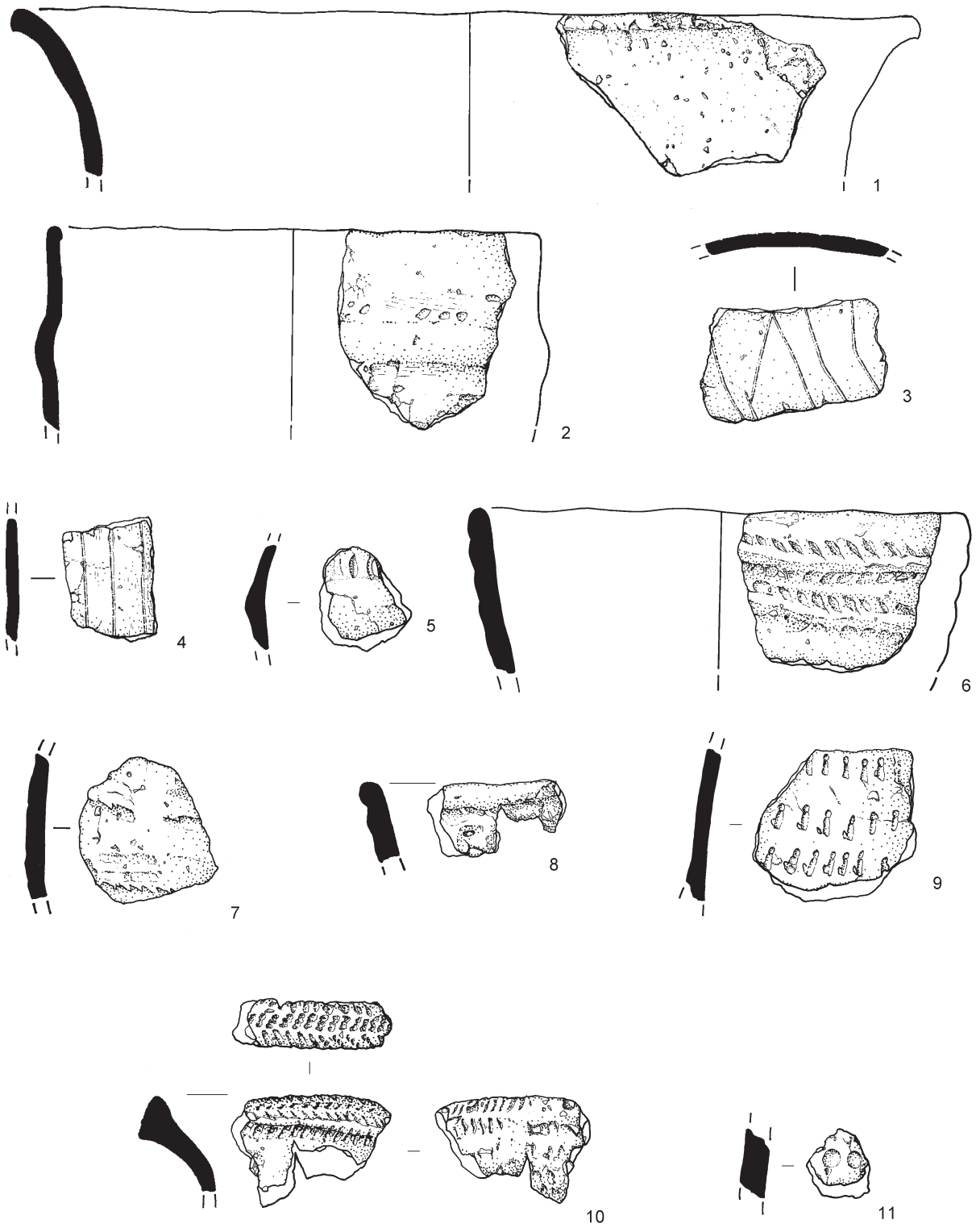
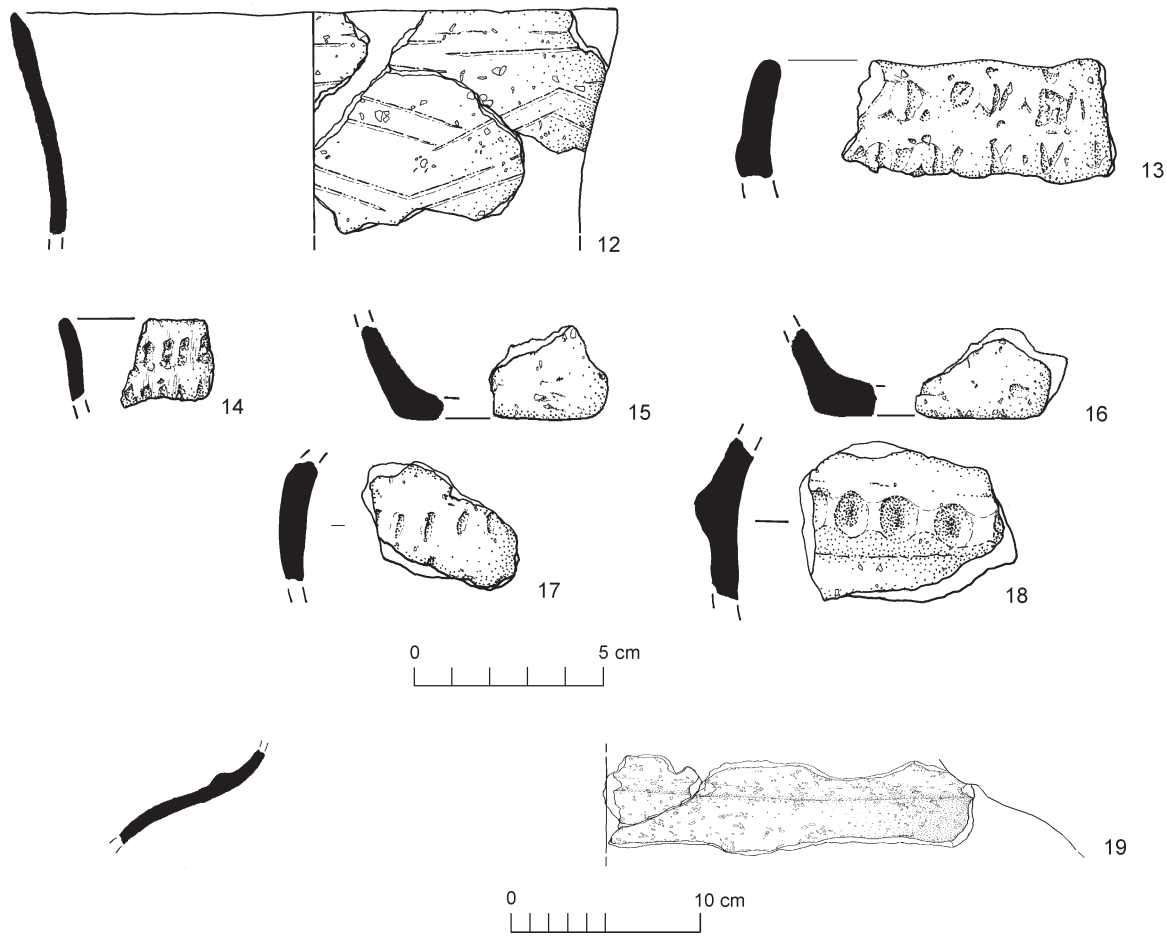


Fig 1.68 Prehistoric pottery.



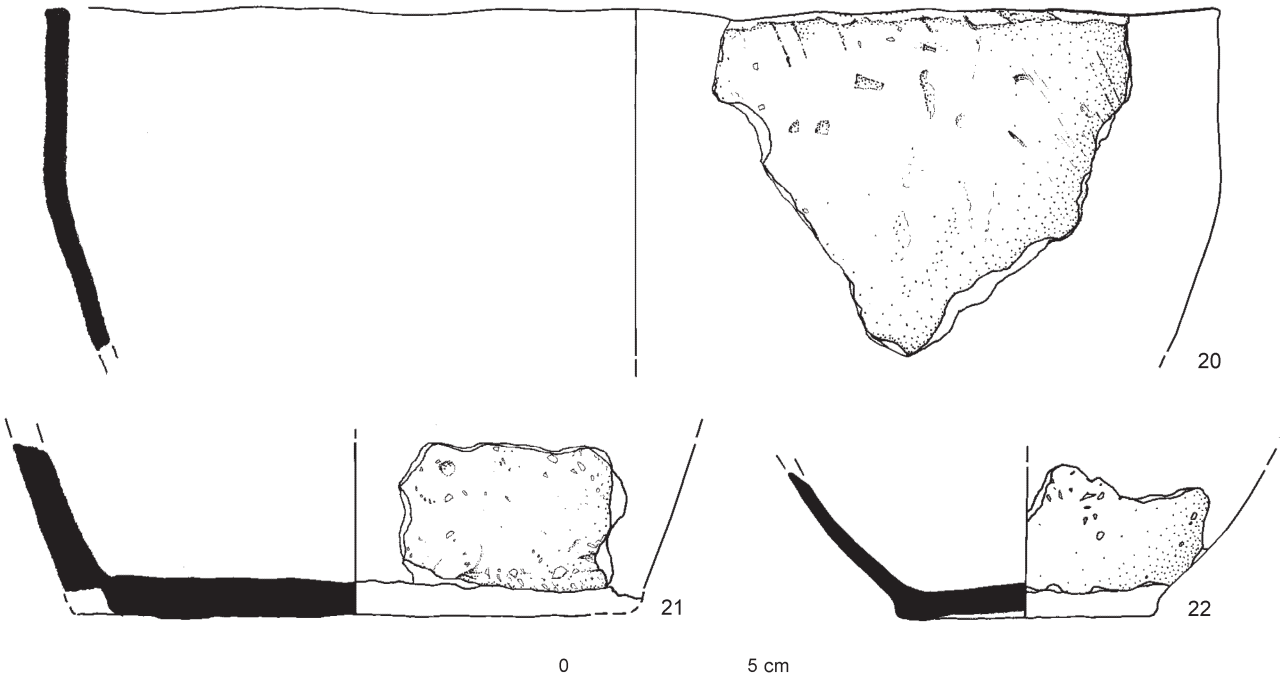


Fig 1.69 Prehistoric pottery.

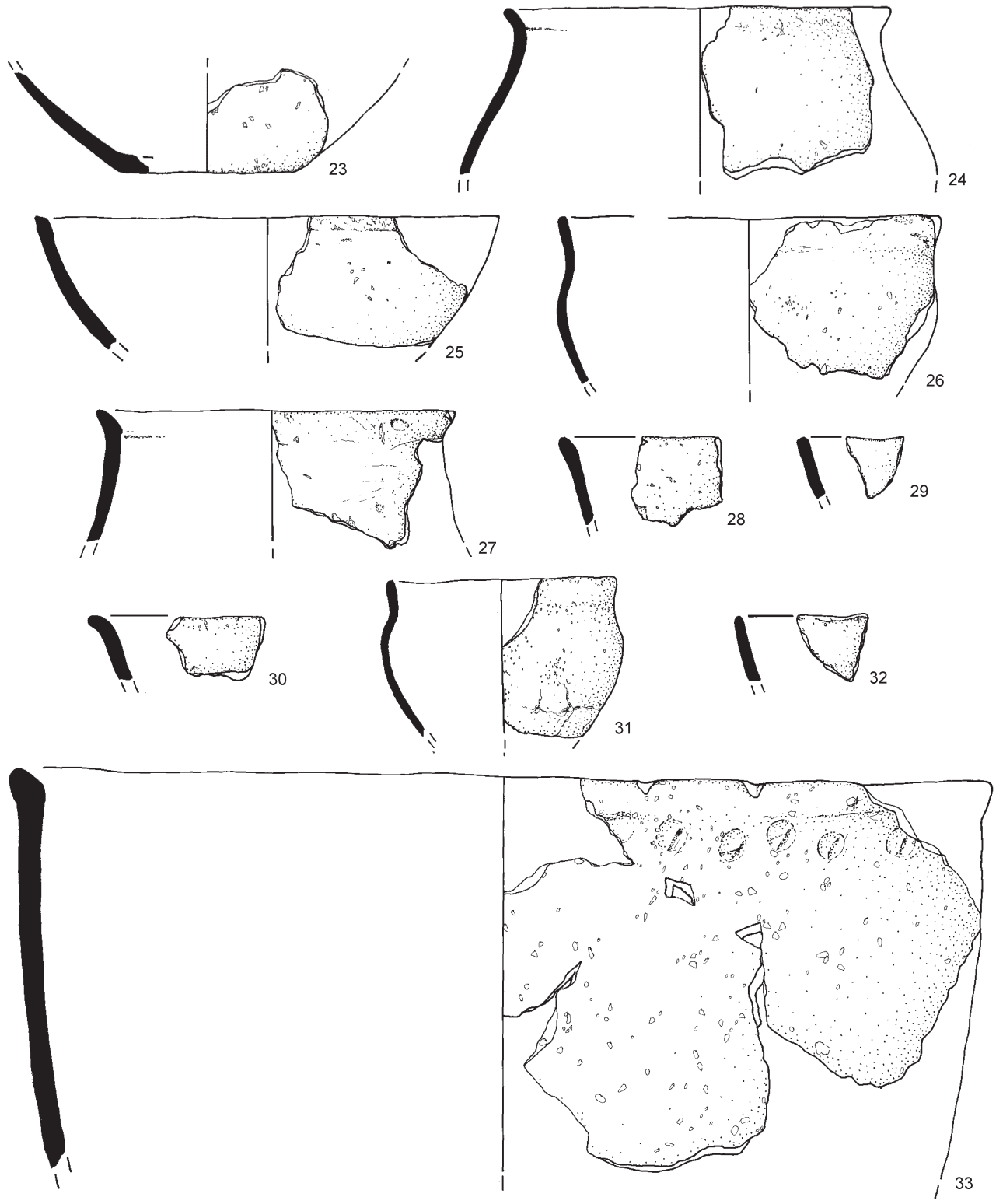


Fig 1.70 Prehistoric pottery.

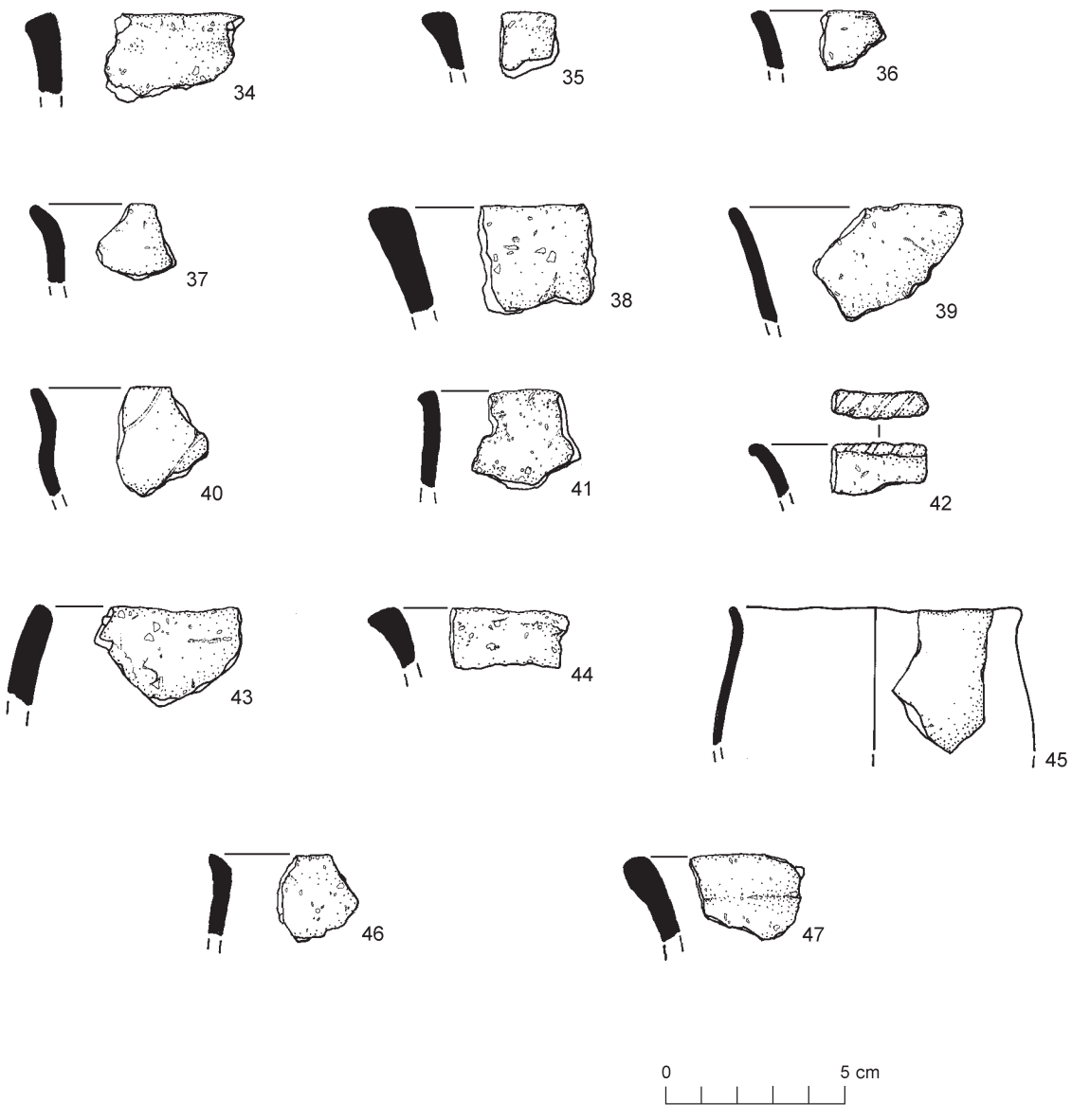


Fig 1.71 Prehistoric pottery.

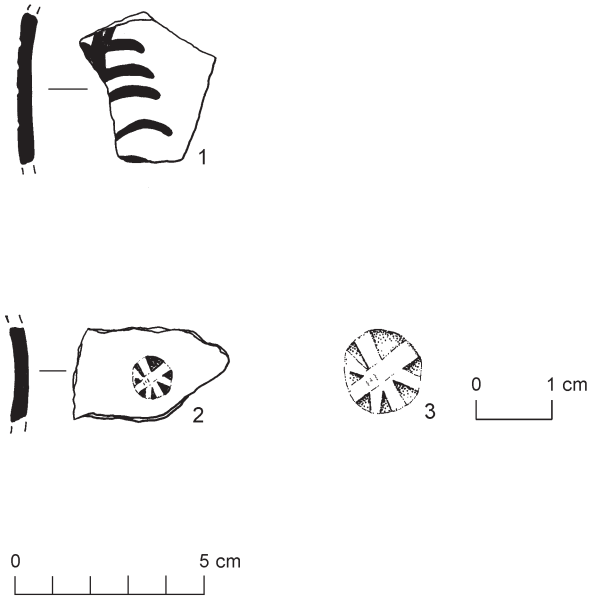


Fig 1.72 Post-Roman pottery.

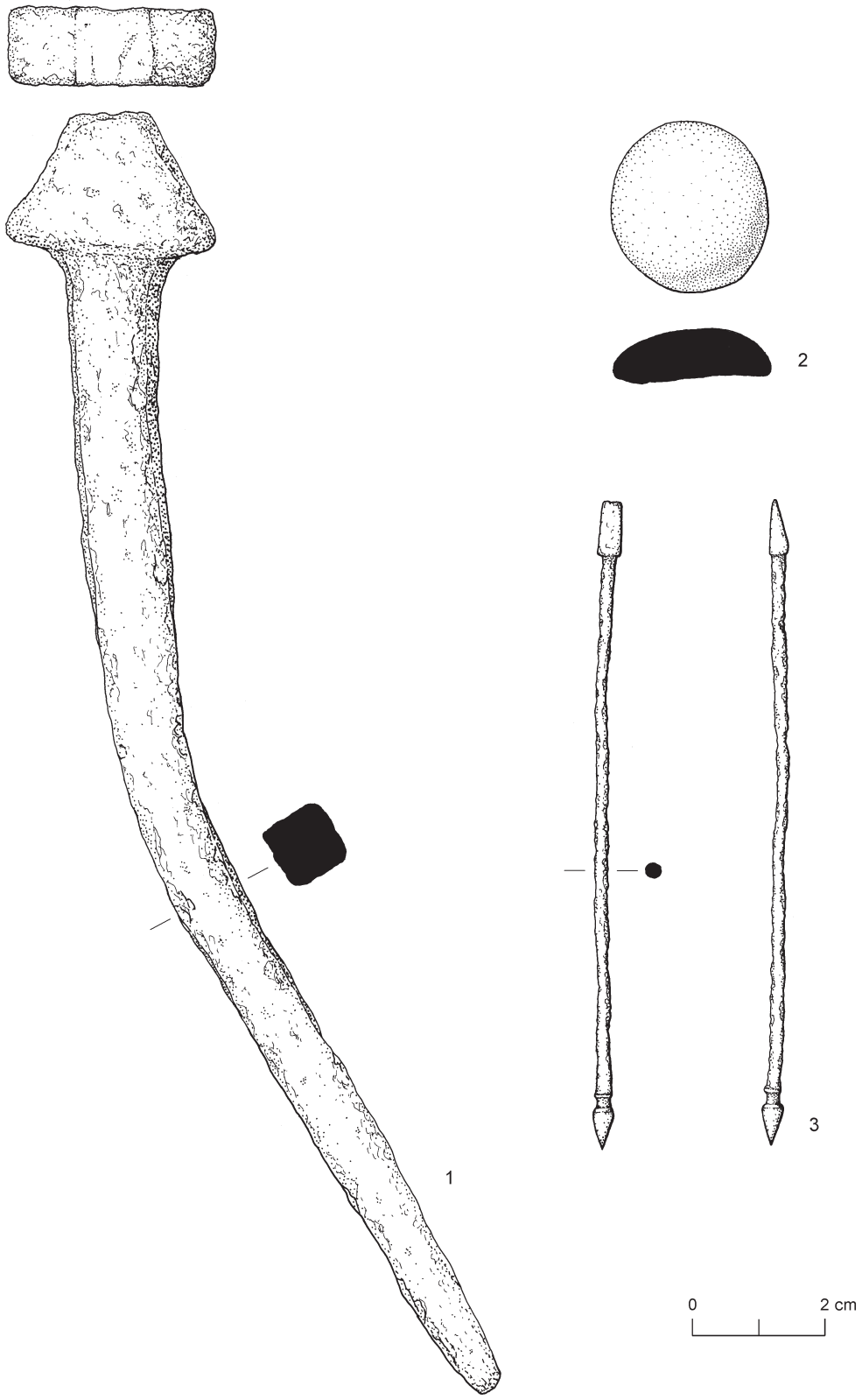


Fig 1.73 Small finds from the circus.

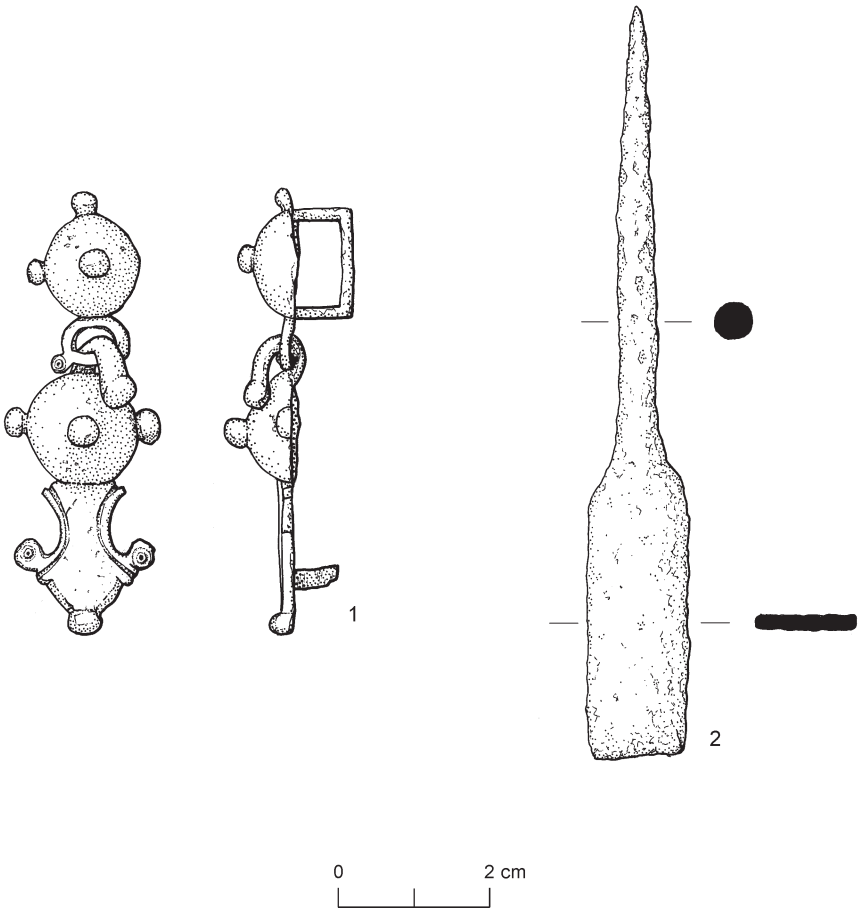


Fig 1.74 Small finds from the circus.

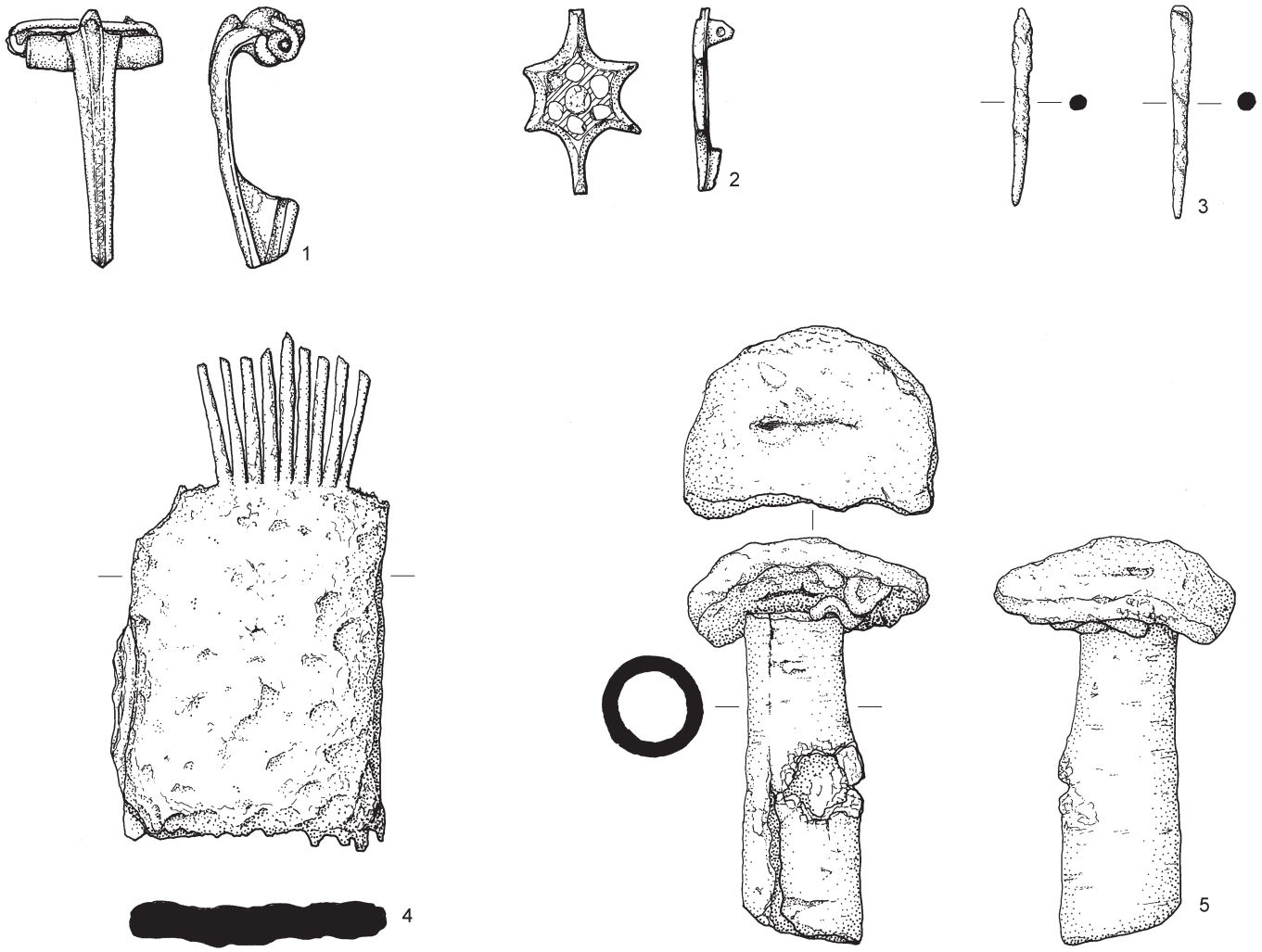


Fig 1.75 Areas C1 and C2: small finds from non burial-related contexts.

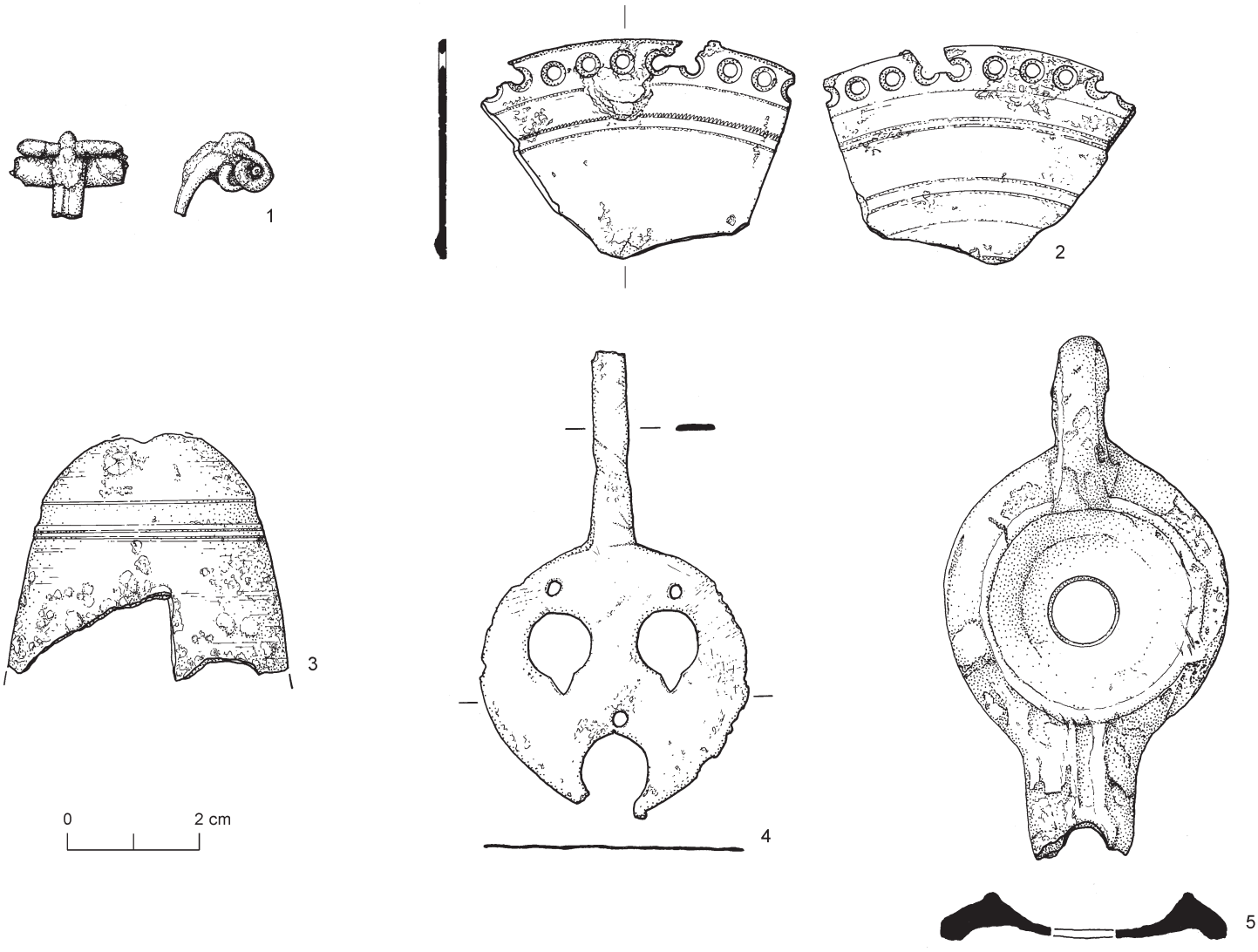


Fig 1.76 Area J1 North: small finds from non burial-related contexts.

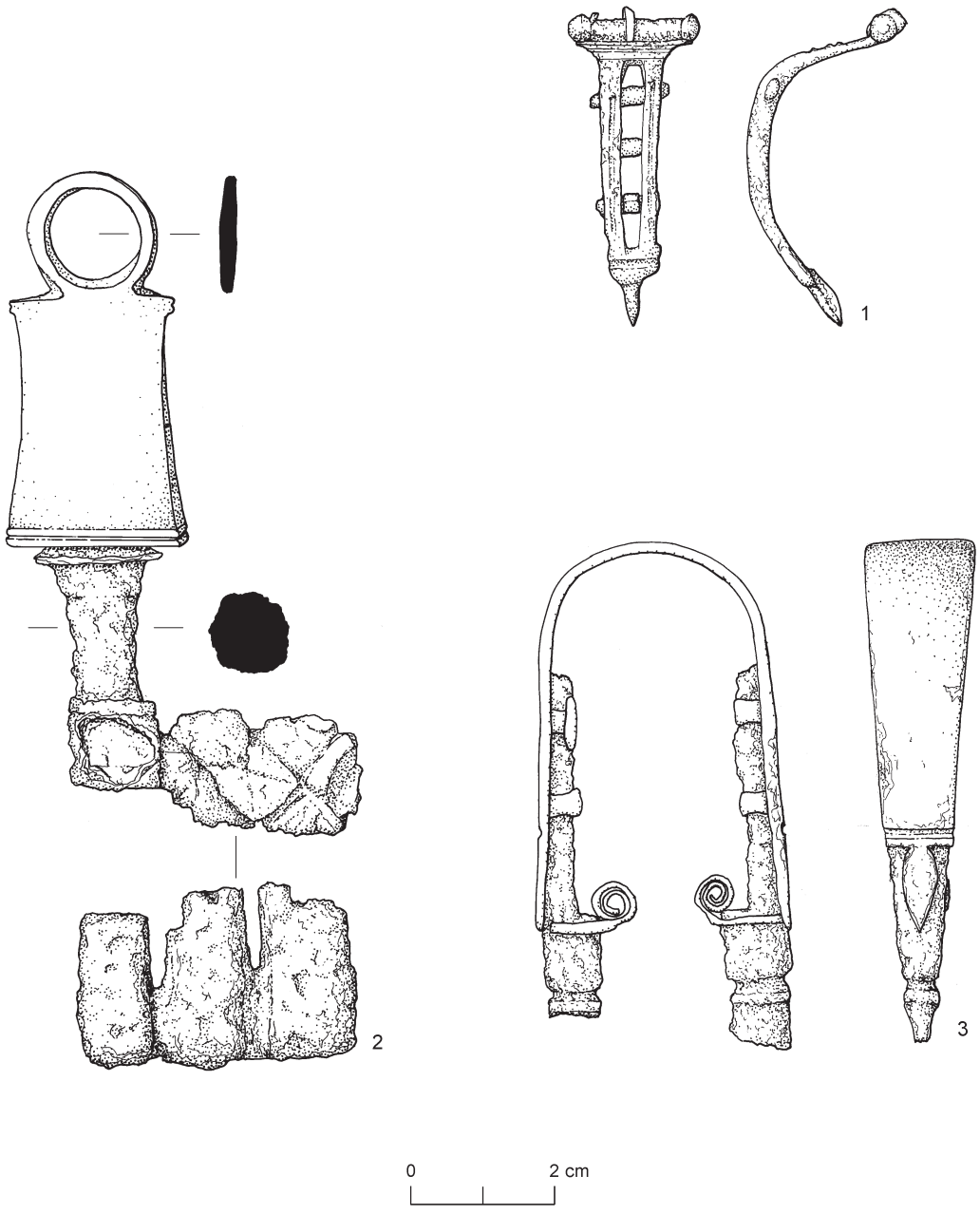


Fig 1.77 Area J1 South: small finds from non burial-related contexts.

Fig 1.78 Area J1 South: small finds from non burial-related contexts.

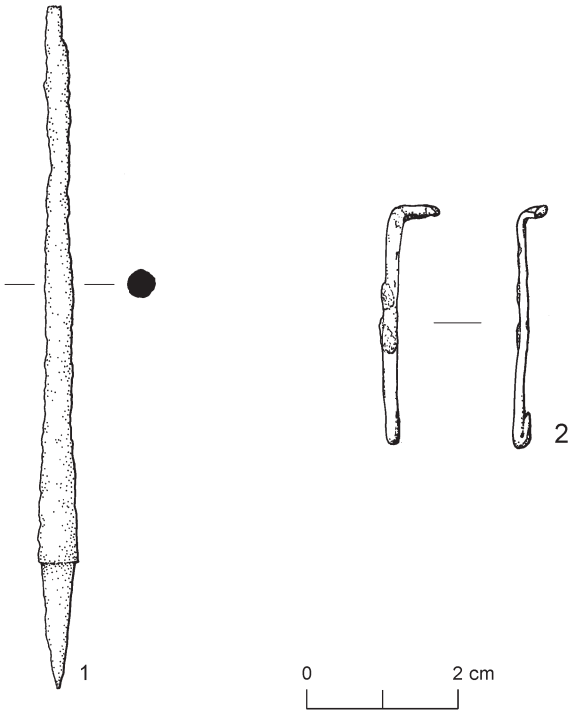


Fig 1.79 Area E: small finds from non burial-related contexts.

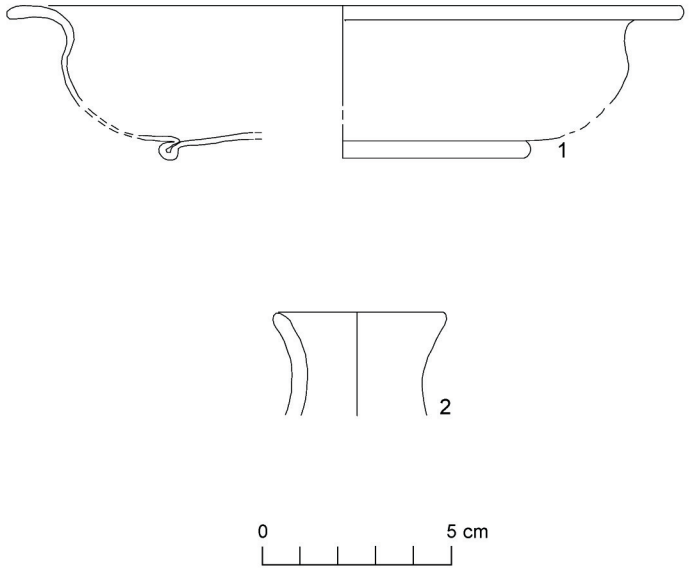


Fig 1.80 Roman glass from non burial-related contexts (no 3 is not to scale).

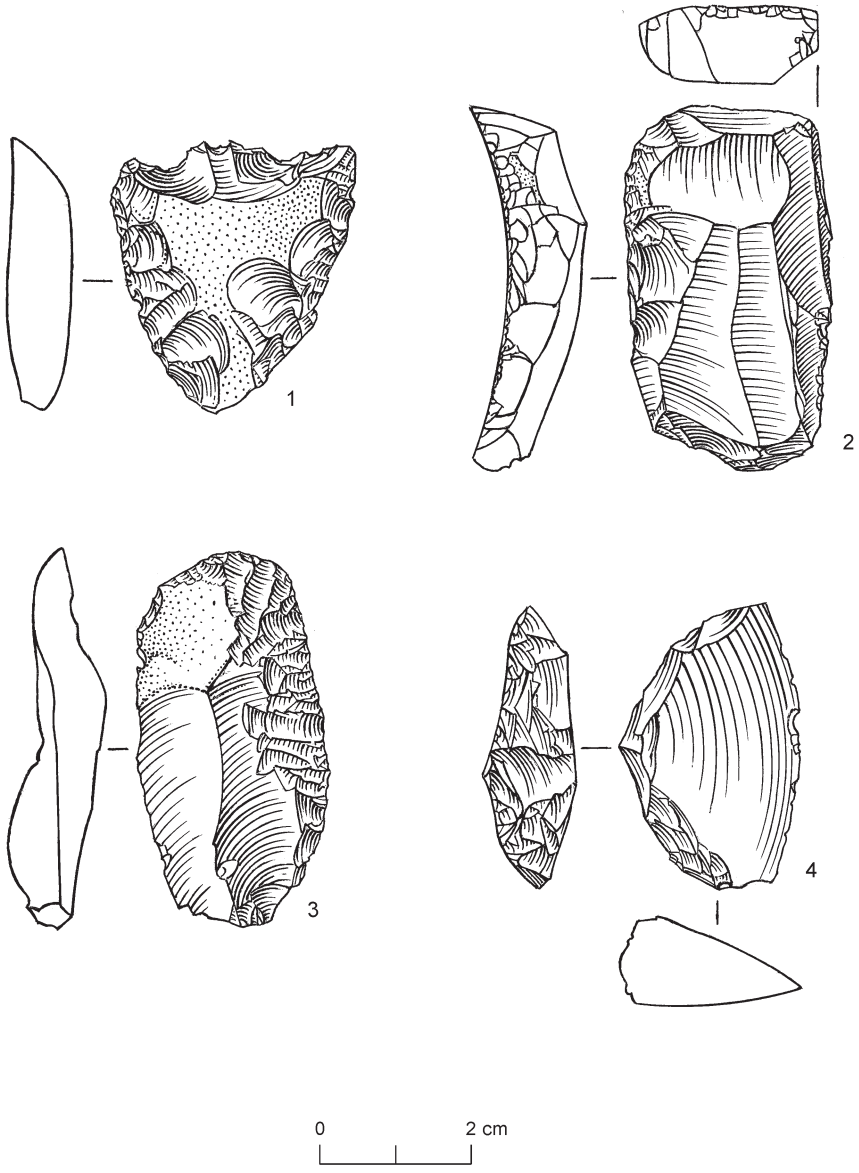
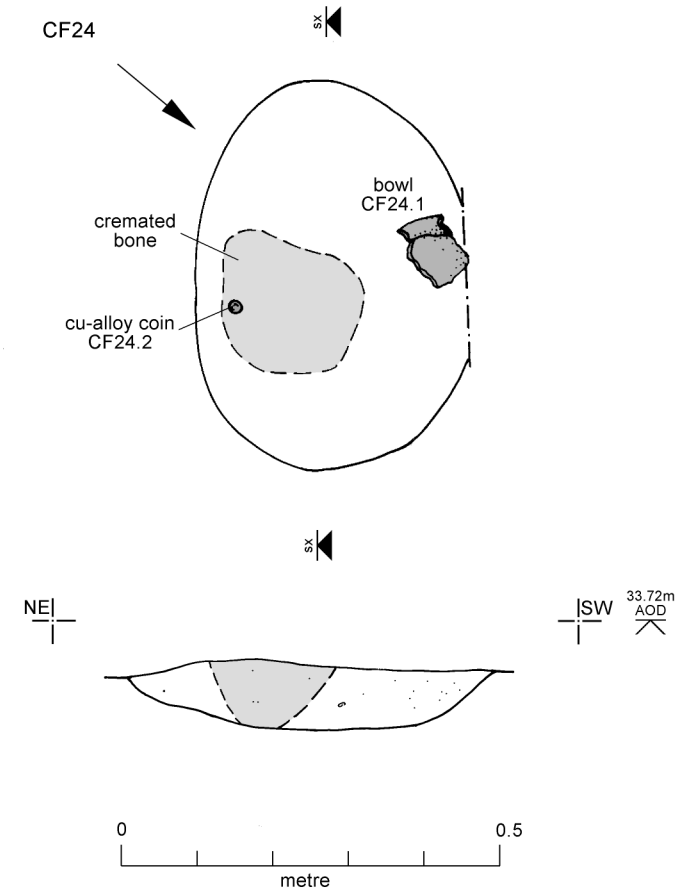
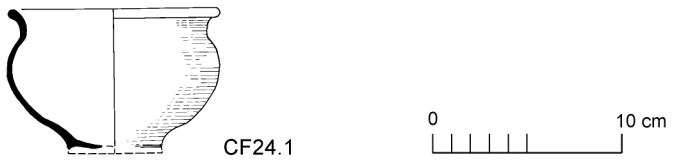
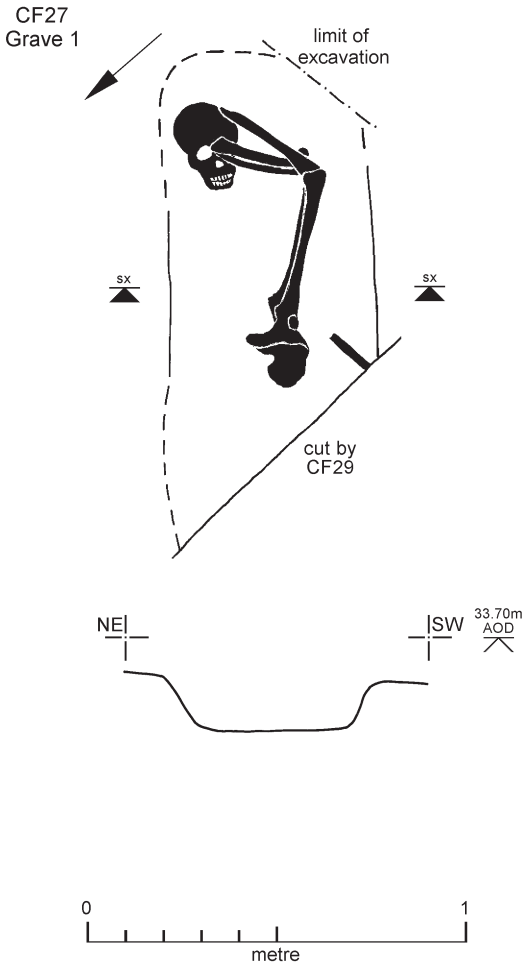


Fig 1.81 Worked flint.

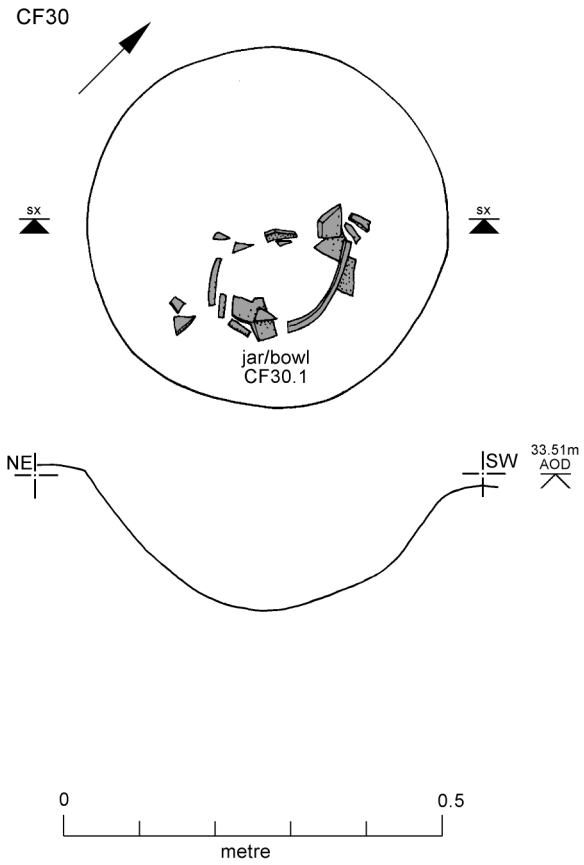

CF24
sx
bowl
CF24.1
cremated
bone
cu-alloy coin
CF24.2
sx
NE
SW
33.72m
AOD
0
0.5
metre


CF24.1
0
10 cm

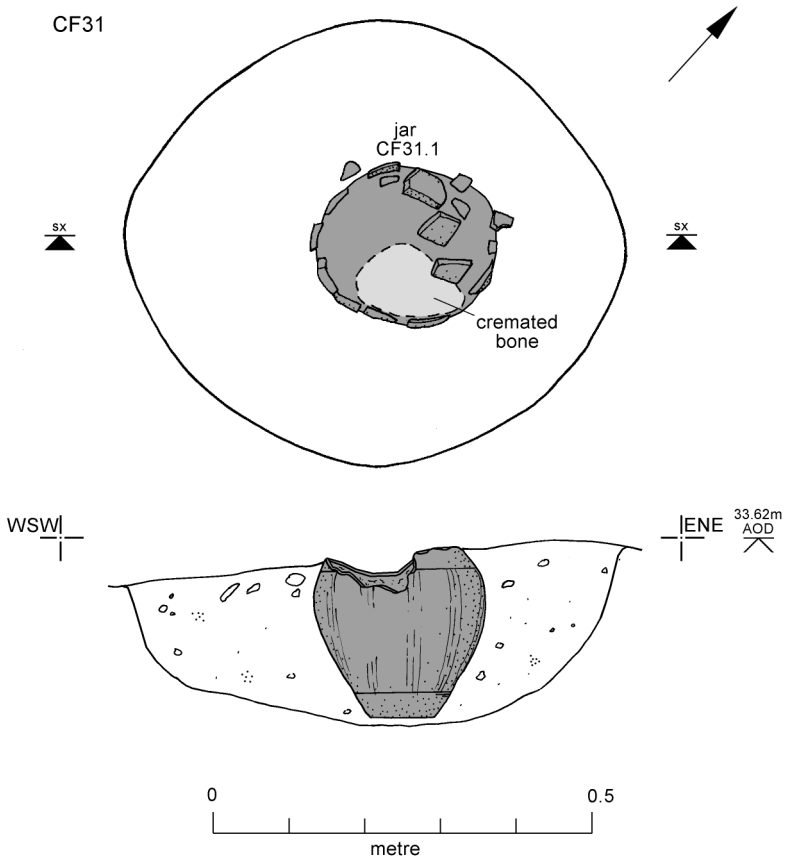
CF24

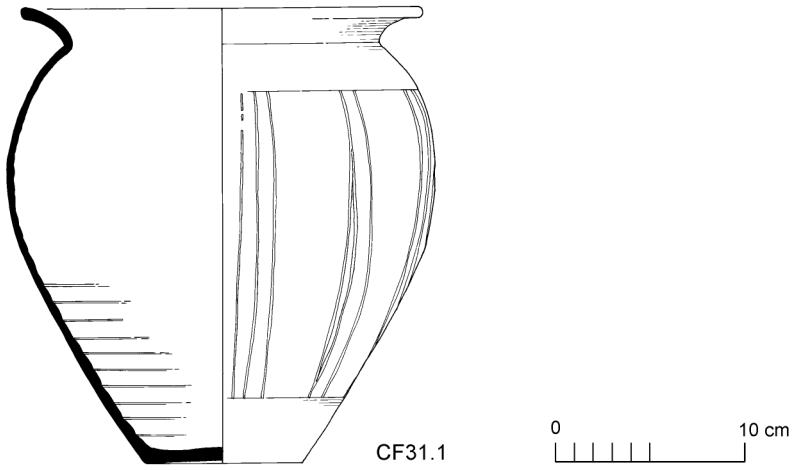

CF27
Grave 1
limit of
excavation
sx
sx
cut by
CF29
NE
SW
33.70m
AOD
0
1
metre

CF27

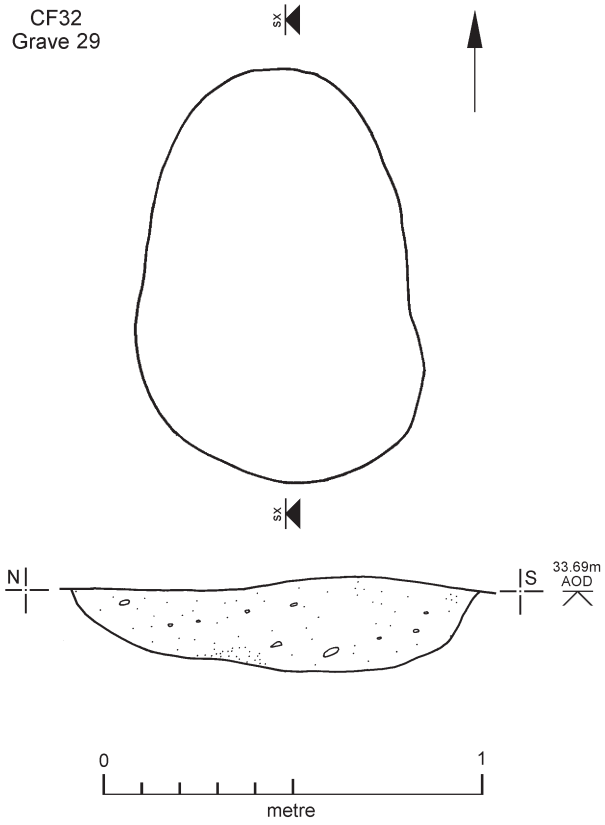


CF30

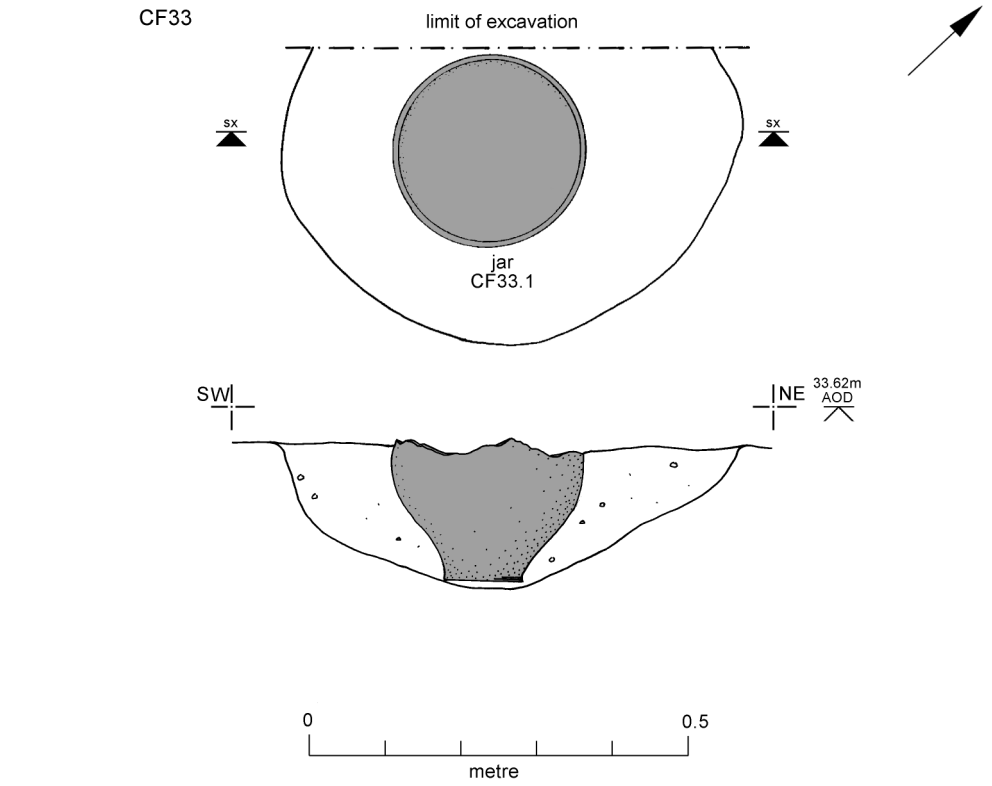

CF31
jar
CF31.1
sx
sx
cremated
bone
WSW
ENE
33.62m
AOD
0
0.5
metre

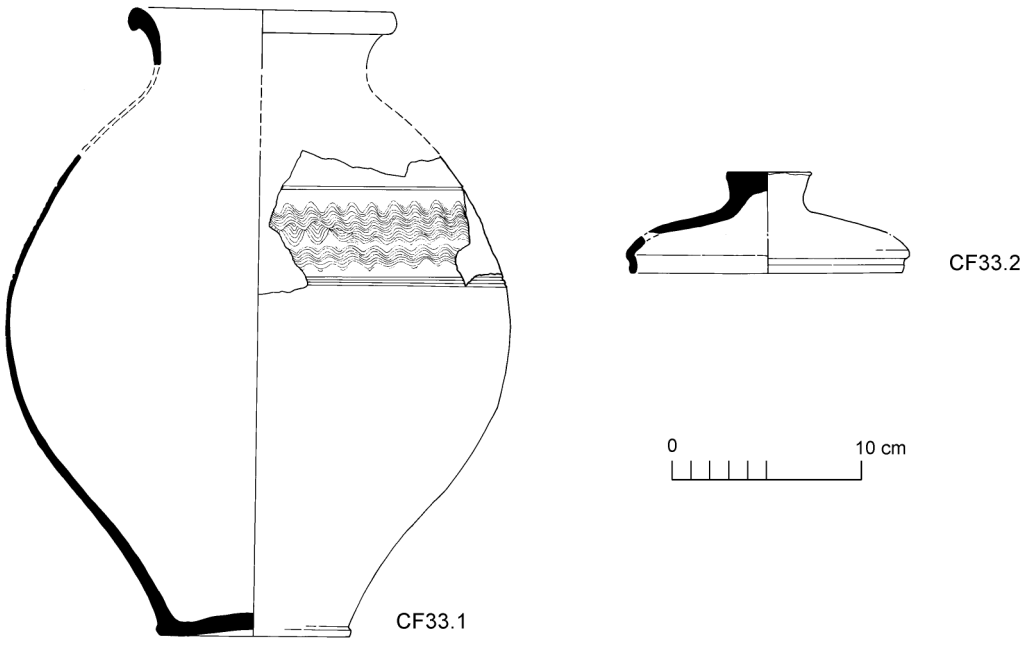

CF31.1
0
10 cm

CF31

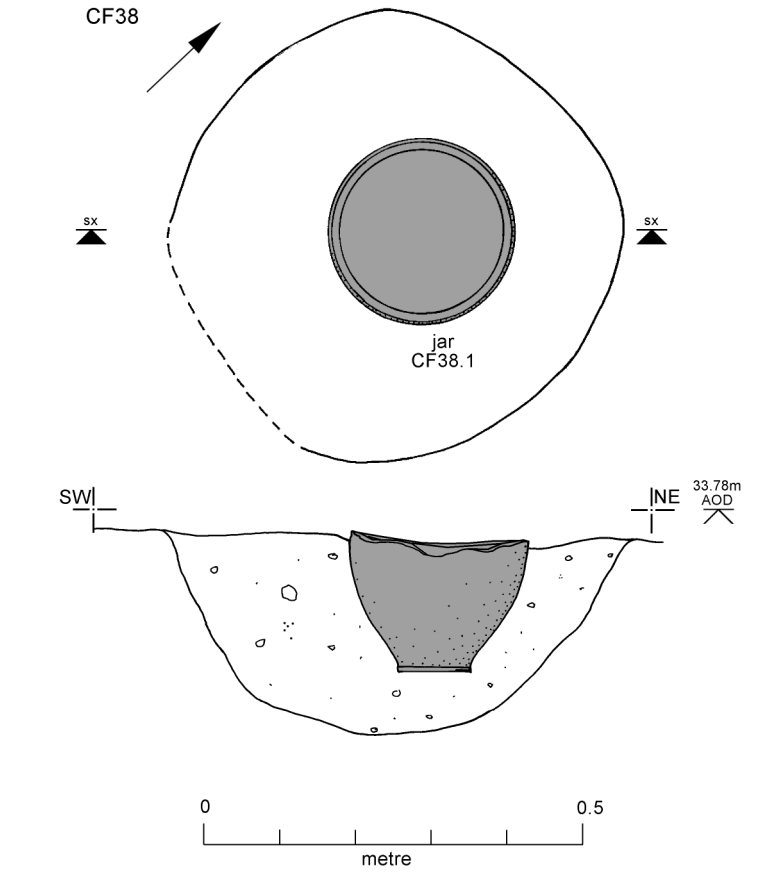


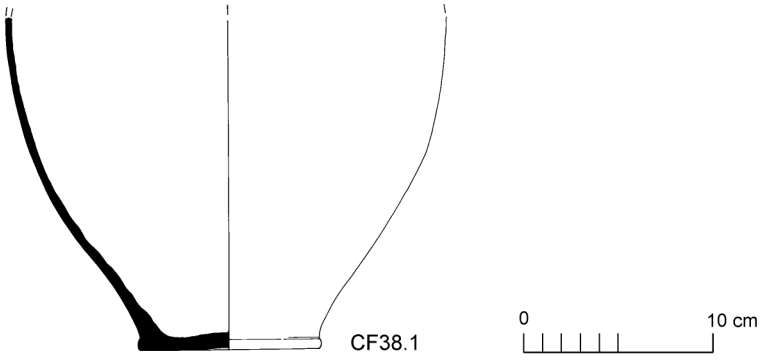
CF32


CF33
limit of excavation
sx
sx
jar
CF33.1
SW
NE
33.62m
AOD
0
0.5
metre

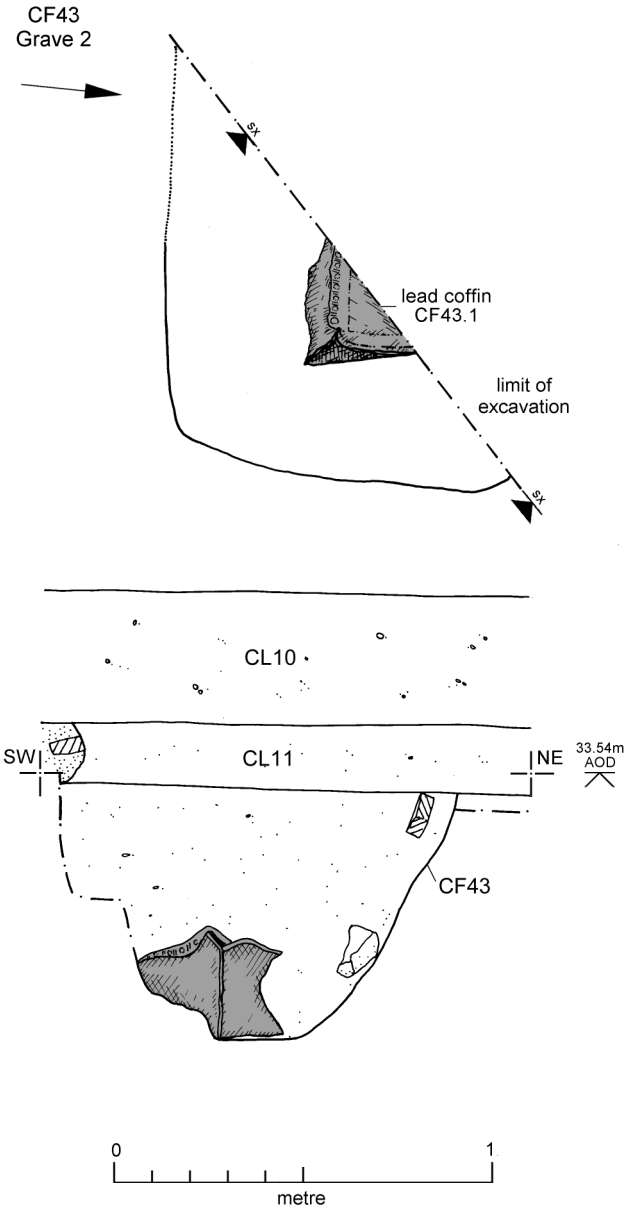

CF33.1
CF33.2
0
10 cm

CF33

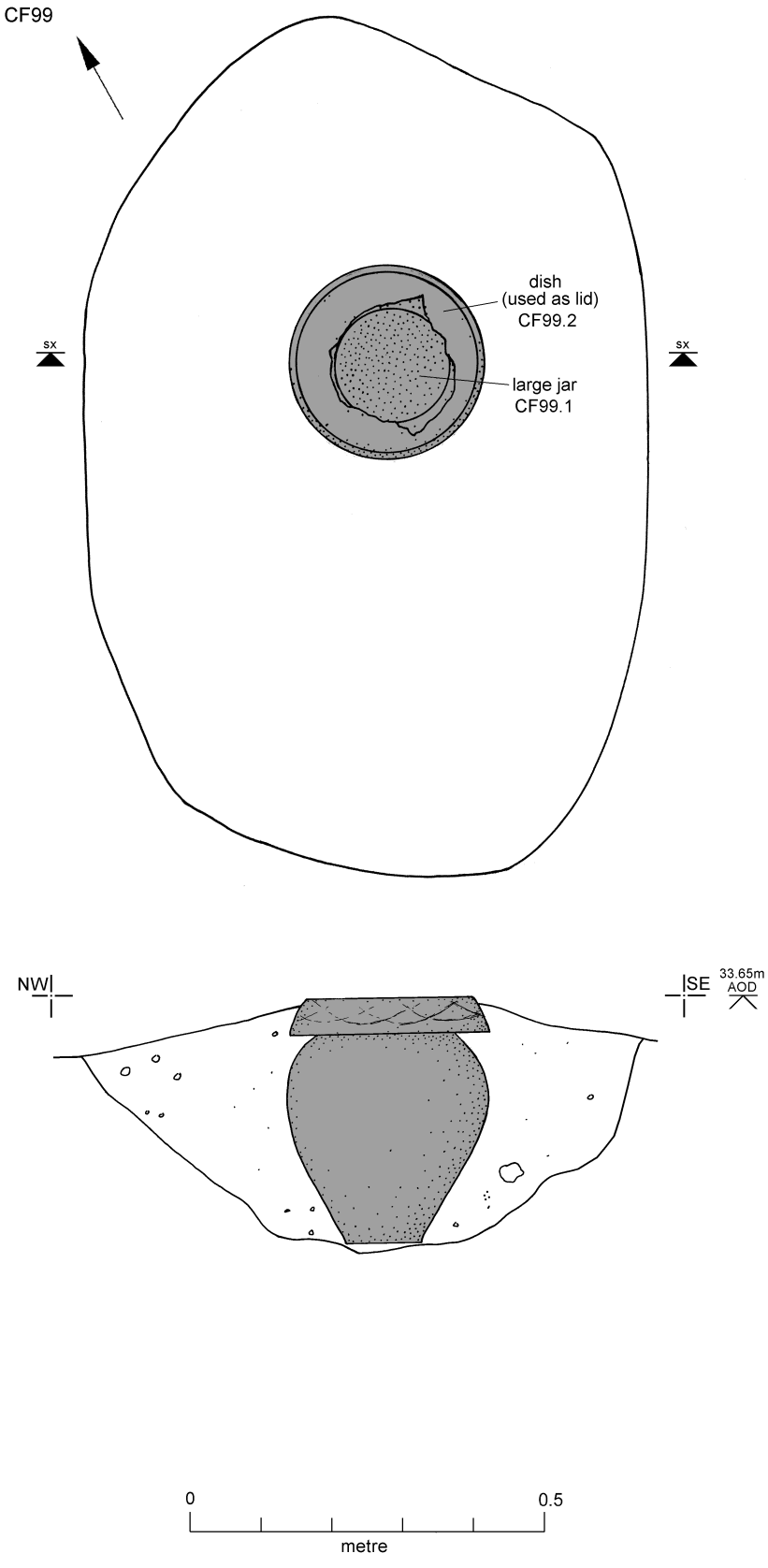




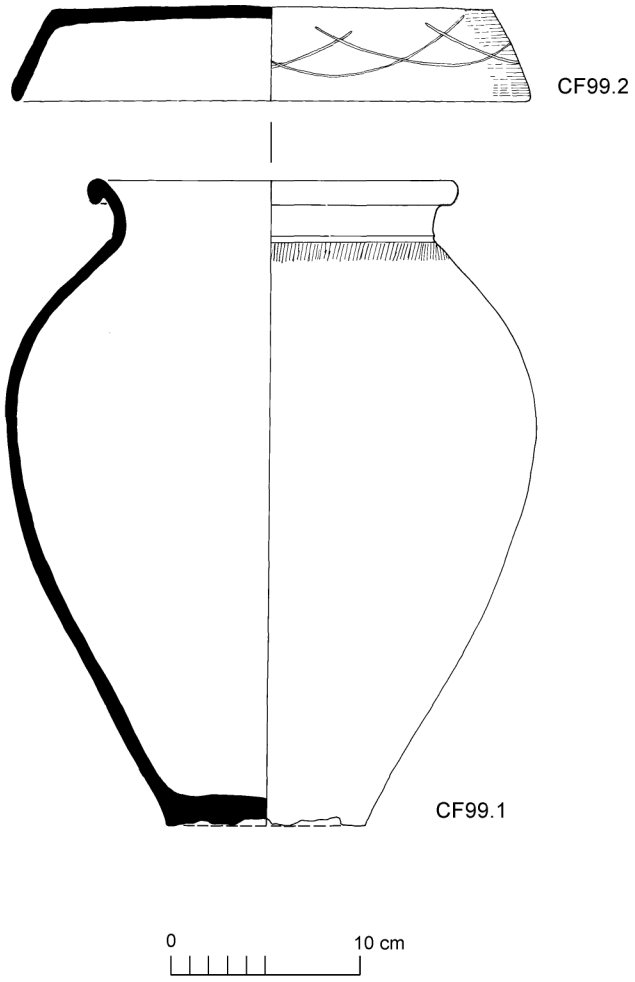
CF38


CF43
Grave 2
SX
lead coffin
CF43.1
limit of
excavation
SX
CL10
SW
CL11
NE
33.54m
AOD
CF43
0
1
metre

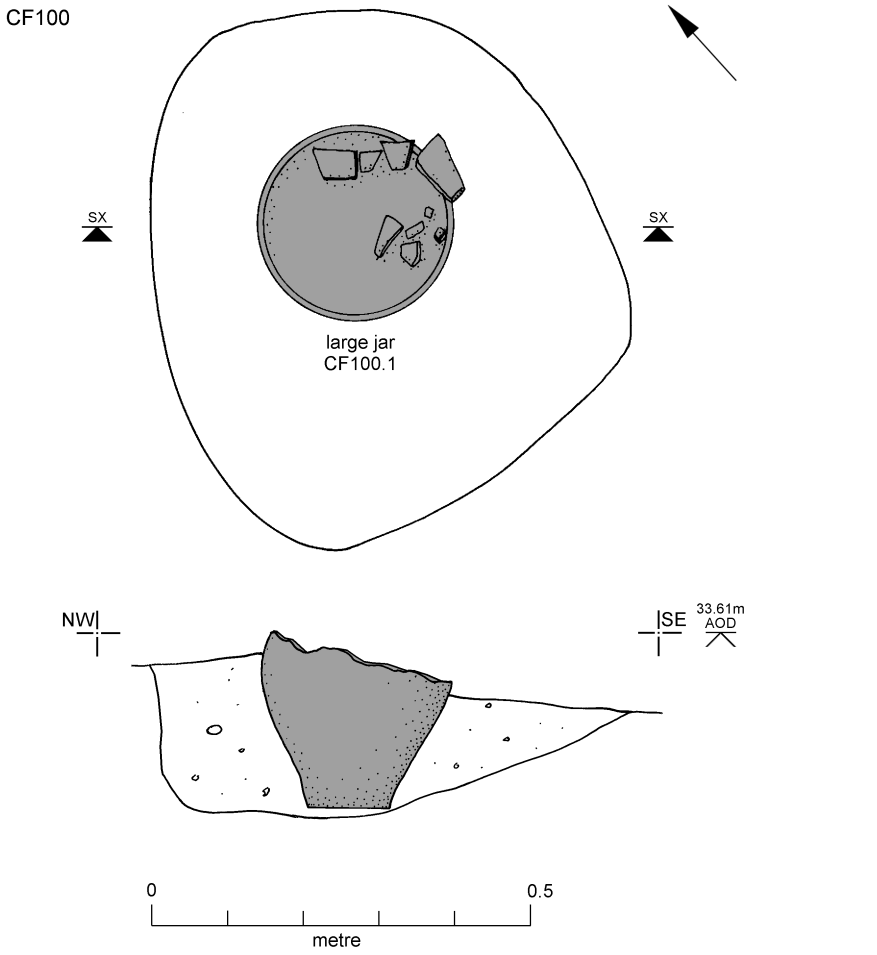
CF43

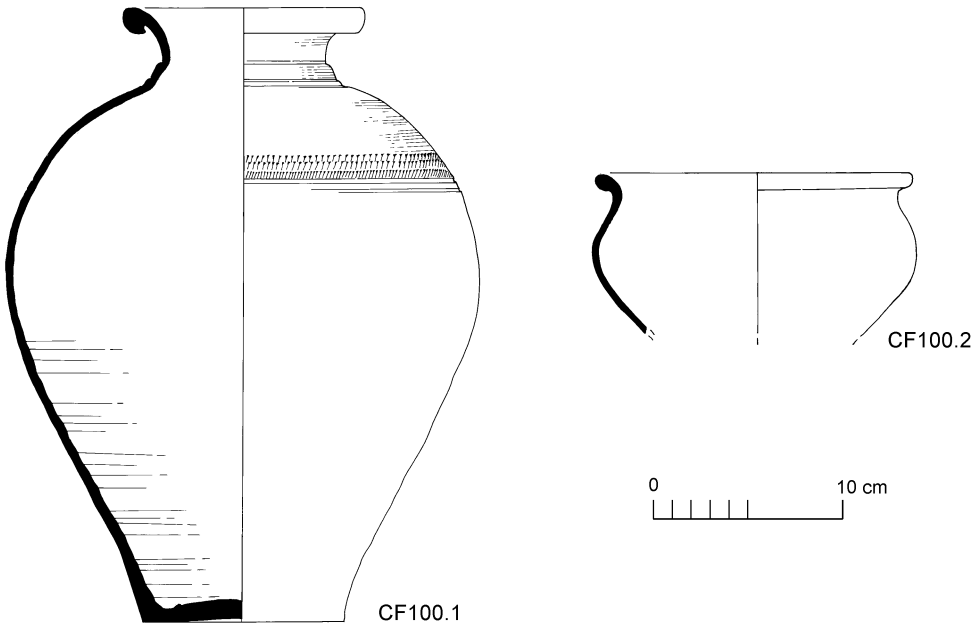

CF99
dish
(used as lid)
CF99.2
large jar
CF99.1
sx
sx
NW
SE
33.65m
AOD
0
0.5
metre

CF99

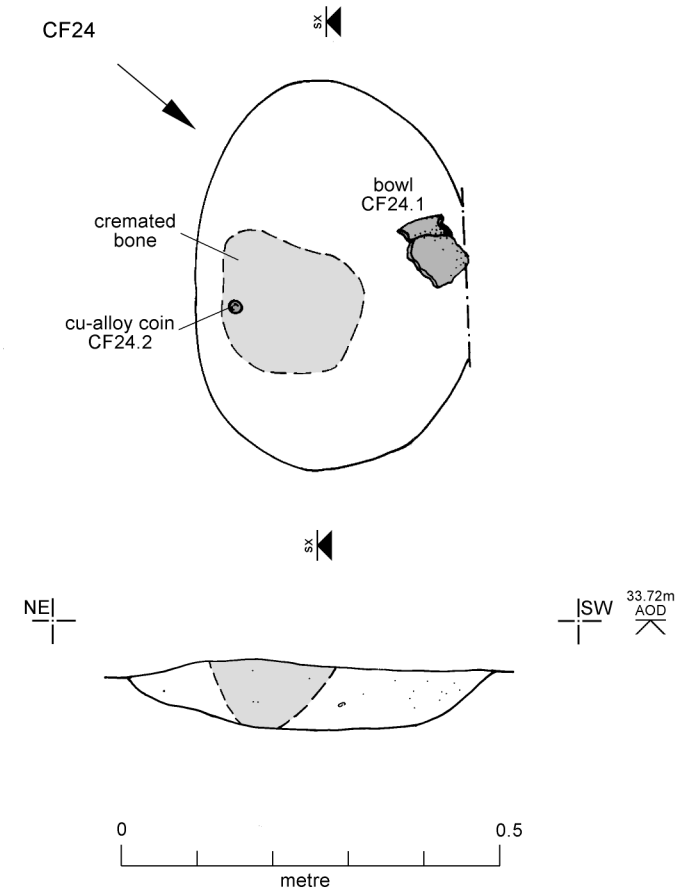


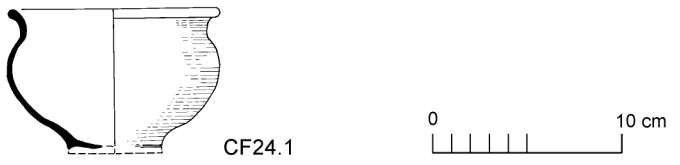
CF99


CF100
SX
SX
large jar
CF100.1
NW
SE
33.61m
AOD
0
0.5
metre

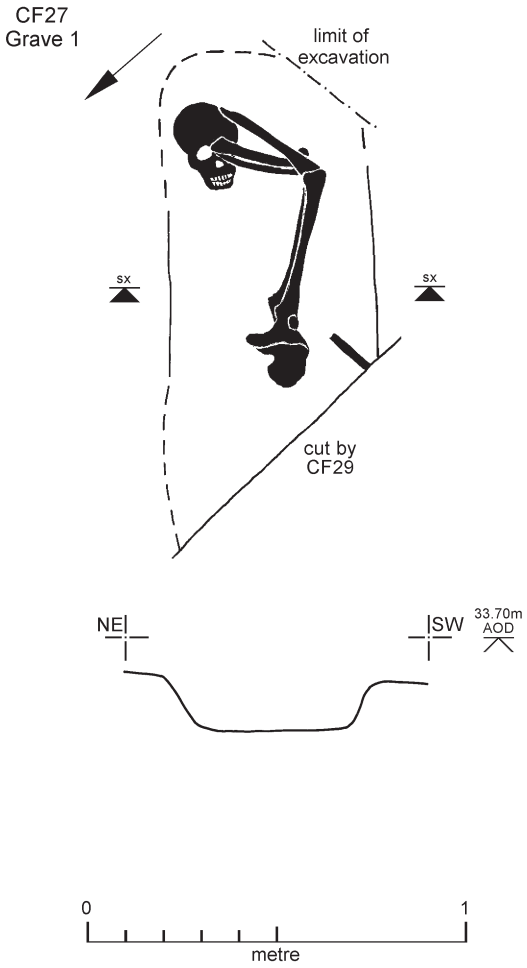

CF100.1
CF100.2
0
10 cm

CF100

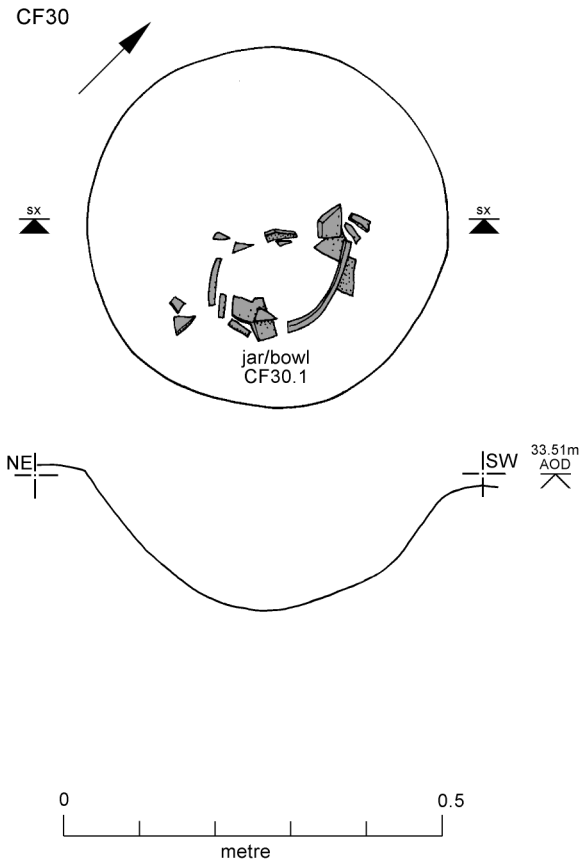

CF24
sx
bowl
CF24.1
cremated
bone
cu-alloy coin
CF24.2
sx
NE
SW
33.72m
AOD
0
0.5
metre


CF24.1
0
10 cm

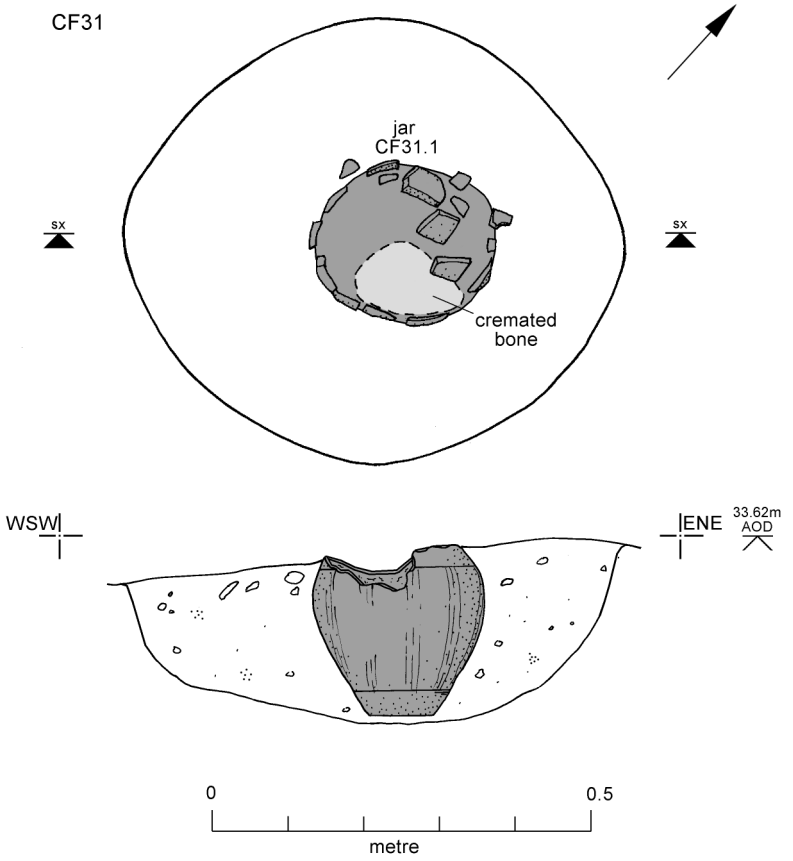
CF24

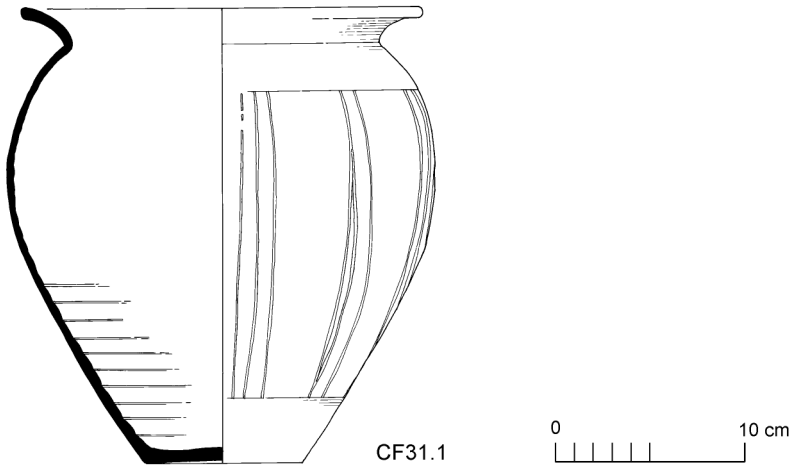

CF27
Grave 1
limit of
excavation
sx
sx
cut by
CF29
NE
SW
33.70m
AOD
0
1
metre

CF27

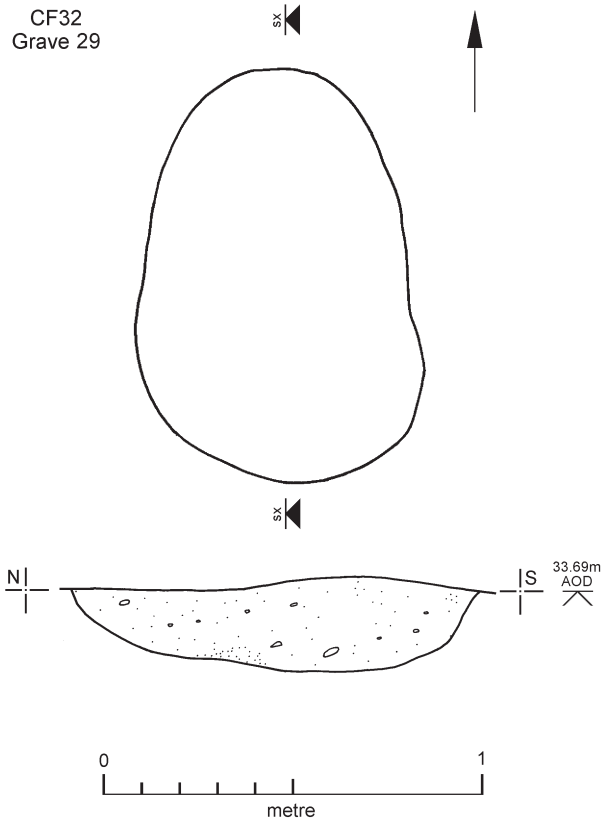


CF30

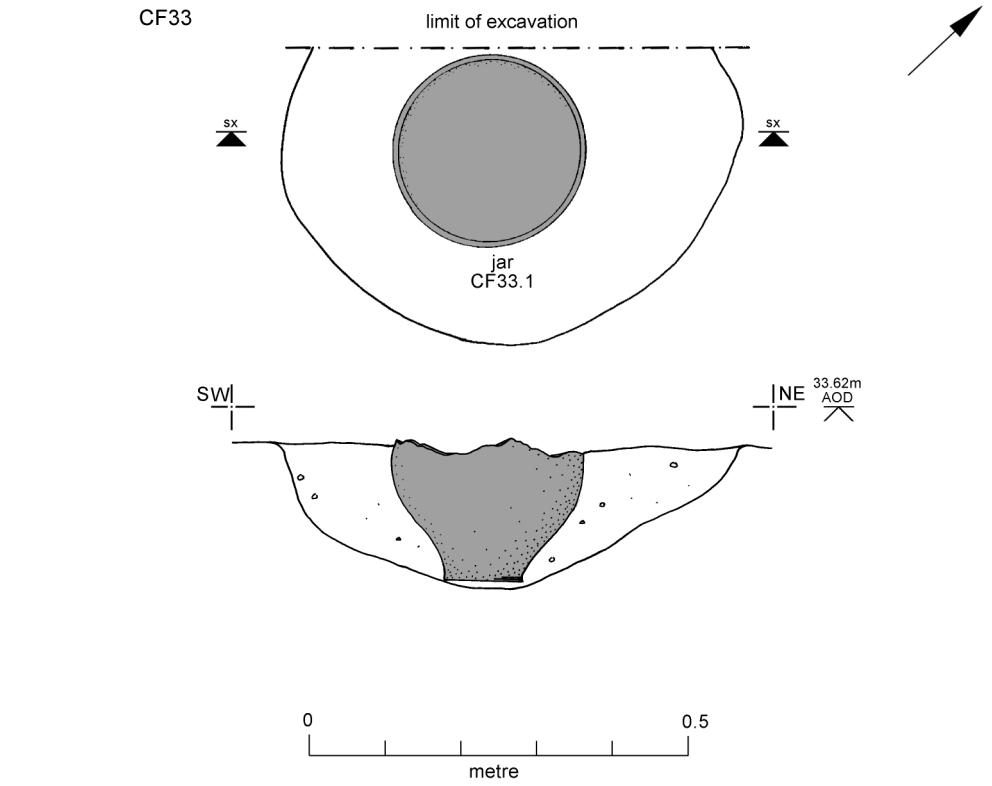

CF31
jar
CF31.1
sx
sx
cremated
bone
WSW
ENE
33.62m
AOD
0
0.5
metre

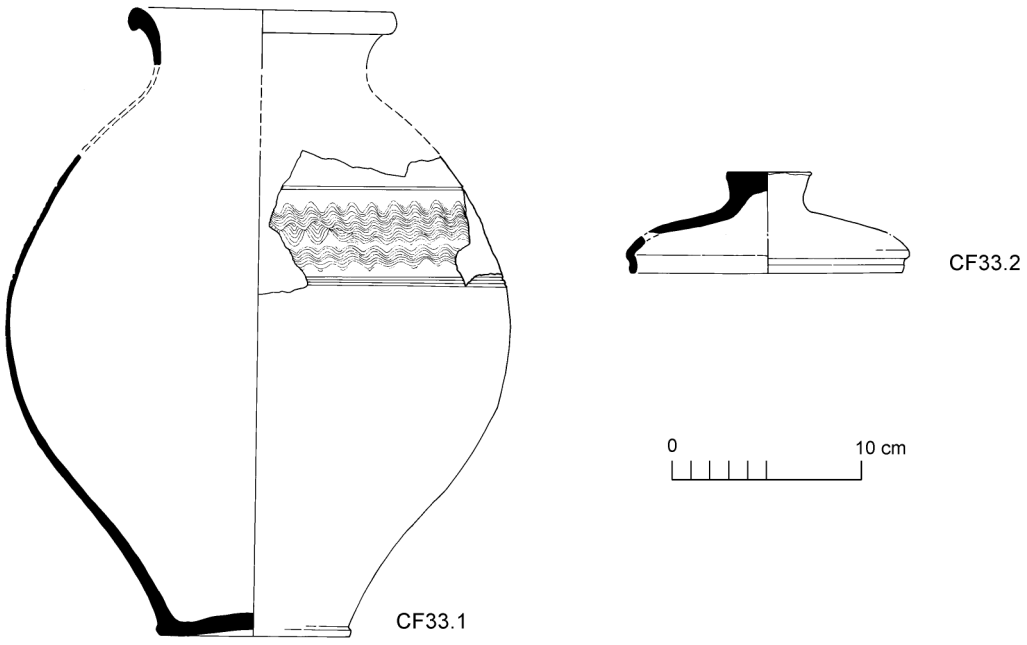

CF31.1
0
10 cm

CF31

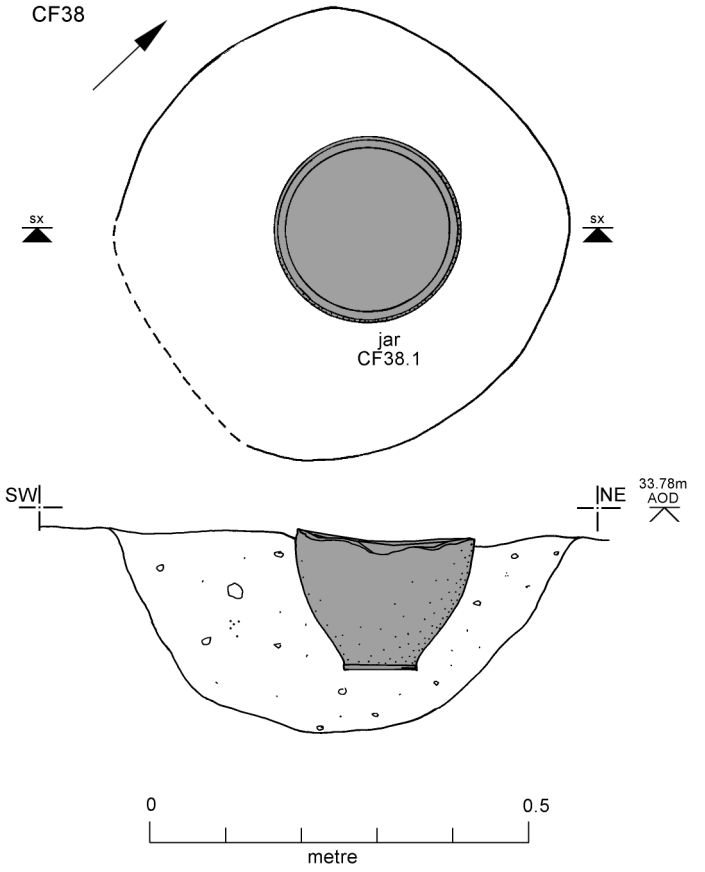


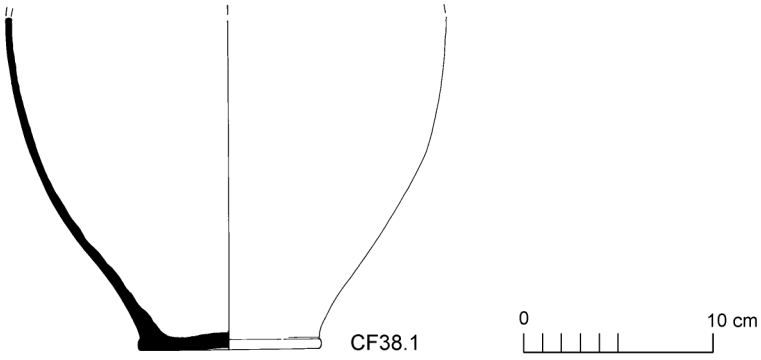
CF32


CF33
limit of excavation
sx
sx
jar
CF33.1
SW
NE
33.62m
AOD
0
0.5
metre

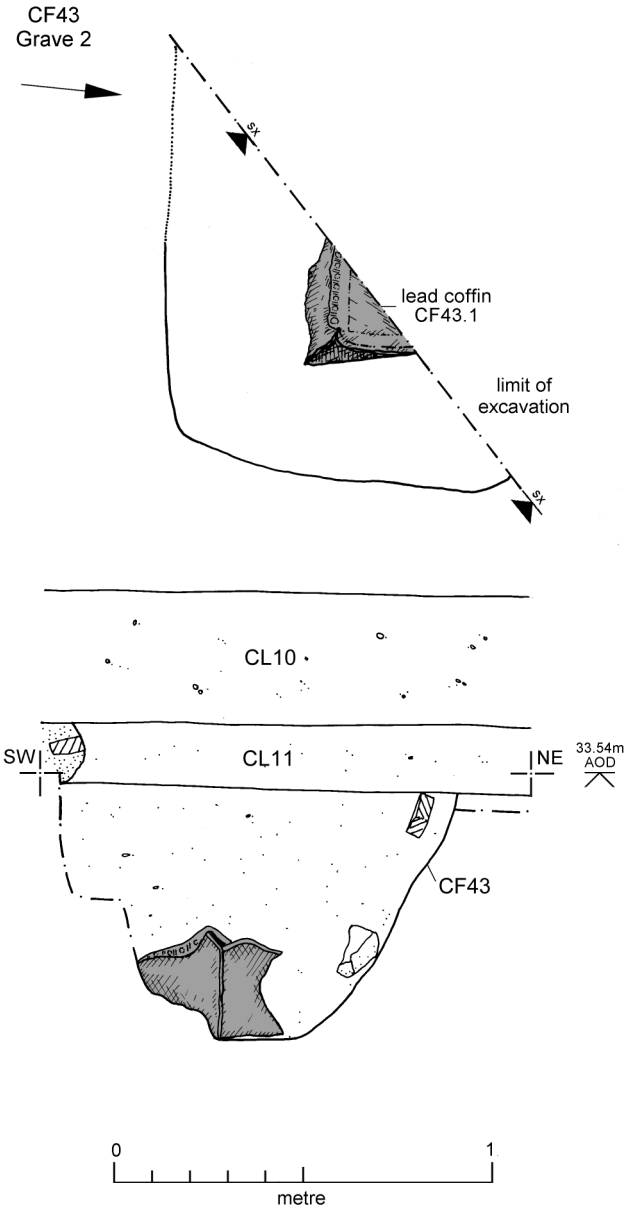

CF33.1
CF33.2
0
10 cm

CF33

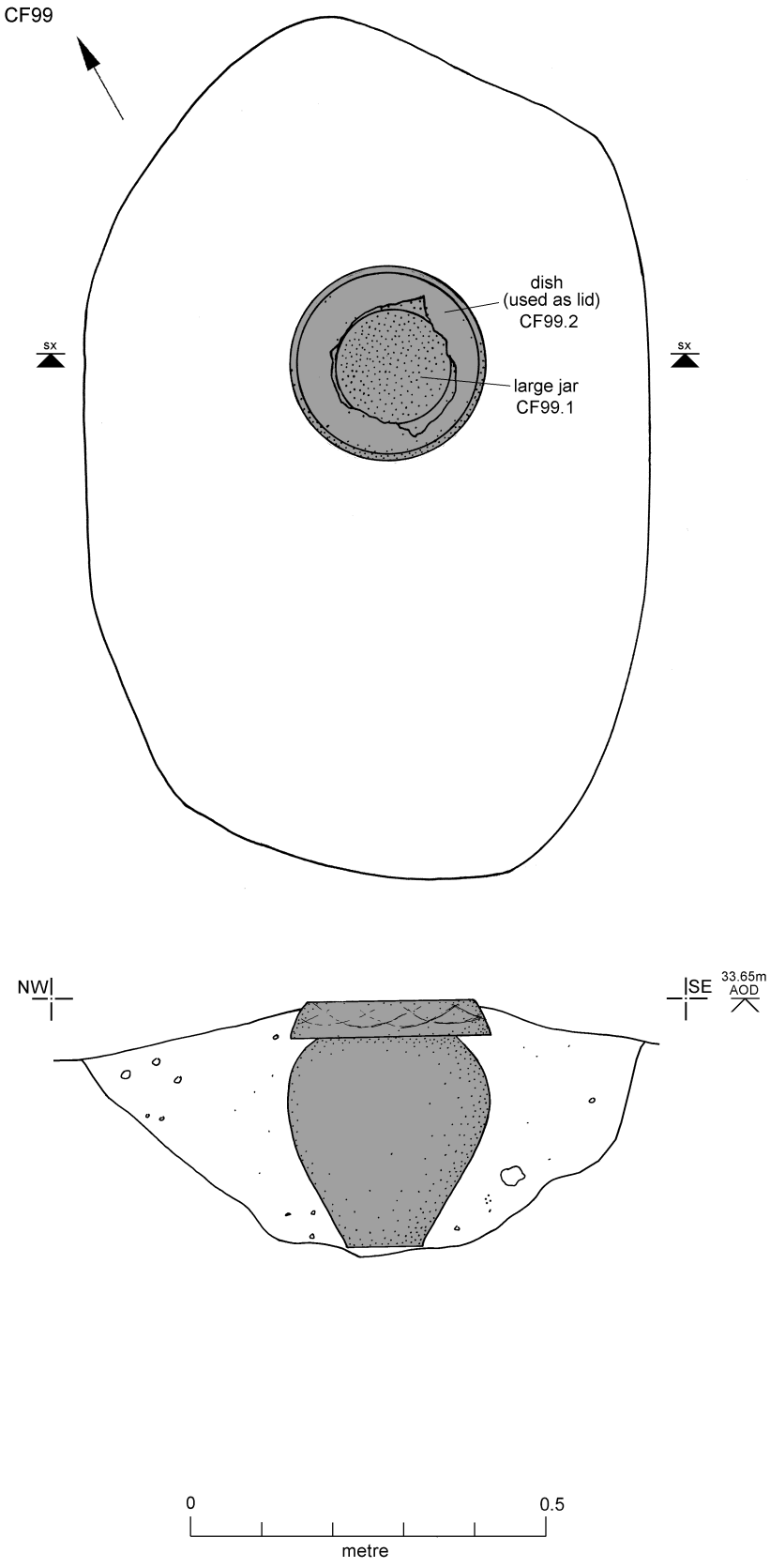




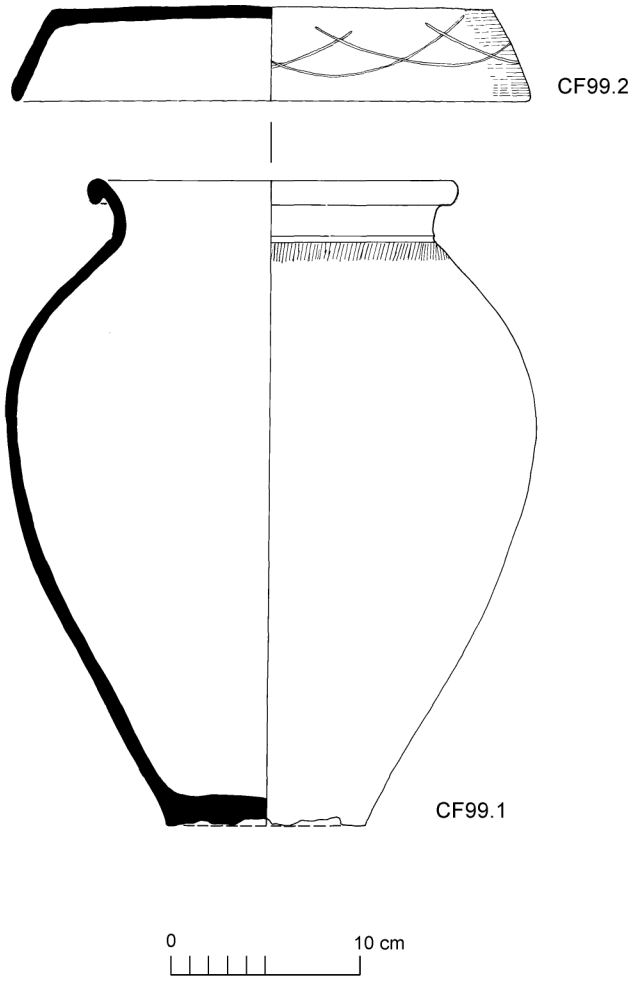
CF38


CF43
Grave 2
SX
lead coffin
CF43.1
limit of
excavation
SX
CL10
SW
CL11
NE
33.54m
AOD
CF43
0
1
metre

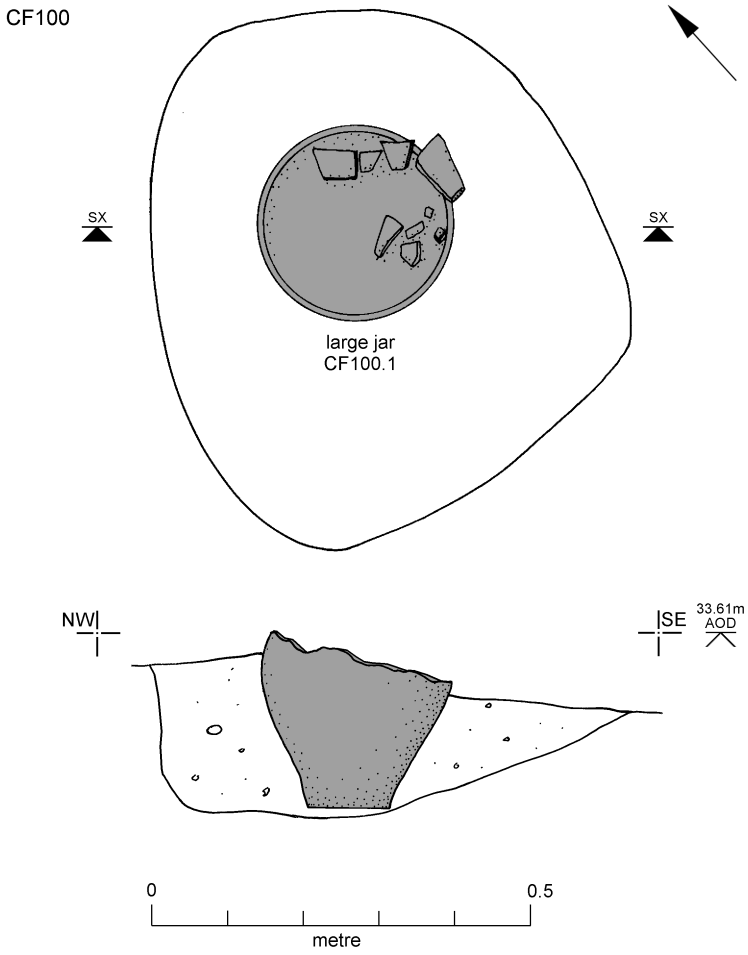
CF43

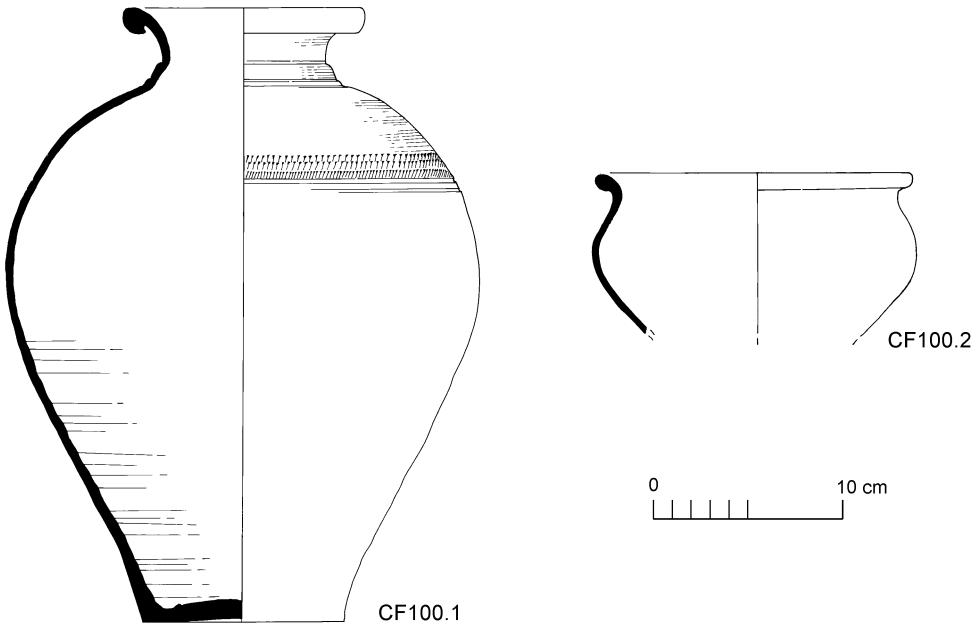

CF99
dish
(used as lid)
CF99.2
large jar
CF99.1
sx
sx
NW
SE
33.65m
AOD
0
0.5
metre

CF99

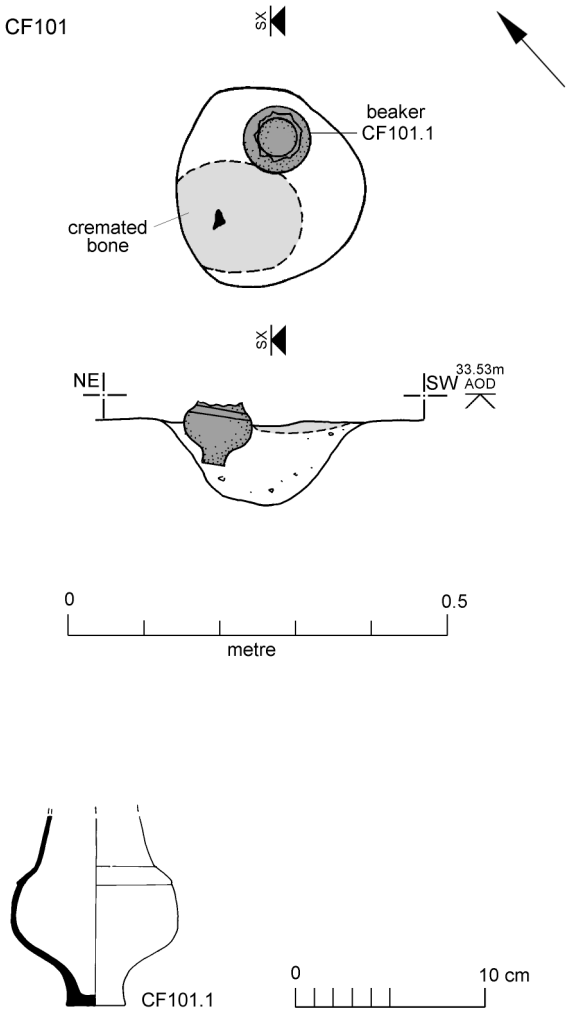


CF99

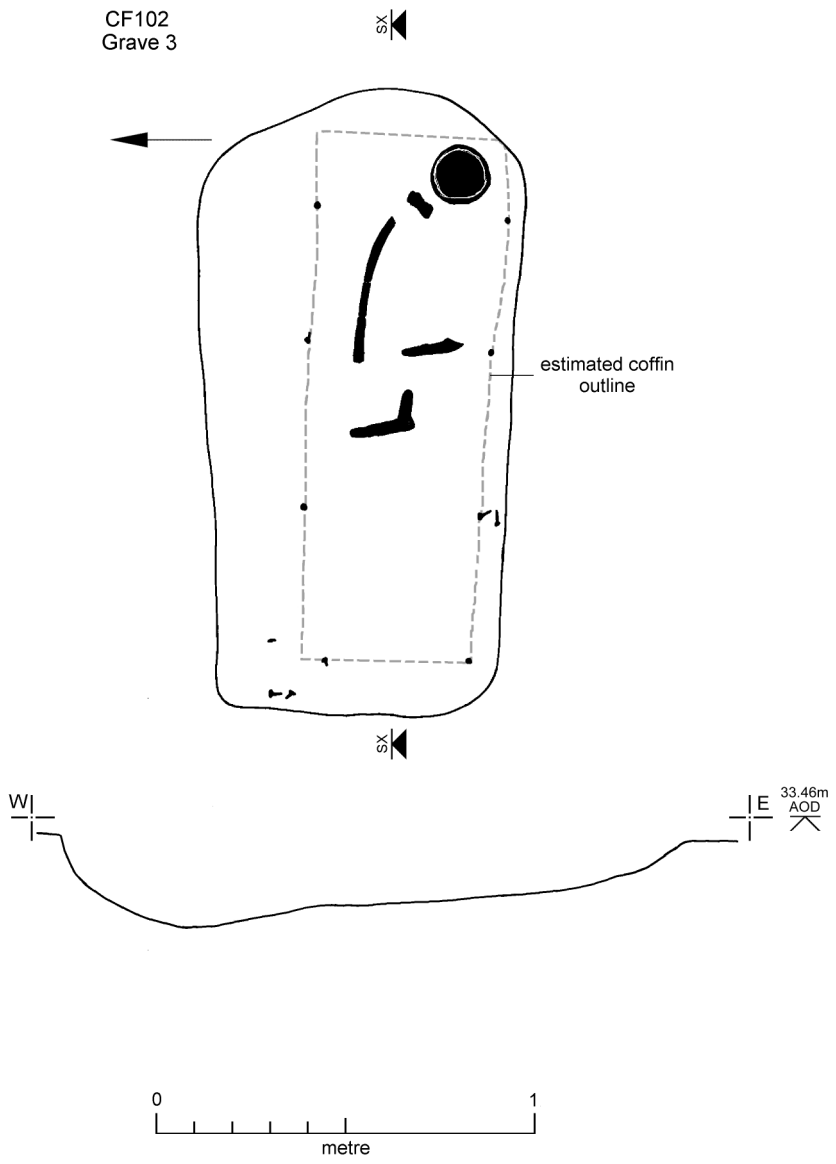

CF100
SX
SX
large jar
CF100.1
NW
SE
33.61m
AOD
0
0.5
metre


CF100.1
CF100.2
0
10 cm

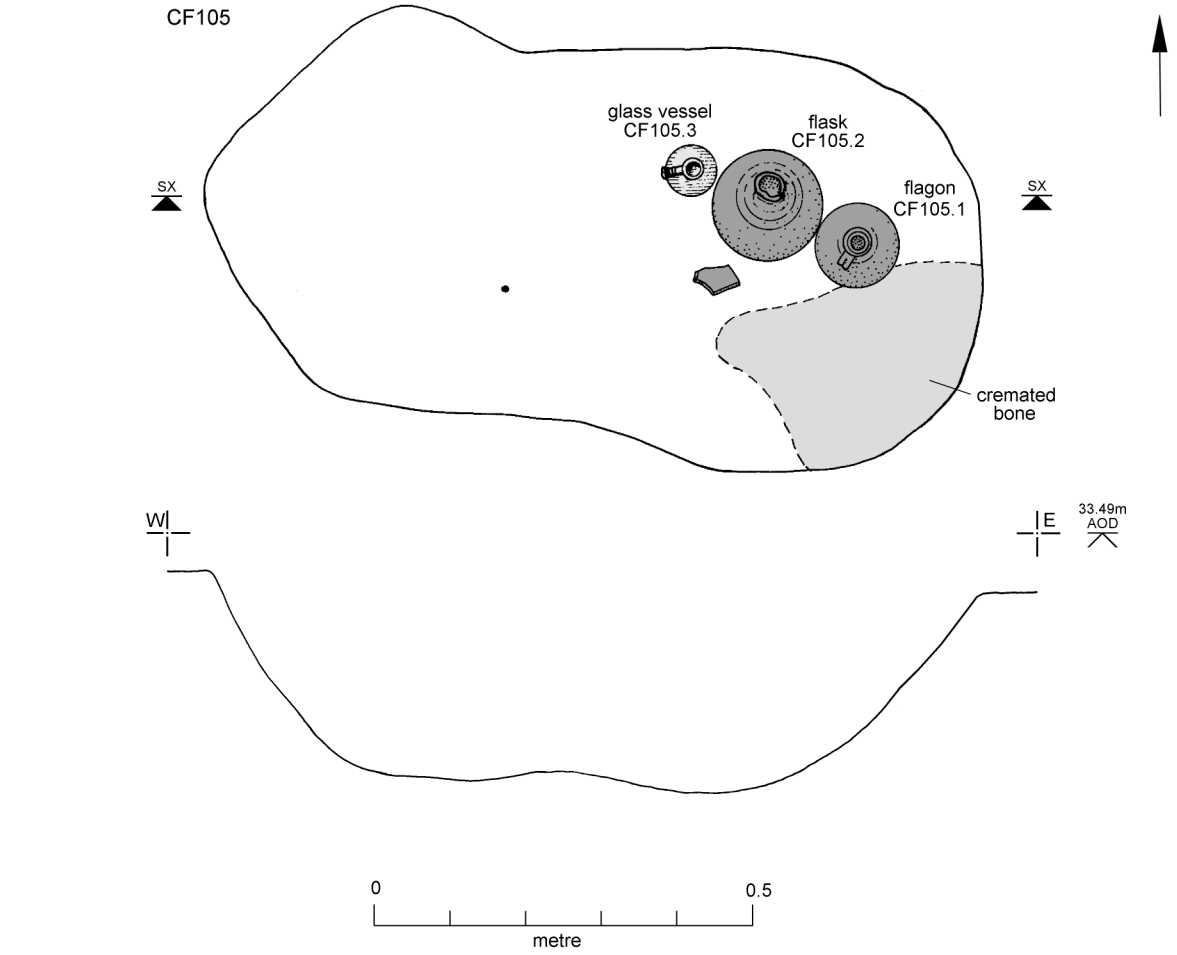
CF100

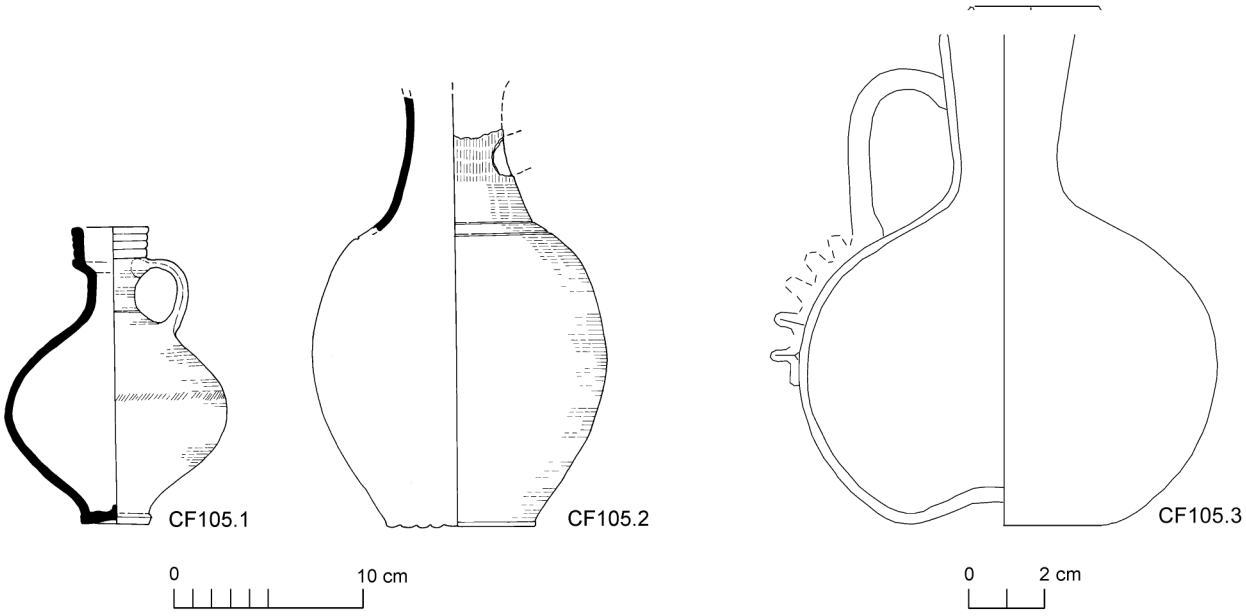

CF101
SX
beaker
CF101.1
cremated
bone
SX
NE
SW
33.53m
AOD
0
0.5
metre
CF101.1
0
10 cm

CF101

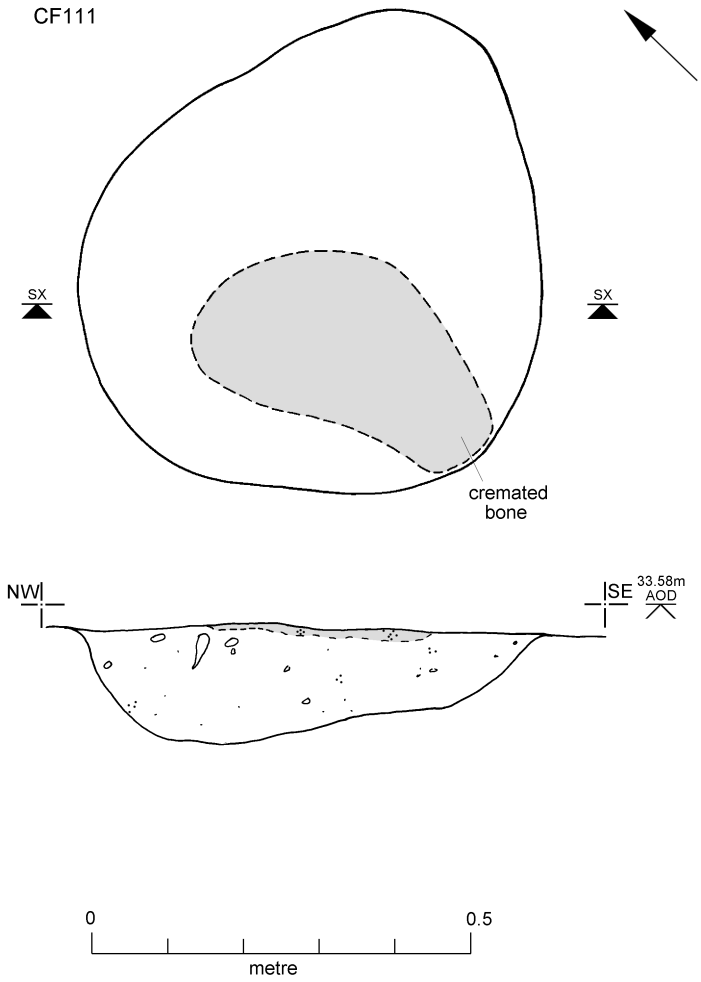

CF102
Grave 3
SX
SX
estimated coffin
outline
W
E
33.46m
AOD
0
1
metre

CF102

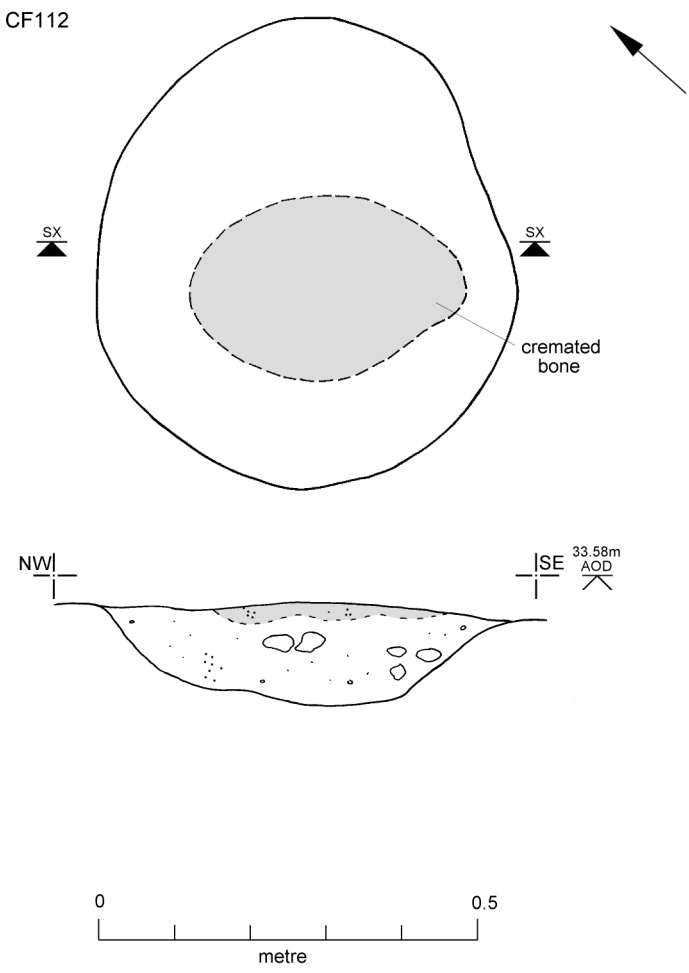

CF105
glass vessel
CF105.3
flask
CF105.2
flagon
CF105.1
SX
SX
cremated
bone
W
E
33.49m
AOD
0
0.5
metre


CF105.1
CF105.2
CF105.3
0
10 cm
0
2 cm

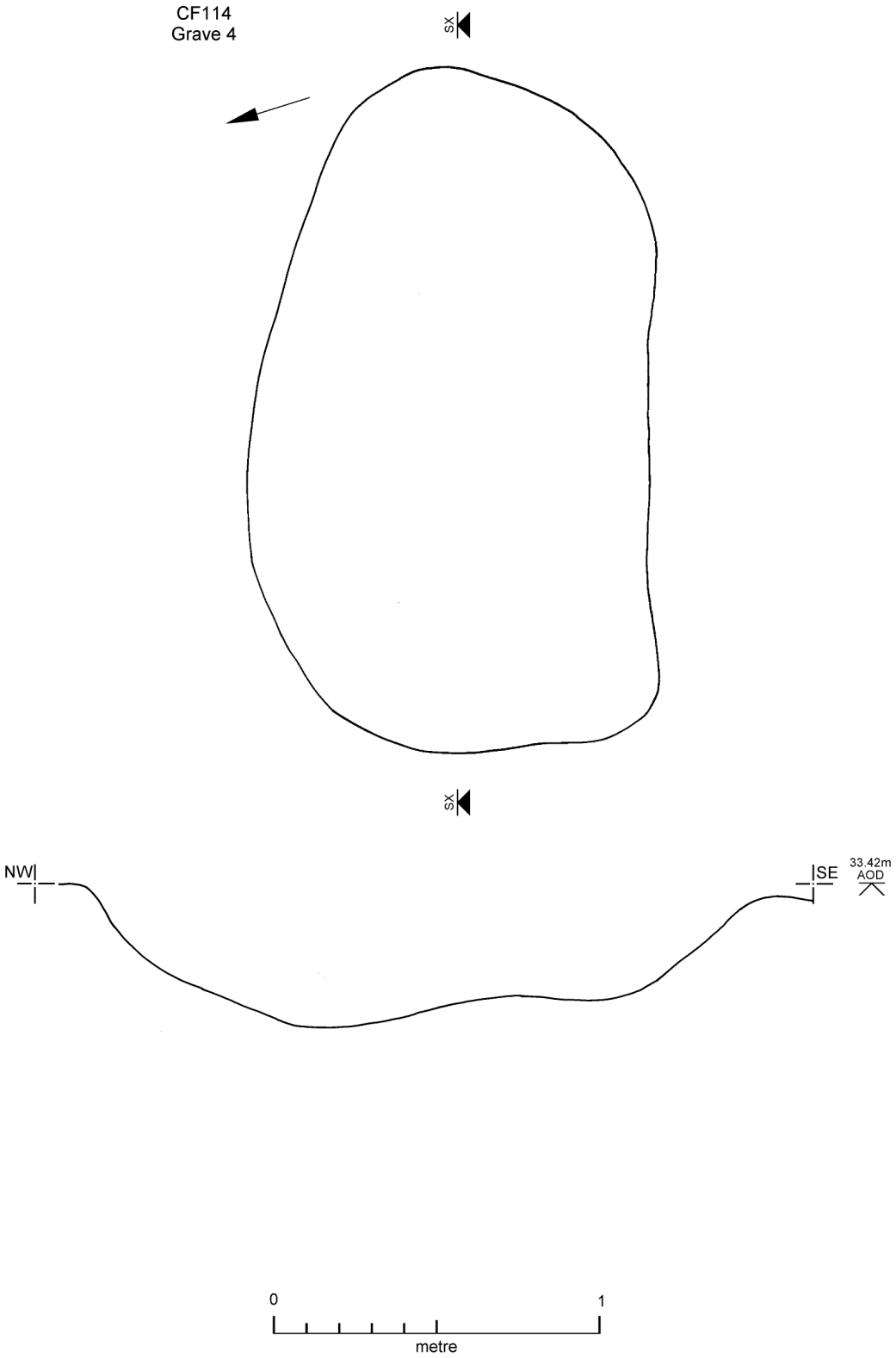
CF105



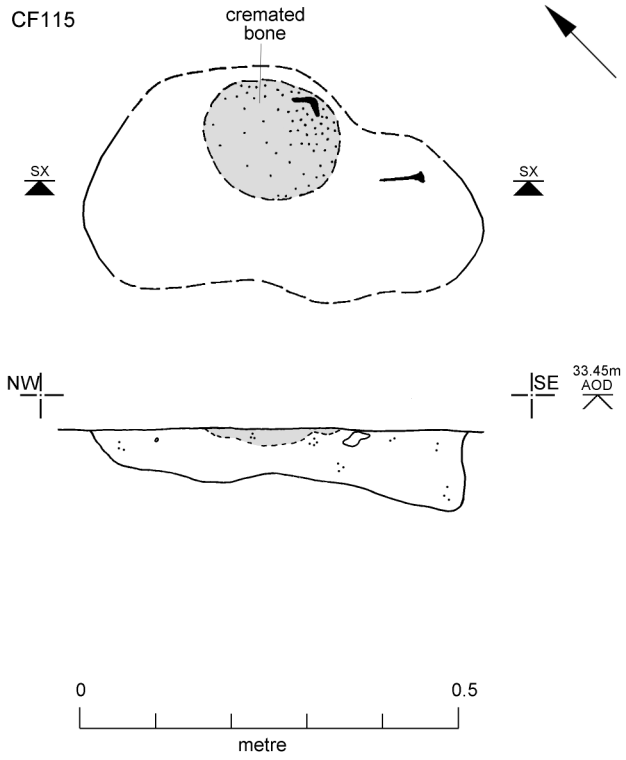
CF111



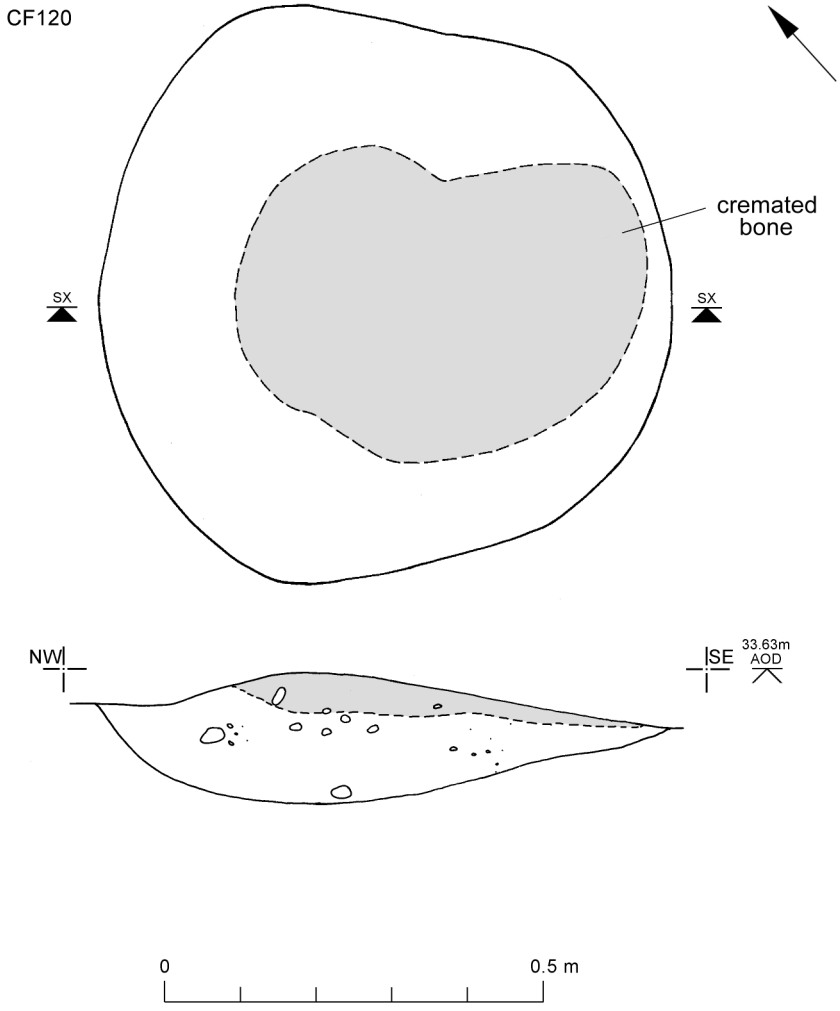
CF112



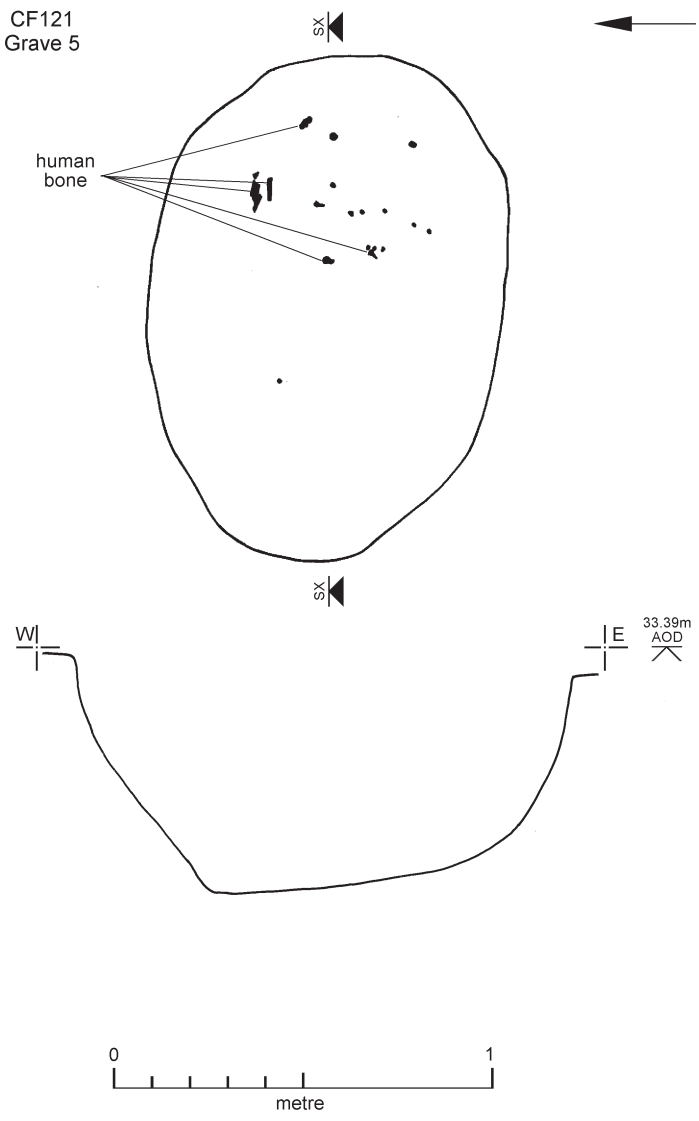
CF114



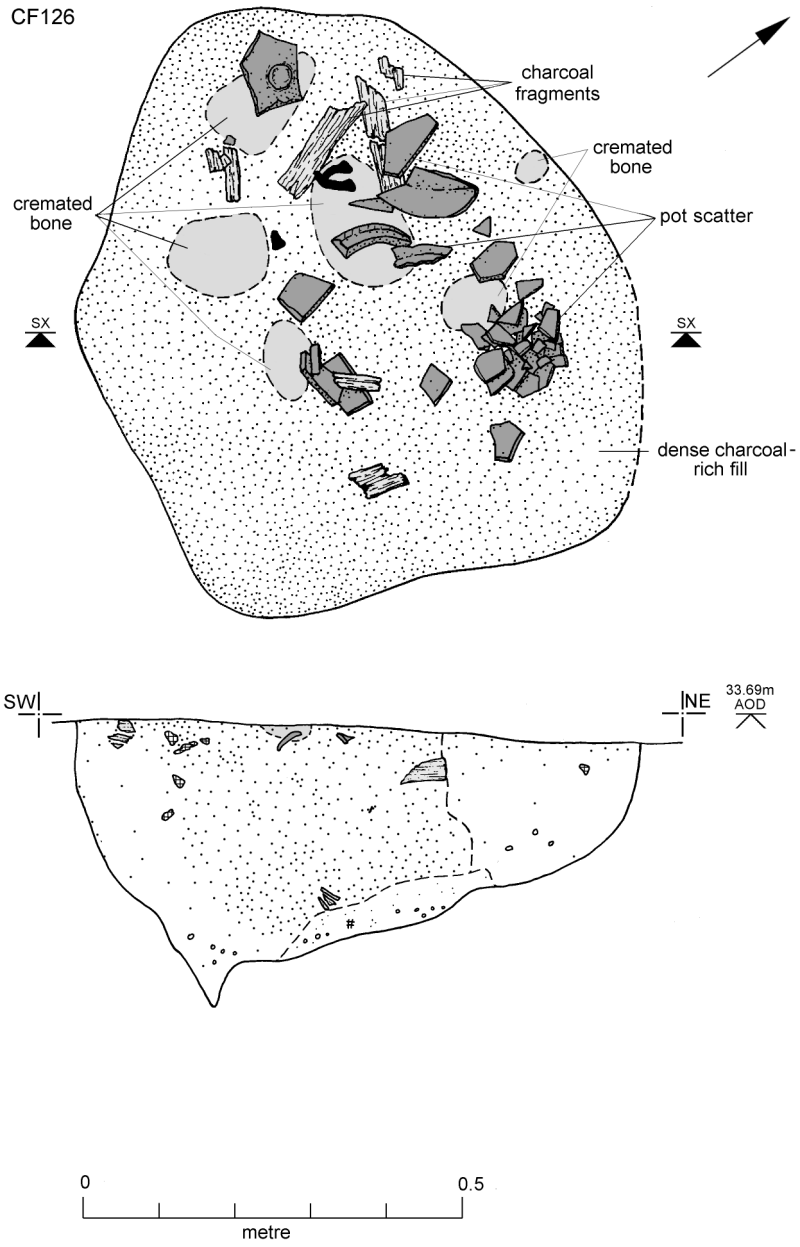
CF115



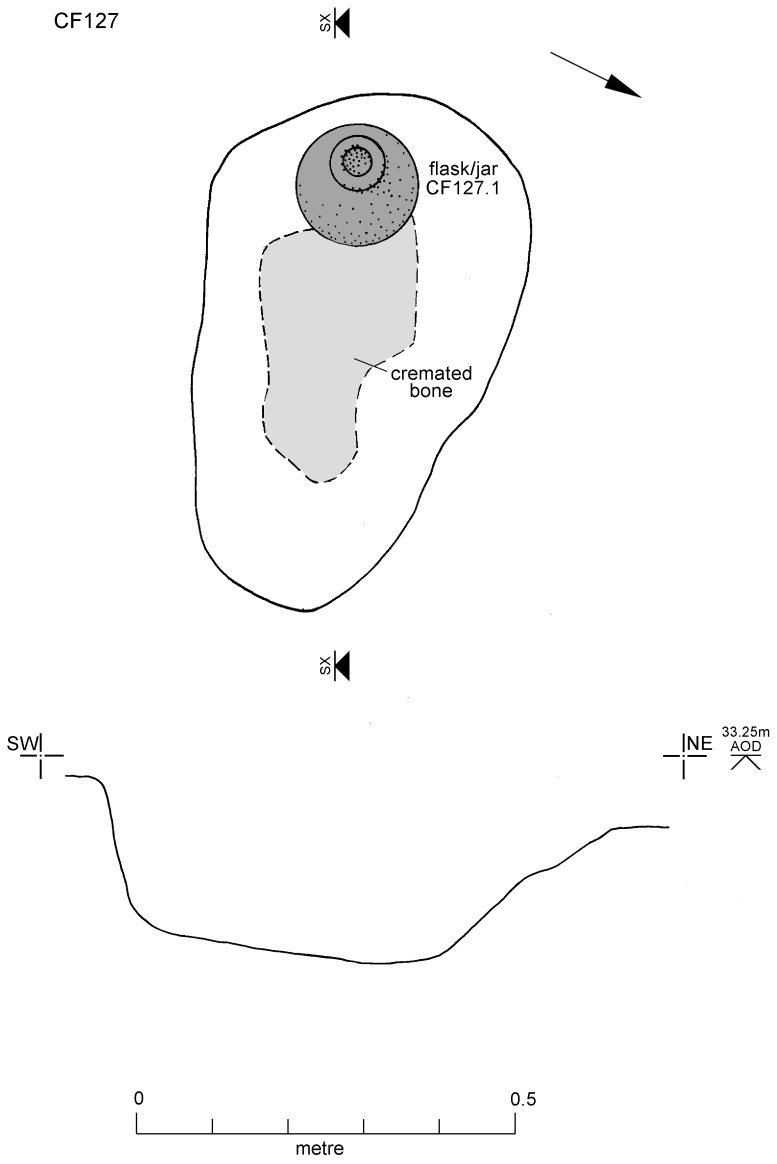
CF120

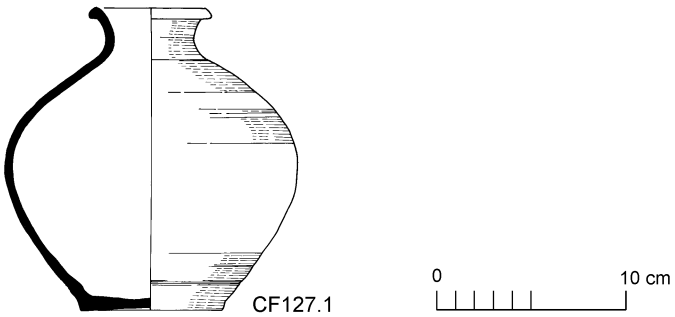


CF121

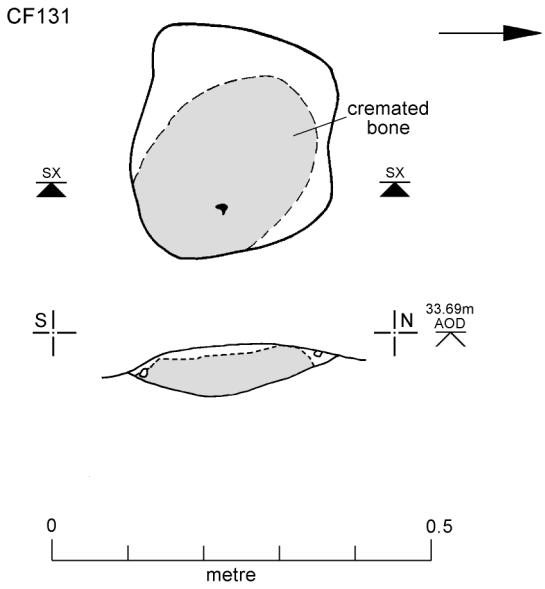

CF126
charcoal fragments
cremated bone
cremated bone
pot scatter
SX
SX
dense charcoal-rich fill
SW
NE
33.69m AOD
0
0.5
metre

CF126

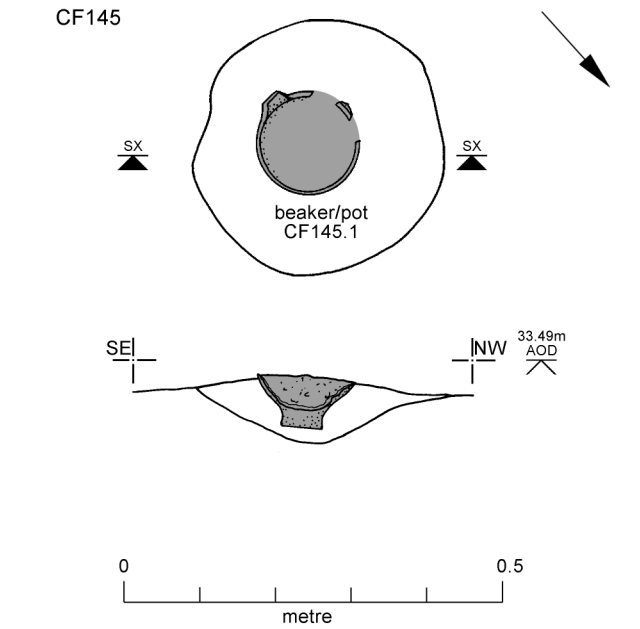

CF127
SX
flask/jar
CF127.1
cremated
bone
SX
SW
NE
33.25m
AOD
0
0.5
metre

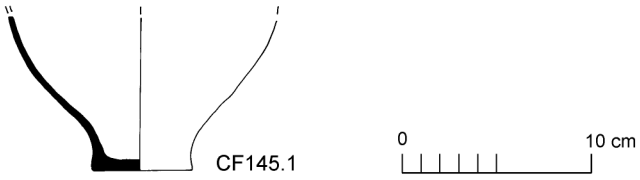

CF127.1
0
10 cm

CF127

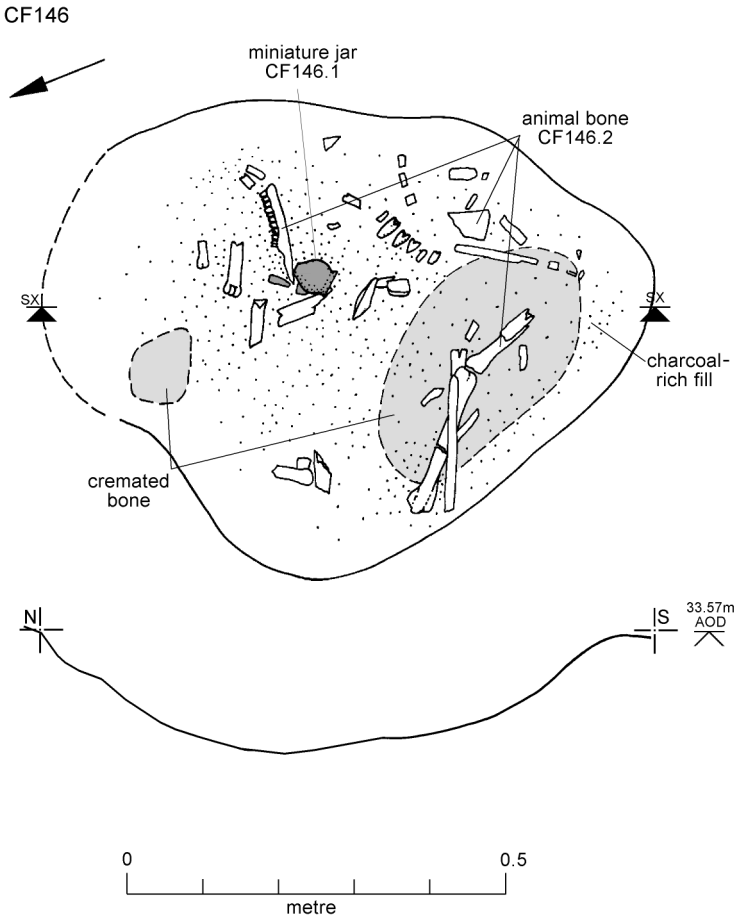


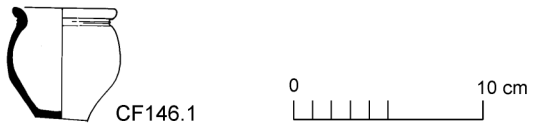
CF131


CF145
SX
SX
beaker/pot
CF145.1
SE
NW
33.49m
AOD
0
0.5
metre

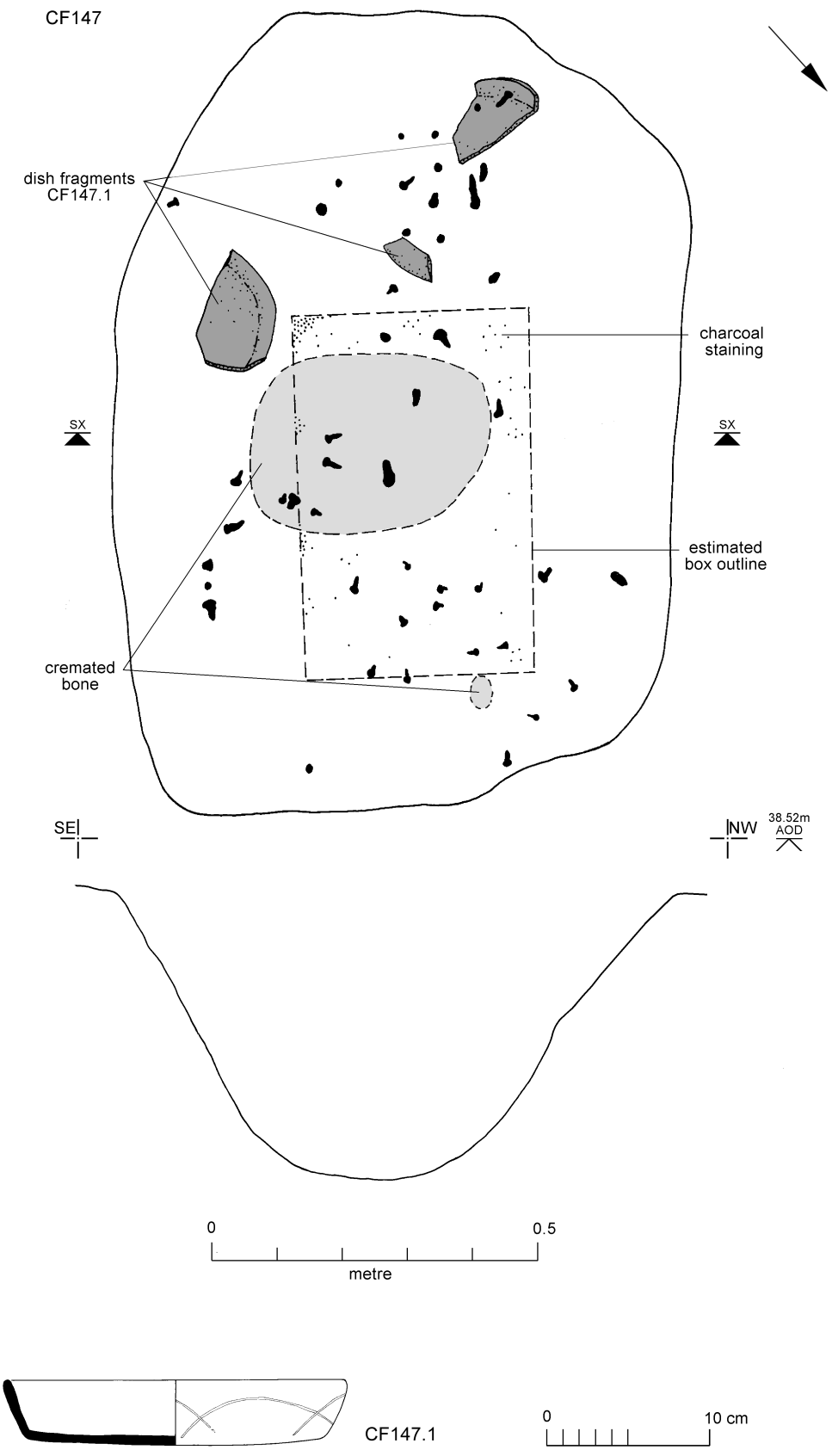

CF145.1
0
10 cm

CF145

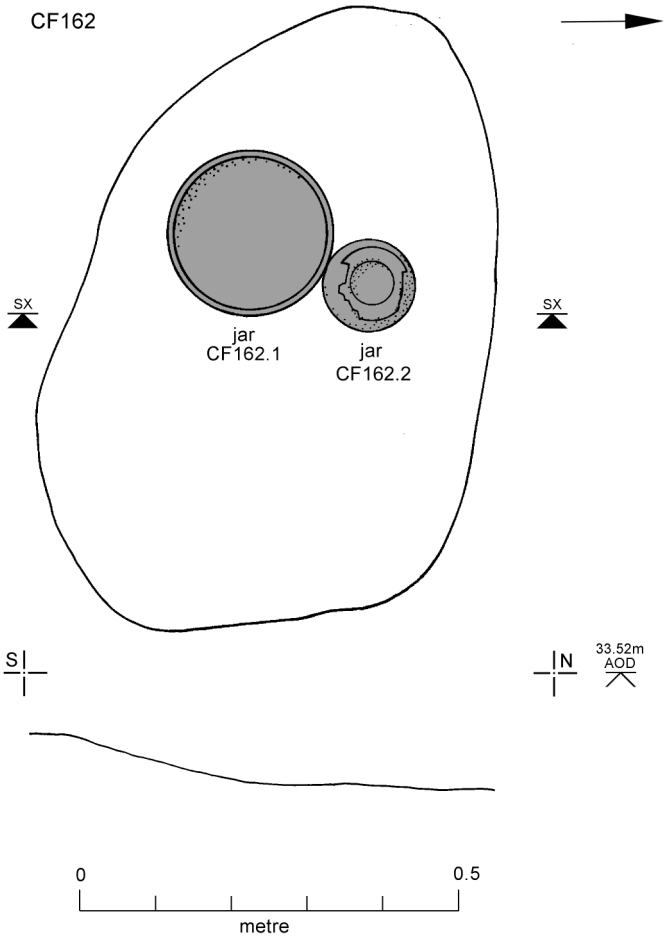

CF146
miniature jar
CF146.1
animal bone
CF146.2
SX
SX
charcoal-
rich fill
cremated
bone
N
S
33.57m
AOD
0
0.5
metre

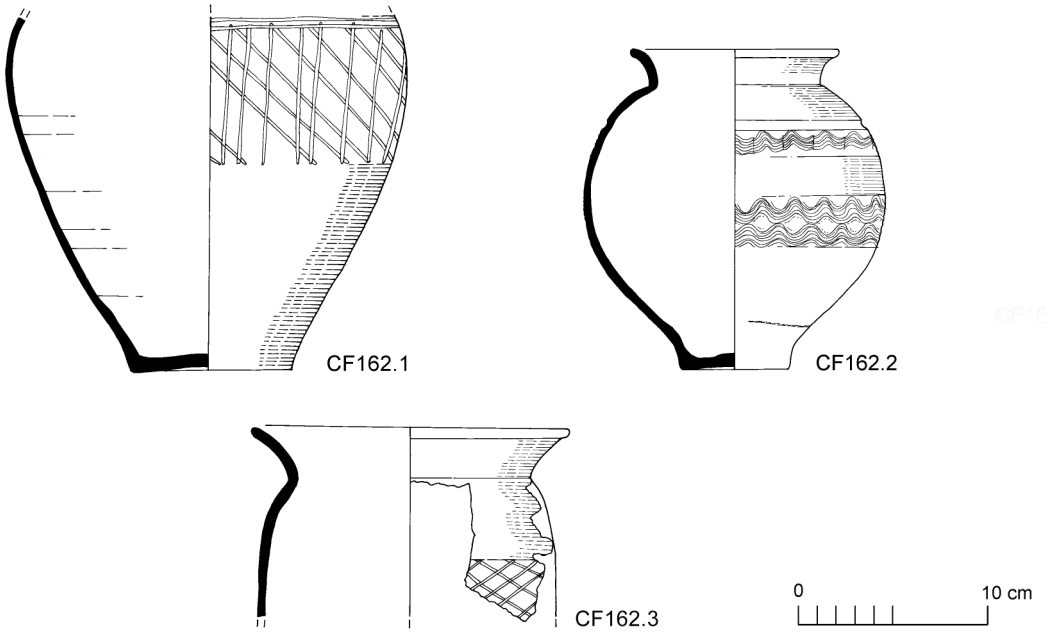

CF146.1
0
10 cm

CF146

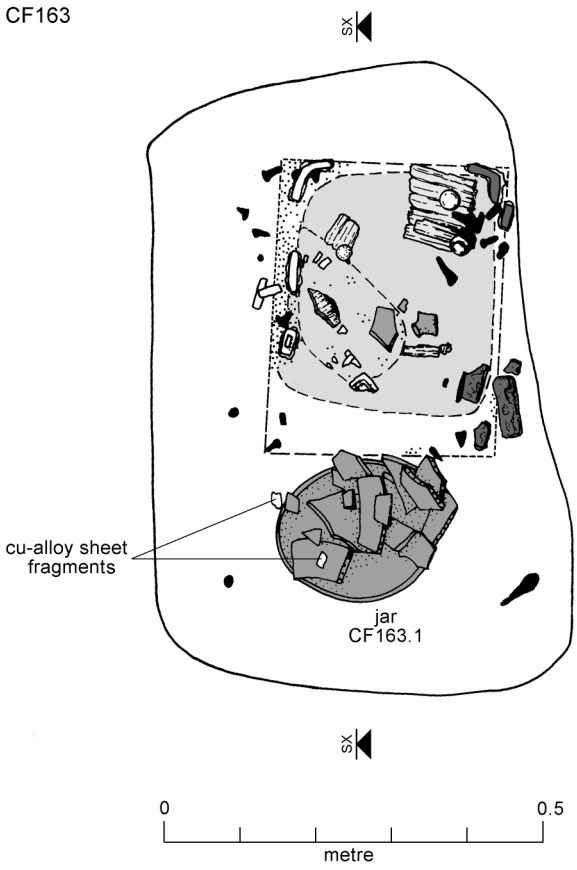

CF147
dish fragments
CF147.1
charcoal
staining
SX
SX
estimated
box outline
cremated
bone
SE
NW
38.52m
AOD
0
0.5
metre
CF147.1
0
10 cm

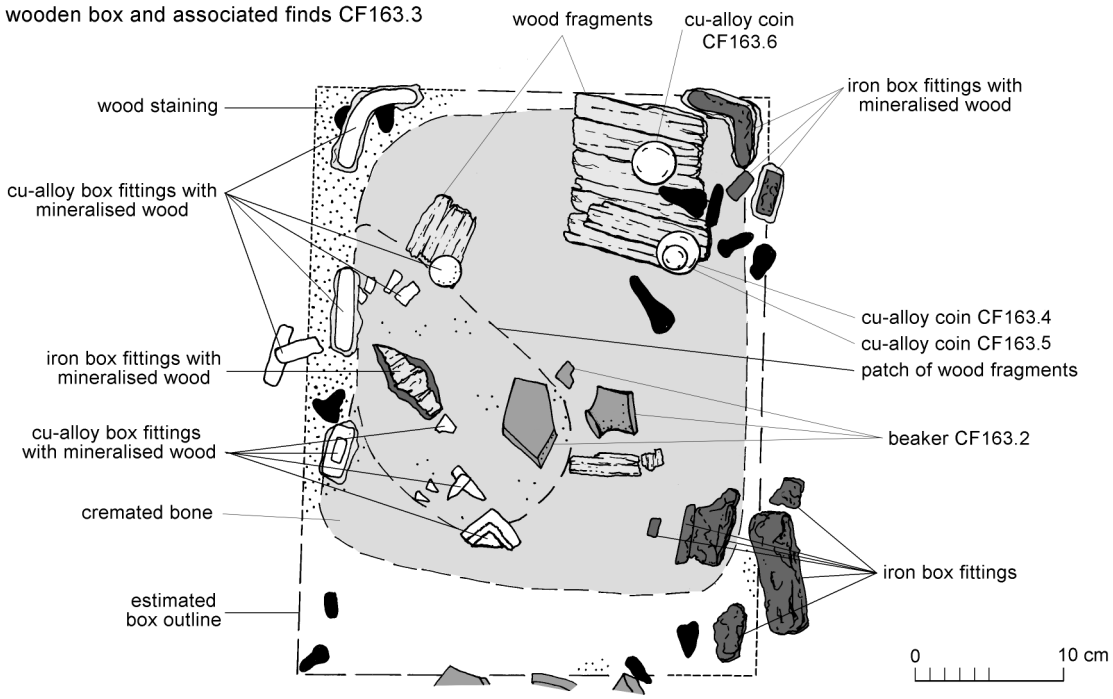
CF147


CF162
SX
SX
jar
CF162.1
jar
CF162.2
S
N
33.52m
AOD
0
0.5
metre

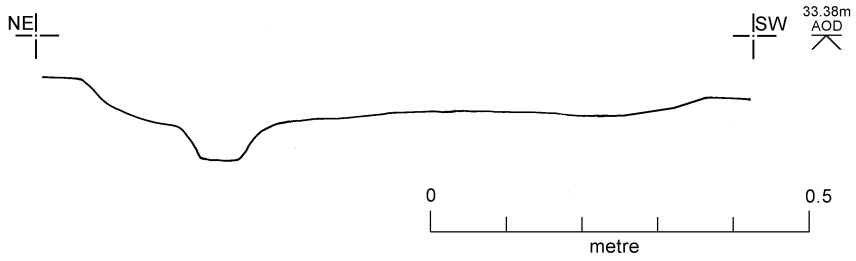

CF162.1
CF162.2
CF162.3
0
10 cm

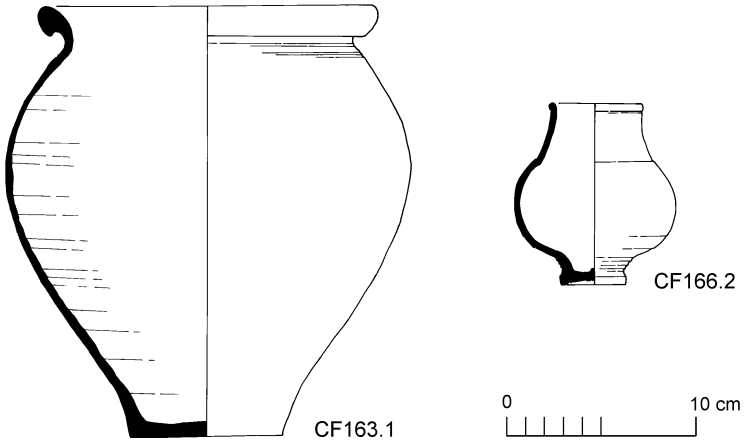
CF162

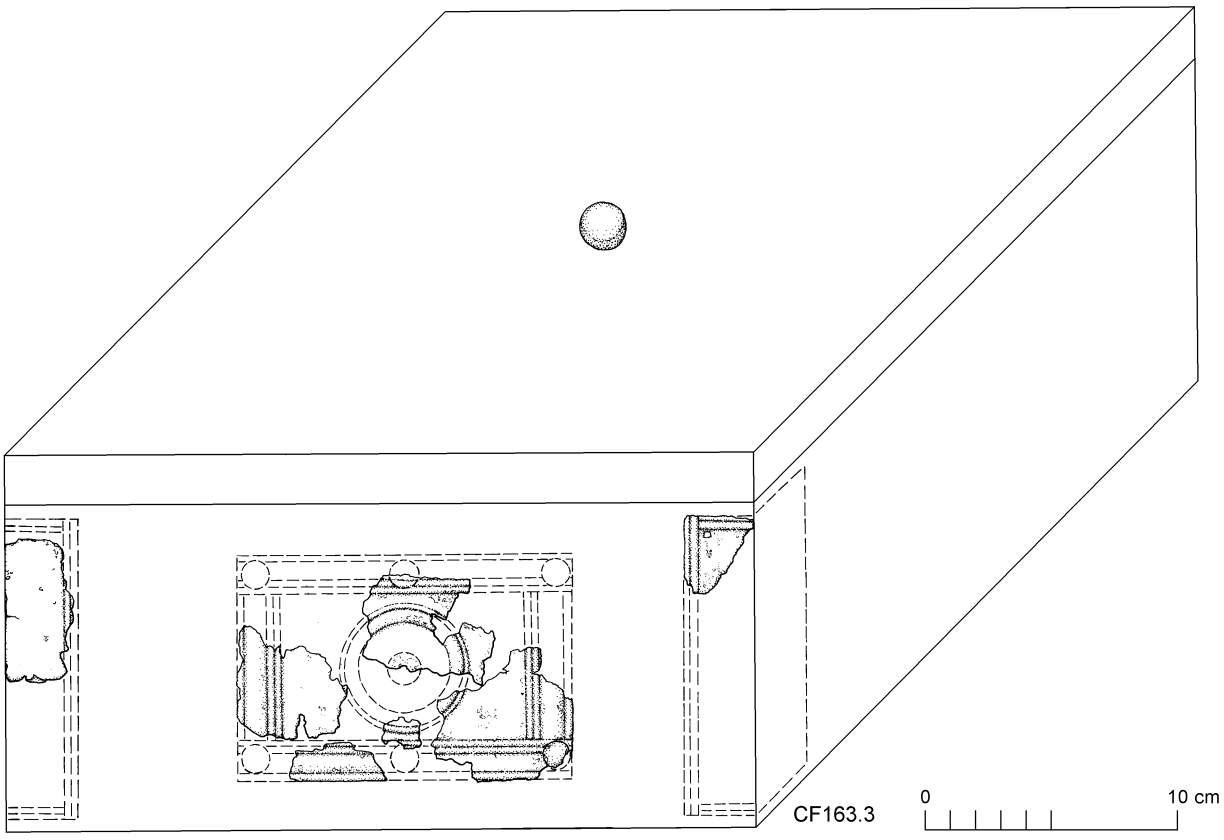

CF163
SX
SX
cu-alloy sheet fragments
jar CF163.1
0
0.5
metre


wooden box and associated finds CF163.3
wood fragments
cu-alloy coin CF163.6
iron box fittings with mineralised wood
wood staining
cu-alloy box fittings with mineralised wood
cu-alloy coin CF163.4
cu-alloy coin CF163.5
patch of wood fragments
iron box fittings with mineralised wood
cu-alloy box fittings with mineralised wood
beaker CF163.2
cremated bone
iron box fittings
estimated box outline
0
10 cm

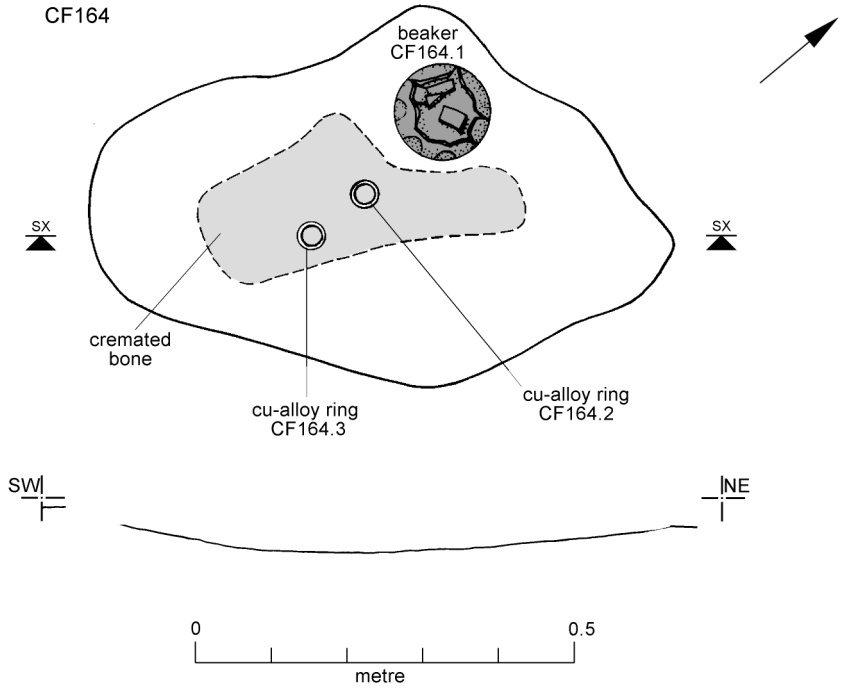
CF163

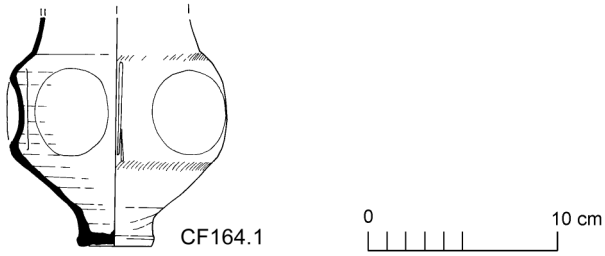


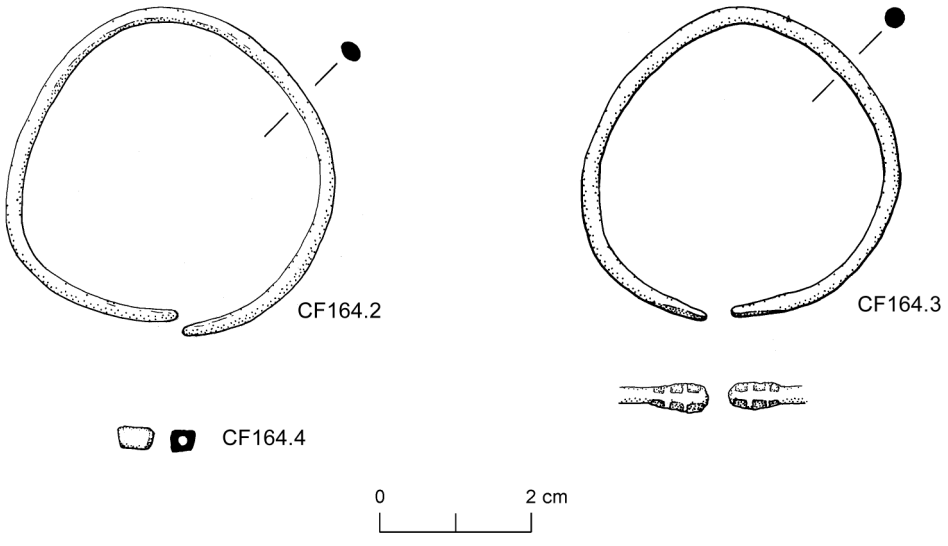




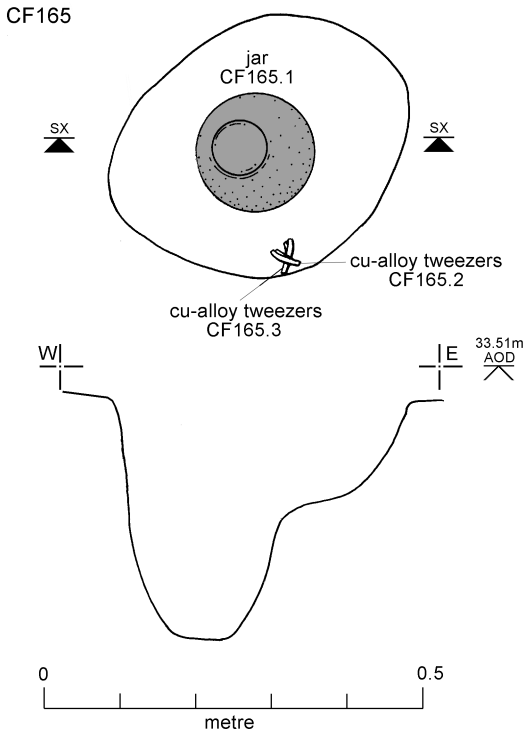
CF163

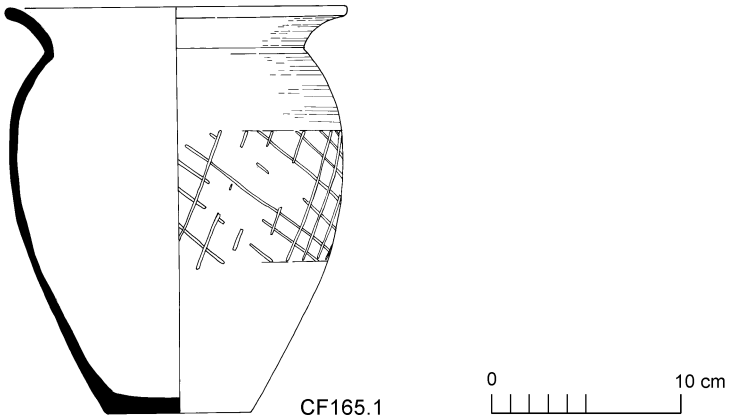

CF164
beaker
CF164.1
SX
SX
cremated
bone
cu-alloy ring
CF164.3
cu-alloy ring
CF164.2
SW
NE
0
0.5
metre

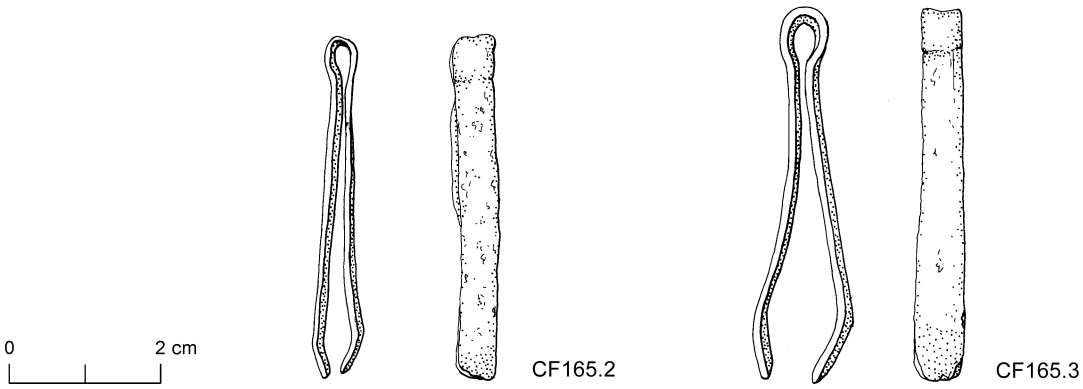

CF164.1
0
10 cm


CF164.2
CF164.3
CF164.4
0
2 cm

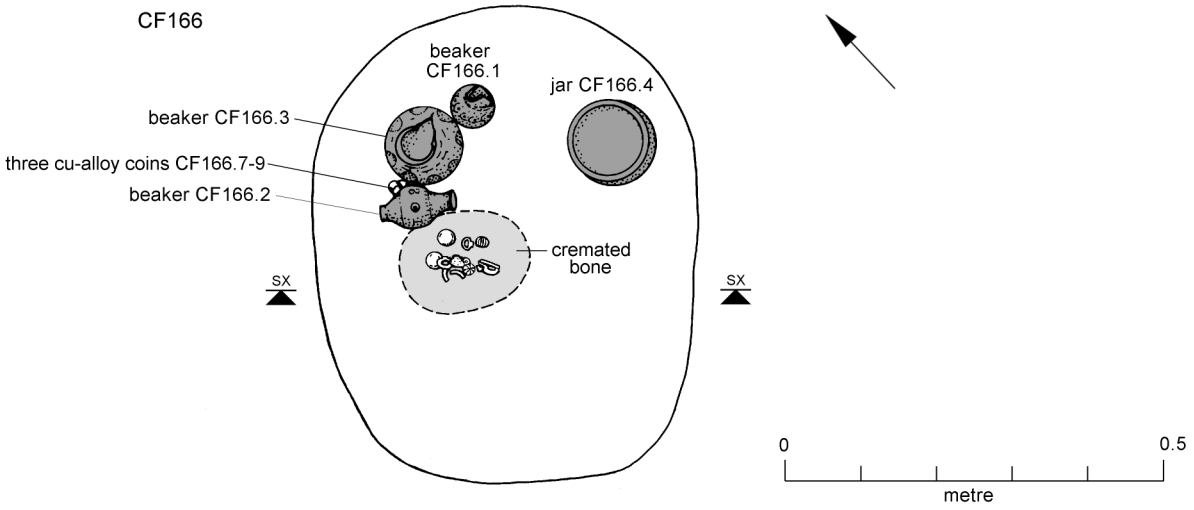
CF164

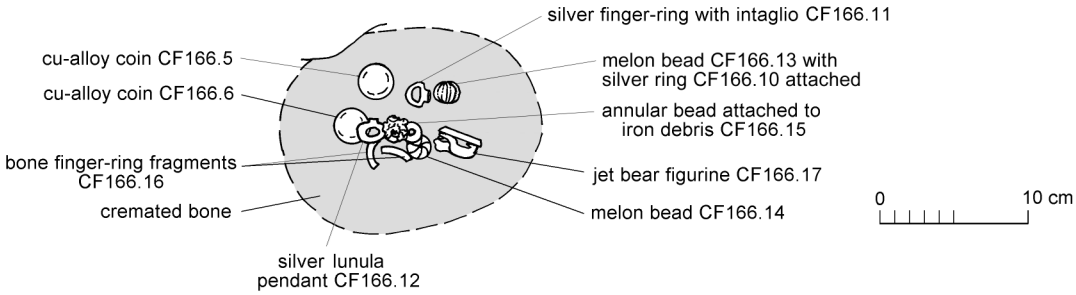

CF165
jar
CF165.1
SX
SX
cu-alloy tweezers
CF165.2
cu-alloy tweezers
CF165.3
W
E
33.51m
AOD
0
0.5
metre

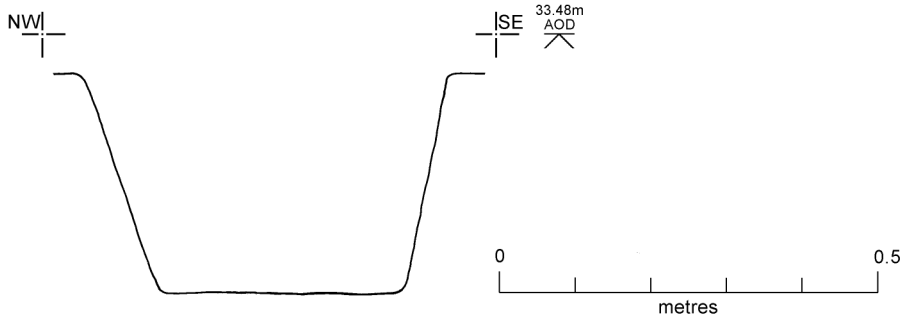

CF165.1
0
10 cm

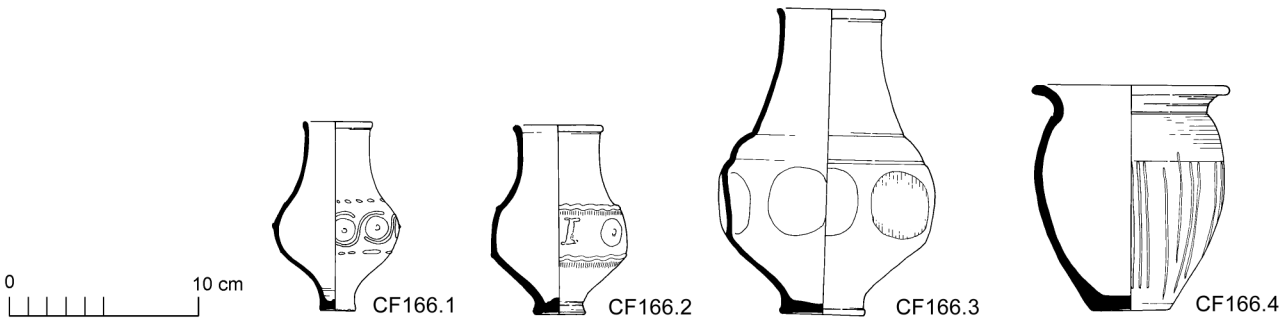

0
2 cm
CF165.2
CF165.3

CF165

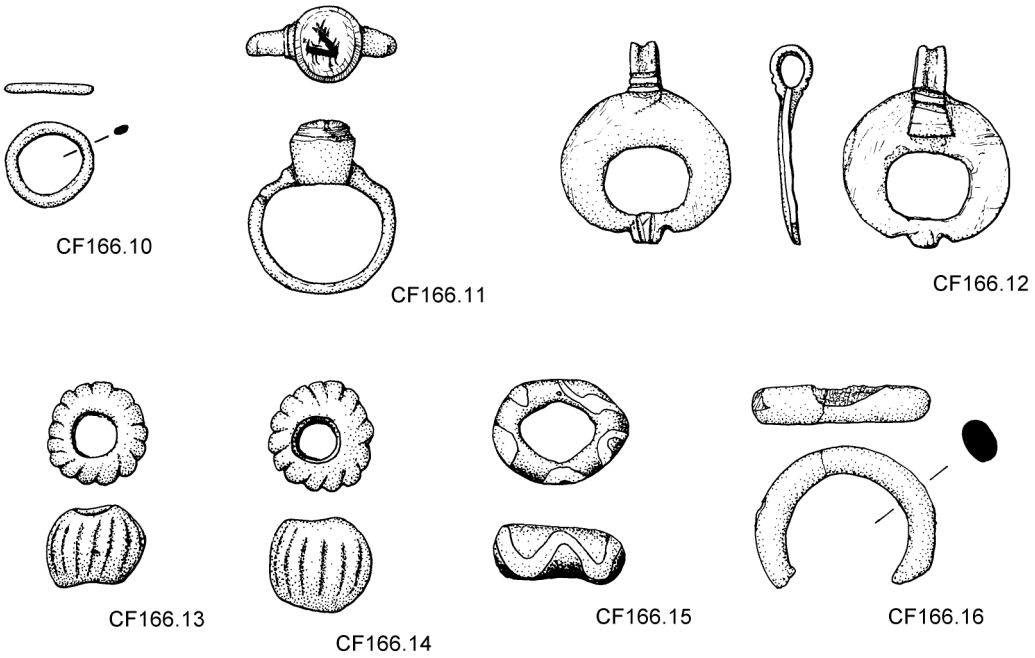

CF166
beaker CF166.1
jar CF166.4
beaker CF166.3
three cu-alloy coins CF166.7-9
beaker CF166.2
cremated bone
SX
SX
0
0.5
metre


silver finger-ring with intaglio CF166.11
cu-alloy coin CF166.5
melon bead CF166.13 with silver ring CF166.10 attached
cu-alloy coin CF166.6
annular bead attached to iron debris CF166.15
bone finger-ring fragments CF166.16
jet bear figurine CF166.17
cremated bone
melon bead CF166.14
silver lunula pendant CF166.12
0
10 cm

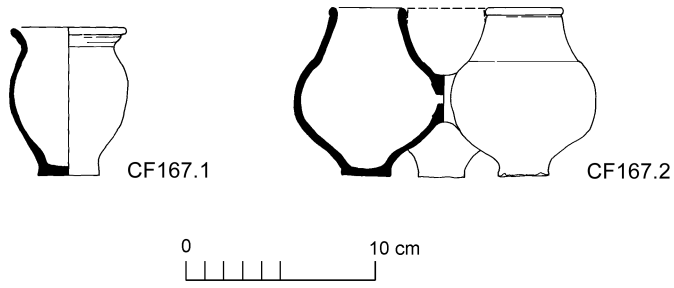

NW
SE
33.48m AOD
0
0.5
metres


0
10 cm
CF166.1
CF166.2
CF166.3
CF166.4

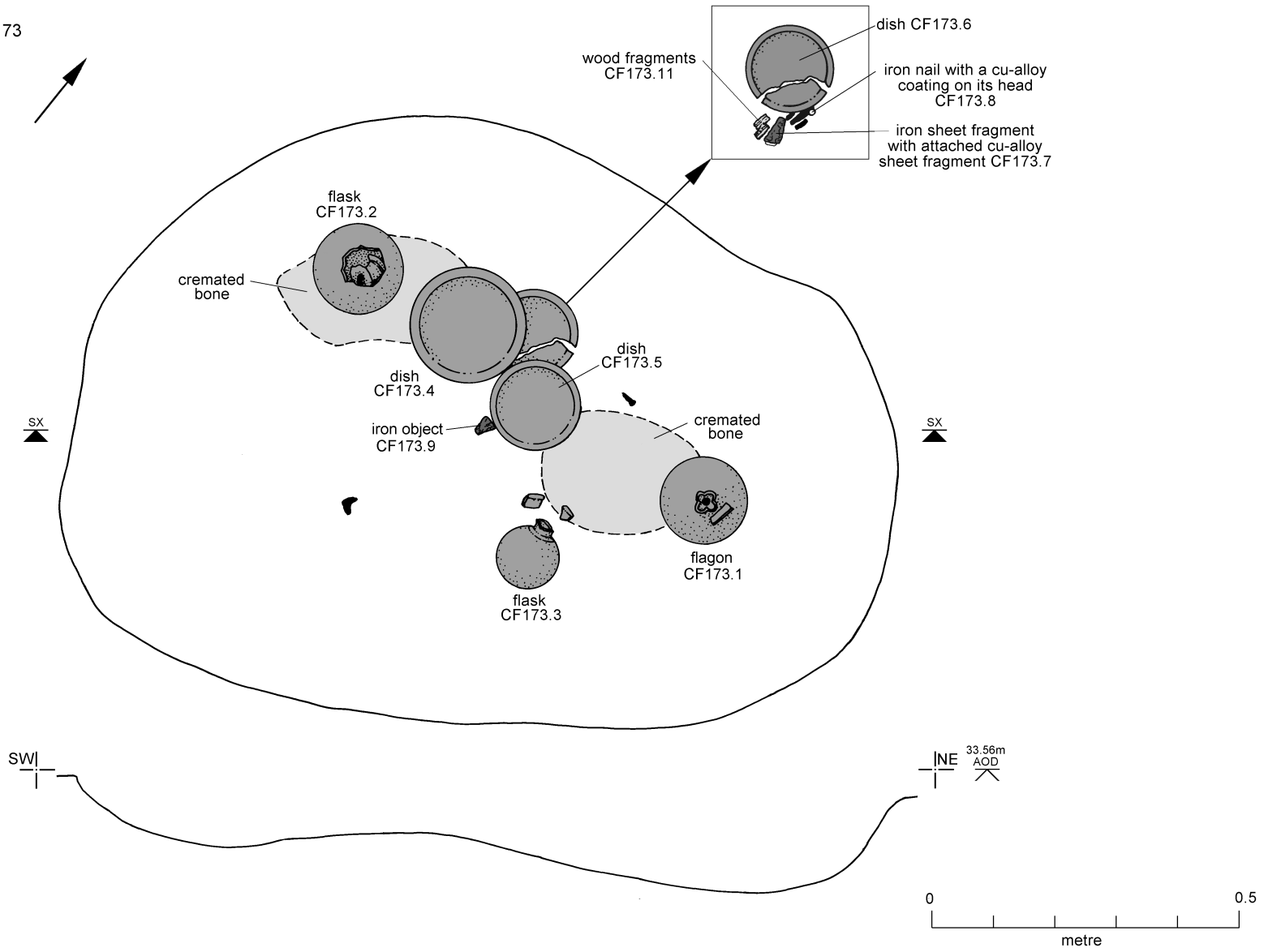
CF166


CF166.10
CF166.11
CF166.12
CF166.13
CF166.14
CF166.15
CF166.16
CF166.17
0
2 cm

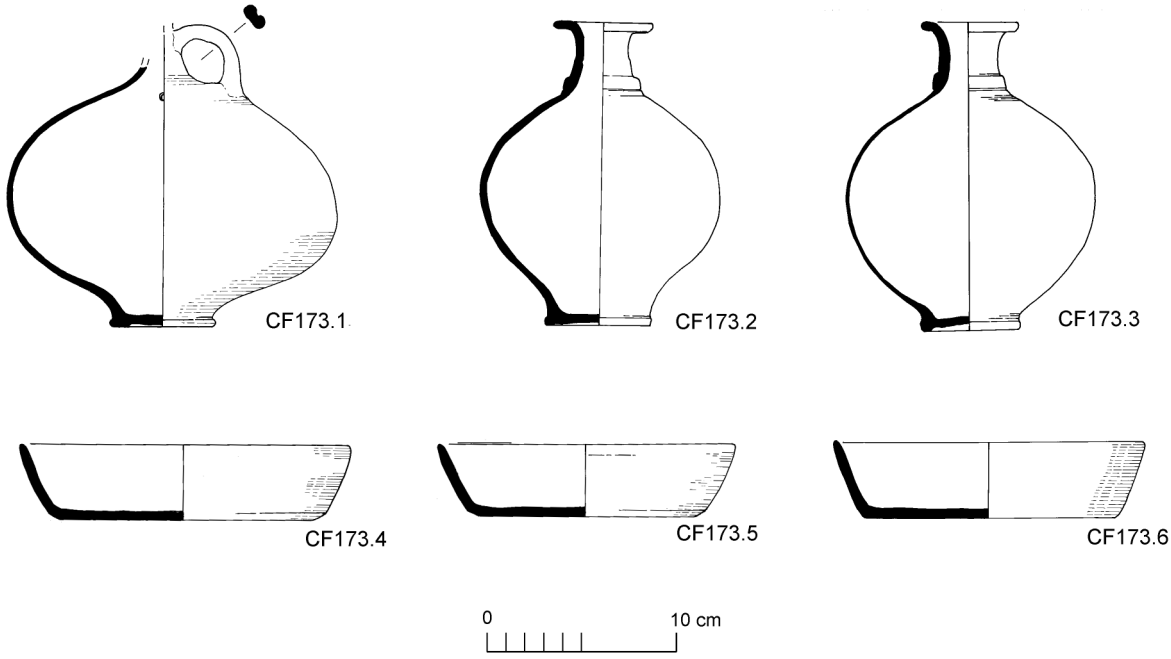
CF166

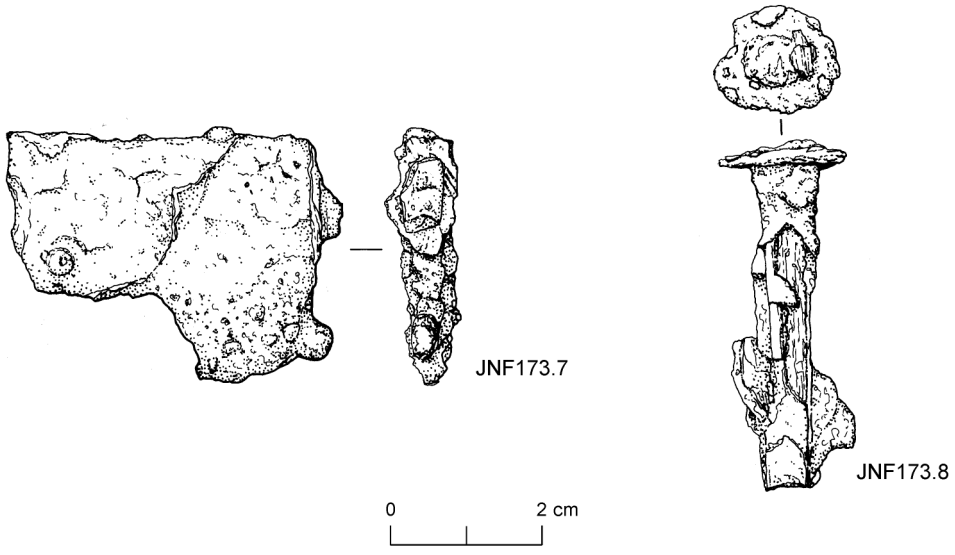


CF167

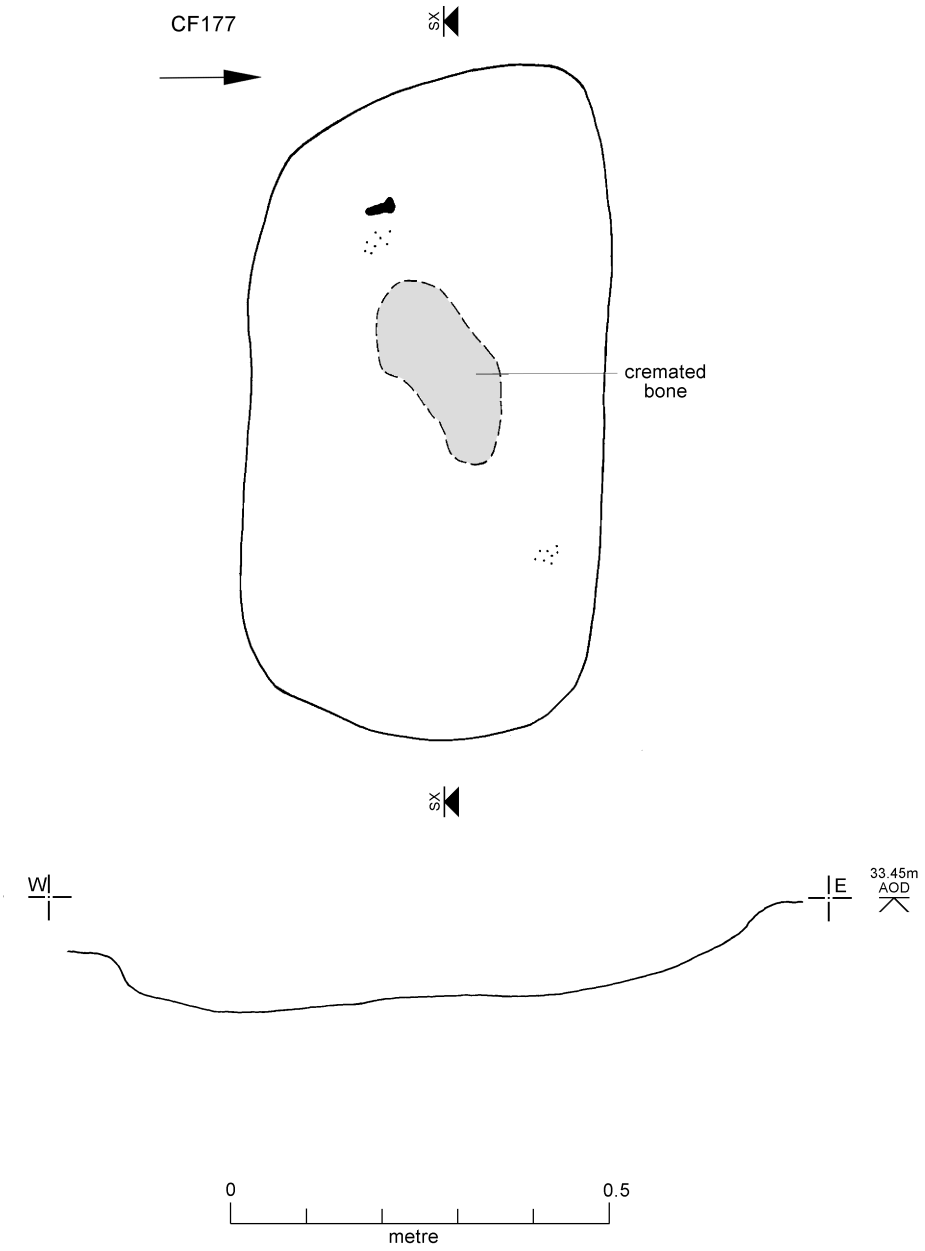

CF173
wood fragments CF173.11
dish CF173.6
iron nail with a cu-alloy coating on its head CF173.8
iron sheet fragment with attached cu-alloy sheet fragment CF173.7
flask CF173.2
cremated bone
dish CF173.4
dish CF173.5
iron object CF173.9
cremated bone
flagon CF173.1
flask CF173.3
SX
SX
SW
NE
33.56m AOD
0
0.5
metre

CF173


CF173.1
CF173.2
CF173.3
CF173.4
CF173.5
CF173.6
0
10 cm

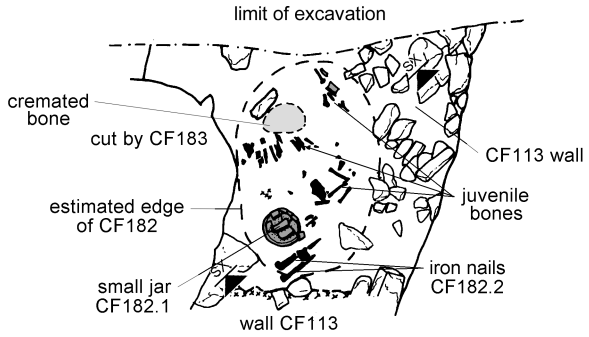

JNF173.7
JNF173.8
0
2 cm

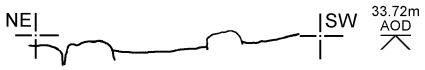
CF173

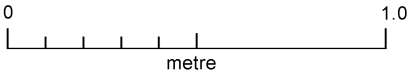


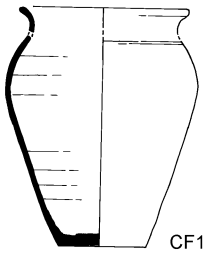
CF177

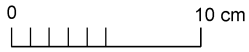
CF182
Grave 9



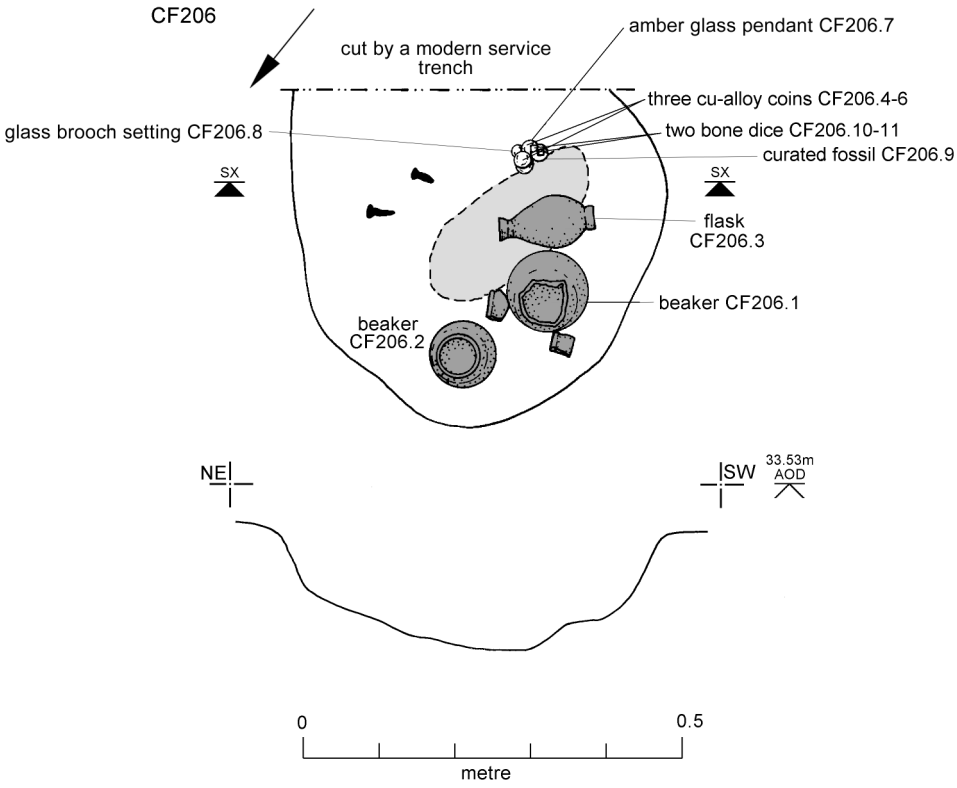


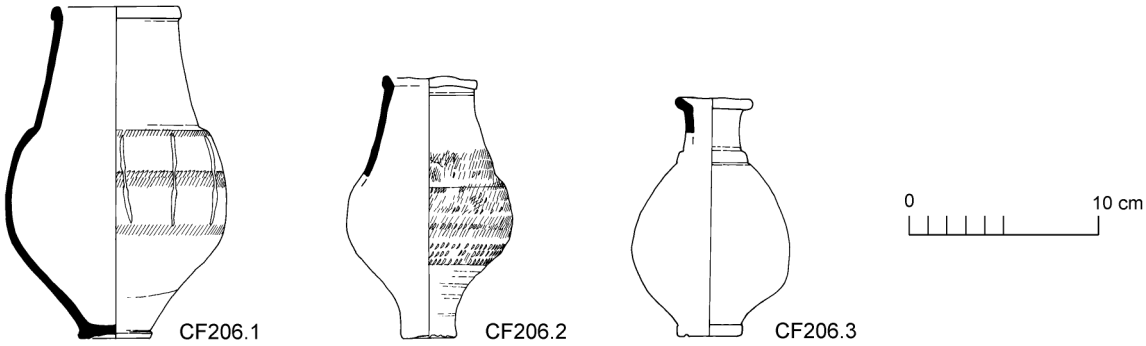


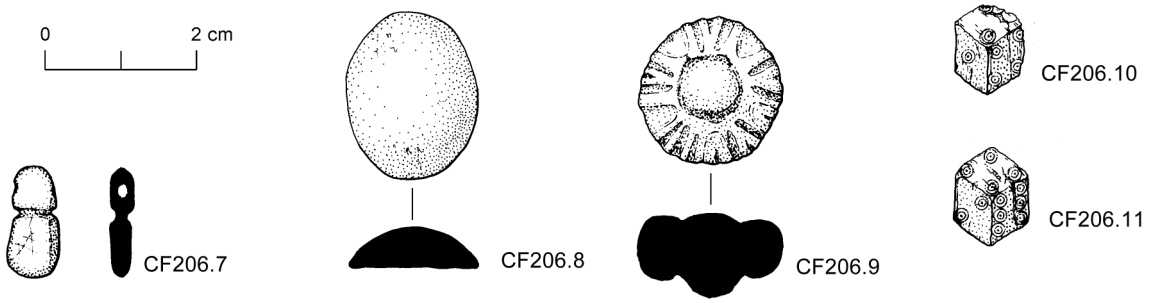




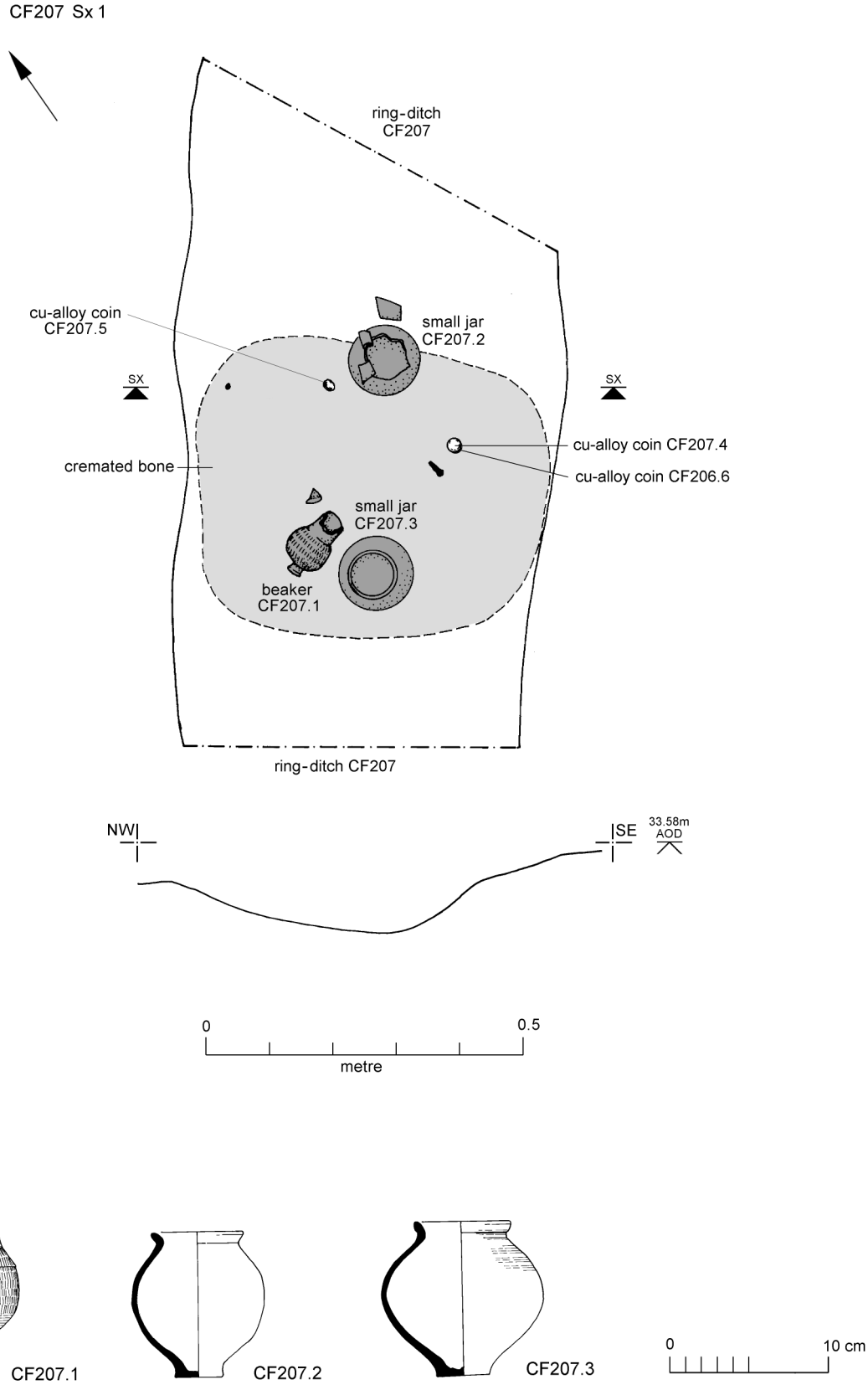
CF182


CF206
cut by a modern service trench
amber glass pendant CF206.7
three cu-alloy coins CF206.4-6
two bone dice CF206.10-11
curated fossil CF206.9
glass brooch setting CF206.8
SX
SX
flask CF206.3
beaker CF206.1
beaker CF206.2
NE
SW
33.53m AOD
0
0.5
metre

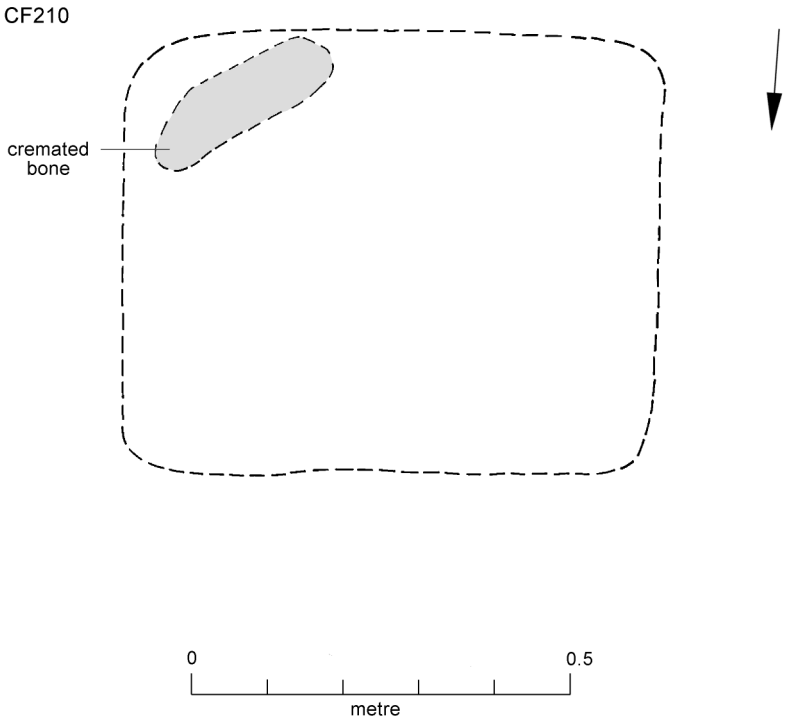

CF206.1
CF206.2
CF206.3
0
10 cm


0
2 cm
CF206.7
CF206.8
CF206.9
CF206.10
CF206.11

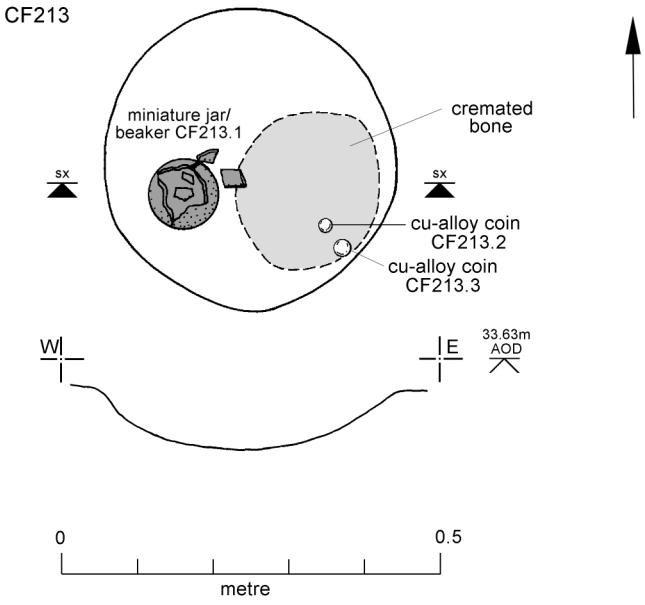
CF206

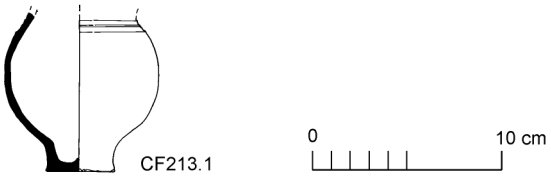

CF207 Sx 1
ring-ditch
CF207
cu-alloy coin
CF207.5
small jar
CF207.2
SX
SX
cu-alloy coin CF207.4
cremated bone
cu-alloy coin CF206.6
small jar
CF207.3
beaker
CF207.1
ring-ditch CF207
NW
SE
33.58m
AOD
0
0.5
metre
CF207.1
CF207.2
CF207.3
0
10 cm

CF207

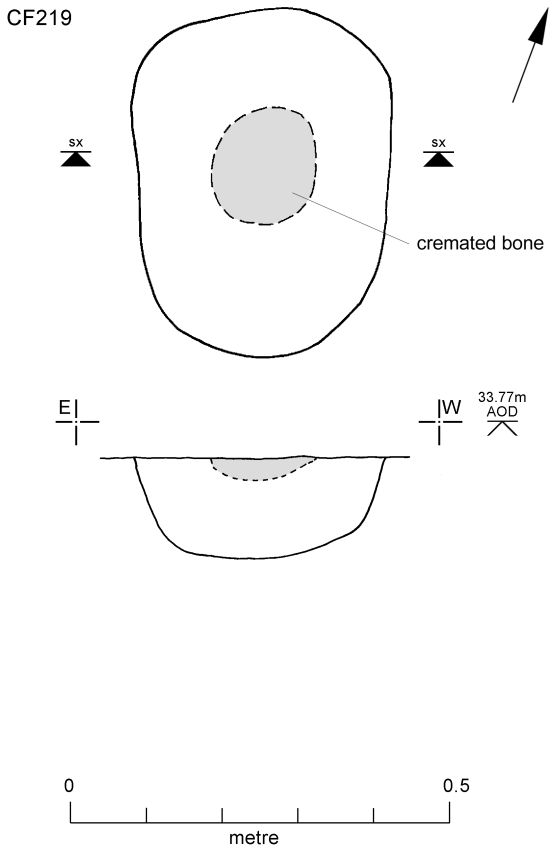


CF210

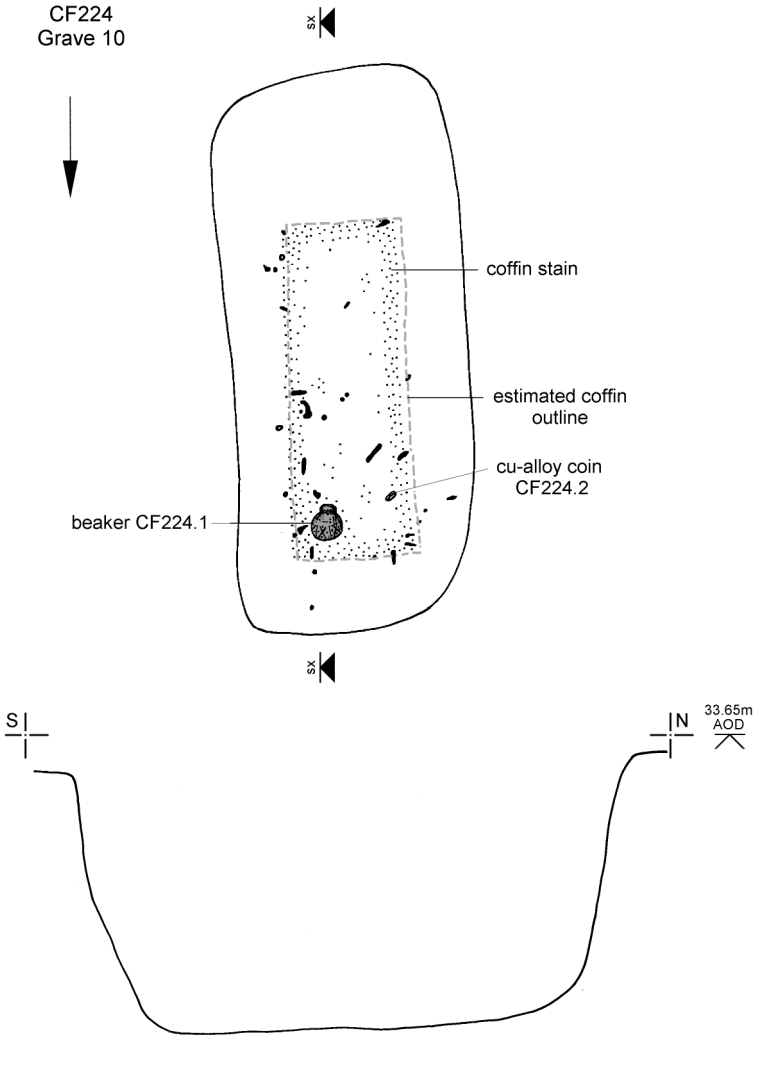

CF213
miniature jar/
beaker CF213.1
cremated
bone
sx
sx
cu-alloy coin
CF213.2
cu-alloy coin
CF213.3
W
E
33.63m
AOD
0
0.5
metre

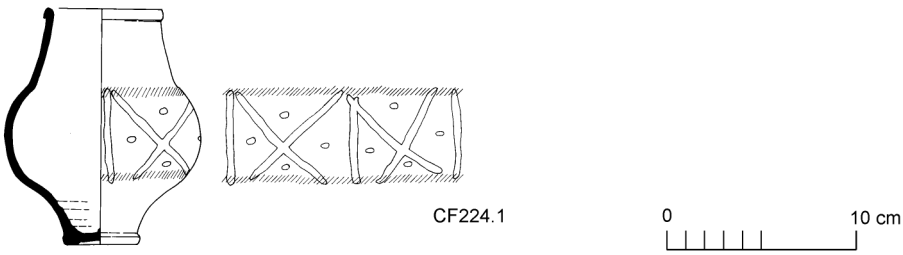

CF213.1
0
10 cm

CF213

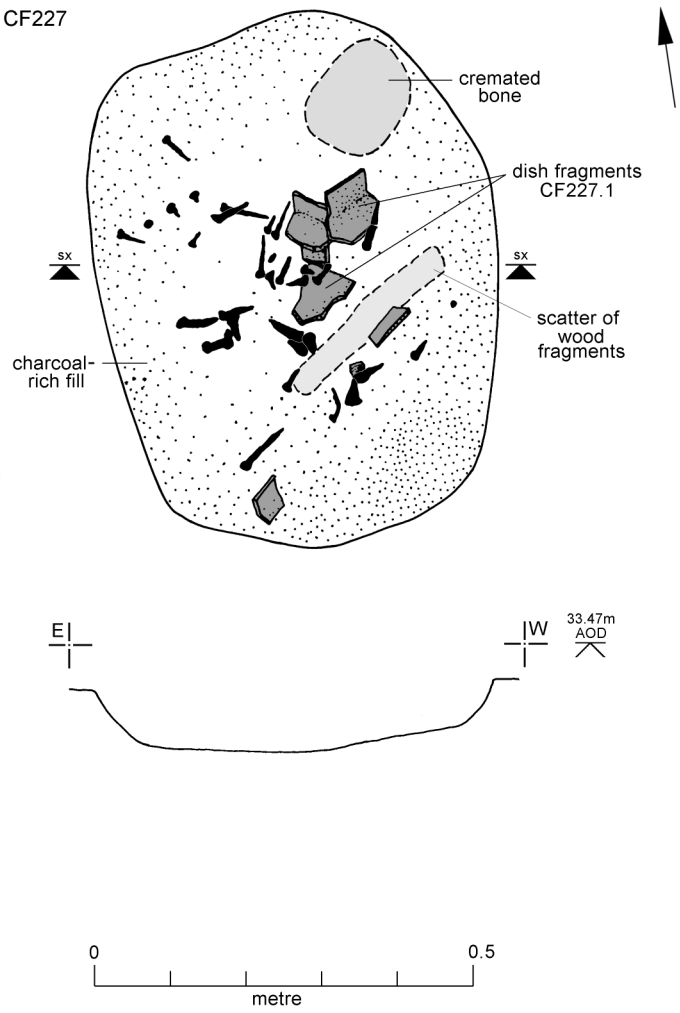


CF219

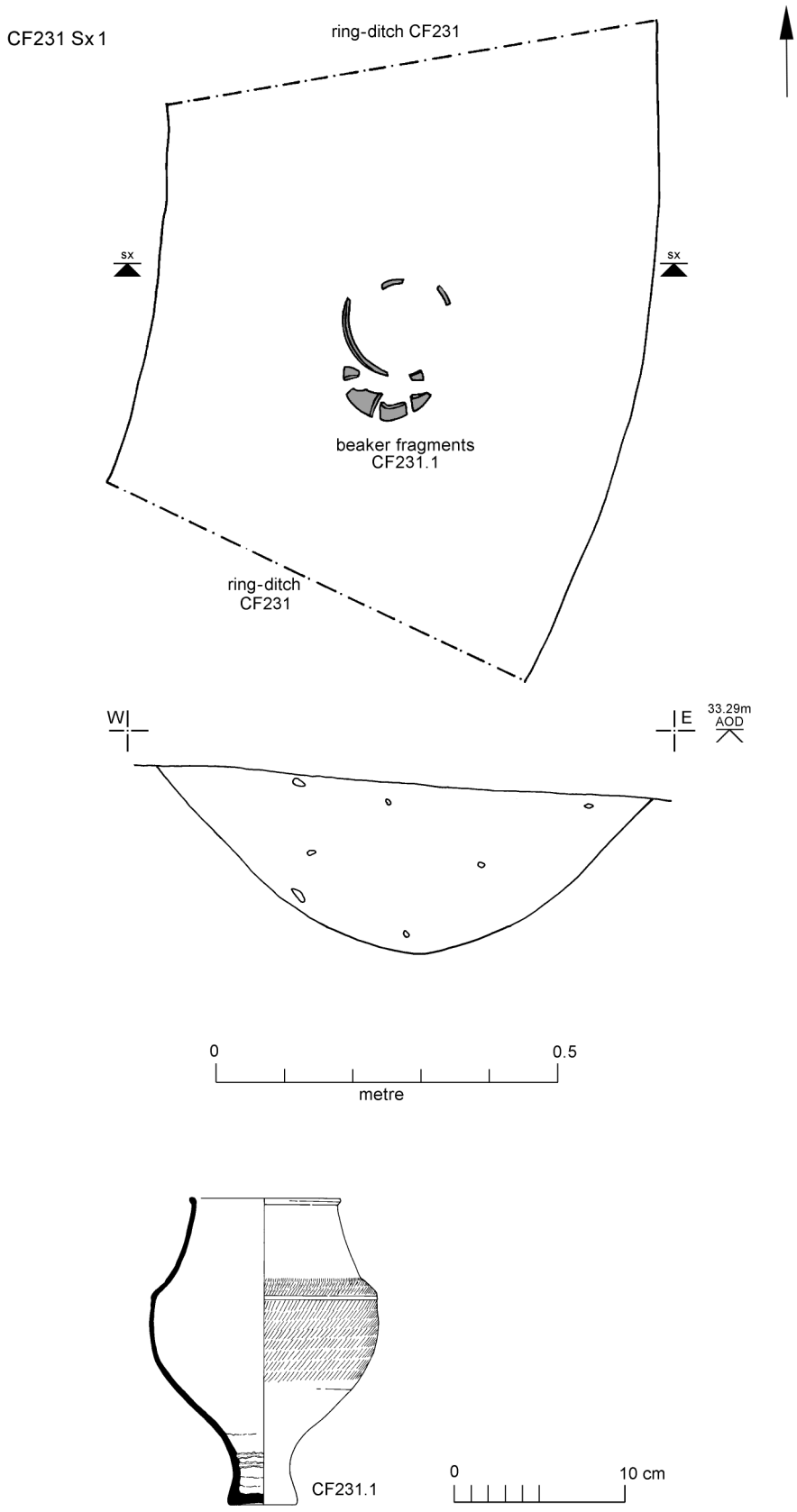

CF224
Grave 10
SX
coffin stain
estimated coffin
outline
cu-alloy coin
CF224.2
beaker CF224.1
SX
S
N
33.65m
AOD
0
1
metre


CF224.1
0
10 cm

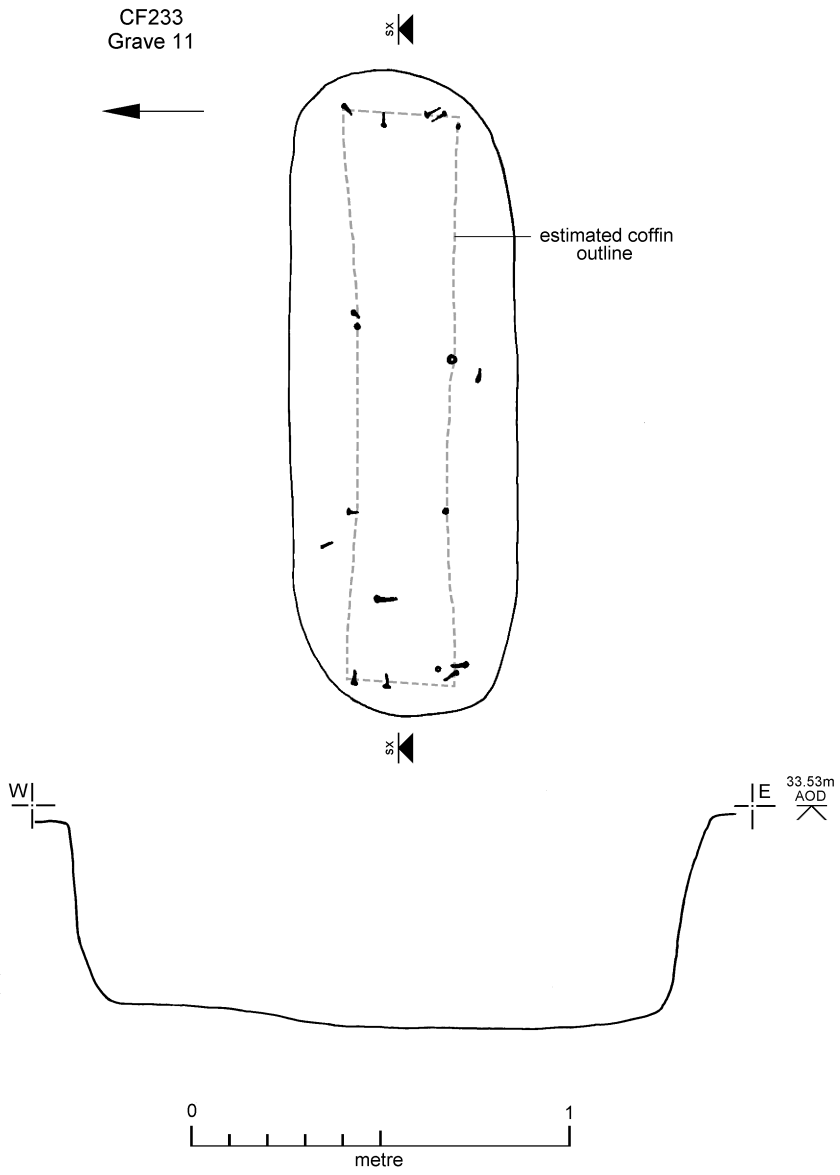
CF224


CF227
cremated bone
dish fragments CF227.1
sx
sx
scatter of wood fragments
charcoal-rich fill
E
W
33.47m AOD
0
0.5
metre

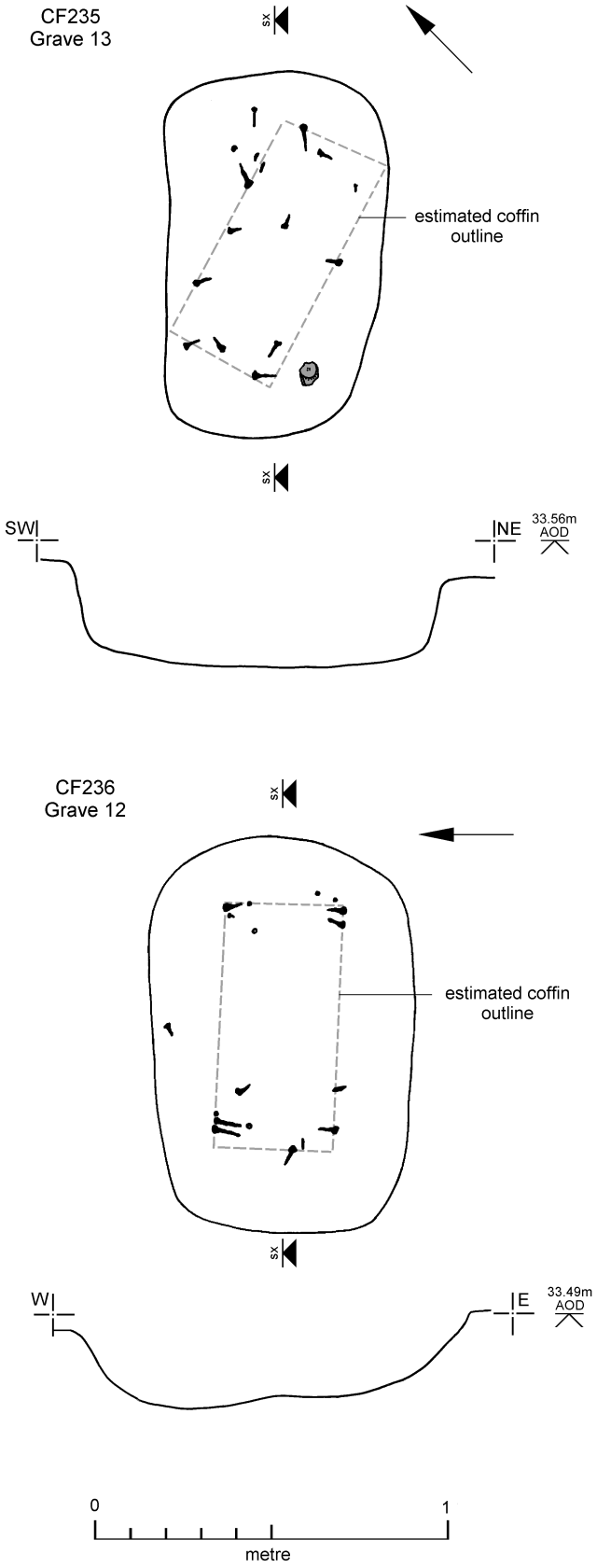
CF227


CF231 Sx 1
ring-ditch CF231
sx
sx
beaker fragments
CF231.1
ring-ditch
CF231
W
E
33.29m
AOD
0
0.5
metre
CF231.1
0
10 cm

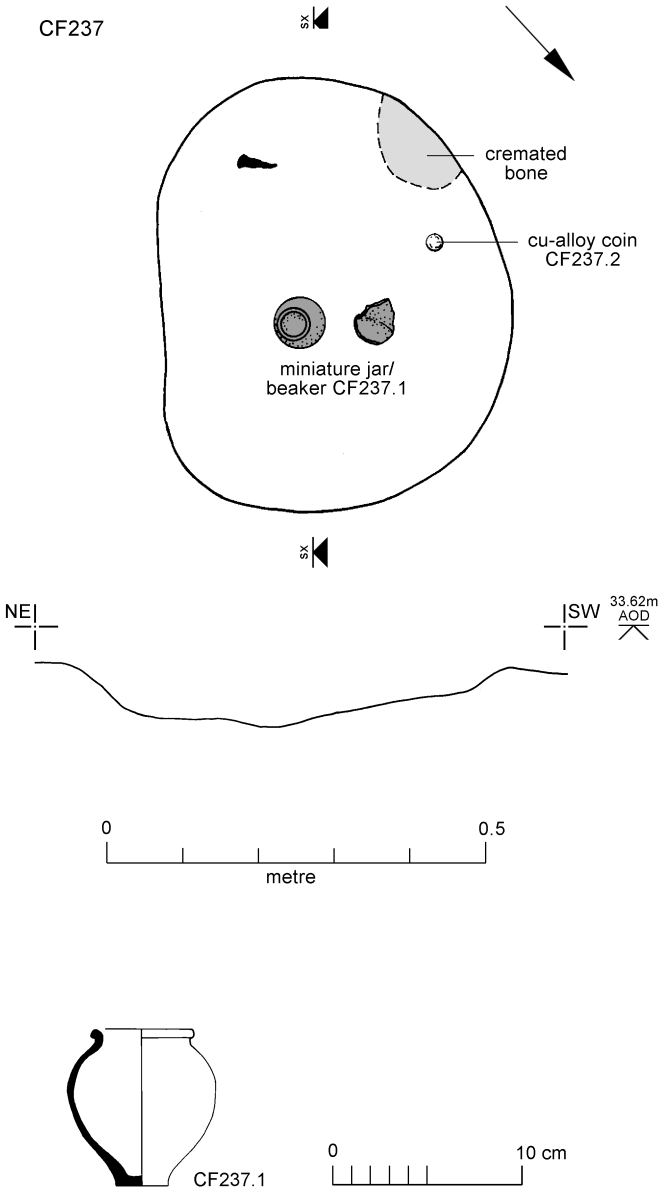
CF231


CF233
Grave 11
SX
SX
estimated coffin
outline
W
E
33.53m
AOD
0
1
metre

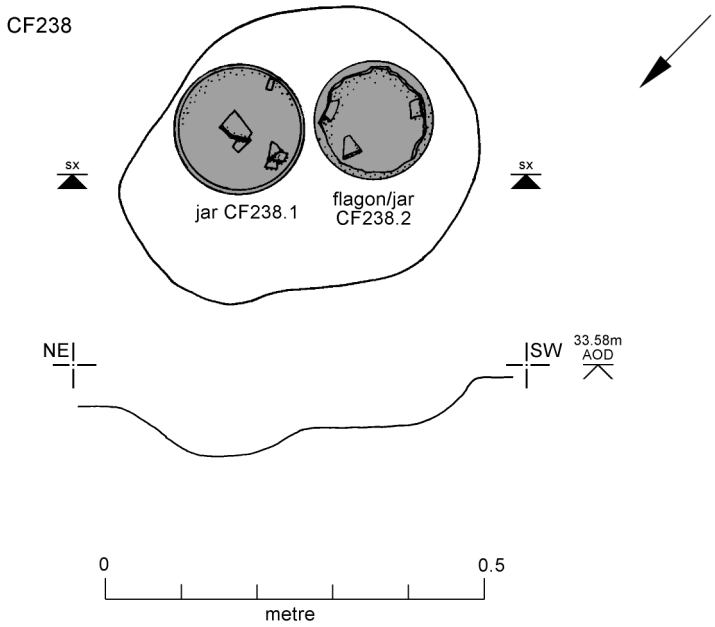
CF233

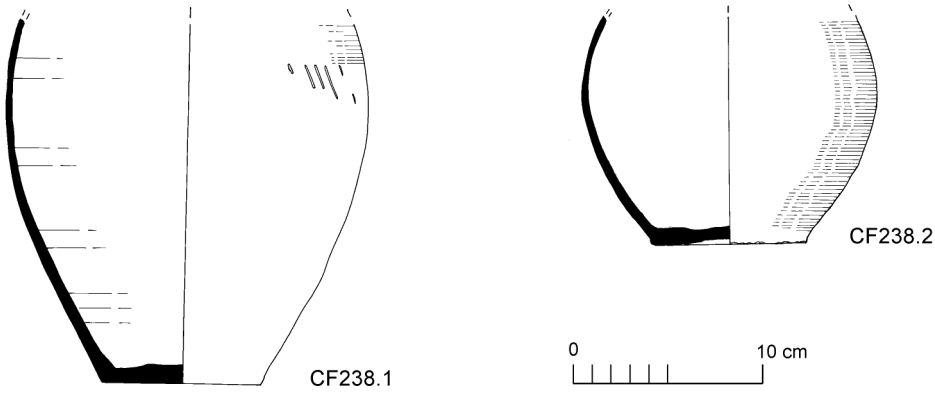


CF235 and CF236

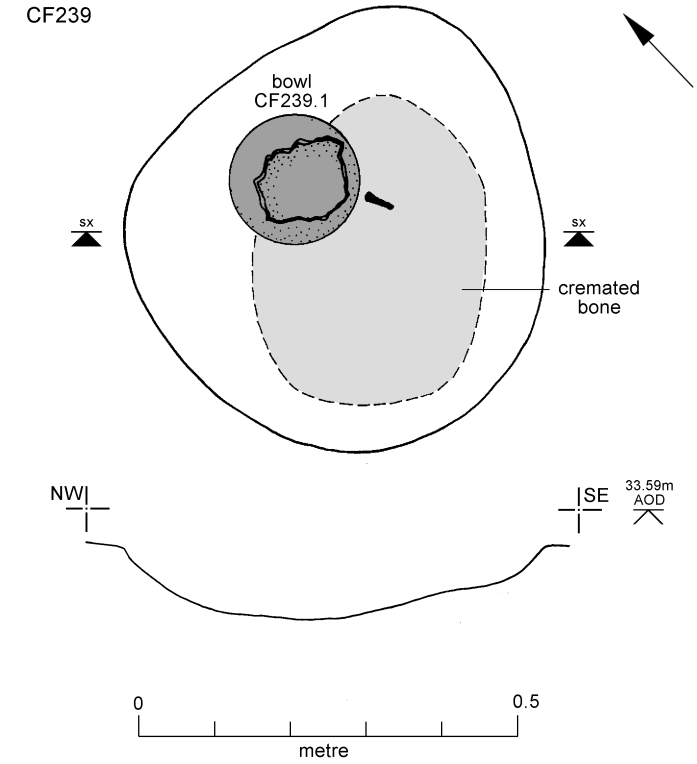

CF237
sx
cremated bone
cu-alloy coin CF237.2
miniature jar/ beaker CF237.1
sx
NE
SW
33.62m AOD
0
0.5
metre
CF237.1
0
10 cm

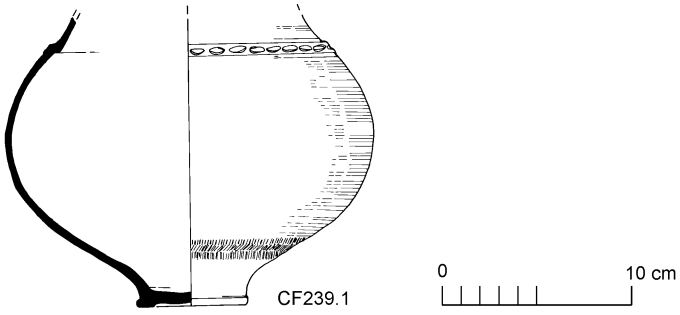
CF237


CF238
sx
sx
jar CF238.1
flagon/jar
CF238.2
NE
SW
33.58m
AOD
0
0.5
metre

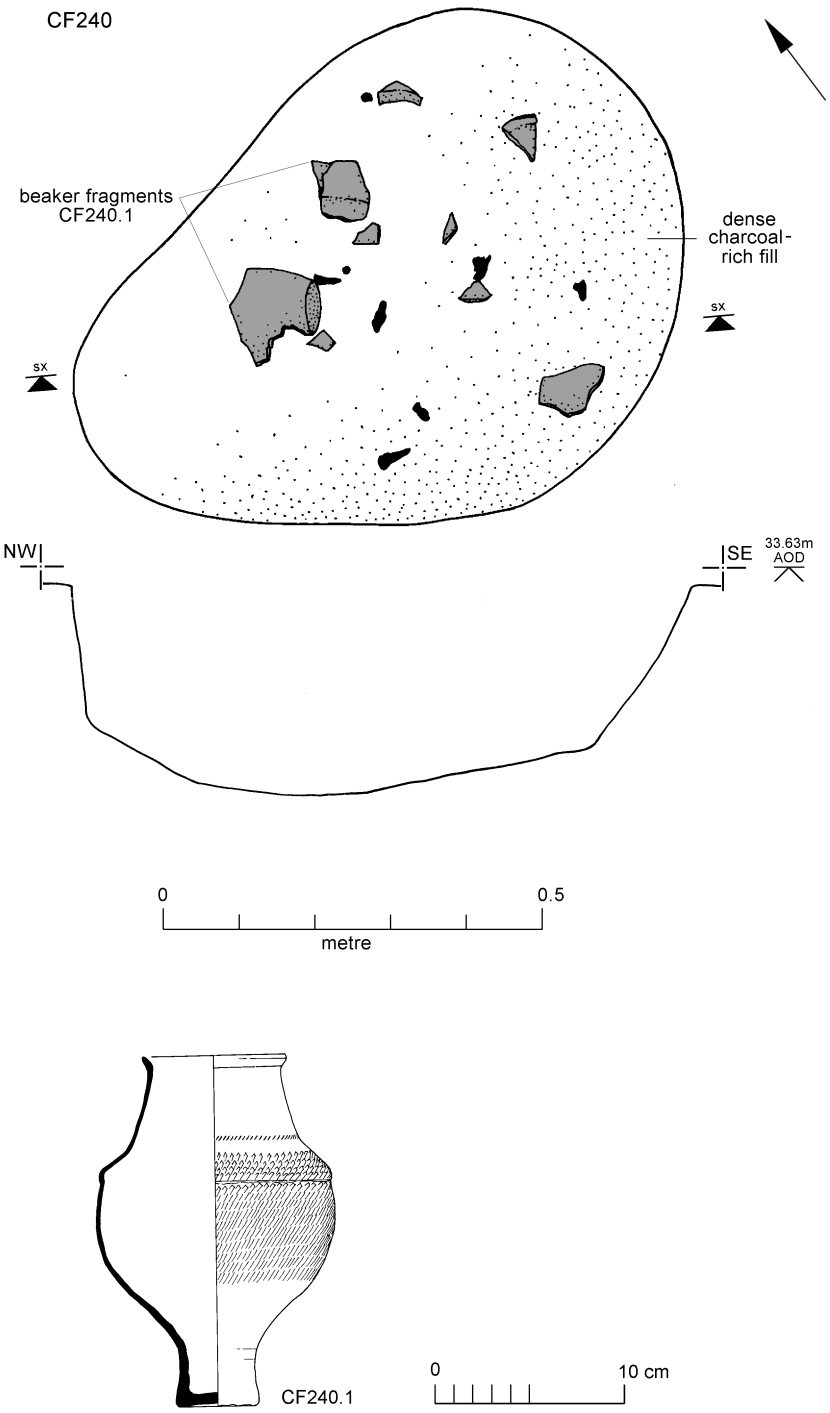

CF238.1
CF238.2
0
10 cm

CF238

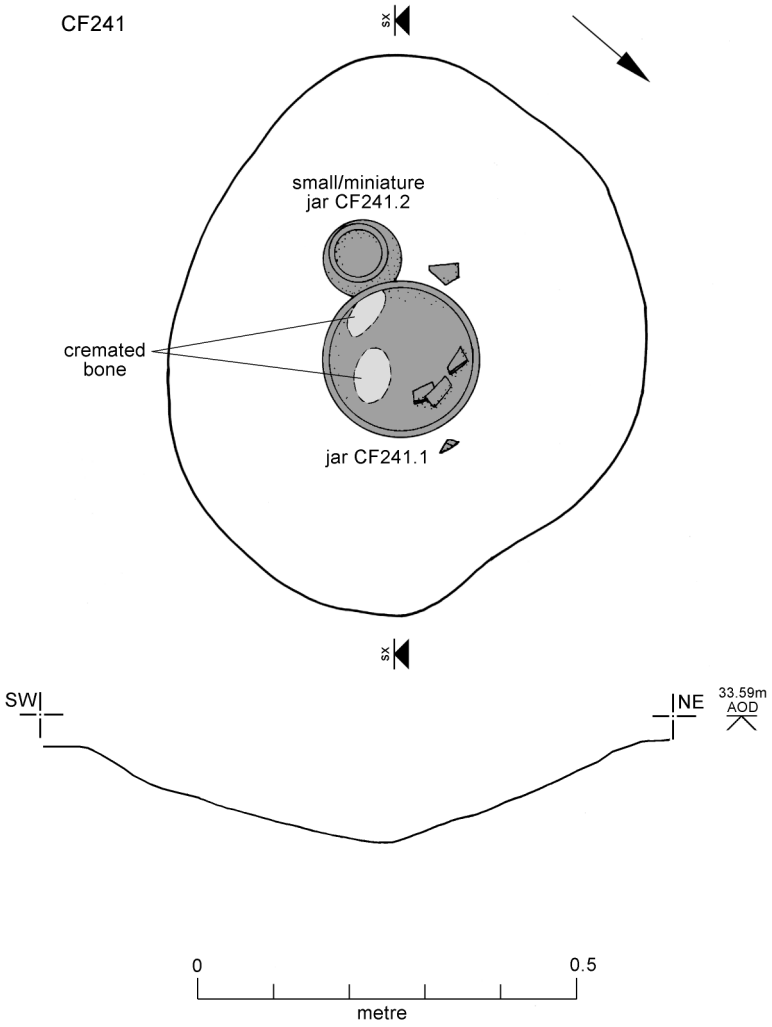

CF239
bowl
CF239.1
sx
sx
cremated
bone
NW
SE
33.59m
AOD
0
0.5
metre

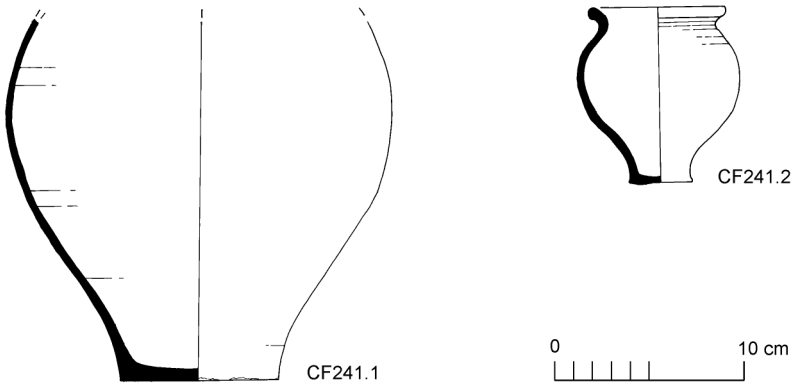

CF239.1
0
10 cm

CF239

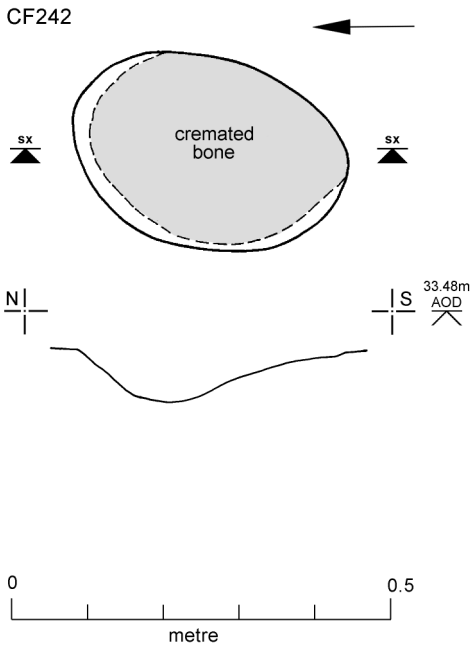

CF240
beaker fragments
CF240.1
dense
charcoal-
rich fill
sx
sx
NW
SE
33.63m
AOD
0
0.5
metre
CF240.1
0
10 cm

CF240

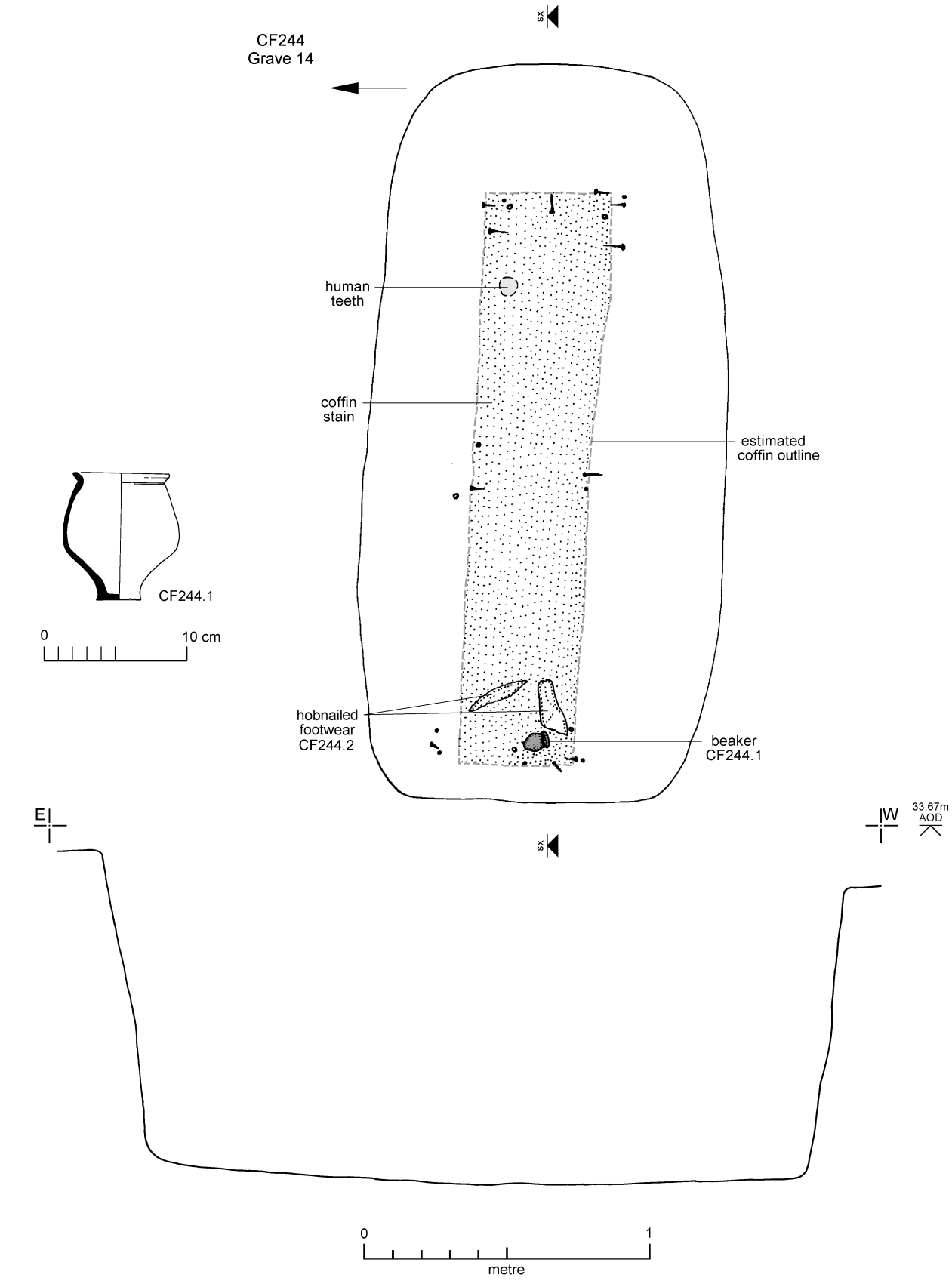

CF241
xs
small/miniature
jar CF241.2
cremated
bone
jar CF241.1
xs
SW
NE
33.59m
AOD
0
0.5
metre


CF241.1
CF241.2
0
10 cm

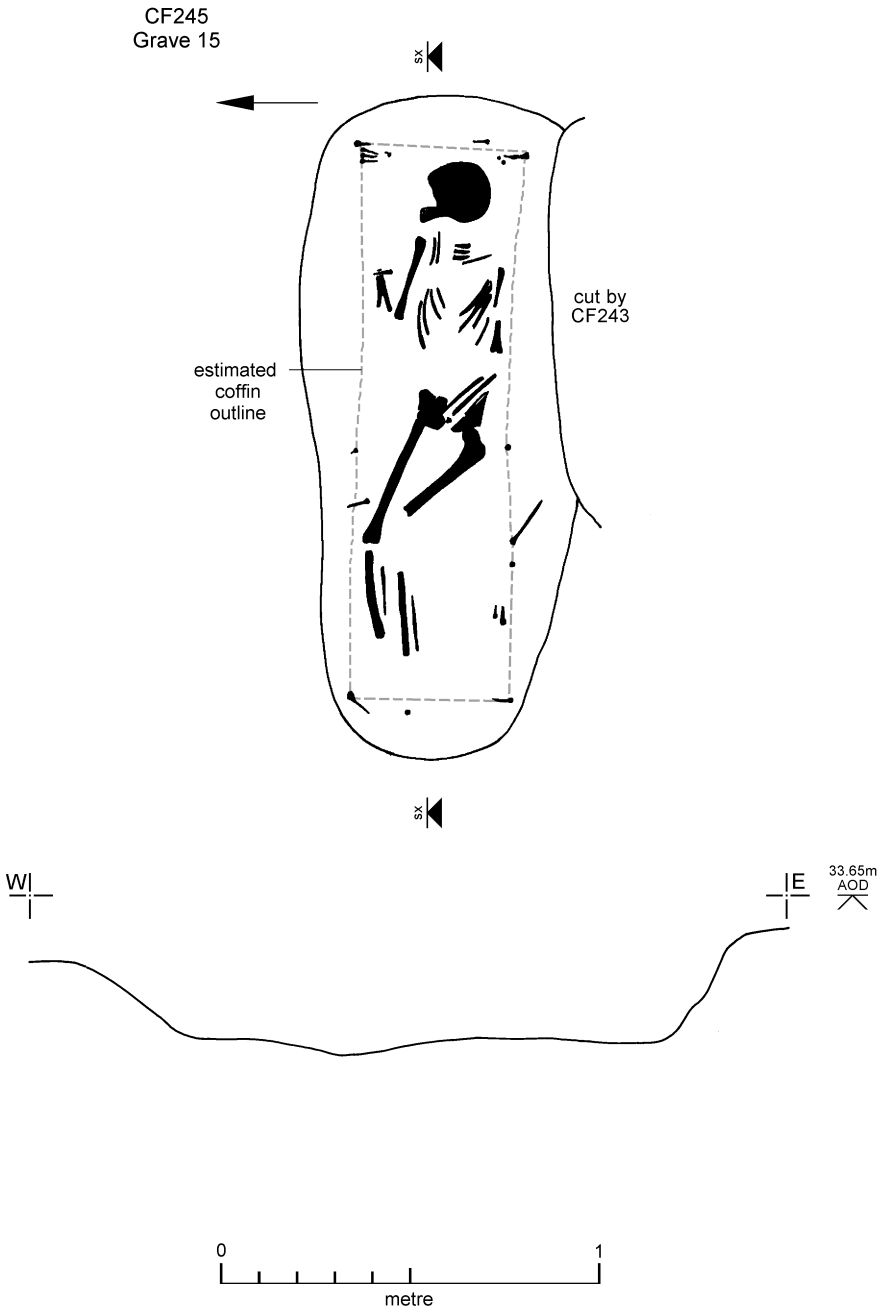
CF241



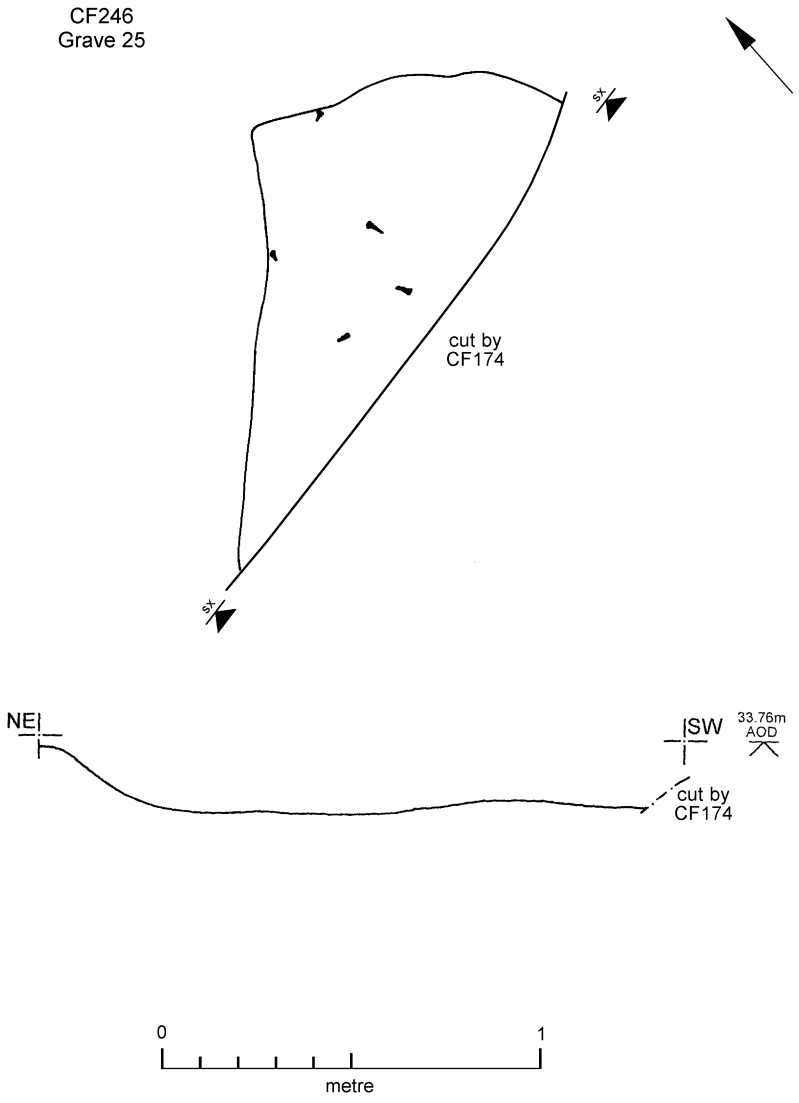
CF242


CF244
Grave 14
SX
human
teeth
coffin
stain
estimated
coffin outline
CF244.1
0
10 cm
hobnailed
footwear
CF244.2
beaker
CF244.1
SX
E
W
33.67m
AOD
0
1
metre

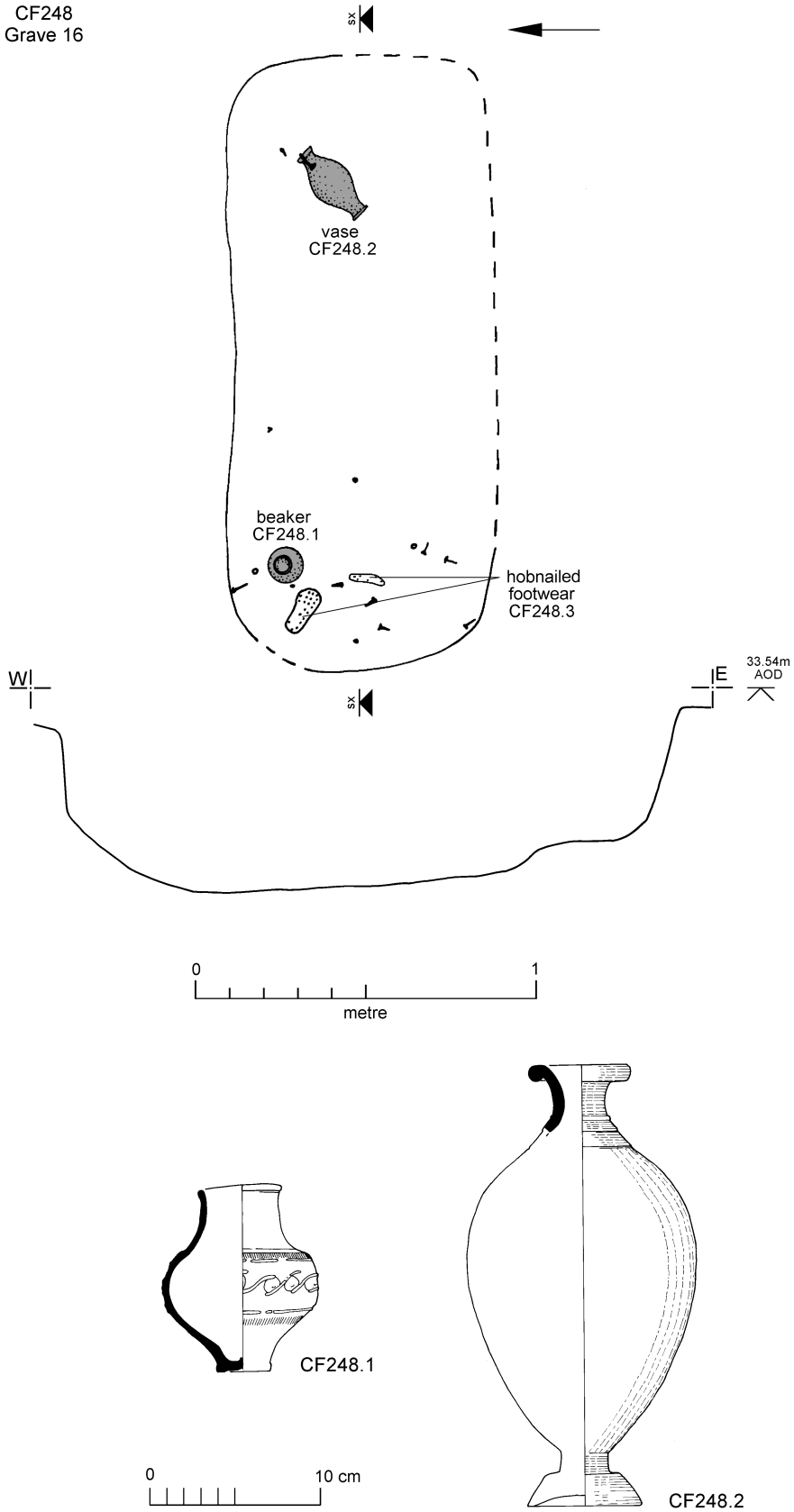
CF244


CF245
Grave 15
sx
cut by
CF243
estimated
coffin
outline
sx
W
E
33.65m
AOD
0
1
metre

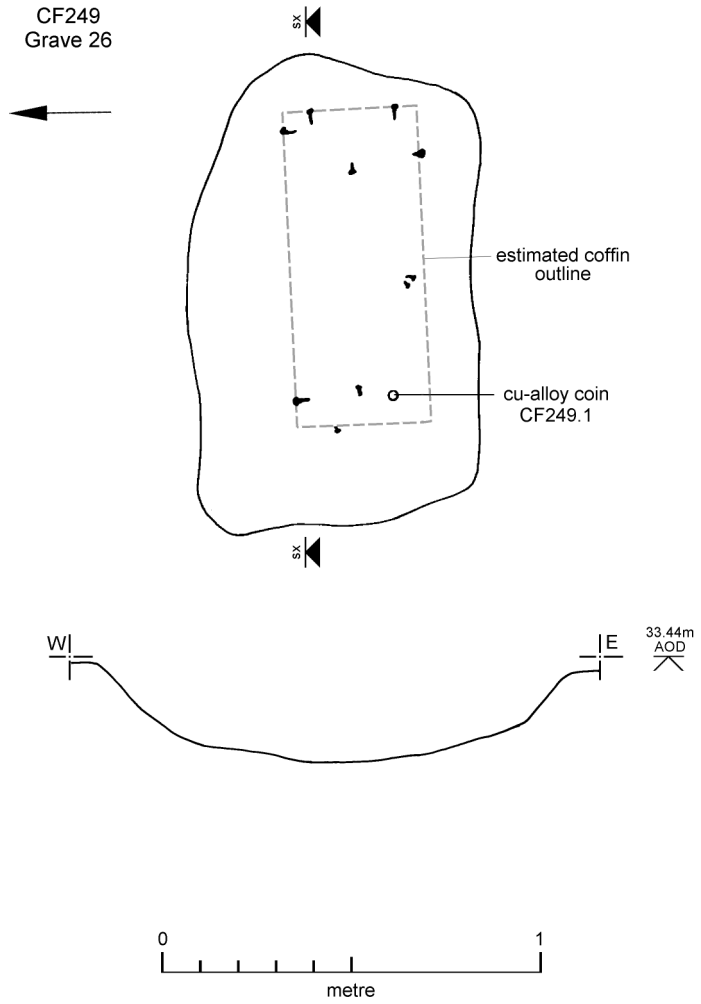
CF245


CF246
Grave 25
cut by
CF174
NE
SW
33.76m
AOD
cut by
CF174
0
1
metre

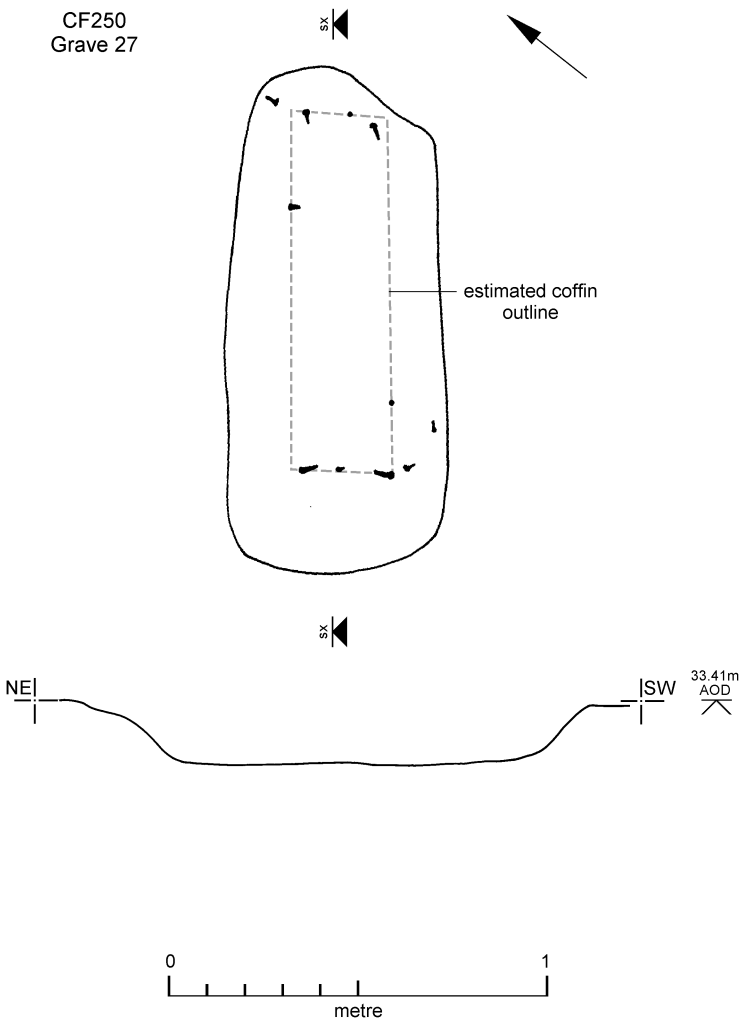
CF246


CF248
Grave 16
SX
vase
CF248.2
beaker
CF248.1
hobnailed
footwear
CF248.3
SX
W
E
33.54m
AOD
0
1
metre
CF248.1
0
10 cm
CF248.2

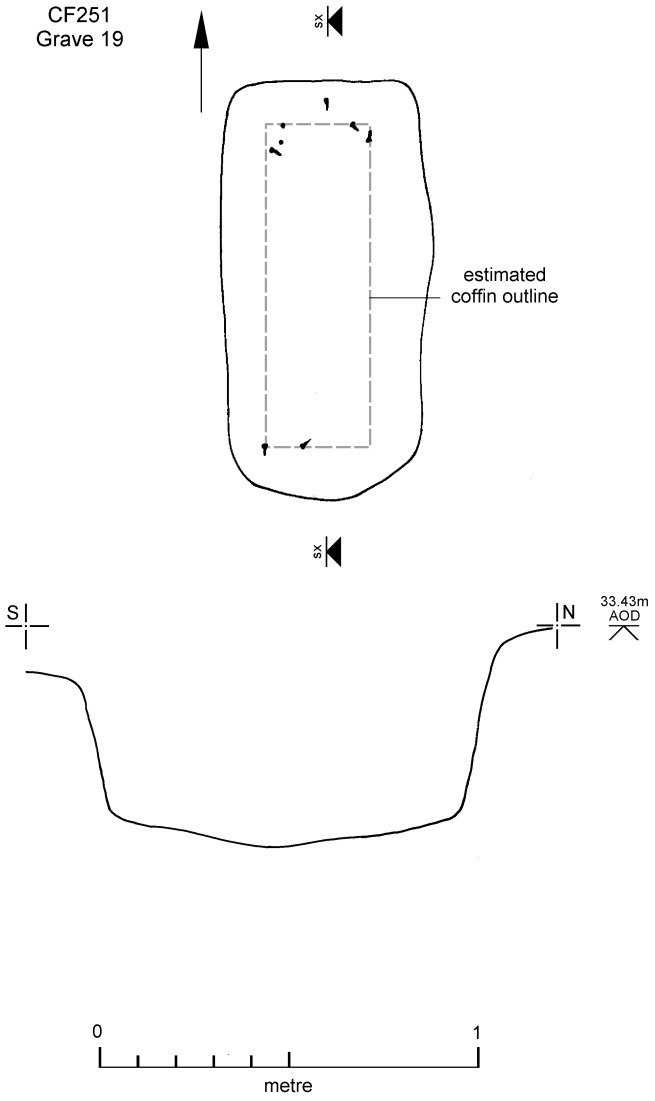
CF248


CF249
Grave 26
SX
SX
estimated coffin
outline
cu-alloy coin
CF249.1
W
E
33.44m
AOD
0
1
metre

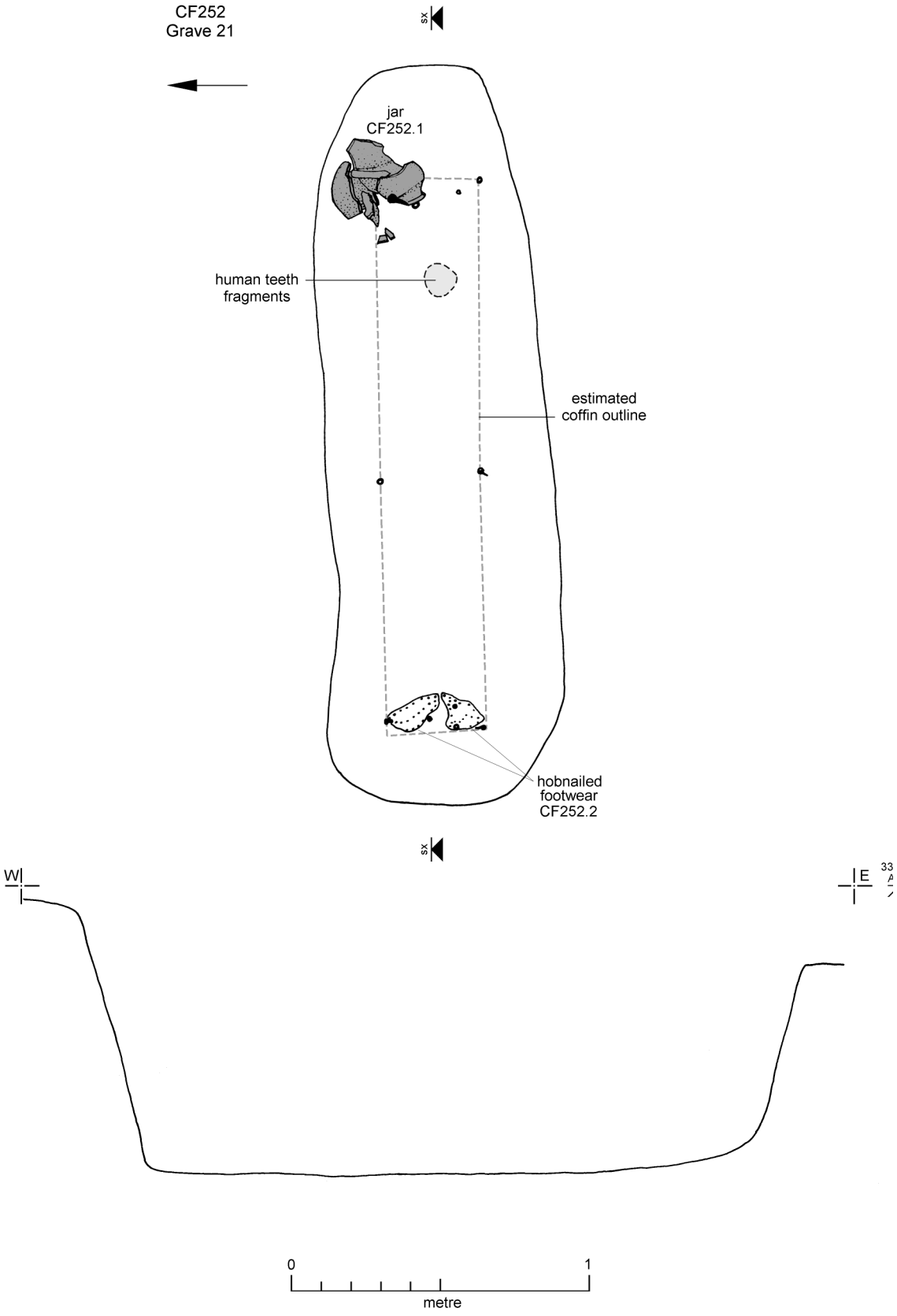
CF249


CF250
Grave 27
SX
estimated coffin
outline
SX
NE
SW
33.41m
AOD
0
1
metre

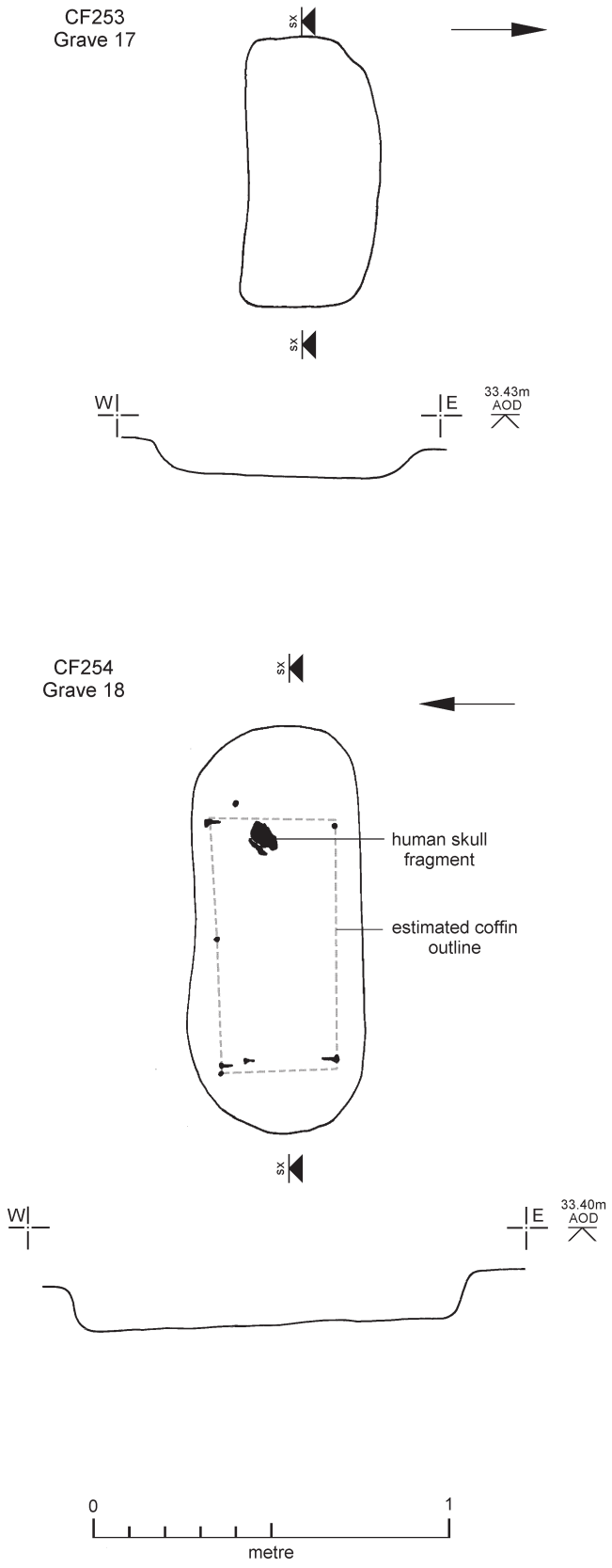
CF250


CF251
Grave 19
sx
estimated
coffin outline
sx
S
N
33.43m
AOD
0
1
metre

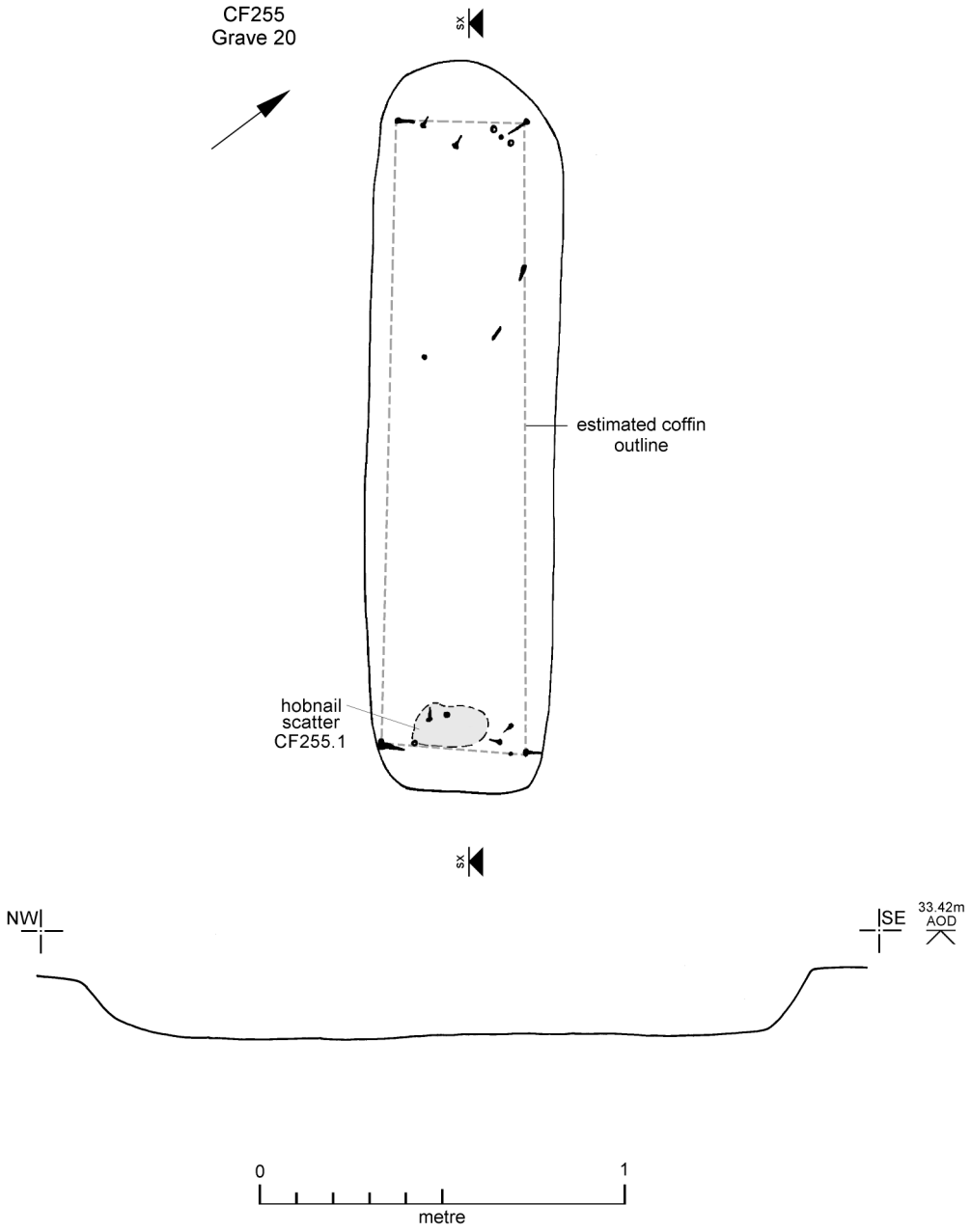
CF251


CF252
Grave 21
SX
jar
CF252.1
human teeth
fragments
estimated
coffin outline
hobnailed
footwear
CF252.2
SX
W
E
0
1
metre

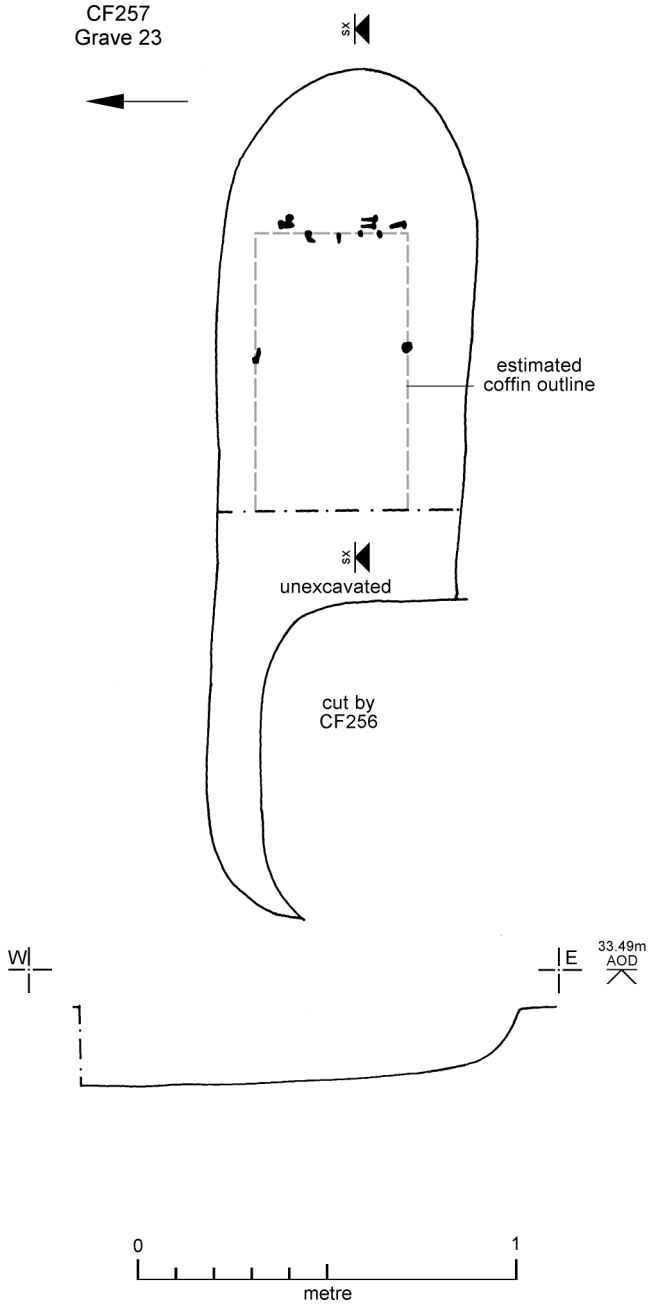
CF252



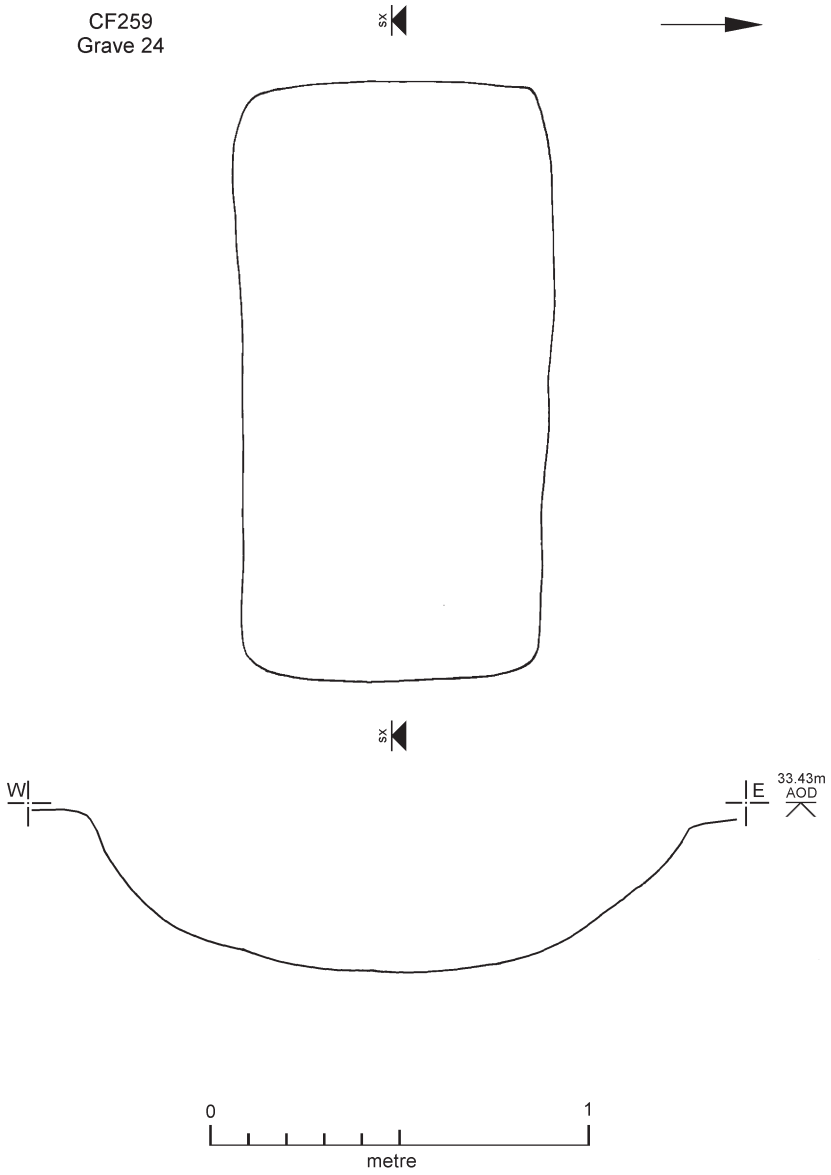
CF253 and CF254


CF255
Grave 20
SX
estimated coffin
outline
hobnail
scatter
CF255.1
SX
NW
SE
33.42m
AOD
0
1
metre

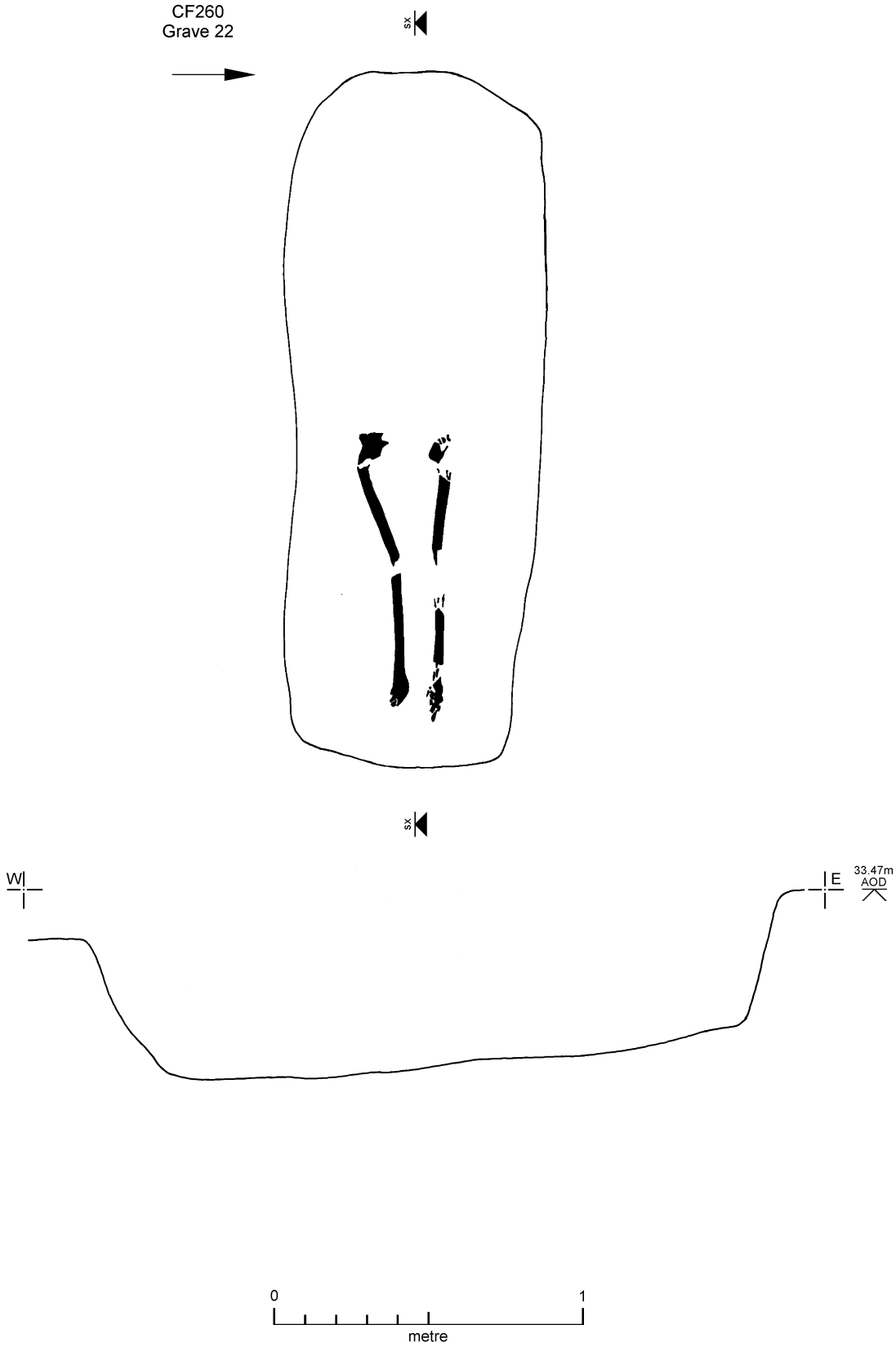
CF255


CF257
Grave 23
sx
estimated
coffin outline
sx
unexcavated
cut by
CF256
W
E
33.49m
AOD
0
1
metre

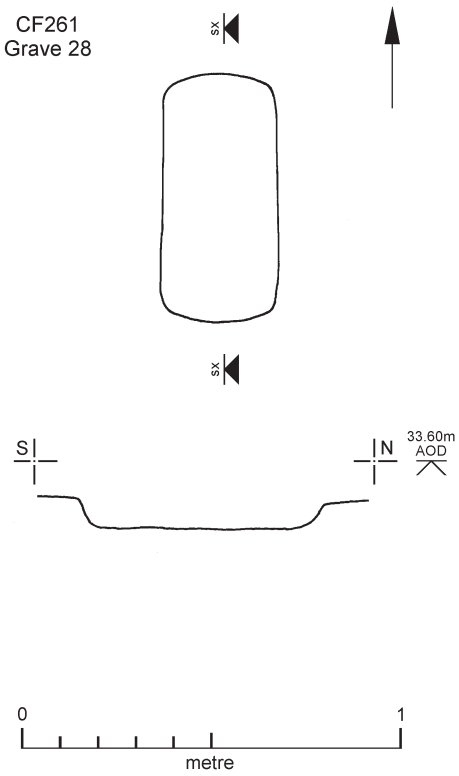
CF257



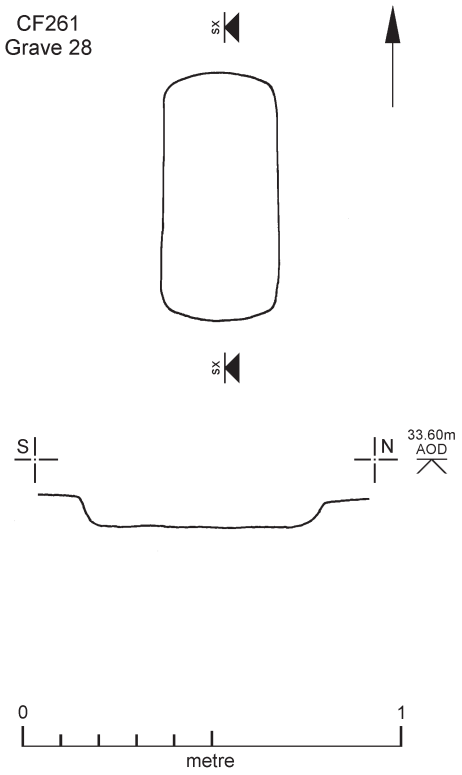
CF259



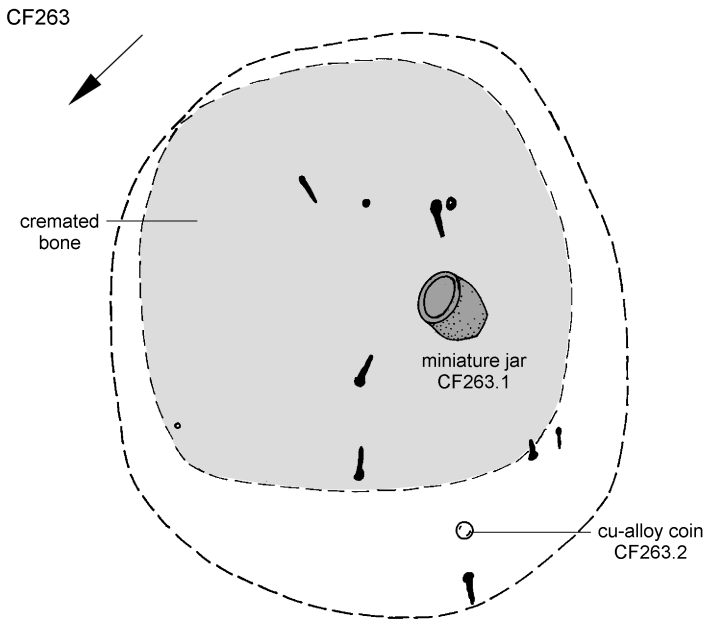
CF260

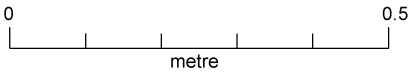


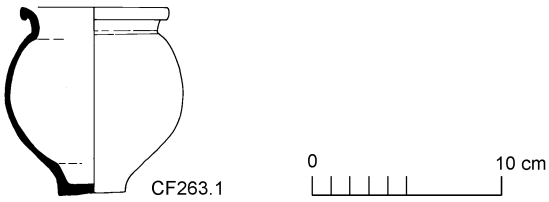
CF261



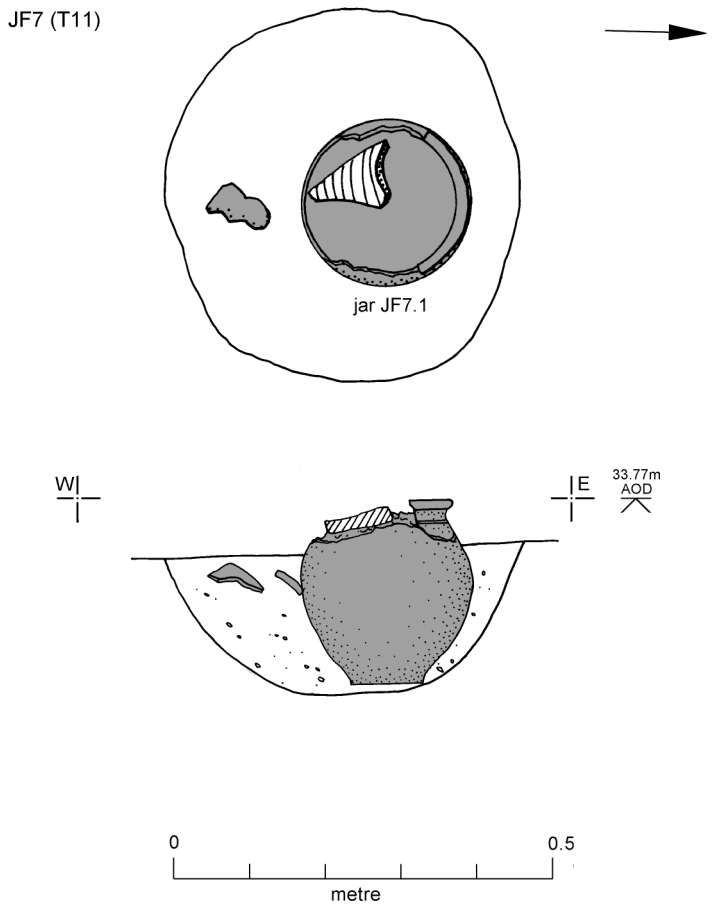
CF261

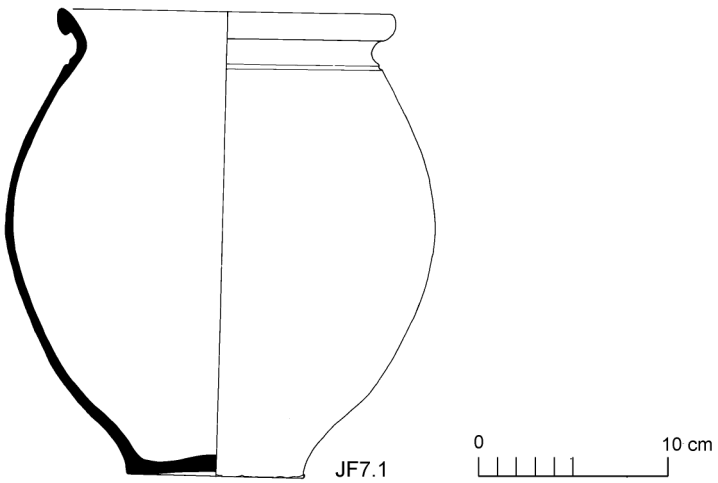

CF263
cremated bone
miniature jar CF263.1
cu-alloy coin CF263.2


0
0.5
metre

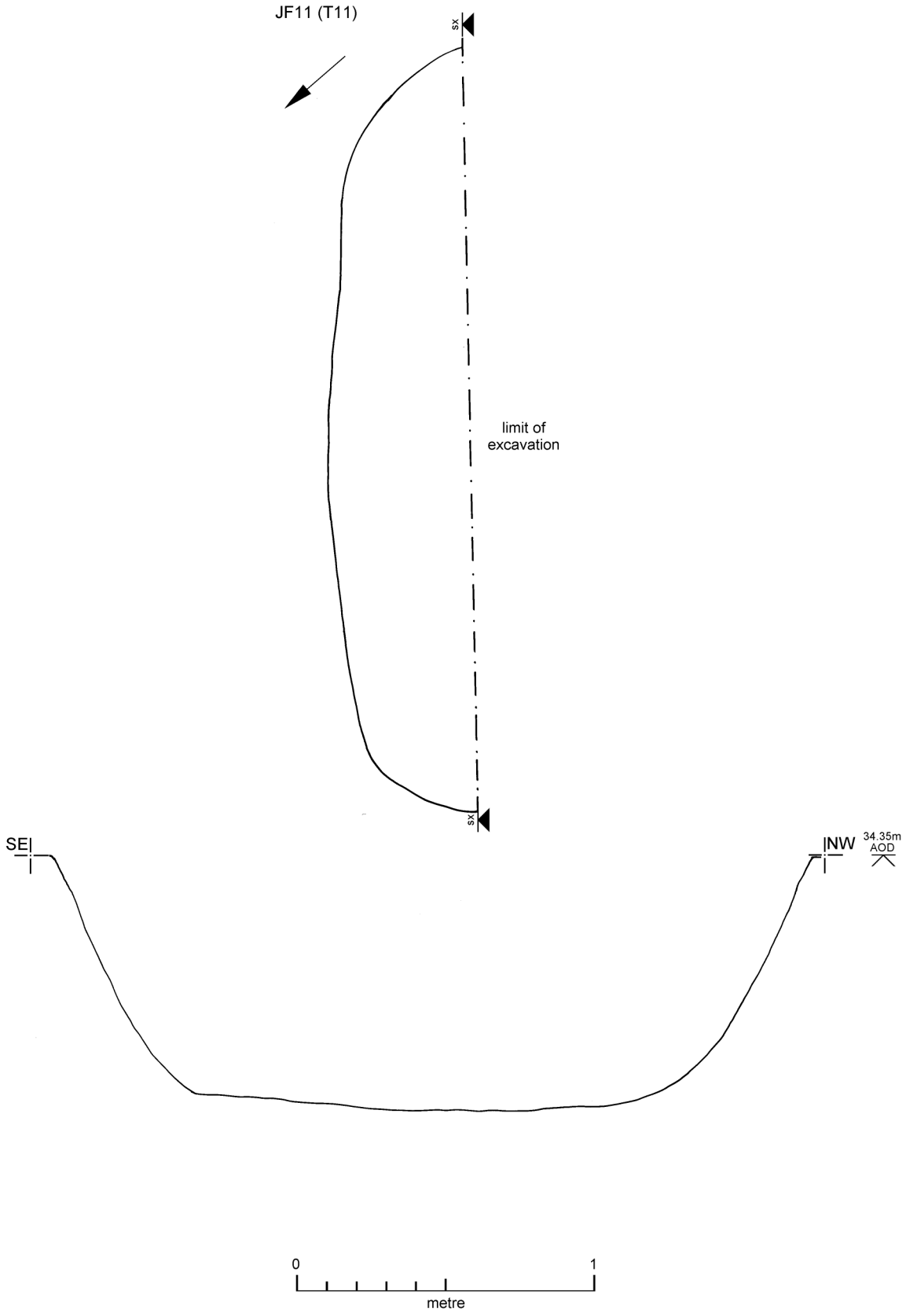

CF263.1
0
10 cm

CF263

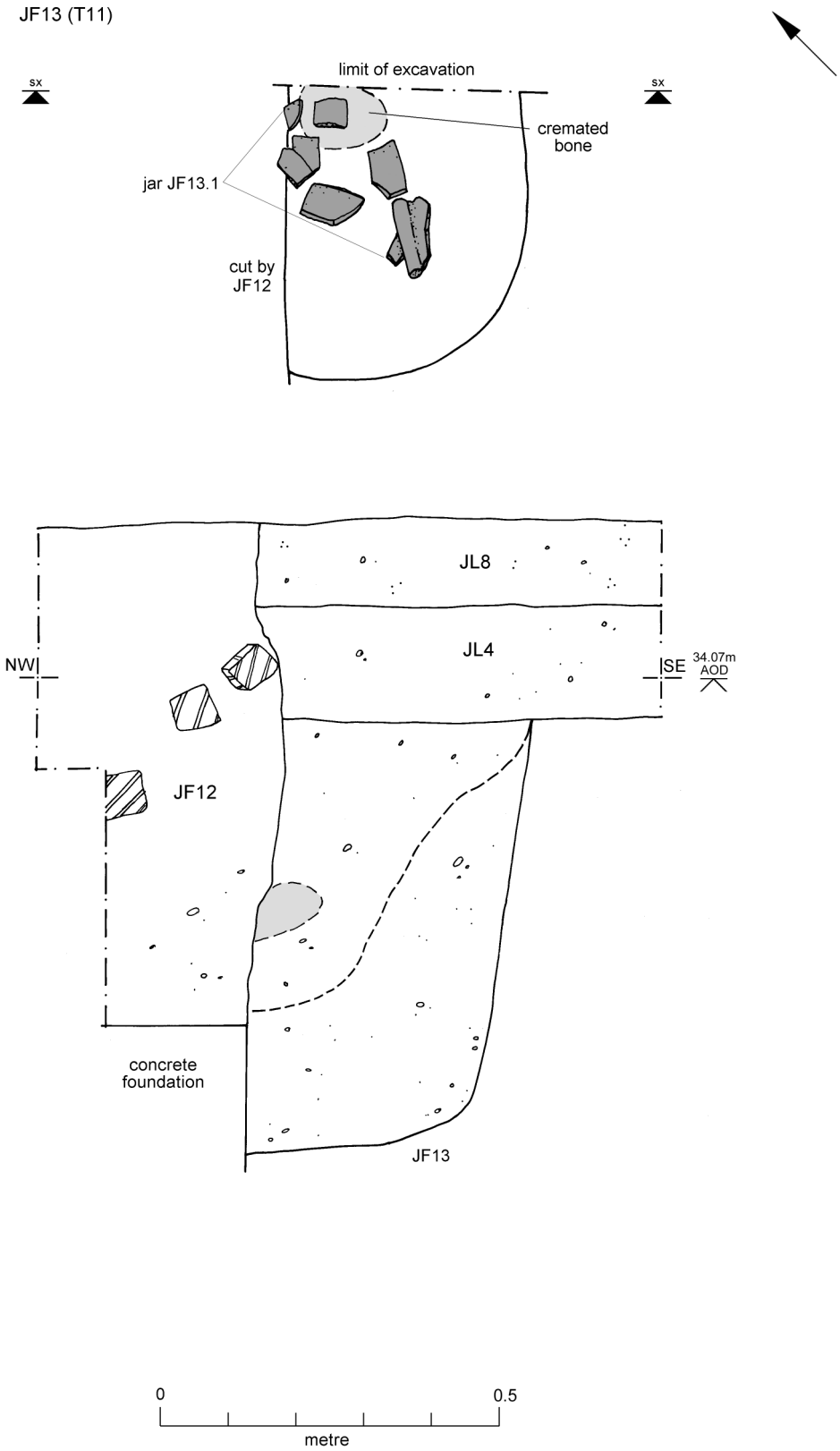




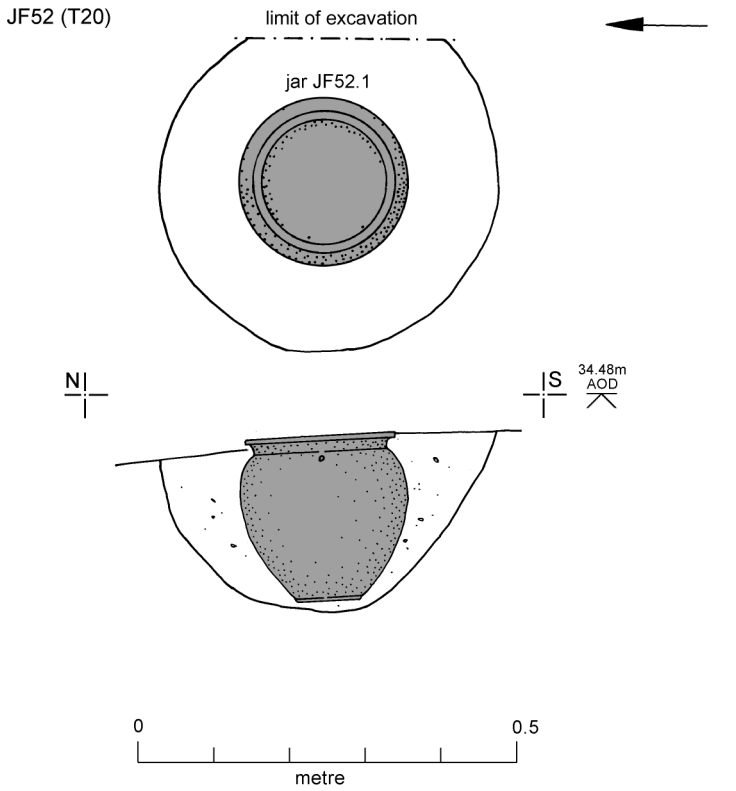
JF7

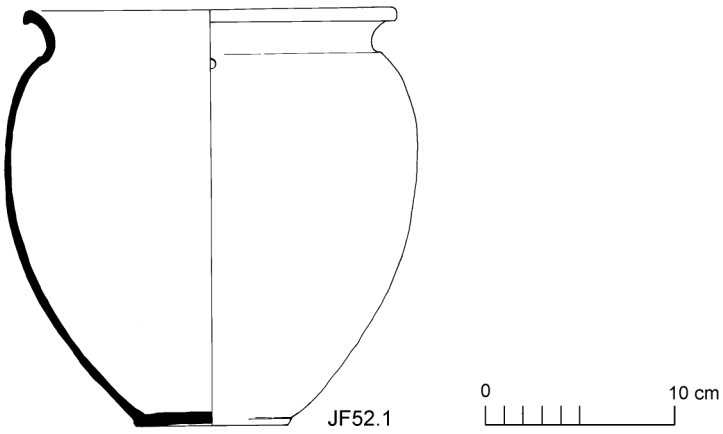


JF11

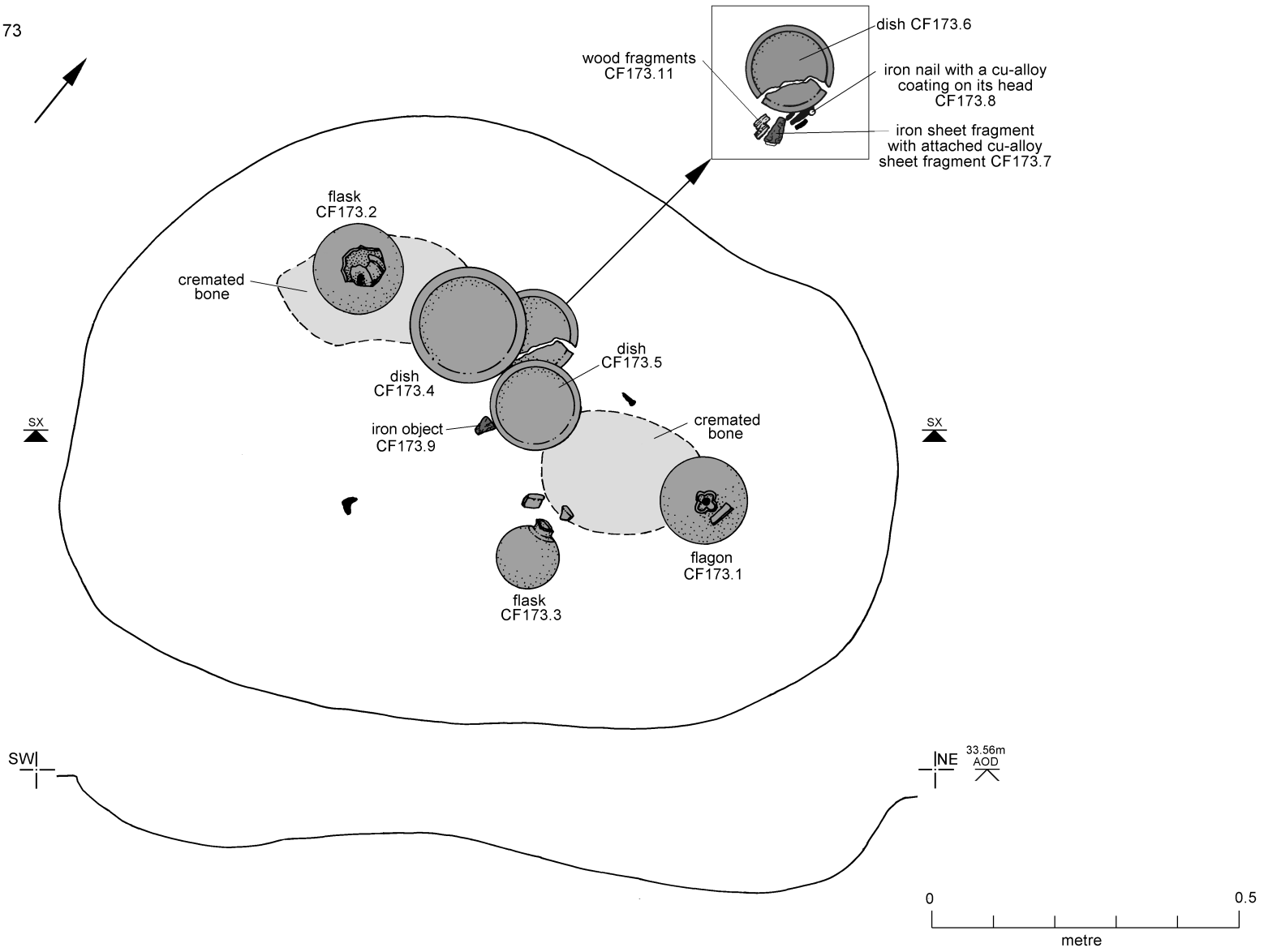

JF13 (T11)
limit of excavation
sx
sx
cremated bone
jar JF13.1
cut by JF12
JL8
JL4
NW
SE
34.07m AOD
JF12
concrete foundation
JF13
0
0.5
metre

JF13

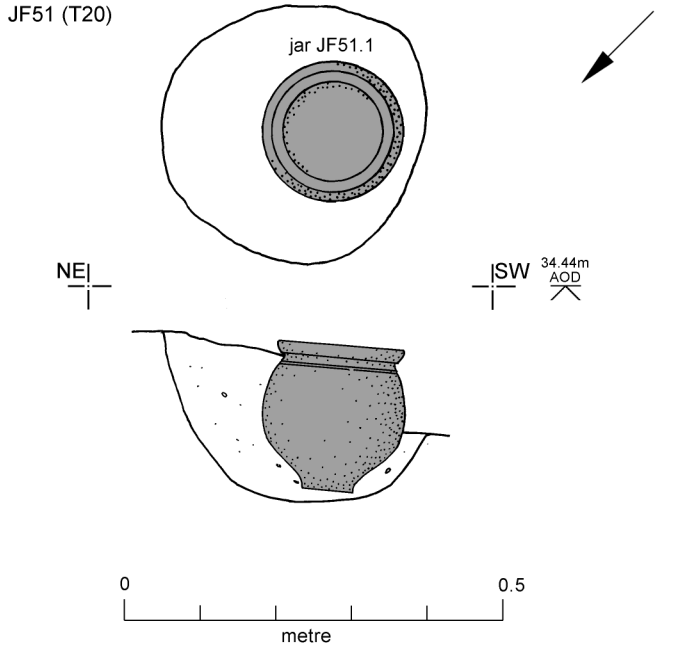

JF52 (T20)
limit of excavation
jar JF52.1
N
S
34.48m
AOD
0
0.5
metre

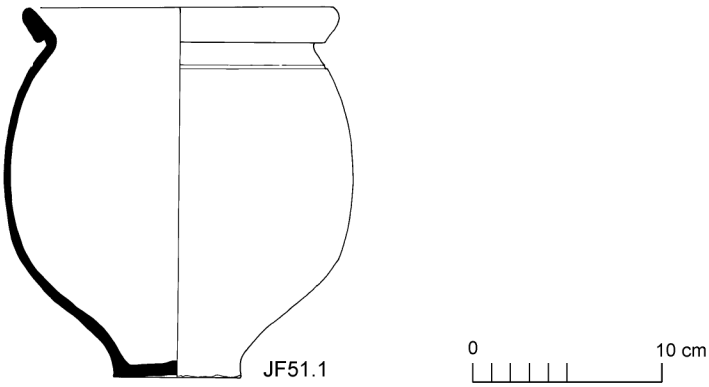

JF52.1
0
10 cm

JF52

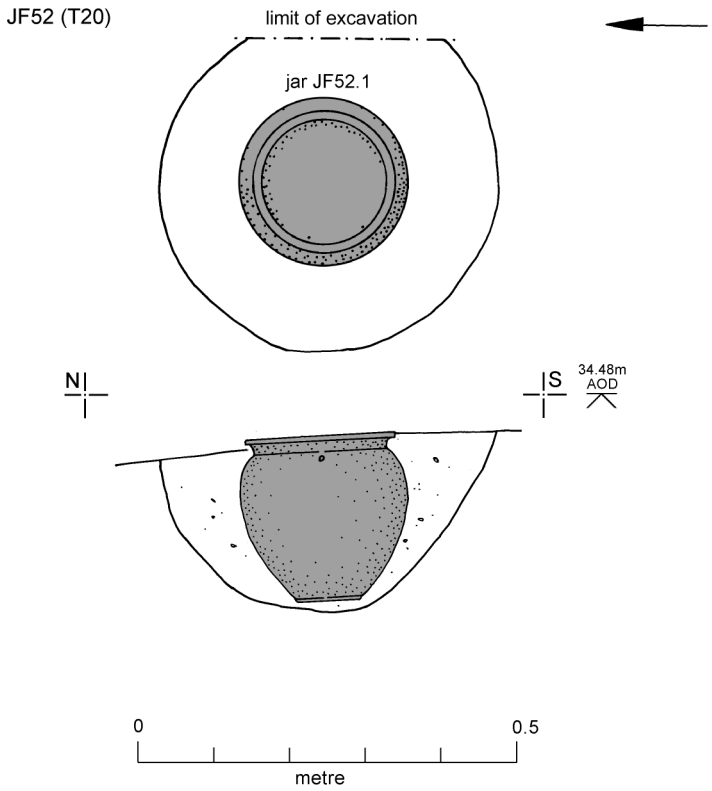

CF173
wood fragments CF173.11
dish CF173.6
iron nail with a cu-alloy coating on its head CF173.8
iron sheet fragment with attached cu-alloy sheet fragment CF173.7
flask CF173.2
cremated bone
dish CF173.4
dish CF173.5
iron object CF173.9
cremated bone
flagon CF173.1
flask CF173.3
SX
SX
SW
NE
33.56m AOD
0
0.5
metre

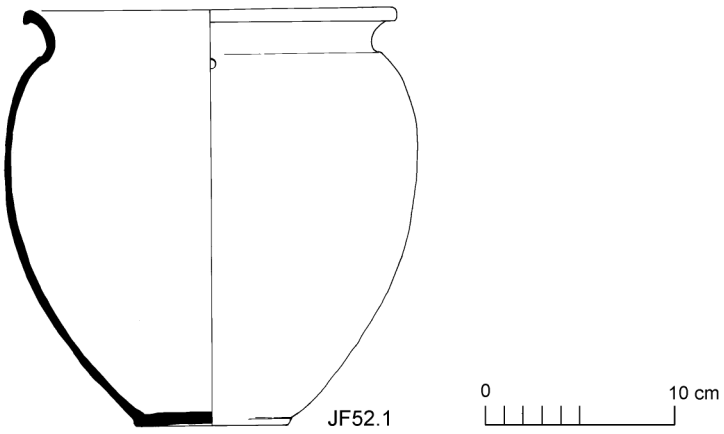
CF173



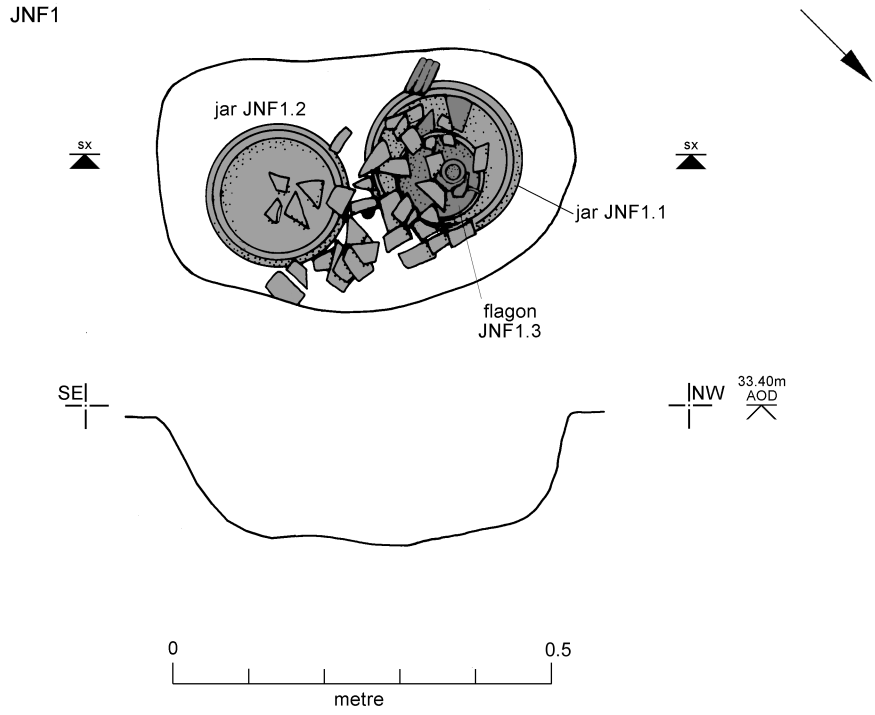


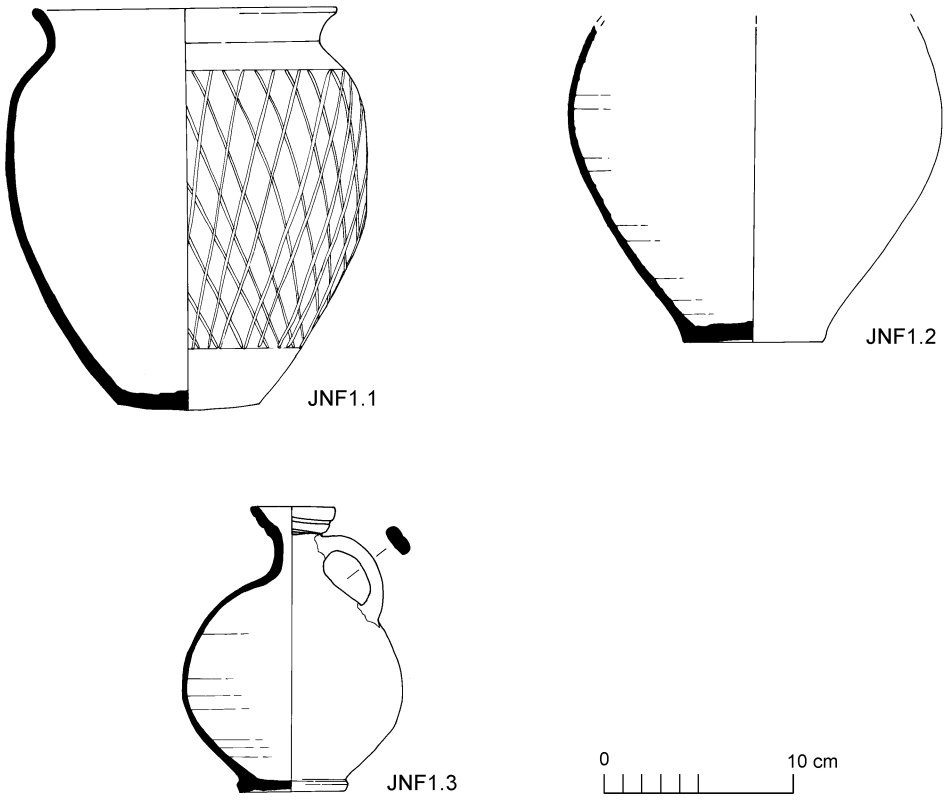
JF51


JF52 (T20)
limit of excavation
jar JF52.1
N
S
34.48m
AOD
0
0.5
metre

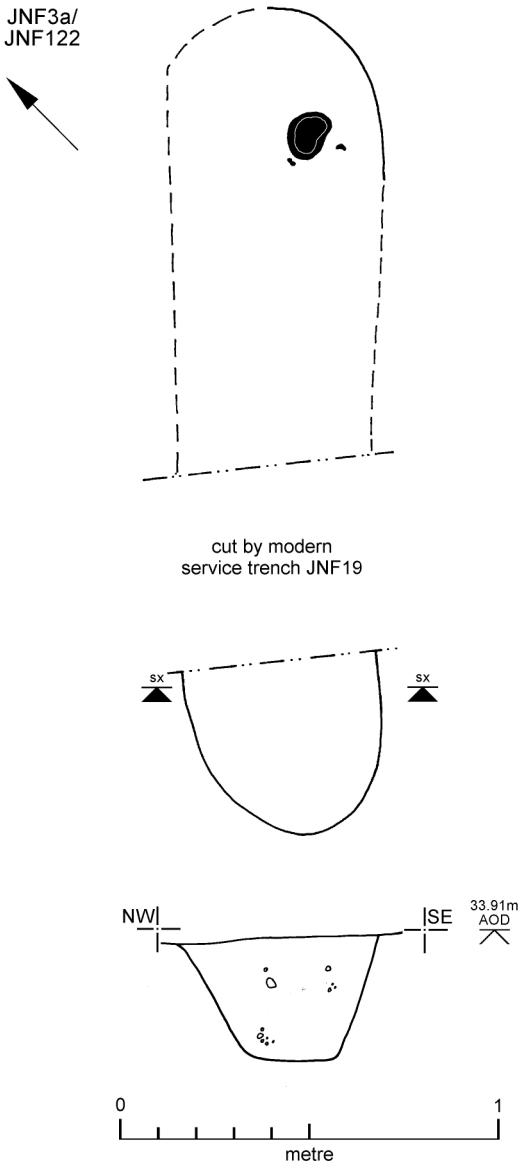

JF52.1
0
10 cm

JF52

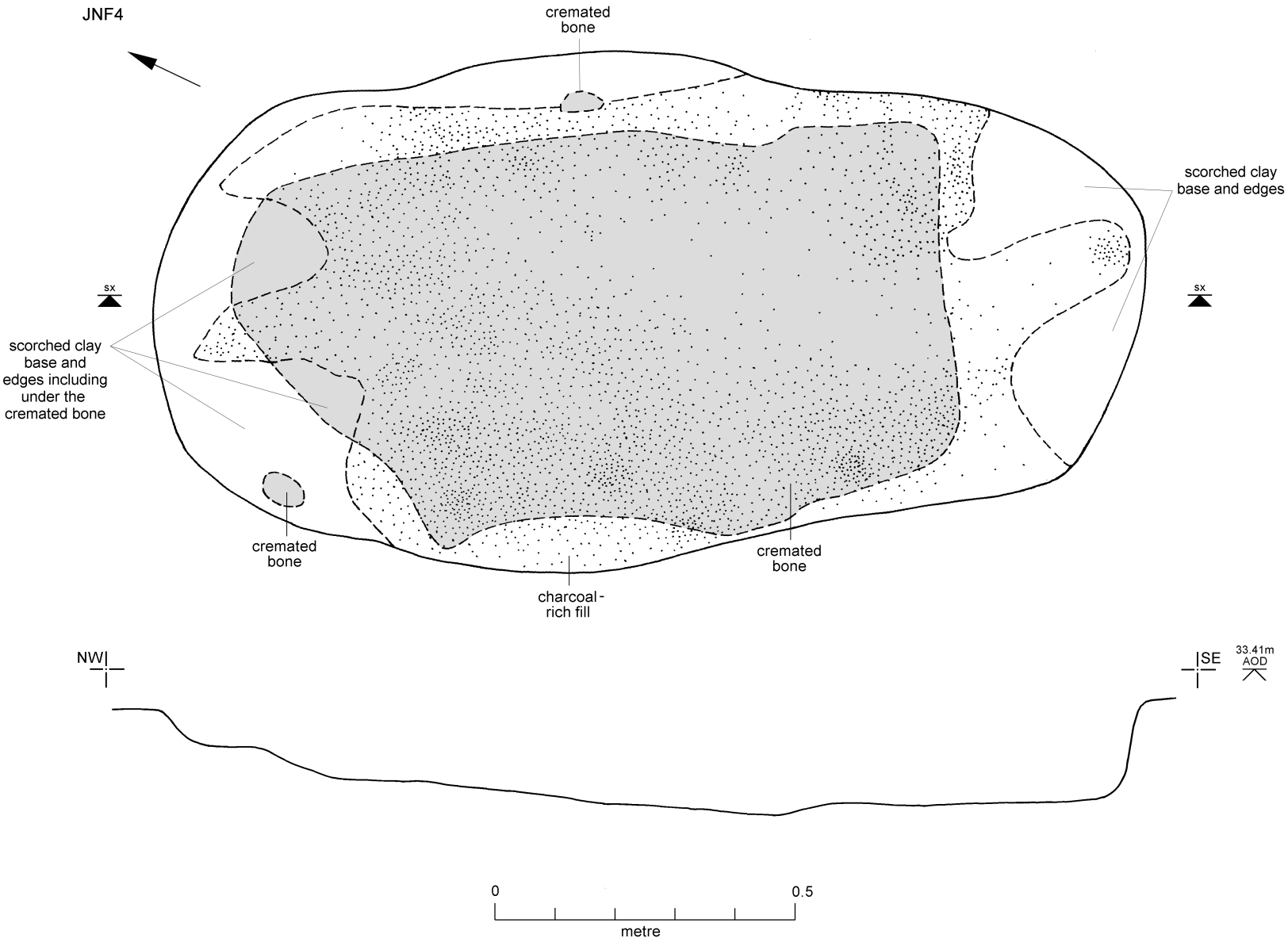

JNF1
jar JNF1.2
sx
sx
jar JNF1.1
flagon
JNF1.3
SE
NW
33.40m
AOD
0
0.5
metre


JNF1.1
JNF1.2
JNF1.3
0
10 cm

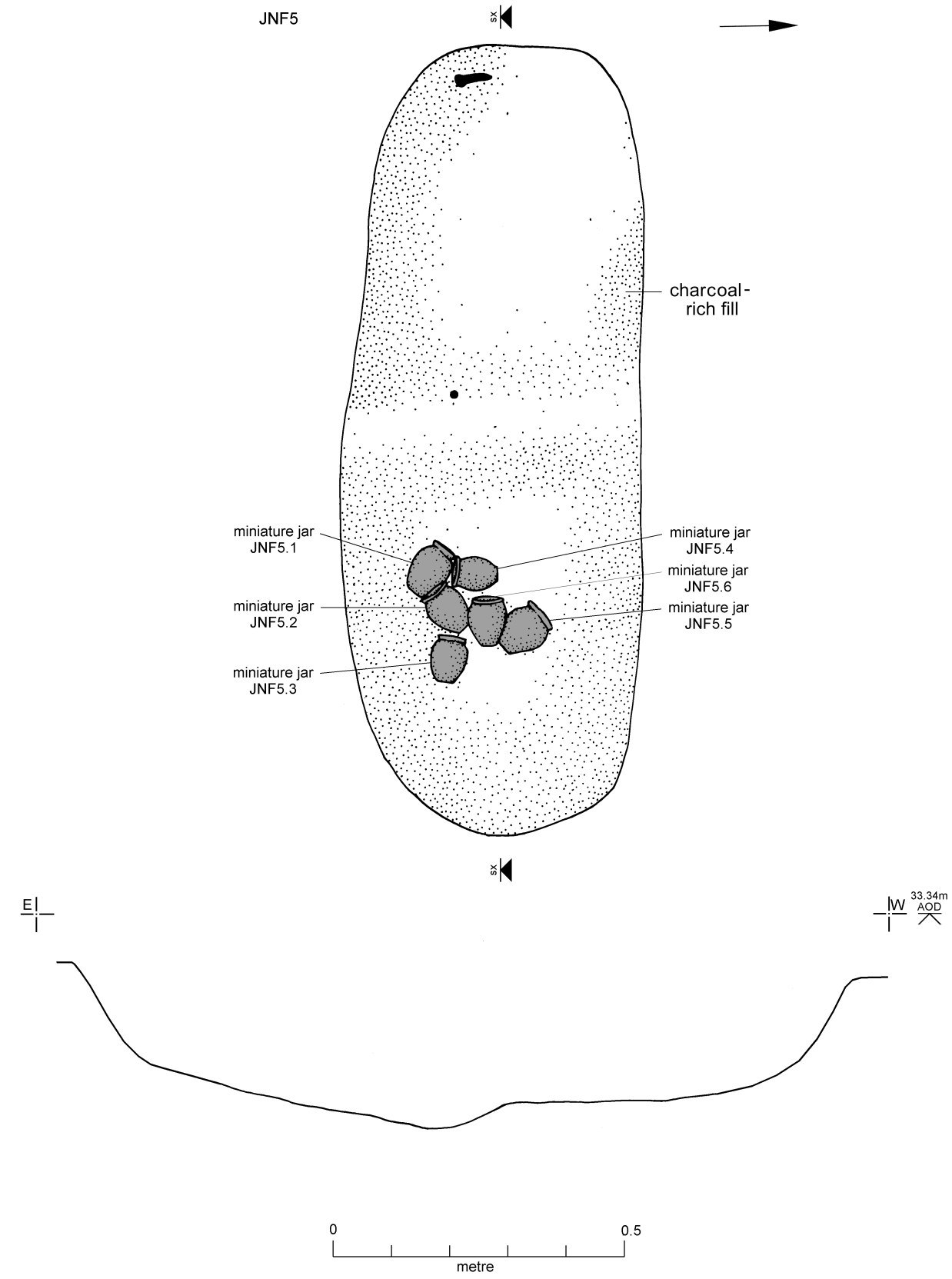
JNF1



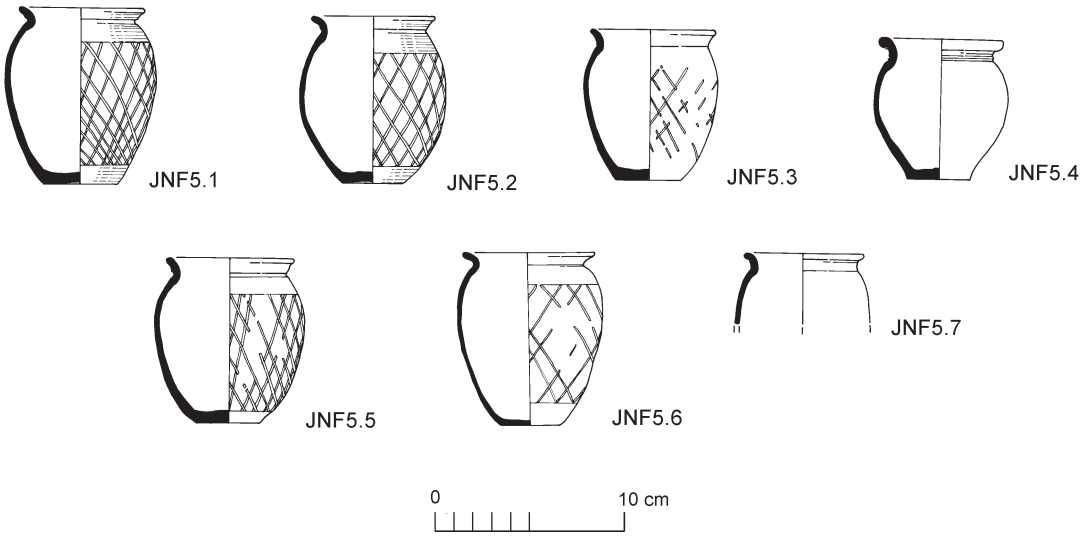
JNF3a and JNF122


JNF4
cremated bone
scorched clay base and edges
sx
sx
scorched clay base and edges including under the cremated bone
cremated bone
cremated bone
charcoal-rich fill
NW
SE
33.41m AOD
0
0.5
metre

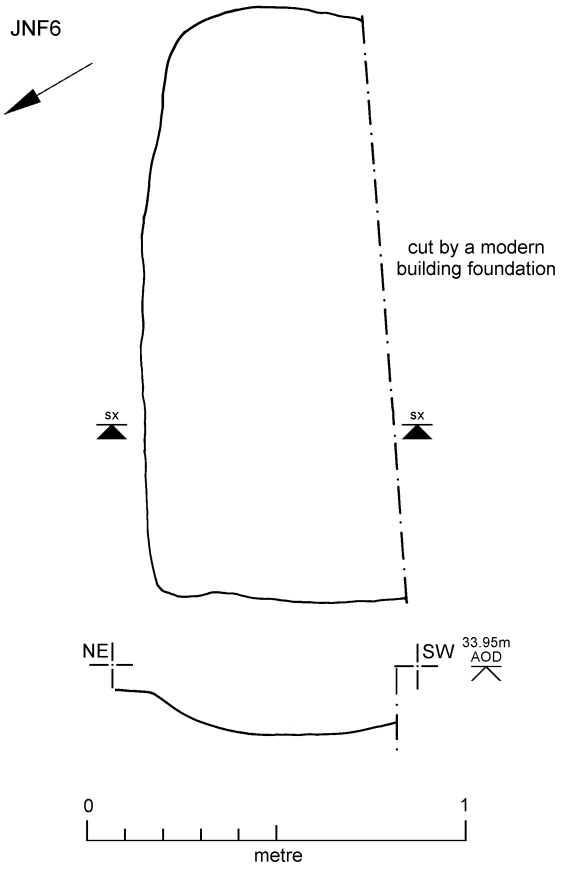
JNF4


JNF5
sx
charcoal-rich fill
miniature jar JNF5.1
miniature jar JNF5.2
miniature jar JNF5.3
miniature jar JNF5.4
miniature jar JNF5.6
miniature jar JNF5.5
sx
E
W
33.34m AOD
0
0.5
metre

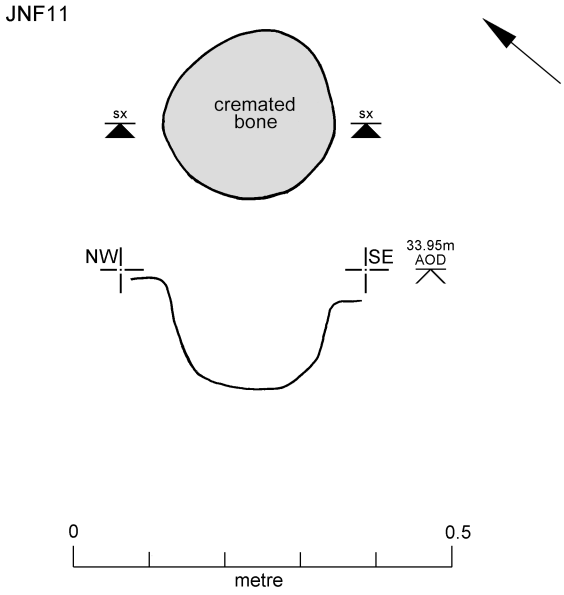
JNF5



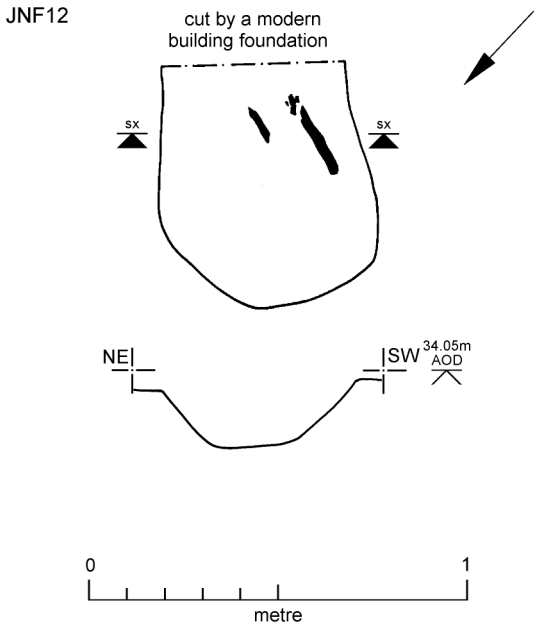
JNF5


JNF6
cut by a modern
building foundation
SX
SX
NE
SW
33.95m
AOD
0
1
metre

JNF6

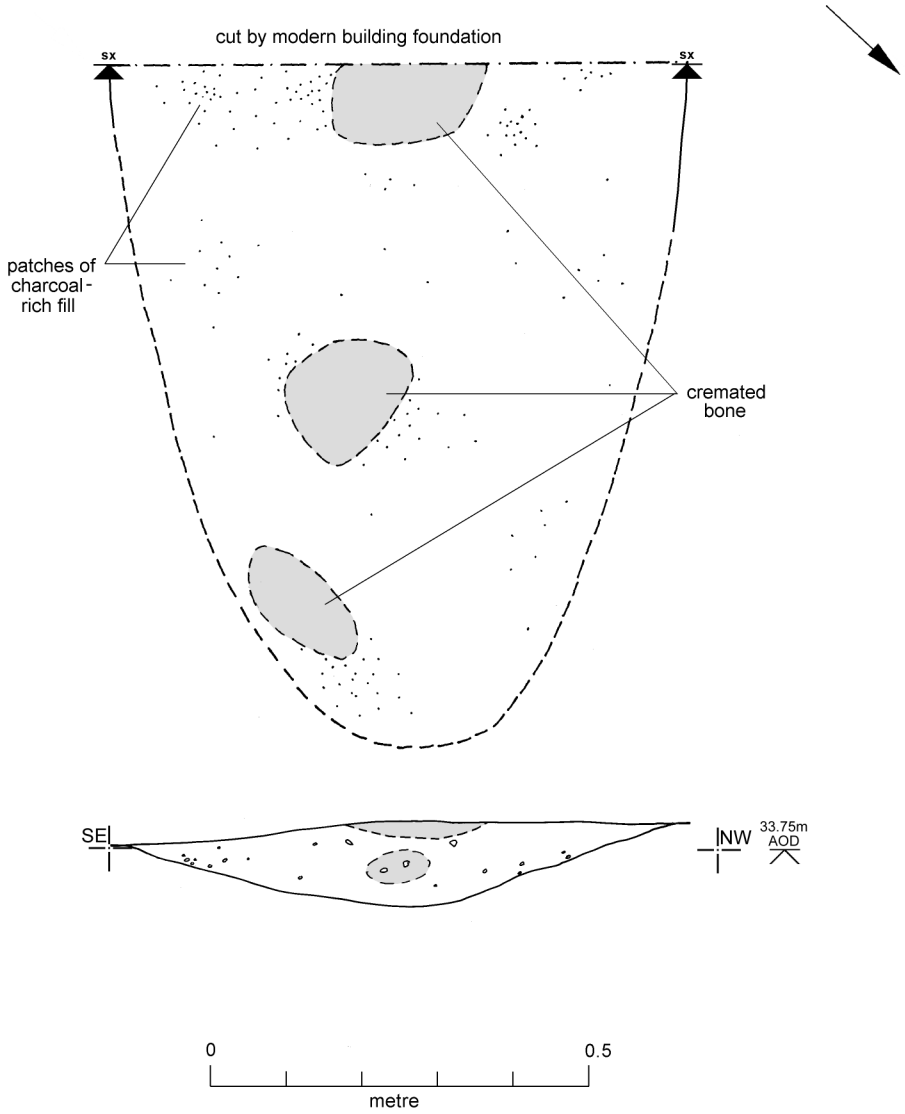


JNF11


JNF12
cut by a modern
building foundation
sx
sx
NE
SW
34.05m
AOD
0
1
metre

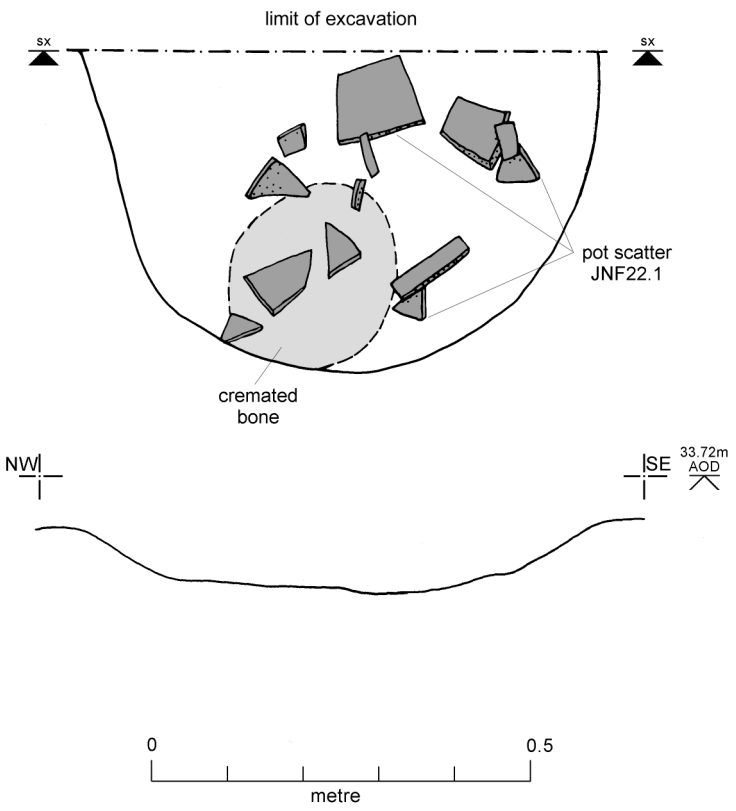
JNF12

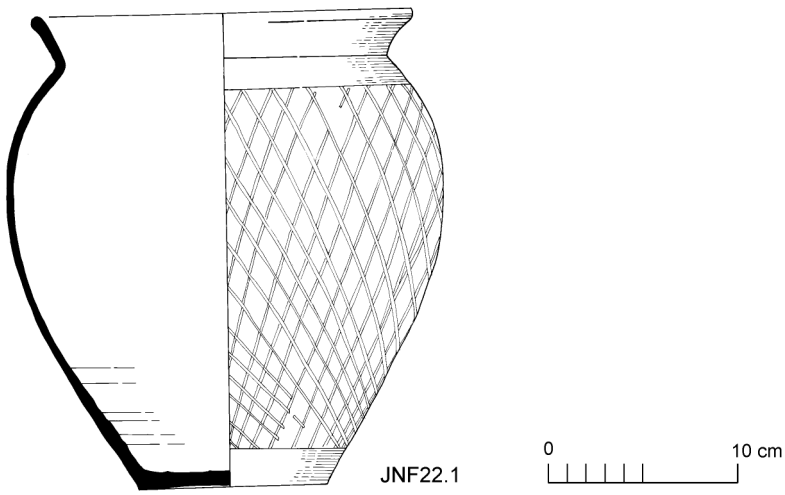
JNF21


cut by modern building foundation
sx
sx
patches of charcoal-rich fill
cremated bone
SE
NW
33.75m AOD
0
0.5
metre

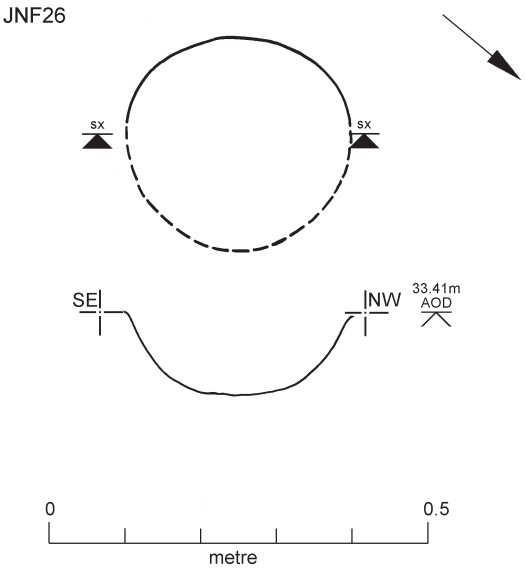
JNF21

JNF22

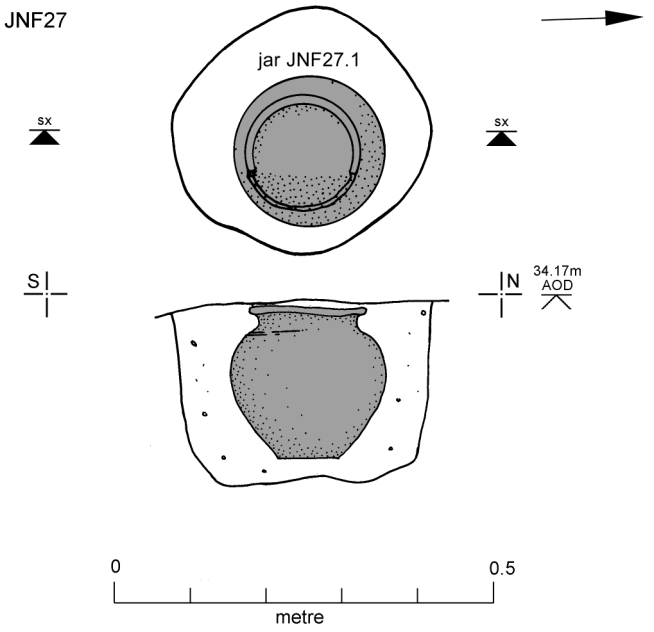

limit of excavation
sx
sx
pot scatter
JNF22.1
cremated
bone
NW
SE
33.72m
AOD
0
0.5
metre

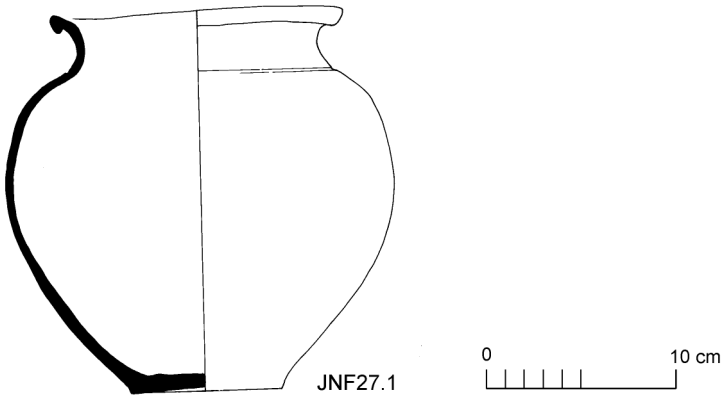

JNF22.1
0
10 cm

JNF22

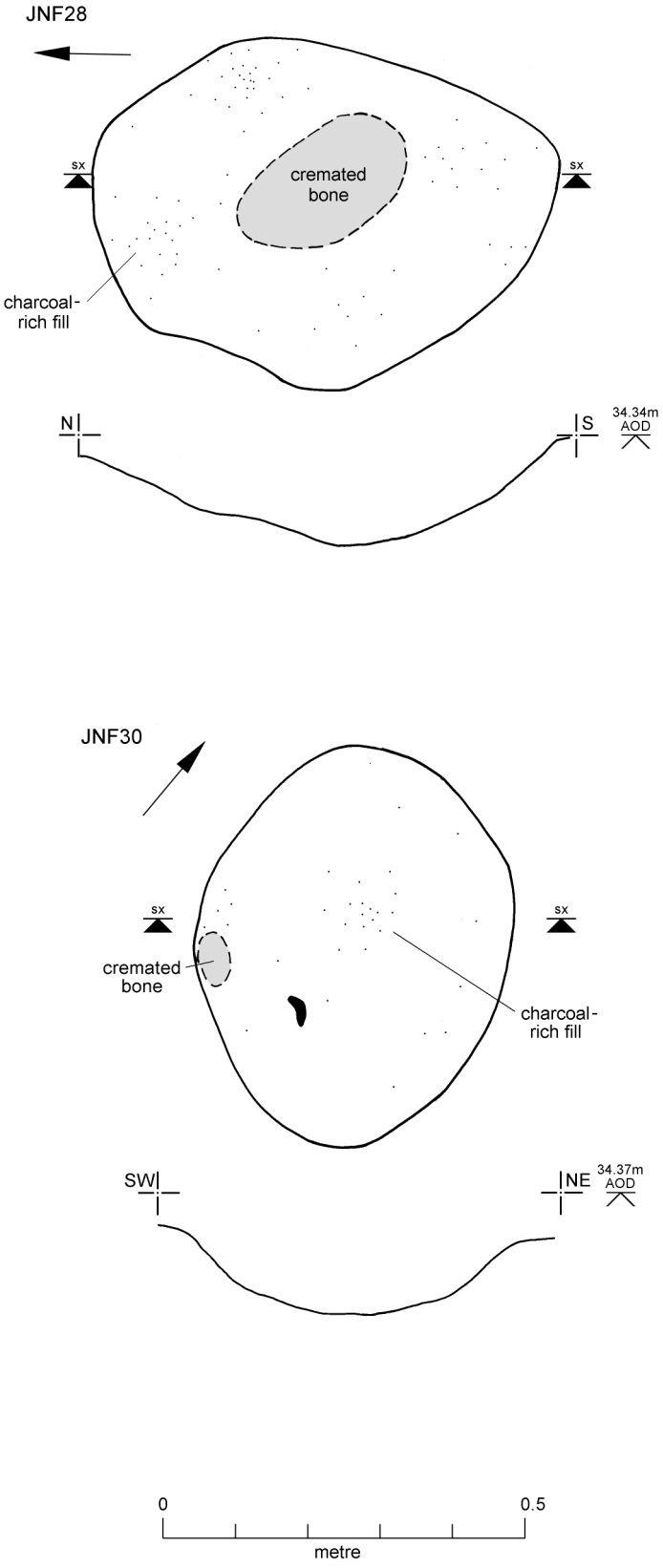


JNF26

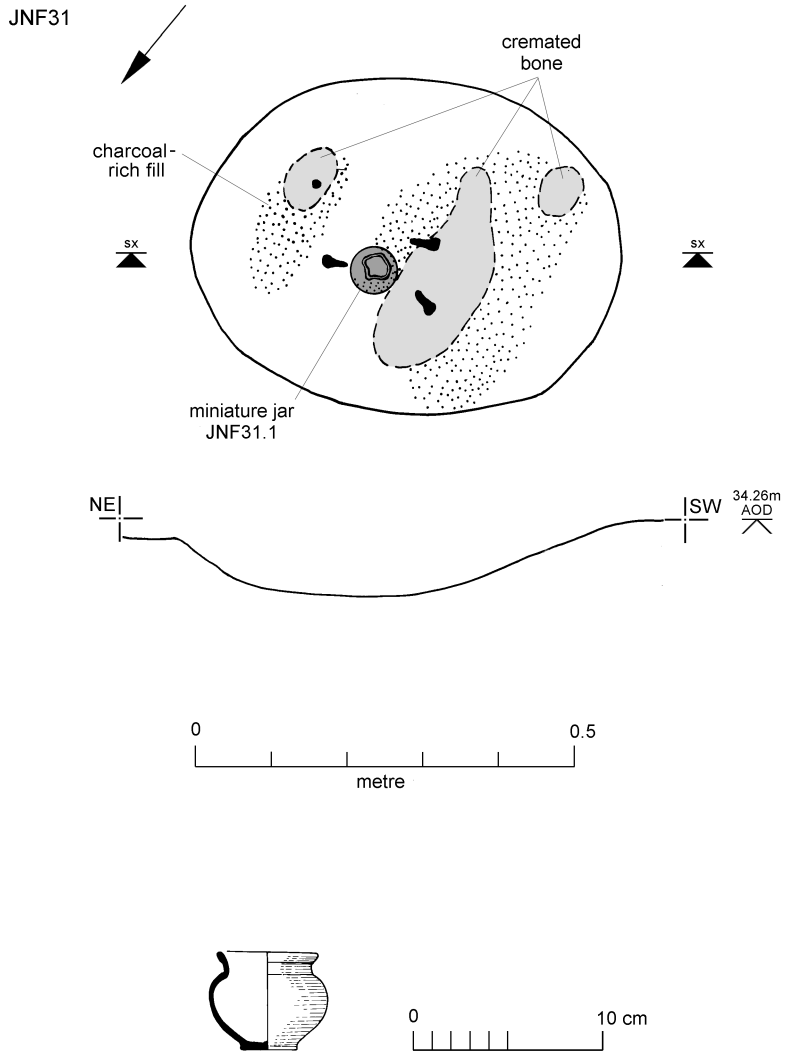




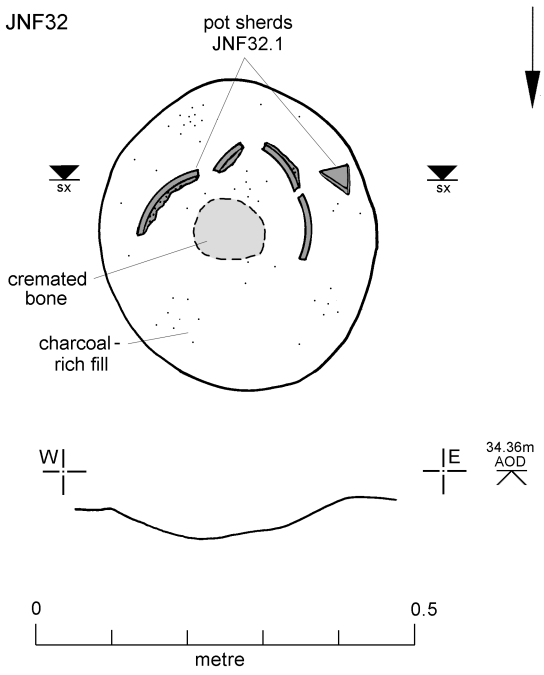
JNF27



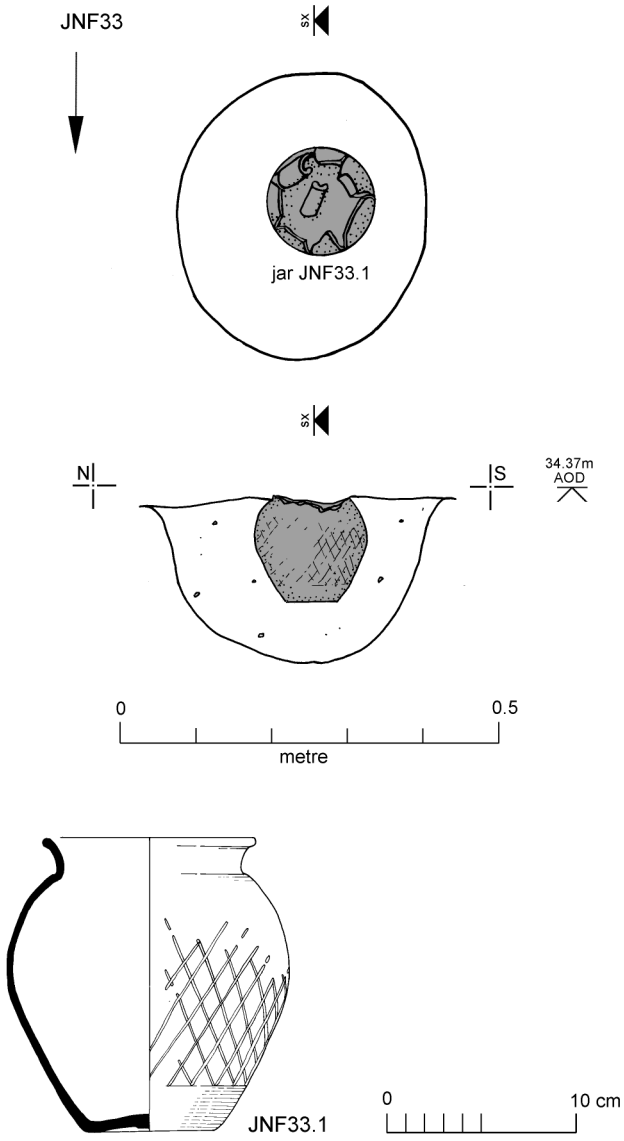
JNF28 and JNF30


JNF31
cremated bone
charcoal-rich fill
sx
sx
miniature jar JNF31.1
NE
SW
34.26m AOD
0
0.5
metre
0
10 cm

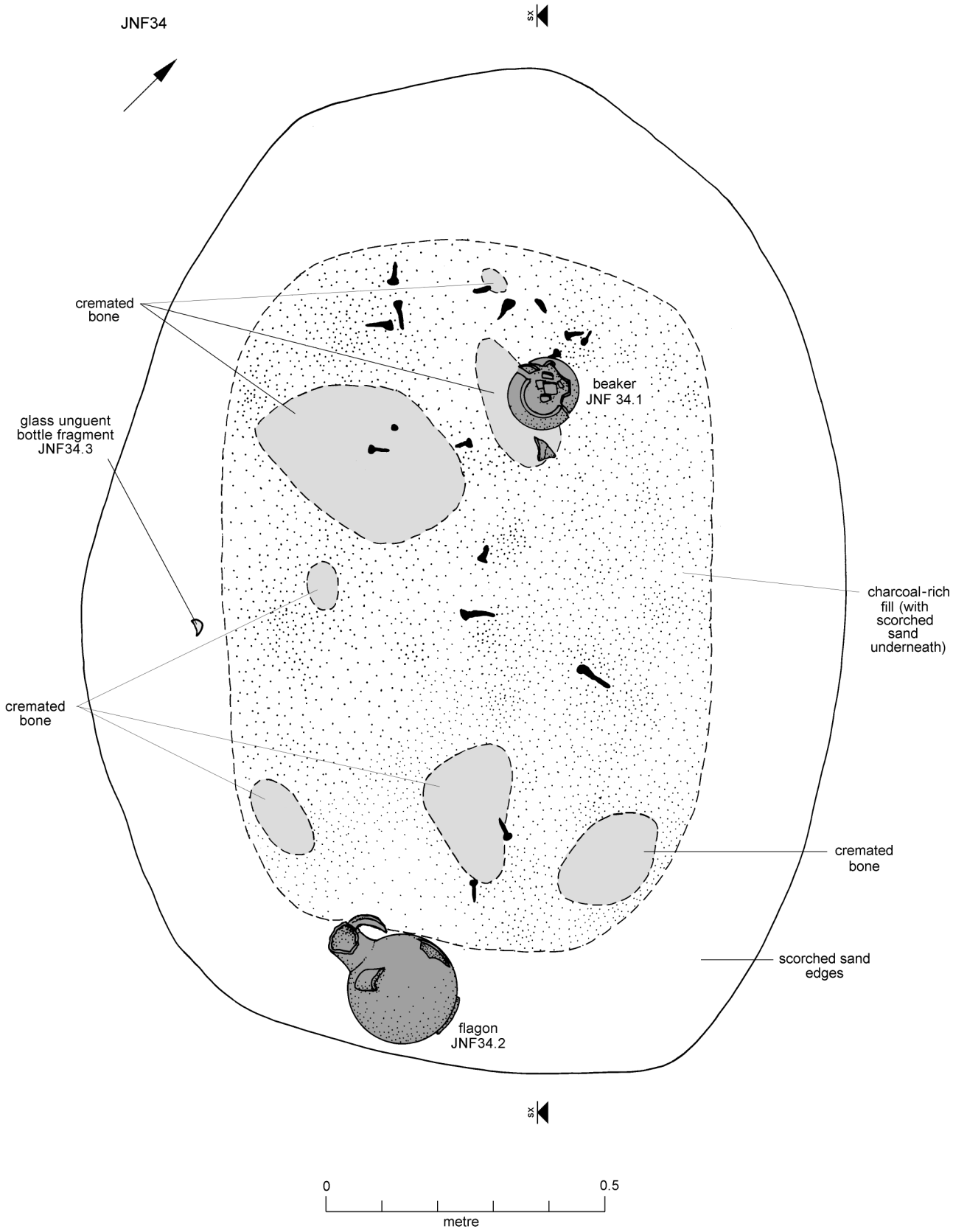
JNF31


JNF32
pot sherds
JNF32.1
sx
sx
cremated
bone
charcoal
rich fill
W
E
34.36m
AOD
0
0.5
metre

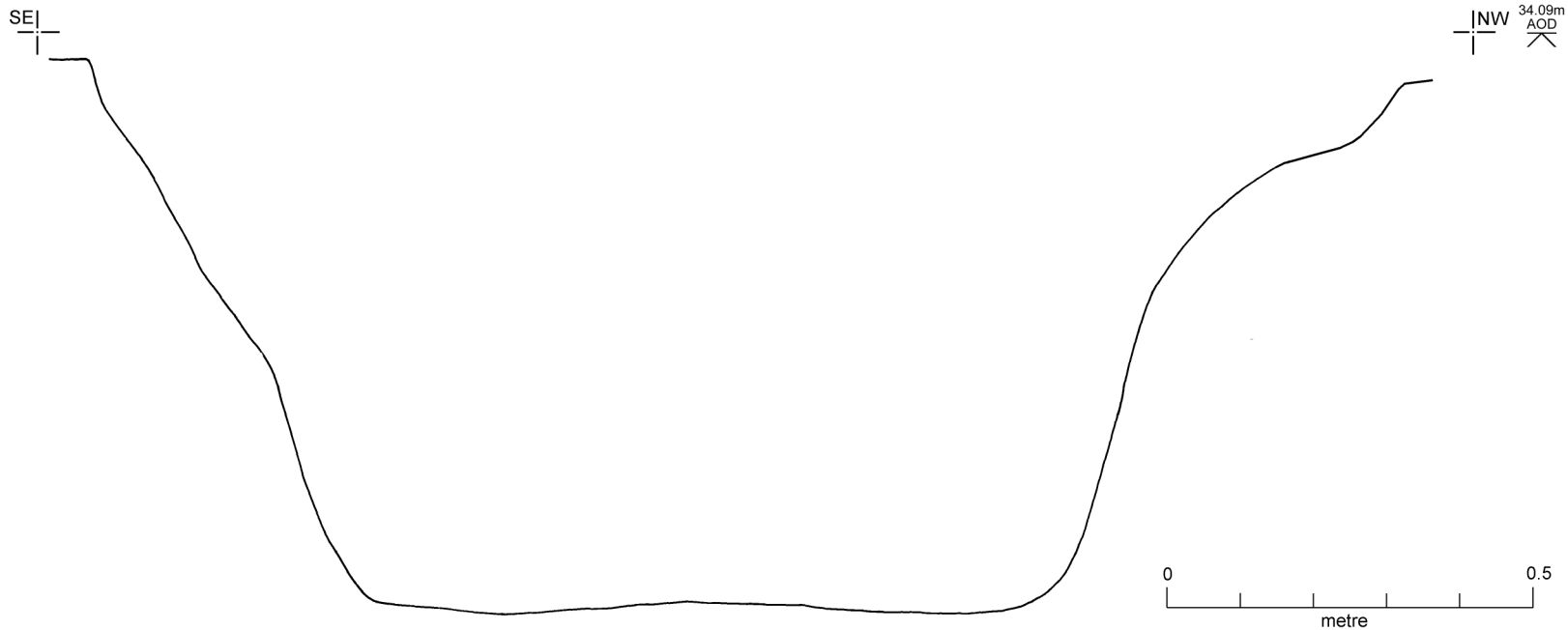
JNF32

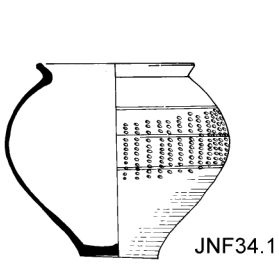


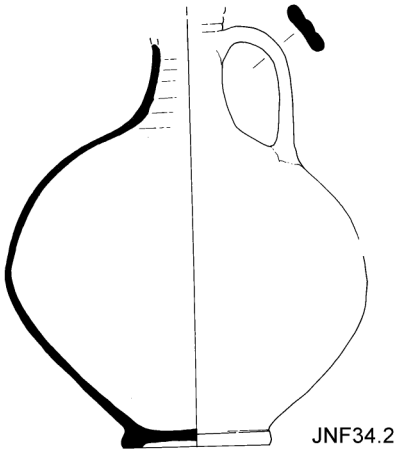
JNF33

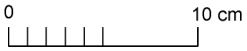

JNF34
sx
cremated bone
beaker JNF 34.1
glass unguent bottle fragment JNF34.3
charcoal-rich fill (with scorched sand underneath)
cremated bone
cremated bone
scorched sand edges
flagon JNF34.2
sx
0
0.5
metre

JNF34

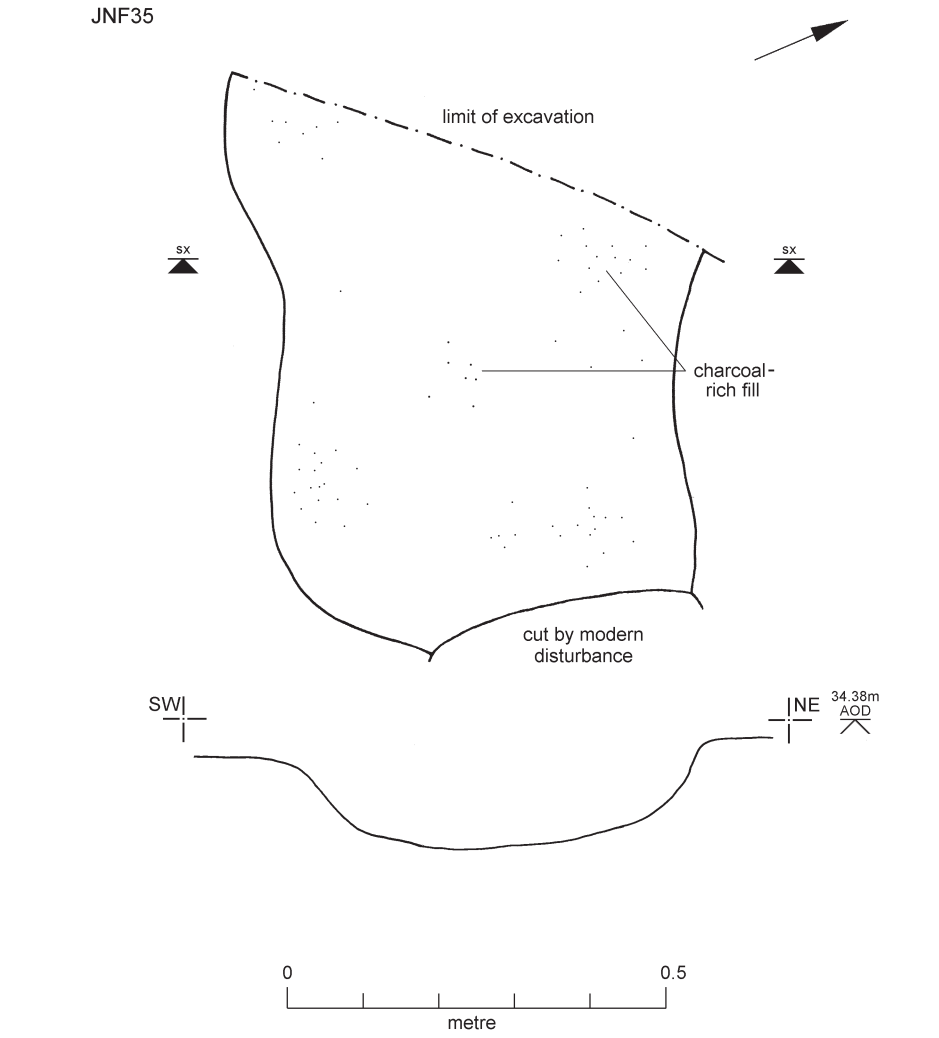


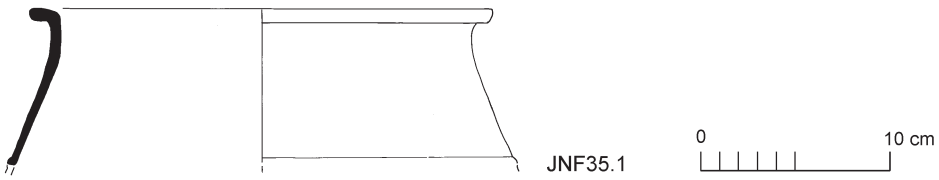




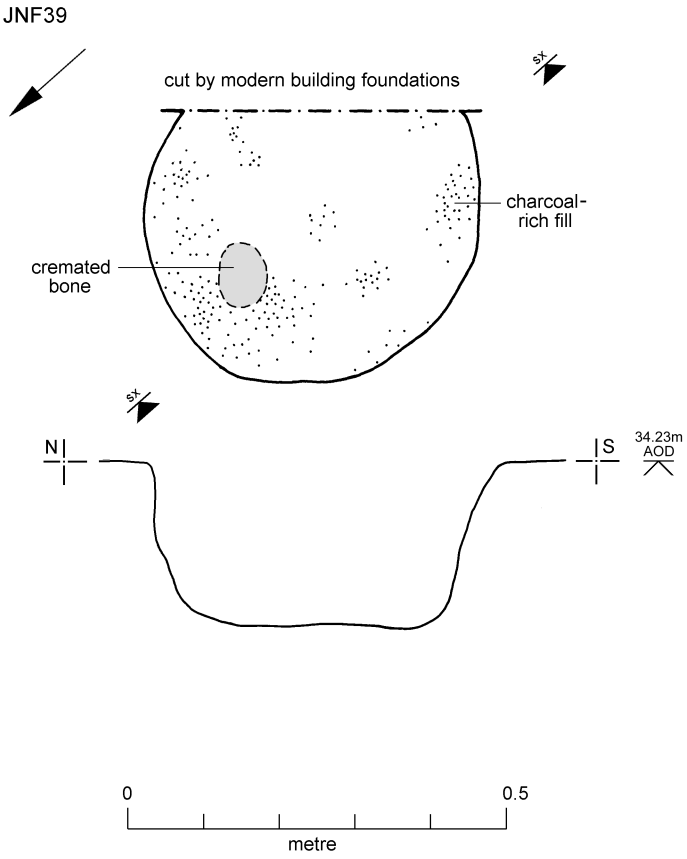


JNF34

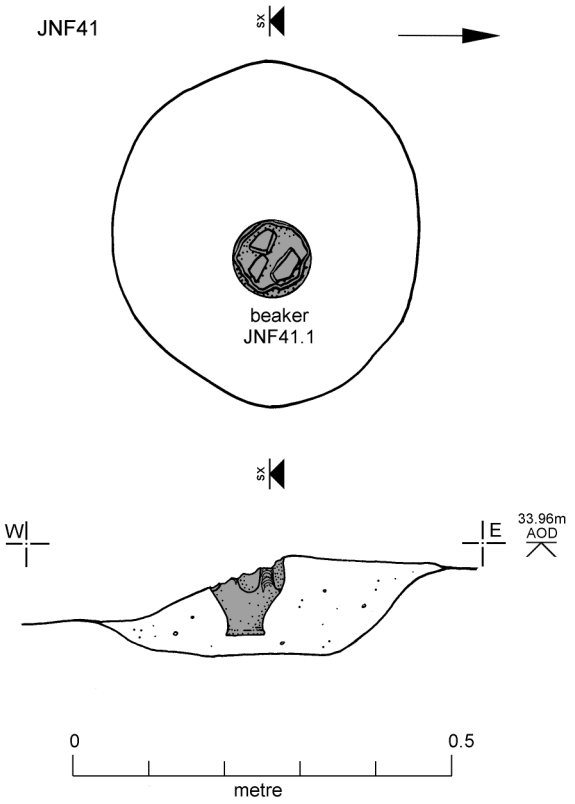

JNF35
limit of excavation
sx
sx
charcoal-rich fill
cut by modern disturbance
SW
NE
34.38m AOD
0
0.5
metre

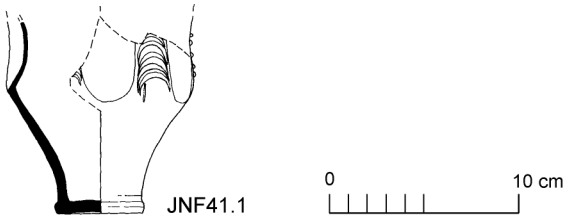

JNF35.1
0
10 cm

JNF35

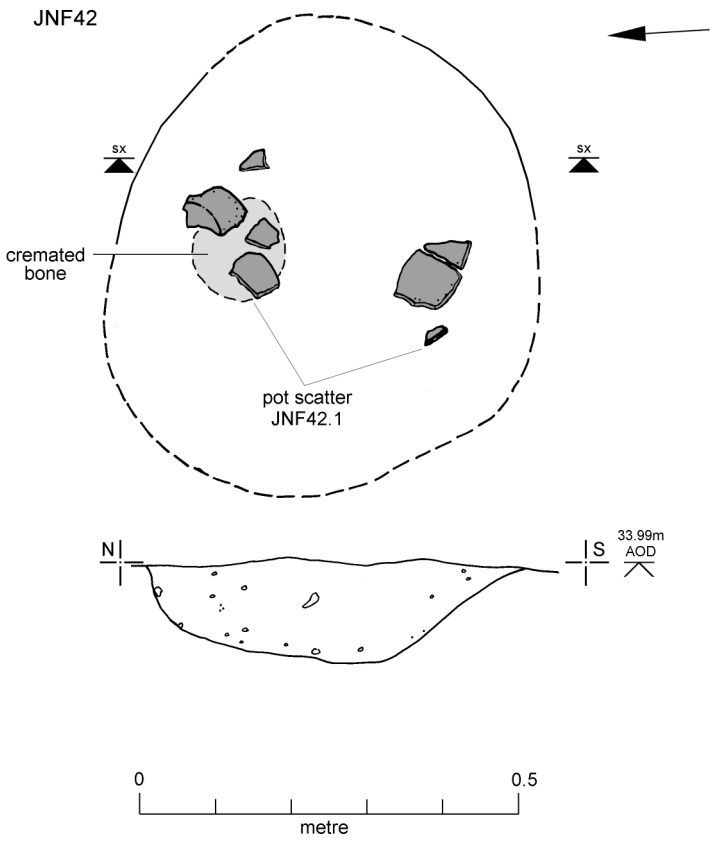

JNF39
cut by modern building foundations
sx
charcoal-rich fill
cremated bone
sx
N
S
34.23m AOD
0
0.5
metre

JNF39

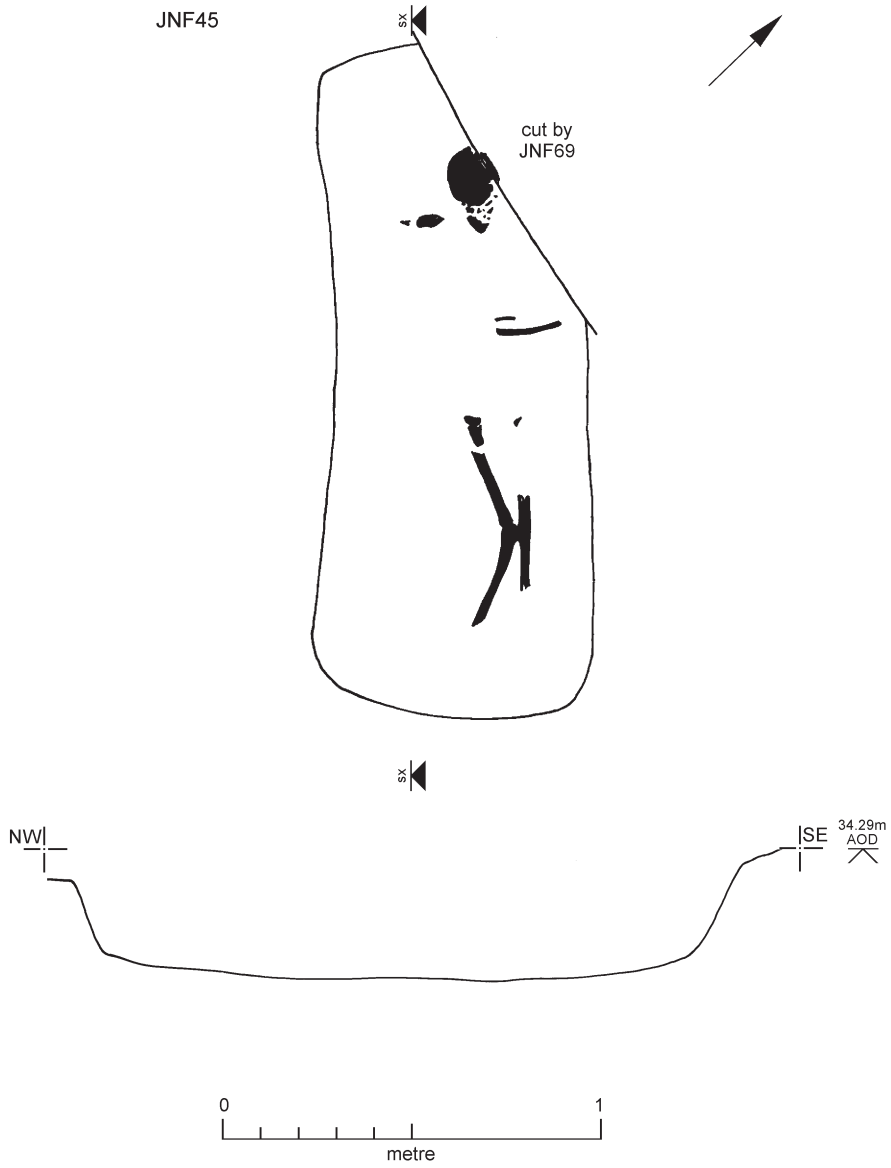

JNF41
SX
beaker
JNF41.1
SX
W
E
33.96m
AOD
0
0.5
metre


JNF41.1
0
10 cm

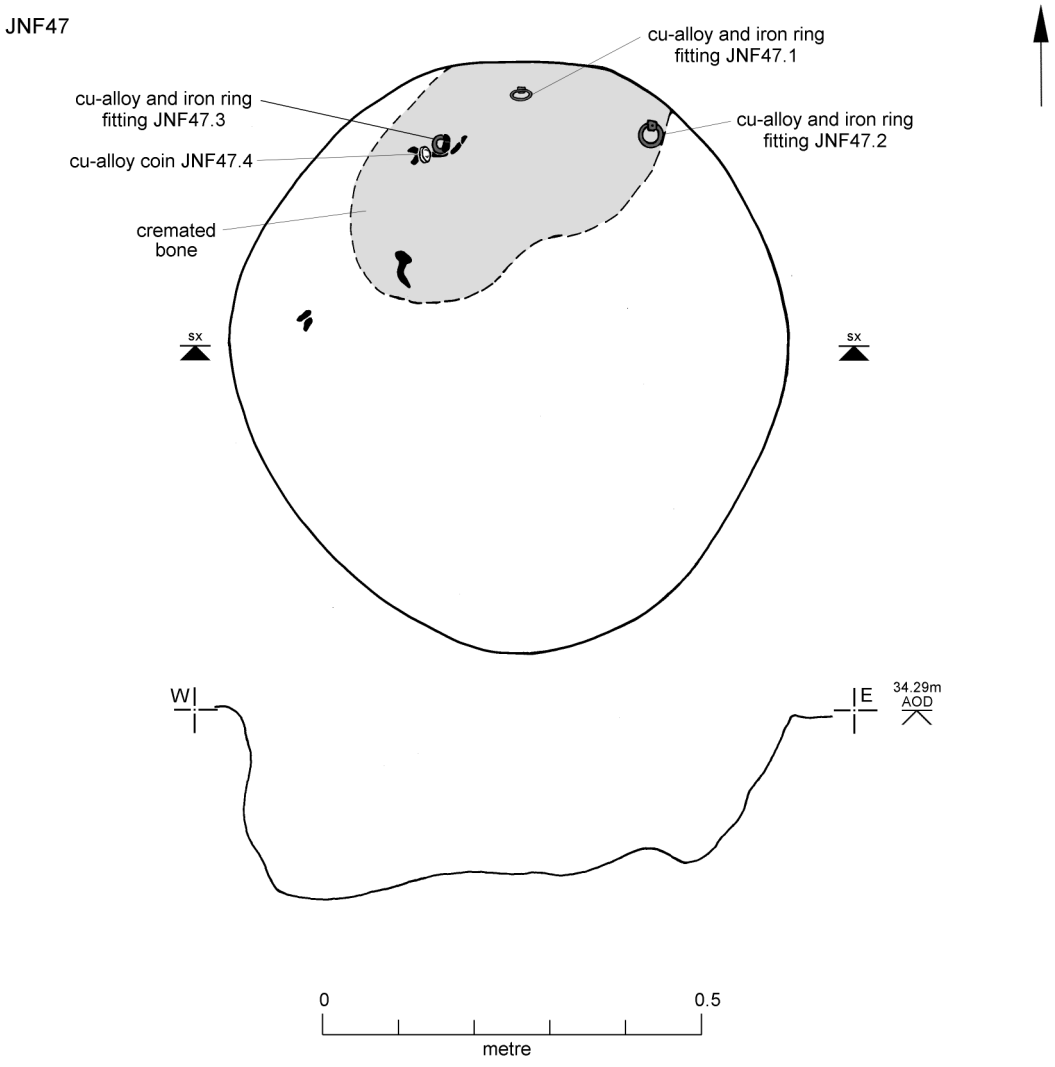
JNF41

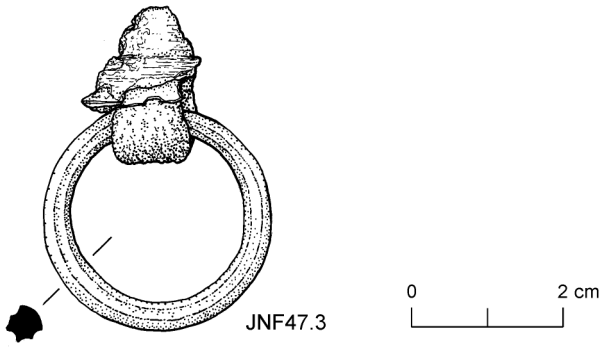

JNF42
sx
sx
cremated bone
pot scatter JNF42.1
N
S
33.99m AOD
0
0.5
metre

JNF42

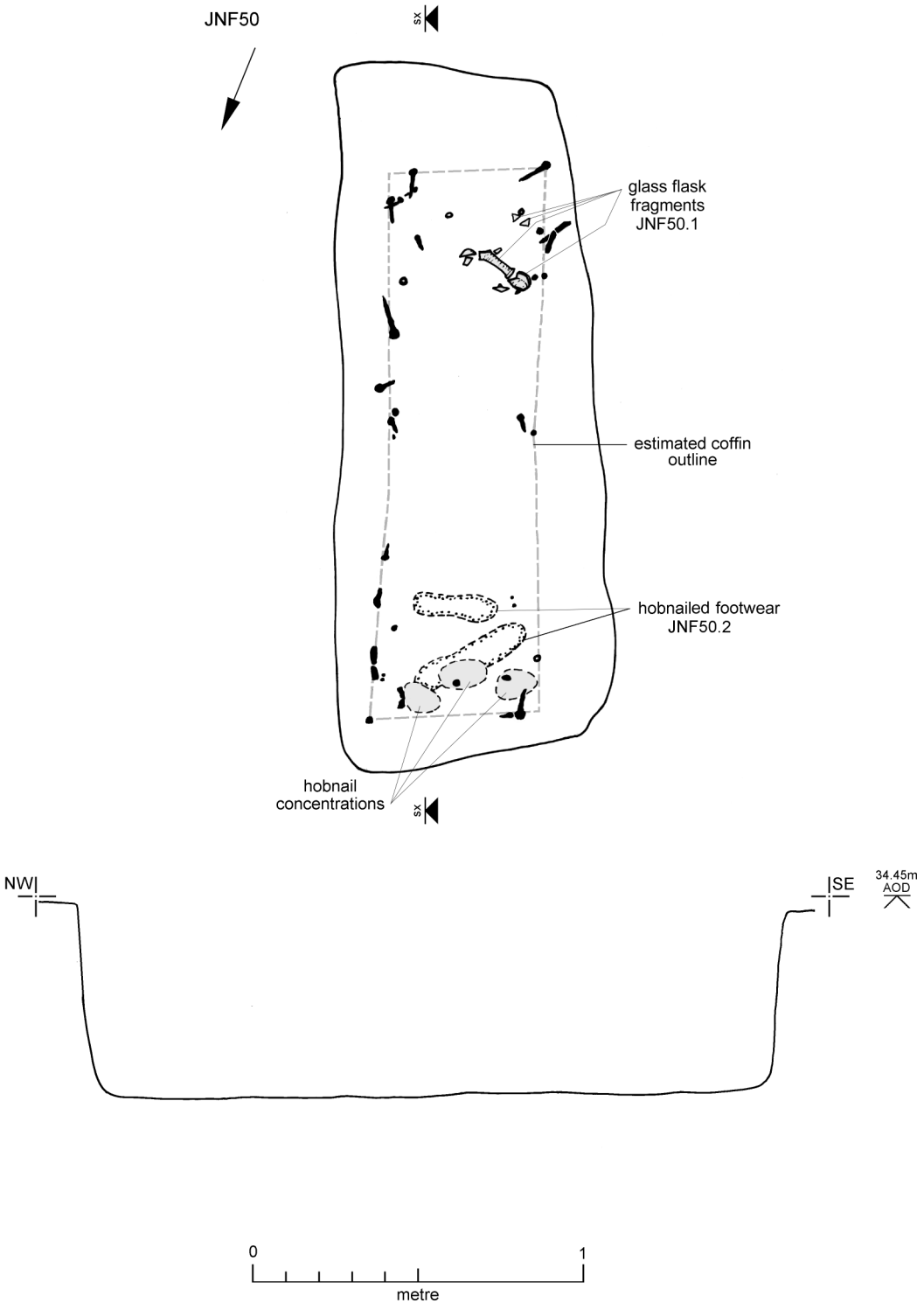


JNF45

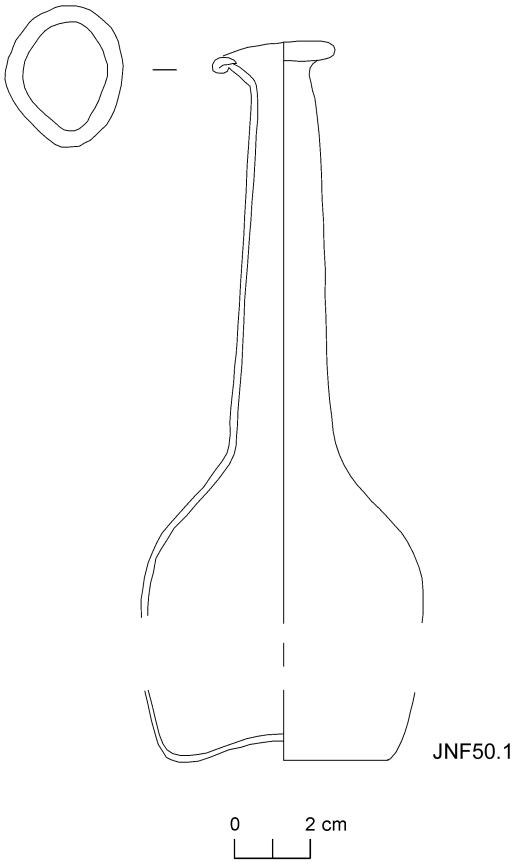

JNF47
cu-alloy and iron ring fitting JNF47.1
cu-alloy and iron ring fitting JNF47.3
cu-alloy and iron ring fitting JNF47.2
cu-alloy coin JNF47.4
cremated bone
sx
sx
W
E
34.29m AOD
0
0.5
metre


JNF47.3
0
2 cm

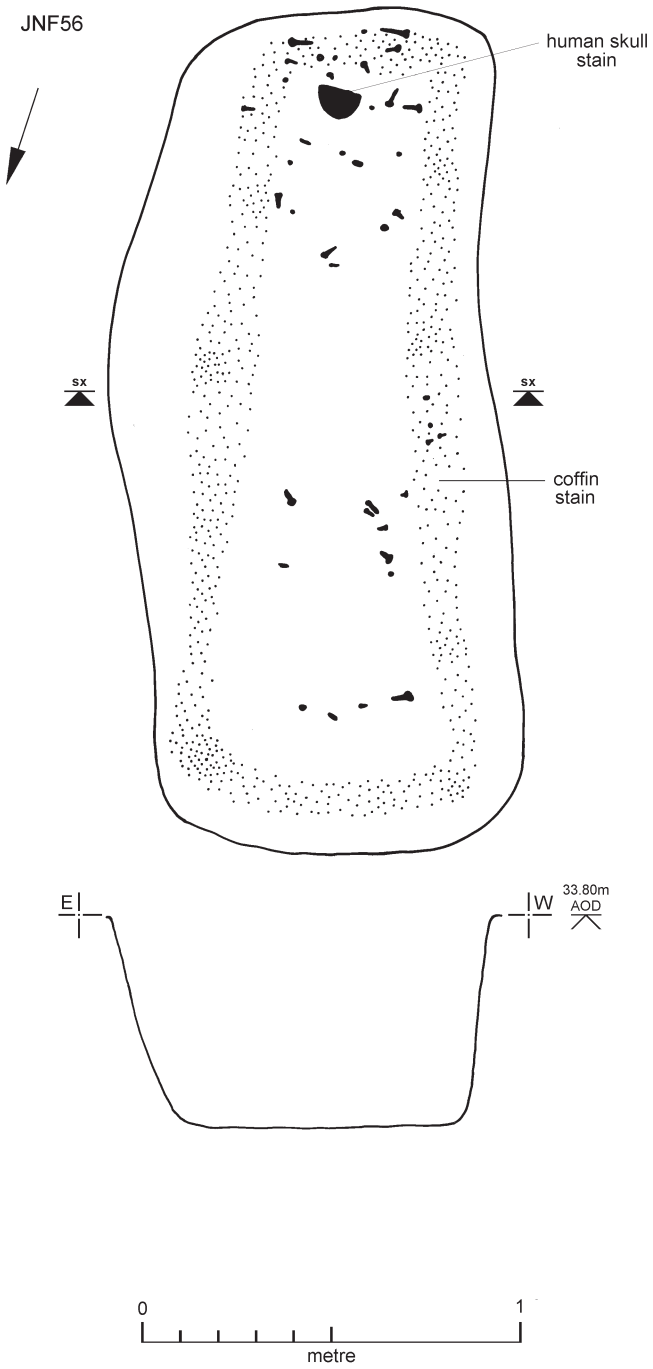
JNF47


JNF50
SX
glass flask fragments JNF50.1
estimated coffin outline
hobnailed footwear JNF50.2
hobnail concentrations
SX
NW
SE
34.45m AOD
0
1
metre

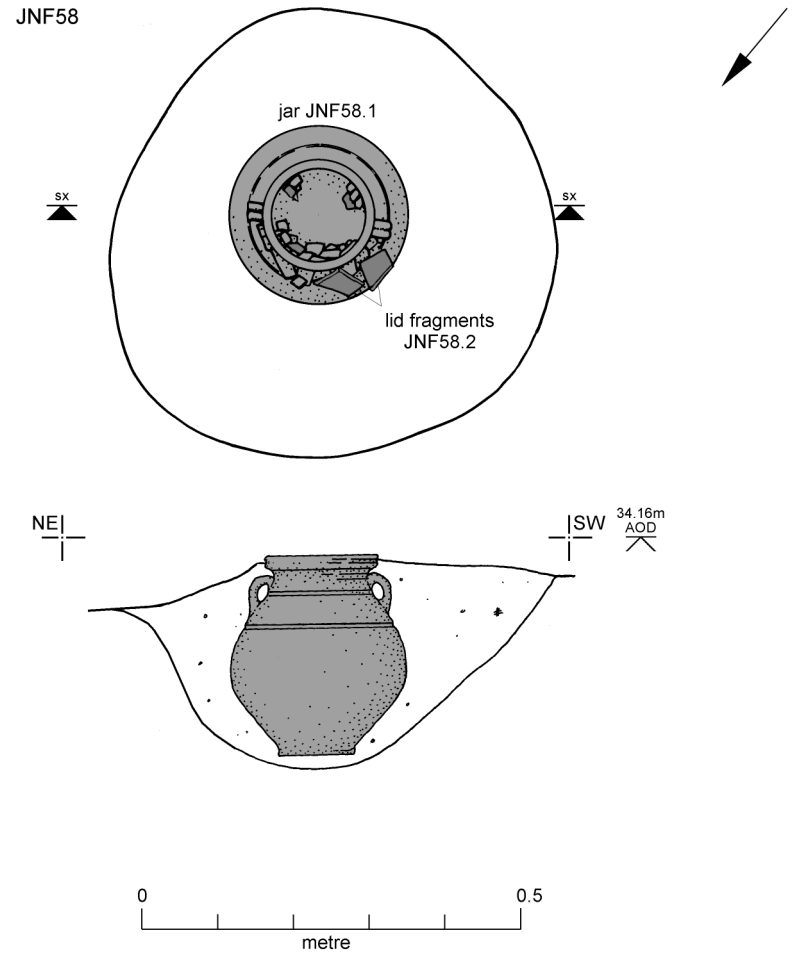
JNF50

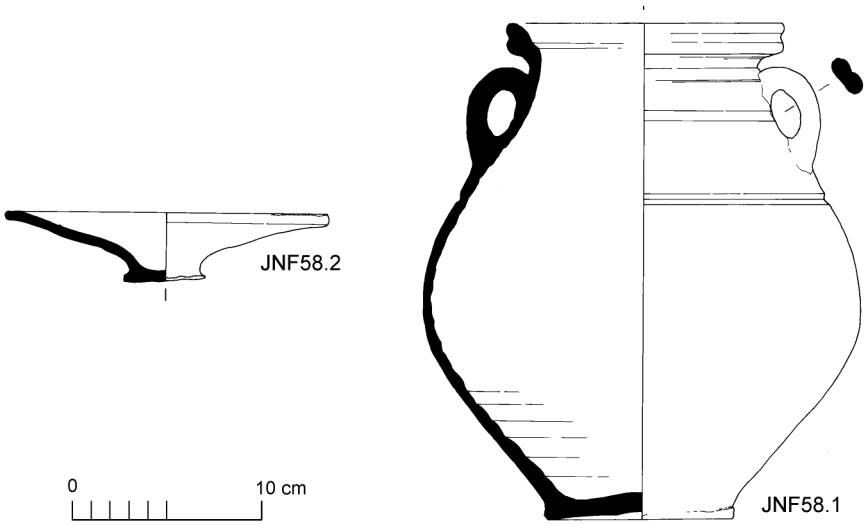


JNF50

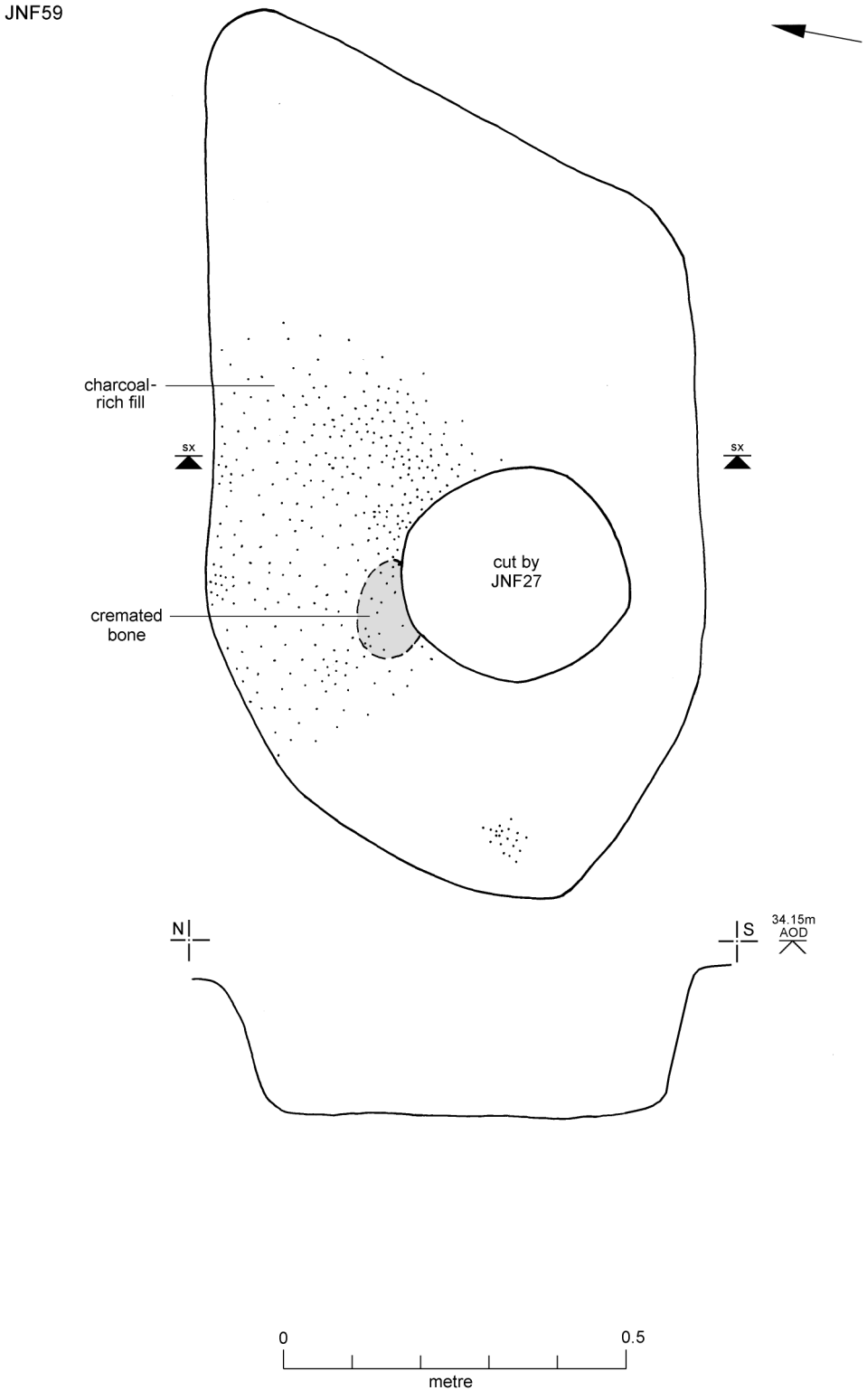

JNF56
human skull stain
sx
sx
coffin stain
E
W
33.80m AOD
0
1
metre

JNF56


JNF58
jar JNF58.1
sx
sx
lid fragments
JNF58.2
NE
SW
34.16m
AOD
0
0.5
metre

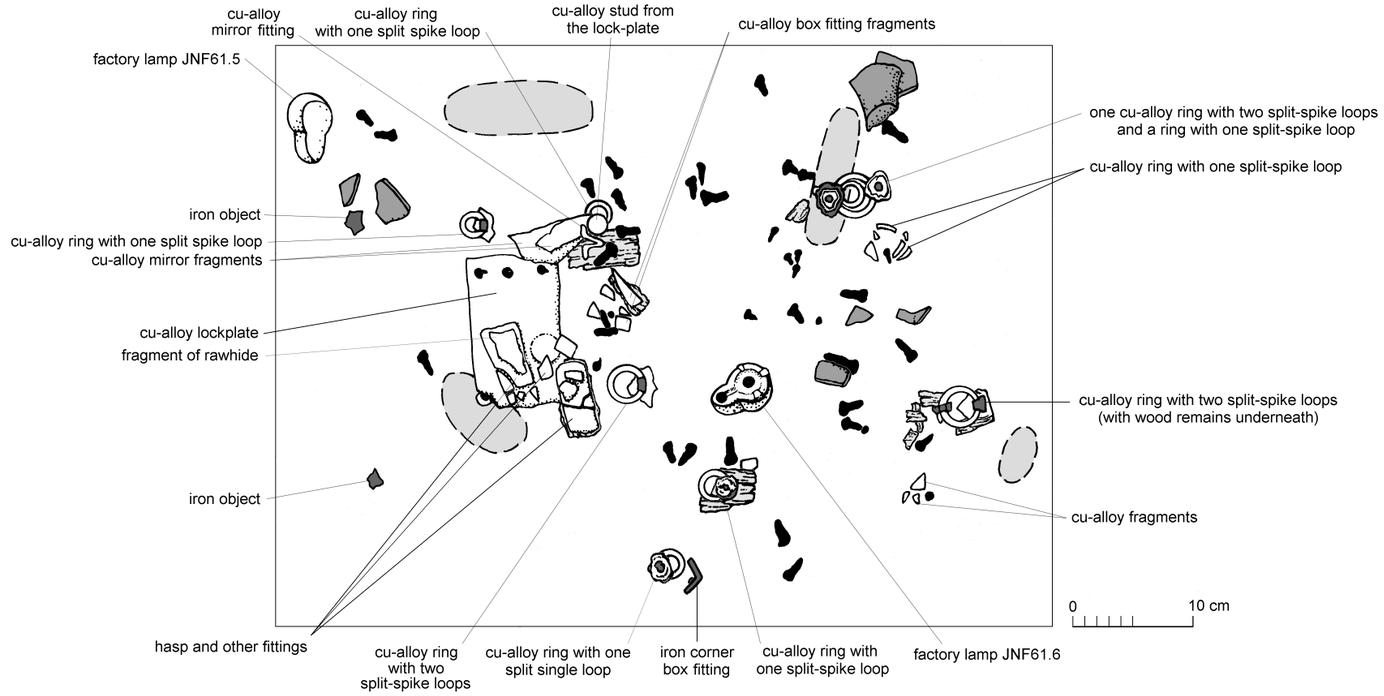

JNF58.2
0
10 cm
JNF58.1

JNF58

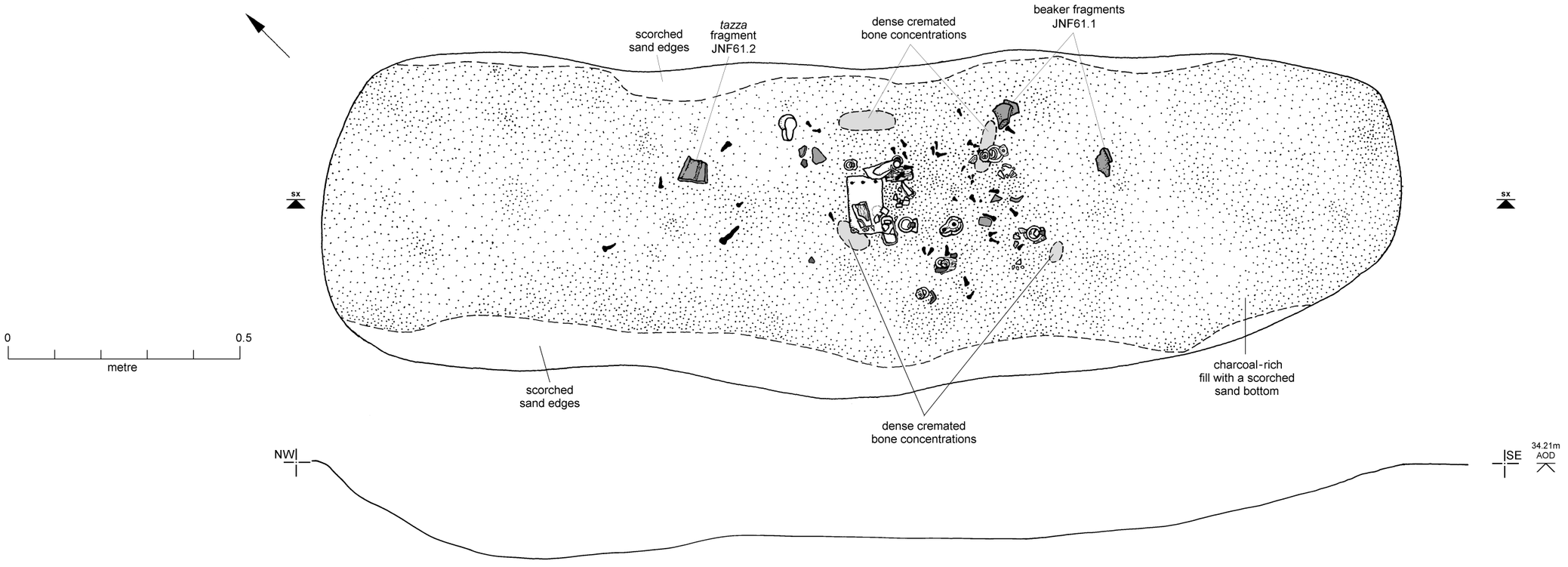

JNF59
charcoal-rich fill
sx
sx
cut by JNF27
cremated bone
N
S
34.15m AOD
0
0.5
metre

JNF59

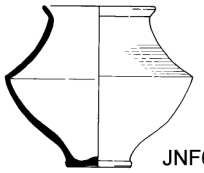
all box fittings JNF61.9



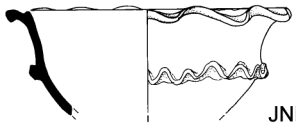
JNF61



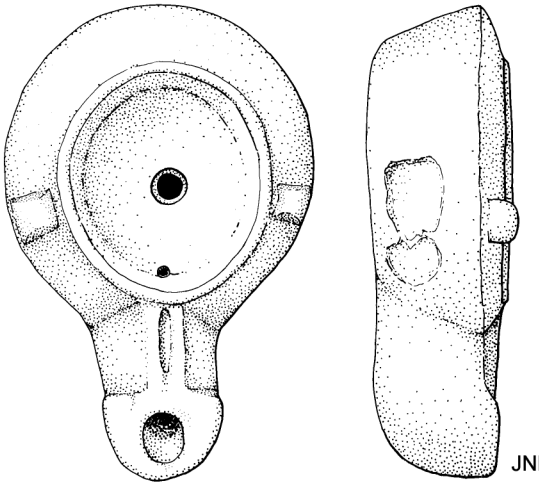
JNF61



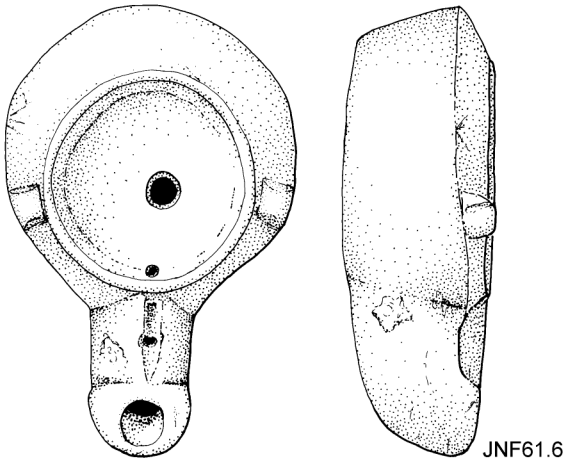
JNF61.1



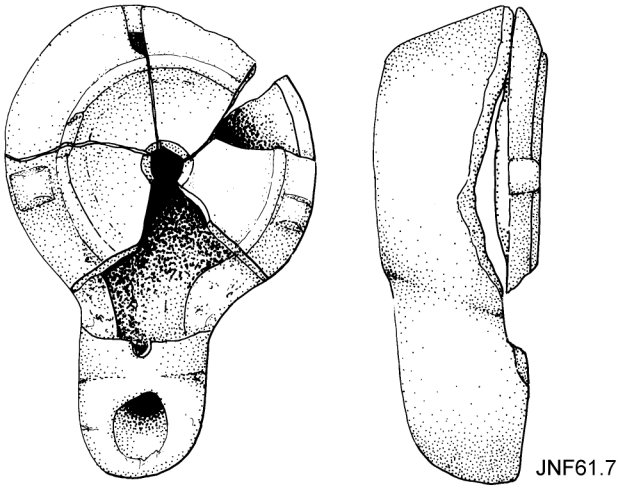
JNF61.2



JNF61.5

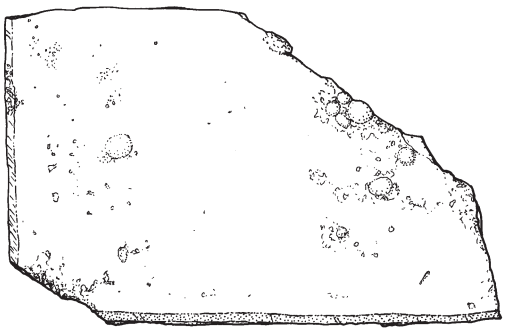


JNF61.6



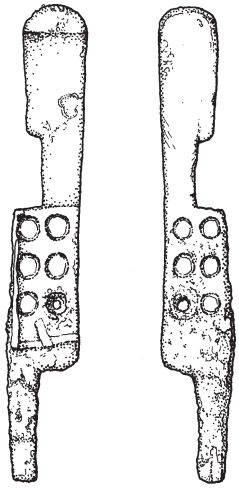
JNF61.7

JNF61



JNF61.8

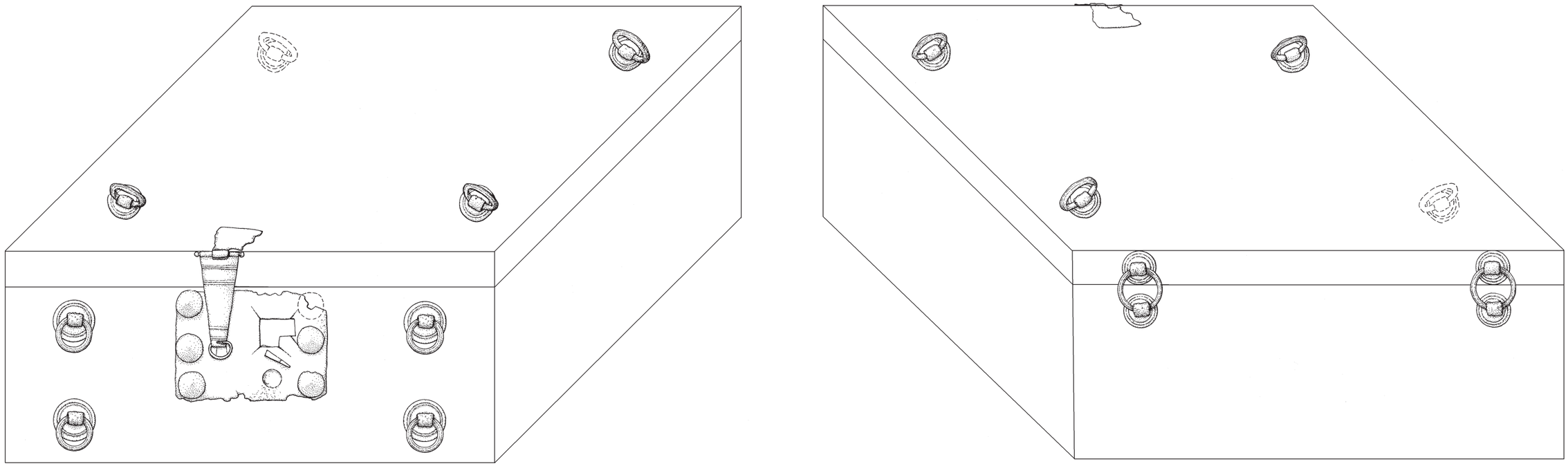
JNF6.8



JNF61.9

JNF61

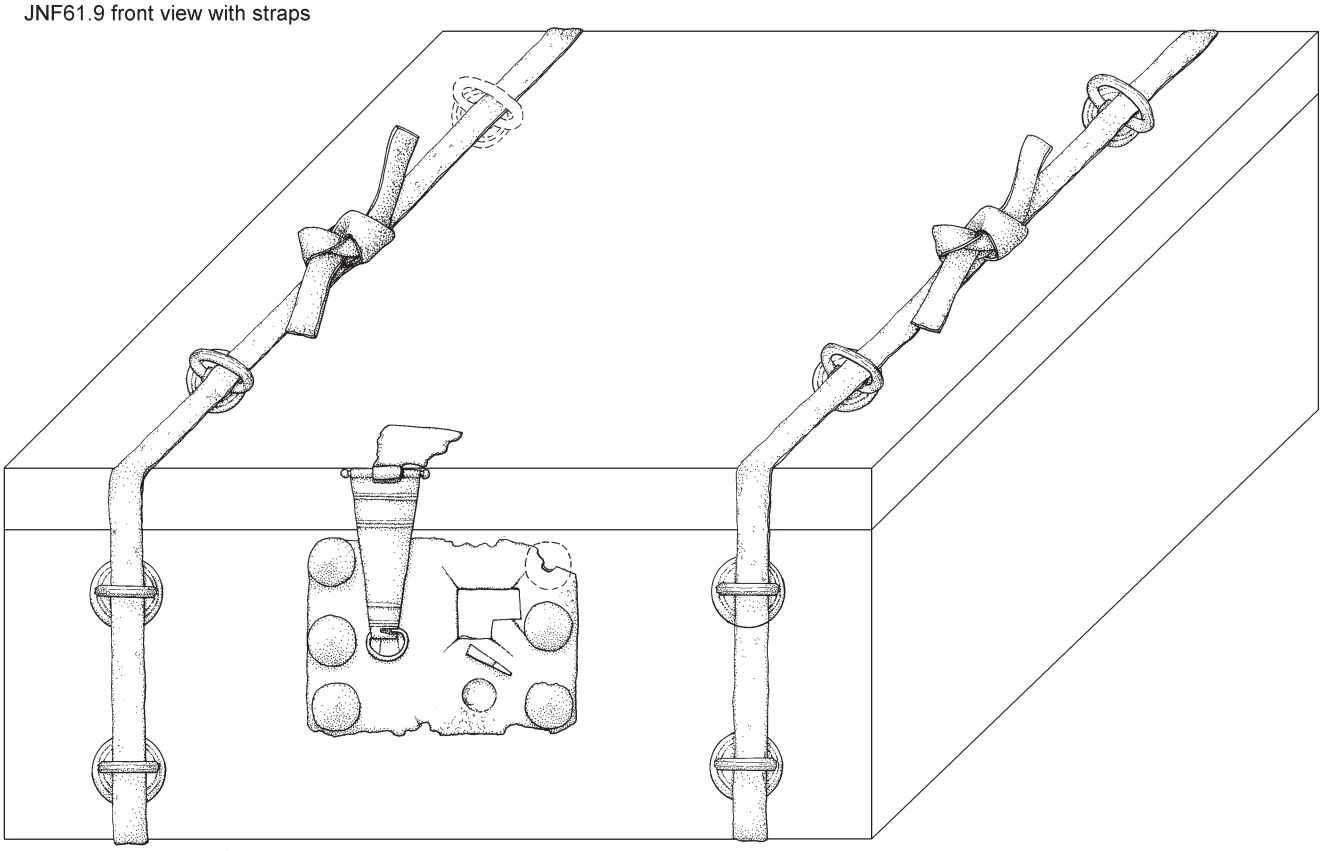
JNF61.9 front and back view without straps



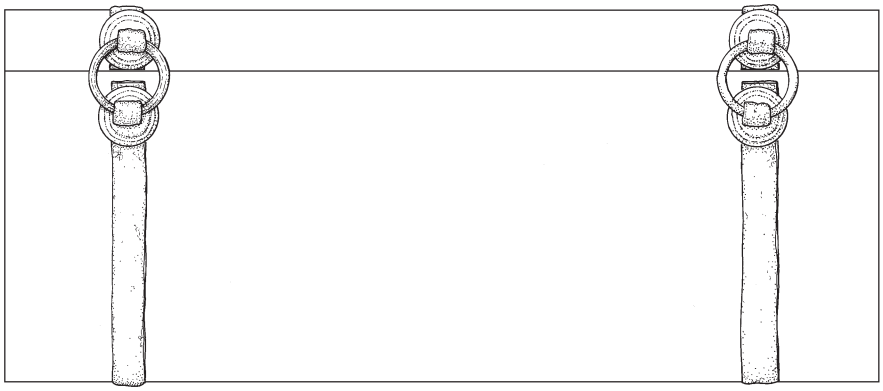
0 5 cm

JNF61

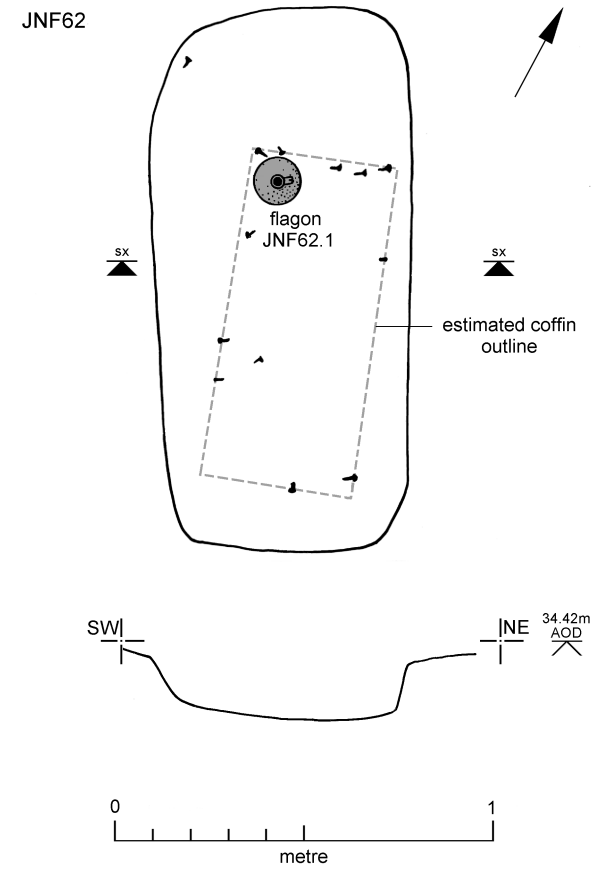
JNF61.9 front view with straps

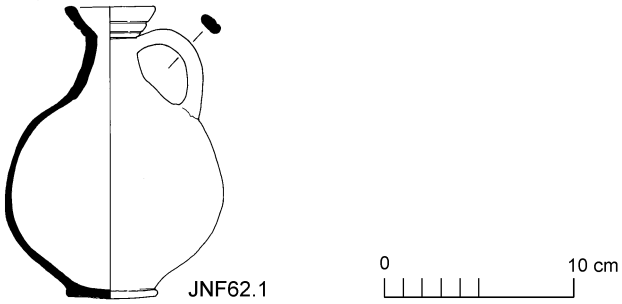


back view with straps

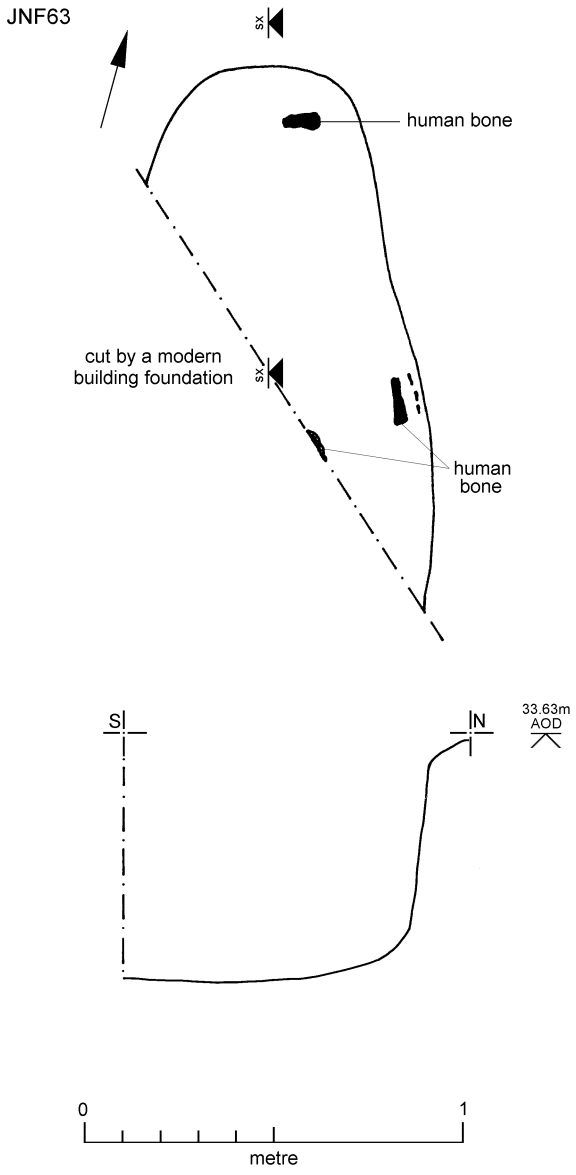


JNF61

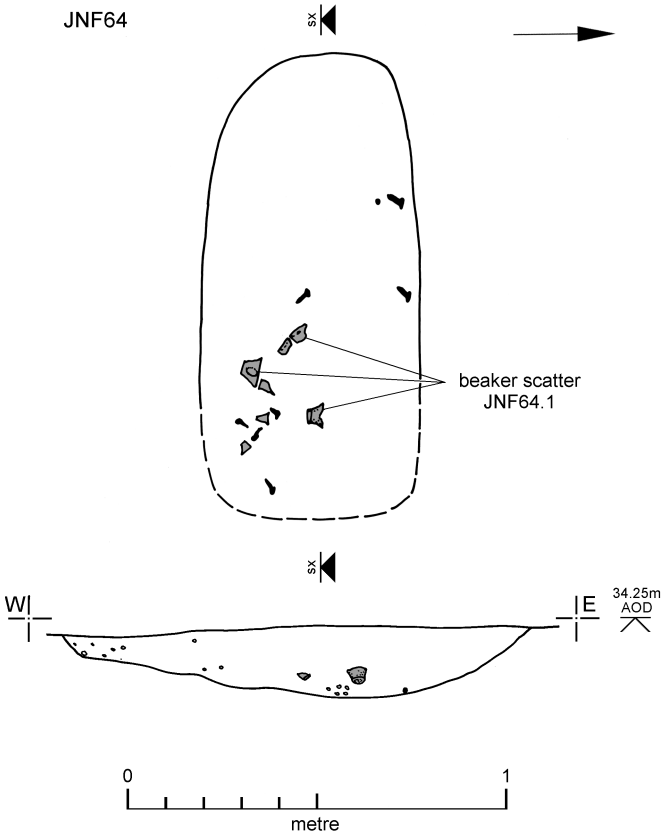

JNF62
flagon
JNF62.1
sx
sx
estimated coffin
outline
SW
NE
34.42m
AOD
0
1
metre

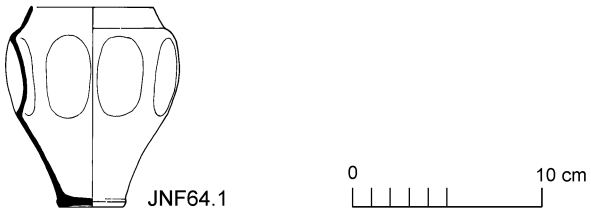

JNF62.1
0
10 cm

JNF62

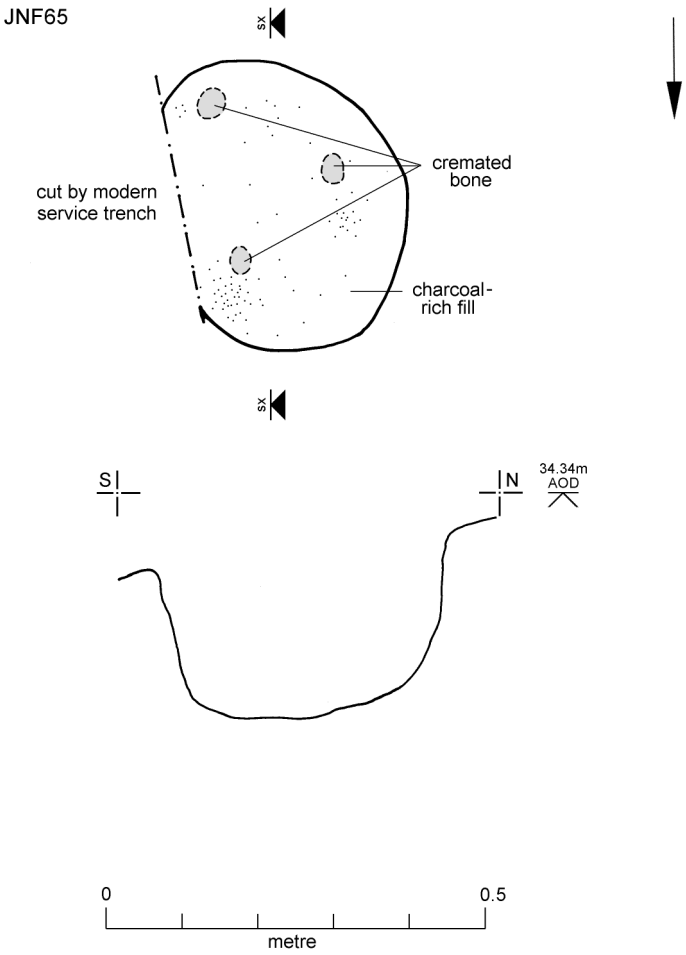

JNF63
SX
human bone
cut by a modern
building foundation
SX
human
bone
S
N
33.63m
AOD
0
1
metre

JNF63

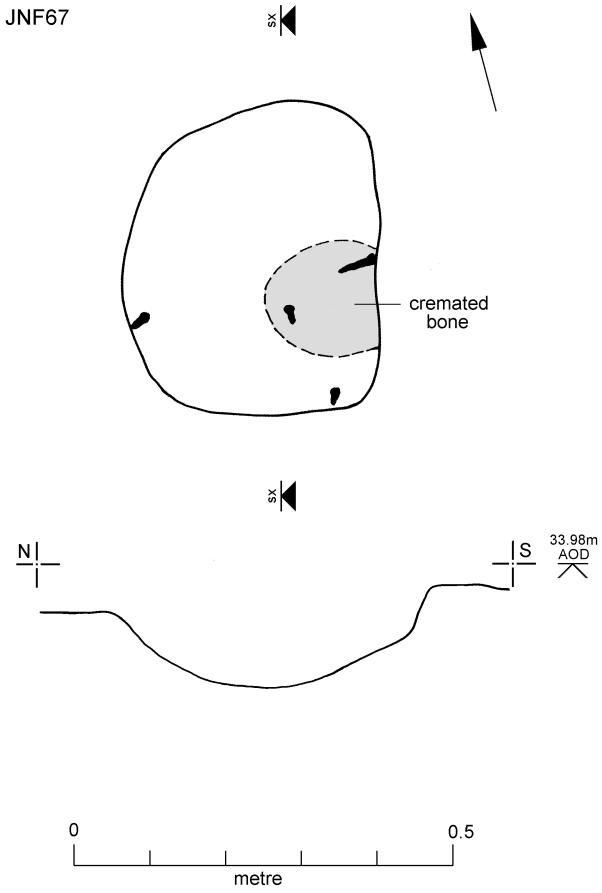

JNF64
SX
beaker scatter
JNF64.1
SX
W
E
34.25m
AOD
0
1
metre


JNF64.1
0
10 cm

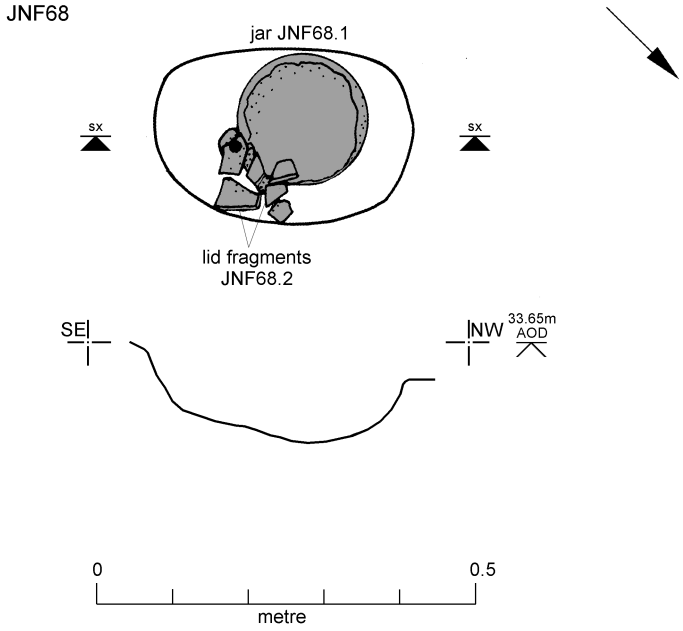
JNF64

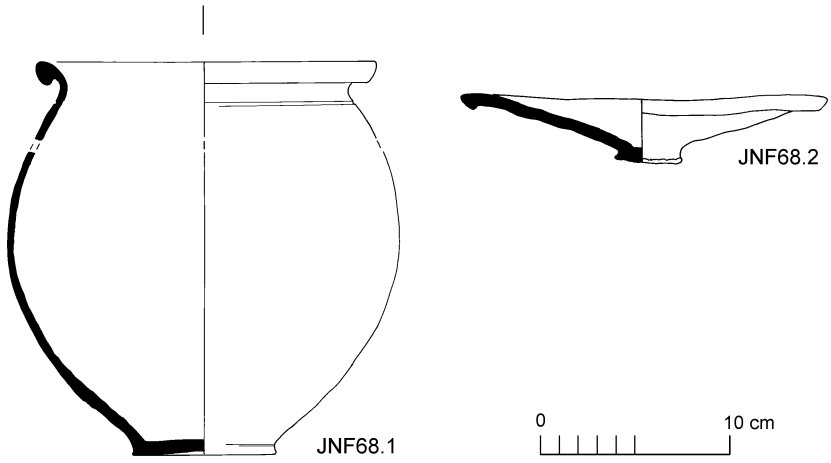

JNF65
sx
cremated bone
cut by modern service trench
charcoal-rich fill
sx
S
N
34.34m AOD
0
0.5
metre

JNF65

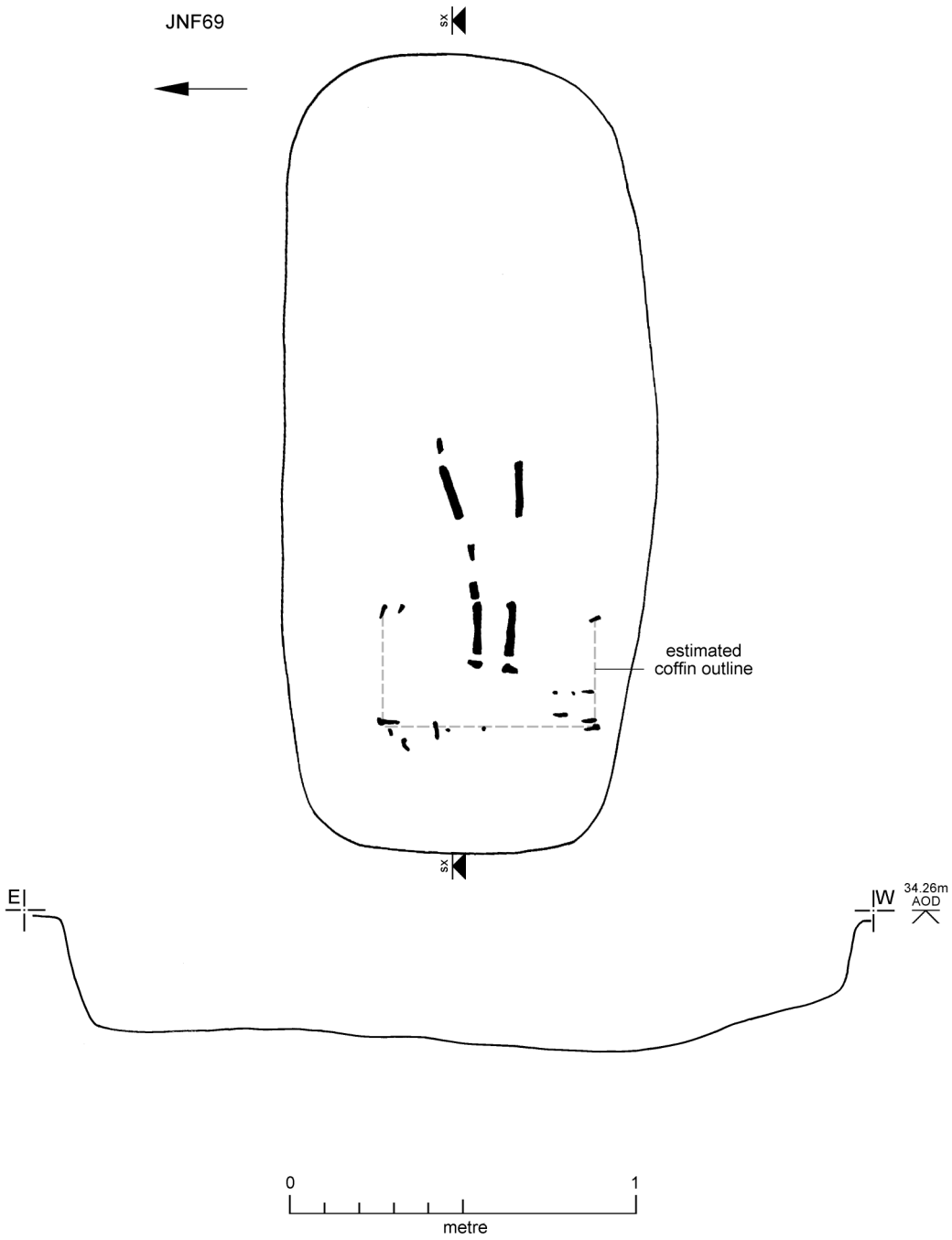


JNF67

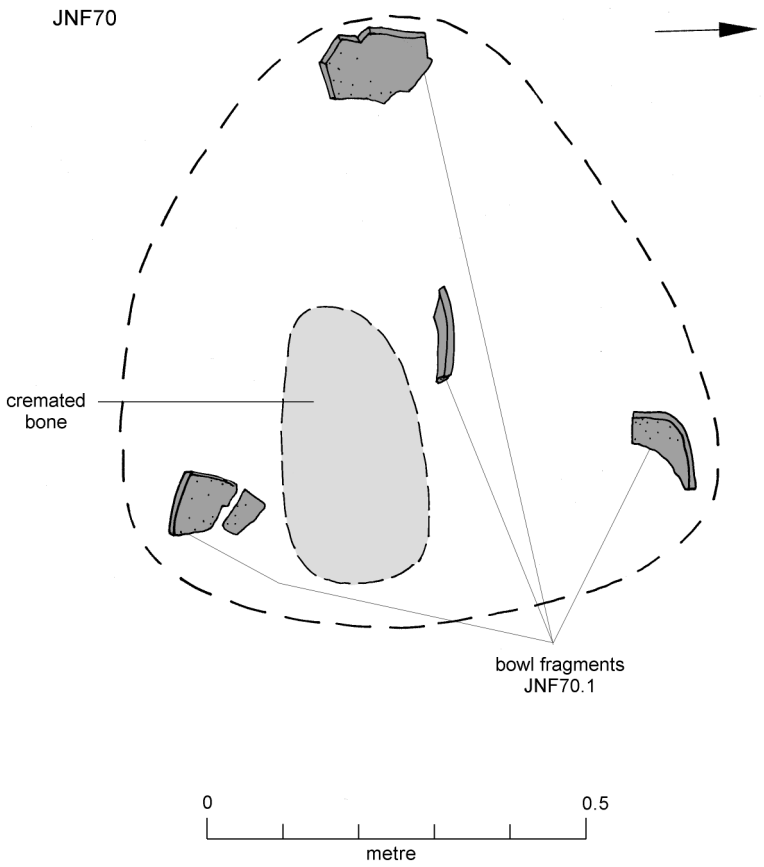

JNF68
jar JNF68.1
sx
sx
lid fragments
JNF68.2
SE
NW
33.65m
AOD
0
0.5
metre


JNF68.1
JNF68.2
0
10 cm

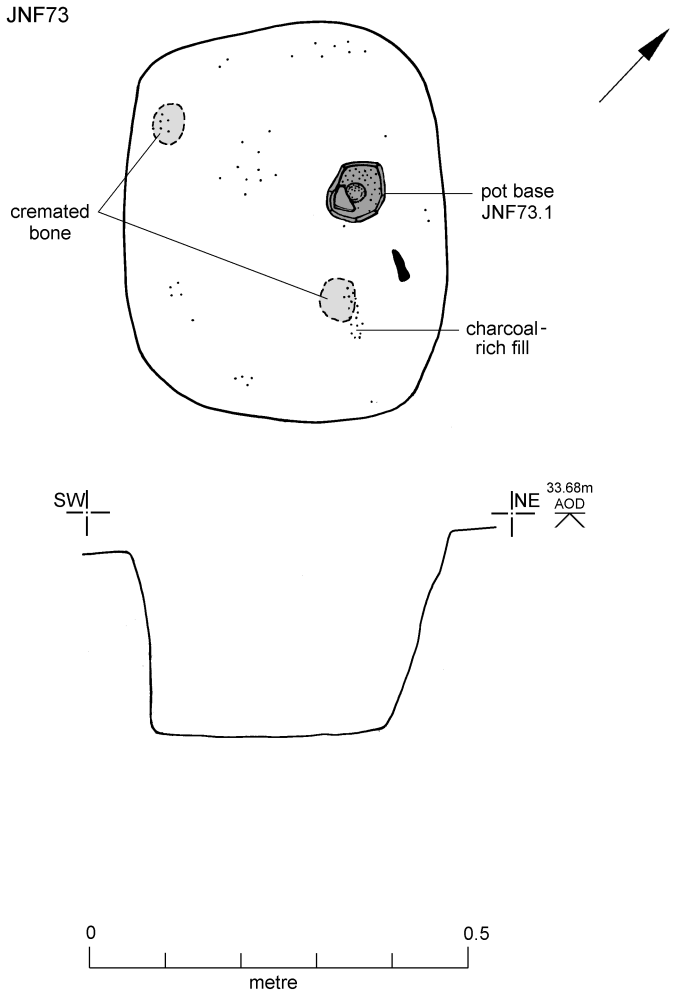
JNF68



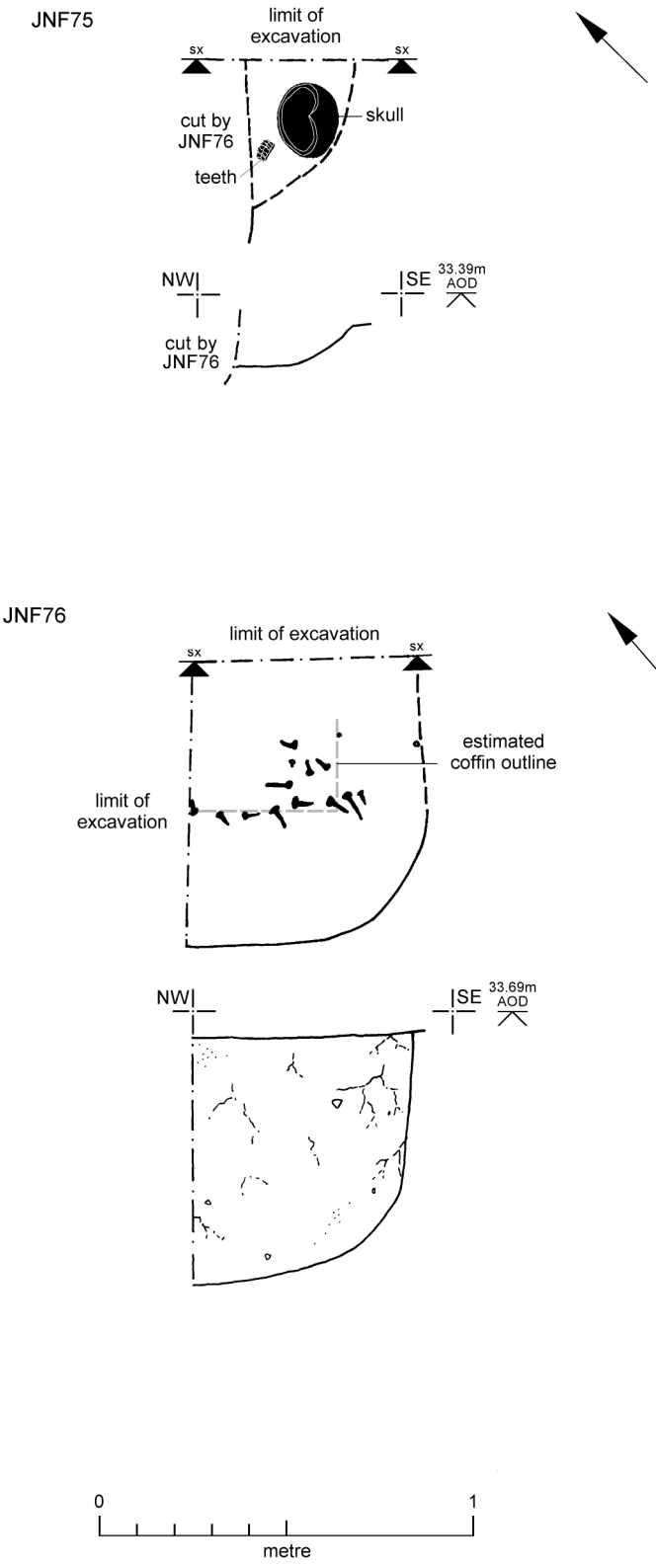
JNF69



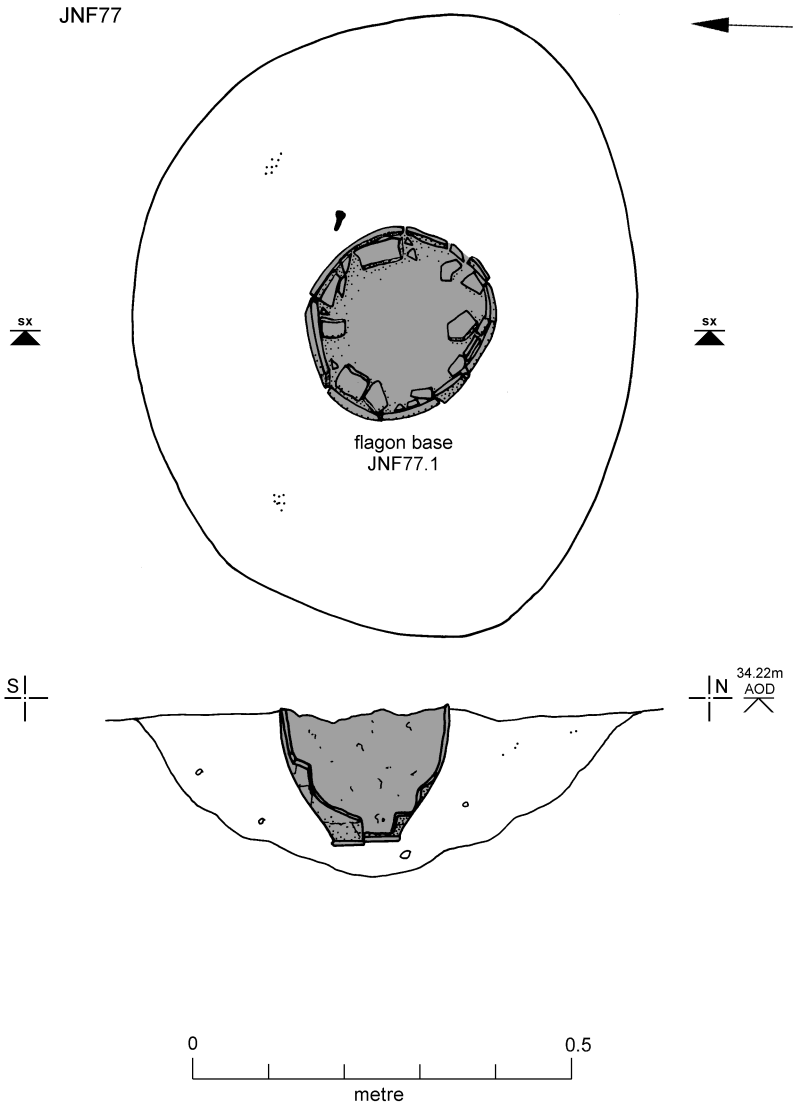
JNF70


JNF73
cremated bone
pot base JNF73.1
charcoal-rich fill
SW
NE
33.68m AOD
0
0.5
metre

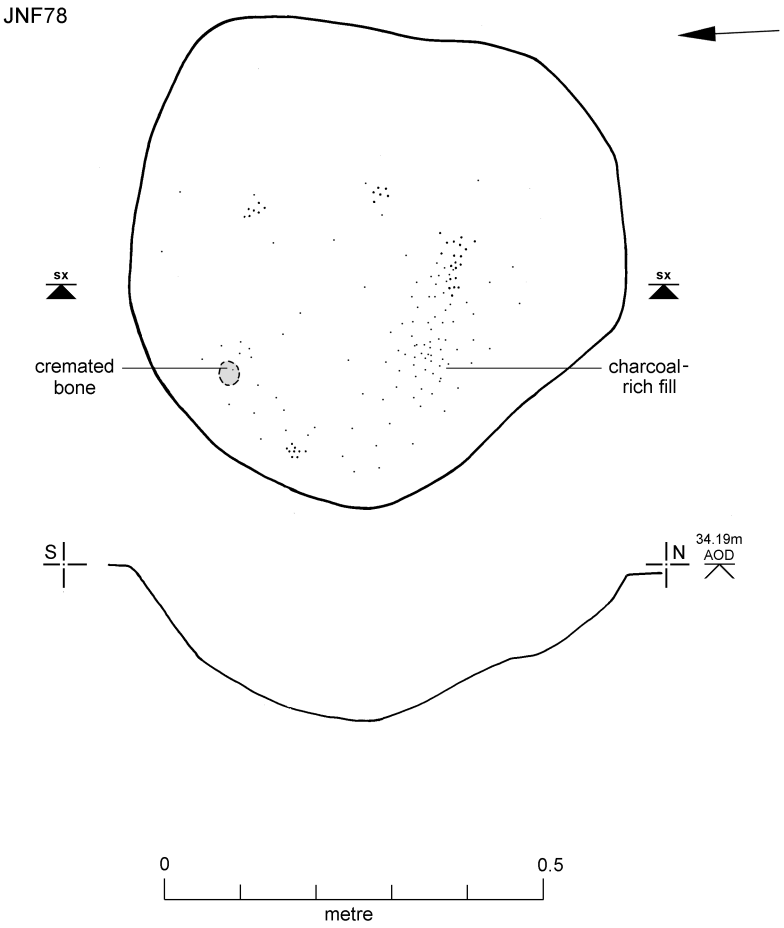
JNF73



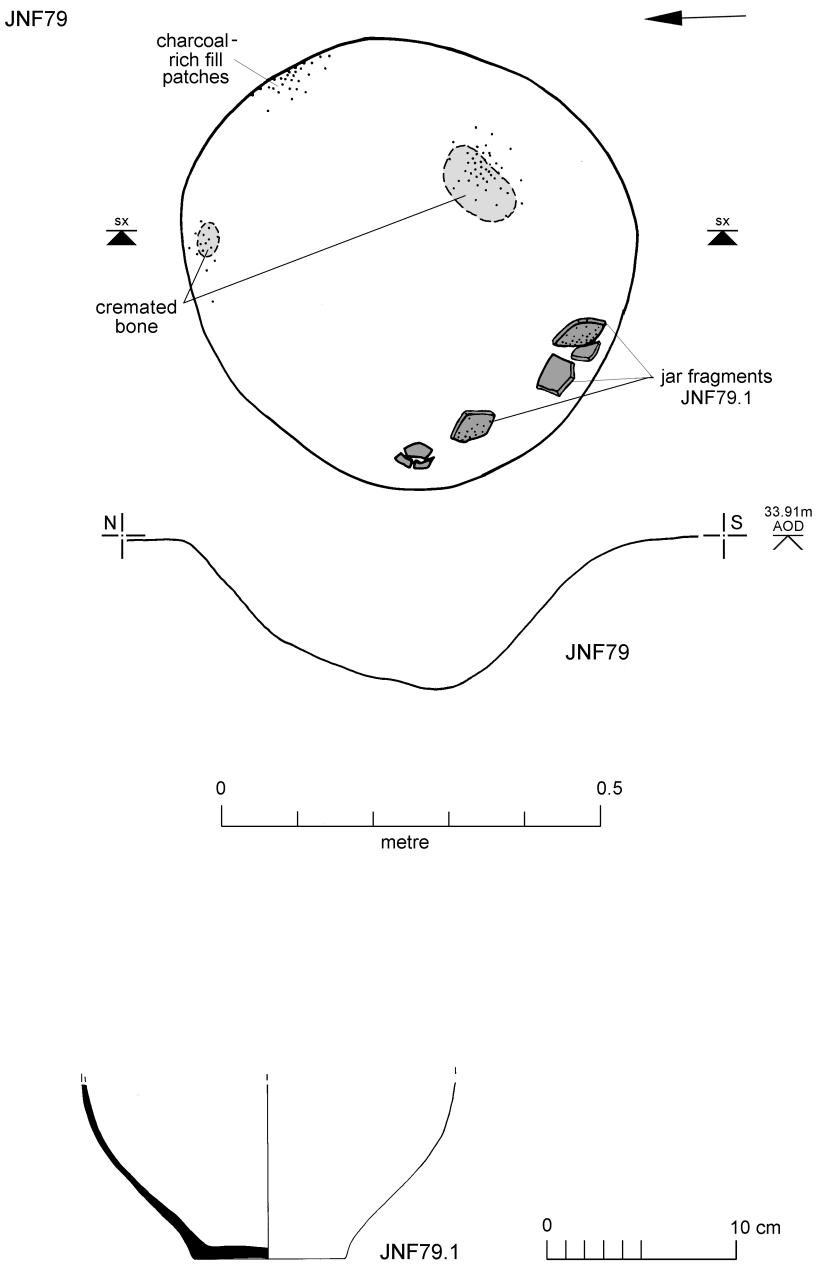
JNF75 and JNF76



JNF77

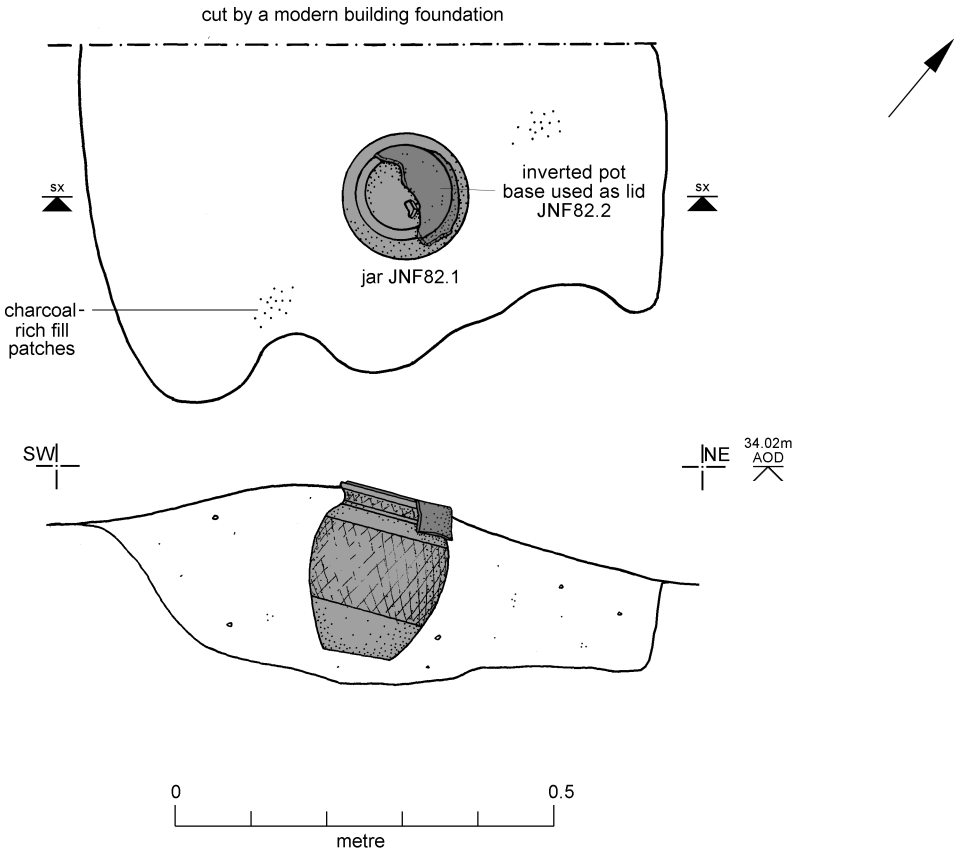

JNF78
sx
sx
cremated bone
charcoal-rich fill
S
N
34.19m AOD
0
0.5
metre

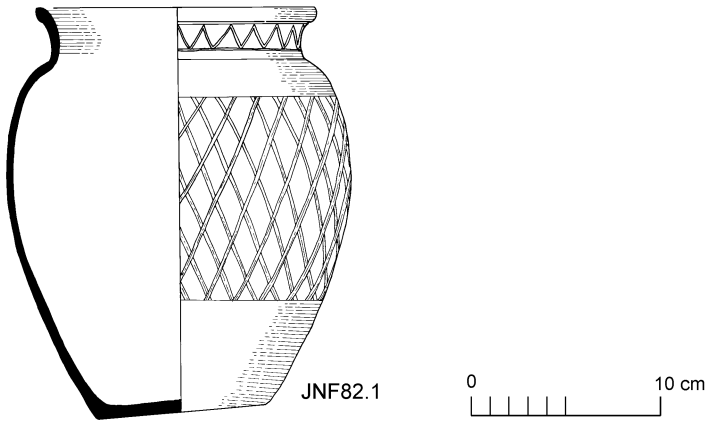
JNF78


JNF79
charcoal-rich fill patches
sx
sx
cremated bone
jar fragments JNF79.1
N
S
33.91m AOD
JNF79
0
0.5
metre
JNF79.1
0
10 cm

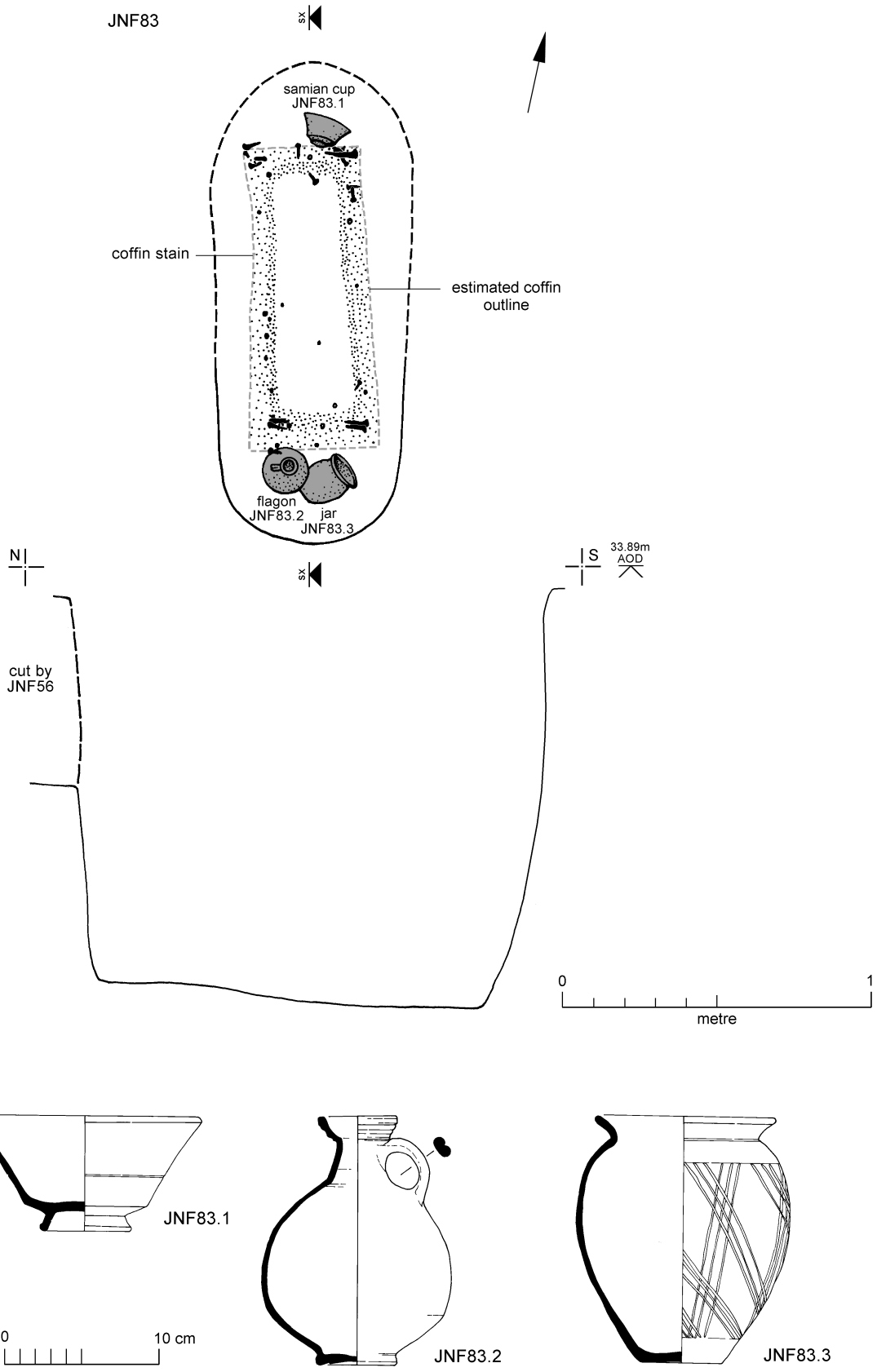
JNF79

JNF82

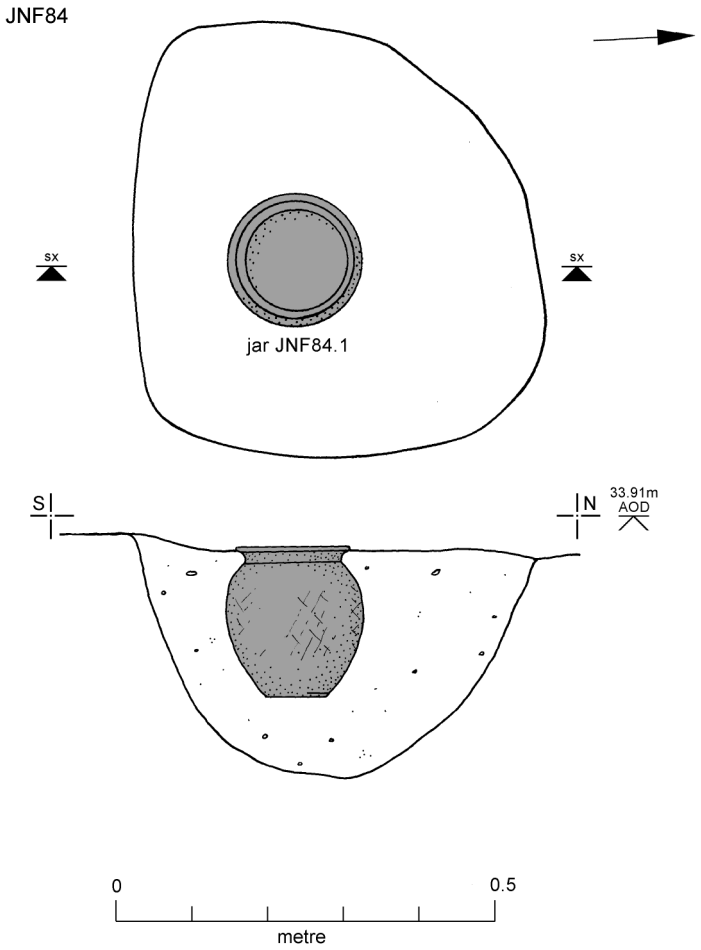

cut by a modern building foundation
sx
sx
inverted pot base used as lid JNF82.2
jar JNF82.1
charcoal-rich fill patches
SW
NE
34.02m AOD
0
0.5
metre

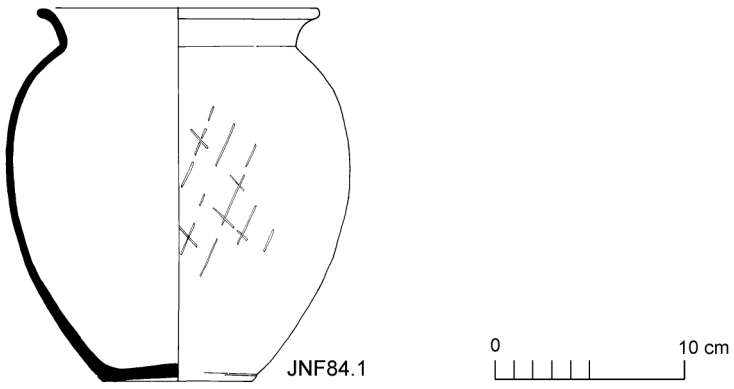

JNF82.1
0
10 cm

JNF82

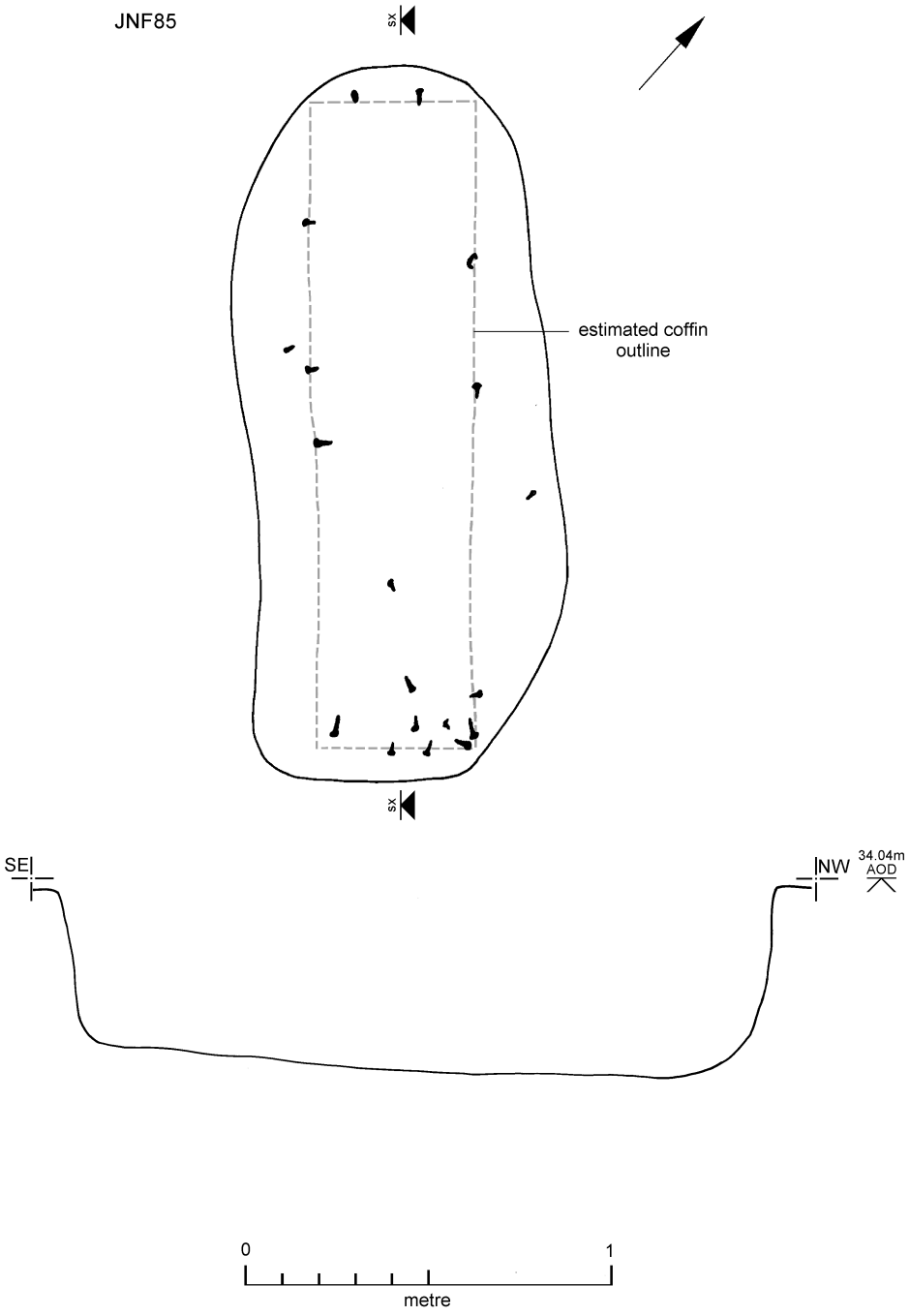

JNF83
SX
samian cup
JNF83.1
coffin stain
estimated coffin
outline
flagon
JNF83.2
jar
JNF83.3
SX
N
S
33.89m
AOD
cut by
JNF56
0
1
metre
JNF83.1
0
10 cm
JNF83.2
JNF83.3

JNF83

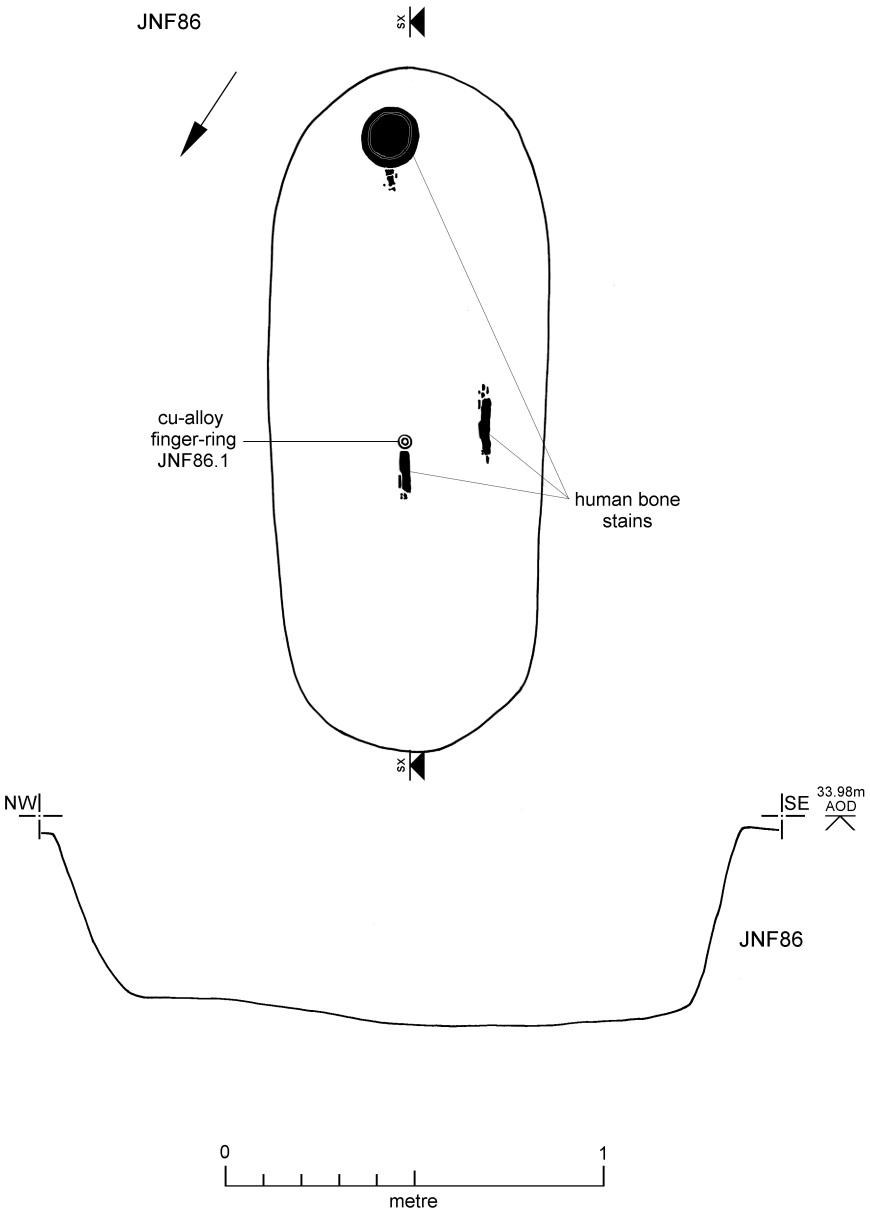




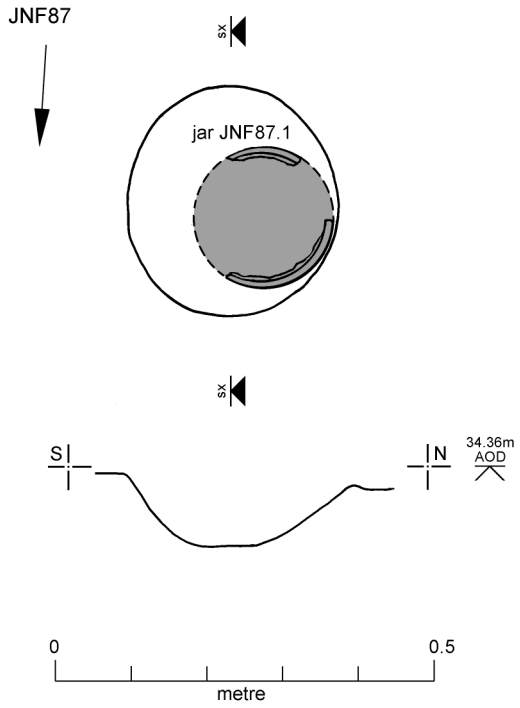
JNF84


JNF85
sx
sx
estimated coffin outline
SE
NW
34.04m AOD
0
1
metre

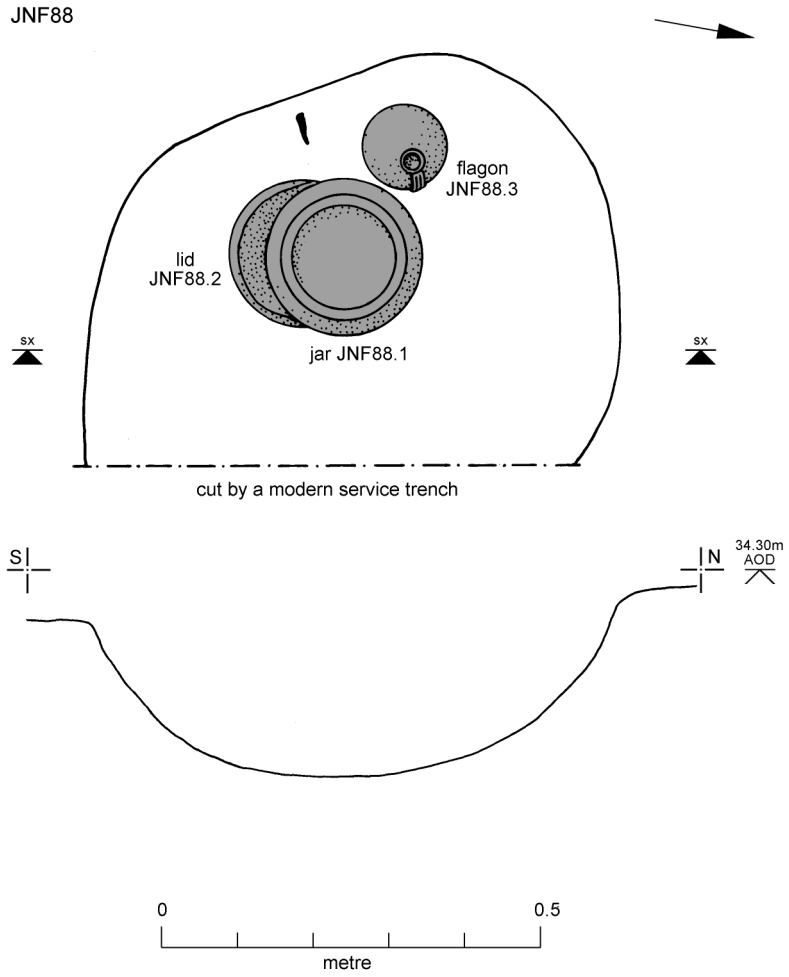
JNF85

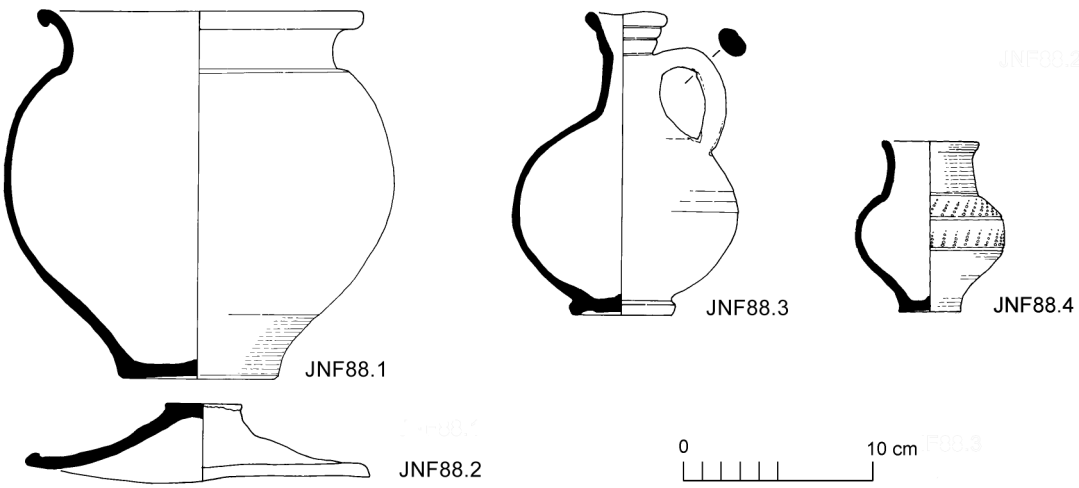

JNF86
XS
XS
cu-alloy
finger-ring
JNF86.1
human bone
stains
NW
SE
33.98m
AOD
JNF86
0
1
metre

JNF86

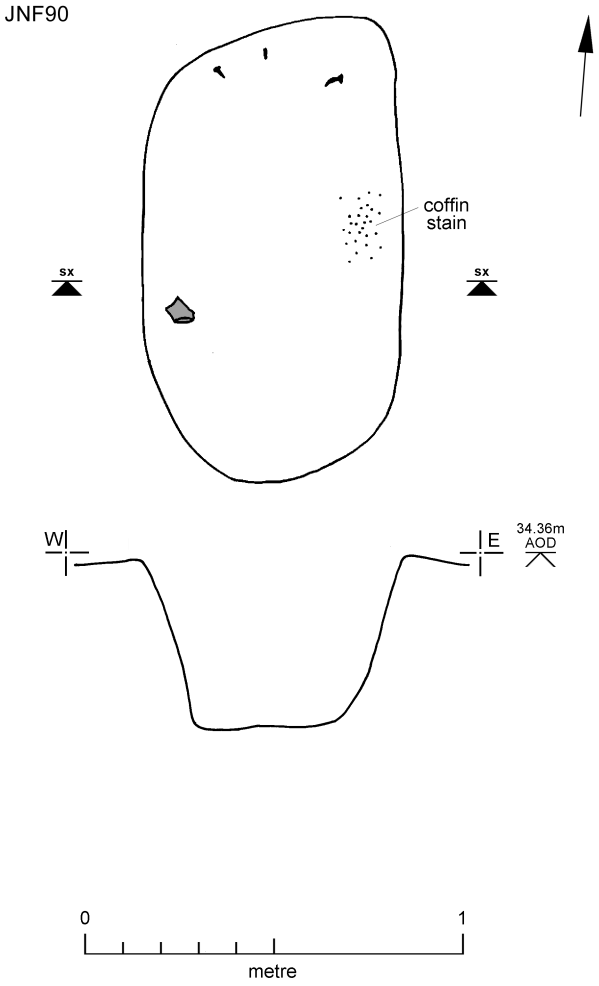


JNF87

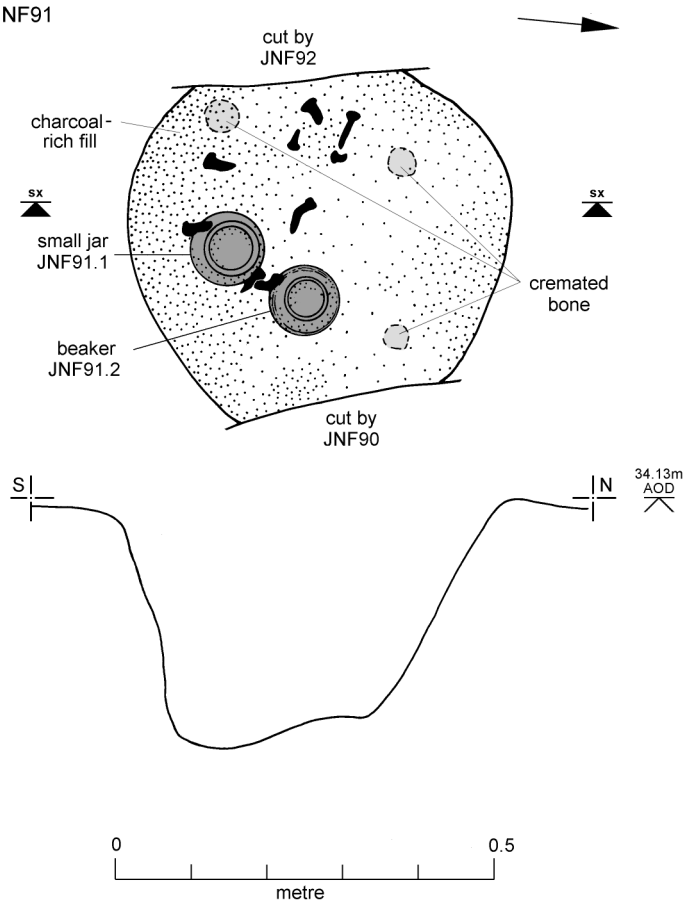

JNF88
flagon
JNF88.3
lid
JNF88.2
jar JNF88.1
sx
sx
cut by a modern service trench
S
N
34.30m
AOD
0
0.5
metre

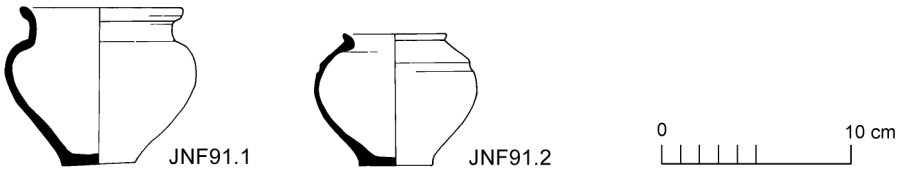

JNF88.1
JNF88.2
JNF88.3
JNF88.4
0
10 cm

JNF88

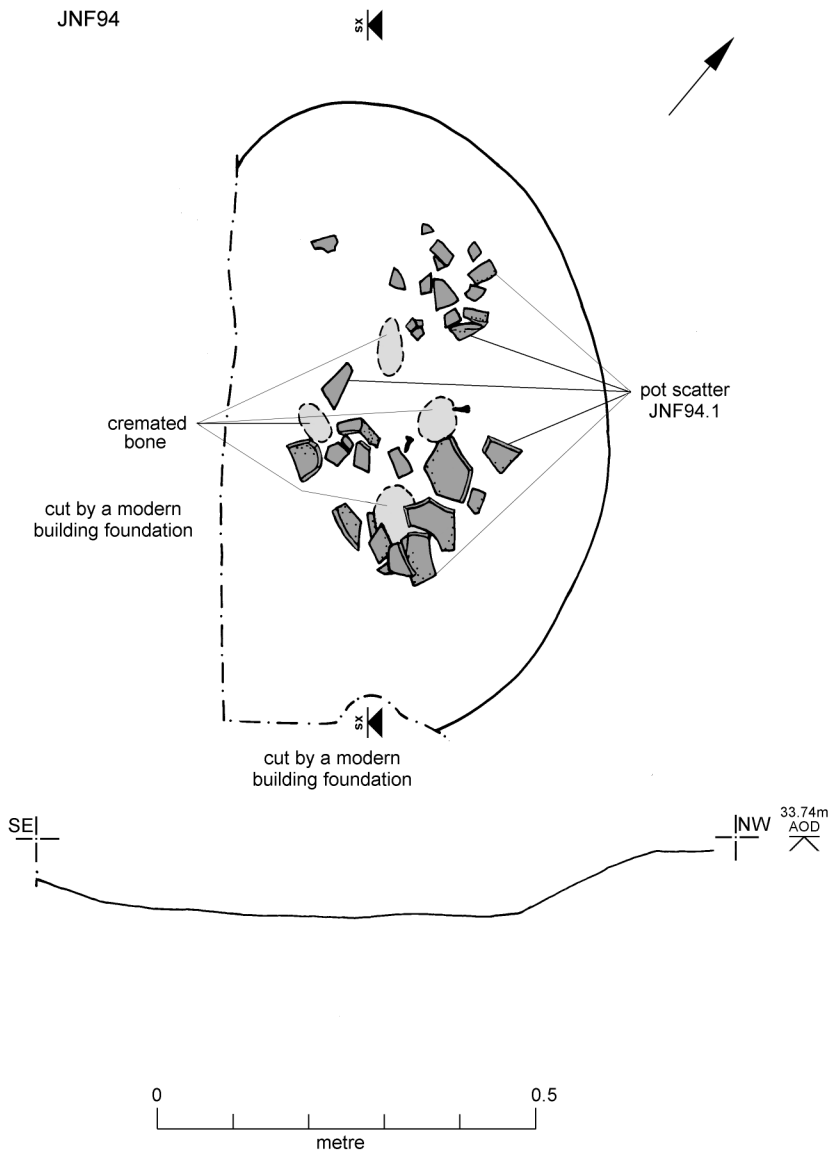


JNF90

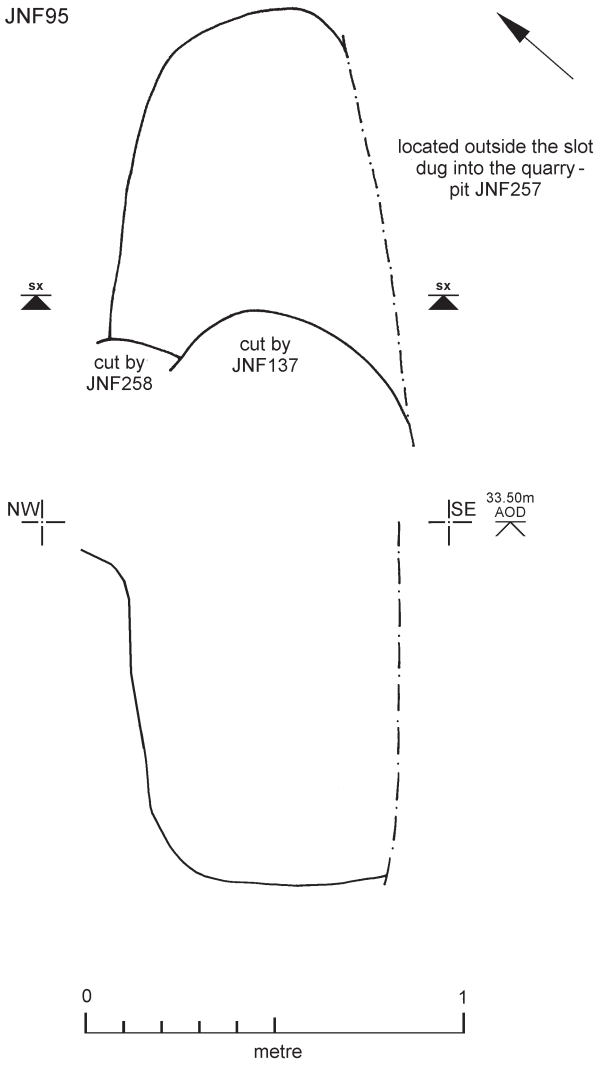

JNF91
cut by
JNF92
charcoal-
rich fill
sx
sx
small jar
JNF91.1
cremated
bone
beaker
JNF91.2
cut by
JNF90
S
N
34.13m
AOD
0
0.5
metre


JNF91.1
JNF91.2
0
10 cm

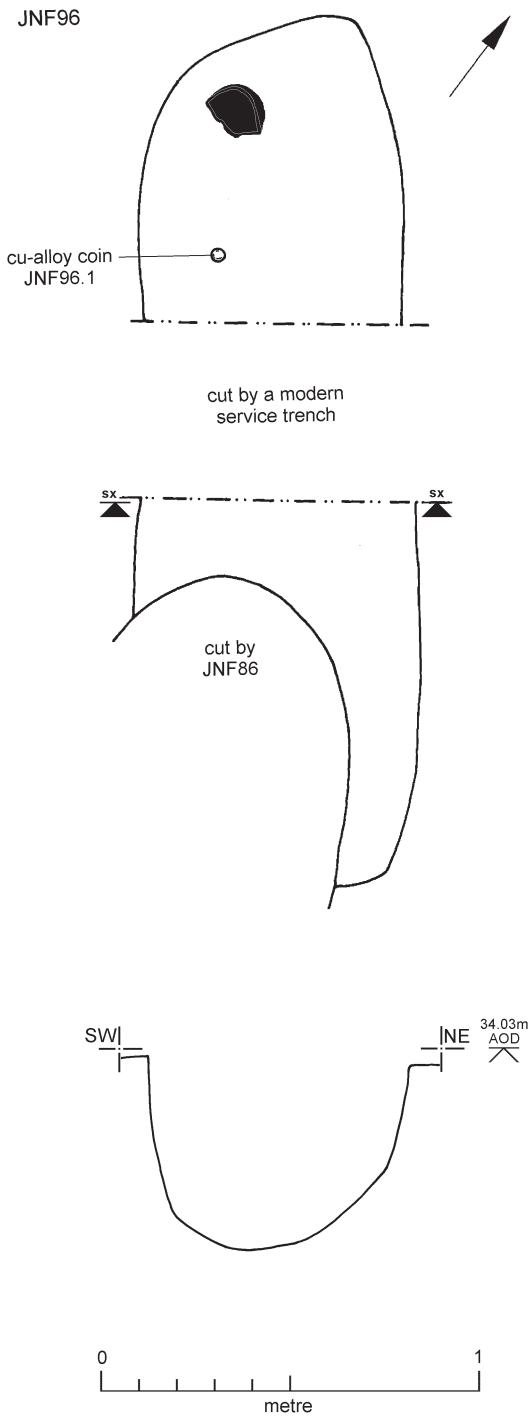
JNF91


JNF94
sx
pot scatter
JNF94.1
cremated
bone
cut by a modern
building foundation
sx
cut by a modern
building foundation
SE
NW
33.74m
AOD
0
0.5
metre

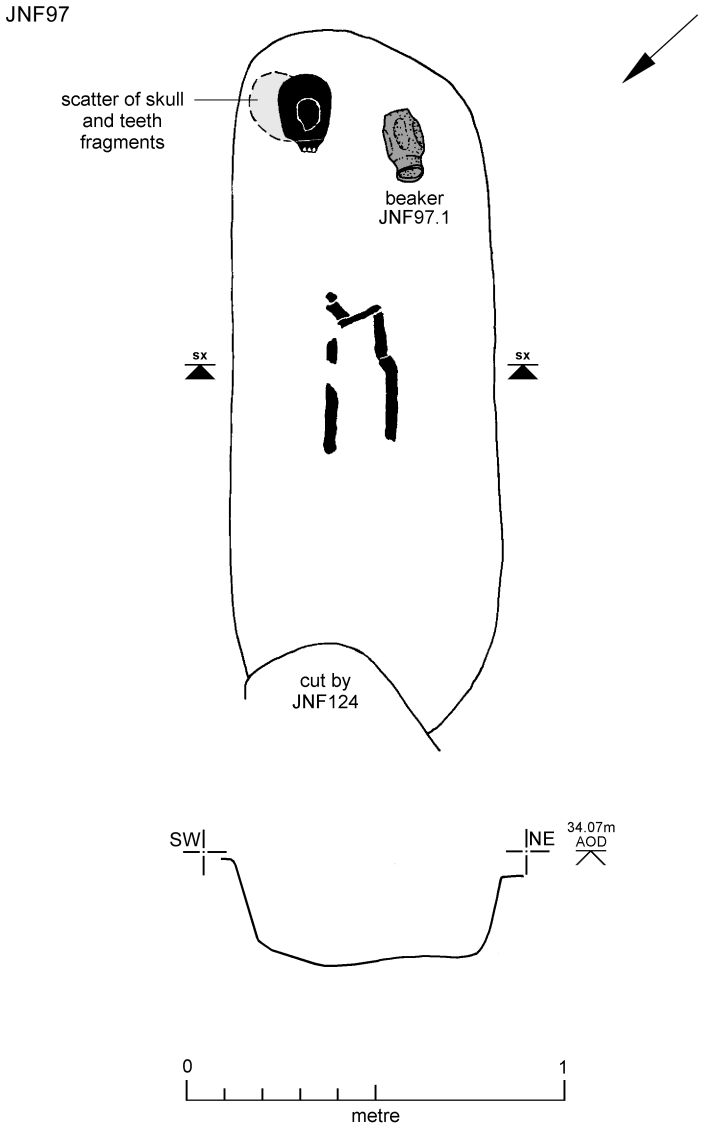
JNF94

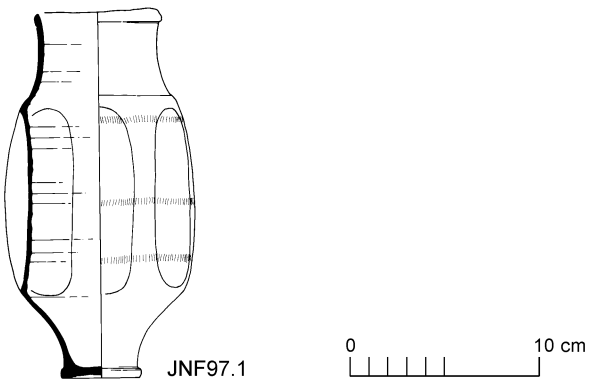

JNF95
located outside the slot dug into the quarry - pit JNF257
sx
sx
cut by JNF258
cut by JNF137
NW
SE
33.50m AOD
0
1
metre

JNF95

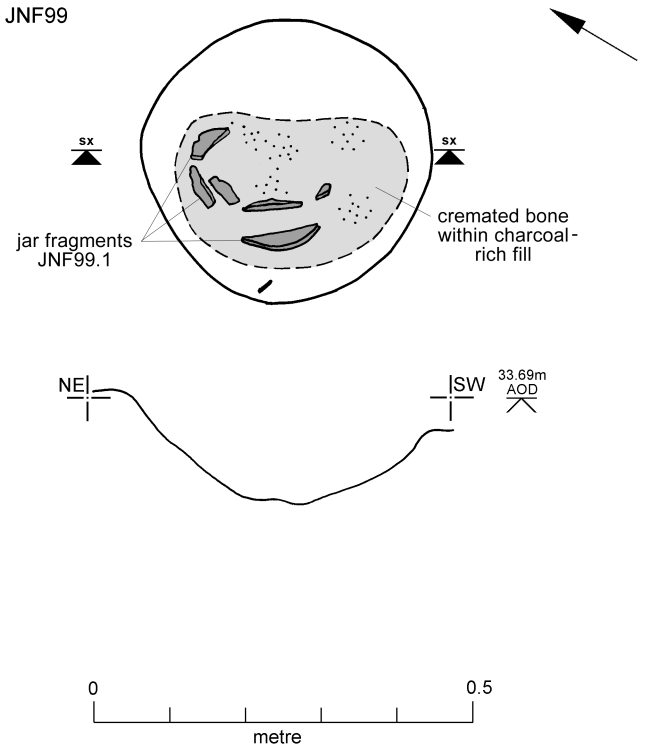

JNF96
cu-alloy coin
JNF96.1
cut by a modern
service trench
sx
sx
cut by
JNF86
SW
NE
34.03m
AOD
0
1
metre

JNF96

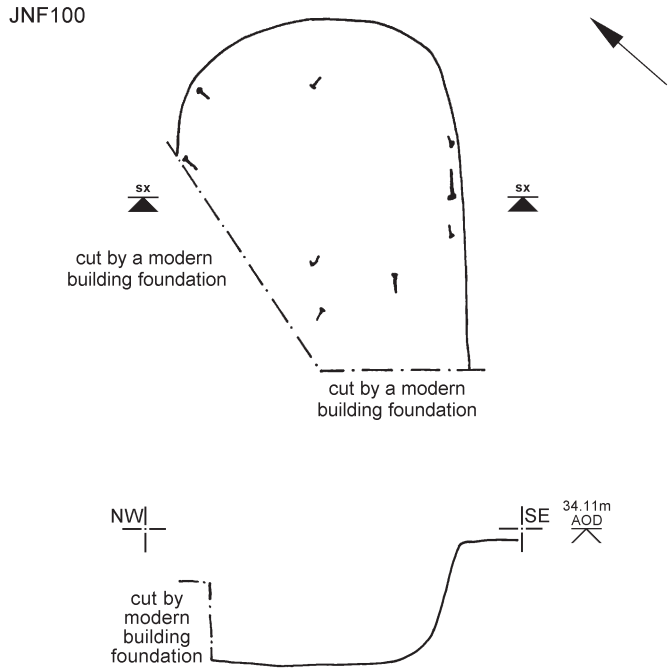

JNF97
scatter of skull and teeth fragments
beaker JNF97.1
sx
sx
cut by JNF124
SW
NE
34.07m AOD
0
1
metre


JNF97.1
0
10 cm

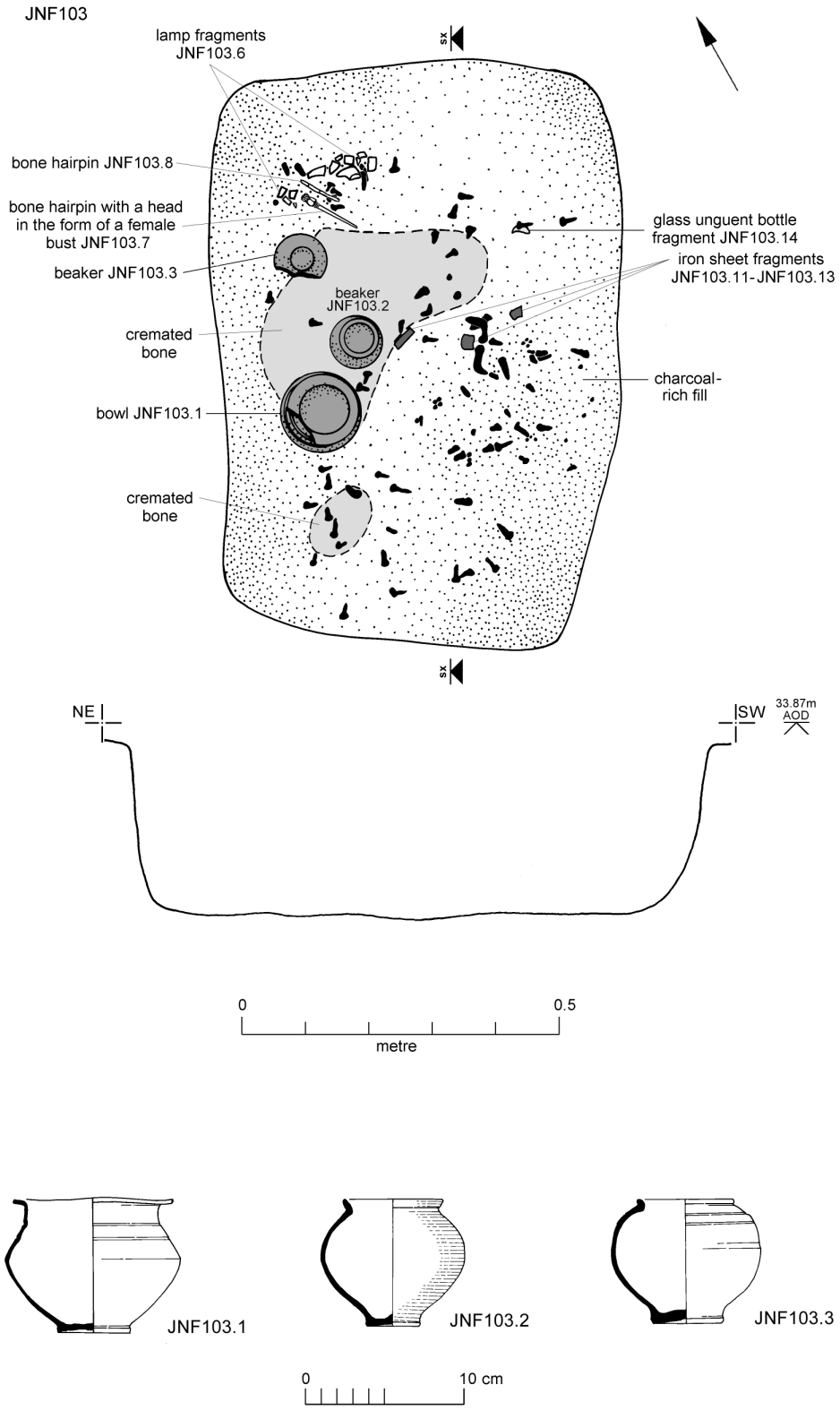
JNF97


JNF99
sx
sx
jar fragments
JNF99.1
cremated bone
within charcoal-
rich fill
NE
SW
33.69m
AOD
0
0.5
metre

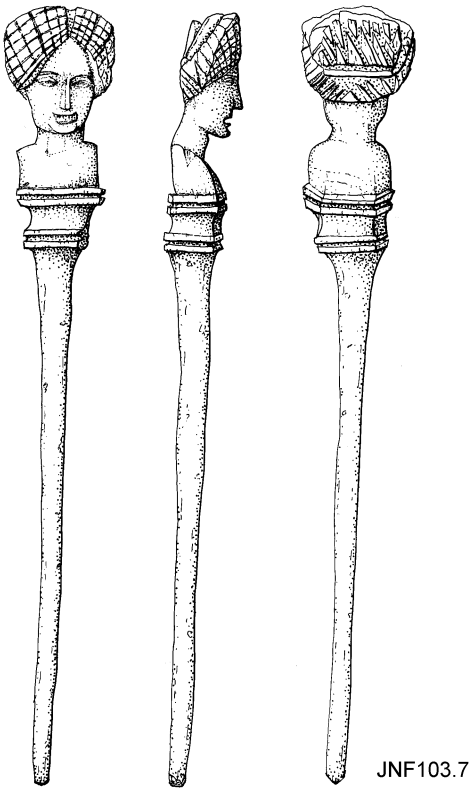
JNF99


JNF100
sx
sx
cut by a modern building foundation
cut by a modern building foundation
NW
SE
34.11m AOD
cut by modern building foundation
0
1
metre

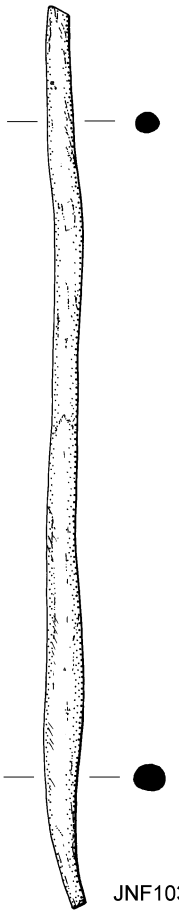
JNF100


JNF103
lamp fragments JNF103.6
SX
bone hairpin JNF103.8
bone hairpin with a head in the form of a female bust JNF103.7
beaker JNF103.3
beaker JNF103.2
glass unguent bottle fragment JNF103.14
iron sheet fragments JNF103.11-JNF103.13
cremated bone
charcoal-rich fill
bowl JNF103.1
cremated bone
SX
NE
SW
33.87m AOD
0
0.5
metre
JNF103.1
JNF103.2
JNF103.3
0
10 cm

JNF103

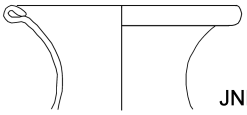


JNF103.7

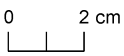


JNF103.8

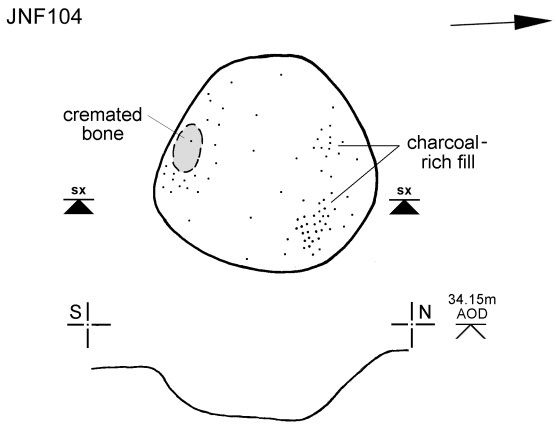
JNF103.9

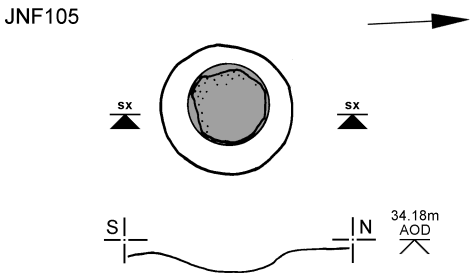


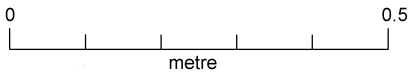
JNF103.14

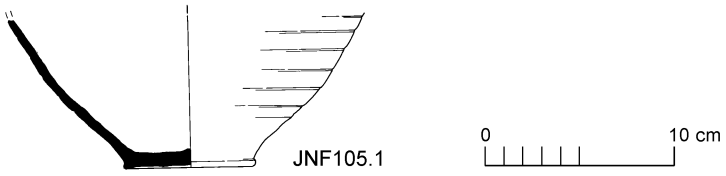


JNF103

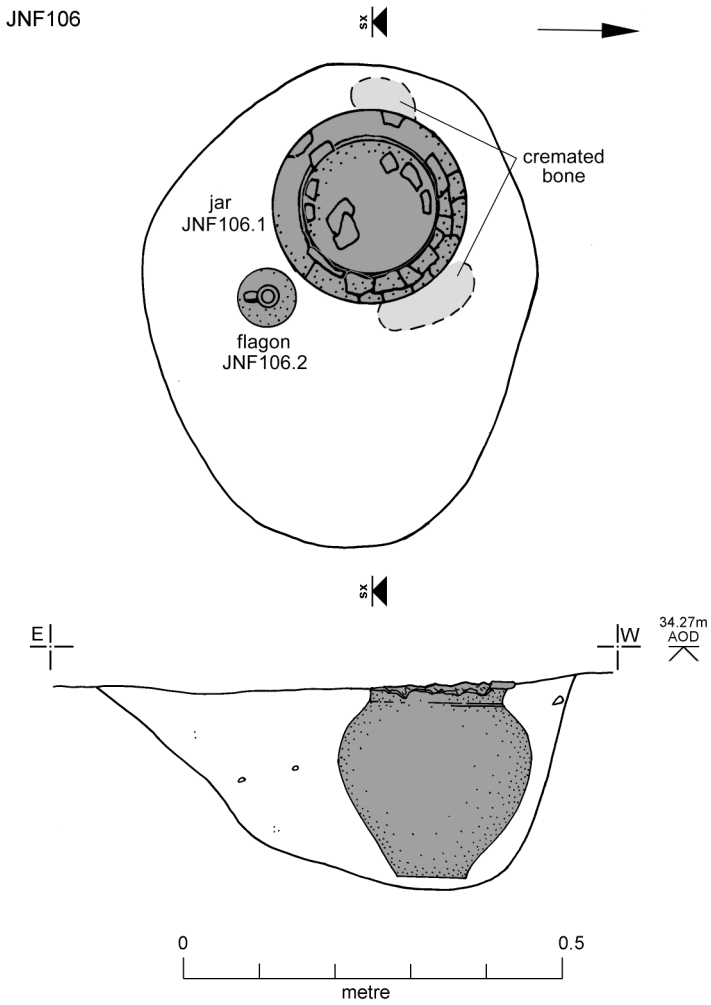


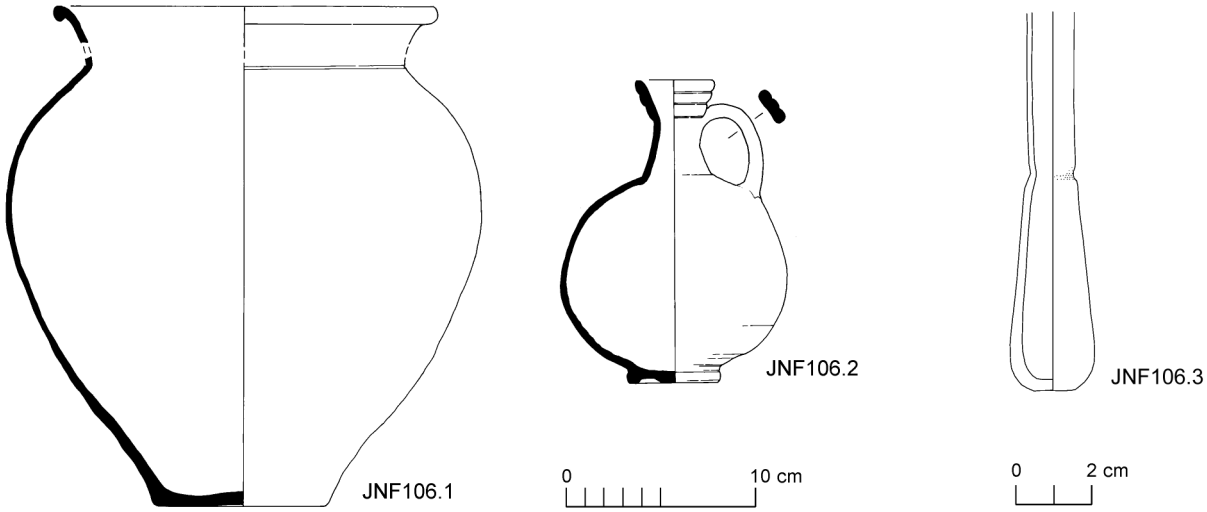




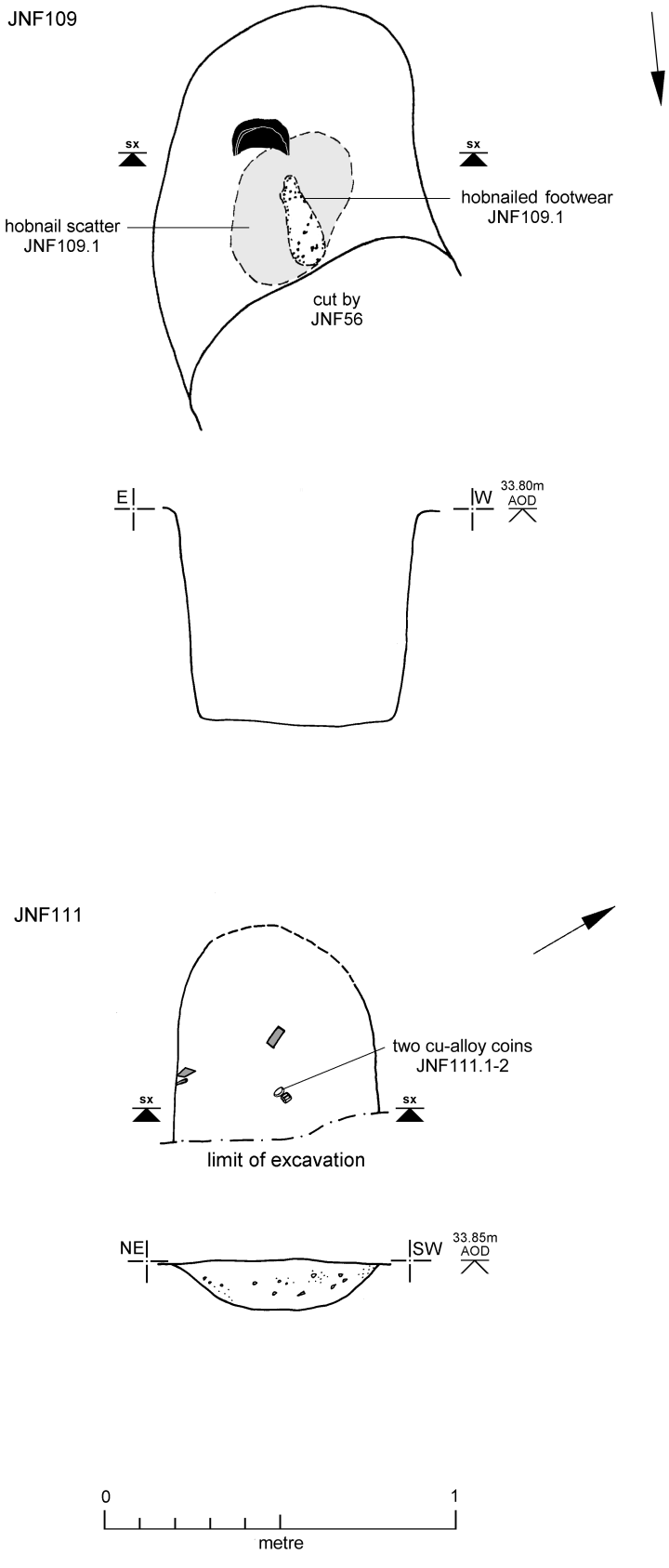


JNF104 and JNF105

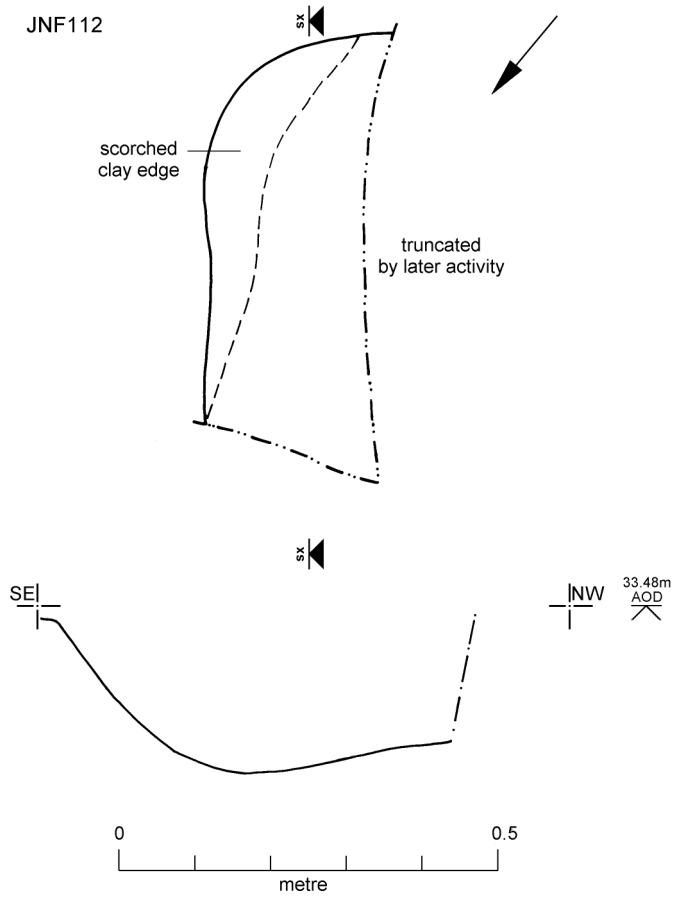

JNF106
SX
cremated bone
jar JNF106.1
flagon JNF106.2
SX
E
W
34.27m AOD
0
0.5
metre


JNF106.1
JNF106.2
JNF106.3
0
10 cm
0
2 cm

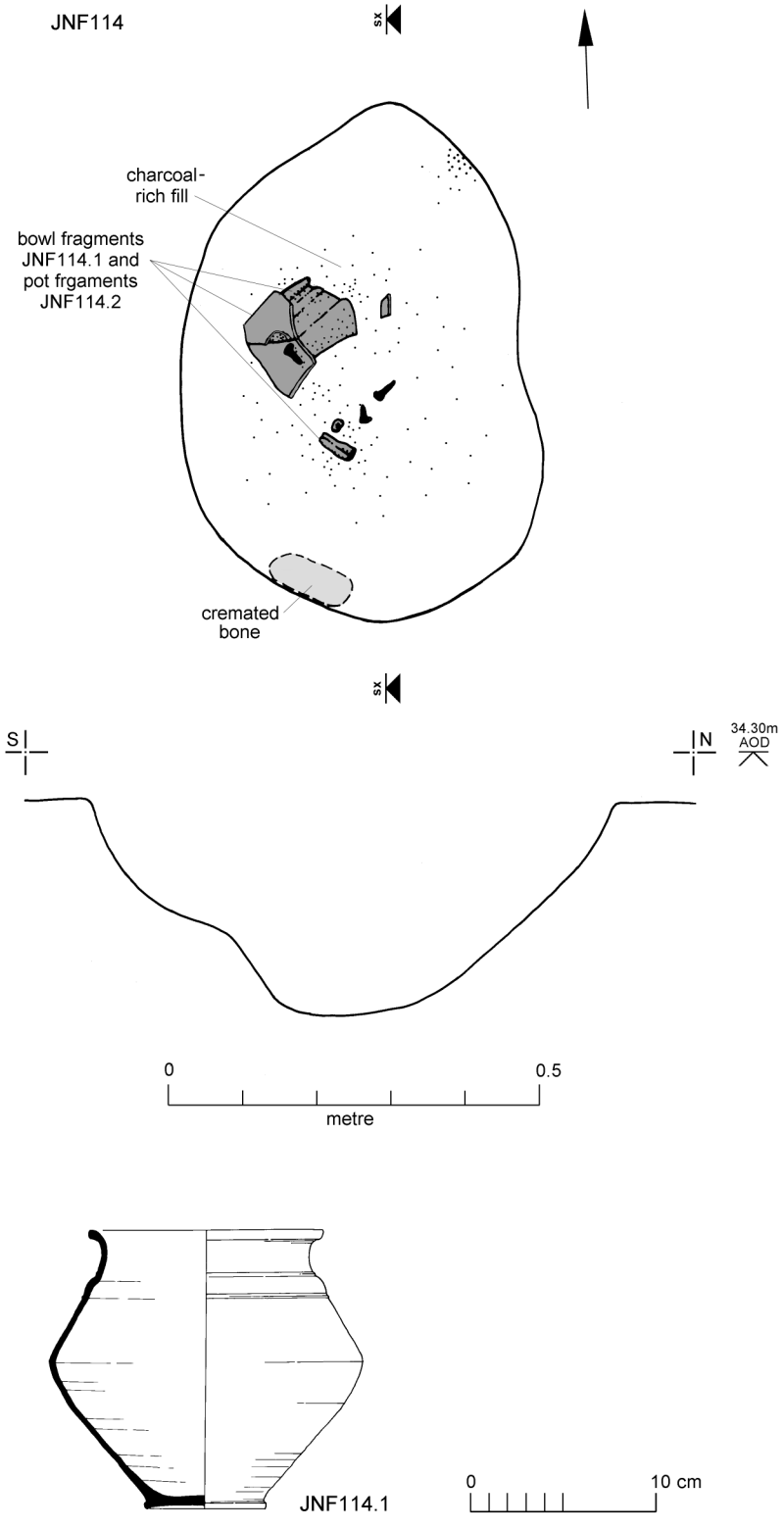
JNF106



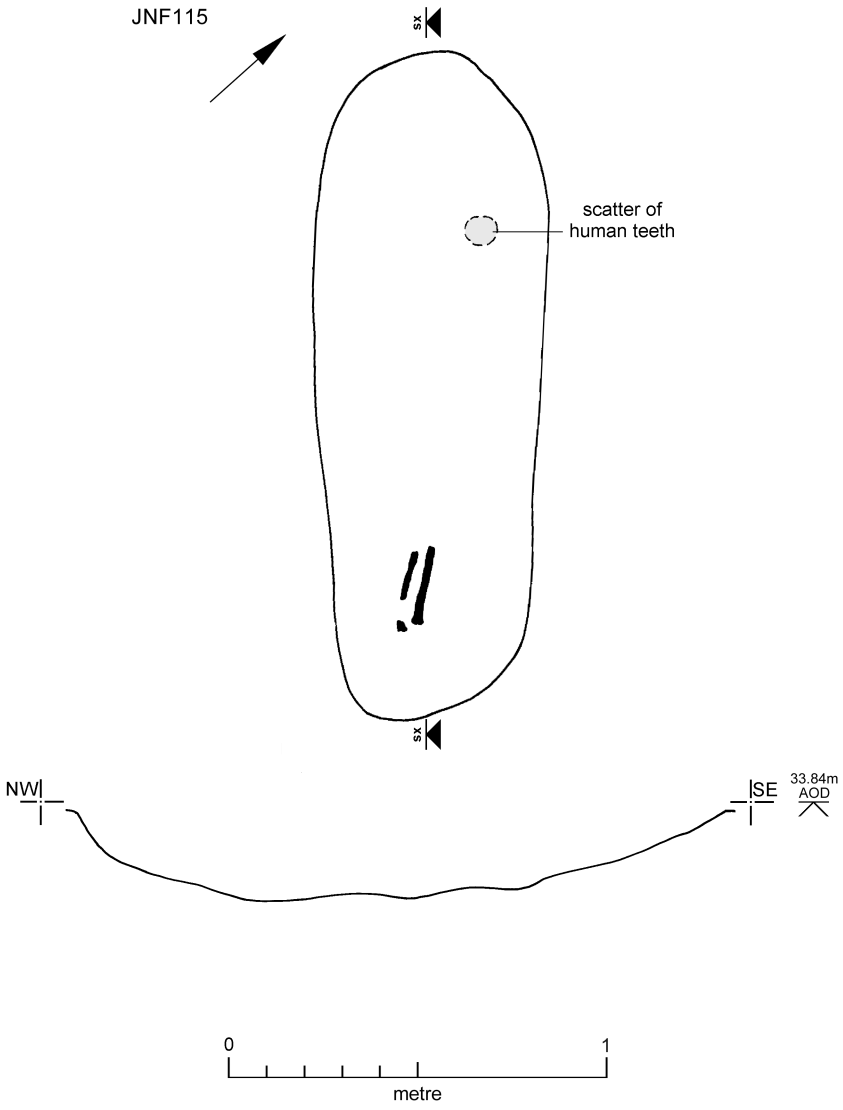
JNF109 and JNF111


JNF112
sx
scorched
clay edge
truncated
by later activity
sx
SE
NW
33.48m
AOD
0
0.5
metre

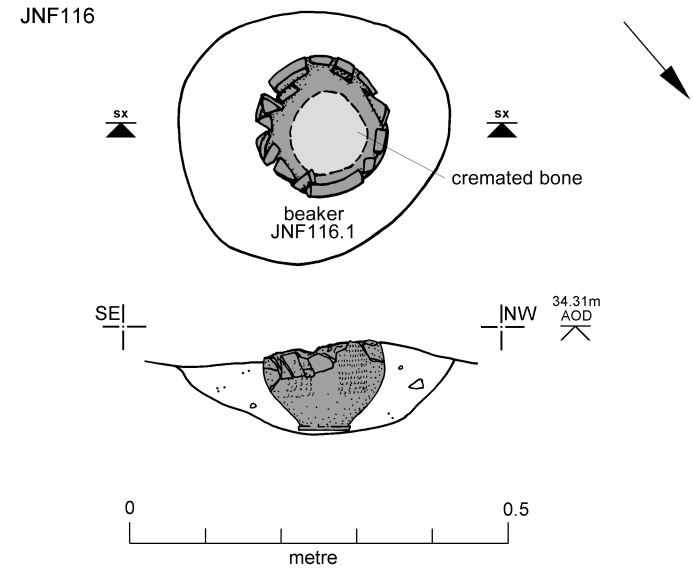
JNF112

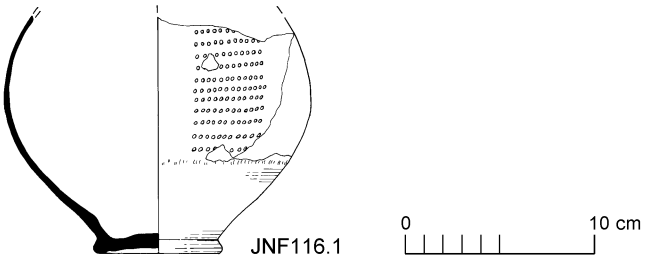

JNF114
SX
charcoal-
rich fill
bowl fragments
JNF114.1 and
pot frgaments
JNF114.2
cremated
bone
SX
S
N
34.30m
AOD
0
0.5
metre
JNF114.1
0
10 cm

JNF114

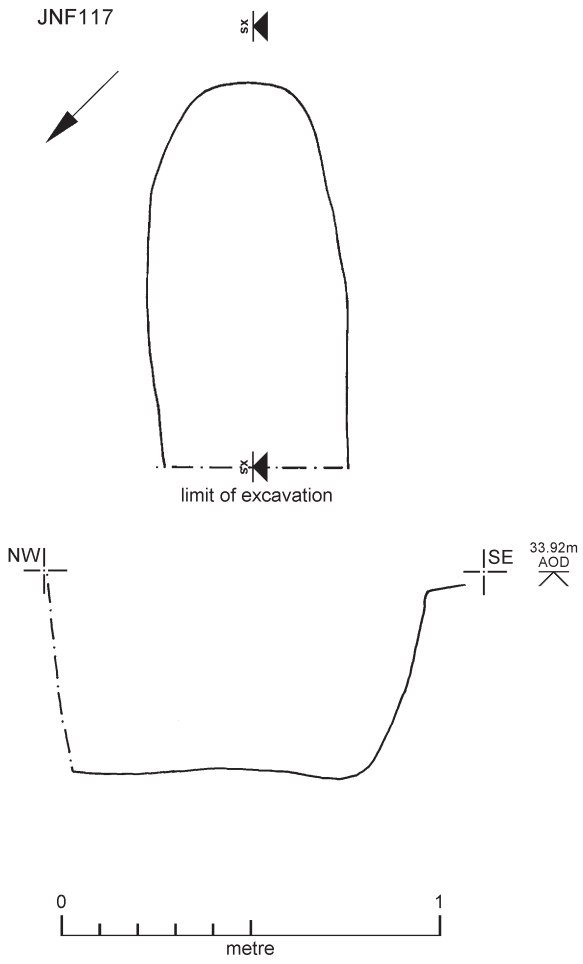


JNF115

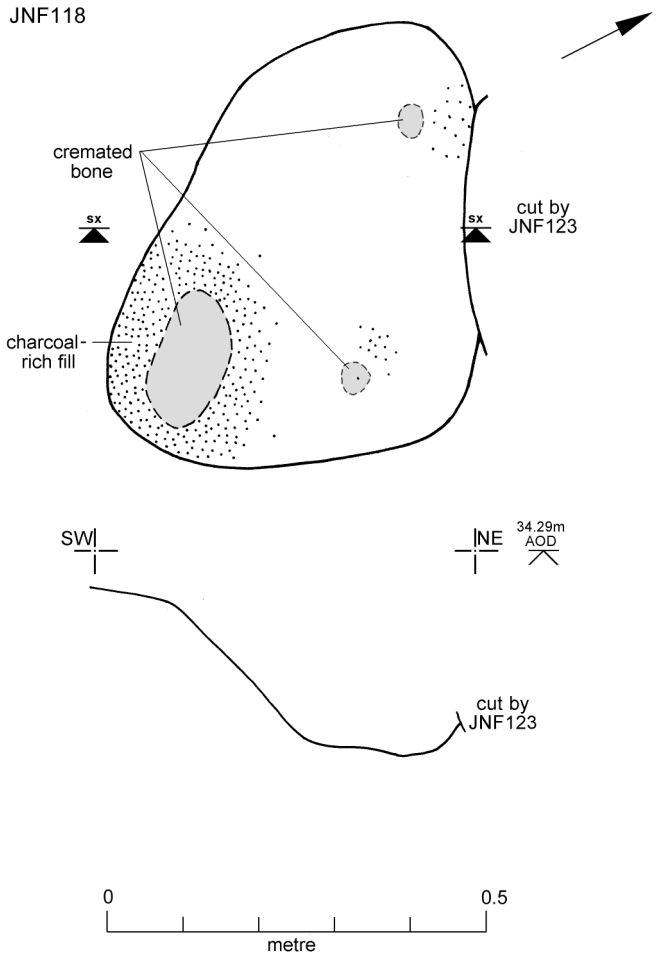

JNF116
sx
sx
cremated bone
beaker
JNF116.1
SE
NW
34.31m
AOD
0
0.5
metre


JNF116.1
0
10 cm

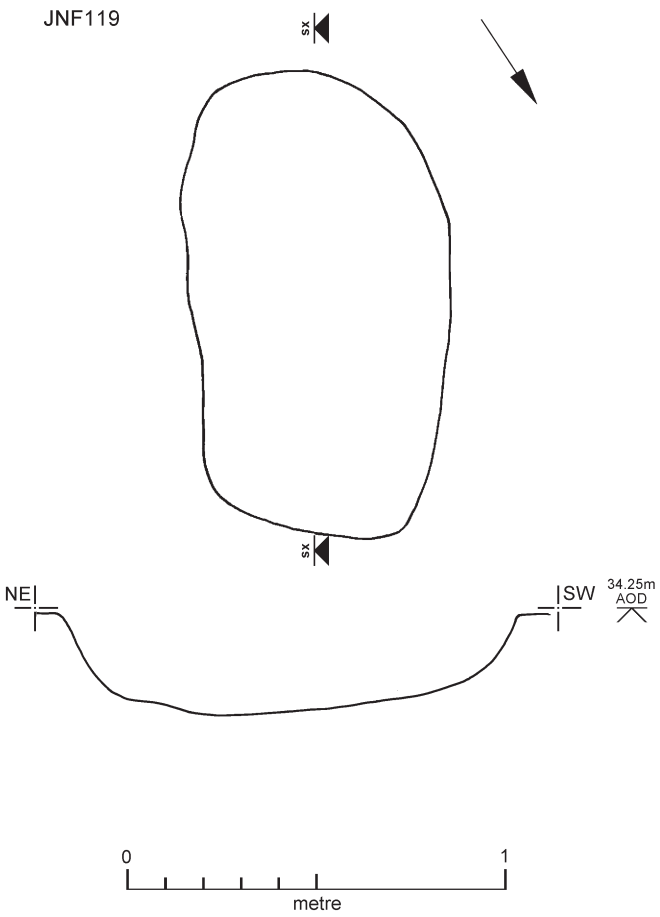
JNF116



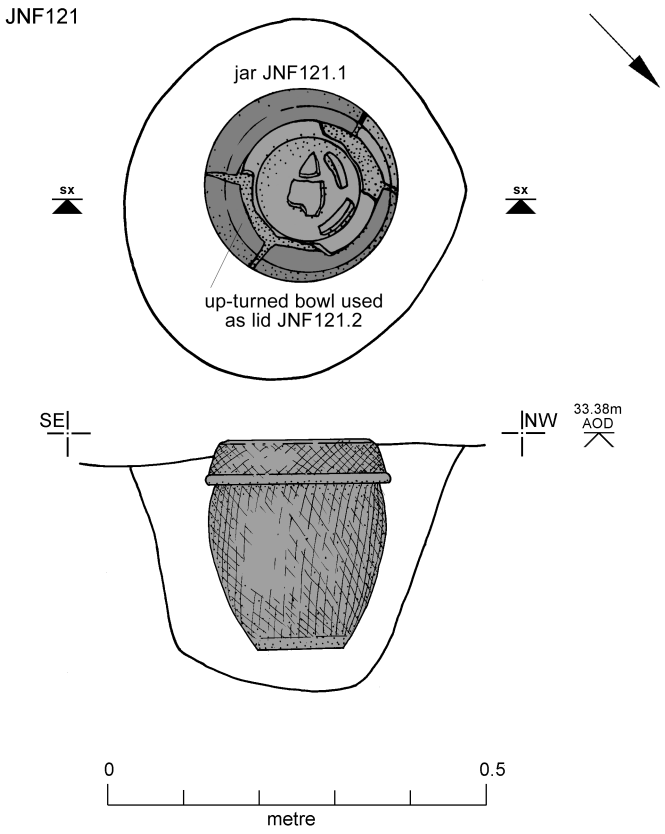
JNF117

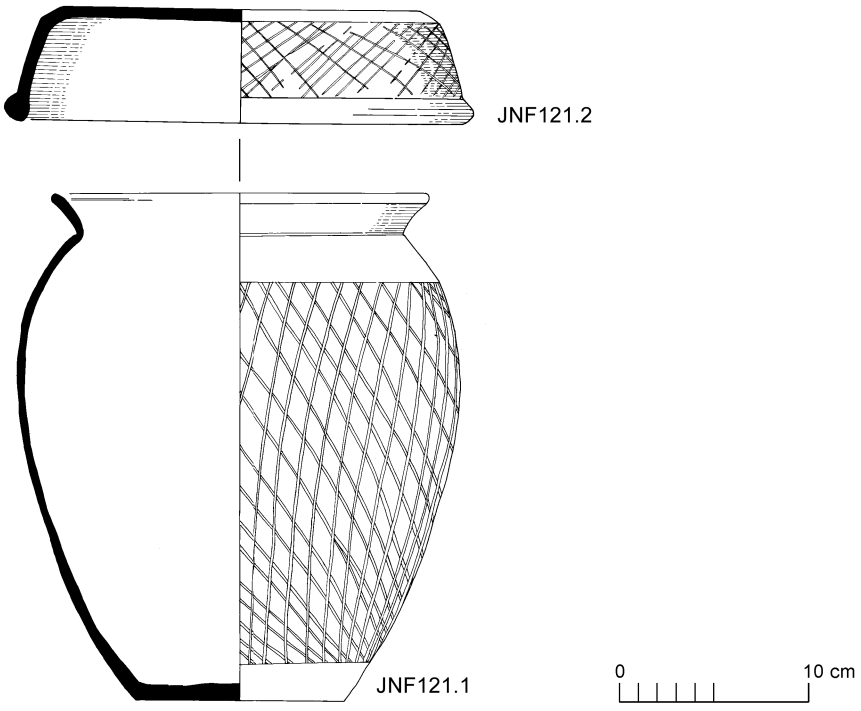

JNF118
cremated bone
sx
sx
cut by JNF123
charcoal-rich fill
SW
NE
34.29m AOD
cut by JNF123
0
0.5
metre

JNF118

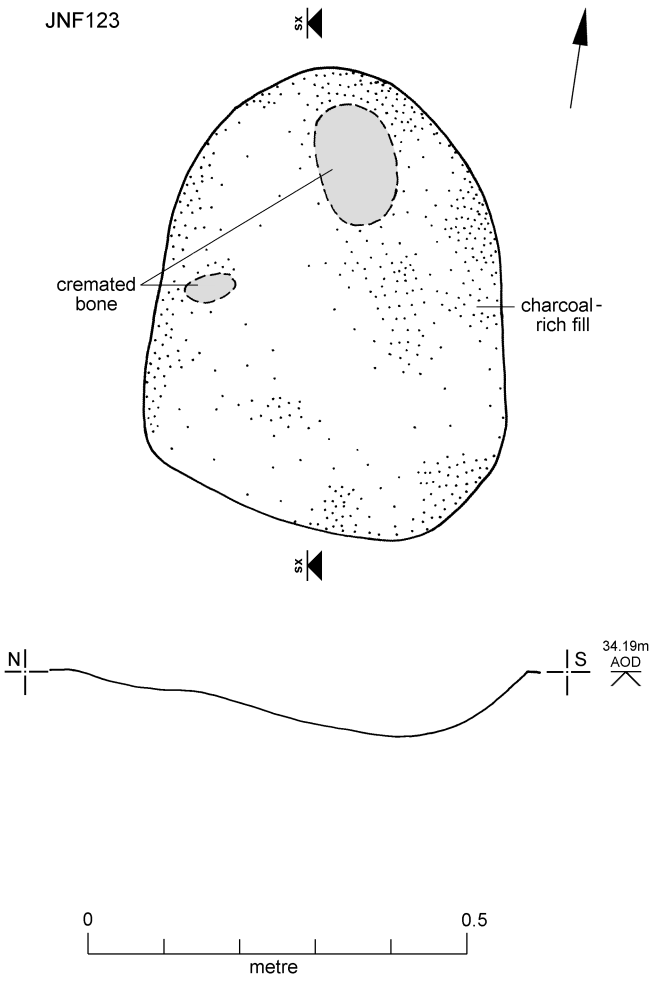


JNF119

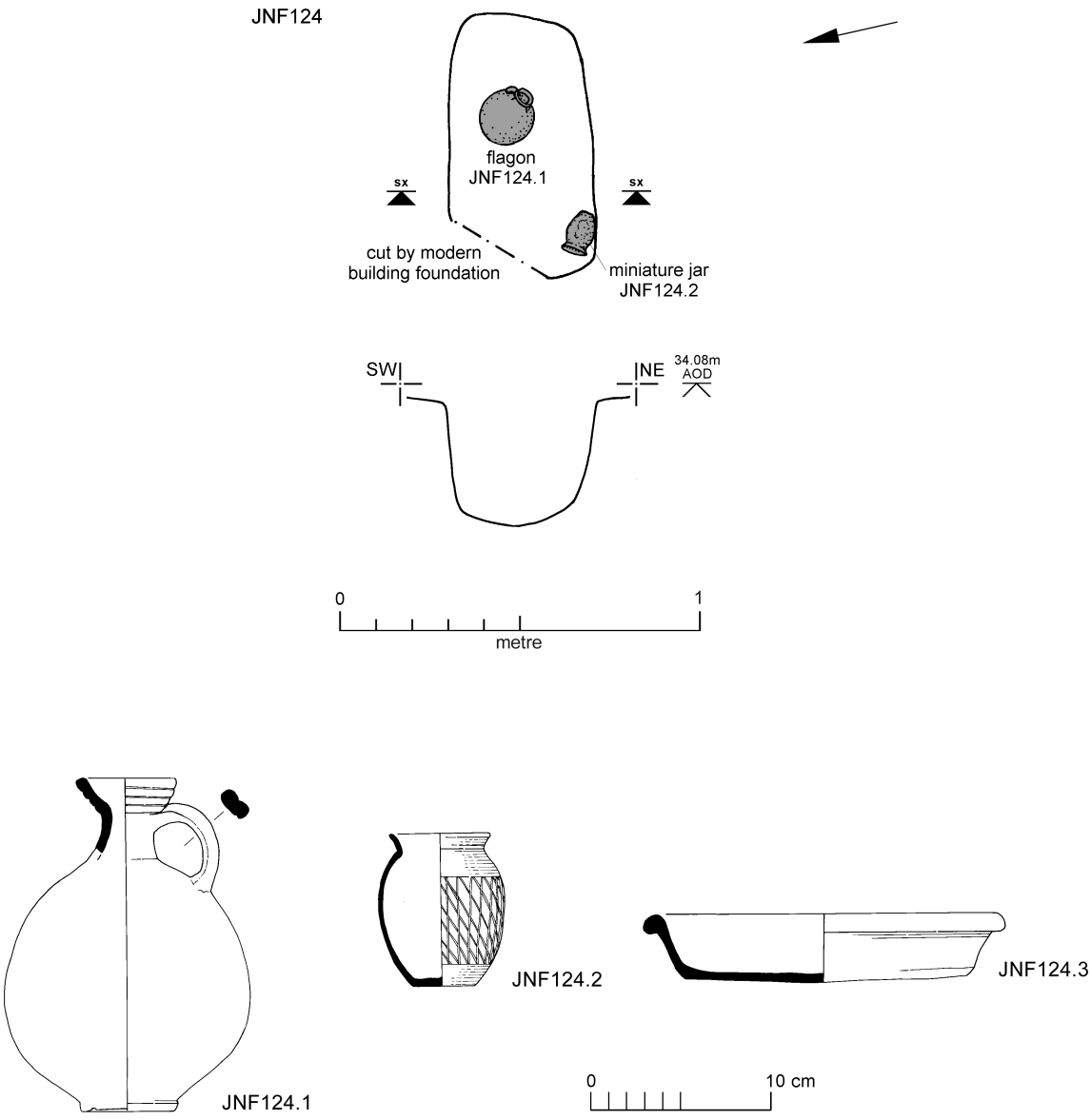

JNF121
jar JNF121.1
sx
sx
up-turned bowl used
as lid JNF121.2
SE
NW
33.38m
AOD
0
0.5
metre


JNF121.2
JNF121.1
0
10 cm

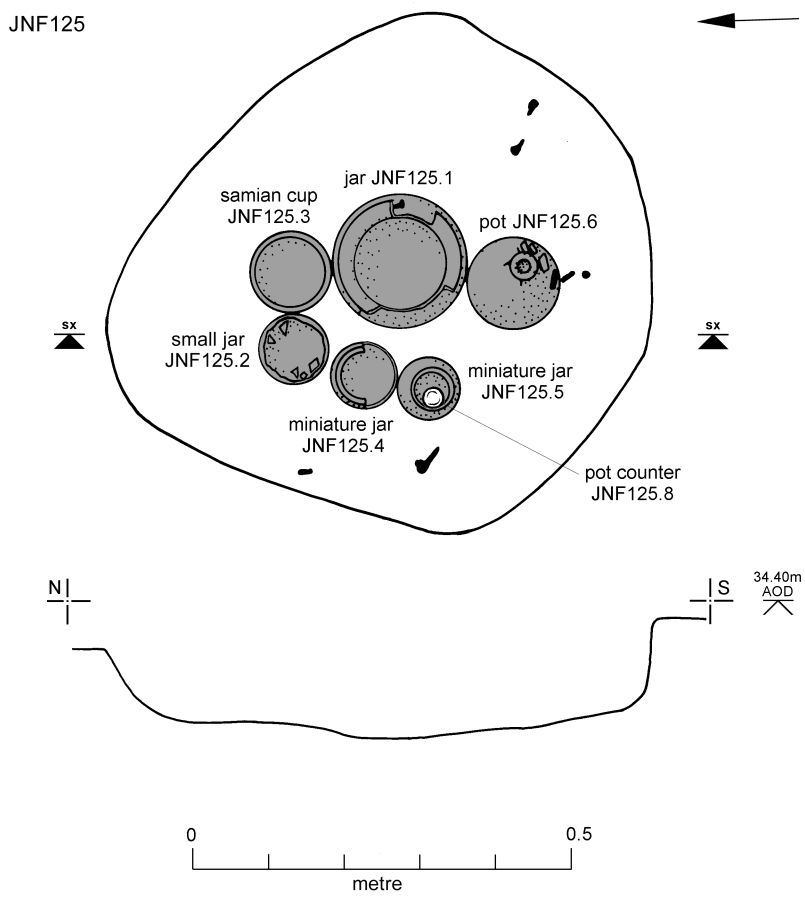
JNF121

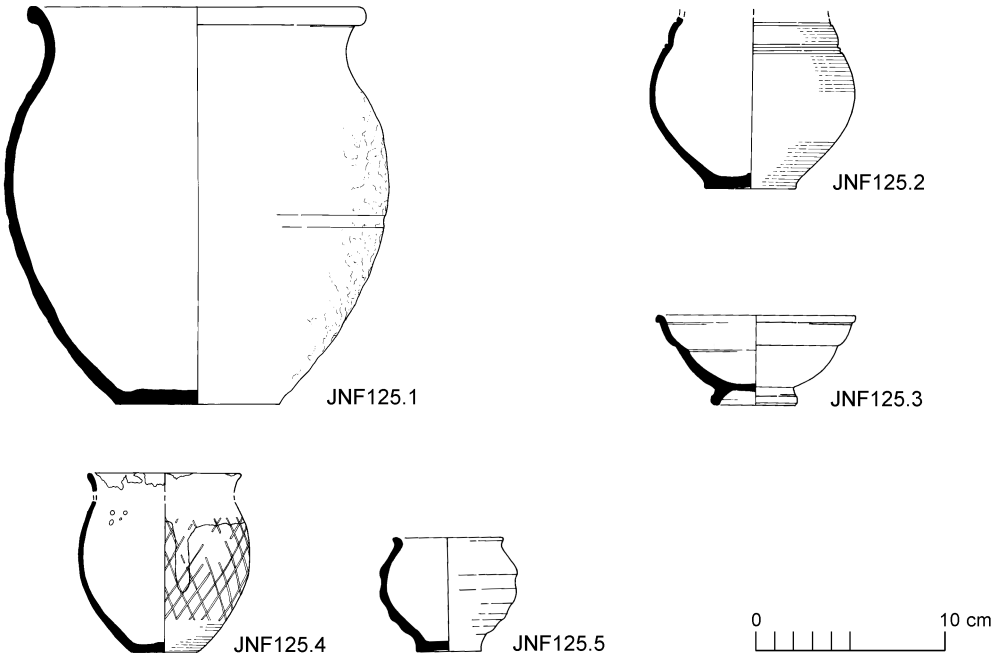

JNF123
sx
sx
cremated bone
charcoal-rich fill
N
S
34.19m AOD
0
0.5
metre

JNF123

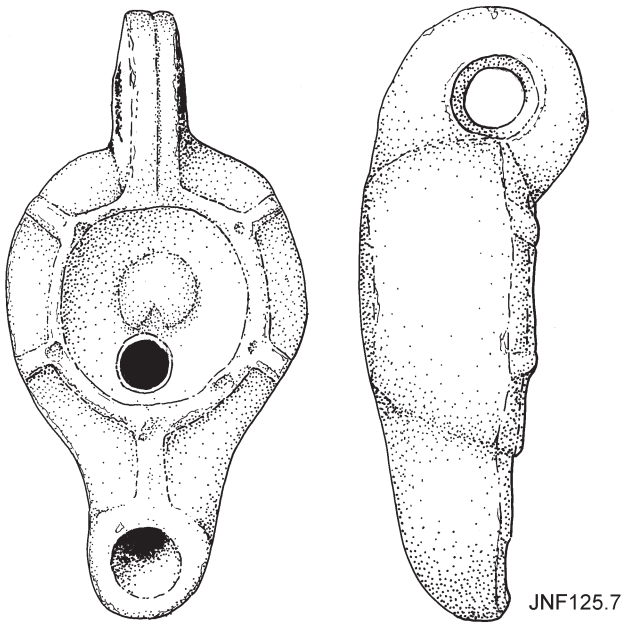

JNF124
flagon
JNF124.1
sx
sx
cut by modern
building foundation
miniature jar
JNF124.2
SW
NE
34.08m
AOD
0
1
metre
JNF124.1
JNF124.2
JNF124.3
0
10 cm

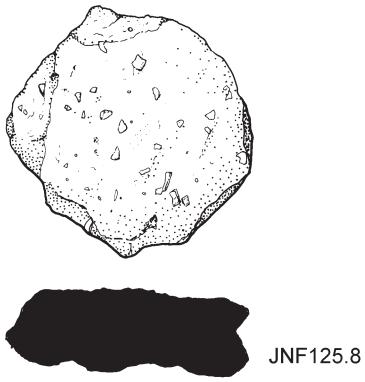
JNF124

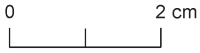

JNF125
jar JNF125.1
samian cup
JNF125.3
pot JNF125.6
sx
sx
small jar
JNF125.2
miniature jar
JNF125.5
miniature jar
JNF125.4
pot counter
JNF125.8
N
S
34.40m
AOD
0
0.5
metre


JNF125.1
JNF125.2
JNF125.3
JNF125.4
JNF125.5
0
10 cm

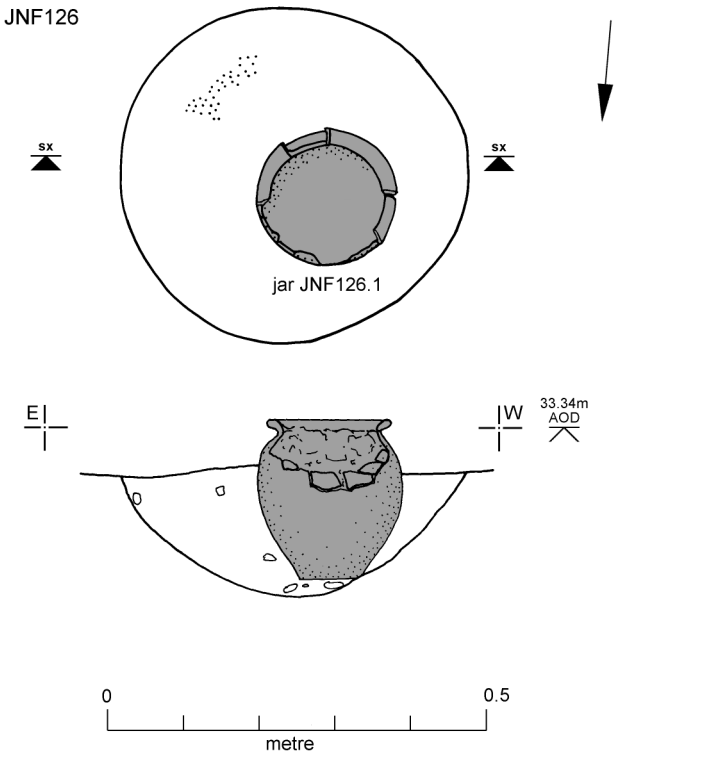
JNF125

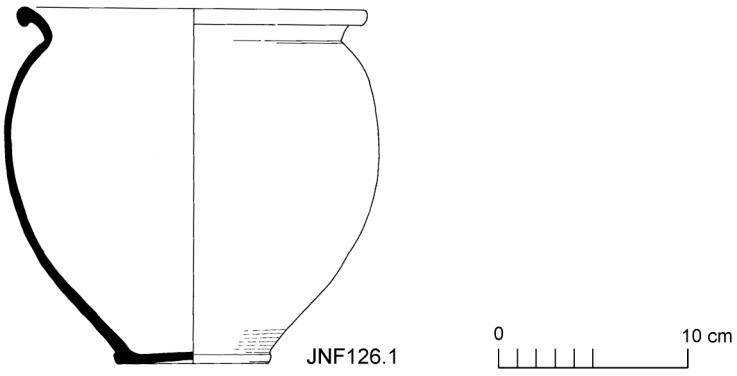




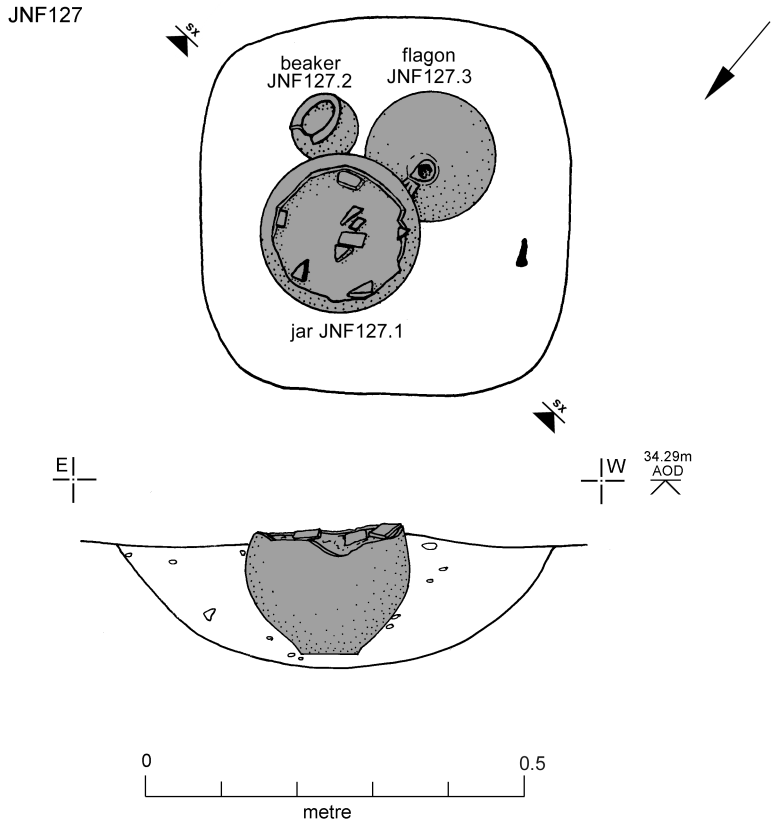


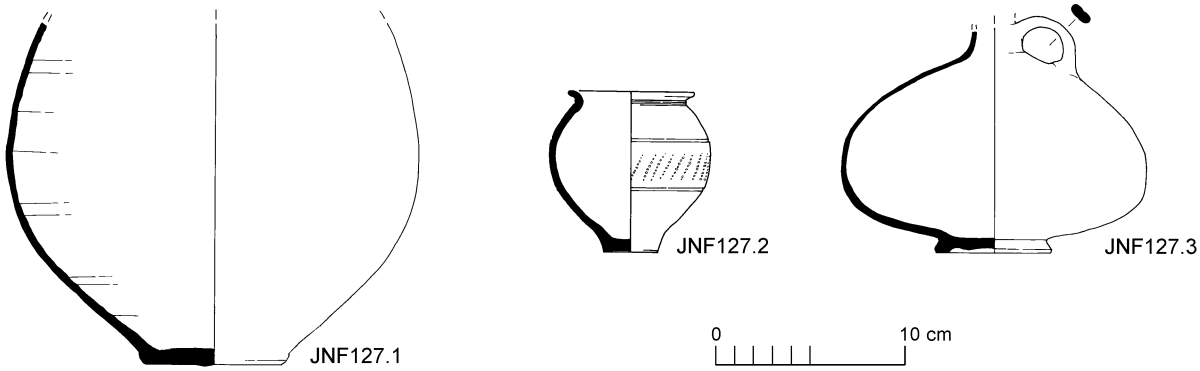
JNF125


JNF126
sx
sx
jar JNF126.1
E
W
33.34m
AOD
0
0.5
metre

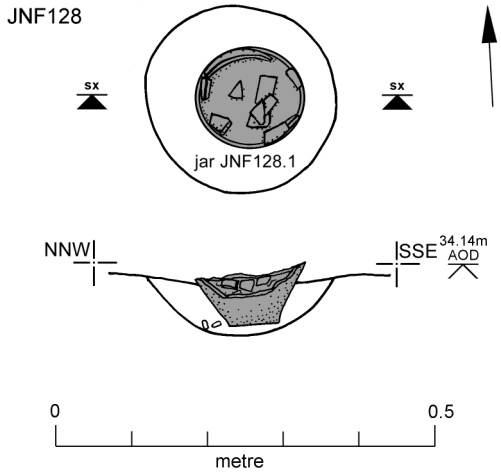

JNF126.1
0
10 cm

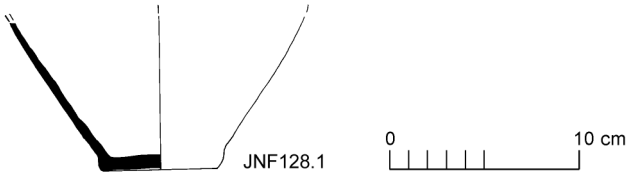
JNF126


JNF127
beaker
JNF127.2
flagon
JNF127.3
jar JNF127.1
E
W
34.29m
AOD
0
0.5
metre

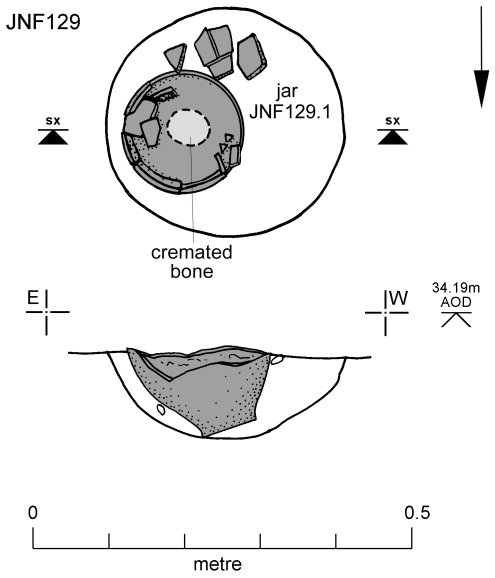

JNF127.1
JNF127.2
JNF127.3
0
10 cm

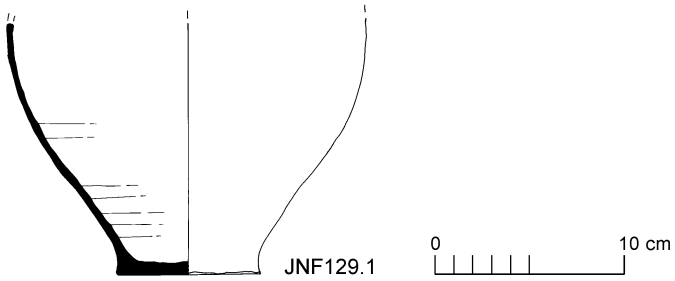
JNF127


JNF128
sx
sx
jar JNF128.1
NNW
SSE
34.14m
AOD
0
0.5
metre

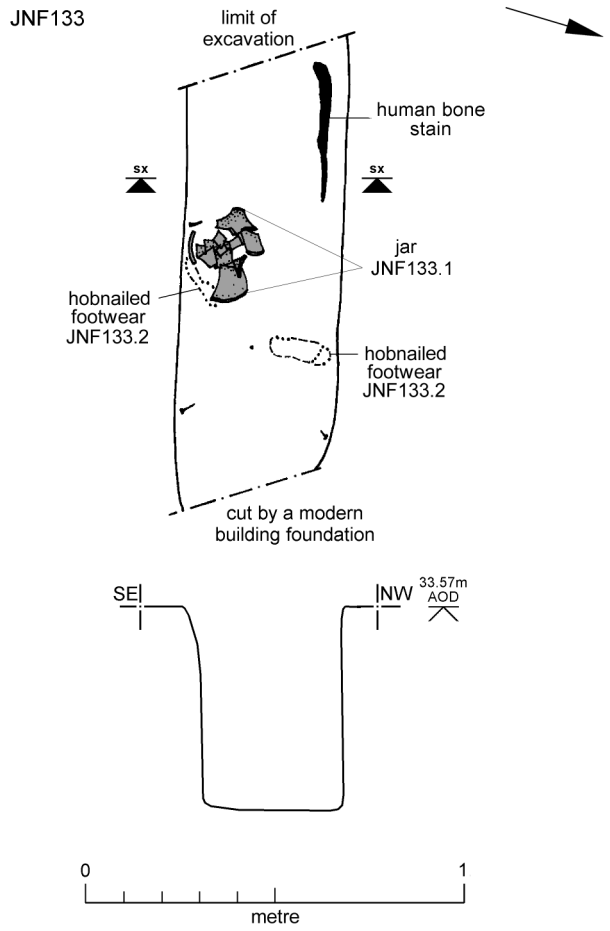

JNF128.1
0
10 cm

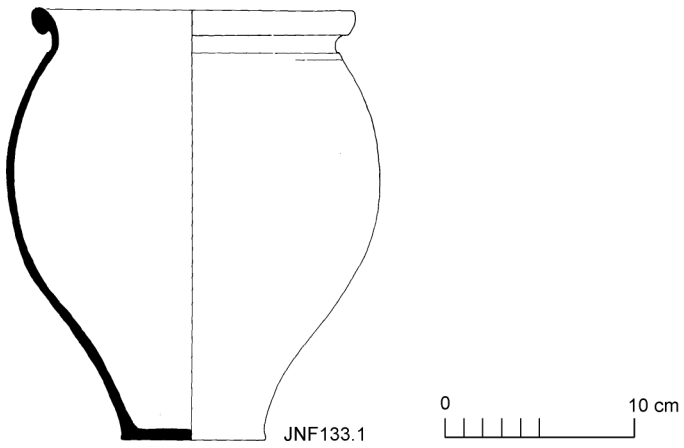
JNF128


JNF129
jar
JNF129.1
sx
sx
cremated
bone
E
W
34.19m
AOD
0
0.5
metre

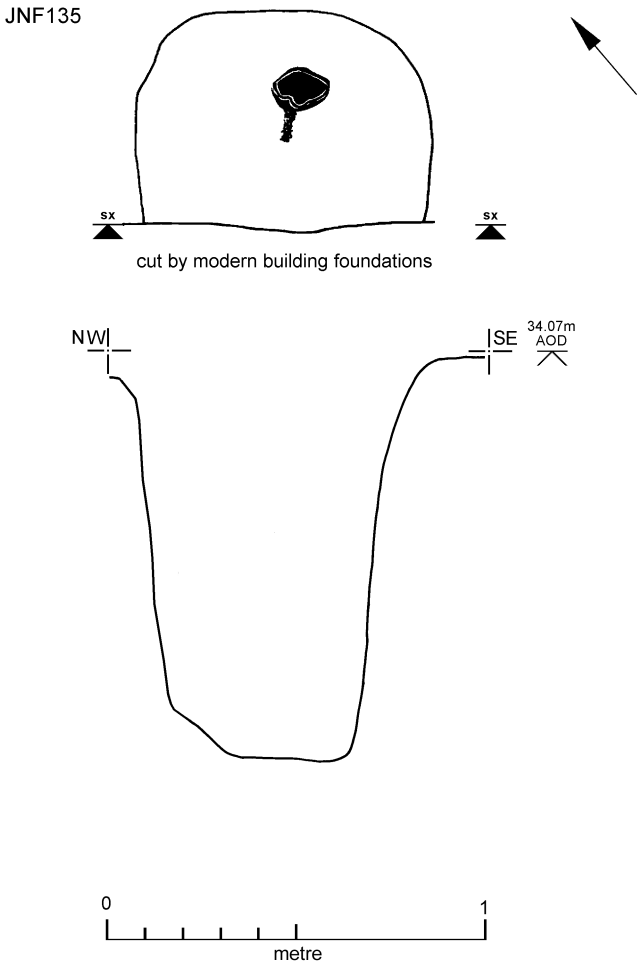

JNF129.1
0
10 cm

JNF129

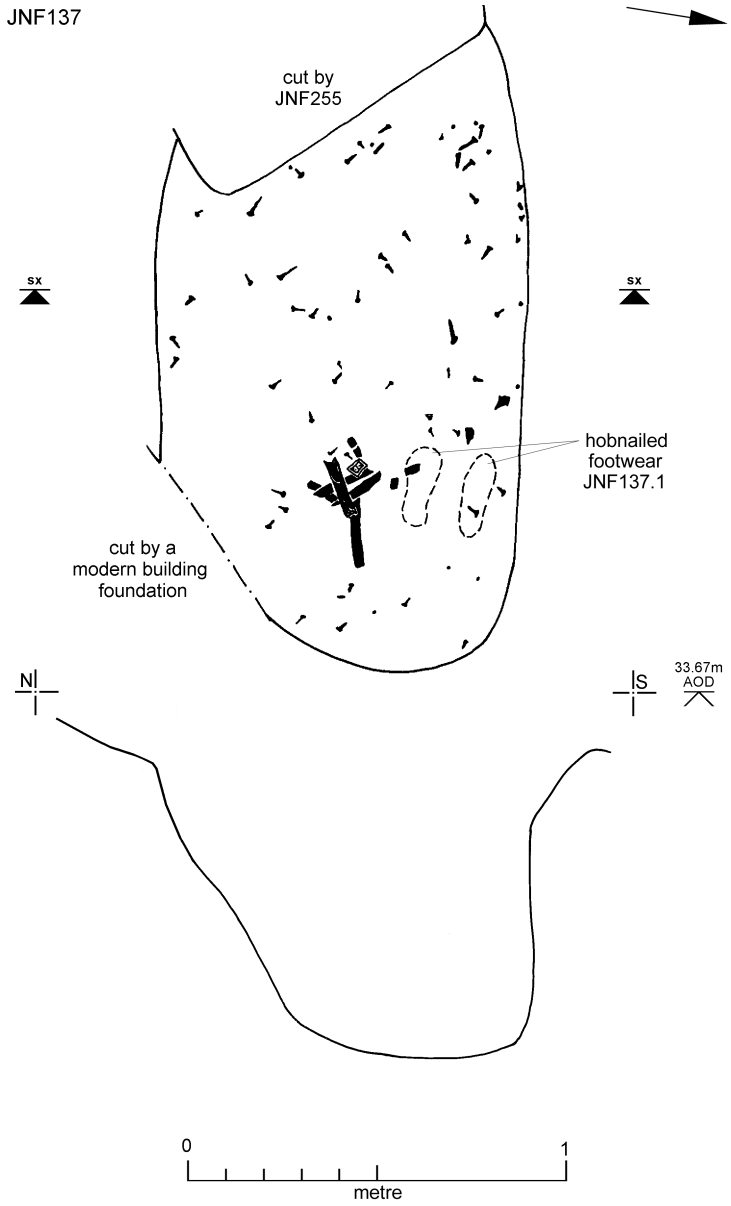

JNF133
limit of excavation
human bone stain
sx
sx
jar JNF133.1
hobnailed footwear JNF133.2
hobnailed footwear JNF133.2
cut by a modern building foundation
SE
NW
33.57m AOD
0
1
metre


JNF133.1
0
10 cm

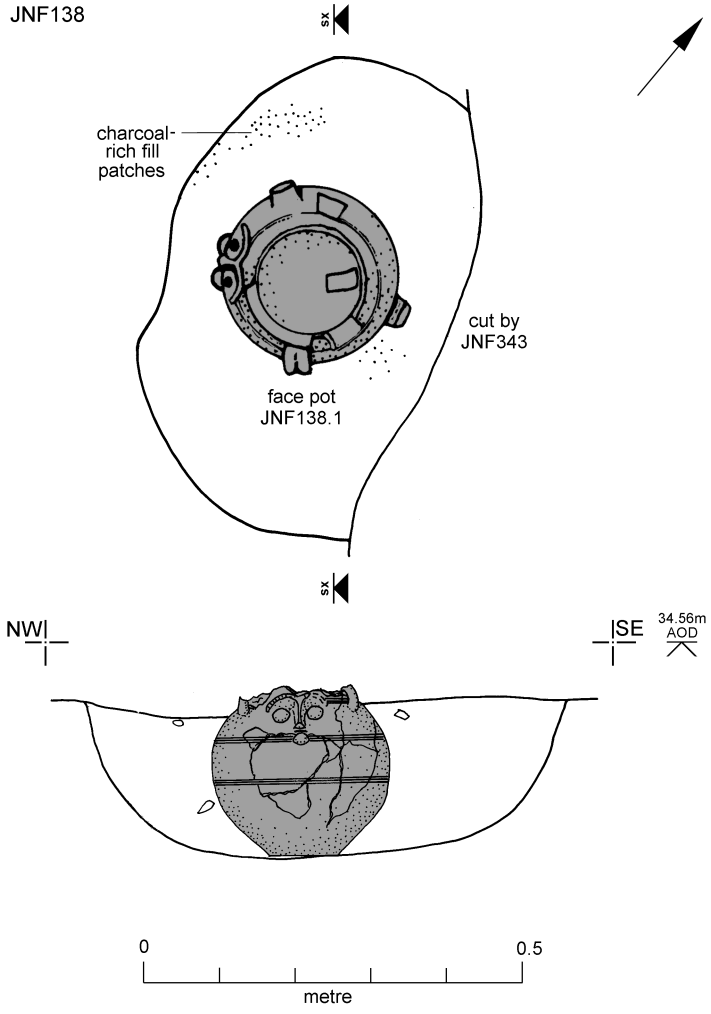
JNF133

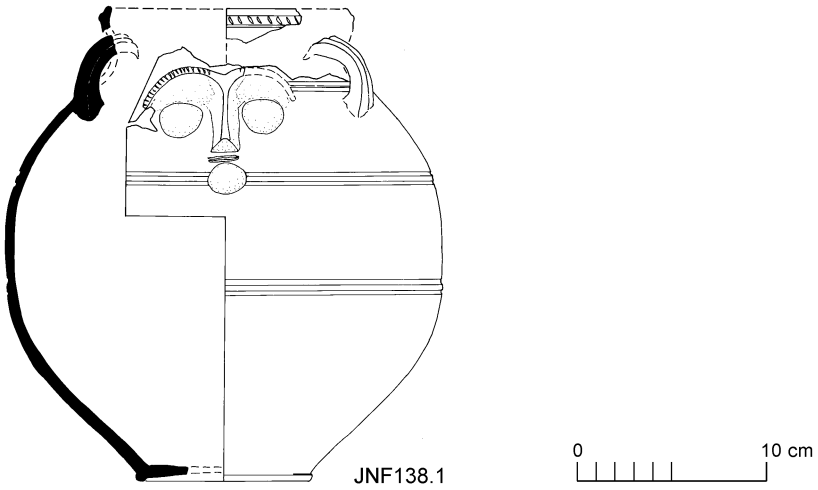

JNF135
sx
sx
cut by modern building foundations
NW
SE
34.07m
AOD
0
1
metre

JNF135

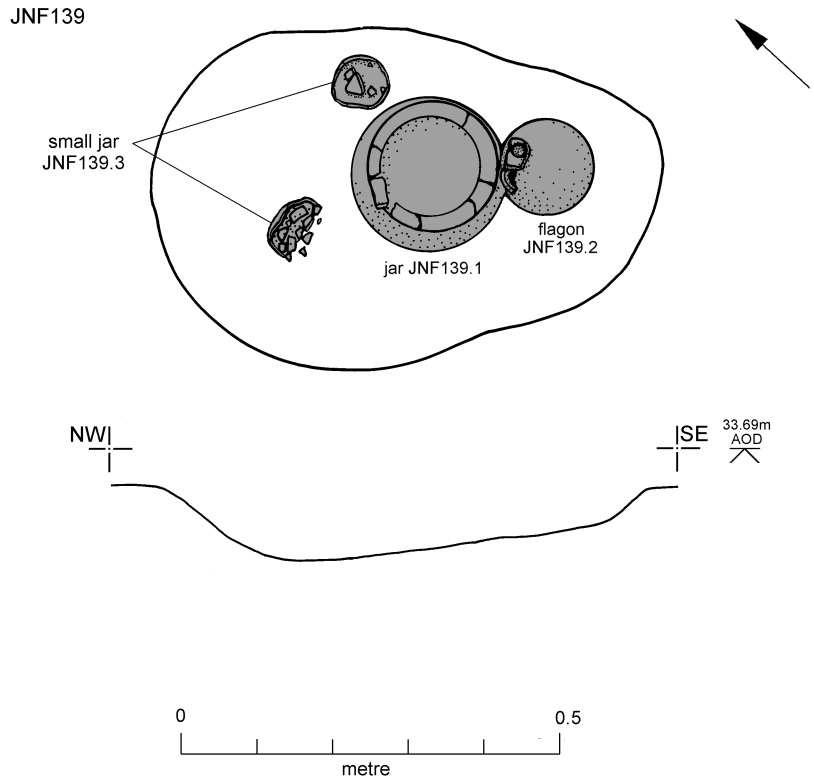

JNF137
cut by
JNF255
SX
SX
hobnailed
footwear
JNF137.1
cut by a
modern building
foundation
N
S
33.67m
AOD
0
1
metre

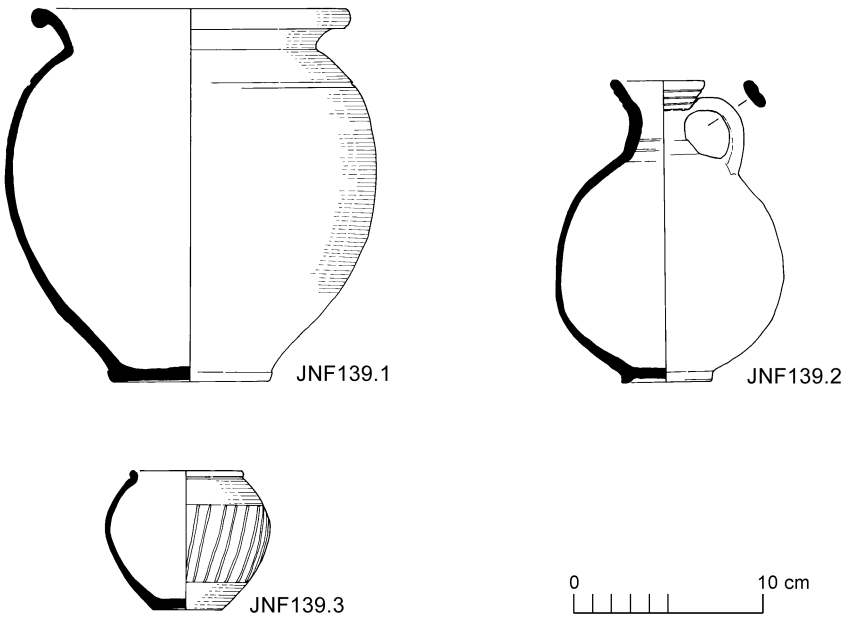
JNF137


JNF138
sx
charcoal-rich fill patches
cut by JNF343
face pot JNF138.1
sx
NW
SE
34.56m AOD
0
0.5
metre

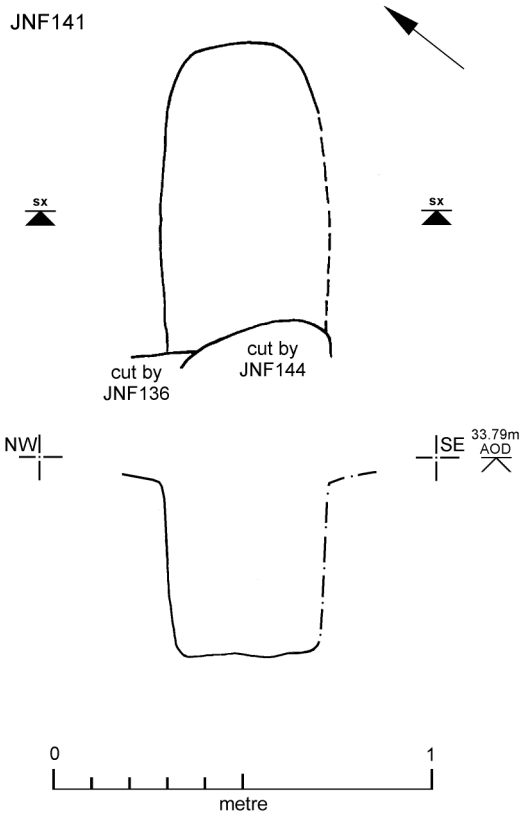

JNF138.1
0
10 cm

JNF138

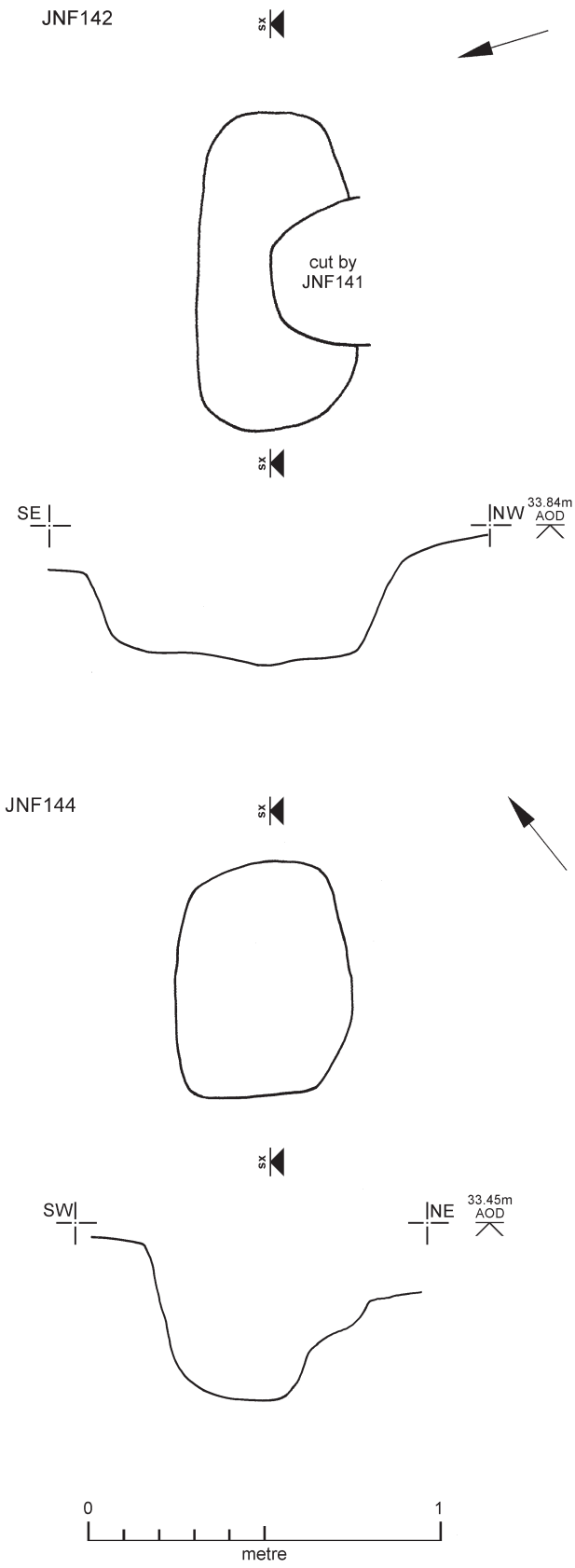

JNF139
small jar
JNF139.3
flagon
JNF139.2
jar JNF139.1
NW
SE
33.69m
AOD
0
0.5
metre


JNF139.1
JNF139.2
JNF139.3
0
10 cm

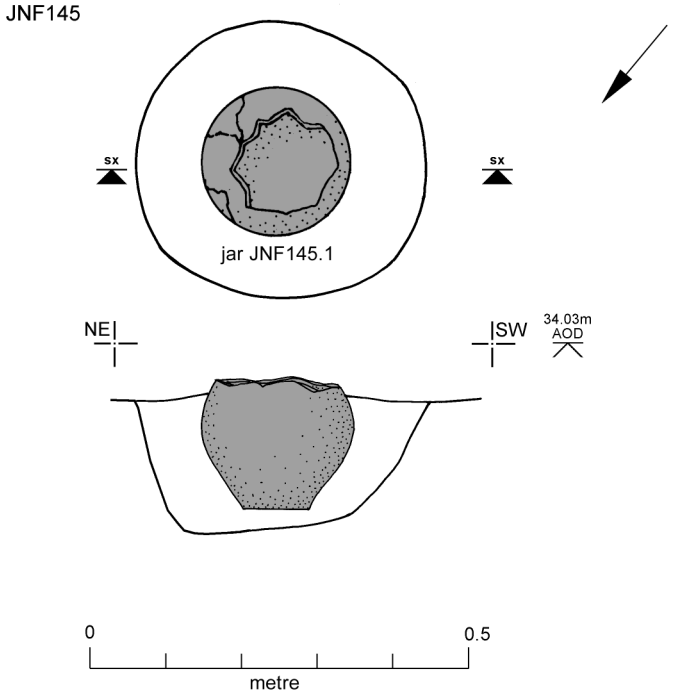
JNF139

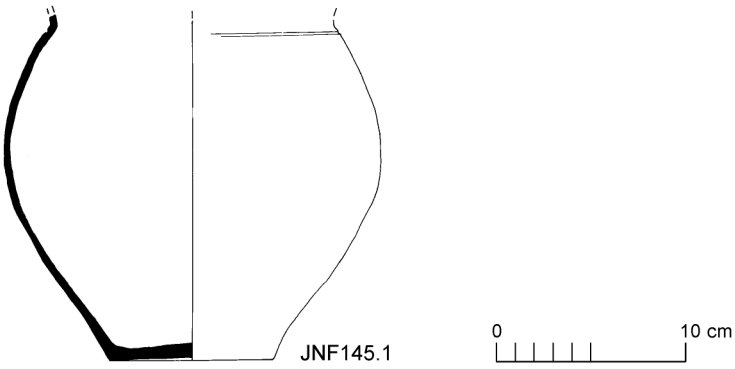

JNF141
sx
sx
cut by
JNF136
cut by
JNF144
NW
SE
33.79m
AOD
0
1
metre

JNF141

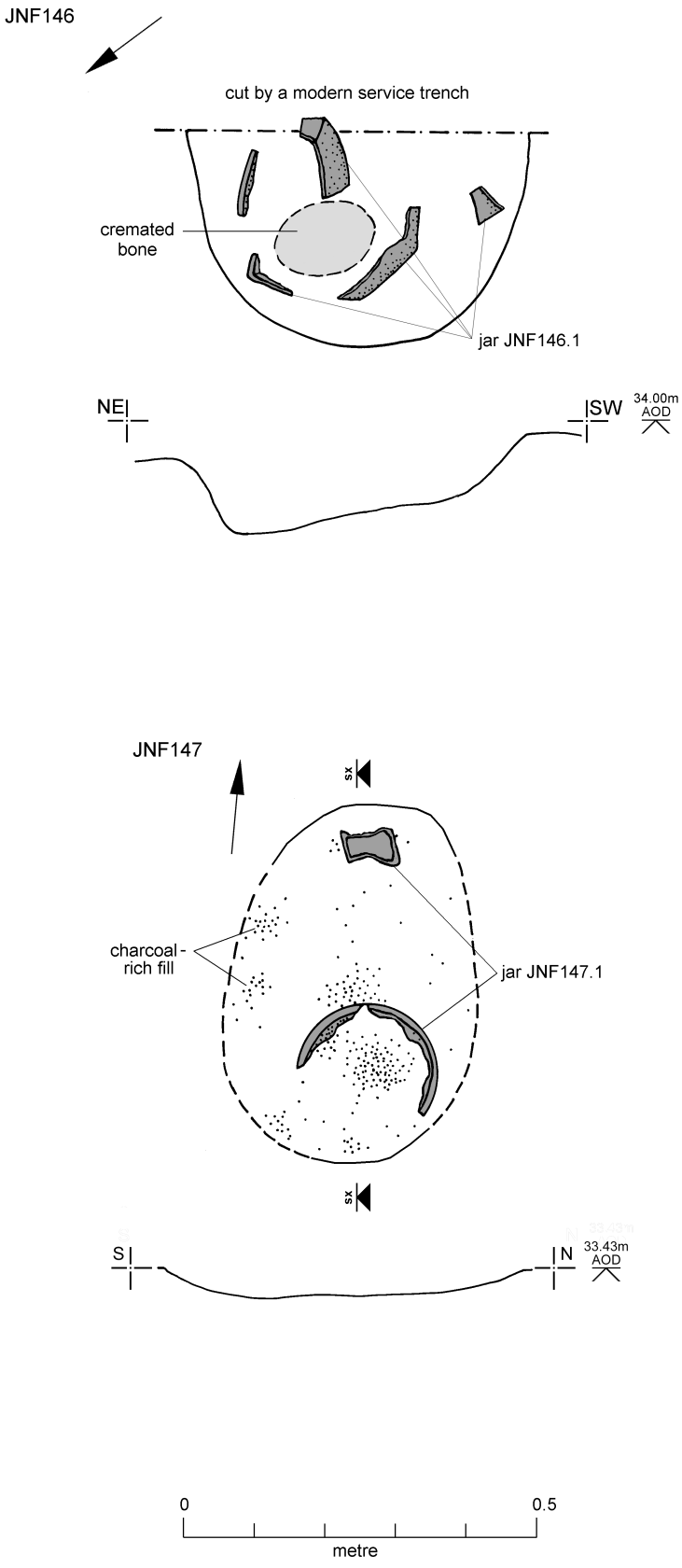


JNF142 and JNF144

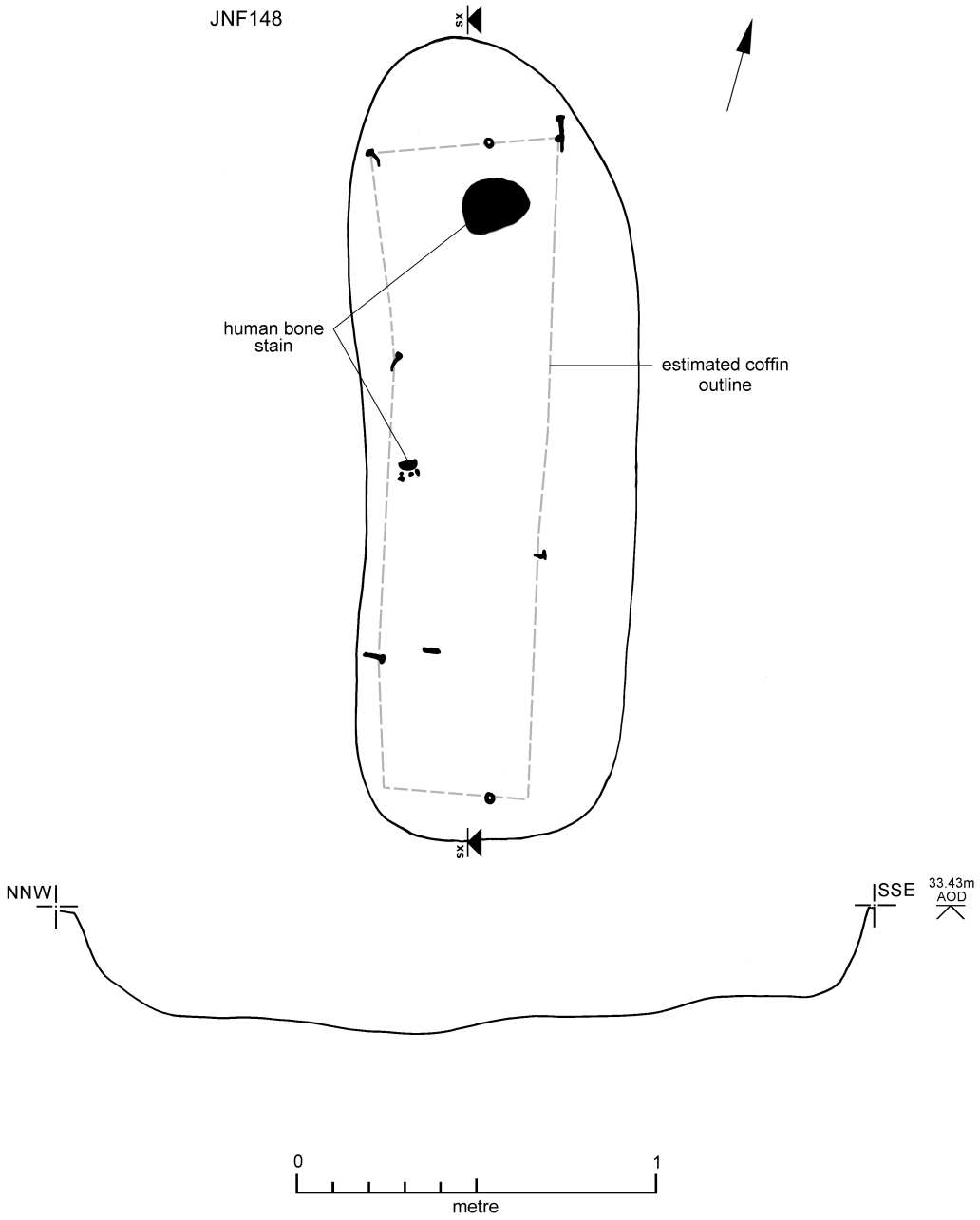

JNF145
sx
sx
jar JNF145.1
NE
SW
34.03m
AOD
0
0.5
metre


JNF145.1
0
10 cm

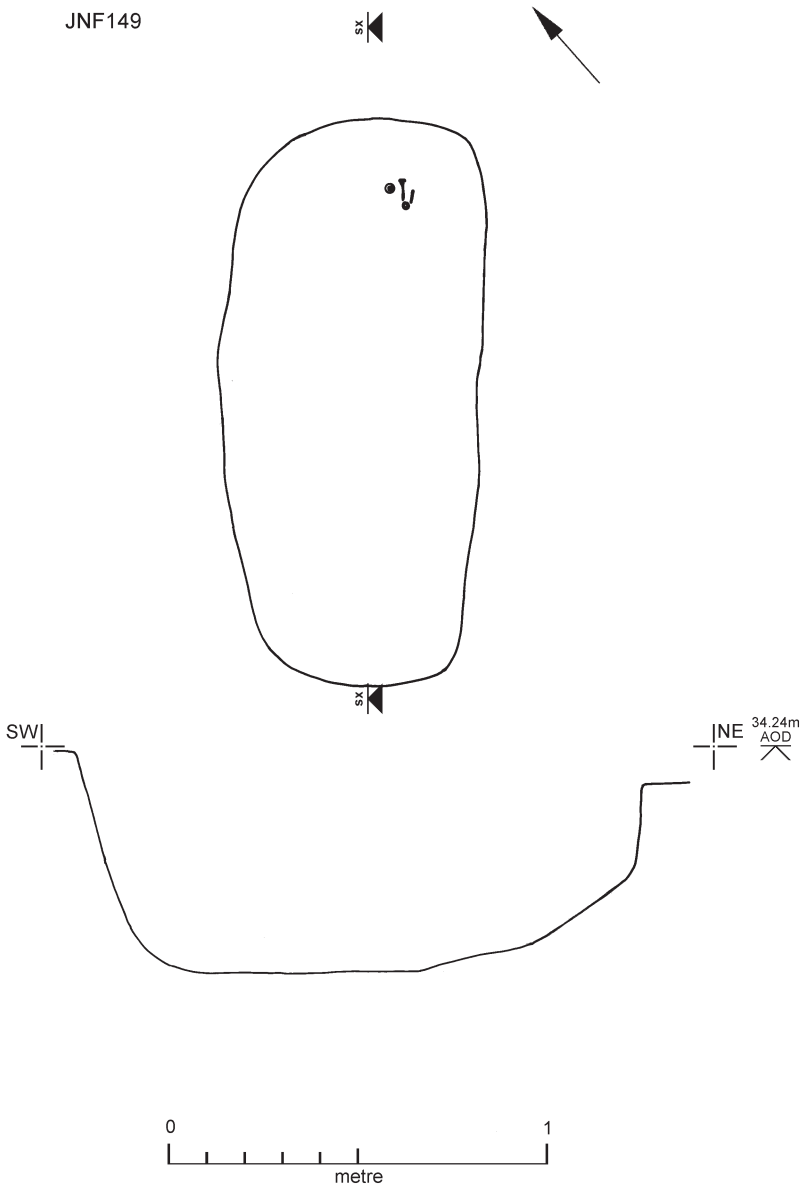
JNF145



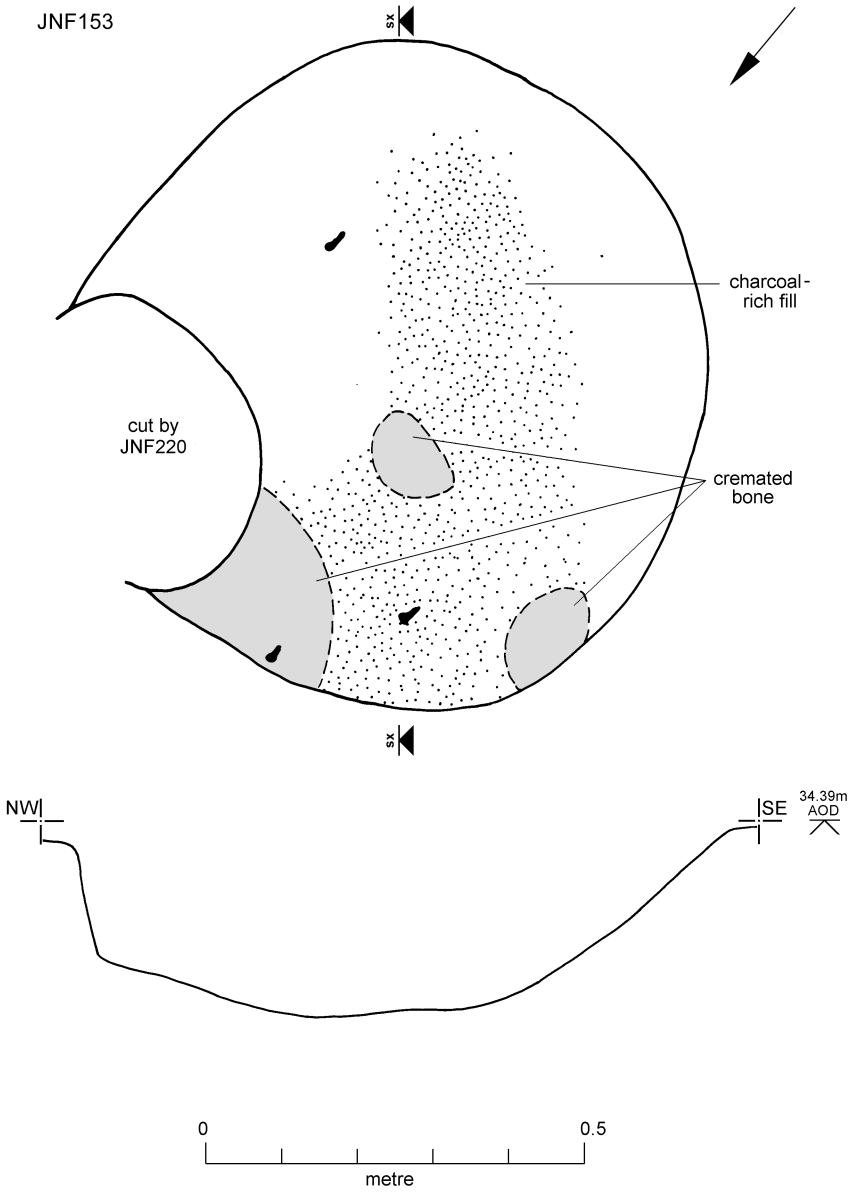
JNF146 and JNF147


JNF148
SX
SX
human bone stain
estimated coffin outline
NNW
SSE
33.43m AOD
0
1
metre

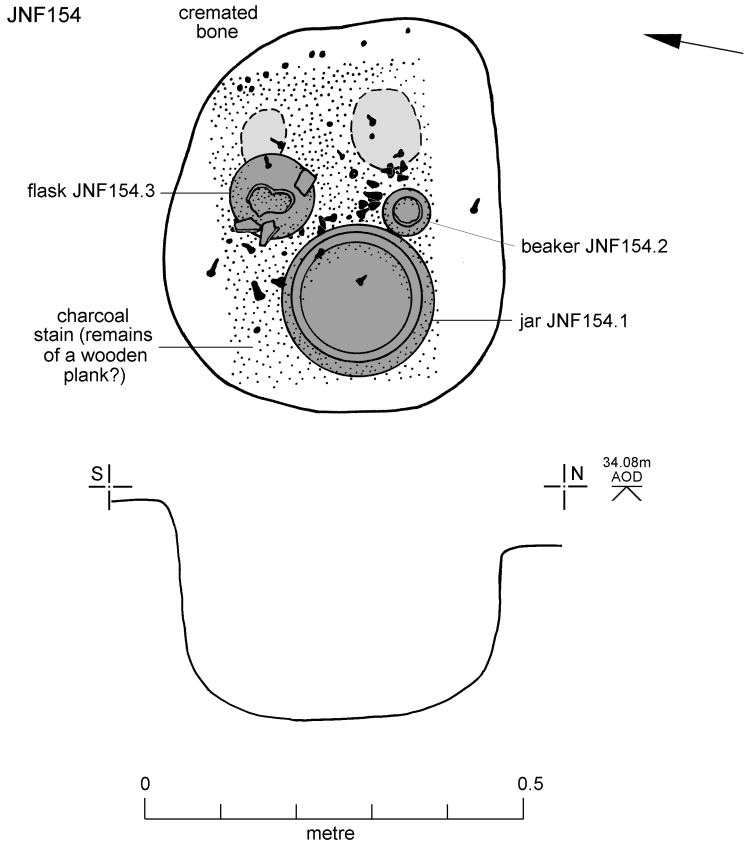
JNF148

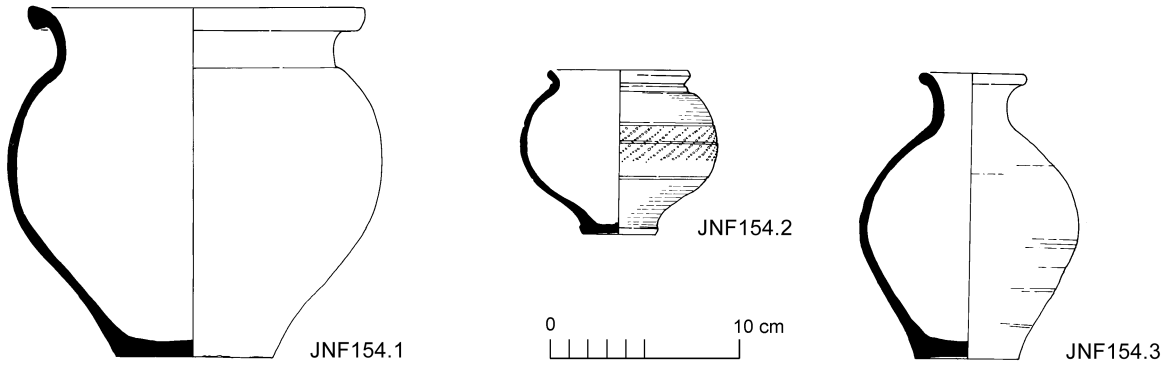


JNF149

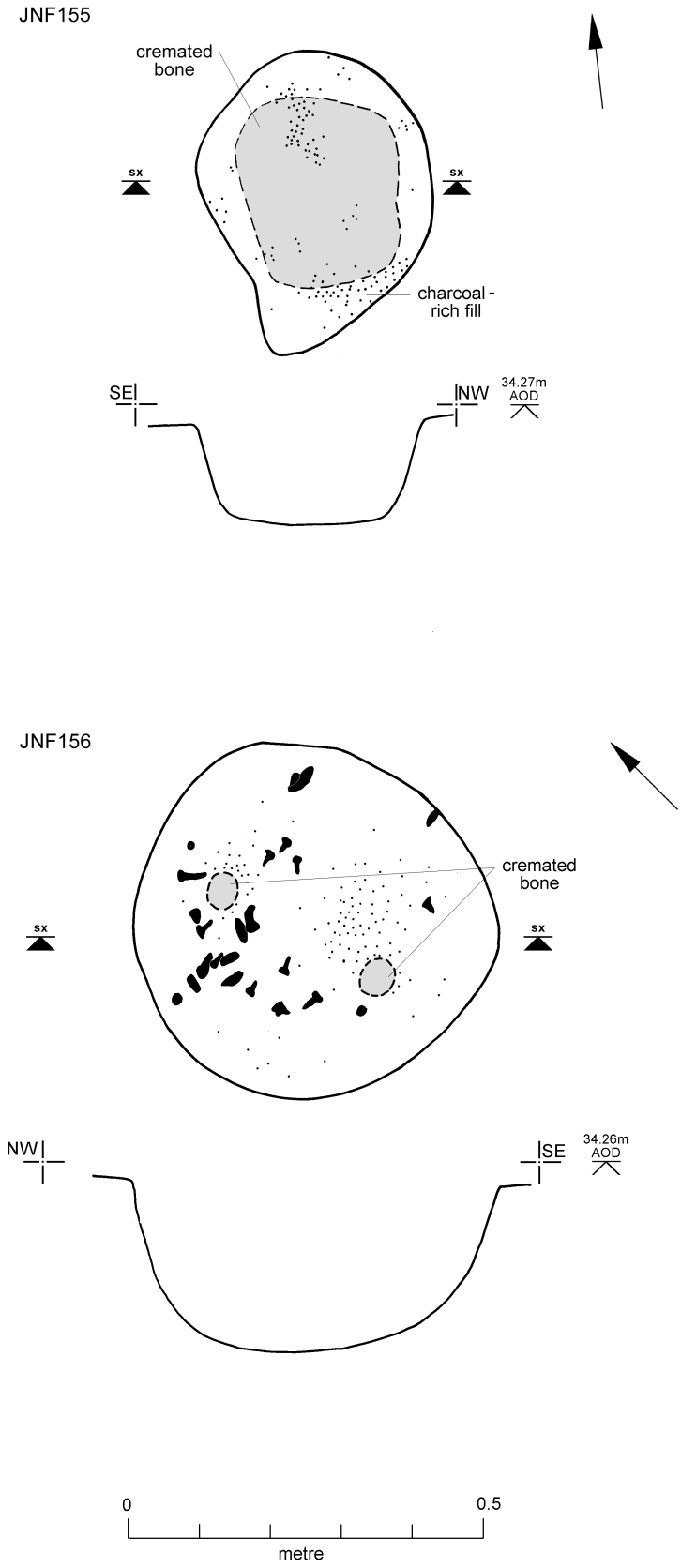

JNF153
sx
charcoal-rich fill
cut by JNF220
cremated bone
sx
NW
SE
34.39m AOD
0
0.5
metre

JNF153

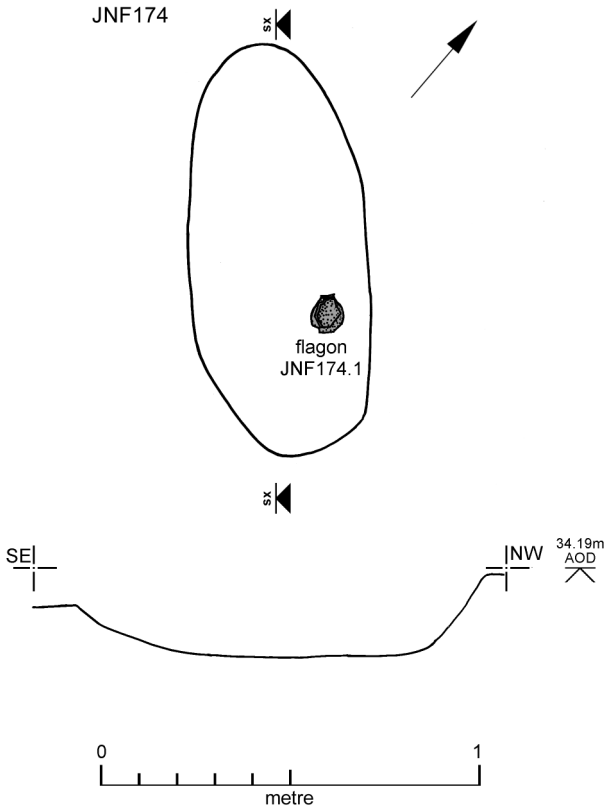

JNF154
cremated bone
flask JNF154.3
beaker JNF154.2
charcoal stain (remains of a wooden plank?)
jar JNF154.1
S
N
34.08m AOD
0
0.5
metre


JNF154.1
JNF154.2
0
10 cm
JNF154.3

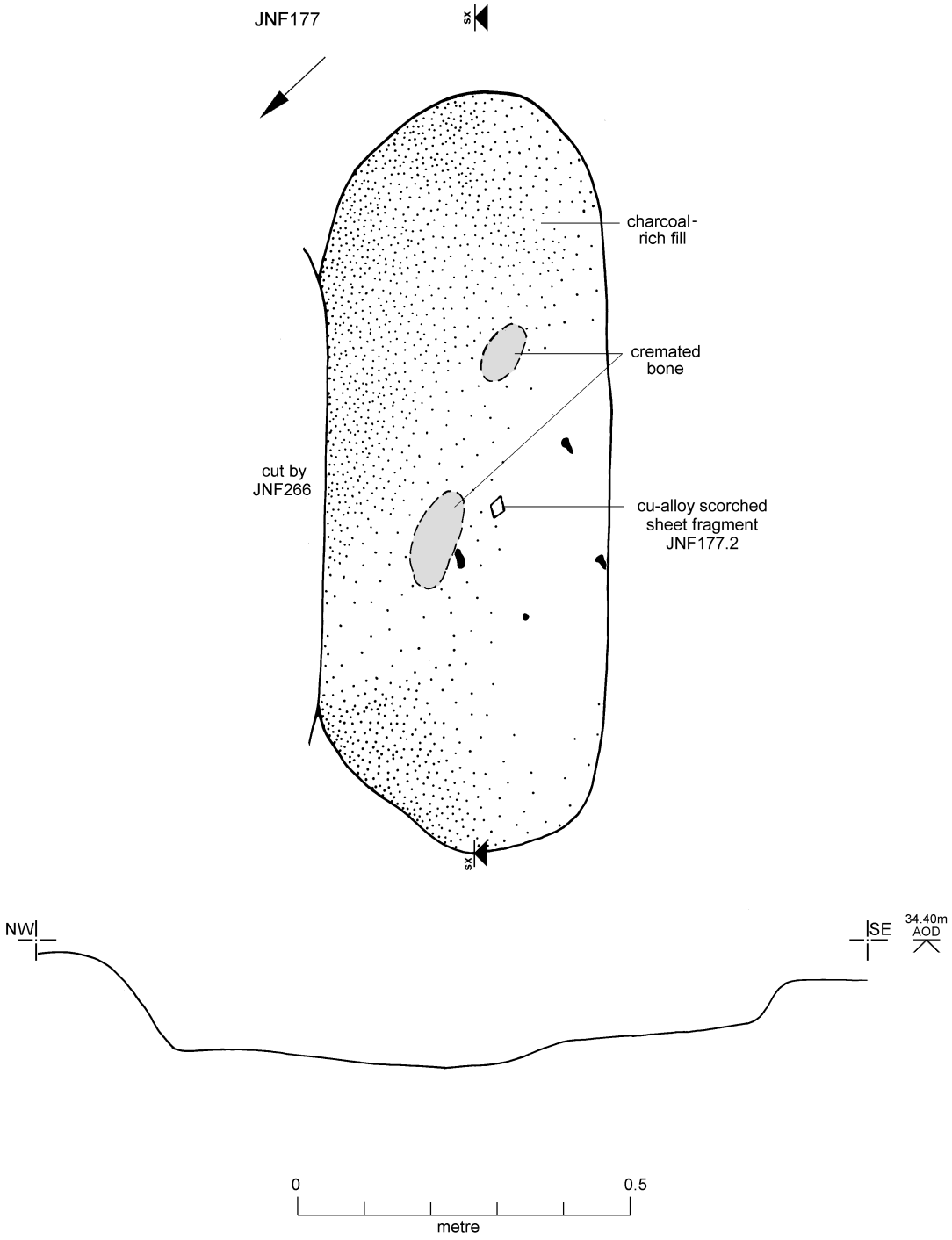
JNF154



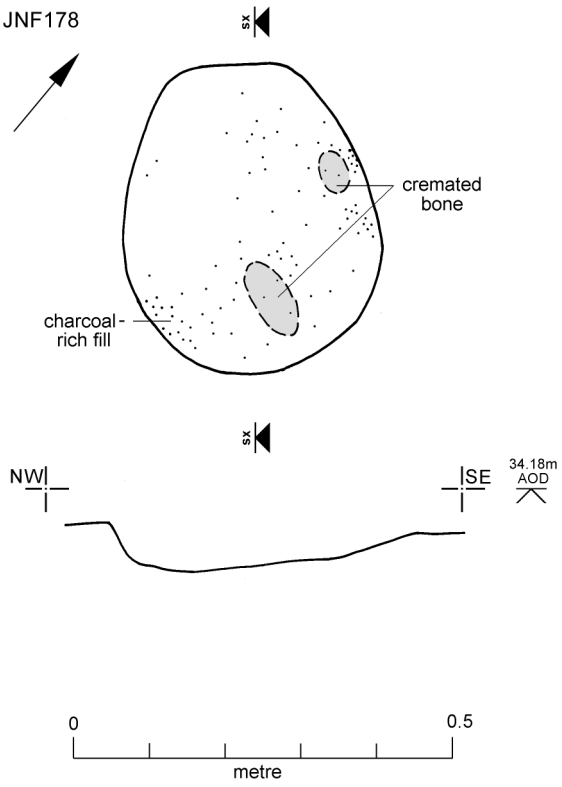
JNF155 and JNF156



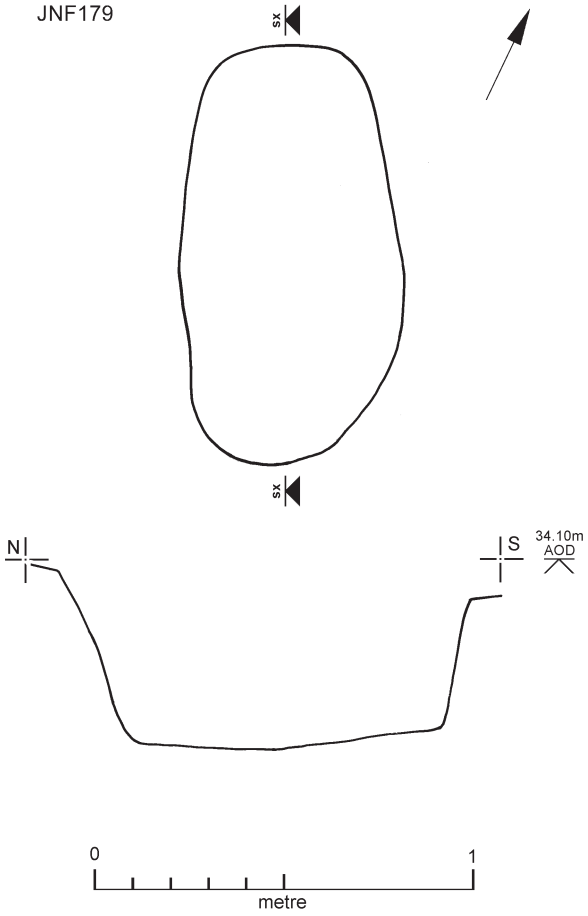
JNF174


JNF177
SX
charcoal-rich fill
cremated bone
cut by JNF266
cu-alloy scorched sheet fragment JNF177.2
SX
NW
SE
34.40m AOD
0
0.5
metre

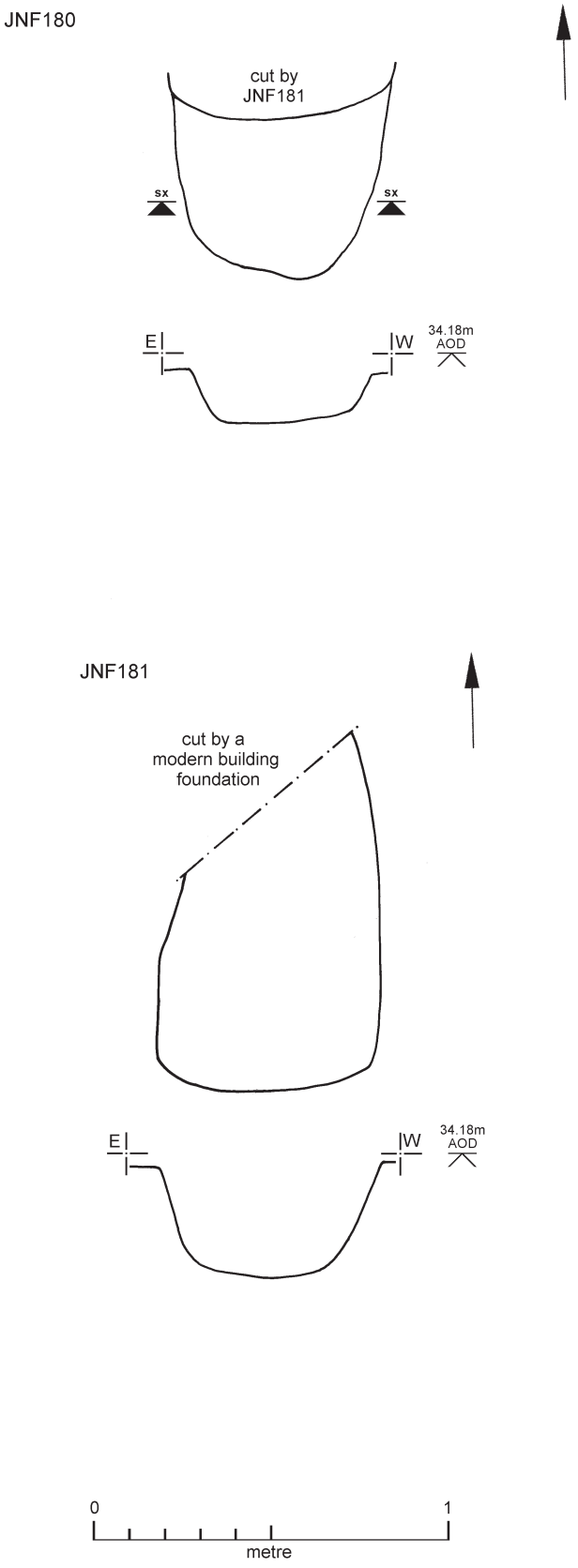
JNF177


JNF178
xs
cremated bone
charcoal-rich fill
xs
NW
SE
34.18m AOD
0
0.5
metre

JNF178

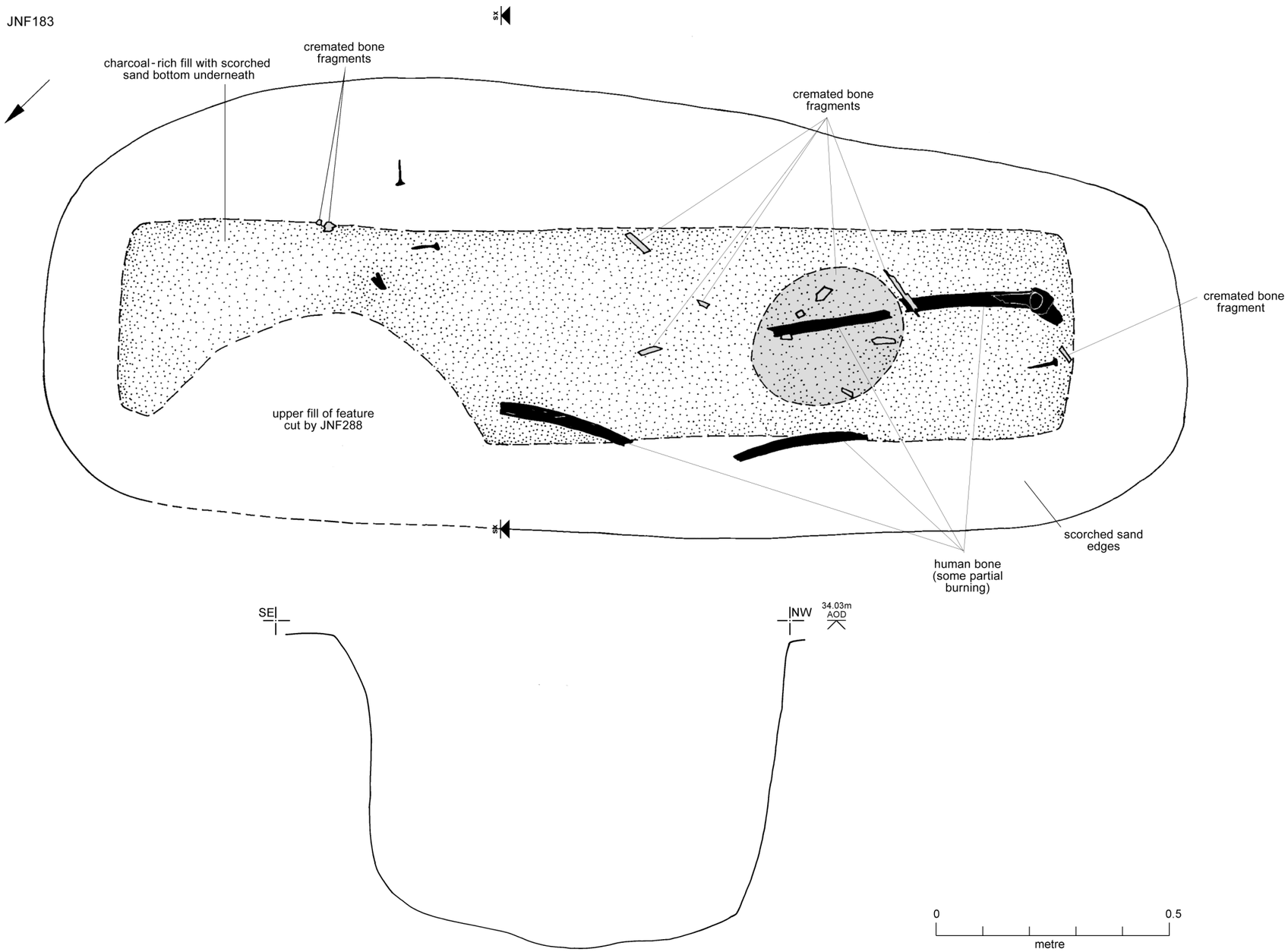


JNF179

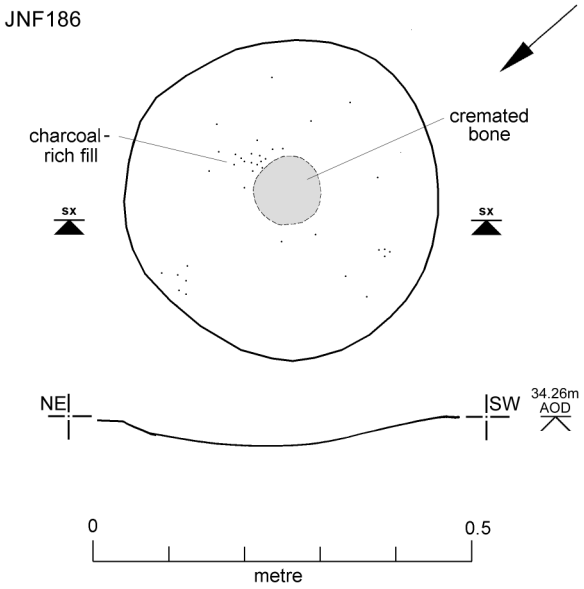


JNF180 and JNF181

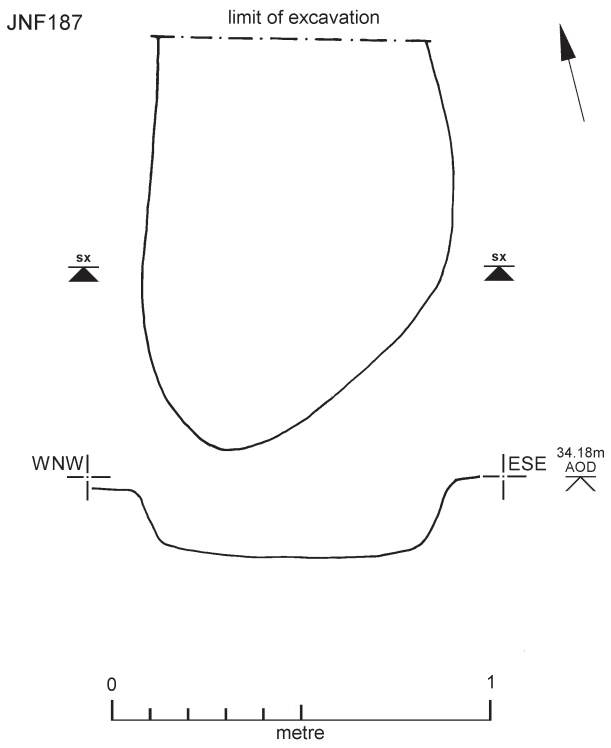
JNF183



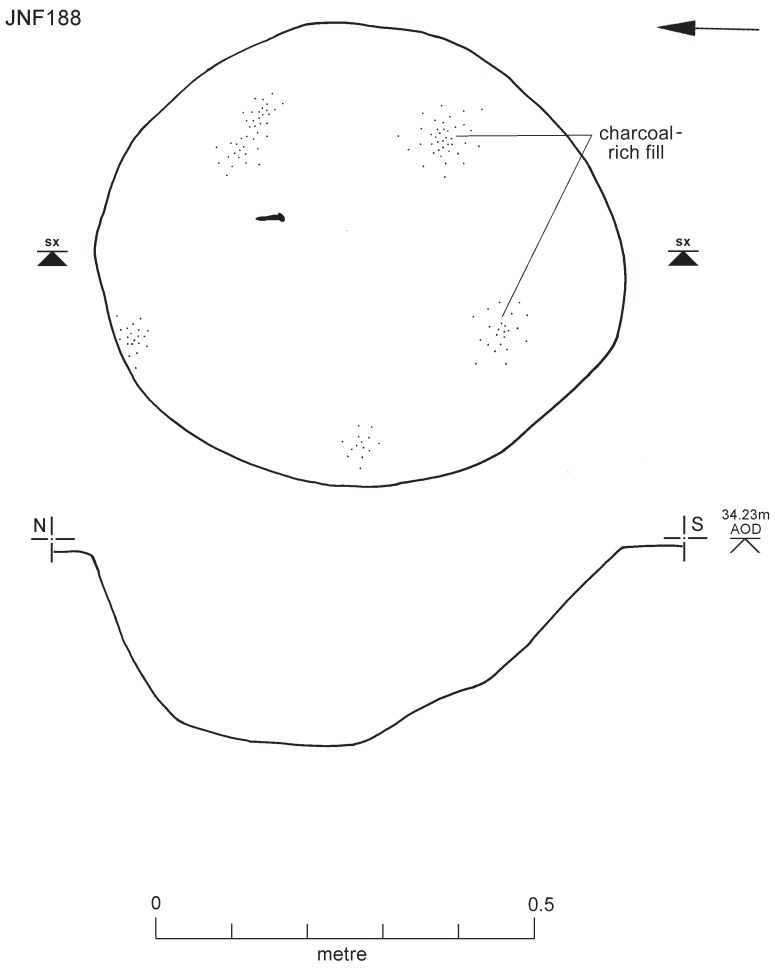
JNF183


JNF186
charcoal-rich fill
cremated bone
sx
sx
NE
SW
34.26m AOD
0
0.5
metre

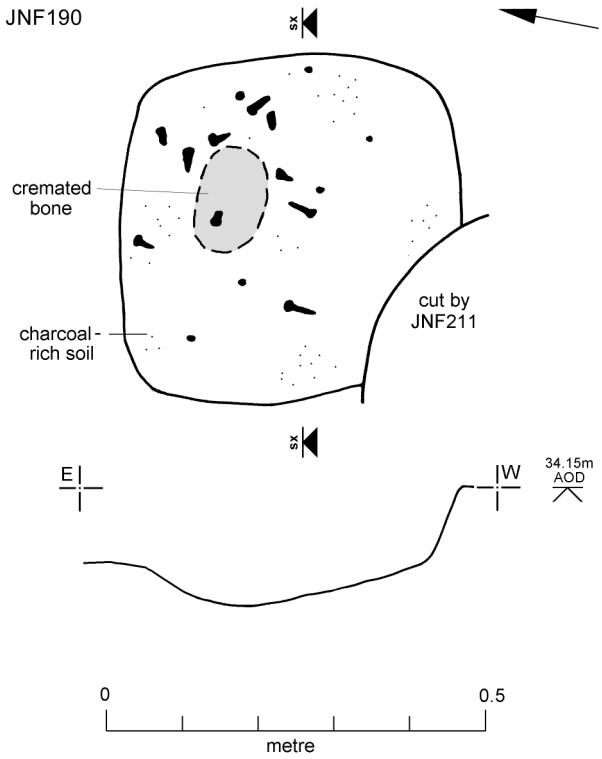
JNF186



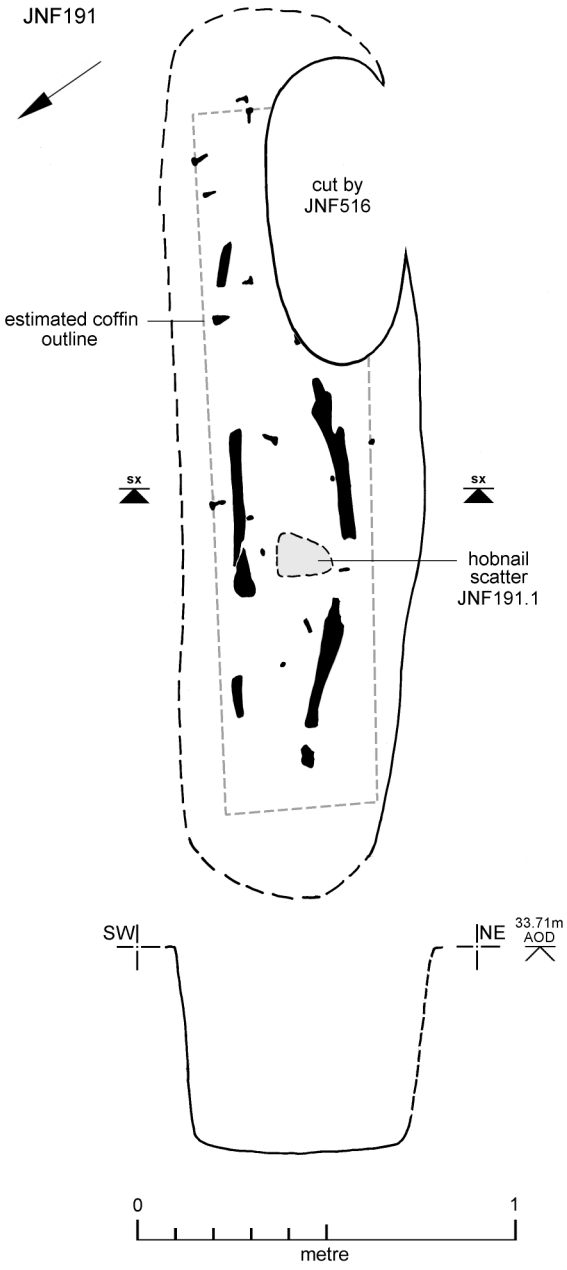
JNF187



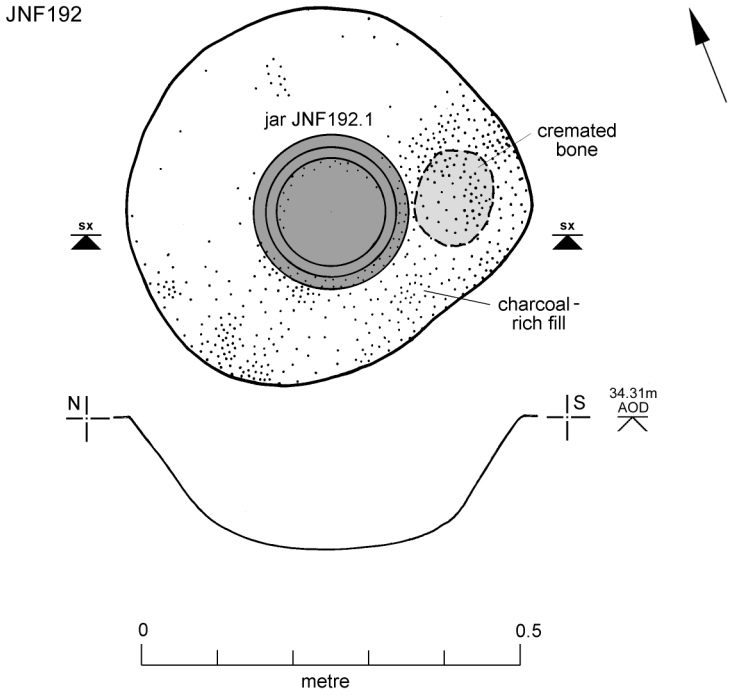
JNF188

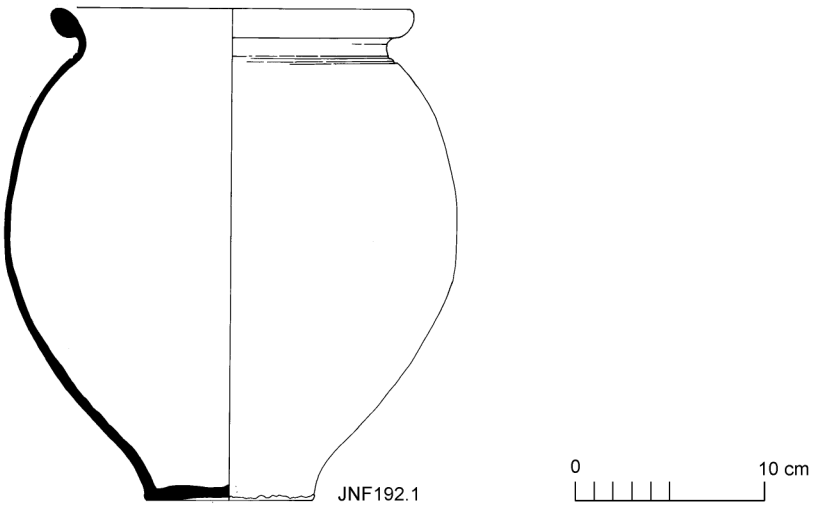

JNF190
SX
cremated bone
charcoal-rich soil
cut by JNF211
SX
E
W
34.15m AOD
0
0.5
metre

JNF190

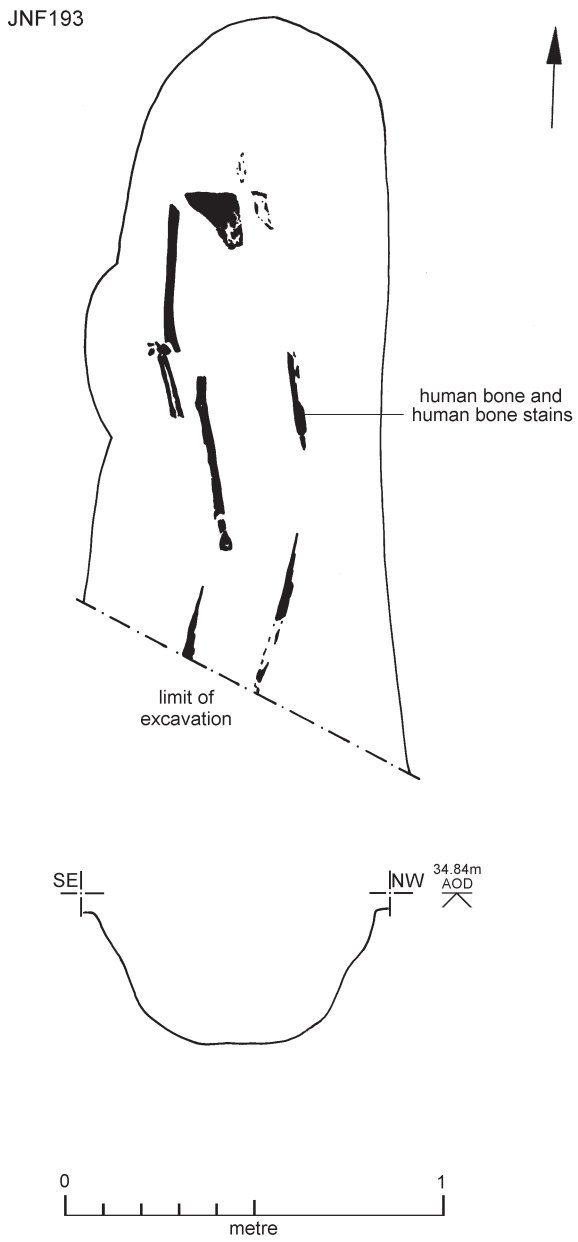

JNF191
cut by
JNF516
estimated coffin
outline
sx
sx
hobnail
scatter
JNF191.1
SW
NE
33.71m
AOD
0
1
metre

JNF191

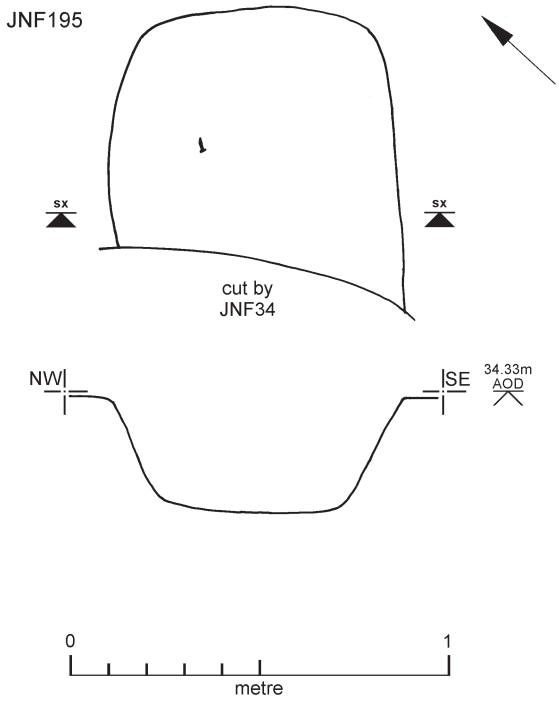

JNF192
jar JNF192.1
cremated bone
sx
sx
charcoal-rich fill
N
S
34.31m AOD
0
0.5
metre


JNF192.1
0
10 cm

JNF192

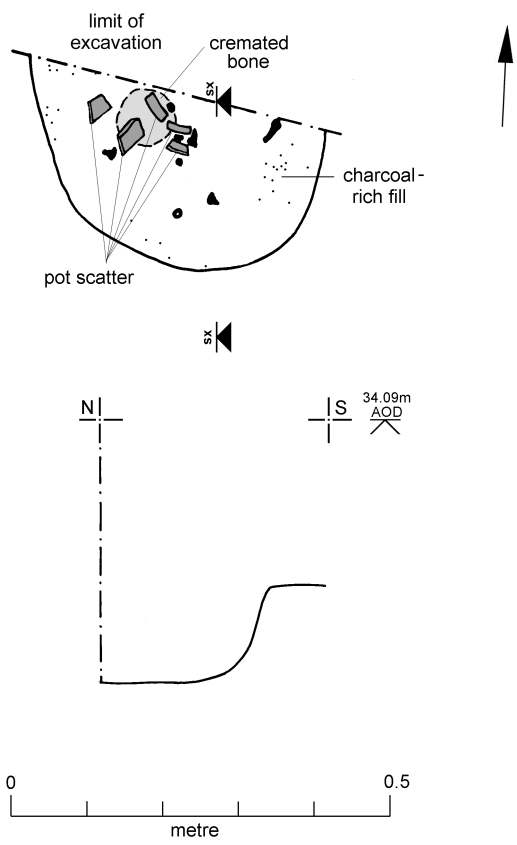

JNF193
human bone and
human bone stains
limit of
excavation
SE
NW
34.84m
AOD
0
1
metre

JNF193

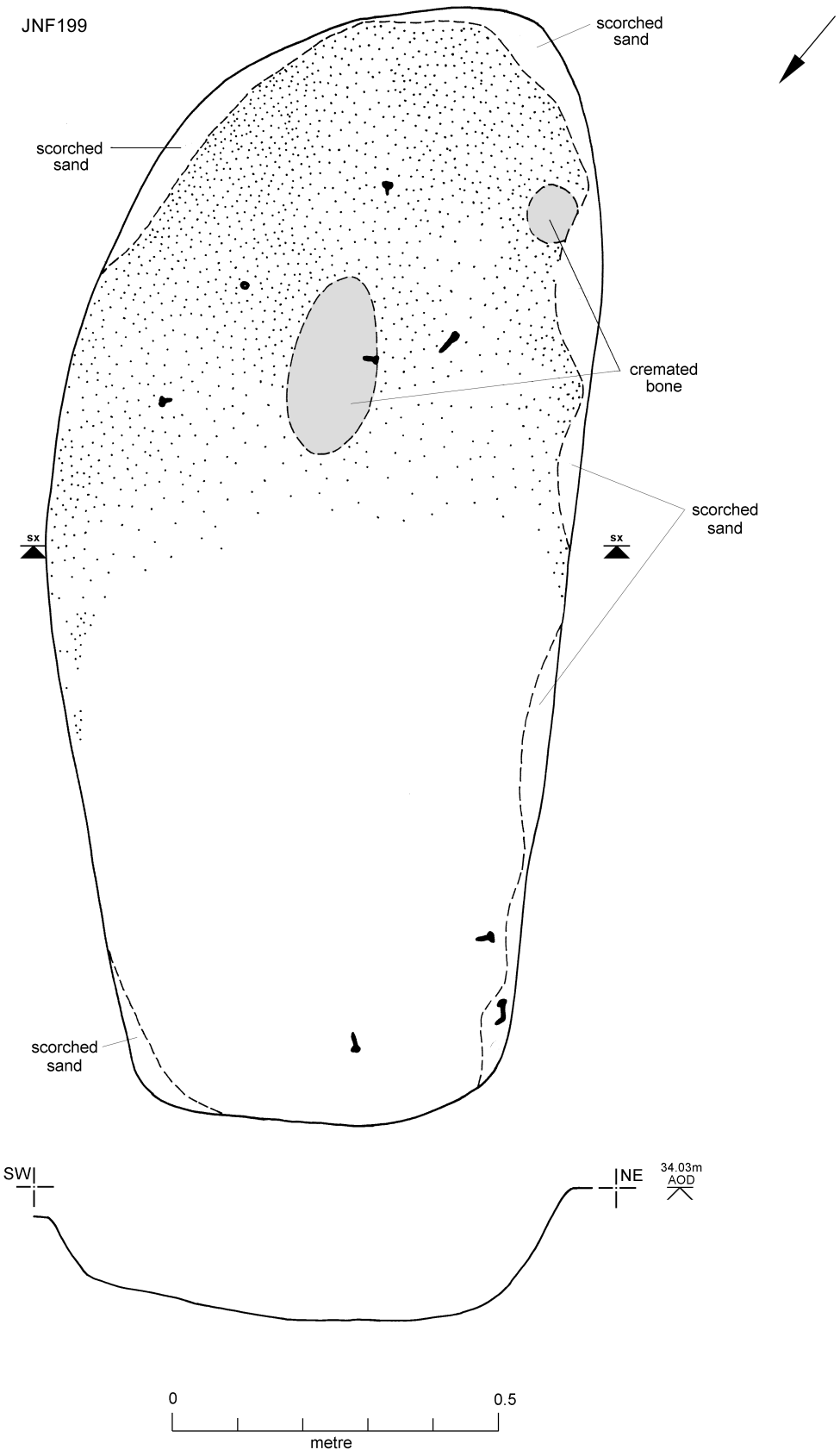


JNF195

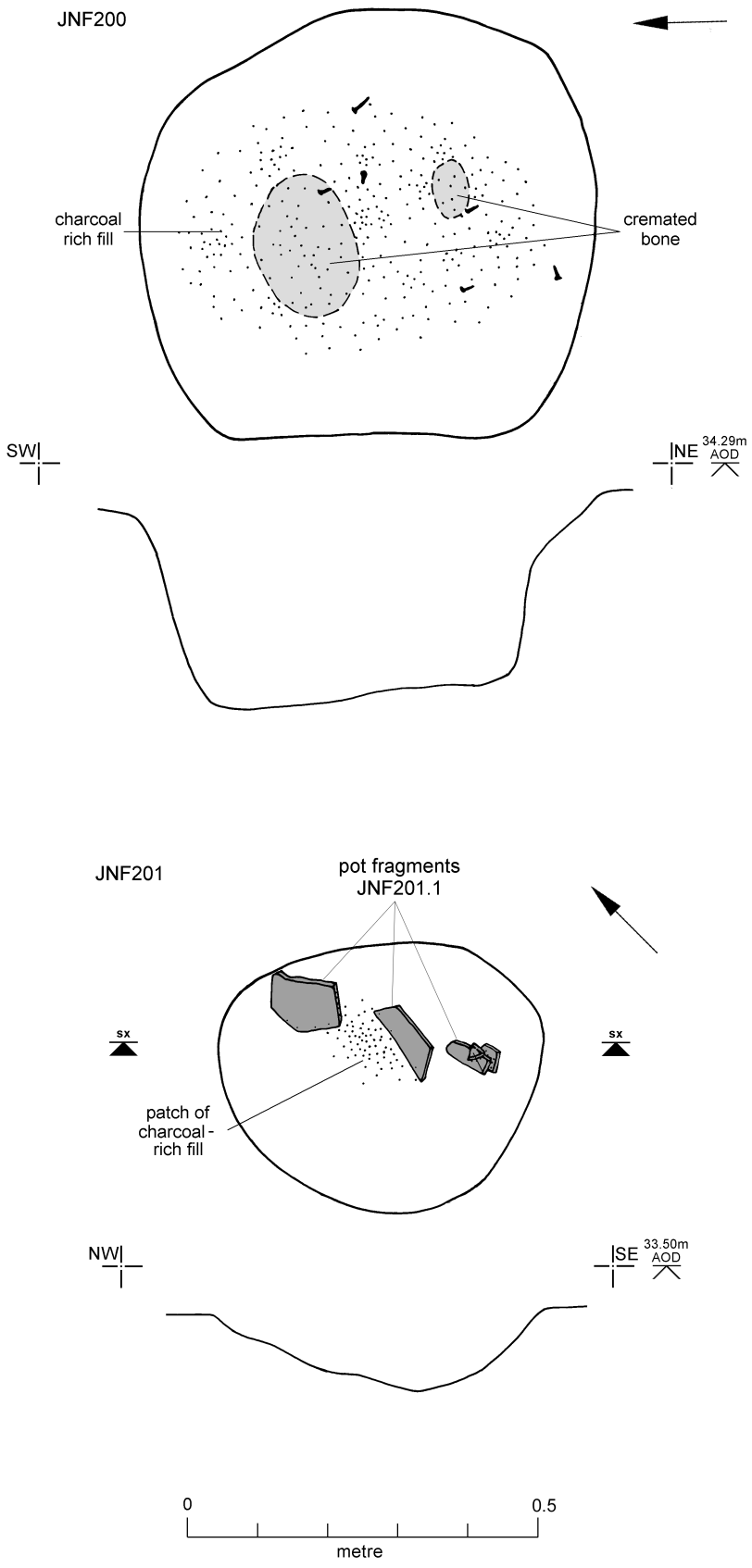
JNF196



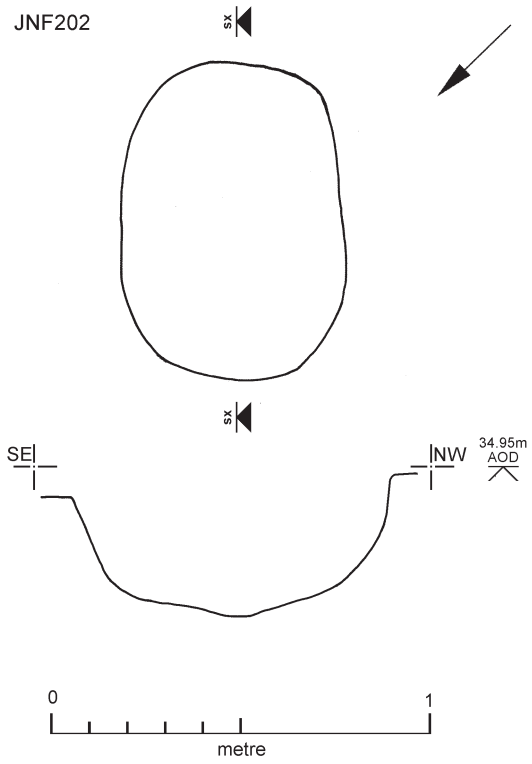
JNF196


JNF199
scorched sand
scorched sand
cremated bone
scorched sand
sx
sx
scorched sand
SW
NE
34.03m AOD
0
0.5
metre

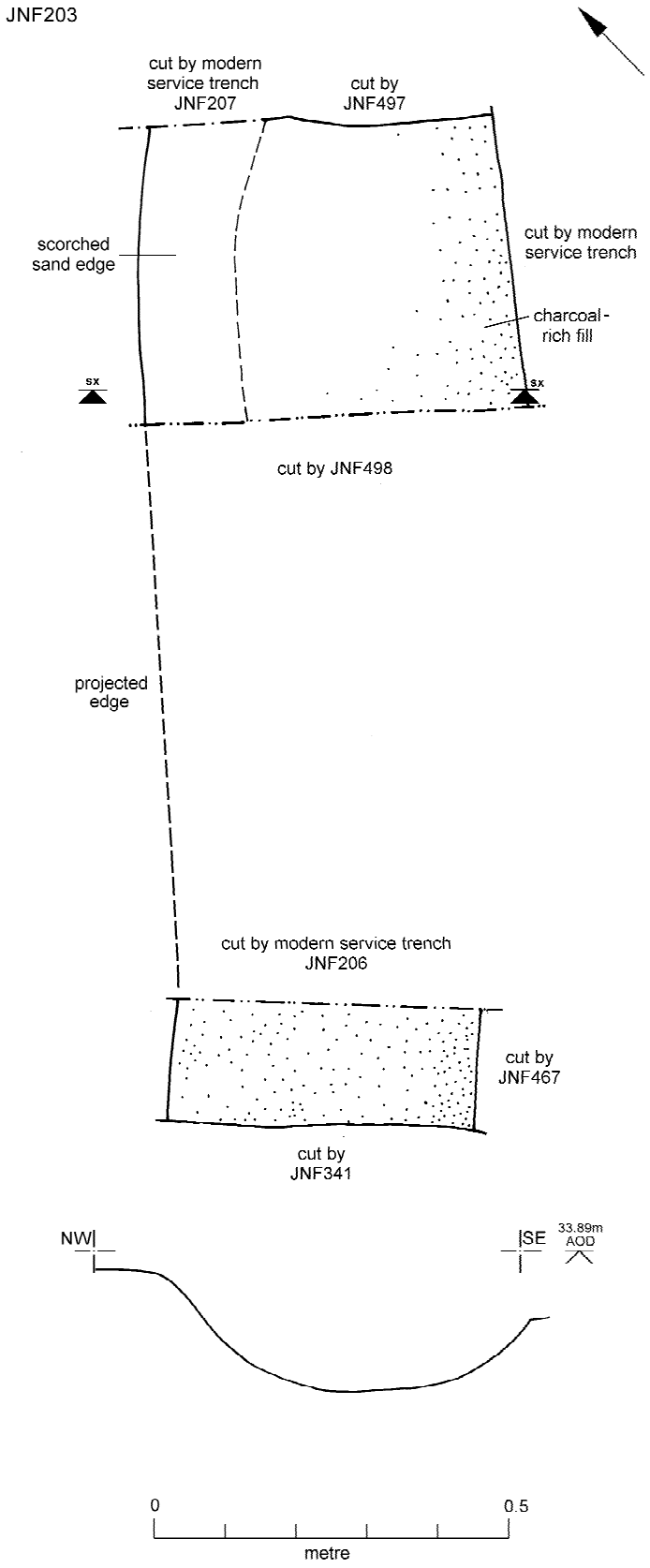
JNF199



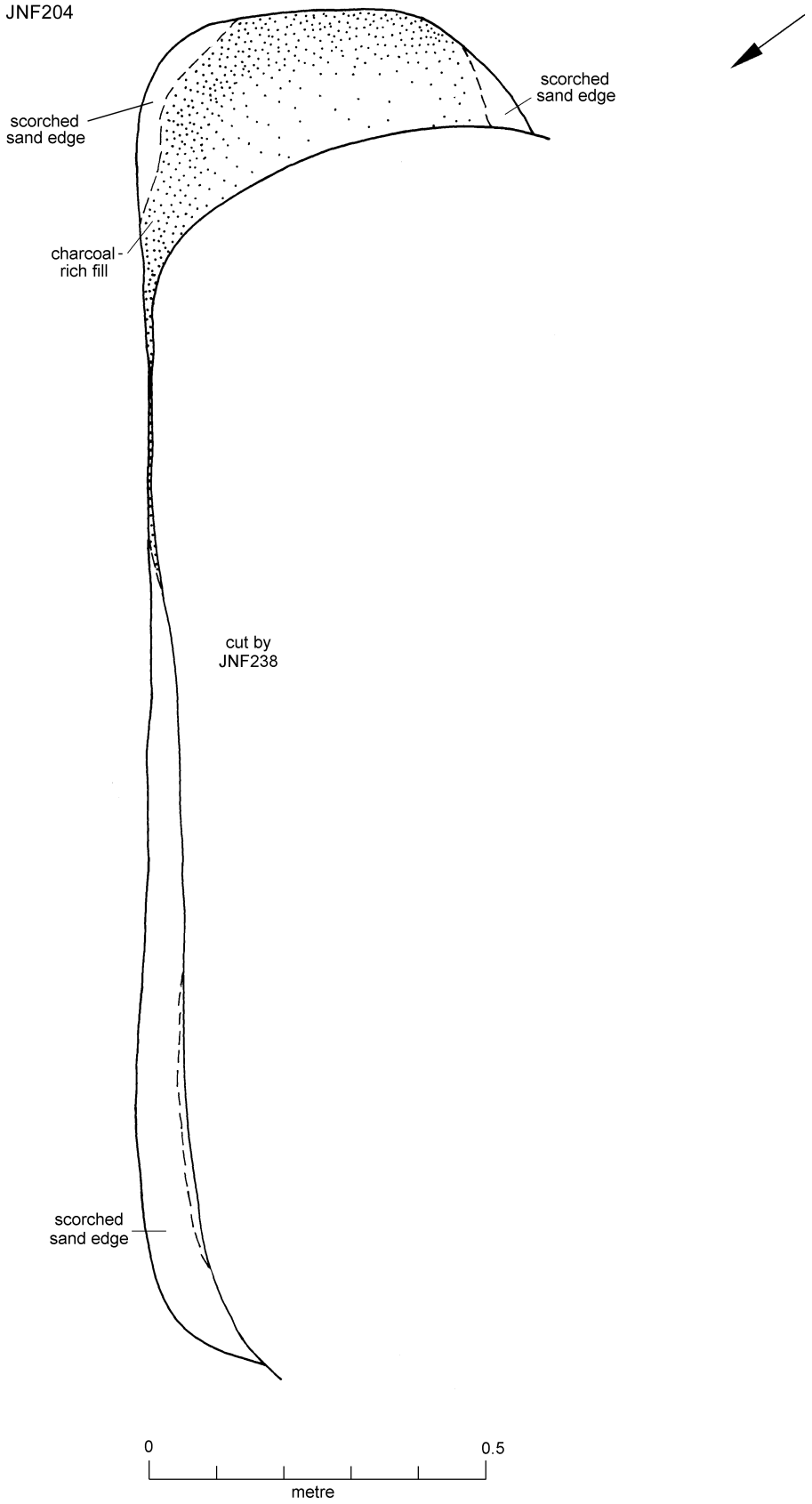
JNF200 and JNF201



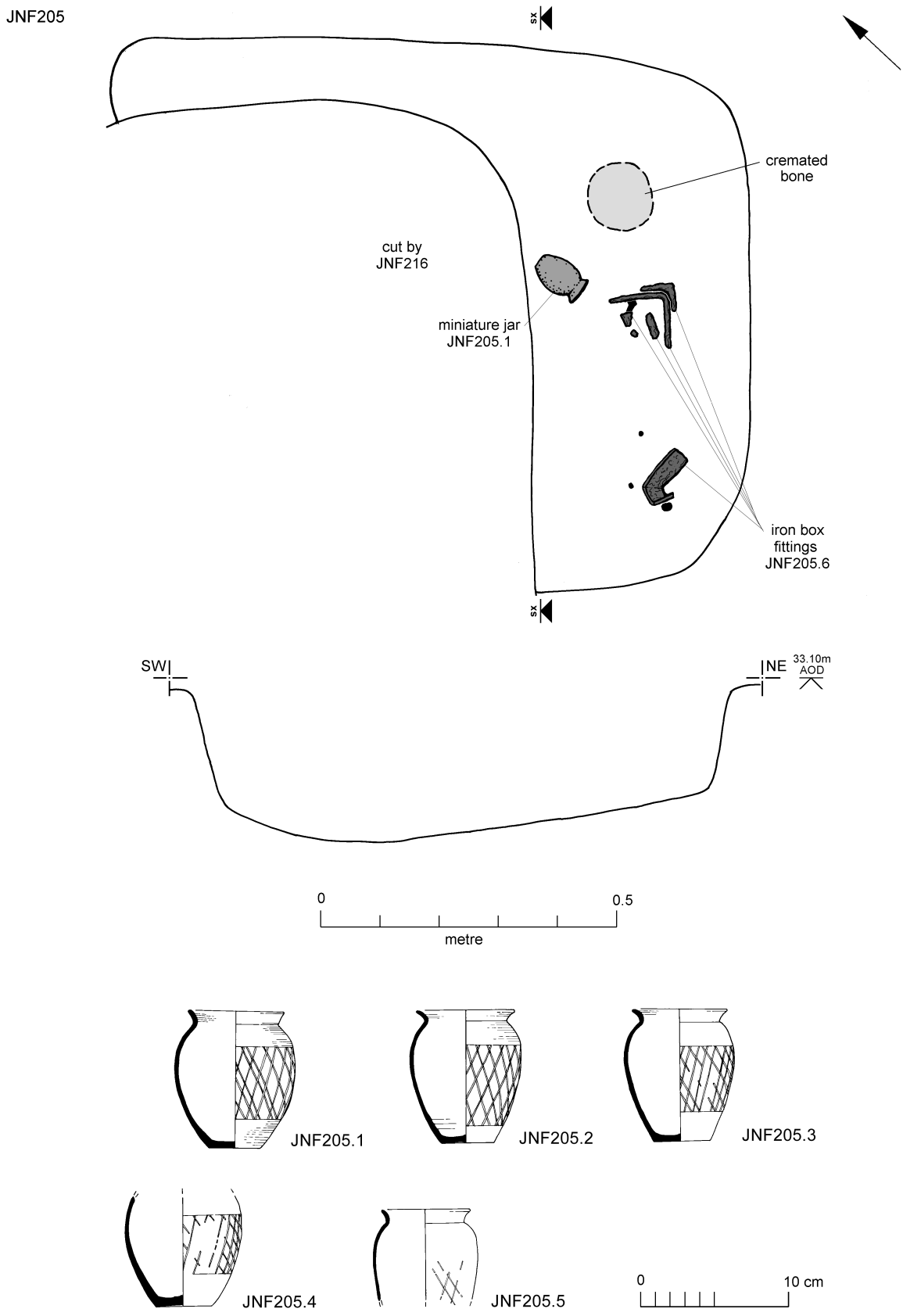
JNF202


JNF203
cut by modern service trench JNF207
cut by JNF497
scorched sand edge
cut by modern service trench
charcoal-rich fill
sx
sx
cut by JNF498
projected edge
cut by modern service trench JNF206
cut by JNF467
cut by JNF341
NW
SE
33.89m AOD
0
0.5
metre

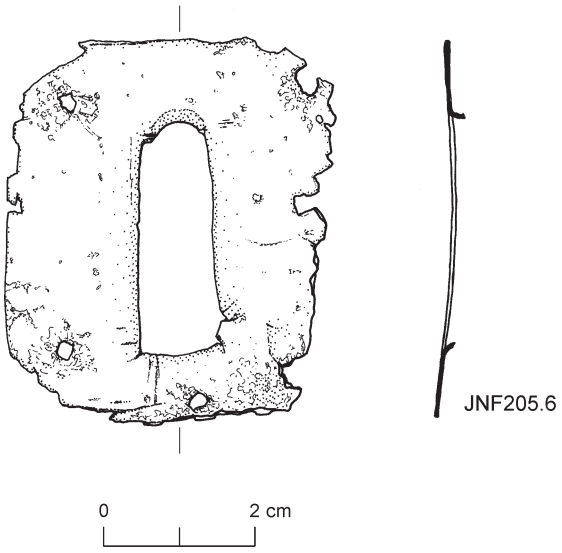
JNF203


JNF204
scorched sand edge
scorched sand edge
charcoal - rich fill
cut by JNF238
scorched sand edge
0
0.5
metre

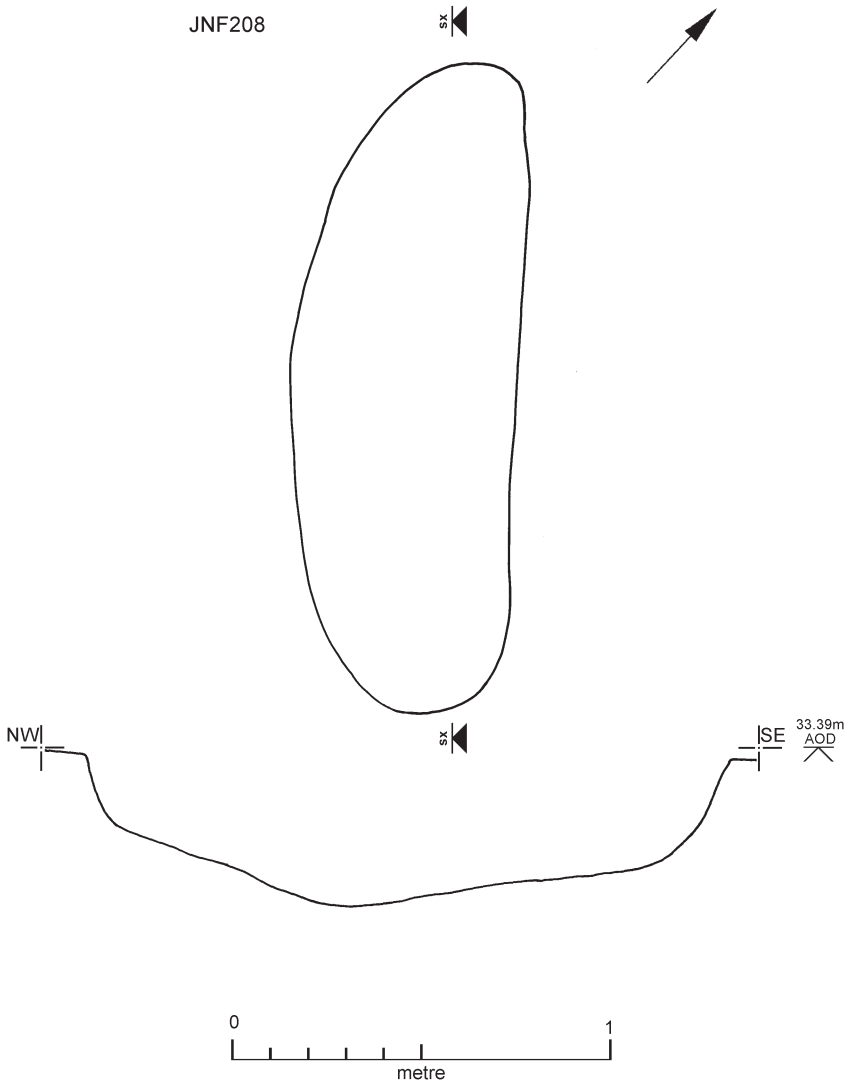
JNF204


JNF205
SX
cremated bone
cut by JNF216
miniature jar JNF205.1
iron box fittings JNF205.6
SX
SW
NE
33.10m AOD
0
0.5
metre
JNF205.1
JNF205.2
JNF205.3
JNF205.4
JNF205.5
0
10 cm

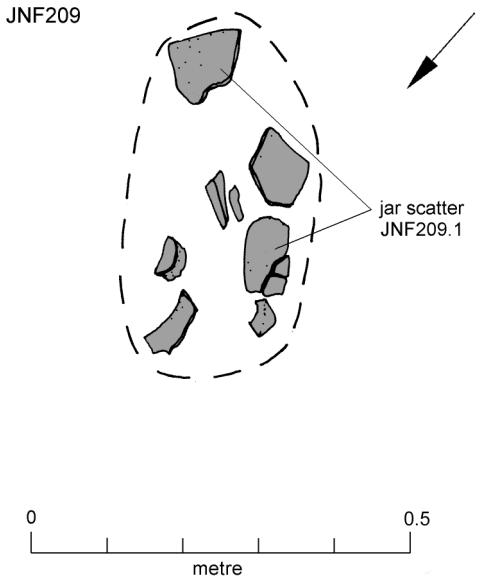
JNF205



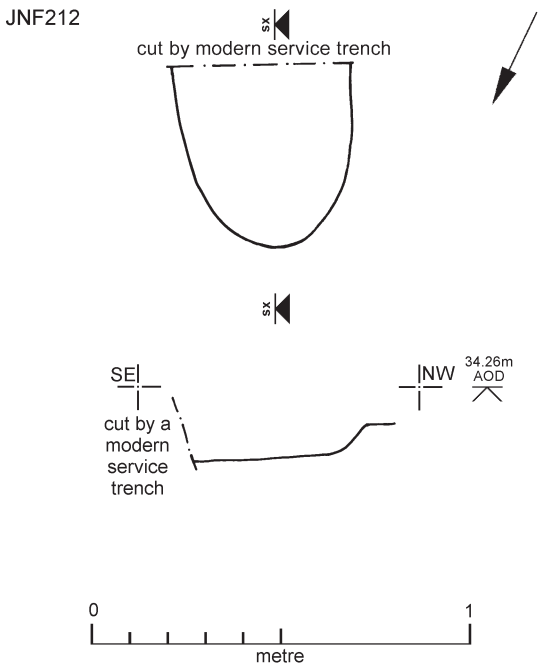
JNF205



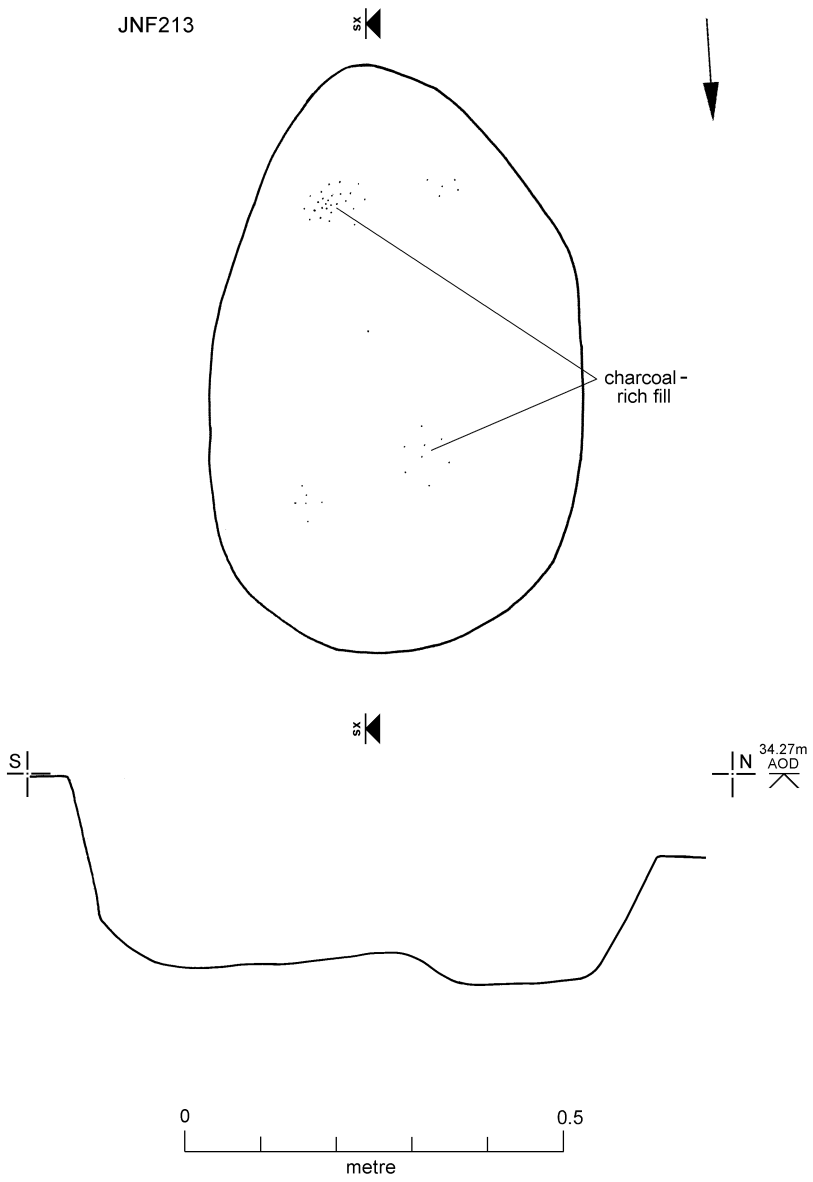
JNF208



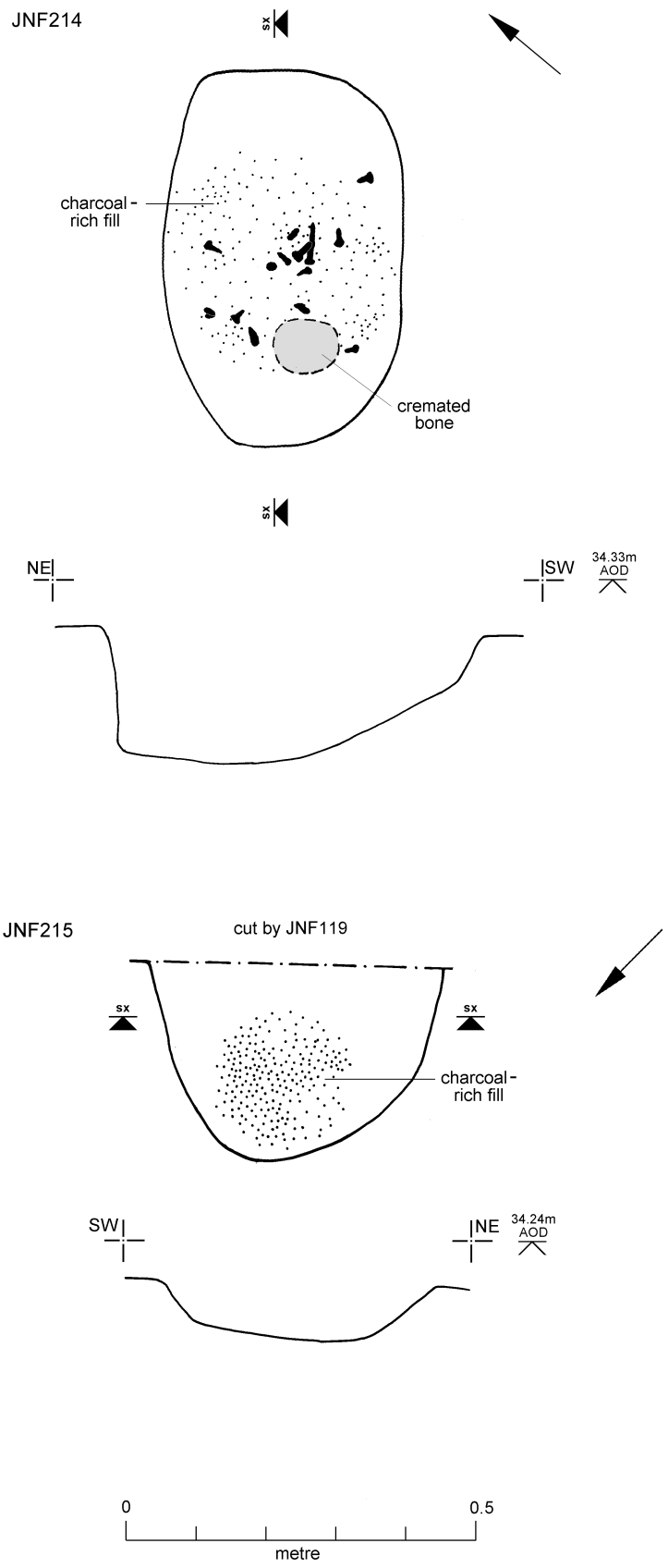
JNF209


JNF212
SX
cut by modern service trench
SX
SE
NW
34.26m
AOD
cut by a
modern
service
trench
0
1
metre

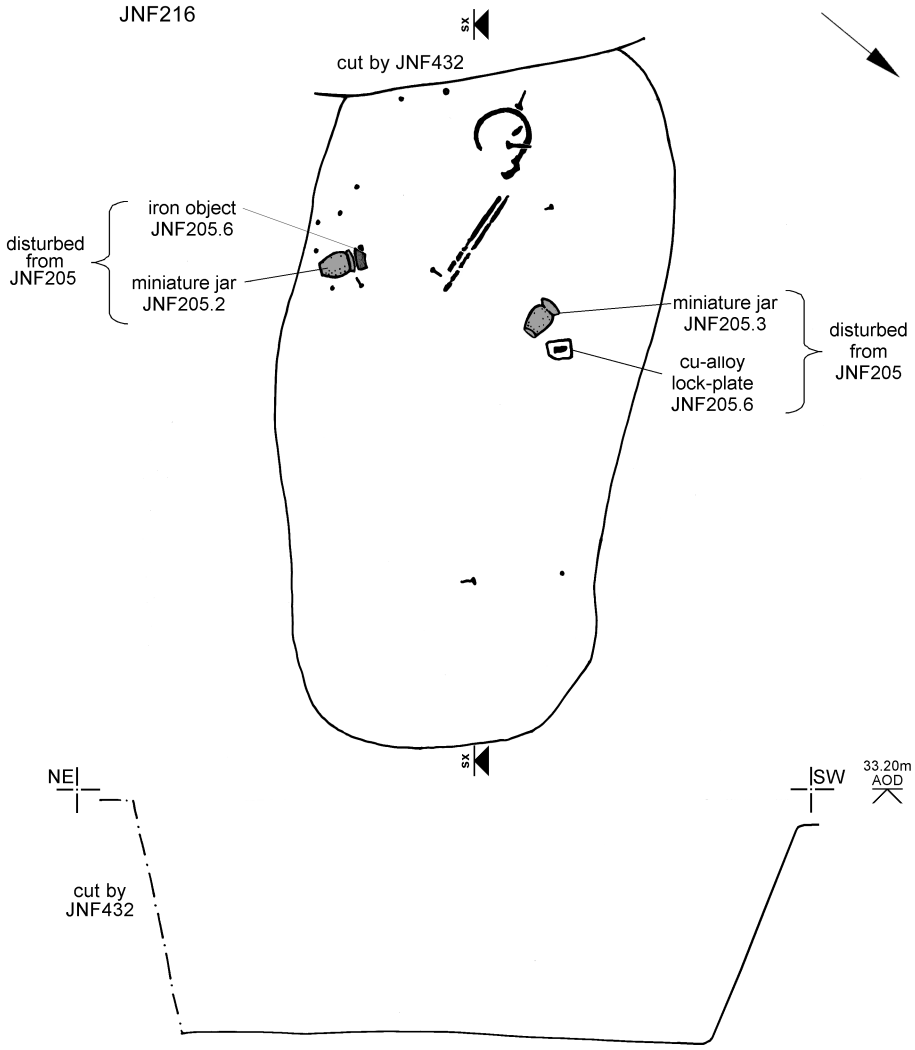
JNF212

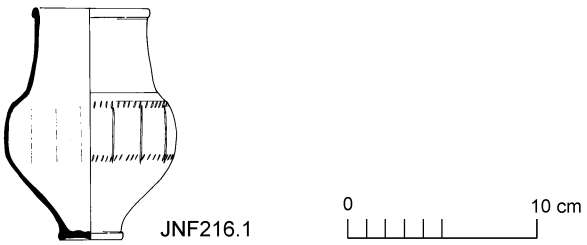


JNF213

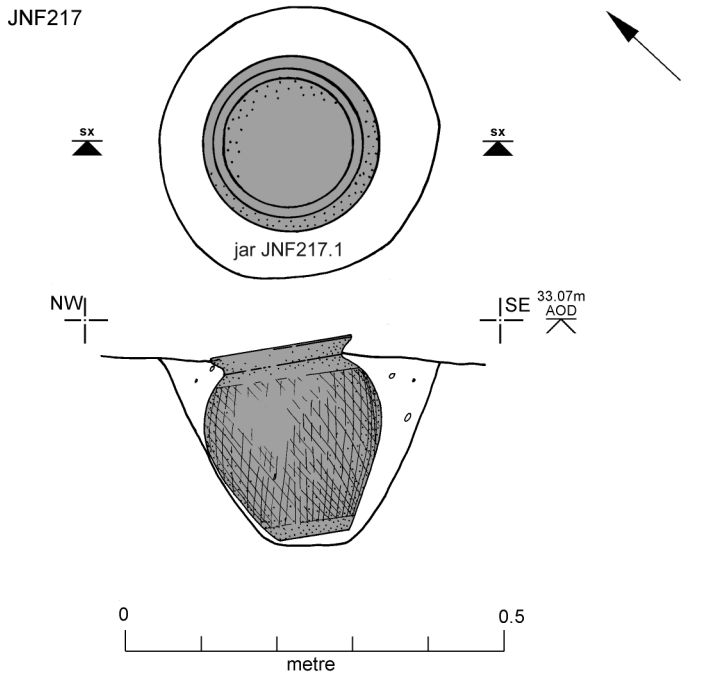


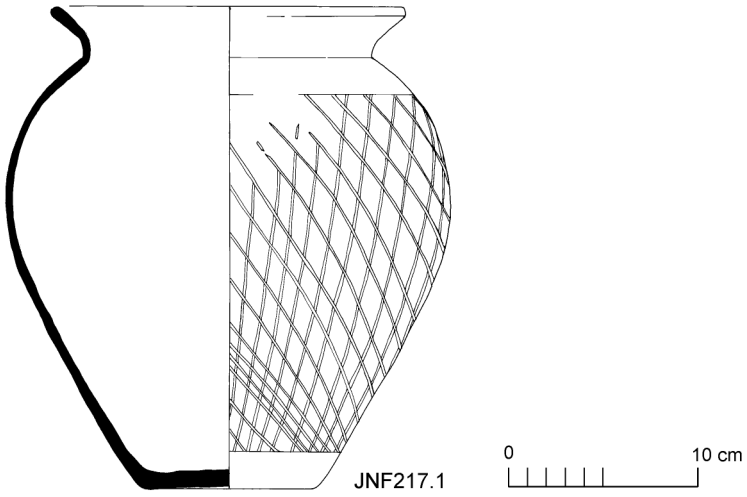
JNF214 and JNF215


JNF216
sx
cut by JNF432
iron object
JNF205.6
disturbed
from
JNF205
miniature jar
JNF205.2
miniature jar
JNF205.3
cu-alloy
lock-plate
JNF205.6
disturbed
from
JNF205
sx
NE
SW
33.20m
AOD
cut by
JNF432
0
1
metre

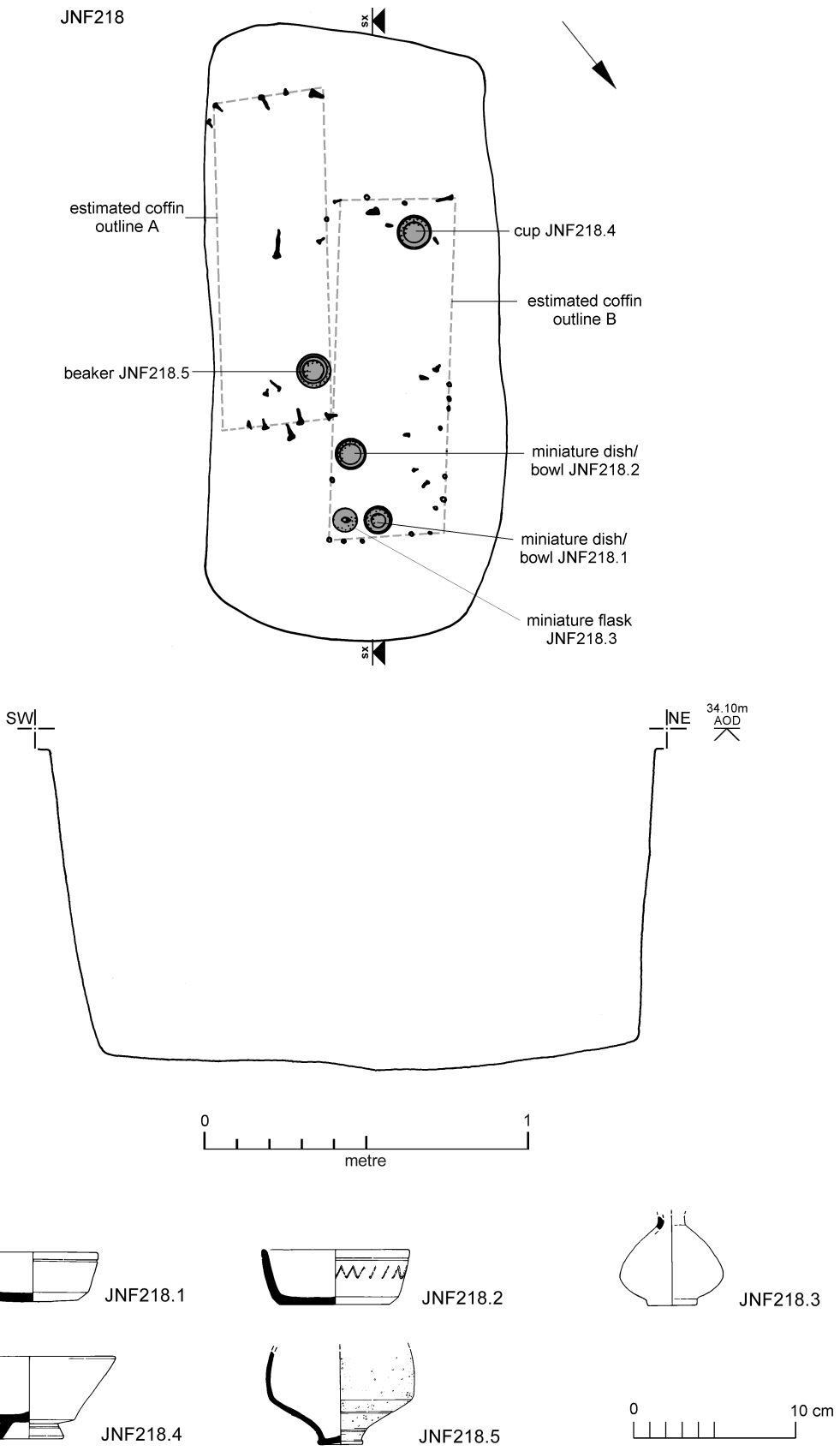

JNF216.1
0
10 cm

JNF216

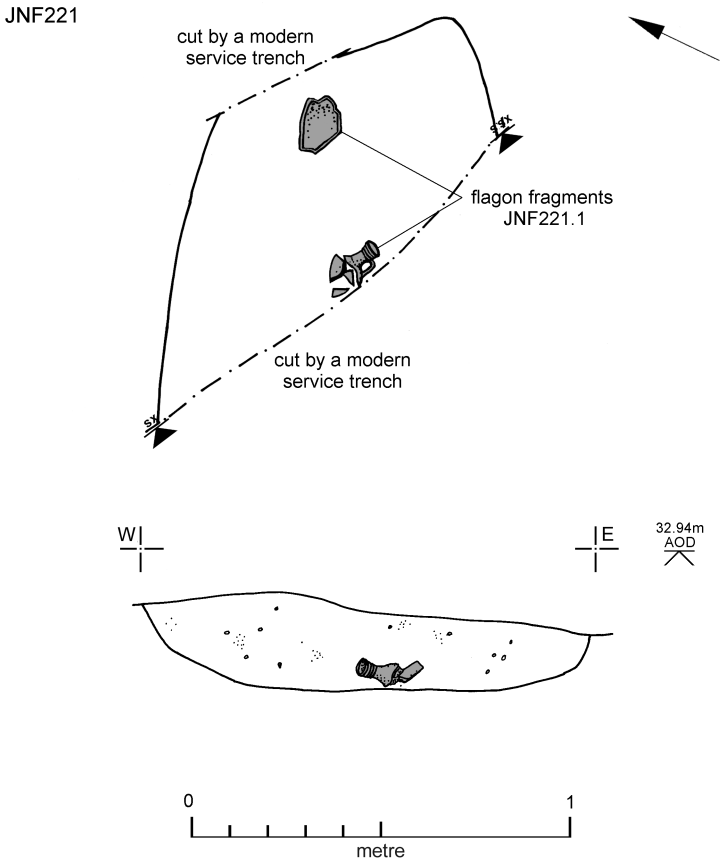

JNF217
sx
sx
jar JNF217.1
NW
SE
33.07m
AOD
0
0.5
metre

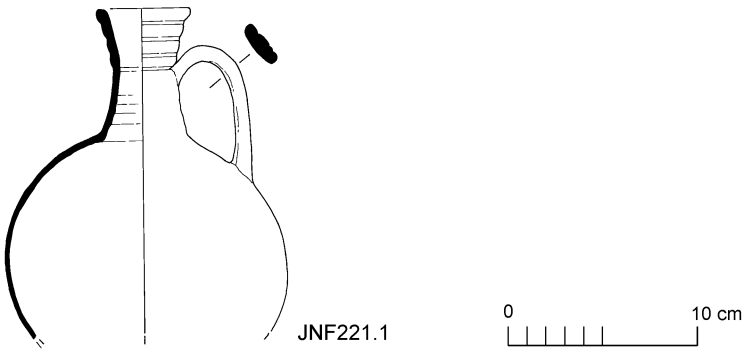

JNF217.1
0
10 cm

JNF217

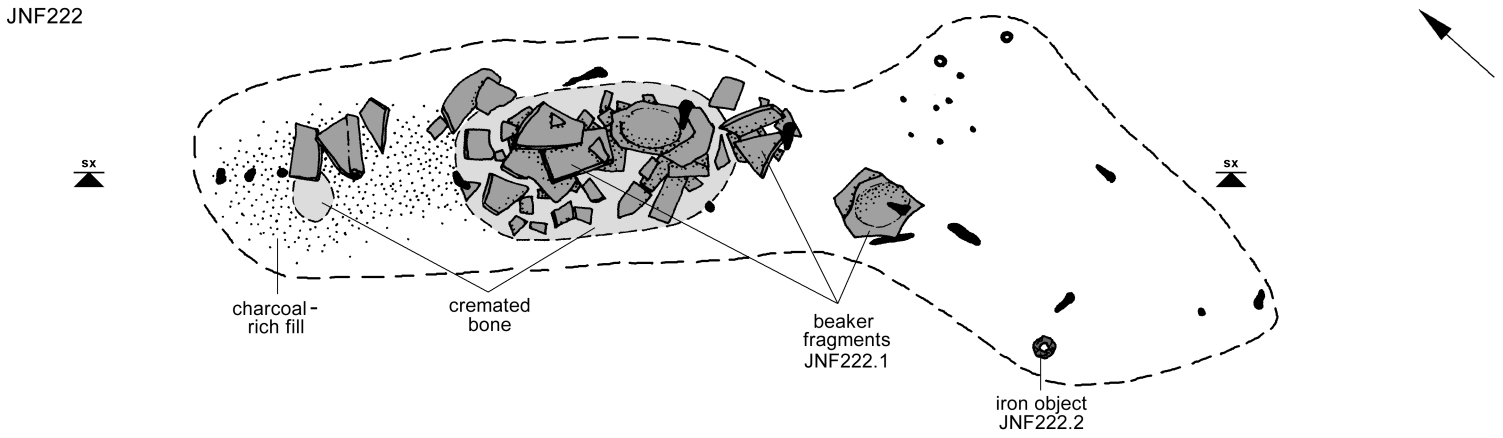

JNF218
SX
SX
estimated coffin outline A
cup JNF218.4
estimated coffin outline B
beaker JNF218.5
miniature dish/ bowl JNF218.2
miniature dish/ bowl JNF218.1
miniature flask JNF218.3
SW
NE
34.10m AOD
0
1
metre
JNF218.1
JNF218.2
JNF218.3
JNF218.4
JNF218.5
0
10 cm

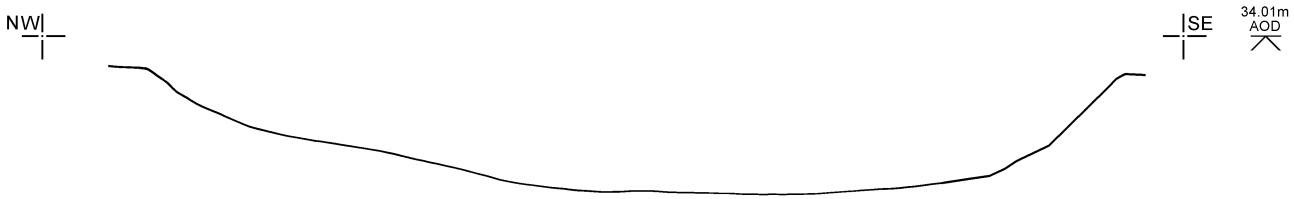
JNF218

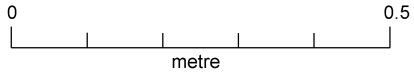

JNF221
cut by a modern service trench
flagon fragments JNF221.1
cut by a modern service trench
W
E
32.94m AOD
0
1
metre

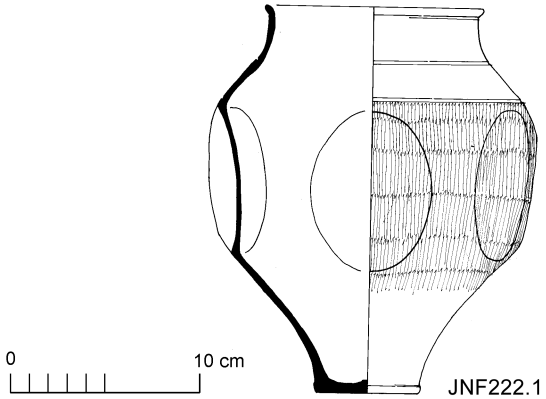

JNF221.1
0
10 cm

JNF221

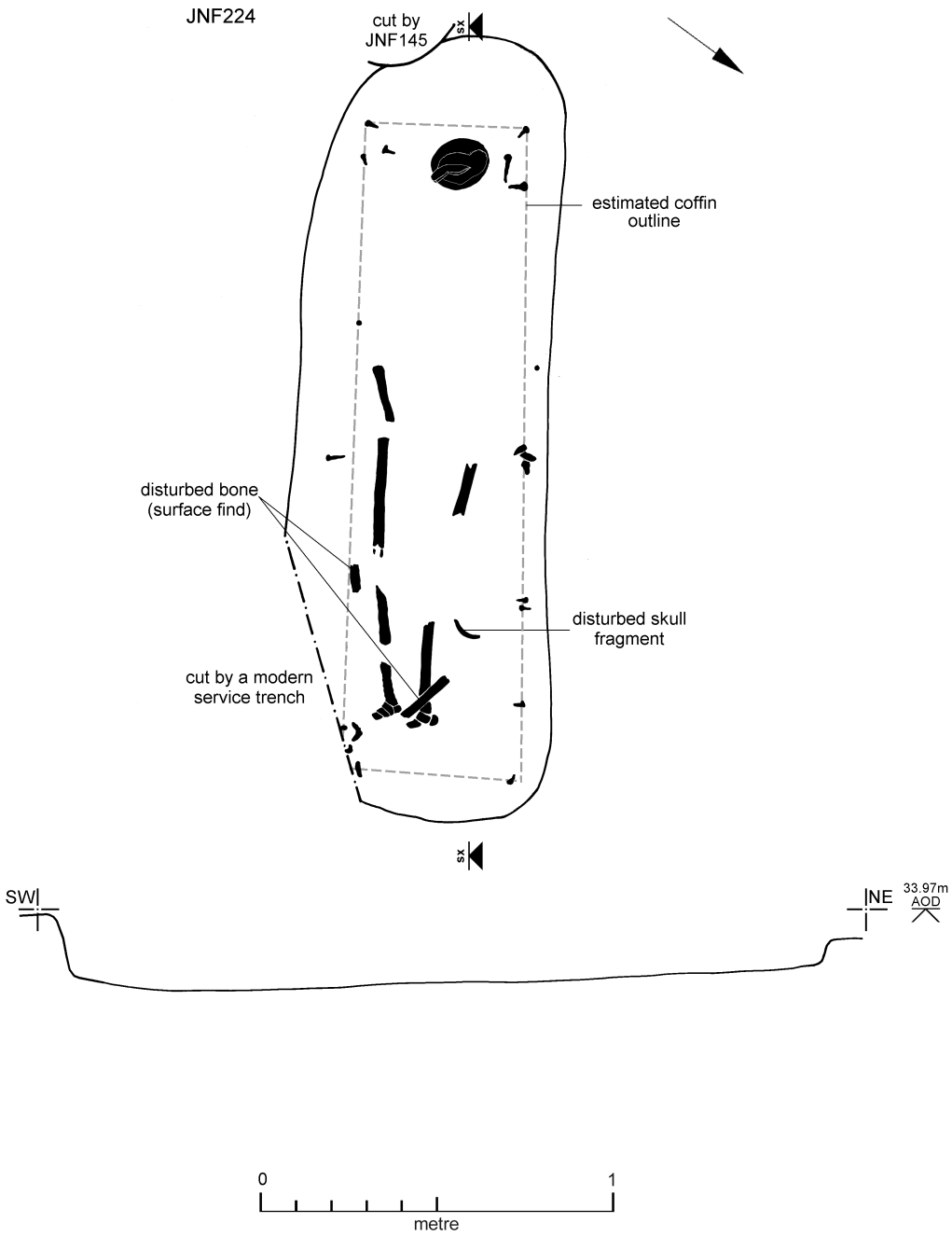

JNF222
sx
sx
charcoal-rich fill
cremated bone
beaker fragments JNF222.1
iron object JNF222.2


NW
SE
34.01m AOD

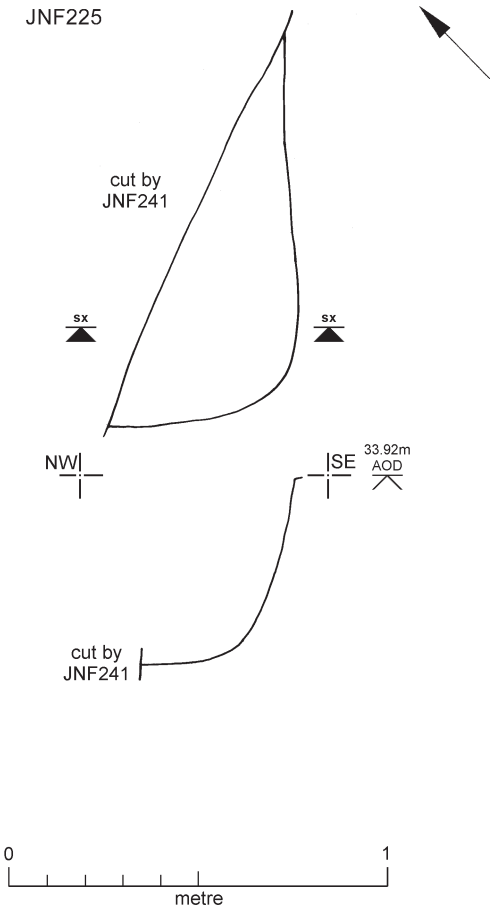

0
0.5
metre


0
10 cm
JNF222.1

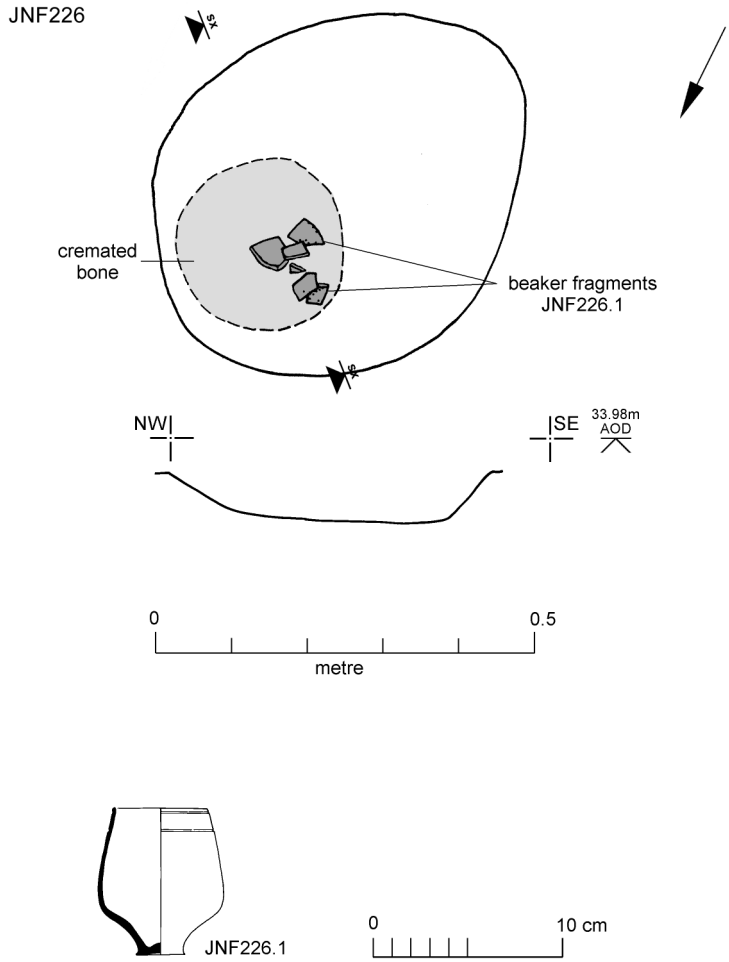
JNF222


JNF224
cut by JNF145
xs
estimated coffin outline
disturbed bone (surface find)
disturbed skull fragment
cut by a modern service trench
xs
SW
NE
33.97m AOD
0
1
metre

JNF224

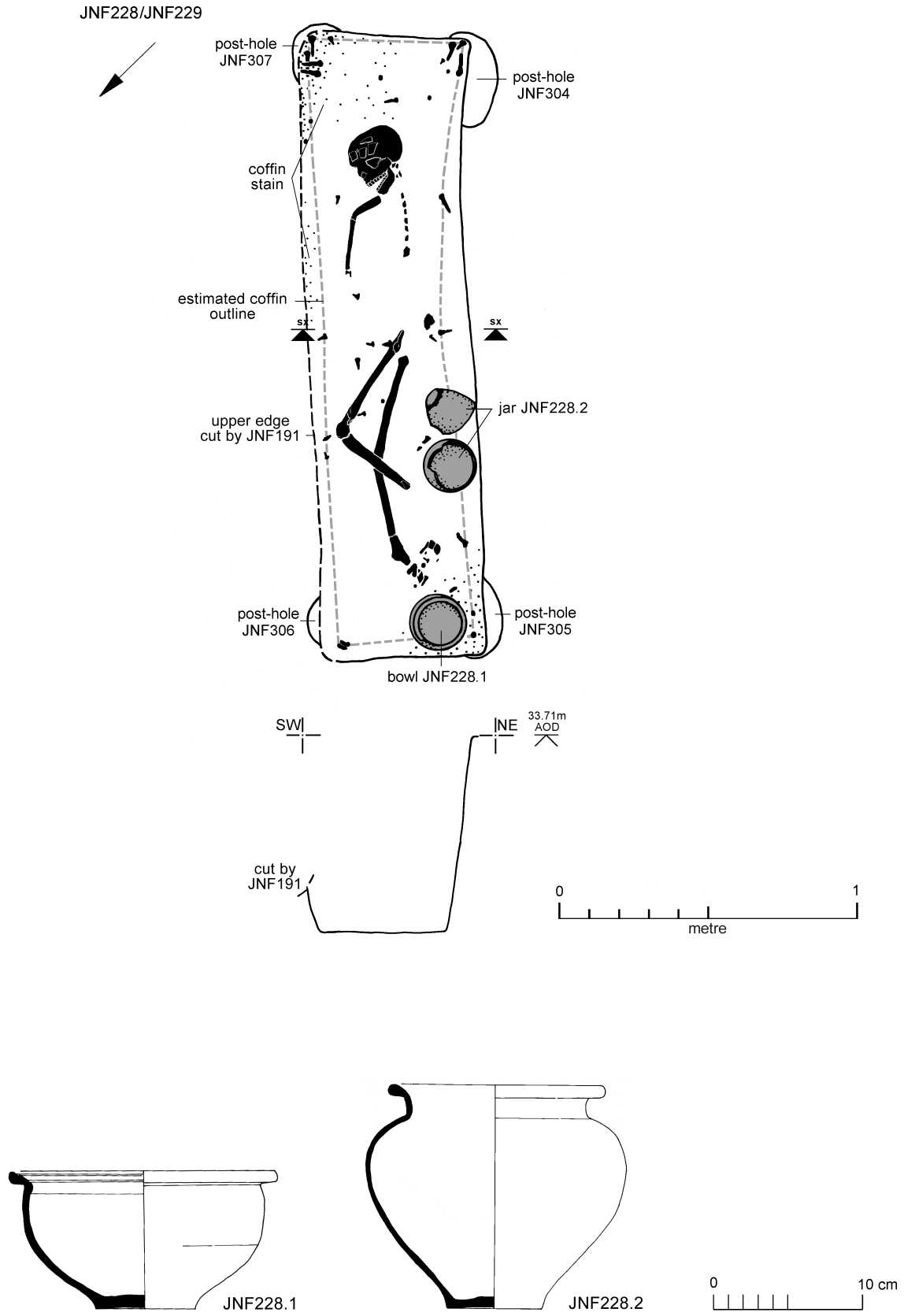

JNF225
cut by
JNF241
sx
sx
NW
SE
33.92m
AOD
cut by
JNF241
0
1
metre

JNF225

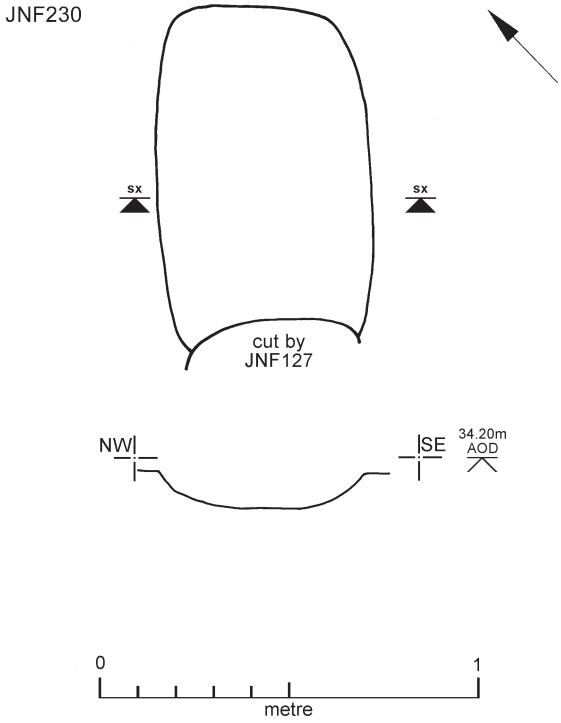

JNF226
cremated bone
beaker fragments JNF226.1
NW
SE
33.98m AOD
0
0.5
metre

JNF226.1
0
10 cm

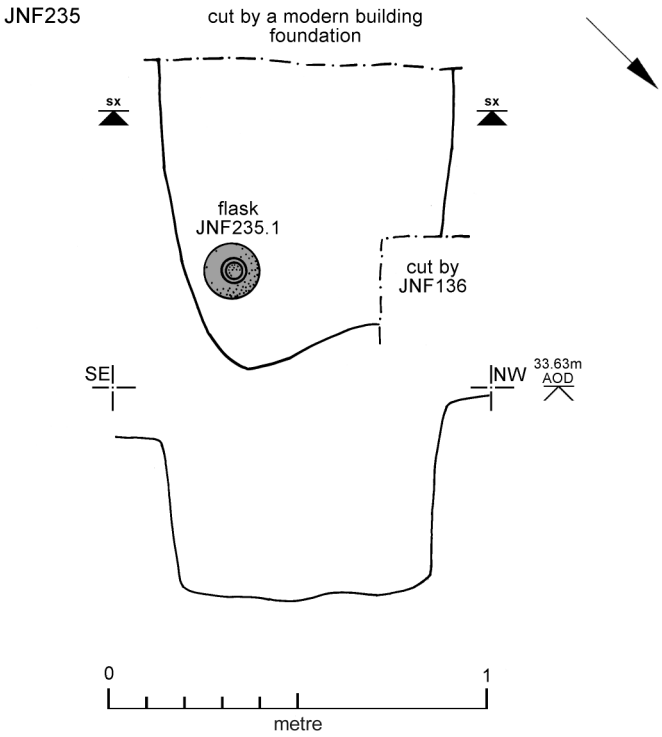
JNF226

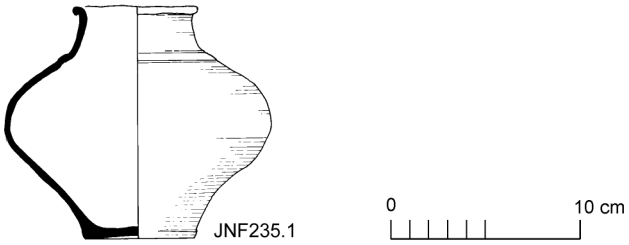


JNF228 (and JNF229)

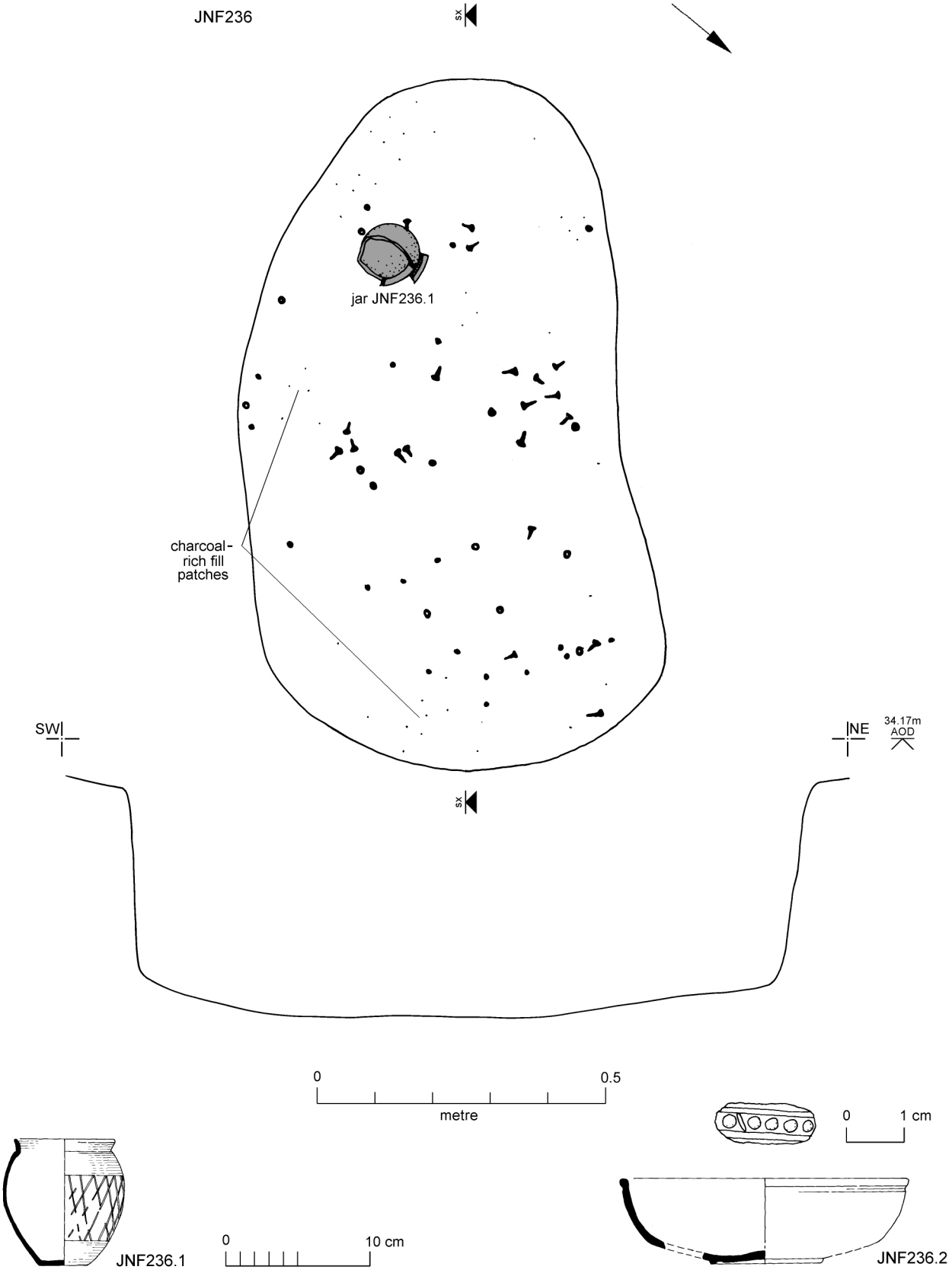


JNF230

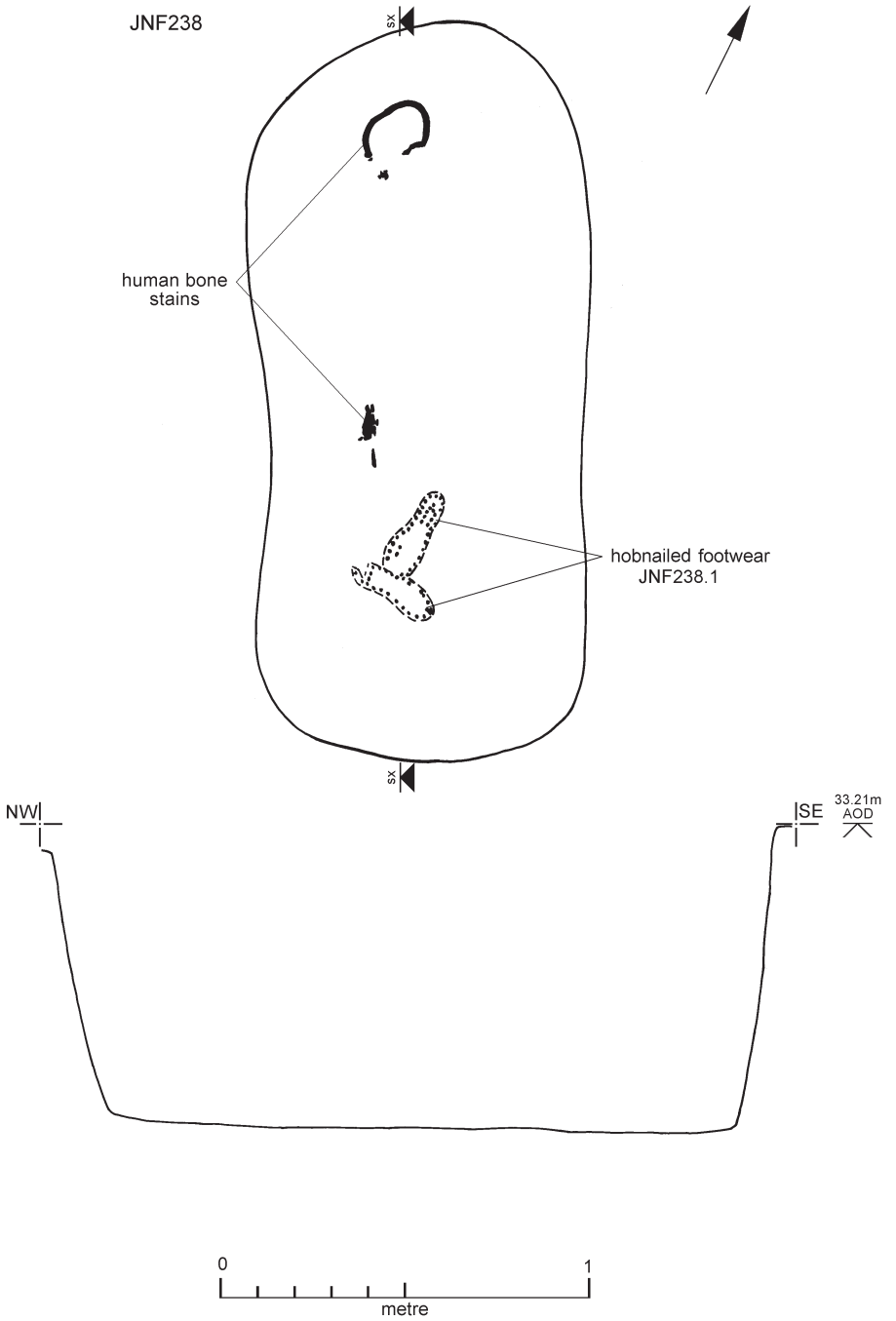

JNF235
cut by a modern building foundation
sx
sx
flask JNF235.1
cut by JNF136
SE
NW
33.63m AOD
0
1
metre


JNF235.1
0
10 cm

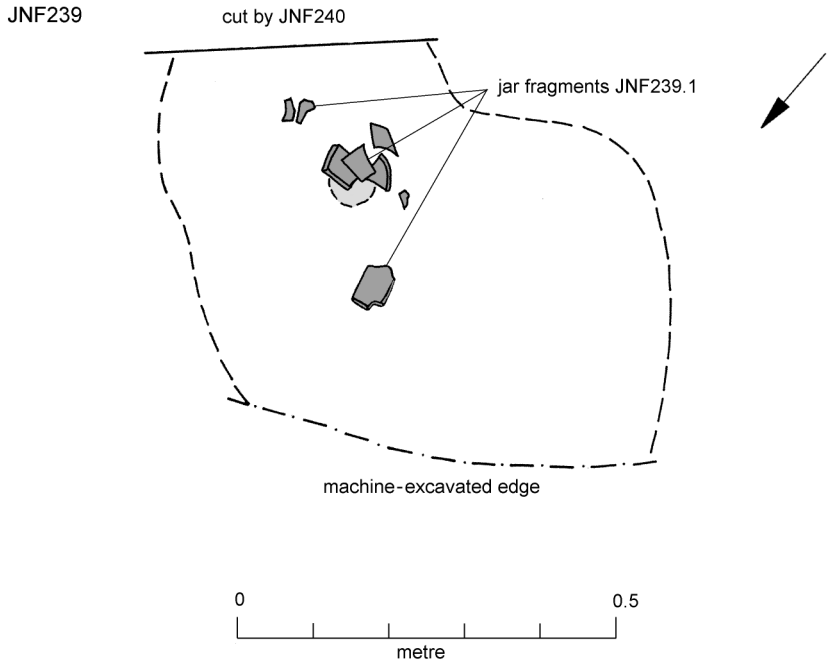
JNF235


JNF236
SX
jar JNF236.1
charcoal-rich fill patches
SW
NE
34.17m AOD
SX
0
0.5
metre
0
1 cm
JNF236.1
0
10 cm
JNF236.2

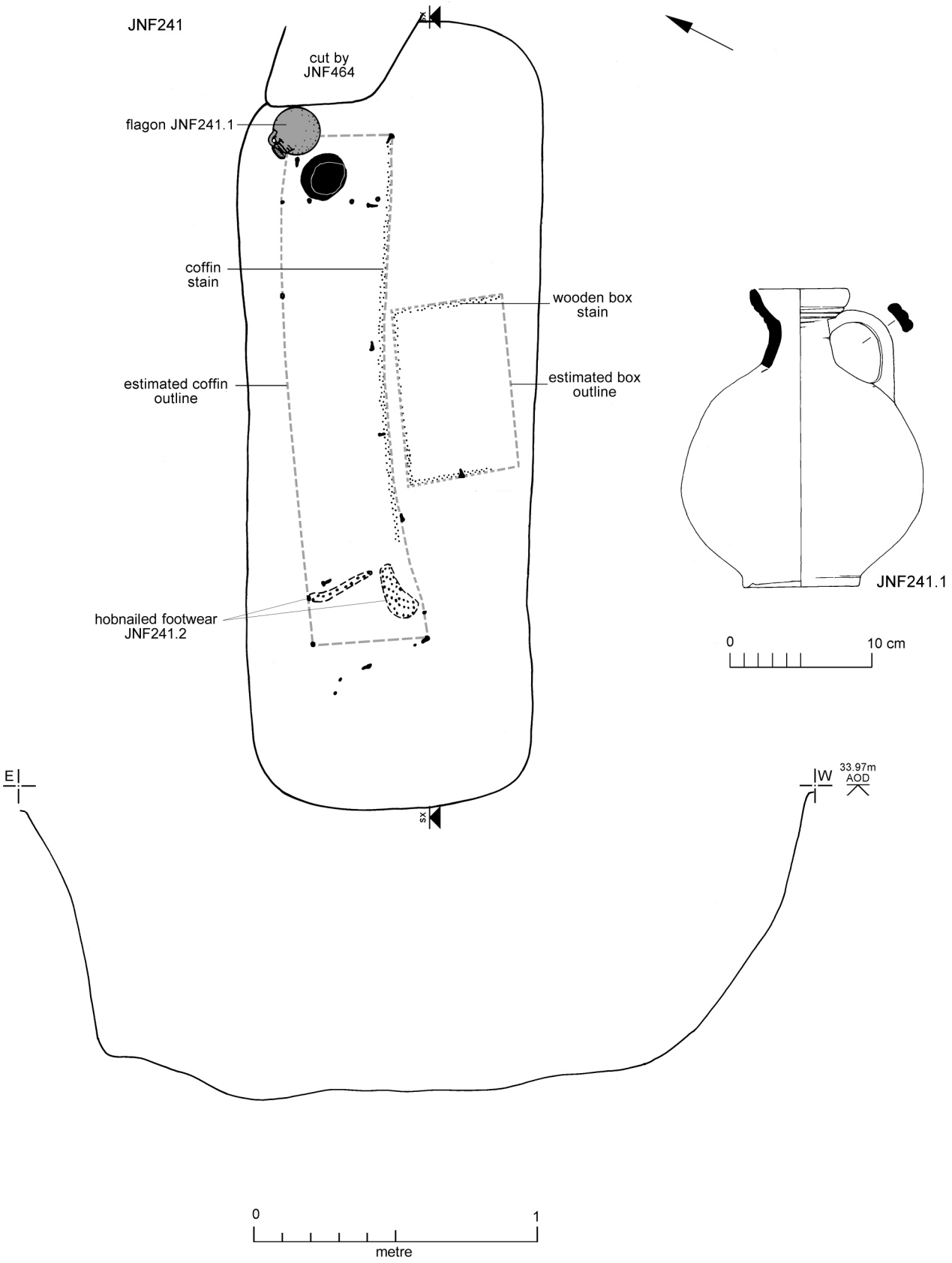
JNF236


JNF238
SX
human bone stains
hobnailed footwear JNF238.1
SX
NW
SE
33.21m AOD
0
1
metre

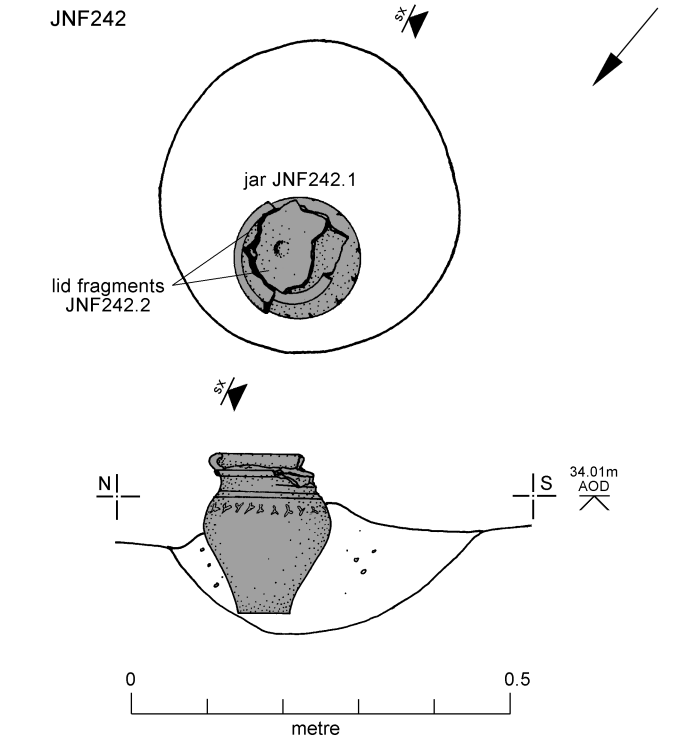
JNF238

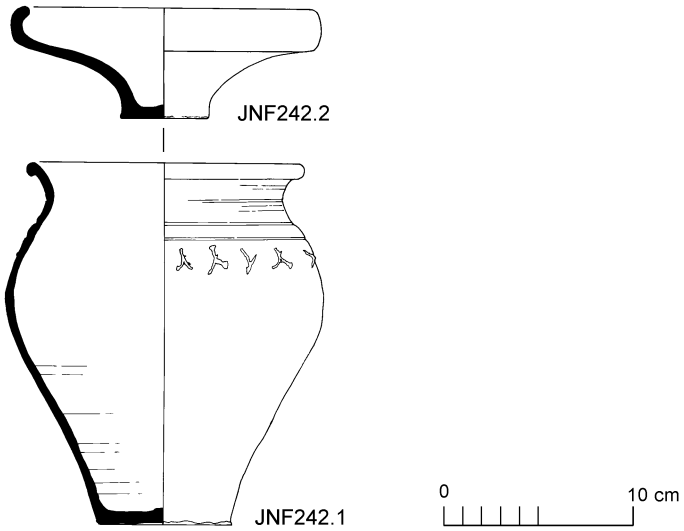

JNF239
cut by JNF240
jar fragments JNF239.1
machine-excavated edge
0
0.5
metre

JNF239

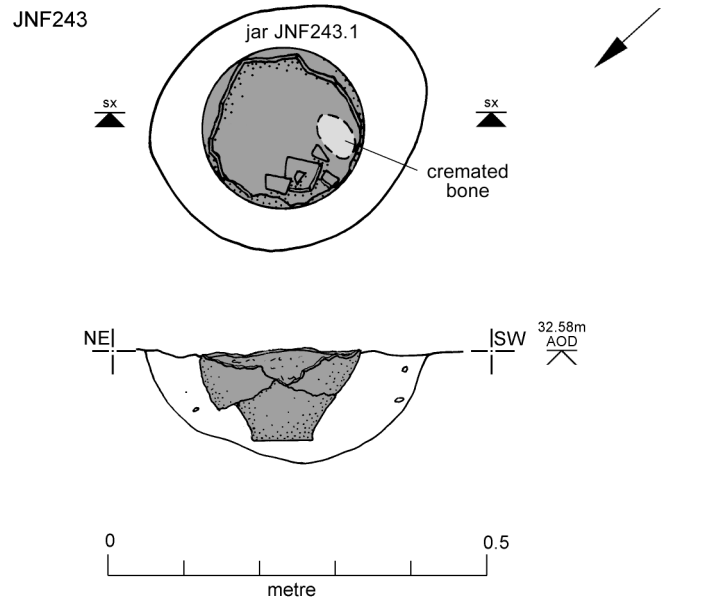

JNF241
cut by JNF464
flagon JNF241.1
coffin stain
wooden box stain
estimated coffin outline
estimated box outline
hobnailed footwear JNF241.2
JNF241.1
0
10 cm
E
W
33.97m AOD
0
1
metre

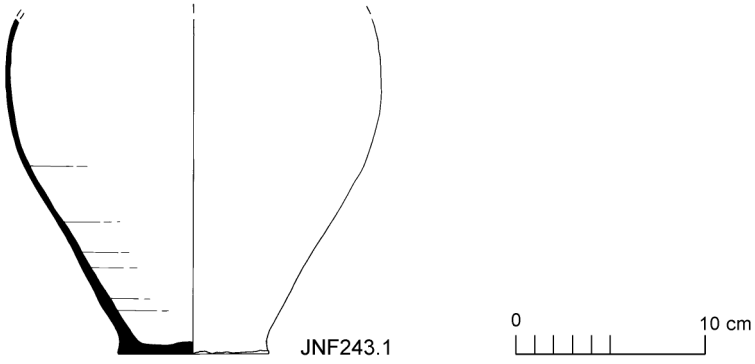
JNF241


JNF242
jar JNF242.1
lid fragments
JNF242.2
N
S
34.01m
AOD
0
0.5
metre

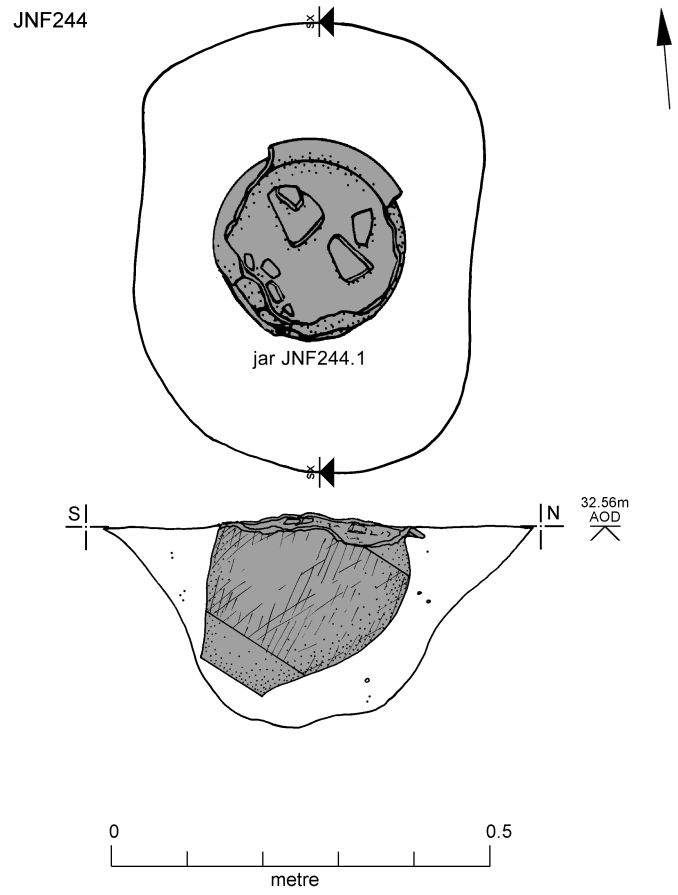

JNF242.2
JNF242.1
0
10 cm

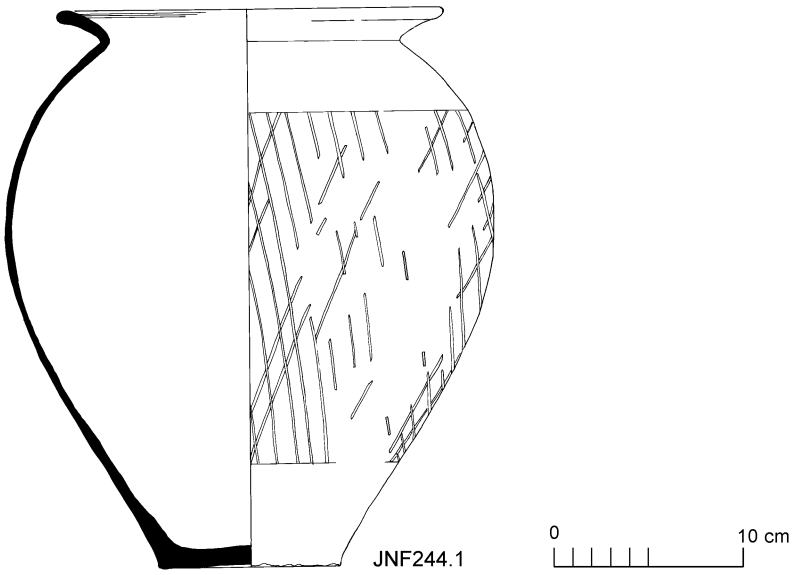
JNF242


JNF243
jar JNF243.1
sx
sx
cremated bone
NE
SW
32.58m AOD
0
0.5
metre

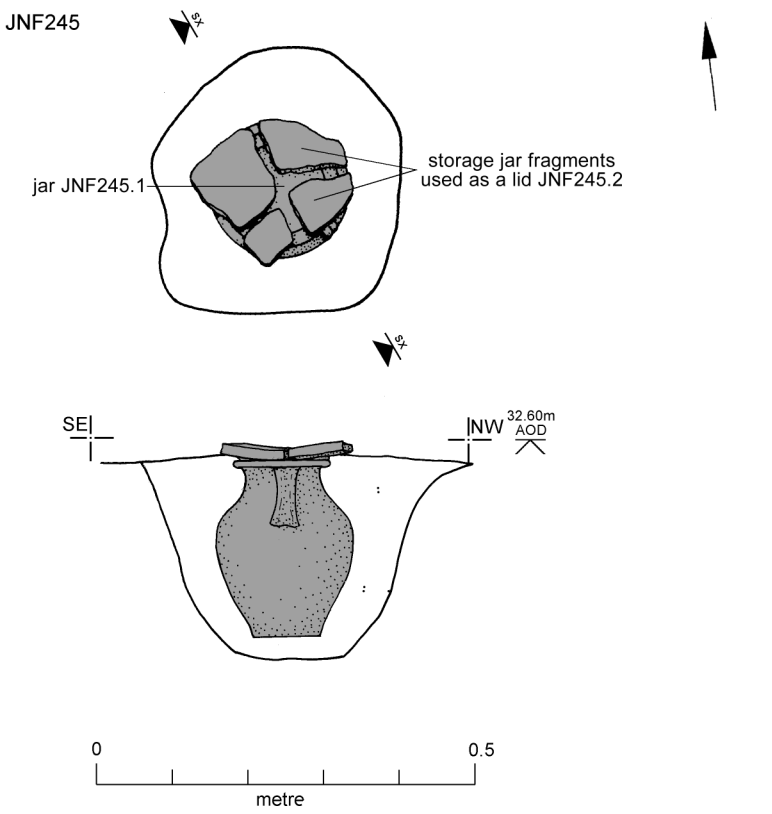

JNF243.1
0
10 cm

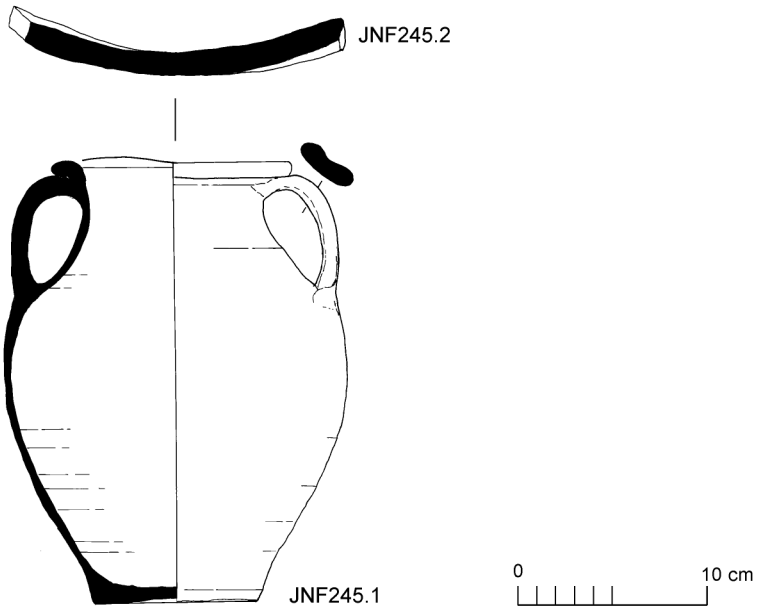
JNF243



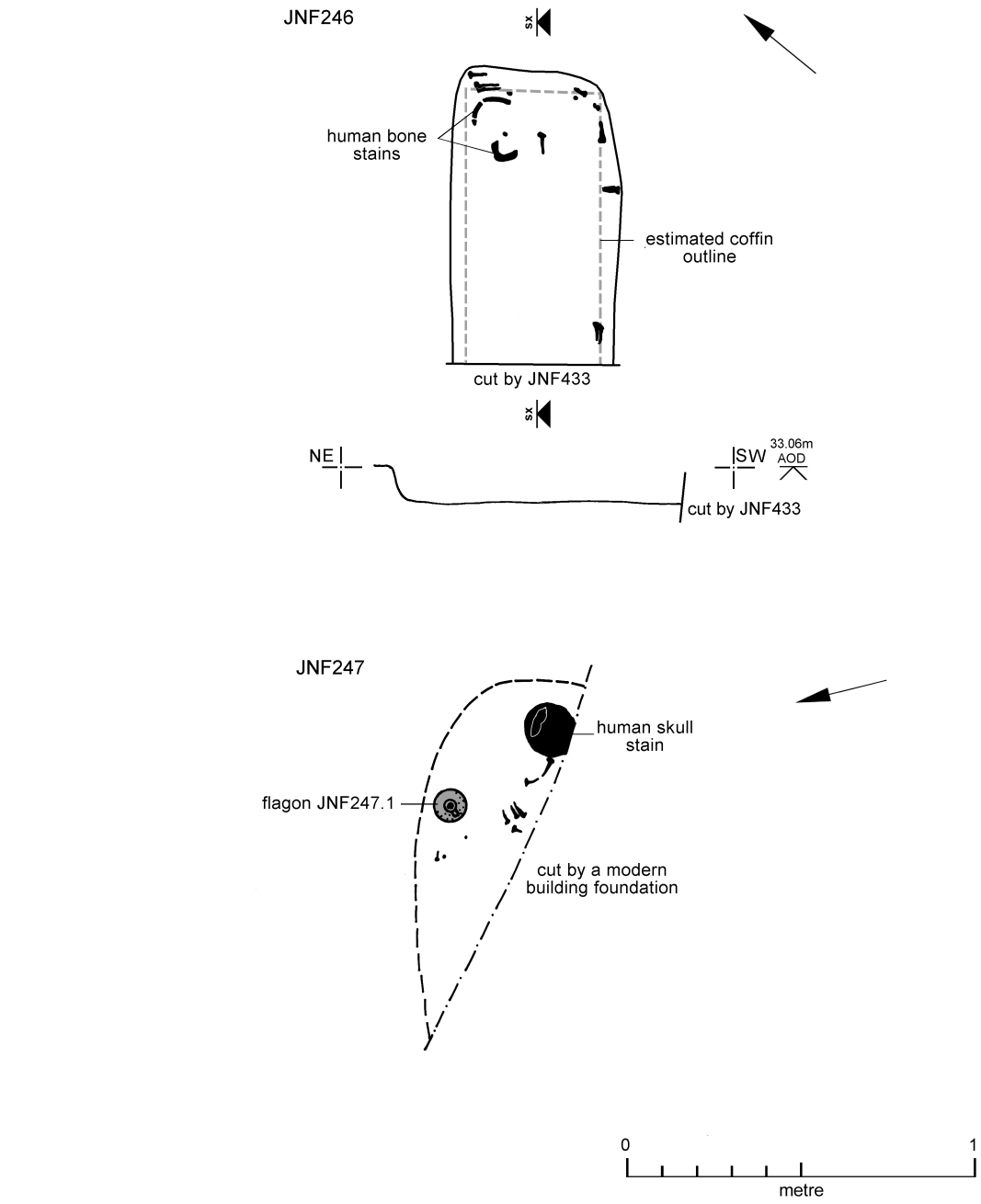


JNF244

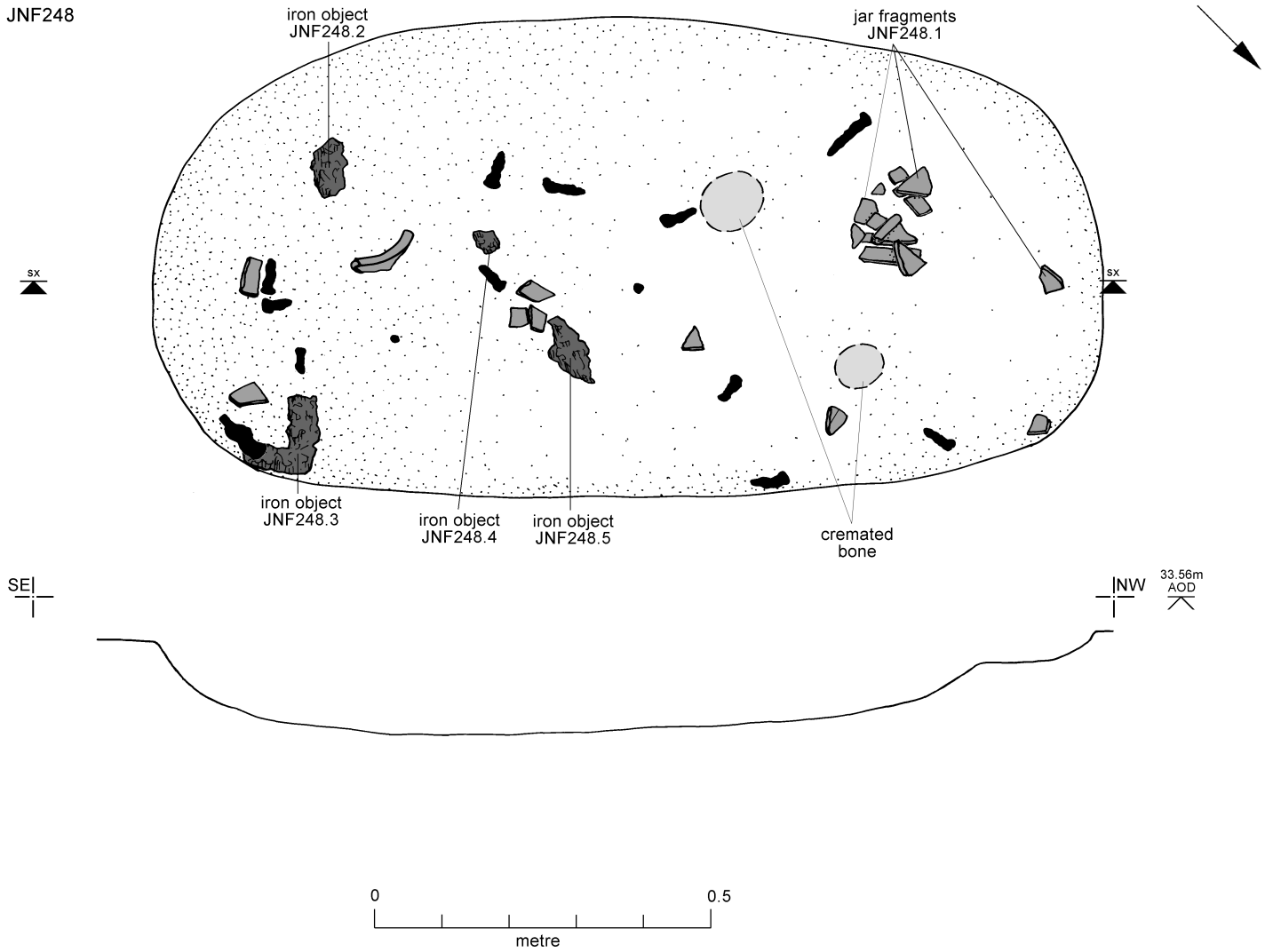

JNF245
jar JNF245.1
storage jar fragments
used as a lid JNF245.2
SE
NW
32.60m
AOD
0
0.5
metre


JNF245.2
JNF245.1
0
10 cm

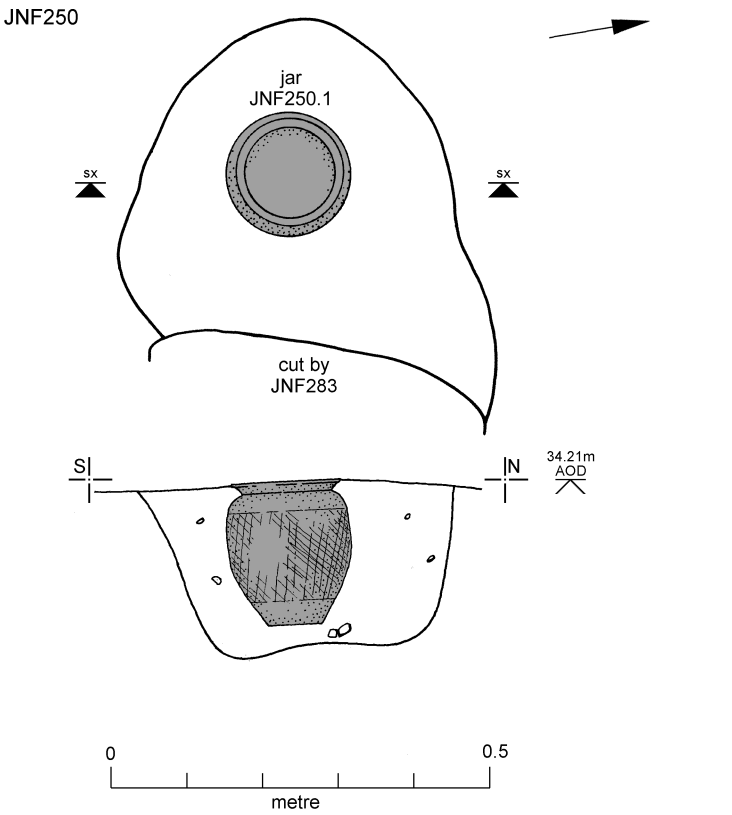
JNF245

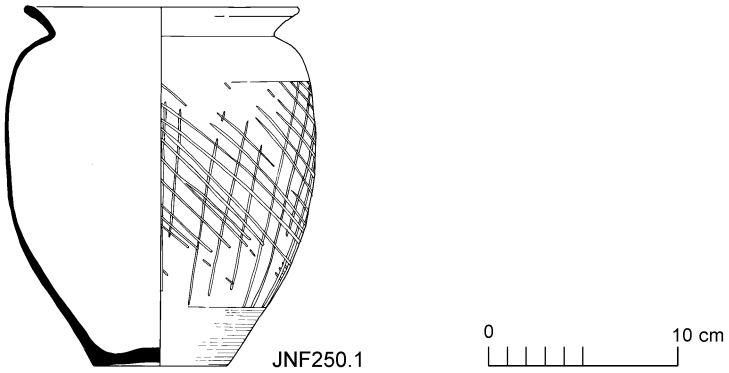


JNF246 and JNF247

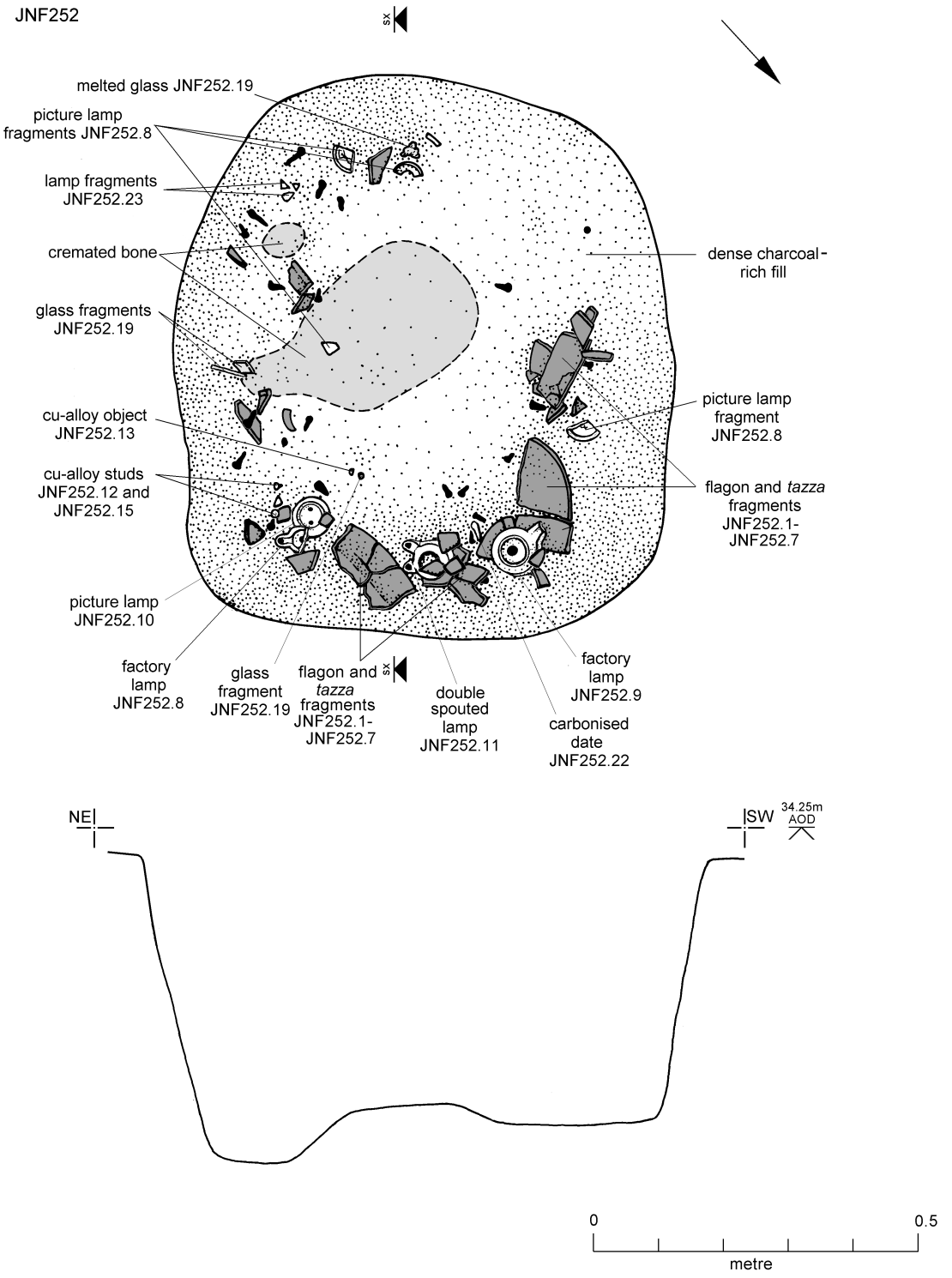

JNF248
iron object JNF248.2
jar fragments JNF248.1
sx
sx
iron object JNF248.3
iron object JNF248.4
iron object JNF248.5
cremated bone
SE
NW
33.56m AOD
0
0.5
metre

JNF248

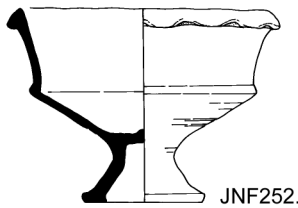

JNF250
jar
JNF250.1
sx
sx
cut by
JNF283
S
N
34.21m
AOD
0
0.5
metre


JNF250.1
0
10 cm

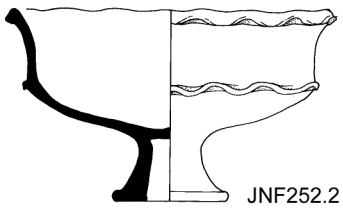
JNF250


JNF252
sx
melted glass JNF252.19
picture lamp fragments JNF252.8
lamp fragments JNF252.23
cremated bone
glass fragments JNF252.19
cu-alloy object JNF252.13
cu-alloy studs JNF252.12 and JNF252.15
picture lamp JNF252.10
factory lamp JNF252.8
glass fragment JNF252.19
flagon and tazza fragments JNF252.1-JNF252.7
sx
double spouted lamp JNF252.11
carbonised date JNF252.22
factory lamp JNF252.9
dense charcoal-rich fill
picture lamp fragment JNF252.8
flagon and tazza fragments JNF252.1-JNF252.7
NE
SW
34.25m AOD
0
0.5
metre

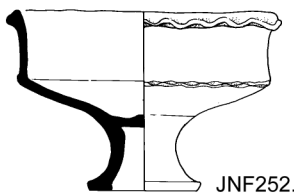
JNF252



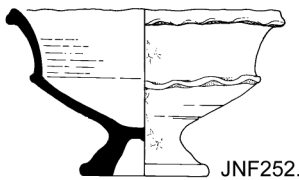
JNF252.1



JNF252.2

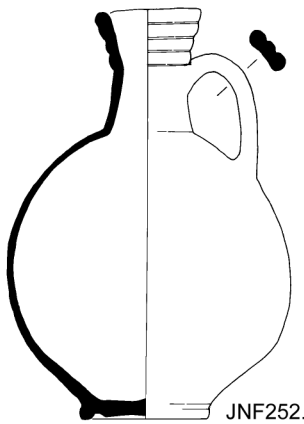


JNF252.3

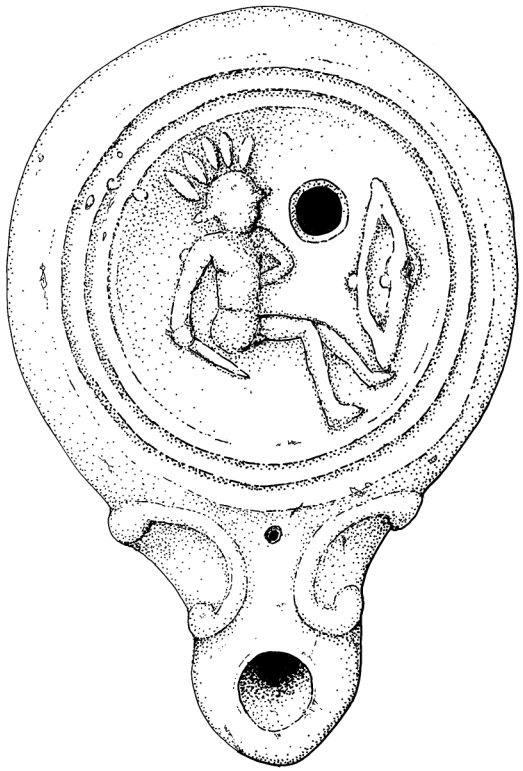


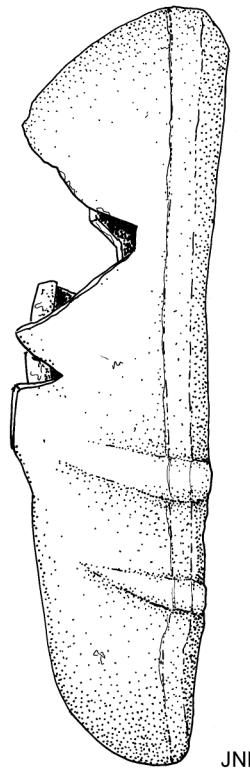
JNF252.4

0 10 cm



JNF252.5

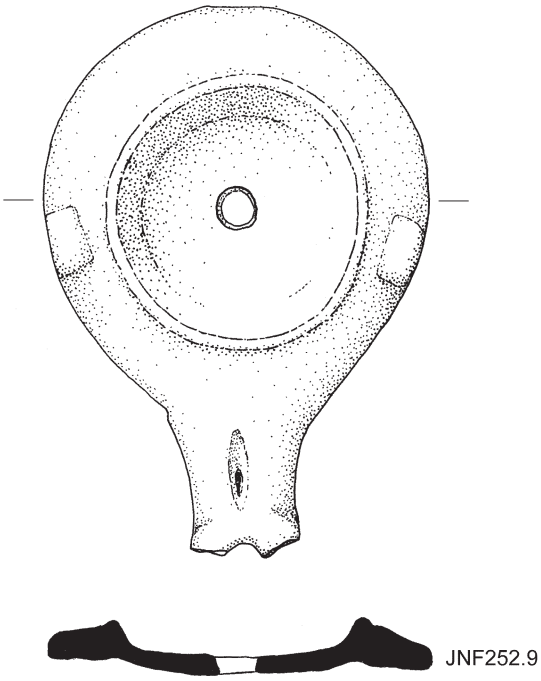




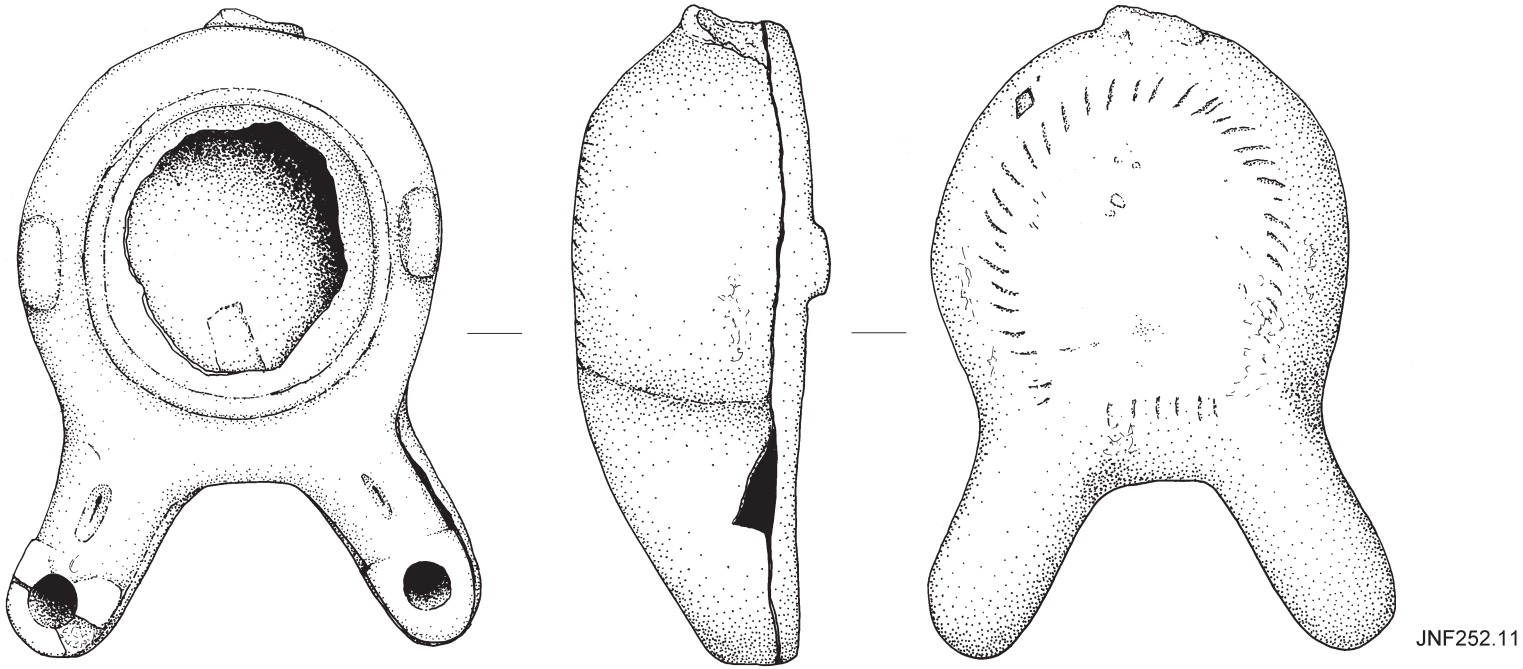
JNF252.8

0 2 cm

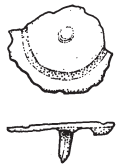
JNF252



JNF252



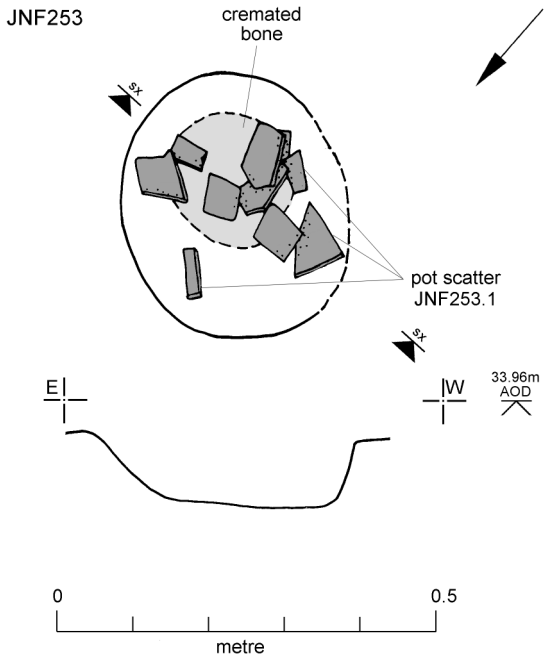
JNF252.11



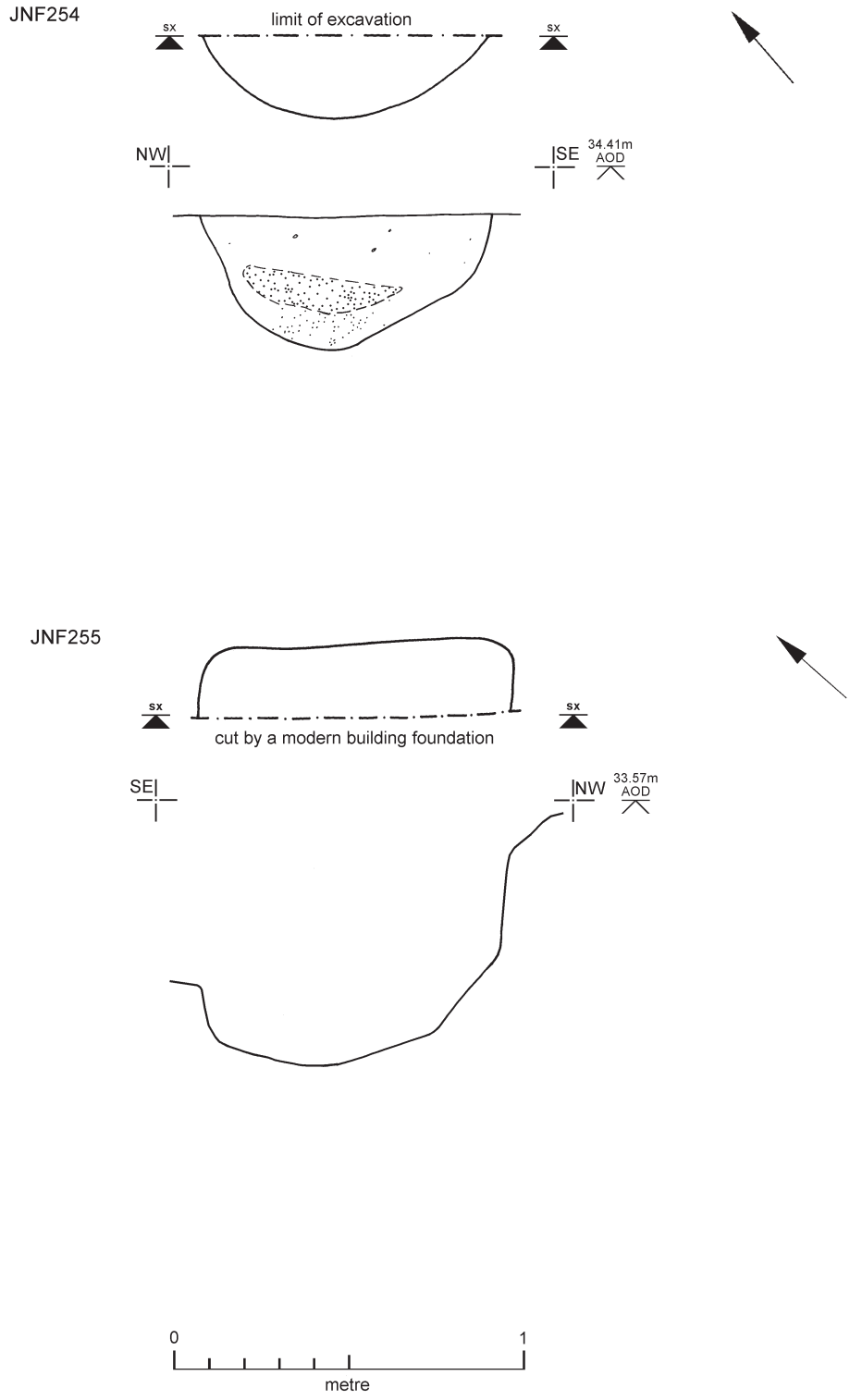
JNF252.15

0 2 cm

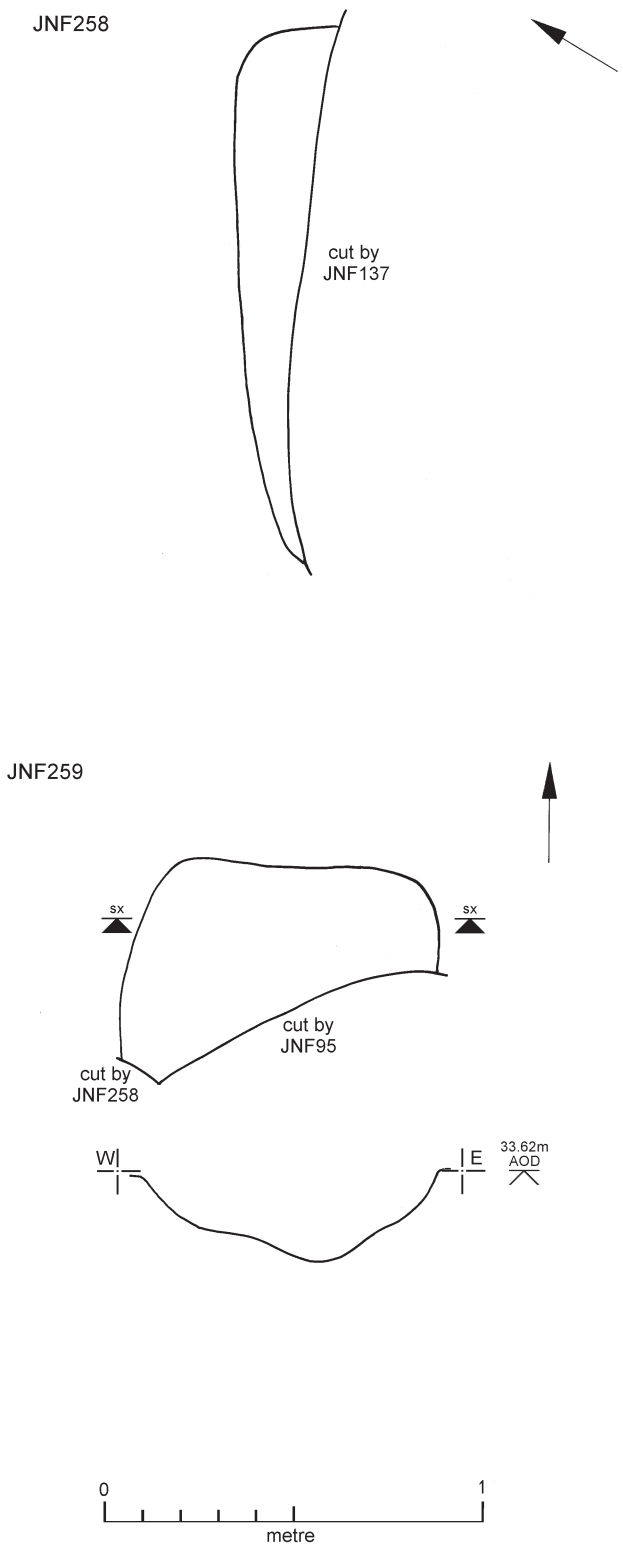
JNF252


JNF253
cremated bone
sx
pot scatter JNF253.1
sx
E
W
33.96m AOD
0
0.5
metre

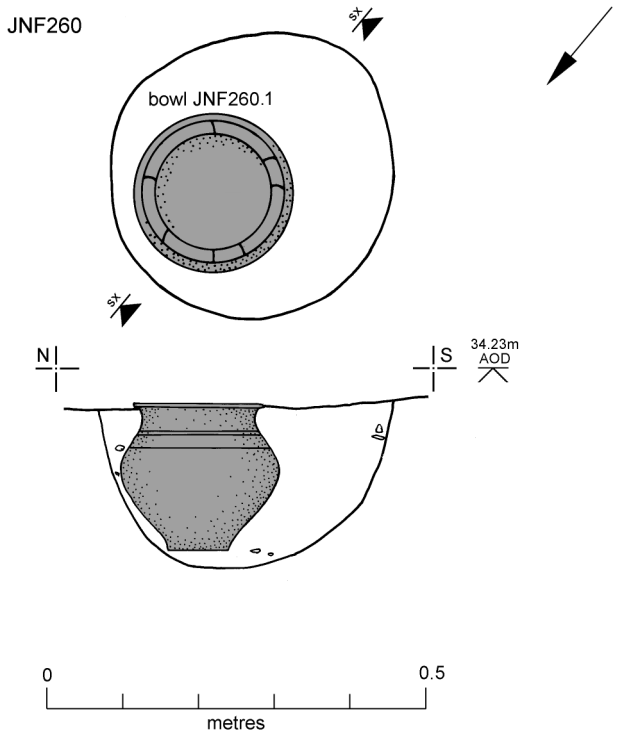
JNF253

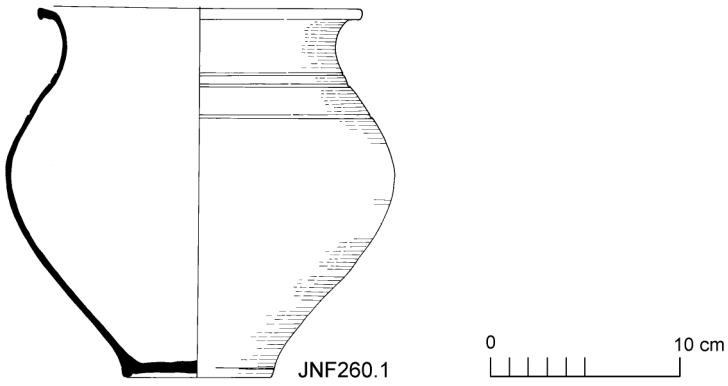


JNF254 and JNF255

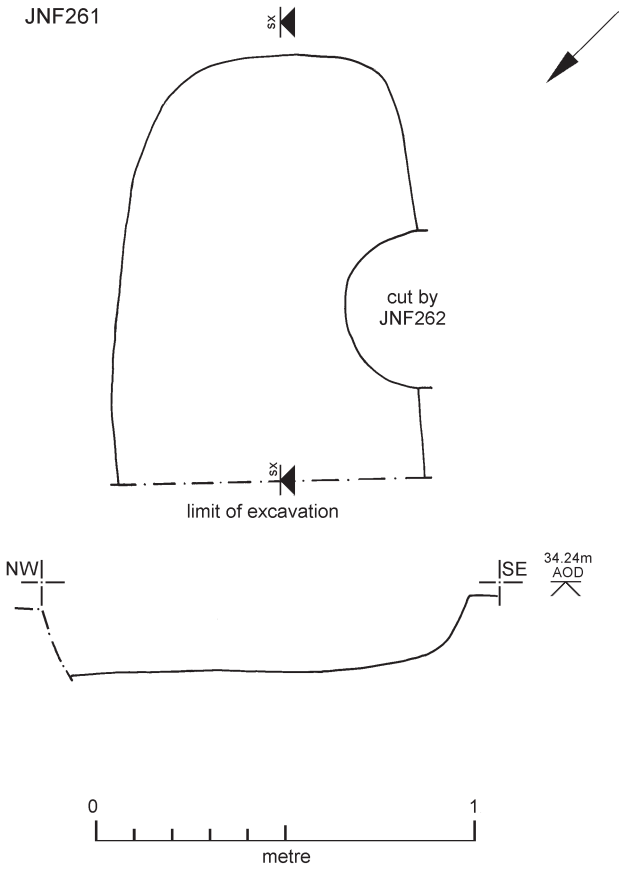


JNF258 and JNF259

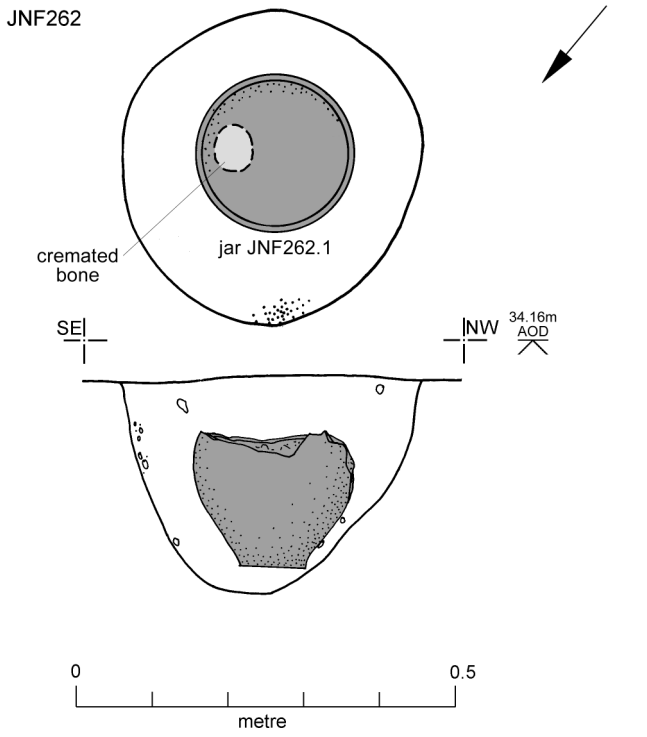

JNF260
sx
bowl JNF260.1
sx
N
S
34.23m
AOD
0
0.5
metres

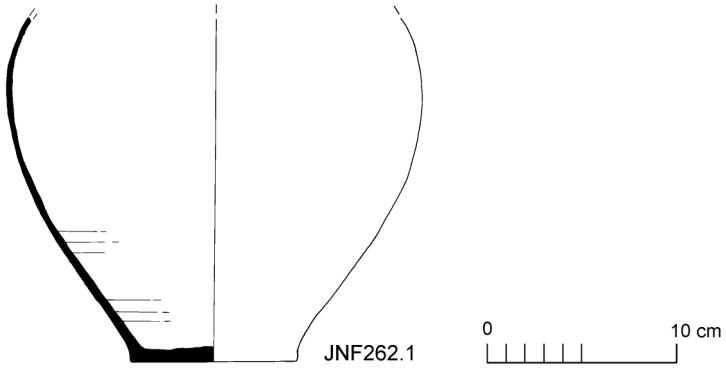

JNF260.1
0
10 cm

JNF260

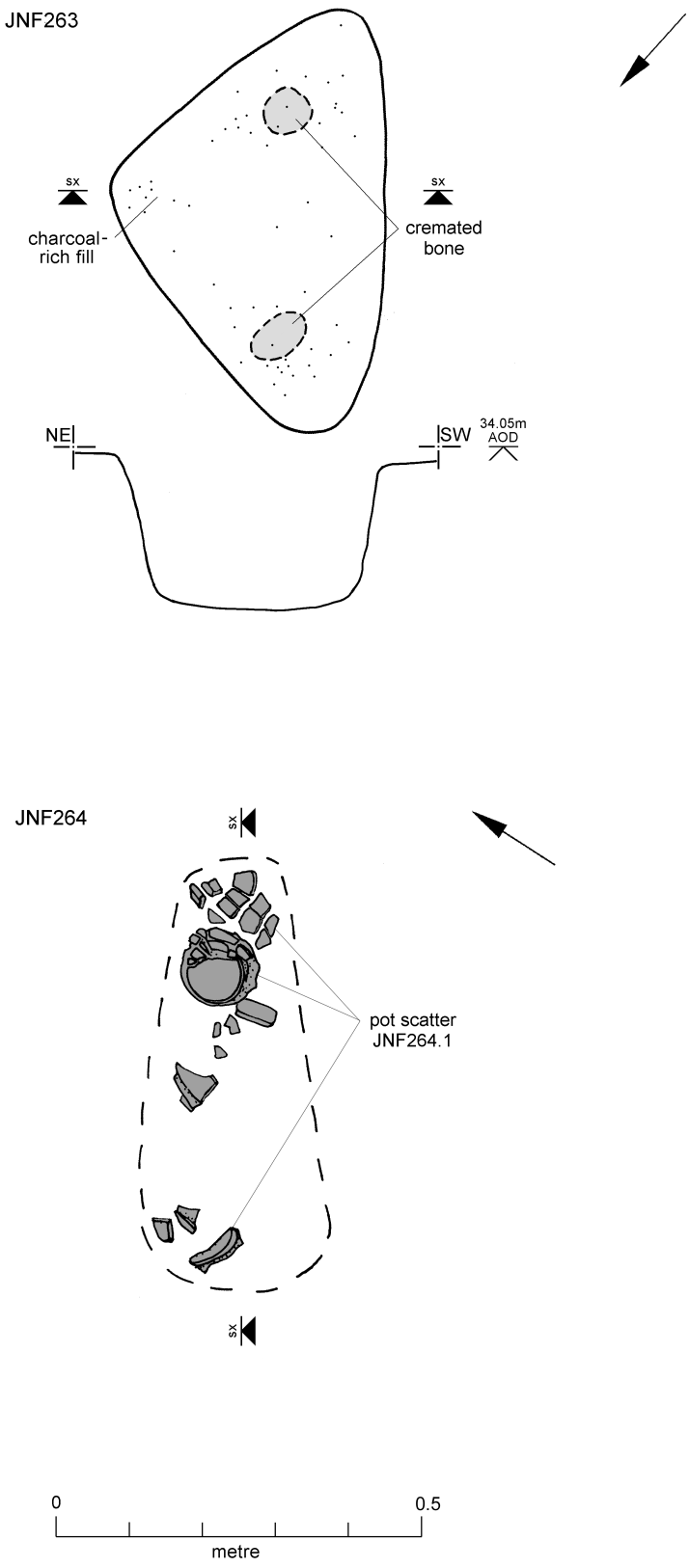

JNF261
sx
cut by
JNF262
sx
limit of excavation
NW
SE
34.24m
AOD
0
1
metre

JNF261

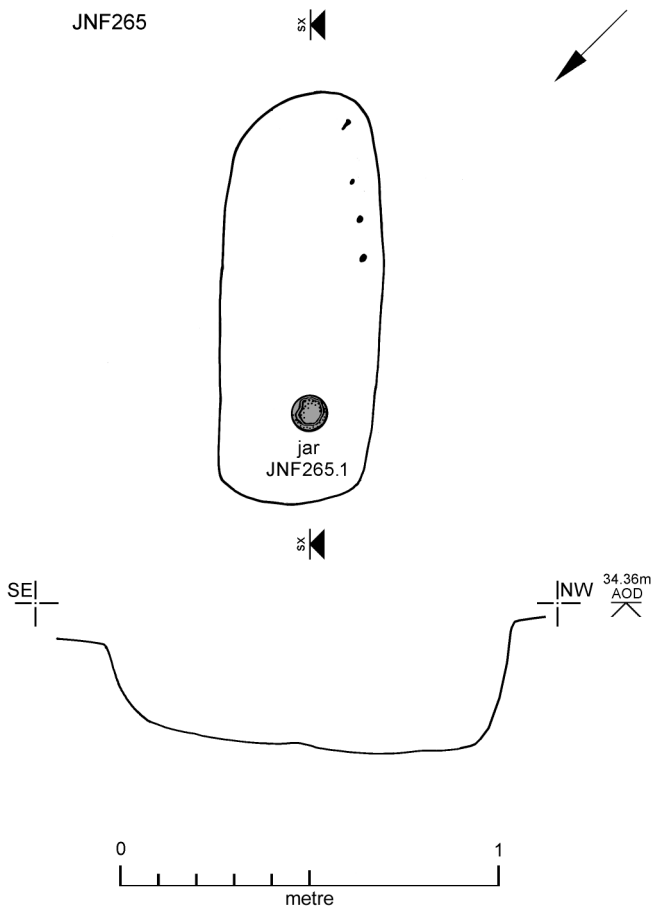

JNF262
cremated bone
jar JNF262.1
SE
NW
34.16m AOD
0
0.5
metre

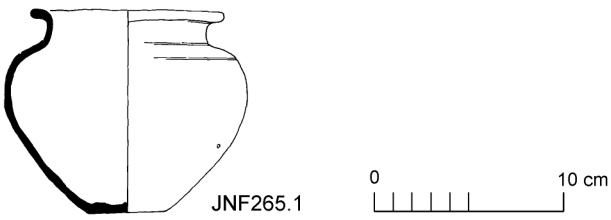

JNF262.1
0
10 cm

JNF262

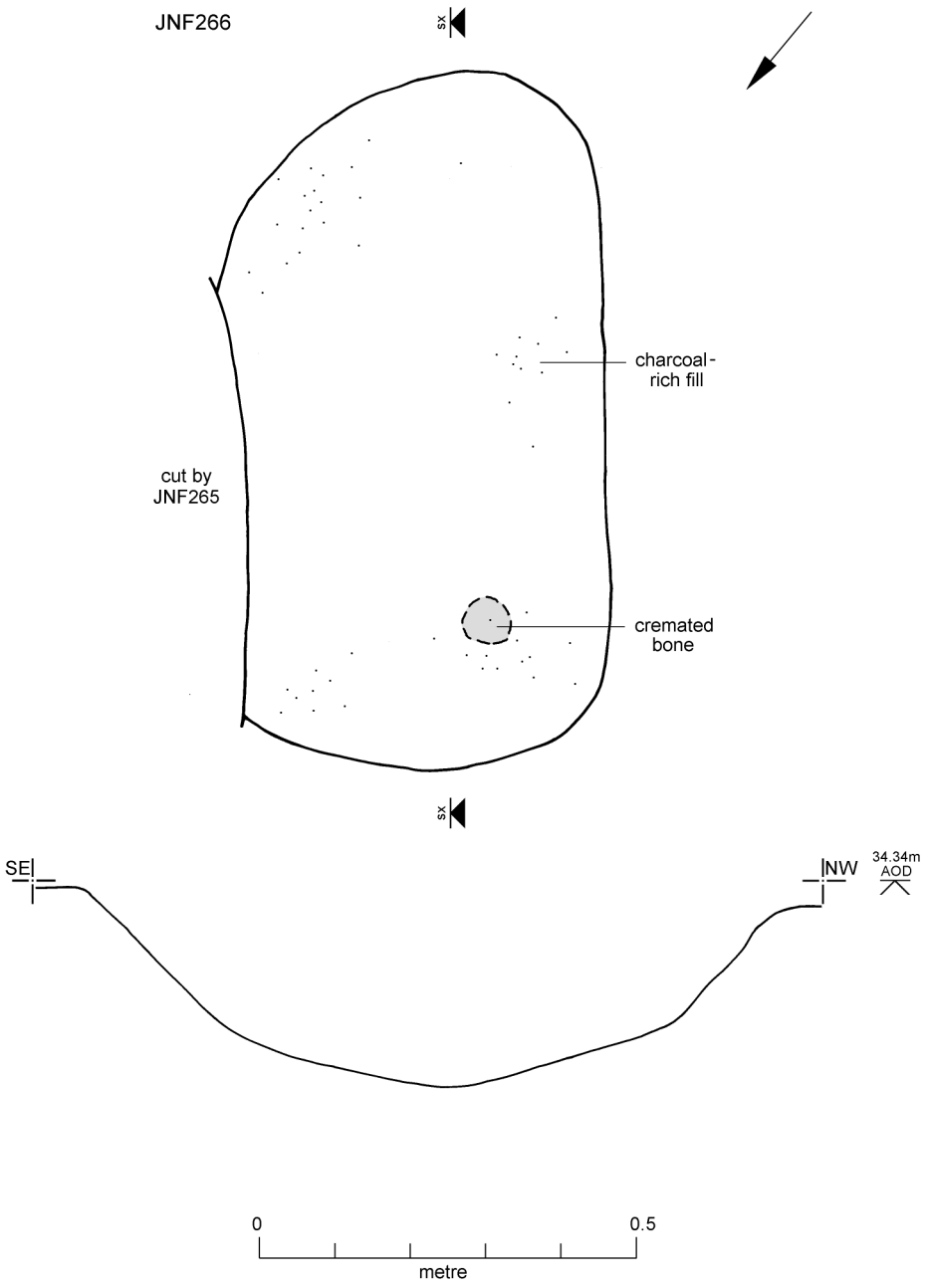


JNF263 and JNF264

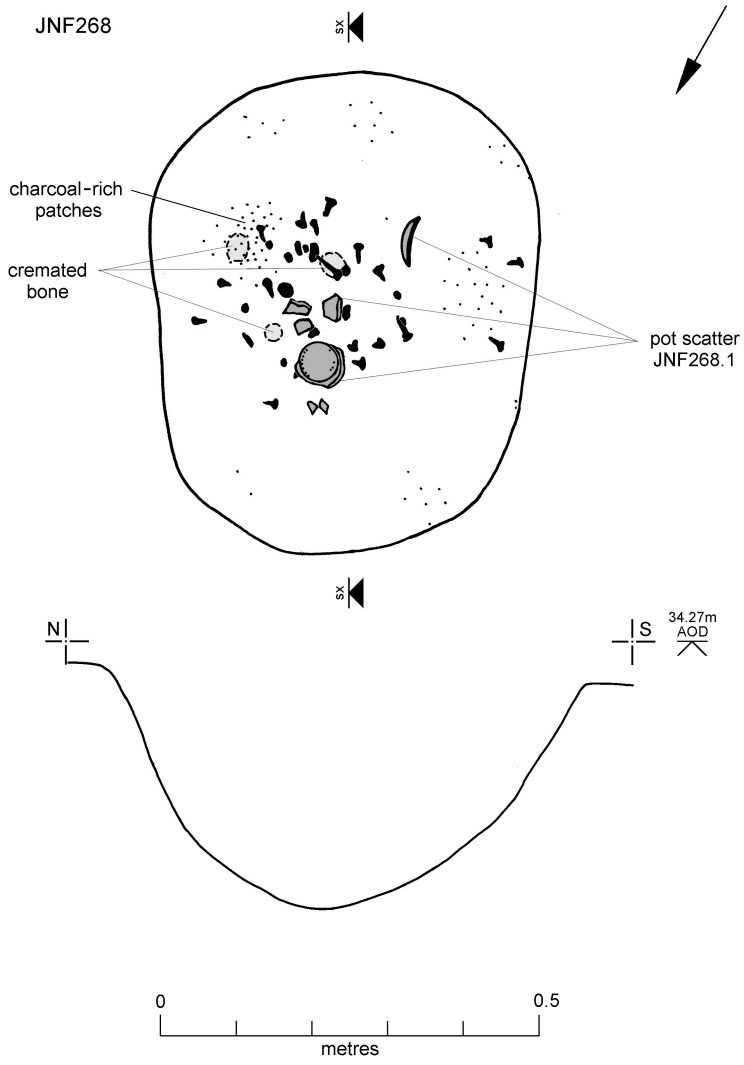

JNF265
sx
jar
JNF265.1
sx
SE
NW
34.36m
AOD
0
1
metre


JNF265.1
0
10 cm

JNF265

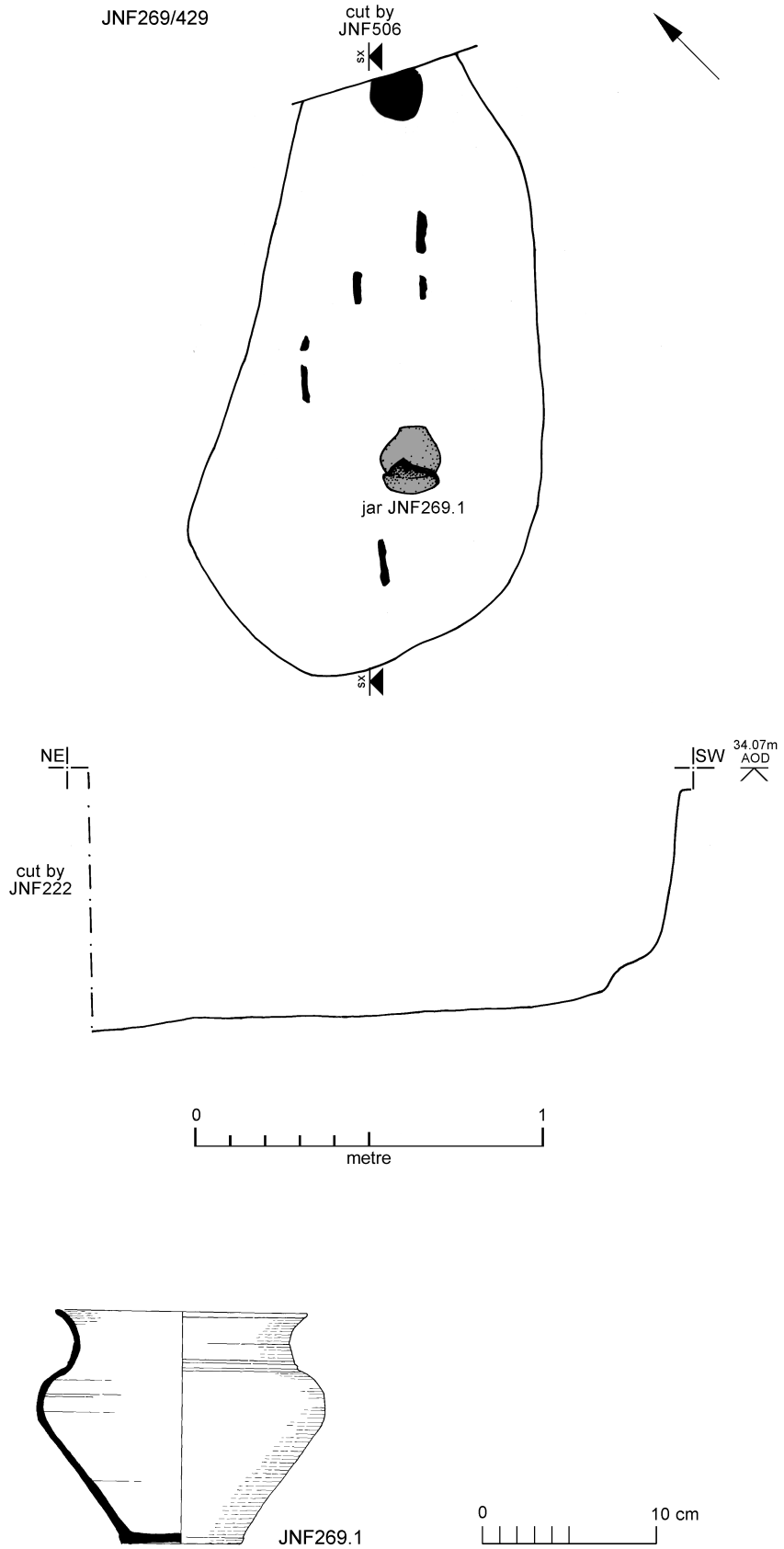

JNF266
SX
charcoal-rich fill
cut by JNF265
cremated bone
SX
SE
NW
34.34m AOD
0
0.5
metre

JNF266

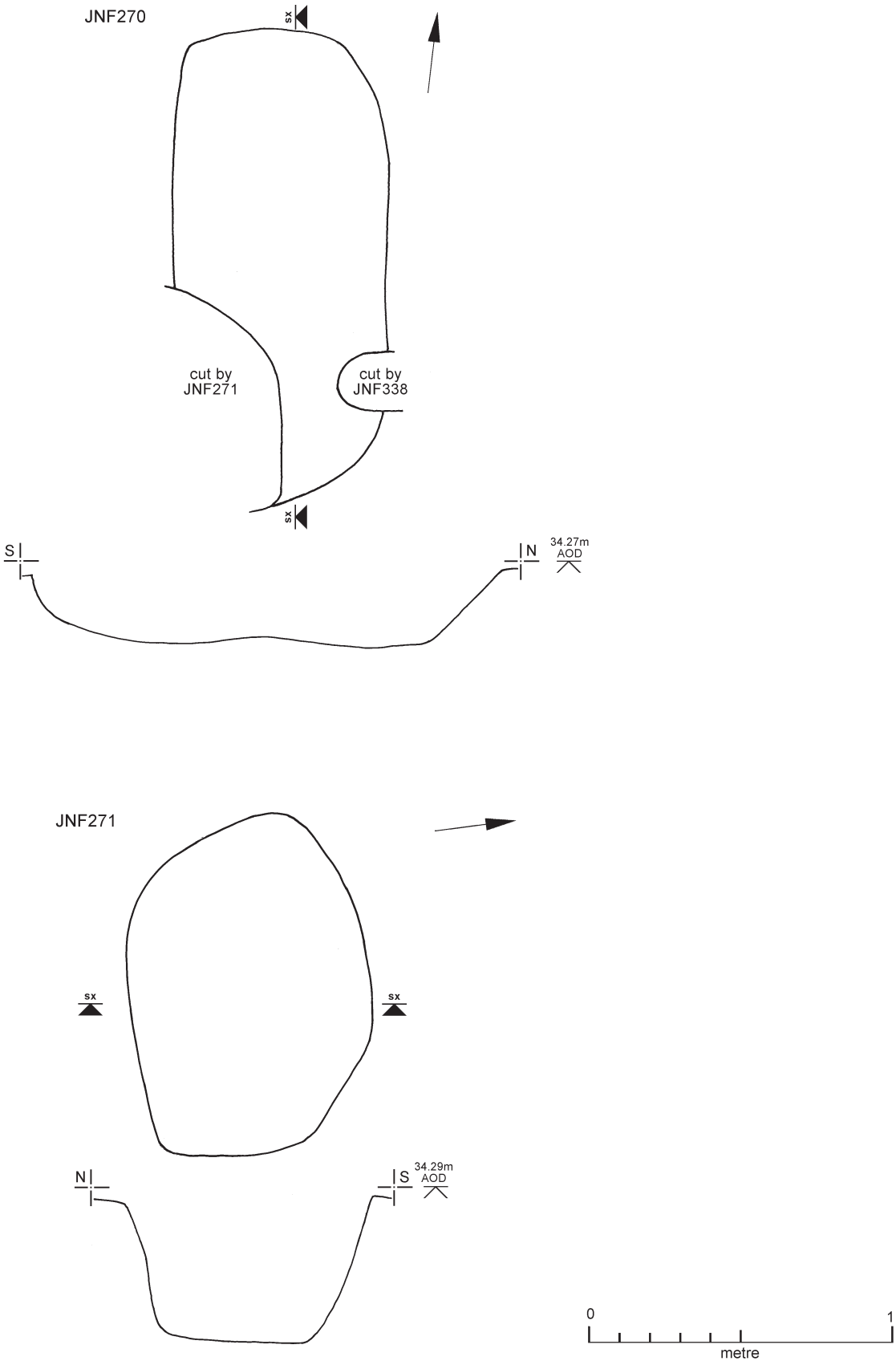


JNF268.2 (not to scale)

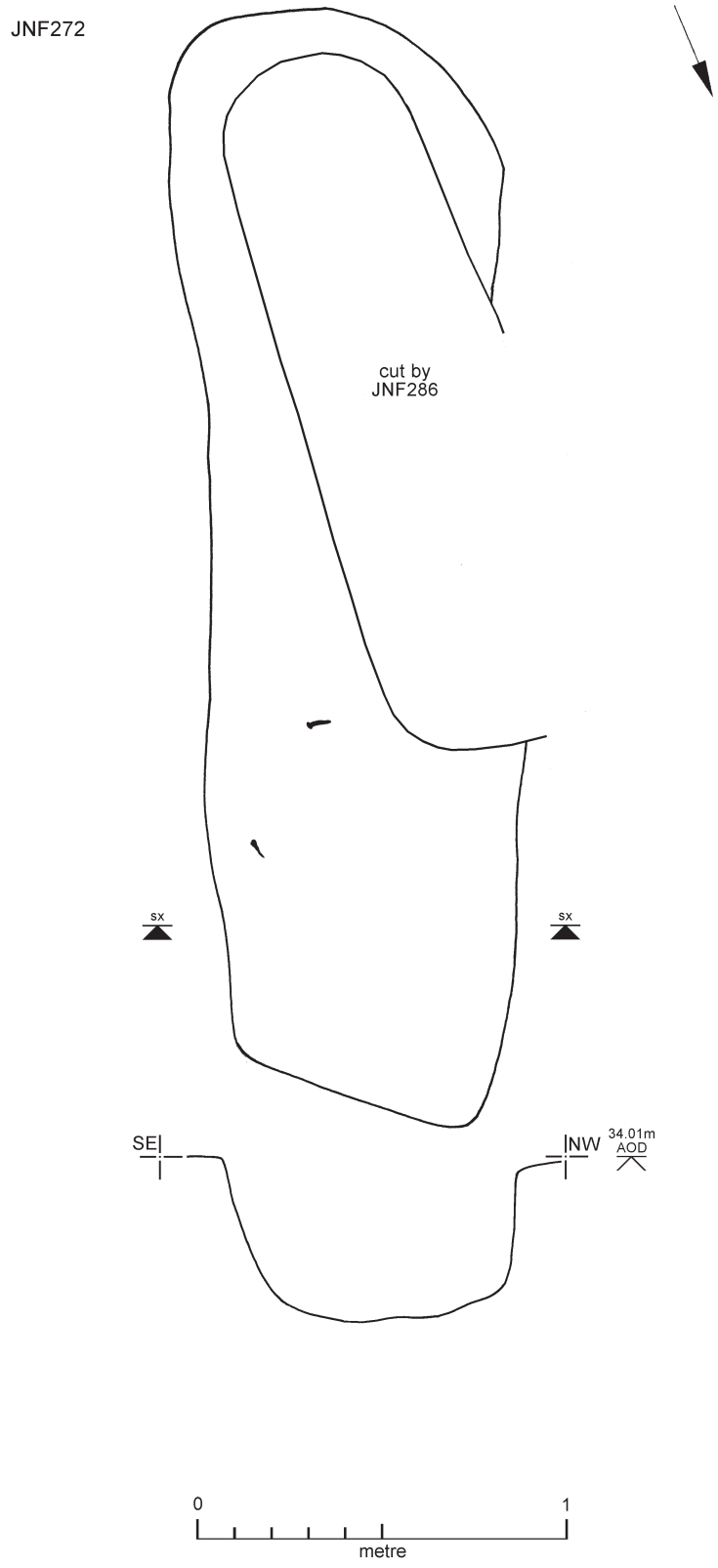
JNF268



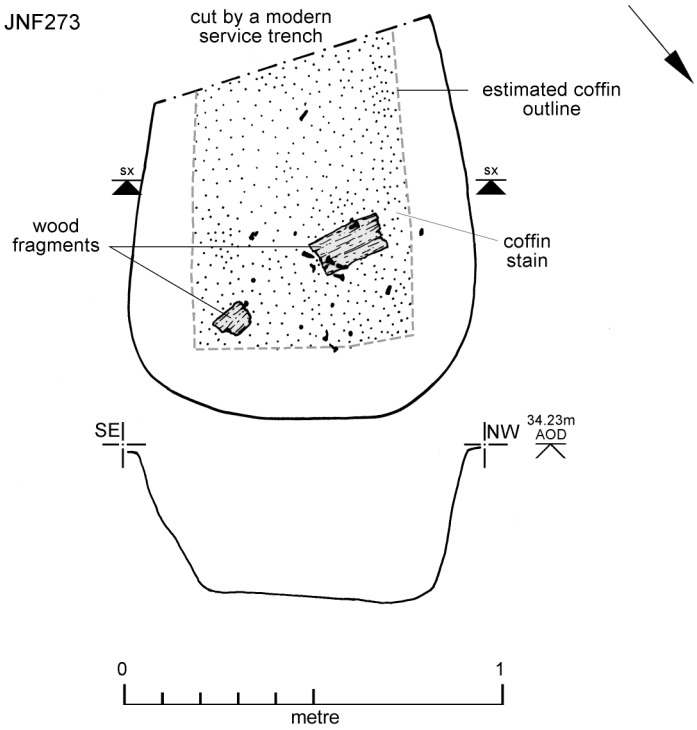
JNF269 (and JNF429)



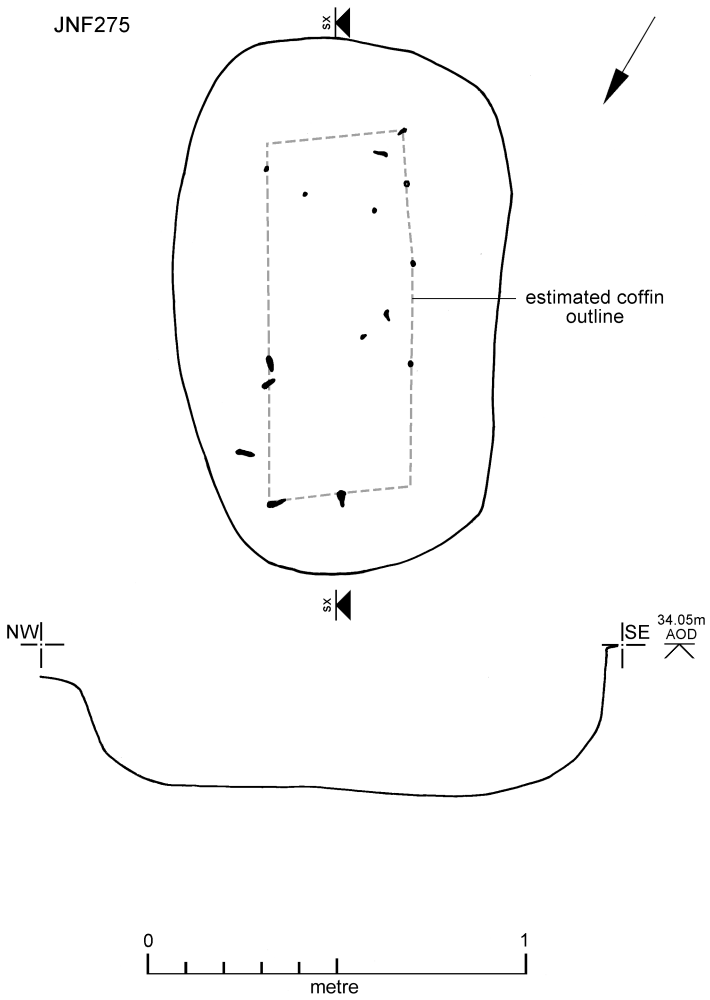
JNF270 and JNF271



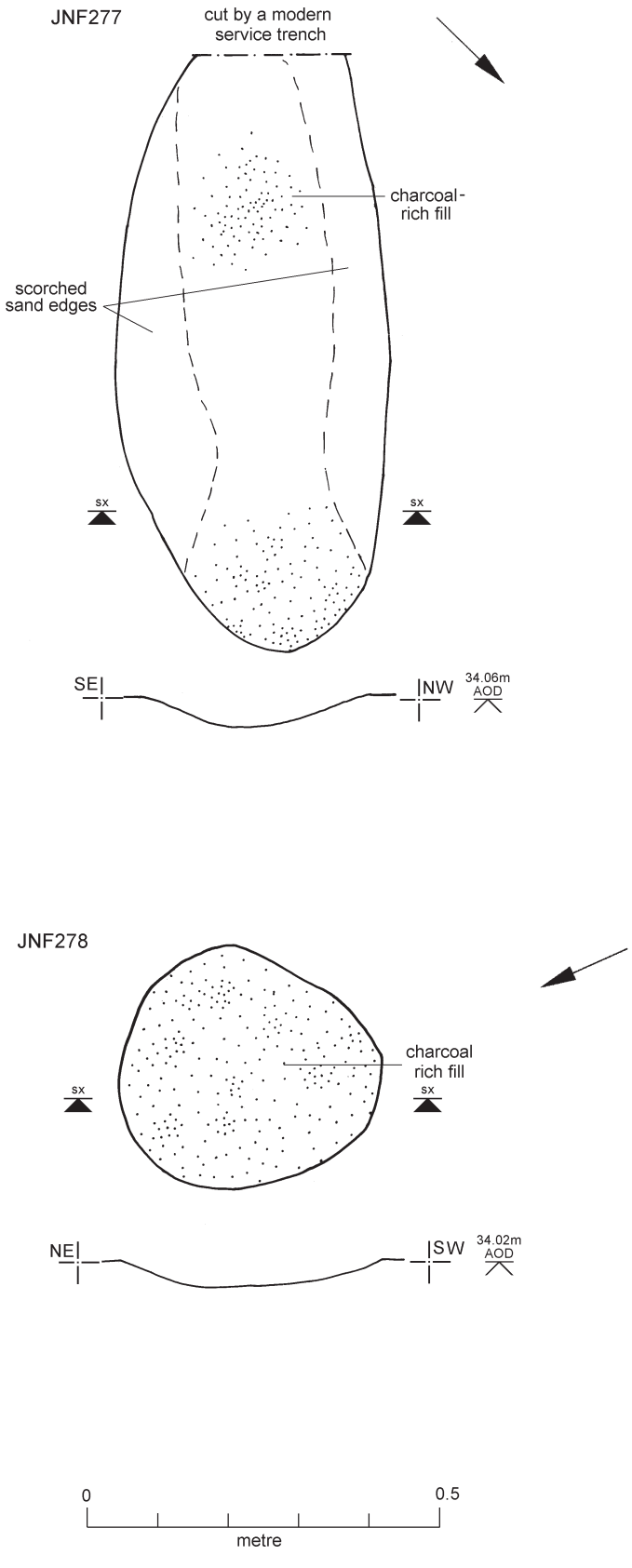
JNF272


JNF273
cut by a modern service trench
estimated coffin outline
sx
sx
wood fragments
coffin stain
SE
NW
34.23m AOD
0
1
metre

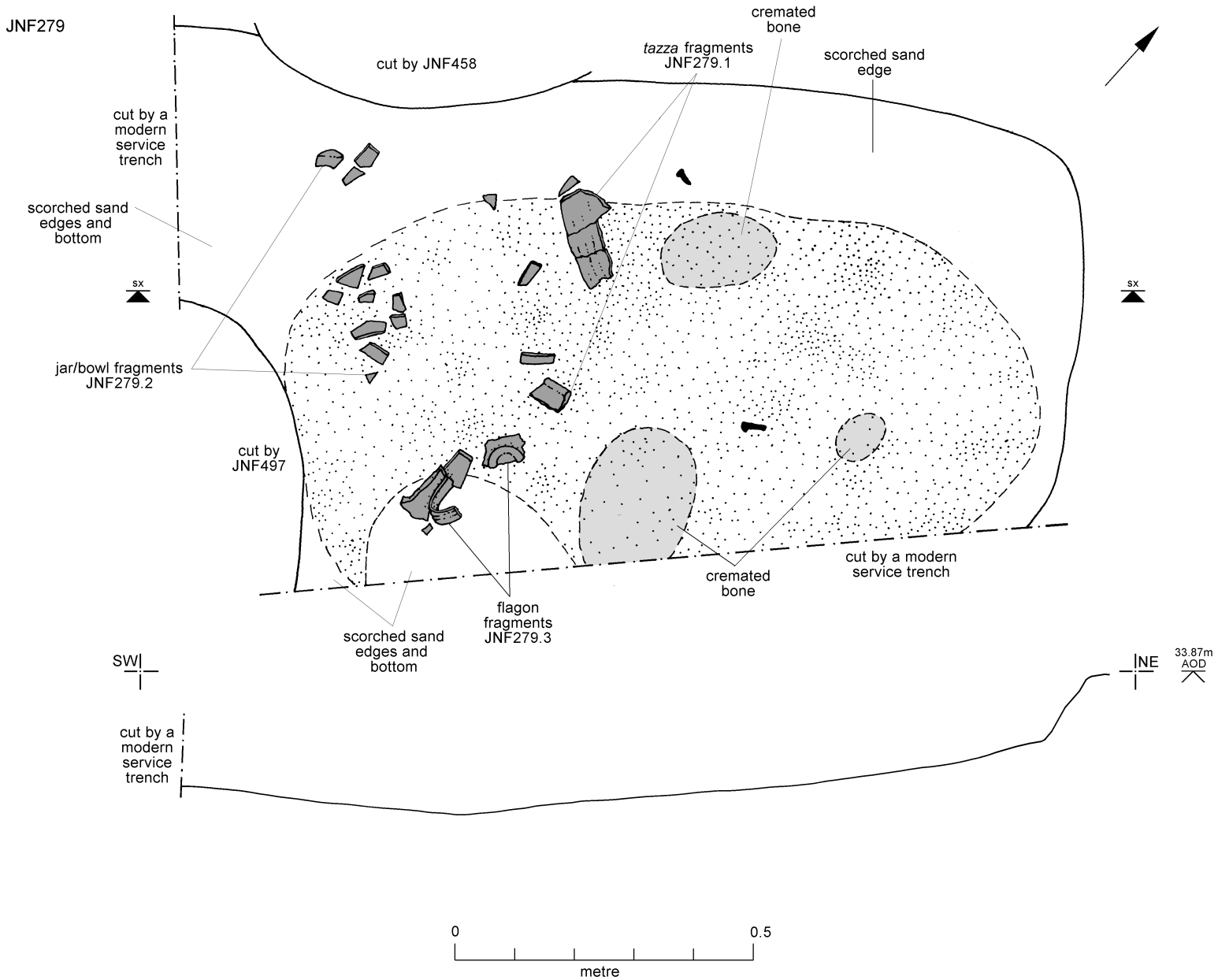
JNF273

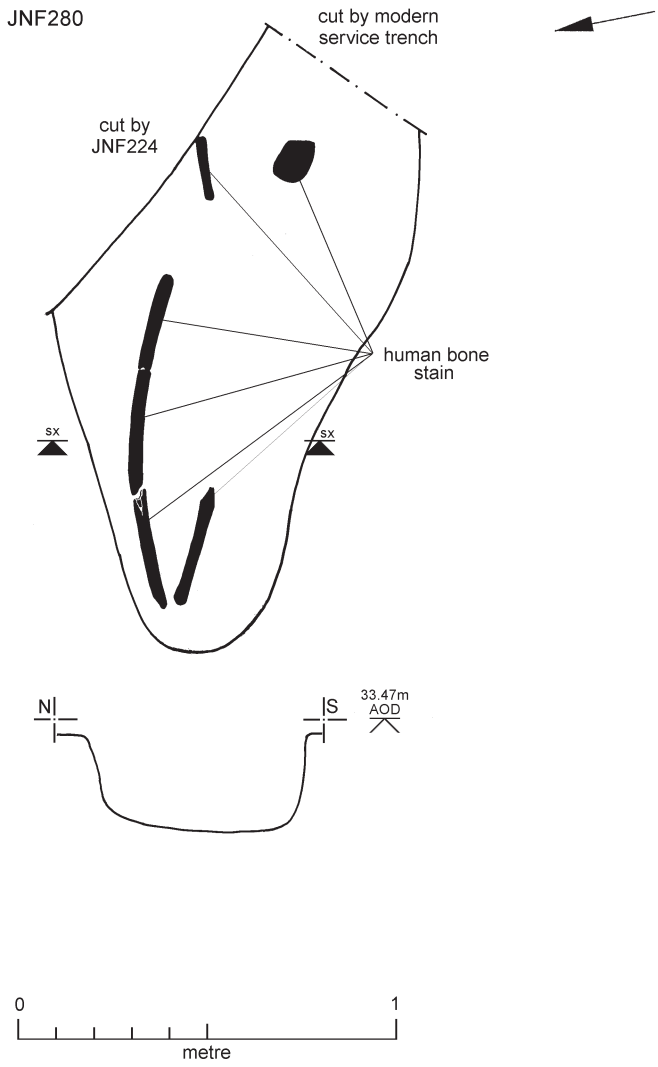

JNF275
SX
SX
estimated coffin outline
NW
SE
34.05m AOD
0
1
metre

JNF275

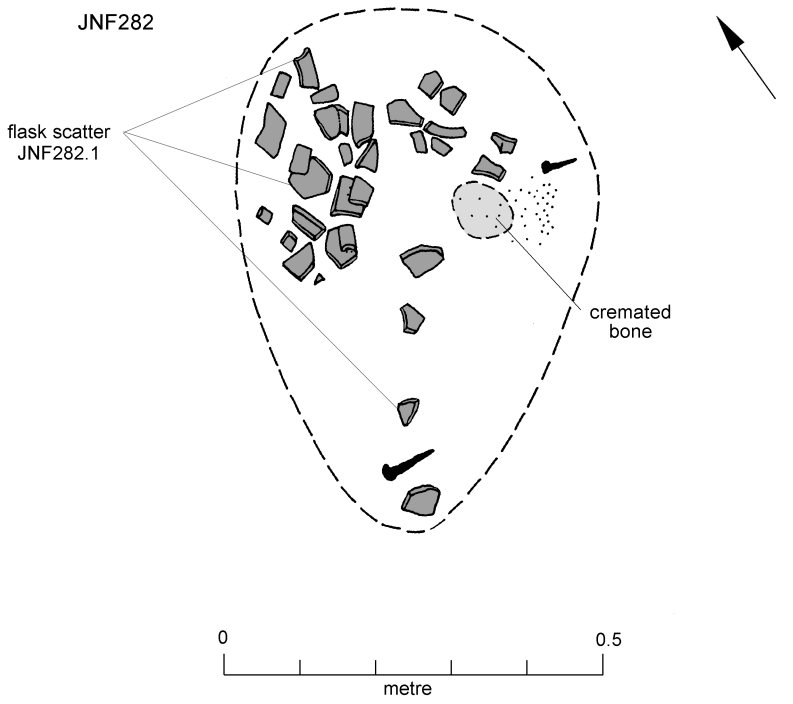


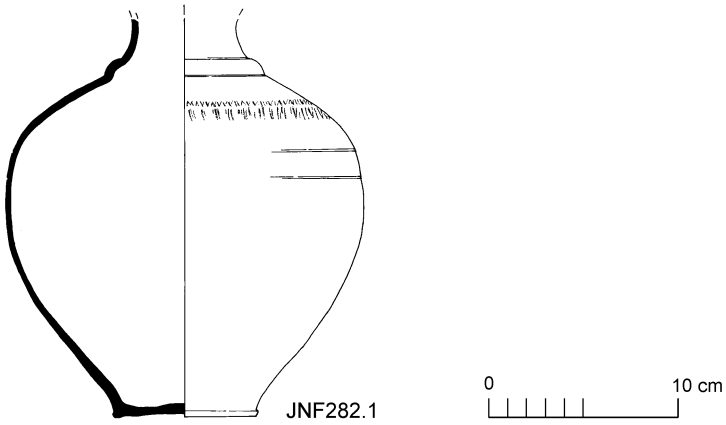
JNF277 and JNF278


JNF279
cut by JNF458
cremated bone
tazza fragments JNF279.1
scorched sand edge
cut by a modern service trench
scorched sand edges and bottom
SX
SX
jar/bowl fragments JNF279.2
cut by JNF497
cremated bone
cut by a modern service trench
flagon fragments JNF279.3
scorched sand edges and bottom
SW
NE
33.87m AOD
cut by a modern service trench
0
0.5
metre
JNF279

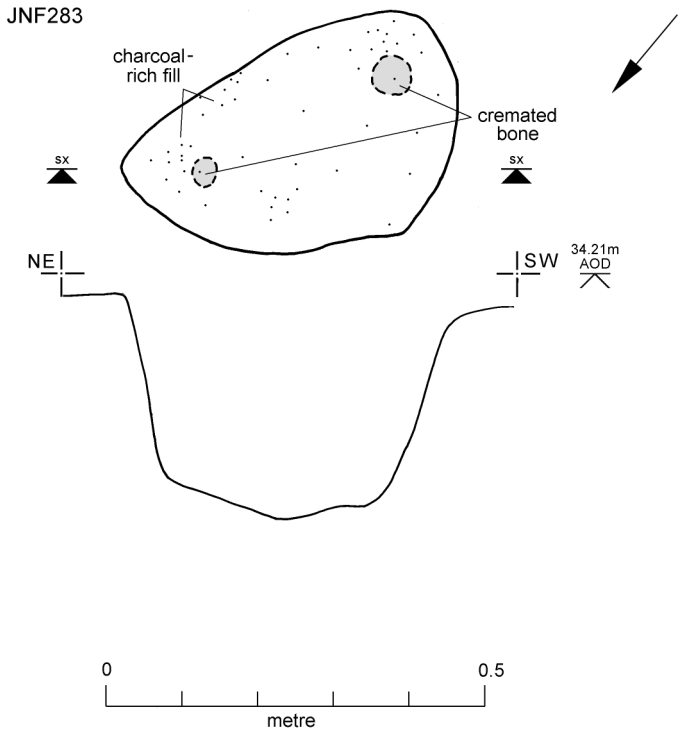

JNF280
cut by modern service trench
cut by JNF224
human bone stain
sx
sx
N
S
33.47m AOD
0
1
metre

JNF280

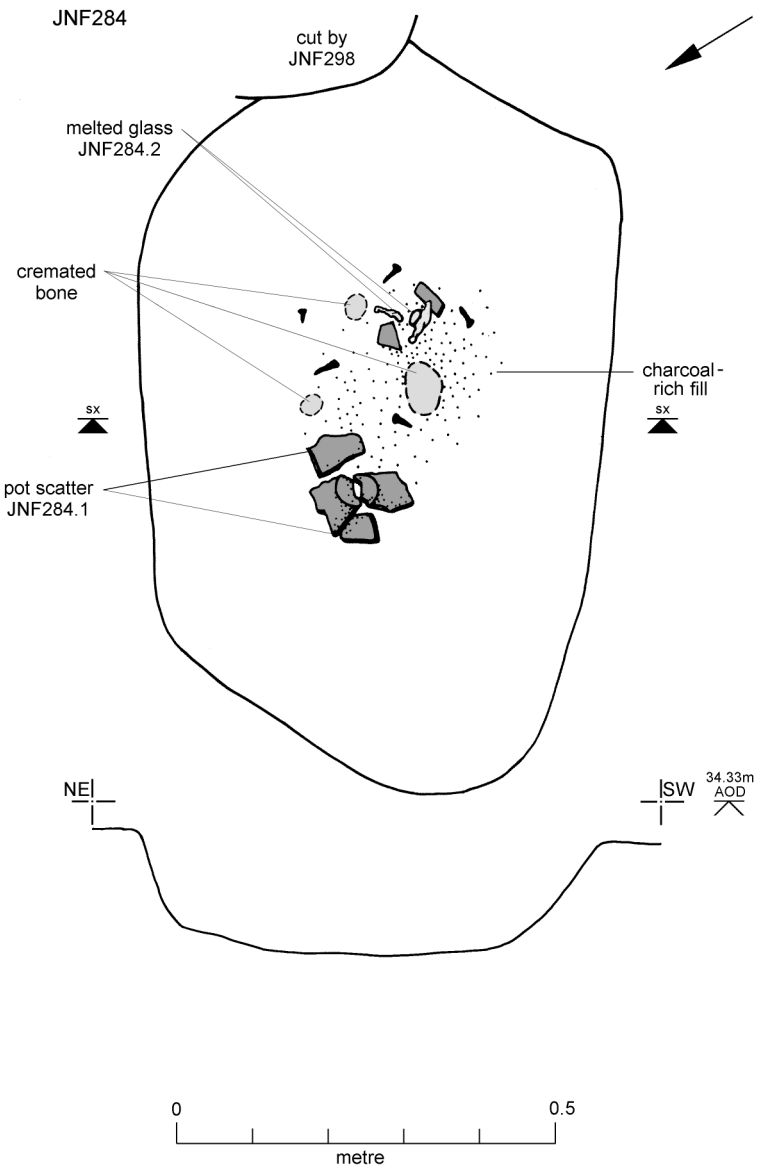

JNF282
flask scatter
JNF282.1
cremated
bone
0
0.5
metre


JNF282.1
0
10 cm

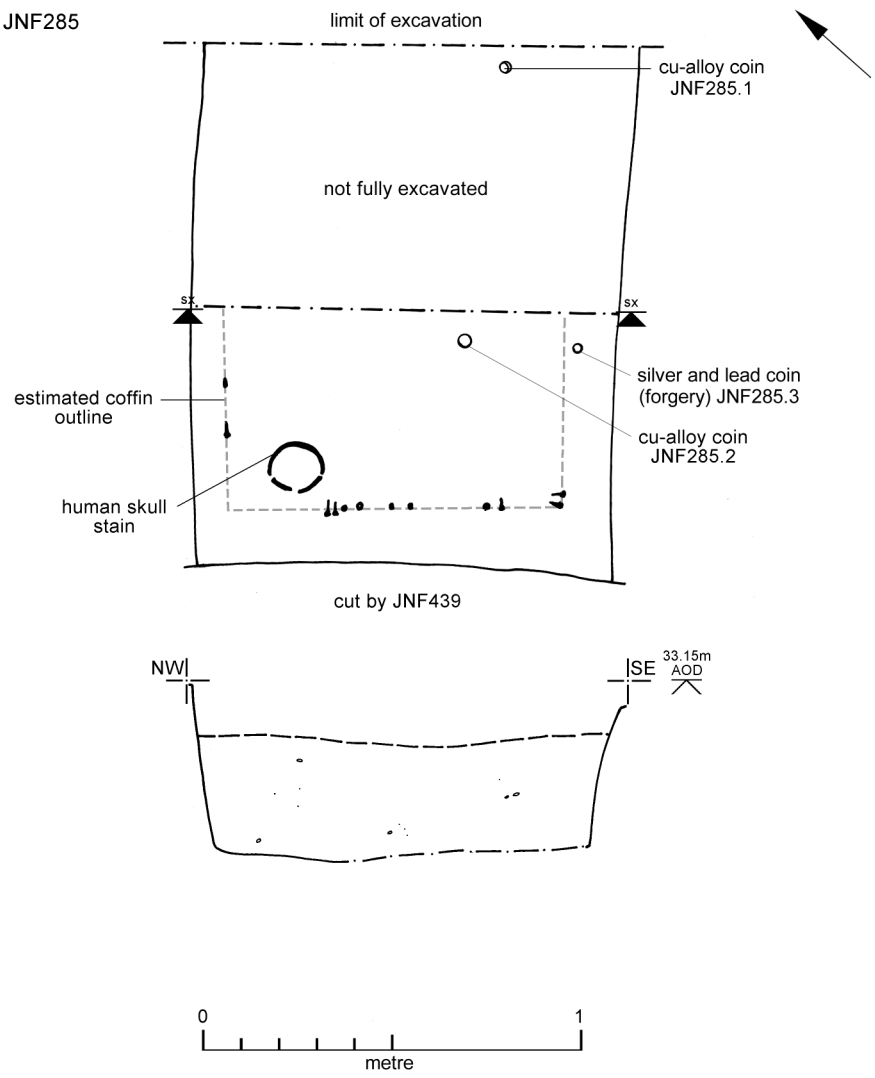
JNF282


JNF283
charcoal-rich fill
cremated bone
sx
sx
NE
SW
34.21m AOD
0
0.5
metre

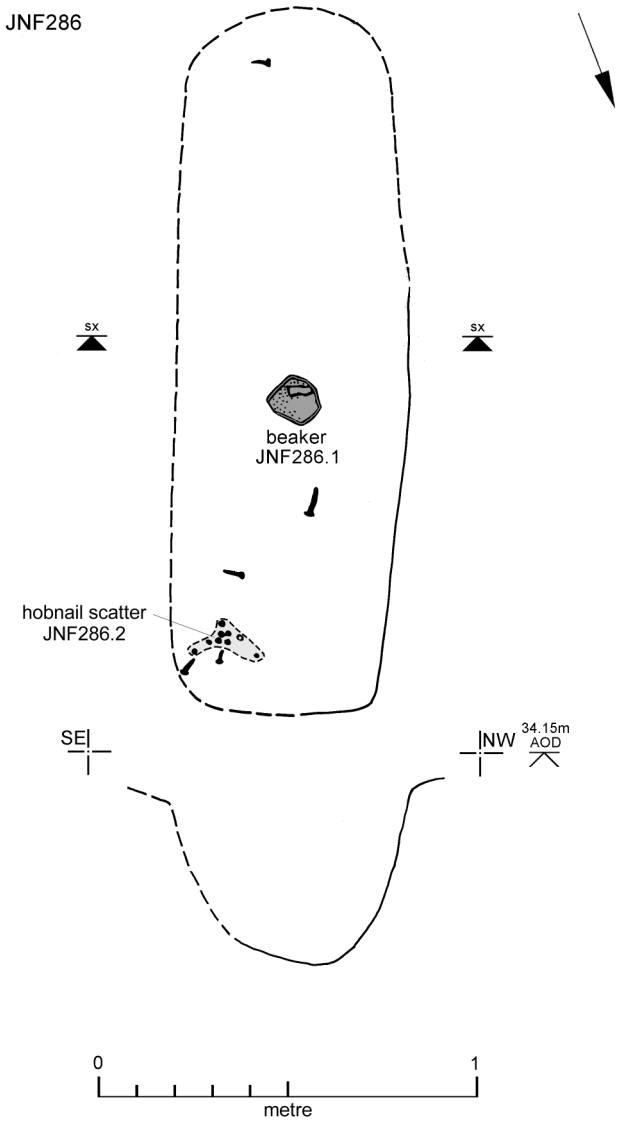
JNF283

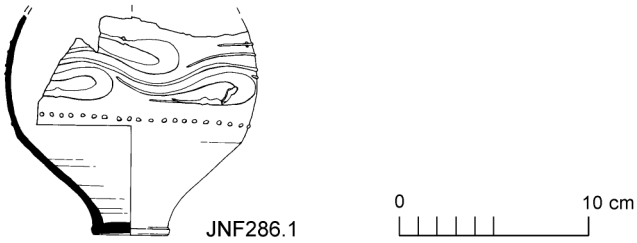

JNF284
cut by
JNF298
melted glass
JNF284.2
cremated
bone
charcoal-
rich fill
sx
sx
pot scatter
JNF284.1
NE
SW
34.33m
AOD
0
0.5
metre

JNF284

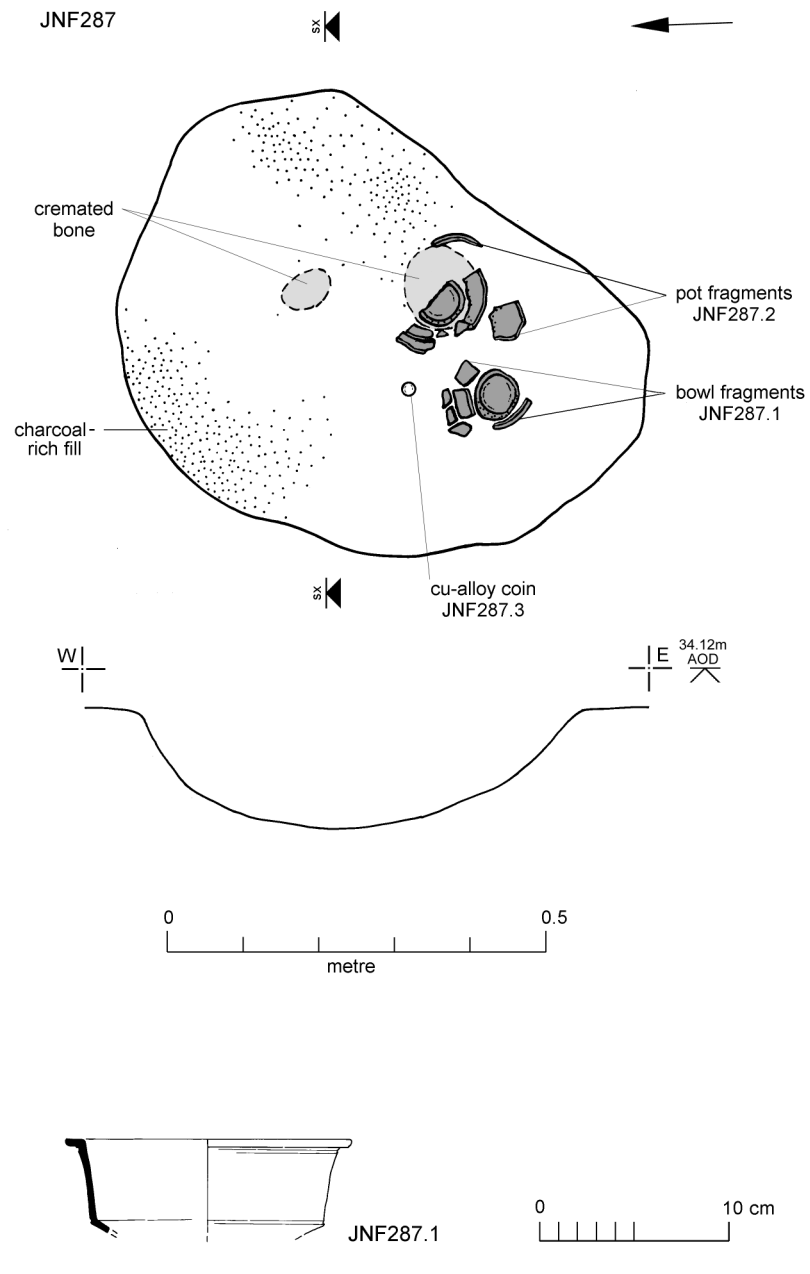

JNF285
limit of excavation
cu-alloy coin
JNF285.1
not fully excavated
sx
sx
silver and lead coin
(forgery) JNF285.3
estimated coffin
outline
cu-alloy coin
JNF285.2
human skull
stain
cut by JNF439
NW
SE
33.15m
AOD
0
1
metre

JNF285

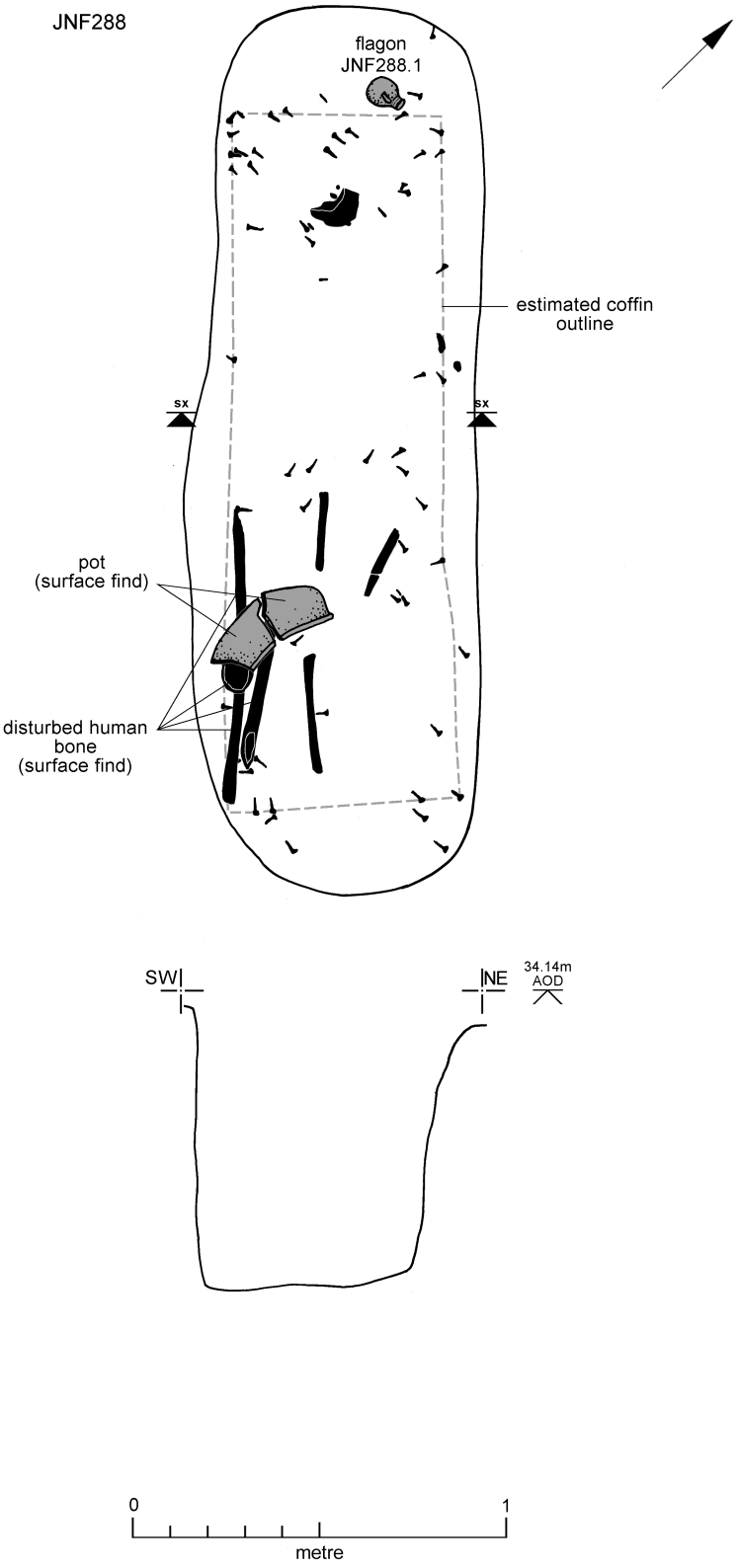

JNF286
sx
sx
beaker
JNF286.1
hobnail scatter
JNF286.2
SE
NW
34.15m
AOD
0
1
metre


JNF286.1
0
10 cm

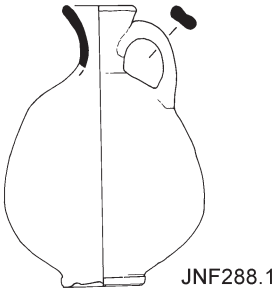
JNF286

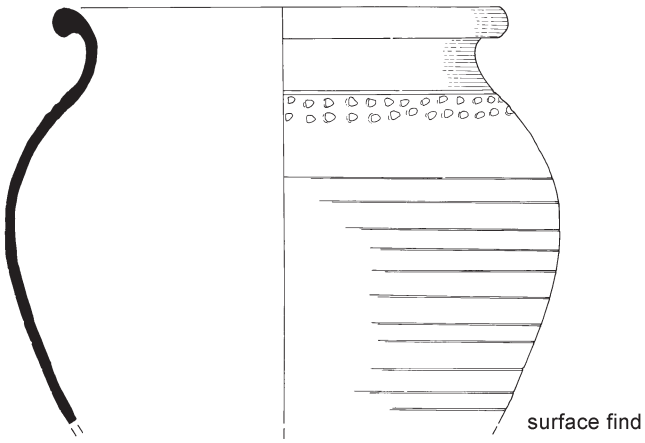

JNF287
sx
cremated bone
pot fragments JNF287.2
bowl fragments JNF287.1
charcoal-rich fill
sx
cu-alloy coin JNF287.3
W
E
34.12m AOD
0
0.5
metre
JNF287.1
0
10 cm

JNF287

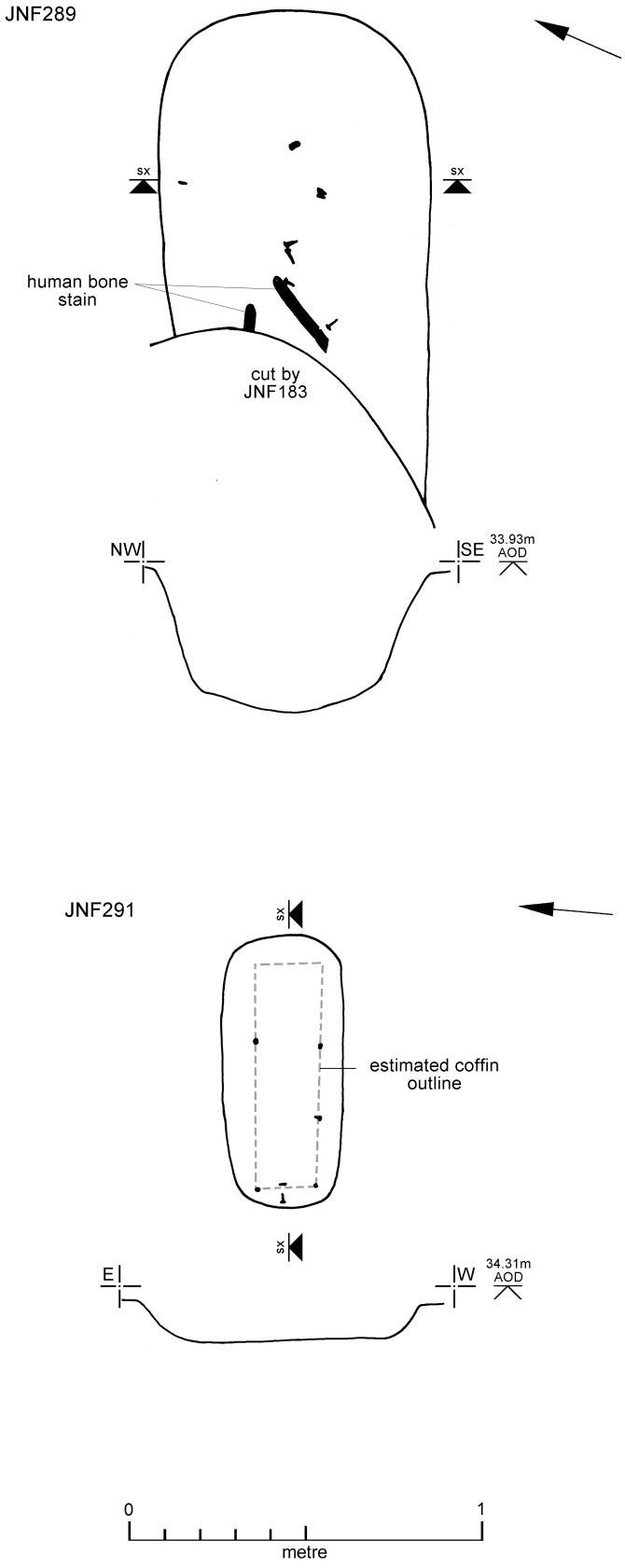

JNF288
flagon
JNF288.1
estimated coffin
outline
sx
sx
pot
(surface find)
disturbed human
bone
(surface find)
SW
NE
34.14m
AOD
0
1
metre

JNF288

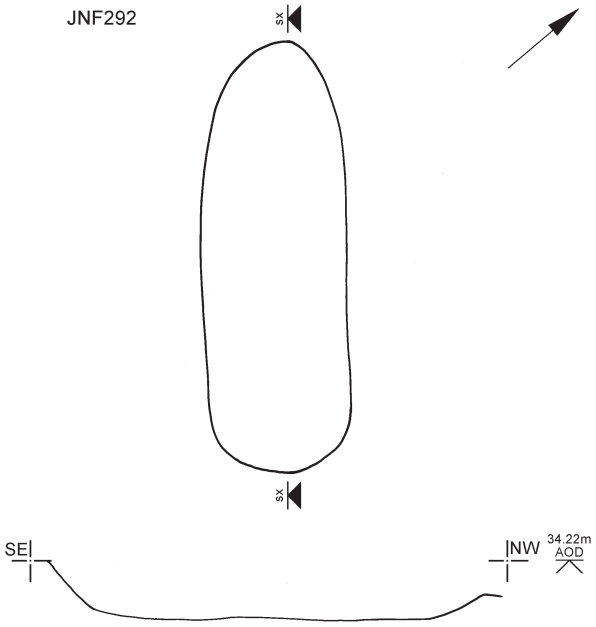


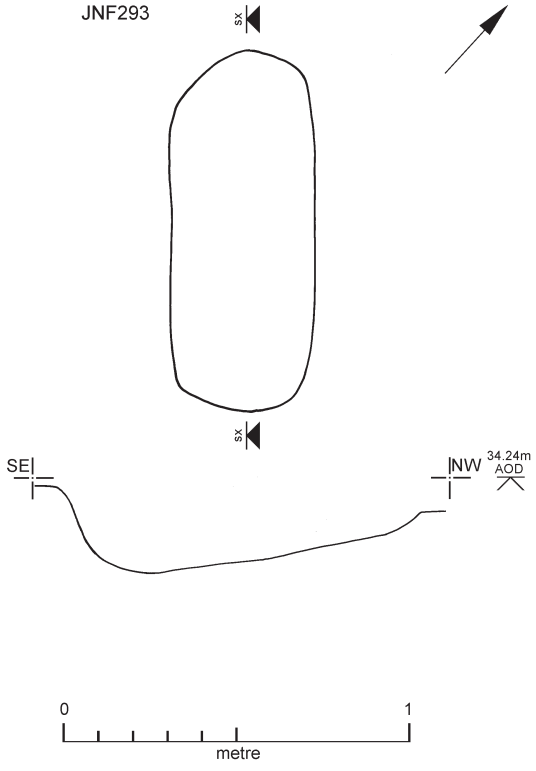


JNF288

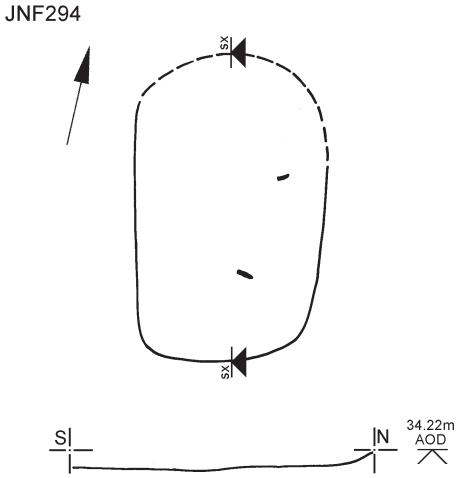


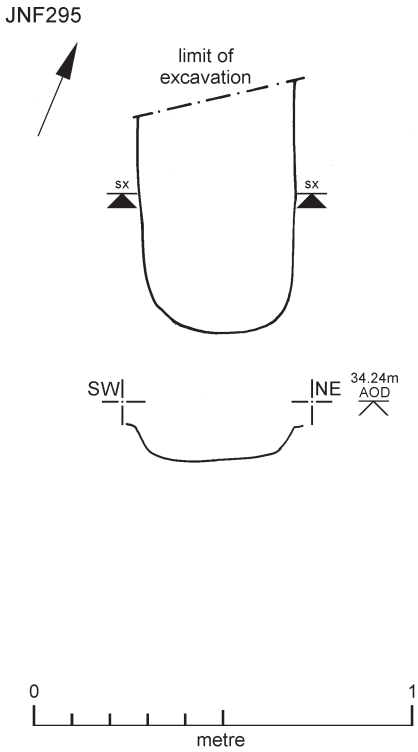
JNF289 and JNF291



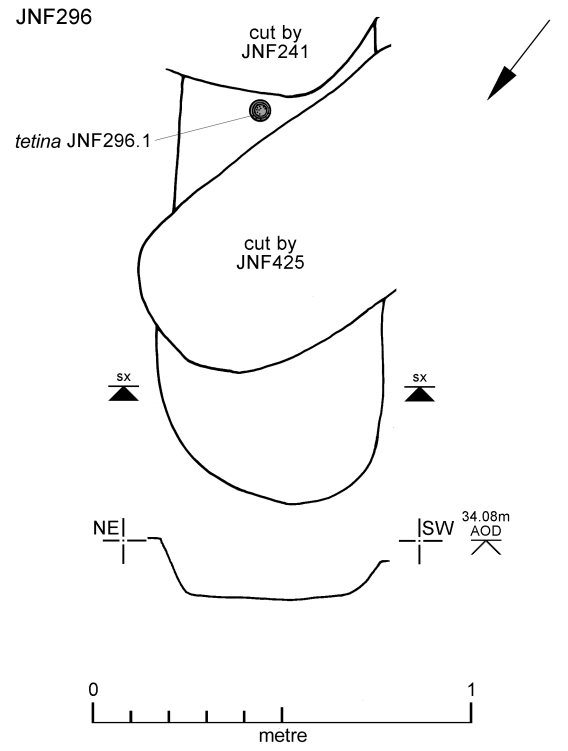


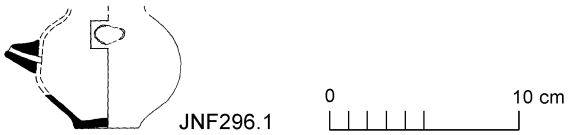
JNF292 and JNF293



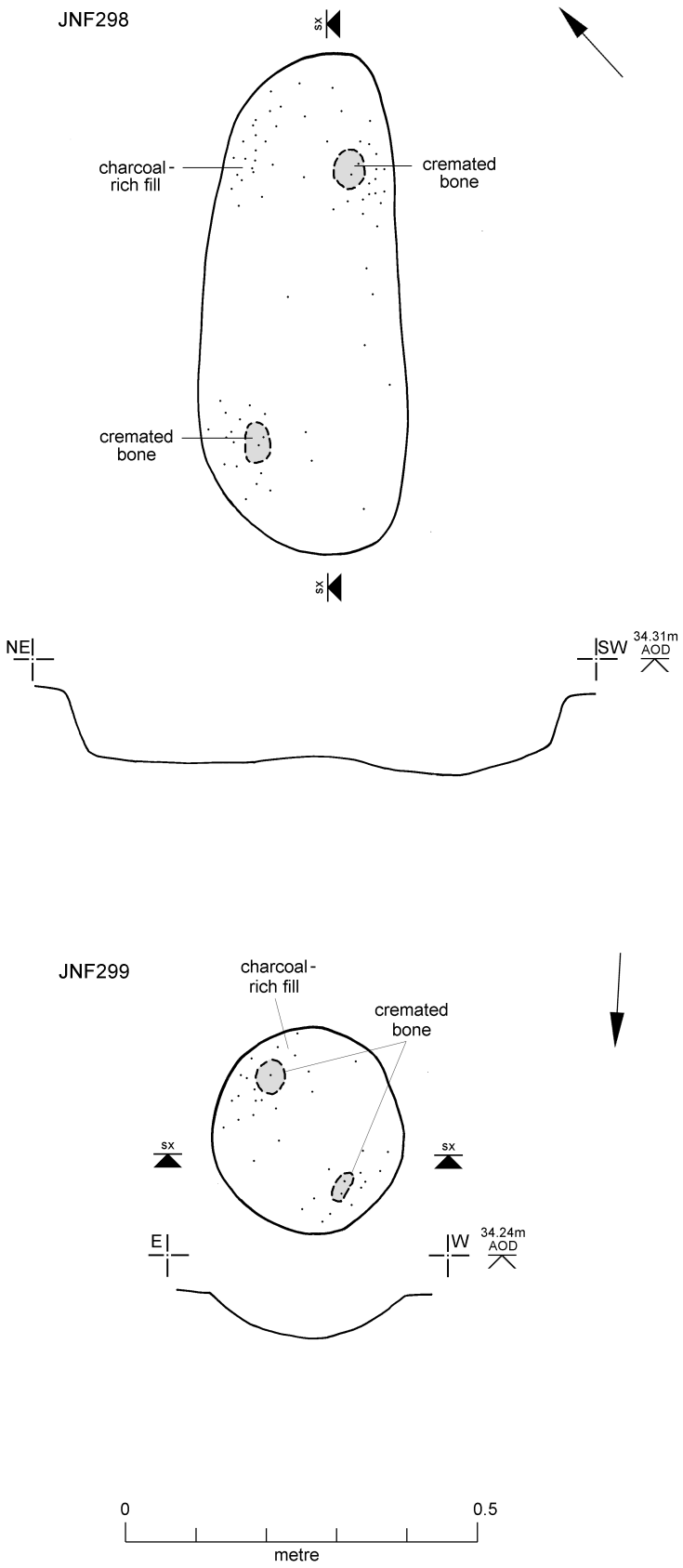


JNF294 and JNF295

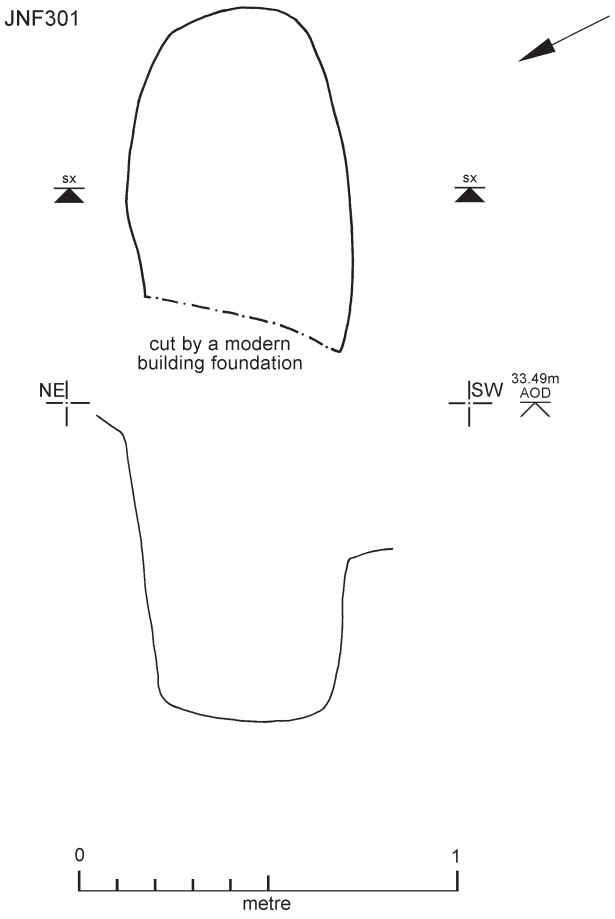

JNF296
cut by
JNF241
tetina JNF296.1
cut by
JNF425
sx
sx
NE
SW
34.08m
AOD
0
1
metre


JNF296.1
0
10 cm

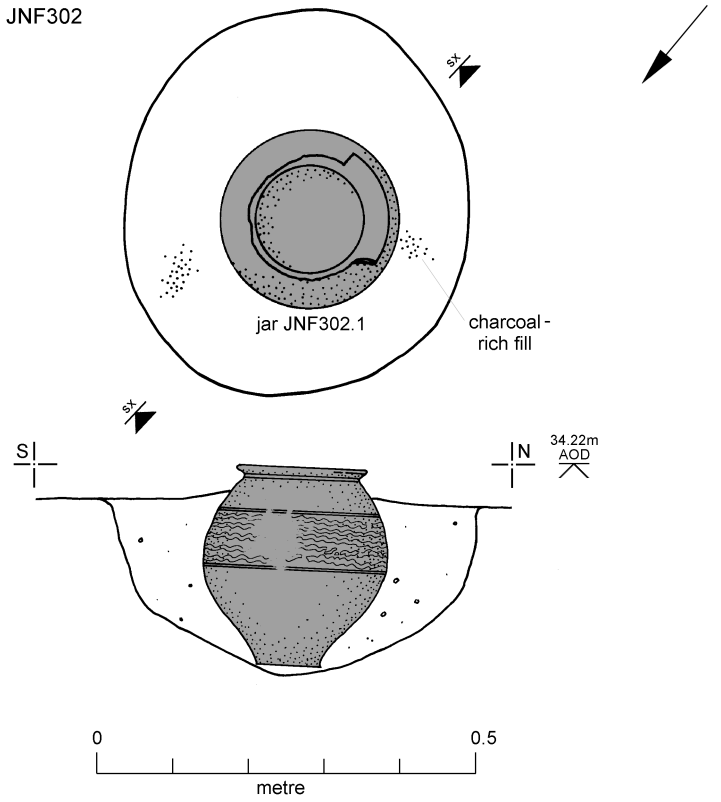
JNF296

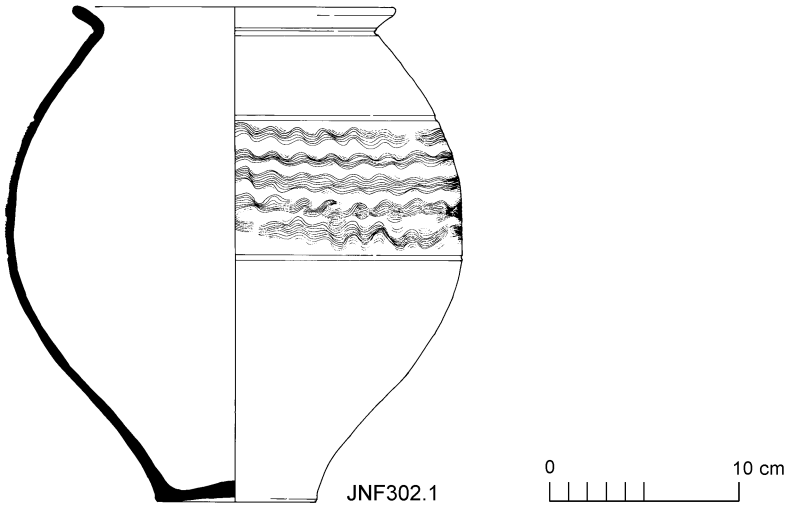


JNF298 and JNF299

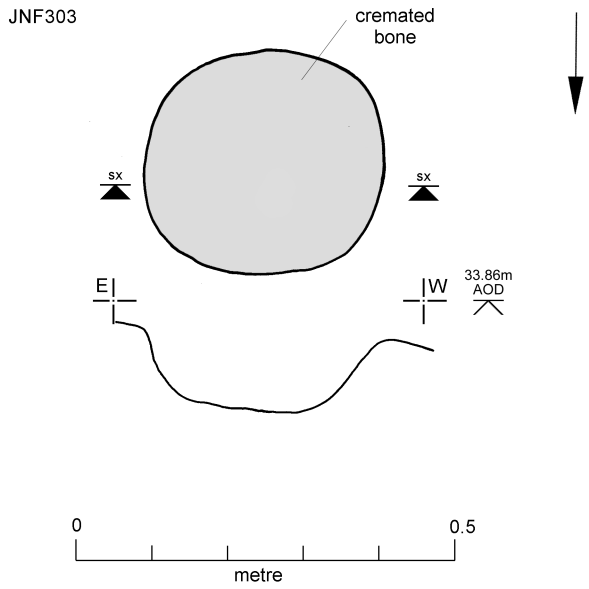

JNF301
sx
sx
cut by a modern
building foundation
NE
SW
33.49m
AOD
0
1
metre

JNF301

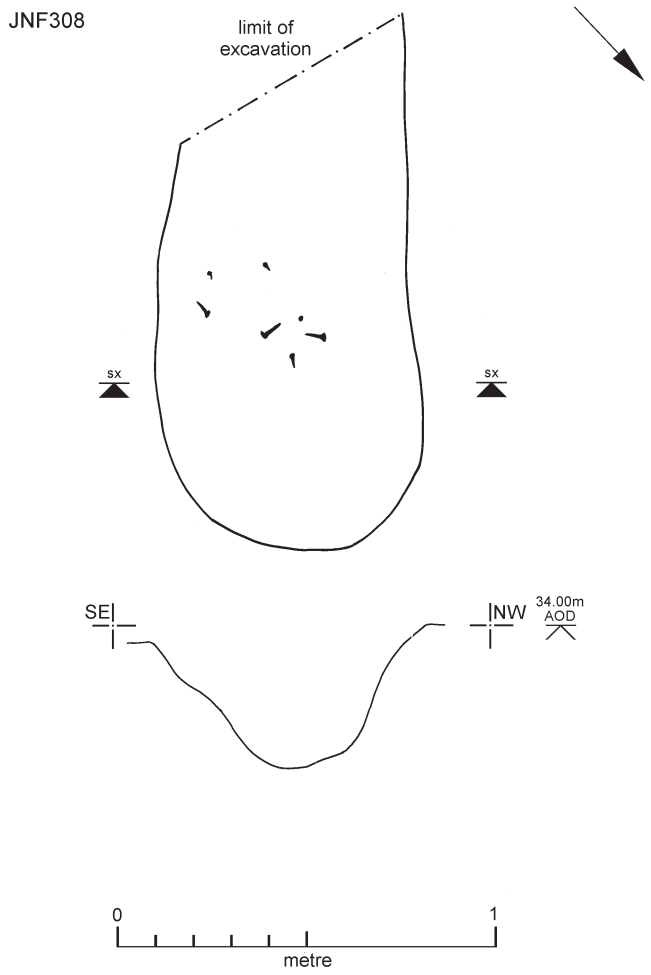

JNF302
sx
jar JNF302.1
charcoal-rich fill
sx
S
N
34.22m AOD
0
0.5
metre


JNF302.1
0
10 cm

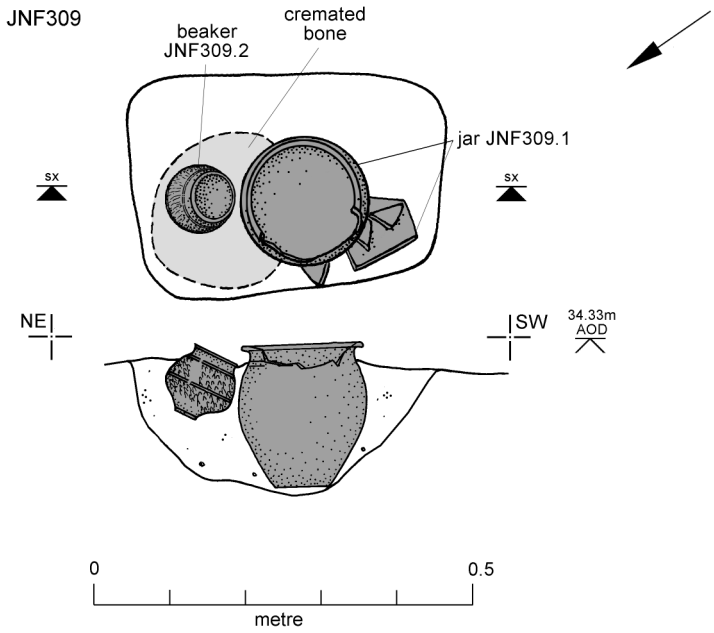
JNF302

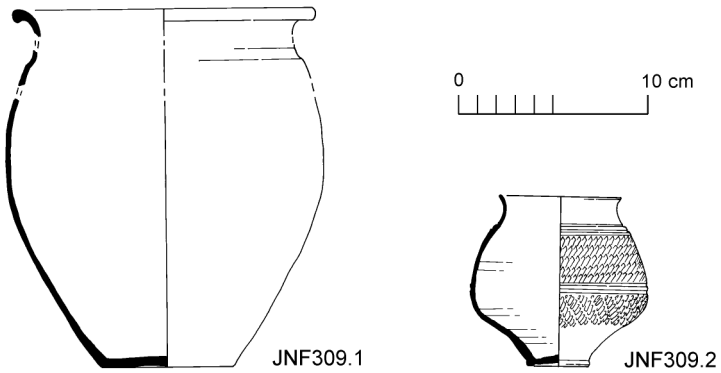


JNF303

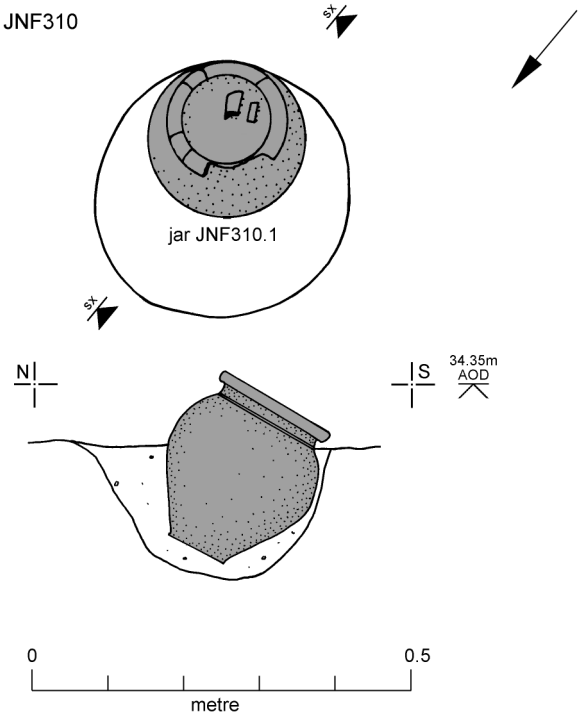


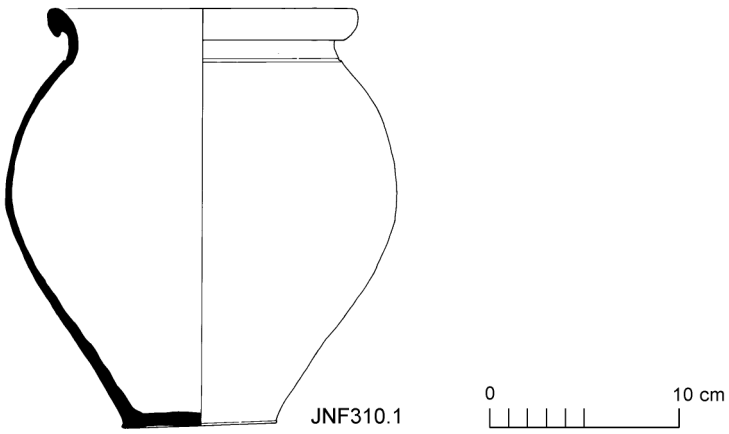
JNF308


JNF309
beaker
JNF309.2
cremated
bone
jar JNF309.1
sx
sx
NE
SW
34.33m
AOD
0
0.5
metre

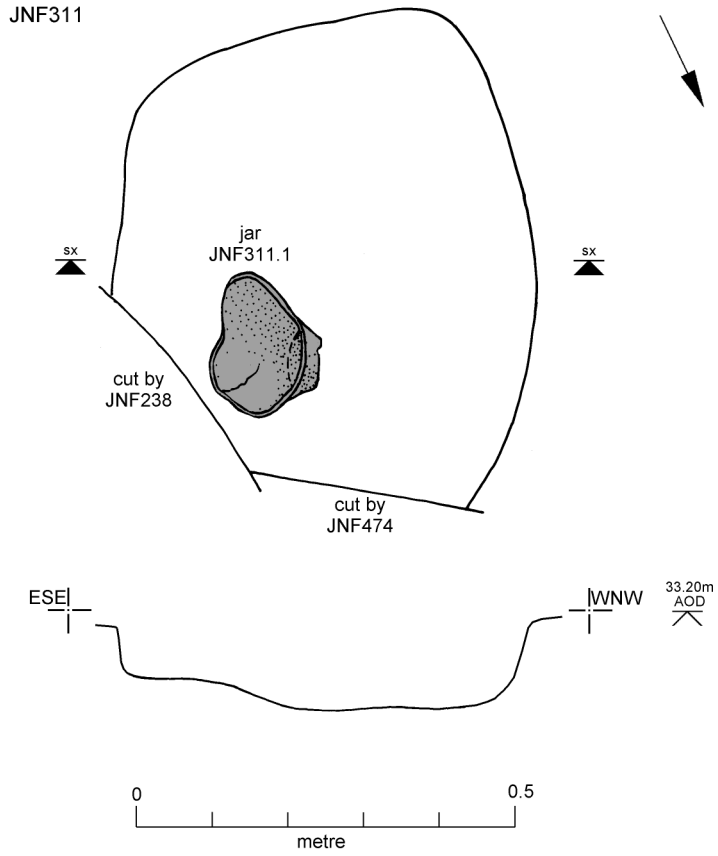

0
10 cm
JNF309.1
JNF309.2

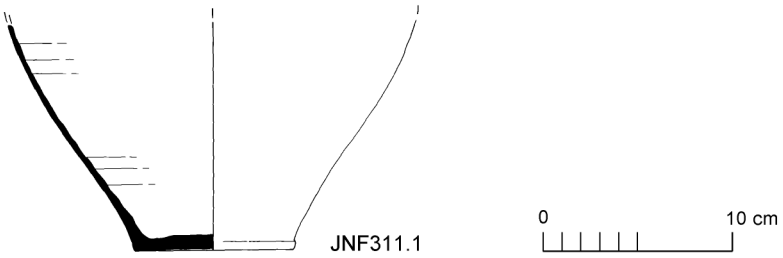
JNF309



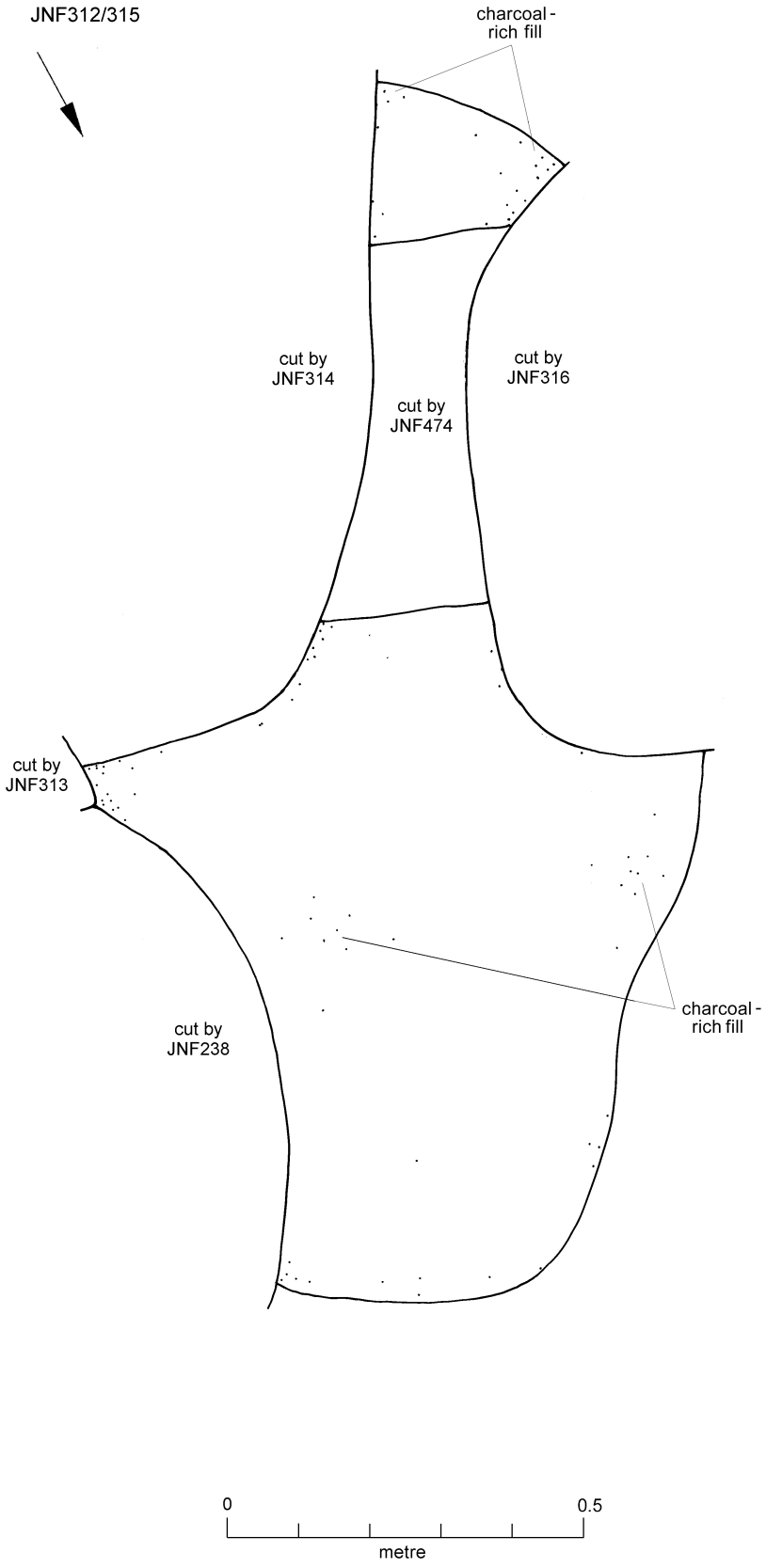


JNF310

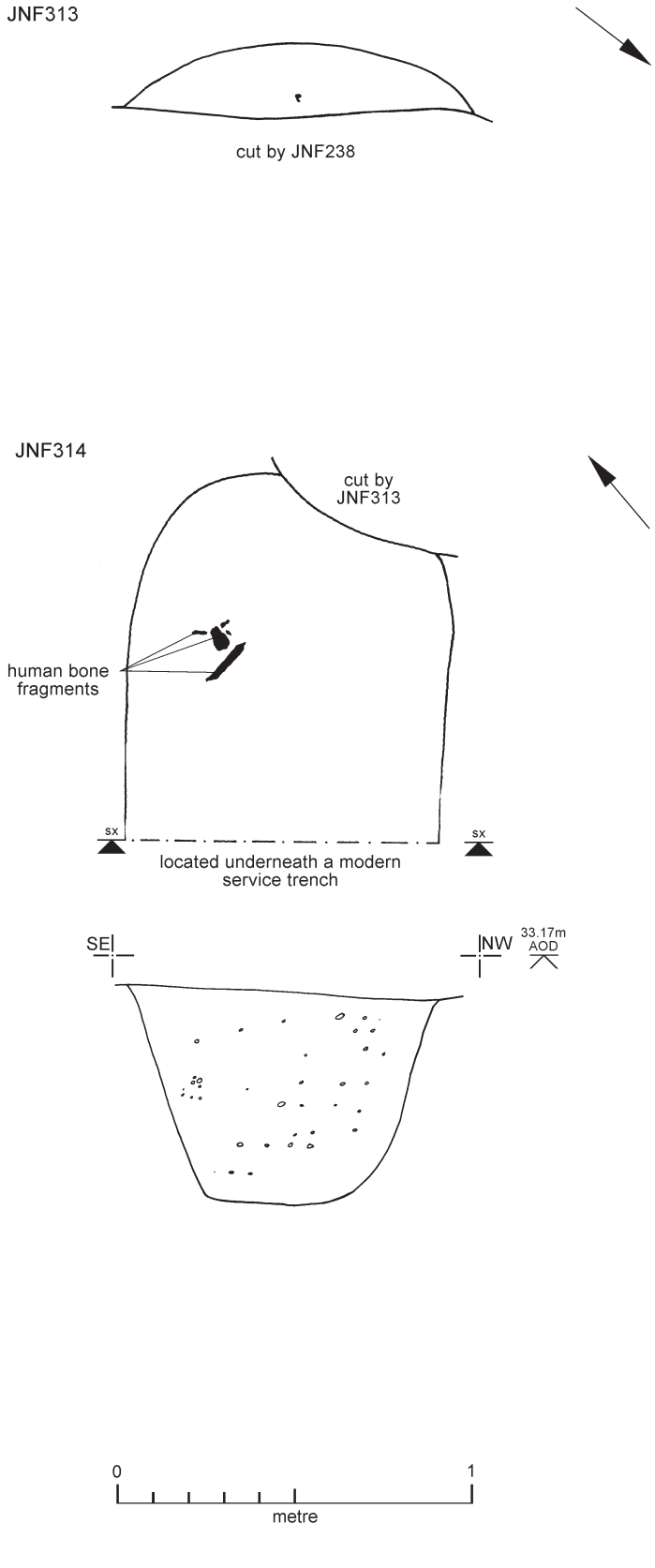

JNF311
jar
JNF311.1
sx
sx
cut by
JNF238
cut by
JNF474
ESE
WNW
33.20m
AOD
0
0.5
metre


JNF311.1
0
10 cm

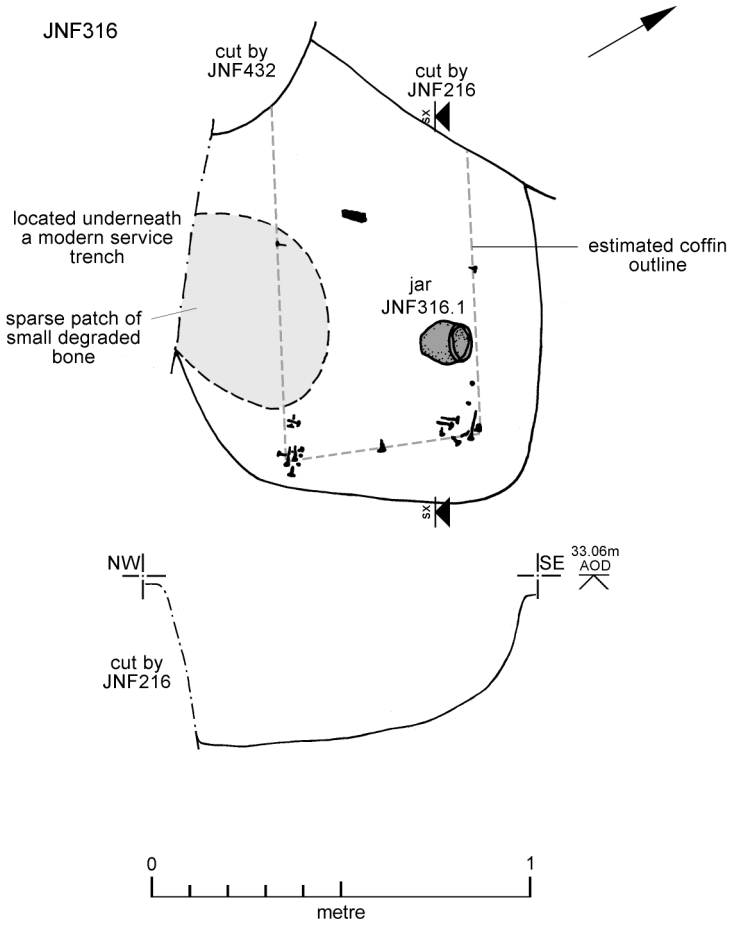
JNF311

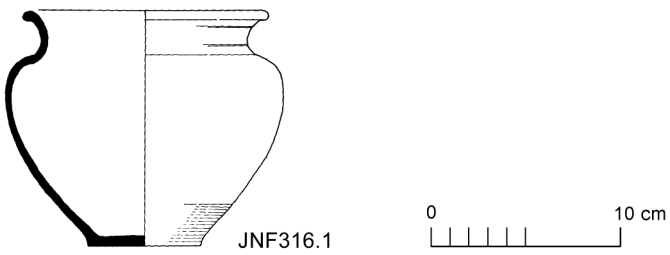


JNF312 and JNF315

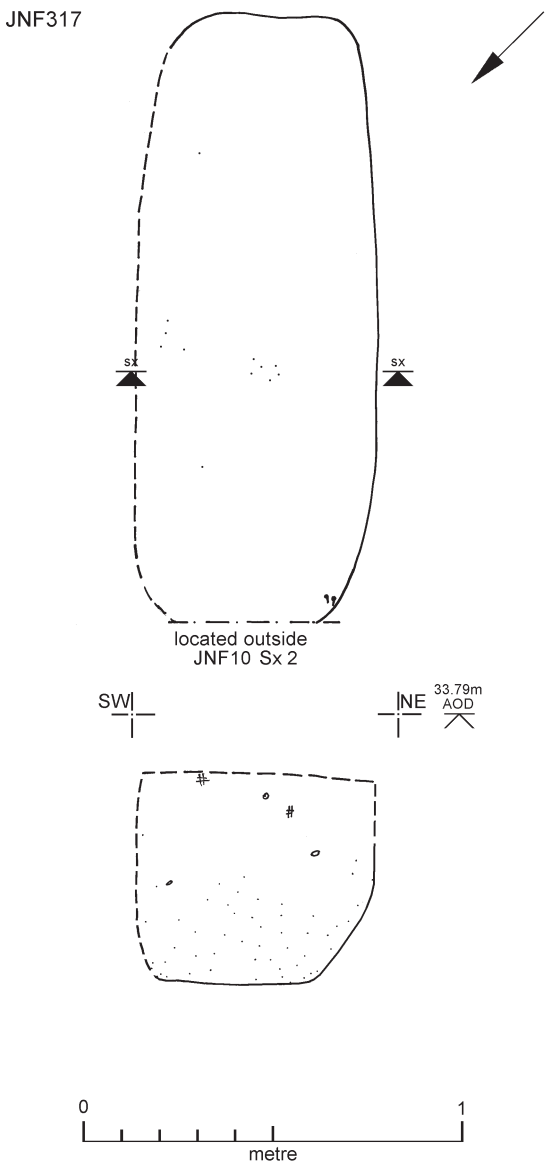


JNF313 and JNF314

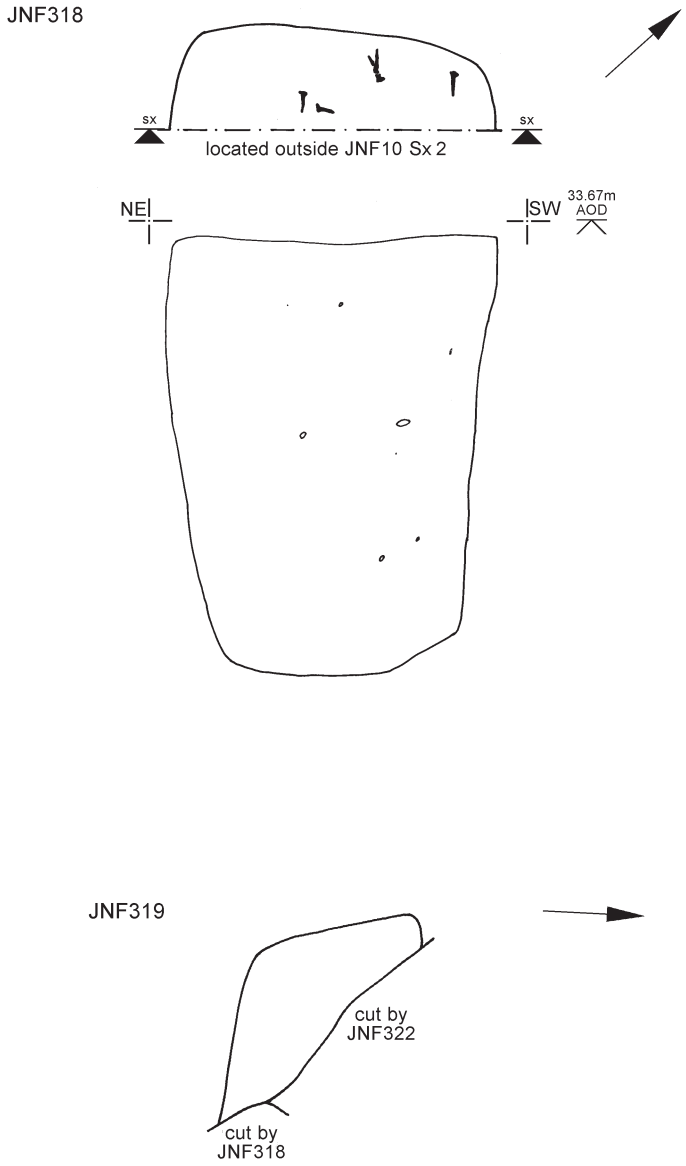

JNF316
cut by JNF432
cut by JNF216
located underneath a modern service trench
sparse patch of small degraded bone
jar JNF316.1
estimated coffin outline
NW
SE
33.06m AOD
cut by JNF216
0
1
metre


JNF316.1
0
10 cm

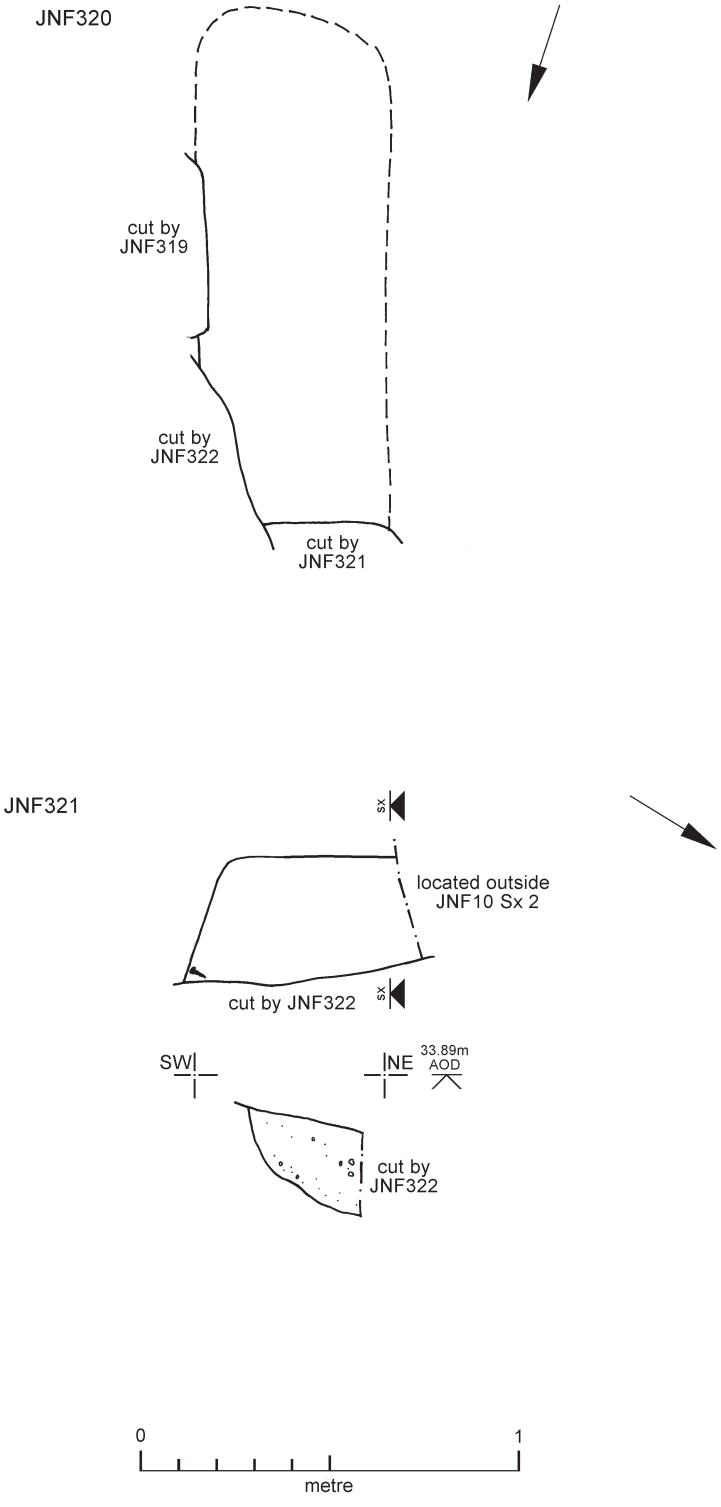
JNF316


JNF317
sx
sx
located outside
JNF10 Sx 2
SW
NE
33.79m
AOD
0
1
metre

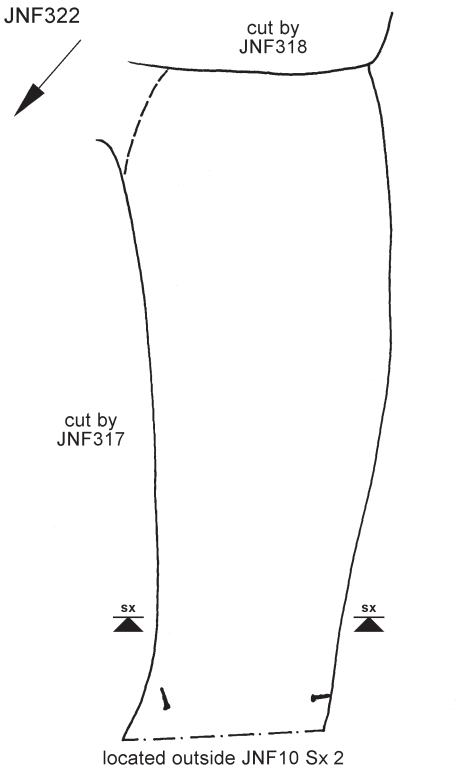
JNF317

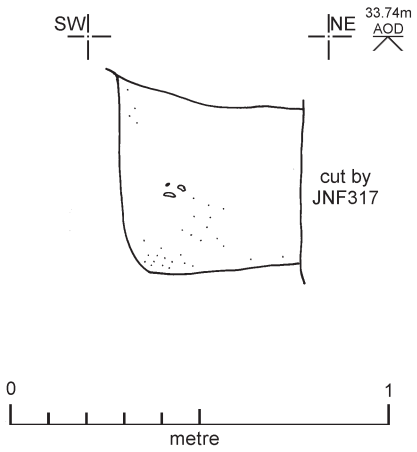


JNF318 and JNF319

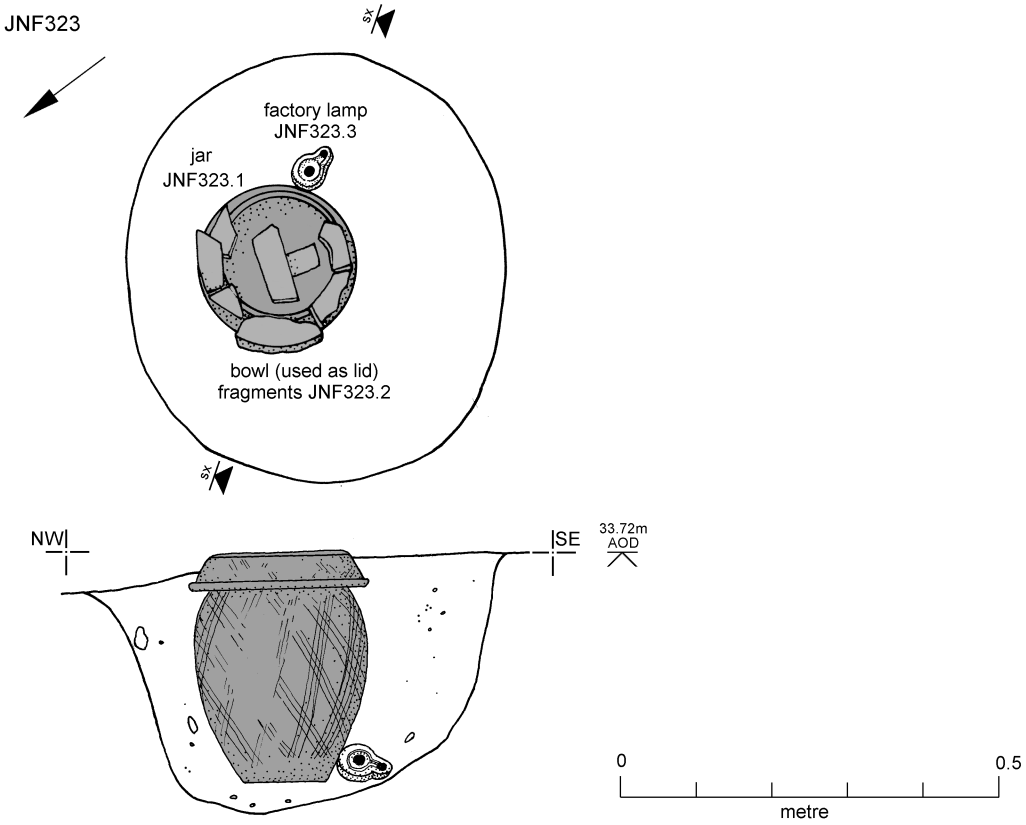


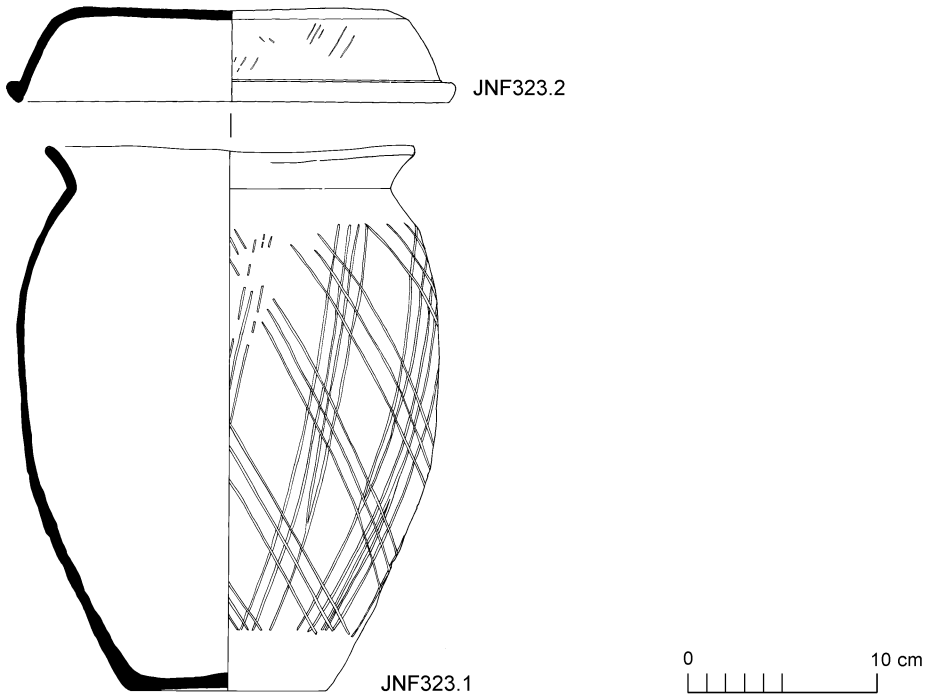
JNF320 and JNF321


JNF322
cut by
JNF318
cut by
JNF317
SX
SX
located outside JNF10 Sx 2

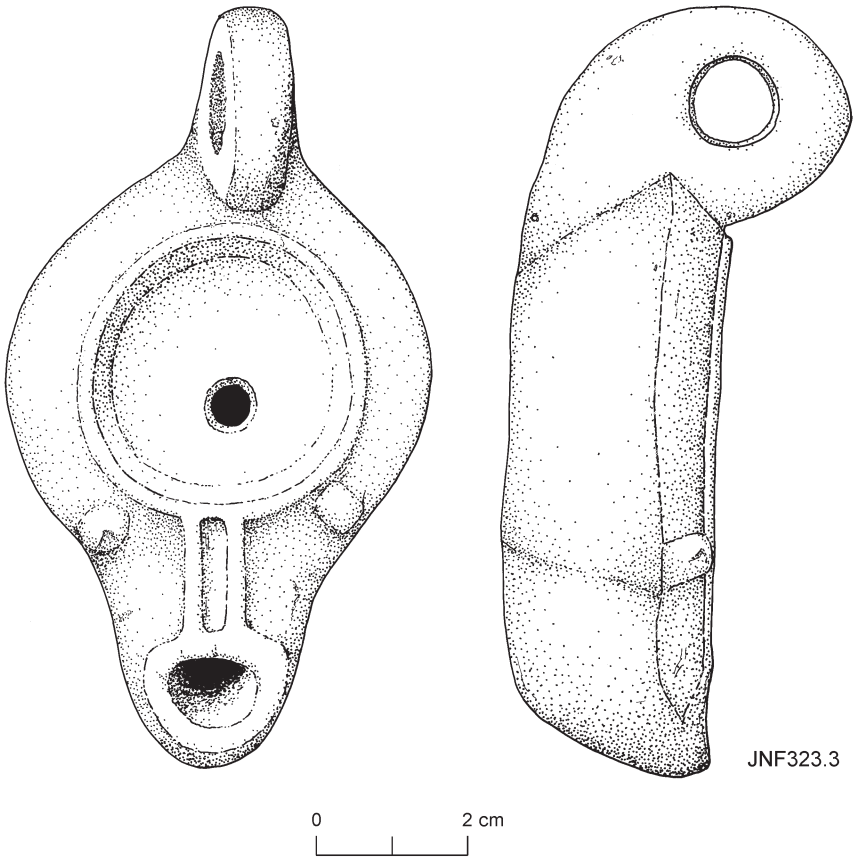

SW
NE
33.74m
AOD
cut by
JNF317
0
1
metre

JNF322

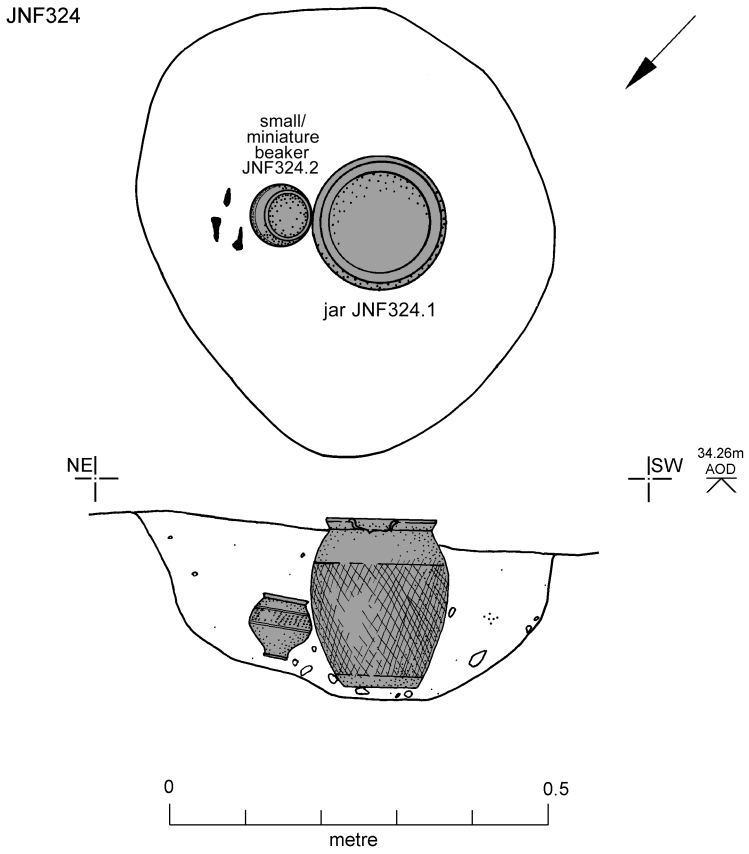

JNF323
factory lamp
JNF323.3
jar
JNF323.1
bowl (used as lid)
fragments JNF323.2
NW
SE
33.72m
AOD
0
0.5
metre

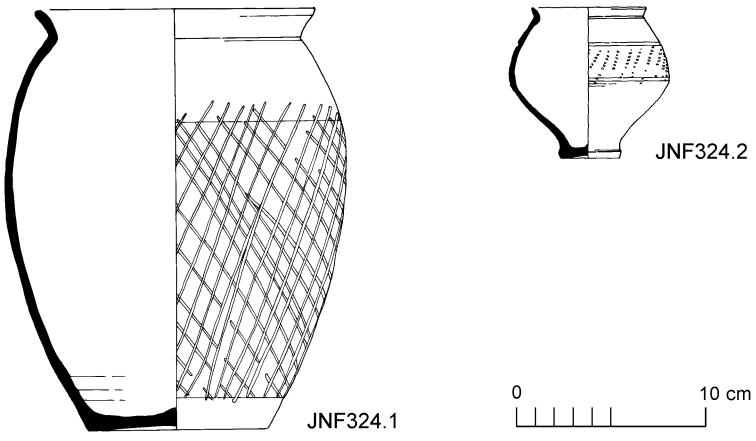

JNF323.2
JNF323.1
0
10 cm

JNF323

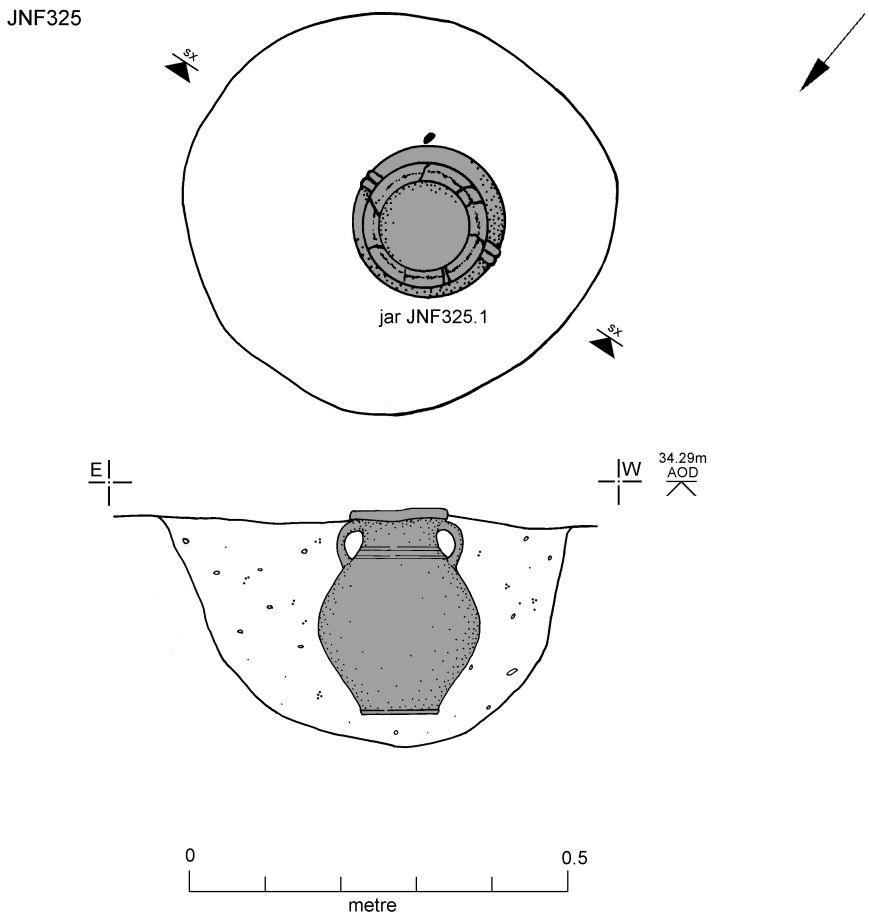


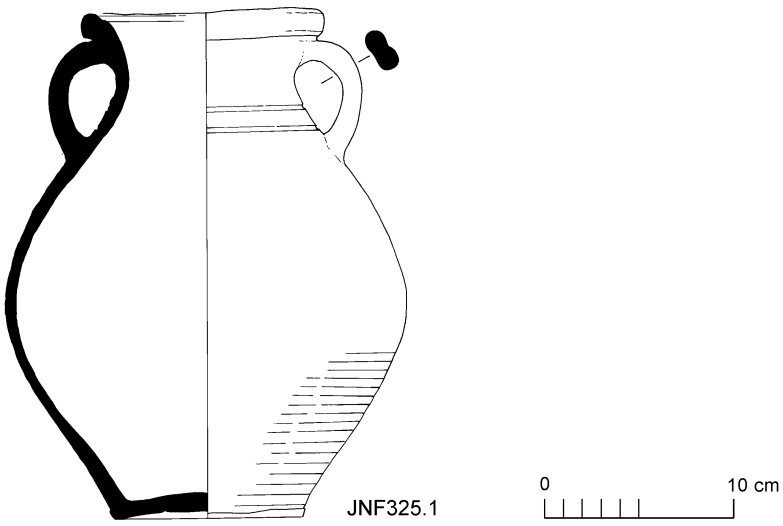
JNF323


JNF324
small/
miniature
beaker
JNF324.2
jar JNF324.1
NE
SW
34.26m
AOD
0
0.5
metre

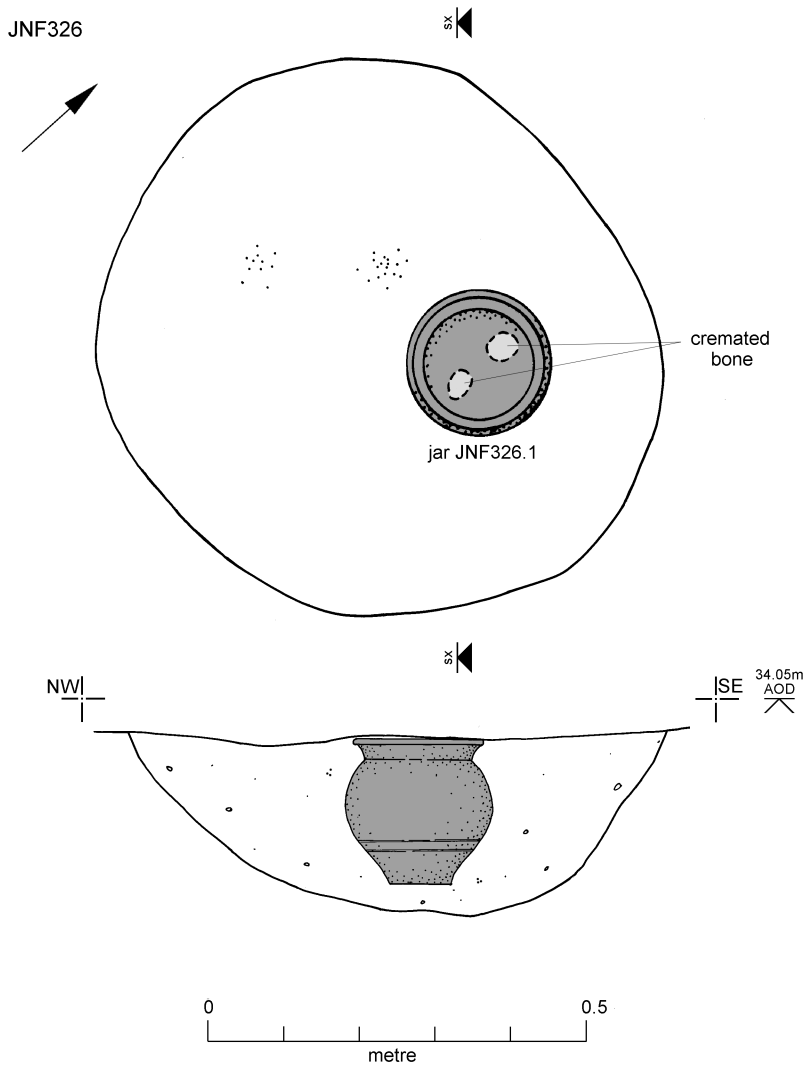

JNF324.1
JNF324.2
0
10 cm

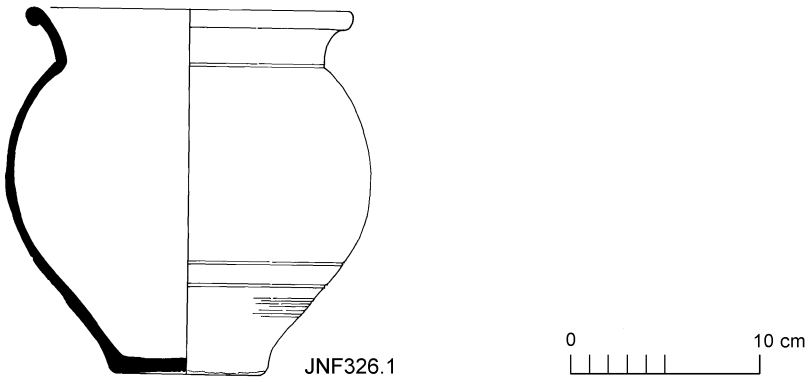
JNF324


JNF325
sx
sx
jar JNF325.1
E
W
34.29m
AOD
0
0.5
metre

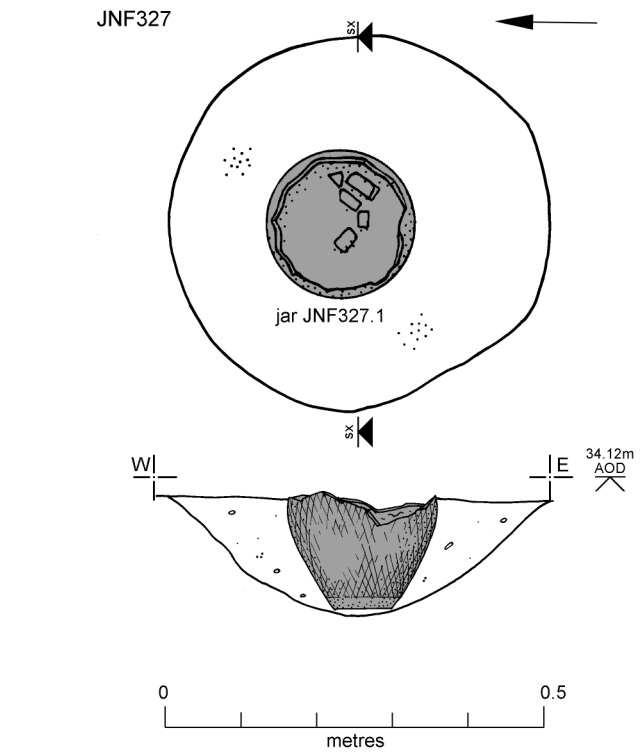

JNF325.1
0
10 cm

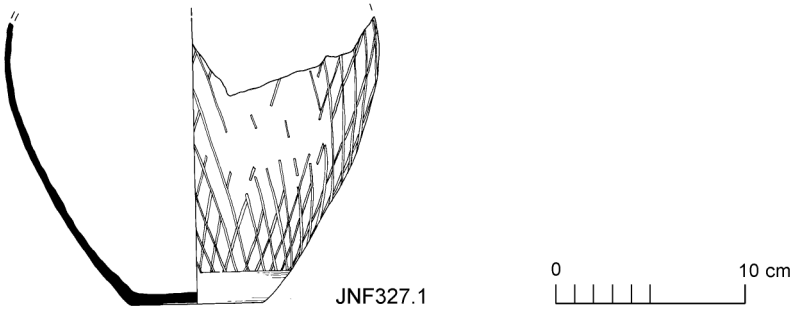
JNF325


JNF326
sx
cremated bone
jar JNF326.1
sx
NW
SE
34.05m AOD
0
0.5
metre

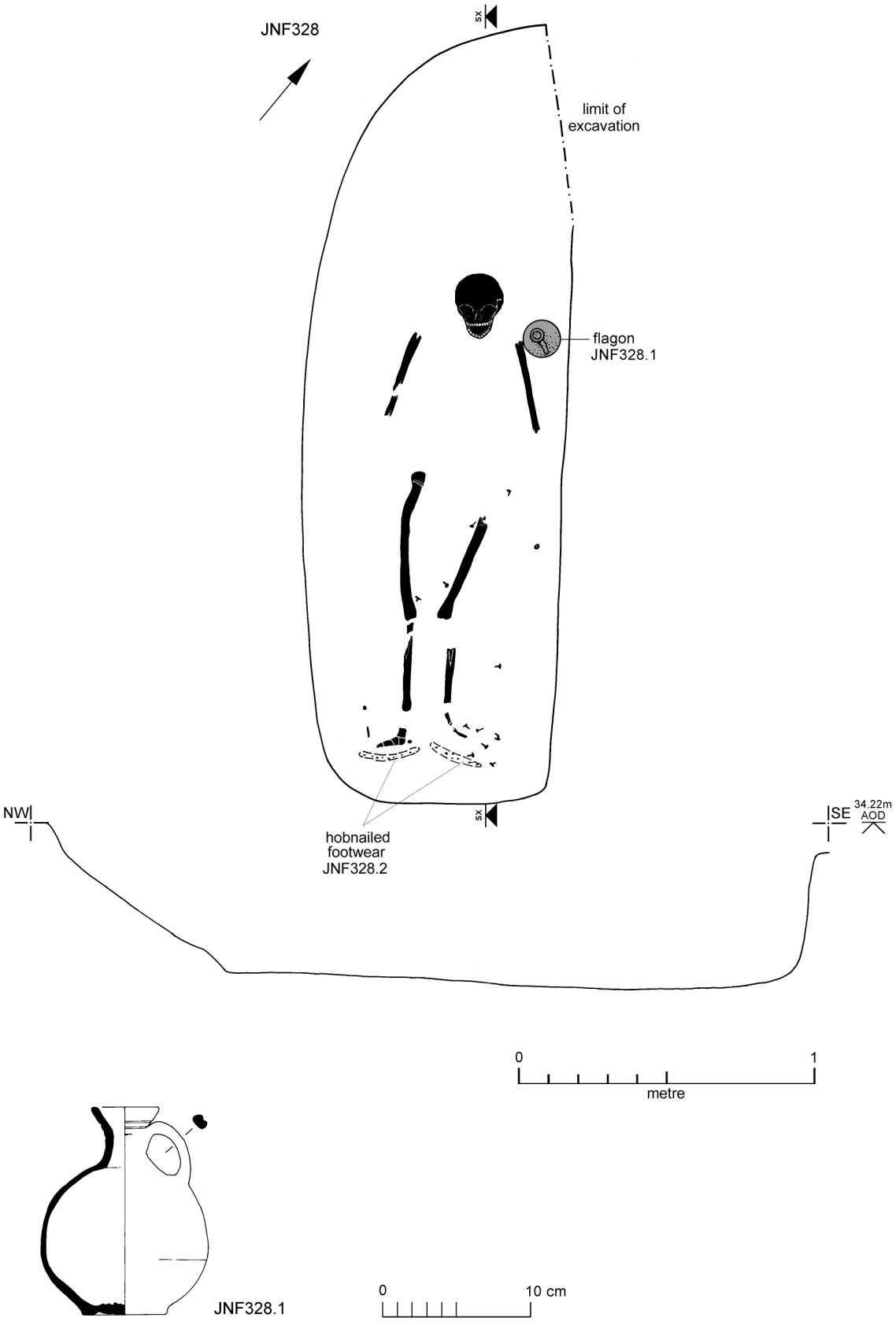

JNF326.1
0
10 cm

JNF326

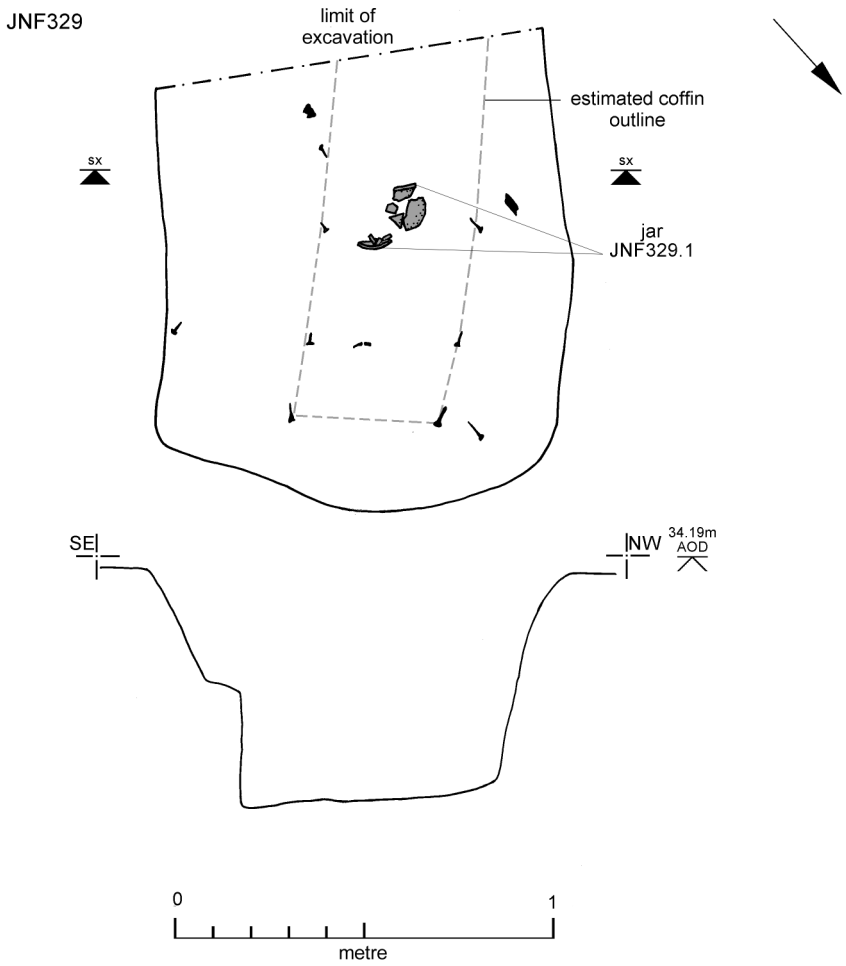

JNF327
sx
jar JNF327.1
sx
W
E
34.12m
AOD
0
0.5
metres

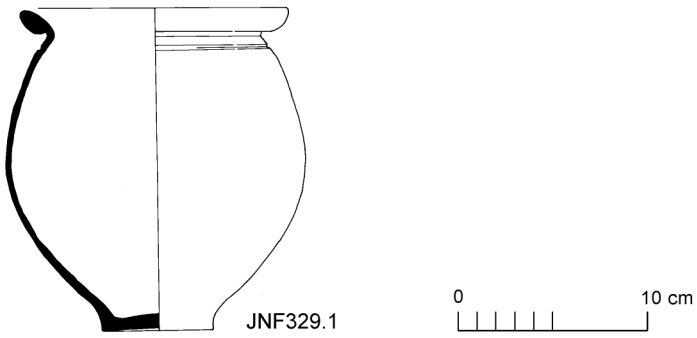

JNF327.1
0
10 cm

JNF327

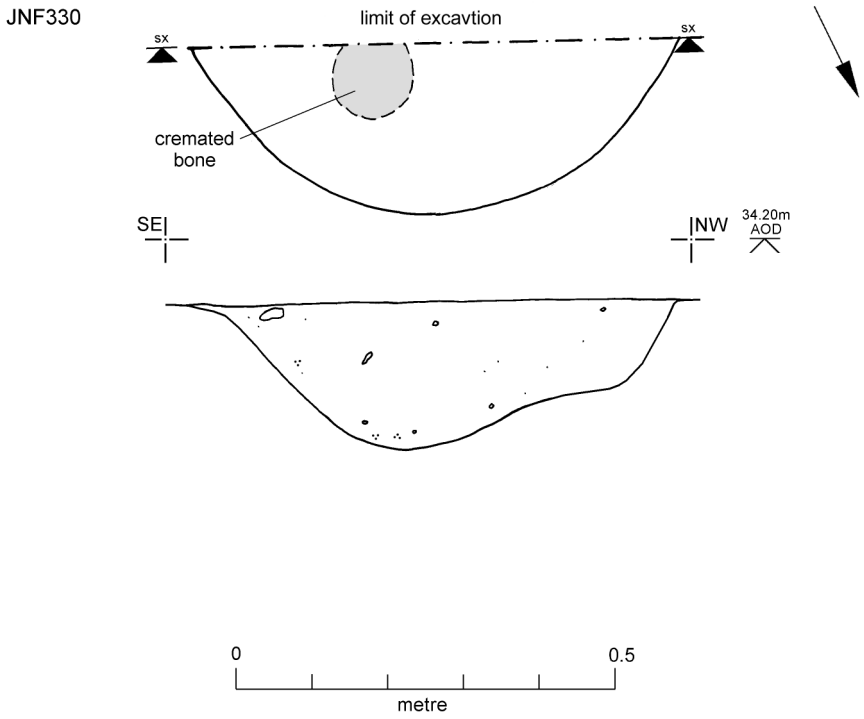

JNF328
SX
limit of
excavation
flagon
JNF328.1
SX
hobnailed
footwear
JNF328.2
NW
SE
34.22m
AOD
0
1
metre
JNF328.1
0
10 cm

JNF328

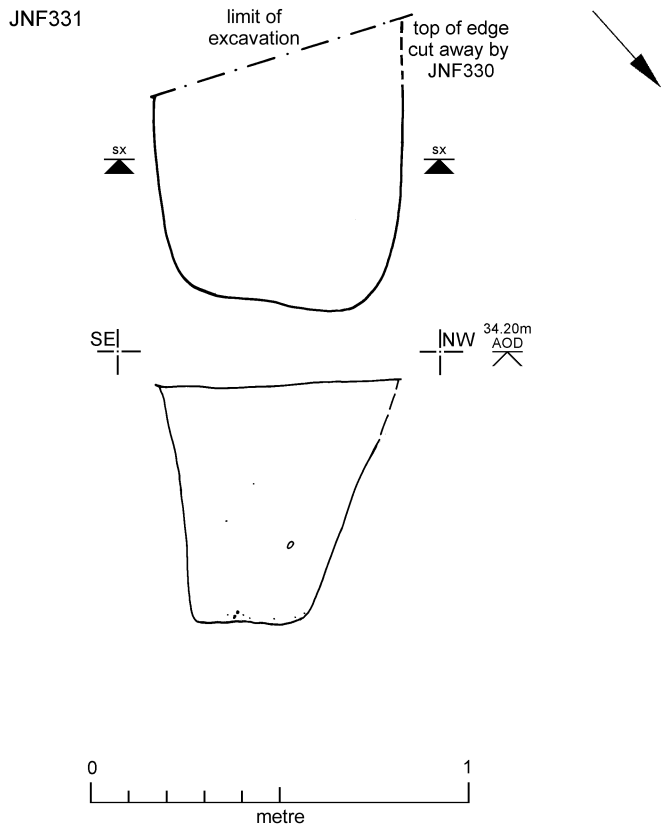

JNF329
limit of excavation
estimated coffin outline
sx
sx
jar JNF329.1
SE
NW
34.19m AOD
0
1
metre


JNF329.1
0
10 cm

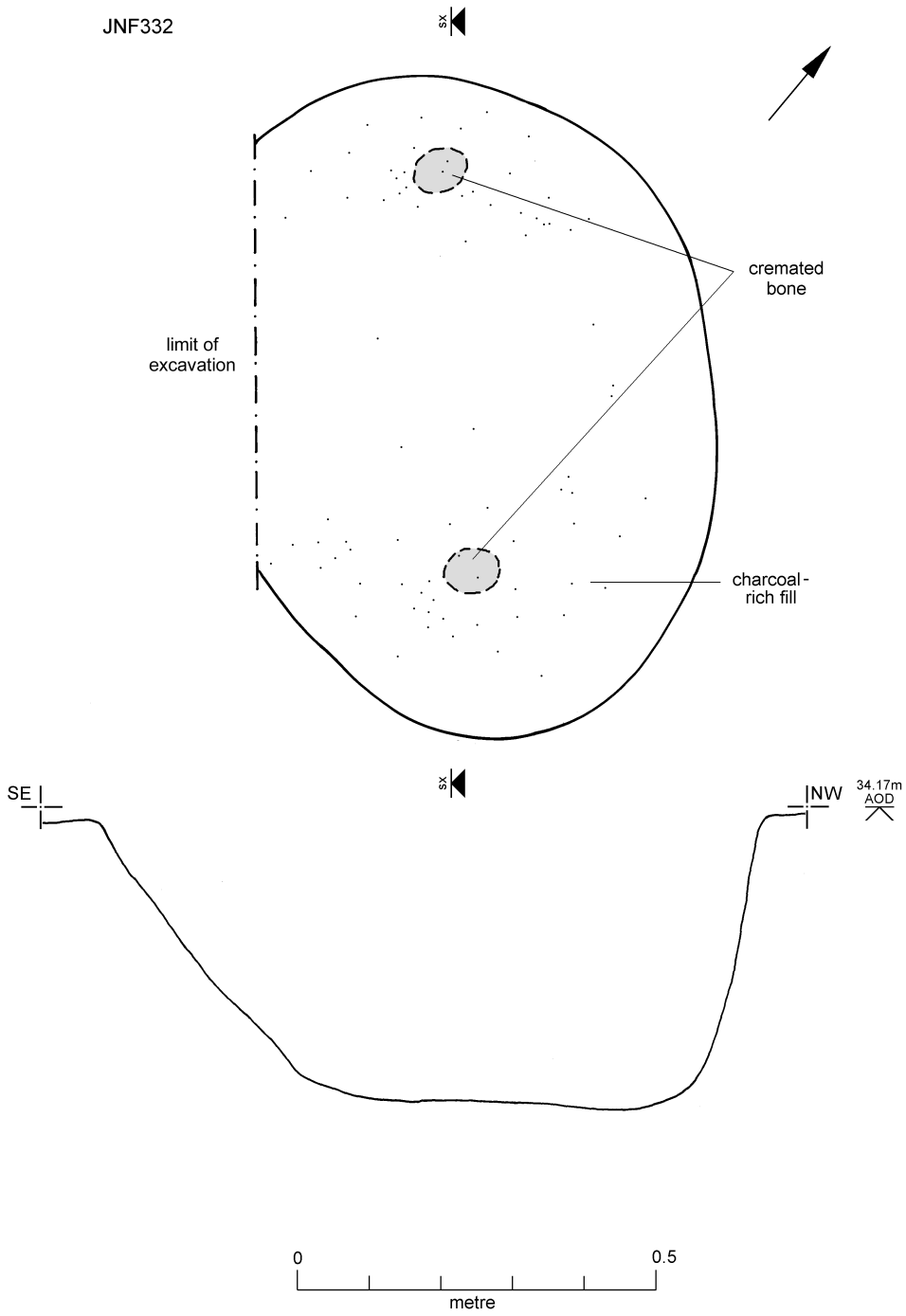
JNF329


JNF330
limit of excavtion
sx
sx
cremated
bone
SE
NW
34.20m
AOD
0
0.5
metre

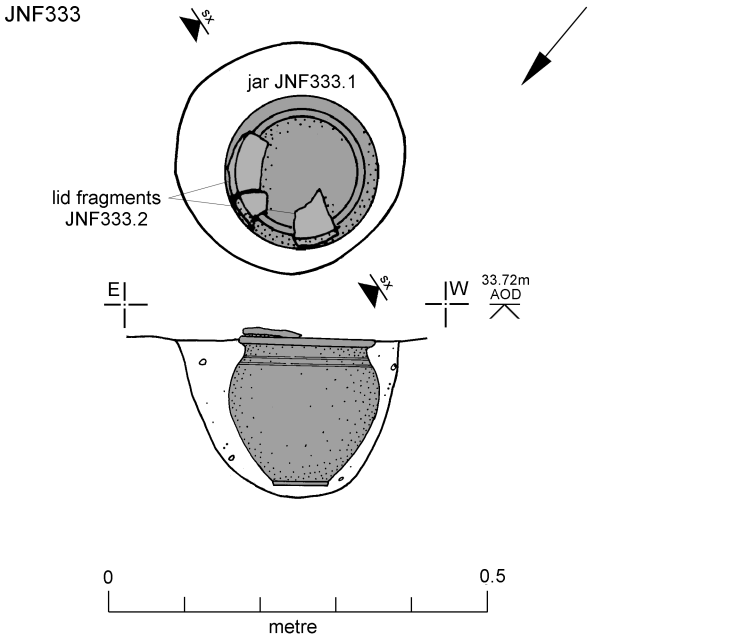
JNF330

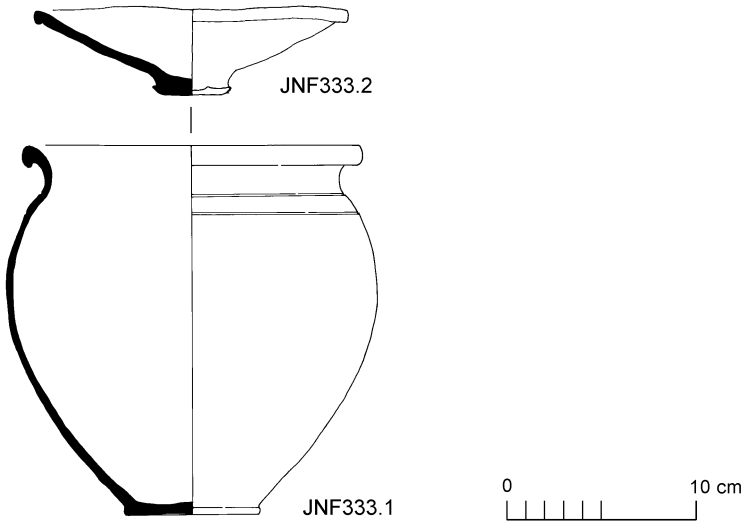

JNF331
limit of
excavation
top of edge
cut away by
JNF330
sx
sx
SE
NW
34.20m
AOD
0
1
metre

JNF331

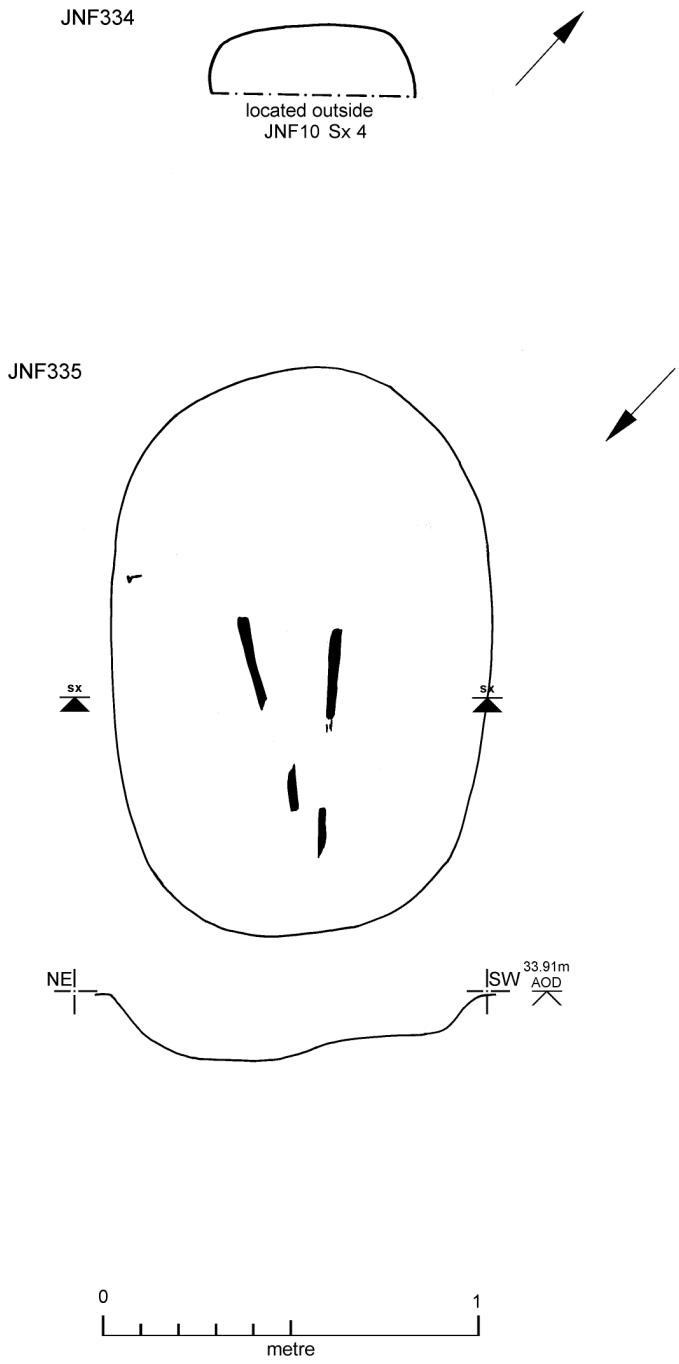

JNF332
sx
cremated bone
limit of excavation
charcoal-rich fill
sx
SE
NW
34.17m AOD
0
0.5
metre

JNF332

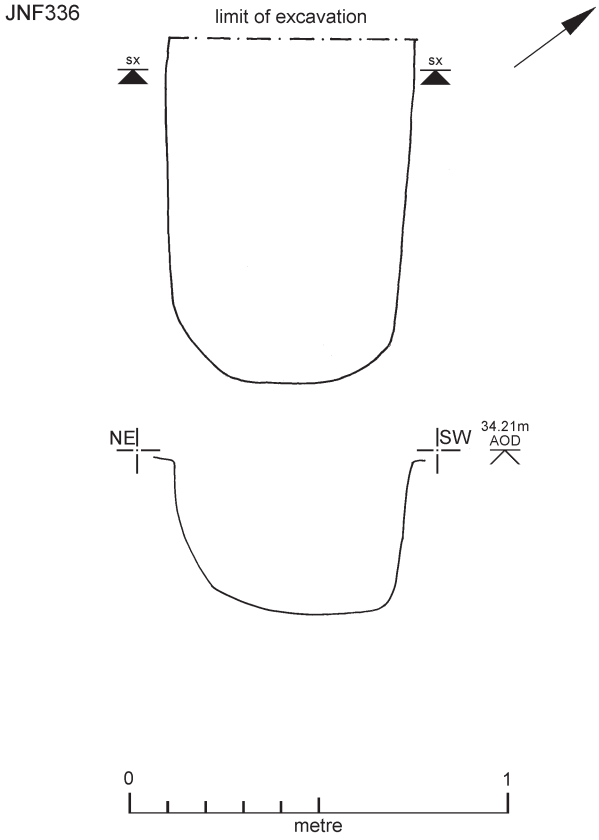

JNF333
jar JNF333.1
lid fragments
JNF333.2
E
W
33.72m
AOD
0
0.5
metre


JNF333.2
JNF333.1
0
10 cm

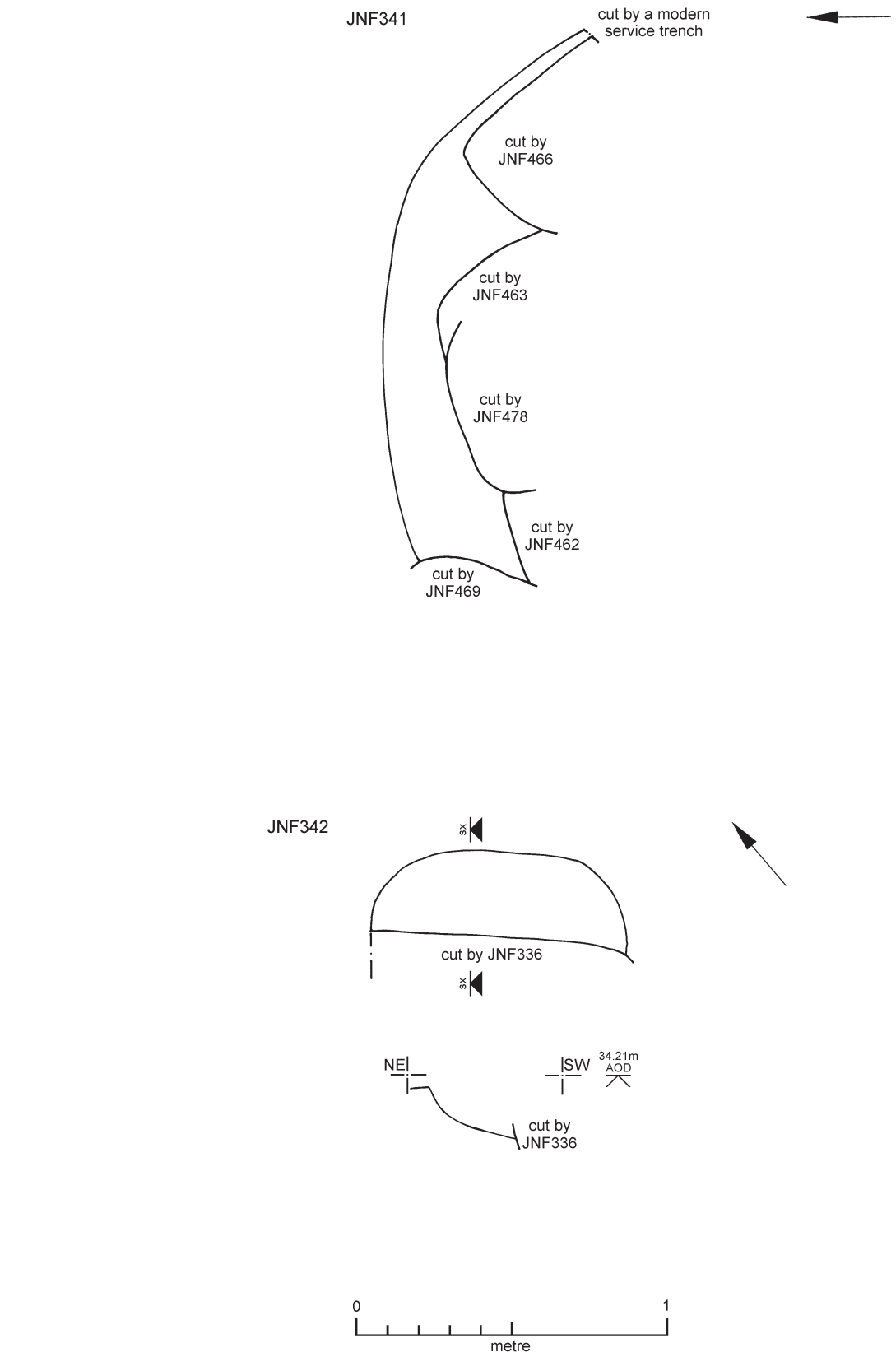
JNF333



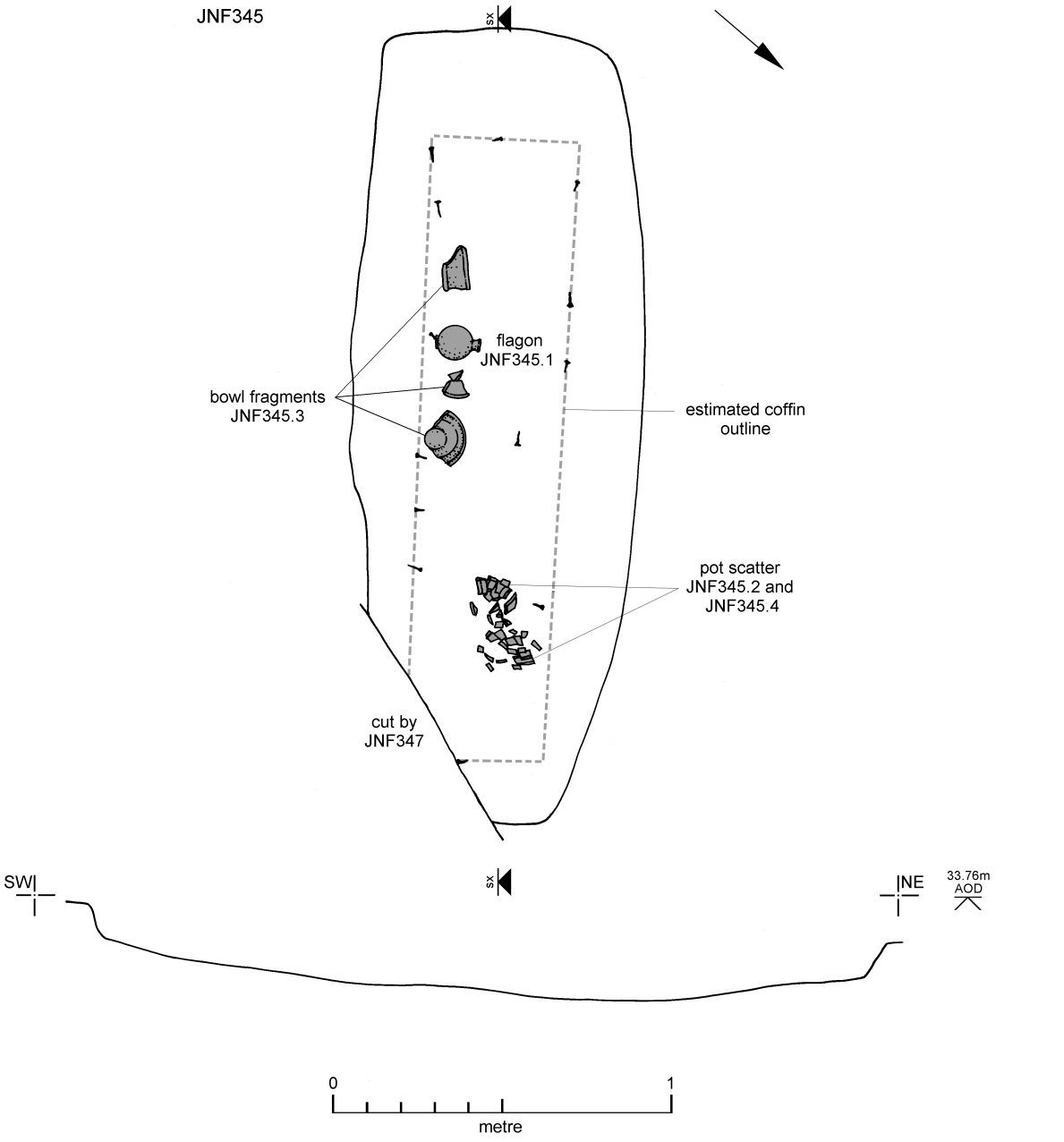
JNF334 and JNF335

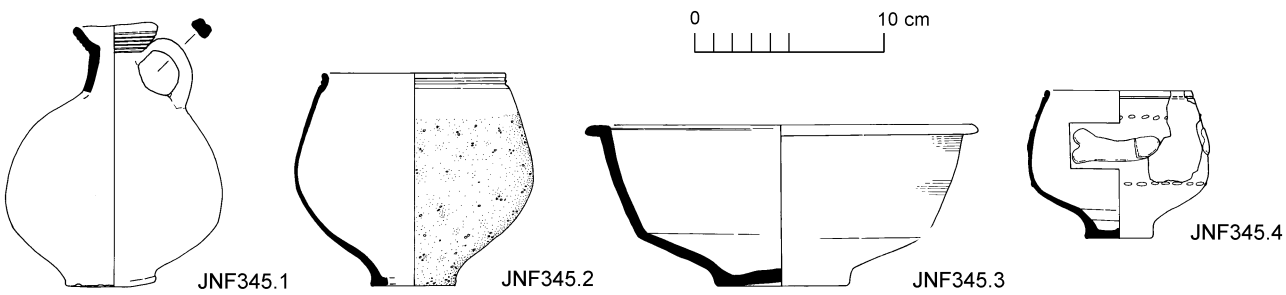


JNF336

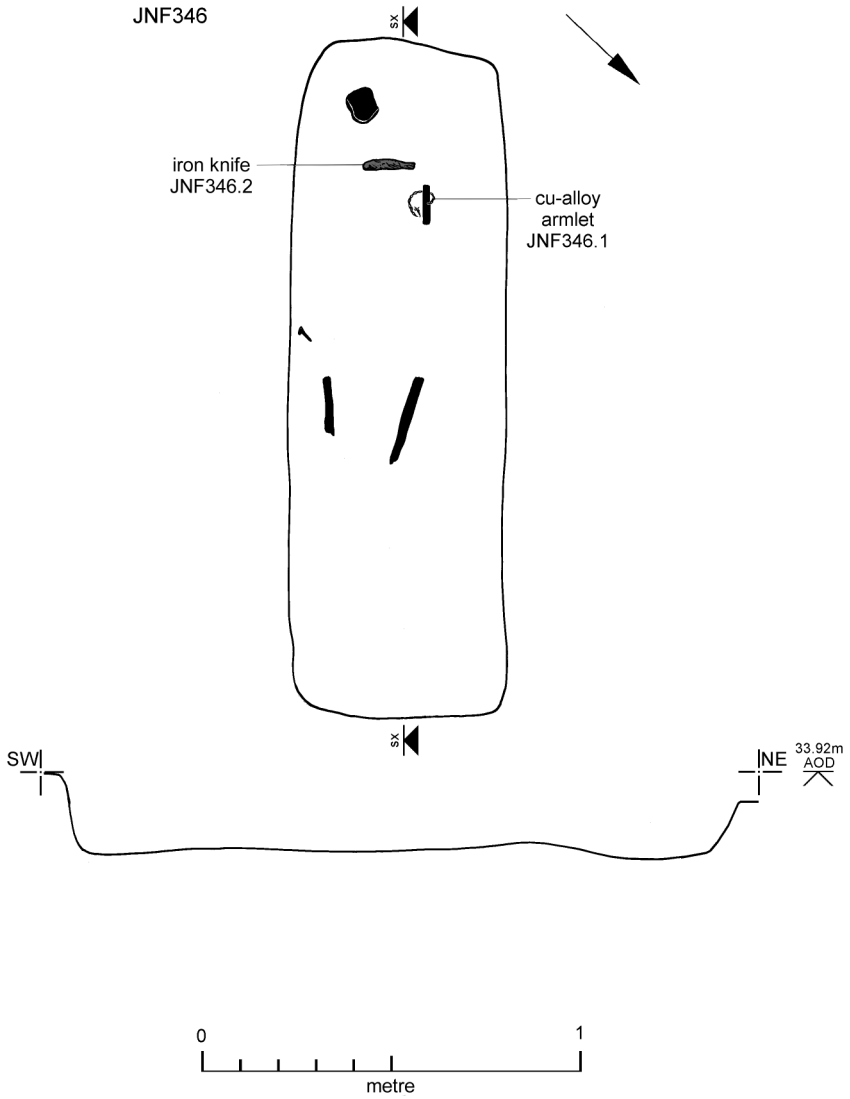


JNF341 and JNF342

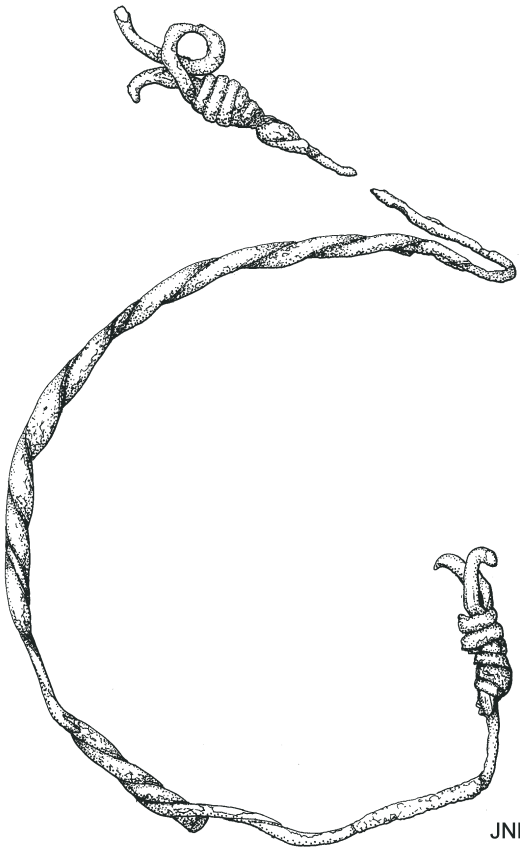

JNF345
SX
flagon
JNF345.1
bowl fragments
JNF345.3
estimated coffin
outline
pot scatter
JNF345.2 and
JNF345.4
cut by
JNF347
SW
SX
NE
33.76m
AOD
0
1
metre


0
10 cm
JNF345.1
JNF345.2
JNF345.3
JNF345.4

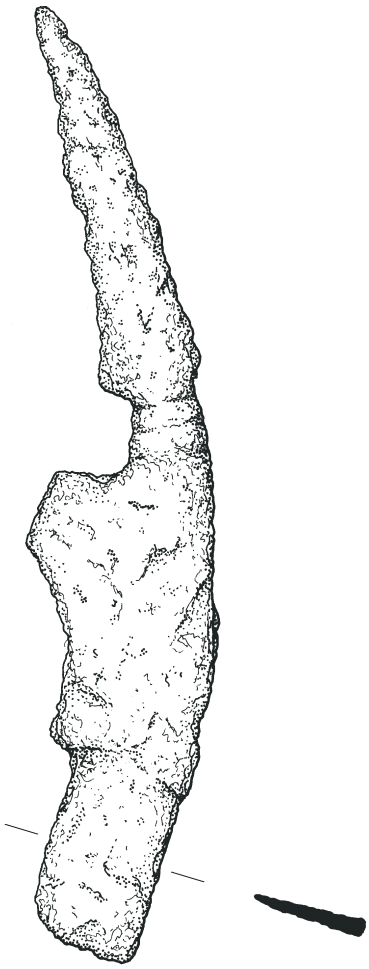
JNF345


JNF346
SX
iron knife
JNF346.2
cu-alloy
armlet
JNF346.1
SX
SW
NE
33.92m
AOD
0
1
metre

JNF346



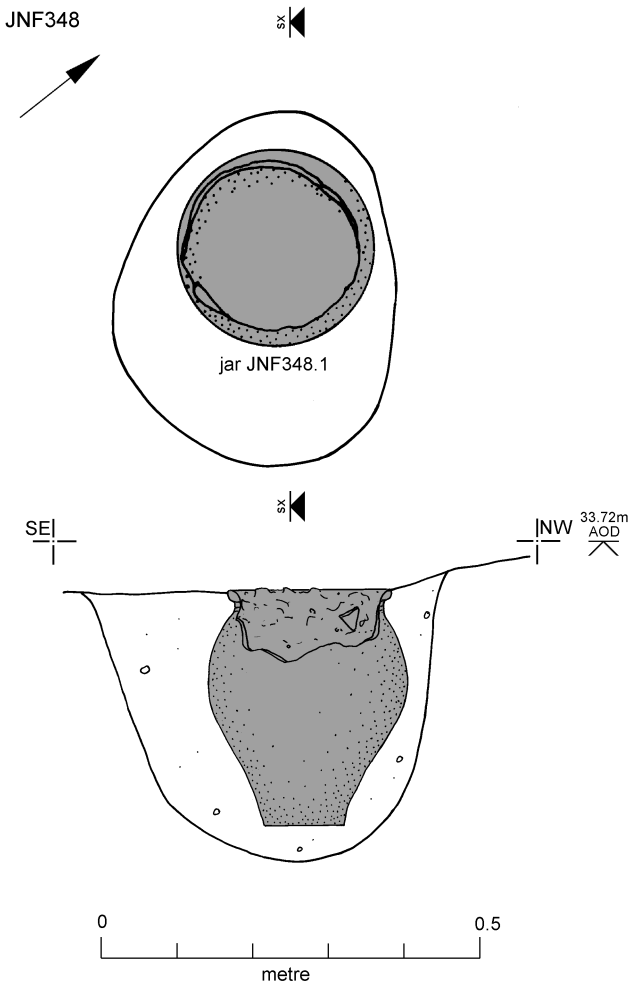
JNF346.1

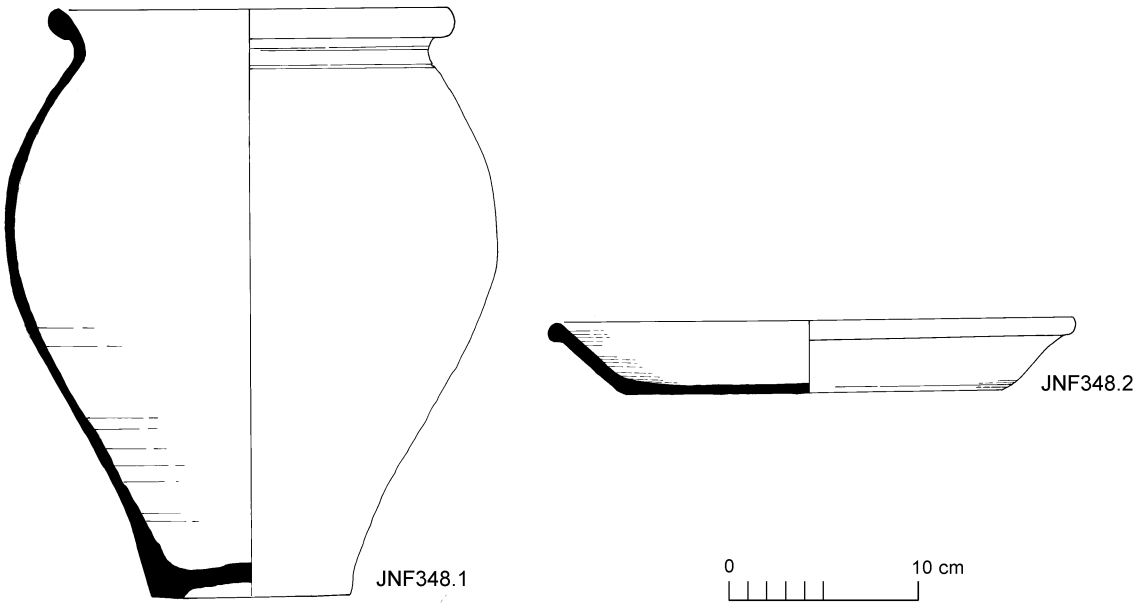


JNF346.2

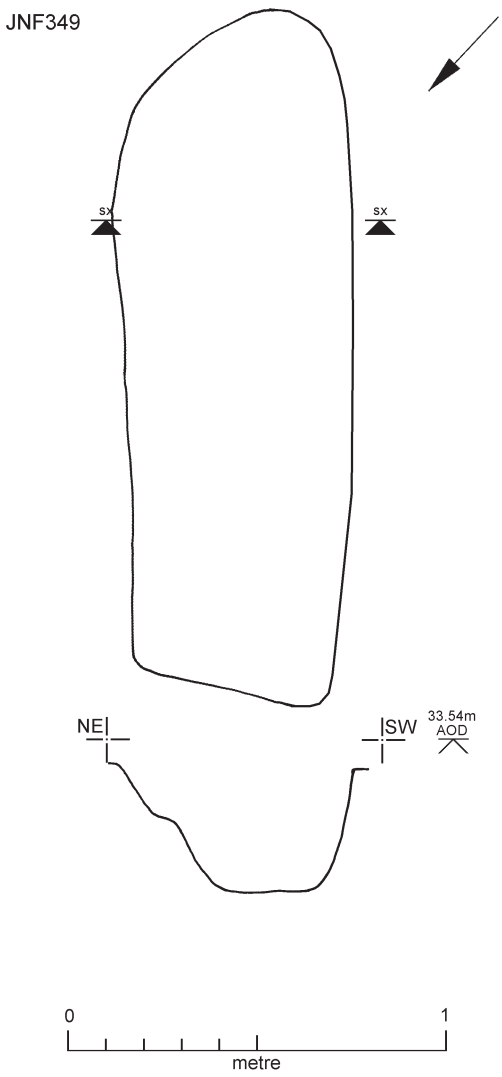
0 2 cm

JNF346

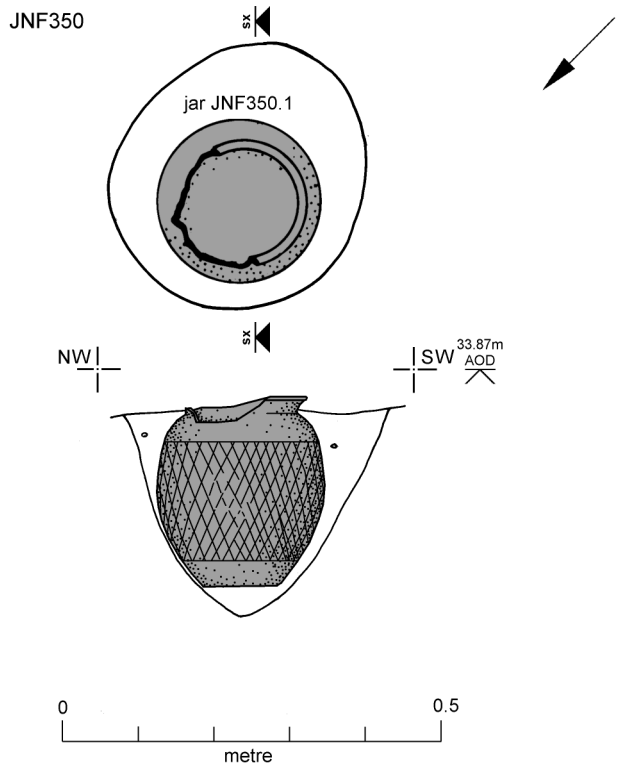

JNF348
sx
jar JNF348.1
sx
SE
NW
33.72m AOD
0
0.5
metre

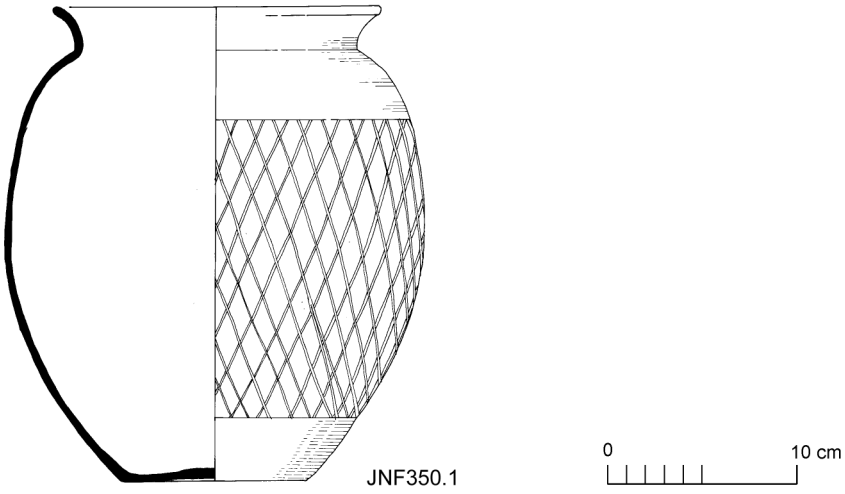

JNF348.1
JNF348.2
0
10 cm

JNF348

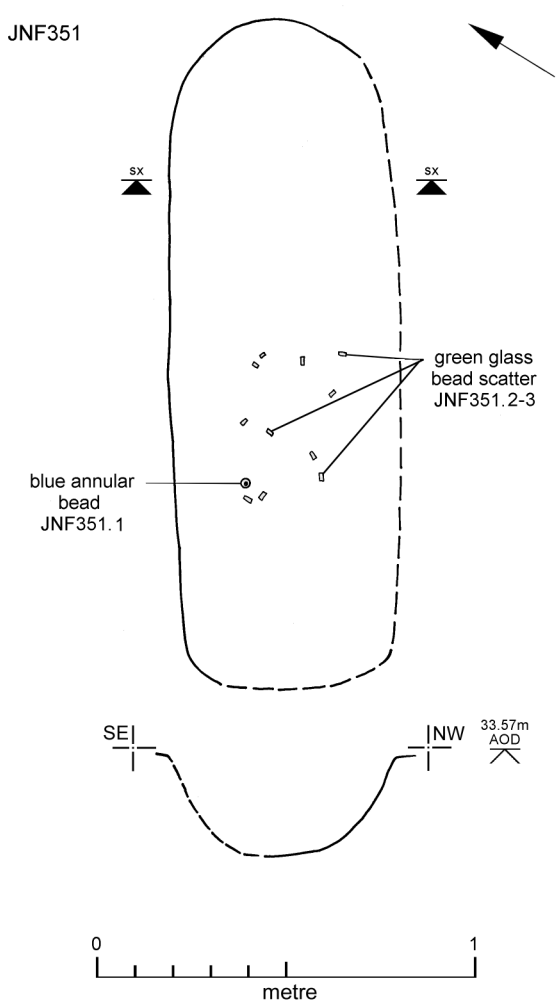


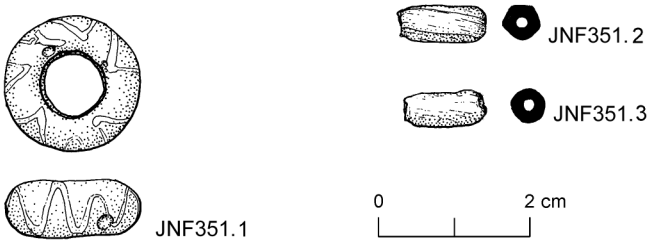
JNF349


JNF350
sx
jar JNF350.1
sx
NW
SW
33.87m
AOD
0
0.5
metre

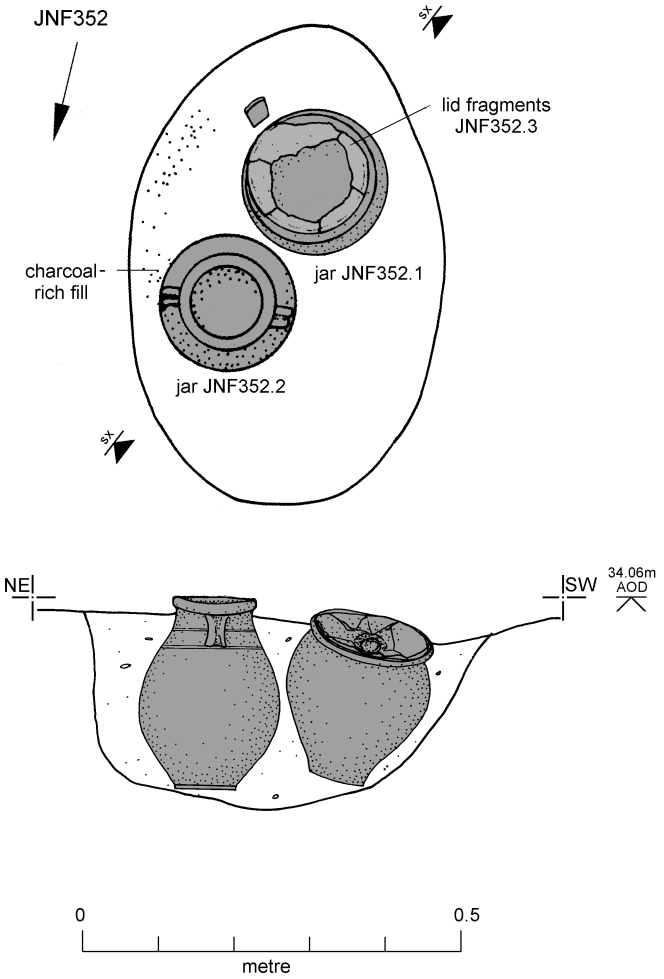

JNF350.1
0
10 cm

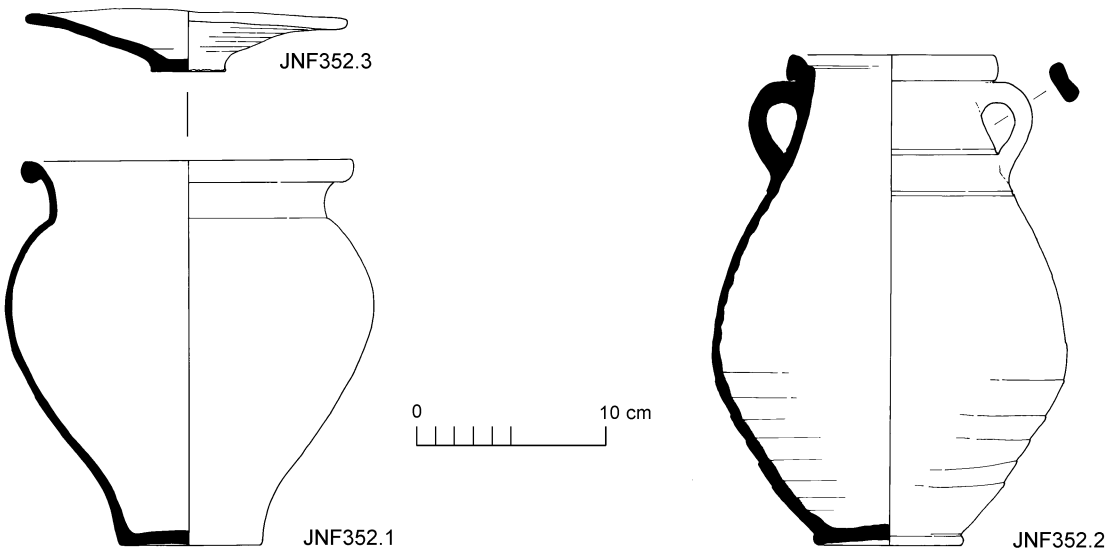
JNF350


JNF351
sx
sx
green glass
bead scatter
JNF351.2-3
blue annular
bead
JNF351.1
SE
NW
33.57m
AOD
0
1
metre

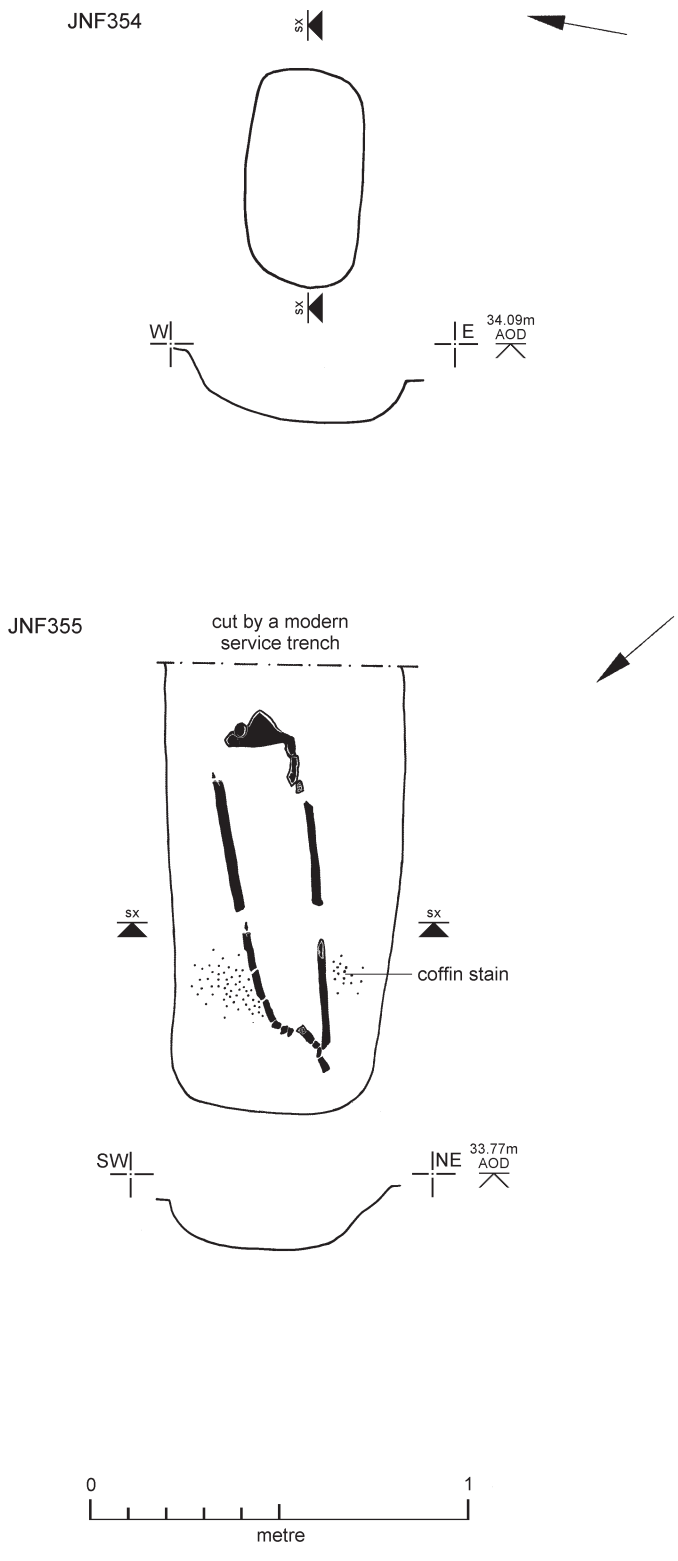

JNF351.2
JNF351.3
JNF351.1
0
2 cm

JNF351

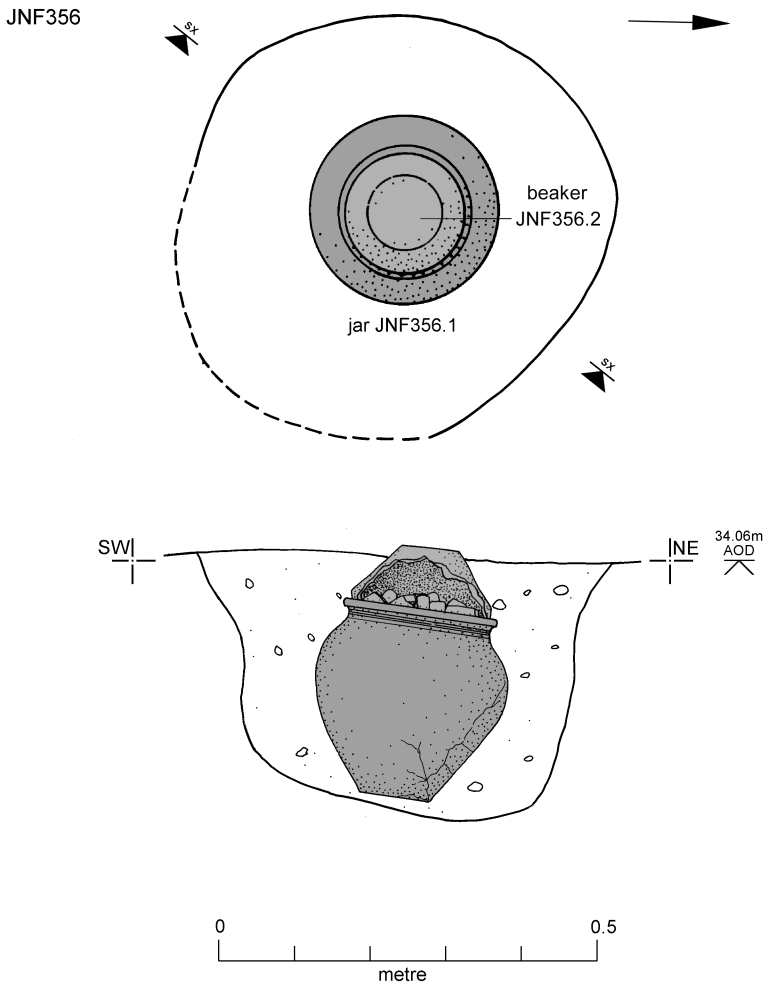

JNF352
lid fragments
JNF352.3
charcoal-
rich fill
jar JNF352.1
jar JNF352.2
NE
SW
34.06m
AOD
0
0.5
metre

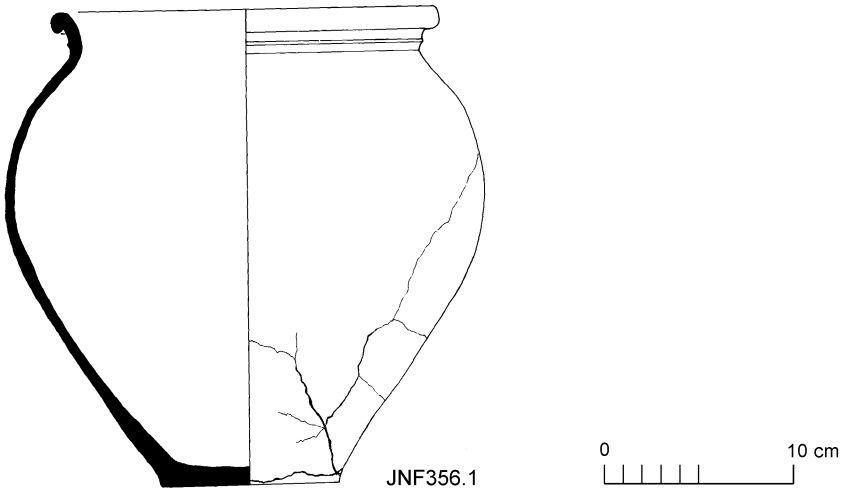

JNF352.3
0
10 cm
JNF352.1
JNF352.2

JNF352

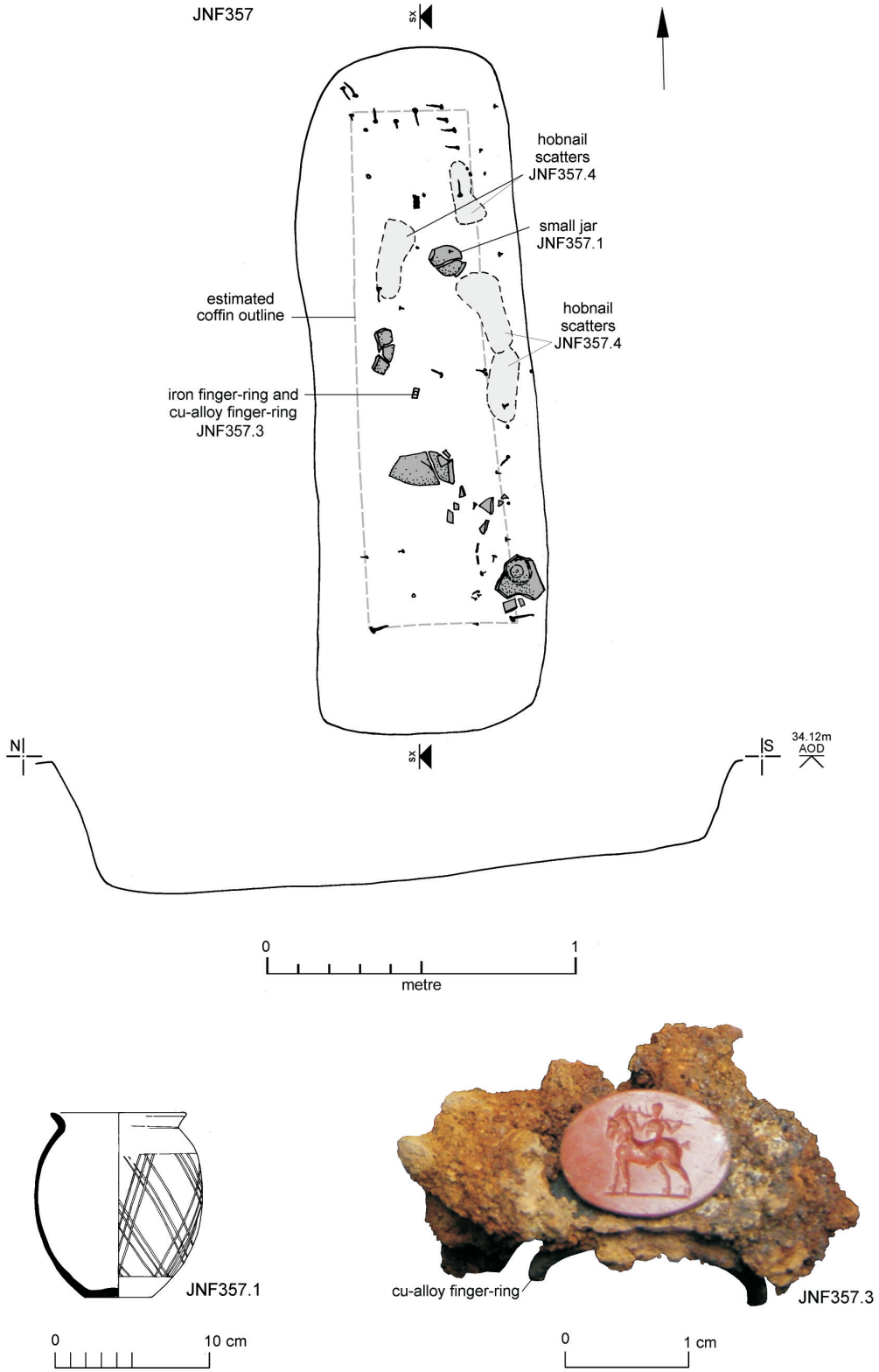


JNF354 and JNF355

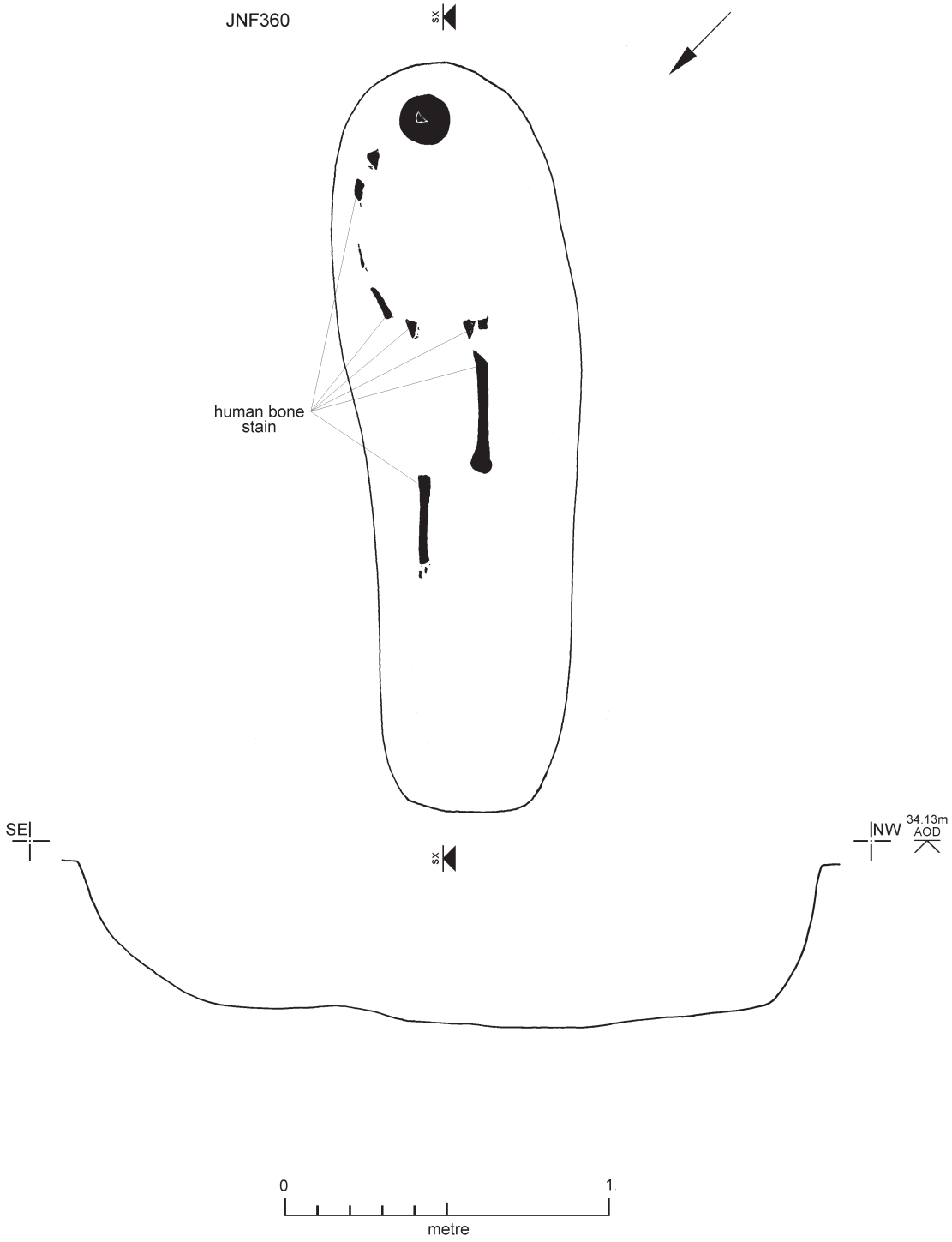

JNF356
SX
SX
beaker
JNF356.2
jar JNF356.1
SW
NE
34.06m
AOD
0
0.5
metre


JNF356.1
0
10 cm

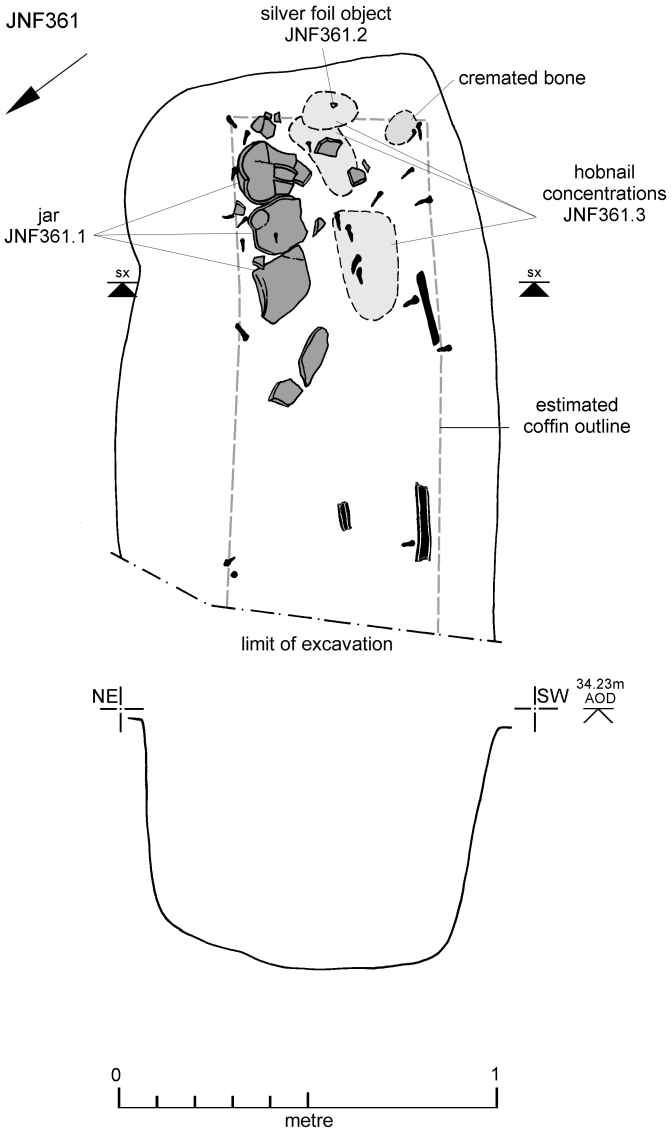
JNF356

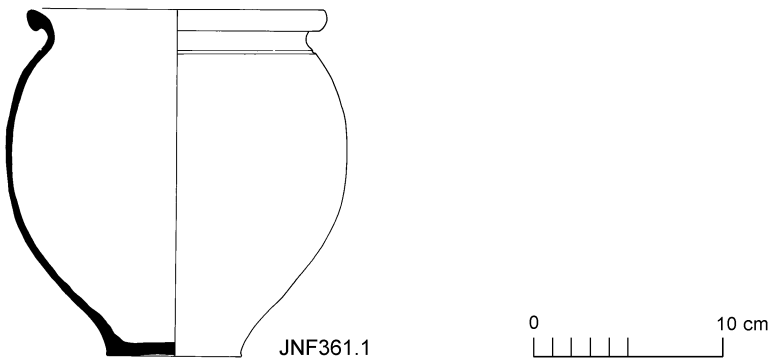

JNF357
SX
hobnail scatters JNF357.4
small jar JNF357.1
estimated coffin outline
hobnail scatters JNF357.4
iron finger-ring and cu-alloy finger-ring JNF357.3
SX
N
S
34.12m AOD
0
1
metre
JNF357.1
0
10 cm
cu-alloy finger-ring
JNF357.3
0
1 cm

JNF357

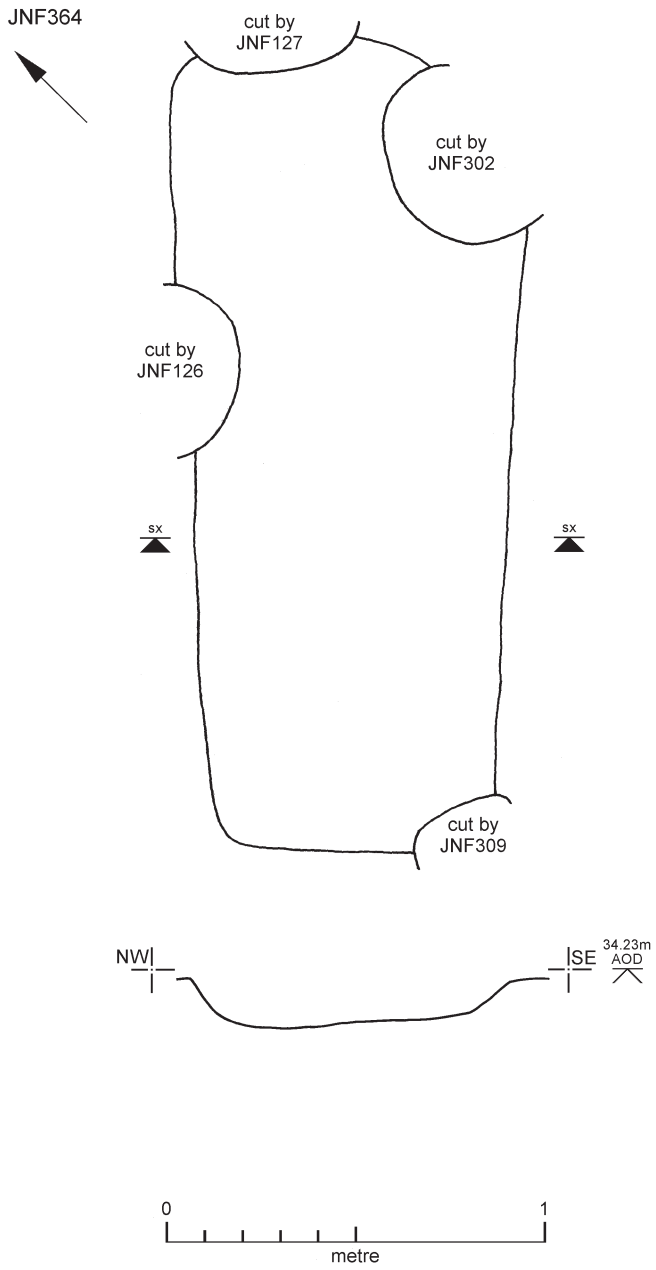


JNF360

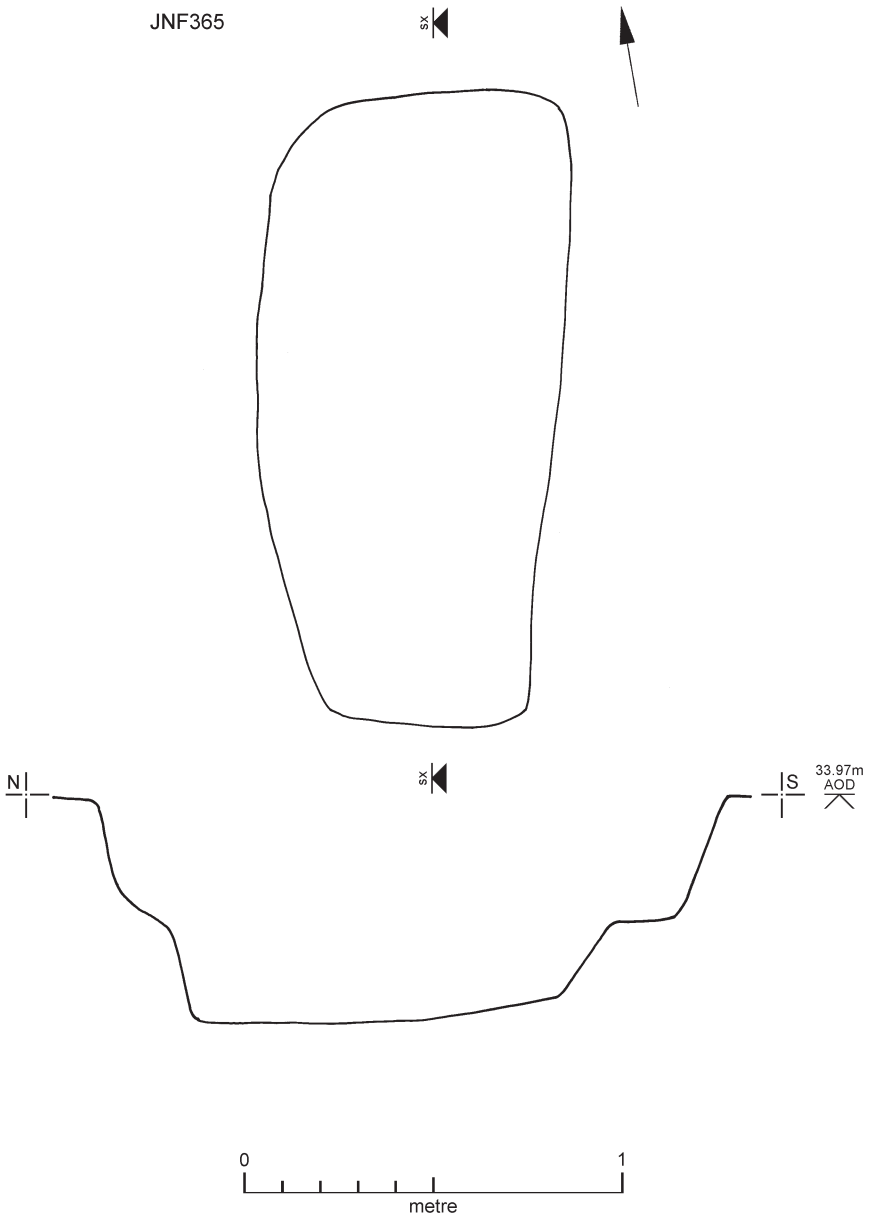

JNF361
silver foil object
JNF361.2
cremated bone
hobnail
concentrations
JNF361.3
jar
JNF361.1
sx
sx
estimated
coffin outline
limit of excavation
NE
SW
34.23m
AOD
0
1
metre


JNF361.1
0
10 cm

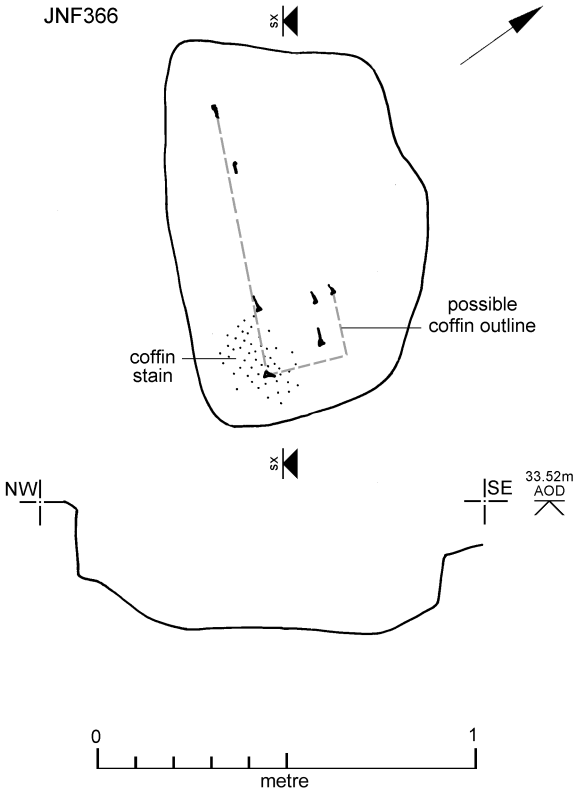
JNF361


JNF364
cut by
JNF127
cut by
JNF302
cut by
JNF126
sx
sx
cut by
JNF309
NW
SE
34.23m
AOD
0
1
metre

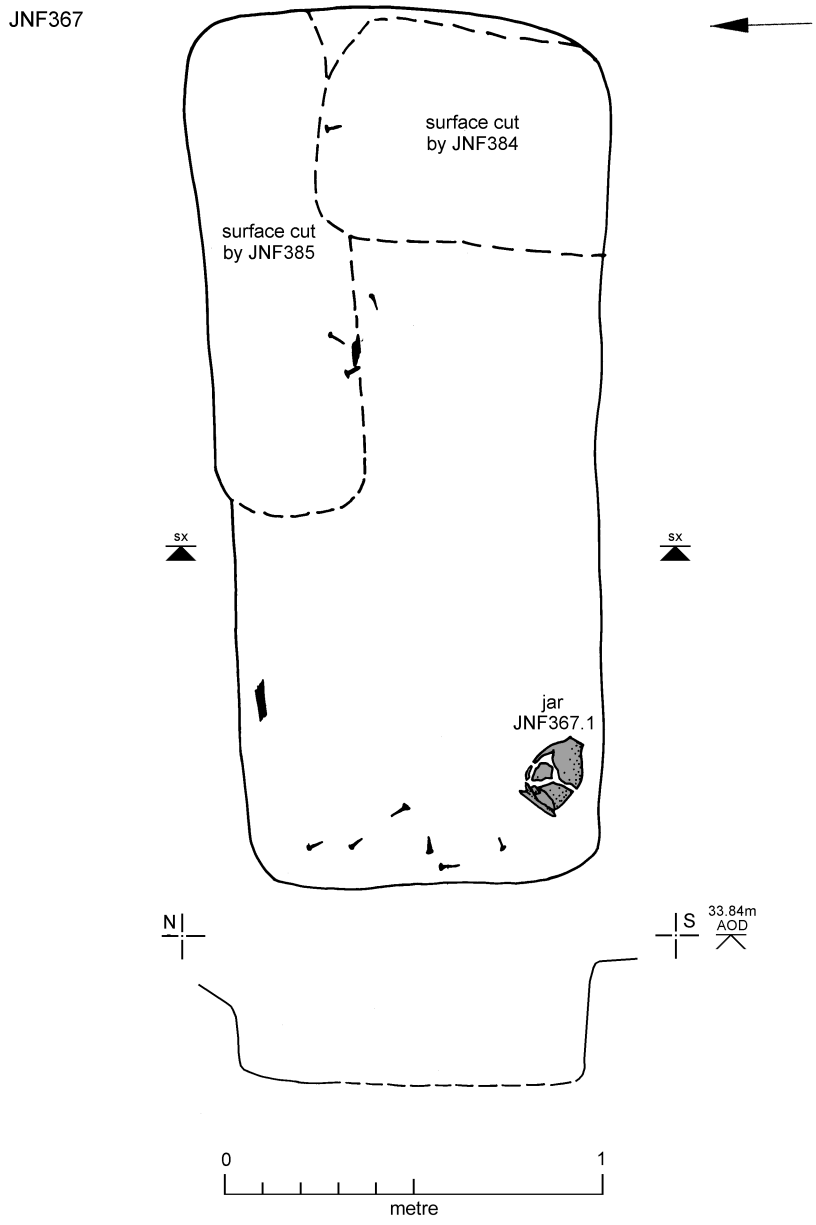
JNF364

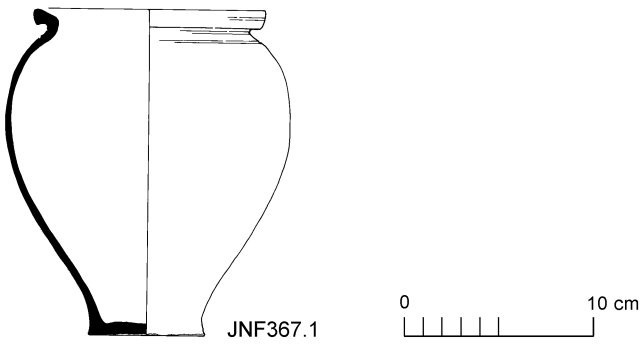


JNF365

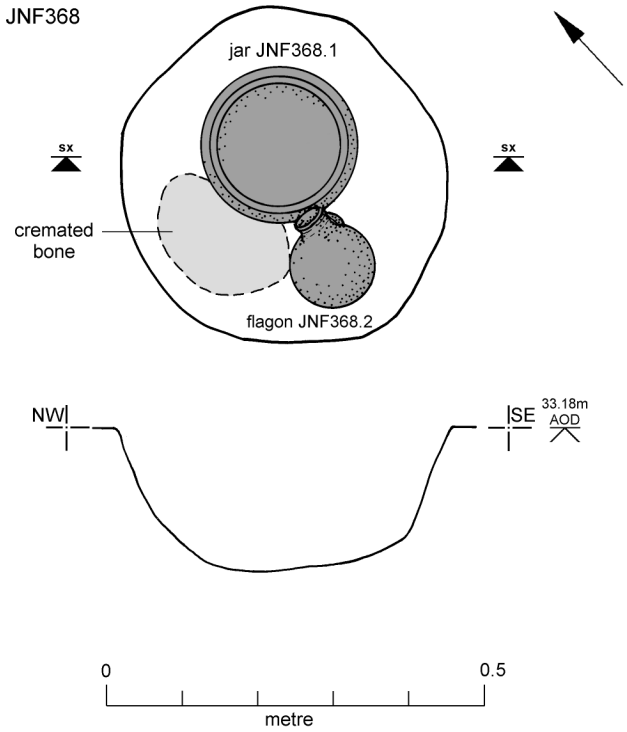

JNF366
sx
possible
coffin outline
coffin
stain
sx
NW
SE
33.52m
AOD
0
1
metre

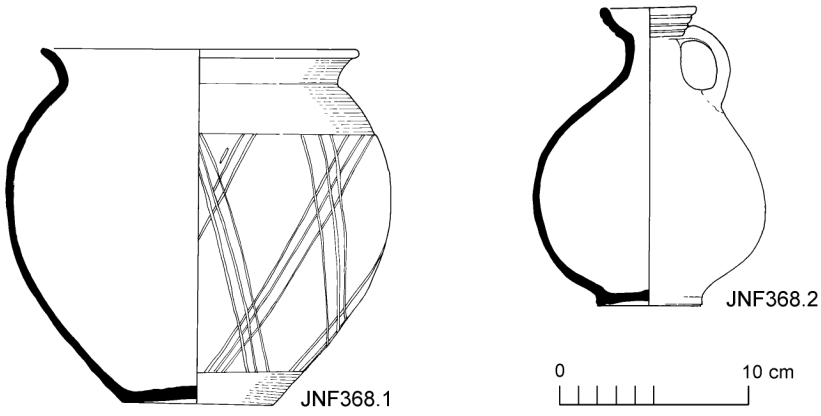
JNF366


JNF367
surface cut
by JNF384
surface cut
by JNF385
sx
sx
jar
JNF367.1
N
S
33.84m
AOD
0
1
metre

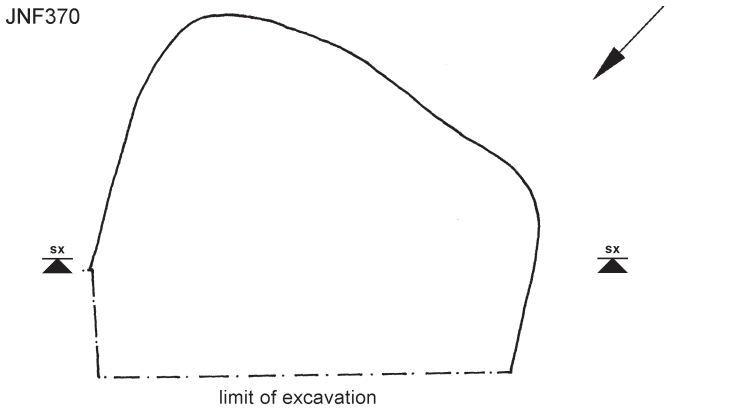

JNF367.1
0
10 cm

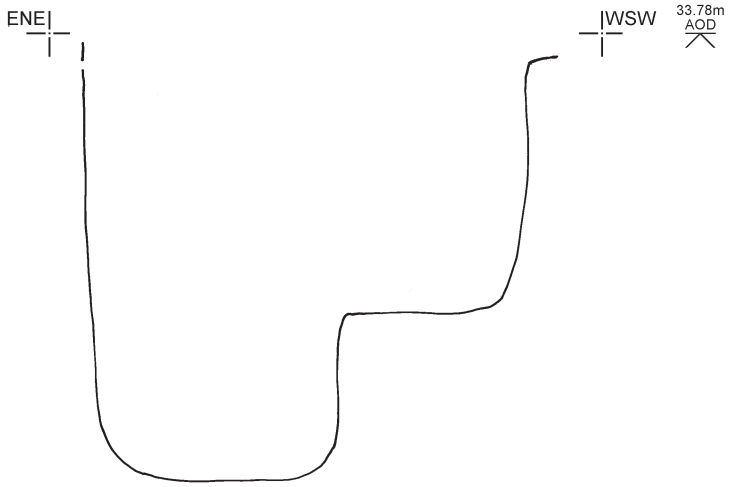
JNF367

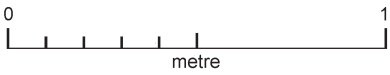

JNF368
jar JNF368.1
sx
sx
cremated bone
flagon JNF368.2
NW
SE
33.18m AOD
0
0.5
metre


JNF368.1
JNF368.2
0
10 cm

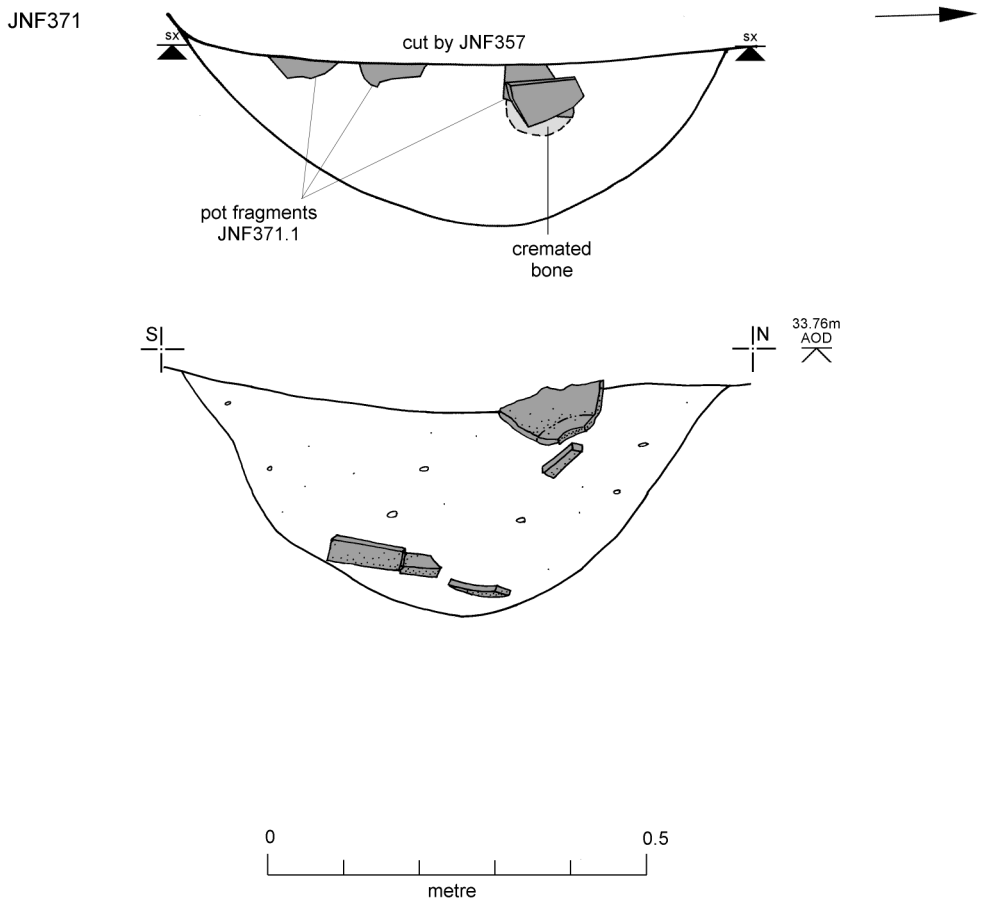
JNF368



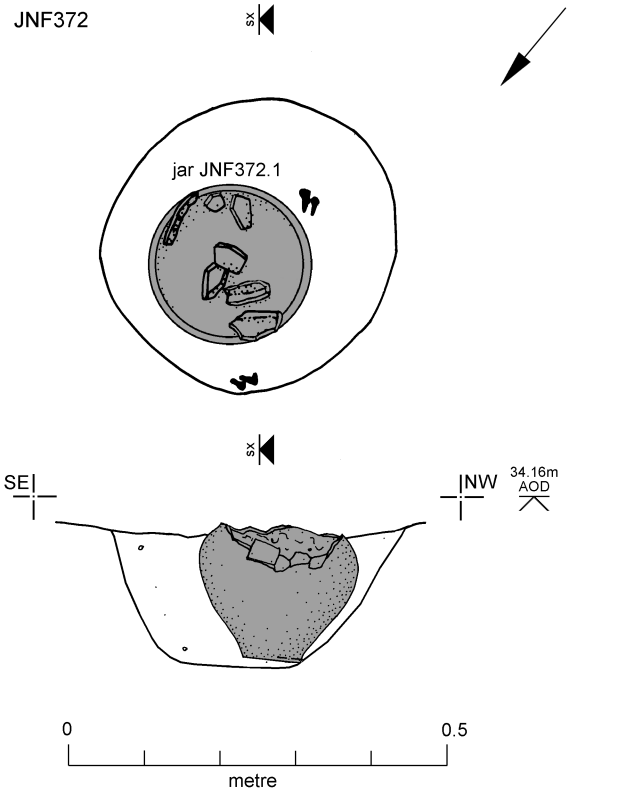


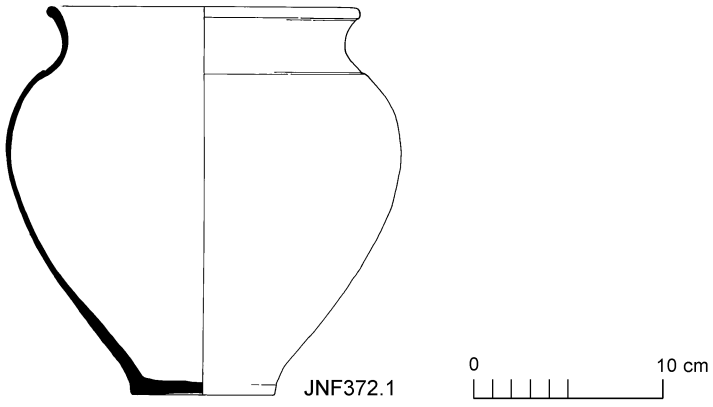


JNF370

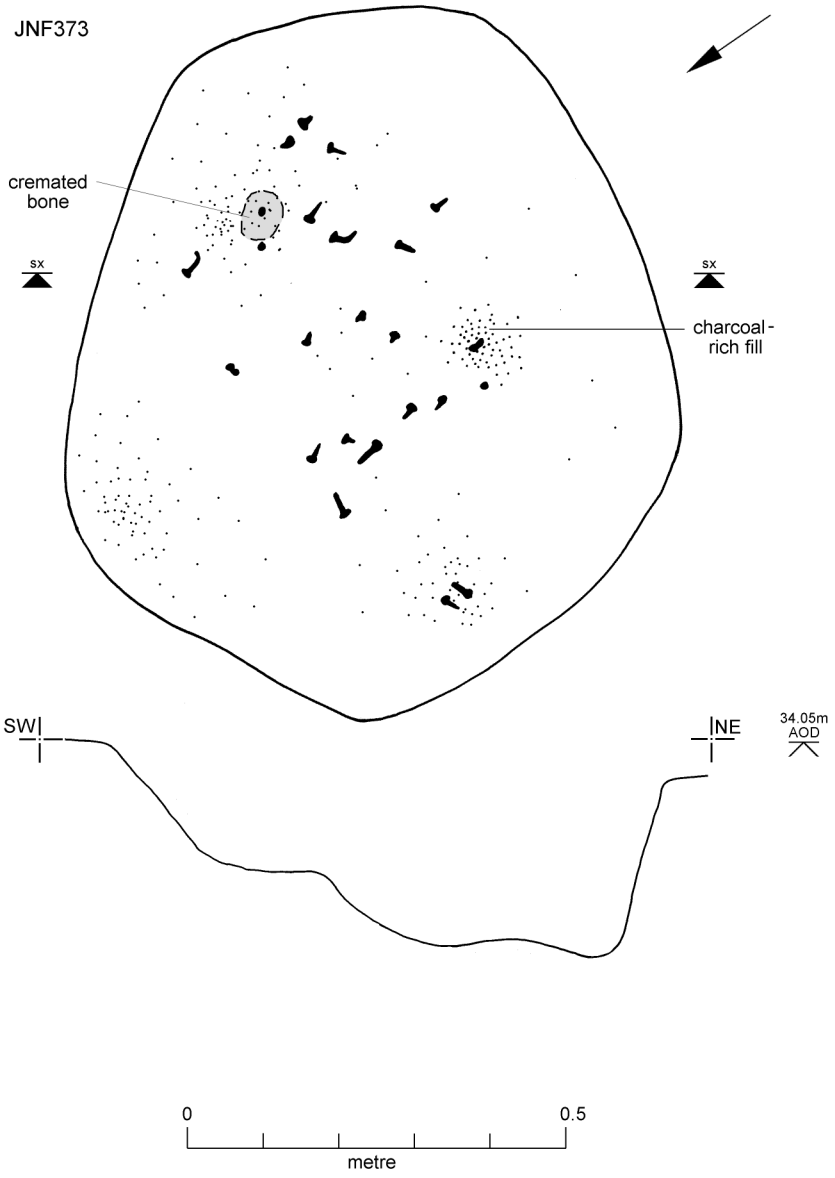

JNF371
sx
cut by JNF357
sx
pot fragments
JNF371.1
cremated
bone
S
N
33.76m
AOD
0
0.5
metre

JNF371

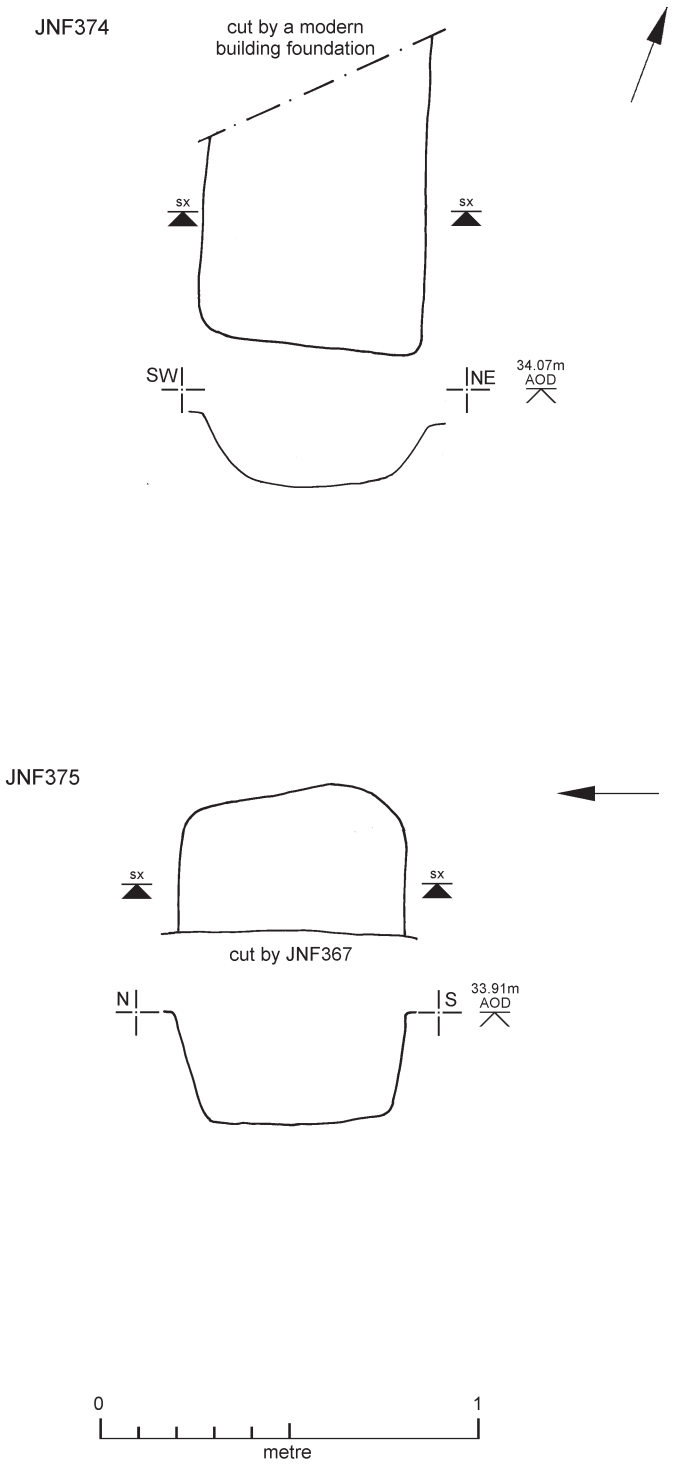

JNF372
sx
jar JNF372.1
sx
SE
NW
34.16m
AOD
0
0.5
metre


JNF372.1
0
10 cm

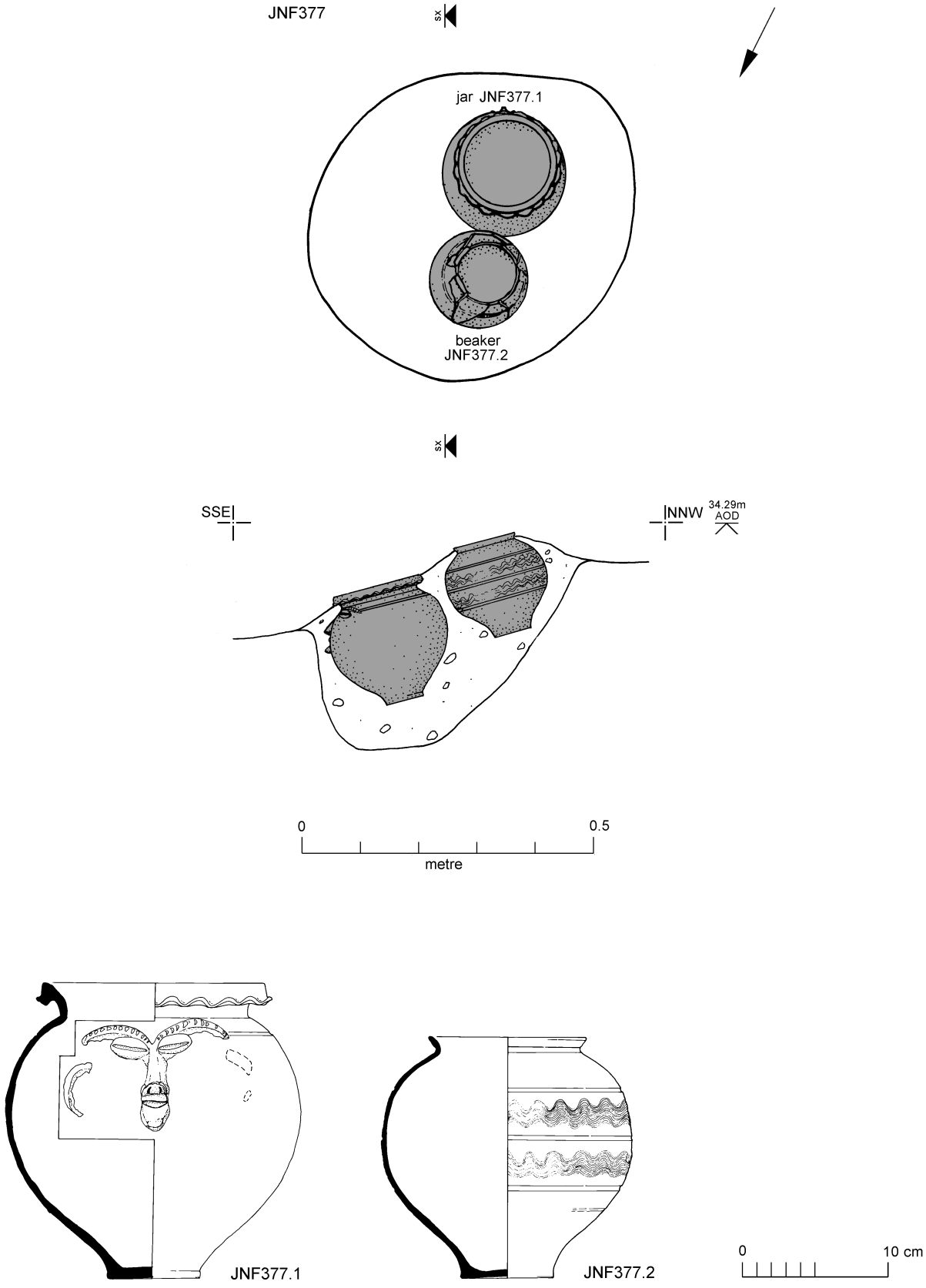
JNF372


JNF373
cremated bone
sx
sx
charcoal-rich fill
SW
NE
34.05m AOD
0
0.5
metre

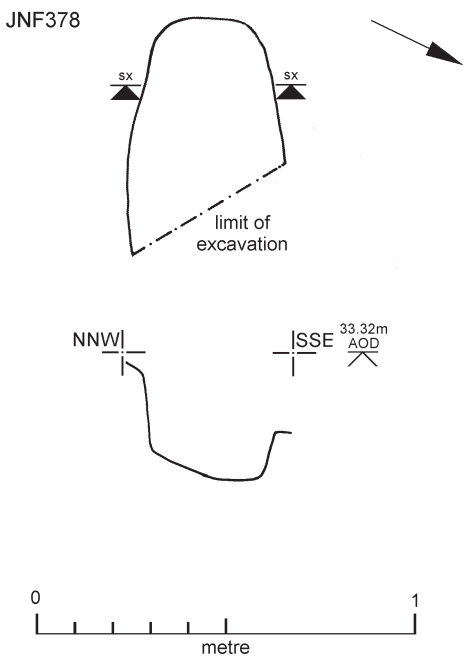
JNF373



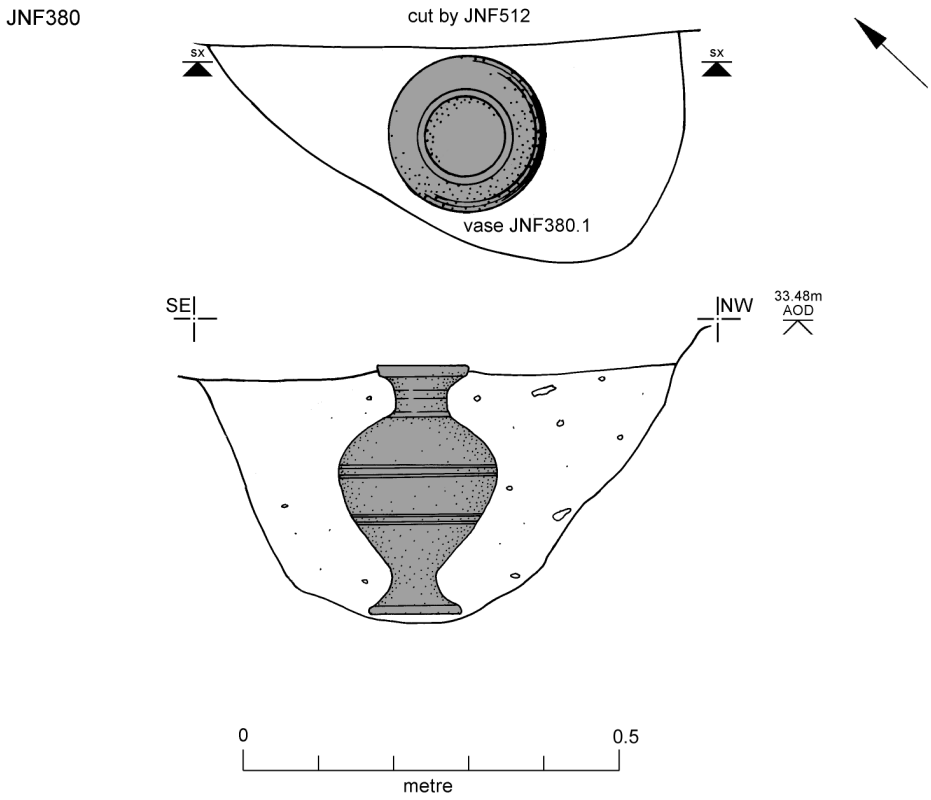
JNF374 and JNF375

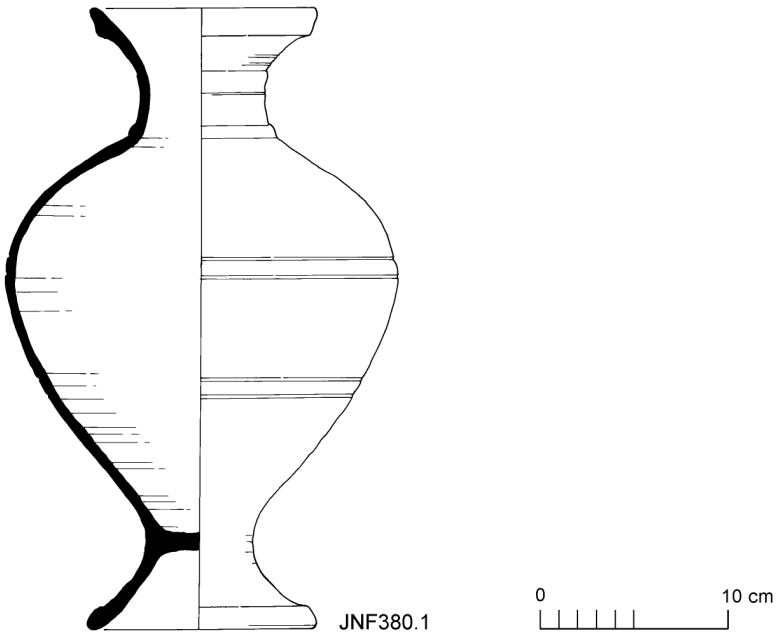

JNF377
SX
jar JNF377.1
beaker
JNF377.2
SX
SSE
NNW
34.29m
AOD
0
0.5
metre
JNF377.1
JNF377.2
0
10 cm

JNF377

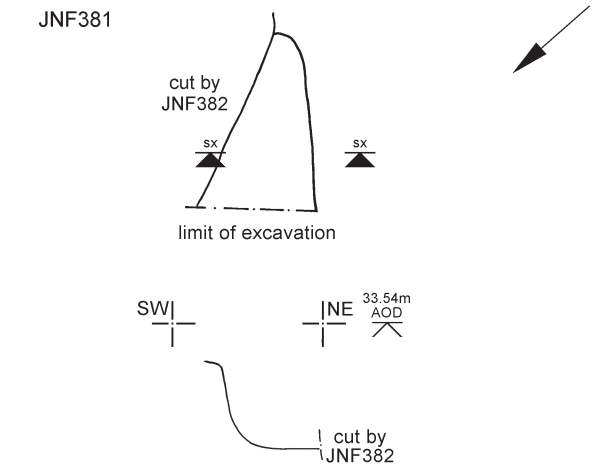


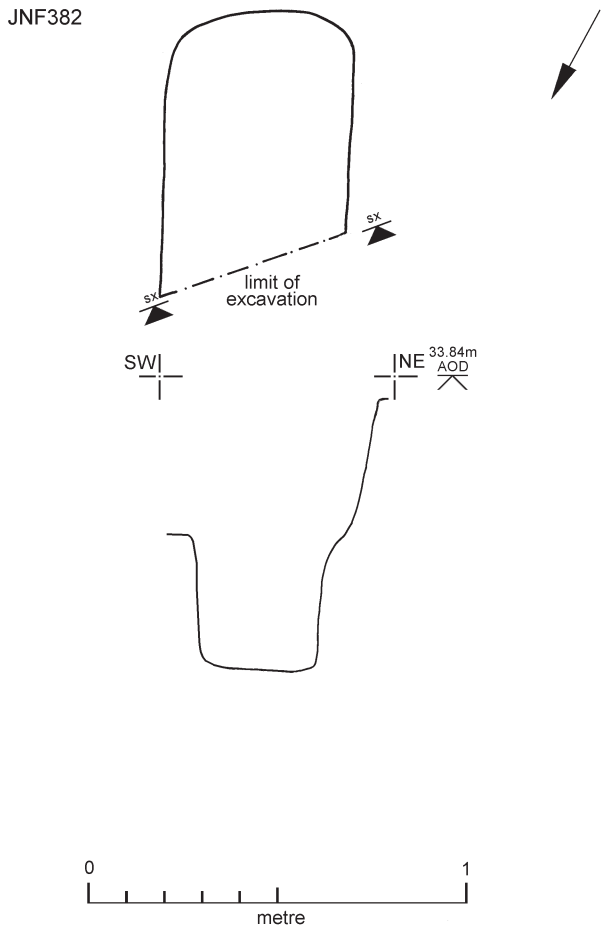
JNF378


JNF380
cut by JNF512
sx
sx
vase JNF380.1
SE
NW
33.48m
AOD
0
0.5
metre

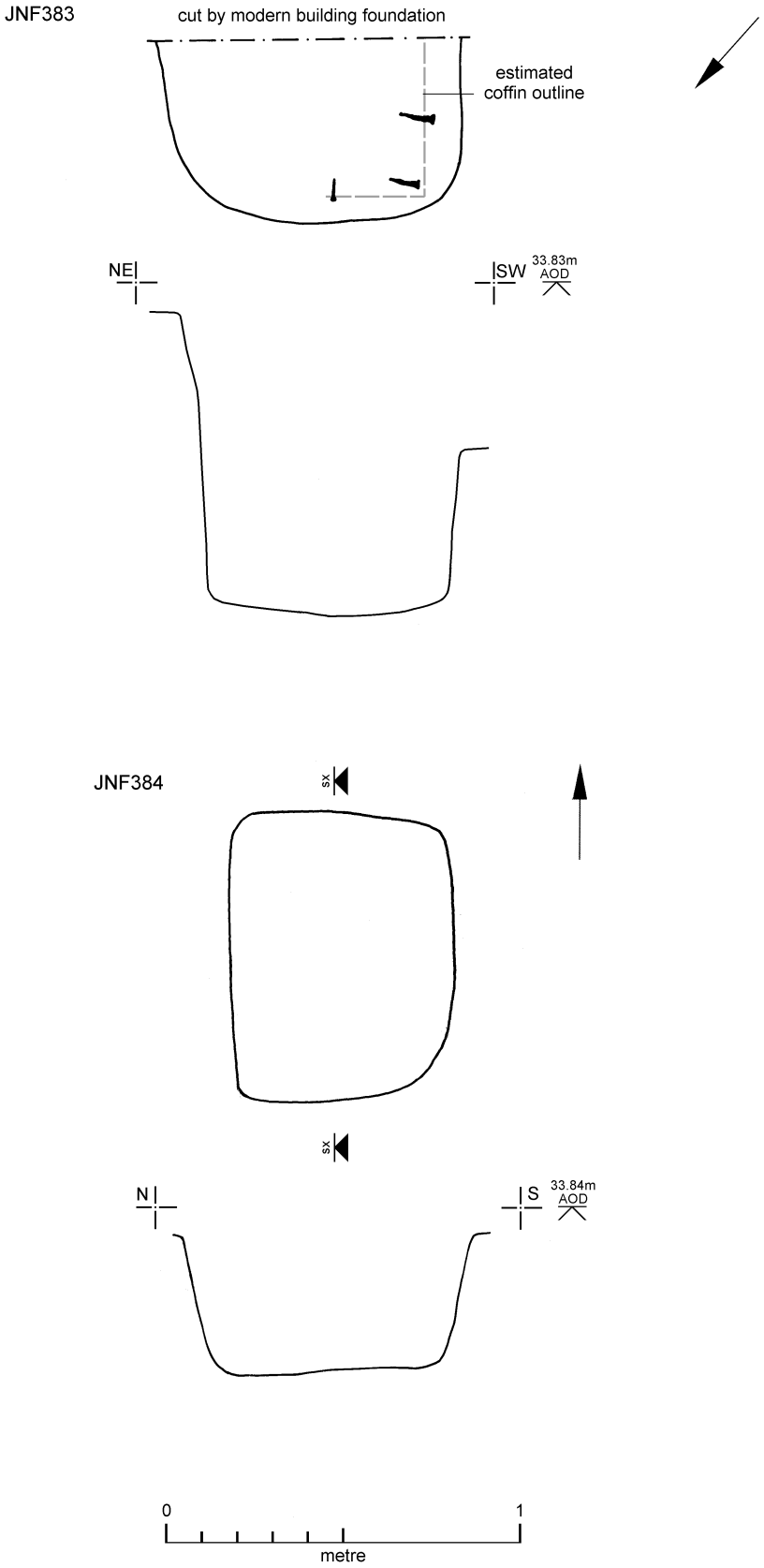

JNF380.1
0
10 cm

JNF380

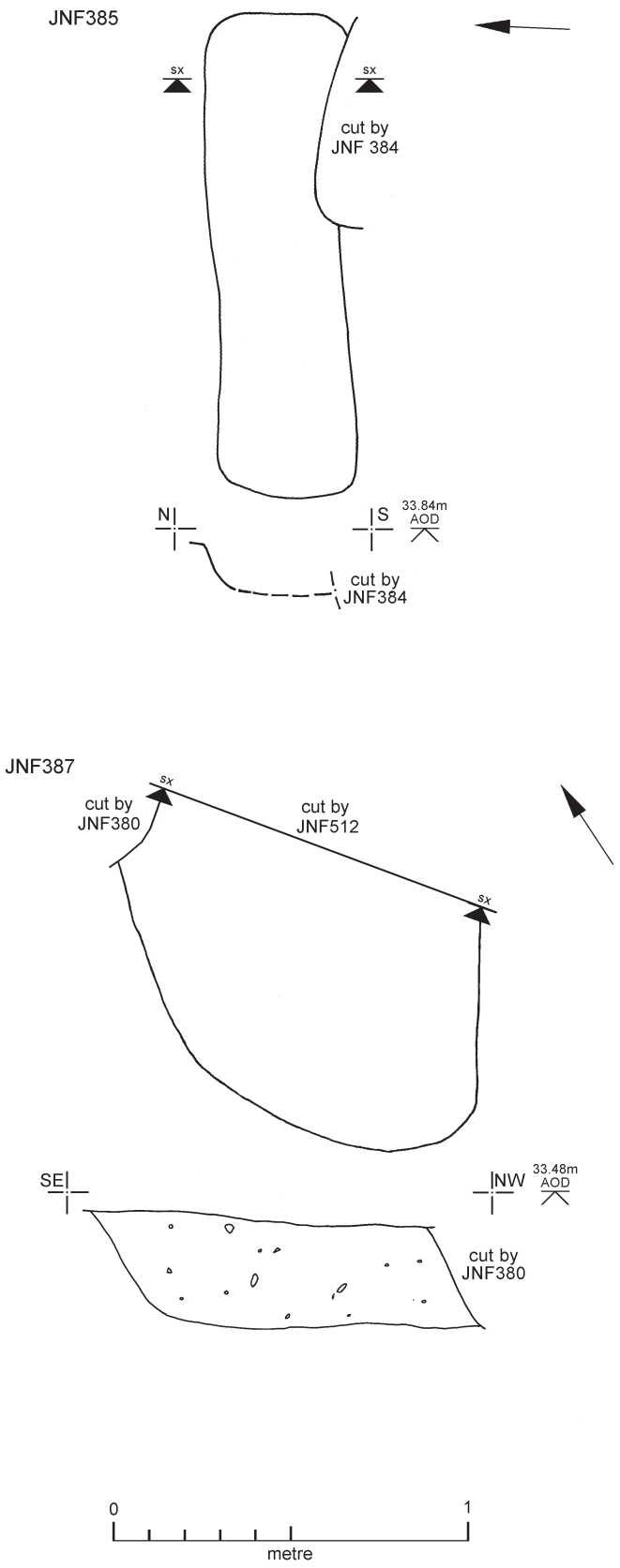




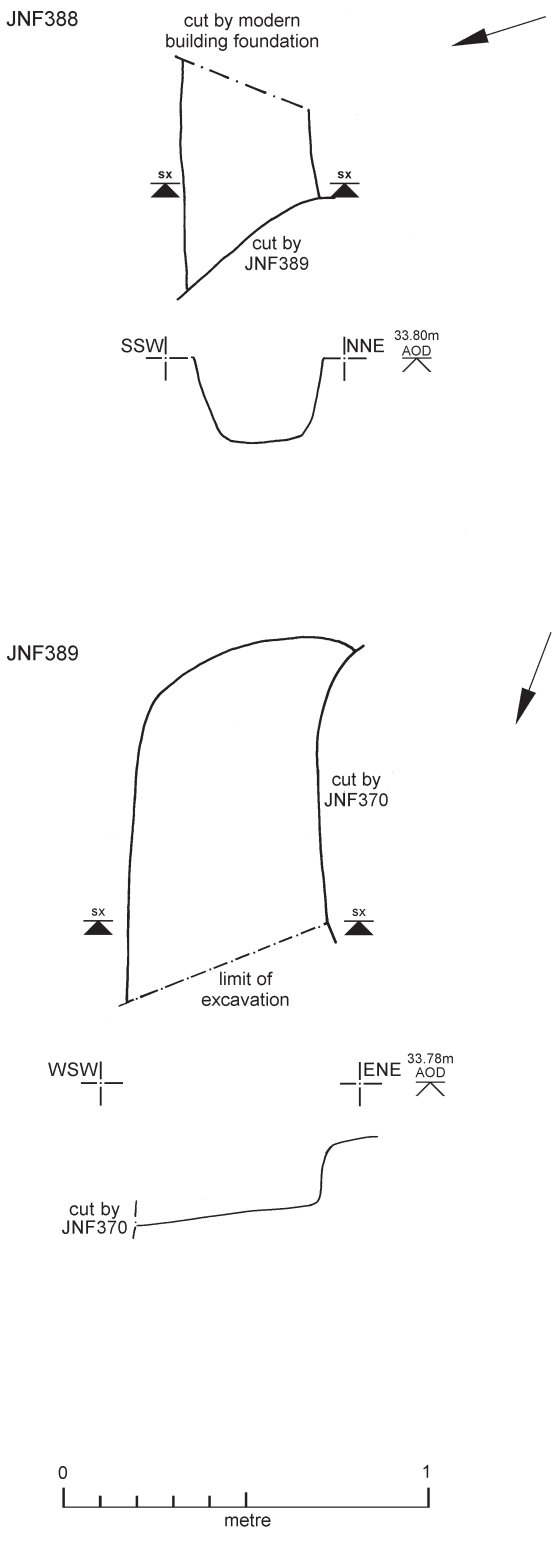
JNF381 and JNF382



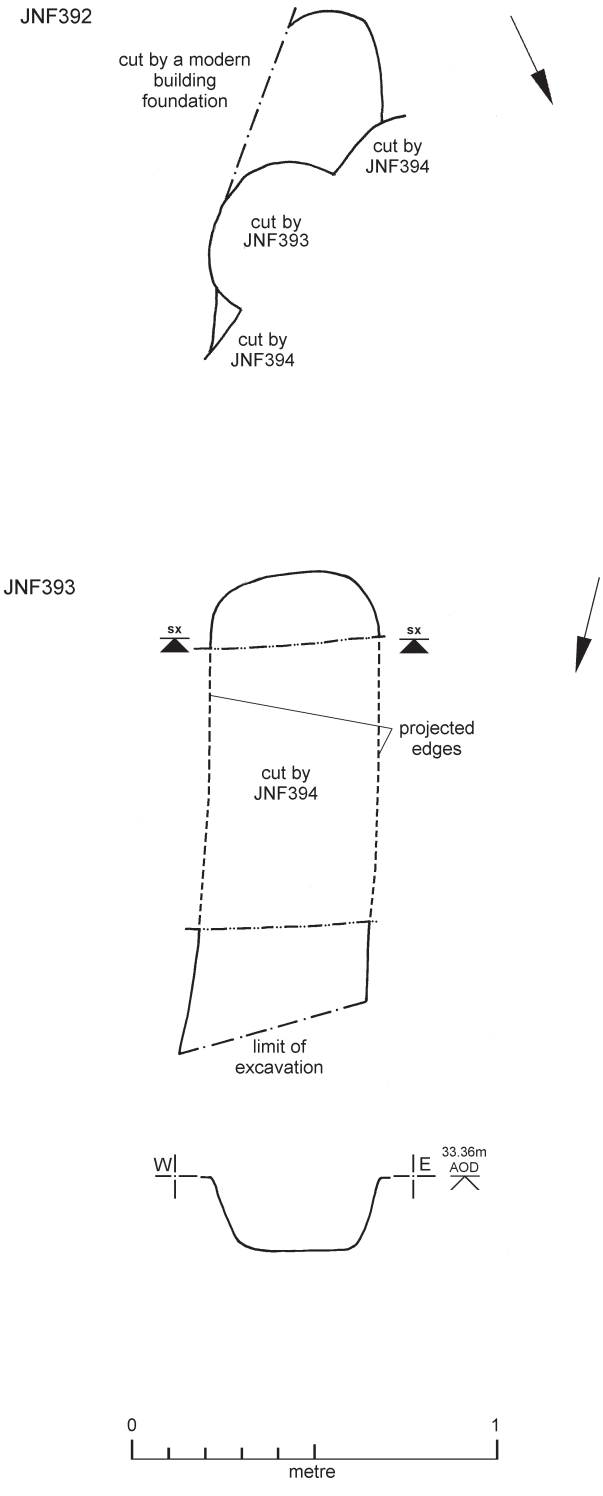
JNF383 and JNF384



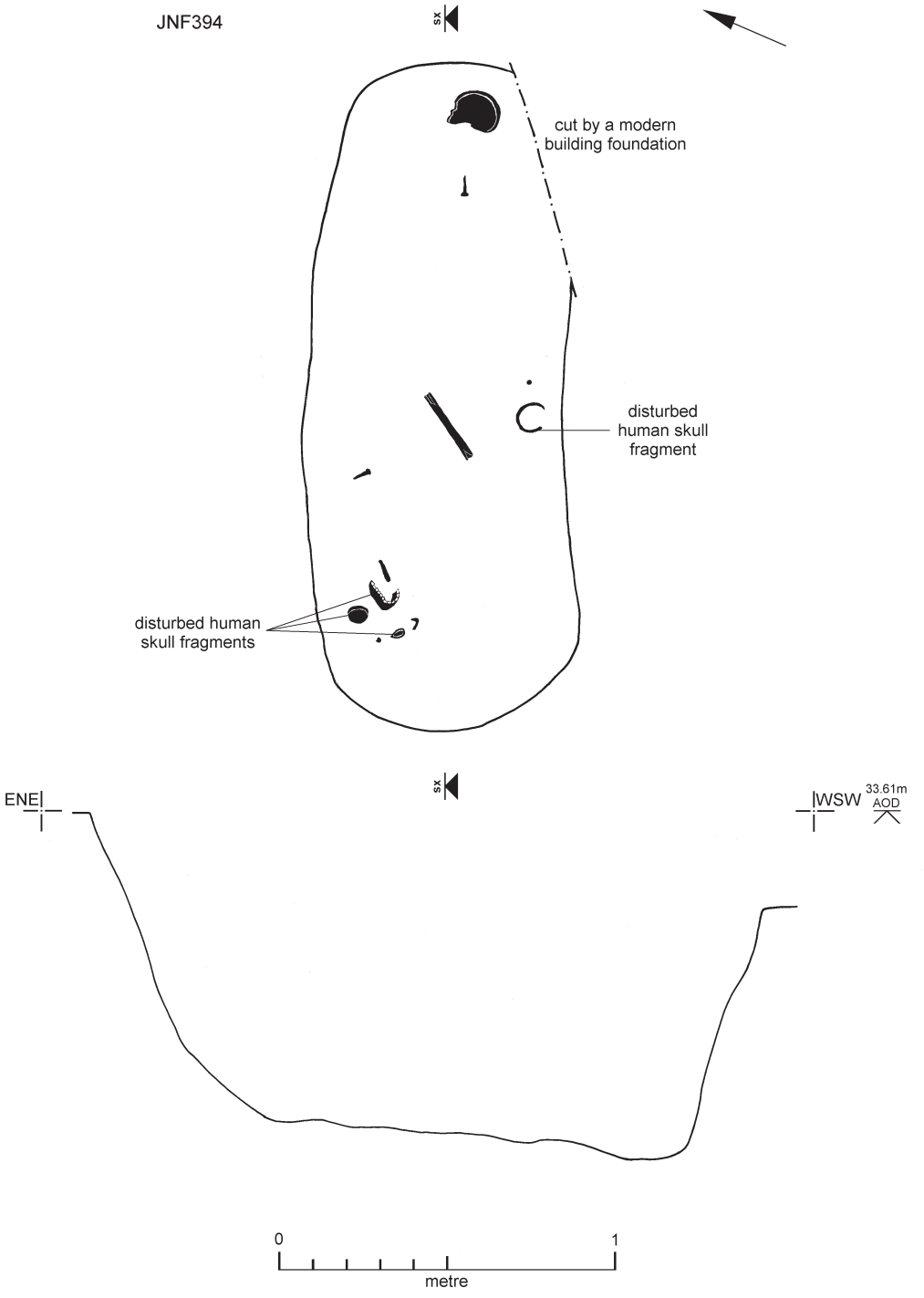
JNF385 and JNF387



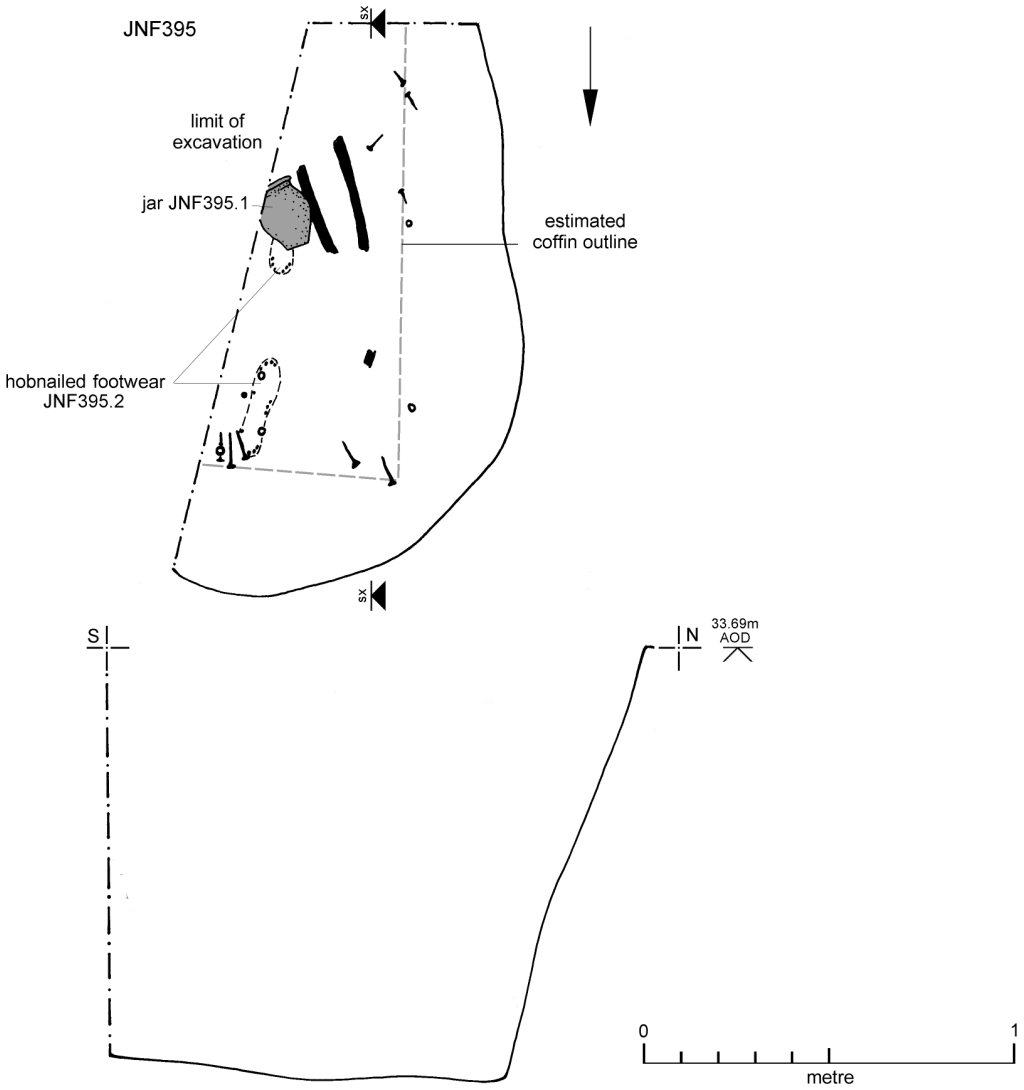
JNF388 and JNF389

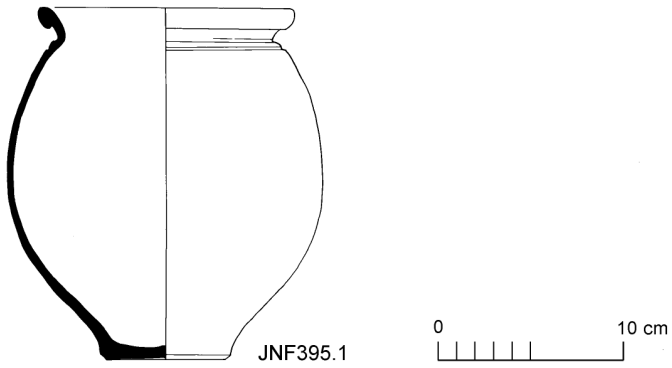


JNF392 and JNF393

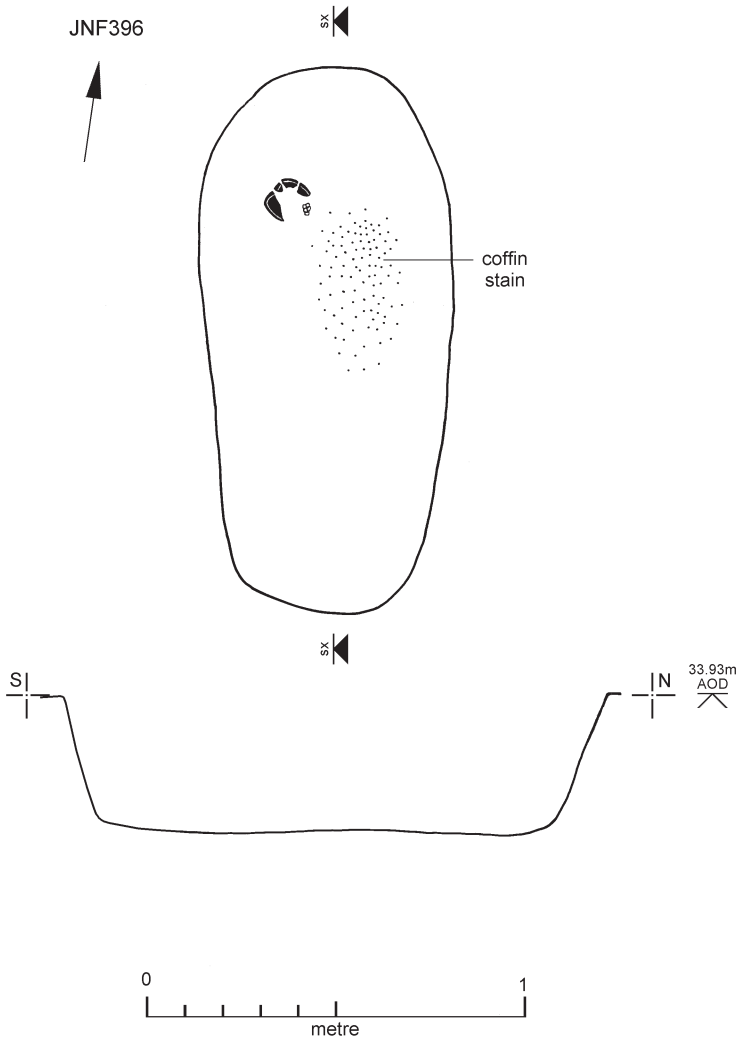

JNF394
xs
cut by a modern
building foundation
disturbed
human skull
fragment
disturbed human
skull fragments
xs
ENE
WSW
33.61m
AOD
0
1
metre

JNF394

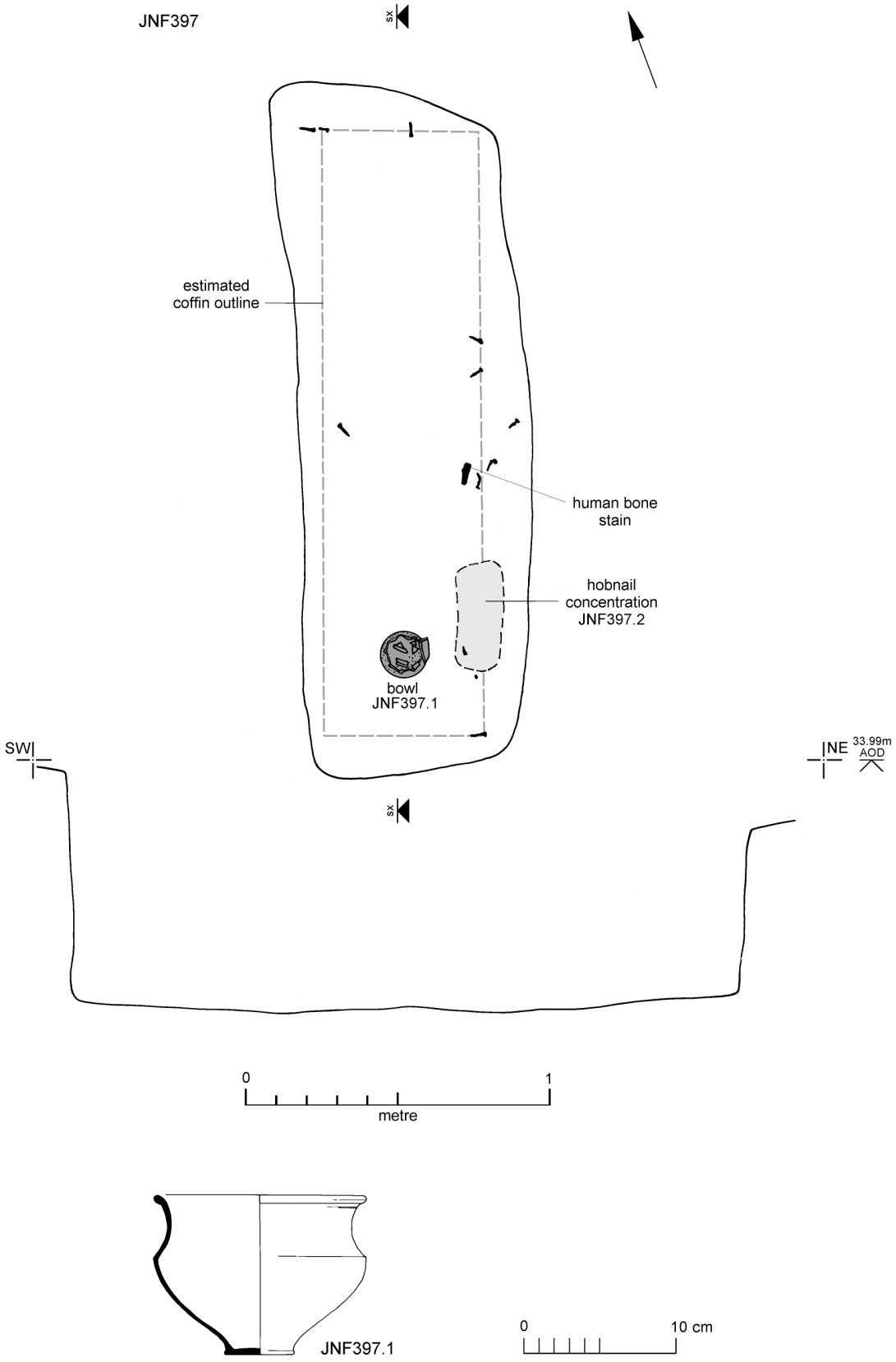

JNF395
sx
limit of
excavation
jar JNF395.1
estimated
coffin outline
hobnailed footwear
JNF395.2
sx
S
N
33.69m
AOD
0
1
metre


JNF395.1
0
10 cm

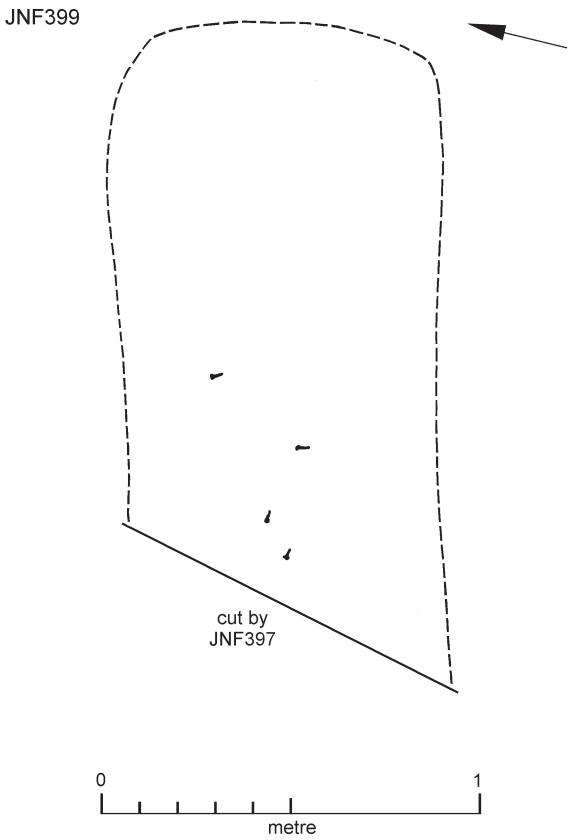
JNF395



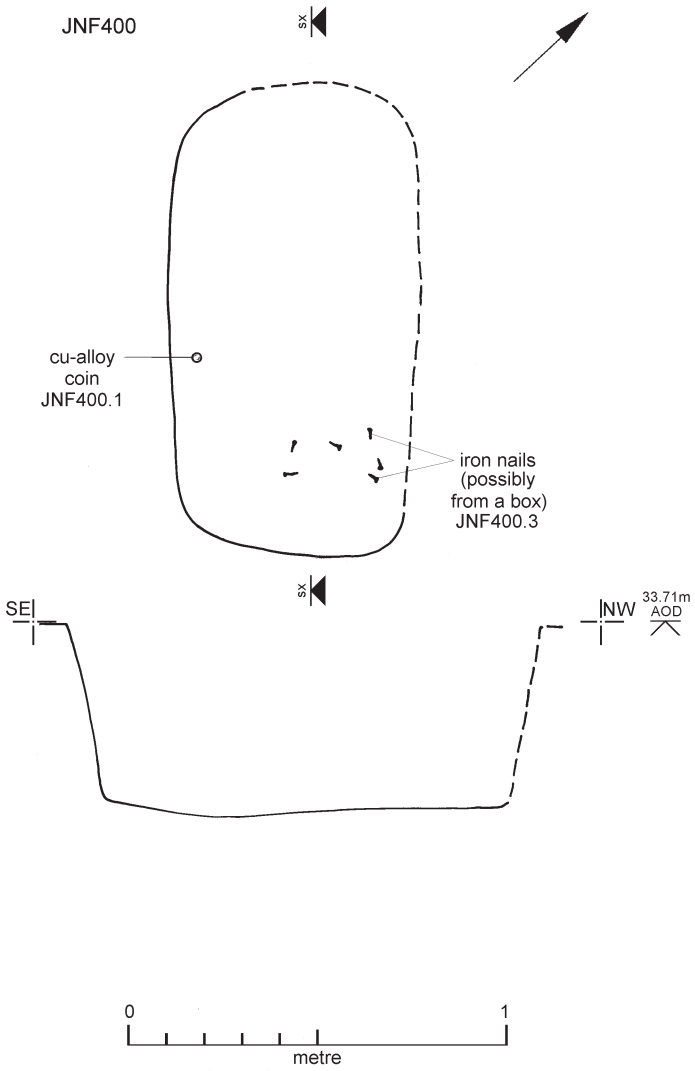
JNF396


JNF397
sx
estimated
coffin outline
human bone
stain
hobnail
concentration
JNF397.2
bowl
JNF397.1
SW
NE
33.99m
AOD
sx
0
1
metre
JNF397.1
0
10 cm

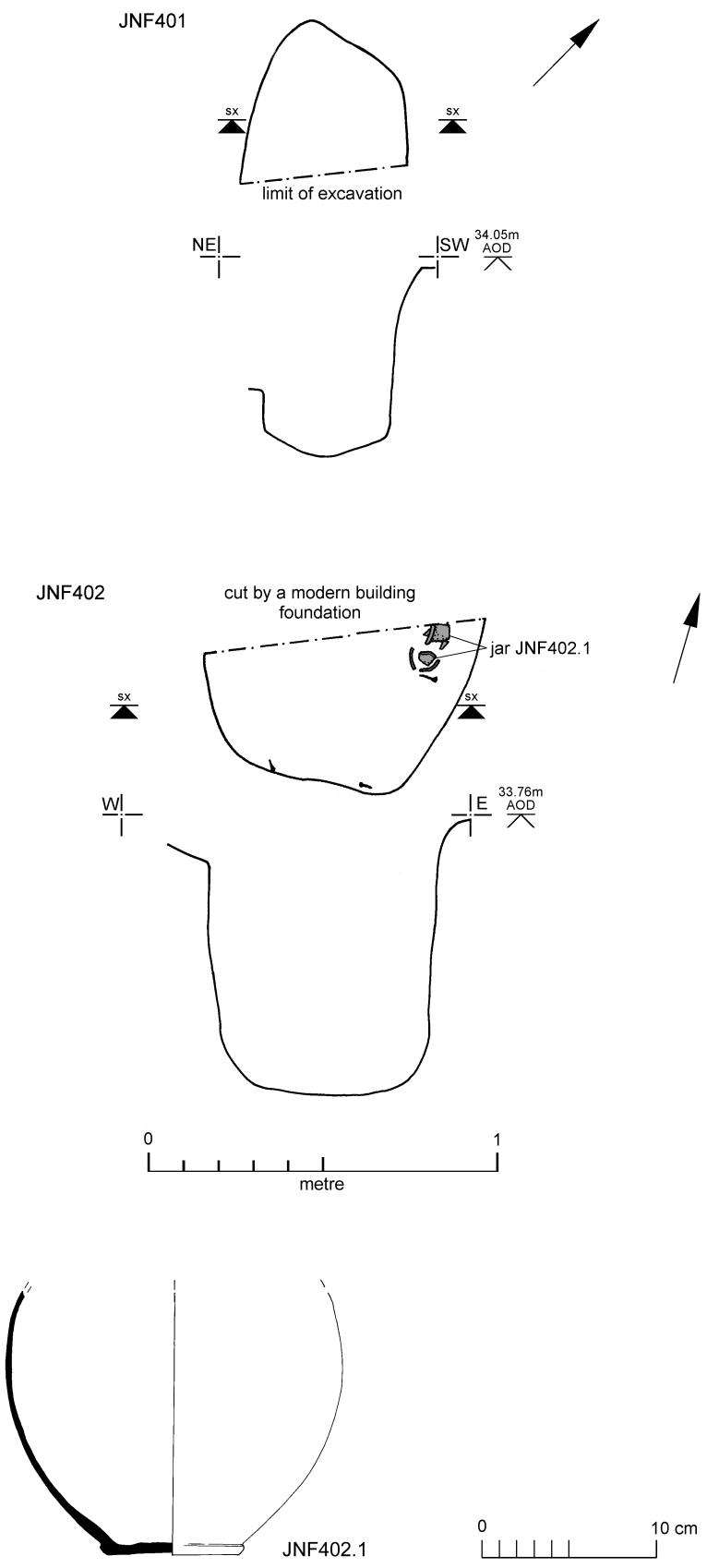
JNF397



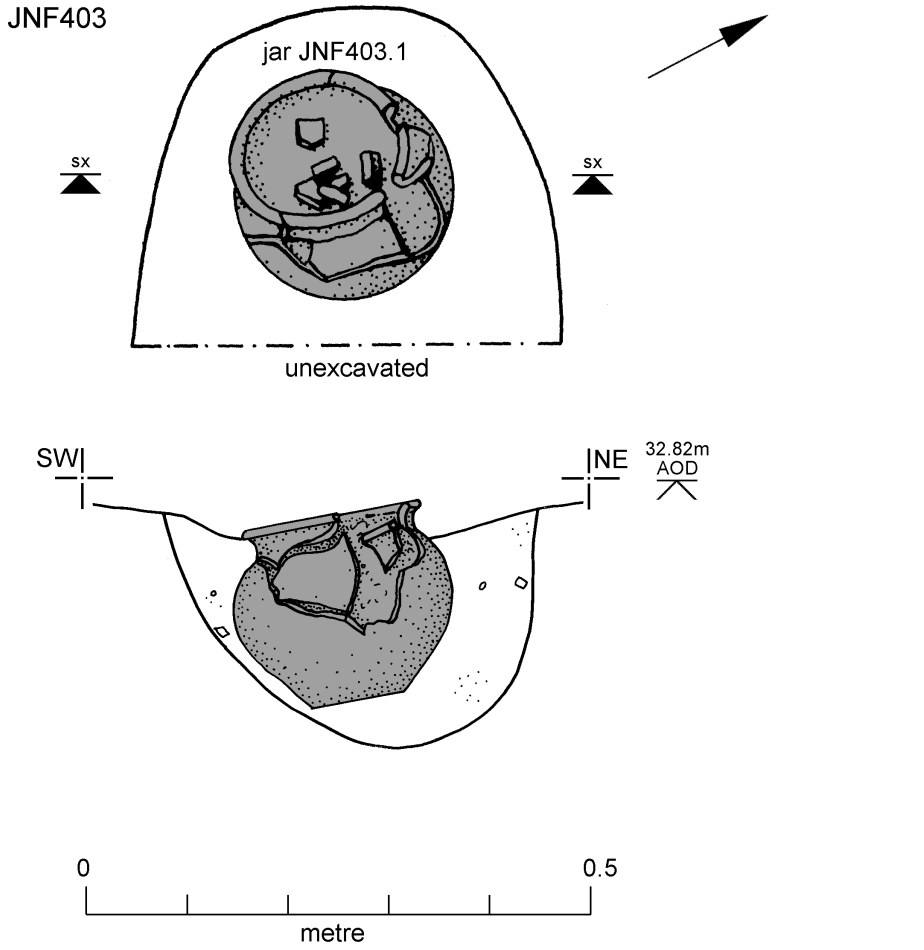
JNF399

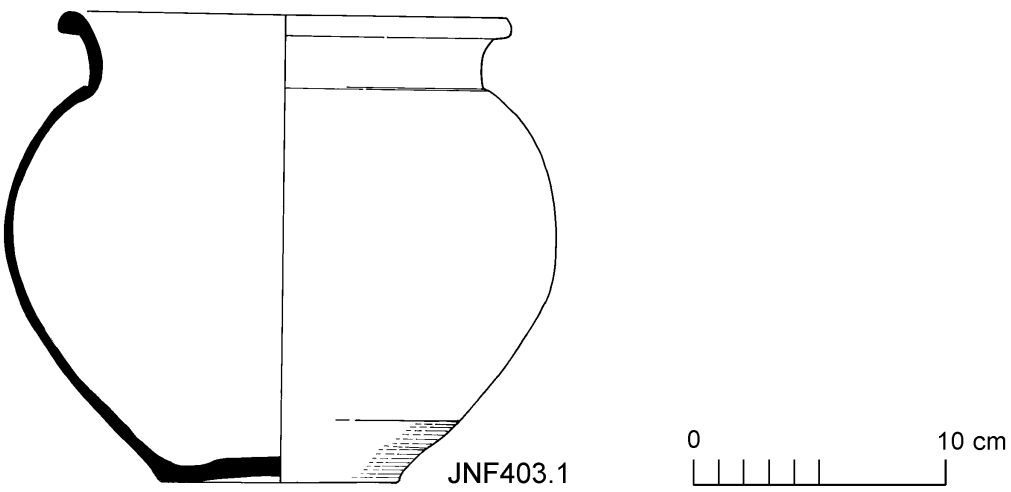

JNF400
sx
cu-alloy
coin
JNF400.1
iron nails
(possibly
from a box)
JNF400.3
sx
SE
NW
33.71m
AOD
0
1
metre

JNF400

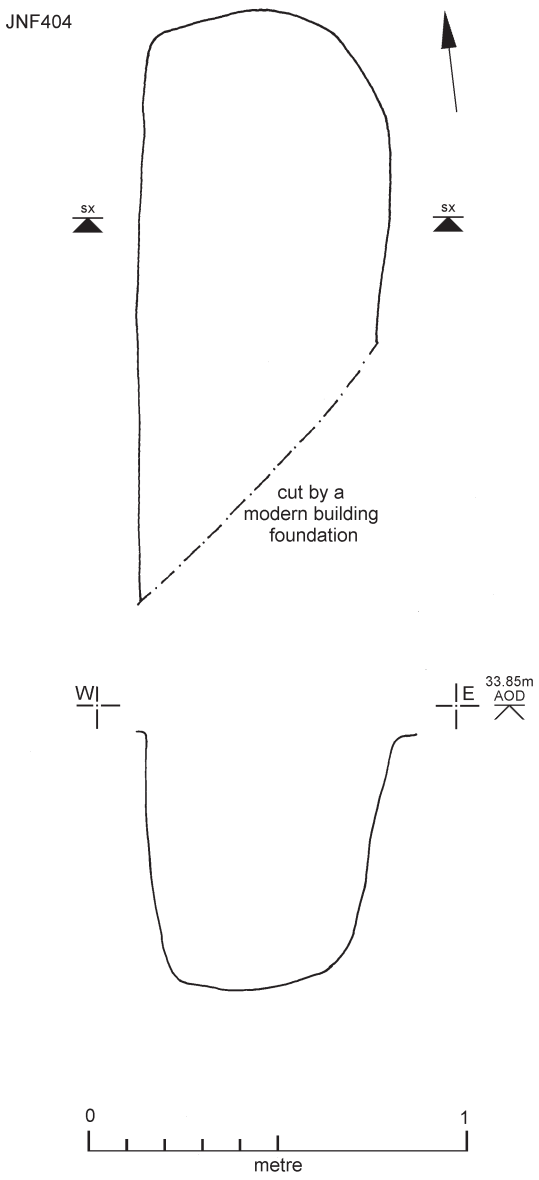


JNF401 and JNF402

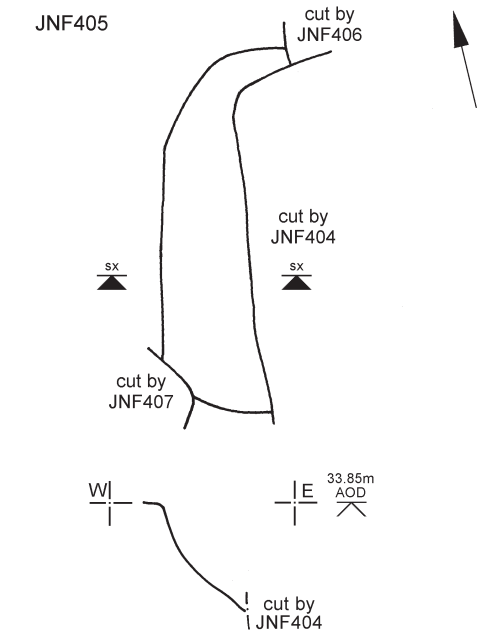

JNF403
jar JNF403.1
sx
sx
unexcavated
SW
NE
32.82m
AOD
0
0.5
metre

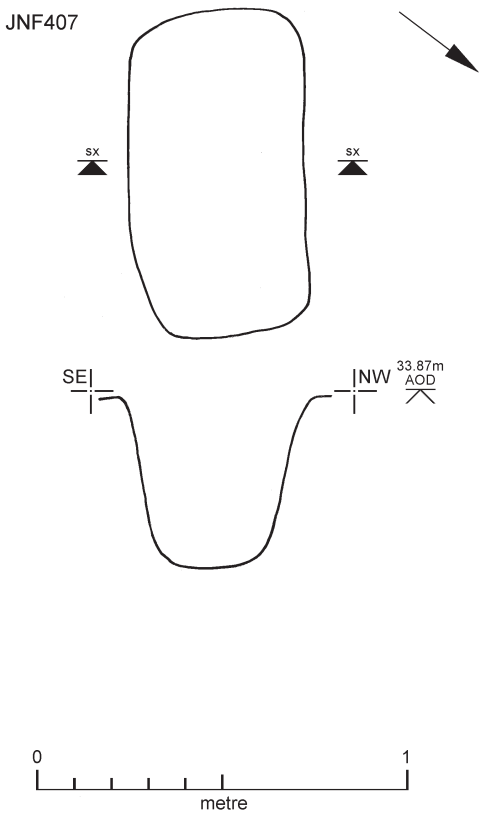

JNF403.1
0
10 cm

JNF403

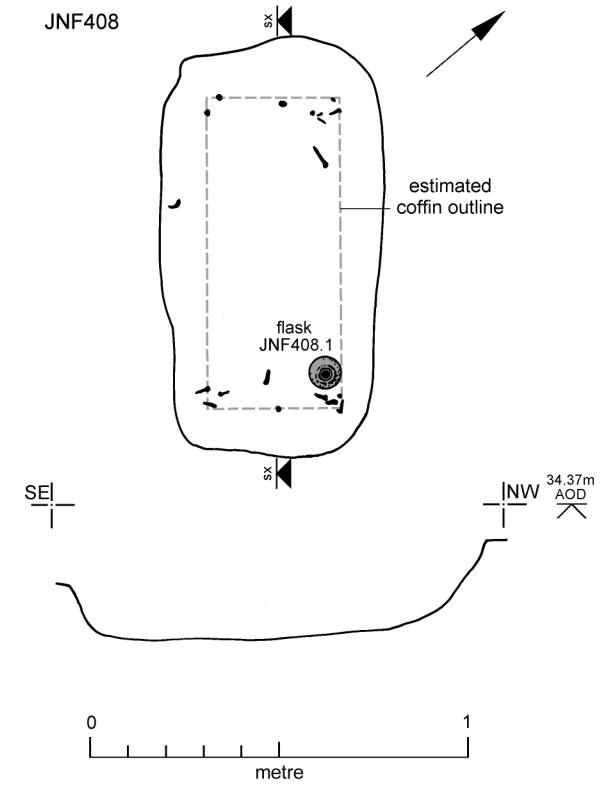

JNF404
SX
SX
cut by a
modern building
foundation
W
E
33.85m
AOD
0
1
metre

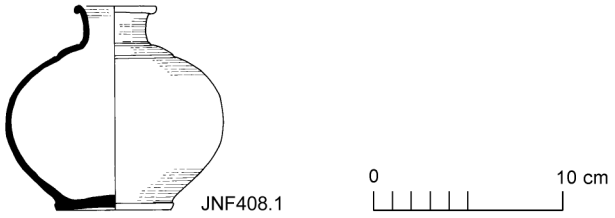
JNF404



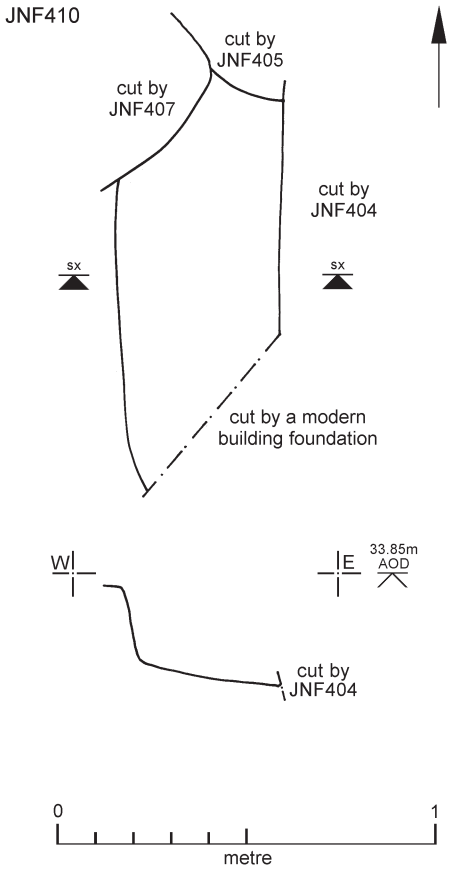


JNF405 and JNF407

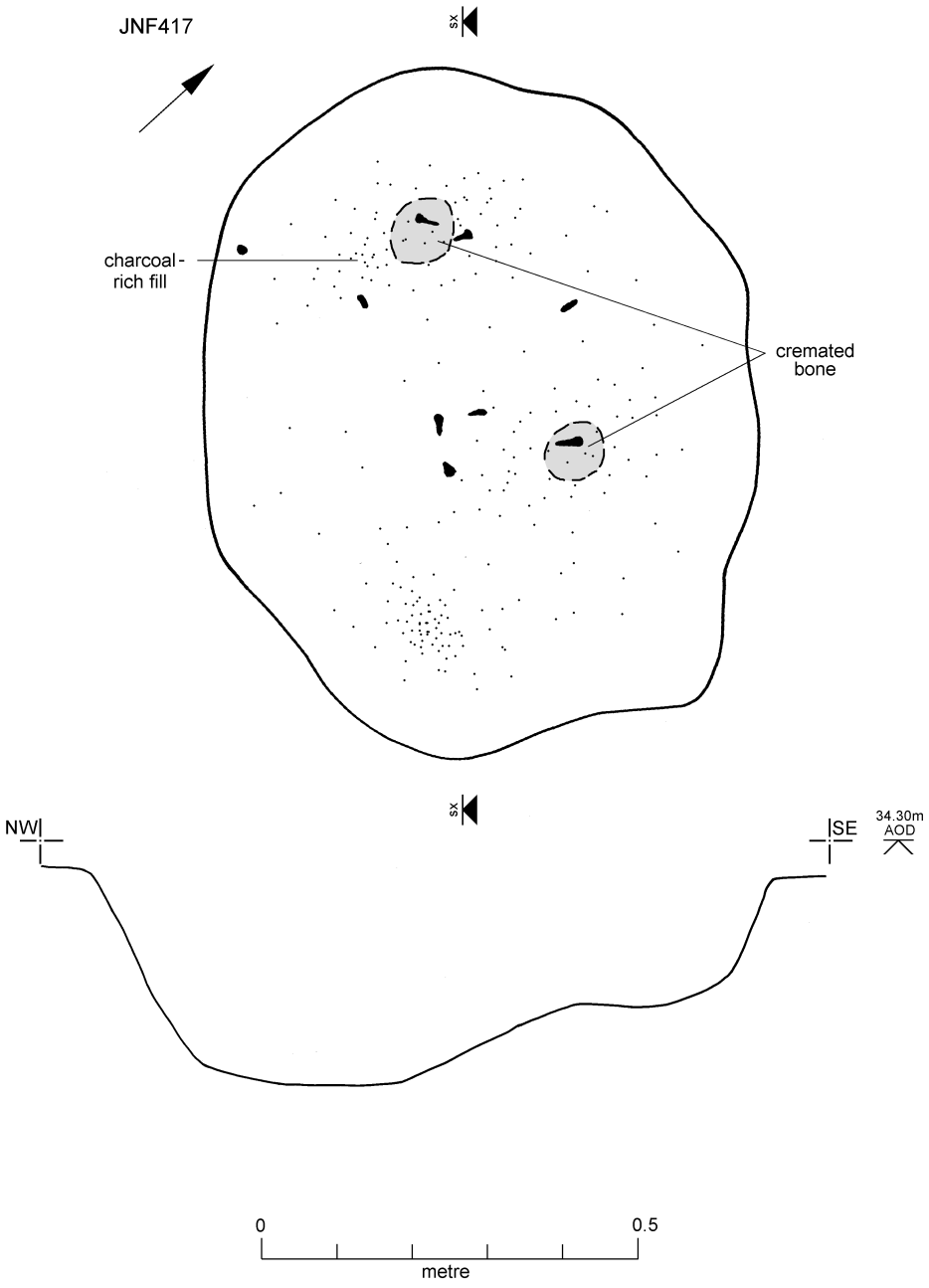

JNF408
SX
estimated
coffin outline
flask
JNF408.1
SX
SE
NW
34.37m
AOD
0
1
metre


JNF408.1
0
10 cm

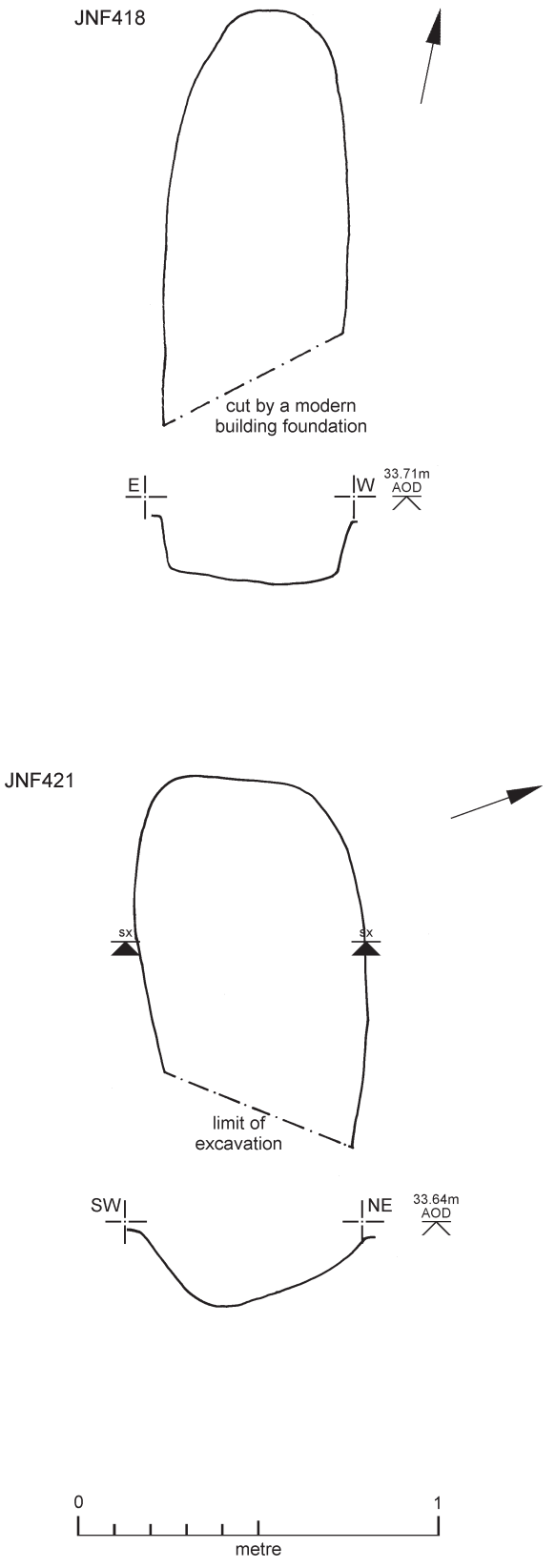
JNF408


JNF410
cut by JNF405
cut by JNF407
cut by JNF404
sx
sx
cut by a modern building foundation
W
E
33.85m AOD
cut by JNF404
0
1
metre

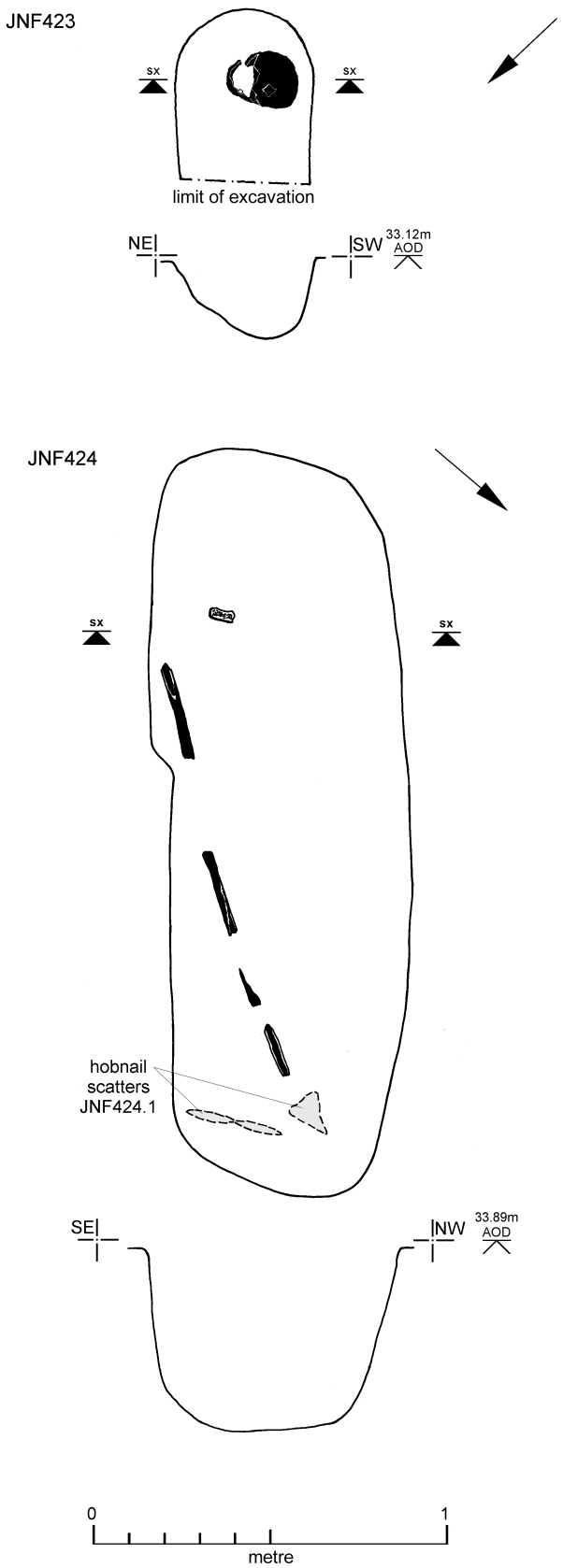
JNF410


JNF417
sx
charcoal-rich fill
cremated bone
sx
NW
SE
34.30m AOD
0
0.5
metre

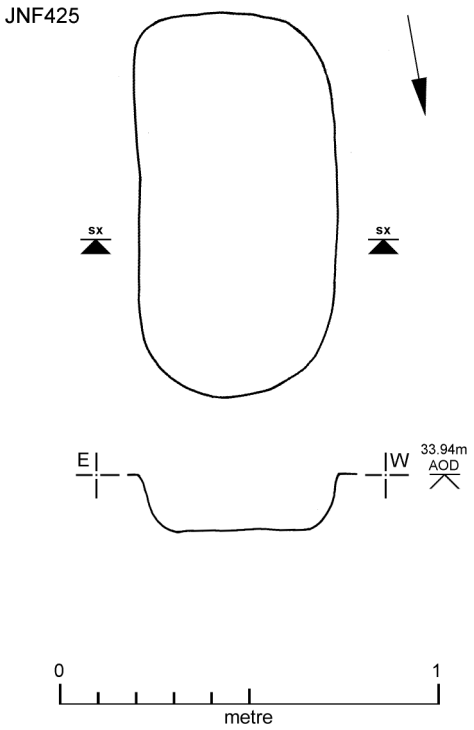
JNF417



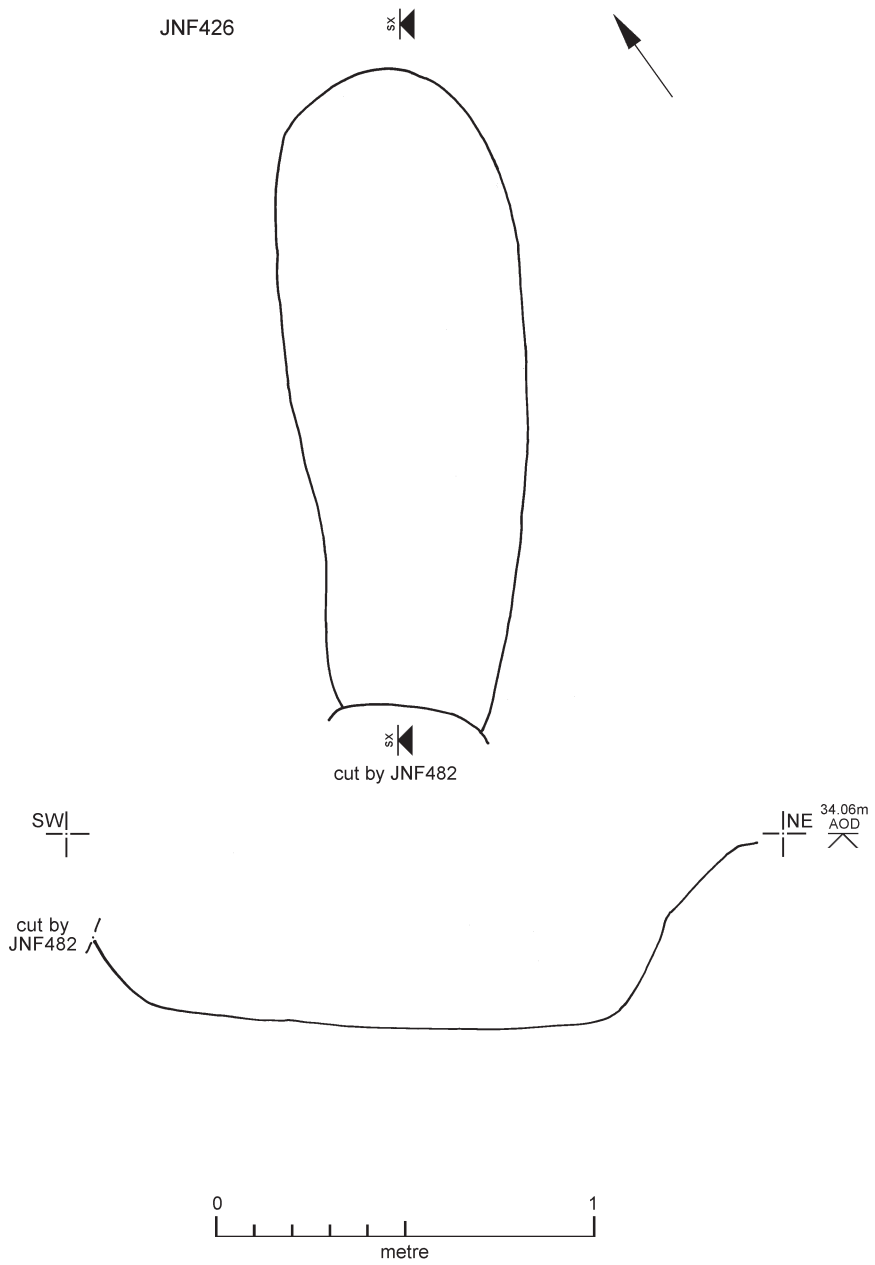
JNF418 and JNF421



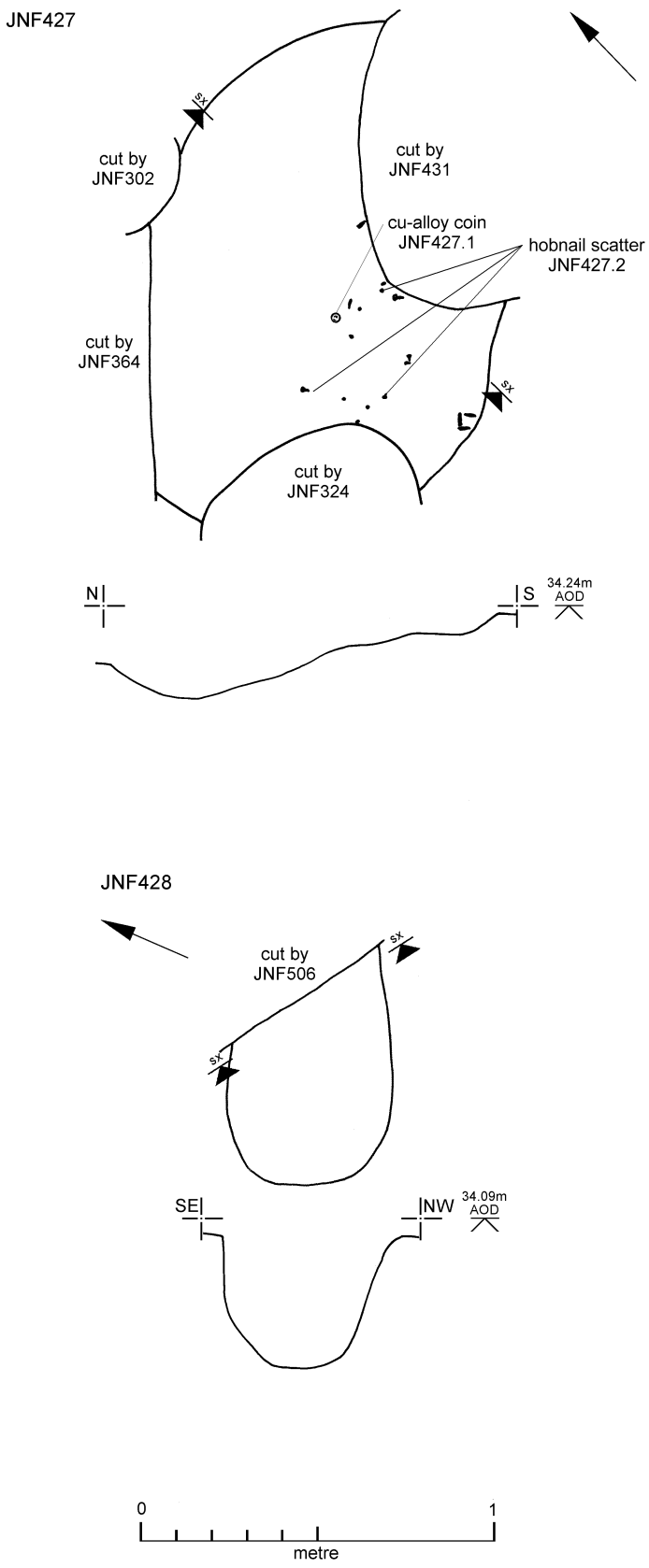
JNF423 and JNF424



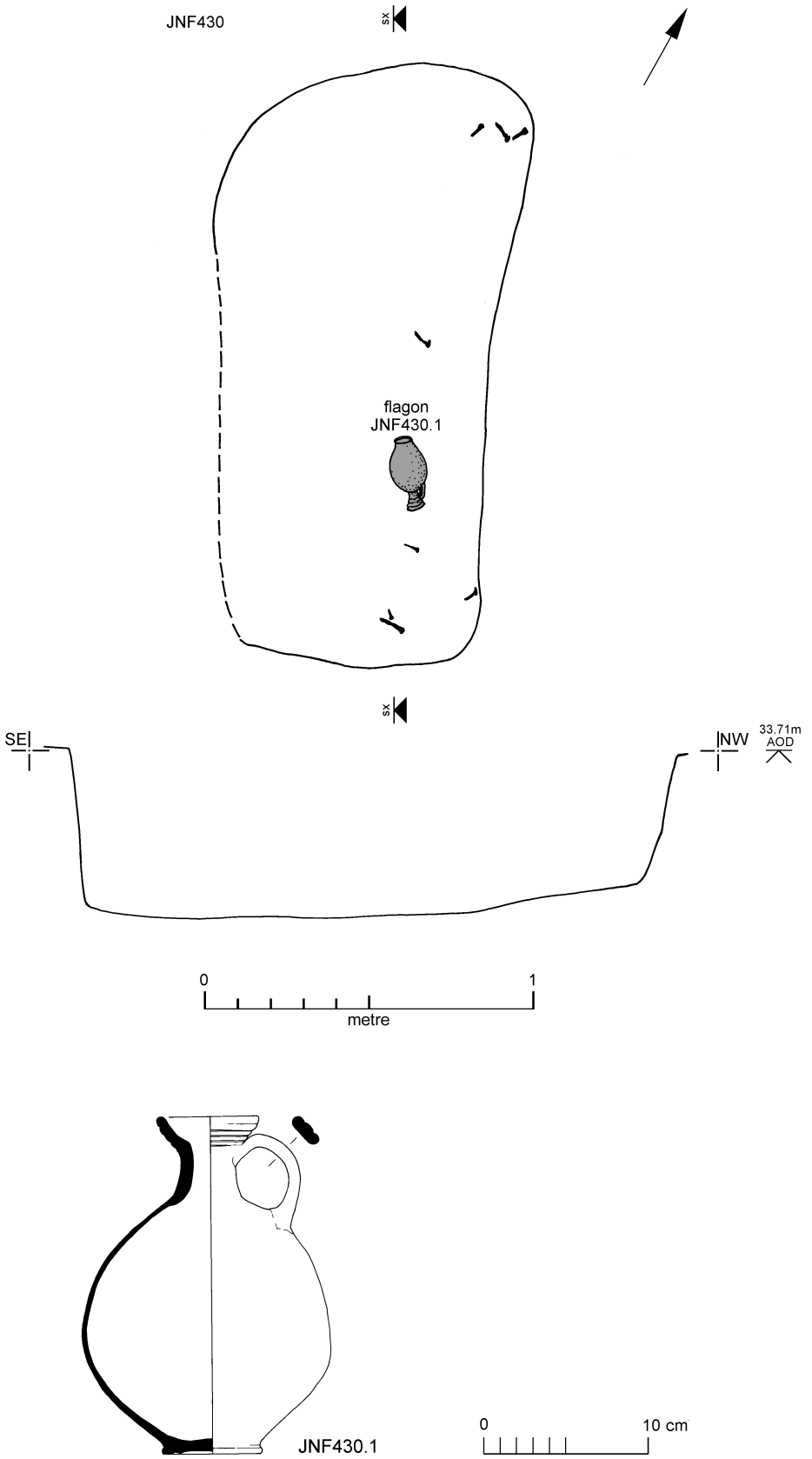
JNF425


JNF426
xs
xs
cut by JNF482
SW
NE
34.06m
AOD
cut by
JNF482
0
1
metre

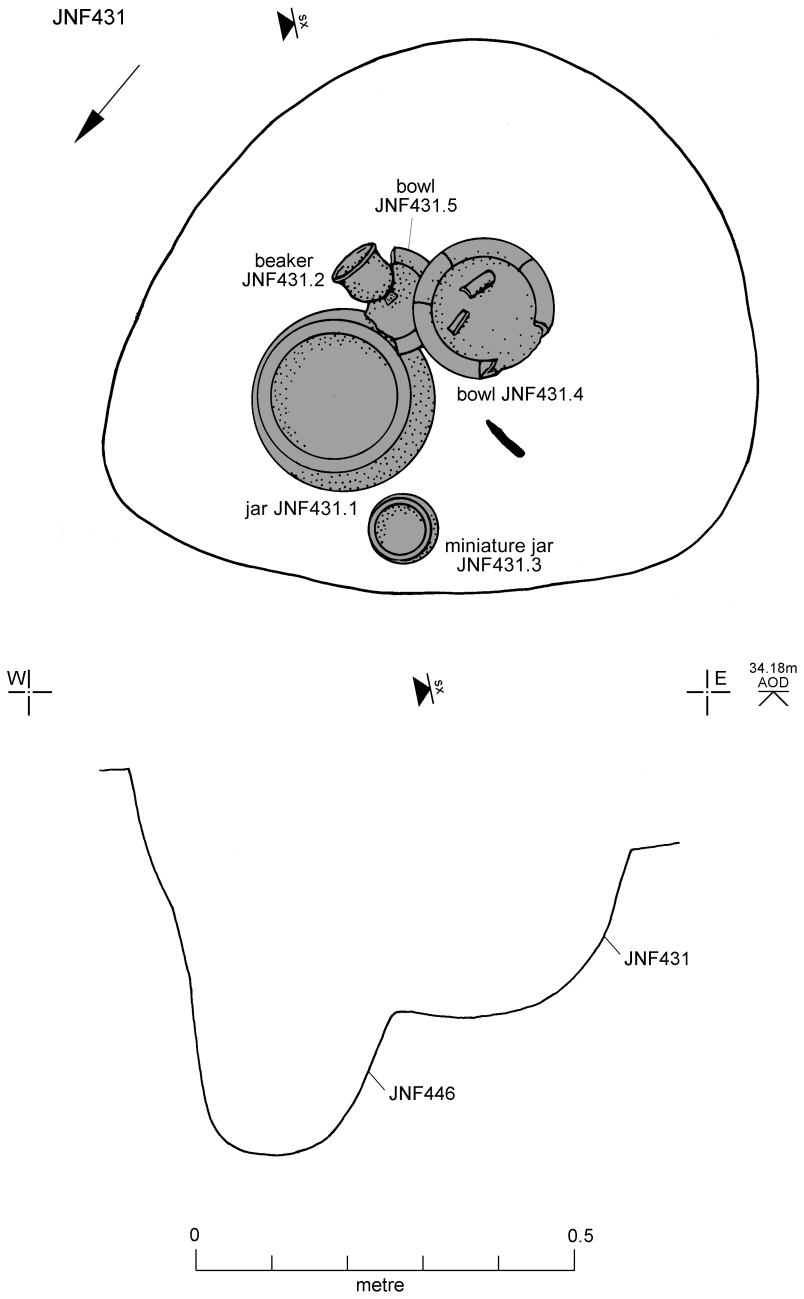
JNF426



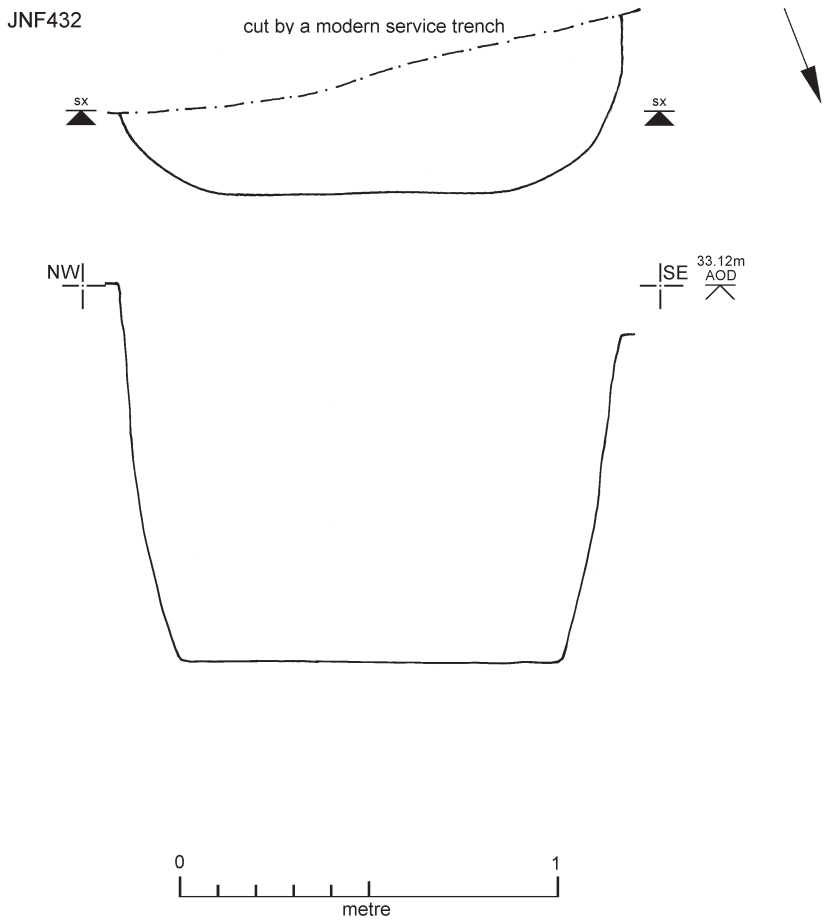
JNF427 and JNF428


JNF430
sx
flagon
JNF430.1
sx
SE
NW
33.71m
AOD
0
1
metre
JNF430.1
0
10 cm

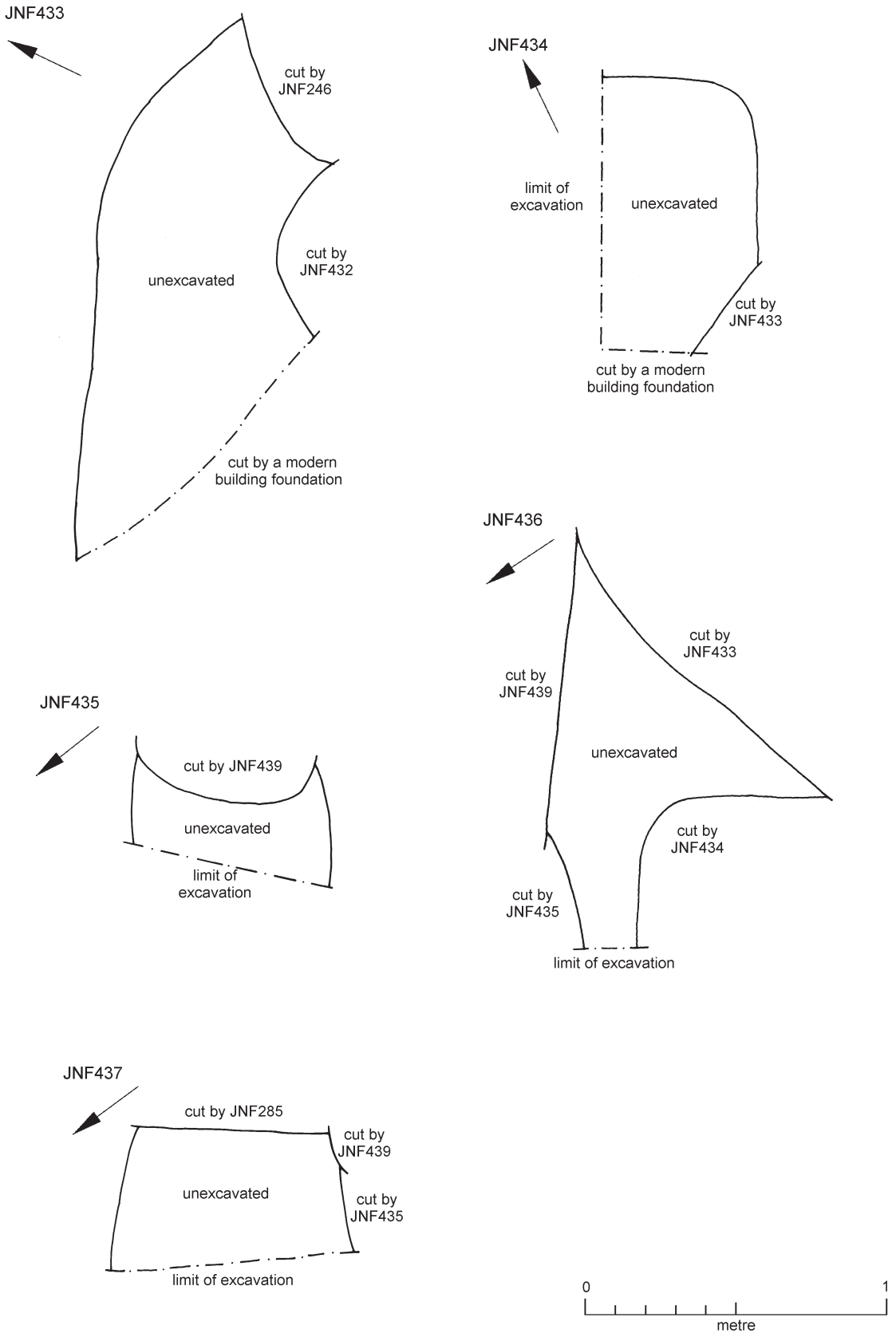
JNF430


JNF431
xs
bowl
JNF431.5
beaker
JNF431.2
bowl JNF431.4
jar JNF431.1
miniature jar
JNF431.3
W
xs
E
34.18m
AOD
JNF431
JNF446
0
0.5
metre

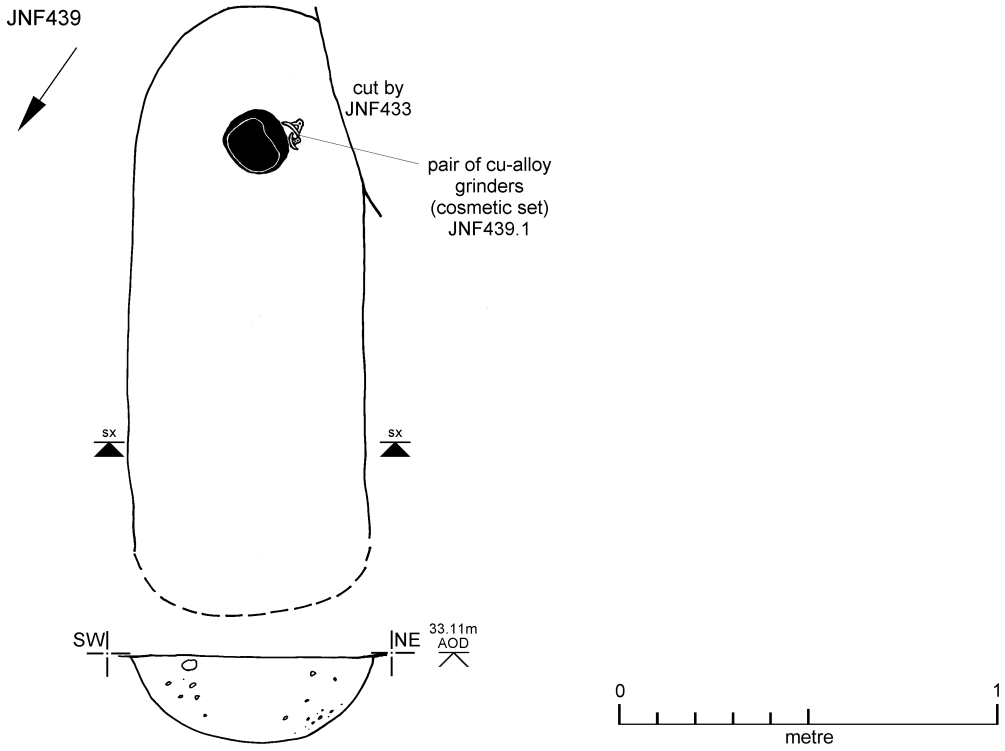
JNF431

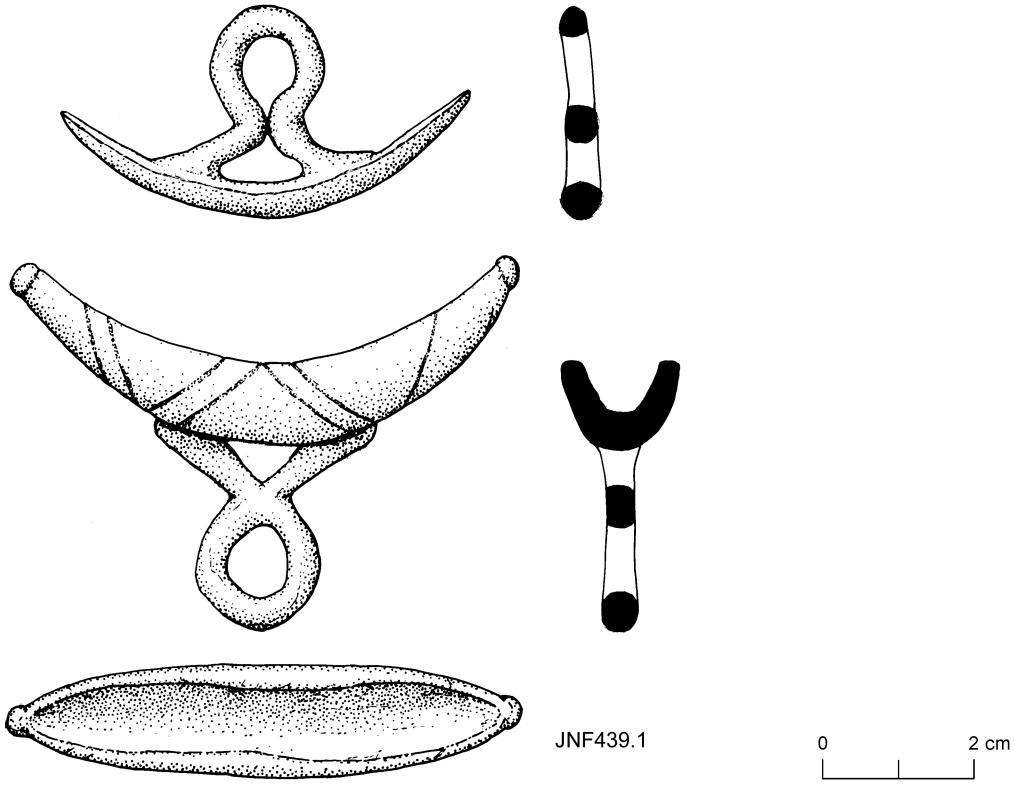

JNF432
cut by a modern service trench
sx
sx
NW
SE
33.12m
AOD
0
1
metre

JNF432

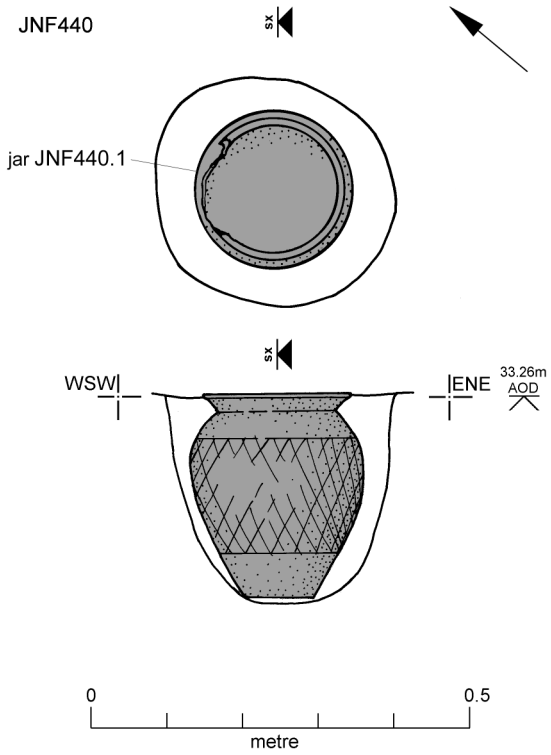


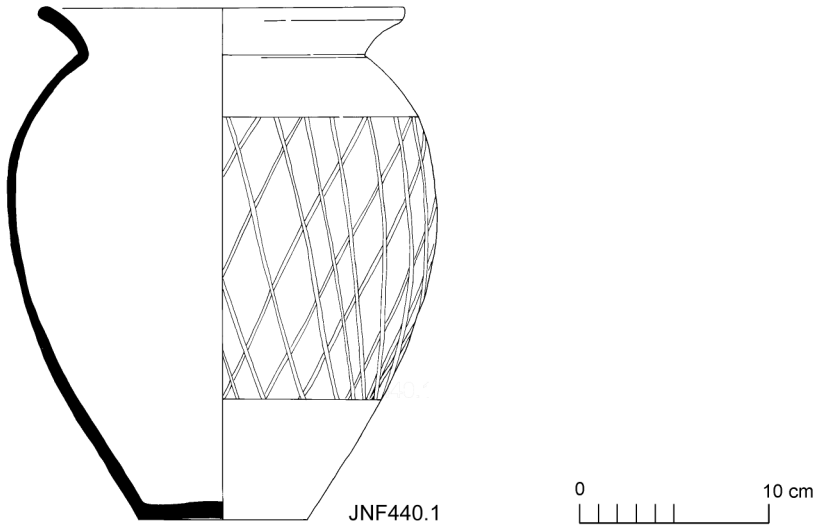
JNF433-JNF437


JNF439
cut by
JNF433
pair of cu-alloy
grinders
(cosmetic set)
JNF439.1
sx
sx
SW
NE
33.11m
AOD
0
1
metre

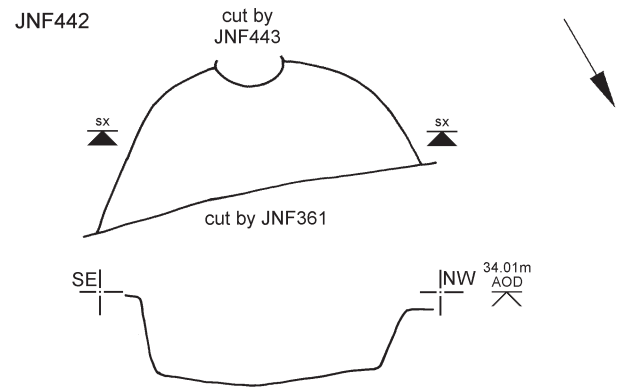

JNF439.1
0
2 cm

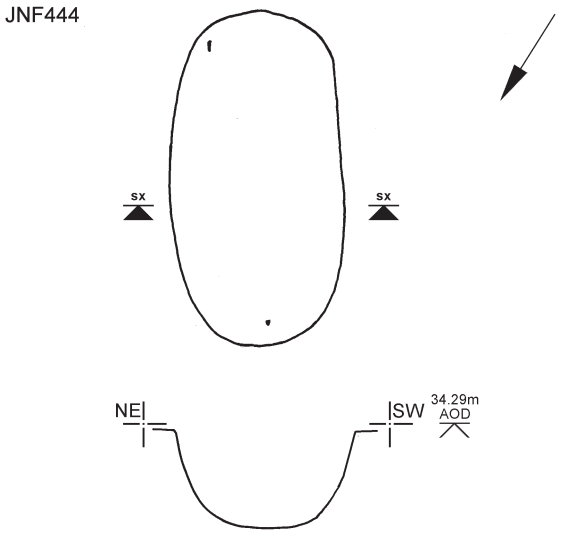
JNF439

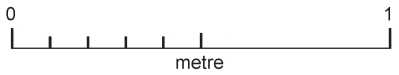

JNF440
SX
jar JNF440.1
SX
WSW
ENE
33.26m
AOD
0
0.5
metre


JNF440.1
0
10 cm

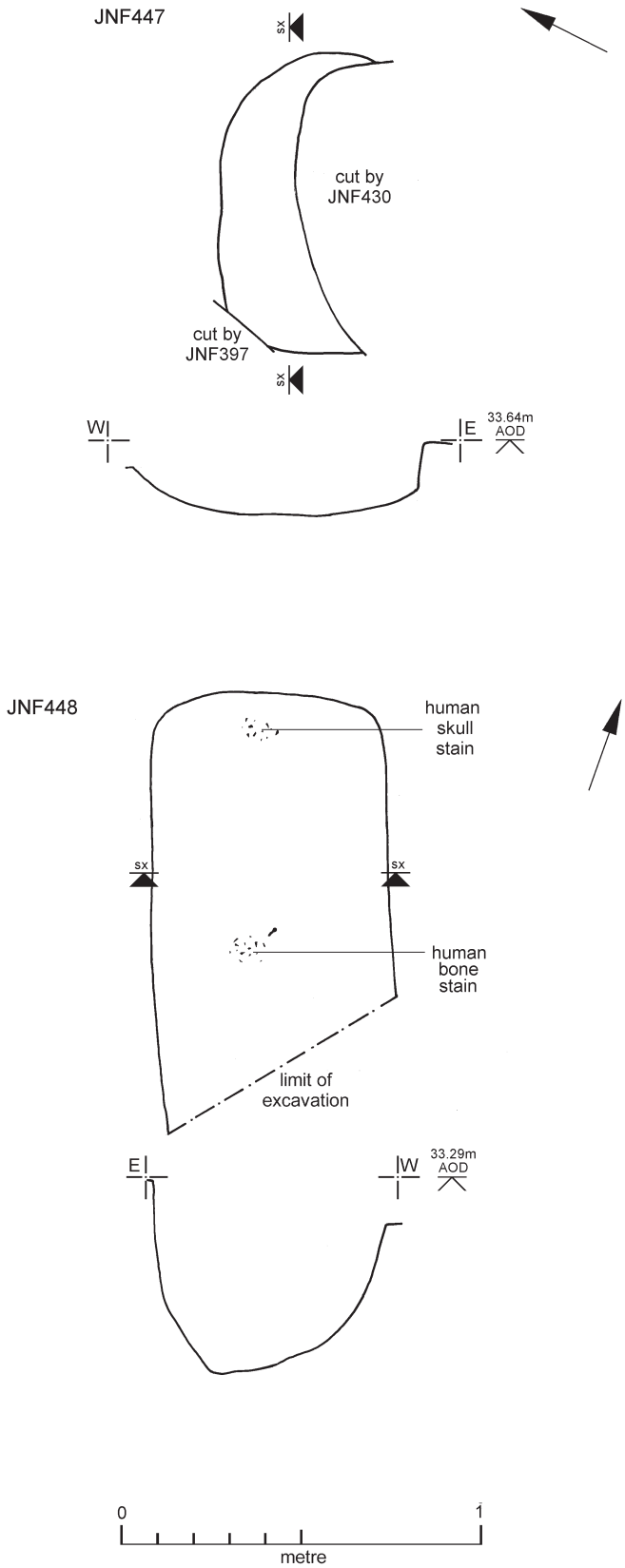
JNF440



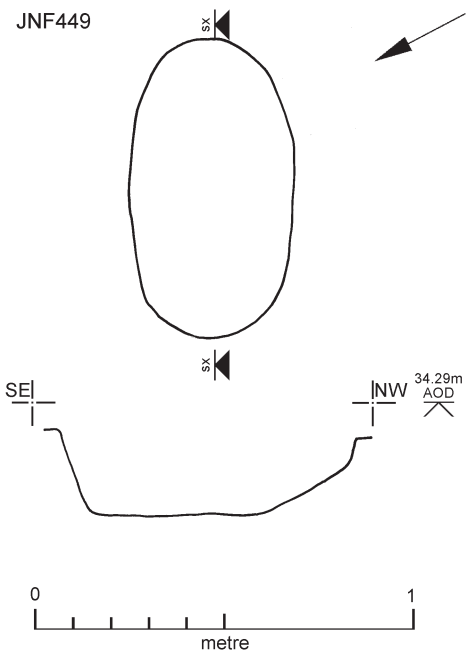




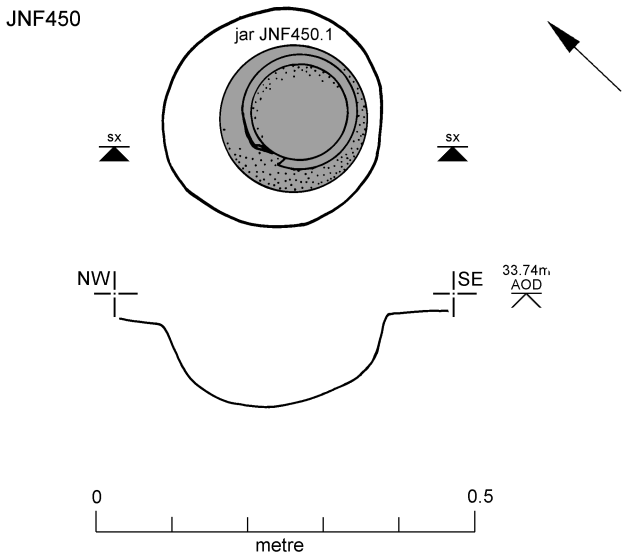
JNF442 and JNF444

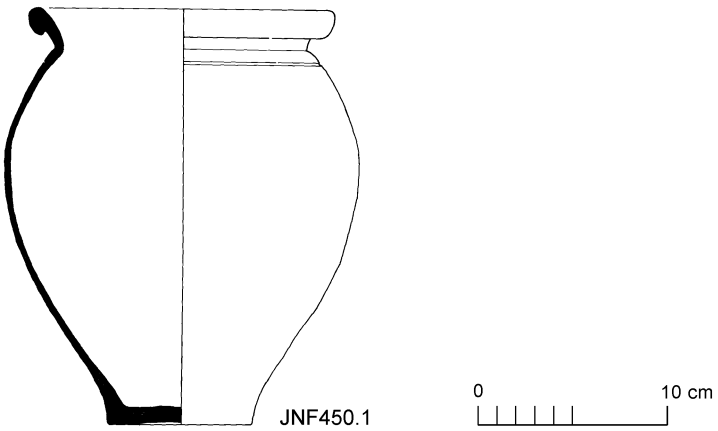


JNF447 and JNF448

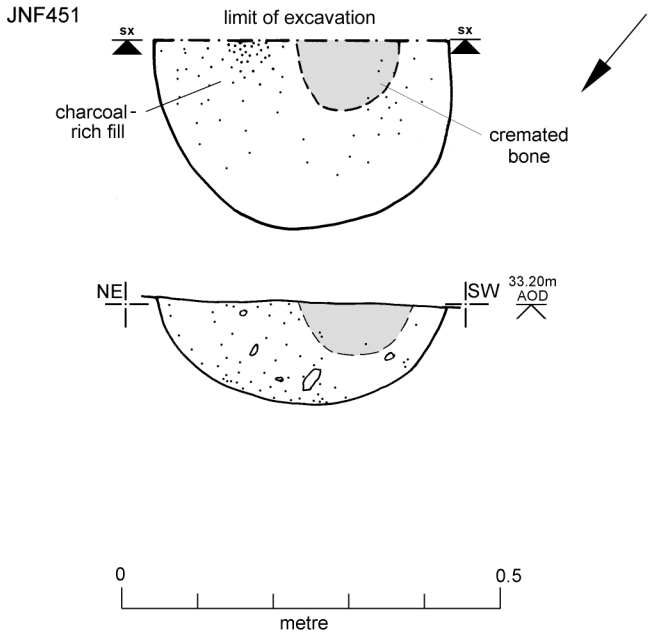


JNF449

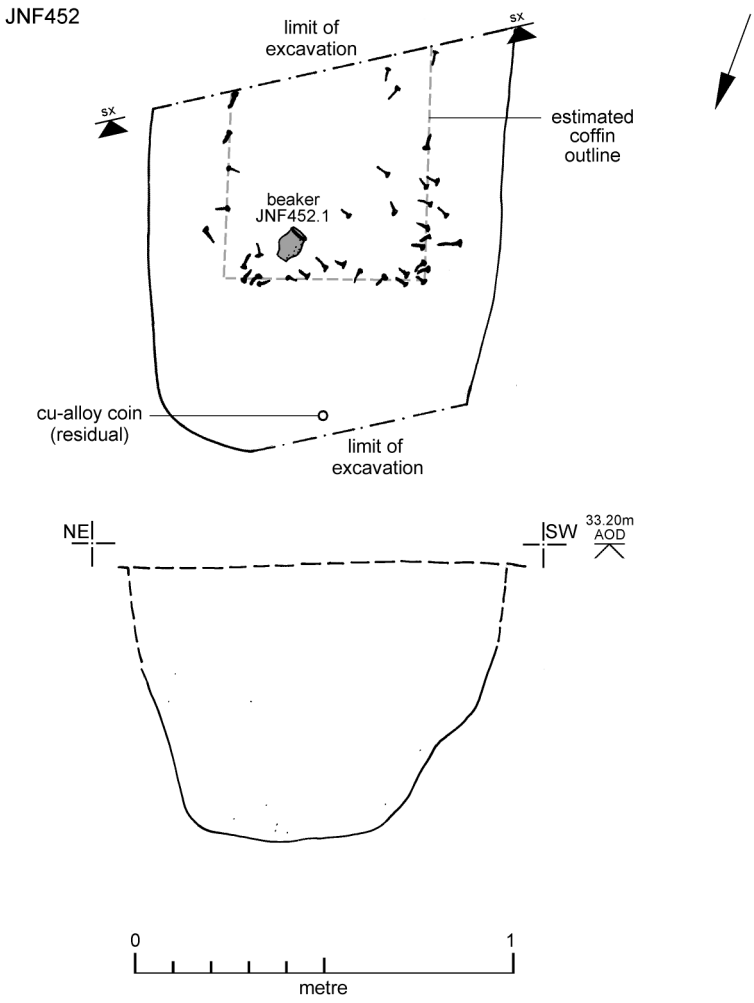

JNF450
jar JNF450.1
sx
sx
NW
SE
33.74m AOD
0
0.5
metre

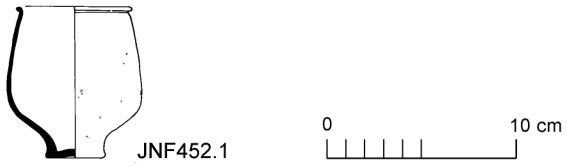

JNF450.1
0
10 cm

JNF450

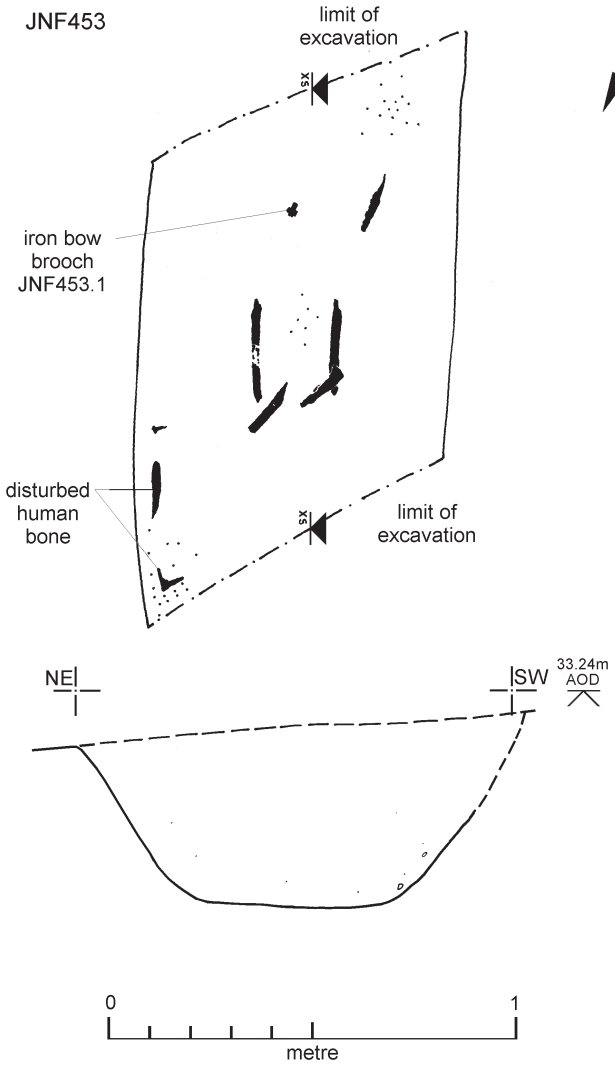

JNF451
limit of excavation
sx
sx
charcoal-rich fill
cremated bone
NE
SW
33.20m AOD
0
0.5
metre

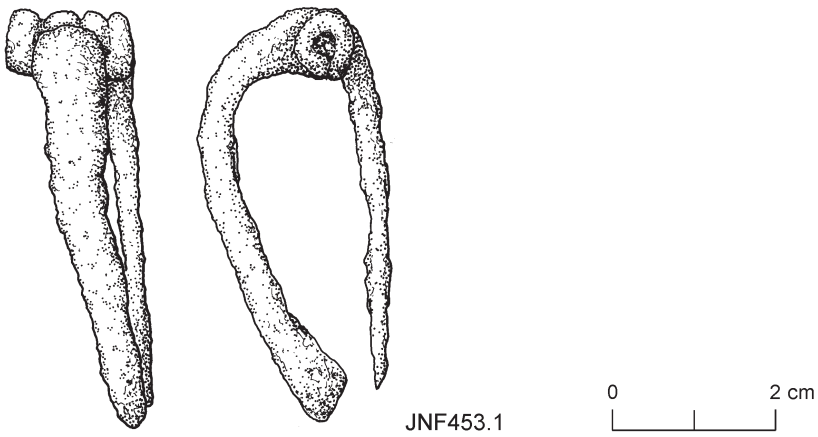
JNF451


JNF452
limit of excavation
sx
sx
estimated coffin outline
beaker JNF452.1
cu-alloy coin (residual)
limit of excavation
NE
SW
33.20m AOD
0
1
metre

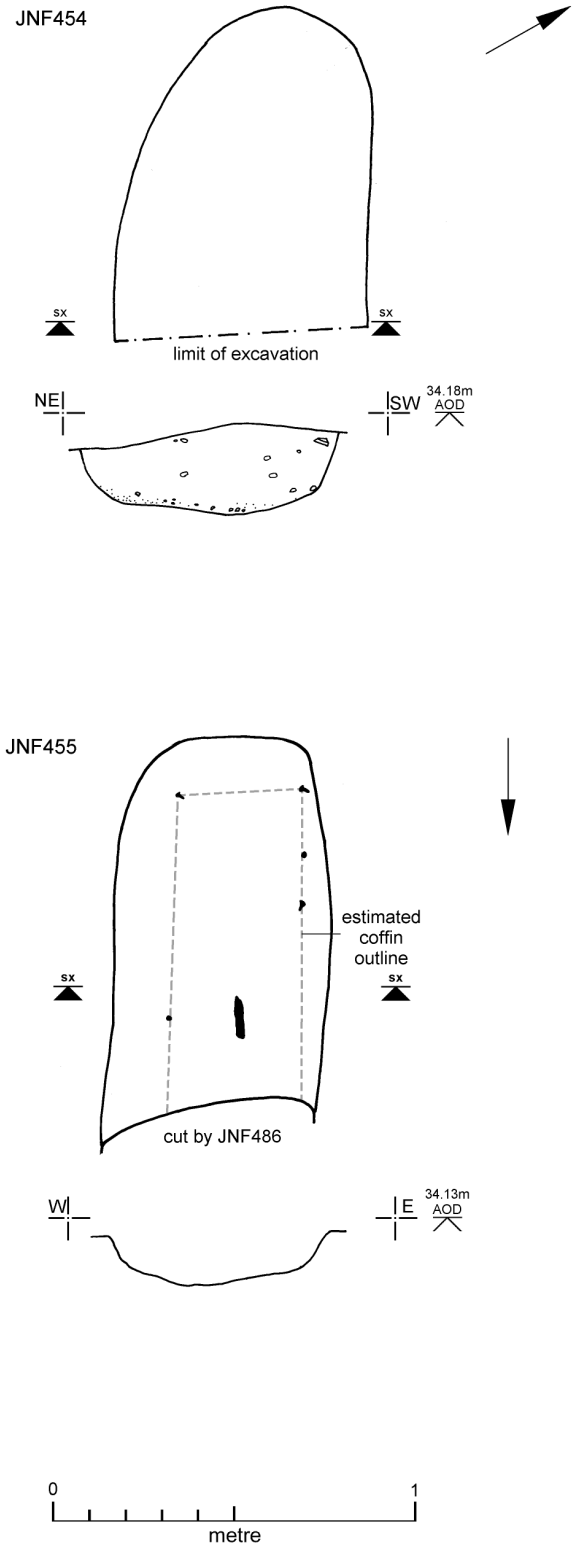

JNF452.1
0
10 cm

JNF452

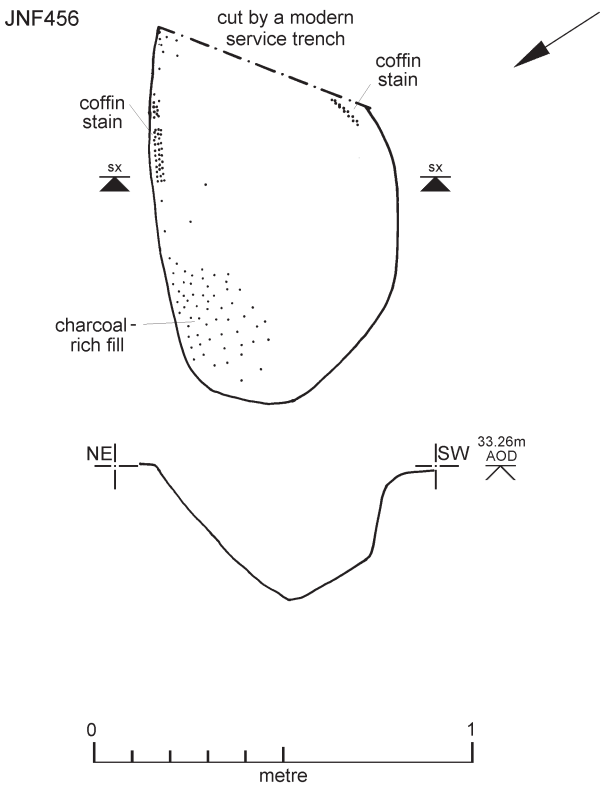

JNF453
limit of
excavation
SX
iron bow
brooch
JNF453.1
disturbed
human
bone
SX
limit of
excavation
NE
SW
33.24m
AOD
0
1
metre


JNF453.1
0
2 cm

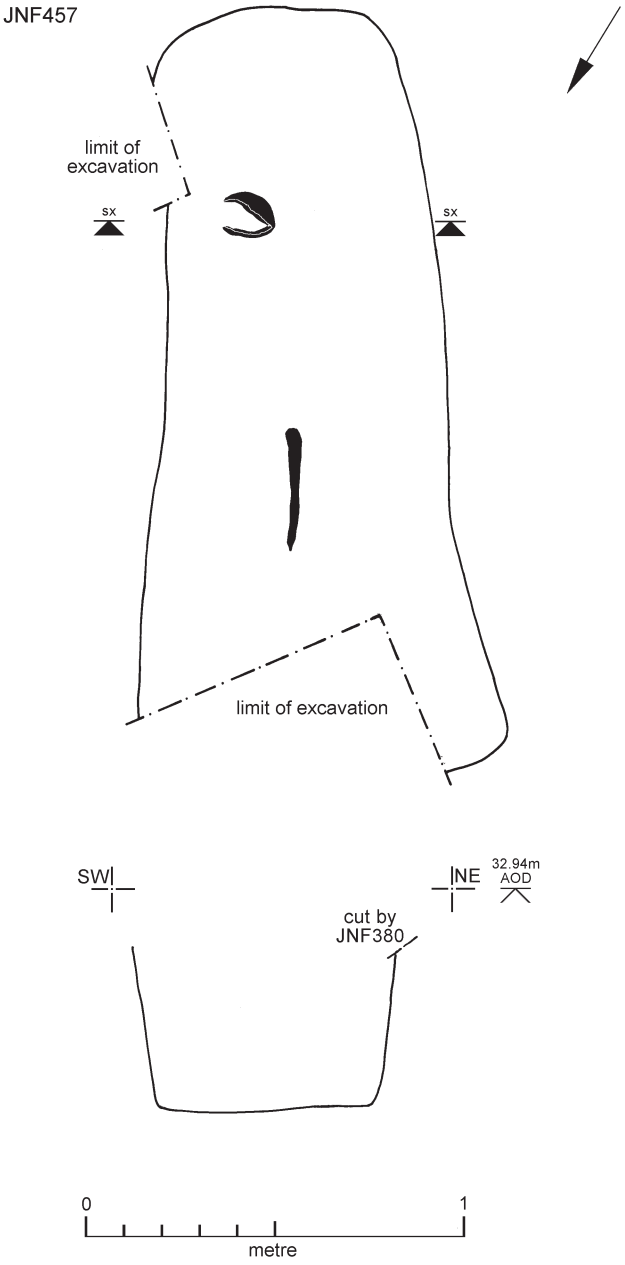
JNF453



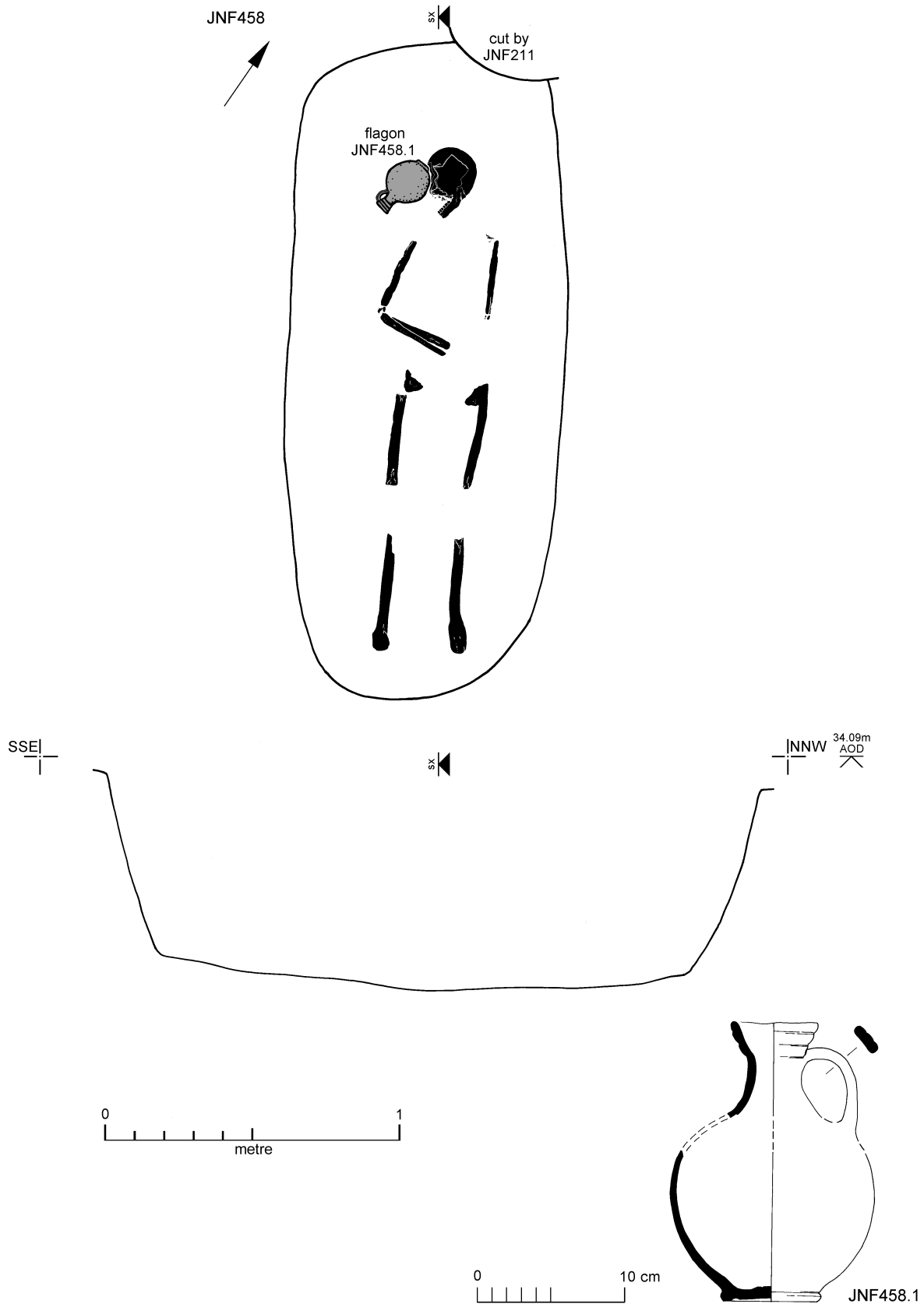
JNF454 and JNF455


JNF456
cut by a modern service trench
coffin stain
coffin stain
sx
sx
charcoal-rich fill
NE
SW
33.26m AOD
0
1
metre

JNF456

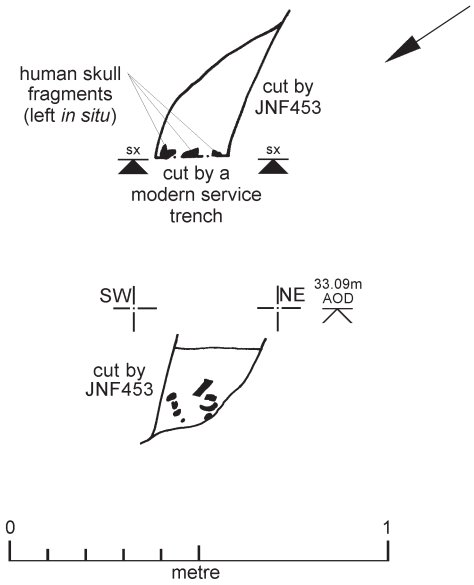

JNF457
limit of
excavation
sx
sx
limit of excavation
SW
NE
32.94m
AOD
cut by
JNF380
0
1
metre

JNF457

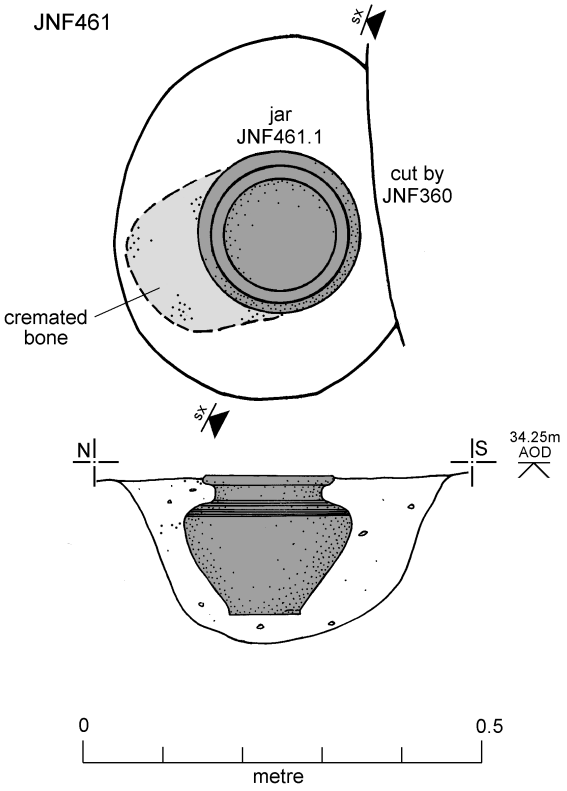

JNF458
SX
cut by
JNF211
flagon
JNF458.1
SSE
SX
NNW
34.09m
AOD
0
1
metre
0
10 cm
JNF458.1

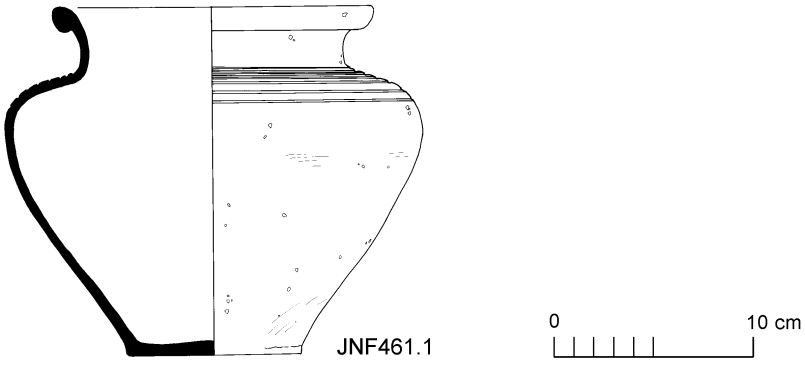
JNF458

JNF459

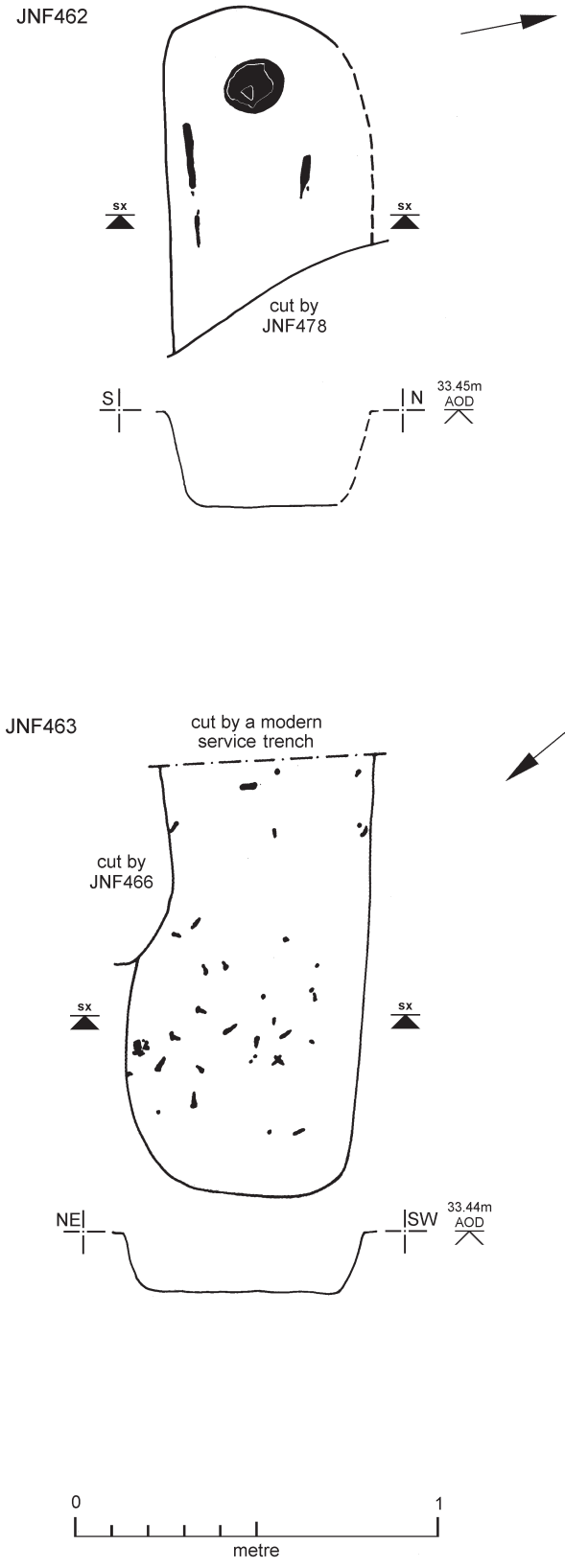


JNF459

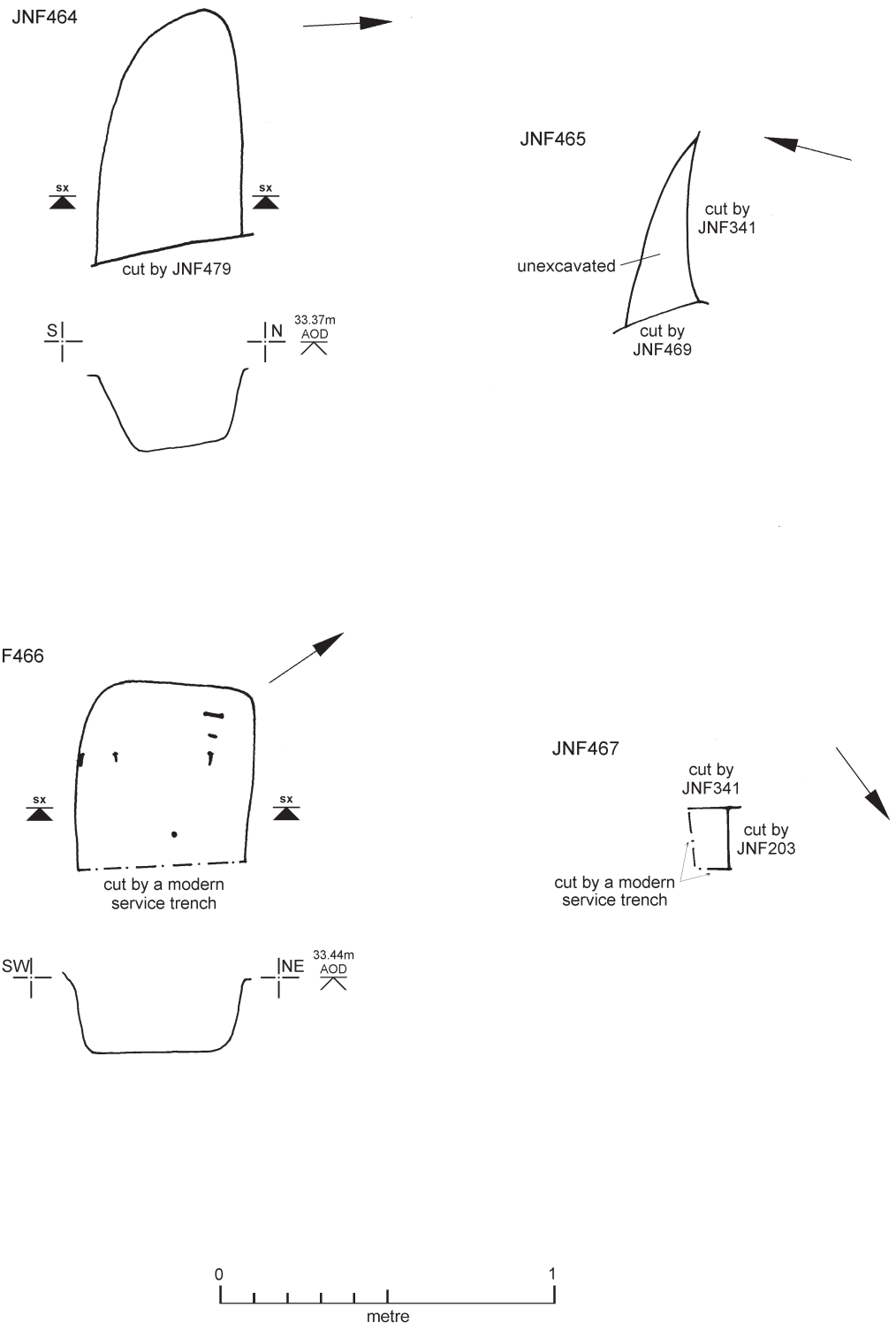

JNF461
sx
jar
JNF461.1
cut by
JNF360
cremated
bone
sx
N
S
34.25m
AOD
0
0.5
metre


JNF461.1
0
10 cm

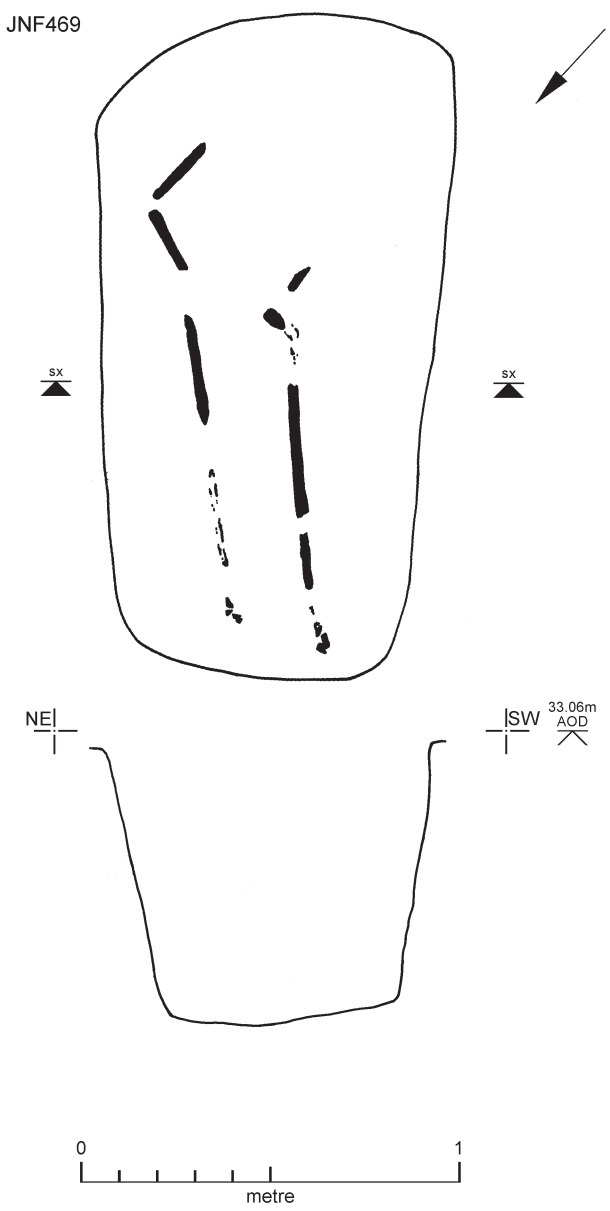
JNF461



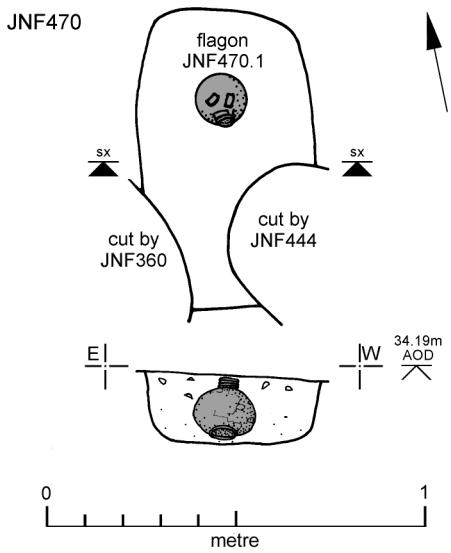
JNF462 and JNF463

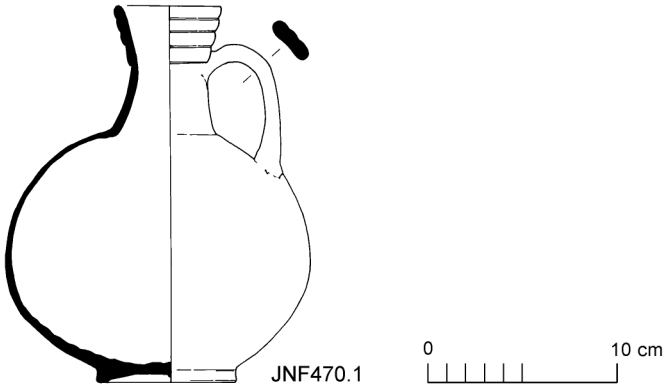


JNF464 465 466 467

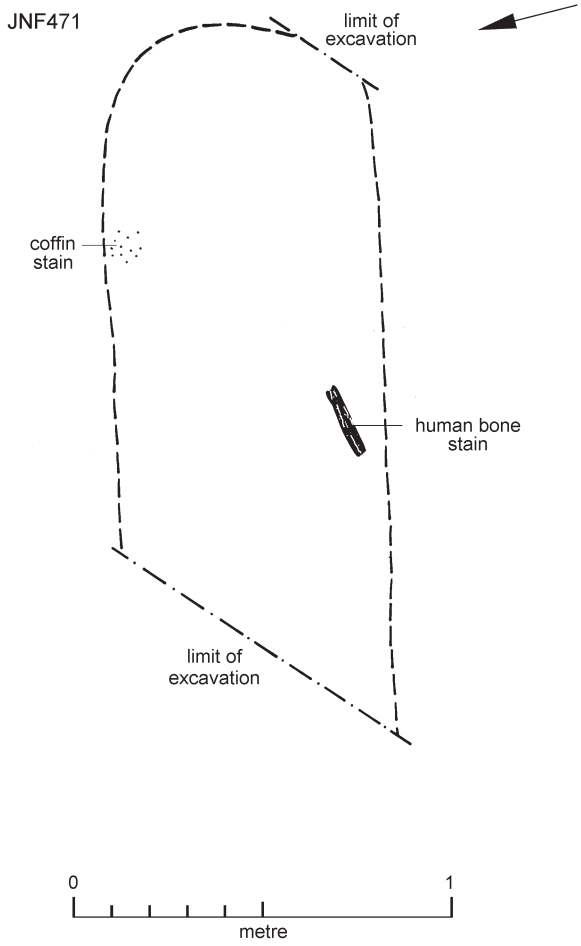


JNF469

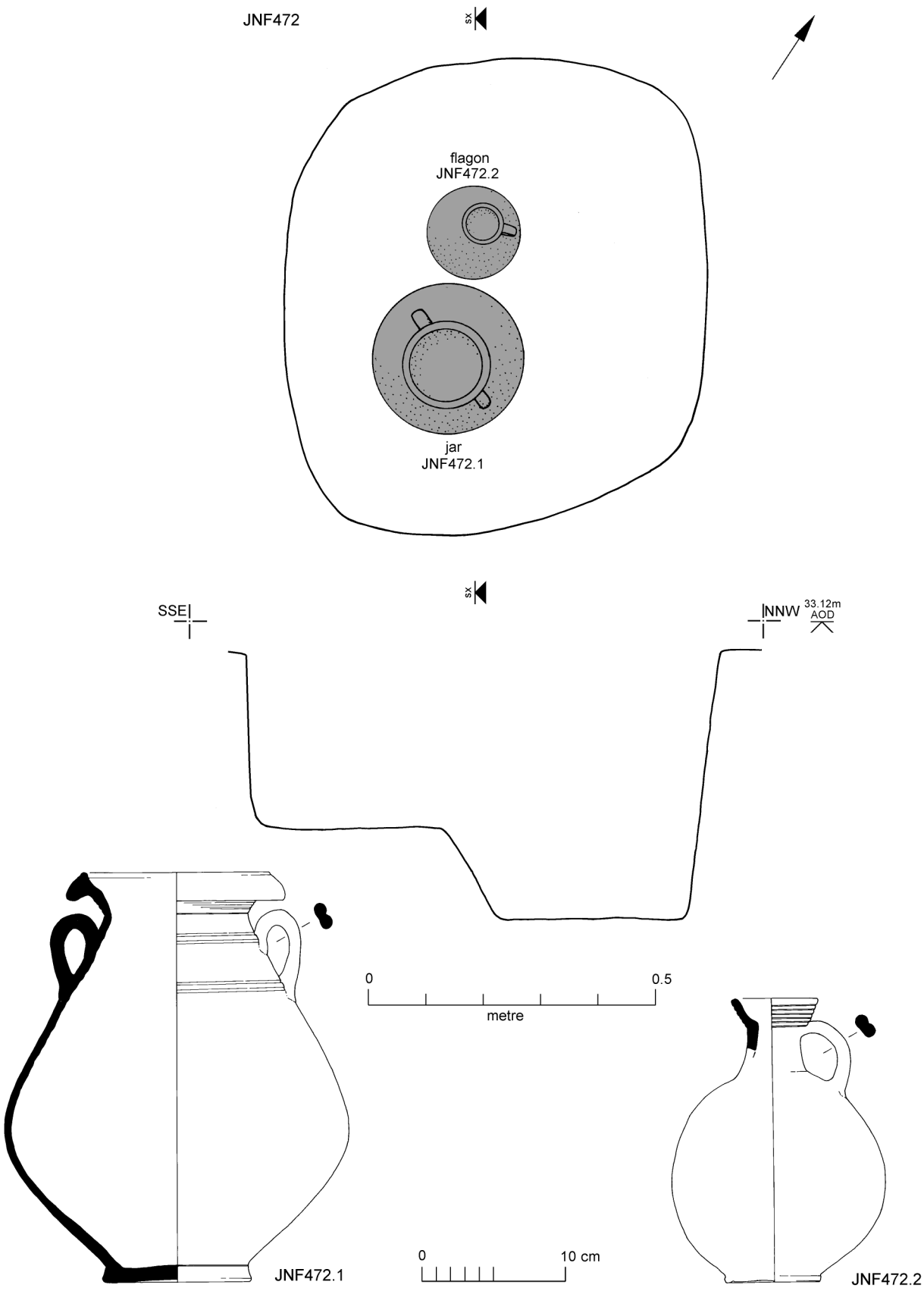

JNF470
flagon
JNF470.1
sx
sx
cut by
JNF444
cut by
JNF360
E
W
34.19m
AOD
0
1
metre


JNF470.1
0
10 cm

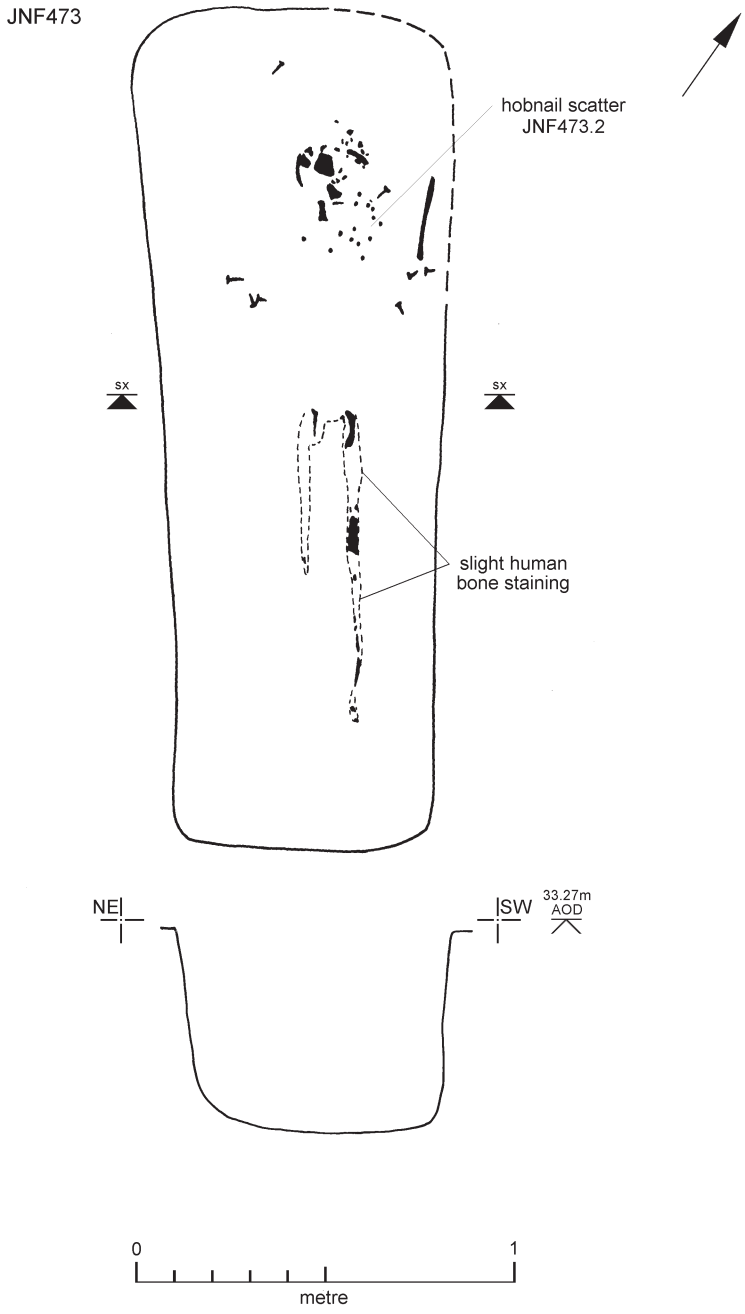
JNF470


JNF471
limit of
excavation
coffin
stain
human bone
stain
limit of
excavation
0
1
metre

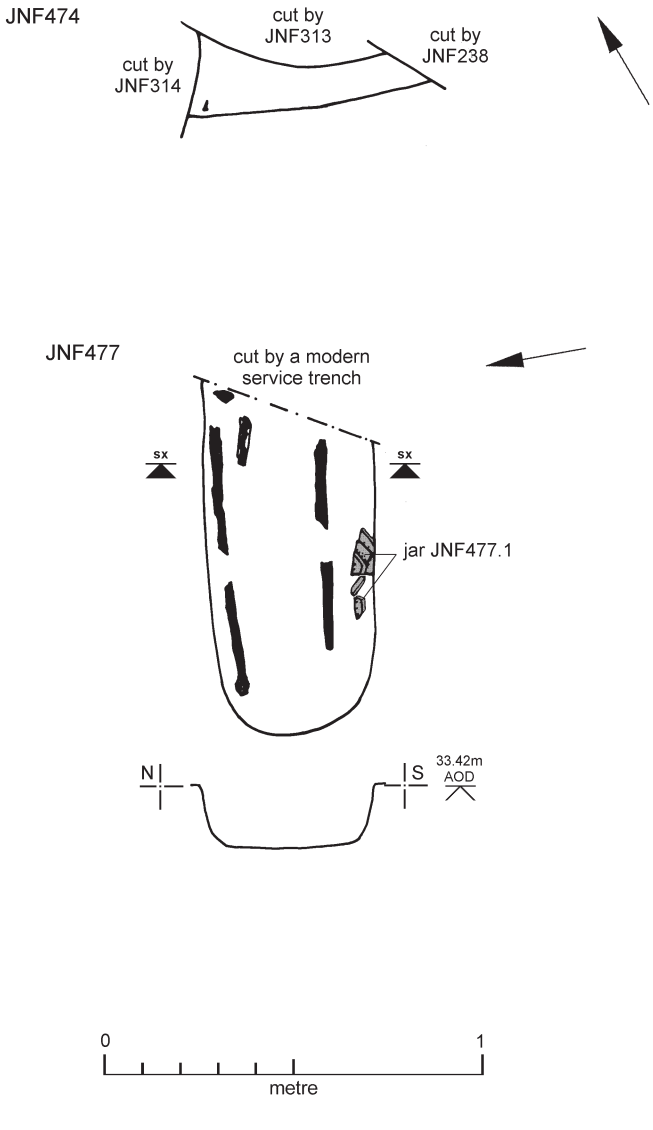
JNF471


JNF472
sx
flagon
JNF472.2
jar
JNF472.1
sx
SSE
NNW
33.12m
AOD
0
0.5
metre
JNF472.1
0
10 cm
JNF472.2

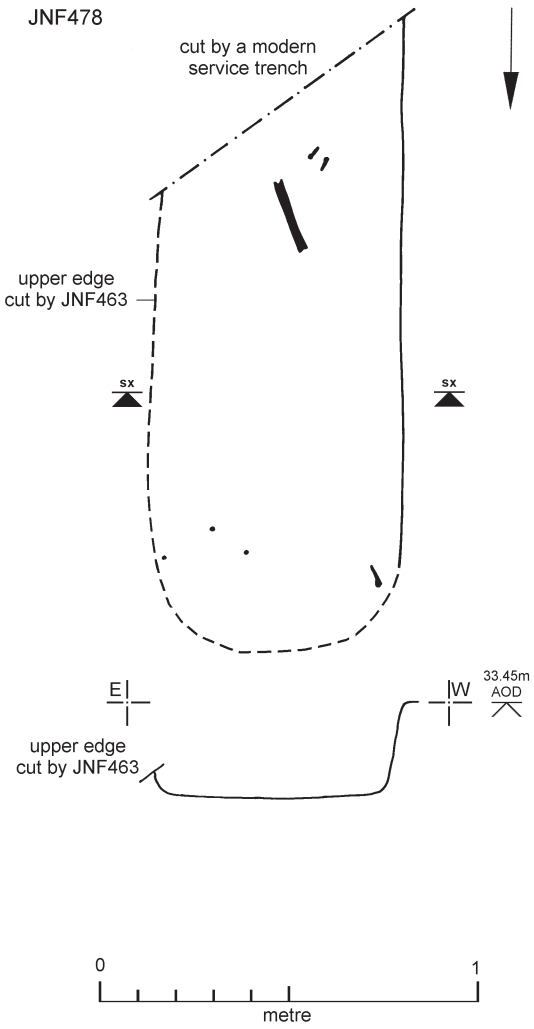
JNF472


JNF473
hobnail scatter
JNF473.2
sx
sx
slight human
bone staining
NE
SW
33.27m
AOD
0
1
metre

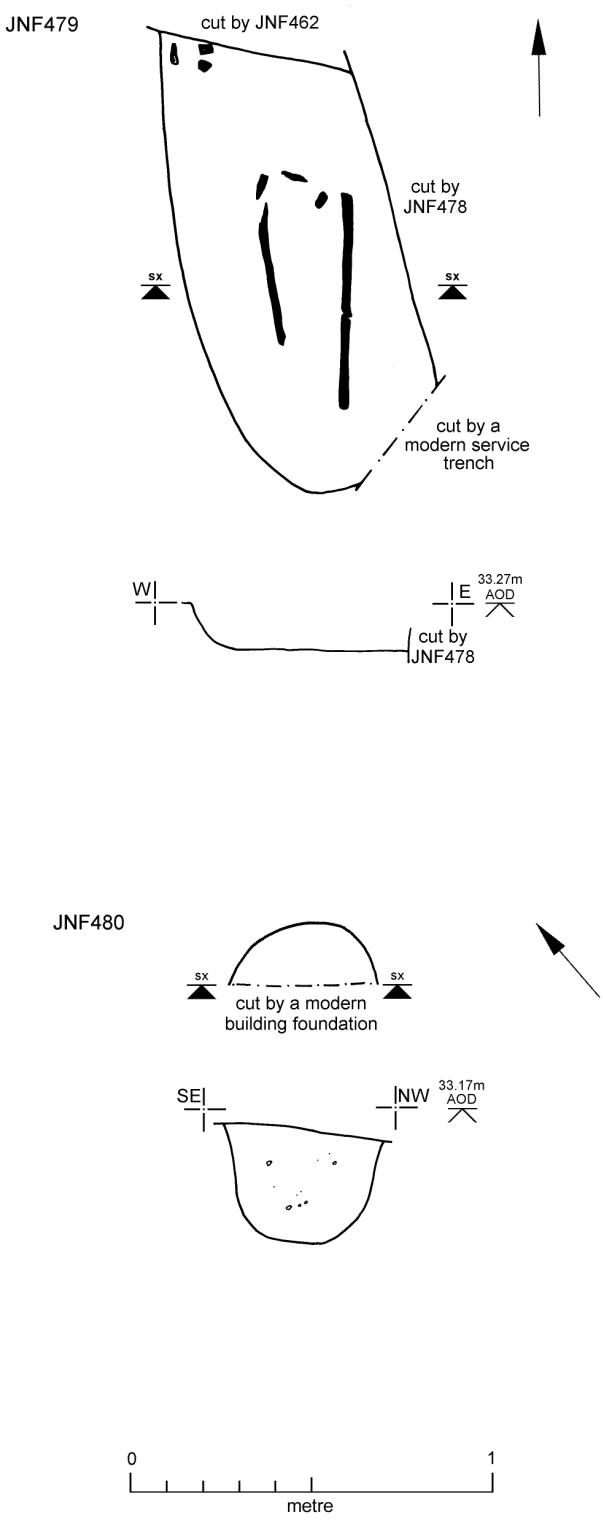
JNF473



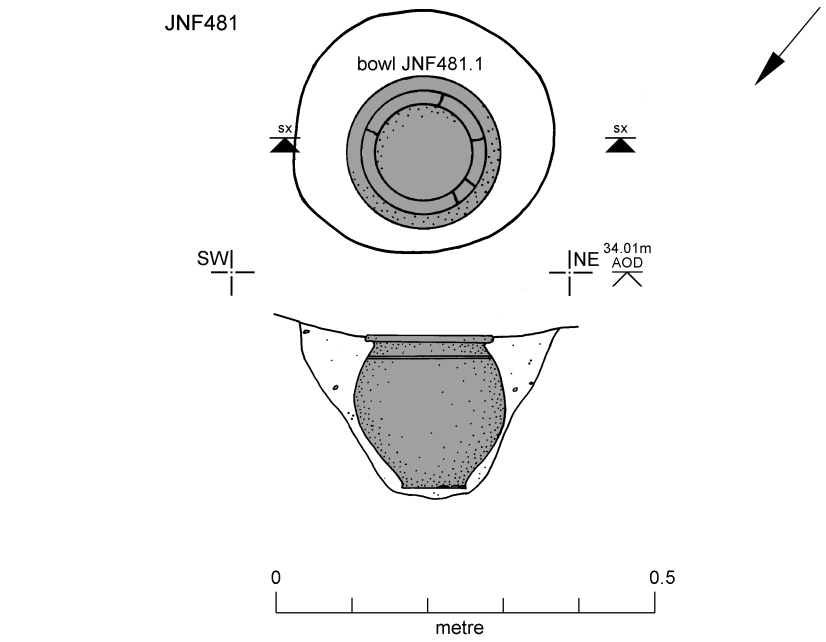
JNF474 and JNF477

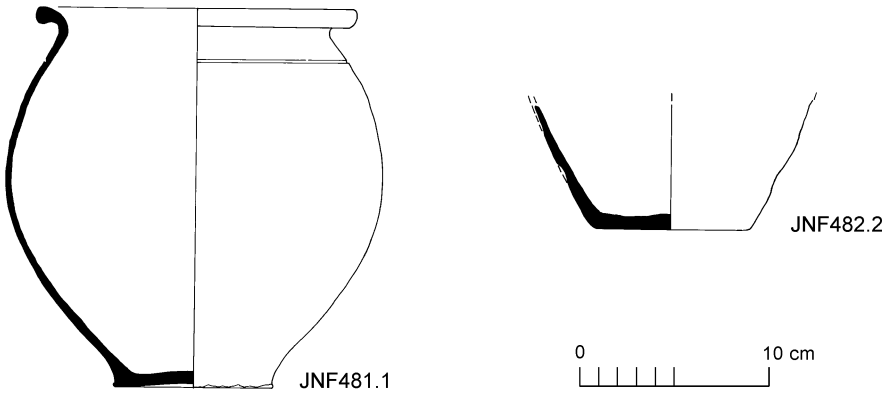

JNF478
cut by a modern service trench
upper edge cut by JNF463
sx
sx
E
W
33.45m AOD
upper edge cut by JNF463
0
1
metre

JNF478

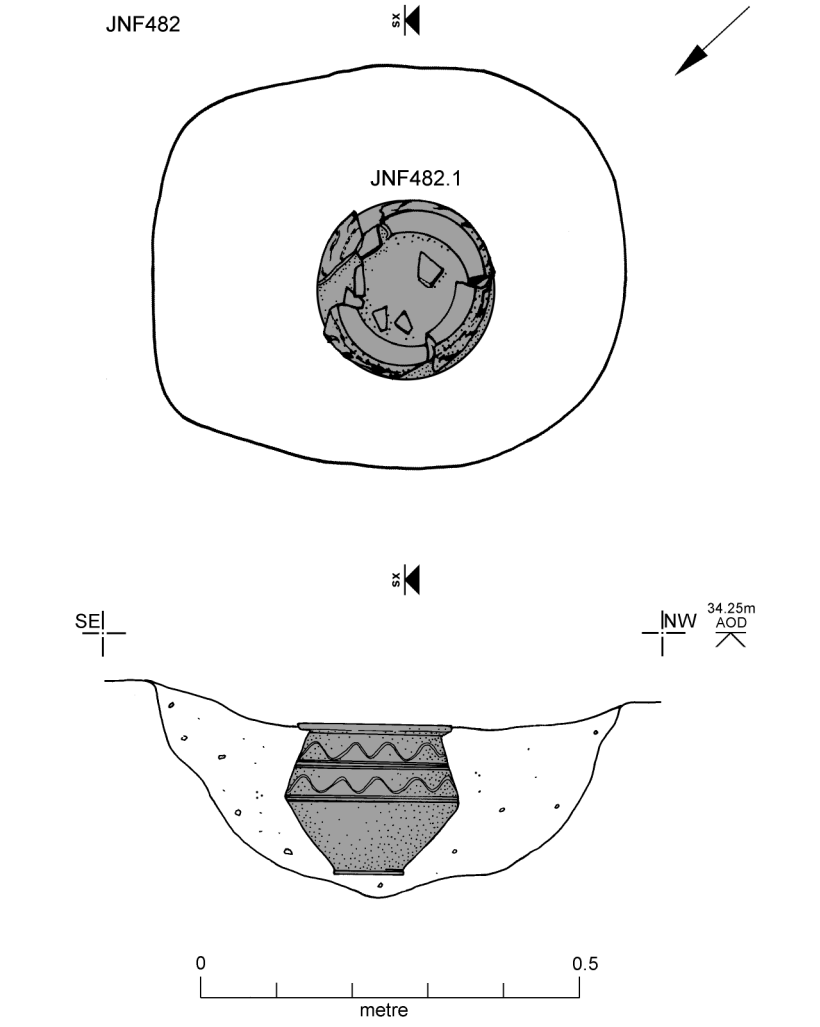


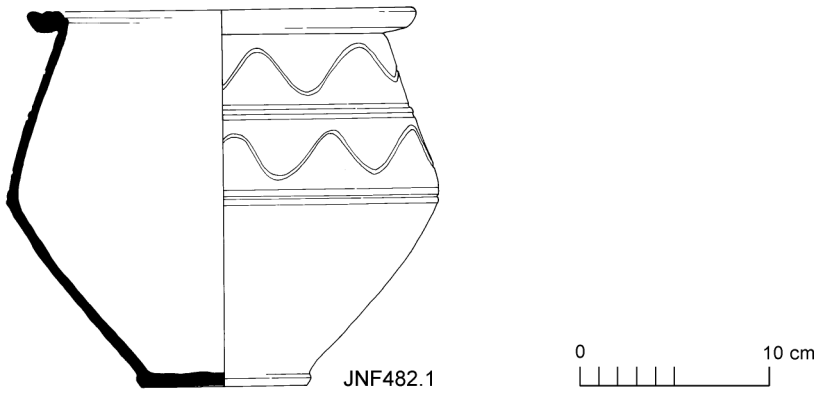
JNF479 and JNF480


JNF481
bowl JNF481.1
sx
sx
SW
NE
34.01m
AOD
0
0.5
metre

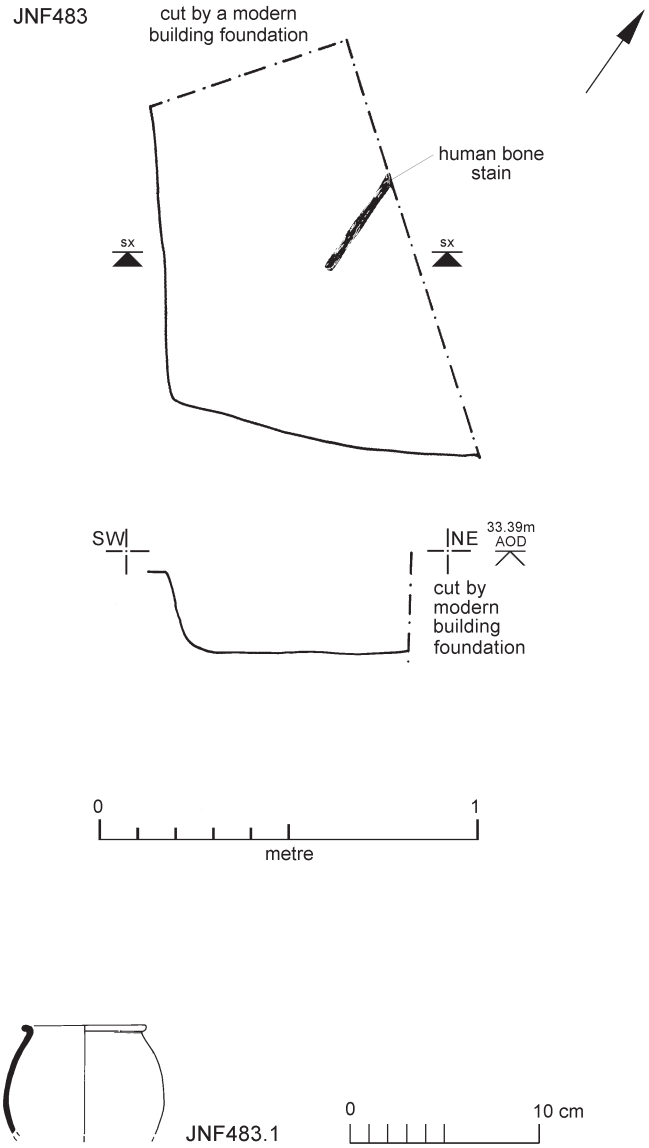

JNF481.1
JNF482.2
0
10 cm

JNF481



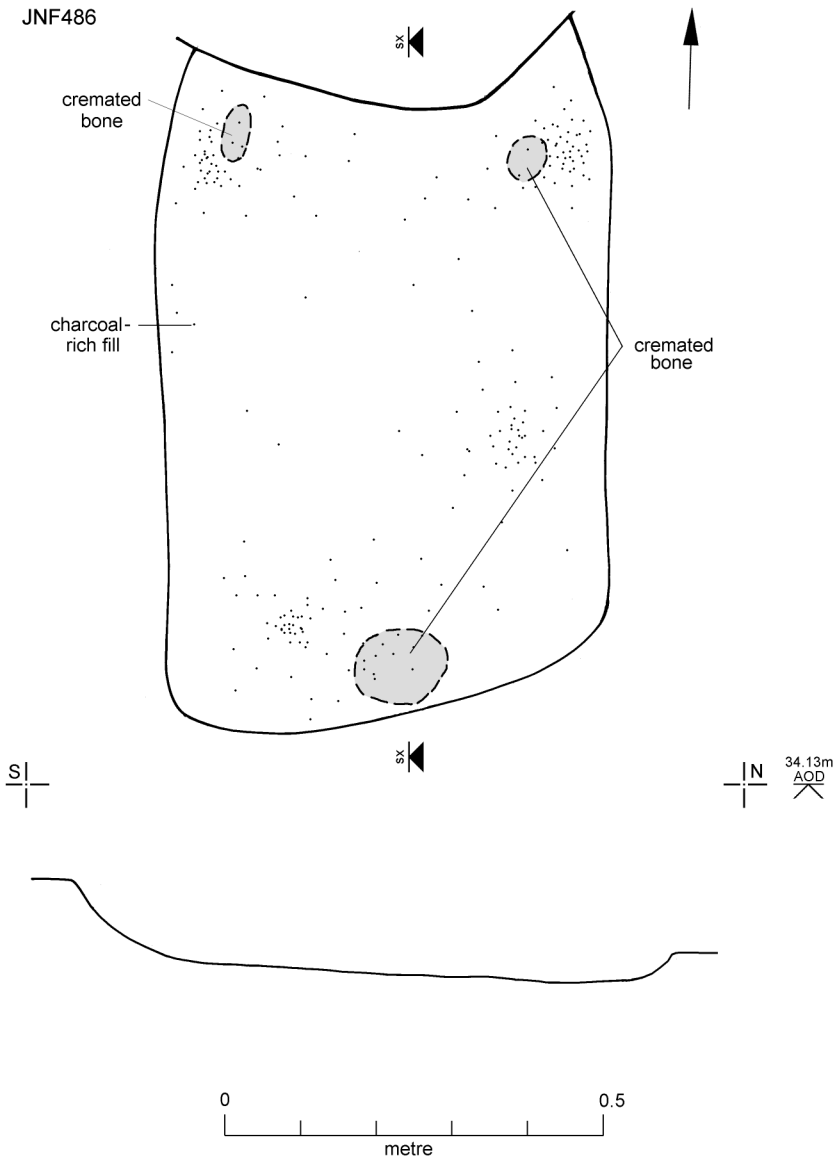


JNF482

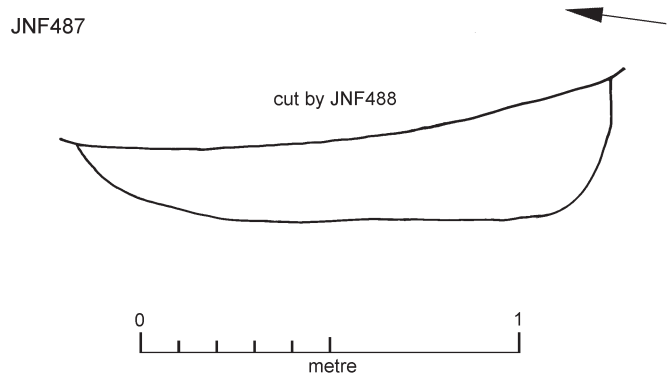

JNF483
cut by a modern building foundation
human bone stain
sx
sx
SW
NE
33.39m AOD
cut by modern building foundation
0
1
metre

JNF483.1
0
10 cm

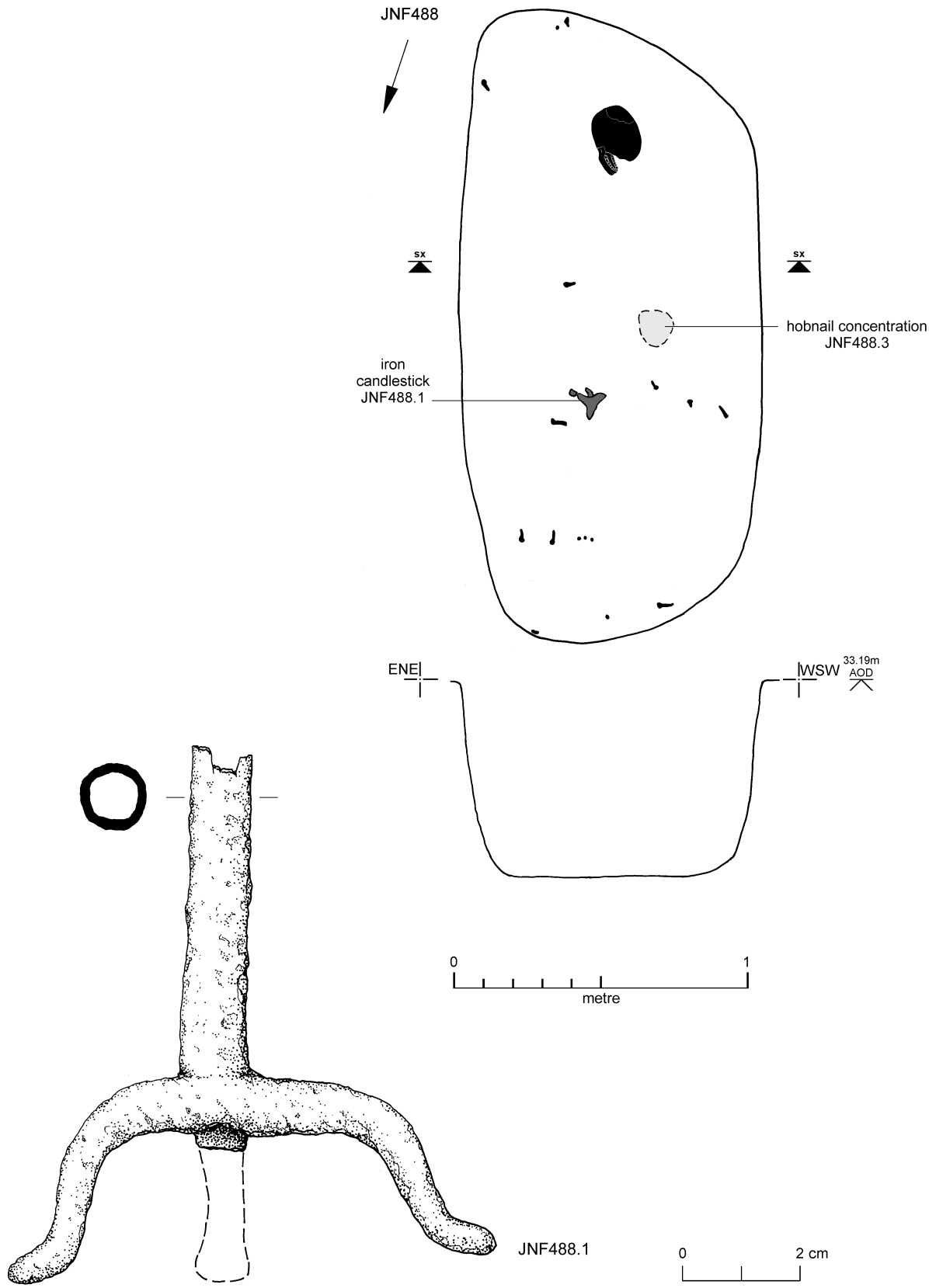
JNF483


JNF486
cremated bone
charcoal-rich fill
cremated bone
S
N
34.13m AOD
0
0.5
metre

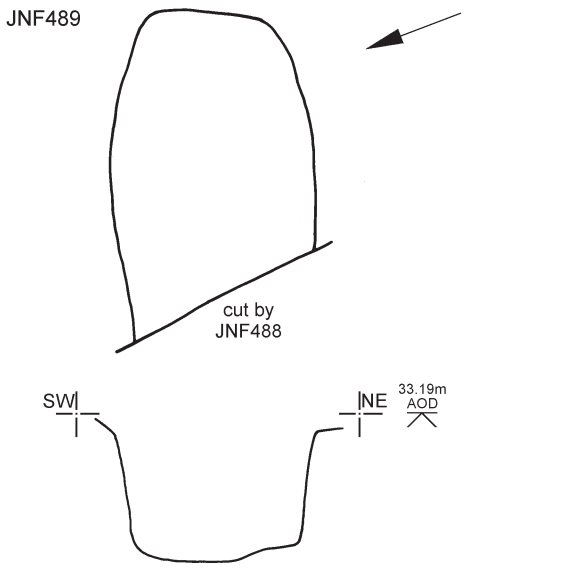
JNF486

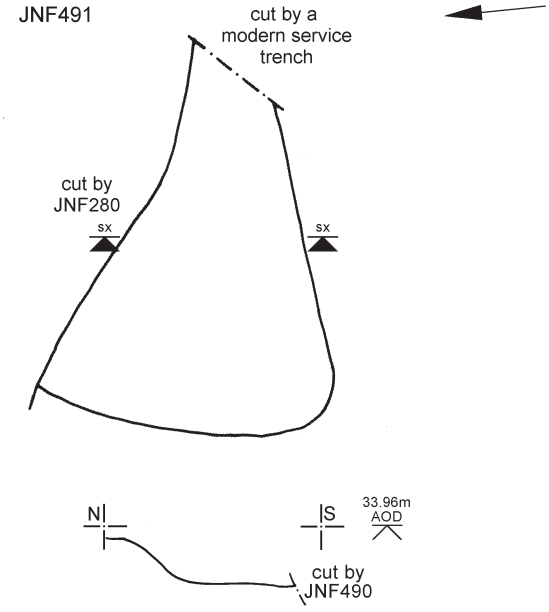


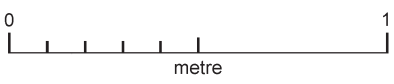
JNF487


JNF488
SX
SX
hobnail concentration
JNF488.3
iron
candlestick
JNF488.1
ENE
WSW
33.19m
AOD
0
1
metre
JNF488.1
0
2 cm

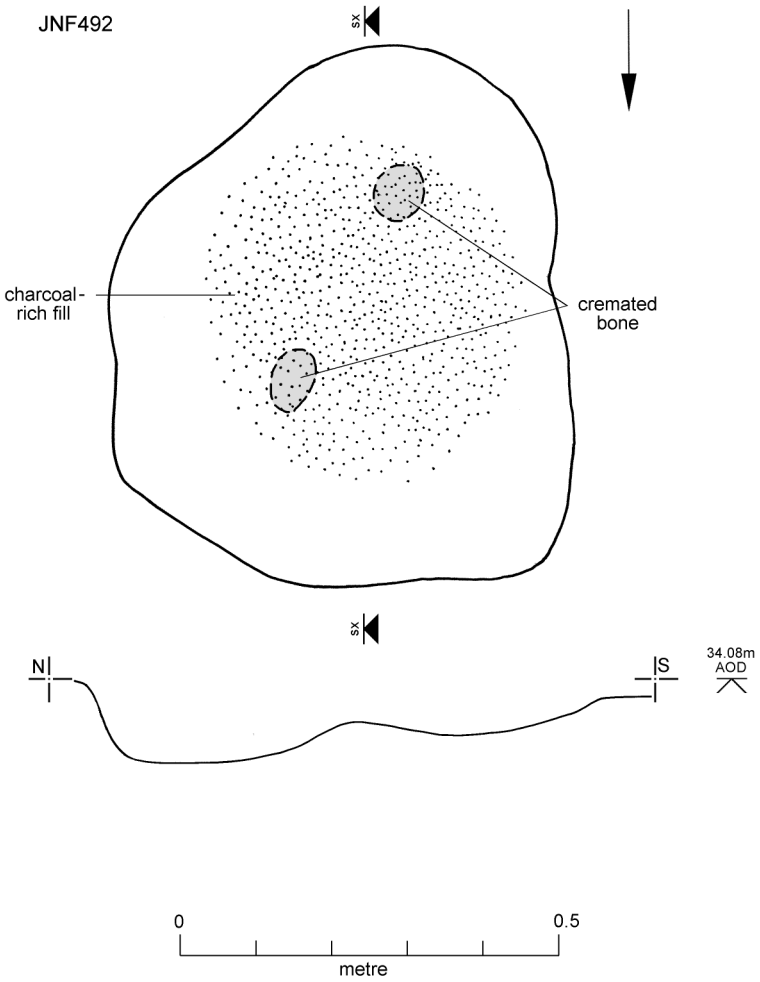
JNF488



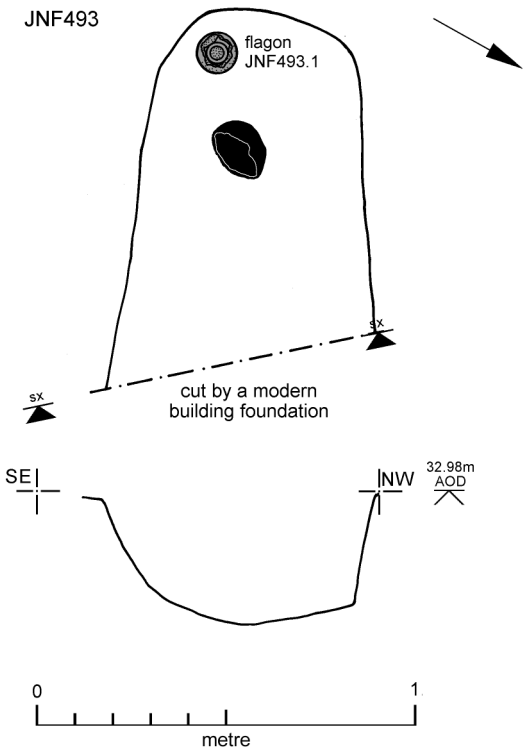


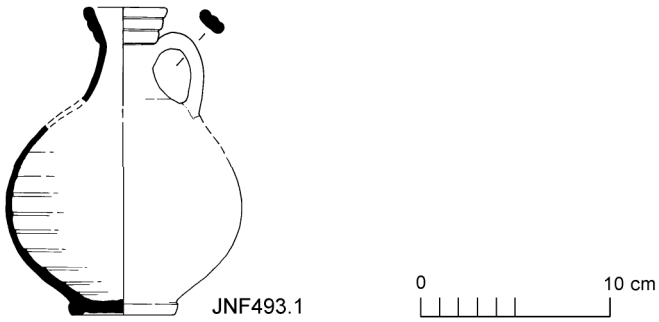


JNF489 and JNF491

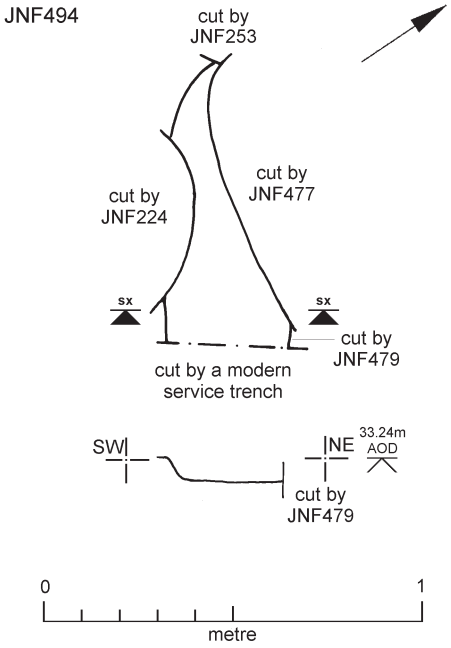

JNF492
sx
charcoal-rich fill
cremated bone
sx
N
S
34.08m AOD
0
0.5
metre

JNF492

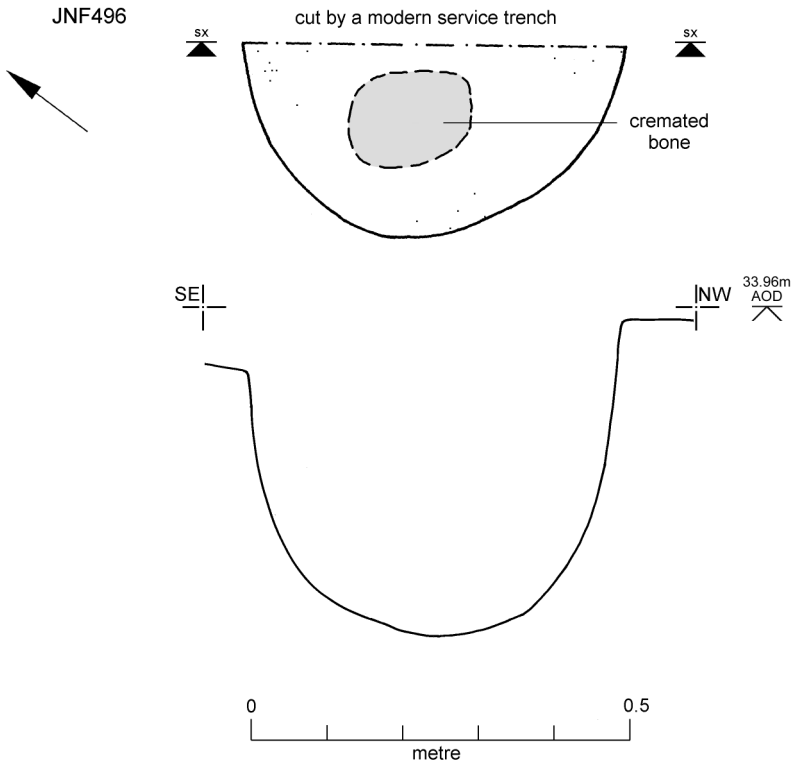

JNF493
flagon
JNF493.1
sx
sx
cut by a modern
building foundation
SE
NW
32.98m
AOD
0
1
metre


JNF493.1
0
10 cm

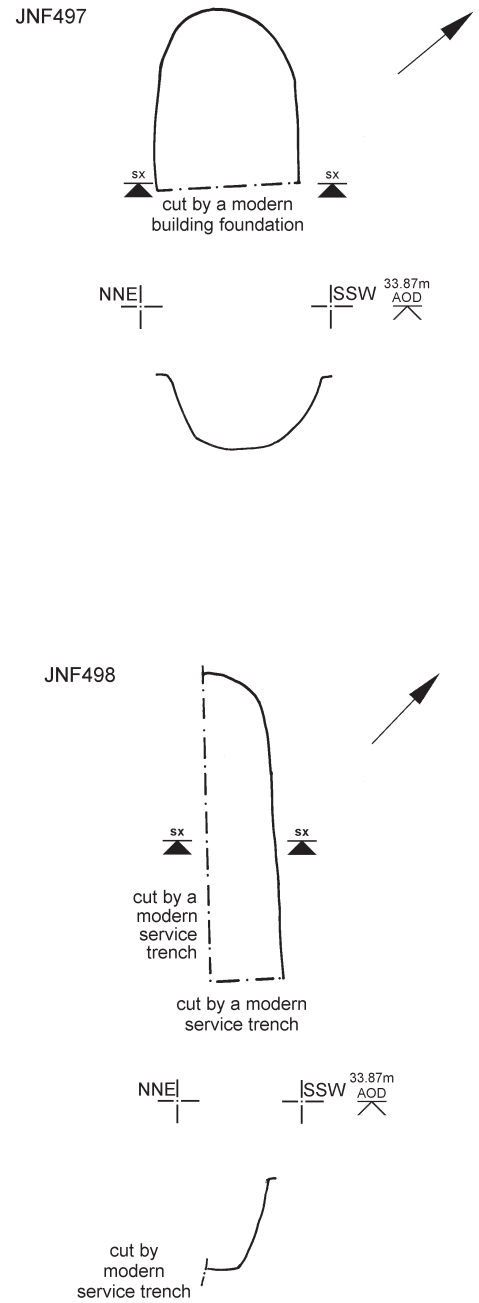
JNF493


JNF494
cut by
JNF253
cut by
JNF477
cut by
JNF224
sx
sx
cut by
JNF479
cut by a modern
service trench
SW
NE
33.24m
AOD
cut by
JNF479
0
1
metre

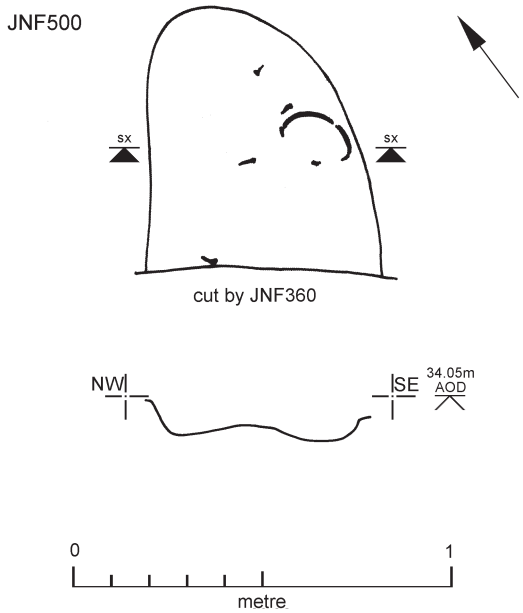
JNF494

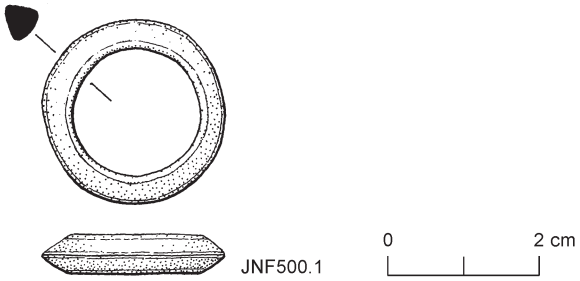

JNF496
cut by a modern service trench
sx
sx
cremated bone
SE
NW
33.96m AOD
0
0.5
metre

JNF496

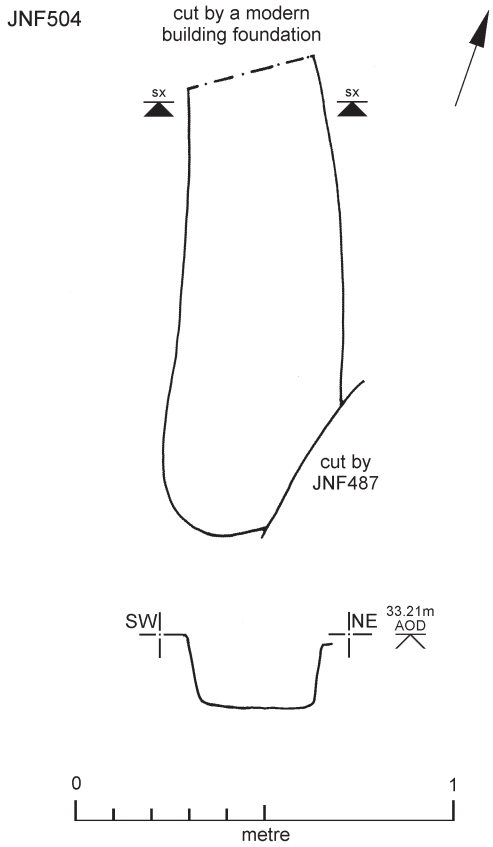


JNF497 and 498

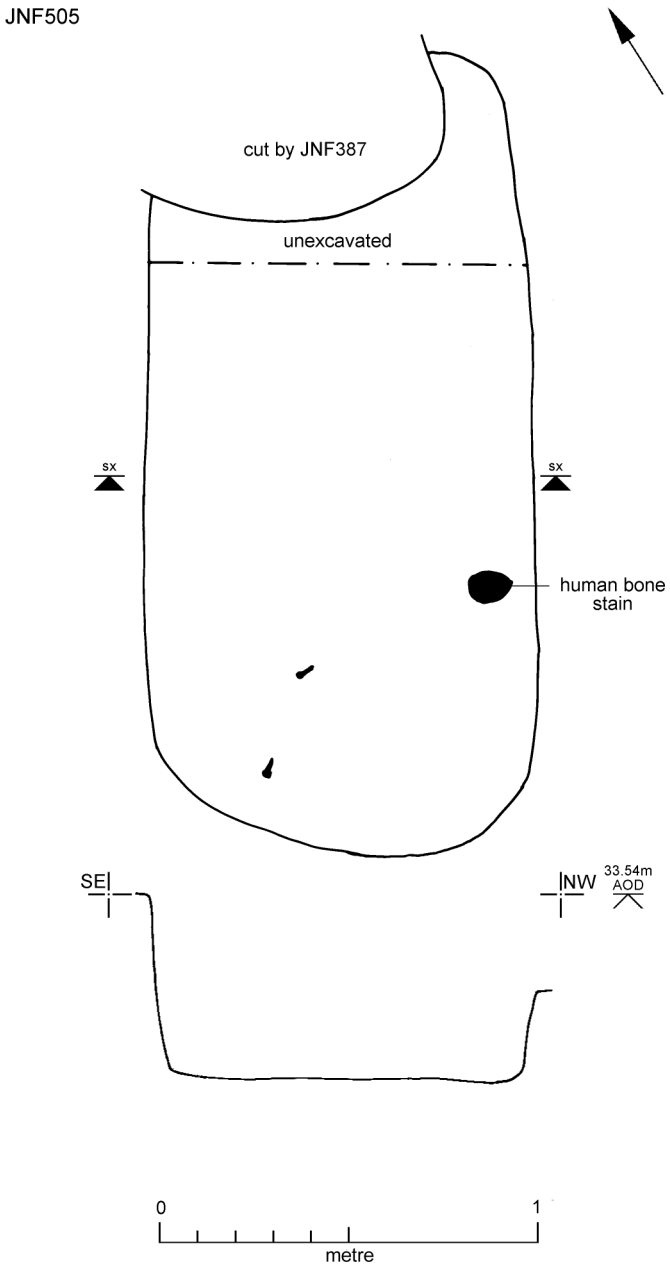

JNF500
SX
SX
cut by JNF360
NW
SE
34.05m AOD
0
1
metre


JNF500.1
0
2 cm

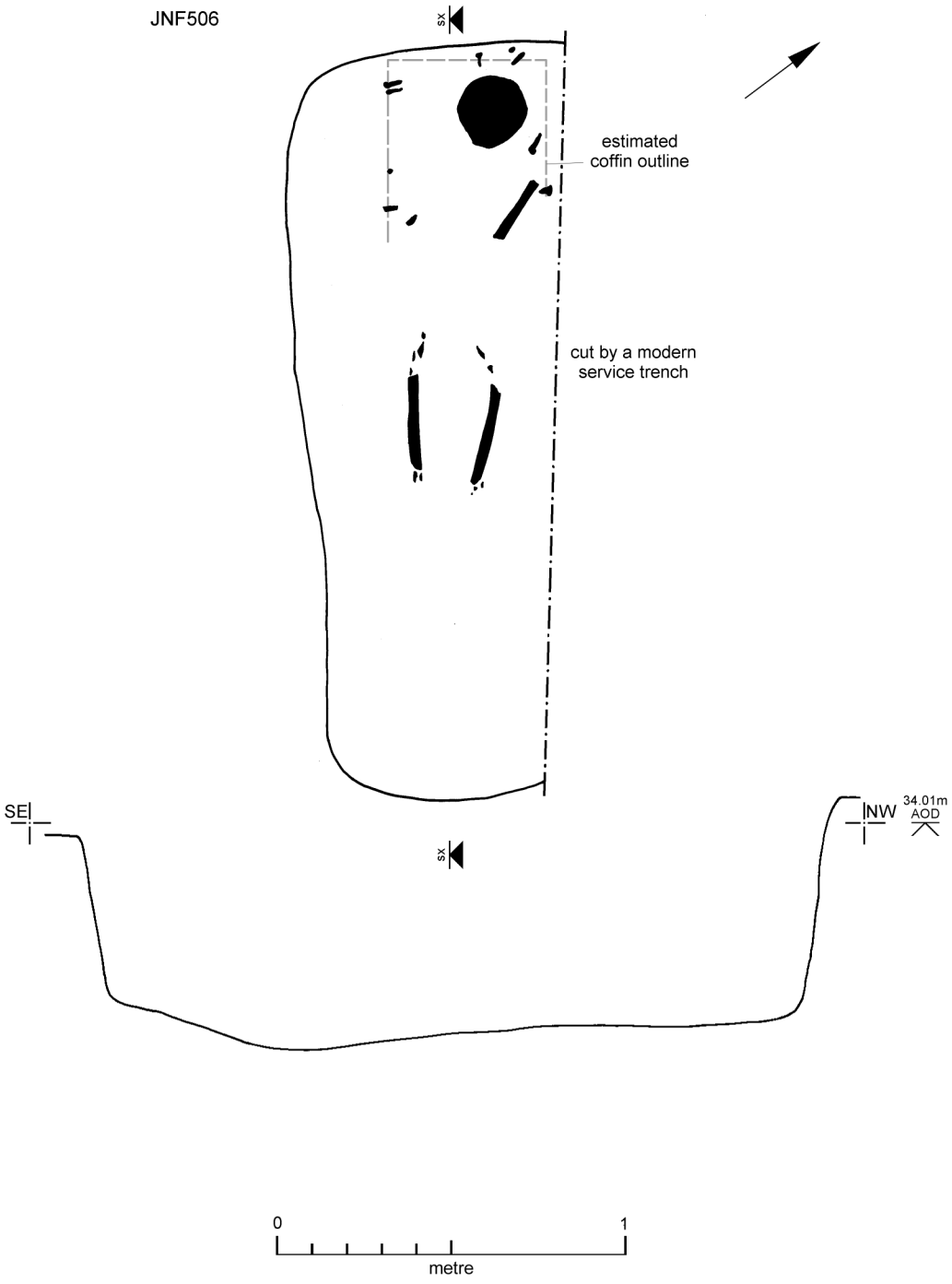
JNF500


JNF504
cut by a modern building foundation
sx
sx
cut by JNF487
SW
NE
33.21m AOD
0
1
metre

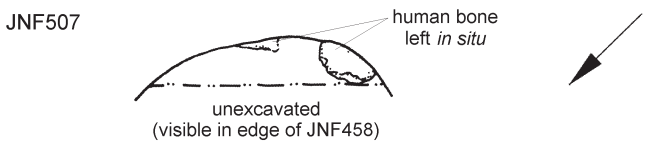
JNF504

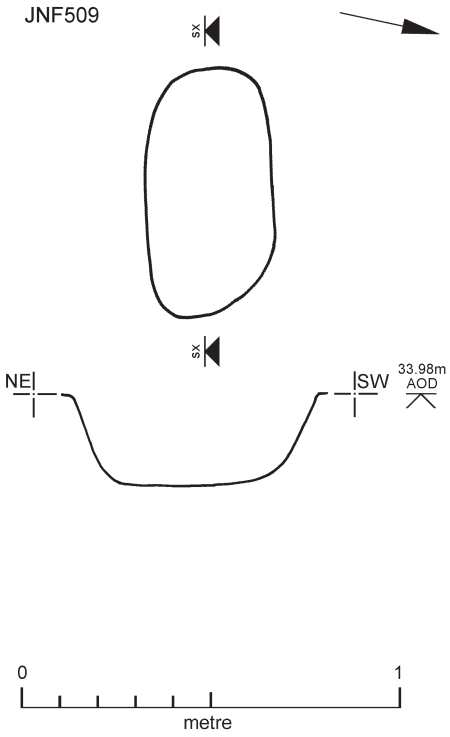

JNF505
cut by JNF387
unexcavated
sx
sx
human bone stain
SE
NW
33.54m AOD
0
1
metre

JNF505

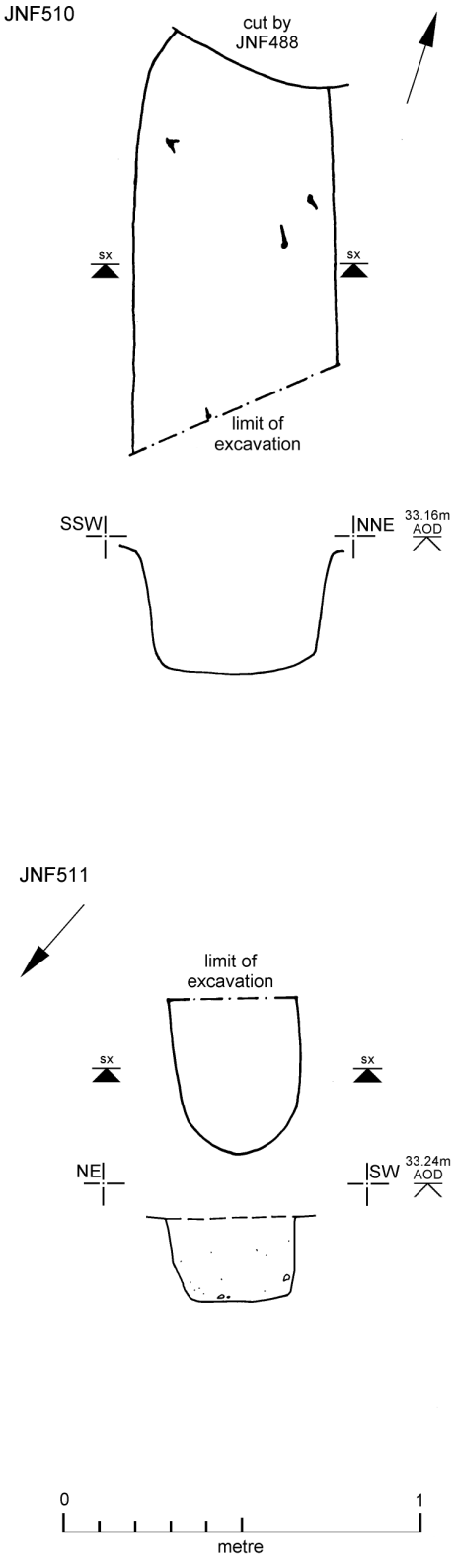

JNF506
SX
estimated
coffin outline
cut by a modern
service trench
SX
SE
NW
34.01m
AOD
0
1
metre

JNF506

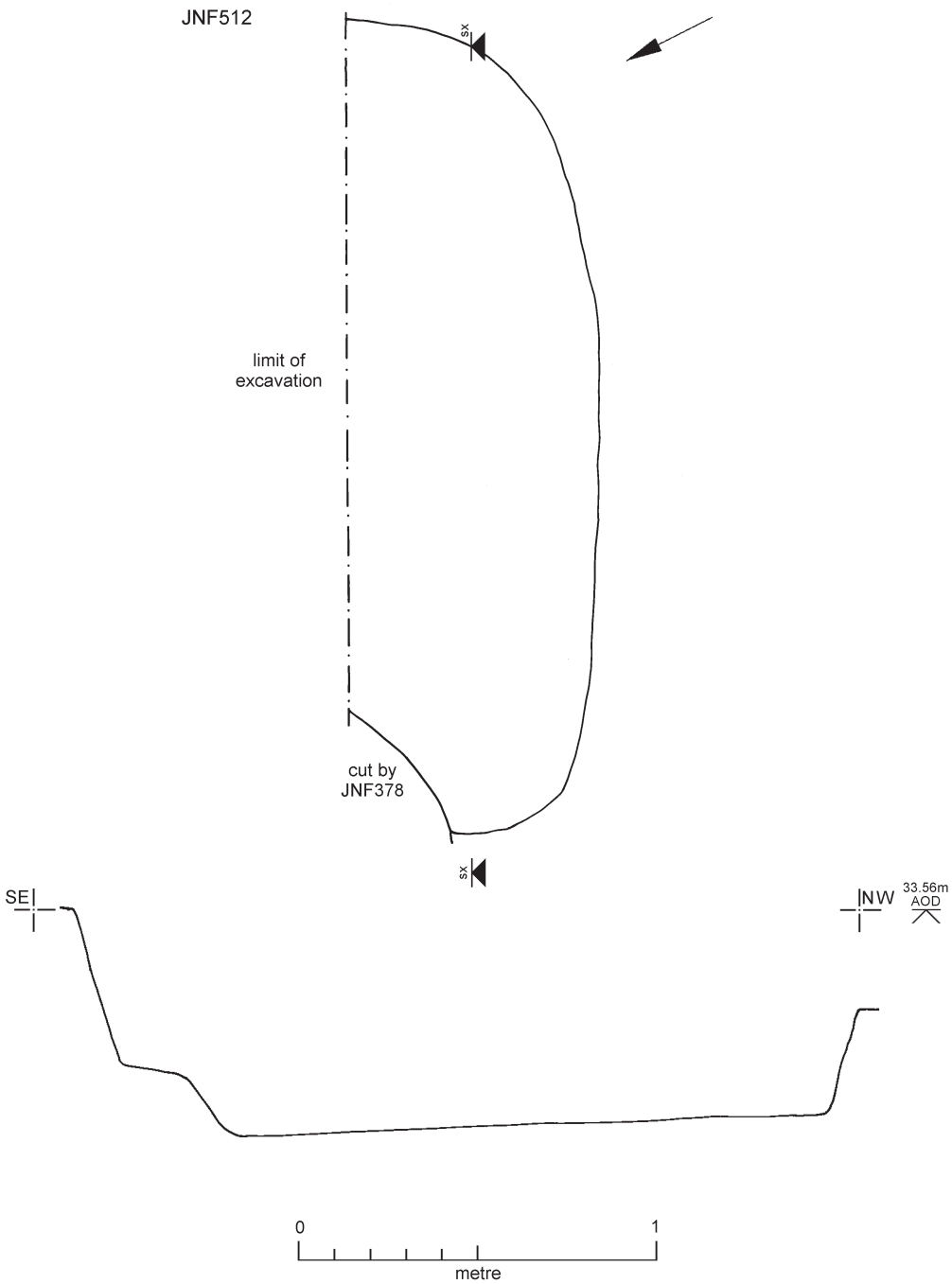




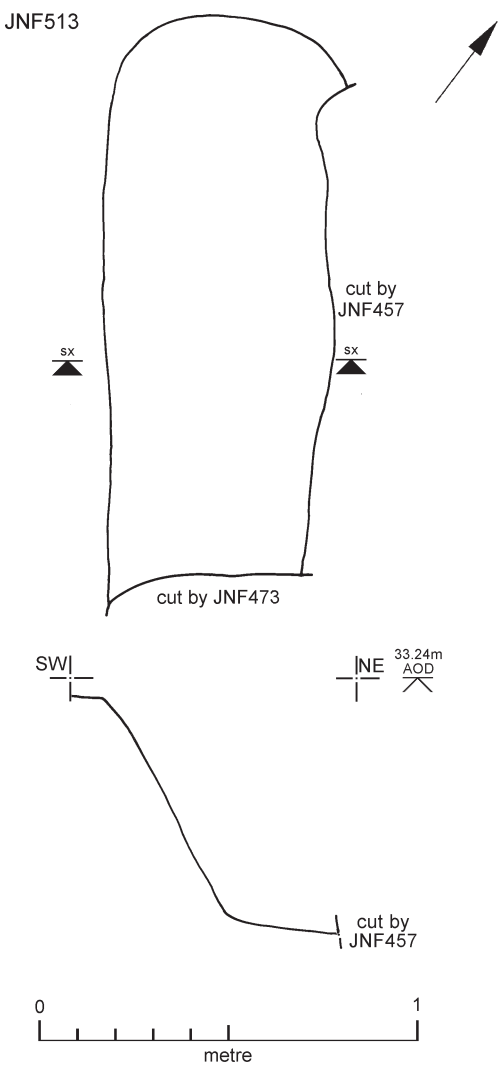
JNF507 and 509



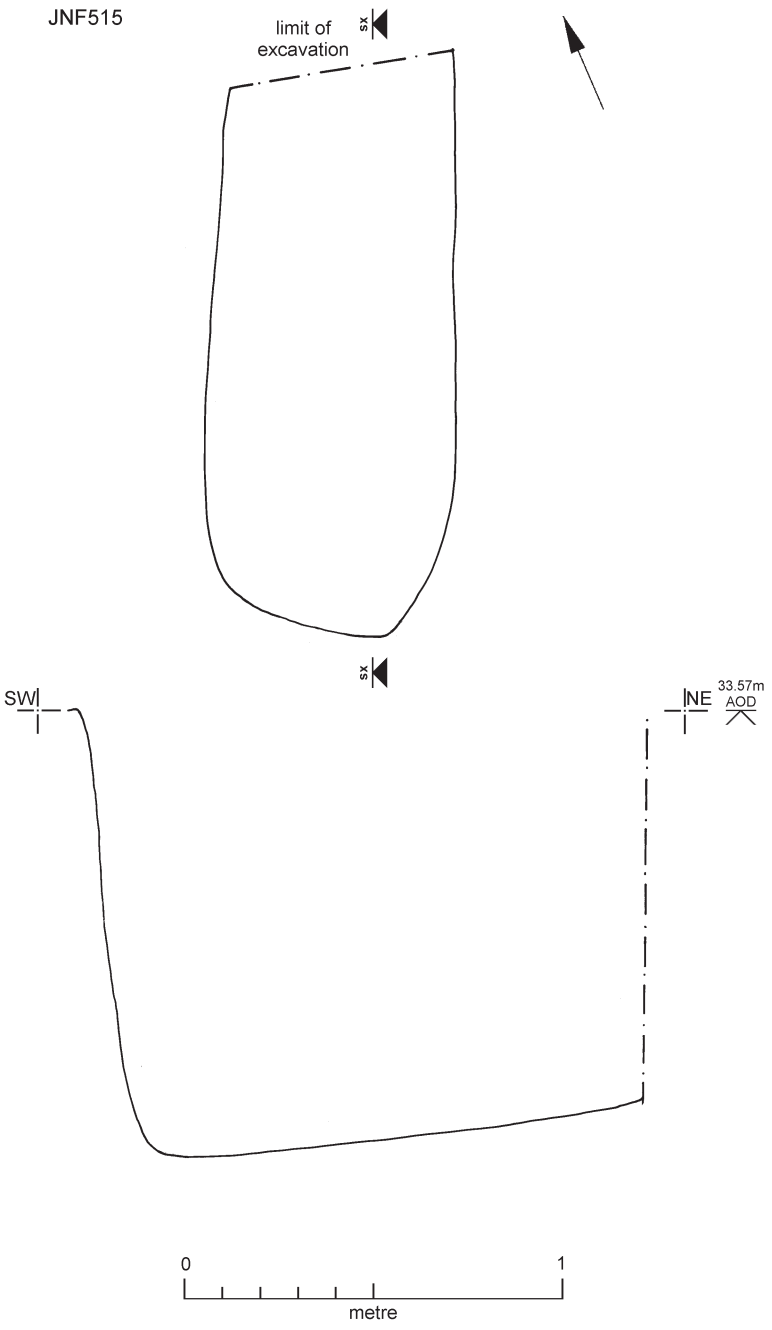
JNF510 and 511


JNF512
sx
limit of
excavation
cut by
JNF378
sx
SE
NW
33.56m
AOD
0
1
metre

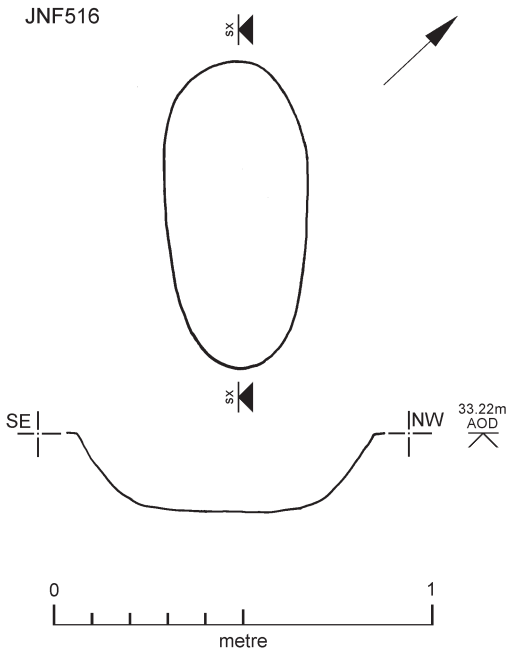
JNF512


JNF513
cut by
JNF457
sx
sx
cut by JNF473
SW
NE
33.24m
AOD
cut by
JNF457
0
1
metre

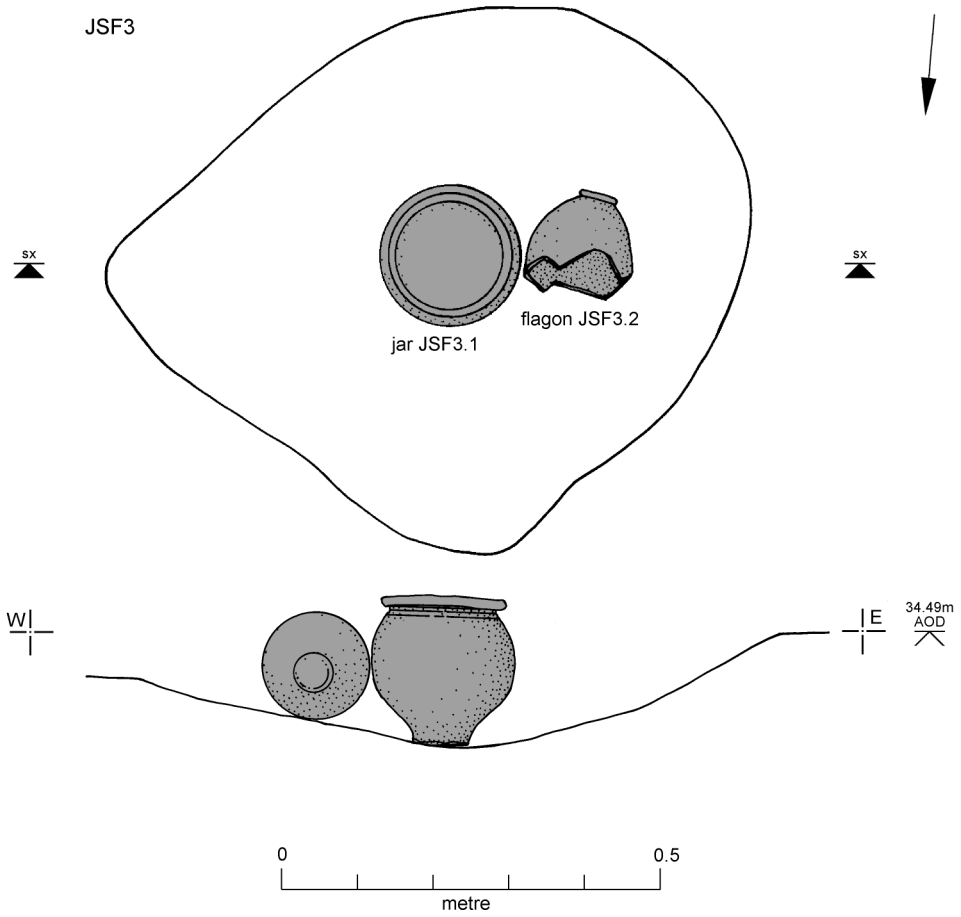
JNF513

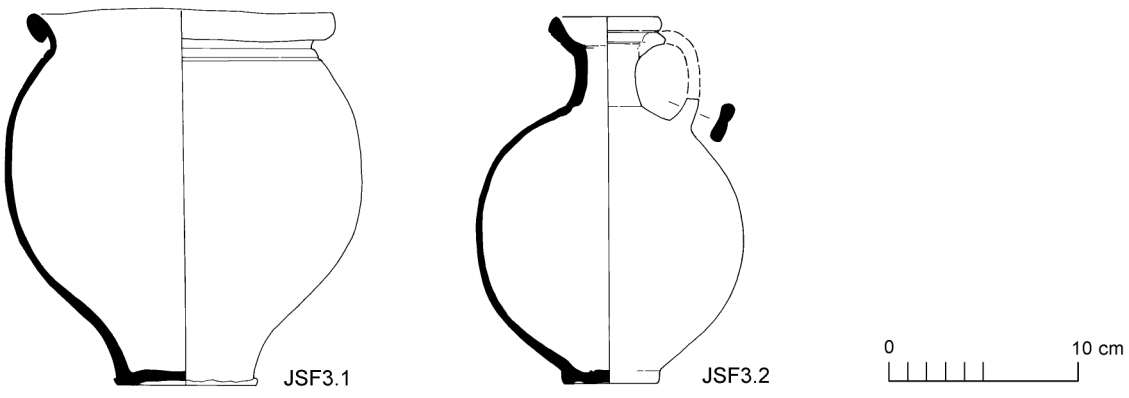


JNF515

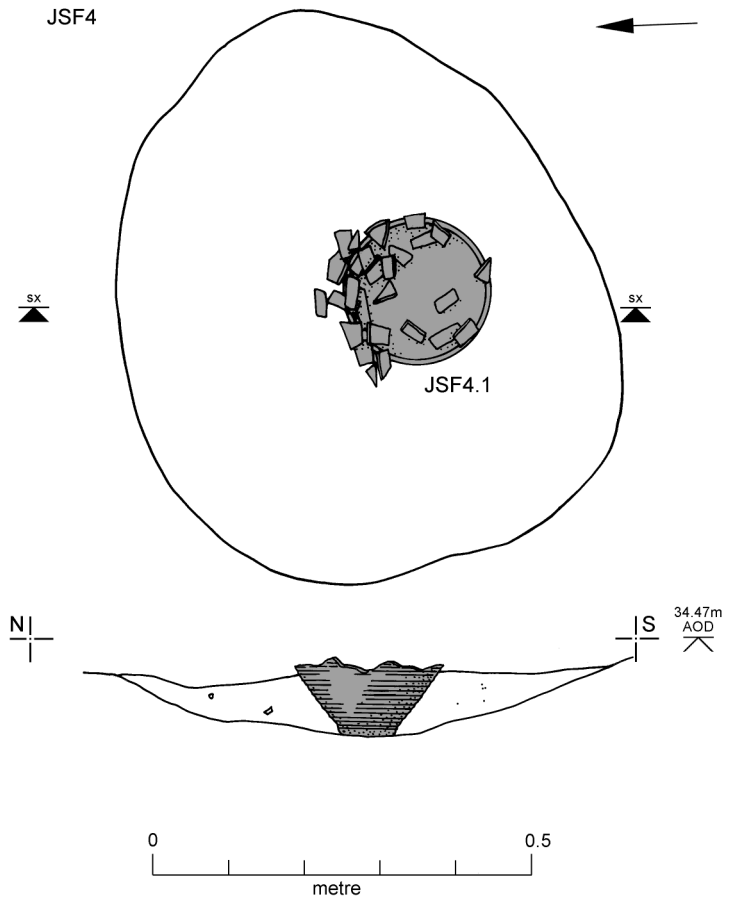


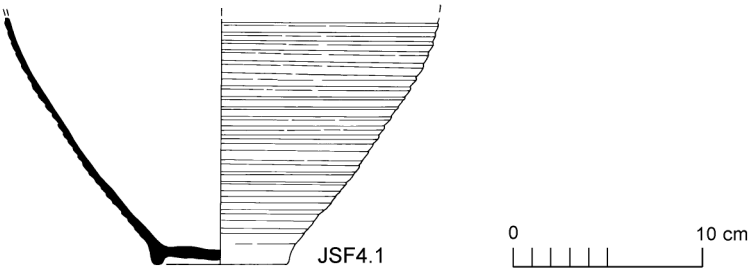
JNF516


JSF3
sx
sx
flagon JSF3.2
jar JSF3.1
W
E
34.49m
AOD
0
0.5
metre

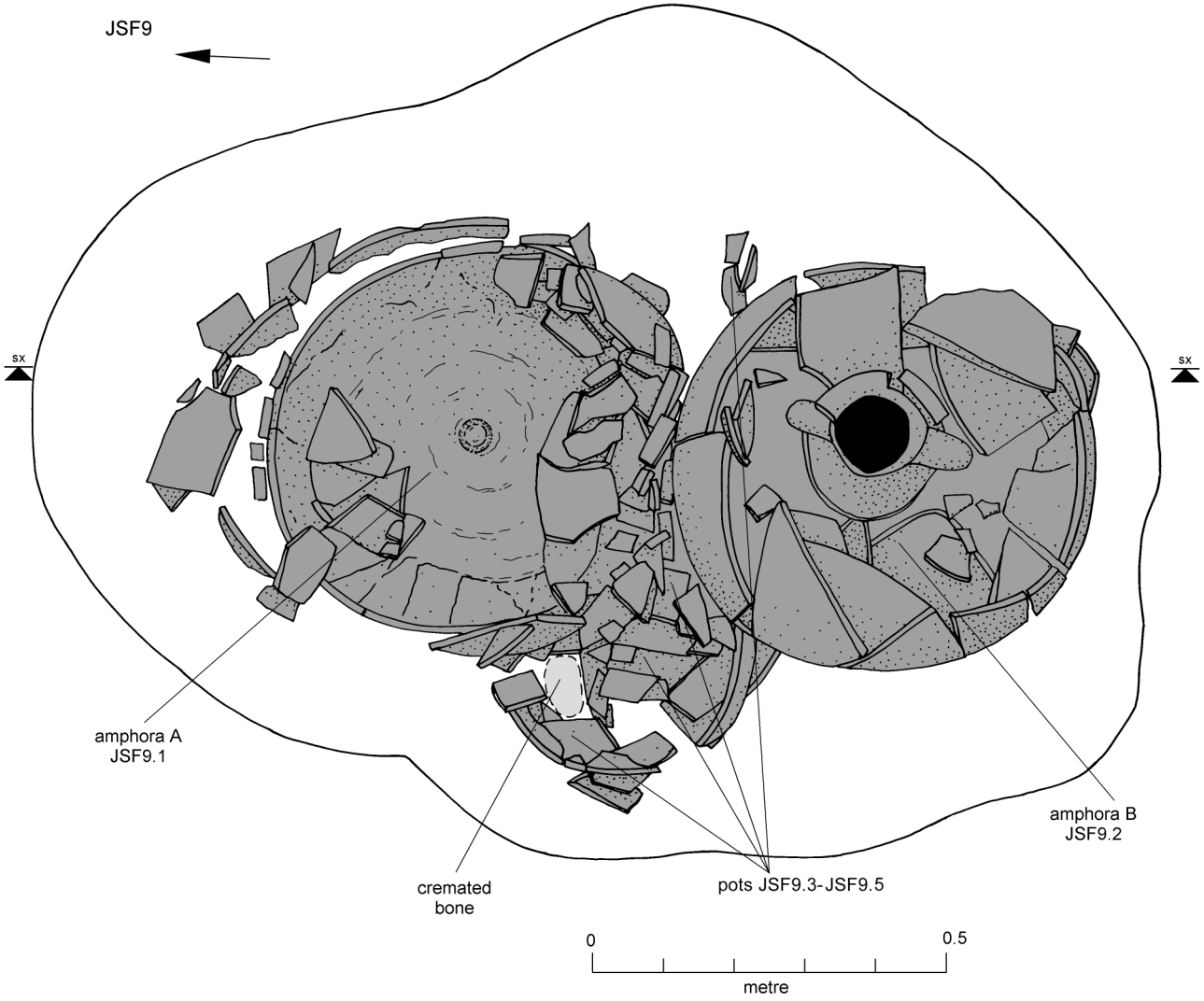

JSF3.1
JSF3.2
0
10 cm

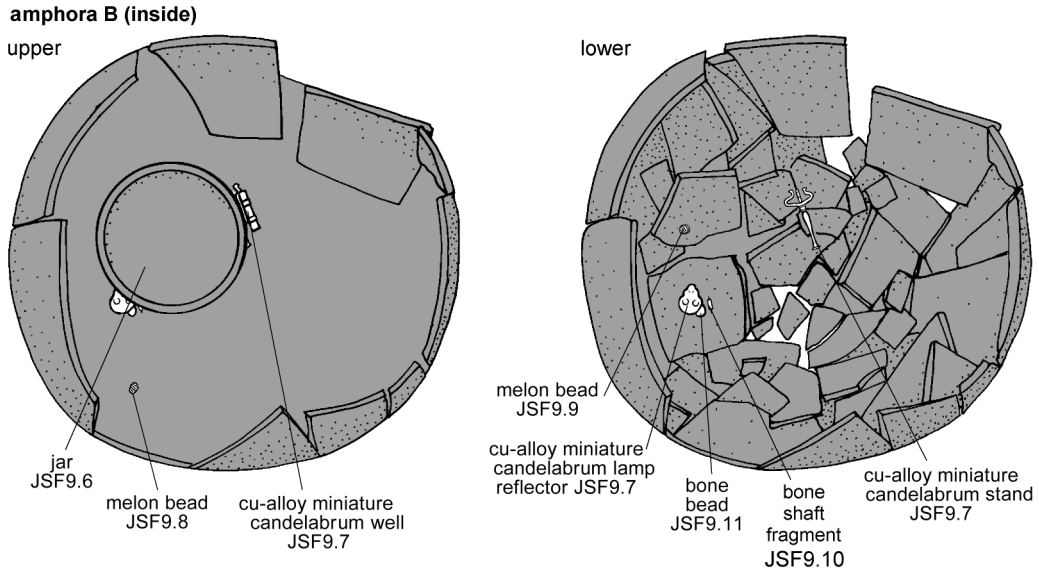
JSF3



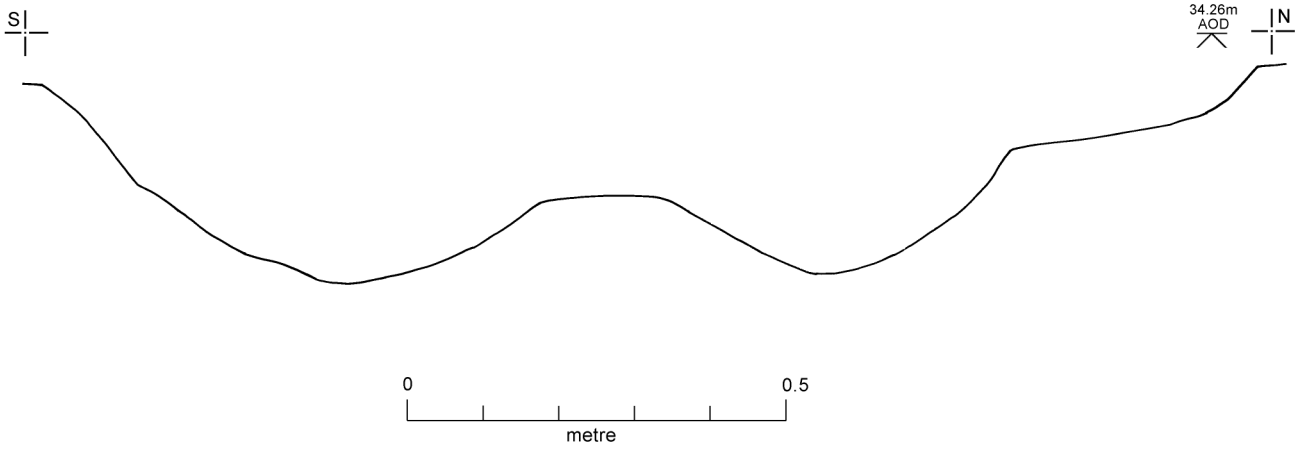


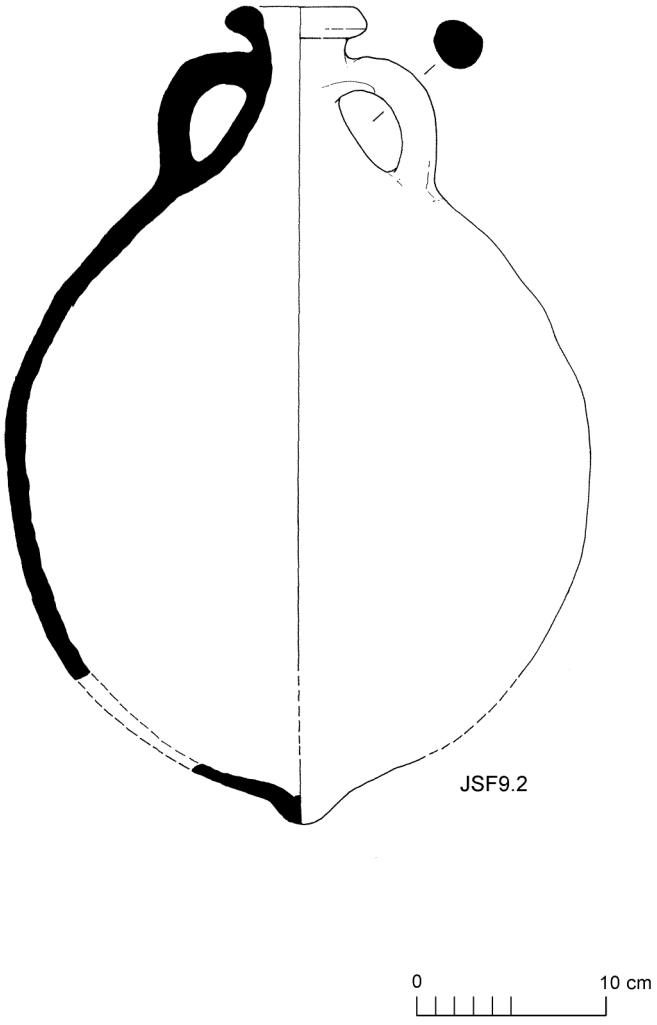
JSF4

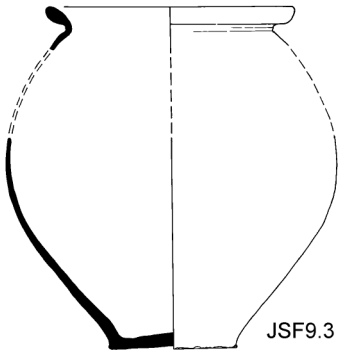

JSF9
sx
sx
amphora A
JSF9.1
cremated
bone
pots JSF9.3-JSF9.5
amphora B
JSF9.2
0
0.5
metre

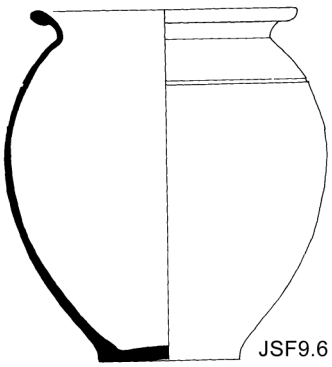

amphora B (inside)
upper
lower
jar
JSF9.6
melon bead
JSF9.8
cu-alloy miniature
candelabrum well
JSF9.7
melon bead
JSF9.9
cu-alloy miniature
candelabrum lamp
reflector JSF9.7
bone
bead
JSF9.11
bone
shaft
fragment
JSF9.10
cu-alloy miniature
candelabrum stand
JSF9.7

JSF9

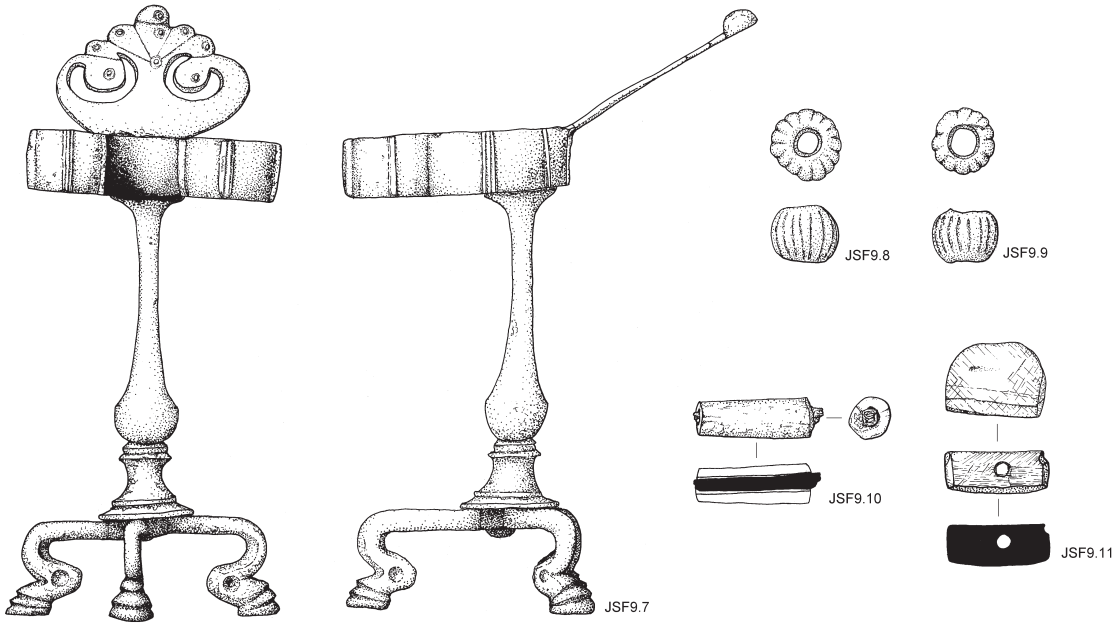




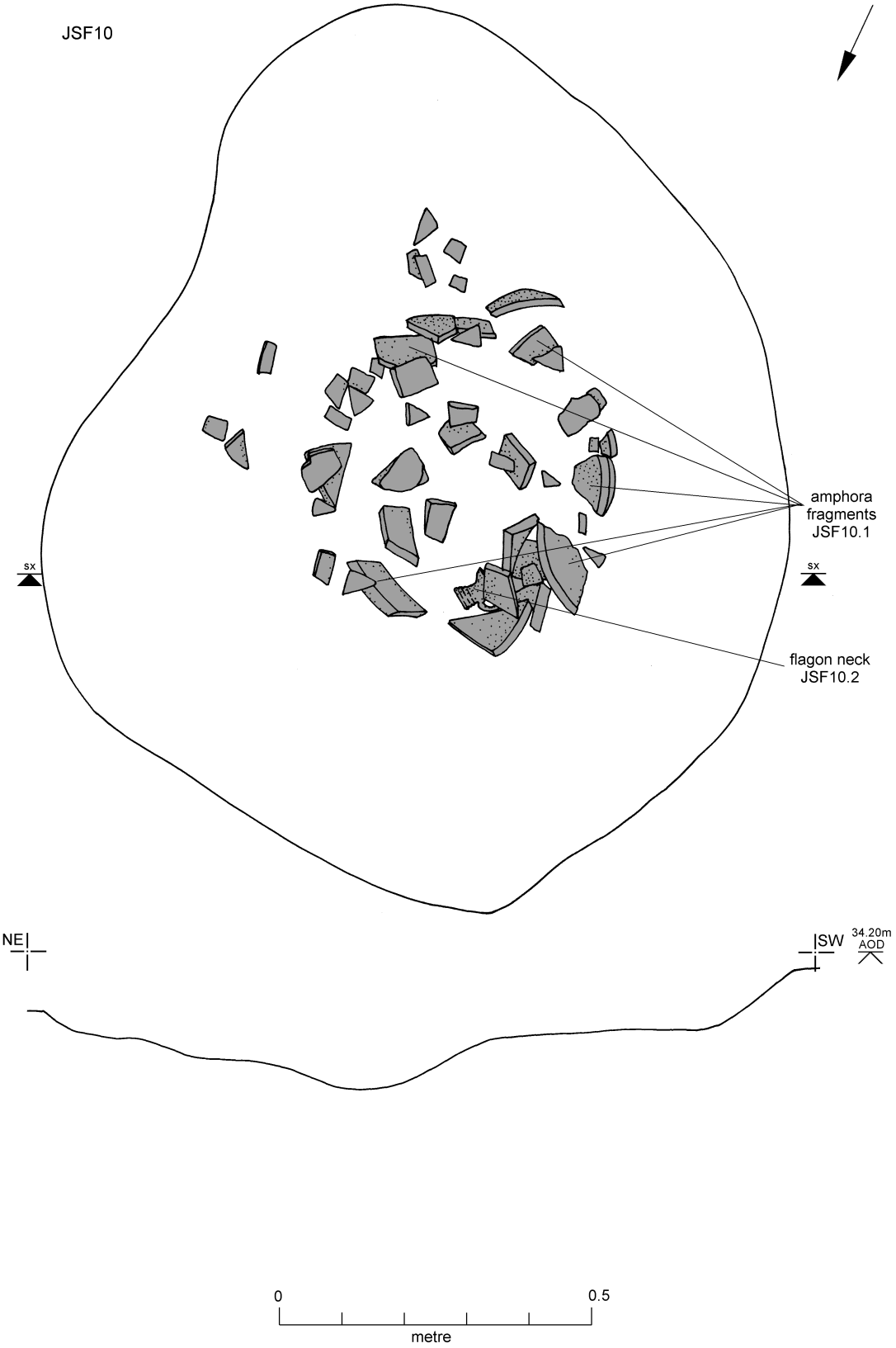




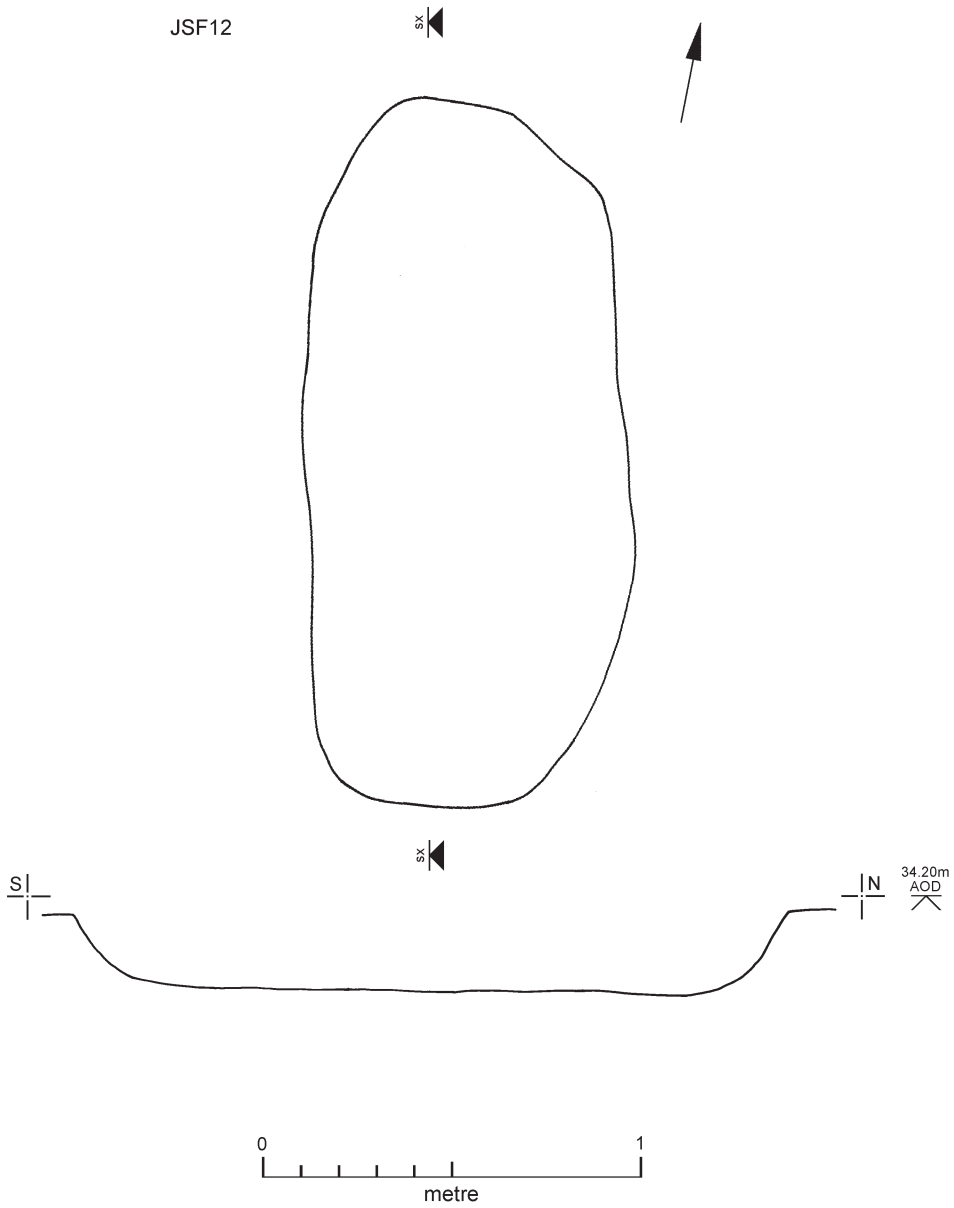
JSF9



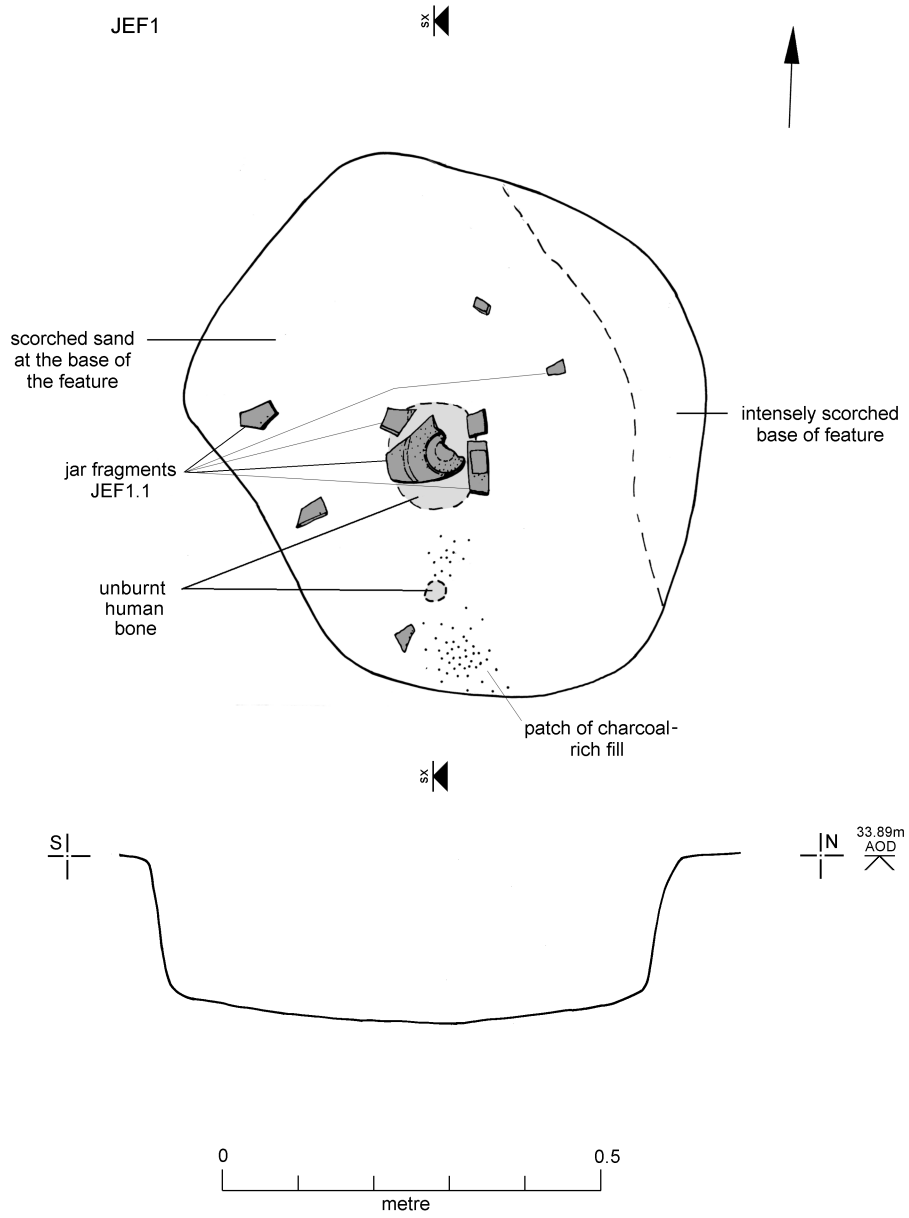
JSF9


JSF10
amphora fragments JSF10.1
flagon neck JSF10.2
sx
sx
NE
SW
34.20m AOD
0
0.5
metre

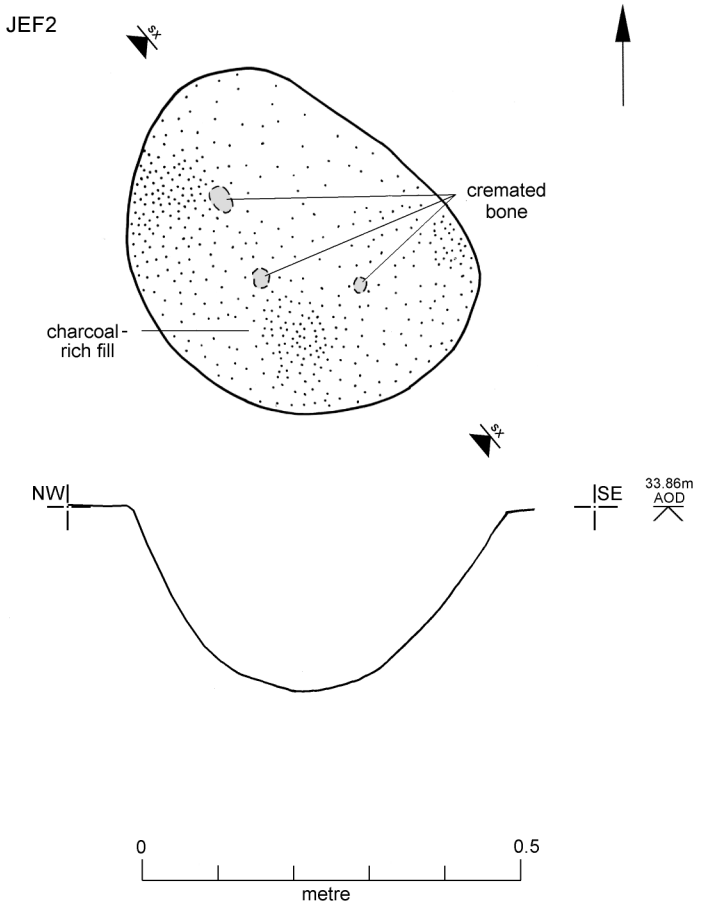
JSF10



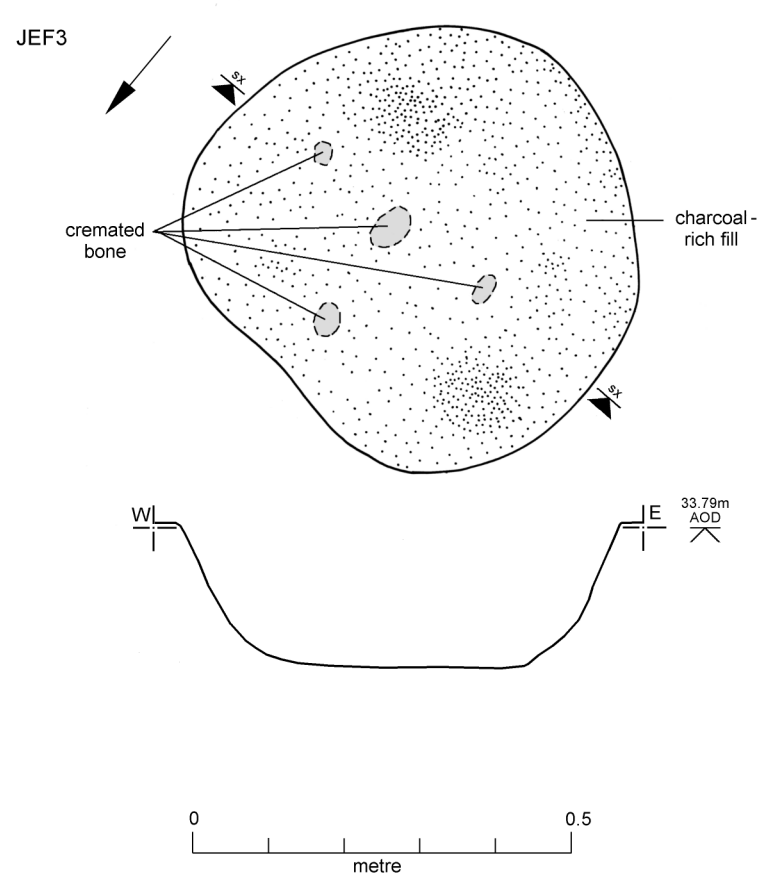
JSF12


JEF1
xs
scorched sand at the base of the feature
jar fragments JEF1.1
unburnt human bone
intensely scorched base of feature
patch of charcoal-rich fill
xs
S
N
33.89m AOD
0
0.5
metre

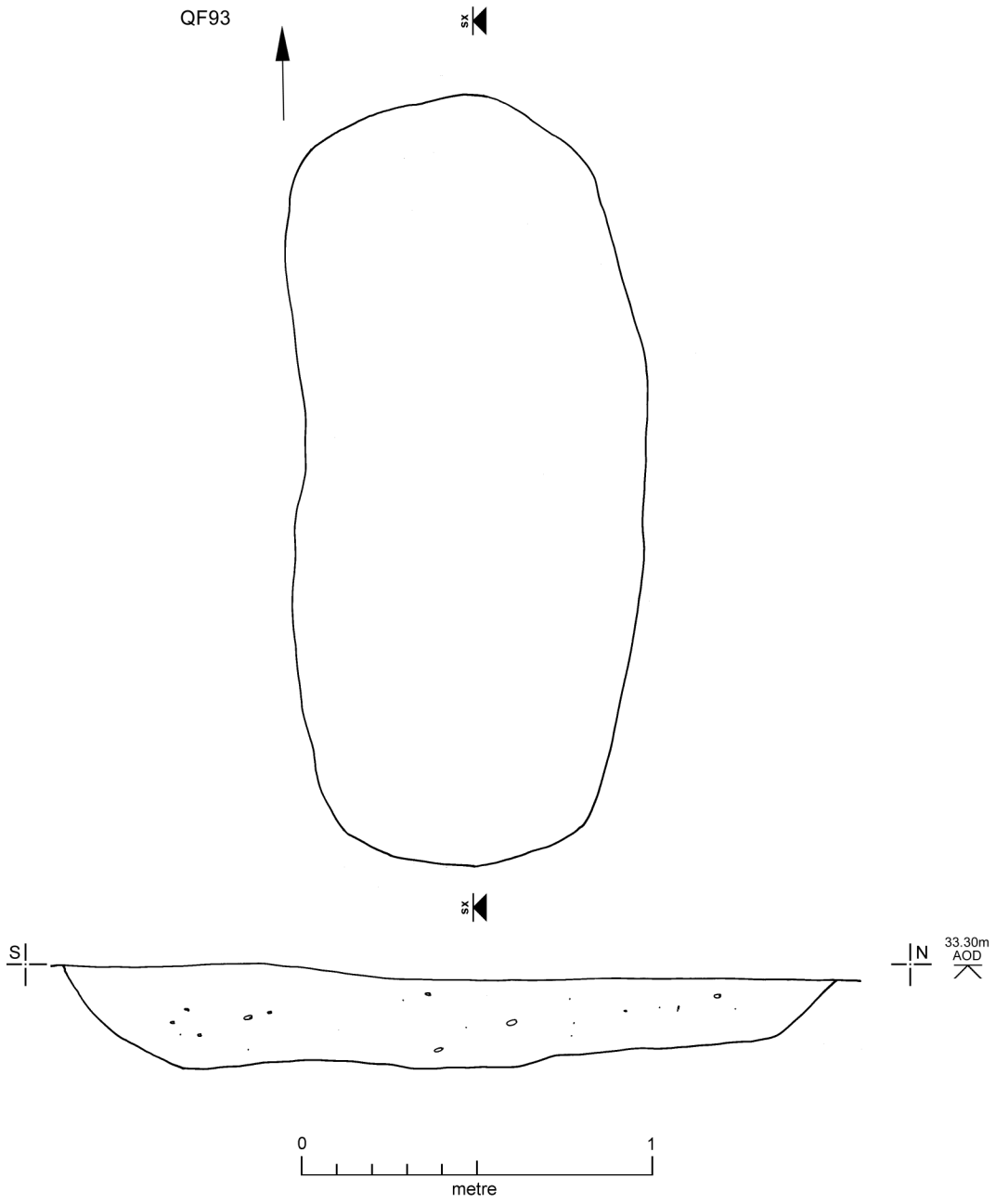
JEF1


JEF2
S
cremated bone
charcoal-rich fill
S
NW
SE
33.86m AOD
0
0.5
metre

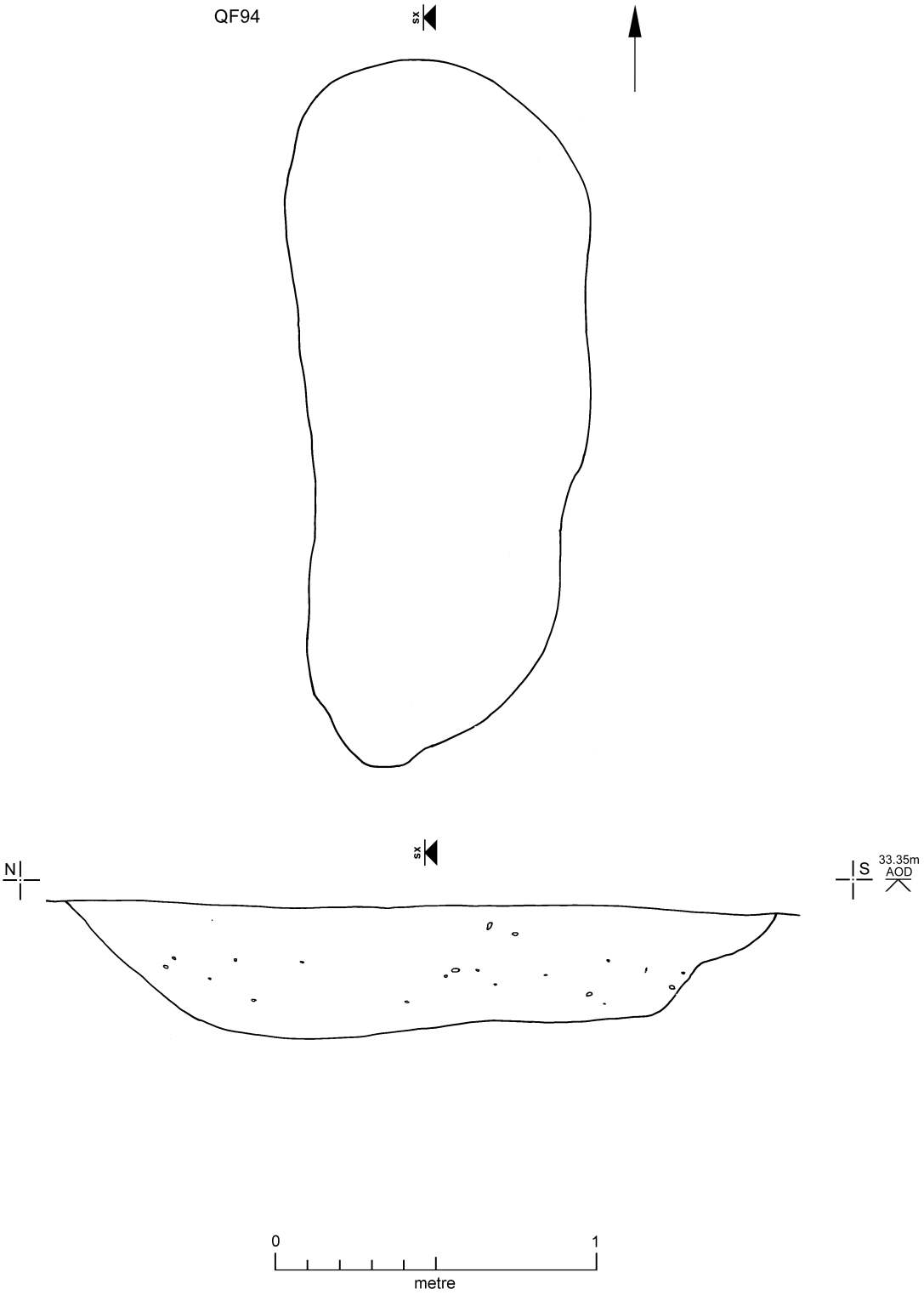
JEF2


JEF3
sx
sx
cremated bone
charcoal - rich fill
W
E
33.79m AOD
0
0.5
metre

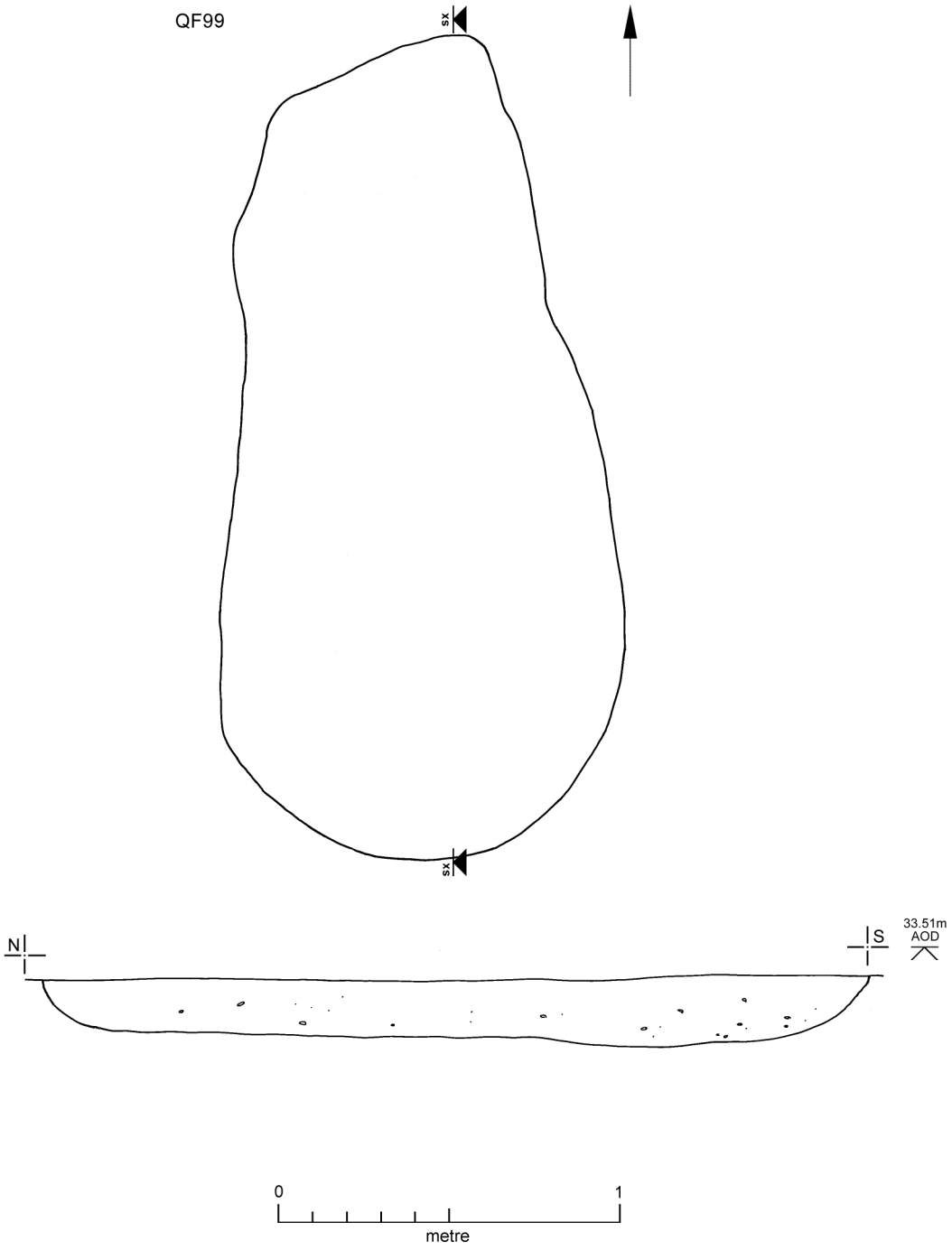
JEF3



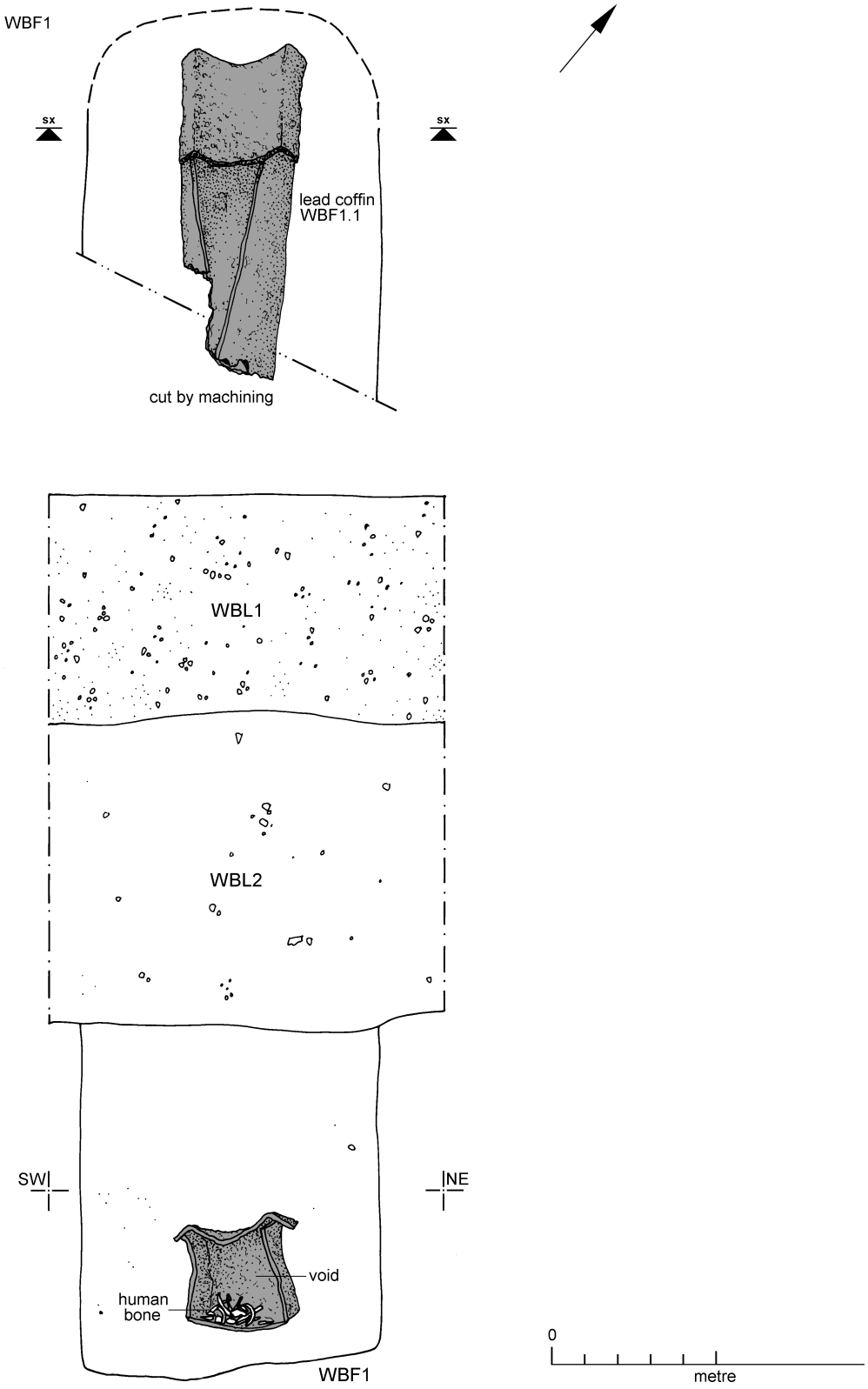
QF93



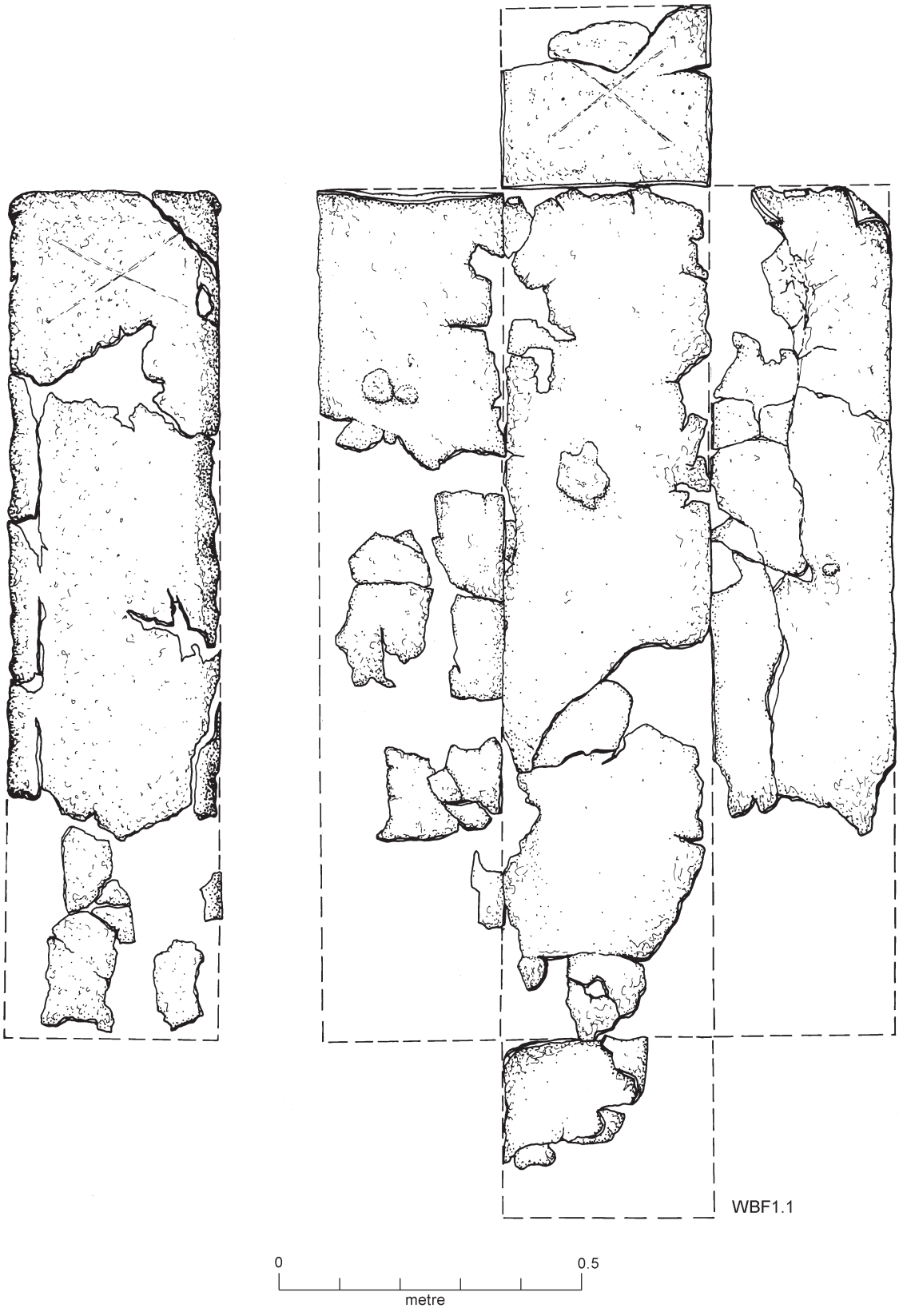
QF94



QF99


WBF1
sx
sx
lead coffin
WBF1.1
cut by machining
WBL1
WBL2
SW
NE
void
human
bone
WBF1
0
metre

WB F1



WB F1

2. NAPIER ROAD, August-September 2006

by Howard Brooks and Ben Holloway with contributions by Stephen Benfield, Francesca Boghi, Howard Brooks, Nina Crummy, Julie Curl, and Hazel Martingell

Introduction and preliminaries

NGR: TL9962 2453 to TL9988 2450
CAT project ref: 06/8e
Colchester and Ipswich Museums accession code: 2006.97

Summary

Archaeological excavation took place on behalf of Taylor Woodrow (now Taylor Wimpey) in advance of the installation of foul and storm-water drains along Napier Road and the replacement of the road and pavements to adoptable standards. The total length of road investigated was 225m. Early prehistoric evidence included a residual secondary prehistoric flint flake from post-Roman ditch NRF47. Later prehistoric material found in residual contexts included sherds from decorated urns of Middle Bronze Age Deverel-Rimbury type, from NRL7, and Middle-to-Late Bronze Age sherds from NRF47, NRF54/63, and NRL8.

More of the Roman circus was investigated at Napier Road. Circus-related features included an unrobbed stretch of the outer *cavea* wall foundation with two external buttresses, a robbed stretch of the inner *cavea* wall, and contemporary gravelled surfaces between the inner and outer *cavea* walls and external to the *cavea* walls. Evidence of the robbing of the circus structure took the form of a robber trench for the inner *cavea* wall, a spread building debris from the same inner *cavea* wall which had fallen onto the racing surface of the circus, and later robbing debris derived from the robbing of the south *cavea* wall which was found to the south of the south *cavea* wall. There was also an earlier ditch which mirrored the line of the outer *cavea* wall including the curve at the east end.

There were fewer Roman burials or burial-related features at Napier Road than on Circular Road North or Areas C or J. There were five inhumation burials, one pit with pyre debris, and one empty pot (presumably a 'placed deposit'). Other remains included a Roman pit, undated pits (possibly Roman), post-Roman pits, post-holes, ditches and a robber trench. Other Roman remains included a Roman pit.

For the post-Roman period, the principal discovery was of a post-medieval robber trench which appeared to have been dug to remove the foundation of the an earlier phase of the St John's Abbey precinct wall. Other post-medieval features included pits, ditches, post-holes and a robber trench.

Taylor Wimpey thrust bored the pipe under the Roman foundations to ensure they survived the groundworks.

Introduction

Archaeological excavations were carried out in advance of the installation of foul and storm-water drains along Napier Road and the replacement of the road and pavements there to adoptable standards. The drainage works serve the Abbeyfield residential development, which forms part of the redevelopment of Colchester Garrison. The total length of road excavated was 225m. The work took place on a relatively flat area of land between approximately 33m AOD. The aim of the excavation was to identify, excavate, record and date the archaeological remains uncovered during the machine stripping, and to assess their significance.

The archaeological remains were uncovered in a series of road surface strips by the contractor, under archaeological supervision, well ahead of the pipe-laying. As well as the road surfaces, the overburden of make-up and topsoil was also removed. Stripping was continued by a mechanical excavator with a toothless bucket down to the top of any archaeological deposits or the level of undisturbed natural. Any archaeological remains were then excavated by hand and recorded. The cutting of the trenches, the laying of the pipes and the construction of a series of manholes followed on behind at a safe distance. Due to the size of the pipe trench, the full width of the existing road was removed during the work. The pipe-laying was carried out by the contractors (Anderson Group) on a short section-by-section basis. During the cutting of the pipe trench, all archaeological remains within the limits of the trench were destroyed, while the uppermost archaeological deposits to either side were either badly damaged or destroyed. The exception to this was the circus wall which was preserved by drilling under the wall foundation to lay service-runs at a greater depth than originally planned by contractors.

The archaeological remains were in general well preserved. There was limited modern disturbance caused by shallow drainage features along the edges of the road and by other service trenches. The undisturbed natural deposits (NRL5) were sands and gravels, in places capped by cover loam. Natural features such as tree-throws were not normally investigated, although some possible examples were sectioned, including NR35-40.

The excavations were carried out by the Colchester Archaeological Trust (CAT), and managed by RPS on behalf of Taylor Wimpey, between August and September 2006. The Napier Road project was directed for CAT by Philip Crummy, with fieldwork managed by Ben Holloway (NR), assisted by Will Clark, Jonathan Dodd, Lawrence Driver, Chris Lister, David Ross, and Emma Spurgeon. The RPS consultants for the project were Robert Masefield assisted by Josh Williams. The CBC project monitor was Martin Winter.

Archaeological background

The excavated area in Napier Road was situated between 470m and 540m south of the Roman walled town. There are no previous archaeological discoveries on Napier Road. However the archaeological context of the road was relatively well understood following a series of evaluations, excavations and watching briefs conducted in adjacent areas since 2000 (as described elsewhere in this series of reports).

Napier Road bisected the eastern end of the Roman circus discovered during evaluations and excavations in Areas C1, C2 and J1 East in 2002, 2004 and 2005. The size and location of the circus has been confirmed by further work, including various watching briefs in 2005-6 (*see* Chapter 6 below), as well as by more recent work. This is the first Roman circus to be positively identified in Britain.

Napier Road is situated in an area of dense Roman burials (*CAR* **9**, 262). In particular the southern side of the circus was flanked by Roman burials. At least 28 Roman cremation burials were found in 1925 when part of Abbey Field was originally levelled for sports purposes (Hull 1958, 255). Subsequently, examples were excavated at Abbey Field hockey pitch in 2000 (at least 72 cremation burials and pyre-related features; CAT Report 138) and in Area C2 (the site closest to Napier Road) in 2004 (See Chapter 1). Other burials found close to Circular Road North included three in Area J1 East and five in Area J1 South in 2004-5 (*ibid*). Further examples have also been excavated in Area J1 North to the north-west of the circus in 2004-5 (351 inhumations, cremation burials and pyre-related features; *ibid*). A Roman lead coffin was found in 2005 in Circular Road East (WBT1; *ibid*). Prior to the Napier Road excavations reported here, no definite Roman burials had been found within the footprint of the circus.

Evidence for the extensive medieval robbing of Roman foundations for building materials, mainly in the 12th-13th centuries, has been found on many sites in the locality, including Areas C1, C2 and J1 East (*ibid*). Much of the area was probably farmland prior to the construction of the Garrison in the 19th century. Napier Road had been laid out by the time of the OS map of 1874-1876. It flanks the north-western side of the Abbey Field, which was traditionally the army drill ground. In the area immediately to the north of Napier Road, trial-trenching in Garrison Alienated Land Areas B1 and B1b uncovered Roman burials, fragments of buildings probably associated with St John's Abbey, buildings associated with the abbey site after the Dissolution, and extensive post-medieval or early modern quarrying (CAT Reports 206, 405, 438).

Methodology

RPS developed mitigation strategies to the satisfaction of CBC to mitigate the impact to significant archaeological remains in Napier Road. The archaeological fieldwork for phase 2 took place in Napier Road in August to September 2006.

A Written Scheme of Investigation (WSI) for Napier Road was produced by RPS Planning in March 2006 (RPS 2006). It set out the excavation and recording methodology, as well as outlining the scope of the post-excavation work, including treatment of finds, production of the report and the deposition of the archive. Further details of the excavation and recording methods used can be found in the introductory section of Chapter 1 above and in the CAT document *Policies and procedures* (CAT 2006).

This report follows the standards set out in Colchester Borough Council's Guidelines on standards and practices for archaeological fieldwork in the Borough of Colchester (CM 2002) and Guidelines on the preparation and transfer of archaeological archives to Colchester Museums (CM 2003), and the Institute of Field Archaeologists' Standard and guidance for an archaeological excavation (IFA 1999) and Standard and guidance for the collection, documentation, conservation and research of archaeological materials (IFA 2001). The guidance contained in the documents Management of archaeological projects (MAP 2), and Research and archaeology: a framework for the Eastern Counties 1. Resource assessment (EAA **3**), Research and archaeology: a framework for the Eastern Counties 2. Research agenda and strategy (EAA **8**), and Standards for field archaeology in the East of England (EAA **14**) was also followed.

Excavation results

Period 1 – Palaeolithic and Mesolithic

There was no evidence of activity in Napier Road in this period.

Period 2 – Neolithic

There was no evidence of activity in Napier Road in this period.

Period 3 – Bronze Age

Material found in residual contexts included sherds from decorated urns of Middle Bronze Age Deverel-Rimbury type, from NRL7, and Middle to Late Bronze Age sherds from NRF47, NRF54/63, and NRL8. A residual secondary prehistoric flint flake from post-Roman ditch NRF47 is not closely dated, but may belong in this period.

Periods 4-5 – Early-Mid Iron Age to the Late Iron Age

There was no evidence of activity in Napier Road in this period.

Period 5 – Late Iron Age/early Roman

There was no evidence of activity in Napier Road in this period.

Period 6 – Roman

Roman circus (Figs 2.5 & 2.7-2.8)

The foundation of the south *cavea* wall

The foundation of the south *cavea* wall NRF42 was traced for 11.2m. Approximately 15.2m of NRF42 should have been visible on Napier Road, but robbing activity had removed approximately 2m at either end. Its width was between 0.8m and 1.0m (its depth was not tested). Though the wall foundation was intact and well preserved, it appeared that there had been some robbing (NRF33) of its upper surface. This was presumably the bottom of the robber trench dug to remove the *cavea* wall superstructure, rather than its foundation. The robber trench contained Roman brick and tile, oyster shell and iron nails (the iron nails are presumably derived from a timber-built part of the circus structure). Although these are probably all Roman finds, it is presumed that the robbing took place in the medieval period.

There were two external buttress foundations, NRF55 and NRF56. NRF56 was 1.0m wide where joined to the wall foundation, tapering to 0.65m wide at its south end and 1.0m long (depth not tested). Buttress NRF55 was either a 3.8m-long double-sized buttress (far longer than any other on the circus structure - the largest on Area J East were 2.8m to 2.9m long), or was two adjacent but separate buttresses, the western one being 1.4m wide and 0.7m long, and the eastern one being 1.5m wide and an unknown length (its south end lay off site). The foundations of the buttresses and wall were built with greensand chips in a hard yellow mortar.

The north *cavea* wall

The north *cavea* wall foundation had been completely robbed away. Its robber trench NRF31 contained no finds, but a medieval robbing date is presumed. The robber trench was between 0.6m and 0.9m wide. The lesser of these two widths may have been the width of the original north *cavea* wall. It was shallow being between 0.2 m and 0.3 m or slightly more in depth.

Gravel layers

Two layers of gravel were associated with the circus, NRL7 and NRL9. NRL7, located in between the two *cavea* walls, is problematic. The most obvious explanation for the gravel is that it was the remains of the surface of an entrance/exit route to the circus (a *vomitorium*). However, measuring 2.0m E-W by x 2.40m N-S, the patch of gravel was wider than the ?*vomitorium* on Site J1 East. Moreover, it lacked any evidence for foundations to support the flanking cross-walls very evident on that site. Another possibility therefore is that the gravel somehow relates to the early phase of the circus as indicated by the ditch NRF43 (*see* next section below).

The second piece of gravelled surface was NRL9, which was located to the south of NRF42 (ie outside the circus) was 4.2m x 2.9m where exposed on site, but is presumed to have been more extensive than this. In fact, the discovery of a similar gravel layers on the north side of the circus (at site C1, *see* Chapter 1 above) supports the belief that gravel surface may have run around much of the perimeter of the circus.

Ditch relating to the early development of the circus

A ditch NRF43 ran precisely around the inner edge of the foundation for the outer *cavea* wall NRF42 (Figs 2.5 & 2.8) and was cut by it (*see* Sx 3 on Fig 2.8). It was 0.8m wide and between 0.25m and 0.7m deep. The ditch contained two Roman potsherds (the latest dating to the early-mid 2nd century), Roman tile, and a piece of ?intrusive possible peg-tile. The relationship of this ditch to the *cavea* wall foundation indicates this is a continuation of the ditch found on Sites J1 East and C2 which appears to have been an important feature associated with the early development of the circus (*see* 'The early ditch predating the *cavea* foundations' below in Section 6). The pottery in this ditch provides a significant piece of dating evidence for the date of the construction of the circus.

Horse harness

An significant find was a complete horse harness (Fig 2.9, 2, SF 1 (23)) which was found by metal-detecting. The pendant lay within about 300 mm of the north wall foundation of the *cavea* in one of the following contexts: a) the rubble L6 (material which had tumbled off the inner *cavea* wall after the circus was no longer in use), b) under the rubble but on the surface of the arena, or c) just under the surface in the soil which formed it. The proximity of the find to the *cavea* suggests that the fitting had been torn off a harness when a chariot collided with the wall during one of the races.

Material associated with collapse or demolition of circus

There are two distinct groups of material here. The first is a scatter of building debris evidently lying on the surface of the arena (Fig 2.5). The debris lay along the south side of the arena in a 3-m wide band hard up against the north side of the *cavea*. The distribution of the material strongly gives the impression that bits of stone and brick had fallen off the inner *cavea* wall presumably when the circus was still standing but was no longer being maintained for use. Large amounts of similar debris were found around the west end of the central barrier during the Circular Road North excavation. Similar material was also found on the arena surface at Area J1 East but in much smaller quantities to Napier Road.

The other group of debris lay around the outside of the circus. A layer of greensand chips and mortar fragments in a dark brown sandy silt matrix (NRL8) lay to the south of the south *cavea* wall foundation NRF42. There are two ways to interpret this layer. It could either be debris cast aside during the robbing of the south *cavea* wall, or it could be material which had fallen off the circus wall due to weathering. It is interesting that NRL8 lies directly over gravel layer NRL9 (*see* below). On the face of it, this would imply that only a short period of time had passed between the last use of the gravel layer and the collapse or demolition of the circus structure. Finds are not particularly helpful here – there were none from NRL9, and NRL8 contained Roman pottery dating anywhere between the 1st and 3rd centuries AD, as well as Roman brick and tile, iron hobnails (undated but presumed Roman) and a possible piece of peg-tile, which must be intrusive here. A similar layer of demolition debris NRF48 was found to the east of buttress NRF56. This is no doubt derived from the same source as NRL8.

Roman burials and burial-related features (Figs 2.4 & 2.6)

Seven Roman burials or burial-related features were excavated. These were five inhumation burials, one pit with pyre debris, and one empty cremation pot (a ‘placed deposit’).

The inhumation burials

The five inhumation burials were in two clusters, suggestive of identifiable burial plots. The first of these ?burial plots was located 13m to the SE of the outer face of the outer *cavea* wall, and included inhumation burial NRF51 cutting inhumation burial NRF50.

The earlier burial NRF50 was aligned NE-SW. It was 2.17m long, but 1.40m of this length had been removed by the later digging of inhumation grave NRF51. Only 0.7m of the width of NRF50 was on-site, and its original full width cannot accurately be estimated. The depth of NRF50 below site level was 0.40m (ie, the bottom of the grave cut was at 32.69m). No human bones were present (or had survived) nor were there any grave goods. The only find was a piece of Roman tile in the backfill.

NRF50 was cut by inhumation burial NRF51, which was aligned SW to NE, with its head to the NE. Only part of the grave cut was on site. It measured 1.6m long, 1.43m wide, and was 0.46m deep below site level (ie, the bottom of the grave cut was at 32.62m). Within the grave cut, the position of twenty-five iron nails showed the outline of the missing nailed wooden coffin 0.5m wide. Only 1.2m of the length of the coffin was visible on site, which equated to approximately the level of the knees of the buried person. Within the coffin outline were the partial skeletal remains (principally skull and thigh bones) of an individual who was probably a middle-aged or old male (*see* full report by Francesca Boghi below). There were no grave goods in NRF51, but the backfill contained a Roman potsherd dated to the late 2nd to 3rd-4th century.

The second cluster of inhumation burials which may represent a burial plot was located 20m to the SE of the outer *cavea* wall. This cluster consisted of an isolated inhumation burial NFR52, and two intercutting inhumation graves NRF61 and NRF63.

NRF52 was aligned E-W, was 1.1m long, 04m wide and 0.14m deep below site level (ie, the bottom of the grave cut was at 32.85m). Its top surface was disturbed by Roman ditch NRF49, which cut NRF52. There were no human remains or signs of a coffin in NRF52, but its size indicates a juvenile or child’s burial. Grave goods consisted of a 3rd-century Rhenish beaker with a motto reading DEDI. It is difficult to reconcile the position of this beaker with a buried body, unless the body occupied only a small part of the grave cut.

Immediately west of NRF52 were two more inhumation burials NRF61 and NRF63. These graves were in a part of the site with a complex stratigraphy, which will be explained here. The latest feature was pit NRF53,

which cut NRF54, NRF62 and NRF63. NRF53 contained only Roman brick and tile, but it may be post-Roman in date. Underneath NRF53 (ie cut by it) was NRF54. At first, this was thought to be an inhumation burial cut. On reflection, it has now been reclassified as sinkage into the soft fill of the underlying three grave cuts NRF61 and NRF63.

The lowest (earliest) burial was NRF63. The burial was aligned SW-NE (with head to the SW). The grave was 2.80m long, 1.80m wide, and 0.9m deep below site level (ie, the bottom of the grave was at 32.10m). Within the grave a partial wood stain and 49 iron coffin nails indicated the position of a nailed wooden coffin 0.52m wide and 2.00m long. Judging by the position of the jaw, the body has slumped in the coffin, or perhaps there has been some post-depositional disturbance at the head end of the coffin caused by burrowing animals. In the coffin were the remains of one adult of uncertain sex (see full report by Francesca Boghi below). At the foot of the coffin was group of hobnails derived from sandals or shoes. Grave goods consisted of two pots placed beside the coffin. These were a 1st-early 2nd century jar (which may have been old when placed in the grave), and a 2nd century bowl (which gives the more accurate date for the burial). Also in the backfill was a piece of Roman tile. There were also a small number of other sherds associated with the feature, only one of which can be closely dated. This is a sherd dated late 2nd to mid-late 3rd century. If the burial is no earlier than the late 2nd century then the jar must have been at least 50 years old when placed with the burial.

Cut into the top of the backfill of NRF63 was a smaller burial NRF61. It may be that this was deliberately placed on top of the earlier NRF63 to emphasise a family connection, or it may be an unconnected burial dug into a conveniently soft patch of ground. NRF61 was at least 1.46m long (its end was truncated by NRF53), and 0.65m wide and 0.22m deep below site level (ie, the bottom of the grave was at 32.58m, and 0.48m above the bottom of the grave of the underlying NRF63). Within the grave, the position of iron coffin nails indicated the outline of a nailed wooden coffin 1.13m long and 0.33m wide. Although there was no surviving human bone, the size of the grave indicates that this must have been a child's burial. A number of loose iron hobnails show that shoes or sandals had been placed in the coffin, but perhaps their scattered distribution shows that there has been some post-depositional disturbance here (caused by burrowing animals?).

At the time of excavation, it was believed that there was a second small burial cut into the underlying NRF63 (ie, NRF62). This would have been a very small grave, but the recovered bones are of an adult. The view now taken is that NRF62 was not a discrete feature, but the excavator had mistakenly excavated part of the underlying grave NRF63. This means that all the finds (human bones, iron coffin nails, residual Roman tile) from NRF62 are actually from NRF63. The human bone from both graves was recorded as adult, and would appear to be from the same individual.

The placed deposit

The lower half of a Roman jar was set upright in a circular pit 5.5m south of the south side of the spina and approximately 30m east of the central point of the spina. The pit was 0.8m in diameter and contained nothing else (human bone or otherwise) to suggest its purpose. Presumably the jar, which dated to the early-mid 2nd century, was a votive pot of some kind.

The placement of a pot in the area occupied by the racing track is of some interest. The question is how its dating related to the construction or use of the circus - does it predate the circus, or was it contemporary with the use of the racing track? Current thinking on the dating of the circus is that it may have been constructed in the early 2nd century, and may have been in use until the 4th century (Crummy 2006, 472). This allows two possibilities. First, the cremation burial could immediately predate the construction of the circus in the earlier 2nd century. Second, it could have been inserted later in the 2nd century when the circus was in use. Of these two options, the first seems much more likely, since digging a burial pit in the racing surface would undoubtedly have created a soft spot which would have been a potential hazard.

The unurned cremation burial

An unurned cremation burial NRF41 was placed 5m SE of the outer face of the south *cavea* wall. This consisted of a roughly circular pit with a maximum diameter of 0.67m, in which had been placed cremated human bone (of an adult of uncertain sex), hobnails, and fragments of two separate Roman jars, one dating to the 1st to mid-late 2nd century, and the other to the early 2nd to mid-late 3rd century. This suggests that the burial dates to the mid 2nd century AD.

Other ?Roman features (Figs 2.3-2.6)

There were a number of undated features which may be Roman. These were pits NRF5, NRF28, and NRF46, and ditches NRF49, NRF58 and NRF59. None of these features contained finds.

Period 7 – medieval

Medieval period features were connected with the robbing of the circus *cavea* walls (Figs 2.7). NRF31 was the robber trench of the inner *cavea* wall. It contained no finds. There was evidence of slight robbing (NRF33) on the surface of the outer *cavea* wall foundation. In fact, it seems equally likely that this was the bottom of the trench dug to rob out the wall superstructure (rather than its foundation). It contained residual Roman pottery and brick fragments, but the important evidence for the date of robbing was 2 sherds of Fabric 21a Colchester-type ware dating to the 15th-16th century. This shows that however early robbing of the circus walls started, it was still taking place in the 15th century.

Period 8 – post-medieval

The principal post-medieval feature was east-west aligned trench NRF1, which aligns exactly with the standing part of St John's Abbey precinct wall, to the east (Figs 2.3 & 2.8). It was 1.5m wide and 0.36m deep, and contained residual Roman brick, peg-tile, post-medieval brick and a sherd of Fabric 40 PMRE, dating the robbing activity to the 17th or 18th century. The date of the trench and its alignement suggests that it may have been a robber trench dug to remove the foundations of the abbey wall. Three 'post-holes' NRF22-NRF24 were found along the trench line. It seems unlikely that they were associated with the stone robbing. Perhaps they part of a fence line erected to block off the hole in the precinct wall created by the robbing.

Two ditches, NRF13 and NRF25 (Fig 2.3), are of unknown purpose – possibly field boundary ditches. Other post-medieval features were pit NRF2 (south of NRF1) and pits NRF14-NRF18, NRF20, and NRF34 to the east of NRF1.

The robber trench NRF1 is significant because it would appear to indicate that the shape of St John's Abbey precinct changed in the 17th or 18th centuries when the south-west corner was remodelled by shifting the boundary eastwards and northwards so as to reduce the size of the enclosed area in this part of the precinct. The most likely date for this remodelling (assuming it really did happen) would be after the Siege of Colchester in 1648 when the Lucas mansion which occupied the site then was badly damaged by the Parlimentarians during their onslaught of the Royalist position inside the precinct. The remodelling of the south-west corner must have happened before 1748 since it appears in this form in the map in Morant (1748). The robber trench aligns closely with the extant sections of abbey wall to the east and, given its width, would seem a likely candidate for the robber trench of a continuation of the wall further westwards. There is however a problem with this interpretation. The line of the west wall of the precinct, if projected southwards, should meet the very western part of the robber trench as uncovered in our excavation, and there is no indication that this was so. However, the distances involved are long and it may be that the west wall of the precinct was not perfectly straight.

Period 9 – modern/military

Modern features (Figs 2.3-2.4) consisted of service runs NRF9-11, NRF26, NRF27, NRF29-30, NRF32-33 and two modern pits, NRF7 and NRF8. These may have a military origin.

The finds reports and environmental analysis

Coins

by Nina Crummy
The only stratified coin was a farthing of Charles I possibly from L6, the rubble spread over the arena surface.

SF 2. (24) L6. ?Rubble spread. Post-Roman. Charles 1, copper-alloy Rose farthing token of Peck Type 2f. Obverse: CAROLV D G MA BRI, privy mark worn; reverse: FRA ET HI REX, privy mark crescent. Diameter 14 mm, weight 0.64 g. Date range: c 1635/6-1644.

SF 4. (30). Unstratified. Very worn copper-alloy coin. Diameter 16 mm, weight 1.60 g. Date range: c 320-80.

Metalwork

by Nina Crummy

The grave deposits (Table 2.1)

Only ironwork was recovered from one pit with pyre debris and three inhumations (Table 2.1). The objects from the pit with pyre debris, NRF41, chiefly consisted of a few hobnails and broken nail fragments. This type and amount of material is typical of the ironwork from cremations and pits with pyre debris from other funerary features areas of the Garrison Urban Village site (*see* Tables 1.53-54 & 1.59) and suggests that they are all primary deposits recovered from the pyre debris. The presence of two amorphous lumps of iron-rich pyre debris, possibly all that remains of burnt nails or hobnails, is in accord with this interpretation.

Of the three inhumations listed in Table 2.1 all contained coffin nails and two also contained hobnails. The absence of hobnails from the other graves on the site need not necessarily mean that the graves did not contain shoes, although in the case of the infant burial NRF52 this may have been the case, as the deceased may instead have been buried wearing stitched or thronged shoes or sandals. The shoes from NRF61 were heavily nailed, but because they were worn at the time of burial, rather than placed in the grave, the nailing pattern was not preserved

Table 2.1. Ironwork from burials on the Napier Road site.

Feature no	Burial type	Nails	Hobnails	Pyre debris	Coffin nails
F41	pit with pyre debris	✓	✓	✓P	-
F51	inhumation	-	-	-	✓
F61	inhumation	-	✓	-	✓
F62/F63	inhumation	-	✓	-	✓

Catalogue of burial deposits

Unurned cremation? NRF41

(26)/(27) F41. Seven iron hobnails. Average length 17 mm.
(26)/(27) F41. Incomplete iron nails and nail shank fragments. Lengths 29 (clenched), 27, 25 x 2, 20, and 19 mm.
(27) F41. Two amorphous lumps of iron-rich pyre debris. Total weight 7 g.

Inhumation NRF51
(45) F51. Iron coffin nails.

Inhumation NRF61
SFs 10-16. (60) F61. Thirty-six iron hobnails (approximately), some corroded together in clusters. Average length 17 mm.
SF 17. (65) F61. One hundred and nine hobnails (approximately), most lacking the tip of the shank and several corroded together in clusters. Average length 15 mm.
(60) F61. Iron coffin nails.

Inhumation NRF62 (this is part of NRF63)
(66) F62. Iron coffin nails.

Inhumation NRF63
SF 6. (73) F63. From area of left foot. Four iron hobnails. Average length 16 mm.
SF 7. (73) F63. From area of right foot. Nine iron hobnails, some corroded in clusters. Minimum length 13 mm (none complete).
SF 9. (65B) F63. From area of both feet. Fourteen iron hobnails (approximately), some corroded in clusters. Average length 16 mm.
(67)/(69). Iron coffin nails.

General small finds and bulk metalwork

Iron nails form the largest part of the Napier Road assemblage, with the majority coming from post-Roman contexts. Other ironwork included a group of hobnails from the demolition debris of the outer *cavea* wall, which can perhaps be linked to the high number of hobnails from the robbing of the circus walls on Area J1 East.

A second assemblage characteristic shared with Area J1 East is the presence of a copper-alloy harness pendant (Fig 2.9). Like JE SF 261 (Fig. 1.74,no 1), the Napier Road pendant is paralleled by one from a military site, in this case the fort of Wiesbaden on the German *limes* (Oldenstein 1976, Taf. 45, 449), and so this piece too may have a military origin. The similarity between the Wiesbaden and Napier Road pendants is very close. Both are enamelled, with a long tapering cell in each arm and a central keystone-shaped cell, both have a hole for a small jangle to hang between the arms, and both have linked expanded terminals. The Wiesbaden pendant is suspended from an enamel stud, and a smaller version from Munningen, with the enamelling restricted to a row of grooves around the top of the curve, was hinged to a riveted bar (*ibid.*, 255, nos 449-59). Oldenstein suggests that lunula pendants with linked expanded terminals date from the later 2nd into the 3rd century (*ibid.*, 164).

Copper-alloy
Fig 2.9. 2, SF 1. (23) In L6 (building debris on the arena surface which had tumbled off the inner *cavea* wall) or on or just under the arena surface itself. Roman. Enamelled lunula harness pendant, hollow-backed, with linked expanded terminals. The suspension loop is worn through near the top of the back edge. A small hole on the inner sloping edge would have held a small jangle. Each arm has a long panel of ?red enamel (now corroded green) separated into three cells by lines of blue enamel. At the top is a keystone-shaped cell of white enamel, contained with metal walls, with an eye of white within a circle of ?red. Width 31 mm, height 36 mm.
SF 5. (35) F1. Robber trench? Medieval? Rectangular plaque with faceted corners and central perforation; probably the backing plate from a strap-fitting. 18.5 by 17 mm. Medieval or later?

Lead
SF 3. (25) L6. Rubble spread. ?Roman. Crumpled fragment of sheet lead. Maximum dimensions 22 by 7 mm.

Iron
The nails are listed in Table 2.2 . All are of Manning Type 1b (1985, 134), although a thin shank fragment from pit F17 may be from a hobnail.
SF 18. (57) L8. Demolition debris. Roman? Six hobnails or hobnail fragments. Length of longest example 18 mm.
(50) F33. Robber trench. Medieval. Split-spike loop with the ends of the arms missing. Length 63 mm.
(4) F2. Pit. Post-Roman? Sheet fragment, 41 by 38 mm.
(49) F47 sx 3. Ditch. Post-Roman. Truncated conical fitting, probably a ferrule or weight. Height 25 mm, maximum diameter 24 mm.

Iron-working debris

(10) F15. Pit. Post-medieval. Slag. Weight 33 g.
(17) F19 sx 1. Ditch. Post-medieval. Slag. Weight 22 g.
(7) F33. Robber trench. Medieval. Slag. Weight 20 g.

Table 2.2. Iron nails from non-funerary features.

Finds no	Context	Context description and date	Description and length (mm)
70	L6	rubble spread; post-circus	1 ?complete, 31; 4 shank fragments, 50, 44, 29, 21
68	L8	demolition debris, outer *cavea* wall; Roman?	1 shank fragment, 29
4	F2	pit; post-Roman?	1 complete, 1 incomplete, 110, 48
5	F7	pit; post-Roman?	3 shank fragments, 53, 34, 19
18	F20	pit; post-Roman?	2 shank fragments, 41, 37
50	F33	robber trench; medieval	1 incomplete, 32
3	F1	robber trench?; medieval?	1 incomplete, 58
34	F1	robber trench?; medieval?	1 complete, 67
22	F17	pit; post-medieval?	3 shank fragments, 25, 20, 15 (the shortest may be from a hobnail)
12	F14	pit; post-medieval	1 incomplete, 39
10	F15	pit; post-medieval	1 complete, 47; 2 shank fragments, 30, 27
9	F25	ditch; post-medieval	2 shank fragments (1 clenched), 27, 20
20	F34	pit or posthole; post-medieval	2 shank fragments, 24, 21

The prehistoric pottery

by Stephen Benfield

Introduction

The excavation produced 9 sherds of prehistoric (pre-Belgic) pottery, weighing 60 g. The prehistoric pottery fabrics (Table 2.3) follow those devised for the recording of prehistoric pottery in Essex (Brown 1988). The number of sherds and weight of the pottery has been recorded by Fabric and finds number for each context. This is set out in Table 2.4 below. Where more than one fabric type is recorded the total weight of prehistoric pottery for that find number is also given.

Table 2.3: prehistoric pottery fabrics used in this report.

size of inclusions: S-small (<1 mm), M-medium (1-2 mm), L large (>2 mm), density of inclusions: 1 = less than 6 per square cm, 2 = 6 to 10 per square cm, 3 = more than 10 per square cm.

Fabric C	Flint, S-M with occasional L
Fabric D	Flint, S-L 2 poorly sorted
Fabric V	Flint S-M 1

Discussion

Only nine sherds of prehistoric pottery recovered. All of the sherds are residual in later dated features and all are flint-tempered. There are only two diagnostic sherds. There is a sherd from a thick walled, decorated vessel, from L7 (finds number 36, Fabric C). This sherd has a row of three small shallow, round, indentations and is probably from a decorated urn of Deverel-Rimbury type. This vessel can be dated to the Middle Bronze-Age. Another sherd, from L7 (finds number 36, Fabric V) is thin walled, and is probably from a fine post-Deverel-Rimbury plain ware vessel. This vessel can be dated to the Late Bronze-Age. While the remaining sherds are not closely datable, given that they are all flint-tempered, they can also be assigned a date in the period of the Mid-Late Bronze Age date. Similar dated prehistoric pottery has been recovered is some quantity from Area J1 North, just to the west of the present site (Sealey above under Area J1 North).

Table 2.4. Prehistoric pottery.

context	finds number	fabric	weight (g)	description
F54	69	C	9	flint-tempered sherd from shoulder just below rim, about 8 mm thick, dark grey-brown exterior surface, dark brown fabric and interior surface.
F54	69	D	11	flint-tempered body sherd, about 7 mm thick, dark reddish-brown exterior surface, reddish-brown interior surface, dark grey-brown core to fabric.
L08	33	D	7	flint-tempered body sherd, reddish brown surfaces, dark grey-brown fabric and interior surface.
L007	036	C	25	flint-tempered, 4 small-medium sherds, one decorated with a row of three small indentations, each of about 5 mm diameter, sherd thickness between 7-9 mm, two sherds abraded, oxidised reddish-brown exterior, dark grey-brown interior, fabric sandwich of same colours.
L007	036	V	3	flint-tempered sherd, 3-4 mm thick, slightly abraded, dark reddish-brown exterior, dark grey-brown interior and fabric . Post-Deverel-Rimbury fine ware, Late Bronze Age.
F047	049	C	5	flint-tempered sherd flake, dark grey surface, grey-brown fabric, remaining part of sherd up to 9 mm thick.
		total	60	

F47 finds number 49 (5 g); Fabric C (9 g), flint-tempered sherd flake, dark grey surface, grey-brown fabric, remaining part of sherd up to 9 mm thick.

F54/63 finds number 69 (20 g);
Fabric C (9 g), flint-tempered sherd from shoulder just below rim, about 8 mm thick, dark grey-brown exterior surface, dark brown fabric and interior surface.
Fabric D (11 g), flint-tempered sherd body sherd, about 7 mm thick, dark reddish-brown exterior surface, reddish-brown interior surface, the fabric has a dark grey-brown core.

L7 finds number 36 (28 g);
Fabric C (25 g), flint-tempered, 4 small-medium sherds, one decorated with a row of three small indentations, each of about 5 mm diameter, and probably from a Middle Bronze Age decorated urn of Deverel-Rimbury type, thickness of the sherds is between 7-9 mm, two sherds are abraded, all sherds have an oxidised reddish-brown exterior, dark grey-brown interior and the fabric is a sandwich of these same two colours.
Fabric V (3 g), flint-tempered sherd, 3-4 mm thick, slightly abraded, dark reddish-brown exterior, dark grey-brown interior and fabric, probably from a Late Bronze Age, post-Deverel-Rimbury, plain ware vessel.

L8, finds number 33 (7 g); Fabric D, flint-tempered body sherd, reddish brown surfaces, dark grey-brown fabric and interior surface.

The Roman pottery

by Stephen Benfield

Introduction

In total, there is just under 5 kg (4914 g) of Roman pottery from the excavation. The pottery has been recorded using the Roman pottery fabric type series devised for *CAR* **10** in which the fabrics are recorded as two-letter codes. These letter codes, together with the full fabric name, are set out in Table 2.5. Where appropriate, the fabric code for the National Roman Fabric Reference Collection has been included (Tomber & Dore 1998). The pot forms were recorded, where possible, using the Camulodunum (Cam) Roman pottery form type series (Hawkes & Hull 1947; Hull 1958). Samian vessels are recorded using Dragendorff (Dr) form numbers or other common form type references following those used in Webster 1996. The pottery fabrics and the vessel forms present in each site context were recorded for each finds number. The number of sherds was recorded and the identifiable pottery forms present for each fabric type. The total weight of pottery and an overall spot-date was recorded for each finds number. This information is set out in the Table 2.6 below.

Table 2.5 Roman pottery fabric codes and fabric names used in this report (after CAR 10).

Fabric code	Fabric name	National Roman Fabric Reference Collection fabric code
AA	amphorae, all excluding Dressel 20 and Brockley Hill/Verulamium region amphorae	
AJ	amphorae, Dressel 20	BAT AM 1, BAT AM 3
BA	plain samian forms	
SG	South Gaulish plain samian	LGF SA
CG	Central Gaulish plain samian	LEZ SA 2
EG	East Gaulish plain samian	
AR	Argonne plain samain	ARG SA
COL	Colchester plain samian	COL SA
CB	Colchester red colour-coated roughcast ware	COL CC2
CL	Central Gaulish and ‘Rhenish-type’ fine colour-coated wares	
NF	Trier fabric	MOS BS
CZ	Colchester and other red colour-coated wares	COL CC2
DJ	coarse oxidised and related wares	COL WH
GA	BB1: black-burnished ware, category 1	DOR BB1
GB	BB2: black-burnished ware, category 2	COL BB2
GX	other coarse wares, principally locally-produced grey wares	
HZ	large storage jars and other vessels in heavily-tempered grey wares	
KX	black-burnished ware (BB2) types in pale grey ware	
MQ	white slipped fine wares and parchment wares	
TZ	mortaria, Colchester and mortaria imported from the Continent	

Discussion

Introduction

Roman pottery was recovered from a number of context types, inhumation and cremation burials, and construction, demolition and robbing of the Roman circus, also various pits and post-holes. While most of the closely datable pottery could be accommodated within a range of 1st-3rd century, there are at least two sherds that are of late Roman (late 3rd-4th century) date. The two late Roman sherds are roller-stamp decorated Argonne samian (Fabric BA(AR)), dated as late 3rd?/mid 4th-early 5th century and were recovered from F47 and L8. There is also a sherd from a Cam 306 bowl, from an inhumation burial (F51), which could date from as late as the 4th century. No Late Iron Age grog-tempered wares were present. A dearth of Late Iron Age pottery from the Garrison excavations has been noted previously (Sealey above under Area J1 North).

Pottery from the burials

Three complete, or near-complete, broken pots were recovered from two of the inhumation burials, F52 and F63. There is a single pot from F52 (F52.1 on plan of NRF52 in appedix below). This is a Rhenish motto beaker of Trier Form 1 (Symonds 1992, 49-53). It is broken and almost complete, although a fragment of the rim is missing. The motto, in white paint, reads DEDI. The vessel can be dated to the 3rd century (*CAR* **10,** 275). Two pots were recovered from F63. These are a Cam 266 jar (Fabric GX) and Cam 40B bowl (Fabric GB). The Cam 266 jar is scorched on one side. It has either been burnt on a fire, or the scorching represents firing damage in which case it could be described as a kiln second. While the Cam 266 jar is dated 1st-early 2nd century, the Cam 40B bowl, dated early 2nd to mid-late 2nd century, would indicate a date for the burial after the early 2nd century. There are also a small number of other sherds associated with F63. Only one of these can be closely dated. This is a sherd from a Cam 37 bowl, probably Cam 37B which is dated late 2nd to mid-late 3rd century. If the burial is no earlier than the late 2nd century, then the Cam 266 jar must have been at least about 50 years old when placed with the burial.

Only pottery sherds were recovered from the other inhumation burials, ie F51, F61, F62, and the possible inhumation burial F54. As small groups of sherds, it seems likely that all of these are residual among the burials. Where datable, most of the sherds associated with the burials are of 2nd- to 3rd-century date. Sherds among the pottery from F54 and F61 possibly date to the late 2nd-3rd century. There is a single sherd from a Cam 306 bowl from F51, and this form is dated as late ?2nd to 3rd-4th century.

Also there are two partial pots associated with cremation burial F41. These are the upper part of a Cam 231/232 large flask, dated 1st to mid-late 2nd century, and part of a Cam 40A bowl, dated early 2nd to mid-late 3rd century. The sherds from the bowl have been burnt, presumably on the pyre.

Pottery associated with the Roman circus

There is a small quantity of pottery from the site of the Roman circus. However, there is only one context containing pottery that can be related to the circus itself. This is the ditch F43, which is cut by the foundation of the outer wall of the circus. Two sherds were recovered from F43. These are a sherd of South Gaulish samian (finds no 38) and a sherd of East Gaulish samian (finds no 41). The South Gaulish sherd is dated 1st century. The East Gaulish sherd is a rim sherd from a plate or bowl with just enough surviving to show that there is a distinct change in angle between the wall and the base. This indicates that the sherd is from the plate/bowl form Dr 18/31, rather than the later bowl form Dr 31, and can be dated to the early-mid 2nd century (Webster 1996, 33-5).

Of interest is a partial pot (F6, finds no 7), recovered from the circus arena, and which appears to be a votive deposit. The form is the jar Cam 268. All the base of the jar is present, and much of the body, but much of the shoulder and rim are missing. Sooting under the rim suggests that it was exposed to a fire prior to being buried, possibly through use as a cooking pot, although exposure to a pyre or ritual fire cannot be excluded. Cam 268 is current in the early/mid 2nd-late 3rd/early 4th century. However, the pot has been wiped or lightly burnished around the lower body so that the inclusions of sand have dragged. This effect is

commonly seen on the earlier 1st- to early 2nd-century jar and bowl forms and may indicate that this is an early example of Cam 268, possibly dating from the early-mid 2nd century.

The remaining pottery comes from demolition (L8) and later robbing of the structure (F33, F42, L6). The only pottery that can be closely dated is from F33, L6, and L8. Among the small quantity of pottery from F33 are a sherd of Dorset black-burnished ware (BB1), dated early 2nd-4th century, and a sherd of 1st-century South Gaulish samian. The pottery from L6 includes a sherd of East Gaulish samian, dated early-mid 2nd to mid 3rd century and a sherd from a Cam 268 jar, dated early/mid 2nd-late 3rd/early 4th century. L8 includes two sherds of East Gaulish samian, one probably Argonne ware (Fabric BA(AR)), dated as late 3rd?/4th-early 5th century (Tyers 1996, 136). Possibly part of the same vessel, a roller-stamped samian bowl that is almost certainly Argonne ware, was recovered from a post-Roman ditch F47 (*see* below).

Pottery from other features

Roman pottery was also recovered from ten other features. These features are four pits (F12, F15, F16, F20), three ditches (F13, F25, F47) and a post-hole (F53). All these features are dated as post-Roman or post-medieval, or are assigned a probable post-Roman date, so that the Roman pottery from them is residual. Only two of the features, ie F47 and F53, produced more than one or two sherds of Roman pottery. The latest-dated pottery from F47 consists of a sherd of late Colchester colour-coated ware (Fabric CZ) dated early 2nd to mid-late 3rd century, and an abraded sherd of roller-stamped samian that is probably Argonne ware (Fabric BA(AR)) dated as late 3rd?/4th-early 5th century. Possibly part of the same vessel, a samian bowl that is probably Argonne ware, was recovered from L8 (*see* above). The pottery from F53 included a samian cup of form Dr 33. This has a fragment of a potter's stamp in the base, reading (V)SF, which is probably the end of a stamp of LITVGENVSF (Hull 1963, stamp 21b, fig 48), one of the Colchester samian potters. The stamp, together with the nature of the fabric, suggests that this pot is Colchester samian and can be dated as mid-late Antonine (*CAR* **10**, 136, S839). There are three other Roman sherds from the feature, both in local grey ware (Fabric GX). These are two sherds from a Cam 243-244/246 bowl, dated 1st-early 2nd century, and a sherd from a bowl with bead rim, similar to one illustrated in *CAR* **10** (Fabric GX, fig 6.63, no 299). The form of the pot appears to imitate the bowl form Cam 37, and can probably be dated as early 2nd to mid-late 3rd century.

Table 2.6 Catalogue of Roman pottery.

context	finds number	weight (g)	Roman pottery Fabrics (with number of sherds and dated form types)	comments and date
F1	16	6	Fabric GX, 1 sherd, Roman.	
F1	34	7	Fabric GX, 2 sherds, Roman.	
F4	1	8	Fabric GX, 1 sherd, Roman.	
F6 placed deposit	7	629	NRF6.1 (*see* plan in burial appendix below), Fabric GX, Cam 268, with double groove around shoulder below undercut rim with a short neck, gritty, abraded oxidised fabric, traces of sooting under rim. Much of vessel present as sherds, complete base but much of shoulder and rim missing, lower body up to about 30 mm above the base has been wiped around the vessel and the sand inclusions have dragged. This effect is more commonly seen on the earlier jar form Cam 266 and may indicate that this is an early example of Cam 268, dated early/mid 2nd-late 3rd/early 4th century, possibly early-mid 2nd century.	early/mid 2nd-late 3rd/early 4th century, possibly early-mid 2nd century.
F12	8	4	Fabric GX, 1 sherd, Roman.	
F13	11	8	Fabric GX, 2 sherds, Roman.	also /F25
F15	13	1	1 fragment, ?Fabric GX, Roman	
F16	14	1	2 sherd flake fragments, Fabric GX, Roman	
F20	18	1	Fabric BA(EG), 1 small sherd flake, early-mid 2nd to mid 3rd century.	
F25	9	29	Fabric AJ, 1 sherd, 1st-early 3rd century; Fabric GX, 1 sherd, Roman.	
F33	7	19	Fabric GX, 3 sherds, Roman.	
F33	50	15	Fabric GA, 1 sherd, early 2nd-4th century; Fabric GX , 1 sherd, Roman.	
F33	56	7	Fabric BA(SG), 1 sherd, 1st century; Fabric GX, 1 sherd, Roman.	
F33	71	23	Fabric DJ, 1 sherd, 1st-2nd/3rd century.	
F41 unurned cremation	26	307	Fabric GX , 34 sherds, all sherds from a Cam 231/232, most of neck and much of shoulder, with a few body sherds, almost of body and all of the base missing, burnt, 1st to mid-late 2nd century; Fabric KX, 8 sherds, Cam 40A with chamfer, sherds from wall and rim, 2 base sherds, faint burnished lines running around pot, burnt, early 2nd to mid-late 3rd century.	pieces from burnt pots, early 2nd to late 2nd or possibly mid-late 3rd century.
F42 foundation	51	16	Fabric GX, 3 sherds, Roman.	Roman - post-med pot also in bag
F43	38	2	Fabric BA(SG), 1 sherd.	1st century

context	finds number	weight (g)	Roman pottery Fabrics (with number of sherds and dated form types)	comments and date
F43 ditch Sx 3	41	28	BA(EG), 1 sherd, Dr 18/31.	early-mid 2nd century
F47	32	25	Fabric AA, 1 sherd, 1st-mid 2nd century.	
F47	32	8	Fabric BA(SG), 1 sherd, 1st century; Fabric GX, 1 sherd, Roman.	
F47	40	23	Fabric HZ, 1 sherd, 1st-2nd/3rd century.	
F47	48	3	Fabric GX, 1 sherd, Roman.	
F47	49	109	Fabric BA(AR), 1 sherd, roller-stamped, abraded, early-mid 2nd to mid 3rd century; Fabric CZ, 1 sherd, early 2nd to mid-late 3rd century; Fabric GX, 7 sherds, Roman.	as late 3rd-4th/early 5th century
F51 inhumation burial	42	34	Fabric GX, rim sherd from a Cam 306 bowl, ?late 2nd to 3rd-4th century.	?late 2nd to 3rd-4th
F52 inhumation burial	46	80	NRF52.1 (*see* plan in burial appendix below),, Fabric CL(NF), near complete broken motto beaker, approximately 80 mm tall,, most of body complete, neck broken into several sherds, fragment of rim missing, Symonds Trier Form 1 (Symonds 1992 p 49-53), small piece or rim missing, faded motto **DEDI** in white paint between white scrolls, upper scroll almost entirely missing, lower scroll white barbotine, letters of motto separated by white painted dots or residue of barbotine dots, 3rd century (*CAR* **10** p 275)	3rd century
F52	47	13	Fabric BA(CG), 1 sherd, 2nd century; Fabric GB, 1 sherd, early 2nd to mid-late 3rd century; Fabric GX, 1 sherd, Roman.	early 2nd to 3rd century
F53	63	50	Fabric BA(COL), 2 sherds, Dr 33 base, fragment of stamp, ..(**V**)**SF**, probably **LITVGENVSF**, stamp 21b (Hull 1963 fig 48) mid-late Antonine; Fabric GX, 2 sherds, Cam 243-244/246, 1st-early 2nd century, bowl with bead rim, form is that of Fabric GB Cam 37 (*CAR* **10** Fabric GX, fig 6.63, 299), probably early 2nd-3rd century.	mid 2nd to mid-late 3rd century
F54	61	617	Fabric AJ, 1 sherd, 1st-early 3rd century; Fabric BA(CG), 1 sherd, Dr 18/31 or 31, 2nd century, Fabric GB, 5 sherds, Cam 37, early 2nd to mid-late 3rd century, probably Cam 37B late 2nd-mid-late 3rd century; Fabric GX, 17 sherds, Roman, Fabric KX, 1 sherd, Cam 37/38, rounded rim, late 2nd to mid-late 3rd century; Fabric MQ, 2 sherds, Roman, Fabric HZ, 2 sherds, 1st-2nd/3rd century, Fabric TZ, 1 sherd, 1st-2nd/3rd century.	late 2nd to mid-late 3rd century
F54	061	187	Fabric AJ, 1 sherd, 1st-2nd/early 3rd century; Fabric HZ, 1s-2nd/3rd century.	Roman
F054	061	7	Fabric DJ, 1 sherd, 1st-2nd/3rd century	
F54	069	14	Fabric HZ, 1 sherd, 1st-2nd/3rd century.	also F63
F54	069	594	Fabric AA, 2 sherds, Spanish fabric, probably from same amphora, possibly from a Dressel 20 or Haltern 70, 1st-early 2nd/2nd century; Fabric CB, 1 sherd, early 2nd- mid 3rd century; Fabric GA, 1 sherd, early 2nd-4th century, Fabric GB, 2 sherds, early 2nd to mid-late 3rd century; Fabric GX, 31 sherds, cam 268, Roman, early/mid 2nd-late 3rd/early 4th century; Fabric HZ, 2 sherds, 1st-2nd /3rd century; Fabric MQ, 1 sherd, Roman.	F54/F63, early/mid 2nd-3rd/4th century
F61 inhumation burial	062	14	Fabric AJ, sherd flake, 1st-early 3rd century.	
F61	062	138	Fabric GX, 5 sherds, Cam 243-244/246, 1st-early 2nd century, one other rim sherd probably from a mid-late Roman jar or bowl, probably late 2nd-3rd/4th century; Fabric HZ 1 sherd, 1st-2nd/3rd century.	?2nd-3rd/4th century
F62 inhumation burial	064	152	Fabric DJ, 1 sherd, 1st-2nd/3rd century; Fabric GB, 3 sherds, early 2nd to mid-late 3rd century; Fabric GX, 5 sherds, Roman, Fabric HZ, 2 sherds, 1st-2nd/3rd century; Fabric KX, 1 sherd, early 2nd-3rd century; Fabric ?TZ 1 sherd, 1st-2nd/3rd century.	early 2nd to mid-late 3rd century
F63 inhumation burial	072	1043	NRF63.1 (*see* plan in burial appendix below),, Fabric GX, Cam 266 jar, complete but broken, scorched on one side before breakage, 1st-early 2nd century.	
F63	076	215	Fabric GB, complete, but broken, Cam 40B bowl, abraded surfaces, early 2nd to mid-late 3rd century.	early 2nd to mid-late 3rd century
F63	075	100	Fabric GB, 1 sherd, Cam 37B, late 2nd to mid-late 3rd century; Fabric GX, 8 sherds, Roman.	late 2nd to mid-late 3rd or 4th century
L6	052	8	Fabric GX, 1 sherd, Roman.	
L6	059	4	Fabric GX, 1 small abraded sherd, soft fabric, sand-tempered, possibly Iron Age.	possibly Iron Age
L6	059	34	Fabric DJ, 1 sherd, 1st-2nd/3rd century; Fabric GX 3 sherds, Roman.	
L6	070	34	Fabric BA(EG) 1 sherd, mid 2nd-mid 3rd century; Fabric GX, 6 sherds, Cam 268, early/mid 2nd-late 3rd/early 4th century.	mid 2nd to mid-late 3rd century
L8 demolition debris	033	8	Fabric DJ, sandy oxidised ware with burnished surface, 2 joining base sherds.	Roman
L8	037	7	Fabric GX, 2 sherds, Roman.	
L8	038	7	Fabric GX, 2 sherds, Roman	Roman
L8	068	108	Fabric BA(EG), 1 sherd, mid 2nd-mid 3rd century; Fabric BA(AR), 1 rim sherd, probably Argonne samian, Fabric GX, 21 sherd, Roman; Fabric HZ, 2 sherds, 1st-2nd/3rd century.	as late 3rd-4th/early 5th century

context	finds number	weight (g)	Roman pottery Fabrics (with number of sherds and dated form types)	comments and date
U/S	029	167	Fabric AJ, 1 sherd, 1st-early 3rd century; Fabric GX, 2 sherds, Cam 243-244/246, 1st-early 2nd century, rim sherd from a large jar.	
Total		4914		

The post-Roman pottery

by Howard Brooks

Description of pottery

Fabrics present are as follows (after Cunningham 1985 and *CAR* **7**): Fabric 13 (early medieval sandy ware); Fabric 20 (medieval grey ware); Fabric 21 (sandy orange ware); Fabric 21a (Colchester-type ware); Fabric 22 (Hedingham fine ware): Fabric 40 (post-medieval red earthenware or PMRE); Fabric 42 (Border ware); Fabric 45m (modern stoneware); and Fabric 48d (modern ironstone). A list of fabrics by context with quantification is given in the catalogue below.

Comment

This is a very small group of post-Roman pottery (19 sherds, 193g). The medieval fabrics were commoner that post-medieval fabrics (11 sherds 130g, as opposed to 8 sherds 63g). The commonest individual fabrics were early medieval sandy ware (4 sherds, 54g), and PMRE (4 sherds 49g). The other fabrics are in very small quantities. The small size of the group may explain the absence of tin-glazed earthenwares and early stonewares, which are usually components of Colchester groups.

One of the principal points of interest in this group is the date of pottery from the robber trenches of the Roman circus. There was no medieval or later pottery from the robber trench of the inner *cavea* wall F31. Interestingly, the robber trench of the outer *cavea* wall F33 contained sherds of Colchester-type ware with a green glaze on a bright orange body. Some early Fabric 21a jugs have a green glaze over a white slip, in imitation of late 12th or 13th century Hedingham ware, but there is no slip on these sherds. It is more likely that they date from the 15th or 16th century. This would suggest that, however early the robbing of the circus walls began, it was still current as late as the 15th century.

Feature 1, a large robber trench directly on the line of the south Abbey precinct wall contained a sherd of fabric 40, probably dating to the 17th or 18th century. This would support the idea of post-medieval (and post-Dissolution) robbing out of the west end of the south Abbey precinct wall.

Catalogue of pottery

F1
Finds no 3
1 sherd Fabric 40, 4g
Date: post-medieval

F2
Finds no 4
1 sherd Fabric 13, 7g; 1 sherd Fabric 21, 3g; 1 sherd Fabric 40, 8g
Group date 16th-18th century

F7
Finds no 5
1 sherd Fabric 21, 5g; 1 sherd Fabric 45m, 4g
Group date: 20th century

F13/25
Finds no 11
1 sherd Fabric 13, 11g
Date: 12th century

F19
Finds no 21
1 sherd Fabric 40, 12g; 2 sherds Fabric 48d, 4g
Group date: 19th-20th century

F20
Finds no 18
1 sherd Fabric 40, 25g
Date: post-medieval

F25
Finds no 09
1 sherd Fabric 13, 6g
Date: 12th century

F33
Finds no 56,
2 sherds Fabric 21a, 37g
Date: 15th-16th century

F47
Finds no 32,
2 sherds Fabric 20, 28g; 1 sherd Fabric 22, 3g
Group date 13th-14th century

L6
Finds nos 59, 70
1 sherd Fabric 13, 30g; 1 sherd Fabric 42, 6g
Group date: mid 16th-17th century

The clay tobacco pipe

by Nina Crummy

The only bowl fragment in this small assemblage is a Colchester Type 9, dated *c* 1700-40, which is marked with the initials of the pipemaker Elizabeth Bland (*CAR* **5**, 51-2, 63).

F12, finds number 8. Stem fragment. Length 44 mm, bore diameter 2 mm.
F15, finds number 13. Two stem fragments. a) Length 33 mm, bore diameter 2 mm. b) Length 24 mm, bore diameter 2 mm.
F17, finds number 22. Small fragment of a pipe bowl. 17 by 11 mm.
F19, finds number 17. Damaged Type 9bowl with part of the stem. The initial EB are in relief on the sides of the foot. Length 73 mm, height 41 mm.

The worked flint

by Hazel Martingell

Summary

Three flakes and one waste block were recovered.

Catalogue

F47
Finds no 49
1 flake, secondary, thinning

L6
Finds no 52
1 flake, tertiary, cortex platform
1 flake, tertiary, irregular
1 waste block, secondary

The human skeletal remains and associated animal bone

by Francesca Boghi (NAU)
(Animal bone identified by Julie Curl (NAU)).

Summary

Four features containing human skeletal remains and provisionally dated to the Roman period were found at Napier Road, Colchester. These consisted of one pit with pyre debris and three inhumation burials. The pit with pyre debris contained a small amount (53g) of fully cremated (i.e. exposed to a temperature in excess of 600º) and finely fragmented human bone. The remains were those of a minimum of one adult individual of uncertain sex.

A total of 34% of the bone, deriving from all four skeletal areas could be identified indicating that bone collection at the pyre site was very meticulous. No pathological changes were detected. Pyre goods were present in the form of fully cremated bird bones together with a small amount of pyre debris and one nail.

The three inhumation burials contained three largely incomplete skeletons with poorly preserved bone, severely limiting the amount of information that could be derived from the analysis. The remains were those of one probably male middle/old individual (NRF51), one probably adult individual of uncertain sex (NRF62) and one adult of uncertain sex (NRF63). No pathological changes were detected.

The cremated human remains

One Roman cremation burial (possibly a box burial) was recovered at Napier road, Colchester. This feature contained a total of 53g of cremated human bone. The analysis of the cremated bone followed the guidelines drafted by McKinley (2004). A summary and a description are given in Appendix 2.2.

The amount of bone found in NRF41 was small (1-99g) and is below the lower value for archaeological cremations (57 – 3000g) (McKinley 2000, 408-409), and is largely incomplete in comparison to a modern cremation (1000–3600g) (McKinley, 2000: 404) (Table 2.7).

Table 2.7 Bone fragmentation.

Feature	41
10mm	21 (39.6%)
5mm	26 (49%)
2mm	5 (9.4%)
residue	1 (1.9%)
Maximum fragment size	36m
Total (human bone only)	53
Total weight (inclusions included)	55

The maximum fragment size (36mm) was medium and the bone was finely fragmented as less than 40% of bone fragments were over 10mm in size, in comparison to an average of 50% of bone fragments over 10mm in archaeological cremations (McKinley 1994, 340).

The bone showed the typical pattern of fissuring, cracking and warping found in cremated fresh bone. The predominantly buff white colour found across the whole assemblage indicates the full oxidisation of bone, which occurs when a temperature in excess of 600° is reached (Shipman *et al.* 1984). The small amounts of blue/grey noted in the shielded areas of the medullary cavity of the long bones indicates that a slightly lower temperature was attained in these areas and follows the typical pattern of burning on the bones of a skeleton (further detail in Appendix 2.2).

A total of 34% of bone was identified (further detail in Appendix 2.2). Bone elements from all four skeletal areas were identified. Fragments were considered identifiable when they could be attributed to a specific bone element rather than to a generic skeletal area. Identifiable bone was separated, quantified and classified into four skeletal areas: skull, axial skeleton, upper limb and lower limbs. This figure falls within the expected range (20-50%) of an archaeological cremation that is normally identifiable (McKinley 1989, 68). With respect to the relative representation of skeletal areas, elements from the skull and upper limbs were best represented whilst the axial skeleton and the lower limbs were poorly represented. The collection of the cremated remains at the pyre site appears to have been meticulous enough to include bone elements from all four skeletal areas. No bias in the collection of skeletal elements was detected.

No multiple burials were identified in this sample, as there was no evidence for duplication of bone elements or discrepancies of age at death. No evidence for bone deposition in anatomical order was found in the two finds bags collected for this feature (further detail in Appendix 2.2).

The individual from NRF41 could only be generically classified as an adult (>20 years) from the rate of epiphyseal union. A sex category could not be assigned as all the relevant metric and morphological criteria were missing. No pathological changes were observed (further detail in Appendix 2.2).

Fully cremated bird bone (<1g) and was found in this feature alongside the fully oxidised human bone indicating that part or whole animal carcasses had been placed on the pyre with the deceased as pyre goods, and were selected later for inclusion in the grave. The inclusion of cremated animal bone is common and the animal remains generally represent pyre goods, food, amulets, pets, indicators of status, or remnants of funeral feasts (McKinley 2000, 416). A small amount of pyre debris (charcoal) and one nail were also found.

The inhumed human skeletal remains

Three Roman inhumation burials were received for analysis. A summary and a description are given in the Appendix 2.2.

The analysis follows Buikstra and Ubelaker (1994), the Guidelines to the Standards for Recording Human Remains (McKinley 2004) and Human Bones from Archaeological Sites (Mays, Brickley and Dodwell 2002). The minimum number of individuals and skeletal completeness were calculated on the basis of the inventory.

The bone condition was generally poor, very fragmented and with the cortical severely abraded and generally missing epiphyseal ends (*see* 'Archival data' below). The skeletons were represented by <25% of the expected bone elements; the axial skeletons, dentitions and the bones of hands and feet were generally missing due to poor preservation.

The remains were classified as those of one probably male middle/old individual (NRF51), one probably adult individual of uncertain sex (NRF62) and one adult of uncertain sex (NRF63) (*see* 'Archival data' below).

No metric and non-metric recording was possible. No pathological conditions were observed, though this was not unexpected given the overall poor bone condition.

Acknowledgement

Thanks to Julie Curl (NAU Archaeology) for the identification of the animal bone

The animal bone

by Julie Curl, NAU Archaeology

Introduction

A total of 0.733kg of faunal remains was recovered from excavations at Napier Road, Colchester. The excavations at this site revealed part of the Roman Circus stand. The remains included the butchered remains of the main domestic mammals and one deer bone.

Methodology

All of the bone was examined to determine the range of species and the faunal elements present, and the amount of material that could produce measurable, ageable bone. Bone was scanned to determine if evidence of bone-, horn- or antler-working was present in the assemblage. Butchering and any indications of skinning, horn-working and other modifications were recorded. Where possible, a record was made of ages and any other relevant information, such as pathologies. Counts and weights were taken and recorded for each context and counts were taken for the number of bones for each species identified. Due to the small size of the assemblage, measurements were not taken as there would have been too few data for any meaningful interpretation. All information was input directly into an Excel spreadsheet for analysis. The analysis was carried out following a modified version of guidelines by English Heritage (Davis 1992). A catalogue of the assemblage is included as a Table 2.8 with this report.

The assemblage – discussion and conclusions

Faunal remains, consisting of 143 pieces and totalling 0.733kg, were recovered from seventeen contexts. Remains were produced from a variety of fills from Roman graves, medieval robber trenches and post-medieval ditches. The assemblage was generally in poor condition and fragmentary, with particularly high fragmentation noted in the grave fill F54 (61). Remains in the ditch fill F47 (40) exhibited slight burning; a sheep radius in the same fill also showed some canid gnawing suggesting scavenging or food given to a domestic dog. Bone in the post-Roman rubble fill L6 (59) also showed porous surfaces and erosion, suggesting re-deposited bone that had suffered greater wear.

Some faunal material was found in the Roman grave fills F54 (61) and F54/F63a (69); this material consists of primary butchering or poorer quality food waste from cattle, pig and roe deer. The association of these remains with human graves would suggest the possibility of pieces of meat buried as grave-goods or remains of funeral feasting (Green 1993), a practice that is quite common in burials of Roman or earlier date.

The post-Roman to post-medieval material included the butchered remains of cattle and sheep/goat. These elements were derived from better quality cuts of meat, rib and vertebrae fragments, all of which suggest food waste.

Overall, the assemblage appears to be derived from butchering and food waste and may be from food provided for spectators at the circus. Hunting of wild animals was only represented by the butchered roe deer. There is a lack of bird or small mammal remains, but this may be due to poor preservation conditions.

Table 2.8 Catalogue of faunal remains (listed by feature number).

Context and finds number	Type	Total qty	Wt (kg)	Species name and qty	Age	Butchering	Comments
F1, 16	robber	1	0.017	cattle; 1		chopped	vertebrae
F2, 4	pit	1	0.008	sheep/goat: 1		chopped	tibia
F13, 11	ditch	6	0.124	cattle: 1		chopped	tibia
F13, 11	ditch			sheep/goat: 2	adult	chopped	ribs
F13, 11	ditch			mammal, 3			
F15, 13	pit	4	0.022	cattle, 2	adult		molar fragments
F15, 13	pit			mammal, 2			
F19, 17	ditch	10	0.172	cattle, 3	adult	butchered	distal tibia, vertebrae fragments
F19, 17	ditch			mammal, 7			
F25, 9	ditch	2	0.005	sheep/goat, 1	adult	chopped	pelvis
F25, 9	ditch			mammal, 1			small fragment
F33, 7	robber	1	0.005	mammal, 1			
F34, 20	Post-hole / pit	2	0.002	mammal, 2			
F47, 32	ditch	2	0.017	sheep/goat,1		chopped	humerus shaft
F47, 32	ditch			mammal, 1			small fragment
F47, 40	ditch	1	0.005	mammal, 1		butchered	slight burning
F47, 49	ditch	15	0.078	sheep/goat, 1	adult	chopped	radius, slight canid gnawing
F33, 50	robber	3	0.031	sheep/goat, 1	adult	cut/chopped	femur, knife cuts
F33, 50	robber			mammal, 2			
F33, 56	robber	3	0.054	mammal, 3		butchered	shaft fragments, large mammal
F54, 61	sinkage	7	0.031	cattle, 1	adult	chopped	talus
F54, 61	sinkage			deer – roe, 1		chopped	metacarpal shaft fragment
F54, 61	sinkage			mammal, 5			small fragments, large mammal
F54/F63a, 69	sinkage	65	0.098	pig, 4	juv.	butchered	jaw/teeth fragments, metapodial
F54/F63a, 69	sinkage			mammal, 61			inc large mammal; highly fragmented
L6, 59	rubble	11	0.031	cattle, 4			molar fragments
L6, 59	rubble			mammal, 7			poor condition, porous, eroded
L6, 70	rubble	2	0.012	mammal, 2			
L8, 57	demolition	7	0.091	cattle, 2	adult	chopped	metatarsal. Molar
L8, 57	demolition			sheep/goat, 1	adult	chopped	metatarsal
L8, 57	demolition			mammal, 4			

Other finds

by Howard Brooks

F1
Finds no 2
9 Roman tile fragments, 287g,
1 Box tile fragment, 60g,
9 undated brick/tile scraps, 89g,
12 peg-tile fragments, 275g,
2 post-medieval brick fragments, 248g
Finds no 3
2 Roman tile fragments, 95g,
1 Roman brick fragments, 55g,
2 undated brick/tile scraps, 14g,

15 peg-tile fragments, 638g

Finds no 16
5 Roman tile fragments, 197g,
7 undated brick/tile scraps, 81g,
3 peg-tile fragments, 63g
Finds no 34
6 Roman tile fragments, 553g,
1 Roman brick fragment, 201g,
15 undated brick/tile scraps, 270g,
17 peg-tile fragments, 548g,
4 post-medieval brick fragments, 106g
F2
Finds no 4
2 Roman tile fragments, 73g,
5 undated brick/tile scraps, 28g,
5 peg-tile fragments, 156g

F4
Finds no 1
1 Roman tile fragment, 52g

F7
Finds no 5
1 Roman brick fragments, 76g,
4 undated brick/tile scraps, 35g,
2 peg-tile fragments, 82g,
1 post-medieval brick fragment, 22g

F12
Finds no 8
1 Roman tile fragment, 22g,
2 undated brick/tile scraps, 11g,
1 peg-tile fragment, 16g,
1 post-medieval brick fragment, 118g

F13/25
Finds no 11
7 Roman tile fragments, 351g,
5 Roman brick fragments, 322g,
11 undated brick/tile scraps, 85g,
4 peg-tile fragments, 154g,
1 oyster shell fragment, 2g

F14
Finds no 12
3 Roman tile fragments, 64g,
10 undated brick/tile scraps, 55g,
3 peg-tile fragments, 83g,
1 post-medieval brick fragment, 18g

F15

Finds no 10
2 Roman tile fragments, 187g,
1 Roman brick fragment, 100g,
8 peg-tile fragments, 115g,
2 post-medieval brick fragments, 195g
Finds no 13
3 Roman tile fragments, 53g,
7 undated brick/tile scraps, 21g,
5 peg-tile fragments, 93g,
1 post-medieval brick fragments, 9g

F16
Finds no 14
1 undated brick/tile scrap, 7g

F17

Finds no 22
2 Roman brick fragments, 109g,
4 undated brick/tile scraps, 8g,
2 peg-tile fragments, 30g,

F19
Finds no 17
3 Roman tile fragments, 96g,
1 Roman brick fragments, 59g,
11 peg-tile fragments, 281g,
4 post-medieval brick fragments, 422g

Finds no 21
5 Roman tile fragments, 247g,
4 peg-tile fragments, 234g,
1 post-medieval brick fragments, 26g

F20
Finds no 18
11 undated brick/tile scraps, 29g,
6 peg-tile fragments, 142g,

F21
Finds no 19
2 undated brick/tile scraps, 2g

F23
Finds no 06
1 Roman tile fragment, 38g,
1 undated brick/tile scrap, 4g,
4 peg-tile fragments, 68g,

F25
Finds no 09
8 Roman tile fragments, 270g,
1 Roman brick fragment, 105g,
1 Imbrex fragment, 35g,
5 undated brick/tile scraps, 57g,
1 post-medieval brick fragment, 17g
1 oyster shell fragment, 14 g

F33
Finds no 07
4 oyster shell fragments, 65g

Finds no 28
1 oyster shell fragment, 12g

Finds no 50
6 Roman tile fragments, 353g,
3 Roman brick fragments, 621g,
22 undated brick/tile scraps, 100g
24 oyster shell fragments, 132g

Finds no 56
9 oyster shell fragments, 94g

Finds no 71
13 Roman tile fragments, 225g,
1 Roman brick fragment, 178g

F34
Finds no 20
5 undated brick/tile scraps, 12g,
1 ?peg-tile fragment, 9g

F42
Finds no 51
6 Roman tile fragments, 347 g,

4 undated brick/tile scraps, 18g,
1 peg-tile fragment, 23g
4 oyster shell fragments, 41g

F43
Finds no 38
1 Roman tile fragment, 62g,
2 undated brick/tile scraps, 21g,
1 ?peg-tile fragment, 11g
4 oyster shell fragment, 15g

Finds no 41
1 oyster shell fragment, 27g

Finds no 55
40 oyster shell fragments, 184g
F47
Finds no 32
11 Roman tile fragments, 313g,
7 Roman brick fragments1797g,
1 peg-tile fragment, 410g
2 oyster shell fragments, 19g
Finds no 40
4 Roman tile fragments, 91g,
1 Roman brick fragment, 49g,
1 Imbrex fragment, 49g,
9 undated brick/tile scraps, 69g,
2 ?peg-tile fragments, 33g
1 oyster shell fragment, 2g
Finds no 48
3 Roman tile fragments, 170g,
18 undated brick/tile scraps, 81g
6 oyster shell fragments, 46g
Finds no 49
17 Roman tile fragments 581g,
6 Roman brick fragments, 1226g,
1 undated brick/tile scrap, 3g
1 oyster shell fragment, 8g

F50
Finds no 44
2 Roman tile fragments, 40g

F53
Finds no 63
2 Roman tile fragments, 92g,
1 Roman brick fragment, 136g

F54
Finds no 61
15 Roman tile fragments, 1498g,
12 Roman brick fragments, 2560g,
5 imbrex fragments, 372g,
7 undated brick/tile scraps, 23g

F54/F63
Finds no 69
8 Roman tile fragments, 673g,
4 Roman brick fragments, 716g,
5 imbrex fragments, 822g,
3 undated brick/tile scraps, 14g

F56
Finds no 33
1 Roman tile fragment, 355g,
1 undated brick/tile scrap, 31g

F57
Finds no 58
1 Roman brick fragments, 400 g,

1 imbrex fragments, 106g

F61
Finds no 62
4 Roman tile fragments, 264g,
2 Roman brick fragments, 325g,
1 box tile fragment, 57g,
2 undated brick/tile scraps, 30g

F62
Finds no 64
5 Roman tile fragments, 134g,
1 imbrex fragment, 74g

F63
Finds no 75
1 imbrex fragment, 388g

L4
Finds no 15
3 Roman brick fragments, 3298g

L6
Finds no 54
4 Roman tile fragments, 210g,
1 Roman brick fragment, 4g,
7 undated brick/tile scraps, 47g
Finds no 59
38 Roman tile fragments,1056g,
4 Roman brick fragments, 1328g,
1 box tile fragment, 56g,
13 undated brick/tile scraps, 75g
1 oyster shell fragment, 15g
Finds no 70
16 Roman tile fragments, 353g,
7 Roman brick fragments, 1738g

L8
Finds no 33
4 Roman tile fragments, 160g,
4 Roman brick fragments, 1177g,
21 undated brick/tile scraps, 118g
1 oyster shell fragment, 3g
Finds no 37
3 Roman tile fragments, 153g,
6 Roman brick fragments, 903g
3 oyster shell fragments, 61g
Finds no 57
22 Roman tile fragments, 761g,
6 Roman brick fragments, 2177g,
14 undated brick/tile scraps, 35g
14 oyster shell fragments, 66g
Finds no 68
34 Roman tile fragments, 661g,
9 Roman brick fragments, 861g,
2 imbrex fragments, 137g,
16 undated brick/tile scraps, 69g,
1 ?peg-tile fragment, 15g
1 oyster shell fragment, 12g

Archive deposition

The archive from the Napier Road excavation, including the site records, photographs and finds, will be permanently deposited with Colchester and Ipswich Museums under accession code COLEM **2006.97.**

Acknowledgements

CAT is grateful to Taylor Wimpey for commissioning and funding the Napier Road excavation, and to the contractors, Anderson Group, for their help and patience on site. The project was coordinated by Rob Masefield and Josh Williams of RPS Planning, and was monitored by Martin Winter, Colchester Borough Council Archaeology Officer.

Appendix 2.1: catalogue of burials and burial-related features

NRF6: placed deposit
Description: The base of a pot placed in a circular pit measuring 0.30m in diameter and 0.12m deep below site level. Presumably the pot was complete when buried pot originally, but later activity has removed its top. This deposit was placed in the circus track area.
Human bone: None
Burial goods: Fragmentary Roman jar of Camulodunum form 268. Complete base, but much of the shoulder and rim are missing.
Residual finds: None
Date?: Jar is probably early-mid 2nd century.

NRF41: pit with pyre debris
Description: The objects from this pit with pyre debris consisted of cremated human bone, fragments of two pottery vessels, a few hobnails and broken nail fragments. The type and amount of ironwork is typical of that recovered from cremations and pits with pyre debris on other parts of the Garrison Alienated Land project, and suggests that this is a primary deposit recovered from a pyre. The presence of two amorphous lumps of iron-rich pyre debris, possibly all that remains of burnt nails or hobnails, is in accord with this interpretation. The pyre debris was deposited in a specially dug hole whose surviving depth below site level was 0.17m deep and whose diameter varied between 0.45m and a maximum of 0.67m.
Human bone: Cremated bone of one individual, adult, uncertain sex (26, 27).
Burial goods: The following finds were recovered from the general fill: most of the neck and much of shoulder of a burnt Camulodunum form 231/232 jar dated to the 1st to mid-late 2nd century (the remainder of the vessel was missing). This was presumably the primary cremation vessel (26). Other vessel sherds from the wall and rim of a Camulodunum form 40A jar, dating to the early 2nd to mid-late 3rd century (26/27). Other finds from the general fill included seven iron hobnails (26/27). These are presumably derived from a shoe (or shoes) burnt on the pyre. There were also six incomplete iron nails and nail shank fragments (26/27). These may be from a wooden box or casket which is not visible otherwise in this burial.
Two amorphous lumps of iron-rich pyre debris may be the remains of burnt nails or hobnails. (27).
Residual finds: None
Date: The date of this cremation depends on which vessel is interpreted as the primary cremation vessel, and which as the residual sherds. If NRF41.1 is the primary vessel, then NRF41.2 must date to the early- to late 2nd century. If NRF41.2 is the primary vessel, then it could date as late as the late 3rd, with NRF41.1 being residual and potentially over a century old when buried.

NRF50: inhumation burial
Description: This heavily truncated feature is presumed to be an inhumation burial on the basis of its shape. The burial pit was 2.17m long, 0.7m wide and 0.4m deep below site level, although the central 1.4m was cut away by later inhumation burial NRF51.
Human bone: None
Burial goods: None
Residual finds: Roman tile (44), intrusive slate (44)
Date: No internal dating, but it predates NFR51, which is dated to the 2nd – 4th century.

NRF51: inhumation burial
Description: The northern half of an inhumation burial aligned NE-SW (the remainder of the burial being off-site). The body, of which only a partial skull and thigh bones survived, was laid in a nailed wooden coffin which had rotted completely. The disposition of iron nails in the grave allows an estimate of the coffin size as 0.5m wide. Only 1.2m of the length of the coffin was on site (down to the knees of the buried person), but the

original length cannot be accurately calculated.. The grave pit was 1.43m wide and 1.60 long (on site), and 0.46m deep below site level.
Human bone: One middle-aged or old individual, probably male (43).
Burial goods: Seventeen coffin nails were recovered from the fill (45). Of these, twelve gave an apparent coffin outline.
Residual finds: Rim sherd (42) from a Cam 306 bowl, dated ?late 2nd to 3rd-4th century.
Date: Roman, late 2nd – 4th century

NRF52: inhumation burial
Description
A complete but truncated inhumation burial aligned east-west. The burial pit was 1.1m long and 0.4m wide, and 0.14m deep below site level. The burial is presumed to be that of a child because of its size. It contained a single pot, but no human bone.
Human bone: None
Burial goods: A near complete but broken 'motto beaker', with the faded motto **DEDI** in white paint between white scrolls. 3rd century AD (46).
Residual finds: 1 sherd, 2nd century (47). 1 sherd, early 2nd to late 3rd century (47); 1 sherd, Roman (47).
Date: Jar is 3rd century AD (46)
NRF52.1 jar (46)

NRF61: inhumation burial
Description: An inhumation burial in a nailed wooden coffin. The burial pit was 1.46m long, and 0.65m wide, and 0.22m deep below site level. No traces of the coffin survived, but the disposition of thirteen out of the twenty coffin nails allows the coffin size to be estimated at 1.13m long and 0.33m wide. At that size, this is presumably a child's burial.
Human bone: None.
Burial goods: Thirty-six iron hobnails (approximately), some corroded together in clusters (60).
One hundred and nine hobnails, several corroded together in clusters (65). Twenty iron coffin nails (60).
Residual finds: Roman brick and tile including flue tile (62).
Roman sherds dated 1st-early 2nd century, 1st-2nd/3rd century, 1st-early 3rd century, late 2nd-3rd/4th century (62).
Date: Residual pottery dated ?late 2nd-3rd/4th century.
NRF61.1 Hobnails (60, 65)

NRF63: inhumation burial
Description: Inhumation burial in nailed wooden coffin. The burial cut was 2.8m long, 1.8m wide and 0.9m deep below site level. The coffin had rotted away, but approximately 60% of the perimeter of the coffin survived as a stain, showing that the coffin was 2.0m long and 0.6m wide. Thirty-four coffin nails survived. Sixteen had fallen away from the probable position of the coffin wall, and eighteen followed the coffin wall reasonably closely. The coffin contained an adult male. The body only survived partially (await report). Three groups of hobnails showed the position of hobnail shoes or sandals worn at the time of burial.
A group of material originally excavated as a separate burial NRF62 (which was subsequently recognized as part of NRF63) is included here.
Human bone: Human bone 69, 73, and 64 (from NRF62). One adult of uncertain sex.
Burial goods: Complete, but broken, Camulodunum type 40B bowl, early 2nd to mid-late 3rd century (76). Camulodunum type 266 jar, complete but broken, scorched on one side before breakage, 1st-early 2nd century (72). Four iron hobnails were recovered from the area of the left foot. (SF 6. 73), nine from the area of the right foot (SF 7. 73), and fourteen from the area of both feet (63). Forty-one iron coffin nails were recovered from the fill, eighteen of them on the apparent line of the coffin. (67/69). Four other iron coffin nails were excavated from NRF62 (66).
Residual finds: 1 sherd, Cam 37B, late 2nd to mid-late 3rd century; Fabric GX, 8 sherds, Roman (75). Roman tile (75, and 64 from NRF62). 12 sherds dated early 2nd to mid-late 3rd century (64, from NRF62).
Date: The date range indicated by the pottery is anywhere in the bracket of late 2nd to mid-late 3rd century. If it is at the earliest part of that sequence, both pots in the grave could be contemporary. However, if it is a late 3-century burial, then the earlier pot is an heirloom.
NRF63.1 Camulodunum type 40B bowl (76).
NRF63.2 Camulodunum type 266 jar, scorched (72).
NRF63.3 Four iron hobnails from area of left foot (SF 6, 73).

Appendix 2.2 archival data

Cremated human bone

compiled by Francesca Boghi

Summary

Feature	Feature Type	Human / Animal[25]	Bone state[26]	MNI[27]	Age class[28]	Sex	Pathologies	Inclusions	Tot. weight (inclusions included)
41	Cremation burial (possible box burial)	Human	FO	1	ADULT (>20 YEARS)	UNCERTAIN	None visible	1 fe nail (2g); charcoal (<1g)	55g

[25] Human? = probably human
[26] Bone state categories: FO = fully oxidised; IO = incompletely oxidised; unburnt: = not exposed to heat
[27] MNI = Minimum Number of individuals
[28] Age class categories: ADULT? = probably adult; ADULT = > 20 years; YOUNG ADULT (20-35 years); MIDDLE ADULT (35-50 years); MIDDLE/OLD ADULT (> 35 years); OLD ADULT (>50 years); JUVENILE (<20 years).

Context description (Size[29], type of bone[30], degree of oxidisation[31], MNI[32], skeletal areas represented[33], age[34], sex, pathologies, inclusions)

Feature	Provisional date	Description
41	Roman	Small assemblage of human fully oxidised bone from a minimum of 1 adult individual of indeterminate sex. The identified portion of bone (34%) included bone elements from all the skeletal areas.

Bone fragmentation

Feature	10mm	%	5mm	%	2mm	%	residue	%	*Estimated % of bone in the residue*	Total (human bone only)	Tot. weight (inclusions included)	*max. fragment size (mm)*
41	21	39.6%	26	49%	5	9.4	1	1.9	*20%*	**53**	55	*36mm*

[29] Size categories: 0-99g; small; 100-999g: medium; >999g: large.
[30] Type of bone categories: human /animal
[31] Degree of oxidisation categories: unburnt, charred, incompletely oxidised, fully oxidised
[32] MNI: Minimum Number of Individuals
[33] Skeletal areas: skull, axial skeleton, upper limbs, lower limbs
[34] Age class categories: ADULT? = probably adult; ADULT = > 20 years; YOUNG ADULT (20-35 years); MIDDLE ADULT (35-50 years); MIDDLE/OLD ADULT (> 35 years); OLD ADULT (>50 years); JUVENILE (<20 years).

Bone colour[35] and colour changes distribution: (exocranial / endocranial / diploë; cortical / medullary surface; skeletal area / side)

Feature	Colour (visual estimate of % affected)	Degree of oxidisation and estimated temperature
41	Predominant colour: BUFF/WHITE. BLUE/GREY (5%) medullary cavity. Soil staining.	Fully oxidised (>600°)

Skeletal elements

Feature	SKULL	AXIAL SKELETON	UPPER LIMBS	LOWER LIMBS	UNCLASSIFIABLE
41	• L temporal • Parietal • 2 dental roots	• Fragments of vertebral spinous and transverse processes	• Radius M1/3, DEPI • Ulna 1/3	• Femur P1/3, M1/3	• Metatarsal or metacarpals M1/3

Bone identification

Feature	SKULL (g)	AXIAL SKELETON (g)	UPPER LIMBS (g)	LOWER LIMBS (g.)	TOTAL IDENTIFIED (g)	*% IDENTIFIED*	WEIGHT (g)
41	6	2	6	4	**18**	*33.9*	**53g**

[35] Colour categories and corresponding estimated temperature: BROWN/ORANGE: unburnt; BLACK: charred (*c.*300°); BLUE/GREY: incompletely oxidised (up to 600°); BUFF/WHITE; fully oxidised (> 600°).

Bone anatomical distribution by spit[36]

Feature	Finds bag (26)	Finds bag (27)	DEPOSITION ORDER
41	SK, UL, LL	SK, AX, UL, LL	MIXED

Age at death[37]

FEATURE	EPIPHYSEAL UNION	AURICULAR SURFACE (SUCHEY-BROOKES)	PUBIC SYMPHYSIS	CRANIAL SUTURES	SUMMARY AGE CODE
41	adult			OPEN (occipital)	ADULT (>20 YEARS)

Inhumated human skeletal remains (HSR)

compiled by Francesca Boghi

Summary table

FEATURE	COMPLETENESS	PRESERVATION[38]	AGE AT DEATH	SEX	MNI adults (> 20 years)	MNI juveniles (< 20 years)	STATURE[39]	PATHOLOGIES	NOTES
51	<25%	POOR	MIDDLE-OLD ADULT (>35 YEARS)	PROBABLE MALE	1		-	None visible	
54/63a	-	-	-	-	-	-	-	-	All animal bone
62	<25%	POOR	PROBABLE ADULT (>20 YEARS)	UNCERTAIN	1		-	None visible	
63	<25%	POOR	ADULT (>20 YEARS)	UNCERTAIN	1		-	None visible	

[36] SK = skull; AX = axial skeleton; UL = upper limbs; LL = lower limbs; LB = unidentified limb bones
[37] Ageing criteria and age categories from Buikstra and Ubelaker (1994).
[38] Grading system from Connell and Rauxloh, (2003). 1= GOOD; 2 = MODERATE; 3 = POOR
[39] Brickley and McKinley (2004)

Context description (MNI[40], age[41], sex, pathologies)

Feature	Feature type	Tot. weight	Provisional date	Description
51	Inhumation	571g	Roman	Incomplete inhumation (<25% bone elements) formed by severely abraded anf fragmentary bone. The skeleton is that of a probable male middle/old individual and includes elements of skull and lower limbs.
62	Inhumation	17g	Roman	Small assemblage of unburnt skeletal remains. Bone texture and density suggest human remains, though only one fragment of tibia could be identified. Fragment size and cortical thickness suggest a probably adult individual, though no epiphyses are present.
63	Inhumation	708g	Roman	Incomplete inhumation (<25% bone elements) formed by severely abraded anf fragmentary bone. The skeleton is that of an adult (>20 years) of uncertain sex and includes elements of mandible, upper and lower limbs and feet.

Preservation of skeletal elements[42]

SK	SKULL	MAXILLA	MANDIBLE	VERTEBRAE	RIBS	PELVIS	UPPER LIMBS	HANDS	LOWER LIMBS	FEET	NOTES
51	<25%				<25%				25-50%		
62									<25%		Unidentified long bone fragments
63			<25%				<25%		25-50%	25-50%	

[40] MNI: Minimum Number of Individuals
[41] Age class categories: ADULT? = probably adult; ADULT = > 20 years; YOUNG ADULT (20-35 years); MIDDLE ADULT (35-50 years); MIDDLE/OLD ADULT (> 35 years); OLD ADULT (>50 years); JUVENILE (<20 years).
[42] BLANK = missing

Ox coxae morphology[43]

Skeleton	Subpubic concavity (1-9)	Subpubic angle (1-9)	Ischio-pubic ramus ridge (1-9)	Ventral arc (1-9)	Pubic region morphology (5-1)[44]	Arc compose (1-9)	Sciatic notch (5-1)	Pre-auricular sulcus (0-4)	Metric data[45]	SUMMARY SEX[46] (1-9)
51										UNCERTAIN
62										UNCERTAIN
63										UNCERTAIN

Cranial morphology[47]

Skeleton	Nuchal Crest (5-1)	Mastoid process (5-1)	Supraorbital margin (5-1)	Prominence of glabella (5-1)	Mental eminence (5-1)	Mandible morphology (2-1)[48]	SUMMARY SEX (1-9)
51	4						4 PROBABLE MALE
62							UNCERTAIN
63							UNCERTAIN

[43] Sexing criteria from the Global History of Health project *Data Collection Codebook* (AAVV, 2005) unless otherwise specified.
[44] Brickley, M. and Mckinley J.I. IFA Paper n.7 2004
[45] From Bass, 1987
[46] Summary sex categories from the Global History of Health project *Data Collection Codebook* (AAVV, 2005): 1 = Definite Male; 2, 3, 4 = Probable Male; 5 = Sex Uncertain; 6, 7, 8 = Probable Female; 9 = Definite Female
[47] Sexing criteria from Buikstra and Ubelaker (1994) unless other wise stated. Summary sex categories from the Global History of Health project *Data Collection Codebook* (AAVV, 2005): 1 = Definite Male; 2, 3, 4 = Probable Male; 5 = Sex Uncertain; 6, 7, 8 = Probable Female; 9 = Definite Female
[48] Brickley, M. and Mckinley J.I. IFA Paper n.7 2004

Age at death[49]

FEATURE	EPIPHYSEAL UNION	AURICULAR SURFACE (SUCHEY-BROOKES)	PUBIC SYMPHYSIS	SUTURE CLOSURE: EXTERNAL CRANIAL VAULT	SUTURE CLOSURE: LATERAL-ANTERIOR	PALATE SUTURES	SUMMARY AGE CODE:
51				Cannot be scored though all available sutures (occipital and sagittal) show significant to complete obliteration			MIDDLE/OLD ADULT (> 35 YEARS)
62	No epiphyses available						PROBABLE ADULT (>20 YEARS)
63	Calcaneus, talus fused epiphyses (fuse at puberty)						ADULT (>20 YEARS)

Stature[50]

FEATURE	STATURE (CM)	±	BONES USED
51	-		
62	-		
63	-		

[49] Ageing criteria and age categories from Buikstra and Ubelaker (1994).
[50] From Brickley, M. and McKinley, J. I., 2004

Prevalence rates

Dental pathology **Adults**

Skeleton	N erupted permanent teeth (1) present and (2) in occlusion	N teeth lost premortem (4)	N teeth lost post mortem (5)	N erupted tooth positions (1+ 2+4+5)	N permanent teeth with carious lesions	N abscesses	Calculus (labial)	Calculus (lingual)	Enamel Hypoplasia	Periodontal disease	Continued eruption	Congenital defects
63	7 loose teeth (R maxillary 2, 3, 4; R mandibular 32, 31, 30, 29)				Non-carious pits and erosion of roots							

Adult skeletal inventory[i]

	SIDE / BONE ELEMENT / **BONE SECTION**	51	62	63
SKULL	LEFT FRONTAL			
	LEFT ORBIT			
	Left frontal sinus*			
	RIGHT FRONTAL			
	RIGHT ORBIT			
	Right frontal sinus*			
	LEFT PARIETAL	1		
	RIGHT PARIETAL	1		
	OCCIPITAL	1		
	LEFT TEMPORAL			
	Left petrous temporal*			
	RIGHT TEMPORAL			
	left tmj*			
	Right petrous temporal*			
	right tmj*			
	LEFT ZYGOMATIC			
	RIGHT ZYGOMATIC			
	LEFT MAXILLA			
	Left maxillary sinus*			
	RIGHT MAXILLA			
	Right maxillary sinus*			
	LEFT PALATINE			
	RIGHT PALATINE			
	LEFT NASAL			
	RIGHT NASAL			
	LEFT LACRIMAL			
	RIGHT LACRIMAL			
	SPHENOID			
	VOMER			
	ETHMOID			
	LEFT MANDIBLE	1		
	left condyle*			
	RIGHT MANDIBLE	1		
	right condyle*			
	HYOID			
	CRICOID			
	THYROID			
	Ear bones (n.6)*			
SHOULDER	LEFT CLAVICLE medial end*			
	LEFT CLAVICLE acromial end*			
	RIGHT CLAVICLE medial end*			
	RIGHT CLAVICLE acromial end*			
	LEFT SCAPULA			
	LEFT ACROMION*			
	LEFT GLENOID*			
	RIGHT SCAPULA			
	RIGHT ACROMION*			
	RIGHT GLENOID*			
	STERNUM MANUB			
	STERNUM BODY			

	SIDE / BONE ELEMENT / **BONE SECTION**	51	62	63
PELVIS	LEFT ILIUM			
	LEFT PUBIS			
	LEFT ISCHIUM			
	left acetabulum*			
	left auricular*			
	RIGHT ILIUM			
	RIGHT PUBIS			
	RIGHT ISCHIUM			
	right acetabulum*			
	right auricular*			
SACRUM	s1			
	s2			
	s3			
	s4			
	s5			
	COCCYX			
UPPER LIMBS	LEFT HUMERUS PROXIMAL EPIPHYSIS			
	LEFT HUMERUS PROXIMAL 1/3			
	LEFT HUMERUS MIDDLE 1/3			1
	LEFT HUMERUS DISTAL 1/3			
	LEFT HUMERUS DISTAL EPIPHYSIS			
	RIGHT HUMERUS PROX EPIPHYSIS			
	RIGHT HUMERUS PROXIMAL 1/3			
	RIGHT HUMERUS MIDDLE 1/3			
	RIGHT HUMERUS DISTAL 1/3			
	RIGHT HUMERUS DISTAL EPIPHYSIS			
	LEFT RADIUS PROXIMAL EPIPHYSIS			
	LEFT RADIUS PROXIMAL 1/3			
	LEFT RADIUS MIDDLE 1/3			
	LEFT RADIUS DISTAL 1/3			
	LEFT RADIUS DISTAL EPIPHYSIS			
	RIGHT RADIUS PROXIMAL EPIPHYSIS			
	RIGHT RADIUS PROXIMAL 1/3			
	RIGHT RADIUS MIDDLE 1/3			
	RIGHT RADIUS DISTAL 1/3			
	RIGHT RADIUS DISTAL EPIPHYSIS			
	LEFT ULNA PROXIMAL EPIPHYSIS			
	LEFT ULNA PROXIMAL 1/3			
	LEFT ULNA MIDDLE 1/3			
	LEFT ULNA DISTAL 1/3			
	LEFT ULNA DISTAL EPIPHYSIS			
	RIGHT ULNA PROXIMAL EPIPHYSIS			
	RIGHT ULNA PROXIMAL 1/3			
	RIGHT ULNA MIDDLE 1/3			
	RIGHT ULNA DISTAL 1/3			
	RIGHT ULNA DISTAL EPIPHYSIS			
LOWER LIMBS	LEFT FEMUR PROXIMAL EPIPHYSIS			
	LEFT FEMUR PROXIMAL 1/3			1
	LEFT FEMUR MIDDLE 1/3	1		1
	LEFT FEMUR DISTAL 1/3	1		
	LEFT FEMUR DISTAL EPIPHYSIS			
	RIGHT FEMUR PROXIMAL EPIPHYSIS			
	RIGHT FEMUR PROXIMAL 1/3			1
	RIGHT FEMUR MIDDLE 1/3	1		1
	RIGHT FEMUR DISTAL 1/3	1		
	RIGHT FEMUR DISTAL EPIPHYSIS			
	LEFT PATELLA			
	RIGHT PATELLA			

	SIDE / BONE ELEMENT / **BONE SECTION**	51	62	63
	LEFT TIBIA PROXIMAL EPIPHYSIS			
	LEFT TIBIA PROXIMAL 1/3			
	LEFT TIBIA MIDDLE 1/3			1
	LEFT TIBIA DISTAL 1/3			
	LEFT TIBIA DISTAL EPIPHYSIS			
	RIGHT TIBIA PROXIMAL EPIPHYSIS			
	RIGHT TIBIA PROXIMAL 1/3			1
	RIGHT TIBIA MIDDLE 1/3			1
	RIGHT TIBIA DISTAL 1/3			1
	RIGHT TIBIA DISTAL EPIPHYSIS			
	LEFT FIBULA PROXIMAL EPIPHYSIS			
	LEFT FIBULA PROXIMAL 1/3			
	LEFT FIBULA MIDDLE 1/3			
	LEFT FIBULA DISTAL 1/3			
	LEFT FIBULA DISTAL EPIPHYSIS			
	RIGHT FIBULA PROXIMAL EPIPHYSIS			
	RIGHT FIBULA PROXIMAL 1/3			
	RIGHT FIBULA MIDDLE 1/3			
	RIGHT FIBULA DISTAL 1/3			
	RIGHT FIBULA DISTAL EPIPHYSIS			
HANDS	LEFT SCAPHOID			
	LEFT LUNATE			
	LEFT TRIQUETRAL			
	LEFT PISIFORM			
	LEFT TRAPEZIUM			
	LEFT TRAPEZOID			
	LEFT CAPITATE			
	LEFT HAMATE			
	LEFT SESMOID			
	LEFT 1ST METACARPAL			
	LEFT 2ND METACARPAL			
	LEFT 3RD METACARPAL			
	LEFT 4TH METACARPAL			
	LEFT 5TH METACARPAL			
	RIGHT SCAPHOID			
	RIGHT LUNATE			
	RIGHT TRIQUETRAL			
	RIGHT PISIFORM			
	RIGHT TRAPEZIUM			
	RIGHT TRAPEZOID			
	RIGHT CAPITATE			
	RIGHT HAMATE			
	RIGHT SESMOID			
	RIGHT 1ST METACARPAL			
	RIGHT 2ND METACARPAL			
	RIGHT 3RD METACARPAL			
	RIGHT 4TH METACARPAL			
	RIGHT 5TH METACARPAL			
	PHALANGES [HANDS] PROXIMAL* (n. 10)			
	PHALANGES [HANDS] MEDIAL* (n. 8)			
	PHALANGES [HANDS] DISTAL* (n. 10)			
FEET	LEFT TALUS			1
	LEFT CALCANEUS			1
	LEFT 1ST CUNEIFORM			
	LEFT 2ND CUNEIFORM			
	LEFT 3RD CUNEIFORM			
	LEFT NAVICULAR			
	LEFT CUBOID			

	SIDE / BONE ELEMENT / **BONE SECTION**	51	62	63
	LEFT SESMOID			
	LEFT 1ST METATARSAL			1
	LEFT 2ND METATARSAL			1
	LEFT 3RD METATARSAL			
	LEFT 4TH METATARSAL			1
	LEFT 5TH METATARSAL			
	RIGHT TALUS			
	RIGHT CALCANEUS			1
	RIGHT 1ST CUNEIFORM			
	RIGHT 2ND CUNEIFORM			
	RIGHT 3RD CUNEIFORM			
	RIGHT NAVICULAR			
	RIGHT CUBOID			
	RIGHT SESMOID			
	RIGHT 1ST METATARSAL			
	RIGHT 2ND METATARSAL			
	RIGHT 3RD METATARSAL			
	RIGHT 4TH METATARSAL			
	RIGHT 5TH METATARSAL			1
	PHALANGES [FEET] PROXIMAL* (n. 10)			
	PHALANGES [FEET] MEDIAL* (n. 8)			
	PHALANGES [FEET] DISTAL* (n. 10)			
RIBS	LEFT RIBS (n. 12)			
	RIGHT RIBS (n. 12)			
	unsided rib fragments*			
VERTEBRAE	1^{ST} CERVICAL			
	2^{ND} CERVICAL			
	3^{RD} CERVICAL			
	4^{TH} CERVICAL			
	5^{TH} CERVICAL			
	6^{TH} CERVICAL			
	7^{TH} CERVICAL			
	unidentified cervicals*			
	1^{ST} THORACIC			
	2^{ND} THORACIC			
	3^{RD} THORACIC			
	4^{TH} THORACIC			
	5^{TH} THORACIC			
	6^{TH} THORACIC			
	7^{TH} THORACIC			
	8^{TH} THORACIC			
	9^{TH} THORACIC			
	10^{TH} THORACIC			
	11^{TH} THORACIC			
	12^{TH} THORACIC			
	unidentified thoracic vertebrae*			
	1^{ST} LUMBAR			
	2^{ND} LUMBAR			
	3^{RD} LUMBAR			
	4^{TH} LUMBAR			
	5^{TH} LUMBAR			
	unidentified lumbar vertebrae*			

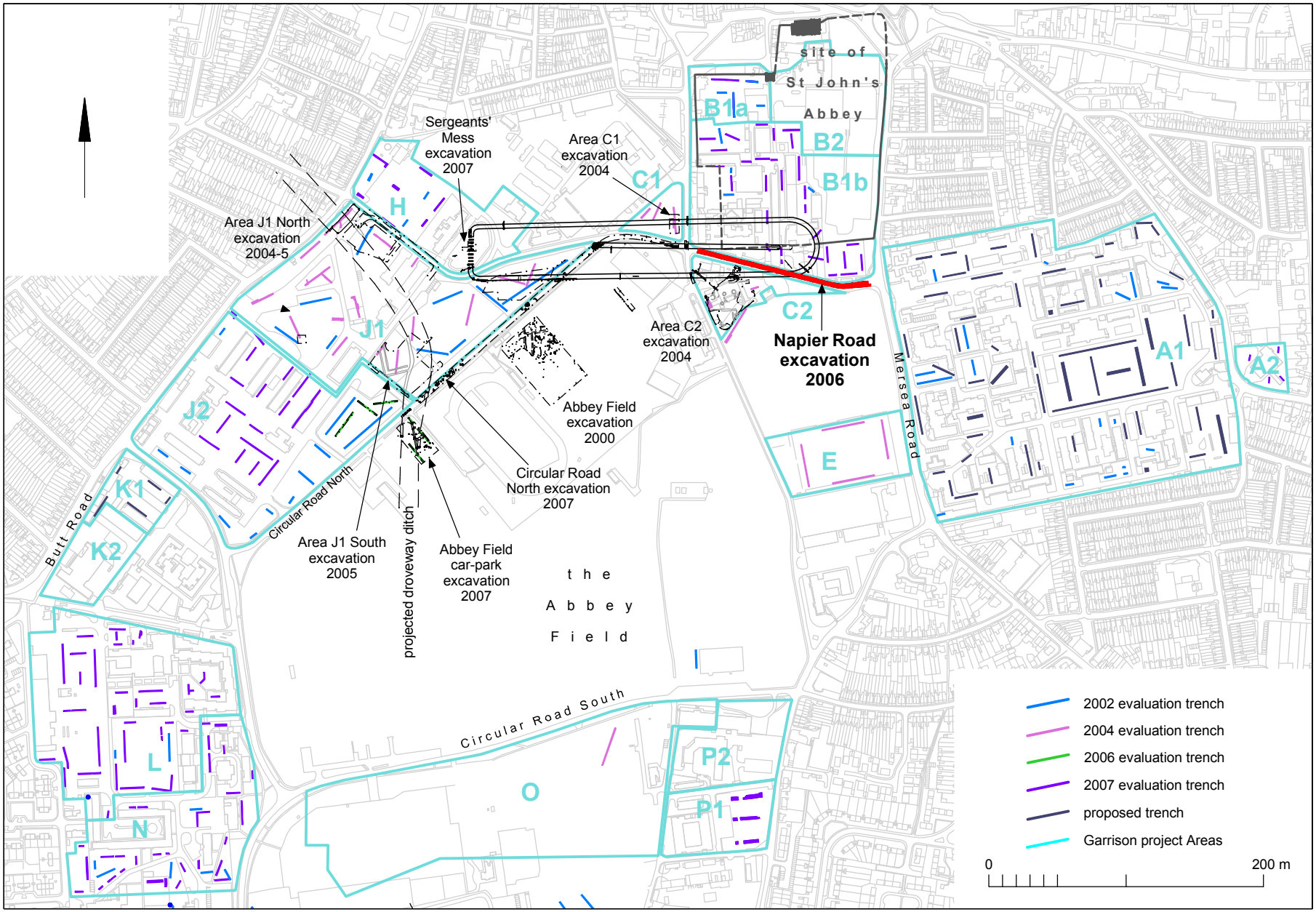


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Fig 2.1 Site location plan wiith circus.

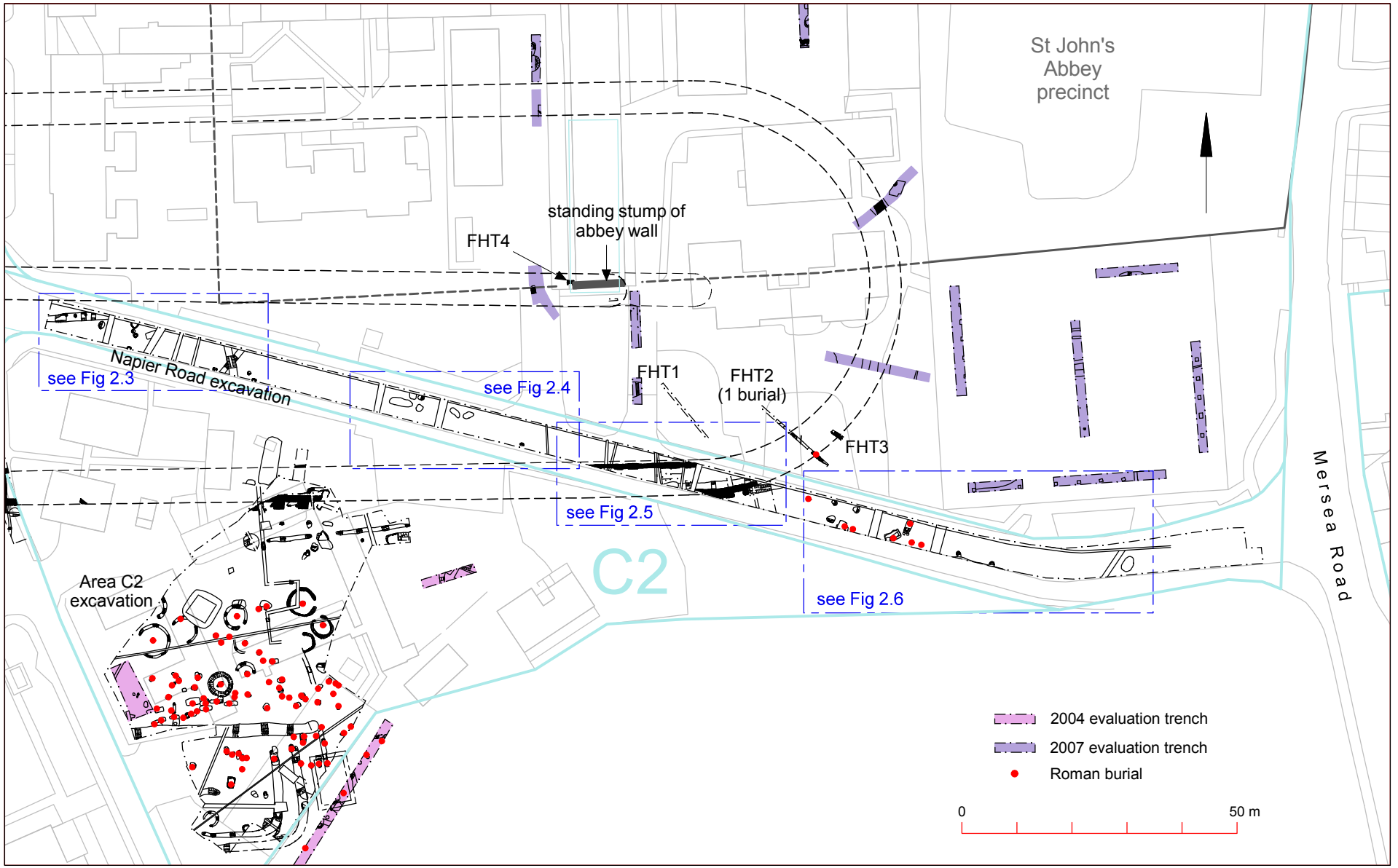

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Fig 2.2 East end of the circus, showing the location of the Napier Road excavations and the detailed plans Figures 2.3-2.6.

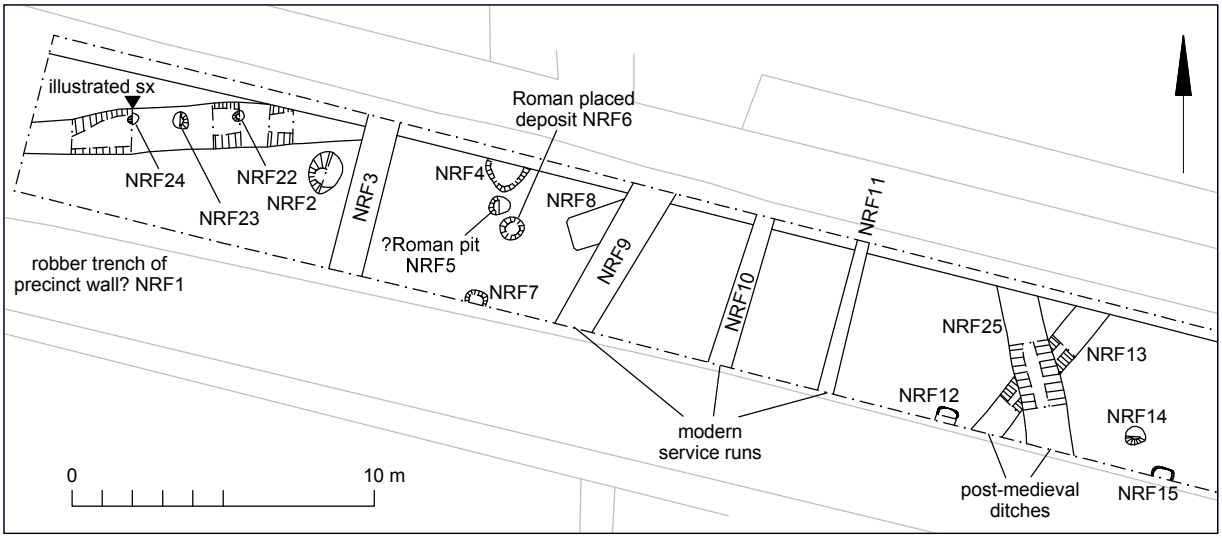

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Fig 2.3 Napier Road excavation: plan (inset to Fig 2.2).

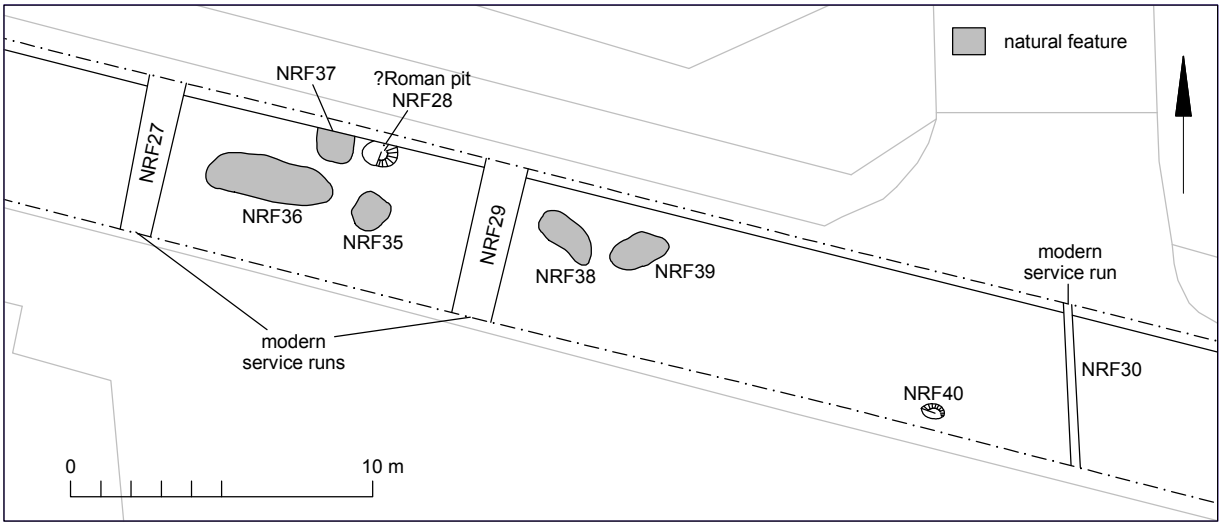

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Fig 2.4 Napier Road excavation: plan (inset to Fig 2.2).

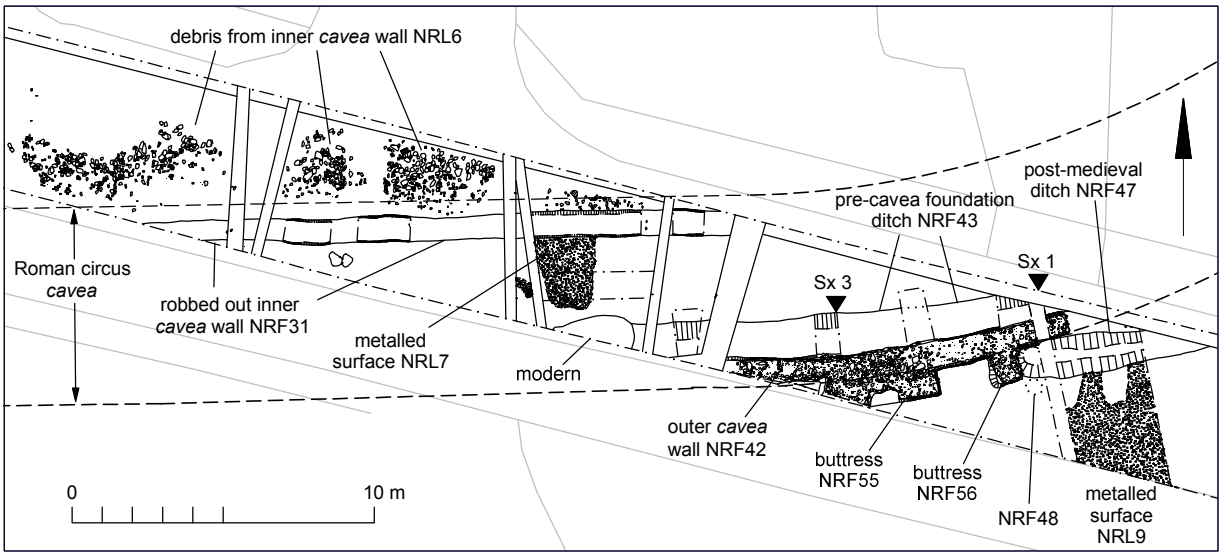

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Fig 2.5 Napier Road excavation: plan (inset to Fig 2.2).

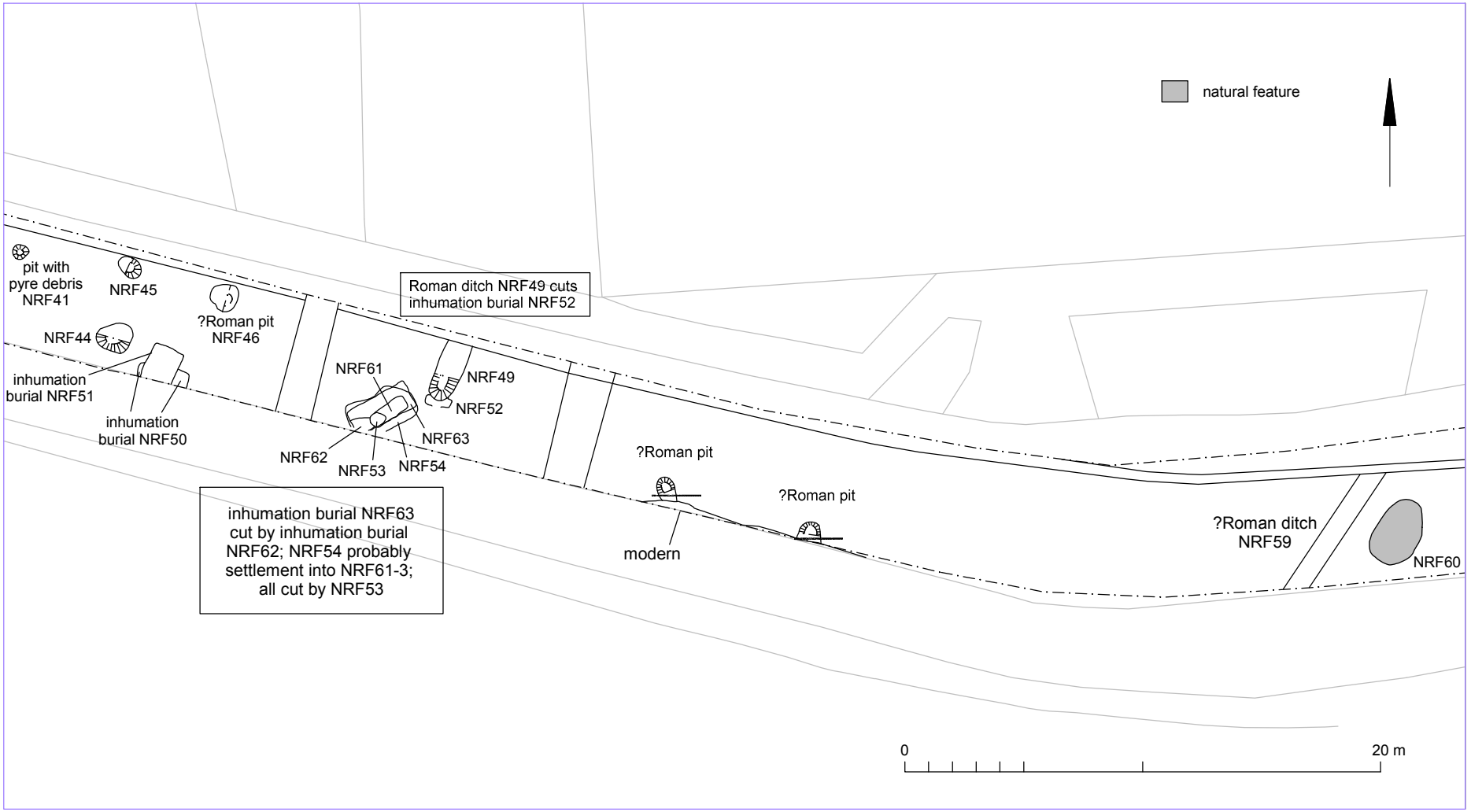

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Fig 2.6 Napier Road excavation: plan (inset to Fig 2.2).

Fig 2.7 Detail of circus *cavea* wall foundations.

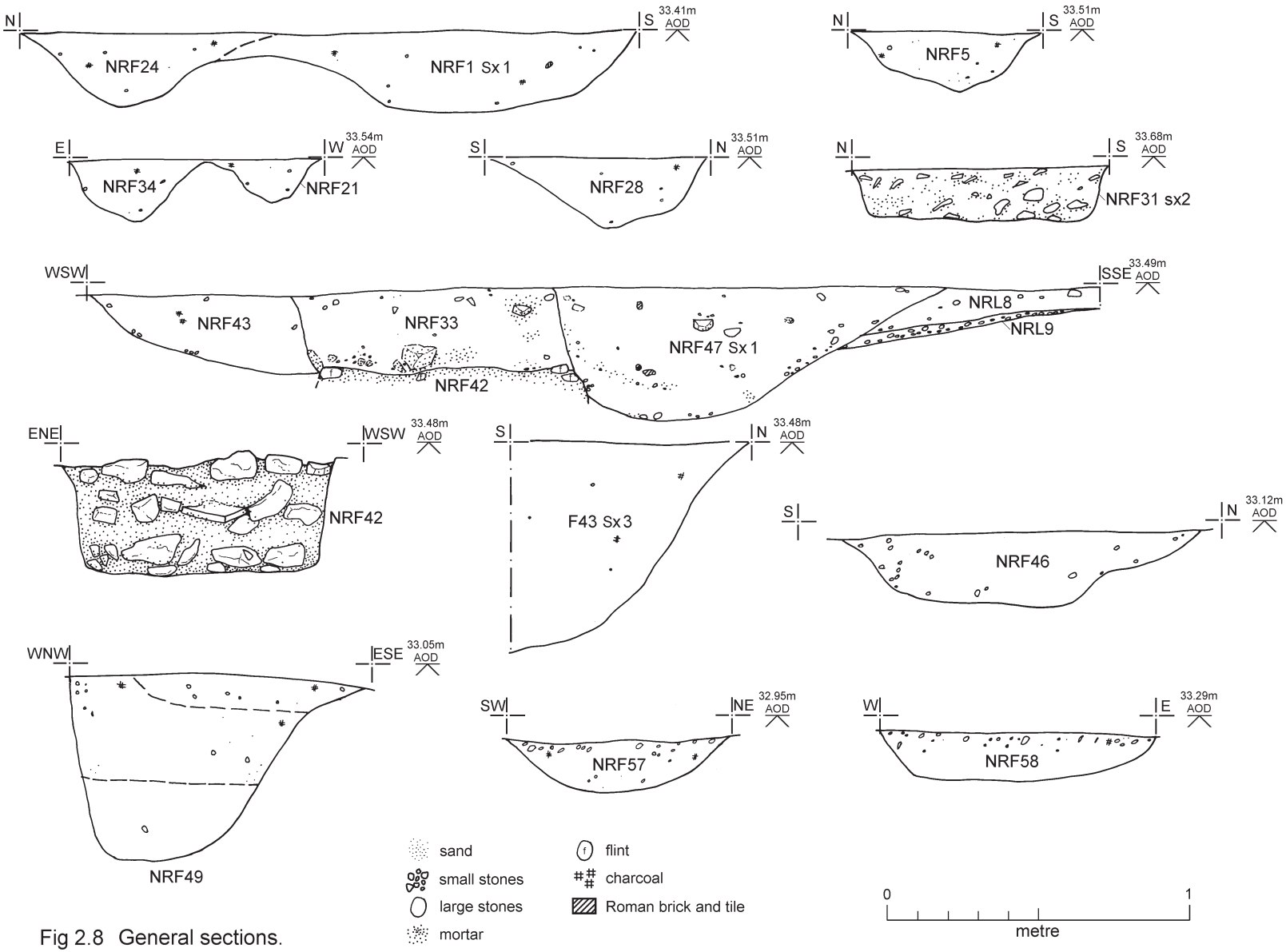


Fig 2.8 General sections.

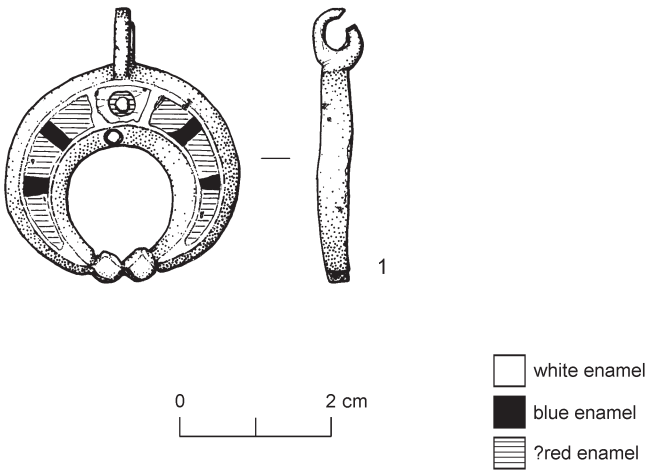
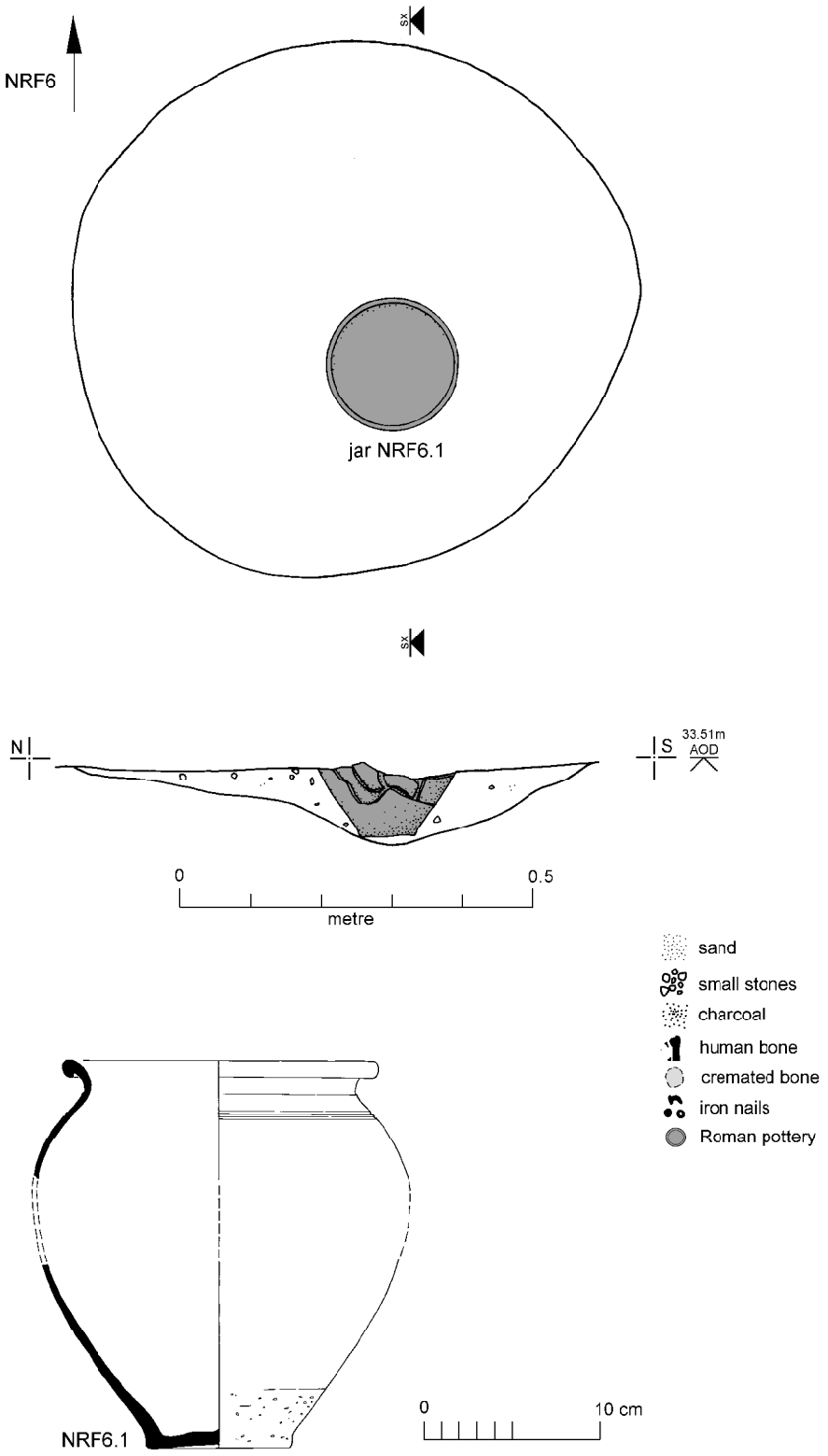
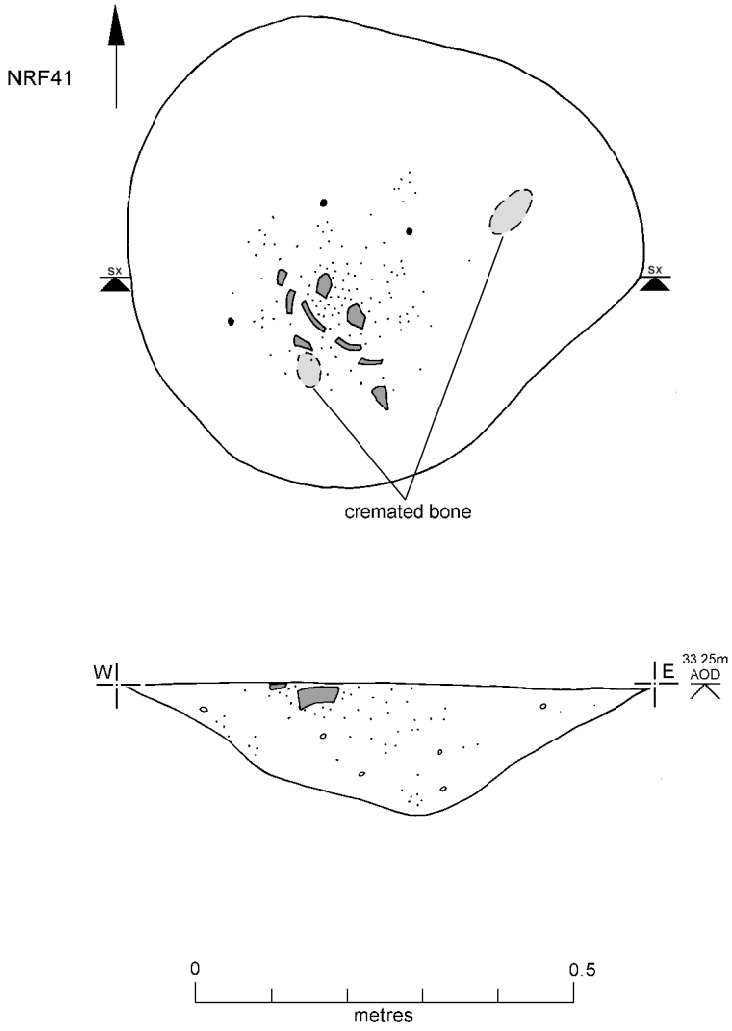


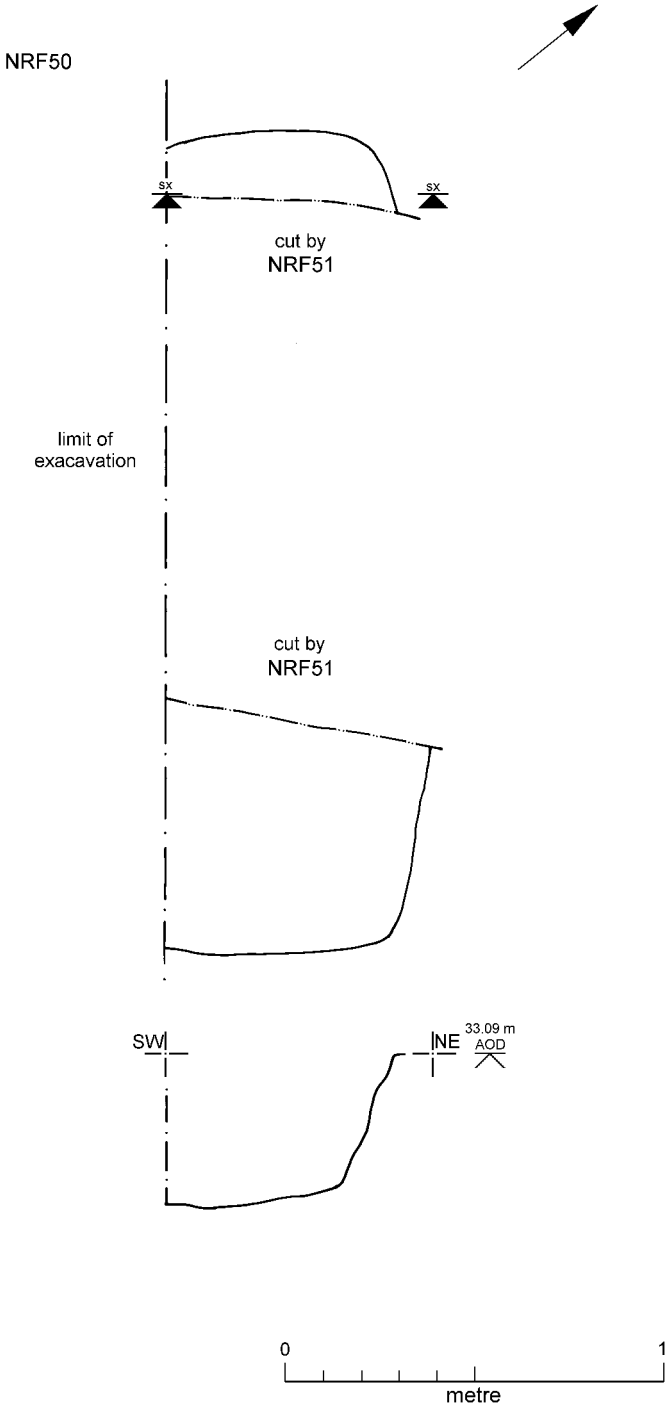
Fig 2.9 General small find from Napier Road.



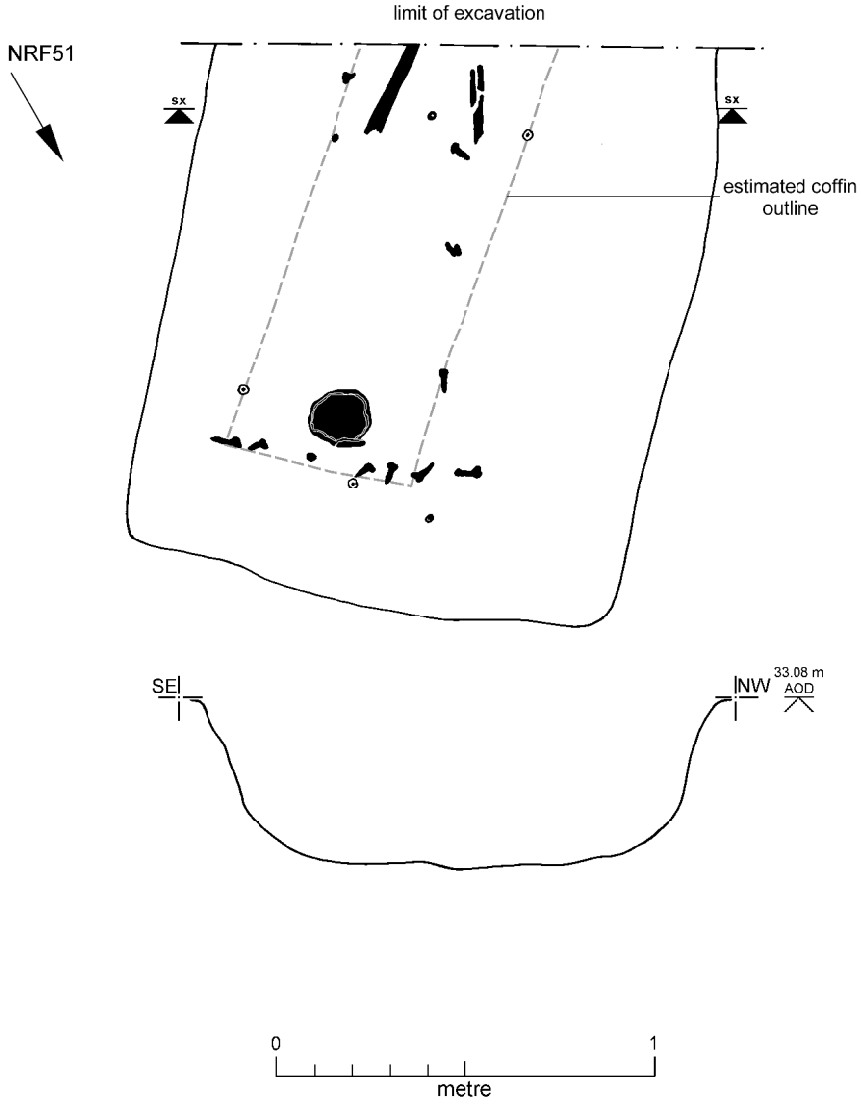
Placed deposit NRF6: plan, section and pottery.



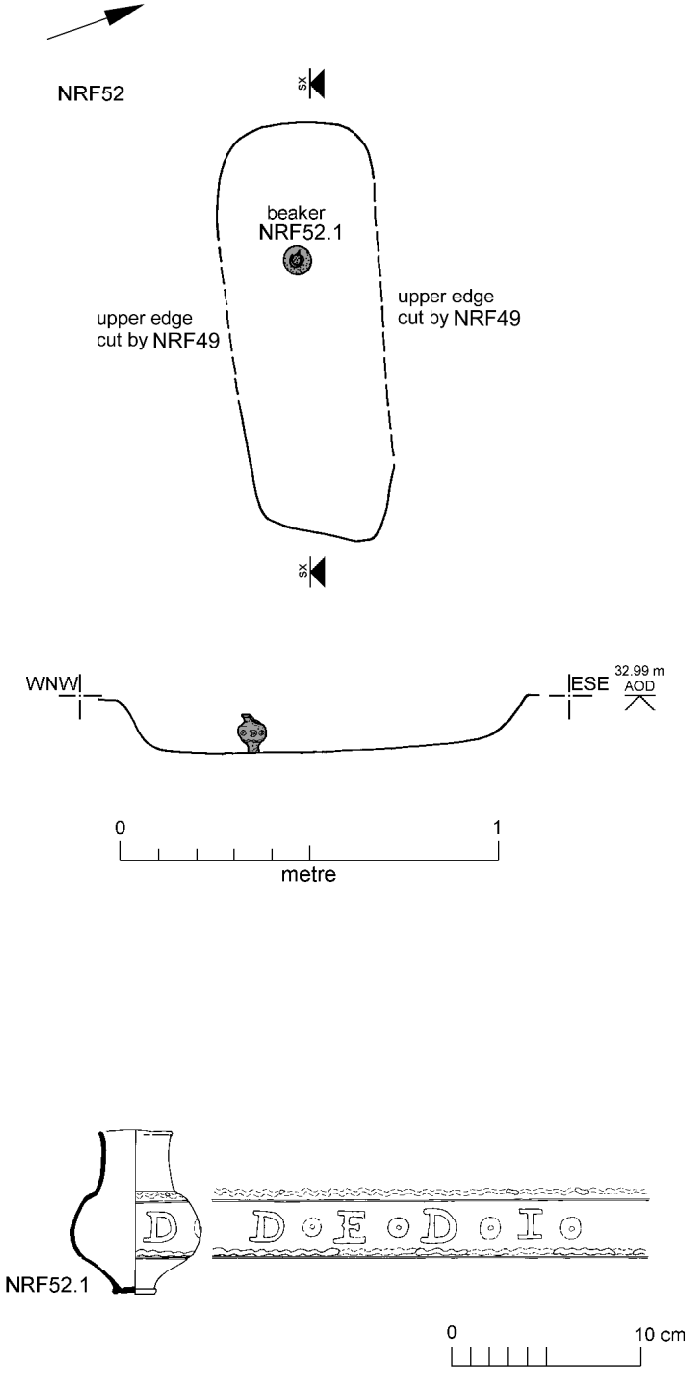
Pit with pyre debris NRF41: plan and section.



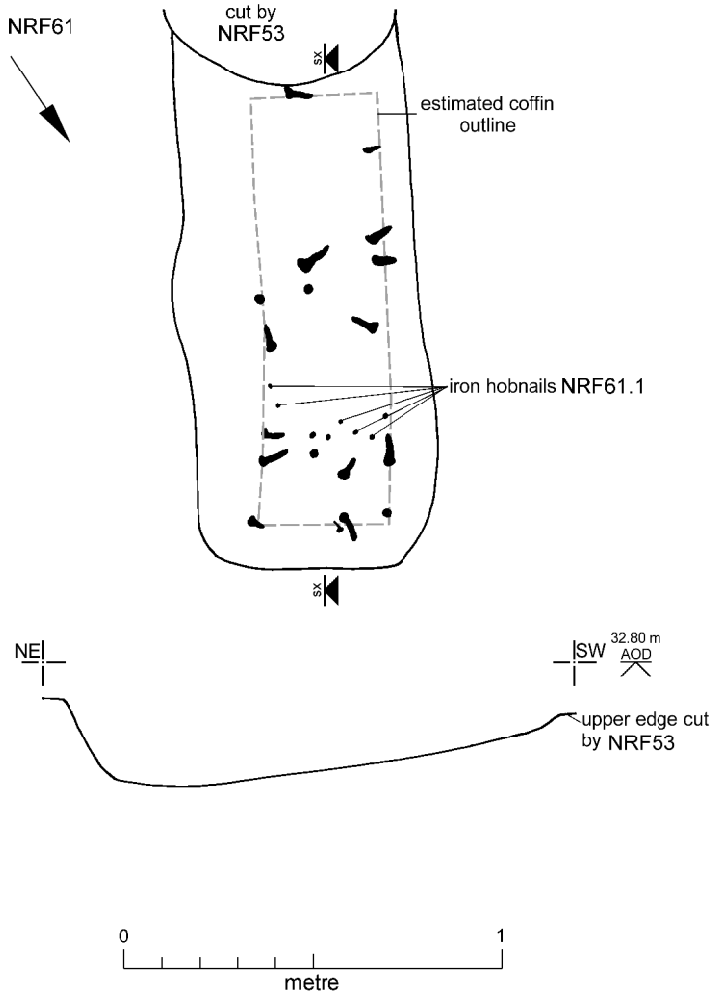
Inhumation burial NRF50: plan and profile.



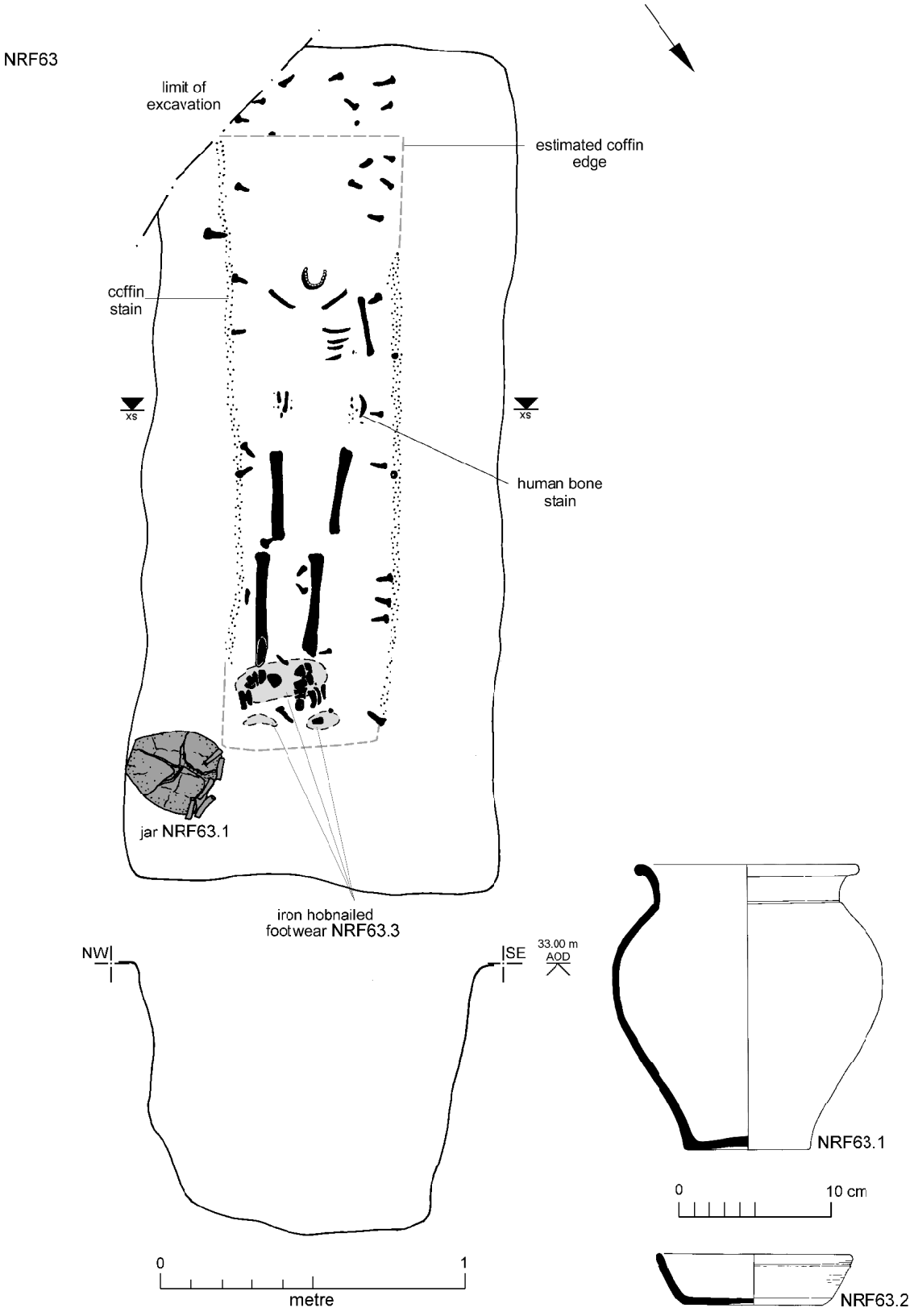
Inhumation burial NRF51: plan and profile.



Inhumation burial NRF52: plan, profile and pottery.



Inhumation burial NRF61: plan and profile.



Inhumation burial NRF63: plan and profile.

3. CIRCULAR ROAD NORTH, January-April 2007

by Donald Shimmin
with contributions by Stephen Benfield, Francesca Boghi, Howard Brooks, H E M Cool, Nina Crummy,Julie Curl, Val Fryer, and Hazel Martingell

NGR: TL 9950 2450
CAT project ref: 07/1a
Colchester and Ipswich Museums accession code: 2007.1

Introduction and preliminaries

Summary

Archaeological excavation, funded by the Anderson Group, took place during the upgrading of the road to adoptable standards including the installation foul and stormwater drains.
The total length of road investigated was 427m. Excavations provided further evidence for the Roman circus, including the near turning post at the western end of the central barrier as well as another stretch of the robbed-out foundation of the south outer *cavea* wall with an external buttress. At the turning post, a large redeposited fragment of a cone was found, as well as the *in situ* remains of a pressurised water-main. Two large pits containing circus-related debris lay inside the end of the central barrier. These may have been associated with water features in the barrier. Roman or Iron Age/Roman remains elsewhere on the site included about 20 Roman burials, some boundary ditches and a trackway/road. Most of the burials lay to the south-west of the circus, and included a *bustum* and a deep inhumation within a ring-ditch.

Other remains uncovered included Roman ditches, a Roman road/trackway, and post-Roman robber trenches and field boundary ditches.

Evidence for prehistoric activity included a Bronze Age pit (CRNF15) containing probable Beaker sherds and a cluster of sherds of Late Bronze Age to Middle Iron Age date. The latter were mostly residual in later contexts, although several small features may have been of Late Bronze Age to Middle Iron Age date.

Evidence for medieval activity consisted mainly of robber trenches for the foundations of the Roman circus. Several post-medieval field boundary ditches and a large post-medieval or modern quarry pit were uncovered.

Introduction

Archaeological excavation took place during the upgrading of the road to adoptable standards including the installation foul and stormwater drains. The investigations followed the works on Napier Road except that this time they were funded by the Anderson group. The drainage works serve the Abbeyfield residential development, and forms part of phase 2 of the redevelopment of the Alienated Lands of Colchester Garrison. The excavations were carried out between January and April 2007.

The total length of road excavated was 427m. On the basis of the 2002 evaluation, the remaining 280m at the western end of Circular Road North was considered as having less archaeological potential and was not

investigated further. Work at the crossroads of Napier Road, Circular Road North, Flagstaff Road and Circular Road East had been completed previously (WBT3). The work took place on a relatively flat area of land between approximately 34m and 34.5m AOD.

The pipe-laying was carried out by the contractors (Anderson Group) on a short section-by-section basis. During the cutting of the pipe trench, all archaeological remains within the limits of the trench were to be destroyed, while the uppermost archaeological deposits to either side were to be either badly damaged or destroyed.

The archaeological remains were therefore uncovered in a series of road surface strips by the contractor, under archaeological supervision, well ahead of the pipe-laying. As well as the road surfaces, the overburden of make-up and topsoil was also removed. Stripping was continued by a mechanical excavator with a toothless ditching bucket down to the top of the archaeological deposits. If no archaeologically significant deposits were uncovered, stripping was continued until the undisturbed natural subsoil was reached. The archaeological remains were then cleaned-up and excavated by hand. The cutting of the trenches, the laying of the pipes and the construction of a series of manholes followed on behind at a safe distance.

The archaeological remains were in general well preserved. There was limited modern disturbance caused by shallow drainage features along the edges of the road and by other service trenches. However, there was a large area of post-medieval/modern quarrying which had undoubtedly destroyed Roman burials.

The aim of the excavation was to identify, excavate, record and date the archaeological remains uncovered during the machine stripping, and to assess their significance.

This Circular Road North project was directed for CAT by Philip Crummy with fieldwork managed by Don Shimmin, assisted by Chris Lister, Will Clark, Mariusz Gorniak, Emma Spurgeon and Kate Orr. The RPS consultants and overall project managers were Robert Masefield assisted by Josh Williams.

Archaeological background

The excavated areas in Circular Road North were situated between 450m and 700m south of the Roman walled town. There were no previous archaeological discoveries recorded from beneath Circular Road North. However the archaeological context of the road was relatively well understood following a series of evaluations, excavations and watching briefs conducted in adjacent areas since 2000 (as described elsewhere in this report).

Circular Road North bisected the Roman circus discovered during evaluations and excavations in Areas C1, C2 and J1 East in 2002, 2004 and 2005. The size and location of the circus has been confirmed by further work, including the Time Team trenches and at various watching briefs in 2005-6, as well as by more recent work. This is the first Roman circus to be positively identified in Britain.

Circular Road North is situated in an area of dense Roman burials (*CAR* **9**, 262; *see* above). In particular, the southern side of the circus was flanked by Roman burials. At least 28 Roman cremation burials were found in 1925 when part of Abbey Field was originally levelled for sports purposes (Hull 1958, 255). More recently examples have been excavated at Abbey Field hockey pitch in 2000 (at least 72 cremation burials and pyre-related features; CAT Report 138) and Area C2 in 2004. Other burials found close to Circular Road North included 3 in Area J1 East and 5 in Area J1 South in 2004-5. Further examples have also been excavated in Area J1 North to the north-west of the circus in 2004-5 (351 inhumations, cremation burials and pyre-related features). A Roman lead coffin was found in 2005 in Circular Road East (WBT1). No Roman burials had been found within the footprint of the circus.

Evidence for the extensive medieval robbing of Roman foundations for building materials, mainly in the 12th-13th centuries, has been found on many sites in the locality, including Areas C1, C2 and J1 East. Much of the area was probably farmland prior to the construction of the Colchester Garrison in the 19th century. Circular Road North had been laid out by the time of the OS map of 1874-1876. It flanks the northern and north-western sides of Abbey Field which was traditionally the drill ground of the army. In the area of paddocks immediately to the north of Circular Road North, trial-trenching uncovered extensive post-medieval or early modern quarrying (CAT Report 206).

Methodology

RPS developed mitigation strategies to the satisfaction of CBC to mitigate the impact on significant archaeological remains in Napier Road and Circular Road North. There were also to be watching briefs during various service works in Area J North and Area C2. The archaeological fieldwork for Phase 2 took place in 2006 to 2007 as follows:

Napier Road	August to September 2006
Circular Road North	January to April 2007
Area J North watching brief	February 2007
Area C2 watching brief	April to October 2007

A Written Scheme of Investigation (WSI) for Napier Road and Circular Road North was produced by RPS Planning in March 2006. It set out the excavation and recording methodology, as well as outlining the scope of the post-excavation work, including treatment of finds, production of the report and the deposition of the archive. Further details of the excavation and recording methods used can be found in the main analysis report and in the CAT document *Policies and procedures* (CAT 2006).

This report follows the standards set out in Colchester Borough Council's Guidelines on standards and practices for archaeological fieldwork in the Borough of Colchester (CM 2002) and Guidelines on the preparation and transfer of archaeological archives to Colchester Museums (CM 2003), and the Institute of Field Archaeologists' Standard and guidance for an archaeological excavation (IFA 2001a) and Standard and guidance for the collection, documentation, conservation and research of archaeological materials (IFA 2001b). The guidance contained in the documents Management of archaeological projects (MAP 2), and Research and archaeology: a framework for the Eastern Counties 1. Resource assessment (EAA **3**), Research and archaeology: a framework for the Eastern Counties 2. Research agenda and strategy (EAA **8**), and Standards for field archaeology in the East of England (EAA **14**) was also followed.

Excavation results

The undisturbed natural deposits (CRNL5) were sands and gravels, in places capped by cover loam. Natural features such as tree-throws were not normally investigated, although some possible examples were sectioned including CRNF52 (*see* plan in burial appendix below).

Period 1 – Palaeolithic and Mesolithic

There was no evidence of activity in Circular Road North in this period.

Period 2 – Neolithic

There was no evidence of activity in Circular Road North in this period.

Periods 3-4 – Bronze Age and the Early to Middle Iron Age

A shallow pit (CRNF15; Figs 3.6 & 3.14), 18m south-west of the circus turning post, contained a small quantity of probable Beaker pottery.

A quantity of later prehistoric sherds was recovered from the area between CRNF41 and CRNF53 (Fig 3.4). These sherds mainly dated to the Late Bronze Age-Early Iron Age, although a few may be Middle Iron Age in date. They were mostly residual in later contexts, including Roman ditches CRNF41, CRNF42 and CRNF44, *bustum* CRNG8, and burial-related features CRNF14 and CRNF17. However several of the sherds came from features, for which there was no evidence that they were later in date than the sherds they contained. These included a posthole CRNF50 and small pits CRNF45, CRNF46 and CRNF47 (Figs 3.4 & 3.15). A small pit (CRNF55) nearby was possibly of similar date, as a small fragment of prehistoric pottery was recorded on site although this did not survive.

This evidence suggests that there was settlement on or near the site in the Late Bronze Age/Early Iron Age, and this possibly continued into the Middle Iron Age.

Period 5 – Late Iron Age to Early Roman

There was no definite evidence of activity in Circular Road North in this period.

Period 6 – Roman

Roman circus

The south cavea foundations (Figs 3.6, 3.8, & 3.17)

The line of the south outer *cavea* wall was traced for approximately 8m, although it had been cut by several modern service trenches. It was aligned east-west, and was sectioned in one place, towards the eastern side of the modern road. The wall foundation had been completely robbed out in medieval times (CRNF17). The robber trench was approximately 1.1m wide and 0.5m deep. A copper-alloy coin of Faustina I (AD 139-41) was recovered from CRNF17.

The remains of one buttress on the south side of the outer *cavea* wall was located and excavated. The buttress foundation had also largely been robbed out, although a short stretch (CRNF36) survived *in situ* one course deep at the south end of the buttress. As usual this consisted of greensand blocks set in a pale brown mortar.

The buttress was approximately 1.6m long by 0.8m wide and 0.5m deep. This was similar in size (probably 2.5 x 5 *pM*) to those excavated in the eastern part of Area J1 East, some 10m to the west. Its position also accords well with the projected spacing of these buttresses, based on a 15 *pM* module (see The Roman Circus: the design of the circus' below: Figs 6.24 & 6.26). There would therefore have been three more buttresses between CRNF36 and the most easterly one excavated in Area J1 East. They presumably all belonged to the same building section, which extended east from the *vomitorium* (Figs 6.24 & 6.26).

A layer of robbing debris (CRNL8), 0.25-0.3m thick, extended for 0.8m to the south of the outer *cavea* wall. Where excavated, immediately east of the buttress CRNF36, this layer was found to seal a thin layer of *in situ* Roman mortar (CRNF40), 30mm thick, containing a few fragments of greensand. This mortar appeared to be the remains of a shallow foundation or raft, which was probably intended as consolidation in the top of the earlier ditch CRNF21.

The position of the inner *cavea* wall foundation was not located with any precision in Circular Road North. There was a rubble spread (CRNF28) consisting of fragments of greensand, mortar and Roman brick/tile in roughly the expected position. This could have been the remains of a robber trench for this foundation although no edges were found. Alternatively the rubble could have been material which had collapsed on to the *arena* surface immediately to the north of the inner *cavea* wall, similar to that found at Napier Road and by the turning post. It could also have been material from the robber trench and/or collapsed debris which had been redeposited by ploughing or road construction.

A layer of crushed mortar with fragments of greensand and brick/tile (CRNL9) extended for at least 3.2m to the south of the outer *cavea* foundation. Although unexcavated and in places difficult to distinguish from the robbing debris CRNL8, it was probably Roman demolition debris from the outer *cavea* wall. Similar layers have been found around the perimeter of the circus in Areas C1, C2, J1 East and Napier Road.

The ditch predating the construction of the *cavea* (CRNF21; *see* Chapter 6 below under Generral description: *cavea*) was on a similar alignment to, and was cut by, the foundation of the outer *cavea* wall. The ditch was approximately 1.6m wide and 0.7m deep, and its centre-line lay slightly to the south of the robber trench for the outer *cavea* wall (CRNF17). A small quantity of cremated bone (1g, from an ?adult of indeterminate sex) was recovered from CRNF21, perhaps derived from a cremation burial or related feature cut by it.

The near turning post of the Roman circus (Figs 3.6, 3.9-3.12, & 3.18)

The remains of the western end of the turning post lay close to the junction of Circular Road North with Le Cateau Road. The remains were poorly preserved and it was not required to fully excavate them since it was possible to preserve in situ all but the southern edge of the stripped area (service trench areea) beneath the upgraded road surfacing. Priority was given to those features on the line of the pipe trench which were to be totally destroyed.

The western and southern sides of the turning post were delineated by a narrow foundation which had been almost entirely robbed out. A thin layer of *in situ* Roman mortar (CRNF27) 0.25 - 0.3m wide was found in several places in the bottom of the robber trench (CRNF26). The robber trench was 0.4 - 0.6m wide and survived 0.2 - 0.4m deep. This is in keeping with the slight foundations defining the central barrier found elsewhere, as well as the foundation of the inner *cavea* wall.

The foundation appeared to be roughly C-shaped in plan. The north side of this foundation was not located with certainty, although traces of robbing debris from it were probably located close to the north section. This suggests that the central barrier was between 5.5 and 6m wide, and quite likely about 5.9m (20pM) wide.

A number of iron nails were recovered from the outer edge of CRNF26/CRNF27. These were fairly regularly spaced about 0.2m apart and more were observed in the sides of the trench but remained unexcavated. Their significance was unclear, although they could be remnants from shuttering used during the construction of CRNF27 or perhaps from a wooden lining around the outer edge of the turning post.

The remains of two north-south features (CRNF18 & CRNF22) extended between the probable eastern ends of the narrow foundation CRNF26/CRNF27. They remained largely unexcavated and were probably not fully exposed. They looked superficially like shallow foundations, although they did not appear to be set in well-defined trenches and seemed to be surface-built. The more westerly ?foundation CRNF18 was traced for 2.2m and was 0.5 - 0.6m wide, while CRNF22 was traced for 2m and was 0.5m wide. They were constructed of small to medium-sized fragments of greensand with occasional pieces of Roman brick/tile and septaria. They survived 1-2 courses high, and rested on a layer of clayey make-up (CRNL11/CRNL14) 0.1-0.2m thick which covered much of the turning post area. Parts of CRNF18 were mortared, although CRNF22 and the remainder of CRNF18 appeared to be unmortared. Between CRNF18 and CRNF22 was a thin layer, 60 - 70mm thick, of very small brick/tile fragments mixed with fine sand. The ?foundations were sealed by an extensive rubble spread (CRNL6), which was probably medieval robbing debris. These shallow features appeared to be the robbed and partially collapsed remains of a platform or base, or at least one foundation, which separated the turning post from the rest of the central barrier.

There was a large pit (CRNF29) within the area bounded by CRNF26/CRNF27 and CRNF18/CRNF22. It appeared roughly sub-rectangular in plan, 4m east-west by 3.5m north-south. Although it was not possible to fully excavate CRNF29, it was sectioned to a depth of 1.2m and augering indicated that it was some 0.75m deeper. The upper fill was robbing debris (CRNL12 & CRNF20) which contained sherds of early medieval sandy ware. Other finds from the upper backfill included a coin of Valens (AD 364-78), a small fragment of *opus signinum,* and a small quantity of painted wall-plaster. The latter was brownish-red in colour and suggests that there was an enclosed structure such as a small shrine at or near the turning-post. The largely unexcavated lower fill (CRNL15) was cleaner and more clayey, with little rubble that was clearly the result of medieval robbing. Finds from the lower fill included a coin of Gallienus (AD 260-8), and a large fragment of *opus signinum* with a curved outer face. The latter appeared to be painted white with traces of red paint beneath. It perhaps derived from the lining of a water tank rather than from one of the cones. Around the edges of CRNF29 was a thick gravelly slump layer.

The location of the pit suggests that it was probably a Roman feature such as a foundation or possibly a water tank that had been robbed in medieval times or had medieval sinkage in the top. Alternatively it could have been a medieval sand-extraction pit, or a robbed Roman foundation enlarged in the medieval period for this purpose.

Investigations to define the northern edge of the turning post led to the discovery close to the north section of a shallow east-west trench (CRNF38) 0.3m deep. The trench could only be traced over a distance of 1m, and its northern edge lay unexposed under the north section. However, crucially an iron collar lay *in situ* upright in the trench (Figs 3.10 & 3.18). The collar was of the type used to join together lengths of straight wooden water-pipes to form water-mains. Examples of Roman water-mains have been found elsewhere in Colchester (*CAR* **3**, 115-117; Crummy 2001, 92). The collars usually survive in situ and as a result show the pipes to have been about 2.0-2.5m in length. If anything survives of the wooden pipes, then this generally takes the form of a very thin brown lens of decayed wood along the length of the main. Although no traces of decayed wooden pipes were found on CRN, the presence of an upright collar shows that pressurised water had been brought to the central barrier. Due to the limits of excavation, it was not possible to trace the water-main further in either direction. Being on the north side of the central barrier, it seems likely that the water source lay to the north of the circus.

Plate 3.1 The iron collar in situ (CRNF38).

Excavation just under 1m to the west of CRNF38 revealed part of a circular feature approximately 0.8m across and 0.6m deep. Two *in situ* upright Roman bricks/tiles on the south side of the feature were perhaps the remains of a brick/tile lining. This feature may possibly have incorporated a riser for the water-main. These discoveries also raise the possibility that ?foundations CRNF18 and CRNF22 were the remains of the base of a water tank, basin or other water-related feature such as a fountain.

Another large pit (CRNF37) was uncovered 1.65m east of CRNF22 in a machine-cut trial trench. This appeared to be a large rectangular feature, although it was not possible to locate the south and east edges. It was 1.5m deep with a clean clayey backfill, which contained some fragments of *opus signinum,* Roman brick/tile and greensand including a few large dressed blocks, as well as a quantity of Roman potsherds. In the bottom of the feature was a silty clay layer, 0.1-0.15m thick, which may have been a water-lain deposit. This may indicate that CRNF37 housed a water-tank, sump or other water-related feature within the central barrier. It had probably gone out of use and been backfilled during the Roman period.

Between CRNF22 and CRNF37 was a small pit (CRNF35) with a charcoal-rich lower fill which contained a small quantity of cremated bone. No dating evidence was recovered from CRNF35. The pit cut the layer of clayey make-up CRNL14 and therefore probably did not predate the circus. It could thus have been contemporary with or post-dated the other features at the near turning post. Its location within the central barrier appears significant and suggests that the former may have been the case.

Human remains of Roman date appear to have been absent within the footprint of the circus, although a probable pit containing pyre debris including a quantity of cremated bone (G1) was found in the *arena* to the north of the central barrier, 60m to the east of CRNF35. No dating evidence was found in CRNG1, and so its relationship to the circus remains unclear.

Immediately to the south and west of the turning post, part of the surface of the arena had been preserved beneath later deposits. The natural subsoil had here been worn away to a depth of at least 500 mm and perhaps as much as 800 mm, especially close to the turning post. This seems likely to have been due to the action of the chariots, thus confirming that the favoured tactic of the charioteers when cornering was to keep as close to the turning post as possible. A thin layer of gravel (CRNL18) 0.15m above the level of natural in

the eroded area was perhaps evidence of a resurfacing of the track, although it may have formed in some other way.

After the circus ceased to be used for racing, parts of the turning post (CRNF24 and CRNF25) collapsed on to the arena surface like parts of the inner *cavea* wall on the Napier Road site. The lower part of the collapsed material (CRNL17, CRNF24) survived where it filled the worn away part of the arena. Further away from the turning post, the surface of the arena was sealed by a cleaner accumulation of soil (CRNL13), with only occasional fragments of rubble.

The fallen debris included a substantial part of one of the three cones which would have formed the near turning post or *meta* (CRNF25). The cone was constructed of brick set in *opus signinum*. The surviving part was 1.25m in diameter and had probably come from near the base of the cone. The surviving fragment was only two courses thick in the best preserved part of it and the north-west part of it appeared to have been robbed in the medieval period, leaving only about two-thirds of its circumference intact. The outer face of the cone was constructed of column bricks, while the core of the cone consisted mainly of fragments of Roman brick. To judge by its position on the arena surface, the fragment of cone probably derived not from the cone in the apex of the turning post but the most southerly one.

The spreads of rubble (CRNF24) on the arena surface included material from the wall of the central barrier as well as from the cones. This comprised many fragments of greensand and brick as well as some septaria and *opus signinum.* The latter included several large slabs of *opus signinum* with a curved outer face painted pink or red. These probably formed part of the coating of one of the cones. To what extent the fallen rubble, including the cone fragment CRNF25, resulted from the gradual delapidation of the turning post, or from its deliberate demolition, was unclear. It was also not always easy to distinguish between the fallen debris of probable late Roman date and the medieval robbing debris.

A note on the column brick from the near turning post

Fragments of approximately 36 column bricks were recovered from the fragment of cone (CRNF25), 16 of which survived intact or nearly intact. The column bricks are all of a similar size (*see* Archival data below). The bricks are segmental, shaped like slices of a round pie cut into eight equal sizes. They have a long, straight side 260-290 mm (av. 278 mm) in length and are 40-49 mm (av. 45 mm) thick, with a curved, outer edge 210-230 mm (av. 222 mm) in length (*see* Archival data below). The long, straight sides thus measured just under one Roman foot (1 *pM*) in length. When the bricks are formed into a column drum, they have a diameter of 0.57m. Allowing for the use of a mortar coating, this was probably intended as 2 *pM*.

The diameter of the surviving fragment of cone (CRNF25) was 1.25 m, more than double the diameter of the column which the bricks were designed to produce. The bricks were thus clearly reused. The outer face of the cone would not have formed a neat, strictly circular edge, although this was achieved by the coating of *opus signinum.*

From the rubble spread CRNF24 around CRNF25 came three more fragments of column brick. These included an incomplete quadrantal brick 35 mm thick with a long, straight side of 170 mm. There was also an incomplete eighth-size brick 43-4 mm thick with a curved, outer edge 255 mm long, which is slightly larger than the examples from CRNF25 (*see* Archival data below).

Central barrier (Fig 3.13 & 3.17)

Some 85-100m east of the turning post, at the east end of Circular Road North, were two shallow ditches or gullies (CRNF5 and CRNF14) aligned east-west. The more westerly ditch CRNF5 was 1.65m wide and 0.5m deep with a flattish bottom. It was traced for some 10m and extended under the south section. The eastern butt end of CRNF5 was 1.1m west of the western butt end of CRNF14, which was roughly U-shaped, 1.7m wide and 0.4m deep. It was traced for 4m and extended under the east section of the site. This was approximately 8.5m west of the mortared rubble base (WBF12/WBF16), for a probable large Roman monument within the central barrier, which was excavated under the crossroads in 2006. Both CRNF5 and CRNF14 had a brownish, clayey fill and contained occasional fragments of greensand, Roman brick/tile and *opus signinum.* There were scatters of Roman pottery from several broken pots of 1st-2nd/3rd century date in the backfill of CRNF14. These gullies may have been water-related features within the central barrier of the circus. They seem to have gone out of use and have been backfilled in the Roman period. No evidence was found in this area for the northern foundation of the central barrier, and the southern foundation lay beyond the limits of excavation.

Plates 2 and 3 The remains of one of the cones (CRNF25)

Roman burials and burial related features (Figs 3.4-3.5)

Twenty-one Roman burials and burial-related features were excavated in Circular Road North (catalogued in the appendix below). Most of these lay to the south-west of the Roman circus (2 inhumations, 7 cremation burials and 10 other cremation-related features). There were also two cremation-related features within the footprint of the circus.

A cluster of five burial-related features lay approximately 28-38m south of the Roman circus, adjacent to the all-weather hockey pitch (Fig 3.5). This included an inhumation burial (CRNG5) set within a ring-ditch (CRNF31), an unurned cremation burial (CRNG4), and three pits containing pyre debris (CRNG2, CRNG3 & CRNG6). This cluster of features probably belonged to the same burial area or plot as those excavated on Abbey Field immediately to the south in 2000 (CAT Report 138). Further features from this group had probably been destroyed by a large post-medieval or modern quarry pit (CRNF23). This was confirmed by the recovery of the redeposited remains of a disturbed cremation burial (163) from contractor's machine spoil on the surface of CRNF23, some 50m south-west of the cluster. This was probably an urned burial which had been redeposited in the fill of CRNF23, from which it was upcast during the cutting of the pipe trench.

The inhumation burial CRNG5 was almost 2m deep and was aligned east-west with a nailed timber coffin. The ring ditch CRNF31 was similar to the small ring-ditches found in Area C2 in 2004 associated with late Roman cremation burials there. However CRNF31 is the first one to be discovered in Colchester which is associated with an inhumation. The external diameter of the ring ditch was 5.0-5.02 m.

The two coins and the pot from CRNG5 suggest a date in the 3rd or possibly 4th century. The depth of the burial CRNG5 represented a considerable investment of time and effort and may indicate an element of social differentiation, and this is also implied by the ring-ditch. The latter may be indicative of Germanic as well perhaps as military influences, as has been suggested for the examples in Area C2.

Plate 4 Inhumation burial CRNG5 and ring ditch CRNF31.

Plate 5 Inhumation burial CRNG5.

The burials in this cluster which produced firm dating evidence (G4 & G5) are 3rd-4th century in date. This is consistent with the mid to late Roman date attributed to the burials excavated on the adjacent Abbey Field site (CAT Report 138).

Another cluster of burial-related features was located approximately 122-155m south-west of the Roman circus, adjacent to the modern athletics track (Fig 3.4). This group included four urned cremation burials (CRNG9, CRNG12, CRNG13 & CRNG15), a *bustum* (CRNG8), and an inhumation burial (CRNG16), as well as a pyre site/pit with pyre debris (CRNG14), four pits with pyre debris (CRNG7, CRNG10, CRNG17 & CRNF49), and a pit containing a possible votive pot (CRNG11).

These features lay between ditches CRNF44 and CRNF53, with the exception of CRNG16 which cut the main backfill of CRNF53. The ditches CRNF44 and CRNF53 perhaps helped to define a burial plot alongside the Roman road or trackway with which they were parallel (Fig 3.4). The absence of any burials to the east

of ditch CRNF44 suggests that these burial-related features belonged to a separate burial area to the cluster adjacent to the hockey pitch further east.

The dating evidence indicates that this more westerly burial area was earlier in date than that to the east. Most are probably late 1st- 2nd century in date with a few of possible 3rd-century date. This is consistent with the date of the burials found on the adjacent Abbey Field *CAR* park site in 2007 (CAT Report 424, 16). These burials, as well as some of those found under the athletics track in 1925 (Hull 1958, 255), may have belonged to the same burial area or plot as the Circular Road North examples.

The *bustum* (CRNG8) was a well-preserved example of a class of archaeological feature which has been identified at two other sites in recent years in Colchester. These consisted of two examples at Handford House in 2003 (CAT Report 323) and at least four in Area J North in 2004-5. The *busta* mostly seem to be early Roman in date, although one (F47) at Handford House is dated 2nd-earlier 3rd century. They may indicate eastern and perhaps military influences. A single coin was included in CRNG8, as was also the case in each of the two examples at Handford House. The burial goods suggest that the cremated body was female and that the burial dated to the late 1st or possibly early 2nd century. Unlike some of the examples from Area J North and Handford House (CAT Report 323), there was no definite evidence that any of the burial goods had been placed in the pit after cremation.

Plate 3.6 Bustum *CRNG8.*

A quantity of cremated human bone as well as some burnt animal bone was recovered from the section across the eastern roadside ditch CRNF53. The bone came from the upper backfill of the grave CRNG16 and the bottom of the upper fill of the ditch which sealed the grave. The cremated bone was part of a spread of similar material which extended beyond the limits of excavation. It seems likely that here, as in other excavated sections across the ditch, it acted as a repository for pyre debris.

As noted earlier, cremated bone was recovered from two features within the footprint of the circus. A pit containing pyre debris including a quantity of cremated bone (CRNG1; Fig 3.7) was found within the arena to the north of the central barrier. Another pit also containing pyre debris a small quantity of cremated bone (CRNF35; Fig 3.10) was discovered at the near turning post.

Roman road (Figs 3.2-3.4 & 3.16)

A Roman road or trackway flanked by two roadside ditches was excavated towards the western end of Circular Road North, some 160m south-west of the circus. This had previously been located in J1 South and J1 North as well as in the Abbey Field *CAR* park (CAT Report 424, 3-4). On the machined surface, the east flanking ditch (CRNF53/CRNF54; Fig 3.4) was 4m wide. The ditch (CRNF53) was 1.1m deep and, unlike the previous sections, was V-shaped. There was also evidence that this was a recut of an earlier, shallower U-shaped ditch (CRNF54) slightly to the west. Also the upper fill of the ditch may represent a wide, shallow recut.

The junction of the light brown main fills of the ditches CRNF53 and CRNF54 was cut by an inhumation burial (G16). Inhumation burials also cut the backfill of the eastern roadside ditch in Area J1 North. The upper fill of CRNF53 sealed G16 and was up to 0.5m thick. There were patches of *in situ* burning at the bottom of the upper fill, and this was sealed by an extensive layer of probable pyre debris containing cremated human bone and some burnt animal bone. Two small fragments of undiagnostic iron slag came from the upper fill of CRNF53, and a piece of vitrified clay, perhaps from an iron-working furnace, came from the main fill.

The west flanking ditch (CRNF56) was sectioned obliquely by machine. It was U-shaped, approximately 4m wide and 1.5m deep, and appeared to be of a single phase. A quantity of Roman pottery of 1st-2nd/3rd century date was recovered from CRNF53 and CRNF56.

Several patches of gravel metalling (CRNL19) survived in shallow undulations between CRNF53 and CRNF56. The level of the metalled surface varied between 34.34m and 34.49m AOD. The road or track was approximately 24m wide.

Other Roman features (Figs 3.4-3.7 & 3.14-3.15)

A large north-south ditch (CRNF44) was excavated some 35m north-east of ditch CRNF53. Where sectioned, it was 2m wide and 0.7m deep but appeared to taper in width from south to north. A small quantity of Roman pottery and tile as well as two Roman lamp fragments were recovered from the main fill indicating that the ditch had been open during the Roman period. Several prehistoric sherds from the lower and main fills were probably residual, rather than indicating that CRNF44 originated in the Iron Age. The ditch was not found further north in the evaluation trenches so its extent is unclear. It does appear, however, to define the eastern edge of a Roman burial plot of some kind, and the lamp fragments could have derived from a funerary context.

Approximately 10 m to the east of CRNF44 were two north-south ditches (CRNF41 & CRNF42). They were traced for almost 10 m, and formed a narrow droveway, 1.7m wide. In the bottom of CRNF41 was a line of three stake holes. In the bottom of CRNF42 was a posthole (CRNF43), 0.25m deep, and a possible stakehole. There was no evidence that the droveway had a metalled surface. The ditches were cut by a post-medieval/modern quarry pit (CRNF23) and were not located in evaluation trenches further north, so their extent is unclear.

Both CRNF41 and CRNF42 contained residual sherds of Late Bronze Age-Middle Iron Age date, and a piece of Roman brick came from the upper fill of CRNF42. These ditches were reminiscent of Late Iron Age/early Roman features excavated in Area 6 in 2003, approximately 1.5 km to the south-east (CAT Report 292, 18). They were probably stock management features, incorporating fences and gates. A comparable narrow droveway of Roman date was also excavated in Area J1 South. Despite the paucity of dating evidence from CRNF41 and CRNF42, they seem likely to date to the Roman period.

Several probable Roman pits were excavated within the clusters of Roman burials but which were not clearly burial-related. These included CRNF34, immediately to the west of CRNG2, and CRNF48 and CRNF51 to the west of ditch CRNF44. A small pit (CRNF19) lay approximately 11m south-west of the near turning post and contained a Roman sherd.

Two postholes, CRNF12 (0.25m deep) and CRNF13 (0.35m deep), cut the natural subsoil within the arena of the Roman circus, 43m and 34m respectively north-east of the turning post. They were both rubble-packed, reusing materials from the circus such as greensand, brick/tile, mortar and *opus signinum.* They were otherwise undated and could be either late Roman or post-Roman.

Period 7 – medieval (Figs 3.6, 3.8-3.10, 3.14, & 3.17-3.18)

The foundation (CRNF17) of the outer *cavea* wall and most of the buttress excavated in Circular Road North had been robbed out. The robber trench contained large quantities of mortar fragments and flecks, as well as greensand chips and occasional fragments of Roman brick/tile. A Roman copper-alloy coin of Faustina I (AD 139-41) was also found. No diagnostic medieval dating evidence was recovered, although the evidence from J1 East suggests a late 12th- or early 13th-century date for the robbing.

A layer of medieval robbing debris (CRNL8), 0.25-0.3m thick, extended for at least 0.8m south of the outer *cavea* wall and was perhaps associated with the robbing of the thin layer of mortar CRNF40. In places, the robbing debris was difficult to distinguish from the probable Roman demolition debris CRNL9.

A rubble spread (CRNF28) to the north of the outer *cavea* wall was possibly medieval robbing debris associated with the inner *cavea* wall foundation. More likely, however, it was demolition debris lying on the surface of the arena immediately north of the inner *cavea* wall.

There was also evidence for robbing of the near turning post of the Roman circus. The narrow foundation (CRNF27) around the edge of the turning post had been almost entirely robbed out (CRNF26). Extensive deposits of robbing debris (CRNL6 & CRNL12), 0.2-0.4m thick, covered most of the turning post. These deposits sealed the shallow features CRNF18 and CRNF22 which appeared to have been only partially robbed.

The upper fill of the large pit CRNF29 consisted of a layer of robbing debris (CRNL12) over 1.2m deep. The outer edge of this layer was defined on the surface by an irregular line of stone fragments (CRNF20). The pit was not fully excavated and its interpretation is problematic. Augering indicated that it was approximately 2m deep. The lower fill appeared to be a light clayey deposit with occasional fragments of Roman brick/tile but without obvious robbing debris. There was extensive gravelly slump around the edges. While perhaps originally a Roman feature, it could have been used for sand/gravel extraction in the medieval period.

Robbing also took place of some of the rubble lying on the surface of the arena to the west of CRNF26/CRNF27. Fortuitously the stone robbers left an area of fallen debris including CRNF24 and most of the cone fragment CRNF25 untouched. However the debris immediately to the north-west was robbed in the medieval period.

The dating evidence for the robbing at the turning post suggests that this took place in the late 12th or early 13th century. A couple of later sherds came from the uppermost layer of robbing debris (CRNL6) and are probably the result of activity post-dating the robbing. Other finds from the robbing debris included a Roman copper-alloy coin of Valens (AD 364-78), a copper-alloy finger ring, a Roman pottery counter, a piece of Roman glass from a prismatic bottle, a fragment of Mayen lava quernstone, a number of iron nails and hobnails, and a large fragment of slag.

Period 8 – post-medieval (Figs 3.3, 3.7-3.8, & 3.14)

A series of post-medieval ditches (CRNF2, CRNF9, CRNF10 & CRNF11) aligned north-south was excavated near the eastern end of Circular Road North. These were probably successive recuts of a field boundary ditch. Several other ditches (CRNF57-9) were uncovered in the western part of Circular Road North. These cut the Roman road or trackway and probably belonged to the same set of post-medieval ditches as those excavated on J1 South and in the Abbey Field *CAR* park (CAT Report 424, 5). Other probable post-medieval features included a pit (CRNF16), 6m north of CRNF17, adjacent to the football pitch.

Over most of the area there was an extensive layer of dark greyish-brown soil (CRNL3), 0.3m thick, which was probably a post-medieval ploughsoil. This sealed a lighter brown deposit (CRNL4), 0.15-0.2m thick, which was probably a layer of reworked and redeposited subsoil.

Period 9 – modern/military (Figs 3.5 & 3.7-3.8)

A large quarry pit (CRNF23) was traced for 88m adjacent to the sports grounds in Circular Road North. It remained largely unexcavated, but was probably part of the same quarrying activity observed in trial-trenches nearby in 2002 and 2004 (CAT Report 206, 29). The quarry pit was probably used for the extraction of sand and gravel during an early phase of the garrison in the middle of the 19th century, although it was possibly related to the expansion of the town at a slightly earlier date.

Other modern features included a trench (CRNF1), a ditch (CRNF8) and a small pit (CRNF30; Fig 3.8). A few drainage features and service trenches under the modern road were initially recorded (eg CRNF3,

CRNF4, CRNF6 & CRNF7), although most were only plotted if they impinged on earlier deposits. All these were sealed by modern make-up (CRNL2) and tarmac (CRNL1).

The find reports and environmental analysis

The prehistoric pottery

by Stephen Benfield

Introduction

The excavation produced a total of 270 g, of prehistoric (pre-Belgic) pottery. The prehistoric pottery fabrics (Table 3.1) follow those devised for the recording of prehistoric pottery in Essex (Brown 1988). The number of sherds and weight of the pottery was recorded by fabric for each feature by finds number. Where more than one fabric type is recorded a total weight of prehistoric pottery for that find number is also given. This is set out in the catalogue of pottery listed below.

Table 3. Prehistoric pottery fabrics used in this report:
size of inclusions: S-small (<1 mm), M-medium (1-2 mm), L large (>2 mm), density of inclusions: 1 = less than 6 per square cm, 2 = 6 to 10 per square cm, 3 = more than 10 per square cm.

Fabric B	flint, S-M 2
Fabric C	flint, S-M with occasional L
Fabric D	flint, S-L 2 poorly sorted
Fabric E	flint and sand, S-M 2
Fabric H	sand, S 2
Fabric I	sand, S-M 2-3
Fabric K	quartz sand, flint and grog, S-L 1-2
Fabric Q	flint S-L, grog S-M 2
Fabric V	flint S-M 1

Discussion

The earliest closely dated pottery is sherds from a large vessel, probably an urn of Early/Middle Bronze Age date (Fig 3.19, no 1). Sherds from this pot were recovered from CRNF15 (finds number 43). These consist of two large joining sherds from the base and lower wall, together with three other non-joining fragments. The sherds have oxidised red or orange-brown surfaces with a dark grey fabric core and are tempered with flint and grog. The surface is decorated with finger-tip impressions, at least some of which appears to be pinched finger-tip 'rustication'. The substantial size of the pot, indicated by both the sherd thickness and the curvature of the body, with decoration extending over the lower body is consistent with that of an Early/Middle Bronze Age urn of Ardleigh style (Brown 1999, 76-116). The Ardleigh style forms a distinct regional ceramic tradition of the Early/Middle Bronze Age in north-east Essex and south-east Suffolk (Brown 1999, 78). It can be noted that the degree of flaring of the vessel wall above the base is unusual in the bucket urns, common to that style, which are usually more upright (Brown 1999, figs 90-116), and pinched finger-tip 'rustication' is rare as a decorative technique, being a more common trait of Beaker pottery (Brown 1999, 78). However, the use of grog-temper and profuse decoration is possibly an early feature of the Ardleigh group and there may be a

link between this and the earlier pottery traditions of both Beakers and Grooved Ware (Brown 1999, 78) which the vessel here appears to share. An unstratified sherd (finds number 40) also with finger-tip decoration (Fig 3.19, no 2) and found close-by may be part of the same pot, but is probably part of a separate vessel as the internal surface is of a different colour, that is reduced to a dark grey rather than oxidised. This pot can probably also be dated as Early/Middle Bronze Age.

There are also a few other diagnostic sherds. The earliest dated of these are two flint-tempered rim sherds, from CRNF50 (finds number 190) and CRNG8 (finds number 218), one decorated with shallow finger indentations on the rim top (Fig 3.19, nos 3-4). These would not be out of place in an assemblage of Late Bronze Age, or possibly early Iron Age date, as similar rims can be seen in Late Bronze Age assemblages (Court and Mepham 2004, fig 6.9, and Brown 2001, fig 16.48). Two sand tempered sherds, from F41 (finds number 166) and an unstratified sherd (finds number 60), can be dated to the Middle Iron Age. The unstratified sherd is a large piece which comes from the lower half of a jar or bowl which is clearly of Middle Iron Age type.

The remainder of the prehistoric sherds from the site are all flint-tempered. In the absence of any diagnostic features these can only be broadly dated as prehistoric (Lavender 2007, 62). However, based on the absence of earlier dated diagnostic sherds, it can be suggested that they are probably of Late Bronze Age or possibly early-middle Iron Age date.

Catalogue of prehistoric pottery

(43) CRNF15. Illustrated Fig 3.19, no 1. Fabric Q, 109 g, 2 large joining sherds with 3 sherd fragments from a large pot, flint-tempered with some sparse red-brown and dark grog-temper, decorated with finger-tip impressions some of which appear to be pinched finger-tip 'rustication'; the sherds vary between about 10 mm and 16 mm thick, internal and external sherd surfaces are red or orange-brown, the fabric is dark grey-brown; possibly from the same pot as (40) (Fig 3.19, no 2) but probably part of a separate vessel.

(40) unstratified. Illustrated Fig 3.19, no 2. Fabric Q, 12 g, carinated body sherd, flint and grog-tempered, red-brown and dark grog, internal surface partly missing and broken away, decorated with ?pinched finger-tip impressions below slight carination, plain above, about 10 mm thick, inner surface dark grey-brown, outer surface red-brown, fabric has a thin brown central core, possibly part of same pot as CRNF15 (43) (Fig 3.19, no 1) but probably part of a separate vessel.

(166) CRNF41, (14 g).
Fabric C, 12 g, 2 flint-tempered sherds probably from 2 pots, one sherd patchy dark-grey surfaces and fabric, about 5 mm thick, the other sherd dark grey-brown with red-brown exterior surface, 6-7 mm thick.
Fabric E, 1 g, small, abraded, flint-tempered sherd with some sand-temper, mottled orange-brown and brown.
Fabric I, 1 g, small sand tempered sherd, 6 mm thick, brown surfaces with patchy grey-brown fabric.

(167) CRNF42. Fabric C, 3 g, small flint-tempered sherd, 8-9 mm thick, dark grey-brown interior surface and fabric, red-brown exterior surface.

(168) CRNF42. Fabric C, 4 g, flint-tempered sherd, 6 mm thick, dark grey-brown interior surface and fabric, red-brown surface.

(172) CRNF44. Fabric V, 5 g, 2 flint-tempered sherds, one abraded, 3-4 mm thick, red-brown surfaces and grey-brown fabric, the other 6 mm thick, interior surface and inner fabric dark grey-brown, exterior surface and outer fabric red-brown.

(173) CRNF44. Fabric C, 1 g, 2 small flint-tempered sherds, one 5 mm thick, brown and grey-brown, the other, 7-8 mm thick, dark grey-brown with red-brown exterior surface.

(169) CRNF45. Fabric C, 1 g, small flint-tempered sherd, up to 6 mm thick, brown surfaces, dark grey-brown fabric.

(170) CRNF46. Fabric E, 8 g, flint-tempered sherd with some sand, 5 mm thick, interior surface and fabric dark brown, exterior surface red-brown.

(175) CRNF47. Fabric V, 3 g, flint-tempered sherd, 5 mm thick, brown interior surface, dark grey-brown fabric and exterior surface.

(182) CRNF48. Fabric B, 3 g, small flint-tempered sherd about 8 mm thick, dark grey interior surface with light brown fabric and exterior surface.

(190) CRNF50, (4 g).
Illustrated Fig 3.19, no 3. Fabric C, 2 g, flat topped, internally thickened, rim sherd, flint-tempered, about 4 mm thick, dark grey-brown surfaces with brown fabric core.
Fabric C, 2 g, flint-tempered sherd, 9 mm thick, red-brown surfaces, brown fabric.

(206) CRNF51. Fabric V, 1 g, small sherd with sparse flint-tempered, 4 mm thick, red-brown interior surface, dark grey-brown exterior surface and fabric.

(254) CRNF53. Fabric K, 2 g, small sand, flint and ?grog-tempered sherd, abraded surfaces, red-brown surfaces, grey fabric.

(78) CRNG2. Fabric D, 2 g, flint-tempered sherd, about 9 mm thick, reddish-brown abraded surfaces, grey core.

(186) CRNG8, (11 g).
Fabric E (3 g), small flint-tempered sherd flake with some sand, dark grey-brown brown surface, brown to red-brown fabric.
Fabric V (8 g), flint-tempered sherd, 6 mm thick, patchy red-brown surfaces and grey-brown fabric.

(217) CRNG8. Fabric E, 5 g, sherd, possibly from shoulder area of the pot, 5 mm thick, patchy surfaces and fabric, light brown to dark grey-brown.

(218) CRNG8, (17 g).
Illustrated Fig 3.19, no 4. Fabric C, 13 g, rim sherd, upright slightly flaring rim with flat top, rim top decorated with faint finger indentations, body 8 mm thick, light red-brown surfaces and grey-brown fabric.
Fabric D, 4 g, flint-tempered sherd, 7 mm thick, patchy red-brown surfaces and fabric.

(228) CRNG8. Fabric C, 1 g, small flint-tempered sherd fragment brown surface and grey fabric.

(231) CRNG8. Fabric C, 2 g, small flint-tempered sherd, 4 mm thick, pale grey-brown interior surface and fabric, red-brown exterior surface.

(240) CRNG8. Fabric V, 2 g, small sherd with sparse flint-tempered, 4-5 mm thick, red-brown fabric and surfaces.

(264) CRNG8. Fabric B, 3 g, small flint-tempered sherd about 5 mm thick, dark grey surfaces and fabric.

(245) CRNG14. Fabric D, 2 g, flint-tempered sherd, about 6 mm thick, reddish-brown abraded surfaces, dark grey core.

(279) CRNG17, (8 g).
Fabric D, 6 g, flint-tempered sherd, about 6-7 mm thick, red-brown interior surface and fabric, changing to dark brown fabric and exterior surface, decorated with two roughly parallel grooves on exterior surface.
Fabric D, 2 g, flint-tempered sherd, about 8 mm thick, dark grey surfaces, reddish-brown core.
Fabric B, 0.1 g, sherd fragment with dense small flint-temper, about 4 mm thick, dark grey surfaces, reddish-brown core.

Unstratified
(60) u/s. Fabric H, 45 g, sand-tempered sherd from just above the base of a jar or bowl, wall of pot narrowing from about 10 mm at base to about 5 mm further up the body of the pot, dark grey-brown interior and fabric, brown and dark grey-brown patchy surfaces, dated Middle Iron Age.

(60) u/s. Fabric B, 2 g, small flint-tempered sherd, 9 mm thick, grey-brown interior surface, dark grey-brown fabric, brown exterior surface.

The Roman pottery

by Stephen Benfield

Introduction

In total there is just over 16 kg (16049 g) of Roman pottery from the excavations. The pottery has been recorded using the Roman pottery fabric type series devised for *CAR* **10** in which the fabrics are recorded as two-letter codes. These letter codes, together with the full fabric name, are set out in Table 3.2. An additional code for Romanising coarse wares (Fabric RCW) has been introduced and this fabric is described below. Where appropriate the fabric code for the national Roman fabric reference collection has been included (Tomber and Dore 1998). The pot forms were recorded, where possible, using the Camulodunum (Cam) Roman pottery form type series (Hawkes & Hull 1947, Hull 1958). Samian vessels are recorded using Dragendorff (Dr) form numbers or other common form type references following those used in Webster 1996. The pottery fabrics and the vessel forms present in each site context were recorded for each find number. The number of sherds was recorded and the identifiable pottery forms present for each fabric type. The total weight of pottery and an overall spot date was recorded for each find number. This information is set out in the catalogue of Roman pottery (below) and in the catalogue of Roman burials and related features (also below).

Fabrics and descriptions additional to *CAR* **10** fabrics used in this report.

Fabric RCW, Romanising coarse ware: sherd thickness is generally medium to thin. Surfaces are dark grey-brown. The fabric is grey-brown with red-brown margins and contains fragments of burnt organic matter and grog. The fabric sometimes has a tendency to laminate.

Table 3.2. Roman pottery fabric codes and fabric names used in this report (after CAR 10).

Fabric code	Fabric name	National Roman Fabric Reference Collection fabric code
AA	amphorae, all excluding Dressel 20 and Brockley Hill/Verulamium region amphorae	
AJ	amphorae, Dressel 20	BAT AM 1, BAT AM 3
BA	plain samian forms	
CG	Central Gaulish plain samian	LEZ SA 2
EG	East Gaulish plain samian	
BX	decorated samian	
CG	Central Gaulish decorated samian	LEZ SA 2
CH	oxidised Hadham wares	HAD OX
CL	Central Gaulish and ‘Rhenish-type’ fine colour-coated wares	
NF	Trier fabric	MOS BS
CZ	Colchester and other red colour-coated wares	COL CC2
DJ	coarse oxidised and related wares	COL WH
DZ	fine oxidised wares	
EA	Nene Valley colour-coated ware	LNV CC
GA	BB1: black-burnished ware, category 1	DOR BB1
GB	BB2: black-burnished ware, category 2	COL BB2
GX	other coarse wares, principally locally-produced grey wares	
HZ	large storage jars and other vessels in heavily-tempered grey wares	
KX	black-burnished ware (BB2) types in pale grey ware	
RCW	Romanising coarse wares	

Discussion

The pottery was recovered from Roman and post-Roman contexts (features and layers) and from a small number of Roman burials and features with pyre debris. Overall the date range of the pottery types spans the whole of the Roman period of the 1st-4th century. The earliest closely dated pottery consists of two pots associated with two of the cremation features on the site, CRNG15 and CRNF49. One pot is dated pre-Flavian, the other Claudio-Neronian or possibly Flavian. Otherwise the earliest closely dated pottery is vessel forms of 1st-early 2nd century date. There is no grog-tempered pottery of Late Iron Age type. The latest dated pottery consists of sherds from the Nene Valley and Hadham potteries. Nene Valley colour-coated ware begins to appear in Colchester from the early-mid 3rd century (*CAR* **10**, 279) and oxidised Hadham ware appears from the mid 3rd century, but is more typical of the 4th century (*CAR* **10**, 297). Only the pottery from features of Roman date is discussed in detail.

A small number of Roman features, other than burials, produced pottery; CRNF14, CRNF19, CRNF21, CRNF24, CRNF25, CRNF34, CRNF37, CRNF44, CRNF53 and CRNF56. Of these only four contained more than a few broadly dated Roman sherds. CRNF44, CRNF53 and CRNF56, contained pottery dated as 1st-2nd or possibly 3rd century. CRNF25 contains sherds dated as early 2nd to mid-late 3rd century. Only one layer dated to the Roman period, CRNL14, produced pottery and this could not be more closely dated than Roman.

Of interest is the pottery from CRNF14 (finds nos 30, 31, 33, 34), which comes from within the area occupied by the central barrier of the Roman circus. Three pots are represented; a flagon, a beaker or small jar and a large grey ware jar or storage jar. Both the flagon and small jar/beaker are represented by only part of the pot, in each case this being sherds from base and lower body. While not all of the large jar/storage jar is present, clearly much of the pot is represented with sherds from the base, body, neck and rim. As to the date of the pots, the flagon can only be dated as 1st-2nd or early 3rd century, the fabric of the small jar/beaker suggests an early Roman, possibly 1st century date. The large jar/storage jar has no direct parallel in the Cam type series or *CAR* **10**, but is possibly a variation on Cam 270B and can probably be dated 1st-2nd/3rd century. The sherds of the flagon and small jar/beaker are joining sherds, and while the portion of the jar/beaker is very small, the flagon sherds, weighing 214 g, represent a partial pot. Most if not all the sherds from the large jar/storage jar, weighing about 1500 g, are joining sherds and represent much of the pot. Partial pots are often connected with burials or votive deposits. No burials are known from the area of the circus, although during excavations at Napier Road a near complete and probable votive pot, a Cam 268 jar (2006.97, NRF6, finds no 7), was recovered from the area of the Roman circus arena (NRF6.1: *see* catalogue of burials in appendix of Napier Road above).

The pottery associated with a small number of burials comes from inhumation burials, cremation burials and features containing pyre debris. Where the pottery can be closely dated, one of the inhumation burials can be dated to the second quarter of the 3rd century-4th century. Based on the pottery, six of the cremation burials and features with pyre debris can be dated to, or probably to, the 1st-early 2nd century and three others as 1st-2nd/3rd century. One cremation burial contains an abraded sherd dated early 2nd to mid-late 3rd century. One sherd from the fill of another of the cremation burials can be dated to the early-mid 3rd to 4th century. It can be noted that a number of cremation burials, many accompanied by pottery vessels, were excavated in 2000 on the part of the Abbey Field just south and east of the burials on the present site (Benfield 2001).

Of two inhumation burials only one, CRNG5, contained pottery. The pottery from here consists of a near complete grey ware beaker, which would presumably have been whole when placed with the burial, but is now broken into sherds. This pot is slightly unusual in that the body form is Cam 408-410, but there are two cordons below the rim. Beakers with cordons below the rim previously recorded in coarse grey ware (*CAR* **10** Fabric GX fig 6.67 numbers 430-37) are all attributed to form Cam 404, dated Hadrianic-early Antonine to late 2nd century (Hull 1963 190, *CAR* **10**, 486). However, the overall form of the beaker here is clearly Cam 408-410, dated from the second quarter of the 3rd century to the 4th century (*CAR* **10** 487). The inhumation burial CRNG5 was at the centre of a small ring-ditch, CRNF31. The pottery from the ring ditch consists only of two Roman grey ware sherds (Fabric GX).

There were five cremation burials where a pot had been used as the cremation urn, ie CRNG9, CRNG12, CRNG13, CRNG15 and (163) CRNF23. Each was a single pot and none survived complete. The urn in CRNG9 is a large grey ware jar of which only the complete base together with body sherds from the pot remained. The grey ware urn from CRNG12 consists of a large number of undiagnostic sherds and fragments. Some of these sherds appear to have been burnt or scorched by heat. Organic temper in the fabric suggests a date for this pot in the early Roman period of the 1st-2nd century rather than later. The urn from CRNG13 is also fragmented, although it is clear that the sherds represent the lower half of a grey ware jar or bowl with a closed mouth. The urn in CRNG15 is a large round shouldered bead-rim cooking pot of form Cam 257. It is very broken up, but sherds from all parts of the pot are represented and probably most of the pot is present. Cam 257 appears at Sheepen, dated *c* AD 5-60 but is absent from the Roman fortress and *colonia* (Niblett 1985, 3; *CAR* **10,** 478). One whole pot, a miniature jar, had been placed with cremation

burial CRNG4. This pot cannot be closely dated. One of a small number of sherds from the fill of CRNG4, from a Cam 279C jar, can be dated to the early-mid 3rd to 4th century. The pot from CRNF23 consisted of grey ware body sherds that had been redeposited, together with the cremated bone it contained, in a modern gravel pit

Pottery sherds were recovered from two pits containing cremated remains and pyre debris CRNG2 and CRNG3. The pottery from CRNG2 cannot be closely dated. The single sherd recovered from CRNG3 is in local colour-coat ware (Fabric CZ) and can be dated to the early 2nd to mid-late 3rd century. The sherd is abraded.

Four pits with pyre debris, CRNG7, CRNG10, CRNG17 and CRNF49, all contained sherds from a number of pots. The minimum number of pots represented in CRNG7 is three. These are a Cam 266 jar, dated 1st to early 2nd century, a small flask, probably of form Cam 234, dated 1st to mid-late 2nd century, both in grey ware (Fabric GX) and a flagon in coarse oxidised ware (Fabric DJ). Some of the grey ware sherds are burnt or scorched by heat. It is possible that one other grey ware pot is represented. For CRNG10 the minimum number of pots represented is three. There are sherds from an amphora (Fabric AA) dated 1st-early 2nd century, sherds in grey ware, some of which can be identified as from a Cam 266 jar , dated 1st to early 2nd century, and sherds from a pot in coarse oxidised ware. The pottery from CRNG17 indicates that the sherds come from a minimum of six pots. In grey ware there are sherds from three pots, one decorated with a combed wavy line, and in coarse oxidised ware there are sherds from probably three pots, one of which is a flagon. There are burnt sherds in both grey ware and coarse oxidised ware. The sherds from CRNF49 are from a minimum of three pots. The identified pots are a collared flagon in coarse oxidised ware, dated Claudio-Neronian to Flavian, sherds from an amphora (Fabric AA) dated 1st to early 2nd century, and another pot represented by sherds in coarse grey ware.

There is also pottery from a pyre site/pit with pyre debris, CRNG14, and a *bustum*, CRNG8.

The pottery from CRNG14, a pyre site or pit with pyre debris, consists of sherds from a minimum of three partial pots: a Cam 266 jar dated 1st to early 2nd century, and sherds from a lid with a plain rounded rim, probably of 1st-2nd century date, both in grey ware, and a Cam 154/155 or 155 flagon dated Claudio-Neronian to early Antonine in coarse oxidised ware. The flagon and jar both show signs of damage from heat, presumably from the pyre.

The *bustum* CRNG8 contained a large number of sherds. These clearly represent the remains of several pots, although, as the pottery is very broken up, it is difficult to be precise about the actual number of pots represented. The minimum number appears to be seven (pots CRNG8.1-7), but it is not always possible to be certain if one or two pots of a similar type are present, while other pots could be represented by undiagnostic body sherds. The seven pots are: three flagons in coarse oxidised ware - Fabric DJ, two of form Cam 154/155 or 155 (CRNG8.1 & CRNG8.2) and one of Cam ?364 (CRNG8.3); a folded beaker in fine oxidised ware - Fabric DZ (CRNG8.4); and three pots in grey ware – Fabric GX, two jars of form Cam 266 (CRNG8.5 & CRNG8.6) and a small jar or beaker (CRNG8.7). The flagon form Cam 154/155 or 155 can be dated Claudio-Neronian to early Antonine, and the jar form Cam 266 as 1st-early 2nd century. Sherds from two of the pots can be attributed to individual vessels. These are a number of heavily burnt and distorted sherds that are probably all from the same jar of form Cam 266, and many of the thicker oxidised sherds, including pieces from the neck, handle and base, which probably come from the same ring-neck flagon of form Cam 154/155 or 155.

One feature, CRNG11, contained a complete pot which is interpreted as a votive deposit. The pot is a complete jar of form Cam 268, dated early/mid 2nd-late 3rd/early 4th century. The body of the jar is whole but the rim is cracked away from the body.

Catalogue of Roman pottery

The pottery associated with burials, features with pyre debris and the pit with votive pot CRNG11 is catalogued in Appendix 1 at the end of this chapter.

Pottery from features excluding burials :

(15) CRNF2. Fabric GX, 13 g, 1 sherd, Roman.

(8) CRNF4. Fabric GX, 2 g, 1 sherd, Roman.

(30) CRNF14, (227 g).
Fabric DJ, 15 sherds, from the lower half of a vessel with indentation, or waste, around girth; this appears to be a closed vessel and is probably a flagon, so the indentation is at the join of top and lower half of the pot; most sherds join together to form lower part of profile to girth; 1st-2nd/early 3rd century;
Fabric GX, 1 small sherd, from the same pot as CRNF14 (34).

(31) CRNF14. Fabric GX, 221 g, 7 body and base sherds from the same pot as CRNF14 (34); also 4 joining sherds from the base and lower body of a different pot, probably a small jar or beaker; the slightly soft fabric with red-brown core and dark grey surfaces suggests an early Roman, possibly 1st century, date.

(33) CRNF14. Fabric GX, 297 g, 17 sherds from the same pot as CRNF14 (34), includes rim sherd which, with the rim sherds from (34), would probably complete, or nearly complete, the whole rim circuit.

(34) CRNF14. Fabric GX, 927 g, about 50 sherds from a large jar, possibly a storage jar, with off-set neck and slight carination on the shoulder, not decorated, 75-80% of rim present, 3 sherds from the base, sherds from this pot also in CRNF14 (31) and (33), and one sherd in (30); partial pot located within the central barrier of the Roman circus
Pottery dated: 1st-2nd/3rd century.

(51) CRNF16. Fabric GX, 1 g, 1 sherd, Roman.

(58) CRNF16. Fabric GX, 3 g, 1 sherd, Roman.

(46) CRNF17. Fabric GX, 14 g, 1 sherd, Roman.

(97) CRNF17. Fabric GX, 1 g, 1 sherd, Roman.

(42) CRNF19. Fabric GX, 1 g, 1 sherd, Roman.

(49) CRNF20. Fabric GX, 12 g, 1 sherd, rim from a jar or bowl, Roman.

(66) CRNF21. Fabric DJ, 6 g, 1 sherd, 1st-2nd/3rd century.

(67) CRNF21. Fabric GX, 6 g, 2 sherds, Roman.

(53) CRNF23. Fabric GX, 37 g, 5 sherds, rim from a jar or bowl, Roman.

(174) CRNF23, (587 g).
Fabric CH, 8 sherds, tall, handled pot, probably a flagon, mid-late 3rd to 4th century,
Fabric GX, about 50 sherds, most from the lower part of a jar or closed mouth bowl, sherds from at least one other pot, Roman.
Pottery dated: mid-late 3rd to 4th century.

(50) CRNF24. Fabric GX, 4 g, 1 sherd, Roman; also 1 sherd (10 g), ?medieval (Fabric 20).

(56) CRNF25, (47 g).
Fabric BA(CG), Dr 31, mid-late 2nd century.
Fabric GX, 2 sherds, Cam 243-244/246, 1st-early 2nd century.

(79) CRNF26, (21 g).
Fabric GX, 2 sherds, Roman;
Fabric RCW, 1 sherd, 1st century.

(113) CRNF26. Fabric GX, 20 g, 1 sherd, Roman or possibly medieval.

(115) CRNF26. Fabric GX, 12 g, 1 sherd, Roman.

(84) CRNF29. Fabric GX, 55 g, 4 sherds, Cam 268, early/mid 2nd-late 3rd/early 4th century.

(94) CRNF29. Fabric GX, 6 g, 1 sherd, Roman.

(111) CRNF34. Fabric GX, 19 g, 2 sherds, Roman.

(124) CRNF37. Fabric GX, 56 g, about 40 sherds and fragments, Roman.

(172) CRNF44, (457 g).
Fabric AJ, 1 sherd, neck and handle fragment, 1st-early 3rd century;
Fabric DJ, 2 sherds, 1st-2nd/3rd century;
Fabric GX, 1 sherd, Roman.

(182) CRNF48, (112 g).
Fabric DJ, 1 sherd, handle, 1st-2nd/3rd century;
Fabric GB, 1 sherd, base, early 2nd to mid-late 3rd century;
Fabric GX, 7 sherds, jar, Cam ?266, 1st-early 2nd century.
Pottery dated: early 2nd to mid-late 3rd century.

(248) CRNF53, (128 g).
Fabric AJ, 1 sherd, 1st-early 3rd century;
Fabric GX, 1 sherd, Roman.

(284) CRNF53. Fabric DJ, 130 g, about 30 sherds plus fragments, 1st-2nd/3rd century.

(291) CRNF56. Fabric GX, 362 g, 18 sherds, 16 sherds in sandy grey ware from the lower half of one pot, partial pot possibly displaced from a burial? base and body sherds from other pots, dated Roman.

(292) CRNF56. Fabric DJ, 20 g, 3 sherds plus fragments, sherds degraded, 1st-2nd/3rd century.

(293) CRNF56. Fabric HZ, 157 g, Cam 273, 1st-2nd/3rd century.

Pottery from layers:

(24) CRNL6, (168 g).
Fabric CZ, 6 sherds from a Cam 391 beaker, early 2nd to late 2nd/early 3rd century;
Fabric EA, beaker base, 1 sherd, early-mid 3rd to 4th century;
Fabric GA, 1 sherd, early 2nd-4th century;
Fabric GX, 20 sherds, Roman.
Pottery dated: early-mid 3rd to 4th century.

(39) CRNL6, (3 g).
Fabric EA, beaker base, 1 sherd, early-mid 3rd to 4th century;
Fabric GX, 1 sherd, Roman.
Pottery dated: early-mid 3rd to 4th century.

(41) CRNL6. Fabric GX, 31 g, 3 sherds, Roman.

(44) CRNL6. Fabric GX, 5 g, 1 sherd, Roman.

(47) CRNL6, (96 g).
Fabric CZ, 1 sherd from a beaker, early 2nd to mid-late 3rd century;
Fabric GX, 3 sherds, includes rim from a Cam 306, mid-late 2nd to late 3rd/early 4th century.
Pottery dated: mid-late 2nd to late 3rd/early 4th century.

(57) CRNL6, (28 g).
Fabric BA(EG), 1 sherd, probably Dr 31, later 2nd-mid 3rd century;
Fabric GX, 5 sherds, Roman.
Pottery dated: later 2nd-mid 3rd century.

(63) CRNL6, (59 g).
Fabric DJ (or oxidised Fabric GX), 2 sherds, Roman.
Fabric GX, 4 sherds, Roman, 1 other sherd possibly medieval;
Fabric HZ, 1 sherd, 1st-2nd/3rd century.

(52) CRNL8. Fabric ?BX(CG), 7 g, 1 sherd, ?Dr 37, rim, 2nd century.

(69) CRNL12, (168 g).
Fabric CZ, base sherd from a beaker, early 2nd-3rd/?4th century;
Fabric GX, 2 sherds, Roman.
Pottery dated: early 2nd-3rd/?4th century.

(72) CRNL12. Fabric GX, 6 g, 1 sherd, Roman.

(87) CRNL12. Fabric GX, 10 g, 1 sherd, Roman.

(92) CRNL12, (6 g).
Fabric EA, beaker base, 1 sherd, early-mid 3rd to 4th century;
Fabric GX, 2 sherds, Roman.
Pottery dated: early-mid 3rd to 4th century.

(102) CRNL12. Fabric GX, 24 g, 1 sherd, Roman.

(100) CRNL14. Fabric GX, 168 g, 1 sherd, Roman.

Unstratified pottery:

(9) u/s. Fabric GX, 9 g, 1 sherd, Roman.

(32) u/s. Fabric GX, 11 g, 5 small sherds, Roman.

(70) u/s. Fabric GX, 3 g, 1 sherd, Roman.

(112) u/s, (16 g).
*Fabric CL(NF) 1 neck and upper-body sherd from a beaker with tracers of white barbotine decoration on the body, dated 3rd century (CAR **10**, 275);*
Fabric GX, 5 sherds, Roman.

(150) u/s. Fabric GX, 13 g, 1 sherd, Roman.

(165) u/s. Fabric GX, 8 g, 1 sherd, Roman.

(210) u/s, (320 g).
Fabric CH, 3 sherds, mid-late 3rd-4th/4th century;
Fabric GX, 8 sherds, partial pot, Cam 268, early/mid 2nd-late 3rd/early 4th century;
Fabric KX, 1 large sherd, partial pot, Cam 40A, early 2nd-3rd century.

The post-Roman pottery and glass

by Howard Brooks

Introduction

This is the report on the post-Roman pottery and glass from Colchester Archaeological Trust excavations on Circular Road North, Colchester.

Description of pottery

Pottery fabrics present are as follows (after Cunningham 1985 and *CAR* **7**): fabric 13 Early medieval sandy ware, fabric 40 (post-medieval red earthenware).

(1) CRNF1. One body sherd (18g) fabric 45m modern stoneware, 19th-20th century.

(2) CRNF2. One body sherd (8g) fabric 20?, late 13th-14th; one body sherd (3g) fabric 21a Colchester-type ware, 15th-16th.

(6) CRNF8. One base sherd (85g) modern stoneware (fabric 45m) blacking bottle. 19th-20th century; three sherds fabric 51a late slipped kitchen ware, 113g, 19th-20th century; one sherd (4g) fabric 48d modern ironstone, 19th-20th century.

(49) CRNF20. One base sherd (6g) of fabric 13 Early medieval sandy ware. 12th to early 13th century.

(84), CRNF29. One base sherd (8g) of fabric 13 Early medieval sandy ware. 12th to early 13th century.

(171) CRNF42. One handle fragment (28g) in fabric 40. Slight trace of glaze. Possibly 16th, more likely 17th-18th.

(24) CRNL6. Four sherds (44g) fabric 13 Early medieval sandy ware. One is a rim with slight external bead - probably B1b, late 11th century.
One unrecognised and unusual sherd (11g), with grooves or striations running up to rim almost at right angles to it. Grey sandy fabric. Roman or possibly medieval? (not a local fabric).

(39) CRNL6. Two body sherds (12g) of fabric 13 Early medieval sandy ware. 12th to early 13th century.

(47) CRNL6. One rim sherd (7g) of fabric 40 PMRE, from a cup? Probably 17th century.

(55) CRNL6. Four body sherds (24g) of fabric 13 Early medieval sandy ware. 12th to early 13th century.

(57) CRNL6. One sherd (10g) of fabric 13 Early medieval sandy ware. 12th to early 13th century.

(62) CRNL6. Two sherds (21g) of fabric 13 Early medieval sandy ware. 12th to early 13th century.

(63) CRNL6. One sherd (6g) fabric 21a Colchester-type ware, 15th-16th.
Two sherds (17g) of either fabric 13 or fabric 20. 12th-13th century.

(87) CRNL6. One sherd (7g) of fabric 13 Early medieval sandy ware. 12th to early 13th century.

(75) CRNL12. Rim sherd (6g) fabric 13 Early medieval sandy ware. Rim type B2a, late 12th century.

(165) unstratified. One body sherd fabric 40 (3g), 17th/18th century.

Comment on pottery

There are two points arising from a study of this small group. First, the pottery dates are in support of the provisional phasing of the post-medieval and modern features CRNF1, CRNF2, and CRNF8. Second, the overwhelming majority of the sherds from medieval robbing contexts or rubble spreads (CRNF20, CRNF29, CRNL6) are 12th-13th century in date, but there are two sherds (from CRNL6) which are 15th- to 16th century and probably 17th-century in date. At face value, this would place CRNL6 in the 17th century, unless these later sherds are to be regarded as intrusive.

Description of glass

(1) CRNF1. Very small fragment (1g) of green glass 17th- or 18th-century bottle which has become iridescent after breakage.

(6) CRNF8. Fragment (7g) of green glass 17th- or 18th-century bottle.

(84) CRNF29. Fragment of clear, blown glass vessel (2g). Medieval glass does not usually survive in this clear condition. I suspect this is an intrusive modern piece. 19th- or 20th-century?

(174) CRNF23. Rod of frosted glass (8g). Stem of a drinking glass, or a handle fragment? 19th- or 20th-century.

(4) unstratified. Omphalos base (457g) of green glass 17th- or 18th-century bottle.

Comment on glass

The glass is not inherently interesting - most of these pieces are post-medieval or modern in contexts of those periods. The one odd piece is the apparently modern glass in medieval robbing pit CRNF29. This must be intrusive.

The small finds, bulk metalwork and slag

by Nina Crummy

A. Funerary deposits

The funerary deposits are of very similar character to those recovered from other areas of the Garrison redevelopment, with the most frequently recovered objects from cremation burials and related early Roman funerary features being hobnails from footwear and nails from either burnt furniture or wood used to construct the pyre, although, apart from in the *bustum* CRNG8, they are generally not very numerous in these features. The range of finds from these early Roman features is shown in Table 3.3. Only two coins were found, one of Domitian from the pit with pyre debris CRNF49, and one of mid-late first century AD date from *bustum* CRNG8. The *bustum* also contained at least two distaffs and a wooden box used for personalia such as toiletries and clothing.

One inhumation, CRNG5, produced nailed footwear, as well as two coins and nails from a wooden coffin. The coins are very worn, but one dates to the mid-late second century *sestertius* and the other is third century.

The funerary deposits are catalogued in the appendix below.

Table 3.3 Circular Road North: small finds and bulk metalwork from funerary contexts other than inhumation G5. P…primary deposit; S…secondary deposit.

Feature no	Date from SF evidence	Nails (all P)	Hobnails (all P)	Box	Coin	Miscellaneous
G2	-	-	✓	-	-	-
G3	-	-	✓	-	-	-
G4	-	-	✓	-	-	-
G6	-	-	✓	-	-	-
G7	-	✓	-	-	-	-
G8	late 1st century	✓	✓	✓	✓	2 distaffs
G10	-	✓	-	-	-	-
G13	-	✓	-	-	-	iron sheet
G14	-	✓	✓	-	-	-
F49	Flavian+	✓	✓	-	✓ (S)	-

B. Objects associated with the circus

Three coins came from features associated with the robbing of the circus walls and central barrier. They range in date from the first half of the second century to the last third of the 4th century. An iron junction collar from a wooden water main supplying water to the circus is of typical Roman form, with a ridge on the external face against which the two sections of wooden pipe rested. Its diameter is close to that of the collars found on the water mains outside the Balkerne Gate (*CAR* **3**, 117).

A large fragment of undiagnostic slag from medieval robbing debris CRNL12 is probably residual Roman, and there is some possibility that such a solid and substantial piece was used in the construction of the circus. A number of iron nails came from the various contexts associated with the construction, use and medieval robbing of the circus (3.4), and three hobnails came from the robbing levels (Table 3.5).

Coins

SF 5. (45) CRNF17. Robber trench, for outer wall foundation of south cavea. Medieval. Copper-alloy dupondius, Faustina I, reverse Ceres S C. RIC (AP) 1124. Diameter 28 mm, weight 10.50 g. AD 139-41.
SF 3. (86) CRNF29. Robbing pit for foundation of meta? Medieval? Copper-alloy antoninianus, Gallienus, reverse Concor Aug (Concordia), Milan mint. RIC 471. Diameter 20 mm, weight 2.20 g. AD 260-8.
SF 4. (68) CRNL12. Robbing debris. Medieval. Copper-alloy coin. Valens, reverse Securitas Reipublicae, mint mark absent. Diameter 17 mm, weight 2.21 g. AD 364-78.

Other objects

SF 19. (128) CRNF38. Water main trench. Roman. Fragmentary and distorted water-pipe junction collar with a ridge in the centre of the external face. Diameter approximately 130 mm, width 30 mm.
SF 2. (140) CRNF5. Surface cleaning. Gully. Roman; probably formed part of spina. Copper-alloy four-hole countersunk button. Diameter 17 mm. Modern.
(90) CRNF29. Robbing pit for foundation of meta? Medieval. Two fragments of iron sheet. Two iron pipe fragments, one a rim. Diameter 70 mm, length 42 mm, b) 47 by 30 mm. Possibly modern.
SF 9. (48) CRNL6. Rubble spread over west end of spina. Medieval. Grey ware pottery counter, made from a body sherd of a large storage jar. The edge is worked smooth. Diameter 38 mm, width 17 mm.
SF 21. (36), CRNL6. Rubble spread over west end of spina. Medieval. Fragment of iron sheet. 54 by 39 mm.
SF 7. (74) CRNL12. Robbing debris. Medieval. Copper-alloy rectangular-section finger-ring decorated with a central groove. Diameter 20 mm, height 4 mm.
SF 22. (91) CRNL12. Robbing debris. Medieval. Abraded fragment of Mayen lava quernstone. Weight 191 g.
(107) CRNL12. Robbing debris. Medieval. Large fragment of iron slag. Weight 3.2 kg.

Table 3.4 Circular Road North: iron nails from contexts associated with the circus. Nails are incomplete unless stated otherwise. Small shank fragments may be from hobnails.

SF	Find	Feature/layer	Context description and date	Description/length (mm)
24	17	F5	gully, probably part of central barrier; Roman.	1 nail, incomplete; 17
-	97	F17	robber trench for outer wall foundation of south *cavea*; medieval	1 nail; 55
-	73	F26	robber trench for outer wall foundation of near turning post; medieval	4 nails, 2 complete; 71, 62, 70, 38
-	79	F26	robber trench for outer wall foundation of near turning post; medieval	2 nails, complete; 120, 66
-	120	F26	robber trench for outer wall foundation of near turning post; medieval	1 nail, complete; 80
-	116	F27	foundation of outer wall of near turning post; Roman	2 nails, 1 complete; 104, 73 1 shank fragment; 43
-	101	F29	large robbing pit, possibly for foundation of *meta(e)*; medieval	1 nail, complete; 94 1 shank fragment; 38
14	25	L6	rubble spread over near turning post; medieval	2 shank fragments; 18, 14
-	55	L6	rubble spread over near turning post; medieval	1 nail, complete; 31

-	65	L11	make-up; Roman	2 nails, complete; 99, 57
-	69	L12	robbing debris over near turning post; medieval	1 nail; 67
-	72	L12	robbing debris over near turning post; medieval	1 nail; 43 1 shank fragment, clenched; 34
-	114	L13	soil accumulation on surface of arena; Roman?	3 nails, complete; 79, 50, 49

Table 3.5 Circular Road North: iron hobnails from contexts associated with the circus.

SF	Find	Feature/layer	Context description and date	Number	Length (mm)
15	27	L6	rubble spread over near turning post; medieval	1	17
13	35	L6	rubble spread over near turning post; medieval	1	14
23	92	L12	robbing debris over near turning post; medieval	1	16

C. General site finds

A lamp fragment from Roman ditch CRNF44 may be a disturbed grave deposit. Two small fragments of undiagnostic iron slag and a piece of vitrified clay, the latter perhaps from an iron-working furnace, came from Roman ditch CRNF53. A small fragment of tap slag from post-medieval pit CRNF16 is probably residual from the medieval period. Several of the remaining items are modern or from modern contexts.

(51) CRNF16. Pit. Post-medieval. Fragment of iron tap slag. Weight 38 g.
SF 8. (54) CRNF23. Sand pit. Modern. Small copper-alloy rivet or boss. Length 9 mm.
SF 10. (95) CRNF23. Sand pit. Modern. Complete copper-alloy thimble with moulded rim and machine-made pits. Late post-medieval to modern.
SF 11. (96) CRNF23. Sand pit. Modern. Lead sheet offcut. 31 by 30 mm.
(171) CRNF42. Surface cleaning. Ditch. Roman. Iron nail shank fragment. Length 67 mm.
SF 40. (172) CRNF44. Ditch. Roman. Handle and a small part of the wall from a factory lamp in red ware. Second century. Diameter 27 mm.
(248) CRNF53. Ditch. Roman. Fragment of iron slag. Weight 69 g.
(251) CRNF53. Ditch. Roman. Fragment of vitrified clay with some iron staining. Weight 55 g.
(253) CRNF53. Ditch. Roman. Fragment of iron slag. Weight 45 g.
(284) CRNF53. Ditch. Roman. Incomplete iron nail. Length 22 mm.
SF 24. (164) CRNL19. Metalling. Roman. Copper-alloy shaft fragment. Length 15 mm.

The clay tobacco pipes

by Nina Crummy

Only plain stems were found; they cannot be closely dated.

(2) CRNF2. Ditch. Post-medieval. Plain stem fragment. Length 33 mm, bore diameter 2.5 mm.
(3) CRNF2. Ditch. Post-medieval. Two plain stem fragments. a) Length 40 mm, bore diameter 2.5 mm. b) Length 33 mm, bore diameter 2.5 mm.
(53) CRNF23. Sand pit. Modern. Two plain stem fragments. a) Length 85 mm, bore diameter 2 mm. b) Length 27 mm, bore diameter 2.5 mm.

The human bone

by Francesca Boghi

Introduction

Cremated human skeletal remains from twenty-one features and inhumated skeletal material from one feature were received for analysis. All contexts were provisionally dated to the Roman period with the exception of CRNF23, a large post-medieval/modern quarry pit containing a redeposited Roman cremation burial.

The cremated skeletal remains

The cremated material derives from twenty-one features containing a total of 4,796g of cremated bone. The cremated bone derived from four urned cremation burials (CRNG9, CRNG12, CRNG13, CRNG15), one ?urned cremation burial redeposited in a quarry pit (CRNF23), one unurned cremation burial (CRNG4), one *bustum* (CRNG8), one pyre site/pit with pyre debris (CRNG14), five unurned cremation burials/ pits with pyre debris (CRNG1, CRNG2, CRNG3, CRNG6 and CRNF35), four pits with pyre debris (CRNG7, CRNG10, CRNG17 and CRNF49), two ditches (CRNF21 and CRNF53), and two inhumation burials containing redeposited cremated bone (CRNG5 and CRNG16).

Methodology

The analysis of the cremated bone followed the guidelines drafted by McKinley (2004). The cremated bone was first analysed to determine whether it was human or non-human. The total weight of each assemblage was taken and then animal bone and inclusions were separated. The human bone was then dry-sieved through a stack of sieves with 10mm, 5mm and 2mm mesh sizes to maximise bone recovery and assess the degree of fragmentation. The identifiable bone fragments were divided into four skeletal areas – skull, axial skeleton, upper limb and lower limb – for further analysis. A description of each feature is given in 'Archival data' below (Context descriptions). A summary of the basic characteristics of each feature, data on colour, degree of fragmentation, bone identification, age and sex determination and pathological conditions is available in the same place.

Results and discussion

All the features were found to contain cremated human bone. The sample comprised 9 medium (100-999g) and 12 small (0-99g) assemblages. The quantity of cremated bone per feature varied considerably from 1g to 870g with an average weight of 228.1g (3.6).

Table 3.6 Bone fragmentation.

	10mm (%)	5mm (%)	2mm (%)	Residue (%)	Max. fragment size (mm)	Total weight(g)
COUNT	*21*	*21*	*21*	*21*	*21*	*21*
MIN	0	0	0	0	13	1
MAX	100	79	33	6	81	870
AVG	50.4	37.4	6.8	0.6	35.4	228.1
StDev	30.1	23.8	8.5	1.4	18.9	293.2

The amount of bone in ten features (47.6%) was below the lower end of the size range (57 – 3000g) for archaeological cremations (McKinley 2000, 408-409) and therefore very incomplete in comparison to that of a modern cremation (1000–3600g) (McKinley 2000, 404). The size of a cremation depends on the individual (age, sex, body size, bone density), the extent of bone recovery from the pyre site and during excavation, as well as on the rate of bone preservation (McKinley 1993, 285).

The amount of bone varied widely amongst the features and was not always consistent with the type of context. Similar amounts of bone were found in the four urned cremation burials with respect to unurned cremation burial CRNG4 even though urned cremations are generally larger that those in pits. More bone than expected was found in ditch CRNF53 and in inhumation burial CRNG16, although these may both contain the remains of more than one individual. Less bone than expected was recovered from *bustum* CRNG8, as *busta* generally represent complete burials (McKinley 1998, 19) (Table 3.7).

Table 3.7 Bone weight according to feature type.

Feature type	Feature number	Count (n.)	Min weight (g)	Max weight (g)	Avg weight (g)	St dev
Urned cremation burial	G9, G12, G13, G15	4	79	800	393.75	301.3
?Urned cremation burial redeposited in quarry pit	F23	1	71	71	71	-
Unurned cremation burial	G4	1	373	373	373	-
Bustum	G8	1	433	433	433	-
Pyre site/pyre debris pit	G14	1	42	42	42	-
Unurnedcremation burial/pyre debris pit	G1, G2, G3, G6, F35	5	6	455	96.8	200.2
Pyre debris pit	G7, G10, G17, F49	4	1	148	41.25	71.4
Ditch	F21, F53	2	1	781	391	551.5
Inhumation burial	G16, G5	2	1	870	435.5	614.5

The average maximum fragment size (35.4mm) was medium and ranged from 13mm to 81mm. The average fragment size was large in about 50% of the assemblage and medium or small in the rest of the assemblage, complying with an average of 50% of bone fragments over 10mm in archaeological cremations (McKinley 1994, 340).

The human bone in all of the features was fully cremated and exhibited a predominantly buff white colour, which indicates that the full oxidisation of the bone occurred and that the temperature of the cremation was probably in excess of 600° in all of the features (Shipman *et al* 1984). A small proportion (5-10%) of bone in most features exhibited signs of proportionately less exposure to heat in many shielded anatomical areas and reflects the typical pattern of burning on the bones of a skeleton. A relatively lesser exposure to heat was noticed in the lower limbs of CRNG12 and in the skull bones of CRNG4. The bone in all of the features also showed the typical pattern of fissuring, cracking and warping which occurs during the cremation of fleshed bodies cremated soon after death.

It was possible to identify some skeletal elements in 17 features (81%). Fragments were considered identifiable when they could be attributed to a specific bone element rather than to a generic skeletal area. Identifiable bone was separated, quantified and classified into four skeletal areas: skull, axial skeleton, upper limb and lower limbs. On average a smaller than expected percentage of bone fragments could be identified (18.4%). This figure reflects the medium-small average fragment size and falls short of the expected range (20-50%) of an archaeological cremation that is normally identifiable (McKinley 1989, 68). A slightly higher rate of identifiable fragments was found in the bigger assemblages (>100g) (22.5%) in comparison to the smaller (<100g) ones (15.4%). A slightly higher rate of identifiable fragments was found in those assemblages that had a higher rate (>50%) of fragments above 10mm (20.6%) in comparison with more finely fragmented assemblages (i.e. < 50% of fragments above 10mm) (17.5%). With respect to the relative representation of skeletal areas, elements from the lower limbs were best represented in eight features, followed by the skull in four other features. The axial skeleton and upper limb fragments were the least represented. The recovery in antiquity of cremated remains from the pyre sites appears to have been reasonably meticulous in eight features (38%) as bone elements from all four skeletal areas were identified. The relative representation of skeletal elements in this assemblage reflects the ease of identification of skull and lower limb elements and preservation factors. No indication of a bias in the collection of skeletal elements was found.

The pit containing pyre debris CRNG10 contained skeletal material from at least two individuals. These remains probably represent the residues from the clearance of a pyre site used for more than one individual. The bone analysis from CRNF53 and CRNG16 indicated the presence of a minimum of one individual as no elements were duplicated or showed a discrepancy in age at death. However the remains of several poorly preserved individuals could be represented, as the bone was derived from a large spread of pyre debris.

Table 3.8 Cremated remains in CRNG10.

Feature	Adult	Juvenile	MNI
CRNG10	Elements of upper limbs	1 rib fragment	1 adult and 1 juvenile

Evidence for bone deposition in anatomical order was searched for in three features that were excavated in spits or squares. The evidence for deposition in anatomical order was inconclusive in one feature (CRNG13) and a mixed deposition was observed in CRNG9 and CRNG8.

The estimation of precise age at death was difficult as most ageing features were unavailable. Two individuals from CRNG7 and CRNG9 were classified as possible young adults on the basis of the rate of cranial suture closure, though not all the necessary scoring landmarks were present. Five individuals were classified as probably adults (adult?), on the basis of bone size and thickness, as all epiphyses were missing. The remaining individuals were adults (> 20 years). A single fragment on bone from a juvenile (< 20 years) was found in CRNG10.

The morphological criteria for sex determination in skeletal material as in Buikstra and Ubelaker (1994) were generally unavailable in this sample and most of the metric criteria for sexing cremated material devised by Gejvall (1969) were either absent or insufficiently complete. As a result all of the adult individuals in this sample were classified as of uncertain sex.

Very few pathological changes were observed in this sample, probably due to the high degree of fragmentation and generally medium-small size of the assemblages. These consisted of non-specific infection of the lower limbs (periostitis). This is a very common condition, frequently affecting the lower limbs, which can occur secondary to soft tissue lesions with bacterial infection, repeated minor trauma, leg ulcers, varicose veins or through blood-stream spread (Roberts and Manchester 1995, 126-131). A detailed description of the pathological changes is given in Appendix 3.2.

Animal bone was included in seven features (33.3%). This consisted of mammal remains including cattle, sheep/goat and pig as well as one fragment of bird bone (goose). The amount of bone included ranged between <1g and 30g (CRNG9). The presence of animal bone may indicate that part or whole animal carcasses had been placed on the pyre with the deceased as pyre goods, and were selected later for inclusion in the grave. The very small quantities recovered in some instances could perhaps be accidental inclusions from the pyre site. The animal bone was fully oxidized in all instances apart from that within CRNG9. The incomplete oxidisation of the animal bone in this assemblage may indicate that the animal remains had been placed on the pyre after the human remains or at the edges of the pyre, though it may just reflect differences in body size. Cremation burials commonly contain cremated animal bone in progressively increasing quantities from the Bronze Age to the Anglo-Saxon period (McKinley 2000, 416). Animal remains generally represent pyre goods, food, amulets, pets, indicators of status, or remnants of funeral feasts (*ibid*). Green staining from contact with copper-alloy objects was noted on the long bones of CRNG8. Residues of pyre debris (charcoal) were found in CRNG1.

Summary and conclusion

Twenty-one features including four urned cremation burials (CRNG9, CRNG12, CRNG13, CRNG15), one ?urned cremation burial redeposited in a quarry pit (CRNF23), one unurned cremation burial (CRNG4), one *bustum* (CRNG8), one pyre site/pit with pyre debris (CRNG14), five unurned cremation burials/pits with pyre debris (CRNG1, CRNG2, CRNG3, CRNG6 and CRNF35), four pits with pyre debris (CRNG7, CRNG10, CRNG17 and CRNF49), two ditches (CRNF21 and CRNF53) and two inhumation burials with redeposited cremated bone (CRNG5 and CRNG16) were recovered from Circular Road North, Colchester. These contained a total of 4796g of cremated human bone. The sample comprised 9 medium and 12 small assemblages, containing an average of 228.1g of bone, though the amount of bone in 47.6% of the features was low in comparison with an archaeological cremation burial. All contexts were provisionally dated to the Roman period with the exception of CRNF23, a large post-medieval/modern quarry pit containing a redeposited cremation burial.

The amount of bone varied widely amongst the features and was not always consistent with the type of context. The average fragment size was large in about 50% of the assemblage and medium or small in the

rest of the assemblage. The bone in all of the features was fully cremated. A relatively small percentage of fragments could be identified as a result of the large percentage of medium-small average fragment size.

The collection of the cremated remains at the pyre site appears to have been reasonably meticulous in at least eight features (38%), as bone elements from all four skeletal areas were identified. One probably accidental multiple burial was identified. This was feature CRNG10, a pit containing pyre debris which contained the remains of one adult individual and one juvenile. The remains probably represent the residues from the clearance of a pyre site used for more than one individual. No evidence of deposition in anatomical order was found in the two features that were excavated in spits or in the bustum (CRNG8) which was excavated in squares.

The analysis of age at death revealed one juvenile and two possible young adults. Five individuals were classified as probably adult on the basis of bone size and thickness, as all epiphyses were missing. The remaining individuals were adults. Gender was uncertain in all of the adult individuals in this group. Very few pathological changes were observed in this sample, probably reflecting the small fragment size and small assemblage size.

Fully oxidised animal bone was included in six features, incompletely oxidised animal bone in one other; green staining from contact with copper-alloy objects was found in one feature and pyre debris in another context.

The unburnt human skeletal remains

A total of 277g of unburnt human skeletal remains from one feature was received for analysis. The material derived from one inhumation burial (CRNG16), provisionally dated to the Roman period. A description of this feature is given in 'Archival data' below (Context descriptions). All the collected data is given here in the same place.

Methodology

The sample was analysed according to the *Standards for data collection from human skeletal remains* (Buikstra and Ubelaker, 1994) and incorporates suggestions from the *Guidelines to the standards for recording of human remains*, (Brickley, M and McKinley, J I, 2004). The report follows the English Heritage guidelines on the preparation of analytical reports (Mays, Brickley and Dodwell, 2002).

Results and discussion

Skeleton CRNG16 was an incomplete inhumation (<25% bone elements) formed by severely abraded and fragmentary bone. The skeleton is that of an adolescent individual (15-20 years old) and included elements of skull, dentition and upper limbs. The recorded pathologies include metabolic disease (enamel hypoplasia) and dental disease (calculus).

CRNG16 had depositions of calculus or calcified plaque on the teeth, a condition associated with levels of dental hygiene. Enamel hypoplasia consists of defects such as linear grooves and pits in dental enamel. These defects represent a disruption in the enamel formation as a consequence of episodes of stress including fever, starvation, congenital infection and low birth weight, occurring when the tooth was forming (Lewis 2000, 46).

Summary and conclusion

The sample accounted for one feature containing unburnt human bone. The low rate of skeletal completeness of this skeleton and its general poor preservation precluded most metric and non-metric analysis and also impacted on the rate of pathological conditions that could be observed.

Acknowledgement

Thanks to Julie Curl (NAU Archaeology) for the identification of the animal bone.

The faunal remains

by Julie Curl, NAU Archaeology.

Introduction

A total of 1.530kg of faunal remains was recovered from excavations at Circular Road North, Colchester. The remains included a range of waste from domestic food mammals, equid and a butchered hare.

Methodology

All of the bone was examined to determine the range of species and the faunal elements present, and the amount of material that could produce measurable, ageable bone. Bone was scanned to determine if evidence of bone-, horn- or antler-working was present in the assemblage. Butchering and any indications of skinning, horn-working and other modifications were recorded. Where possible, a record was made of ages and any other relevant information, such as pathologies. Counts and weights were taken and recorded for each context and counts were taken for the number of bones for each species identified. Due to the small size of the assemblage, measurements were not taken as there would have been too few data for any meaningful interpretation. All information was input directly into an Excel spreadsheet for analysis. The analysis was carried out following a modified version of guidelines by English Heritage (Davis 1992). A catalogue of the assemblage is included as a table with this report (Table 3.9).

The assemblage – discussion and conclusions

The faunal assemblage was recovered from twenty-eight contexts, the remains totalled 1.530kg and consisted of 216 pieces. The contexts include Roman gully fills and rubble spreads, medieval robber trenches and spreads of robbing debris, and post-medieval ditch fills. The remains were generally in good condition, although were fragmentary due to butchering and wear. Canid gnawing was seen on one equid bone from CRNF26 that suggests some scavenger or domestic dog activity.

The assemblage is derived from primary and secondary butchering waste. Cattle, sheep/goat and pig remains were found in all periods. A very small cattle metacarpal was noted in the medieval robbing debris CRNL12 (72), which could be attributed to the small Dexter species. It is interesting to note that there are a relatively high number of juvenile cattle remains, which could possibly suggest cattle kept for meat use and culled early in their life for quality meat. Waste from some good quality cuts of meat was noted in Roman gully fill CRNF14 (31) in the form of a filleted pig scapula and butchered humerus.

Equid bone was recovered from two medieval fills; the remains in CRNL8 (52) showed some pathology on a phalange that is likely to be arthritis.

A butchered hare tibia was found in the medieval rubble spread CRNL6 (57), the only remains of a wild species in this assemblage.

Table 3.9 Catalogue of the faunal remains from Circular Road North, Colchester (2007.1), listed by context.

F/l no	Finds	Type	Date	Total qty	Wt (kg)	Species	Spp. qty	Age	Butchering	Comments
F2	3	ditch	post-med	1	0.003	mammal	1			
F5	10	gully	Roman	1	0.011	pig	1	adult	cut/ chopped	calcaeneus

F9	5	ditch	post-med	1	0.001	mammal	1			
F14	29	gully	Roman	21	0.297	cattle	6	range	cut/ chopped	scapula fragments, unfused tibia fragments
F14	29	gully	Roman			mammal	12			
F14	29	gully	Roman			pig	3	juv		mandible, Dp4 in full wear
F14	30	gully	Roman	5	0.013	mammal	5			small fragments
F14	31	gully	Roman	5	0.048	cattle	1	adult	chopped	metatarsal, proximal end
F14	31	gully	Roman			mammal	2			
F14	31	gully	Roman			pig	2		butchered	scapula - chopped/cut/filleted, humerus
F14	34	gully	Roman	4	0.057	cattle	3	juv	butchered	femur, teeth
F14	34	gully	Roman			mammal	1			
F17	98	robber trench	medieval	1	0.026	mammal	1			
F20	49	rubble	medieval	1	0.002	sheep/ goat	1		chopped	small fragment of metatarsal
F21	66	ditch	Roman	2	0.031	mammal	2			large mammal fragments
F23	53	sand pit	modern	3	0.026	cattle	1	adult		molar
F23	53	sand pit	modern			mammal	2			
F24	50	rubble	Roman	3	0.022	cattle	1	adult	chopped	phalange
F24	50	rubble	Roman			mammal	1			
F24	50	rubble	Roman			sheep/ goat	1	adult	chopped	metatarsal
F26	79	robber trench	medieval	1	0.037	equid	1	adult		intermediate phalange, some canid gnawing
F29	93	large pit	medieval	2	0.014	mammal	2			
F29	101	large pit	medieval	9	0.184	cattle	2	adult	cut/ chopped	pelvis, tibia
F29	101	large pit	medieval			mammal	7			small fragments
F53	254	road ditch	Roman	3	0.017	cattle	2	juv		molars
F53	254	road ditch	Roman			mammal	1			
L6	24	rubble	medieval	15	0.061	cattle	2	juv		unfused vertebrae, molar
L6	24	rubble	medieval			mammal	13			small fragments
L6	44	rubble	medieval	3	0.002	mammal	3			small fragments
L6	47	rubble	medieval	13	0.083	cattle	2	juv	butchered	vertebrae and humerus fragments
L6	47	rubble	medieval			mammal	10			small fragments
L6	47	rubble	medieval			sheep/ goat	1	adult		metacarpal fragment
L6	55	rubble	medieval	2	0.007	mammal	2			
L6	57	rubble	medieval			hare	1		chopped	tibia
L6	57	rubble	medieval			mammal	2			
L6	57	rubble	medieval	6	0.039	sheep/ goat	3	adult	butchered	sheep horn fragment, molar, femur
L6	125	rubble	medieval	10	0.169	cattle	7	adult	chopped	metacarpal in pieces, proximal metatarsal
L6	125	rubble	medieval			mammal	3			probably fragments of cattle metapodial
L6	125	rubble	medieval	90	0.095	cattle	5	adult		molars
L6	125	rubble	medieval			mammal	85			very small fragments, poor condition, porous surfaces
L8	52	rubble	medieval	3	0.106	equid	3	adult	?butchered	radius, proximal phalange, fragment with pathology
L12	69	robbing debris	medieval	4	0.095	cattle	4	adult	butchered	metatarsal and rib fragments

L12	72	robbing debris	medieval	1	0.052	cattle	1	adult		very small metacarpal, Dexter-type
L12	87	robbing debris	medieval	1	0.004	mammal	1			
L12	92	robbing debris	medieval	2	0.003	mammal	2			small fragments
u/s	32			3	0.025	mammal	3			

The Roman vessel glass

by H E M Cool

Roman vessel glass was recovered from three contexts. The majority (nos 1-27) came from the *bustum* CRNG8, two items came from CRNG14 and a single body fragment from CRNL6. The glass fragments from CRNG8 and CRNG14 are listed in the catalogue of burials in the appendix below. Catalogue numbers are shown in square brackets. Two small glass fragments, which were recovered during the processing of a sample from CRNF23 (163), are almost certainly modern and will not be discussed further here.

CRNG8

The recognisable forms from this feature were unguent bottles. Nos. 2 and 8 (CRNG8.13) came from the variety with a tubular body and nos. 3 and 4 (CRNG8.14; illustrated in the burial catalogue below) from that with a small conical body (Price & Cottam 1998, 169 and 172 respectively). The rim and neck fragment no. 1 could have come from either type. Tubular unguent bottles were commonest in the mid first century going out of use during the Flavian period. The form with a small conical body is not so common but appears to have been mainly in use during the later 1st to earlier 2nd century. A third element that contributes to the dating is the presence of colourless glass in the form of both body fragments (nos 6 and 7) and a melted lump (no. 26) (CRNG8.15). Colourless glass starts to come into fashion in the 60s as was demonstrated by earlier excavations at Colchester. It was extremely rare in the Boudican destruction deposits and not present in earlier ones (*CAR* **8**, table 1.4). It does not really become common until the end of the first century (see for example Cool *et al* 1995, table 126). The combination of the two different types of unguent bottle could occur in the 70s or 80s. The presence of the colourless glass indicates that a date later rather than earlier in that period is most likely.

The glass ranges in condition from entirely molten and incorporating fragments of charcoal and cremated bone (e.g. nos 13, 17, 19 and 21) to pieces that show no effects of heat at all (eg nos 1-7). There are also a few pieces that show slight heat deformation (nos 9-11) but nothing approaching the completely melted state of some of the other fragments and lumps. It is of some interest to note that glass in all three states is recorded from square VIII and that both unburnt and completely molten glass comes from square V. Both of these squares might be thought of as being at the heart of the pyre so the differential burning cannot be accounted for the vessels being on different parts of it. A more plausible explanation might be that the vessels were used at different stages of the cremation ritual. The completely melted material might be vessels that were placed on the pyre at the outset. The ones that showed slight signs of melting may have been thrown on the pyre later, and the unburnt ones might have been associated with the ceremonies that followed the dying down of the flames. It is noticeable that nos 1 and 3 which are both unburnt and which consist of substantial parts of the vessel were found on the interface between the upper and lower fills, a position that would fit this interpretation. Given this is a *bustum,* the unburnt elements are possibly to be equated with the unburnt unguent bottles that sometimes accompany formal urned burials.

The melted glass has been recovered in various states which include both vesicular fragments and rounded glossy spheres and ovoids. Rounded fragments like that are a shape that results when molten glass has been cooled suddenly by liquids. Similar globules are, for example, found at glass-working sites where they can be interpreted as the molten glass from the end of blowing irons plunged into buckets of water (see for example Ellis and White 2006, colour plate 18). In the ancient sources there are references to wine being poured over the ashes when the body had been burnt (Toynbee 1971, 50). In the light of this, the distribution of the rounded fragments is of great interest. Examples were found in squares I, VII, X, XI and IX, i.e. the

squares around the edge of the feature, precisely where one might expect poured libations to have taken place.

Unguent bottles and slightly larger flasks have been found regularly in 1st-century burials at Colchester both as burnt pyre goods and unburnt grave goods placed with the bones in a formal burial. Other types of glass vessels are much less common, and it is clear that the primary role of the glass was as a container for the oils and perfumes used in the preparation of the corpse and for the scenting the pyre and anointing the bones when placed in an urn. Against this background the presence of the colourless glass stands out as unusual. At this period, it was used for tablewares rather than containers and, so whatever the vessel form the fragments came from, it cannot have been performing the normal role that glass did in the funeral ritual. A *bustum* from Handford House (F47) also contained a very small fragment of melted colourless glass, and there it was unclear if this was a chance inclusion or not. Here the melted fragment is again very small, but the unburnt colourless fragments (nos 6-7) do seem to argue for colourless glass vessel playing a role in the pyre rituals.

Altogether this was a richly-furnished pyre judged by the glass vessels. If the unburnt fragments are excluded as possibly coming from vessels that had roles akin to the grave goods placed with formal burials, then there was just over 90g of blue/green glass. The weight is slightly inflated because some of the fragments contain scraps of charcoal, bone, burnt soil etc, but this would be sufficient for several unguent bottles. Small tubular unguent bottles often only weigh about 10g and even the large example here (no. 28, CRNG14) would have weighed less than about 35g when complete. With vessels such as these, it always has to be remembered that they are just packaging, and that it was the contents that were most important, and probably considerably more expensive.

CRNG14

No 28 is certainly from a mid 1st-century tubular unguent bottle of the type discussed above, and no. 29 may have come from a similar vessel. The latter is unburnt whilst the former is collapsed but still recognisable so it must either have been on the edge of a pyre or placed onto it after the burning had commenced as suggested for some of the fragments in CRNG8.

The presence of tubular unguent bottles indicates a date of AD 75-85 at the latest.

CRNL6

Prismatic bottles of the type which no. 30 came from were common from the later 1st century into the 3rd century (Price and Cottam 1998, 194-202).

30 *Prismatic bottle. Blue/green. Body fragment. (47).*

The worked flint

by Hazel Martingell

A total of 13 worked flints was recovered from the excavations in Circular Road North (2007.1). They consist of nine chippings, three flakes and 1 bladelet fragment. None of these were retouched, but the flake from CRNF53 has the criteria for a later prehistoric artefact.

The chippings from CRNG4 and CRNG6 would appear to be the waste from trimming artefacts. Their condition, slightly patinated and glossy, suggests they are Palaeolithic in date and it is probable that they were in the gravels before the features were dug into them (R Jacobi pers comm).

The flints were all recovered from Roman contexts, with the exception of (234) from the subsoil CRNL4, which contained both Roman and post-Roman finds.

Catalogue

(252) CRNF53. 1 flake, tertiary, sharp, platform widest part, oblique angled platform to ventral surface
(89) CRNG4. 3 chippings
(110) CRNG6. 6 chippings, waste from trimming artefacts
(186) CRNG8. 1 bladelet fragment, secondary
(279) CRNG17. 1 flake, secondary, sharp
(234) CRNL4. 1 flake, secondary, burnt, proximal part

Totals
1 bladelet, 3 flakes, 9 chippings (total 13 pieces)

The environmental report

by Val Fryer

Introduction and method statement

Excavations in advance of drainage works along Circular Road North, Colchester, were undertaken by the Colchester Archaeological Trust as part of the Garrison Urban Village project. The work revealed burials, a *bustum* and other discrete features of Roman date, and the charcoal-rich fills from these were retained for plant macrofossil analysis. As assemblages from similar features excavated at an earlier stage of the project contained little other than charcoal/charred wood, an evaluation of approximately 5kg from a small number of fills was initially undertaken to assess their potential before total processing was undertaken. This included two samples from the *bustum* (CRNG8) and a sample from each of two pits containing pyre debris (CRNG1 and CRNF35). Subsequently only the samples from the *bustum* were processed in full. The feature was excavated in a grid (squares I – XII) and samples for the retrieval of the plant macrofossil assemblages were taken from each square. This report includes the results from all the samples from CRNG8 and from one sample each from CRNG1 and CRNF35.

The samples were processed by the Colchester Archaeological Trust using a standard manual water flotation/washover technique and the flots collected in a 500 micron mesh sieve. The dried flots were scanned under a binocular microscope at magnifications up to x 16 and the plant macrofossils and other remains noted are listed in Table 3.10. Nomenclature within the table follows Stace (1997). All plant remains were charred. Modern fibrous and woody roots were present throughout.

Results

None of the assemblages were particularly large (most being <0.1 litres in volume) and all were principally composed of charcoal/charred wood fragments. It is perhaps of note that a high density of the charcoal within squares IX and XI of *bustum* CRNG8 had a very flaked appearance, possibly as a result of combustion at very high temperatures.

Seeds/fruits of grassland herbs and heathland shrubs were recorded at a low to moderate density from CRNG1 and CRNG8. The assemblages from squares IV, V, VII, VIII and X of *bustum* CRNG8 contained moderate densities of small pulses (Fabaceae) and occasional fragments of large legumes, probably of pea/bean type. None of these retained an intact testa or hilum, although the size and lentoid section of the small pulses most closely resembled seeds of meadow vetchling (*Lathyrus pratensis*). Some specimens from square VII had a distinct elliptical profile, which may identify them as gorse (*Ulex europaeus*). This is significant as gorse seeds were noted within a number of cremation deposits from the Handford House cemetery further north (CAT Report 323). A single possible cereal grain fragment was also recovered from square IV.

Other materials were relatively scarce within the assemblages. Minute bone fragments, most of which were burnt, were present within most of the assemblages. The fragments of black porous and tarry material

were possible residues of the combustion of organic remains (including body tissue) at very high temperatures. Small coal fragments were noted within some of the assemblages although it is not clear whether these were contemporary or later contaminants.

Conclusions

In summary, as with other *busta* studied within the Colchester area, it would appear that wood/charcoal were the principal fuels used for the cremation. Dried grasses and meadow herbs (including the vetchling) may also have been used as kindling or fuel, along with other dried plant remains including the large pulses. No evidence survives for the deliberate deposition of food offerings to the deceased within the pyre.

Table 3.10.

Key to table

x = 1 – 10 specimens xx = 10 – 50 specimens xxx = 50 – 100 specimens xxxx = 100+ specimens
cf = compare coty = cotyledon fg = fragment b = burnt

Feature no.	CRNG8	CRNG8	CRNG8	CRNG8	CRNG8	CRNG8	CRNG8	CRNG8	CRNG8	CRNG8	CRNG8	CRNG8	CRNG1	CRNF35
Square no.	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	--	--
Context no.	238	242	231	259	239	229	261	240	228	264	269	230	20	123
Context type	Bustum	Bustum	Bustum	Bustum	Bustum	Bustum	Bustum	Bustum	Bustum	Bustum	Bustum	Bustum	Pit	Pit
Plant macrofossils														
Cereal indet. (grain)				xcf										
Lathyrus pratensis L.							xcf							
Fabaceae indet.				x	xcoty		xxx	xx		xx	x			
Large Fabaceae indet.					xcfcotyfg		xcotyfg	xcotyfg		xcotyfg				
Fallopia convolvulus (L.)A.Love											x			
Medicago/Trifolium/Lotus sp.							x							
Polygonum aviculare L.													xcf	
Rumex sp.													x	
Ulex europaeus L.							xcf							
Charcoal <2mm	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx
Charcoal >2mm	xxxx	xxxx	xxx	xxxx		xxx	xxx	xx	xxxx	xxx	xxxx	xxxx	xxx	xx
Charcoal >5mm		x										x		
Charred root/stem							x						x	
Indet.tuber			x				x							
Other materials														
Black porous 'cokey' material		x		x		x	x		x	x			x	x
Black tarry material	x			x	x	xx	x	x	x				x	
Bone				x	x xb	x xb	x xxb	x xb	xb	xb	x xb	x xb	x xb	xb
Burnt/fired clay		x			x	xx								x
Burnt soil concretions						x	x							
Burnt stone						x								
Ferrous globule							x							
Fish bone		x												
Cuprous residues							x							
Small coal frags.		x	x		x	x	x		x				x	x
Vitrified material							x							
Sample weight (kg)	5.5kg	8kg	9.5kg	7kg	7.5kg	5.5kg	18kg	8kg	7kg	9kg	15kg	9.5kg	5kg	5kg
Volume of flot (litres)	<0.1	0.1	0.4	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	0.1	0.2	0.2	0.1	0.2
% flot sorted	100%	100%	25%	100%	100%	100%	100%	100%	100%	100%	50%	50%	100%	100%

Archive deposition

The archive from the Circular Road North excavation, including the site records, photographs and finds, will be permanently deposited with Colchester and Ipswich Museums under accession code COLEM 2007.1.

Acknowledgements

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Appendix 3.1: catalogue of Roman burials and related features from Circular Road North

Human bone age class categories:
ADULT? = probably adult; ADULT = > 20 years; YOUNG ADULT (20-35 years); MIDDLE ADULT (35-50 years); MIDDLE/OLD ADULT (> 35 years); OLD ADULT (> 50 years); JUVENILE (< 20 years).

CRNG1: pit with pyre debris
Description: A small circular pit, 0.48m in diameter and 0.25m deep, had a charcoal-rich fill in which was scattered a quantity of cremated human bone and some burnt animal bone. A low density of charred macrofossils from grassland herbs was recovered from an environmental sample (see environmental report above) and was possibly derived from kindling or fuel used on the pyre.
Cremated human bone: A total of 455g was recovered from an adult of indeterminate sex.
Date: Roman
Located within arena of Roman circus
Burnt animal bone: <1g (mammal and goose).

CRNG2: pit with pyre debris
Description: A truncated small oval pit, 0.45m long and 0.08m deep, had a charcoal-rich fill in which were scattered small quantities of cremated human bone, potsherds, hobnails and burnt animal bone.
Cremated human bone: A total of 6g was recovered from an adult of indeterminate sex.
Burial goods: Potsherds and hobnails were recovered from the retained pitfill.
Residual find: prehistoric sherd
Date: Roman
Pottery:
Pottery sherds: (CRN77), Fabric GX, 2 joining sherds from a jar or bowl base, 8 g, Roman.
(CRN80), Fabric GX, 1 sherd, abraded, 1 g, Roman.
*Other objects**:***
Iron hobnails: SF 45 (CRN80), iron hobnail, length 14 mm. (CRN80), two iron hobnails, lengths 12 and 11 mm.
Burnt animal bone: <1g (mammal, vertebra fragment).

CRNG3: pit with pyre debris
Description: A truncated small oval pit, 0.4m long and 0.05m deep, had a charcoal-rich fill in which was scattered a small quantity of cremated human bone, a potsherd and several hobnails.
Cremated human bone: A total of 6g was recovered from an adult of indeterminate sex.
Burial goods: The potsherd and hobnails were recovered from the retained pitfill.
Date: early 2nd to mid-late 3rd century or later
Pottery:
Pottery sherd: (CRN76), Fabric CZ, 1 sherd, abraded, 1 g, early 2nd to mid-late 3rd century.
*Other objects**:***
Iron hobnails: SF 46 (CRN76), three iron hobnails and one hobnail head, lengths 17, 16 and 14 mm.

CRNG4: unurned cremation burial
Description: A small oval pit, 0.45m across and 0.3m deep, extended into the south section. The cremated human bone as well as a small quantity of burnt animal bone was concentrated in a thin band in the fill at a depth of approximately 0.15m.
Cremated human bone: A total of 373g was recovered from an adult of indeterminate sex. Evidence of a non-specific infection (periostitis) was identified on the bone.

Burial goods: A small beaker/jar (CRNG4.1) had been placed in the north-west corner of the pit just above the level of the bone. Several potsherds, an iron hobnail and an iron nail were recovered from the retained pitfill.
Residual finds: several flint waste flakes.
Date: early-mid 3rd to 4th century
Pottery:
CRNG4.1 Whole miniature jar (CRN88). Illustrated. Fabric GX, slight damage to rim and shoulder in the form of a small chip and crack on one side, but this is not deliberate damage to the pot, slightly abraded on one side and possibly ?scorched, but not clear, 147 g, dated Roman.
Other pottery sherds: (CRN82), Fabric GX, 1 sherd, 2 g, Roman.
(CRN83), Fabric GA, Cam 279C, rim sherd, 7 g, early-mid 3rd to 4th century.
(CRN88), Fabric GX, 1 sherd, Roman.
Other objects:
SF 43 (CRN81), a) iron hobnail, length 18 mm; b) iron nail, length 17 mm.
Burnt animal bone: <1g (mammal, pig's humerus and unidentified).

CRNG5: inhumation burial within ring ditch CRNF31
Description: The burial was aligned east-west, probably with the head to the west, and was set within a ring-ditch (CRNF31). The grave was 2.4m long at the top and appeared rectangular in plan, although it tapered slightly, from a width of 1.5m at the east end to 1.2m at the west. It was unusually deep and was appreciably narrower at the bottom than the top. The bottom of the grave-cut was 1.95m below the machined level (ie the top of natural sand CRNL5). At Butt Road most inhumations were between 0.5 and 0.7m deep (*CAR* **9,** 34). The remains of a nailed timber coffin were found at a depth of 1.75-1.95m. The coffin stain was well-defined, especially along the sides and on the bottom, and was 1.75m long and up to 0.5m wide. Some 20 coffin nails were recovered, mostly from either end of the coffin. A thin clayey lens was observed on the bottom of the grave below the coffin, notably over the western part of the grave. A thin patch of greyish-brown fill with charcoal flecks, approximately 0.3m across, lay on the bottom of the grave in the north-east corner of the grave, outside the coffin. A small quantity of cremated bone was recovered from this patch, which was perhaps redeposited from a cremation burial or related feature disturbed during the digging of the grave.
Inhumated human bone: No unburnt human bone was recovered. A slight discolouration was observed in the fill near the western end of the coffin in the area where teeth fragments might be expected. A soil sample was taken from this area but no bone fragments were identified within it.
Burial goods: A jar (CRNG5.1) had been placed at the western end of the grave, immediately outside the coffin. Two copper-alloy coins (CRNG5.2 & CRNG5.3) were recovered from the middle part of the coffin. One (CRNG5.2) was found close to the southern edge of the coffin, and thus had probably been placed in the right hand as Charon's fee. The other (CRNG5.3) was centrally placed and could have lain on the body or possibly in the left hand. A quantity of hobnails (CRNG5.4) came from the east end of the coffin. The hobnails were recovered in two adjoining groups and presumably came from a pair of shoes; SF 17 came from the left foot, SF 18 from the right foot, and SF 20 from a soil sample of fill at the eastern end of the grave. Their position suggests that the shoes were probably worn on the feet at the time of burial and that the corpse lay with the head to the west and the feet to the east.
Residual cremated human bone: A total of 1g was recovered from an adult? of indeterminate sex.
Other residual finds: A fragment of Roman brick/tile and a piece of greensand came from the upper backfill of CRNG5. These probably derived from the demolished or derelict remains of the circus.
Date: 3rd or possibly 4th century
Burial marker: The burial was set within a ring-ditch (CRNF31), with an internal diameter of 4m. The ring-ditch was poorly preserved and its north-western part extended into the section. A small barrow was probably raised within the ring-ditch over the central burial.
As with most of the Area C2 ring-ditches, CRNF31 appeared to have an entrance gap, in this case facing east. Probable postholes (CRNF32 & CRNF33) were found in the bottom of the ditch close to the ditch terminals. Here the ditch was deeper (0.28m) than elsewhere; usually it was less than 0.2m deep and in places was barely discernible. Roman potsherds, hobnails and pieces of iron scrap were recovered from the ditch. A piece of iron slag and iron nail fragments came from CRNF32.

Pottery:
CRNG5.1 Jar (CRN133). Illustrated. Fabric GX, Cam 408-410, large shouldered beaker with bead rim and two cordons below the rim, decorated with rouletted bands, almost complete vessel in sherds and probably whole when deposited, neck and rim intact, edges of sherd breaks abraded, 927 g. Beakers with cordons below the rim have been previously recorded in Fabric GX (*CAR* **10** fig 6.67, 430-37) where they are all attributed to form Cam 404, dated Hadrianic-early Antonine to late 2nd century (Hull 1963, 190; *CAR* **10,** 486). However, the overall form of the beaker here is that of Cam 408-410, dated second quarter of the 3rd century-4th century (*CAR* **10**, 487).

Other objects:
CRNG5.2 Coin SF 1 (CRN149). Very worn copper-alloy ?antoninianus. Diameter 20mm, weight 2.24 g. Third century.
CRNG5.3 Coin SF 6 (CRN154). Copper-alloy illegible sestertius. ?Antoninus Pius/Marcus Aurelius. Diameter 28.5 mm, weight 21.40 g. Mid-late second century (early third century).
CRNG5.4 Iron hobnails: SF 17. (CRN135). Thirty-six (approx.) iron hobnails, most connected by spreads of iron corrosion. Average length 15 mm.
SF 18. (CRN155). Fifty-nine (approx.) iron hobnails, some connected by spreads of iron corrosion. Average length 15 mm.
SF 20. (CRN159). Twenty-nine (approx.) iron hobnails, some connected by spreads of iron corrosion. Average length 14 mm.
Iron coffin nails: (CRN131), SF 12 (CRN132), (136), (CRN137), (CRN138), (CRN139), (CRN140), (CRN141), (CRN142), (CRN144), (CRN145), (CRN146), (CRN147), SF 47 (CRN148), (CRN151), (CRN152), (CRN155), (CRN157), (CRN158), (CRN160). Average length 90 mm.

Ring-ditch:
Pottery sherds from ring-ditch CRNF31: (CRN103), Fabric GX, 1 small sherd, 2 g, Roman.
(CRN105), Fabric GX, 1 sherd, burnt, 2 g, Roman.
(CRN106) F31. Ring ditch around G5. a) Two iron hobnails. Lengths 14 and 11 mm. b) Iron sheet fragment. 34 by 22 mm. c) Two amorphous fragments. 28 by 19 mm, 27 by 16 mm.
(CRN104) F32. Posthole in ring ditch F31 around G5. One complete and one incomplete nail. Lengths 77 and 52 mm.
(CRN104) F32. Posthole in ring ditch F31. Fragment of iron slag. Weight 10 g.

CRNG6: pit with pyre debris
Description: A shallow pit, 1.25m by 0.75m and 0.15m deep, had a sparse scatter of cremated bone in a charcoal-rich fill.
Cremated human bone: A total of 8g was recovered from an adult of indeterminate sex.
Burial goods: An iron hobnail was found in the retained pitfill.
Residual finds: a small quantity of flint waste flakes.
Date: Roman
Iron hobnail: SF 44 (CRN109), length 21 mm.

CRNG7: pit with pyre debris
Description: This feature was 1.7m long, up to 0.9m wide and 0.28m deep. It consisted of two scoops which appeared to be part of the same feature. Most of the cremated bone was scattered in the charcoal-rich main fill, which extended over both scoops. A small quantity of cremated bone was also recovered from lighter-coloured fill with sparse charcoal flecks in the more westerly scoop.
Cremated human bone: A total of 148g was recovered from an adult (young adult?) of indeterminate sex.
Burial goods: A quantity of potsherds from at least three vessels (CRN7.1 and sherds from two or three other vessels) and some iron nail fragments were recovered from the fill.
Date: ?1st-2nd century

Pottery:
Pottery sherds: (CRN176), Fabric GX, 3 sherds, rim, 9 g, joins with (CRN177), possibly form Cam 266 dated 1st-early 2nd century.
(CRN177), Fabric GX, 10 sherds, 40 g; 2 rim sherds, join with (CRN176), possibly form Cam 266 dated 1st-early 2nd century; 2 other rim sherds, 1 from a small jar and 1 from a ?flask, possibly part of (CRN185), that appears burnt or scorched.
(CRN179), 7 g; Fabric DJ, 3 sherds, probably from a flagon, 1st-2nd/3rd century.
Fabric GX, 3 sherds, 1 possibly burnt or scorched.
(CRN184), Fabric GX, 8 sherds, 19 g, Roman.
(CRN185), 45 g. Fabric DJ, 1 sherd, flagon neck sherd, 1st-2nd/3rd century.
Fabric GX, 8 sherds, 5 sherds all joining make up a whole base of a jar or bowl (**CRNG7.1**); 1 large body sherd, possibly from a small flask, perhaps part of (CRN184), Cam ?234 degraded, possibly burnt or scorched, ?1st to mid-late 2nd century.
Pottery dated: ?1st-2nd century.

Other objects:
(CRN179). Iron nail, incomplete, length 20 mm, and nail shank fragment, length 20 mm.
(CRN184). Iron nail, complete, length 44 mm.

CRNG8: *bustum*
Description: A rectangular, flat-bottomed pit, aligned east-west, measured 1.7m by 1.45m and was 0.5m deep. The pit was fairly steep-sided and the sides were intensely burnt to a light reddish colour. There were no equivalent traces of burning on the bottom of the pit, which was sealed by a charcoal-rich lower fill 50 - 100mm thick. This contained the cremated bone and many of the other finds, scattered mainly over the central, eastern and south-eastern parts of the pit. All of the lower fill was retained for subsequent processing. The area of the pit was divided-up into a grid and the lower fill bagged-up by 'squares' (Squares I-XII).

The lower fill was sealed by a yellowish-brown, clayey backfill up to 0.45m thick. A quantity of broken pottery and some glass fragments and iron nails were recovered from the interface between this layer and the lower fill. These finds came mainly from the north-western part of the pit.

In addition to large quantities of charcoal and charred wood fragments, low to moderate densities of charred plant macrofossils were recovered from the lower fill of CRNG8. These included the remains of dried grasses, meadow herbs and large pulses, which probably derived from material gathered for kindling or fuel.

Among the finds in the lower fill were quantities of small rounded fragments of burnt daub (21 fragments; 76.3g) and burnt sandy soil (70 fragments; 290.7g) (quantified in Appendix 3.2). The latter may have collapsed in from the burnt upper edges of the pit. The burnt daub perhaps derived from material burnt on the pyre.

Two possible charcoal-filled stake holes cut the backfill, in the north-west and north-east corners of the pit, although these could have resulted from animal or root activity. There were also several possible shallow stake holes in the bottom of the pit, although these were probably also animal or root holes.

Cremated human bone: A total of 433g was recovered from an adult of indeterminate sex. Despite total recovery of the fill, less bone was recovered than might be expected for a bustum burial. The bone that was recovered was concentrated in squares VII, VIII and XI and appears anatomically mixed as lower limb bones appear alongside skull fragments. Perhaps not all the bone found its way into the pit and there followed a tidying-up episode, with some of the bone disposed of elsewhere. Alternatively the bone may have been raked over and some of it deliberately retrieved from the pit for disposal elsewhere. Preservation factors may also be significant.

Burial goods: Fragments from at least seven pottery vessels were identified (CRNF8.1-.7). Many of the sherds were found scattered throughout the lower fill and were very fragmented and badly burnt. These consisted mainly of undiagnostic grey ware and flagon sherds. The sherds from the interface between the upper and lower fills were also burnt and distorted but were less fragmented. They were derived mainly from a ring-neck flagon of form Cam 154/155 or 155 (CRNF8.1/.2) and a Cam 266 jar (CRNF8.5/.6). These sherds came mostly from the north-western part of the pit and appeared to have been added already broken to the top of the pyre, possibly after the pyre had collapsed into the pit. Due to the fragmentation of the pottery, it is difficult to be certain whether whole pots are represented, or whether like the bone some fragments could have been disposed of elsewhere.

Other burial goods included a coin (CRNF8.8), parts of two burnt ivory distaffs (CRNF8.9-.10) and the remains of a box (CRNF8.12), as well as fragments from several glass vessels (CRNF8.13.15). These were recovered mainly from the central and south-eastern parts of the pit. A quantity of iron hobnails (CRNF8.11) came from the eastern end of the pit, and a large number of iron nails were found scattered throughout the lower part of the pitfill.

The burial goods, particularly the distaffs and the box, suggest that the corpse was that of a woman. Most of the burial goods had clearly been burnt (eg the pottery, the distaff fragments and some of the box fragments and glass) and had probably been placed on the pyre with the body. However, some of the glass, notably the unmelted fragments, as well as some pot sherds, could have been added during the cremation ceremony or after the pyre had collapsed into the pit.

The burial goods, like the cremated bone, appeared to be mixed-up in terms of their distribution. This suggests that the pyre may not have collapsed neatly into the pit, and that the pyre debris in the pit had been tidied-up or raked over. Therefore the position of the objects in the pit probably does not reflect in any meaningful way how they were placed in relation to the body on the pyre.

Residual finds: A small quantity of prehistoric potsherds and a flint bladelet fragment.

Date: The burial goods indicate that the burial dated to the late 1st or early 2nd century.

Pottery:

CRNG8.1 and CRNG8.2 A minimum of two flagons of form Cam 154/155 or 155. Fabric DJ.
(CRN227) square III, 39 sherds, probably all from cream ware flagons, most, possibly all have been scorched or burnt, 3 joining sherds from a ribbed handle, sherd from another ribbed handle, 4 sherds from a single base.
(CRN231) square III, 10 sherds, most crazed and burnt, includes ?flagon base sherd same as (CRN227), different to (CRN261).
(CRN225) square VI, 122 sherds, 3 joining rim sherds from Cam 154/155 or 155, dated Claudio- Neronian to early Antonine, handle sherd, fits with one handle from (CRN227).
(CRN229) square VI, about 30 sherds and fragments possibly from 2 pots, some sherds scorched or burnt, rim fragment possibly from a Cam 154/155 or 155, flagon.
(CRN261) square VII, about 50 small sherds from flagon, sherds from base, base of handle, the base is from a different pot to (CRN240), rim from a Cam 154/155 or 155, also possible small neck sherd from a different pot.
(CRN262) square VII, about 48 sherds, includes, base body and rim sherds from a Cam 154/155 or 155, dated Claudio-Neronian to early Antonine, same pot as (CRN261).
(CRN269) square XI, about 40 sherds and fragments, rim from a Cam 154/155 or 155 flagon.
(CRN192) top of lower fill in north-west quadrant, 1 rim/neck sherd.
(CRN204) top of lower fill in northern half of feature, rim, Cam 154/155 or 155, same pot as (CRN225).
(CRN217) top of lower fil, about 23 sherds, probably from 2 pots, includes rim from a Cam 154/155 or 155, possibly a different pot from (CRN225).
(CRN218)) top of lower fil, Fabric DJ, about 12 sherds, includes rim from a Cam 154/155 or 155, dated Claudio-Neronian to early Antonine, probably same as (CRN225).

CRNG8.3 Flagon. Fabric DJ, sherds from a third flagon of form Cam ?364 which is in Fabric DJ rather than the usual mica-gilt fabric (Hull 1963, 102 and fig 56 no 12; *CAR* **10**, 484). No mica-gilt sherds are recorded from the bustum.
(CRN192) top of lower fill in north-west quadrant, 1 rim/neck sherd.
(CRN203)) top of lower fill in northern half of feature, 3 sherds from small flagon, includes upper handle sherd, ?possibly same pot as (CRN192).
There are a number of sherds, probably all from flagons, which either derive from pots **CRNG8.1-3** or possibly from other unidentified pots in Fabric DJ:
(CRN242), square II, 3 small sherds
(CRN243) square II, 8 sherds, probably all from cream ware flagons, degraded sherds and most, possibly all, have been scorched or heated
(CRN259) square IV, about 18 sherds and fragments.
(CRN260) square IV, 10 sherds
(CRN244) square V, 9 sherds possibly from 2 flagons, some sherds scorched or burnt.
(CRN240) square VIII, 12 small sherds/fragments from a flagon, fragment from base and handle.
(CRN241) square VIII, about 14 sherds, includes flagon handle.
(CRN228) square IX, 8 sherds plus fragments, burnt.
(CRN239) square IX, about 12 small sherds from a flagon, sherds from base, base of handle, the base is as (CRN261)
(CRN264) square X, 12 small sherds, possibly scorched or heat damaged.
(CRN265) square X, 14 sherds, includes ?flagon base sherd.
(CRN270) square XI, 14 sherds, probably from a flagon.
(CRN224) square XII, 4 sherds;
(CRN230) square XII, about 50 sherds/fragments from two or more pots, burnt.
(CRN186) upper fill in north-east quadrant, 4 sherds.
(CRN188) top of lower fill in north-east quadrant, about 12 fragments, some are probably burnt.
(CRN193) bottom of upper fill in southern half of feature, 7 sherds, probably from 2 pots, possibly scorched.
(CRN201) top of lower fill in northern half of feature, 4 sherds plus some fragments, 2 sherds from flagon neck, burnt, 2 other sherds from different pot.
CRNG8.4 Folded beaker. Fabric DZ, a small number of thin walled sherds can be identified as from a folded beaker in fine oxidised ware:
(CRN228) square IX, 6 moderately thin sherds from a folded beaker, probably scorched or heat damaged.
(CRN239) square IX, 5 sherds from a thin walled pot including a small jar or beaker rim.
Other similar sherds in Fabric DZ are either from **CRNG8.4**, or from other similar small vessels:
(CRN224) square XII, 12 sherds plus fragments from thin walled pot.
(CRN230) square XII, 3 small sherds.
(CRN186) upper fill in north-east quadrant, 2 sherds from the neck of a thin walled pot.
CRNG8.5 and CRNG8.6 At least two jars of form Cam 266. Fabric GX.
(CRN243) square II, 38 sherds and fragments, all burnt, some heavily burnt, crazed and distorted by heat, all probably from one jar.
(CRN243) square II, 2 joining rim sherds, very similar to the rim from (CRN227), but appears slightly small and may be a second similar vessel, possibly form Cam 266
(CRN227) square III, 39 sherds, all from a jar, form Cam 266, all burnt, some heavily burnt, crazed and distorted by heat, 2 joining rim sherds, several joining body sherds.
(CRN244) square V, 9 sherds, burnt, from same pot as (CRN227), includes 2 rim sherds, 20 sherds from a second pot, burnt.
(CRN192) top of lower fill in north-west quadrant, about 40 sherds and fragments from 2 pots, burnt, most sherds from same pot as (CRN227), heavily burnt and distorted.
(CRN217) top of lower fil, 2 sherds, burnt, 1 is from same pot as (CRN227)
(CRN193?) 3 sherds, burnt, rim is same pot as (CRN227)
CRNG8.7 Small jar or beaker. Fabric GX
(CRN224) square XII, 1 sherd, rim sherd from a small jar or beaker, burnt.
(CRN205) top of lower fill in northern half of feature, 1 sherd, part of the base from a small jar or beaker, burnt.
Other sherds in Fabric GX which derive either from pots **G8.5-7** or possibly from other unidentified pots:
(CRN238) square I, 10 small sherds and fragments from two or more pots, burnt.
(CRN242) square II, about 40 sherds and fragments probably from two or more pots, burnt.
(CRN231) square III, 9 small sherds, burnt.
(CRN259) square IV, about 20 sherds and fragments probably from two or more pots, burnt.
(CRN260) square IV, 1 sherd, burnt.
(CRN239) square V, 1 sherd, burnt, green mark on surface, probably from lying next to a copper-alloy object.
(CRN225) square VI, 5 very abraded sherd flakes.
(CRN229) square VI, about 20 fragments, burnt.
(CRN261) square VII, approximately 45 very small fragments, burnt.
(CRN240) square VIII, 13 sherds with 20 or so fragments, burnt, probably more than one pot represented.
(CRN241) square VIII, 2 sherds, burnt.
(CRN228) square IX, 15 small sherds or fragments from two or three pots.
(CRN239) square IX, about 50 small sherds and fragments from two or more pots, burnt.
(CRN264) square X, 10 sherds/fragments, burnt.
(CRN265) square X, 2 sherds and fragments, burnt.
(CRN269) square XI, about 15 fragments, burnt.
(CRN270) square XI, 4 sherds, burnt.
(CRN230) square XII, 8 sherds/fragments, burnt.
(CRN218) top of lower fil, 1 sherd, probably burnt.

Other objects:
Nina Crummy writes:
The items from this feature included a coin, at least two ivory distaffs, some footwear (represented by hobnails), a wooden box with copper-alloy and iron fittings, and a large number of nails of varying sizes. Many of the finds show varying degrees of burning, but some of the copper-alloy sheet fragments, in particular, do not appear even to be scorched and must have been in a heat-shadow. The coin is a worn as, probably of the first century AD. It was found in the north-eastern part of the pit.

A scatter of burnt ivory fragments come from at least two distaffs, the upper terminals (illustrated in the burial below) characterized by a pair of incised grooves as on an example from Mainz (Mikler 1997, Taf. 39, 7), and a lower terminal (illustrated in the burial below) by a group of three grooves, similar to the groups of grooves near the tips of two distaffs from the Magdalensberg (Gostenčnik 2005, Taf. 52, 4-5). The deposition of these items in the feature point to the corpse having been that of a woman, an identification supported by the wooden box from the grave, which is of a type used in the 1st century for the storage of jewellery and other personalia. The distaff fragments lay in the centre and the south-east corner of the feature. Complete, or nearly complete, distaffs from the Magdalensberg are between 250 and 180 mm long, with the maximum diameter between 6 and 8.5 mm. Plain fragments can be distinguished from bone hairpins by the much slighter degree of taper along the length of the shaft.

The surviving fragments of the box in CRNG8 lay in the central and southern part of the feature, mainly towards the east side. The chief characteristics of the type are the use of faceted or channelled rings and a stout tapering hasp. Several similar boxes with such fittings are known both from Britain and the continent, including two from funerary features on Area JN at the Garrison (JNF61 and JNF47). They are more fully discussed in that section of the report. Although the type first appears in Britain in the Claudio-Neronian period, they were durable items and some examples would have remained in use over a prolonged period. The date range for the deposit of the example in CRNG8 therefore runs from the Claudian period into the late 1st or early 2nd century.

CRNG8.8 SF 36. (CRN222), square XII. Illegible copper-alloy as. Diameter 21 mm, weight 4.24 g. First century?
CRNG8.9a SF 57. (CRN295), square VII. Six burnt and delaminated ivory shank fragments from a distaff, none fitting. One piece (illustrated in burial catalogue) is the blunt upper terminal marked by a pair of incised grooves. Length 24 mm, diameter 6.5 mm. Length of the two longest pieces among the remainder 38 and 29 mm; the remainder are very short. The distaff tip SF 59 came from square X to the east of square VII and is probably part of the same object.
b Illustrated in the burial below. SF 59. (CRN297), square X. Burnt and delaminated ivory shank fragment from the tapering lower part of a distaff, marked at the narrower end by a group of three incised grooves. Length 69 mm, diameter 5 mm tapering down to 3 mm. Probably part of SF 57, which came from the adjacent square VII.
SF 41a. (CRN256), square VII. Burnt ivory shank fragment from distaff SF 57. Length 21 mm, diameter 6.5 mm. Attached by corrosion products to an iron nail (see below).
CRNG8.10 ISF 58. (CRN296), square V. Fifteen burnt and delaminated ivory shank fragments from a distaff. One piece (illustrated in the burial below) is a terminal as SF 57 above. Length 12 mm, diameter 7 mm. Most of the other fourteen fragments have split along their length and can no longer be reconstructed. Lengths of longest pieces 29, 26, 20, 19 mm; the remainder are very short. The fragments SF 30 may also be part of this distaff.
SF 30. (CRN249), square VII. Three burnt ivory or bone shaft fragments, none fitting. Lengths 32, 38, and 44 mm. The longest fragment tapers from 5 to 4 mm in diameter. The two others are 6.5 mm in diameter along their length. Probably part of the distaff represented by SF 58, which lay to the north-west of these pieces.
CRNG8.11 Iron hobnails
(CRN230) square XII, three, lengths 14, 13 and 12 mm; (CRN240) square VIII, three, lengths 18, 17 and 16 mm; (CRN261) square VII, ten, lengths 16 x 3, 15 x 3 and 14 x 4 mm; (CRN269) square XI, three, lengths 19, 17 and 16 mm. Some of the smaller nail shank fragments listed below may also be from hobnails.
CRNG8.12 Box
This is represented by fragments of cladding, lock-fittings and strap-rings. Some of the smaller nail shank fragments listed below may also have derived from the box, at least some examples of which were fixed together with small nails or tacks that were either headless or had rudimentary narrow heads.
a Illustrated in the burial below. SF 49. (CRN247), square IV. Scorched and distorted fragment from the hasp of the lock mechanism of a wooden box, with the characteristic stout rectangular loop on the reverse. Surviving length 18 mm, width 14 mm. See also SF 34 below.
b SF 56. (CRN261), square VII. Small fragments of one or more burnt copper-alloy strap-rings from a box and some amorphous fragments. The rings have the channelled section typical of first century boxes. Diameter of largest fragment (illustrated in the burial below) 32 mm. Total weight 7 g.
SF 29. (CRN232), square V. Fifteen fragments of copper-alloy sheet from the cladding set around the edge of a wooden box. One piece has broken at a return; two have a small hole for an attachment stud (as SF 52 or SF 31 below). Largest pieces measure 30 by 14, 31 by 12, 15 by 12, 14 by 11, 11 by 9 mm.
SF 35. (CRN271), square XI. a) Thirteen fragments of copper-alloy sheet either from cladding or from a lock-plate. None has any sign of a returned edge;one has a small hole for an attachment stud (as SF 52 below). The larger pieces measure 39 by 15, 29 by 28, 28 by 16, 28 by 20 mm, 16 by 21 mm. b) Small fragment of copper-alloy sheet bent double. 21 by 9 mm. c) Two amorphous fragments of resolidified copper-alloy debris. Total weight 2 g.
SF 51. (CRN269), square XI. Tiny fragments of copper-alloy sheet from cladding set around the edge of a wooden box. The largest piece measures 12 by 12 mm and has broken at a return.
SF 54. (CRN240), square VIII. Tiny fragment of copper-alloy sheet with a return; from cladding set around the edge of a wooden box. 7 by 5 mm. Also a small pellet of resolidified copper alloy. Weight <1 g.
SF 52. (CRN239), square V. Copper-alloy stud fragment with small narrow shank and only a small part of the convex head remaining. Maximum surviving diameter 7 mm, length 5 mm.
SF 31. (CRN255), square VII. Small copper-alloy nail with globular head. Diameter 5.5 mm, length 9 mm.
SF 53. (CRN264), square X. Small fragments of burnt copper-alloy strap-rings from a box and some amorphous fragments. Total weight 4 g.
SF 39. (CRN218). Small fragment of a burnt copper-alloy strap-ring. Length 11 mm.
SF 34. (CRN263), square X. a) Small fragment of a burnt copper-alloy strap-ring. Length 15 mm. b) Copper-alloy strip fragment, possibly part of the hasp. Length 25 mm, width 16 mm.
SF 32. (CRN250), square VII. Small fragment of copper-alloy sheet and one amorphous frament of burnt copper-alloy debris. Total weight 3g.
SF 33. (CRN258), square VII. Small fragment of copper-alloy sheet and amorphous fragments of burnt copper-alloy debris. Total weight 10 g.
SF 55. (CRN259), square IV. Small amorphous fragments of burnt copper-alloy debris. Total weight <1 g.

SF 50. (CRN294), square VII. a) Part of an iron split-spike loop with the loop wider than the upper part of the arms. Length 19 mm, width of loop 12 mm. b) Part of a second iron loop from a split-spike loop with a small fragment of a copper-alloy escutcheon plate adhering to it. Length 12 mm, width 12 mm. Both these fittings would have attached strap-rings to the box.
SF 43. (CRN243), square II. Iron split-spike loop or bent nail shank fragment. Length 21 mm.
CRNG8.13 Tubular glass unguent bottle. [2] (CRN240) square VII. Tubular glass unguent bottle. Blue/green. Four joining fragments of lower body. Also two small body fragments, possibly from this vessel. Maximum body diameter c. 20mm, present length 32mm, weight 3.5g.
[8] (CRN194) square VIII and (CRN240) square VIII.Tubular glass unguent bottle. Blue/green; some strain cracks; base broken off. Almost complete reservoir; upper edge affected by heat in one part. Present height 47mm, maximum body diameter 17mm, weight 10.9g.
CRNG8.14 Conical glass unguent bottle. [3] (CRN219) square V. Illustrated. Conical glass unguent bottle. Blue/green; many bubbles, some medium-sized. Lower part of cylindrical neck with tooling marks at base; conical reservoir, concave base without pontil scar. Present height 48mm, height of reservoir 35mm, diameter of neck 18mm, maximum body diameter 39mm, weight 24.2mm.
[4] (CRN229) square VI. Conical glass unguent bottle; base fragment. Blue/green. Edge of side and concave base. Dimensions 20 x 9mm, weight 0.8g.
Undiagnostic glass unguent bottle fragments
[1] (CRN195) square V. Glass unguent bottle; rim and neck fragment. Blue/green; strain crack encircling upper part of neck; elongated bubbles; irregular out-turned rim, edge sheared; cylindrical neck. Present height 46mm, rim diameter 21 x 20mm, neck diameter 14mm. weight 4.4g.
[10] (CRN230) square XII. Body fragment from unguent bottle neck or lower body of tubular unguent bottle. Edges fire-rounded. Dimensions 14 x 7mm, weight 0.3g.
CRNG8.15 Colourless glass vessel
[6] (CRN239) square V. Three body fragments. Colourless. Dimensions (largest) 7 x 7mm, weight 0.1g.
[7] (CRN240) square VIII. Body fragment. Colourless. Dimensions 5 x 3.5mm. Weight – less than 0.1g.
[26] (CRN240) square VIII. Lump. Colourless. Melted and vesicular. Less than 0.1g.
Other glass fragments and lumps
[5] (CRN264) square X. Body fragment. Blue/green. 6 x 4.5mm. Weight - less than 0.1g.
[9] (CRN240) square VIII. Body fragment. Blue/green. Edges melted. Dimensions 26 x 7mm. Weight 0.4g.
[11] (CRN238) square I. Three lumps. One with fused soil, one ovoid with fire-rounded surfaces. Weight 2.4g.
[12] (CRN246) square IV. Lump. Blue/green. Vesicular with incorporated bone traces. Weight 1.3g.
[13] (CRN259) square IV. Four lumps. Blue/green. Vesicular and incorporating fragments of cremated bone. weight 4.9g.
[14] (CRN229) square VI. Lump. Blue/green. Vesicular. Weight 1.7g.
[15] (CRN257) square VIII. Lump. Blue/green. Weight 2.9g.
[16] (CRN261) square VII. Fourteen lumps and four melted body fragments. Blue/green. Lumps include some with fused soil, some vesicular and some with smooth ovoid water-rounded surfaces. Weight 17.6g.
[17] (CRN240) square VIII. Six lumps. Blue/green. Completely melted incorporating fragments of cremated bone. Weight 11.1g.
[18] (CRN264) square X. Five lumps. One vesicular and one ovoid with fire-rounded surfaces. Weight 3.2g.
[19] (CRN228) square IX. Four lumps. Blue/green. Largest vesicular and incorporates fragments of burnt bone, two others ovoid with fire-rounded surfaces. Weight 10.2g.
[20] (CRN269) square II. Three lumps. Blue/green. Vesicular with fused soil and cremated bone. Weight 1.8g.
[21] (CRN272) square II. Lump. Blue/green. Vesicular with traces of bone and incorporating charcoal. Weight 5g.
[22] (CRN230) square XII. Lump. Blue/green. Vesicular. Weight 0.9g.
[23] (CRN186) NE quadrant. Lump. Blue/green. Vesicular. Weight 0.6g.
[24] (CRN187) NE quadrant. Lump. Blue/green. Burnt black. Weight 5.2g.
[25] (CRN217). Lump. Blue/green Weight 10.7g.
[27] (CRN259) square IV. Lump. Pale yellow/green. Weight 0.5g.

Iron nails:
(CRN188) shank fragment, very thin, length 12 mm; (CRN196) complete, length 47 mm; (CRN197) complete, clenched, length 28 mm, 20 mm between base of head and bend in shank; (CRN198) incomplete, clenched, length 35 mm; (CRN208) incomplete, length 53 mm; (CRN220) shank fragment, length 36 mm; (CRN223) a) incomplete, length 21 mm, b) two shank fragments, one clenched, lengths 25 and 18 mm; (CRN228) a) six incomplete, lengths 33, 29 x 2, 21, 18 and 13 mm, b) fourteen shank fragments, lengths 28, 23 x 2, 22, 20, 17 x 2, 15 x 2, 14, 13 x 3 and 10 mm; (CRN229) five shank fragments, lengths 26, 22, 14, 12 and 9 mm; (CRN231) complete, length 52 mm, and shank fragment, length 21 mm; (CRN230) a) six incomplete, lengths 33, 27, 25, 14, 12 and 10 mm, b) thirteen shank fragments, lengths 25, 20 x 2, 18, 17, 16 x 5, 15 x 2 and 13 mm; (CRN235) shank fragment, length 27 mm; (CRN238) a) five incomplete, lengths 34, 30, 26, 11 and 10 mm, b) eleven shank fragments, lengths 46, 35, 32, 29, 22, 21, 20, 18, 15, 14 and 10 mm, c) head only; (CRN239) six shank fragments, lengths 41, 25, 23, 18, 11 and 10 mm; 240) a) eighteen shank fragments, lengths 41, 30, 22, 21, 20, 19 x 4, 18, 17, 15 x 2, 14, 13 x 2 and 12 x 2 mm, b) two, head ony; (CRN242) two, incomplete, lengths 37 and 11 mm; (CRN243) shank fragment, length 36 mm; (CRN246) incomplete, length 40 mm; (CRN259) a) two incomplete, lengths 39 and 21 mm, b) thirteen shank fragments, lengths 39, 34, 33, 31, 30, 24, 21, 20 x 2, 19, 18 x 2, and 17 mm, c) head only; (CRN256) SF 41b, three incomplete nails, lengths 24, 23, 29 mm; (CRN261) a) seven incomplete, lengths 21, 16, 13, 11 x 2, 9 and 8 mm, b) twenty-two shank fragments, lengths 38, 32, 31, 25, 24, 23, 21 x 2, 20 x 2, 19, 18, 17 x 4, 16, 15, 14, 13 x 2, 12 mm, c) three, head only; (CRN264) a) three incomplete, lengths 18, 16 and 15 mm, b) nine shank fragments, lengths 24, 21, 20, 18, 17, 15, 14 x 2, 13 mm; (CRN266) shank fragment, clenched, length 46 mm; (CRN269) a) ten incomplete, lengths 34, 31, 27, 23, 20, 18, 17, 11, 10 and 9 mm, b) twenty-one shank fragments, lengths 29, 28, 26 x 2, 22, 21, 19 x 2, 18 x 2, 17, 15, 14 x 2, 13 x 5 and 12 x 2 mm, c) head only; (CRN273) shank fragment, length 39 mm; (CRN274) complete, length 48 mm.

Burnt animal bone: 5g (sheep/goat mandible, small mammal and mammal).

CRNG9: urned cremation burial
Description: A small oval pit, 0.6m long and 0.12m deep, contained the cremation vessel, the upper part of which was badly disturbed. Below the vessel was a thin layer of fill with some charcoal flecks but no bone. The burial probably cut an amorphous pit CRNF51 to the west, although the relationship between the two features was not definitely established.

Cremated human bone: A total of 800g was recovered from an adult (young adult?) of indeterminate sex.
Burial goods: The cremated human bone and burnt animal bone was contained in a jar (CRNG9.1).
Date: Roman

Pottery:
CRNG9.1 Jar (CRN191). Fabric GX, 66 sherds, 1027 g, whole base and 65 lower and mid-upper body sherds, with some small sherd fragments, from a large jar.
Burnt animal bone:
30g (large mammal, ?cattle); incompletely oxidised.

CRNG10: pit with pyre debris
Description: An oval pit, 1.4m by 1m and 0.25m deep, was half-sectioned. Scatters of pottery sherds and cremated bone fragments were recovered from the charcoal-rich fill in the eastern half of the pit.
Cremated human bone: A total of 13g was recovered from an adult and a possible juvenile rib of indeterminate sex.
Burial goods: A quantity of potsherds from at last three vessels and an iron nail were scattered in the fill.
Date: ?1st-2nd century

Pottery:
Pottery sherds: (CRN207), 199 g;
Fabric AA, 2 sherds, 1st-mid 2nd century;
Fabric DJ, 3 sherds, 1st-2nd/3rd century;
Fabric GX, 24 sherds, some appear possibly to be scorched, rim sherd from a Cam 266 jar (same as CRN236), scorched, 1st-early 2nd century.
Pottery dated: 1st-early 2nd/3rd century.
(CRN236), 134 g;
Fabric ?AA, 2 sherds, possibly from a burnt or scorched amphorae, 1st-mid 2nd century;
Fabric DJ, 4 sherds, possibly scorched, 1st-2nd/3rd century;
Fabric GX, 6 sherds, 2 joining rim sherds from a Cam 266 jar (same as CRN207), 1st-early 2nd century, both burnt or scorched, 1 body sherds burnt or scorched.
Pottery dated: 1st-early 2nd/3rd century.
(CRN237), 10 g, Fabric AA or DJ, 1 sherd flake, 1st-2nd century; Fabric GX, 1 sherd, Roman.

Other objects
SF 42. (CRN236). Iron nail, complete, length 26 mm.

CRNG11: placed deposit
Description: A small oval pit, 0.65m long and 0.2m deep, contained an upright, whole pot. The pot was intact but largely empty of fill when revealed by machine and did not contain any cremated bone. Perhaps a tile lid had been machined away, as there were slight reddish traces on the pot rim. The pit CRNG11 lay only 1m west of the bustum CRNG8 and could have been associated with it, although the date-range of CRNG11.1 may indicate that it post-dated the bustum. The pot presumably held food or drink and was intended as an offering of some kind.
Cremated human bone: none
Burial goods: An intact jar (CRNG11.1) was upright in the pit.
Date: early/mid 2nd-late 3rd/early 4th century.

Pottery:
CRNG11.1 Jar (CRN214). Fabric GX, complete jar, rim cracked away from body, Cam 268, 712 g, early/mid 2nd-late 3rd/early 4th century; complete pot interpreted as a votive deposit.

CRNG12: urned cremation burial
Description: Most of the cremated bone was contained in the remains of a small pot, which lay in the upper part of the fill of a circular pit, 0.5m across and 0.3m deep. A small quantity of cremated bone also came from the fill below the vessel.
Cremated human bone: A total of 79g was recovered from an adult of indeterminate sex.
Burial goods: The small cremation vessel (CRNG12.1) was poorly preserved.
Date: ?1st-2nd(/3rd) century

Pottery:
Pottery sherds: (CRN211) 27 g;
CRNG12.1 pot. Fabric GX, about 100 sherd fragments from one pot, probably burnt or scorched, some organic temper, ?1st-early 2nd century.
Fabric DJ, 1 sherd, burnt or scorched, 1st-2nd/3rd century.

CRNG13: urned cremation burial
Description: There were no clearly defined pit edges associated with the badly truncated cremation vessel. A roughly circular feature 0.65m across was possibly discernible. There were sparse traces of charcoal and cremated bone in the pitfill, although the latter could have derived from the urn as a result of post-depositional factors.
Cremated human bone: A total of 393g was recovered from an adult of indeterminate sex.
Burial goods: Most of the cremated bone was contained in a jar/bowl (CRNG13.1). An iron nail frgament was found in the fill of CRNG13.1, and several potsherds and an iron sheet fragment were recovered from the pitfill.
Date: ?1st-2nd/3rd century

Pottery:
Pottery sherds: (CRN285) 406 g;
CRNG13.1 Jar/bowl. Fabric GX, about 50 sherds and fragments from the lower half of a grey ware jar or closed mouth bowl.
Fabric DJ, 3 sherds plus fragments, 1st-2nd/3rd century;
(CRN215), Fabric GX, abraded rim sherd in sandy fabric from a jar or bowl, abraded, 8 g, probably not same pot as (CRN285), Roman.
Other objects
(CRN215). Iron sheet fragment. 30 by 28 mm.
(CRN290). Iron nail shank fragment. Length 17 mm.

Burnt animal bone: <1g (mammal).

CRNG14: pyre site/pit with pyre debris
Description: An oval pit, 2.4m by 1.5m and 0.2m deep, was half-sectioned. It was aligned roughly east-west, and in places the sides of the pit were lightly burnt to a reddish colour. On the bottom of the pit was a charcoal-rich layer, approximately 50mm thick, which contained most of the cremated bone. This was sealed by a brown, clayey main fill approximately 0.15m thick with a few cremated bone fragments..
Cremated human bone: A total of 42g was recovered from an adult of indeterminate sex.
Burial goods: The finds, most of which came from the brown main fill, included glass fragments from an tubular unguent bottle (CRNG14.4) and potsherds from at least three vessels (CRNG14.1-.3), as well as several hobnails, iron nail fragments and brick/tile fragments.
Residual find: prehistoric sherd
Date: late 1st-early 2nd century

Pottery:
CRNG14.1 Flagon (CRN245). Fabric DJ, 35 sherds from the base body and neck of a ring neck flagon, Cam 154/155 or 155, dated Claudio-Neronian to early Antonine, surfaces degraded, possibly scorched, 398 g, probably less than 50% of pot present.
(CRN275), Fabric DJ, 3 sherds from a flagon, 12 g, probably same vessel as (CRN245).
CRNG14.2 Jar (CRN245). Fabric GX, about 32 sherds from the base, body, neck and rim of a jar, probably of form Cam 266, 1st-early 2nd century, surfaces degraded, possibly scorched, probably less than 30% of pot present.
CRNG14.3 Lid (CRN245). Fabric GX, 10 thicker sherds from a lid with a plain rounded rim, probably less than 30% of pot present.
Pottery dated: 1st-early 2nd century.

Other objects:
CRNG14.4 [28] (CRN233). Tubular glass unguent bottle; majority of reservoir. Blue/green. Melted edges and flattened body. Present height 73mm, maximum body diameter 37mm, weight 29.7g.
[29] (CRN275) Glass body fragment. Blue/green. Thick convex-curved. Possibly from lower body of tubular unguent bottle. Dimensions 13 x 8mm, wall thickness 4mm. Weight 0.8g.
(CRN245). Burnt iron fragment, possibly a nail shank fragment. Length 22 mm.
SF 48. (CRN275). a) Five iron hobnails. Length of longest 16 mm. b) Two small amorphous iron fragments, possibly hobnail heads. c) Four iron nails, all incomplete. Lengths 24, 18, 14, 12 mm. d) Nine iron nail shank fragments, all thin, possibly from a box. Lengths 29, 25, 23 x 2, 19, 17, 16 x 2 and 15 mm.

CRNG15: urned cremation burial
Description: A circular pit, 0.85m across and 0.15m deep, contained the cremation vessel. Only the base of the pot survived in situ. Most of the sherds and the cremated bone had been displaced as a result of post-depositional factors.
Cremated human bone: A total of 303g was recovered from an adult of indeterminate sex. Evidence of a non-specific infection (periostitis) was identified on the bone.
Burial goods: A pot (CRNG15.1) probably contained the cremated bone.
Date: ?Late Iron Age-early Roman/pre-Flavian

Pottery:
CRNG15.1 Pot (CRN267, CRN268, CRN277, CRN278)
(CRN267) Fabric HZ, 74 g, about 26 sherds and fragments from same pot as CRN277.
(CRN268) Fabric HZ, 15 g, 11 small sherds and about 20 fragments from same pot as CRN277.
(CRN277) Fabric HZ, 1194 g, about 100 sherds plus some fragments from a Cam 257, large round shouldered bead-rim cooking pot, about 33% of rim and about 40% of base present, organic temper entirely dissolved out leaving numerous voids in the surfaces; this vessel form is only recorded at Sheepen and is absent from assemblages recovered from the Roman fortress and Colonia (*CAR* **10,** 478).
(CRN278) Fabric HZ, 45 g, 12 small sherds and about 30 fragments from same pot as CRN277.
Pottery dated: ?Late Iron Age-early Roman.

CRNG16: inhumation burial
Description: The burial was aligned roughly south-north with the head to the south. The southern end of the grave was uncovered in a trench excavated across the ditches CRNF53/4, and the northern end lay beyond the north section. The remains of the upper part of the body lay supine in a shallow grave approximately 0.75m wide and 0.4m deep. There was no definite evidence for a nailed timber coffin. The grave was cut into the main fills of ditches CRNF53/4, and was sealed by the upper fill.
In addition to the inhumated bone, a quantity of cremated human bone fragments was recovered from the upper backfill of CRNG16. This deposit was similar to the burnt bone found in the upper fill of CRNF53 and was probably redeposited pyre debris.
Inhumated human bone: Incomplete inhumation (<25% bone elements) formed by severely abraded and fragmentary bone (277g). The skeleton is that of an adolescent individual (15-20 years old) of indeterminate sex and includes elements of skull, dentition and upper limbs. Recorded pathologies include metabolic disease (enamel hypoplasia) and dental disease (calculus).
Cremated human bone: A total of 870g was recovered from at least one adult of indeterminate sex.
Date: 1st-2nd/3rd century (based on the pottery from CRNF53).

CRNG17: pit with pyre debris
Description: This oval pit, 1.8m by 1.6m and 0.4m deep, was sectioned. The lower part of the fill was moderately charcoal-rich. Some potsherds and a small quantity of cremated bone were recovered.
Cremated human bone: A total of 1g was recovered from an adult? of indeterminate sex.
Burial goods: A quantity of potsherds from at least six vessels was scattered in the fill.
Residual finds: several prehistoric sherds and a flint flake.
Date: ?1st-2nd century

Pottery:
Pottery sherds: (CRN279) 230 g;
Fabric DJ, 4 sherds, 3 joining sherds from a thick walled bowl, although possibly could be a deep flange from a mortaria; also 1 very abraded sherd in red fabric;
Fabric GX or DJ, 2 sherds, possibly scorched or burnt;
Fabric GX, a total of 15 sherds from a minimum of 3 pots; 2 sherds, one of which is abraded, are from a vessel decorated with a combed wavy line; 1 sherd from another vessel, possibly this sherd is scorched or burnt; remaining 12 sherds possibly from one pot.
Pottery dated: ?1st-2nd century.

CRNF35: pit with pyre debris
Description: A small circular pit, 0.6m across and 0.26m deep, lay within the near turning post area. The lower part of the fill was charcoal-rich and contained a sparse scatter of cremated bone.
Cremated human bone: A total of 9g was recovered from an adult? of indeterminate sex.
Date: Roman

CRNF49: pit with pyre debris
Description: A roughly circular shallow pit, 1.65m across and 0.28m deep, was half-sectioned. The south-eastern part of CRNF49 extended beyond the limits of excavation. There was a charcoal-rich upper fill 80mm thick, from which a small quantity of cremated bone was recovered, and a lighter-coloured lower fill 0.2m thick.
Cremated human bone: A total of 3g was recovered from an adult? of indeterminate sex.
Burial goods: A copper-alloy coin of Domitian (CRNF49.1) was recovered from the upper fill in the north-west quadrant of the pit. Also scattered in the upper fill were a quantity of potsherds from at least three vessels and some iron nails. More potsherds and a hobnail came from the lower fill.
Date: late 1st-early 2nd century

Pottery:
Pottery sherds: (CRN181) 295 g;
Fabric AA, 6 sherds, 1st-early 2nd century;
Fabric DJ, 16 sherds, collared flagon, Claudio-Neronian to Flavian;
Fabric GX, 2 sherds, Roman.
Pottery dated: ?1st-early 2nd century.
(CRN183) 25 g;
Fabric DJ, 3 sherds, 1st-2nd/3rd century;
Fabric GX, 1 sherd, Roman.
(CRN189) 10 g;
Fabric DJ, 6 sherds, 1st-2nd/3rd century;
Fabric GX, 2 sherds, Roman.
(CRN209) 15 g;
Fabric AA, 1 sherd, 1st-early 2nd century;
Fabric DJ, 1 sherd, 1st-2nd/3rd century

Other objects:
CRNF49.1 SF 26. (CRN180). Copper-alloy as. Domitian, reverse Fortunae Augustic S C. RIC 401. Diameter 25 mm, weight 8.04 g. AD 87.
SF 37. (CRN183) F49. Iron hobnail. Length 18 mm.
(CRN181) F49. Iron nail. Length 53 mm.
(CRN189) F49. Iron nail shank fragment. Length 30 mm.

(163) CRNF23: redeposited ?urned cremation burial

Description: A scatter of cremated bone and pottery sherds was observed in contractor's machine-spoil on the surface of a large post-medieval or modern quarry pit (CRNF23), at approximately 0.75m below the modern ground level. The finds were in a brownish-yellow sandy matrix 80mm thick, and extended over an area of approximately 0.7m east-west by 0.42m north-south. The spoil was likely to have been upcast from a deeper part of CRNF23 by a mechanical excavator during the cutting of the pipe trench. The pottery and bone were probably derived from an urned Roman cremation burial, redeposited in the backfill of the quarry pit. Two small fragments of green glass, which were recovered during wet sieving of the retained fill, were probably modern intrusions.
Cremated human bone: A total of 71g was recovered from an adult of indeterminate sex..
Burial goods: Potsherds (CRNF23.1), probably from a cremation vessel, were found scattered with the cremated bone.
Date: Roman

Pottery:
CRNF23.1 Pot (CRN163). Fabric GX, about 40 sherds and fragments from a pot containing a cremation burial, redeposited in a modern gravel pit, 93 g, Roman.

(254) CRNF53: pyre debris deposit

Description: There was a dense scatter of cremated human bone and a small quantity of burnt animal bone in a yellowish-brown soil matrix approximately 60mm thick. This sealed numerous patches of in situ burning, at the bottom of the upper fill of roadside ditch CRNF53.
Cremated human bone: A total of 781g was recovered from at least one adult of indeterminate sex.
Date: 1st-2nd/3rd century.
Burnt animal bone: 3g (mammal).

Appendix 3.2: archival data

Cremated and inhumated remains: list of tables

Cremated skeletal remains

In main report
Table 3.6 Bone fragmentation
Table 3.7 Bone weight according to feature type
Table 3.8 Cremated remains in CRNG10

In Appendix 3.2
Context descriptions
Summary
Bone fragmentation
Bone colour
Bone identification (list of skeletal elements)
Bone identification (weight)
Anatomical bone distribution by spit
Bustum CRNG8: weight by square
Sex determination (os coxae morphology)
Sex determination (cranial morphology)
Age at death (adults)
Pathological conditions

Unburnt human skeletal remains

Context descriptions
Summary
Preservation of skeletal elements
Subadults age at death (comparison table)
Dental inventory and pathology
Postcranial measurements
Non-metric traits
Pathological conditions
Adult skeletal inventory

Cremated human bone

compiled by Francesca Boghi

Context descriptions (Size[51], type of bone[52], degree of oxidisation[53], MNI[54], skeletal areas represented[55], age[56], sex, pathologies, inclusions)

N	Feature	Feature type	Description
1	CRNG1	Unurned/pyre debris pit	Medium assemblage containing fully oxidised human bone from a minimum of one adult individual of uncertain sex. Fragment size was generally large with 50% of fragments over >10mm. The identified portion of bone (0.06%) included elements from the skull, axial skeleton and lower limbs. Inclusions: fully oxidised animal bone (< 1g) and pyre debris (charcoal).
2	CRNG2	Unurned/pyre debris pit	Medium assemblage containing fully oxidised human bone from a minimum of one adult individual of uncertain sex. Fragment size was generally medium with 66.7% of fragments over > 5mm. The identified portion of bone (16.6%) included elements from the skull and upper limbs. Inclusions: fully oxidised animal bone (< 1g).
3	CRNG3	Unurned/pyre debris pit	Medium assemblage containing fully oxidised human bone from a minimum of one adult individual of uncertain sex. Fragment size was generally large with 83.3% of fragments over > 10mm. The identified portion of bone (50%) included elements from the lower limbs. No inclusions.
4	CRNG4	Unurned cremation burial	Medium assemblage containing fully oxidised human bone from a minimum of one adult individual of uncertain sex. Fragment size was generally medium with 62.8% of fragments over > 5mm. The identified portion of bone (31.6%) included elements from all skeletal areas. Pathologies: non-specific infection. Inclusions: fully oxidised animal bone (< 1g).
5	CRNG5	Inhumation burial	Medium assemblage containing fully oxidised human bone from a minimum of one probably adult individual of uncertain sex. The bone was human in texture but no elements could be identified. No inclusions.
6	CRNG6	Unurned/pyre debris pit	Medium assemblage containing fully oxidised human bone from a minimum of one adult individual of uncertain sex. Fragment size was generally large with 62.5% of fragments over > 10mm. The identified portion of bone (25%) included elements from the lower limbs.
7	CRNG7	Pyre debris pit	Medium assemblage containing fully oxidised human bone from a minimum of one probably young adult individual (20-35 years) of uncertain sex. Fragment size was generally medium with 50% of fragments over > 5mm. The identified portion of bone (39.2%) included elements from all skeletal areas. No inclusions.

[51] Size categories: 0-99g; small; 100-999g: medium; >999g: large.
[52] Type of bone categories: human /animal
[53] Degree of oxidisation categories: unburnt, charred, incompletely oxidised, fully oxidised
[54] MNI: Minimum Number of Individuals
[55] Skeletal areas: skull, axial skeleton, upper limbs, lower limbs
[56] Age class categories: ADULT? = probably adult; ADULT = > 20 years; YOUNG ADULT (20-35 years); MIDDLE ADULT (35-50 years); MIDDLE/OLD ADULT (> 35 years); OLD ADULT (>50 years); JUVENILE (<20 years).

N	Feature	Feature type	Description
8	CRNG8	Bustum	Medium assemblage containing fully oxidised human bone from a minimum of one adult individual of uncertain sex. Fragment size was generally medium with 56.1% of fragments over > 5mm. The identified portion of bone (13.6%) included elements from all skeletal areas. This assemblage was excavated in 12 squares which revealed a mixed anatomical deposition. Inclusions: fully oxidised animal bone (5 g). Green stainng from contact with copper alloy on long bone fragments.
9	CRNG9	Urned cremation burial	Medium assemblage containing fully oxidised human bone from a minimum of one probably young adult individual (20-35 years) of uncertain sex. The identified portion of bone (35%) included elements from all skeletal areas.This assemblage was excavated in 10 spits which revealed a mixed anatomical deposition. Inclusions: incompletely oxidised animal bone (30g).
10	CRNG10	Pyre debris pit	Small assemblage containing fully oxidised human bone from a minimum of two individuals: 1 adult of uncertain sex and one juvenile (< 20 years). Fragment size was generally large with 76.9% of fragments over > 10mm. The identified portion of bone (7.7%) included elements from the upper limbs. No inclusions.
11	CRNG12	Urned cremation burial	Medium assemblage containing fully oxidised human bone from a minimum of one adult individual of uncertain sex. Fragment size was generally large with 50.6% of fragments over > 10mm. The identified portion of bone (16.4%) included elements from the skull, axial skeleton and lower limbs. No inclusions.
12	CRNG13	Urned cremation burial	Medium assemblage containing fully oxidised human bone from a minimum of one adult individual of uncertain sex. Fragment size was generally medium with 50.4.7% of fragments over > 5mm. The identified portion of bone (9.2%) included elements from the skull, upper and lower limbs. This assemblage was excavated in 7 spits which revealed an uncertain anatomical deposition as the bone from many spits could not be identified. Inclusions: fully oxidised animal bone (< 1g).
13	CRNG14	Pyre site/pyre debris pit	Medium assemblage containing fully oxidised human bone from a minimum of one adult individual of uncertain sex. Fragment size was generally medium with 78.6% of fragments over > 5mm. The identified portion of bone (19%) included elements from the skull, upper and lower limbs. No inclusions.
14	CRNG15	Urned cremation burial	Medium assemblage containing fully oxidised human bone from a minimum of one adult individual of uncertain sex. Fragment size was generally large with 57.1% of fragments over > 10mm. The identified portion of bone (36%) included elements from all skeletal areas. No inclusions.
15	CRNG16	Inhumation burial	Medium assemblage containing fully oxidised human bone from a minimum of one adult individual of uncertain sex. Fragment size was generally large with 55% of fragments over > 10mm. The identified portion of bone (17.6%) included elements from all skeletal areas. Pathologies: non-specific infection. No inclusions.
16	CRNG17	Pyre debris pit	Medium assemblage containing fully oxidised human bone from a minimum of one probably adult individual of uncertain sex. The bone was human in texture but no elements could be identified. No inclusions.
17	CRNF21	Ditch	Medium assemblage containing fully oxidised human bone from a minimum of one probably adult individual of uncertain sex. The bone was human in texture but no elements could be identified. No inclusions.
18	CRNF23	?urned cremation burial redeposited in a quarry pit	Medium assemblage containing fully oxidised human bone from a minimum of one adult individual of uncertain sex. Fragment size was generally large with 50.7% of fragments over > 10mm. The identified portion of bone (39.4%) included elements from all skeletal areas. No

N	Feature	Feature type	Description
			inclusions.
19	CRNF35	Unurned/pyre debris pit	Medium assemblage containing fully oxidised human bone from a minimum of one probably adult individual of uncertain sex. Fragment size was generally medium with 66.7% of fragments over > 5mm. The identified portion of bone (11.1%) included elements from the skull. No inclusions.
20	CRNF49	Pyre debris pit	Medium assemblage containing fully oxidised human bone from a minimum of one probably adult individual of uncertain sex. The bone was human in texture but no elements could be identified. No inclusions.
21	CRNF53	Ditch	Medium assemblage containing fully oxidised human bone from a minimum of one adult individual of uncertain sex. Fragment size was generally large with 54.6% of fragments over > 10mm. The identified portion of bone (20.1%) included elements from all skeletal areas. Inclusions: fully oxidised animal bone (3g).

Summary

N	Feature	Feature Type	Human / Animal[57]	Bone state[58]	MNI[59]	Age class[60]	Sex	Pathologies	Inclusions	**Total (human bone only)**	Tot. weight (inclusions included)
1	CRNG1	Unurned/pyre debris pit	Human	Fully oxidised	1	Adult	?	none	Animal bone (<1g) (mammal and goose); pyre debris (charcoal in the residue)	455	455
2	CRNG2	Unurned /pyre debris pit	Human	Fully oxidised	1	Adult	?	none	Animal bone (<1g) (mammal, vertebra fragment)	6	6
3	CRNG3	Unurned/pyre debris pit	Human	Fully oxidised	1	Adult	?	none	none	6	6
4	CRNG4	Unurned cremation burial	Human	Fully oxidised	1	Adult	?	Non-specific infection	Animal bone (<1g) (mammal, pig's humerus and unidentified)	373	373
5	CRNG5	Inhumation burial	Human	Fully oxidised	1	Adult?	?	none	none	1	1
6	CRNG6	Unurned/pyre debris pit	Human	Fully oxidised	1	Adult	?	none	1 fragment of unburnt shell (<1g)	8	8
7	CRNG7	Pyre debris pit	Human	Fully oxidised	1	Adult (young adult?)	?	none	none	148	148

[57] Human? = probably human
[58] Bone state categories: FO = fully oxidised; IO = incompletely oxidised; unburnt: = not exposed to heat
[59] MNI = Minimum Number of individuals
[60] Age class categories: ADULT? = probably adult; ADULT = > 20 years; YOUNG ADULT (20-35 years); MIDDLE ADULT (35-50 years); MIDDLE/OLD ADULT (> 35 years); OLD ADULT (>50 years); JUVENILE (<20 years).

N	Feature	Feature Type	Human / Animal[57]	Bone state[58]	MNI[59]	Age class[60]	Sex	Pathologies	Inclusions	**Total (human bone only)**	Tot. weight (inclusions included)
8	CRNG8	Bustum	Human	Fully oxidised	1	Adult	?	none	Animal bone (5g) (sheep/goat mandible, small mammal and mammal)	433	438
9	CRNG9	Urned cremation burial	Human	HUMAN BONE: Fully oxidised; ANIMAL BONE: Incompletely oxidised	1	Adult (young adult?)	?	none	Animal bone (large mammal, ?cattle) (30g)	800	830
10	CRNG10	Pyre debris pit	Human	Fully oxidised	1	Adult + possible juvenile rib	?	none	none	13	13
11	CRNG12	Urned cremation burial	Human	Fully oxidised	1	Adult	?	none	none	79	79
12	CRNG13	Urned cremation burial	Human	Fully oxidised	1	Adult	?	none	Animal bone (mammal) (<1g)	393	393
13	CRNG14	Pyre site/pyre debris pit	Human	Fully oxidised	1	Adult	?	none	none	42	42
14	CRNG15	Urned cremation burial	Human	Fully oxidised	1	Adult	?	Non-specific infection	none	303	303
15	CRNG16	Inhumation burial	Human	Fully oxidised	1	Adult	?	none	none	870	870
16	CRNG17	Pyre debris pit	Human	Fully oxidised	1	Adult?	?	none	none	1	1
17	CRNF21	Ditch	Human	Fully oxidised	1	Adult?	?	none	none	1	1
18	CRNF23	?urned cremation burial redeposited in a quarry pit	Human	Fully oxidised	1	Adult	?	none	none	71	71
19	CRNF35	Unurned/pyre	Human	Fully oxidised	1	Adult?	?	none	none	9	9

N	Feature	Feature Type	Human / Animal[57]	Bone state[58]	MNI[59]	Age class[60]	Sex	Pathologies	Inclusions	**Total (human bone only)**	Tot. weight (inclusions included)
		debris pit									
20	CRNF49	Pyre debris pit	Human	Fully oxidised	1	Adult?	?	none	none	3	3
21	CRNF53	Ditch	Human	Fully oxidised	1	Adult	?	none	Animal bone (mammal) (3g)	781	784

Bone fragmentation

Feature	10 mm	%	5 mm	%	2mm (extracted weight)	%	residue	%	*% of bone in the residue (estimated)*	Total (human bone only)	Tot. weight (inclusions included)	*Max. fragment size (mm)*
CRNG 1	86	50	202	40	137	10	24	0	*60*	**455**	455	*26*
CRNG 2	1	16.7	4	66.7	1	16.7	0	0	*0*	**6**	6	*18*
CRNG 3	5	83.3	1	16.7	0	0	0	0	*0*	**6**	6	*24*
CRNG 4	124	32.3	234	62.8	13	3.5	2	0.5	*10*	**373**	373	*41*
CRNG 5	<1	100	0	0	0	0	0	0	*0*	**1**	1	*13*
CRNG 6	5	62.5	2	25	1	12.5	0	0	*0*	**8**	8	*26*
CRNG 7	65	44	74	50	6	4	3	2	*20*	**148**	148	*42*
CRNG 8	129	29.8	243	56.1	56	12.9	5	1.1	*20*	**433**	438	*48*
CRNG 9	453	56.6	298	37.3	40	5	9	1.1	*30*	**800**	830	*79*
CRNG 10	10	76.9	3	23.1	0	0	0	0	*0*	**13**	13	*25*
CRNG 12	40	50.6	36	45.6	2	2.5	1	1.3	*40*	**79**	79	*34*
CRNG 13	41	10.5	198	50.4	131	33.3	23	5.8	*30*	**393**	393	*27*
CRNG 14	7	16.7	33	78.6	2	4.7	0	0	*0*	**42**	42	*30*
CRNG 15	173	57.1	114	37.6	15	5	1	0.3	*20*	**303**	303	*81*
CRNG 16	475	55	349	40.4	31	3.6	9	1.0	*30*	**870**	870	*59*
CRNG 17	1					0		0		**1**	1	*26*
CRNF 21	<1	100	0	0	0	0	0	0	*0*	**1**	1	*18*
CRNF 23	36	50.7	31	43.7	4	5.6	0	0	*60*	**71**	71	*34*
CRNF 35	1	11.1	6	66.7	2	22.2	0	0	*0*	**9**	9	*23*
CRNF 49	3	100	0	0	0	0	0	0	*0*	**3**	3	*19*
CRNF 53	427	54.6	345	44	7	0.9	4	0.5	*30*	**781**	784	*50*

Bone colour[61] and colour changes distribution: (exocranial / endocranial / diploë; cortical / medullary surface; skeletal area / side)

N	Feature	**Colour (visual estimate of % affected)**	**Degree of oxidisation and estimated temperature**
1	CRNG1	BUFF/WHITE 100%. Soil staining	Fully oxidised (>600°)
2	CRNG2	BUFF/WHITE 100%. Soil staining	Fully oxidised (>600°)
3	CRNG3	BUFF/WHITE 100%. Soil staining	Fully oxidised (>600°)
4	CRNG4	BUFF/WHITE 90% cortical bone; BLUE/GREY 5%, cortical bone, skull; BLACK 5% medullary cavity long bones	Fully oxidised (>600°)
5	CRNG5	BUFF/WHITE 100%. Soil staining	Fully oxidised (>600°)
6	CRNG6	BUFF/WHITE 100%. Soil staining	Fully oxidised (>600°)
7	CRNG7	BUFF/WHITE 100%. Soil staining	Fully oxidised (>600°)
8	CRNG8	BUFF/WHITE 95% cortical bone; BLUE/GREY 5% medullary cavity long bones, cancellous bone. Soil staining. Green stainng from contact with copper alloy on long bone fragments	Fully oxidised (>600°)
9	CRNG9	HUMAN BONE: BUFF/WHITE 95% cortical bone; BLUE/GREY 5% medullary cavity long bones, cancellous bone. ANIMAL BONE: BLUE/GREY 90%, BUFF/WHITE 10%	HUMAN BONE: Fully oxidised (>600°); ANIMAL BONE: Incompletely oxidised (up to 600°);
10	CRNG10	BUFF/WHITE 100%	Fully oxidised (>600°)
11	CRNG12	BUFF/WHITE 90% cortical bone; BLUE/GREY 5%, cortical bone lower limbs; BLACK 5% medullary cavity long bones	Fully oxidised (>600°)
12	CRNG13	BUFF/WHITE 95% cortical bone; BLUE/GREY 5% medullary cavity long bones, cancellous bone	Fully oxidised (>600°)
13	CRNG14	BUFF/WHITE 100%. Soil staining	Fully oxidised (>600°)
14	CRNG15	BUFF/WHITE 95% cortical bone; BLUE/GREY 5% medullary cavity long bones, cancellous bone	Fully oxidised (>600°)
15	CRNG16	BUFF/WHITE 95% cortical bone; BLUE/GREY 5% medullary cavity long bones, cancellous bone	Fully oxidised (>600°)

[61] Colour categories and corresponding estimated temperature: BROWN/ORANGE: unburnt; BLACK: charred (*c.*300°); BLUE/GREY: incompletely oxidised (up to 600°); BUFF/WHITE; fully oxidised (> 600°).

N	Feature	**Colour (visual estimate of % affected)**	**Degree of oxidisation and estimated temperature**
16	CRNG17	BUFF/WHITE 100%	Fully oxidised (>600°)
17	CRNF21	BUFF/WHITE 100%	Fully oxidised (>600°)
18	CRNF23	BUFF/WHITE 95% cortical bone; BLUE/GREY 5% medullary cavity long bones, cancellous bone	Fully oxidised (>600°)
19	CRNF35	BUFF/WHITE 100%	Fully oxidised (>600°)
20	CRNF49	BUFF/WHITE 100%	Fully oxidised (>600°)
21	CRNF53	BUFF/WHITE 95% cortical bone; BLUE/GREY 5% medullary cavity long bones, cancellous bone	Fully oxidised (>600°)

Bone identification (list of skeletal elements)[62]

N	Feature	SKULL	AXIAL SKELETON	UPPER LIMBS	LOWER LIMBS	NOTES
1	CRNG1	Parietal (open suture) 7 dental rootS Temporal (petrous)	3 transverse processes Ilium body	3 fragments of hand phalanges	Femur M1/3 Tibia M1/3	Unidentified long bone fragments
2	CRNG2	Parietal		3 fragments of hand phalanges		Unidentified long bone fragments
3	CRNG3				Femur M1/3	6mm femur wall thickness
4	CRNG4	Parietal Sphenoid	Ilium (acetabulum, body) Vertebral body (cervical) (part of) 1 spinous process (lumbar vertebra)	Radius M1/3, DEPI Metacarpal (part of) 1 proximal phalanx (DEPI, M1/3) L, R Humerus DEPI	Femur M1/3, DEPI Talus (part of) 1st metatarsal DEPI	
5	CRNG5					Unidentified long bone fragments
6	CRNG6				Femur m1/3	Unidentified long bone fragments
7	CRNG7	Parietal (open sutures) 3 dental roots Mandibular ramus (part of)	2 transverse processes of vertebra	Radius M1/3 Lunate	Femur M1/3 Tibia M1/3 Talus (part of)	
8	CRNG8	Parietal 5 dental roots Temporal	1 rib fragment 3 trasverse processes Ilium body	Radius M1/3 Ulna PEPI	Femur M1/3 Tibia M1/3	
9	CRNG9	Parietal Termoral (petrous) Mandibular ramus (4	Part of atlas 2 transverse processes 8 rib fragments	Radius M1/3, PEPI Humerus PEPI Metatarsal (part of)	Femur M1/3 Tibia M1/3	

[62] Code key: fb = finds bag; L = left; R = right; PEPI = proximal epiphysis; P1/3 = proximal 1/3; M1/3 = middle 1/3; D1/3 = distal 1/3; DEPI = distal epiphysis.

N	Feature	**SKULL**	**AXIAL SKELETON**	**UPPER LIMBS**	**LOWER LIMBS**	**NOTES**
		sockets) Sphenoid	Ilium (part of body and acetabulum) Vertebral bodies 2 lumbar vertebrae (spinos processes only) ischium			
10	CRNG10			Radius M1/3		Unidentified long bone fragments
11	CRNG12	Mandible (coronoid process)	Ilium(part of)		Femur M1/3 Talus (part of)	Unidentified long bone fragments; articular surfaces
12	CRNG13	Parietal (open sutures)		Ulna P1/3 Radius M1/3	Femur M1/3 Tibia M1/3	
13	CRNG14	Parietal		Radius M1/3 1 fragment of hang phalanx	Femur M1/3	Unidentified long bone fragments
14	CRNG15	R mandibular ramus (part of) Parietal	Transverse process Ilium (part of body) Sacrum S1 (part of R ala)	Humerus M1/3	Femur M1/3, DEPI Tibia M1/3	Note: few skull fragments
15	CRNG16	Parietal 2 maxillary permanent premolars Mandibular ramus	Ilum acetabulum Ilium iliac crest	Radius M1/3 1 distal hand phalanx Rib fragments Humerus DEPI	Tibia M1/3 Femur M1/3, DEPI Fibula M1/3	
16	CRNG17					Unidentified long bone fragments
17	CRNF21					Unidentified long bone fragments
18	CRNF23	Parietal Mandibular ramus	3 fragments of transverse processes	Radius M1/3 Scapula body	Tibia M1/3 Femur M1/3	Unidentified long bone fragments
19	CRNF35	1 skull fragment with open sututre				Unidentified long bone fragments
20	CRNF49					Unidentified long bone

N	Feature	**SKULL**	**AXIAL SKELETON**	**UPPER LIMBS**	**LOWER LIMBS**	**NOTES**
						fragments
21	CRNF53	Parietal 1 mandibular permanent molar	Part of vertebral body Rib fragment	Humerus M1/3	Tibia M1/3 Femur M1/3 Fibula M1/3 Part of 1st metatarsal	

Bone identification (weight)

N	Feature	**SKULL (g.)**	**AXIAL SKELETON (g.)**	**UPPER LIMBS (g.)**	**LOWER LIMBS (g.)**	**TOTAL IDENTIFIED (g.)**	***% IDENTIFIED***	**WEIGHT (g.)**
1	CRNG1	20	3		6	**29**	*0.06*	**455**
2	CRNG2	< 1		1		**1**	*16.6*	**6**
3	CRNG3				3	**3**	*50*	**6**
4	CRNG4	47	18	22	31	**118**	*31.6*	**373**
5	CRNG5					**0**	*0*	**<1**
6	CRNG6				2	**2**	*25*	**8**
7	CRNG7	30	2	10	16	**58**	*39.2*	**148**
8	CRNG8	21	1	6	32	**59**	*13.6*	**433**
9	CRNG9	100	85	32	63	**280**	*35*	**800**
10	CRNG10			1		**1**	*7.7*	**13**
11	CRNG12	1	3		9	**13**	*16.4*	**79**
12	CRNG13	14		2	20	**36**	*9.2*	**393**
13	CRNG14	2		1	5	**8**	*19*	**42**
14	CRNG15	2	4	6	97	**109**	*36*	**303**
15	CRNG16	33	9	16	94	**152**	*17.5*	**870**
16	CRNG17					**0**	*0*	**1**
17	CRNF21					**0**	*0*	**<1**
18	CRNF23	7	1	3	17	**28**	*39.4*	**71**
19	CRNF35	1				**1**	*11.1*	**9**
20	CRNF49					**0**	*0*	**3**
21	CRNF53	20	16	8	69	**157**	*20.1*	**781**

Anatomical bone distribution by spit[63]

Feature	Urn	G13 (216)	Spit 1	Spit 2	Spit 3	Spit 4	Spit 5	Spit 6	Spit 7	Spit 8	Spit 9	Spit 10	Spit 11	Deposition order
CRNG9	SK, AX, UL, LL	-	-	-	U	U	SK, AX, LL	U	SK, LB	LL, U	LB	U	U	MIXED
CRNG13	SK, UL, LL	LB	-	U	U	U	U	-	-	LB	-	-	-	UNCERTAIN

Bustum CRNG8: weight by square

Feature	G8 (188)	G8 (200)	G8 (218)	Sq I	Sq II	Sq III	Sq IV	Sq V	Sq VI	Sq VII	Sq VIII	Sq IX	Sq X	Sq XI	Sq XII	Deposition order
CRNG8	LB, U	Lb, U	LL, LB	LB	U	U	LB	UL	SK, LB	SK, AX, UL, LL	SK, AX, UL, LL	SK, LB	UL, LL	SK, AX, LL	SK, AX, LB	MIXED
Weight (g)	**3**	**4**	**3**	**<1**	**<1**	**<1**	**7**	**51**	**3**	**80**	**104**	**21**	**22**	**110**	**25**	**433g**

[63] SK = skull; AX = axial skeleton; UL = upper limbs; LL = lower limbs; LB = unidentified limb bones; U = unidentified bone

Sex determination (os coxae morphology)[64]

Skeleton	Subpubic concavity (1-9)	Subpubic angle (1-9)	Ischio-pubic ramus ridge (1-9)	Ventral arc (1-9)	Pubic region morphology (5-1) 65	Arc compose (1-9)	Sciatic notch (5-1)	Pre-auricular sulcus (0-4)	Metric data66	SUMMARY SEX67 (1-9)

[64] Sexing criteria from the Global History of Health project *Data Collection Codebook* (AAVV, 2005) unless otherwise specified.
[65] Brickley, M. and McKinley J.I. IFA Paper n.7 2004
[66] From Bass, 1987
[67] Summary sex categories from the Global History of Health project *Data Collection Codebook* (AAVV, 2005): 1 = Definite Male; 2, 3, 4 = Probable Male; 5 = Sex Uncertain; 6, 7, 8 = Probable Female; 9 = Definite Female

Sex determination (cranial morphology)[68]

Skeleton	Nuchal Crest (5-1)	Mastoid process (5-1)	Supraorbital margin (5-1)	Prominence of glabella (5-1)	Mental eminence (5-1)	Mandible morphology (2-1)[69]	SUMMARY SEX (1-9)

Age at death (adults)[70],[71]

FEATURE	EPIPHYSEAL UNION	AURICULAR SURFACE (SUCHEY-BROOKES)	PUBIC SYMPHYSIS	CRANIAL SUTURES	SUMMARY AGE CODE:

[68] Sexing criteria from Buikstra and Ubelaker (1994) unless other wise stated. Summary sex categories from the Global History of Health project *Data Collection Codebook* (AAVV, 2005): 1 = Definite Male; 2, 3, 4 = Probable Male; 5 = Sex Uncertain; 6, 7, 8 = Probable Female; 9 = Definite Female

[69] Brickley, M. and McKinley J.I. IFA Paper n.7 2004

[70] Ageing criteria and age categories from Buikstra and Ubelaker (1994).

[71] Stages of fusion from Buikstra and Ubelaker (1994). Code key: 0 = open; 1 = initial fusion; 2 = fused. Ageing according to Scheuer and Black (2000)

Pathological conditions

Context	Side	Bone	Section	Aspect	Description	Extent	Healing state	Distribution	Pathology	Pathology class
CRNG4 (81)	-	femur	M1/3	-	Abnormal new bone formation. Thin deposit of remodelled lamellar bone	-	Healed	Other side not available	Periostitis	Non- specific infection
CRNG15 (278)	-	femur	M1/3	-	Abnormal new bone formation. Thin deposit of remodelled lamellar bone	-	Healed	Other side not available	Periostitis	Non- specific infection

Inhumated human skeletal remains (HSR)

compiled by Francesca Boghi

Context descriptions

(MNI[72], age[73], sex, pathologies)

Feature	Feature type	Tot. weight	Provisional date	Description
CRNG16	Inhumation	277g	Roman	Incomplete inhumation (<25% bone elements) formed by severely abraded and fragmentary bone. The skeleton is that of an adolescent individual (15-20 years old) and includes elements of skull, dentition and upper limbs. Pathologies: metabolic disease (enamel hypoplasia).

Summary

FINDS BAGS	GRAVE	COMPLETENESS	PRESERVATION[74]	AGE AT DEATH	SEX	MNI adults (> 20 years)	MNI juveniles (< 20 years)	STATURE[75]	PATHOLOGIES	NOTES

[72] MNI: Minimum Number of Individuals
[73] Age class categories: ADULT? = probably adult; ADULT = > 20 years; YOUNG ADULT (20-35 years); MIDDLE ADULT (35-50 years); MIDDLE/OLD ADULT (> 35 years); OLD ADULT (>50 years); JUVENILE (<20 years).
[74] Grading system from Connell and Rauxloh, (2003). 1= GOOD; 2 = MODERATE; 3 = POOR
[75] Brickley and McKinley (2004)

FINDS BAGS	GRAVE	COMPLETENESS	PRESERVATION[74]	AGE AT DEATH	SEX	MNI adults (> 20 years)	MNI juveniles (< 20 years)	STATURE[75]	PATHOLOGIES	NOTES
280, 281, 282, 283	CRNG16	<25%	POOR	15-20 years	UNCERTAIN		1	-	Enamel hypoplasia	

Preservation of skeletal elements

Sk	Skull	Maxilla	Mandible	Vertebrae	Ribs	Pelvis	Upper limbs	Hands	Lower limbs	Feet	NOTES
CRNG16	25-75%	<25%	25-75%				25-75%				

Subadults age at death (comparison table)[76]

CTXT	Epiphyseal union	Dental development	Metric development	Estimated age at death	Age class
CRNG16		M3 unerupted Root ½ complete (16.2 years)		15-20 YEARS	15-20 YEARS

[76] Stages of fusion from Buikstra, J. E. and Ubelaker, D. H. (1994). and Brickley and McKinley, 2004. Code key: 0 = open; 1 = initial fusion; 2 = fused; CTXT = context; S = sacrum; prox. = proximal; epi. = epiphysis. Age estimation from Scheuer and Black, 2000

Dental inventory and pathology[77]

Skeleton maxilla CRNG16

MAXILLA	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Presence[78]	8	2	2				2			2			2	2	2	8
Wear[79]		2	3											3	2	
Caries[80]																
Abscess																
Calculus																
Enamel Hypoplasia							122			122						
Periodontal disease																
Continued eruption																

[77] **NUMBERING SYSTEM Permanent dentition**

Maxillary		**Mandibular**	
Right	**Left**	**Left**	**Right**
1 = 3rd molar	9 = 1st incisor	17 = 3rd molar	25 = 1st incisor
2 = 2nd molar	10 = 2nd incisor	18 = 2nd molar	26 = 2nd incisor
3 = 1st molar	11 = canine	19 = 1st molar	27 = canine
4 = 2nd premolar	12 = 1st premolar	20 = 2nd premolar	28 = 1st premolar
5 = 1st premolar	13 = 2nd premolar	21 = 1st premolar	29 = 2nd premolar
6 = canine	14 = 1st molar	22 = canine	30 = 1st molar
7 = 2nd incisor	15 = 2nd molar	23 = 2nd incisor	31 = 2nd molar
8 = 1st incisor	16 = 3rd molar	24 = 1st incisor	32 = 3rd molar

[78] From Buikstra and Ubelaker (1994)

Dental presence categories

1 = Present, but not in occlusion

2 = Present, development completed, in occlusion

3 = Missing, with no associated alveolar bone

4 = Missing with alveolus resorbing or resorbed : premortem loss

5 = Missing with no alveolar resorption: postmortem loss

6 = missing, congenital absence

7 = present, damage renders measurement impossible

8 = present but unobservable (e.g. in crypt)

[79] From Steckel *et al.* 2006 (after Smith, 1984)

[80] Dental pathology recorded after Connell and Rauxloh (2003)

Congenital defects																

Skeleton mandible CRNG16

MANDIBLE	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17
Presence		2	2	5	5	3	3	3	3	2	2	2	2	2	2	8
Wear		2	3											2	3	
Caries																
Abscess																
Calculus		1	1											1	1	
Enamel Hypoplasia		122	122							121	122	121	122	121	122	
Periodontal disease																
Continued eruption																
Congenital defects																

Postcranial measurements[81]

CTXT	35L*	35R*	40L	41L	42L*	43L*	44L*	40R	41R	42R*	43R*	44R*	45L	45R	48L	48R

CTXT	53L*	54L*	56L*	57L*	58L*	59L*	56R*	57R*	58R*	59R*	60L	62L	63L*	64L	65L

CTXT	60R	62R	63R*	64R	65R	LCT L	72L*	73L*	LCT R	72R*	73R*	75L	75R

[81] Measurement numbering and definition from Buikstra and Ubelaker (1994). unless stated otherwise. Minimum recommended measurements from Brickley and McKinley 2004. Additional measurements marked with *. Code key: CTXT: context; 35: clavicle (maximum length); 40: Humerus (maximum length); 41: Humerus (epicondylar breadth); 42: Humerus (vertical diameter of head); 43: Humerus (maximum diameter at midshaft); 44: Humerus (minimum diameter at midshaft); 45: Radius (maximum length); 48: Ulna (maximum length); 53: Sacrum (anterior length); 54: Sacrum (anterior superior breadth); 56: Os coxae (height); 57: Os coxae (iliac breadth); 58: Os coxae (pubis length); 59: Os coxae (ischium length); 60: Femur (maximum length); 62: Femur (epicondylar breadth); 63: Femur (maximum diameter of the femur head; 64: Femur (anterior-posterior subtrocanteric diameter; 65: Femur (medial-lateral subtrocanteric diameter); LCT: Tibia (whole length); 72: Maximum diameter at the nutrient foramen; 73: Medial-lateral diameter at the nutrient foramen; 75: Fibula: (maximum length).

Non metric traits[82]

	SKULL																	
CTXT	1 METOPISM	4 INFRAORBITAL FORAMEN	6 PARIETAL FORAMEN (L, R)		7A EPIPTERIC BONES (L, R)		7B CORONAL WORMIAN BONES (L, R)		7C BREGMATIC OSSICLE	7D SAGITTAL WORMIAN BONES	7E APICAL BONE	7F LAMBOID WORMIAN BONES (L, R)	
CRNG16							0	0	0	0			

	SKULL										MAXILLA			MANDIBLE	
CTXT	7G ASTERIONIC BONES	7H OCCIPITO-MASTOID SUTURE OSSICLES (L, R)		FRONTO-TEMPORAL ARTICULATION (L, R)		10 HYPOGLOSSAL CANAL (L, R)		17 AUDITORY EXOSTOSUS (L, R)		18 MASTOID FORAMEN EXSUTURAL (L, R)		PALATINE TORUS	MAXILLARY TORUS (L, R)		20 MANDIBULAR TORUS (L, R)	
CRNG16								0	0						0	0

	CERVICAL VERTEBRAE				HUMERUS		FEMUR		TIBIA		SCAPULA		PATELLA	
CTXT	22B POSTERIOR ATLAS BRIDGE (lateral / posterior)		SUPERIOR ATLAS FACETS	23 ACCESSORY TRANSVERSE FORAMINA IN CERVICAL VERTEBRAE	24 DISTAL SEPTAL APERTURE (L, R)		FEMORAL PLAQUE		TIBIAL SQUATTING FACETS (L, R)		SUPRASCAPULAR FORAMEN (L, R)		VASTUS NOTCH PRESENT (L, R)	
CRNG16														

[82] Traits definitions from Buikstra and Ubelaker (1994). Minimum recommended traits from Brickley and McKinley, 200. Code key: CTXT: context; blank = missing relevant bone segment; 0: trait absent; 1 = trait present; L = left; R = right; Trait definition: 1: metopism; 4: infraorbital foramen; 6: parietal foramen; 7: sutural bones (a = epiteric; b = coronal; c = bregmatic; d = sagittal; e = apical; f = lamboid; g: asterionic bones; h = occipito-mastoid; I = parietal); 10: hypoglossal canal; 17: auditory exostosis; 18: mastoid foramen exsutural; 20: mandibular torus; 22b: posterior atlas bridge; 23: accessory transverse foramina in cervical vertebrae; 24: distal septal aperture.

Pathological conditions

Context	Side	Bone	Section	Aspect	Description	Extent	Healing state	Distribution	Pathology	Pathology class

Adult skeletal inventory

	SIDE / BONE ELEMENT / **BONE SECTION**	**CRNG16**
SKULL	LEFT FRONTAL	
	LEFT ORBIT	
	Left frontal sinus*	
	RIGHT FRONTAL	
	RIGHT ORBIT	
	Right frontal sinus*	
	LEFT PARIETAL	
	RIGHT PARIETAL	1
	OCCIPITAL	1
	LEFT TEMPORAL	1
	Left petrous temporal*	1
	RIGHT TEMPORAL	1
	left tmj*	
	Right petrous temporal*	1
	right tmj*	
	LEFT ZYGOMATIC	
	RIGHT ZYGOMATIC	
	LEFT MAXILLA	1
	Left maxillary sinus*	
	RIGHT MAXILLA	
	Right maxillary sinus*	
	LEFT PALATINE	
	RIGHT PALATINE	
	LEFT NASAL	
	RIGHT NASAL	
	LEFT LACRIMAL	
	RIGHT LACRIMAL	
	SPHENOID	
	VOMER	
	ETHMOID	
	LEFT MANDIBLE	1
	left condyle*	
	RIGHT MANDIBLE	1
	right condyle*	
	HYOID	
	CRICOID	
	THYROID	
	Ear bones (n.6)*	
SHOULDER	LEFT CLAVICLE medial end*	
	LEFT CLAVICLE acromial end*	
	RIGHT CLAVICLE medial end*	
	RIGHT CLAVICLE acromial end*	
	LEFT SCAPULA	
	LEFT ACROMION*	
	LEFT GLENOID*	
	RIGHT SCAPULA	
	RIGHT ACROMION*	

	SIDE / BONE ELEMENT / **BONE SECTION**	**CRNG16**
	RIGHT GLENOID*	
	STERNUM MANUB	
	STERNUM BODY	
PELVIS	LEFT ILIUM	
	LEFT PUBIS	
	LEFT ISCHIUM	
	left acetabulum*	
	left auricular*	
	RIGHT ILIUM	
	RIGHT PUBIS	
	RIGHT ISCHIUM	
	right acetabulum*	
	right auricular*	
SACRUM	s1	
	s2	
	s3	
	s4	
	s5	
	COCCYX	
UPPER LIMBS	LEFT HUMERUS PROXIMAL EPIPHYSIS	
	LEFT HUMERUS PROXIMAL 1/3	
	LEFT HUMERUS MIDDLE 1/3	1
	LEFT HUMERUS DISTAL 1/3	
	LEFT HUMERUS DISTAL EPIPHYSIS	
	RIGHT HUMERUS PROX EPIPHYSIS	
	RIGHT HUMERUS PROXIMAL 1/3	
	RIGHT HUMERUS MIDDLE 1/3	1
	RIGHT HUMERUS DISTAL 1/3	
	RIGHT HUMERUS DISTAL EPIPHYSIS	
	LEFT RADIUS PROXIMAL EPIPHYSIS	
	LEFT RADIUS PROXIMAL 1/3	
	LEFT RADIUS MIDDLE 1/3	
	LEFT RADIUS DISTAL 1/3	
	LEFT RADIUS DISTAL EPIPHYSIS	
	RIGHT RADIUS PROXIMAL EPIPHYSIS	
	RIGHT RADIUS PROXIMAL 1/3	
	RIGHT RADIUS MIDDLE 1/3	
	RIGHT RADIUS DISTAL 1/3	
	RIGHT RADIUS DISTAL EPIPHYSIS	
	LEFT ULNA PROXIMAL EPIPHYSIS	

	SIDE / BONE ELEMENT / **BONE SECTION**	**CRNG16**
	LEFT ULNA PROXIMAL 1/3	
	LEFT ULNA MIDDLE 1/3	
	LEFT ULNA DISTAL 1/3	
	LEFT ULNA DISTAL EPIPHYSIS	
	RIGHT ULNA PROXIMAL EPIPHYSIS	
	RIGHT ULNA PROXIMAL 1/3	
	RIGHT ULNA MIDDLE 1/3	
	RIGHT ULNA DISTAL 1/3	
	RIGHT ULNA DISTAL EPIPHYSIS	
LOWER LIMBS	LEFT FEMUR PROXIMAL EPIPHYSIS	
	LEFT FEMUR PROXIMAL 1/3	
	LEFT FEMUR MIDDLE 1/3	
	LEFT FEMUR DISTAL 1/3	
	LEFT FEMUR DISTAL EPIPHYSIS	
	RIGHT FEMUR PROXIMAL EPIPHYSIS	
	RIGHT FEMUR PROXIMAL 1/3	
	RIGHT FEMUR MIDDLE 1/3	
	RIGHT FEMUR DISTAL 1/3	
	RIGHT FEMUR DISTAL EPIPHYSIS	
	LEFT PATELLA	
	RIGHT PATELLA	
	LEFT TIBIA PROXIMAL EPIPHYSIS	
	LEFT TIBIA PROXIMAL 1/3	
	LEFT TIBIA MIDDLE 1/3	
	LEFT TIBIA DISTAL 1/3	
	LEFT TIBIA DISTAL EPIPHYSIS	
	RIGHT TIBIA PROXIMAL EPIPHYSIS	
	RIGHT TIBIA PROXIMAL 1/3	
	RIGHT TIBIA MIDDLE 1/3	
	RIGHT TIBIA DISTAL 1/3	
	RIGHT TIBIA DISTAL EPIPHYSIS	
	LEFT FIBULA PROXIMAL EPIPHYSIS	
	LEFT FIBULA PROXIMAL 1/3	
	LEFT FIBULA MIDDLE 1/3	
	LEFT FIBULA DISTAL 1/3	
	LEFT FIBULA DISTAL EPIPHYSIS	
	RIGHT FIBULA PROXIMAL EPIPHYSIS	

	SIDE / BONE ELEMENT / **BONE SECTION**	**CRNG16**
	RIGHT FIBULA PROXIMAL 1/3	
	RIGHT FIBULA MIDDLE 1/3	
	RIGHT FIBULA DISTAL 1/3	
	RIGHT FIBULA DISTAL EPIPHYSIS	
HANDS	LEFT SCAPHOID	
	LEFT LUNATE	
	LEFT TRIQUETRAL	
	LEFT PISIFORM	
	LEFT TRAPEZIUM	
	LEFT TRAPEZOID	
	LEFT CAPITATE	
	LEFT HAMATE	
	LEFT SESMOID	
	LEFT 1ST METACARPAL	
	LEFT 2ND METACARPAL	
	LEFT 3RD METACARPAL	
	LEFT 4TH METACARPAL	
	LEFT 5TH METACARPAL	
	RIGHT SCAPHOID	
	RIGHT LUNATE	
	RIGHT TRIQUETRAL	
	RIGHT PISIFORM	
	RIGHT TRAPEZIUM	
	RIGHT TRAPEZOID	
	RIGHT CAPITATE	
	RIGHT HAMATE	
	RIGHT SESMOID	
	RIGHT 1ST METACARPAL	
	RIGHT 2ND METACARPAL	
	RIGHT 3RD METACARPAL	
	RIGHT 4TH METACARPAL	
	RIGHT 5TH METACARPAL	
	PHALANGES [HANDS] PROXIMAL* (n. 10)	
	PHALANGES [HANDS] MEDIAL* (n. 8)	
	PHALANGES [HANDS] DISTAL* (n. 10)	
FEET	LEFT TALUS	
	LEFT CALCANEUS	
	LEFT 1ST CUNEIFORM	
	LEFT 2ND CUNEIFORM	
	LEFT 3RD CUNEIFORM	
	LEFT NAVICULAR	
	LEFT CUBOID	
	LEFT SESMOID	
	LEFT 1ST METATARSAL	
	LEFT 2ND METATARSAL	
	LEFT 3RD METATARSAL	
	LEFT 4TH METATARSAL	

	SIDE / BONE ELEMENT / **BONE SECTION**	**CRNG16**
	LEFT 5TH METATARSAL	
	RIGHT TALUS	
	RIGHT CALCANEUS	
	RIGHT 1ST CUNEIFORM	
	RIGHT 2ND CUNEIFORM	
	RIGHT 3RD CUNEIFORM	
	RIGHT NAVICULAR	
	RIGHT CUBOID	
	RIGHT SESMOID	
	RIGHT 1ST METATARSAL	
	RIGHT 2ND METATARSAL	
	RIGHT 3RD METATARSAL	
	RIGHT 4TH METATARSAL	
	RIGHT 5TH METATARSAL	
	PHALANGES [FEET] PROXIMAL* (n. 10)	
	PHALANGES [FEET] MEDIAL* (n. 8)	
	PHALANGES [FEET] DISTAL* (n. 10)	
RIBS	LEFT RIBS (n. 12)	
	RIGHT RIBS (n. 12)	
	unsided rib fragments*	
VERTEBRAE	1ST CERVICAL	
	2ND CERVICAL	
	3RD CERVICAL	
	4TH CERVICAL	
	5TH CERVICAL	
	6TH CERVICAL	
	7TH CERVICAL	
	unidentified cervicals*	
	1ST THORACIC	
	2ND THORACIC	
	3RD THORACIC	
	4TH THORACIC	
	5TH THORACIC	
	6TH THORACIC	
	7TH THORACIC	
	8TH THORACIC	
	9TH THORACIC	
	10TH THORACIC	
	11TH THORACIC	
	12TH THORACIC	
	unidentified thoracic vertebrae*	
	1ST LUMBAR	
	2ND LUMBAR	
	3RD LUMBAR	
	4TH LUMBAR	
	5TH LUMBAR	
	unidentified lumbar vertebrae*	

Ceramic building material

[**T** = tegula **I** = imbrex **B** = brick **F** = flue **CB** = column brick **PEG** = peg-tile]
[**A** 5/10-20/25 **B** 25-30 **C** 30-40 **D** 40+ mm thick]

con-text	find number	tile type	quan-tity	thickness A B C D	area cm²	length out-side edge mm	total weight (bag or box) g	other comments
F1	1	PEG	3	A	50		104	
F2	2	PEG PEG?	3 1	A A	35 15		109	
F2	2	B	1		20		69	
F2	3	I B/T PEG	1 3 1	 A	 30 50		377	incl 2 prob post-Roman
F2	15	B	1	C	30		150	prob post-Roman
F4	83	PEG	1	A			10	
F5	10	B/T	4		75		233	
F5	17	CBM	1		5		5	
F5	18	B/T	4		40		2443	
F5	18	B/T B	6 4	B + C 1 B, 3 C	600		3299	1 WITH SIGNATURE
F7	7	CBM	2		5		12	
F8	6	B/T PEG	3 1	 A	35 20		175	
F9	5	PEG	2	A	18		46	
F10	11	B PEG	2 1	C + D	40 75		490	
F11	12	B B	1 1	D C	40 75		957	prob post-Roman purpley fabric
F11	13	B/T PEG	6 2	 A	50 35		188	
F12	16	B/T	3		20		61	
F12	26	B/T B	2 1	 D	45 50		411	
F13	19	B/T B B/T	1 1 1	 D C	15 10 50		320	
F13	28	B	4	2 x C,2 x D	400		2,084	
F14	29	B B/T	6 4	D	350 60		2289	
F14	31	B T CBM	1 1 2	D	140 18 50		1,117	
F14	31	PEG			10		162	
F16	51	B PEG	1 1	C A	30 20		161	
F16	58	B/T	3		9		11	
F19	42	B/T	4		15		42	
F23	53	PEG F T T	1 1 1 1	A A A	25 25 10 25		229	
F24	50	B/T	1		30			
F24	50	B B	1 1	C D		60 60	539	
F24	64	I	1				236	

con-text	find number	tile type	quan-tity	thickness A B C D	area cm²	length out-side edge mm	total weight (bag or box) g	other comments
F24	121	CB	1	D (43-45 mm)	210		1694	probably eigth size, curved outer edge complete 255mm long
F24	121	CB	1	C (35 mm)		170	1025	quadrantal, curved outer edge incomplete
F25	118	B/T CB	1 1	D (43 mm)	220	220 incomplete	1935	eigth size, curved outer edge incomplete
F25	numbered piece 25	CB	1	D (45)	approx 300	260	approx 2.500	eigth size, op sig attached, curved outer edge slightly damaged
F25	numbered piece 26	CB	1	D (40-5)	approx 300	280	approx 2.500	eigth size, op sig attached, curved outer edge complete 210mm long
F25	numbered piece 29	CB	1	D (42-6)	approx 300	280	approx 2.500	eigth size, op sig attached, curved outer edge damaged
F25	numbered piece 32	CB	1	D (43-7)	approx 300	285	approx 2,500	eigth size, traced, curved outer edge complete 217mm long
F25	numbered piece 33	CB	1	D (43-7)	approx 300	280	approx 2,500	eigth size, op sig attached, curved outer edge slightly damaged
F25	numbered piece 43	CB	1	D (43-7)	approx 300	245 incomplete	approx 2,500	eigth size, op sig attached, curved outer edge complete 220mm long
F25	numbered piece 45	CB	1	D (43-9)	approx 300	282	approx 2,500	eigth size, op sig attached, curved outer edge damaged
F25	numbered piece 46	CB	1	D (44-9)	approx 300	265	approx 2,500	eigth size, op sig attached, curved outer edge damaged
F25	numbered piece 46B	CB	1	D (42)	approx 300	220 incomplete	approx 2,500	eigth size, op sig attached, curved outer edge complete 222mm long
F25	numbered piece 47	CB	1	D (43-6)	approx 300	225 incomplete	approx 2,500	eigth size, op sig attached, curved outer edge damaged
F25	numbered piece 48	CB	1	D (43-7)	approx 300	286	approx 2,500	eigth size, traced, curved outer edge complete 230mm long
F25	numbered piece 53	CB	1	D (43-5)	approx 300	285/290	approx 2,500	eigth size, op sig attached, curved outer edge complete 230mm long
F25	numbered piece 56	CB	1	D (43-8)	approx 300	270	approx 2,500	eigth size, op sig attached, curved outer edge damaged
F25	numbered piece 62	CB	1	D (43-9)	approx 300	230 incomplete	approx 2,500	eigth size, curved outer edge damaged
F25	numbered piece 77	CB	1	D (43-5)	approx 300	270/285	approx 2,500	eigth size, op sig attached, curved outer edge slightly damaged
F25	numbered piece 78	CB	1	D (43-5)	approx 300	280	approx 2,500	eigth size, curved outer edge damaged
F25	crate with pieces 1-25	CB	10	D (45)			14,600	1 nearly complete, three with op sig attached
F25	crate with pieces 1-25	B	8	C			4,323	1 with signature & op sig
F25	crate with pieces 1-	B	1	D			1,049	

con-text	find number	tile type	quan-tity	thickness A B C D	area cm²	length out-side edge mm	total weight (bag or box) g	other comments
	25							
F25	crate with pieces 1-25	B/T	10	D			4,618	2 with op sig
F25	crate with pieces 1-25	B/T	2	B			513	
F25	crate with pieces 1-25	T	1	B			340	with circular cut-out
F25	crate with pieces 26-40	CB	6	D (40-7)			11,500	4 complete/nearly complete, 2 fragments; most with op sig
F25	crate with pieces 26-40	B	5	D			7,500	4 with op sig
F25	crate with pieces 26-40	B/T	4	1xC, 3xD			1,000	2 with mortar
F25	crate with pieces 41-47	CB	9	D (40-49)			16,000	5 nearly complete, 4 fragments; all with op sig
F25	crate with pieces 41-47	B/T	13	1xA, 4xB, 2xC, 6xD			5,000	most with op sig
F25	crate with pieces 48-63	CB	6	D (43-9)			12,000	2 complete, 2 nearly complete, 2 fragments; most with op sig
F25	crate with pieces 48-63	B/T	11	5xC, 6xD			16,000	most with op sig
F25	crate with pieces 64-94	CB	5	D (43-6)			7,500	1 complete, 1 nearly complete, 3 fragments; some with op sig
F25	crate with pieces 64-94	B/T	13	1xA, 5xC, 5xD, 2x?			6,000	some with op sig
F25	crate with pieces 64-94	B	9	6xC, 3xD			10,000	some with op sig
F26	73	B	1	D	30		189	
F26	79	I	1				84	Broken in half
F26	115	B/T B	1 1	 D	15 50		328	
F28	71	B/T	2		8		18	
F29	85	B B/T	5 1	C	785 20		3740	1 with signature; 1 with mortar
F29	93	B	3	C	250		1490	
F29	94	B/T	1	C	55		343	
F29	99	B/T B/T	1 1	 C	35 50		477	
F29	101	B/T B	1 4	 C	10 350		2312	
F34	111	B	1	C	20		115	
F37	129	B B	1 1	C C	70 100		1220	LOOKS SHAPED LOOKS SHAPED
F38	130	B/T	3		15		28	
F42	167	B	1	D	40		248	
F44	172	I	2				699	

con-text	find number	tile type	quan-tity	thickness A B C D	area cm²	length out-side edge mm	total weight (bag or box) g	other comments
F50	190	CBM	1		12		17	prob burnt daub
F51	206	CBM	1		10		20	
F53	248	CBM B	1 2	 D	20 50		413	 1 WITH SIGNATURE
F53	251	B/T	1		35		101	
F53	253	T	1	A	30		93	
F54	97	T	1	B	50		331	
G5	108	B/T	`1		3		24	
G7	176	CBM	1		4		21	
G7	184	CBM	1		3		5	
G13	215	B/T	2		25		48	
G14	245	PEG B/T	1 2	A	8 8		27	
L6	24	B/T I B B PEG B/T	3 1 1 4 3 21	 D C A	22 140 200 25 90		177	
L6	37	B/T	1		5		8	
L6	39	B/T PEG	3 2	 A	 30		161	
L6	41	B/T	2		30		77	
L6	47	PEG	1				23	
L6	55	I? B	1 1	 D	 15		150	
L6	57	I CBM T B	1 1 1 2	 C C	 12 55 35		587	
L6	62	B/T	1	D	25		120	
L8	52	B/T B/T	1 4	 C	40 175		1,047	
L12	69	I B	1 2		 50		351	
L12	87	I	1				82	
L12	92	I	2				190	
L13	114	B	1	C	120		761	165 LONG
L14	100	B/T		C	300		124	
U/S	32	PEG		A			45	
U/S	60	T?	1		15		41	
U/S	70	B/T B/T	3 1	 A	25 10		99	

Burnt daub

Feature Number	Feature Type	Finds Number	Quantity	Weight (g)
CRNG8	*Bustum*	CRN228	17	68.3
”	”	CRN238	2	1.3
”	”	CRN242	1	2.4
”	”	CRN259	1	4.3

Burnt flint

Feature Number	Feature Type	Finds Number	Quantity	Weight (g)
CRNF41	Roman droveway ditch	CRN166	1	30.0
CRNG14	Roman pyre site/pit with pyre debris	CRN245	3	56.4
CRNG15	Roman inurned cremation burial	CRN267	1	10.8

Retained charcoal samples

Feature Number	Feature Type	Finds Number	Quantity	Weight (g)
CRNF34	Roman pit	CRN111	4 frags	1.8
CRNF35	Roman pit with pyre debris	CRN123	flot sample	34.1
CRNL10	?Medieval charcoal-rich spread	CRN61	LQ frags	25.6
CRNG1	Roman pit with pyre debris	CRN21 CRN22 CRN23	flot samples LQ frags	1.0 10.8 3.8
CRNG3	Roman pit with pyre debris	CRN76	1 frag	1.5
CRNG14	Roman pyre site/pit with pyre debris	CRN275	2 frags	6.5

Coal

Feature Number	***Feature Type***	***Finds Number***	***Quantity***	***Weight (g)***
CRNF9	Post-medieval ditch	CRN5	1	2.0

Opus signinum

Feature Number	Feature Type	Finds Number	Quantity	Dimensions (mm)	Comments
CRNF5	Roman gully	CRN18	2		1119g
CRNF14	Roman gully	CRN29	20		672g
CRNF24	Roman rubble spread on surface of arena	CRN126	2	225x230x40 200x200x40	Both curved & painted red. From cone at near turning post?
CRNF29	Upper fill of large ?medieval pit (near turning post of the circus)	CRN84	1	100x60x35	Curved & painted white with ?traces of red paint beneath
CRNF29	Lower fill of large ?medieval pit (near turning post of the circus)	CRN85	2	140x100x40 80x70x40	Both curved & painted red
CRNF29	Lower fill of large ?medieval pit (near turning post of the circus)	CRN85	10		1347g
CRNF29	Upper fill of large ?medieval pit (near turning post of the circus)	CRN101	1		216g
CRNF29	Lower fill of large ?medieval pit (near turning post of the circus)	CRN127	1	270x210x60	Curved & painted white with ?traces of red paint beneath
CRNF37	Upper fill of large Roman pit	CRN129	6		674g

Shell

Feature Number	Feature Type	Finds Number	Find Type	Quantity	Weight (g)
CRNF29	Large ?medieval pit (near turning post of the circus)	CRN93	oyster winkle?	3 1	43.4 1.1
CRNL6	Medieval robbing debris (overlying the near turning post of the circus)	CRN39	oyster	1	8.7
CRNL12	Medieval robbing debris (overlying the near turning post of the circus)	CRN92	snail?	1	0.3

Unworked stone

Feature Number	Feature Type	Finds Number	Find Type	Qty	Weight (g)
CRNF1	Modern trench	CRN1	greensand; 1 with neatly dressed faces and edge	2	629
CRNF2	Post-medieval ditch	CRN3	greensand chip	1	32
CRNF5	Roman gully	CRN10	greensand	1	259
”	” ”	CRN18	greensand	1	349
CRNF8	Modern ditch	CRN6	greensand with neatly dressed face and edge	1	953
CRNF13	?Roman posthole	CRN19	greensand	2	952

Feature Number	Feature Type	Finds Number	Find Type	Qty	Weight (g)
”	” ”	CRN28	greensand	1	347
CRNF14	Roman gully	CRN29	greensand chalk	4 1	439 116
”	” ”	CRN31	greensand	4	682
CRNF17	Medieval robber trench for outer wall of south *cavea*	CRN97	greensand chip	1	5
CRNF24	Roman rubble spread on *arena* surface	CRN119	greensand blocks, roughly dressed	2	6,000
CRNF26	Medieval robber trench for outer wall of near turning post	CRN73	greensand chips	4	91
CRNF37	Large Roman pit within central barrier	CRN162	large greensand block, roughly dressed, 230x220x90mm	1	11,500
CRNL6	Medieval robbing debris over near turning post	CRN24	greensand chalk	4 1	780 28
”	As above	CRN47	septaria chip	1	5
”	As above	CRN55	septaria	1	53

Decayed wood

Feature Number	Feature Type	Finds Number	Quantity	Weight (g)
CRNG5	Roman inhumation burial	CRN153	2 frags	4.8

Wall Plaster

Feature Number	Feature Type	Finds Number	Quantity	Area cm2	Description
CRNL12	Medieval robbing debris (overlying the near turning post of the circus)	CRN69	3	15.75	Painted brownish-red

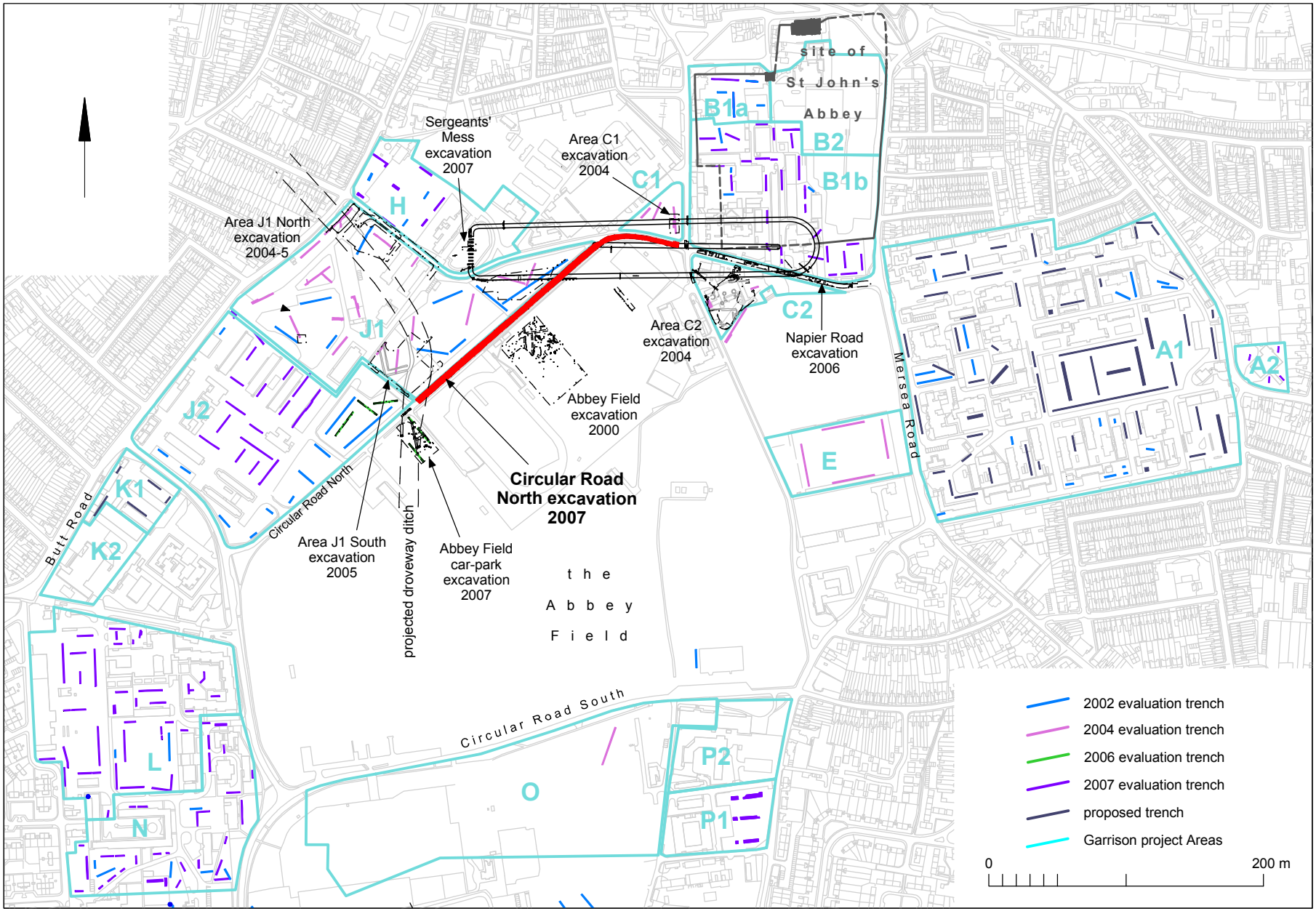

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Fig 3.1 Site location plan with circus.

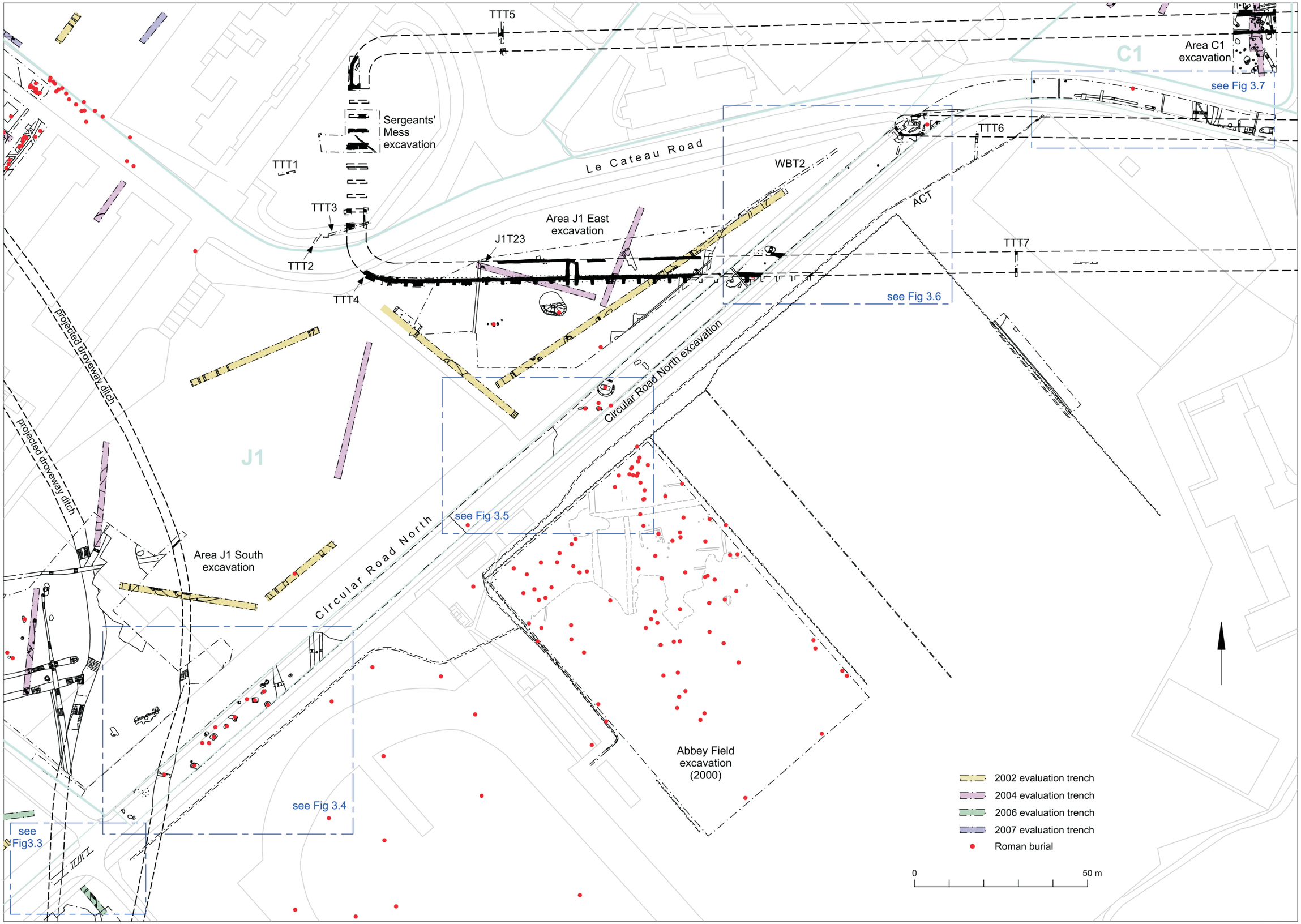

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Fig 3.2 Plan overview.

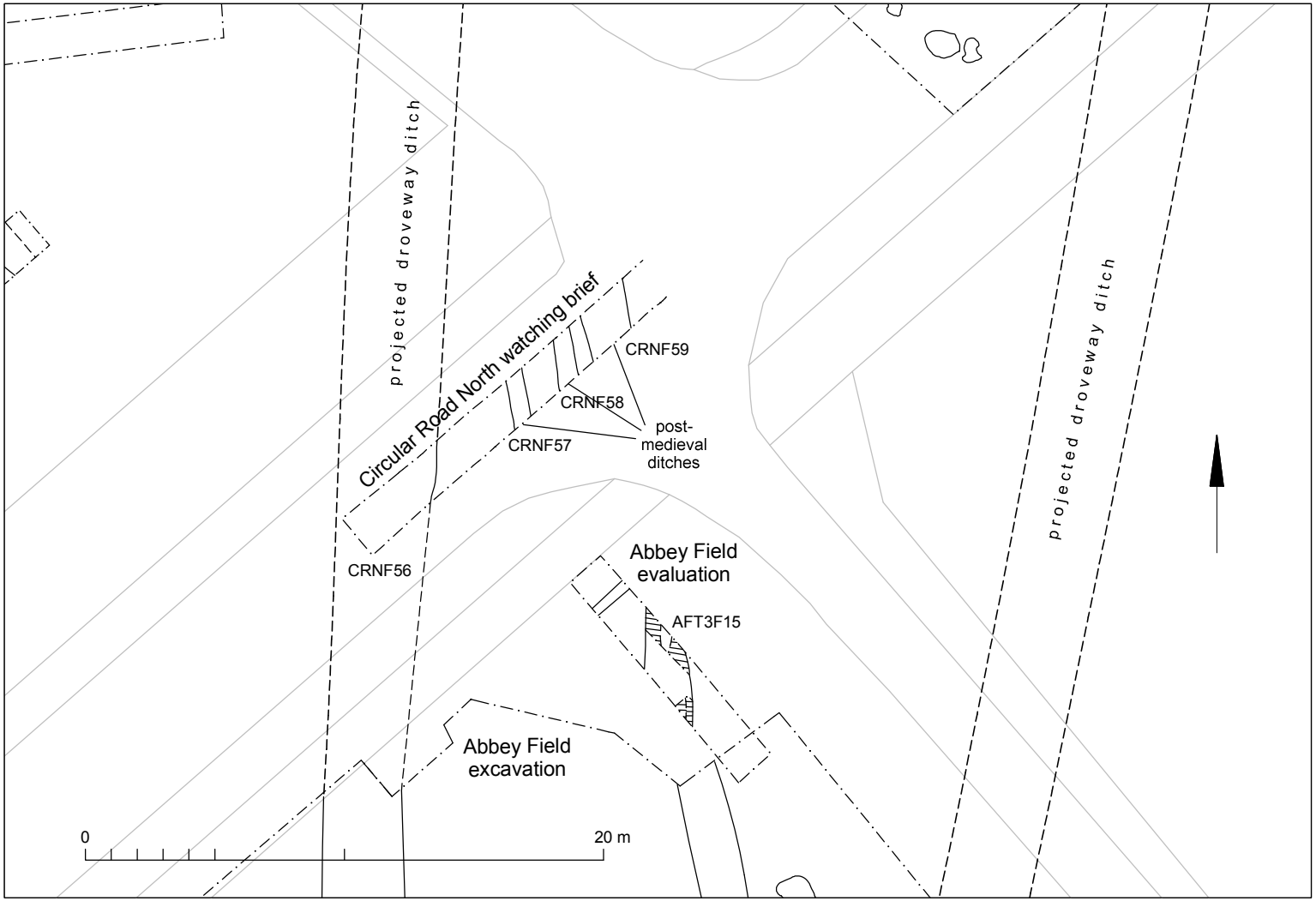

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Fig 3.3 Plan of ditch CRNF56.

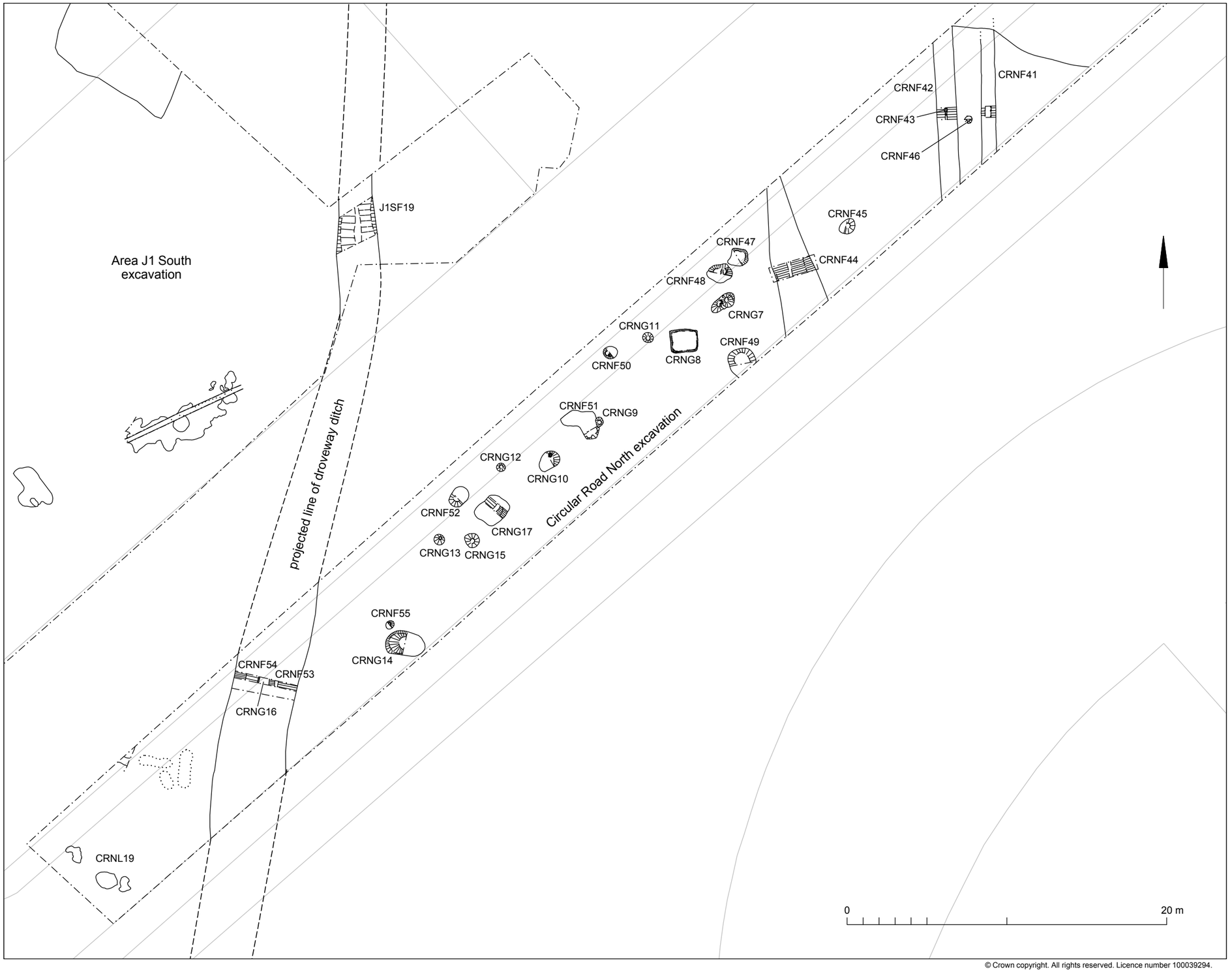

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Fig 3.4 Plan of prehistoric/Roman ditches, road, burial cluster and other features by the athletics track (inset to Fig 3.2).

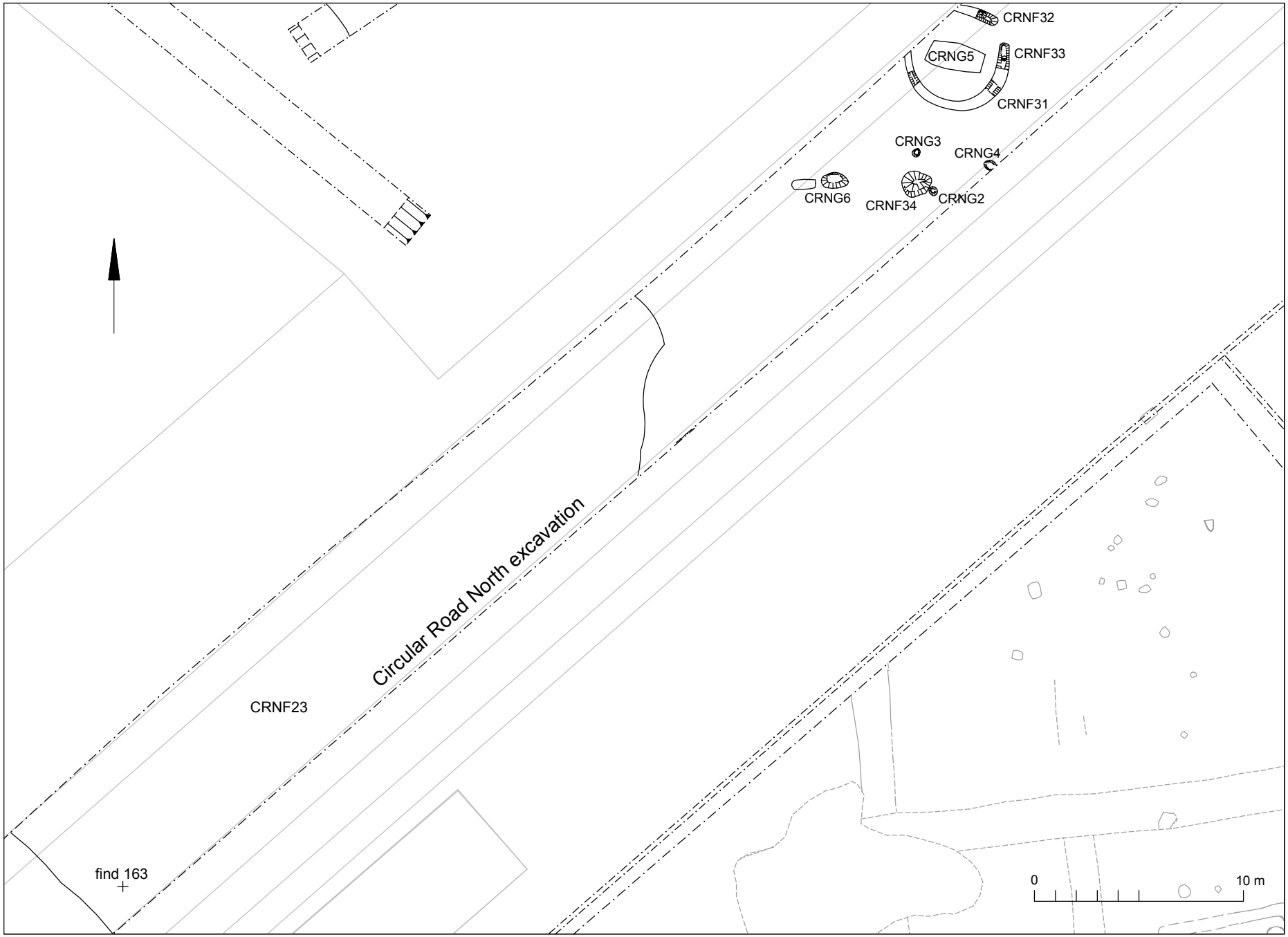

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Fig 3.5 Plan of burial cluster by the hockey pitch in Circular Road North (inset to Fig 3.2).

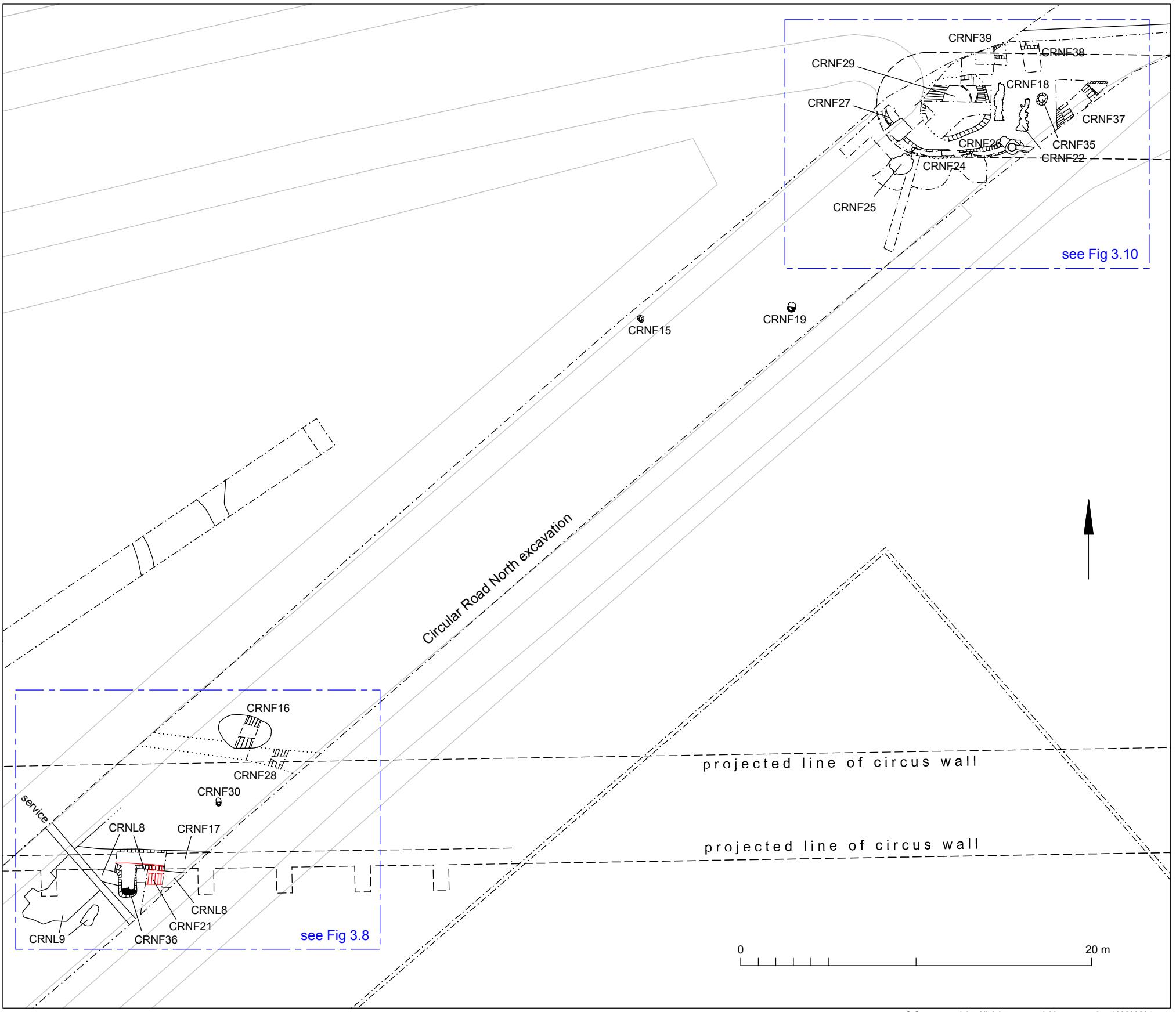

Fig 3.6 Plan of the *cavea* remains and the near turning-post in Circular Road North (inset Fig 3.2).

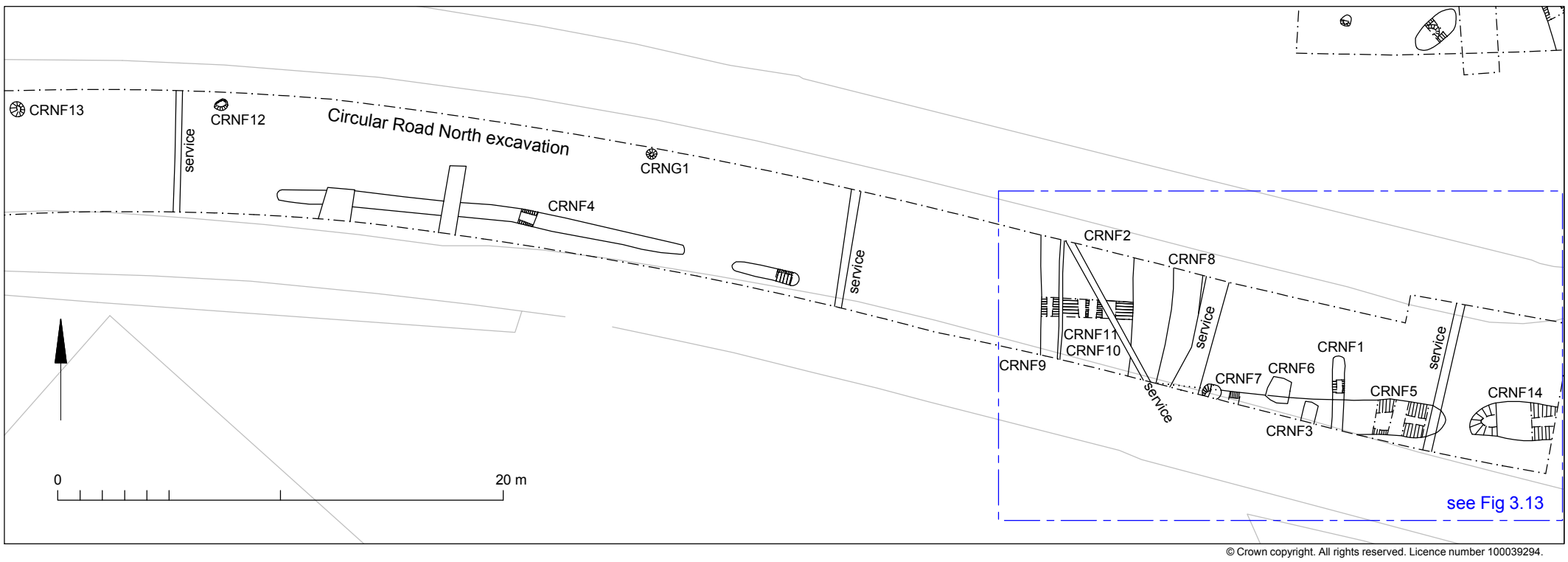

Fig 3.7 Plan of CRNF12, CRNF13, CRNG1, CRNF5 and CRNF14, and post-Roman features CRNF1-CRNF3, CRNF4 and CRNF6-CRNF11 at the east end of CRN (inset to Fig 3.2).

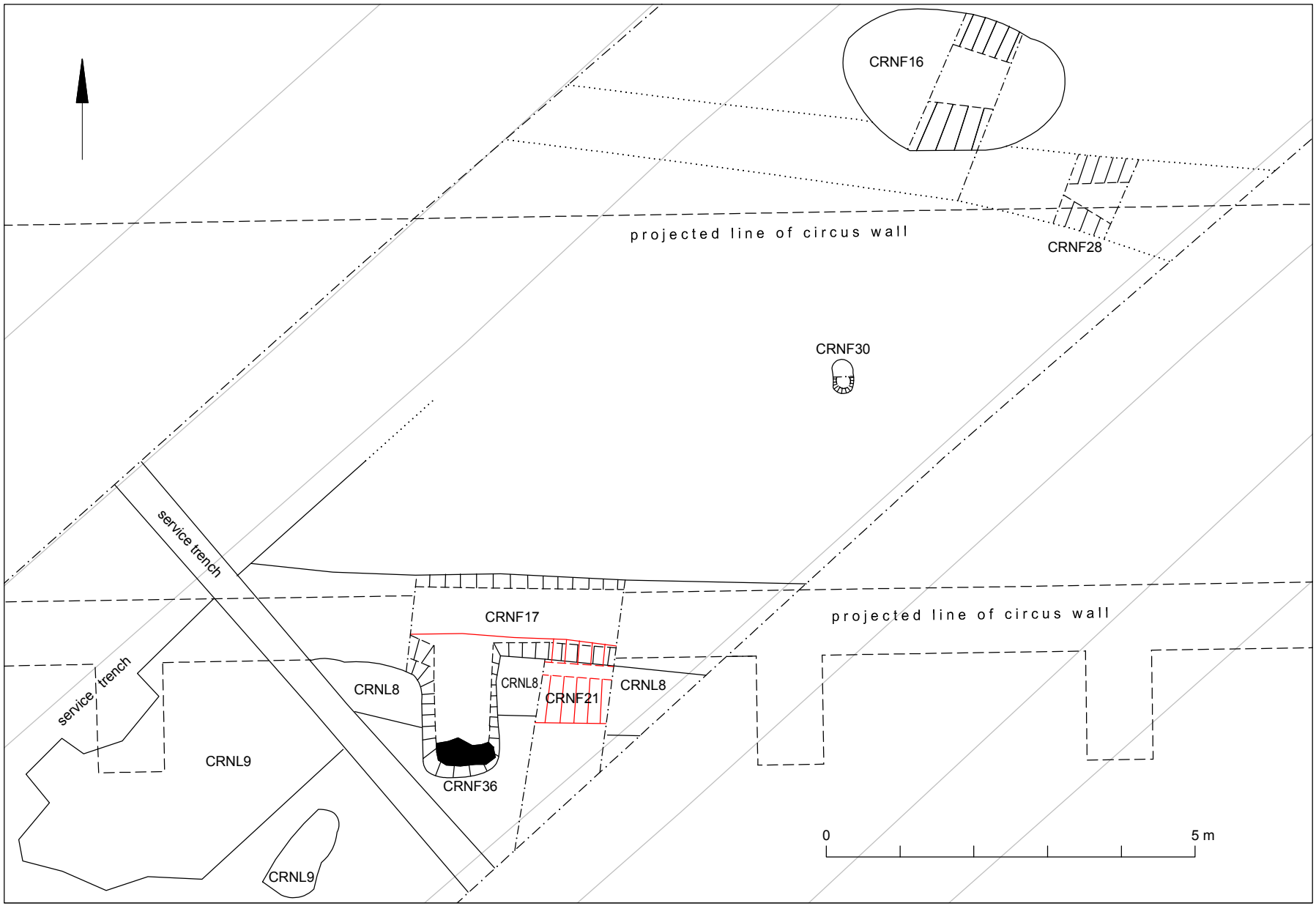

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Fig 3.8 Detail plan of *cavea* remains.

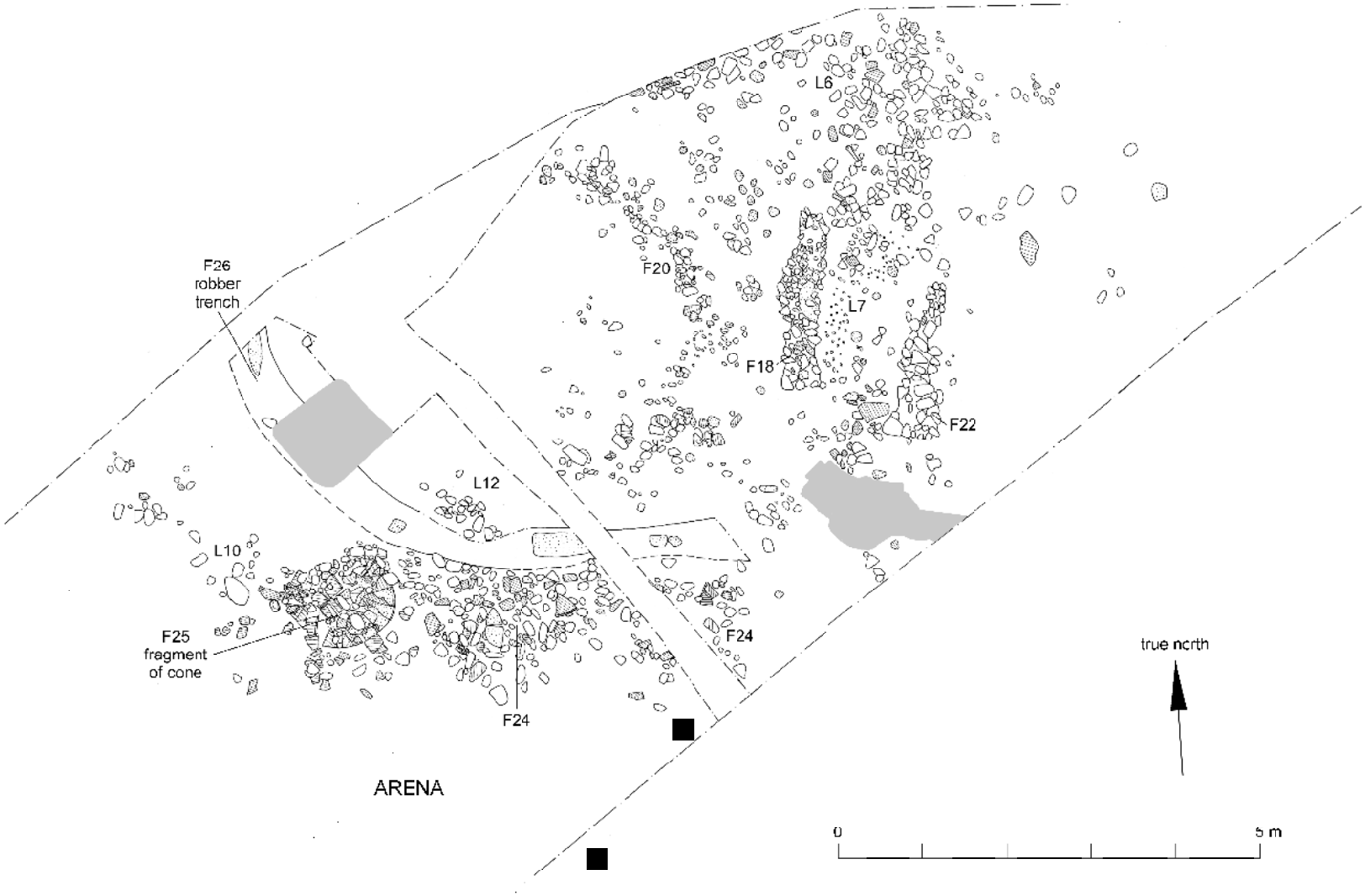

Fig 3.9 The remains of the near turning-post, as first uncovered.

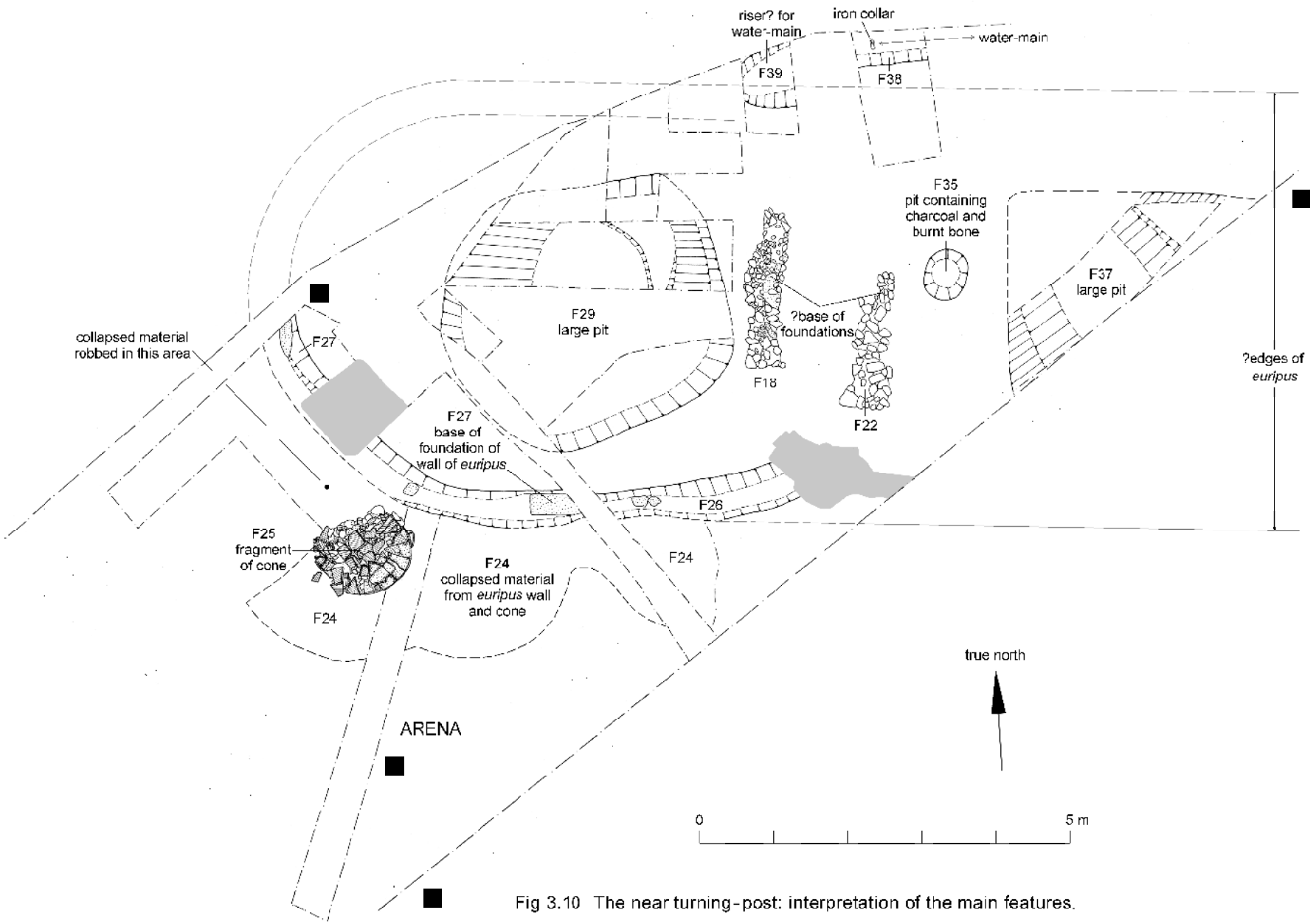

Fig 3.10 The near turning-post: interpretation of the main features.

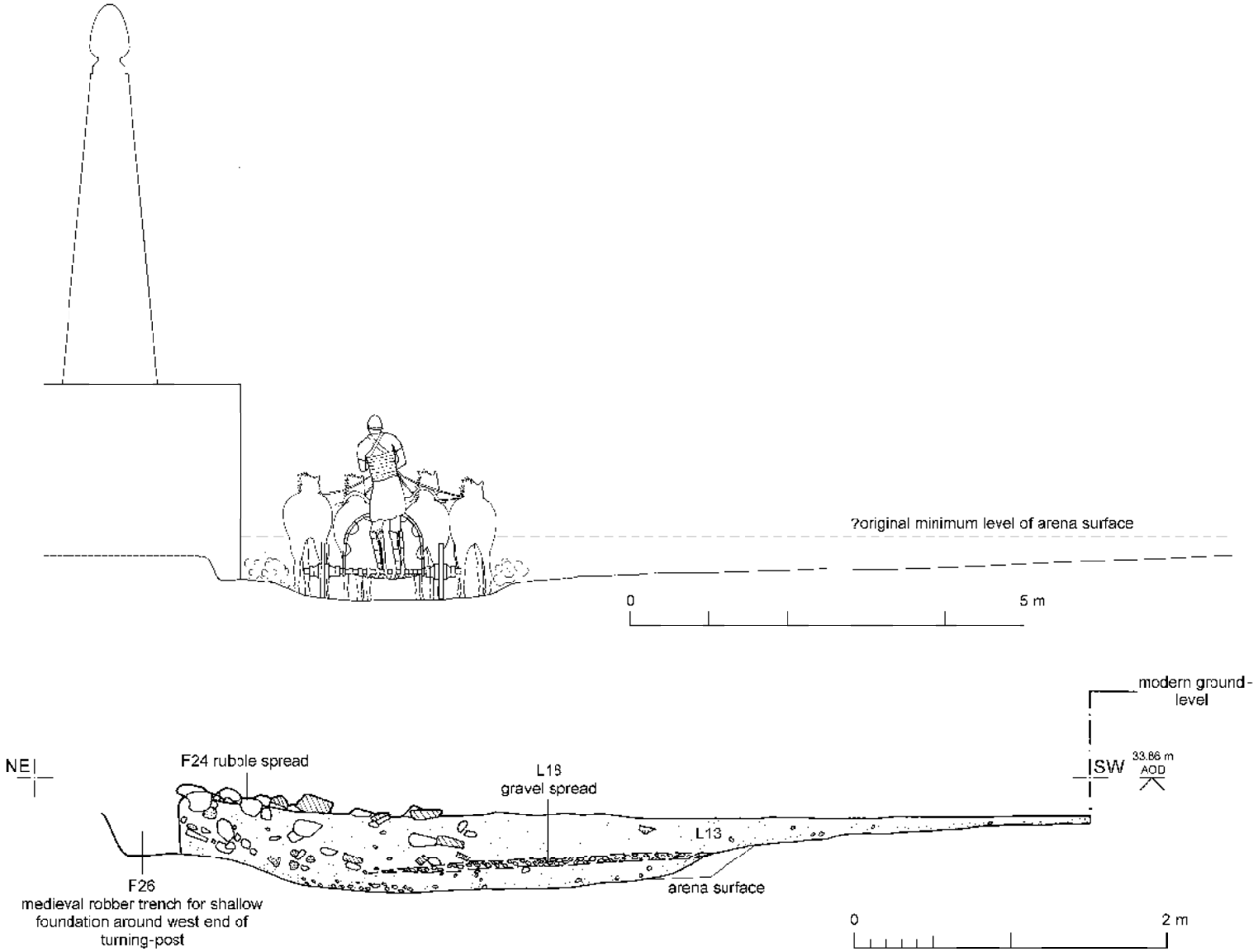

Fig 3.11 Profile and section through the arena, showing the eroded surface next to the near turning-post.

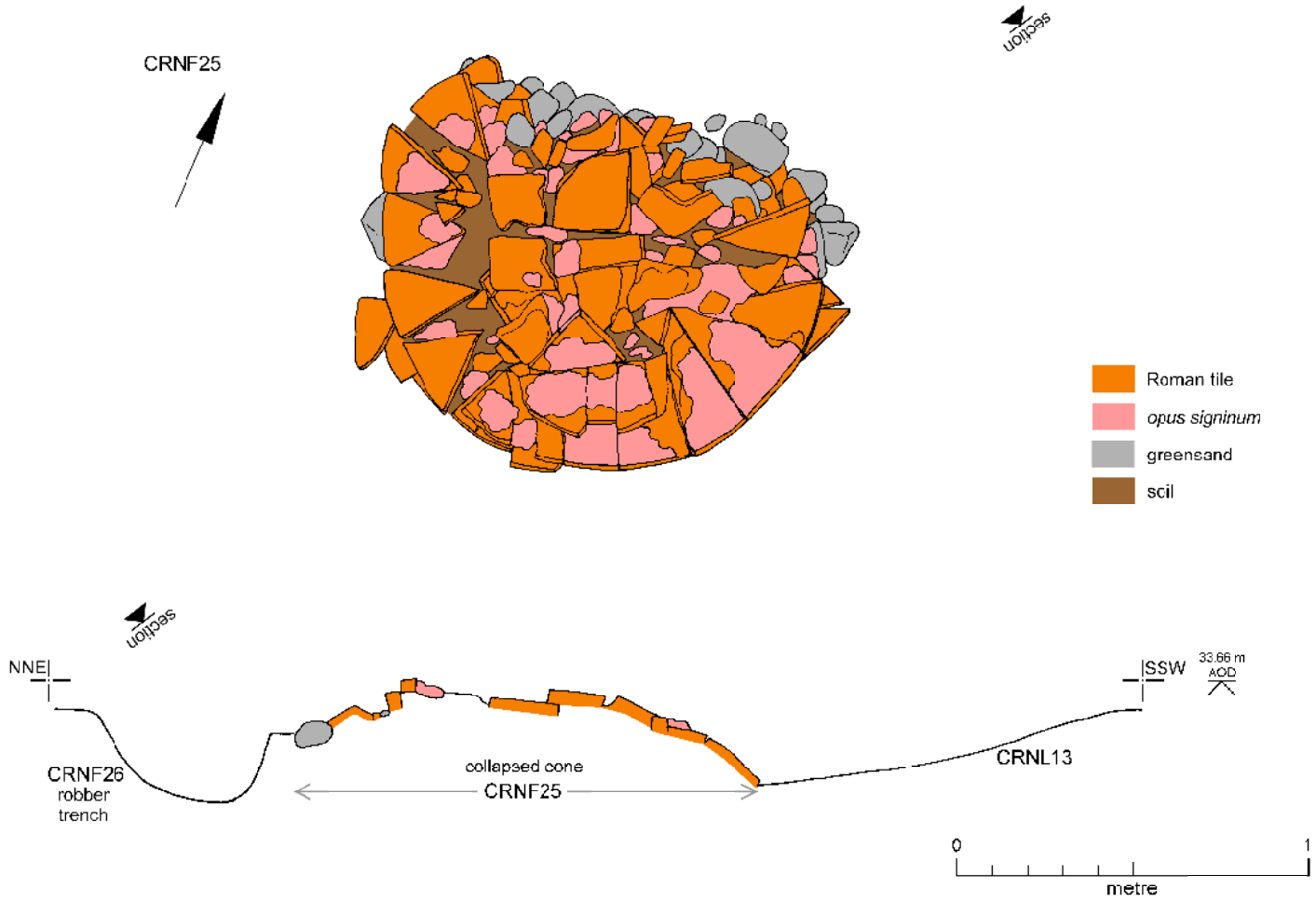

Fig 3.12 Detail plan and section of fragment of cone CRNF25.

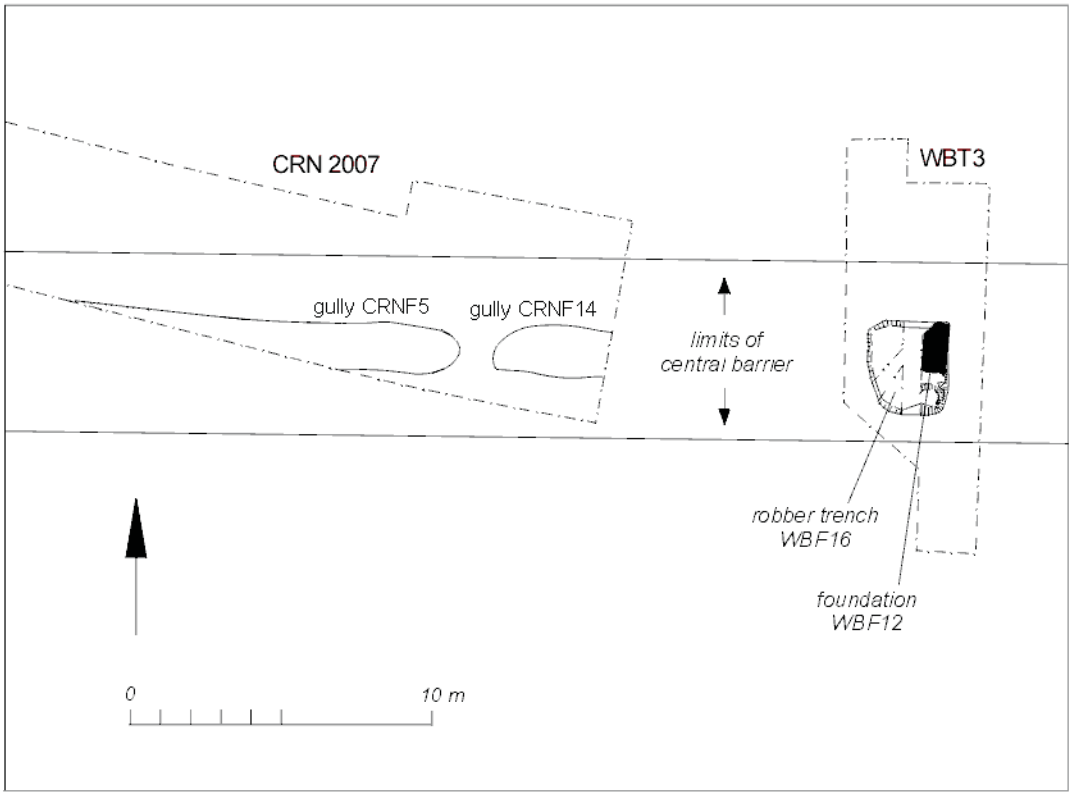

Fig 3.13 Detail plan of CRNF5 and CRNF14 with/in relation to the monumental base in WBT3.

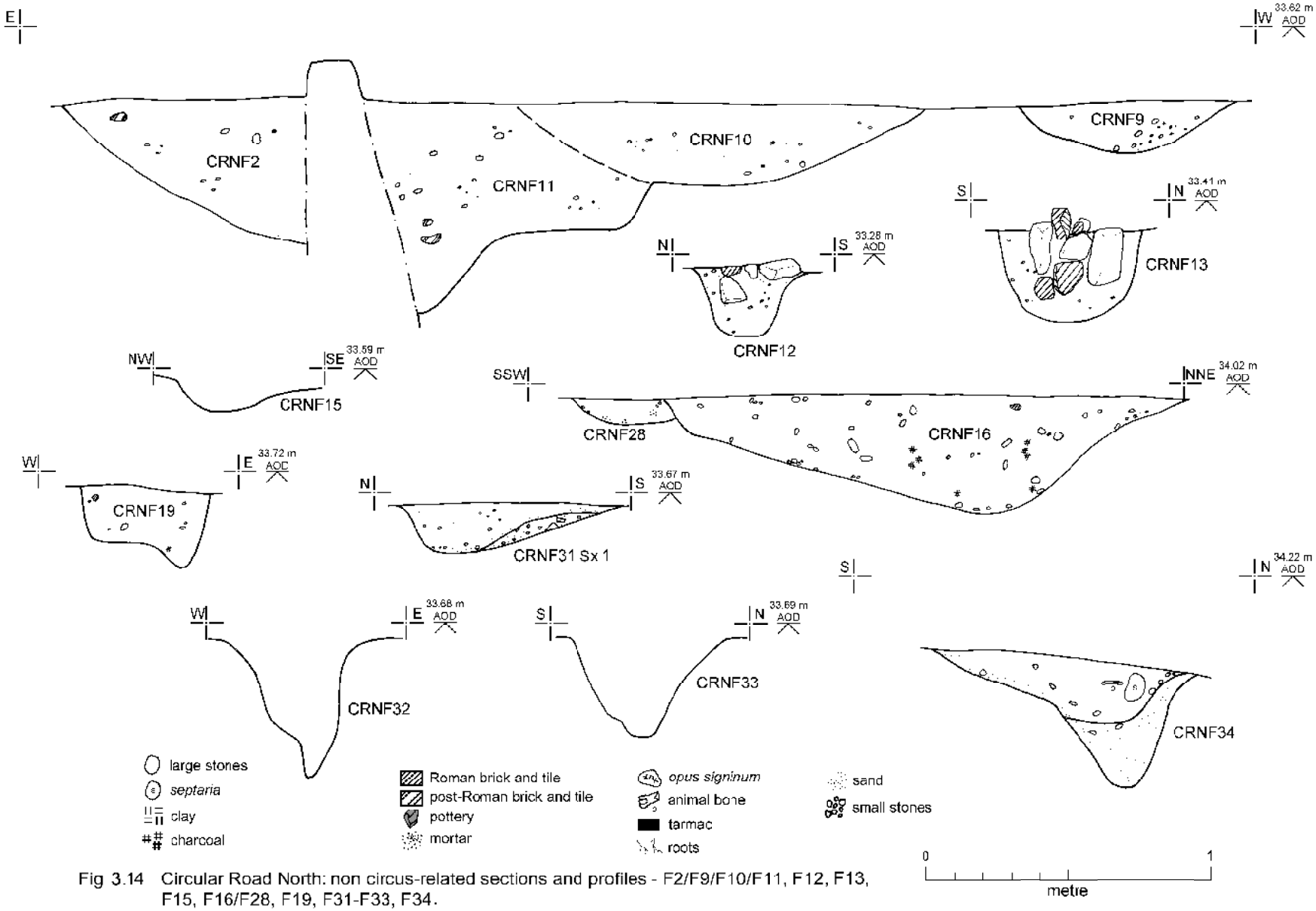

Fig 3.14 Circular Road North: non circus-related sections and profiles - F2/F9/F10/F11, F12, F13, F15, F16/F28, F19, F31-F33, F34.

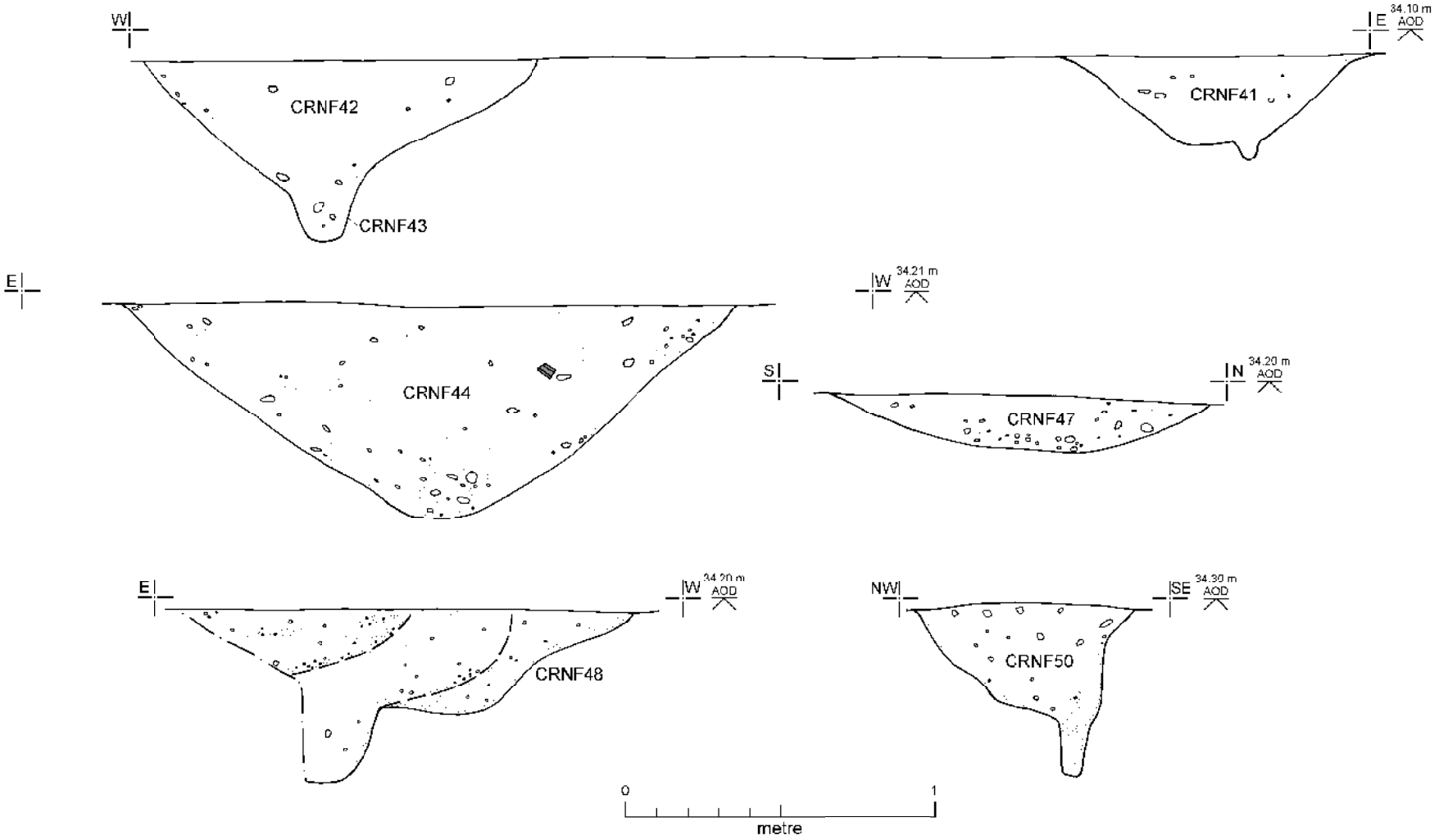

Fig 3.15 Circular Road North sections not related to the circus: F41-F43, F44, F47, F48, F50.

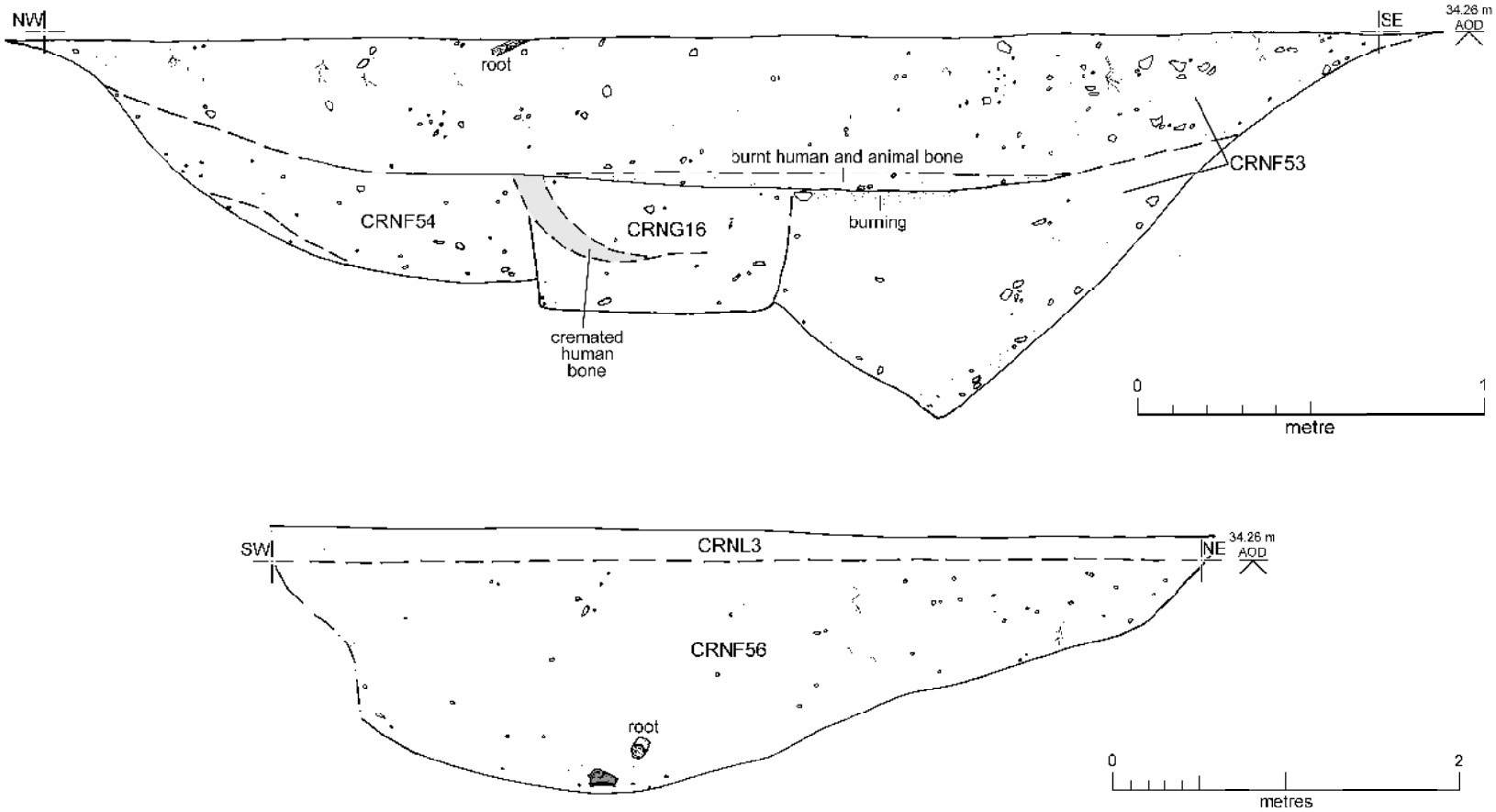

Fig 3.16 Circular Road North sections not related to the circus: F53-F54 (including G16) and F56.

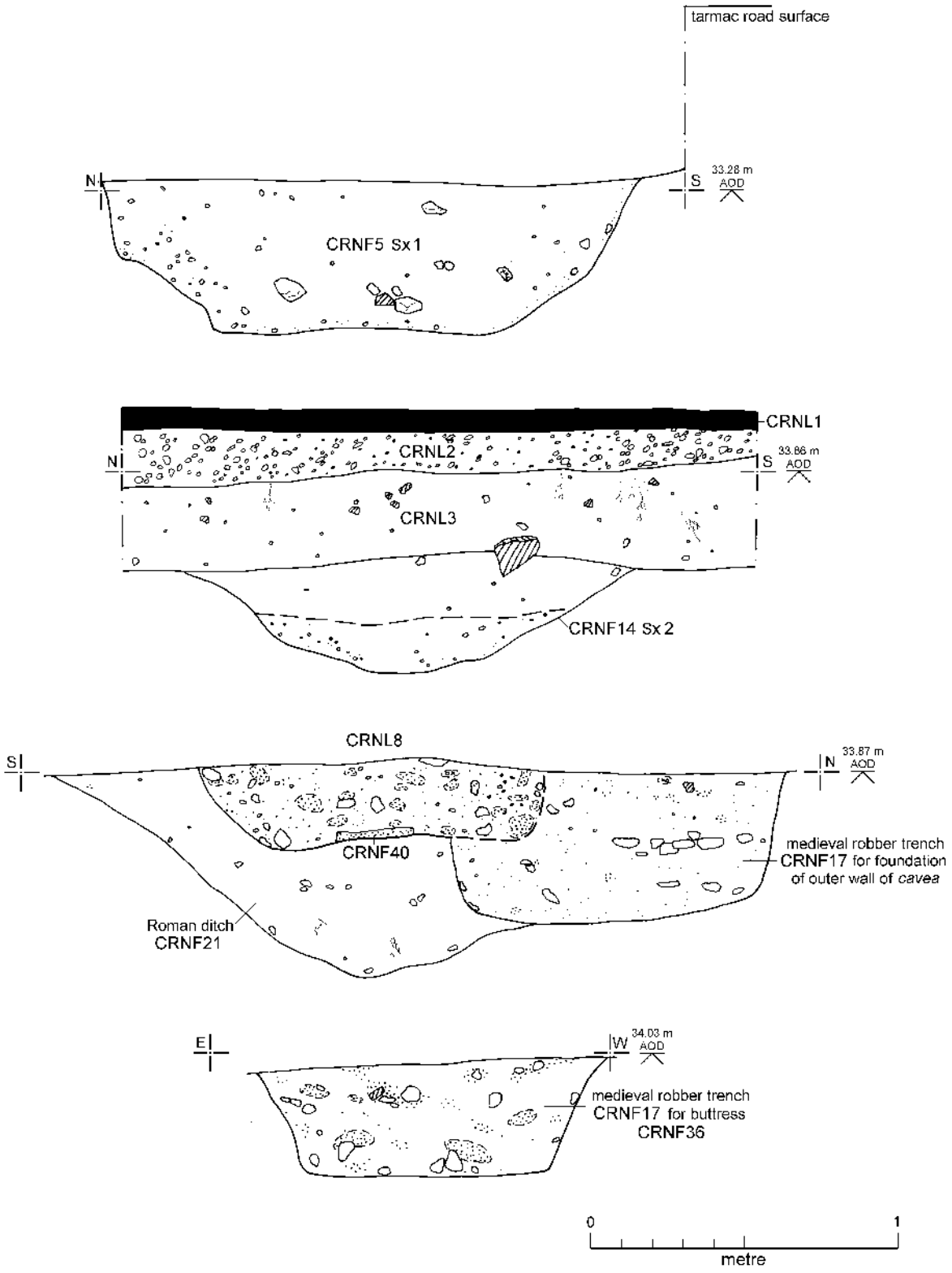

Fig 3.17 Circular Road North circus-related sections: F5, F14, F17/F21/L8/F40, F17/F36.

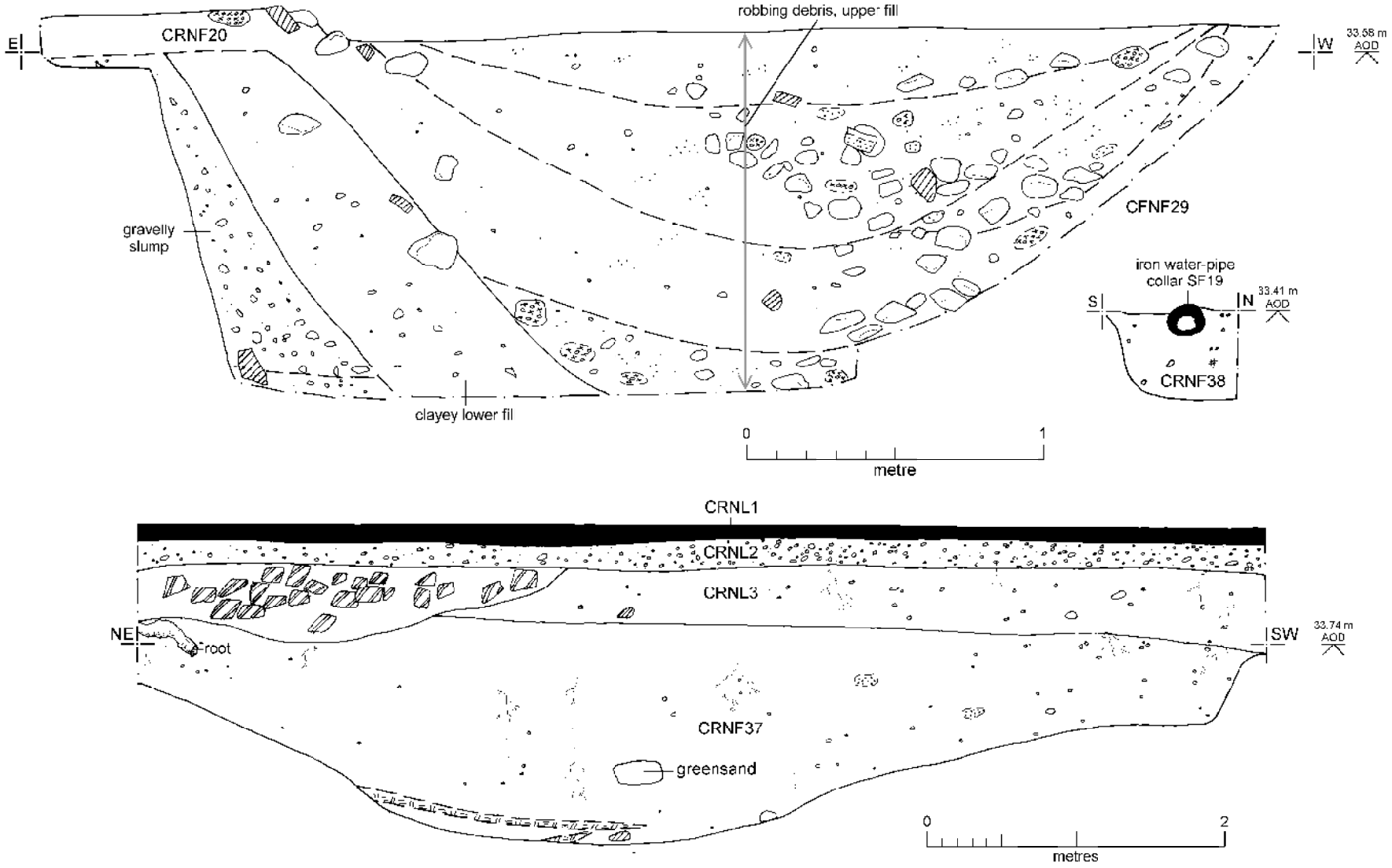

Fig 3.18 Circular Road North circus-related sections: F29/F30, F37, and F38.

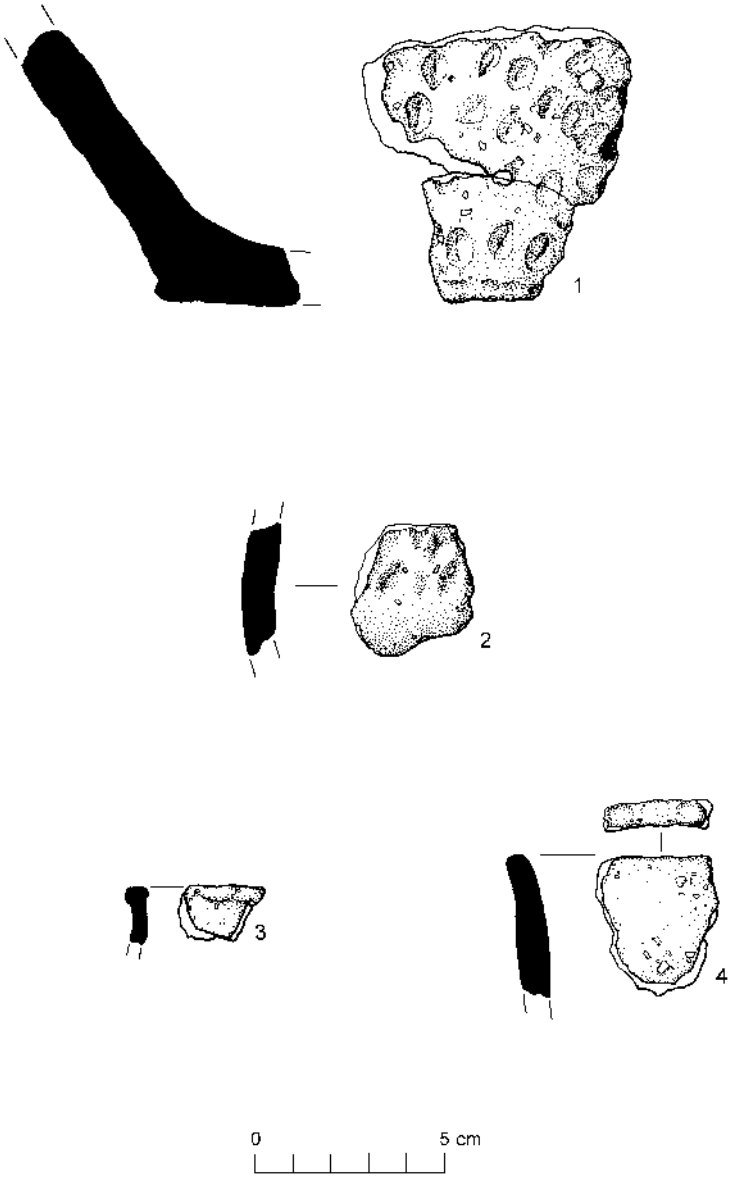

Fig 3.19 Prehistoric pottery (scale 1:2).

4. AREA J1 NORTH WATCHING BRIEF, February 2007

by Howard Brooks and Mariusz Gorniak
with contributions by Stephen Benfield, Francesca Boghi, Howard Brooks, Nina Crummy,and Julie Curl

Introduction and preliminaries

NGR: TL99275 24554 to TL99330 24519
CAT project ref: 07/2b
Colchester and Ipswich Museums accession code: 2007.46

Summary

An archaeological watching brief was held on contractor's digging of a deep service-run for a distance of about 120m along the centre line of the former Le Cateau Road. The area covered by the watching brief lay between Garrison Alienated Land (GAL) Area H, where 14 Roman burials were revealed in an evaluation in 2007, and GAL Area J1 North, where 351 Roman burials were excavated in 2004.

The Area JN watching brief added to the evidence for Roman burials in this area of Roman cemeteries, examples of which have been seen on nearby Areas H in 2007 and J1 North in 2004, and further afield on Napier Road in 2006 and Circular Road North in 2007. Twenty-one Roman inhumation burials, ten Roman cremation burials, one pit with pyre debris and two certain or possible bustum burials were recorded. These were mainly in a deep Roman quarry pit.

No remains were recorded other than the Roman burials. The lack of evidence for Roman ditches defining cemetery plot boundaries is more likely to be a product of difficult site conditions rather than real evidence of the absence or presence of these features.

Introduction

An archaeological watching brief was carried out on behalf of Taylor Wimpey (then Woodrow) during the excavation of a trench for the installation of foul and storm-water drains along the line of the former Le Cateau Road, Colchester.

Site conditions were very difficult, due mainly to the fact that the burials were mainly located within a deep Roman quarry pit and it was not possible to work in the very deep

contractor's trench which was generally dug into soft sand. The recording of the Roman burials was limited by the conditions. In most cases, the burials were seen in section in the contractor's trench.

Some parts of the line of the former Le Cateau Road were excavated in 2004 as part of the Area J1 North excavation. In fact, the area covered by the watching brief described here overlapped the eastern side of the Area J1 North excavation site.

The undisturbed natural deposits (NRL5) were sands and gravels, in places capped by cover loam. Natural features such as tree-throws were not normally investigated, although some possible examples were sectioned, including NR35-40. The watching brief was carried out by the Colchester Archaeological Trust (CAT), and managed by RPS on behalf of Taylor Wimpey, in February 2007.

The project was directed for CAT by Philip Crummy, with fieldwork carried out by Mariusz Gorniak.

Archaeological background

The archaeological and historical setting of the Garrison redevelopment area has already been comprehensively explored in *An archaeological desk-based assessment of the Colchester Garrison PFI site* (CAT Report 97).

The proposed site, like much of the land south and south-west of Colchester's modern town centre and the Roman walled town, falls within the area of the pre-Roman *oppidum* of Camulodunum, the Catuvellaunian royal estate. The Garrison area occupies the eastern edge of the *oppidum*, and one of the defensive dykes (the Berechurch Dyke) crosses the extreme south-eastern edge of the Garrison, on the east edge of Roman Barracks.

The major Roman archaeological remains south of the Roman and modern town are Colchester's Roman cemeteries. Before the Garrison Urban Village (GUV) and Garrison Alienated Land (GAL) investigations, there were indications of the presence of several burial grounds here, including a group of burials in the northern corner of the GUV Area J1 (J1 North), close to the entrance of Le Cateau Barracks (UAD nos 1022-1023, 1095). These appear to be on the southern fringe of a wide area of burials focused on the partially explored Butt Road cemetery (*CAR* **9**, 4-202). Other informative excavations of Roman cemeteries in Colchester to date have been at Butt Road (*CAR* **9**), the Abbey Field (CAT Report 138), Turner Rise (Shimmin 1998), and Handford House (CAT Report 323).

At least twenty-eight Roman burials were found during construction of the athletics ground and sports pitches to the immediate east of Circular Road North in 1925 (Hull 1958, no 200; UAD no 1099; TL 9940 2430). Trial-trenching and excavation in the same general area for the all-weather hockey pitch by CAT in 2000 recovered 73 more cremations, some only 300mm below existing ground (CAT Report 97, no 4; TL 9954 2441). Further concentrations of Roman burials, a mixture of inhumations and cremations, were excavated in 2004 and 2005 in GUV Area J1 North (351 burials) and Area C2 (66 burials) (CAT Reports 206, 361).

The Area JN watching brief site lies in between the Area J1 North excavation, and the Area H evaluation (above).

The Roman circus discovered during evaluations and excavations in Areas C1, C2 and J1 East lies 60m to the east, and is not affected by the work described here.

Much of the area around Le Cateau Road was probably farmland prior to the construction of the Garrison in the 19th century. Although Napier Road and Flagstaff Road had been laid out by the time of the OS map of 1874-1876, Le Cateau Road itself is not shown until the OS Second Edition of 1923 (sheet Essex nXXXVII.3), by which time it had been cut through what was previously the Royal Horse Artillery Parade Ground.

Methodology

This report follows the standards set out in Colchester Borough Council's Guidelines on standards and practices for archaeological fieldwork in the Borough of Colchester (CM 2002) and Guidelines on the preparation and transfer of archaeological archives to Colchester

Museums (CM 2003), and the Institute of Field Archaeologists' Standard and guidance for an archaeological watching brief (IFA 2000a) and Standard and guidance for the collection, documentation, conservation and research of archaeological materials (IFA 2001b). The guidance contained in the documents Management of archaeological projects (MAP 2), and Research and archaeology: a framework for the Eastern Counties 1. Resource assessment (EAA **3**), Research and archaeology: a framework for the Eastern Counties 2. Research agenda and strategy (EAA **8**), and Standards for field archaeology in the East of England (EAA **14**) was also followed.

Excavation results (Figs 4.2-4.7)

Period 1 – Palaeolithic and Mesolithic

There was no evidence of activity in Area JNWB in this period.

Period 2 – Neolithic

There was no evidence of activity in Area JNWB in this period.

Period 3 – Bronze Age

There was no evidence of activity in Area JNWB in this period.

Periods 4-5 – Early-Mid Iron Age to the Late Iron Age

There was no evidence of activity in Area JNWB in this period.

Period 5 – Late Iron Age/early Roman

There was no evidence of activity in Area JNWB in this period.

Period 6 – Roman

Roman burials and burial-related features

Thirty-four Roman burials or burial-related features were excavated (catalogued in an appendix below and summarised in Table 4.1). These were twenty-one inhumation burials, ten urned cremation burials, and three other burial-related features (ie one pit with pyre debris, a *bustum,* and one possible *bustum*).

Table 4.1 Summary of burials.

Feature number	Inhumation: number of bodies	Coffin nails	Cremation: number of pots, number of individuals	Other burial type	Hobnails	Inclusions
JNWBF1			2 or 3, 1 or more			cattle or horse bone
JNWBF2			1, 2 or more			
JNWBF3			1, 1			
JNWBF4			1, uncertain (residual)			
JNWBF5	0					
JNWBF6			1, ?			
JNWBF7			3 or 4, 2 or more		✓	cattle or horse bone + 1 frag of sheep/goat tooth
JNWBF8			1, ?			
JNWBF9	0					
JNWBF10	0					
JNWBF11	0					
JNWBF12	0					
JNWBF13	0					
JNWBF15	0					
JNWBF16			1, 1 or more			horse or cattle bone
JNWBF17	0					
JNWBF18	0					
JNWBF19	0	✓				
JNWBF20	1	✓				
JNWBF21	0					
JNWBF22	1				✓	
JNWBF23				*bustum*?		
JNWBF24			1, 1 or more	pyre pit		mammal and fish bone
JNWBF25				*bustum*		1 cattle bone
JNWBF26	1	✓				a few elements from another individual
JNWBF27	2					
JNWBF28	1	✓				a few elements from another individual
JNWBF29	1					
JNWBF30	1	✓				
JNWBF31	1	✓	1, 1			
JNWBF32	0	✓				
JNWBF33			1, 1			
JNWBF34	0					

The Roman cemetery

Site conditions were far from ideal, and so it is important not to read too much into the results of what was essentially a 'salvage' excavation. All of the thirty-four Roman burials recorded were part of the same Roman cemetery excavated on GAL Area J1 North (north-west of this site) in 2004 and evaluated on GAL Area H (immediately north of this site) in 2007. In terms of proportions of inhumation to cremation burial (and to other burial types), the JNWB figure of 2.6 inhumations to every 1 cremation is broadly comparable to the Area J1 North figure of 3.1 inhumations to every 1 cremation.

The absence of evidence for ditches defining burial plots may be no more than a reflection of the difficult site conditions.

The inhumation burials (Figs 4.4-4.7; Plate 4.1)

Of the twenty-one inhumation burials, skeletal remains were only visible in nine cases (JNWBF20, 22, 26-31). These were all single inhumations with the exception of JNWBF27, which yielded two. However, it is more likely that this was a case of a later inhumation being inserted on top of an earlier one, with the two skeletons being indistinguishable at the time of excavation.

Most of the inhumation burials were only visible as burial cuts, without any body being visible (JNWBF5, JNWBF9-13, JNWBF15, JNWBF17-19, JNWBF21, JNWBF32, JNWBF34). Seven of the inhumation burials had loose coffin nails in their fills (JNWB19-20, JNWBF26, JNWBF28, JNWBF30-32).

The alignment of the inhumations was broadly similar to that of the inhumations excavated to the north of here on Area J1 North, ie intended as E-W (but actually NW-SE) and intended as N-S (but actually SW to NE).

Dating of the inhumations is not precise, being derived mainly from residual Roman potsherds in the grave fills, These generally have a date range of mid 2nd century AD to late 3rd or early 4th century AD. In the case of the inhumation with the inserted cremation, the inserted cremation pot has an unhelpfully broad date range of early 2nd century to early 4th, and the inhumation burial must obviously predate this.

Plate 4.1 Inhumation burial JNWBF29, view west.

The cremation burials (Figs 4.4-4.7; Plate 4.2)

Of the ten cremation burials, most consisted of a single pot containing the cremated remains of a single individual (JNWBF3, JNWBF31, JNWBF33), or probably a single individual (JNWBF6, JNWGF8). In three cases, a single pot contained the remains of at least one individual (JNWBF1, JNWBF16, JNWBF24) and two contained two or more (JNWBF2, JNWBF7).

Two of the cremations contained more than one pot – JNWBF1 contained one or two in addition to the principal cremation vessel, and JNWBF7 contained two or three additional vessels (in deciding the number of pots it is difficult in some cases to determine whether a group of sherds is residual, or represents a broken-up vessel). Two of the cremation vessels could not be retrieved (JNWBF6, JNWBF8).

The dating of the cremation vessels is a broad range of early to mid 2nd century to later 3rd or 4th century. In three cases, cremation vessels had been inserted into the fills of earlier inhumation burials (JNWBF8 into JNWBF11, JNWBF3 and JNWBF16 into JNWBF15).

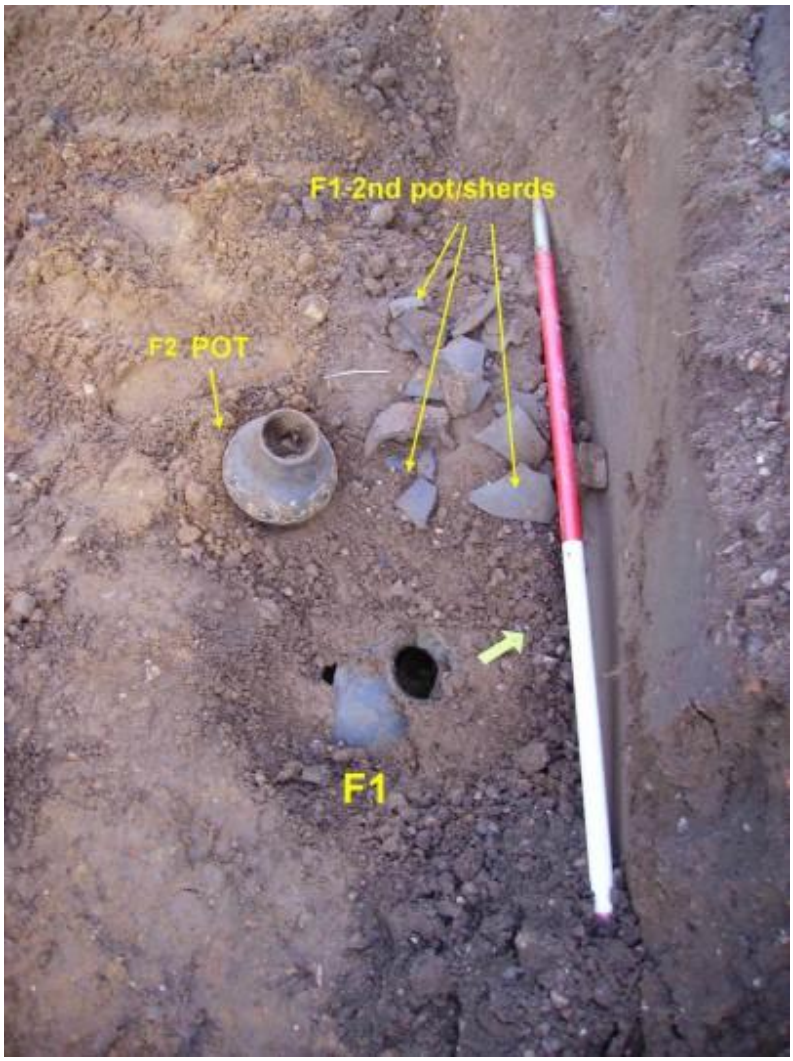

Plate 4.2 Cremation burials F1 and F2.

The pit with pyre debris (Fig 4.5)

A pit JNWBF24 contained the cremated remains of at least one individual, along with burnt mammal and fish bones (presumably a deliberate inclusion). There were no other objects in the fill, nor any dating evidence.

The *busta* (Fig 4.5)

JNWBF25 was a *bustum* burial which was seen in section, and partially excavated. It consisted of a thick layer of charcoal and burnt earth with large amounts of cremated bone (the remains of one individual). The only other recovered find was a piece of Roman imbrex roof tile. There was also one possible *bustum* burial (JNWBF23). The feature could not be excavated, but its kidney-shaped plan and charcoal-rich fill highlighted it as a possible example of this kind of burial.

Period 7 – The Anglo-Saxon and medieval Period

There was no evidence of activity in Area JNWB in this period.

Period 8 – the post-medieval period

There was no evidence of activity in Area JNWB in this period.

Period 9 – modern/military period.

There was no evidence of activity in Area JNWB in this period other than the surface of the former Le Cateau Road which appeared in section in the edge of the trench.

The finds reports and environmental analysis

The bulk ironwork

by Nina Crummy

The assemblage consists of iron objects only. A single hobnail came from cremation F7 and inhumation F22. An iron bar, too large to be a nail shank, came from inhumation F31. The remaining objects are nails, coffin nails from the inhumations and those from cremations probably deriving from wood used to construct the pyre. None of these objects can be closely dated.

Cremation F4
Finds number 14
Three complete iron nails, one clenched. Lengths 66, 55 and 37 mm.

Cremation F7
Finds number 33
SF 3. Iron hobnail. Length 13 mm.

Cremation F8
Finds number 2
Two incomplete nails. Lengths 67 and 25 mm.

Finds number 3
Iron complete iron nail. Length 87 mm.

Inhumation F19
Finds number 7
One incomplete iron nail and one nail shank fragment. Lengths 42 and 40 mm.

Inhumation F20
Finds number 8
Incomplete iron nail. Length 46 mm.

Inhumation F22
Finds number 9
SF 2. F22. Iron hobnail. Length 14 mm.

Inhumation F26
Finds number 18
Three complete and one incomplete iron nails. Lengths 83, 77, 72 , 57 mm.

Inhumation F27
Finds number 20
Nail shank fragment. Length 35 mm.

Inhumations F27 and F30
Finds number 23
One complete nail, one incomplete nail and one nail shank fragment. Lengths 58, 34 and 49 mm.

Inhumation F28
Finds number 22
Two incomplete iron nails, one clenched. Lengths 52 and 37 mm.

Inhumation F30
Finds number 25
Four complete iron nails. Lengths 97, 65, 60 and 57 mm.

Inhumation F31
Finds number 31
SF 1. F31 (Finds number 27). Round-section iron bar, broken at each end. Length 240 mm.

Finds number 27
One incomplete iron nail and one nail shank fragment. Lengths 61 and 79 mm.

Inhumation F32
Finds number 30
Two complete and two incomplete iron nails. Lengths 71, 70, 54 and 46 mm.

The Roman pottery

by Stephen Benfield

Introduction

In total, there is just under 14 kg (13,817g) from the watching brief. The pottery has been recorded using the Roman pottery fabric type series devised for *CAR* **10** in which the fabrics are recorded as two-letter codes. These letter codes, together with the full fabric name, are set out in Table 4.2. Where appropriate, the fabric code for the National Roman Fabric Reference Collection has been included (Tomber & Dore 1998). The pot forms were recorded, where possible, using the Camulodunum (Cam) Roman pottery form type series (Hawkes & Hull 1947; Hull 1958). Samian vessels are recorded using Dragendorff (Dr) form numbers or other common from type references following those used in Webster 1996. Dating of the pottery broadly follows the dating of pottery fabric and forms in *CAR* **10**. The pottery fabrics and the vessel forms present in each site context were recorded for each finds number. The number of sherds was recorded and the identifiable pottery forms present for each fabric type. The total weight of pottery and an overall spot-date was recorded for each finds number. This information is set out in Table 4.3 below.

Table 4.2 Roman pottery fabrics.

Fabric code	**Fabric name**	**National Roman fabric reference collection Fabric code**
CB	Colchester red colour-coated, roughcast ware	COL CC2
CZ	Colchester and other red colour-coated wares	COL CC2
DJ	coarse oxidised and related wares	COL WH
EA	Nene Valley colour-coated ware	LNV CC
GA	BB1: black-burnished ware, category 1	DOR BB1
GB	BB2: black-burnished ware, category 2	COL BB2
GX	other coarse wares, principally locally-produced grey wares	
HZ	large storage jars and other vessels in heavily-tempered grey wares	
KX	black-burnished ware (BB2) types in pale grey ware	
MP	Oxfordshire-type red colour-coated wares	OXF RS

Table 4.3 Catalogue of Roman pottery.

context	find number	weight (g)	burial goods no	Roman pottery fabrics (with number of sherds and dated form types)	comments	Roman pottery spot date
F001	016	1199		Illustrated, Fabric GB, Cam 278 jar, base and much of body intact and two large joining sherds, all of upper part of pot missing, almost certainly a whole pot when buried, decorated with groups of burnished diagonal crossed lines, fabric quite micaceous,	old area.	mid-late 2nd to mid-late 3rd century
F001	016	88		Other pottery: Fabric GB, 7 sherds, 5 sherds from the base of a bowl, noted during excavation as possibly used as a lid on the Cam 278 jar, and 2 lattice decorated sherds from a second Cam 278 jar, early-mid 2nd to mid-late 3rd century; Fabric GX 3 sherds from two or three different pots, Roman.	old area	early-mid 2nd to mid-late 3rd century
F002	017	577		Illustrated, Fabric EA, whole pot, Cam 408-410 beaker, dark grey body, decorated around the girth with white barbotine, scrolls or tendrils with five triangular groups of berries, representing grape vines,		2nd quarter of the 3rd century to 4th century
F003	012	2000		Illustrated, Fabric GX, large jar, Cam 280/281, probably complete but broken into sherds, decorated with two bands of combed wavy lines,		mid-late 2nd-4th century?

context	find number	weight (g)	burial goods no	Roman pottery fabrics (with number of sherds and dated form types)	comments	Roman pottery spot date
				one below the neck, one on the shoulder, and a burnished wavy line between narrow burnished bands on the shoulder below these,		
F004	013	418		Illustrated, Fabric GX, Cam 268 jar, partial pot, much of pot present as sherds, about one third of rim present as one sherd, presumably whole when buried,		early/mid 2nd century-late 3rd/early 4th century
F007	011	1012		Illustrated, Fabric GX, Cam 268 jar, partial pot, most of pot present as several large sherds with several smaller sherds, presumably whole when buried, early/mid 2nd century-late 3rd/early 4th century.		early/mid 2nd century-late 3rd/early 4th century
F007	033	2067		Illustrated, Fabric GX, Cam 231/232, partial pot, about 70% of pot in sherds, complete profile, 1st to mid-late 2nd century.		1st to mid-late 2nd century
F007	033	158		Illustrated, Fabric CZ, Cam 408-410, partial pot, most of pot present as sherds, complete profile, surfaces and fabric degraded, possibly scorched but not clear.		2nd quarter of the 3rd century to late 3rd or possibly 4th century.
F007	033	346		Fabric GX, base and 4 joining lower body sherds, body of pot close to base burnished.		Roman.
F007	033	139		Fabric GA, about 30 sherds and fragments (139 g) from a Cam 279 jar, obtuse burnished lattice on girth,		early-mid 3rd to 4th century.
F007	033	110		Fabric GX, 3 sherds (110 g), 2 joining body sherds and 1 base sherd, from a jar or closed mouth bowl.		
F007	033	53		Fabric HZ, 2 sherds (53 g), burnt,		1st-2nd/3rd century.
F007	033	8		Fabric GB, 1 sherd (8 g) from the base of a bowl, early 2nd to mid-late 3rd century.		
F007	033	112		Fabric KX, 8 sherds (112 g), rim and shoulder sherds, 2 joining, from a Cam 278 jar,		mid 2nd to mid-late 3rd century.
F007	033	16		Fabric GX, 2 other sherds (16 g), Roman.		
F016	004	1193		Illustrated, Fabric GX, almost complete jar, about once quarter of rim		?1st-early 2nd century

context	find number	weight (g)	burial goods no	Roman pottery fabrics (with number of sherds and dated form types)	comments	Roman pottery spot date
				missing, 1 loose small non-joining rim sherd, everted rim, burnished rim, neck and lower body, decorated with comb wavy line patter around widest part of body, ?kiln firing mark in shape of a pale ring on one side, other side of pot appears abraded, possibly scorched, the fabric is quite micaceous, not directly paralleled in Cam form type series or *CAR* **10**, but the overall form is essentially Cam 108		
F018	006	70		Fabric GB, 1 sherd, rim and shoulder from a Cam 278 jar decorated with burnished lattice lines, heavily scorched on exterior surface, early-mid 2nd to mid-late 3rd century.		early-mid 2nd to mid-late 3rd century
F022	009	99		Fabric GX, 10 sherds	also sherd from a modern sewer pipe	Roman
F026	018	6		Fabric ?GB, 1 sherd		?early 2nd to mid-late 3rd century
F027	20	95		Fabric GB, 1 sherd, Cam 37B, late 2nd/early 3rd to mid-late 3rd century; Fabric GX, light grey coloured rim sherd (20 g) from a Cam 268, same pot as finds number 24, rim from a second Cam 268, burnt, early/mid 2nd-late 3rd/early 4th century.		late 2nd/early 3rd to late 3rd/early 4th century
F027	024	1071		Illustrated, Fabric GX, Cam 268 jar, intact base and side with much of the upper part present as sherds, unusually some areas of the underside rim lip are broken away and missing, almost certainly a whole pot when buried, dated early/mid 2nd-late 3rd/early 4th century.		?early/mid 2nd-late 3rd/early 4th century
F028	022	260		Fabric CB, 1 sherd, early 2nd to mid 3rd century; Fabric GB, Cam 411 beaker, second quarter of 3rd century to mid-late 3rd century; Fabric GX, 3 sherds, whole base and lower body of a beaker, with joining sherd, rouletting on body, one other sherd.		second quarter of 3rd century to mid-late 3rd century

context	find number	weight (g)	burial goods no	Roman pottery fabrics (with number of sherds and dated form types)	comments	Roman pottery spot date
F031	028	1175		Illustrated, Fabric GX, Cam 268 jar, almost complete whole pot, missing about 40% or rim on one side, body cracked, presumably whole when buried, does not sit well on its base and is possibly a kiln second.		early/mid 2nd-late 3rd/early 4th century
F031	028	1		Other pottery: Fabric DJ 1 small sherd, residual from inside cremation urn,		1st-2nd/3rd century
F033	032	1083		Illustrated, Fabric GB, Cam 278 jar, near complete pot, large sherds broken away from upper body and most of rim missing, presumably whole when buried, decorated with a broad lattice of burnished lines, early-mid 2nd to early 3rd century.		early-mid 2nd to late 2nd/early 3rd century.
U/S	015	25		Fabric GX, 3 sherds, one sherd quite micaceaous with cream coloured deposit of mineral scale on the interior surface		Roman
U/S	029	200		Fabric GB, 4 sherds from a Cam 37B bowl, late 2nd/early-3rd to mid-late 3rd century; Fabric GX, 2 sherds, Roman.		late 2nd/early-3rd to mid-late 3rd century
U/S	031	178		Fabric GB, 3 sherds, rim from a Cam 278 jar, early-mid 2nd to early 3rd century; Fabric MP, 1 sherd, abraded, Dr 38 bowl, late 3rd-4th/4th century.		late 3rd-4th/4th century
total		14255				

The human skeletal remains

*by Francesca Boghi (*NAU)
(Animal bone identified by Julie Curl (NAU).)

Introduction

Cremated human skeletal remains from nine features and inhumed skeletal material from eight features were received for analysis.

An earlier excavation on an adjacent site at GUV Area J1 North revealed 351 Roman inhumation and cremation burials which were part of a large late Roman cemetery in use from mid 2nd to the 4th century. Burials from the two sites are compared where appropriate.

THE CREMATED SKELETAL REMAINS

The cremated material derives from nine features containing a total of 4940g of cremated bone. The assemblage comprised six urned cremation burials (F1, F2, F3, F7, F16 and F33), one possible pyre site (F24), one possible pyre site/bustum (F25) and one inhumation burial (F31). One feature (F4) recorded as an urned cremation burial contained only a small assemblage of unburnt human bone and was included in the analysis of the unburnt bone.

Methodology

The analysis of the cremated bone followed the guidelines drafted by McKinley (2004). The cremated bone was first analysed to determine whether it was human or non-human. The total weight of each assemblage was taken and then animal bone and inclusions were separated. The human bone was then dry-sieved through a stack of sieves with 10mm, 5mm and 2mm mesh sizes to maximise bone recovery and assess the degree of fragmentation. The identifiable bone fragments were divided into four skeletal areas – skull, axial skeleton, upper limb and lower limb – for further analysis, and bagged separately. A description of each feature is given in a table in Appendix 4.2 below. A summary of the basic characteristics of each feature, data on colour, degree of fragmentation, bone identification, age and sex determination and pathological conditions are also available in Appendix 4.2.

Results and discussion

All features except F4 contained cremated human bone. The sample comprised 2 large (>999g), 5 medium (100-999g) and 2 small (0-99g) assemblages. The quantity of cremated bone per feature varied considerably from 69g (F25) to 1527g (F7) with an average weight of 548.8g (Table 4.4).

Table 4.4 Bone fragmentation.

	10mm (%)	5mm (%)	2mm (%)	Residue (%)	Max. fragment size (mm)	Total weight(g)
COUNT (n)	9	9	9	9	9	9
MIN	29.7	12.7	5.3	1.2	32	69
MAX	73.3	41.9	23	8.6	132	1527
AVG	57.5	28.1	10.4	3.6	63.7	548.8

The amount of bone falls within the size range (57-3,000g) for archaeological cremations (McKinley 2000, 408-9), though it is largely incomplete in comparison to a modern cremation (1,000-3,600g) (McKinley 2000, 404). The size of a cremation depends on the individual (age, sex, body size, bone density), the extent of bone recovery from the pyre site and during excavation, as well as on the rate of bone preservation (McKinley 1993, 285). Overall, the amount of bone was consistent with the type of context as urned cremations are normally larger than those in pits and a comparatively smaller quantity of bone was found, as expected, within possible pyre burial F24. The small amount of bone in F25, a ?pyre site/bustum, is consistent with the interpretation of a possible pyre site as *busta* generally represent complete burials (McKinley 1998, 19), unless preservation or post-depositional factors played a major role in the amount of bone retrieved from this context. A larger quantity of bone than expected was found in F31 which represents a cremation burial redeposited within the backfill of an inhumation burial.

The average maximum fragment size (63.7mm) was large and ranged from 32mm to 132mm. The bone fragments were large on average as 57.5% of bone fragments were over 10mm in size, in comparison to an average of 50% of bone fragments over 10mm in archaeological cremations (McKinley 1994, 340). The average large size of the fragments and the fact that the fractures largely occurred along fissure lines make it unlikely that the bone was deliberately crushed before burial.

The predominantly buff white colour of the assemblage indicates the full oxidisation of bone and that the temperature of the cremation was probably in excess of 600° in the majority of the features (Shipman *et al* 1984). A small proportion (5-10%) of bone in most features exhibited signs of proportionately less exposure to heat in many shielded anatomical areas and reflects the typical pattern of burning on the bones of a skeleton. The bone from two features (F1 and F31) was incompletely oxidised as it included about 30% of blue/grey bone (indicative of a lower attained temperature) alongside 10% of only charred (black) bone and a portion (60%) of fully oxidised bone. In these features, other factors may have affected the colour of the bone such as the type and amount of fuel (including the proportion and amount of body fat), the length of the cremation process, the availability of oxygen and the distance from the heat source. The bone also showed the typical pattern of fissuring, cracking and warping which occurs during the cremation of fleshed bodies cremated soon after death.

It was possible to identify some skeletal elements in all the features. Fragments were considered identifiable when they could be attributed to a specific bone element rather than to a generic skeletal area. Identifiable bone was separated, quantified and classified into four skeletal areas: skull, axial skeleton, upper limb and lower limbs. On average, a relatively high percentage (34.8%) of bone fragments could be identified. This figure reflects the large average fragment size and falls within the expected range (20-50%) of an archaeological cremation that is normally identifiable (McKinley 1989, 68). With respect to the relative representation of skeletal areas, elements from the lower limbs were best represented in seven features, followed by the axial skeleton in one feature (F2) and the skull in one other (F33). The axial skeleton and upper limb fragments were the least represented, followed by the skull. The collection of the cremated remains at the pyre site appears to have been very meticulous as bone elements from all four skeletal areas were identified in all the features. No definite bias in the collection of skeletal elements could be proved, though skull fragments, which are generally easily identified and are less affected by poor preservation than the axial skeleton, were consistently poorly represented.

Two multiple burials were identified in two urned cremation burials (F2 and F7), as indicated by the duplication of bone elements and/or by discrepancies of age at death. F2

contained the remains of two adults and F7 contained the remains of a minimum of two adults and one juvenile (Table 4.5). The remains probably represent deliberate multiple burials rather than the residues from the clearance of a pyre site used for more than one individual.

Table 4.5 Multiple burials.

Feature	Adult	Juvenile	MNI
F2	2 left femur proximal 1/3 (lesser throchanter)		2 adults
F7	2 L scapula (glenoid) , 2 L Humerus proximal epiphysis, 2 L Humerus distal 1/3, 2 occipital bones	1 tibia (proximal epiphysis) unfused. Estimated age at death < 20 years.	2 adults and 1 juvenile

Evidence for bone deposition in anatomical order was searched for in seven features that were excavated in spits. Possible evidence for bone deposition in anatomical order was found in one feature (F3). The evidence for deposition in anatomical order was inconclusive in one other feature (F16). A mixed deposition was observed in the remainder five features.

The estimation of precise age at death was difficult as most ageing features were unavailable. One individual (F7) was classified as a middle adult (35-50 years) on the basis of the morphology of the auricular surface. Two individuals from F1 and F33 were classified as possible young adult and possible middle adult respectively on the basis of the rate of cranial suture closure, though not all the necessary scoring landmarks were presents. The remaining individuals were classified as adults (>20 years) from the rate of epiphyseal union with the exception of one individual from F7 which was recorded as juvenile (<20 years).

The morphological criteria for sex determination in skeletal material as in Buikstra and Ubelaker (1994) were generally unavailable in this sample and most of the metric criteria for sexing cremated material devised by Gejvall (1969) were either absent or insufficiently complete. As a result a determination of sex was achieved in only two individuals from F1 and F7 who were classified as probable males.

Very few pathological changes were observed in this sample, despite the generally good average size of the assemblages and the above average fragment size. These consisted of possible trauma and spinal pathology (Schmorl's nodes and arthritic changes). A detailed description of the pathological changes is given in Appendix 4.2. An enthesophyte, i.e. new bone at the insertion of muscles, ligaments and tendons caused by inflammation due to pulling stresses was recorded in F33 along the linea aspera of the femur and is commonly recorded in archaeological material. Enthesophytes can therefore be traumatic in origin, though they are also strongly correlated with old age (Mann and Hunt 2005, 161). Schmorl's nodes i.e. depressions caused by ageing and/or traumatic events were recorded in one individual. Arthritic changes in the spine consisting of lipping and macroporosity were noted in an individual from the same feature. This type of change is age-progressive and very commonly diagnosed in skeletal material.

Animal bone (cattle/horse, sheep/goat and fish) was included in 5 features. The amount of bone included ranged between 1g (F25) and 100g (F7). The presence of animal bone indicates that part or whole animal carcasses had been placed on the pyre with the deceased as pyre goods, and were selected later for inclusion in the grave. The general incomplete oxidisation of the animal bone in this assemblage may indicate that the animal remains had been placed on the pyre after the human remains or at the edges of the pyre, though it may just reflect differences in body size. Cremation burials commonly contain cremated animal bone in progressively increasing quantities from the Bronze Age to the Anglo-Saxon period (McKinley 2000, 416). Animal remains generally represent pyre goods, food, amulets, pets, indicators of status, or remnants of funeral feasts (*ibid*). Green staining from contact with cooper/alloy objects was noted on skull and axial elements of F7 and on rib and long bone fragments in F31. Pyre debris (mainly charcoal in F24) was also found. One fragment of unburnt pot (2g) was included in F16 and may well be residual.

In comparison with the Garrison Urban Village (GUV) group of cremations, the cremation burials from Area J North showed a much higher average weight, even including only urned cremations and a larger maximum fragment size which resulted in a larger percentage of

identifiable fragments. The Garrison Area JN assemblage included a higher percentage of incompletely oxidised features (22.2% against 10.9% in the other group) and a much higher presence of cremated animal bone included within the cremation burials (71.4% against 17.4%). However, the animal bone was largely incompletely oxidised at Garrison Area JN (80%) and fully oxidised at GUV (85.3%). Similarly to the Garrison group, the Area J north group showed the lower limbs as the best represented skeletal area and a bias against skull bones in some features. Therefore, a few slight differences in burial custom seem to emerge from this comparison (Table 4.6).

Table 4.6 Comparison of Area JNWB cremated remains with those from Area J1 North excavation.

Category	JNWB	Garrison Urban Village
N. cremated bone features	9	195
Total weight cremated bone	4940g	45123g
Average weight (all features)	548.8g	235.4g
Average weight (urned cremations)	729.83	446.4g
Average weight (pyre burials)	74g	102.3g
Average identified	34.8% (only one > 100g)	26.1% (41.9% in larger assemblages)
Average maximum fragment size	63.7	47.6
% > 10mm	57.5%	70.9%
% features with four identified skeletal areas	100%	40%
Best represented skeletal elements	Lower limbs	Lower limbs and skull
Worst represented skeletal elements	Axial and upper limb	Axial and upper limbs
Collection bias	Skull bone bias in 4 features	12 features with no skull bones
N. multiple burials	2 (22.2%)	4 (2%)
Excavated in spits	7 (77.8%)	48 (24.6%)
Deposition in anatomical order	1 (11.1%)	2 (4.2%)
Pathology types	Spinal, Trauma/degenerative	Non-specific infection, arthritis, joint disease, trauma, spinal and dental disease.
% sexed	25% or 2 of 8 adults	25%
% aged	33.3% (3)	28.1% (54)
N Fully cremated features	7 (77.8%)	174 (89.1%)
N incompletely cremated features	2 (22.2%)	21 (10.9%)
Inclusions: Animal bone	5 (71.4%)	34 (17.4%)
Degree of animal bone oxidisation	1 fully oxidised (20%) 4 incompletely oxidised (80%)	29 fully oxidised (85.3%) 1 incompletely oxidised (3.4%) 4 unburnt (intrusive?) (11.8%)

Summary and conclusion

Nine features including six urned cremation burials, one possible pyre site, one possible pyre site/*bustum* and one inhumation burial containing human cremated bone were found at the Garrison Area J North Watching Brief, Colchester. These contained a total of 4940g of cremated human bone. The sample comprised two large, five medium and two small assemblages containing an average of 548.8g of bone. Overall, the amount of bone was consistent with the type of context as urned cremations are generally larger that those in pits. The average fragment size was large and bone fragments were also large on average. The bone in most features was fully cremated, though the degree of oxidisation was incomplete in two features. A relatively large percentage of fragments could be identified as a result of the large average fragment size. The collection of the cremated remains at the pyre site appears to have been very meticulous as bone elements from all four skeletal areas were identified in all the features. A possible bias in the collection of skull elements was however suspected, as these are normally very easily identifiable and well preserved. Two probably deliberate multiple burials were identified - one containing two adult individuals and one containing two adult individuals and one juvenile. Possible evidence of deposition in anatomical order was found in one feature, amongst the seven which were excavated in spits. The analysis of age at death revealed one juvenile, one possible young adult and one possible middle adult. The remaining individuals were adults. Gender was uncertain in most of this group apart from two probable males. Very few pathological changes were observed in this sample, despite the generally good average size of the assemblages and the above average fragment size. Incompletely oxidised animal bone was included in five features, green staining from contact with copper/alloy objects was found in two features and pyre debris in one other.

THE UNBURNT HUMAN SKELETAL REMAINS

A total of 4929g of unburnt human skeletal remains from eight features were received for analysis. The material derived from seven inhumation burial and from one urned cremation burial (F4). A description of each feature is given in 'Appendix: catalogue of burials and burial-related features' below. A small assemblage of disarticulated unstratified human skeletal remains (108g) is described along with all the collected data in Appendix 4.2.

Methodology

The sample was analysed according to the *Standards for data collection from human skeletal remains* (Buikstra and Ubelaker, 1994) and incorporates suggestions from the *Guidelines to the standards for recording of human remains*, (Brickley, M and McKinley, J I, 2004). The report follows the English Heritage guidelines on the preparation of analytical reports (Mays, Brickley and Dodwell, 2002).

Results and Discussion

The skeletal completeness was medium (comprising 50% of skeletal elements) in one skeleton (F26), i.e. in 12.5% of the sample, and poor (comprising <25% of skeletal elements present) in the rest of the assemblage (87.5%) (Table 4.7). The degree of preservation was moderate in one skeleton (12.5%) and poor in the rest of the skeletons (87.5%).

Table 4.7 Skeletal completeness.

> 75%	~ 75%	~50%	<25%	Total
0	0	1	7	8

The relative representation of individual skeletal elements shows a very low representation of dentitions, ribs and hand bones (missing in over 75% of the sample) as well as a poor representation of skulls and feet bones. The best represented elements are the lower limbs (present in 75% of the sample) (Table 4.8).

Table 4.8 Relative representation of skeletal elements (number of skeletons).

Complete-ness	Skull	Maxilla	Mandible	Vertebrae	Ribs	Pelvis	Upper limbs	Hands	Lower limbs	Feet
>75%	1	0	0							
25-75%	1	1	2	2	2	2		1	4	
< 25%	4	0	1	2		3	4		2	3
Missing	2	7	5	4	6	3	4	7	2	5
Total	8	8	8	8	8	8	8	8	8	8

Age at death

The assessment of age at death was carried out on the basis of skeletal, dental development and according to age-related morphological changes. There were no juveniles. The adult group was formed by 4 adults (>20 years) and 4 young adults (20-35 years). No middle adults (35-50 years) or old adult (> 50 years) were identified in this sample.

Minimum number of individuals (MNI)

The minimum number of individuals was calculated separately for each age class based on the occurrence of bone elements, sorted by side and segment. The sample accounted for a minimum of five individuals. Detailed bone counts are given in Appendix 4.2. The low figure expressed by the minimum number of individual based on the number of bone elements reflects preservation factors. Three features accounted for a minimum of two individuals each (F26, F27 and F28) as they each contained elements from an additional individual. This probably reflects intercutting and consequently a certain level of residual bone elements from earlier graves within the burial ground.

Sex determination

Attribution of sex is established on the basis of pelvic and cranial morphological features. Details of the scores for each morphological feature used in the assessment of sex are given in Appendix 4.2. Gender could be determined in five features. The group was composed by four males and one probable male (Table 4.9).

Table 4.9 Sex determination.

Female (F)	Probable Female (F?)	Indeterminate (?)	Probable Male (M?)	Male (M)	Total
0	0	4	1	4	8

Stature

Stature could not be calculated due to preservation factors.

Pathological conditions

A detailed description of the pathological changes is given in Appendix 4.2.

Congenital disease

F28 had the bilateral sacralisation of the last lumbar vertebra. This is a not unusual minor congenital variant with no pathological relevance (Mann and Hunt 2005, 117).

Enthesophytes, cortical defects and pronounced muscular insertions

A cortical defect in the right clavicle was recorded in F26. Cortical defects are depressions in the cortical bone occurring at the attachment sites (entheses) of tendons and ligaments to bone. They reflect mechanical stress placed on the entheses during muscular activity (Knüsel 2000, 115). Cortical defects at the site of the costo-clavicular ligament indicate the common performance of strenuous activities involving the pectoral girdle.

Spinal disease: *Schmorl's nodes*

F26 had four vertebrae (25% of the available thoracic and lumbar vertebrae) affected by Schmorl's nodes. These defects result from the prolapse of intervertebral disc material into the vertebral body and reflect the weakening of the intervertebral bodies as a consequence of ageing and/or trauma associated with an overload of the weight bearing capacity of the spine (Roberts and Manchester 1995,107).

Joint disease

F26 (additional adult individual) was affected by osteoarthritis of the left hip as indicated by superior slipping of the femoral head and extensive osteophytes along the superior margin.

Dental health and disease

Dental data can be informative on a range of subjects including diet, state of health, dental hygiene and technology in dental care. Location, type and severity of dental defects were recorded in each tooth and this data is available in Appendix 4.2. Three adult skeletons had preserved dentitions, which comprised 27 permanent teeth (28.1% of 96, i.e. the number of expected teeth). No teeth were lost ante mortem; none were carious or affected by periodontal disease and none of the available teeth positions had abscesses. Roman levels for ante-mortem tooth loss are at 8.3% (Robert and Cox 2003, 135) and at 7.5% for number of carious teeth (*ibid*: 131). Two individuals had depositions of calculus or calcified plaque on their teeth, a condition associated with levels of dental hygiene. Four teeth, i.e. (14.8%) had

calculus deposits with respect to 43.4% of teeth in the Roman period (Roberts and Cox 2003,131).

Enamel hypoplasia consists of defects such as linear grooves and pits in dental enamel. These defects represent a disruption in the enamel formation as a consequence of episodes of stress including fever, starvation, congenital infection and low birth weight, occurring when the tooth was forming (Lewis 2000, 46). Since hypoplastic defects are not remodelled, they provide a permanent record of childhood stress from birth to early adolescence. Two adults were affected by enamel hypoplasia for a total of eight teeth (29.6%) with hypoplastic defects. This is a much higher rate than that registered in the Roman period (9.1%) (Roberts and Cox 2003, 140) and may – at least in part – reflect the small sample size.

The shovelling of the maxillary incisors, a morphological congenital variation was noted in skeleton F26. The same skeleton had congenital absence of the mandibular 3rd molars.

Table 4.10 outlines a few comparison categories between the Garrison Area J North group and the larger Garrison Urban Village assemblage. Both groups recorded similar low levels of dental disease.

Table 4.10 Comparison with the Area J1 North excavation assemblage.

Category	Garrison Area J North watching brief (2007.46)	Garrison Urban Village (2004.36)
Number of features with unburnt bone	8	92
Total weight inhumed	4940g	13061g
Preservation	1 moderate (12.5%), 7 poor (87.5%)	5 good (5.4%), 25 moderate (27.2%), 62 poor (67.4%)
Best represented skeletal elements	Lower limbs	Skull, lower limbs
Worst represented skeletal elements	Dentitions, ribs and hand bones	Dentitions, vertebrae, ribs, pelves, upper limbs
Dental disease	Much lower than in the Roman period, except for enamel hypoplasia (in part due to small sample size)	Much lower than in the Roman period, except for enamel hypoplasia (in part due to poor preservation)

Summary and conclusion

The sample accounted for eight features containing unburnt human bone. The low rate of skeletal completeness and the general poor preservation precluded most metric and non-metric analysis and also impacted on the rate of pathological conditions that could be observed. The lack of juveniles, the bias towards young adults and the gender bias towards males most probably reflect the small sample size. In comparison with prevalence rates for the Roman period, the Garrison Area J North group showed very low levels of dental disease for the Roman period. However, as dental disease is an age progressive condition, this is also likely to reflect the young age of the individuals in this group. Detailed tables can be found in the Appendix 4.2.

Acknowledgement

Thanks to Julie Curl (NAU Archaeology) for the identification of the animal bone.

The faunal remains

by Julie Curl, NAU Archaeology

Introduction

A total of 0.977kg of faunal remains were recovered, consisting of ninety-five pieces. All of the remains are from butchered domestic food animals.

Methodology

All of the bone was examined primarily to determine range of species and elements present and the amount of material that could produce measurable, ageable bone; bone was scanned to determine if bone, horn or antler working was present in the assemblage. Butchering and any indications of skinning, hornworking and other modifications were recorded. When possible a record was made of ages and any other relevant information, such as pathologies. Counts and weights were taken and recorded for each context and counts taken for the number of bones for each species identified. Due to the small size of the assemblage, measurements were not taken as there would have been too little data for any meaningful interpretation. All information was input directly into an Excel database for analysis. The analysis was carried out following a modified version of guidelines by English Heritage (Davis, 1992). A catalogue of the assemblage is given as Table 4.11 below.

The assemblage – discussion and conclusions

This very small assemblage of faunal remains was produced from seven contexts, totalling 0.977kg. The majority of the bone was recovered from Roman inhumations. The remains were generally fragmentary from butchering and in fairly poor condition. Remains in F22 and F27 showed flaking or powdery surfaces and some erosion was seen on bone in F22, suggesting poor, acidic soil conditions. The unstratified bone in Finds No:15 exhibited grey to white surfaces, indicative of having been burnt at high temperature.

Bones from primary and lower quality butchering and food waste were seen with both cattle and sheep/goat. The majority of the bone consisted of fragments only identified as ‘mammal’ and comprised of pieces of butchered medium to large mammal.

The association of these remains with inhumations would suggest the possibility of pieces of meat buried as ‘food for the afterlife’ or remains of funeral feasting (Green, 1993) a practice that is quite common in burials of a Roman or earlier date.

Table 4.11 Faunal remains.
(all contexts are Roman inhumations). b = butchered. c = chopped, cu = cut

Context no.	Finds no.	Total qty	Wt (kg)	Species	Sp.Qty	Age	Butchering	Comments
F22	09	52	0.285	Sheep/ goat	1		b	tibia shaft
F22	09			Mammal	51		b	slightly powdering surfaces., some erosion
F26	18	5	0.119	Cattle	5	adult	b	mandible fragments and teeth
F27	20	2	0.029	Mammal	2			shaft fragments, large mammal, flaking, poor condition
F27	23	16	0.153	Mammal	16		b	large mammal, shaft fragments
F28	22	4	0.267	Cattle	4	adult	cu/c	proximal metatarsal, mandible fragments
F28	22	10		Cattle	2	juv	b	unfused distal metatarsal, tooth
F28	22			Mammal	8			shaft fragments, large mammal
u/s	15	6	0.124	Cattle	1		c	tibia
u/s	15			Sheep/ goat	1		b	radius shaft fragment, burnt at high temperature, Grey/white
u/s	15			Mammal	4			

Brick and tile

by Howard Brooks

F22
Finds number 09
3 Roman tegula flat pieces, 357g.
3 brick tile fragments, 50g. Discarded.

F25
Finds number 19.
1 imbrex fragment. 156g.

U/s, finds number 31
3 peg tiles, 49g. Discard

U/s finds number 15
1 Roman brick, 86g. Discarded.

u/s finds number 29
1 Roman brick or tile, 1288g. 30mm thick. Discarded.

Other finds

by Howard Brooks

F9
Finds number 10
10g of crumbly white mortary bits. Discarded.

F30
Finds number 27
Three charcoal pieces. 2g

F24
Finds number 5
Sample 1. Three charcoal fragments, plus bits. 21g

Acknowledgements and archive deposition

Archive deposition

The archive from the Area J1 North watching brief excavation, including the site records, photographs and finds, will be permanently deposited with Colchester and Ipswich Museums under accession code COLEM 2007.46**.**

Acknowledgements

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Appendix 4.1: catalogue of burials and burial-related features

In this catalogue, the following age classes are used: Juvenile (up to 20 yrs): Adult (over 20 yrs): Young adult (20-35 yrs); Middle adult (35-50 yrs); Middle/old adult (over 35 yrs); Old adult (over 50 yrs). Number in brackets are the finds number(s).

All the burials described below were revealed by contractors digging a sewer trench down the centre of what was formerly Le Cateau Road.

JNWBF1: urned cremation burial (Fig 4.5; pot Fig 4.8)
Description: Bowl-shaped burial pit containing two (possibly three) pots, one containing cremated bone. Exposed in plan only, and badly disturbed. Detailed recording impossible (no plan or section drawn).
Cremated human bone: at least one individual, young adult, probably male (16).
Burial goods: A jar (16) JNWBF1.1 was used as the principal cremation vessel. A bowl placed on top of it was probably intended as a lid (16). Three sherds from a separate pot may represent a third vessel, or may be residual (16).
Residual finds: Three Roman sherds (16)?
Date: Cremation vessel (jar) is dated mid 2nd century – late 3rd century.
JNWBF1.1 jar (16)

JNWBF2: urned cremation burial (Fig 4.5; pot Fig 4.8)
Description: Cremation vessel exposed and damaged by JCB (position recorded afterwards). No plan or section of cremation burial cut.
Cremated human bone: Minimum of two adult individuals of uncertain sex (17).
Burial goods: Whole pot (beaker) JNWBF2.1 dated to the 2nd quarter of the 3rd century to 4th century (17).
Residual finds: none.
Date: Beaker is dated to the 2nd quarter of the 3rd century to 4th century.
JNWBF2.1 beaker (17)

JNWBF3/F14: urned cremation burial (Figs 4.5 & 4.7; pot Fig 4.8)
Description: Cremation burial exposed when complete jar fell from the section during machining. The cremation burial had been cut into the top fill of inhumation grave JNWBF15. It was not possible to draw the plan, but the section was recorded (Fig 4.7).
Cremated human bone: Minimum of one adult individual of uncertain sex (12).
Burial goods: Large storage-jar (12) JNWBF3.1, probably complete but broken. Mid-late 2nd-4th century?
Residual finds: none.
Date: mid-late 2nd-4th century?
JNWBF3.1 jar (12)

JNWBF4: urned cremation burial (Fig 4.5; pot Fig 4.8)
Description: Feature exposed in south side of machine trench as a dense lens of charcoal with pot-sherds, cremated bone, animal bone fragments, and nails. It was not possible to record the plan or section of this feature.
Cremated human bone: small assemblage of unidentified unburnt human bone, probably residual or intrusive (13).
Burial goods: Partial pot, presumably whole when buried, early/mid 2nd century-late 3rd/early 4th century (13).
Residual finds: 3 iron nails (14).
Date: early/mid 2nd century-late 3rd/early 4th century.
JNWBF4.1 jar (13)

JNWBF5: inhumation burial (Fig 4.5)
Description: Inhumation burial cut aligned N-S. It was not possible to record the plan or section of this feature.
Burial goods: none.
Inhumed human bone: none exposed or retrieved.
Residual finds: none.
Date: presumed Roman.

JNWBF6: urned cremation burial (Fig 4.5)
Description: Cremation burial cut. Part of an urn and scattered cremated bone was seen *in situ*, but there was no opportunity to record or excavate it.
Cremated human bone: none retrieved.
Residual finds: none.
Date: presumed Roman.

JNWBF7: urned cremation burials (Fig 4.6; pots Fig 4.9)
Description: A jar fell from the trench side during machining. This was one of a group of three or four vessels – the jar (containing cremated bone), a beaker, a flask, and second jar. It is not clear how many burials are involved here, but it is most likely that the first jar and the beaker and flask were the initial grave deposit, and the second jar was probably a later insertion.
Cremated human bone: Minimum of two adult individuals (1 adult probably male, and one probable middle adult of uncertain sex: 11, 33).
Burial good, initial group: partial jar JNWBF7.1 (primary cremation vessel), presumably whole when buried, early/mid 2nd century-late 3rd/early 4th century (11: Fig 4.9,).
Beaker JNWBF7.3 accompanying primary cremation vessel, most of pot present as sherds. Presumably whole when buried. Possibly scorched (unclear). 2nd quarter of the 3rd century to mid 4th century (33: Fig 4.9).
Large flask JNWBF7.2 accompanying primary cremation vessel, about 70% of pot in sherds, presumably whole when buried, 1st to mid-late 2nd century (33: Fig 4.9).
Also among the cremated remains were an incompletely burnt bones of cattle or horse bone, and sheep or goat. These are presumed to have been deliberately included in the burial (33).
Burial goods, later insertion
Jar inserted into primary cremation, found in sherds, presumably whole when buried, early-mid 3rd to 4th century (33).
Residual finds: 21 sherds, mid 2nd to late 3rd century. It is uncertain whether these are related to this burial group. They may be from the fill of the other (unrecognized) burials (33). Iron hobnail (33).
Date: principal vessel is mid 3rd to mid 4th century.
JNWBF7.1 jar (11)
JNWBF7.2 large flask (33)
JNWBF7.3 beaker (33)

JNWBF8: urned cremation burial (Fig 4.5; burial plan in appendix below)
Description: Urned cremation burial which had been inserted into an earlier inhumation burial JNWBF11. Exposed and recorded in plan only. Pot not retrieved.
Burial goods: Cremation vessel not retrieved.
Cremated human bone: none retrieved.
Residual finds: 3 iron nails (2, 3).
Date: Presumed Roman

JNWBF9: inhumation burial (Fig 4.5)
Description: East to west-aligned inhumation burial cut. Cut by JNWBF10. It was not possible to record the plan or section of this feature.
Inhumed human bone: none exposed or recovered.
Burial goods: none.
Residual finds: Crumbly white mortar fragments (10).
Date: Presumed Roman

JNWBF10: inhumation burial (Fig 4.5)
Description: North to south-aligned inhumation burial cut. JNWBF10 cut JNWBF9. It was not possible to record the plan or section of this feature.
Inhumed human bone: none exposed or retrieved.
Residual finds: none.
Date: Presumed Roman.

JNWBF11: inhumation burial (Fig 4.5; burial plan in appendix below)
Description: North to south-aligned inhumation burial cut. JNWBF11 is probably cut by cremation burial JNWBF8 had been inserted into this inhumation burial. Recorded in plan, but no section was available for drawing.
Inhumed human bone: none exposed or retrieved
Burial goods: none.
Residual finds: none.
Date: presumed Roman.

JNWBF12: inhumation burial (Figs 4.5 & 4.7)
Description: N-S running inhumation grave pit seen only in section. Cut JNWBF13. Cut by inhumation burial JNWBF17 and also by JNF244 (ie, a cremation burial excavated in 2006 on Area J1 North). It was not possible to draw the plan, but the section was recorded (Fig 4.7).
Inhumed human bone: none.
Burial goods: Iron coffin nails were seen in section, but not recovered.
Residual finds: none.
Date: presumed Roman.

JNWBF13: inhumation burial (Figs 4.5 & 4.7)
Description: East to west-aligned inhumation grave cut. JNWBF13 was cut by JNWBF15, JNF244, and JNWBF12. It was not possible to draw the plan, but the section was recorded (Fig 4.7).
Inhumed human bone: none revealed or retrieved.
Burial goods: none.
Residual finds: none.
Date: Presumed Roman.

JNWBF15: inhumation burial (Figs 4.5 & 4.7)
Description: East to west-aligned inhumation grave cut. Cut into natural, and probably cut JNWBF13. Two cremation burials had been inserted into the top fill of JNWBF15, ie JNWBF3 and JNWBF16. It was not possible to draw the plan, but the section was recorded (Fig 4.7).
Inhumed human bone: none exposed or retrieved.
Burial goods: none.
Residual finds: none.
Date: Presumed Roman.

JNWBF16: urned cremation burial (Figs 4.5 & 4.7; pot Fig 4.9)
Description: Urned cremation burial inserted into the upper fill of JNWBF15. Edges not very clear. It was not possible to draw the plan, but the section was recorded (Fig 4.9).
Cremated human bone: Minimum of one adult individual of uncertain sex (4). There is also one incompletely burnt cattle or horse bone (4).
Burial goods: Almost complete jar (4) JNWBF16.1 , about one quarter of rim missing, one side of pot appears abraded, possibly scorched, 1st-2nd/3rd century.
Residual finds: none.
Date: Jar is 1st-2nd/3rd century
JNWBF16.1 jar (4)

JNWBF17: inhumation burial (Figs 4.5 & 4.7)
Description: East to west-aligned inhumation burial cut. JNWBF17 cut earlier inhumation burial JNWBF12. It was not possible to draw the plan, but the section was recorded (Fig 4.7).
Inhumed human bone: none exposed or retrieved.
Burial goods: none.
Residual finds: none.
Date: Presumed Roman.

JNWBF18: inhumation burial (Figs 4.4 & 4.7)
Description: Probably the end of a north to south-aligned inhumation burial. Cut by JNWBF19. It was not possible to draw the plan, but the section was recorded (Fig 0).
Inhumed human bone: none exposed or retrieved.
Burial goods: none.
Residual finds: 1 sherd from a jar, heavily scorched on exterior surface, early-mid 2nd to mid-late 3rd century (6).
Date: Roman 2nd century or later.

JNWBF19: inhumation burial (Figs 4.4 & 4.7)
Description: North to south-aligned inhumation burial cut. It is cut into natural. It cuts JNWBF18 and is cut by JNWBF20. It was not possible to draw the plan, but the section was recorded (Fig 4.7).
Inhumed human bone: none exposed or retrieved.
Burial goods: A few iron nails in the lower fill may have been coffin nails (7).
Residual finds: none.
Date: Presumed Roman.

JNWBF20: inhumation burial (Figs 4.4 & 4.7)
Description: North to south-aligned inhumation burial cut, head to the south. JNWBF20 was cut into natural and also into earlier inhumation burial JNWBF19. Its eastern side cuts another

(unnumbered) feature, possibly a burial. It was not possible to draw the plan, but the section was recorded (Fig 4.7).
Inhumed human bone: skull fragments only of adult over 20 yrs, uncertain sex (8).
Burial goods: 1 iron nail may be a coffin nail, or residual (8).
Residual finds: none.
Date: Presumed Roman.

JNWBF21: inhumation burial? (Figs 4.4 & 4.7)
Description: Exposed in section only, this was probably the end of an inhumation burial. Cut into natural. It was not possible to draw the plan, but the section was recorded (Fig 4.7).
Inhumed or cremated human bone: none exposed or retrieved.
Burial goods: none.
Residual finds: none.
Date: presumed Roman.

JNWBF22: inhumation burial (Fig 4.5)
Description: An east to west-aligned inhumation burial. It was not possible to draw the plan or section of this feature.
Inhumed human bone: skull, lower limbs and pelvis fragments of adult over 20 yrs, uncertain sex (9).
Burial goods: 1 iron hobnail may be from the burial, or it may be residual (9).
Residual finds: The presence of a fragment from a modern sewer pipe shows that this is not a closed group. 10 Roman sherds (9), 3 Roman tegula fragments, and 3 Roman brick/tile fragments (9). 1 butchered mammal bone, and 1 butchered sheep/goat bone (9)
Date: Presumed Roman.

JNWBF23: *bustum* burial? (Fig 4.5)
Description: Possibly the top of a *bustum* burial. Elongated, curved feature; cut into natural. Charcoally clay/sand fill. Not excavated.
Cremated human bone: none exposed or retrieved
Burial goods: none.
Residual finds: none.
Date: Presumed Roman.

JNWBF24: pit with pyre debris (Figs 4.5 & 4.7)
Description: Circular pit dug into natural, with charcoal and several small sized pieces of cremated bone.
Burial goods: none
Cremated human bone: Minimum of one adult individual of uncertain sex (5). Also, incompletely burnt mammal and fish bone (5).
Residual finds: Three charcoal fragments (5)

JNWBF25: *bustum* burial (Fig 4.5)
Description: *Bustum* burial seen in section only. West, south, and north facing sections exposed in the pipe-trench. About 30-40 cm thick layer of charcoal, large amount of cremated bone, and oxidized material (burnt earth). It cut the upper part of JNWBF26 and another (not numbered) grave to the north.
Cremated human bone: Minimum of one adult individual of uncertain sex (5). Also, a fully burnt cattle bone (5).
Burial goods: none.
Residual finds: 1 Roman imbrex fragment (19).

Date: Presumed Roman.

JNWBF26: inhumation burial (Fig 4.5)
Description: Inhumation grave oriented E-W. Sealed by JNWBF25. Skeleton well preserved (only partially exposed and excavated). Body lying on its left side, head to the west, face to the north, legs extended, straight; arms bent with hands joined.
Inhumed human bone: skull, upper limbs and torso fragments of young adult male (18).
Burial goods: Four iron (?coffin) nails (18)
Residual finds: 1 sherd, ?early 2nd to mid-late 3rd century (18). Five fragments of cattle mandible and teeth (18)
Date: Roman, ?early 2nd to mid-late 3rd century

JNWBF27: inhumation burials (Fig 4.5; pot Fig 4.9)
Description: Inhumation grave pit - oriented N-S with the burial, head to south (in extended position). JNWBF27 cuts natural and inhumation grave JNWBF30. Its bottom was c 3.5m below current ground level.
Inhumed human bone: There are two individuals here. One must be disturbed from another unrecognised burial on the same spot (or directly below?).
Individual 1 (26): skull, upper limbs and torso fragments of young adult male (20-35 yrs).
Individual 2 (20): skull, upper and lower limb fragments of adult male (over 20 yrs).
Burial goods: jar JNWBF27.1, intact base and side with much of the upper part present as sherds, almost certainly a whole pot when buried, early/mid 2nd-late 3rd/early 4th century (24). 1 iron (?coffin) nail (20).
Residual finds: 2 mammal bone fragments (20). 1 sherd, late 2nd/early 3rd to mid-late 3rd century; 1 sherd, burnt, early/mid 2nd-late 3rd/early 4th century (20).
Date: early/mid 2nd-late 3rd/early 4th century.
JNWBF27.1 jar (24)

JNWBF28: inhumation burials (Fig 4.6)
Description: A series of inhumation burials, only one cut was investigated.
Inhumed human bone: Upper limb, torso, pelvis and lower limb fragments of young adult male (20-35yrs) (22).
Burial goods: Beaker, second quarter of 3rd century to mid-late 3rd century (22).
2 iron (?coffin) nails (22).
Residual finds: 4 Roman sherds, early 2nd to mid 3rd century (22).
14 cattle and mammal bone fragments (22)
Date: second quarter of 3rd century to mid-late 3rd century;

JNWBF29: inhumation burial (Fig 4.6)
Description: Inhumation burial. Skeleton well preserved - oriented E-W with head to W; lying on its left side (face to the S), hands bent, legs extended straight. A layer 0.2-0.25m thick underneath the skeleton may be the remains of an earlier bustum.
Inhumed human bone: Originally incorrectly labelled as from F28. Skull, upper limb, pelvis, lower limbs and foot fragments of adult (over 20yrs) of uncertain sex (22).
Burial goods: none.
Residual finds: none.
Date: Presumed Roman.

JNWBF30: inhumation burial (Fig 4.5)
Description: Inhumation burial, dug into natural, oriented N-S. JNWBF27 is cut into JNWBF30.
Inhumed human bone: lower limb and pelvis fragments of probable male adult, over 20 yrs (23).

Burial goods: 4 iron (?coffin) nails (25).
Residual finds: Three charcoal pieces (27).
Date: Presumed Roman

JNWBF31: Inhumation and cremation burial (Fig 4.5; pot Fig 4.9)
Description: Inhumation grave cut which also produced a complete cremation pot. This was presumably a later insertion, but has not been renumbered.
Inhumed human bone: skull, vertebra, pelvis, upper and lower limb and foot fragments of a young adult (20-35 yrs), uncertain sex (27).
Burial goods: Jar JNWBF31.1, almost whole pot, presumably whole when buried, possibly a kiln second, early/mid 2nd-late 3rd/early 4th century (28).
Iron bar (27)
Cremated human bone: One adult of uncertain sex (27).
Residual finds: Other pottery: Fabric DJ 1 small sherd (1 g), residual from inside cremation urn, 1st-2nd/3rd century (28). 1 iron (?coffin) nail (27).
Date: (cremation) early/mid 2nd-late 3rd/early 4th century (inhumation is earlier).
JNWBF31.1 jar (28)

JNWBF32: inhumation burial (Fig 4.5)
Description: N-S oriented inhumation burial (bottom about 3m below current ground level).
Inhumed human bone: none recovered.
Burial goods: 4 iron (?coffin) nails (30).
Residual finds: none.
Date: Presumed Roman.

JNWBF33: urned cremation burial (Fig 4.6, pot Fig 4.9)
Description: Feature section on the trench's edge. A pot (urn?) discovered during digging the N-S running part of the sewage trench.
Cremated human bone: Minimum of one probable middle adult individual of uncertain sex (34).
Burial goods: Jar JNWBF33.1, near complete, presumably whole when buried, early-mid 2nd to early 3rd century (32).
Residual finds: none.
Date: early-mid 2nd to early 3rd century.
JNWBF33.1 jar (32)

JNWBF34: inhumation burial (Fig 4.5)
Description: poorly recorded, a few graves cutting each other; sealed by about 2m thick dark layer with post-medieval material. JNWBF32 may belong to the same "burial plot" as JNWBF34.
Inhumed human bone: none recovered.
Residual finds: none.
Date: presumed Roman.

Appendix 4.2: archival data

compiled by Francesca Boghi

Cremated and inhumated remains: list of tables

Cremated skeletal remains

In main report

Table 4.4 Bone fragmentation
Table 4.5 Multiple burials
Table 4.6 Comparison with the Garrison Urban Village assemblage

In 'Archival data'

- Context description
- Summary table
- Bone fragmentation
- Bone colour
- Bone identification (list of skeletal elements)
- Bone identification (weight)
- Anatomical bone distribution by spit
- Sex determination (os coxae morphology)
- Sex determination (cranial morphology)
- Age at death (adults)
- Pathological conditions

Inhumated human skeletal remains

In main report

Table 4.7 Skeletal completeness
Table 4.8 Relative representation of skeletal elements
Table 4.9 Sex determination
Table 4.10 Comparison with the Garrison Urban Village assemblage

In 'Archival data'

- Context description
- Features containing disarticulated HSR
- Summary table
- Preservation of skeletal elements
- Sex determination (os coxae morphology)
- Sex determination (cranial morphology)
- Sex determination (summary sex)
- Age at death
- Stature
- Prevalence rates (spinal pathology)
- Prevalence rates (dental pathology)
- Dental inventory and pathology
- Subadults age at death (comparison table)

- Cranial measurements
- Postcranial measurements
- Non-metric traits
- Pathological conditions

Cremated human bone

compiled by Francesca Boghi

Context description (size[83], type of bone[84], degree of oxidisation[85], MNI[86], skeletal areas represented[87], age[88], sex, pathologies, inclusions)

N	Feature	Feature Type	Description
1	F1	Urned cremation burial	Large assemblage containing human incompletely oxidised bone from a minimum of one probable male young adult individual. Fragment size was generally large with 61% of fragment over >10mm. The identified portion of bone (22%) included elements from all the skeletal areas. This assemblage was excavated in 6 spits which revealed a mixed anatomical deposition. Inclusions: incompletely oxidised large mammal bone.
2	F2	Urned cremation burial	Medium assemblage containing fully oxidised human bone from a minimum of two adult individuals of uncertain sex. Fragment size was generally large with 69% of fragment over >10mm. The identified portion of bone (45%) included elements from all the skeletal areas. This assemblage was excavated in 8 spits which revealed a mixed anatomical deposition. No inclusions.
3	F3	Urned cremation burial	Medium assemblage containing fully oxidised human bone from a minimum of one adult individual of uncertain sex. Fragment size was generally large with 52% of fragment over >10mm. The identified portion of bone (24%) included elements from all the skeletal areas. This assemblage was excavated in 15 spits which revealed a possible deposition in anatomical order. No inclusions.
5	F7	Urned cremation burial	Large assemblage containing fully oxidised human bone from a minimum of two adult individuals (1 adult and 1 probable middle adult, 1 probable male and 1 of uncertain sex) and one juvenile. Pathologies: spinal disease. Fragment size was generally large with 73% of fragment over >10mm. The identified portion of bone (52%) included elements from all the skeletal areas. This assemblage was

[83] Size categories: 0-99g; small; 100-999g: medium; >999g: large.
[84] Type of bone categories: human /animal
[85] Degree of oxidisation categories: unburnt, charred, incompletely oxidised, fully oxidised
[86] MNI: Minimum Number of Individuals
[87] Skeletal areas: skull, axial skeleton, upper limbs, lower limbs
[88] Age class categories: ADULT? = probably adult; ADULT = > 20 years; YOUNG ADULT (20-35 years); MIDDLE ADULT (35-50 years); MIDDLE/OLD ADULT (> 35 years); OLD ADULT (>50 years); JUVENILE (<20 years).

N	Feature	Feature Type	Description
			excavated in 9 spits which revealed a mixed anatomical deposition. Inclusions: incompletely oxidised cattle/horse and sheep/goat bone.
6	F16	Urned cremation burial	Medium assemblage containing fully oxidised human bone from a minimum of one adult individual of uncertain sex. Fragment size was generally large with 59% of fragment over >10mm. The identified portion of bone (29%) included elements from all the skeletal areas. This assemblage was excavated in 3 spits which revealed an uncertain anatomical deposition due to the large proportion of unidentified bone in the spits. Inclusions: incompletely oxidised cattle/horse bone.
7	F24	?pyre site	Small assemblage containing fully oxidised human bone from a minimum of one adult individual of uncertain sex. Fragment size was generally medium with 42% of fragment over > 5mm. The identified portion of bone (24%) included elements from all the skeletal areas. Inclusions: incompletely oxidised mammal and fish bone.
8	F25	?pyre site/bustum	Small assemblage containing fully oxidised human bone from a minimum of one adult individual of uncertain sex. Fragment size was generally large with 43% of fragment over >10mm. The identified portion of bone (47%) included elements from all the skeletal areas. Inclusions: fully oxidised cattle bone.
9	F31	Inhumation burial	Medium assemblage containing incompletely oxidised human bone from a minimum of one adult individual of uncertain sex. Fragment size was generally large with 60% of fragment over >10mm. The identified portion of bone (32%) included elements from all the skeletal areas. This assemblage was excavated in 6 spits which revealed a mixed anatomical deposition. No inclusions.
10	F33	Urned cremation burial	Medium assemblage containing fully oxidised human bone from a minimum of one probable middle adult individual of uncertain sex. Pathologies: trauma/degenerative disease. Fragment size was generally large with 70% of fragment over >10mm. The identified portion of bone (38%) included elements from all the skeletal areas. This assemblage was excavated in 6 spits which revealed a mixed anatomical deposition. No inclusions.

Summary table

N	Feature	Feature Type	Human / Animal[89]	Bone state[90]	MNI[91]	Age class[92]	Sex	Pathologies	Inclusions	Tot. weight (inclusions included)
1	F01	Urned cremation burial	Human	HUMAN BONE: incompletely oxidised (up to 600°) ANIMAL BONE: Incompletely oxidised (up to 600°)	1	Probable young adult	Probable male	None	65g animal bone (cattle or horse)	1099g
2	F02	Urned cremation burial	Human	Fully oxidised (> 600°)	2		Uncertain	None		282g
3	F03	Urned cremation burial	Human	Fully oxidised (> 600°)	1	Adult (> 20 years)	Uncertain	None		386g
4	F04	Urned cremation burial	Human	Unburnt	1	Adult (> 20 years)	Uncertain	None	none	-
5	F07	Urned cremation burial	Human	HUMAN BONE: fully oxidised (>600°); ANIMAL BONE:	3	1 probabl e middle adult; 1 adult and 1	1 probable male and 1 uncertain (adults)	Spinal disease	100g animal bone (cattle or horse), plus 1 fragment of	1627g

[89] Human? = probably human
[90] Bone state categories: FO = fully oxidised; IO = incompletely oxidised; unburnt: = not exposed to heat
[91] MNI = Minimum Number of individuals
[92] Age class categories: ADULT? = probably adult; ADULT = > 20 years; YOUNG ADULT (20-35 years); MIDDLE ADULT (35-50 years); MIDDLE/OLD ADULT (> 35 years); OLD ADULT (>50 years); JUVENILE (<20 years).

N	Feature	Feature Type	Human / Animal[89]	Bone state[90]	MNI[91]	Age class[92]	Sex	Pathologies	Inclusions	Tot. weight (inclusions included)
				Incompletely oxidised (up to 600°)		juvenile			sheep/goat tooth (< 1g)	
6	F16	Urned cremation burial	Human	HUMAN BONE: fully oxidised (>600°); ANIMAL BONE: Incompletely oxidised (up to 600°)	1	Adult (> 20 years)	Uncertain	None	50g animal bone (cattle or horse); 1 fragment of unburnt pot (2g)	390g
7	F24	?pyre site	Human	HUMAN BONE: fully oxidised (>600°); ANIMAL BONE: Incompletely oxidised (up to 600°)	1	Adult (> 20 years)	Uncertain	None	36g (cremated mammal and fish bone)	110g
8	F25	?pyre site/bustum	Human	HUMAN BONE and ANIMAL BONE: Fully oxidised (> 600°)	1	Adult (> 20 years)	Uncertain	None	1g cattle tooth	70g
9	F31	Inhumation burial	Human	Incompletely oxidised (up to 600°)	1	Adult (> 20 years)	Uncertain	None		418g
10	F33	Urned cremation burial	Human	Fully oxidised (>600°)	1	1 probable middle adult	Uncertain	Trauma/degenerative		810g

Bone fragmentation

Feature	**10mm**	**%**	**5mm**	**%**	**2mm (extracted weight)**	**%**	**residue**	**%**	***% of bone in the residue (estimated)***	**Total (human bone only)**	**Tot. weight (inclusions included)**	***Max. fragment size (mm)***
F01	633	61.2	293	28.3	71	6.9	37	3.6	*60*	**1034**	1099	*69mm*
F02	195	69.2	51	18.1	19	6.7	17	6.0	*80*	**282**	282	*71mm*
F03	199	51.6	122	31.6	56	14.5	9	2.3	*80*	**386**	386	*48mm*
F04 (unburnt)	-	-	-	-	-	-	-	-	-	**-**	-	-
F07	1119	73.3	193	12.7	83	5.4	132	8.6	*80*	**1527**	1627	*132mm*
F16	200	58.8	118	34.7	18	5.3	4	1.2	*60*	**340**	390	*57mm*
F24	22	29.7	31	41.9	17	23.0	4	5.4	*20*	**74**	110	*32mm*
F25	30	43.5	26	37.7	12	17.4	1	1.4	*60*	**69**	70	*36mm*
F31	252	60.3	114	27.3	42	10.0	10	2.4	*40*	**418**	418	*61mm*
F33	569	70.2	165	20.4	50	6.2	26	3.2	*60*	**810**	810	*68mm*
										4940	***5192***	

Bone colour[93] and colour changes distribution: (exocranial / endocranial / diploë; cortical / medullary surface; skeletal area / side)

N	Feature	Colour (visual estimate of % affected)	Degree of oxidisation and estimated temperature
1	F01	BUFF/WHITE 60% cortical bone; BLUE/GREY 30% medullary cavity long bones, BLACK 10% some medullary cavities	Incompletely oxidised (up to 600°)
2	F02	BUFF/WHITE 90%; BLUE/GREY 10% cancellous bone	Fully oxidised (> 600°)
3	F03	BUFF/WHITE 95%; BLUE/GREY 5% medullary cavity of long bones and cancellous bone; BLACK 5% medullary cavity of long bones	Fully oxidised (> 600°)
4	F04	Brown 100%	Unburnt
5	F07	HUMAN BONE: BUFF/WHITE 90%; BLUE/GREY 10% medullary cavity of long bones and cancellous bone; Green staining on skull and axial elements. ANIMAL BONE: BLACK 70% medullary cavities BLUE/GREY 30% cortical bone.	HUMAN BONE: fully oxidised (>600°); ANIMAL BONE: Incompletely oxidised (up to 600°)
6	F16	HUMAN BONE: BUFF/WHITE 90%; BLUE/GREY 10% medullary cavity of long bones and cancellous bone; ANIMAL BONE: BLACK 70% medullary cavities BLUE/GREY 30% cortical bone	HUMAN BONE: fully oxidised (>600°); ANIMAL BONE: Incompletely oxidised (up to 600°)
7	F24	HUMAN BONE: BUFF/WHITE 95%; BLACK 10% cancellous bone. Charcoal staining. ANIMAL BONE: BLACK 70% medullary cavities BLUE/GREY 30% cortical bone	HUMAN BONE: fully oxidised (>600°); ANIMAL BONE: Incompletely oxidised (up to 600°)
8	F25	HUMAN BONE and ANIMAL BONE: BUFF/WHITE 95%; BLUE/GREY 5% medullary cavity of long bones	Fully oxidised (> 600°)
9	F31	BUFF/WHITE 60% cortical bone; BLUE/GREY 30% medullary cavity long bones, BLACK 10% some medullary cavities. Green staining on rib (spit 3) and on a few unidentified long bone fragments.	Incompletely oxidised (up to 600°)
10	F33	BUFF/WHITE 95%; BLUE/GREY 5% medullary cavity of long bones and cancellous bone; BLACK 5% medullary cavity of long bones	Fully oxidised (>600°)

[93] Colour categories and corresponding estimated temperature: BROWN/ORANGE: unburnt; BLACK: charred (*c.*300°); BLUE/GREY: incompletely oxidised (up to 600°); BUFF/WHITE; fully oxidised (> 600°).

Bone identification (list of skeletal elements)[94]

N	Feature	SKULL	AXIAL SKELETON	UPPER LIMBS	LOWER LIMBS
1	F01	• Parietal • Temporal • Zygomatic bone	• Part of L auricular surface (spit 5) • Ilium (acetabulum, iliac crest, part of body) • Part of 5 vertebral bodies • L pubic symphysis • 5 transverse processes vertebrae • 1 spinous process	• Ulna PEPI • Radius M1/3	• Femur M1/3 • Tibia P1/3
2	F02	• Parietal • Occipital • L zygomatic	• 7 transverse processes of vertebra • 4 spinous processes vertebra • 9 fragments of vertebral bodies • Part of 1 vertebral body • L, R Ilium (acetabulum and iliac crest, anterior inferior iliac spine, part of L, R auricular surface (spit 4) • 6 rib fragments • Sacrum (alae)	• Radius M1/3 • R scapula (part of glenoid cavity)	• Femur M1/3 • L femur PEPI • DUPLICATE L femur P1/3 (lesser trochanter) (spit 4 and 5) from 2 ADULTS • Tibia DEPI • Talus (trochlear surface) • Part of R calcaneus • Part of navicular • R calcaneus
3	F03	• R mandibular ramus	• ilium (part of auricualr	• Radius M1/3	• Femur m1/3

[94] Code key: fb = finds bag; L = left; R = right; PEPI = proximal epiphysis; P1/3 = proximal 1/3; M1/3 = middle 1/3; D1/3 = distal 1/3; DEPI = distal epiphysis.

N	Feature	SKULL	AXIAL SKELETON	UPPER LIMBS	LOWER LIMBS
		(spit 10), 1 dental root (Spit 6) • Part of R mandibular ramus (urn) • Parietal • occipital	surface)	• Humerus M1/3	• Tibia M1/3
4	F04	-	-	-	-
5	F07	• Mandibular ramus (spit 2) • Coronoid process of mandible • Mental protuberance (fb11) (< 1g) DUPLICATE possible but inconclusive • 1 dental root (spit 3) • 2 dental root (fb33) (1g) • Sphenoid (<1g) (spit 4) and fb 11 • Temporal bone (<1g) (spit 8) • R spinous process (fb33) • Temporal bone (postglenoid tubercle) (1g) (fb11) • Occipital bone from 1 ADULT individual • Occipital bone from 1 ADDITIONAL ADULT individual (duplicated element) • R maxilla with 6 sockets	• 2 transverse processes, 1 spinous process (spit 3) (1g) • 1 spinous process (fb 33) • 1 superior articular process, 2 fragments of vertebral body, 1 pedicle (3g) (spit 9) • 10 fragments of vertebral body (fb33) • 12 transverse processes (fb33) • 5 rib fragments (green staining) (fb33) (5g) • R ilium (auricular surface, iliac spine, part of sciatic notch) • Ischium • Sacrum (S1 and alae)	• Radius DEPI (spit 2) • R scapula (body, glenoid cavity, spine) (fb 11) • L scapula (part of body, glenoid cavity, spine) from 1 ADULT • L scapula (part of glenoid) from 1 ADDITIONAL ADULT (duplicated element) • R humerus DEPI • L Humerus M1/3, D1/3, DEPI from 1 ADULT • L humerus D1/3 from 1 ADDITIONAL ADULT (duplicated element) • R humerus D1/3 • Humerus 3 PEPI (1 duplicate element, though fragmentary) • Radius PEPI, M1/3 • R scapula M1/3, acromial end • 2 part of phalanges • 1 part of metacarpals	• R femur, PEPI P1/3, , M1/3 • L femur PEPI from 1 ADULT • L Femur PEPI, P1/3 from 1 ADDITIONAL ADULT (duplicated element) (fb11) • Femur part of DEPI • Tibia PEPI, M1/3, DEPI • Tibia PEPI (unfused) from 1 JUVENILE • Tibia PEPI, P1/3 (fused) from 1 ADULT • R calcaneus • Part of talus (fb11) • 1 intermediate foot phalanx (fb 33) • 1 part of metatarsal (DEPI 1st)

N	Feature	SKULL	AXIAL SKELETON	UPPER LIMBS	LOWER LIMBS
		• Central part of mandible with 6 sockets		(DEPI) (fb34 and 33)	
6	F16	• Parietal • Occipital • Zygomatic	• Axis • 1 cervical vertebral body • 1 lumbar vertebral body	• Radius M1/3 • Ulna M1/3 • Humerus M1/3	• Femur M1/3 • Tibia M1/3
7	F24	• Parietal	• 1 part of transverse process • Ilium (iliac crest)	• Radius M1/3 • Scapula (body and lateral border)	• Femur M1/3
8	F25	• Parietal • Maxilla (zygomatic process) • Part of 1 dental root	• Part of transverse processof vertebra	• Ulna PEPI • Ulna M1/3 • Humerus M1/3	• Femur m1/3 • Tibia M1/3
9	F31	• Parietal	• Ilium (iliac crest) • Vertebrae (2 part of bodies, 2 transverse processes) • 1 rib fragment	• Radius M1/3 • L humerus D1/3 • Humerus M1/3	• Femur PEPI, P1/3, M1/3 • Tibia PEPI, M1/3 • Fibula DEPI • L Talus • •
10	F33	• Zygomatic • Parietal • Petrous temporal • R Mandible (coronoid process and ramus • L mandibular ramus with 6 sockets • Central part of mandible with superior ans inferior mental spines • Temporal bone (zygomatic process)	• Sciatic notch (part of) (spit 3, 1g) • Part of 4 vertebral bodies and 3 transverse processes • Ilium body (part of) • Part of R ischial tuberosity	• Radius M1/3 (spit 3 3g) • R scapula (spit 3 3g) • Humerus M1/3, • R humerus DEPI • L ulna P1/3	• Tibia PEPI, M1/3 • Femur M1/3

Bone identification (weight)

N	Feature	SKULL (g.)	AXIAL SKELETON (g.)	UPPER LIMBS (g.)	LOWER LIMBS (g.)	TOTAL IDENTIFIED (g.)	*% IDENTIFIED*	WEIGHT (g.)
1	F01	26	59	15	132	**232**	*22.4%*	**1034**
2	F02	3	69	3	53	**128**	*45.4%*	**282**
3	F03	20	5	7	61	**93**	*24.1%*	**386**
4	F04	-	-	-	-	**-**	-	**-**
	F07	142	201	193	252	**788**	*51.6%*	**1527**
6	F16	21	14	13	50	**98**	*28.8%*	**340**
7	F24	3	1	1	13	**18**	*24.3%*	**74**
8	F25	7	1	6	18	**32**	*46.4%*	**69**
9	F31	2	7	12	115	**136**	*32.5%*	**418**
10	F33	149	13	28	122	**312**	*38.5%*	**810**

Anatomical bone distribution by spit[95]

Feature	Urn	Finds bag 11	Spit 1	Spit 2	Spit 3	Spit 4	Spit 5	Spit 6	Spit 7	Spit 8	Spit 9	Spit 10	Spit 11	Spit 12	Spit 13	Spit 14	Spit 15	Deposition order
F01	SK, UL, LL, AX, U	-	LB, U	SK, LB, U	LB, U	LB, U	AX, U	LB, U	-	-	-	-	-	-	-	-	-	MIXED
F02	-	-	LB, U	LB, U	AX, LB, U	AX LL, U	AX, LL, U	UL, AX, U	AX, U	AX, U	-	-	-	-	-	-	-	MIXED
F03	SK, AX, UL, LL	-	SK, U	SK, LB, U	SK, LB, U	SK, LB, U	SK, LB, U	SK, U	SK, U	SK, U	SK, U	SK	LB, U	SK, LB	LB, U	LB, U	LB, U	Possible anatomical order
F04	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
F07	-	SK,AX, UL, LL, U	SK, U, animal bone	SK, UL	SK, AX, U	SK, LB, U	U	U	U	SK	AX	-	-	-	-	-	-	MIXED
F16	SK, AX, UL, LL, U	-	-	U	-	-	LB, U	LB, U	LB, U	-	-	-	-	-	-	-	-	UNCERTAIN
F31	SK, AX, UL, LL	-	U	LB, U	AX	SK, UL	U	SK, L, U	-	-	-	-	-	-	-	-	-	MIXED
F33	UL, U	-	-	U	UL, AX, LB, U	SK, AX, , UL, U	SK, AX, LB, U	SK, AX, UL, LB	LB, U	-	-	-	-	-	-	-	-	MIXED

[95] SK = skull; AX = axial skeleton; UL = upper limbs; LL = lower limbs; LB = unidentified limb bones

Sex determination (os coxae morphology)[96]

Skeleton	Subpubic concavity (1-9)	Subpubic angle (1-9)	Ischio-pubic ramus ridge (1-9)	Ventral arc (1-9)	Pubic region morphology (5-1)[97]	Arc compose (1-9)	Sciatic notch (5-1)	Pre-auricular sulcus (0-4)	Metric data[98]	SUMMARY SEX[99] (1-9)
F01									11mm femur wall (M)	4 PROBABLE MALE
F02									38mm vert head diameter L femur; 26 mm glenoid cavity	SEX UNCERTAIN
F03									10mm occipital (?)	SEX UNCERTAIN
F07								3	38mm max head diameter femur; L glenoid cavity 26mm; 11mm occipital (?); 10mm femur wall	SEX UNCERTAIN
F16									10 mm occipital (?)	SEX UNCERTAIN
F24										SEX UNCERTAIN
F25										SEX UNCERTAIN
F31									7mm femur wall (?); L talus 33mm width	SEX UNCERTAIN
F33										SEX UNCERTAIN

[96] Sexing criteria from the Global History of Health project *Data Collection Codebook* (AAVV, 2005) unless otherwise specified.
[97] Brickley, M. and McKinley J.I. IFA Paper n.7 2004
[98] From Bass, 1987
[99] Summary sex categories from the Global History of Health project *Data Collection Codebook* (AAVV, 2005): 1 = Definite Male; 2, 3, 4 = Probable Male; 5 = Sex Uncertain; 6, 7, 8 = Probable Female; 9 = Definite Female

Sex determination (cranial morphology)[100]

Skeleton	Nuchal Crest (5-1)	Mastoid process (5-1)	Supraorbital margin (5-1)	Prominence of glabella (5-1)	Mental eminence (5-1)	Mandible morphology (2-1)[101]	SUMMARY SEX (1-9)
F01							
F02							
F03							
F07	4						4 PROBABLE MALE
F16							
F24							
F25							
F31							
F33							

[100] Sexing criteria from Buikstra and Ubelaker (1994) unless other wise stated. Summary sex categories from the Global History of Health project *Data Collection Codebook* (AAVV, 2005): 1 = Definite Male; 2, 3, 4 = Probable Male; 5 = Sex Uncertain; 6, 7, 8 = Probable Female; 9 = Definite Female

[101] Brickley, M. and McKinley J.I. IFA Paper n.7 2004

Age at death (adults)[102],[103]

FEATURE	EPIPHYSEAL UNION	AURICULAR SURFACE (SUCHEY-BROOKES)	PUBIC SYMPHYSIS	CRANIAL SUTURES	SUMMARY AGE CODE:
F01				1	Young adult?
F02					
F03					
F04					
F07	38mm wide. Tibia proximal epiphysis open			1	Juvenile (< 20 years)
F07		V (40-44 years)			Middle adult?
F16					
F24					
F25					
F31	Iliac crest fusing? Tibia PEPI fusing not clear (spit 3)				
F33				2	Middle adult?

[102] Ageing criteria and age categories from Buikstra and Ubelaker (1994).
[103] Stages of fusion from Buikstra and Ubelaker (1994). Code key: 0 = open; 1 = initial fusion; 2 = fused. Ageing according to Scheuer and Black (2000)

Pathological conditions

Context	Side	Bone	Section	Aspect	Description	Extent	Healing state	Distribution	Pathology	Pathology class
F33	-	Femur	M1/3	posterior	New bone formation (25x10x2mm) with irregular margin and profile. No evidence of infection	<1/3	healing	Other side not available	Enthesophyte to the side of linea aspera due to inflammation at tendon and ligament attachment. Differential diagnosis: mild exostosis due to trauma to muscles and subsequent soft tissue ossification (spit 7)	Trauma/degenerative
F07	-	Thoracic vertebra	-	body	1 instance of moderate Schmorl's node	<1/3	-	-	Schmorl's node	Spinal pathology
F07	-	Thoracic vertebra	-	body	1 instance f moderate lipping	1/3-2/3	-	-	Arthritic change	Spinal pathology

Inhumated human skeletal remains (HSR)

compiled by Francesca Boghi

Context description (MNI[104], age[105], sex, pathologies)

Feature	Feature type	Tot. weight	Description
F4	Urned cremation burial	3g	Small assemblage of unidentified unburnt human bone, probably residual or intrusive
F20	Inhumation burial	68g	Incomplete inhumation (<25% bone elements) formed by severely abraded and fragmentary bone. The skeleton is that of an adult (>20 years) individual of uncertain sex and includes elements of skull.
F22	Inhumation burial	28g	Incomplete inhumation (<25% bone elements) formed by severely abraded and fragmentary bone. The skeleton is that of an adult (>20 years) individual of uncertain sex and includes elements of skull, lower limbs and pelvis.
F26	Inhumation burial	2564g	Incomplete inhumation (~50% bone elements) formed by moderately abraded and fragmented bone. The skeleton is that of a young adult (20-35 years) male individual and includes elements of skull, upper limbs and torso. Pathologies: spinal disease, joint disease, trauma and dental disease. Contains a few elements from an additional adult individual.
F27 (finds no 26)	Inhumation burial	533g	Incomplete inhumation (<25% bone elements) formed by moderately abraded and fragmented bone. The skeleton is that of a young adult (20-35 years) male individual and includes elements of skull, upper limbs and torso. Pathologies: dental disease. A few elements from an additional adult male individual are contained in F27 finds bag 20).
F27 (finds no 20)	Inhumation burial	105g	Incomplete inhumation (<25% bone elements) formed by severely abraded and fragmentary bone. The skeleton is that of an adult (> 20 years) male individual and includes elements of skull, upper limbs and lower limbs. Not the same individual as in F27 (finds bag 26): duplication of right ilium.
F28	Inhumation burial	715g	Incomplete inhumation (<25% bone elements) formed by severely abraded and fragmentary bone. The skeleton is that of a young adult (20-35 years) male individual and includes elements of upper limbs, torso, pelvis and lower limbs. Pathologies: congenital defect (bilateral sacralisation of L5). A few elements from an additional adult individual are in F28?.
F28?	Inhumation burial	281g	Incomplete inhumation (<25% bone elements) formed by severely abraded and fragmentary bone. The skeleton is that of an adult (>20 years) individual of uncertain sex and includes elements of skull, upper limbs, pelvis, lower limbs and feet. Not the same individual as in F28 (duplication of R ilium).
F30	Inhumation burial	220g	Incomplete inhumation (<25% bone elements) formed by severely abraded and fragmentary bone. The skeleton is that of a probably male adult (>20 years) and includes elements of lower limbs and pelvis.
F31	Inhumation burial	412g	Incomplete inhumation (<25% bone elements) formed by severely abraded and fragmentary bone. The skeleton is that of a young adult (20-35 years) individual of uncertain sex and includes elements of skull, vertebrae, pelvis, upper limbs, lower limbs and feet. Pathologies: dental disease.

[104] MNI: Minimum Number of Individuals
[105] Age class categories: ADULT? = probably adult; ADULT = > 20 years; YOUNG ADULT (20-35 years); MIDDLE ADULT (35-50 years); MIDDLE/OLD ADULT (> 35 years); OLD ADULT (>50 years); JUVENILE (<20 years).

Features containing disarticulated HSR

Feature	Weight (Kg)	Contextual information	Description	Minimum number of individuals (MNI)	
				Adult (> 20 years)	Juvenile (< 20 years)
F27 & F30	71g	Mixed bag. Treated as disarticulated	Elements of upper and lower limbs	1	
15 u/s	12	Unstratified	Elements of mandible and feet	1	
29 u/s	25	Unstratified	Elements of skull	1	

Summary table of inhumated remains

FEATURE	COMPLETENESS	PRESERVATION[106]	AGE AT DEATH	SEX	MNI adults (> 20 years)	MNI juveniles (< 20 years)	STATURE[107]	PATHOLOGIES	NOTES
F4	<25%	POOR	ADULT	UNCERTAIN	1			none	
F20	<25%	POOR	ADULT	UNCERTAIN	1			none	
F22	<25%	POOR	ADULT	UNCERTAIN	1		-	none	
F26	~50%	MODERATE	YOUNG ADULT (20-35 years)	MALE	2			Spinal disease, Joint disease, trauma, dental disease	1 additional adult L orbit and 1 additional L femur PEPI, P1/3, M1/3
F27 (finds no 26)	<25%	POOR	YOUNG ADULT (20-35 years)	MALE	1		-	Dental disease	Not the same individual as in finds bag 26 (duplication of L, R petrous temporal)
F27 (finds no 20)	<25%	POOR	ADULT	MALE	1		-	none	Not the same individual as in finds bag 20 (duplication of L, R petrous temporal)
F27 and F30	-	-	-	-	-	-	-	-	Mixed bag. Treated as disarticulated
F28 (finds no 22)	<25%	POOR	YOUNG ADULT (20-35 years)	MALE	1		-	Congenital defect (bilateral sacralisation of L5)	
F28? (finds no 22)	<25%	POOR	ADULT	UNCERTAIN	1		-	none	Not the same individual as in F28 (1 additional R ilium)
F30	<25%	POOR	ADULT	PROBABLE MALE	1		-	none	
F31	<25%	POOR	YOUNG ADULT (20-35 years)	UNCERTAIN	1			Dental disease	

[106] Grading system from Connell and Rauxloh, (2003). 1= GOOD; 2 = MODERATE; 3 = POOR
[107] Brickley and McKinley (2004)

Preservation of skeletal elements[108]

SK	SKULL	MAXILLA	MANDIBLE	VERTEBRAE	RIBS	PELVIS	UPPER LIMBS	HANDS	LOWER LIMBS	FEET	NOTES
F4											No elements identified
F20	<25%										
F22	< 25%					< 25%			< 25%		
F26	> 75%	25-75%	25-75%	25-75%	25-75%	25-75%	< 25%	25-75%	25-75%	< 25%	
F27 (fb 26)	25-75%		25-75%	25-75%			< 25%				
F27 (fb20)	< 25%						< 25%		< 25%		
F28				< 25%	25-75%	25-75%	< 25%		25-75%		
F28?	< 25%					< 25%	< 25%		25-75%	< 25%	
F30						< 25%			25-75%		
F31	< 25%		< 25%	< 25%		< 25%	< 25%		25-75%	< 25%	

[108] BLANK = missing

Sex determination (os coxae morphology)[109]

Skeleton	Subpubic concavity (1-9)	Subpubic angle (1-9)	Ischio-pubic ramus ridge (1-9)	Ventral arc (1-9)	Pubic region morphology (5-1)[110]	Arc compose (1-9)	Sciatic notch (5-1)	Pre-auricular sulcus (0-4)	Metric data[111]	SEX[112] (1-9) (OS COXAE)
F04										UNCERTAIN
F20										UNCERTAIN
F22										UNCERTAIN
F26	1	1	1	1	4	1	4	1	Max. Ø L femur 54mm	1 DEFINITE MALE
F27 (fb 26)										UNCERTAIN
F27 (fb20)									Max. Ø L femur 45mm	4 PROBABLE MALE
F28							3	1	Max. Ø L femur 53mm	1 DEFINITE MALE
F28?										UNCERTAIN
F30									Max. Ø L femur > 52mm	4 PROBABLE MALE
F31										UNCERTAIN

[109] Sexing criteria from Steckel *et al.,* 2006
[110] Brickleyand Mckinley, 2004
[111] From Bass,1987
[112] Summary sex categories from Steckel *et al.,* 2006: 1 = Definite Male; 2, 3, 4 = Probable Male; 5 = Sex Uncertain; 6, 7, 8 = Probable Female; 9 = Definite Female

Sex determination (cranial morphology)[113]

Skeleton	Nuchal Crest (5-1)	Mastoid process (5-1)	Supraorbital margin (5-1)	Prominence of glabella (5-1)	Mental eminence (5-1)	Mandible morphology (2-1)[114]	SEX (CRANIAL MORPHOLOGY) (1-9)
F04							UNCERTAIN
F20							UNCERTAIN
F22							UNCERTAIN
F26	5	4	4	4	4	1	1 DEFINITE MALE
F27 (fb 26)		4	5	5	5	2	1 DEFINITE MALE
F27 (fb20)		5					1 DEFINITE MALE
F28							UNCERTAIN
F28?							UNCERTAIN
F30							UNCERTAIN
F31							UNCERTAIN

[113] Sexing criteria from Buikstra and Ubelaker (1994) unless other wise stated. Summary sex categories from Steckel *et al.,* 2006: 1 = Definite Male; 2, 3, 4 = Probable Male; 5 = Sex Uncertain; 6, 7, 8 = Probable Female; 9 = Definite Female

[114] Brickley and Mckinley, 2004

Sex determination (summary sex)[115]

Feature	Sex[116] (1-9) (os coxae)	Sex (cranial morphology)	Summary sex
F04	UNCERTAIN	UNCERTAIN	UNCERTAIN
F20	UNCERTAIN	UNCERTAIN	UNCERTAIN
F22	UNCERTAIN	UNCERTAIN	UNCERTAIN
F26	1 DEFINITE MALE	1 DEFINITE MALE	1 DEFINITE MALE
F27 (fb 26)	UNCERTAIN	1 DEFINITE MALE	1 DEFINITE MALE
F27 (fb20)	4 PROBABLE MALE	1 DEFINITE MALE	1 DEFINITE MALE
F28	1 DEFINITE MALE	UNCERTAIN	1 DEFINITE MALE
F28?	UNCERTAIN	UNCERTAIN	UNCERTAIN
F30	4 PROBABLE MALE	UNCERTAIN	4 PROBABLE MALE
F31	UNCERTAIN	UNCERTAIN	UNCERTAIN

[115] Sexing criteria from Buikstra and Ubelaker (1994) unless other wise stated. Summary sex categories from Steckel *et al.,* 2006: 1 = Definite Male; 2, 3, 4 = Probable Male; 5 = Sex Uncertain; 6, 7, 8 = Probable Female; 9 = Definite Female

[116] Summary sex categories from Steckel *et al.,* 2006: 1 = Definite Male; 2, 3, 4 = Probable Male; 5 = Sex Uncertain; 6, 7, 8 = Probable Female; 9 = Definite Female

Age at death[117]

FEATURE	EPIPHYSEAL UNION	AURICULAR SURFACE (SUCHEY-BROOKES)	PUBIC SYMPHYSIS	SUTURE CLOSURE: EXTERNAL CRANIAL VAULT	SUTURE CLOSURE: LATERAL-ANTERIOR	PALATE SUTURES	MOLAR WEAR (BROTHWELL 1981)[118]	SUMMARY AGE CODE:
F04	ADULT?							ADULT (> 20 years)
F20				Score 1 and 2 (no complete scoring possible)				ADULT (> 20 years)
F22	Acetabulum formed							ADULT (> 20 years)
F26	ADULT	P3 (30-34 years)	P2 (20-35 years)	S2 (20-35 years)			17-25 years	YOUNG ADULT (20-35 years)
F27 (fb26)	ADULT			S2			25-35 years	YOUNG ADULT (20-35 years)
F27 (fb 20)	ADULT							ADULT (> 20 years)
F28		P2 (25-29 years)						YOUNG ADULT (20-35 years)
F28?	ADULT	incomplete		Score 2 and 3 (no complete scoring possible)				ADULT (> 20 years)
F30	Closed L femur PEPI							ADULT (> 20 years)
F31							17-25 YEARS	YOUNG ADULT (20-35 years)

[117] Ageing criteria and age categories from Buikstra and Ubelaker (1994).
[118] Additional ageing criterion from Brothwell, 1981

Stature[119]

FEATURE	STATURE (CM)	±	BONES USED
	-		

Prevalence rates (spinal pathology)

Feature	Sex	CERVICALS	Pathologies	THORACICS	Pathologies	LUMBARS	Pathologies
31				3	0		
27		2	0				
28B						1	Bilateral sacralisation
26				7	4 Schmorl's nodes	5	0
TOTAL		2	0	7	4	6	1

Prevalence rates (dental pathology - adults)

Skeleton	N erupted permanent teeth (1) present and (2) in occlusion	N teeth lost premortem (4)	N teeth lost post mortem (5)	N erupted tooth positions (1+ 2+4+5)	N permanent teeth with carious lesions	N abscesses	Calculus	Enamel Hypoplasia	Periodontal disease	Continued eruption	Congenital defects
F31	5						3				
F27	5						1	5			

[119] From Brickley and McKinley 2004

F26	17							3			4
TOTAL	27			27			4	8			4

Dental inventory and pathology[120]

SKELETON F31

MANDIBLE	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17
Presence												2	2	2	2	2
Wear														3	2	2
Caries																
Abscess																
Calculus														2	2	1
Enamel Hypoplasia																
Periodontal disease																
Continued eruption																
Congenital defects																

SKELETON F27

MANDIBLE	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17
Presence			2	2	2	2	2									
Wear			5													

[120] **NUMBERING SYSTEM Permanent dentition**

Maxillary

Right	**Left**
1 = 3rd molar	9 = 1st incisor
2 = 2nd molar	10 = 2nd incisor
3 = 1st molar	11 = canine
4 = 2nd premolar	12 = 1st premolar
5 = 1st premolar	13 = 2nd premolar
6 = canine	14 = 1st molar
7 = 2nd incisor	15 = 2nd molar
8 = 1st incisor	16 = 3rd molar

Mandibular

Left	**Right**
17 = 3rd molar	25 = 1st incisor
18 = 2nd molar	26 = 2nd incisor
19 = 1st molar	27 = canine
20 = 2nd premolar	28 = 1st premolar
21 = 1st premolar	29 = 2nd premolar
22 = canine	30 = 1st molar
23 = 2nd incisor	31 = 2nd molar
24 = 1st incisor	32 = 3rd molar

Caries																
Abscess																
Calculus							1									
Enamel Hypoplasia			123	123	123	122	122									
Periodontal disease																
Continued eruption																
Congenital defects																

SKELETON F26

MAXILLA	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Presence[121]	5	2	2					2	2	2						
Wear[122]		2	3													
Caries[123]																
Abscess																
Calculus																
Enamel Hypoplasia																
Periodontal disease																
Continued eruption																
Congenital defects								Shovel	Shovel							

SKELETON F26

MANDIBLE	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17
Presence	6	2	2	2	2	2	2	3	33	3	2	2	2	2	2	6
Wear		2	3											3	2	
Caries																
Abscess																
Calculus																
Enamel Hypoplasia						122	122				122					
Periodontal disease																
Continued eruption																
Congenital defects	Congenital															Congenital

[121] From Buikstra and Ubelaker (1994)

Dental presence categories

1 = Present, but not in occlusion

2 = Present, development completed, in occlusion

3 = Missing, with no associated alveolar bone

4 = Missing with alveolus resorbing or resorbed : premortem loss

5 = Missing with no alveolar resorption: postmortem loss

6 = missing, congenital absence

7 = present, damage renders measurement impossible

8 = present but unobservable (e.g. in crypt)

[122] From Steckel *et al.* 2006 (after Smith, 1984)

[123] Dental pathology recorded after Connell and Rauxloh (2003)

	absence															absence

Subadults age at death comparison table[124]

CTXT	EPIPHYSEAL UNION	DENTAL DEVELOPMENT	METRIC DEVELOPMENT	ESTIMATED AGE AT DEATH	AGE CLASS

Cranial measurements[125]

CTXT	1	2	3	5	6	7	8	10	12	13	14
F26		140									

CTXT	15	16	17	19	20	21	28	29	30	33

[124] Stages of fusion from Buikstra, J. E. and Ubelaker, D. H. (1994). and Brickley and McKinley, 2004. Code key: 0 = open; 1 = initial fusion; 2 = fused; CTXT = context; S = sacrum; prox. = proximal; epi. = epiphysis. Age estimation from Scheuer and Black, 2000

[125] Measurement numbering and definition from Buikstra, J. E. and Ubelaker, D. H. (1994). unless stated otherwise. Minimum recommended measurements from Brickley, M and McKinley, J. (eds) 2004. Code key: CTXT: context; 1: maximum cranial length; 2: maximum cranial breadth; 3: bizygomatic diameter; 5:cranial base length; 6: basion-prosthion length; 7: maxillo-alveolar breadth; 8: maxillo-alveolar length; 10: upper facial height; 12: upper facial breadth; 13: nasal height; 14: nasal breadth; 15: orbital breadth; 16: orbital height; 17: biorbital breadth; 19: frontal chord; 20: parietal chord; 21: occipital chord; 28: bigonial width; 29: bicondylar breadth; 30: minimum ramus breadth; 33: mandibular length.

Postcranial measurements[126]

CTXT	35L*	35R*	40L	41L	42L*	43L*	44L*	40R	41R	42R*	43R*	44R*	45L	45R	48L	48R

CTXT	53L*	54L*	56L*	57L*	58L*	59L*	56R*	57R*	58R*	59R*	60L	62L	63L*	64L	65L

CTXT	60R	62R	63R*	64R	65R	LCT L	72L*	73L*	LCT R	72R*	73R*	75L	75R

[126] Measurement numbering and definition from Buikstra and Ubelaker (1994). unless stated otherwise. Minimum recommended measurements from Brickley and McKinley 2004. Additional measurements marked with *. Code key: CTXT: context; 35: clavicle (maximum length); 40: Humerus (maximum length); 41: Humerus (epicondylar breadth); 42: Humerus (vertical diameter of head); 43: Humerus (maximum diameter at midshaft); 44: Humerus (minimum diameter at midshaft); 45: Radius (maximum length); 48: Ulna (maximum length); 53: Sacrum (anterior length); 54: Sacrum (anterior superior breadth); 56: Os coxae (height); 57: Os coxae (iliac breadth); 58: Os coxae (pubis length); 59: Os coxae (ischium length); 60: Femur (maximum length); 62: Femur (epicondylar breadth); 63: Femur (maximum diameter of the femur head; 64: Femur (anterior-posterior subtrocanteric diameter; 65: Femur (medial-lateral subtrocanteric diameter); LCT: Tibia (whole length); 72: Maximum diameter at the nutrient foramen; 73: Medial-lateral diameter at the nutrient foramen; 75: Fibula: (maximum length).

Non metric traits[127]

	SKULL												
CTXT	1 METOPISM	4 INFRAORBITAL FORAMEN	6 PARIETAL FORAMEN (L, R)		7A EPIPTERIC BONES (L, R)		7B CORONAL WORMIAN BONES (L, R)		7C BREGMATIC OSSICLE	7D SAGITTAL WORMIAN BONES	7E APICAL BONE	7F LAMBOID WORMIAN BONES (L, R)	
F26	0		0	0	0	0	0	0	0	0	0	0	0
F27			0	0			0	0	0	0	0	0	

	SKULL										MAXILLA			MANDIBLE	
CTXT	7G ASTERIONIC BONES	7H OCCIPITO-MASTOID SUTURE OSSICLES (L, R)		FRONTO-TEMPORAL ARTICULATION (L, R)		10 HYPOGLOSSAL CANAL (L, R)		17 AUDITORY EXOSTOSUS (L, R)		18 MASTOID FORAMEN EXSUTURAL (L, R)	PALATINE TORUS	MAXILLARY TORUS (L, R)		20 MANDIBULAR TORUS (L, R)	
F26				0	0			0	0	0 0				0	0
F27								0	0	0 0					

	CERVICAL VERTEBRAE				HUMERUS		FEMUR		TIBIA		SCAPULA		PATELLA	
CTXT	22B POSTERIOR ATLAS BRIDGE (lateral / posterior)		SUPERIOR ATLAS FACETS	23 ACCESSORY TRANSVERSE FORAMINA IN CERVICAL VERTEBRAE	24 DISTAL SEPTAL APERTURE (L, R)		FEMORAL PLAQUE		TIBIAL SQUATTING FACETS (L, R)		SUPRASCAPULAR FORAMEN (L, R)		VASTUS NOTCH PRESENT (L, R)	
F26						0	0	0						

[127] Traits definitions from Buikstra and Ubelaker (1994). Minimum recommended traits from Brickley and McKinley, 200. Code key: CTXT: context; blank = missing relevant bone segment; 0: trait absent; 1 = trait present; L = left; R = right; Trait definition: 1: metopism; 4: infraorbital foramen; 6: parietal foramen; 7: sutural bones (a = epiteric; b = coronal; c = bregmatic; d = sagittal; e = apical; f = lamboid; g: asterionic bones; h = occipito-mastoid; I = parietal); 10: hypoglossal canal; 17: auditory exostosis; 18: mastoid foramen exsutural; 20: mandibular torus; 22b: posterior atlas bridge; 23: accessory transverse foramina in cervical vertebrae; 24: distal septal aperture.

F27	0	0	0											
F28						0		0						
F30							0							

Pathological conditions

Context	Side	Bone	Section	Aspect	Description	Extent	Healing state	Distribution	Pathology	Pathology class
F26	-	Thoracic vertebra T11-9	-	body	4 instances of moderate Schmorl's nodes and 2 barely discernible instances	<1/3	-	4/7 thoracic	Schmorl's node	Spinal pathology
F26 (additional adult individual)	L	femur	PEPI		Extensive osteophyte formation along superior rim of AS. Superior migration of femoral head.	>2/3	-	Other side not available	Osteoarthritis	Joint disease
F26	-	L 5	body	inferior	Unifocal bone loss. One small circular smooth cavity (2mm Ø). Marginal lipping. Slightly depressed inferior margin of body.	<1/3	-	1 of 5	Possible cyst. Arthritic changes in the body. Not a depressed fracture. Differential diagnosis: specific infection (tubercolosis)	Joint disease
F26	R	clavicle	Rhomboid fossa	inferior	Rhomboid fossa for costoclavicular ligament	<1/3	-	Other side not available	Cortical defect. Repetitive strain to costo-clavicular ligament	Trauma
F28	-	L5	-	-	Bilateral sacralisation	>2/3	-	-	Bilateral sacralisation	Congenital

Skeletal inventory[ii]

	SIDE / BONE ELEMENT / **BONE SECTION**	F20	F22	F26	F27(fb 26)	F27 (fb20)	F28	F28?	F30	F31	MNI
SKULL	LEFT FRONTAL			1	1						2
	LEFT ORBIT			2							2
	Left frontal sinus*			1							1
	RIGHT FRONTAL			1	1						2
	RIGHT ORBIT										
	Right frontal sinus*			1	1						2
	LEFT PARIETAL			1	1			1		1	4
	RIGHT PARIETAL			1	1						2
	OCCIPITAL	1		1	1			1			4
	LEFT TEMPORAL			1	1						2
	Left petrous temporal*			1	1	1					3
	RIGHT TEMPORAL			1							1
	left tmj*			1	1	1					3
	Right petrous temporal*			1	1						2
	right tmj*			1	1						2
	LEFT ZYGOMATIC										
	RIGHT ZYGOMATIC										
	LEFT MAXILLA										
	Left maxillary sinus*										
	RIGHT MAXILLA			1							1
	Right maxillary sinus*										
	LEFT PALATINE										
	RIGHT PALATINE										
	LEFT NASAL										
	RIGHT NASAL										
	LEFT LACRIMAL										
	RIGHT LACRIMAL										
	SPHENOID										
	VOMER										
	ETHMOID										
	LEFT MANDIBLE			1							1
	left condyle*										
	RIGHT MANDIBLE			1	1						2
	right condyle*										
	HYOID										
	CRICOID										
	THYROID										
	Ear bones (n.6)*										
SHOULDERS	LEFT CLAVICLE medial end*										
	LEFT CLAVICLE acromial end*										
	RIGHT CLAVICLE medial end*			1							1
	RIGHT CLAVICLE acromial end*										
	LEFT SCAPULA										
	LEFT ACROMION*										
	LEFT GLENOID*										
	RIGHT SCAPULA			1	1						2
	RIGHT ACROMION*			1							1
	RIGHT GLENOID*			1							1
	STERNUM MANUB										
	STERNUM BODY										
PELVIS	LEFT ILIUM			1			1		1		3
	LEFT PUBIS										
	LEFT ISCHIUM										
	left acetabulum*			1			1				2

	SIDE / BONE ELEMENT / **BONE SECTION**	F20	F22	F26	F27(fb 26)	F27 (fb20)	F28	F28?	F30	F31	MNI
	left auricular*			1			1				2
	RIGHT ILIUM			1			1		1	1	4
	RIGHT PUBIS			1							1
	RIGHT ISCHIUM						1	1			2
	right acetabulum*			1				1			2
	right auricular*			1				1	1	1	4
SACRUM	s1			1			1				2
	s2			1			1				2
	s3			1							1
	s4										
	s5										
	COCCYX										
UPPER LIMBS	LEFT HUMERUS PROXIMAL EPIPHYSIS						1				1
	LEFT HUMERUS PROXIMAL 1/3										
	LEFT HUMERUS MIDDLE 1/3			1		1				1	3
	LEFT HUMERUS DISTAL 1/3					1				1	2
	LEFT HUMERUS DISTAL EPIPHYSIS										
	RIGHT HUMERUS PROX EPIPHYSIS										
	RIGHT HUMERUS PROXIMAL 1/3			1							1
	RIGHT HUMERUS MIDDLE 1/3			1	1						2
	RIGHT HUMERUS DISTAL 1/3			1	1			1			3
	RIGHT HUMERUS DISTAL EPIPHYSIS			1				1			2
	LEFT RADIUS PROXIMAL EPIPHYSIS										
	LEFT RADIUS PROXIMAL 1/3										
	LEFT RADIUS MIDDLE 1/3										
	LEFT RADIUS DISTAL 1/3										
	LEFT RADIUS DISTAL EPIPHYSIS										
	RIGHT RADIUS PROXIMAL EPIPHYSIS										
	RIGHT RADIUS PROXIMAL 1/3										
	RIGHT RADIUS MIDDLE 1/3						1				1
	RIGHT RADIUS DISTAL 1/3						1				1
	RIGHT RADIUS DISTAL EPIPHYSIS										
	LEFT ULNA PROXIMAL EPIPHYSIS										
	LEFT ULNA PROXIMAL 1/3										
	LEFT ULNA MIDDLE 1/3										
	LEFT ULNA DISTAL 1/3										
	LEFT ULNA DISTAL EPIPHYSIS										
	RIGHT ULNA PROXIMAL EPIPHYSIS			1		1					2
	RIGHT ULNA PROXIMAL 1/3			1							1
	RIGHT ULNA MIDDLE 1/3			1							1
	RIGHT ULNA DISTAL 1/3										
	RIGHT ULNA DISTAL EPIPHYSIS										
LOWER LIMBS	LEFT FEMUR PROXIMAL EPIPHYSIS			2					1		3
	LEFT FEMUR PROXIMAL 1/3			2			1		1	1	5
	LEFT FEMUR MIDDLE 1/3			2			1		1	1	5
	LEFT FEMUR DISTAL 1/3			1							1
	LEFT FEMUR DISTAL EPIPHYSIS			1							1
	RIGHT FEMUR PROXIMAL EPIPHYSIS			1		1	1				3
	RIGHT FEMUR PROXIMAL 1/3			1			1			1	3
	RIGHT FEMUR MIDDLE 1/3			1			1			1	3
	RIGHT FEMUR DISTAL 1/3			1							1
	RIGHT FEMUR DISTAL EPIPHYSIS			1							1
	LEFT PATELLA										

	SIDE / BONE ELEMENT / **BONE SECTION**	F20	F22	F26	F27(fb 26)	F27 (fb20)	F28	F28?	F30	F31	MNI
	RIGHT PATELLA										
	LEFT TIBIA PROXIMAL EPIPHYSIS							1		1	2
	LEFT TIBIA PROXIMAL 1/3									1	1
	LEFT TIBIA MIDDLE 1/3			1				1			2
	LEFT TIBIA DISTAL 1/3										
	LEFT TIBIA DISTAL EPIPHYSIS										
	RIGHT TIBIA PROXIMAL EPIPHYSIS									1	1
	RIGHT TIBIA PROXIMAL 1/3									1	1
	RIGHT TIBIA MIDDLE 1/3			1				1			2
	RIGHT TIBIA DISTAL 1/3							1			1
	RIGHT TIBIA DISTAL EPIPHYSIS							1			1
	LEFT FIBULA PROXIMAL EPIPHYSIS										
	LEFT FIBULA PROXIMAL 1/3										
	LEFT FIBULA MIDDLE 1/3										
	LEFT FIBULA DISTAL 1/3										
	LEFT FIBULA DISTAL EPIPHYSIS										
	RIGHT FIBULA PROXIMAL EPIPHYSIS										
	RIGHT FIBULA PROXIMAL 1/3										
	RIGHT FIBULA MIDDLE 1/3										
	RIGHT FIBULA DISTAL 1/3										
	RIGHT FIBULA DISTAL EPIPHYSIS										
HANDS	LEFT SCAPHOID										
	LEFT LUNATE										
	LEFT TRIQUETRAL										
	LEFT PISIFORM										
	LEFT TRAPEZIUM										
	LEFT TRAPEZOID										
	LEFT CAPITATE										
	LEFT HAMATE										
	LEFT SESMOID										
	LEFT 1ST METACARPAL										
	LEFT 2ND METACARPAL										
	LEFT 3RD METACARPAL										
	LEFT 4TH METACARPAL										
	LEFT 5TH METACARPAL										
	RIGHT SCAPHOID										
	RIGHT LUNATE										
	RIGHT TRIQUETRAL										
	RIGHT PISIFORM										
	RIGHT TRAPEZIUM										
	RIGHT TRAPEZOID										
	RIGHT CAPITATE										
	RIGHT HAMATE										
	RIGHT SESMOID										
	RIGHT 1ST METACARPAL										
	RIGHT 2ND METACARPAL										
	RIGHT 3RD METACARPAL										
	RIGHT 4TH METACARPAL										
	RIGHT 5TH METACARPAL										
	PHALANGES [HANDS] PROXIMAL* (n. 10)										
	PHALANGES [HANDS] MEDIAL* (n. 8)										
	PHALANGES [HANDS] DISTAL* (n. 10)										
FEET	LEFT TALUS										
	LEFT CALCANEUS									1	1
	LEFT 1ST CUNEIFORM										
	LEFT 2ND CUNEIFORM										

	SIDE / BONE ELEMENT / **BONE SECTION**	F20	F22	F26	F27(fb 26)	F27 (fb20)	F28	F28?	F30	F31	MNI
	LEFT 3RD CUNEIFORM										
	LEFT NAVICULAR										
	LEFT CUBOID										
	LEFT SESMOID										
	LEFT 1ST METATARSAL										
	LEFT 2ND METATARSAL										
	LEFT 3RD METATARSAL										
	LEFT 4TH METATARSAL										
	LEFT 5TH METATARSAL										
	RIGHT TALUS										
	RIGHT CALCANEUS			1							1
	RIGHT 1ST CUNEIFORM										
	RIGHT 2ND CUNEIFORM										
	RIGHT 3RD CUNEIFORM										
	RIGHT NAVICULAR										
	RIGHT CUBOID										
	RIGHT SESMOID										
	RIGHT 1ST METATARSAL										
	RIGHT 2ND METATARSAL										
	RIGHT 3RD METATARSAL										
	RIGHT 4TH METATARSAL										
	RIGHT 5TH METATARSAL										
	PHALANGES [FEET] PROXIMAL* (n. 10)										
	PHALANGES [FEET] MEDIAL* (n. 8)										
	PHALANGES [FEET] DISTAL* (n. 10)										
RIBS	LEFT RIBS (n. 12)			1							
	RIGHT RIBS (n. 12)			9			2				
	unsided rib fragments*										
VERTEBRAE	1ST CERVICAL				1						1
	2ND CERVICAL				1						1
	3RD CERVICAL										
	4TH CERVICAL										
	5TH CERVICAL										
	6TH CERVICAL										
	7TH CERVICAL										
	unidentified cervicals*										
	1ST THORACIC										
	2ND THORACIC										
	3RD THORACIC										
	4TH THORACIC										
	5TH THORACIC										
	6TH THORACIC			1							
	7TH THORACIC			1							
	8TH THORACIC			1							
	9TH THORACIC			1							
	10TH THORACIC			1							
	11TH THORACIC			1							
	12TH THORACIC			1							
	unidentified thoracic vertebrae*									3	
	1ST LUMBAR			1							
	2ND LUMBAR			1							
	3RD LUMBAR			1							
	4TH LUMBAR			1							
	5TH LUMBAR			1			1				
	unidentified lumbar vertebrae*										
	Notes: F22 Unsided parietal, unsided acetabulum Unsided femur M1/3										

	SIDE / BONE ELEMENT / **BONE SECTION**	**F20**	**F22**	**F26**	**F27(fb 26)**	**F27 (fb20)**	**F28**	**F28?**	**F30**	**F31**	**MNI**
	F20 unsided parietal Unsided temporal										

Disarticulated HSR[iii]

	SIDE / BONE ELEMENT / **BONE SECTION**	**15 U/S**	**29 U/S**	**F27 &**	**MNI**
SKULL	LEFT FRONTAL				
	LEFT ORBIT				
	Left frontal sinus*				
	RIGHT FRONTAL				
	RIGHT ORBIT				
	Right frontal sinus*				
	LEFT PARIETAL				
	RIGHT PARIETAL				
	OCCIPITAL		1		
	LEFT TEMPORAL				
	Left petrous temporal*				
	RIGHT TEMPORAL				
	left tmj*		1		
	Right petrous temporal*		1		
	right tmj*				
	LEFT ZYGOMATIC				
	RIGHT ZYGOMATIC				
	LEFT MAXILLA				
	Left maxillary sinus*				
	RIGHT MAXILLA				
	Right maxillary sinus*				
	LEFT PALATINE				
	RIGHT PALATINE				
	LEFT NASAL				
	RIGHT NASAL				
	LEFT LACRIMAL				
	RIGHT LACRIMAL				
	SPHENOID				
	VOMER				
	ETHMOID				
	LEFT MANDIBLE	1			
	left condyle*				
	RIGHT MANDIBLE				
	right condyle*				
	HYOID				
	CRICOID				
	THYROID				
	Ear bones (n.6)*				
SHOULDER	LEFT CLAVICLE medial end*				
	LEFT CLAVICLE acromial end*				
	RIGHT CLAVICLE medial end*				
	RIGHT CLAVICLE acromial end*				
	LEFT SCAPULA				
	LEFT ACROMION*				
	LEFT GLENOID*				
	RIGHT SCAPULA				
	RIGHT ACROMION*				
	RIGHT GLENOID*				
	STERNUM MANUB				
	STERNUM BODY				
PELVIS	LEFT ILIUM				
	LEFT PUBIS				
	LEFT ISCHIUM				
	left acetabulum*				

	SIDE / BONE ELEMENT / **BONE SECTION**	**15 U/S**	**29 U/S**	**F27 &**	**MNI**
	left auricular*				
	RIGHT ILIUM				
	RIGHT PUBIS				
	RIGHT ISCHIUM				
	right acetabulum*				
	right auricular*				
SACRUM	s1				
	s2				
	s3				
	s4				
	s5				
	COCCYX				
UPPER LIMBS	LEFT HUMERUS PROXIMAL EPIPHYSIS				
	LEFT HUMERUS PROXIMAL 1/3				
	LEFT HUMERUS MIDDLE 1/3				
	LEFT HUMERUS DISTAL 1/3				
	LEFT HUMERUS DISTAL EPIPHYSIS				
	RIGHT HUMERUS PROX EPIPHYSIS				
	RIGHT HUMERUS PROXIMAL 1/3				
	RIGHT HUMERUS MIDDLE 1/3				
	RIGHT HUMERUS DISTAL 1/3			1	
	RIGHT HUMERUS DISTAL EPIPHYSIS			1	
	LEFT RADIUS PROXIMAL EPIPHYSIS				
	LEFT RADIUS PROXIMAL 1/3				
	LEFT RADIUS MIDDLE 1/3				
	LEFT RADIUS DISTAL 1/3				
	LEFT RADIUS DISTAL EPIPHYSIS				
	RIGHT RADIUS PROXIMAL EPIPHYSIS				
	RIGHT RADIUS PROXIMAL 1/3				
	RIGHT RADIUS MIDDLE 1/3				
	RIGHT RADIUS DISTAL 1/3				
	RIGHT RADIUS DISTAL EPIPHYSIS				
	LEFT ULNA PROXIMAL EPIPHYSIS				
	LEFT ULNA PROXIMAL 1/3				
	LEFT ULNA MIDDLE 1/3				
	LEFT ULNA DISTAL 1/3				
	LEFT ULNA DISTAL EPIPHYSIS				
	RIGHT ULNA PROXIMAL EPIPHYSIS				
	RIGHT ULNA PROXIMAL 1/3				
	RIGHT ULNA MIDDLE 1/3				
	RIGHT ULNA DISTAL 1/3				
	RIGHT ULNA DISTAL EPIPHYSIS				
LOWER LIMBS	LEFT FEMUR PROXIMAL EPIPHYSIS				
	LEFT FEMUR PROXIMAL 1/3				
	LEFT FEMUR MIDDLE 1/3				
	LEFT FEMUR DISTAL 1/3				
	LEFT FEMUR DISTAL EPIPHYSIS			1	

	SIDE / BONE ELEMENT / **BONE SECTION**	**15 U/S**	**29 U/S**	**F27 &**	**MNI**
	RIGHT FEMUR PROXIMAL EPIPHYSIS				
	RIGHT FEMUR PROXIMAL 1/3				
	RIGHT FEMUR MIDDLE 1/3				
	RIGHT FEMUR DISTAL 1/3				
	RIGHT FEMUR DISTAL EPIPHYSIS				
	LEFT PATELLA				
	RIGHT PATELLA				
	LEFT TIBIA PROXIMAL EPIPHYSIS				
	LEFT TIBIA PROXIMAL 1/3				
	LEFT TIBIA MIDDLE 1/3				
	LEFT TIBIA DISTAL 1/3				
	LEFT TIBIA DISTAL EPIPHYSIS				
	RIGHT TIBIA PROXIMAL EPIPHYSIS				
	RIGHT TIBIA PROXIMAL 1/3				
	RIGHT TIBIA MIDDLE 1/3				
	RIGHT TIBIA DISTAL 1/3				
	RIGHT TIBIA DISTAL EPIPHYSIS				
	LEFT FIBULA PROXIMAL EPIPHYSIS				
	LEFT FIBULA PROXIMAL 1/3				
	LEFT FIBULA MIDDLE 1/3				
	LEFT FIBULA DISTAL 1/3				
	LEFT FIBULA DISTAL EPIPHYSIS				
	RIGHT FIBULA PROXIMAL EPIPHYSIS				
	RIGHT FIBULA PROXIMAL 1/3				
	RIGHT FIBULA MIDDLE 1/3				
	RIGHT FIBULA DISTAL 1/3				
	RIGHT FIBULA DISTAL EPIPHYSIS				
HANDS	LEFT SCAPHOID				
	LEFT LUNATE				
	LEFT TRIQUETRAL				
	LEFT PISIFORM				
	LEFT TRAPEZIUM				
	LEFT TRAPEZOID				
	LEFT CAPITATE				
	LEFT HAMATE				
	LEFT SESMOID				
	LEFT 1ST METACARPAL				
	LEFT 2ND METACARPAL				
	LEFT 3RD METACARPAL				
	LEFT 4TH METACARPAL				
	LEFT 5TH METACARPAL				
	RIGHT SCAPHOID				
	RIGHT LUNATE				
	RIGHT TRIQUETRAL				
	RIGHT PISIFORM				
	RIGHT TRAPEZIUM				
	RIGHT TRAPEZOID				
	RIGHT CAPITATE				
	RIGHT HAMATE				
	RIGHT SESMOID				
	RIGHT 1ST METACARPAL				

	SIDE / BONE ELEMENT / **BONE SECTION**	**15 U/S**	**29 U/S**	**F27 &**	**MNI**
	RIGHT 2ND METACARPAL				
	RIGHT 3RD METACARPAL				
	RIGHT 4TH METACARPAL				
	RIGHT 5TH METACARPAL				
	PHALANGES [HANDS] PROXIMAL* (n. 10)				
	PHALANGES [HANDS] MEDIAL* (n. 8)				
	PHALANGES [HANDS] DISTAL* (n. 10)				
FEET	LEFT TALUS				
	LEFT CALCANEUS				
	LEFT 1ST CUNEIFORM				
	LEFT 2ND CUNEIFORM				
	LEFT 3RD CUNEIFORM				
	LEFT NAVICULAR				
	LEFT CUBOID				
	LEFT SESMOID				
	LEFT 1ST METATARSAL				
	LEFT 2ND METATARSAL				
	LEFT 3RD METATARSAL				
	LEFT 4TH METATARSAL				
	LEFT 5TH METATARSAL				
	RIGHT TALUS				
	RIGHT CALCANEUS				
	RIGHT 1ST CUNEIFORM				
	RIGHT 2ND CUNEIFORM				
	RIGHT 3RD CUNEIFORM				
	RIGHT NAVICULAR				
	RIGHT CUBOID				
	RIGHT SESMOID				
	RIGHT 1ST METATARSAL				
	RIGHT 2ND METATARSAL				
	RIGHT 3RD METATARSAL				
	RIGHT 4TH METATARSAL				
	RIGHT 5TH METATARSAL				
	PHALANGES [FEET] PROXIMAL* (n. 10)				
	PHALANGES [FEET] MEDIAL* (n. 8)				
	PHALANGES [FEET] DISTAL* (n. 10)				
RIBS	LEFT RIBS (n. 12)				
	RIGHT RIBS (n. 12)				
	unsided rib fragments*				
VERTEBRAE	1ST CERVICAL				
	2ND CERVICAL				
	3RD CERVICAL				
	4TH CERVICAL				
	5TH CERVICAL				
	6TH CERVICAL				
	7TH CERVICAL				
	unidentified cervicals*				
	1ST THORACIC				
	2ND THORACIC				
	3RD THORACIC				
	4TH THORACIC				
	5TH THORACIC				
	6TH THORACIC				

	SIDE / BONE ELEMENT / **BONE SECTION**	**15 U/S**	**29 U/S**	**F27 &**	**MNI**
	7TH THORACIC				
	8TH THORACIC				
	9TH THORACIC				
	10TH THORACIC				
	11TH THORACIC				
	12TH THORACIC				
	unidentified thoracic vertebrae*				
	1ST LUMBAR				
	2ND LUMBAR				
	3RD LUMBAR				
	4TH LUMBAR				
	5TH LUMBAR				
	unidentified lumbar vertebrae*				
	Note: F15 u/s unsided calcaneus				

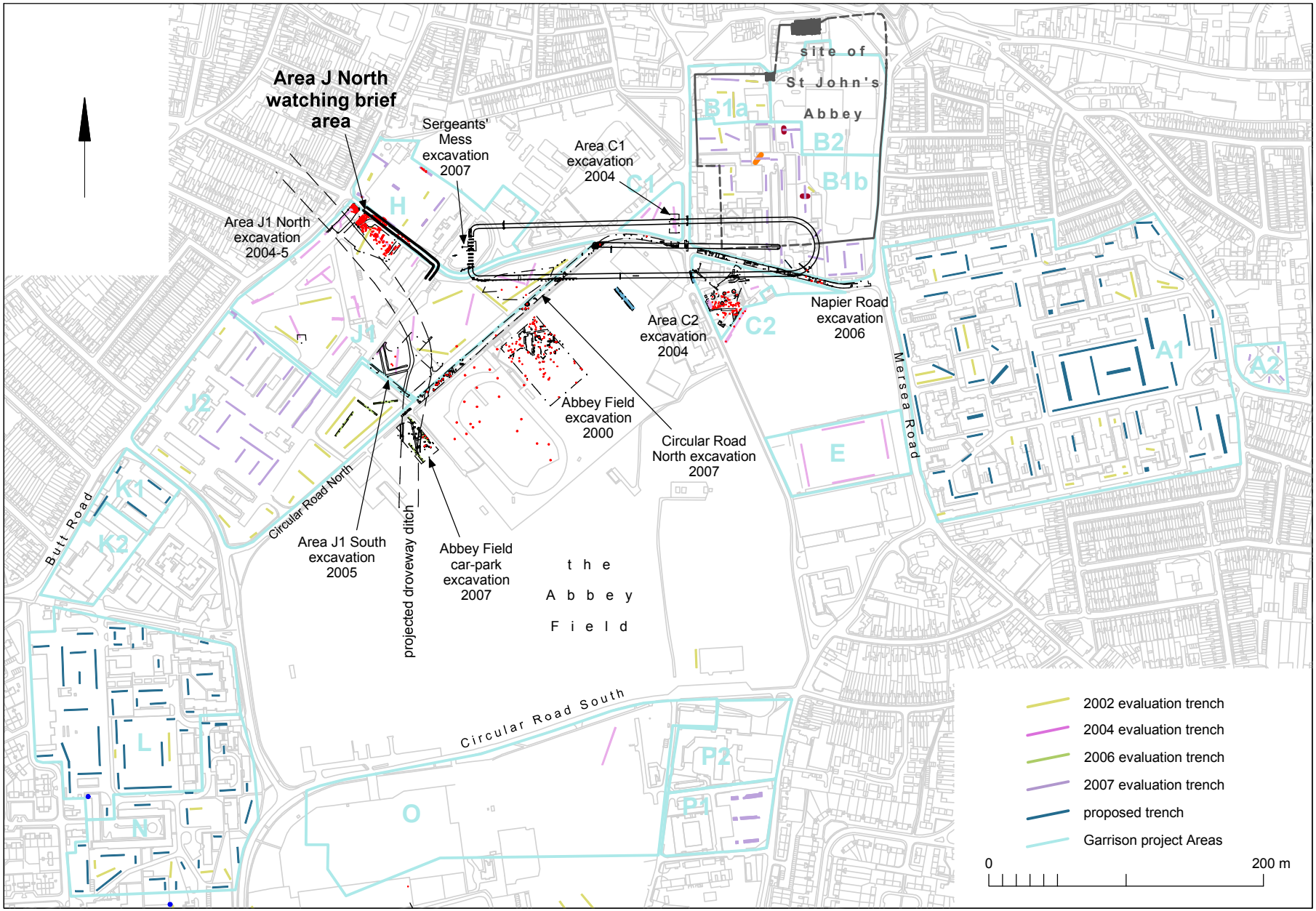

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Fig 4.1 General location plan, showing town and circus.

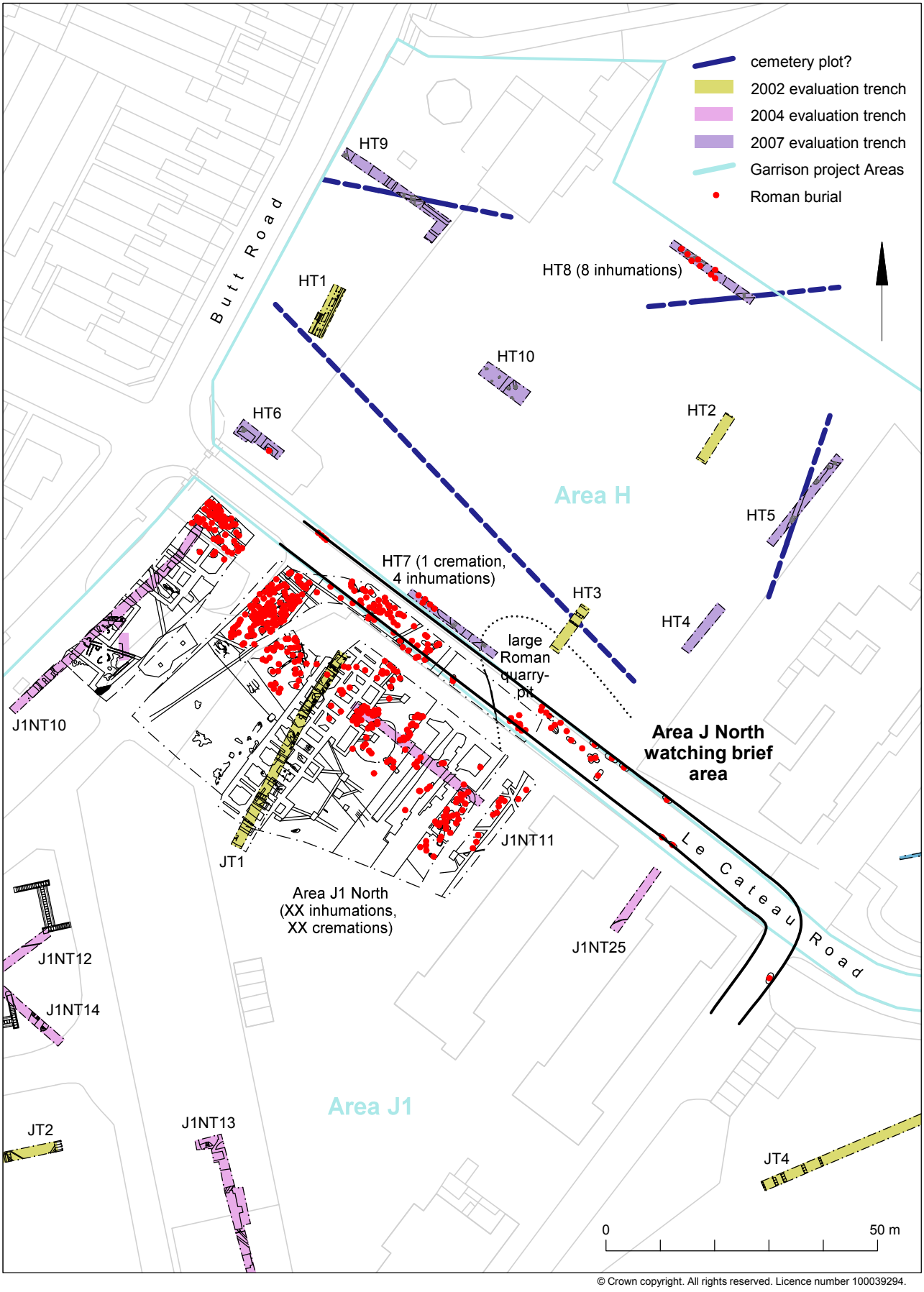

Fig 4.2 Location of Area J1 North watching brief, in relation to burials excavated in Area J1 North (2004) and Area H (2007).

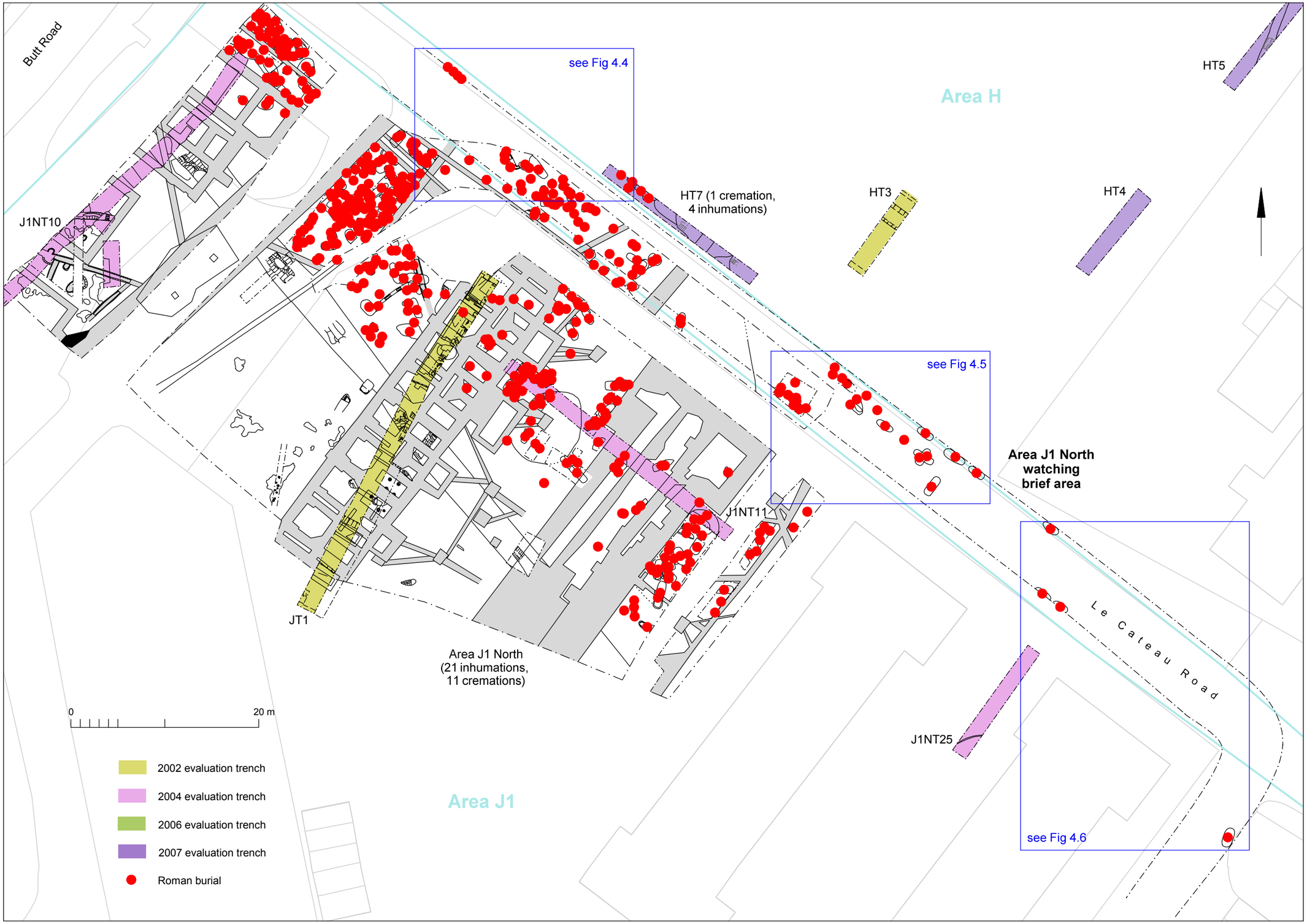

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Fig 4.3 Plan of watching brief area.

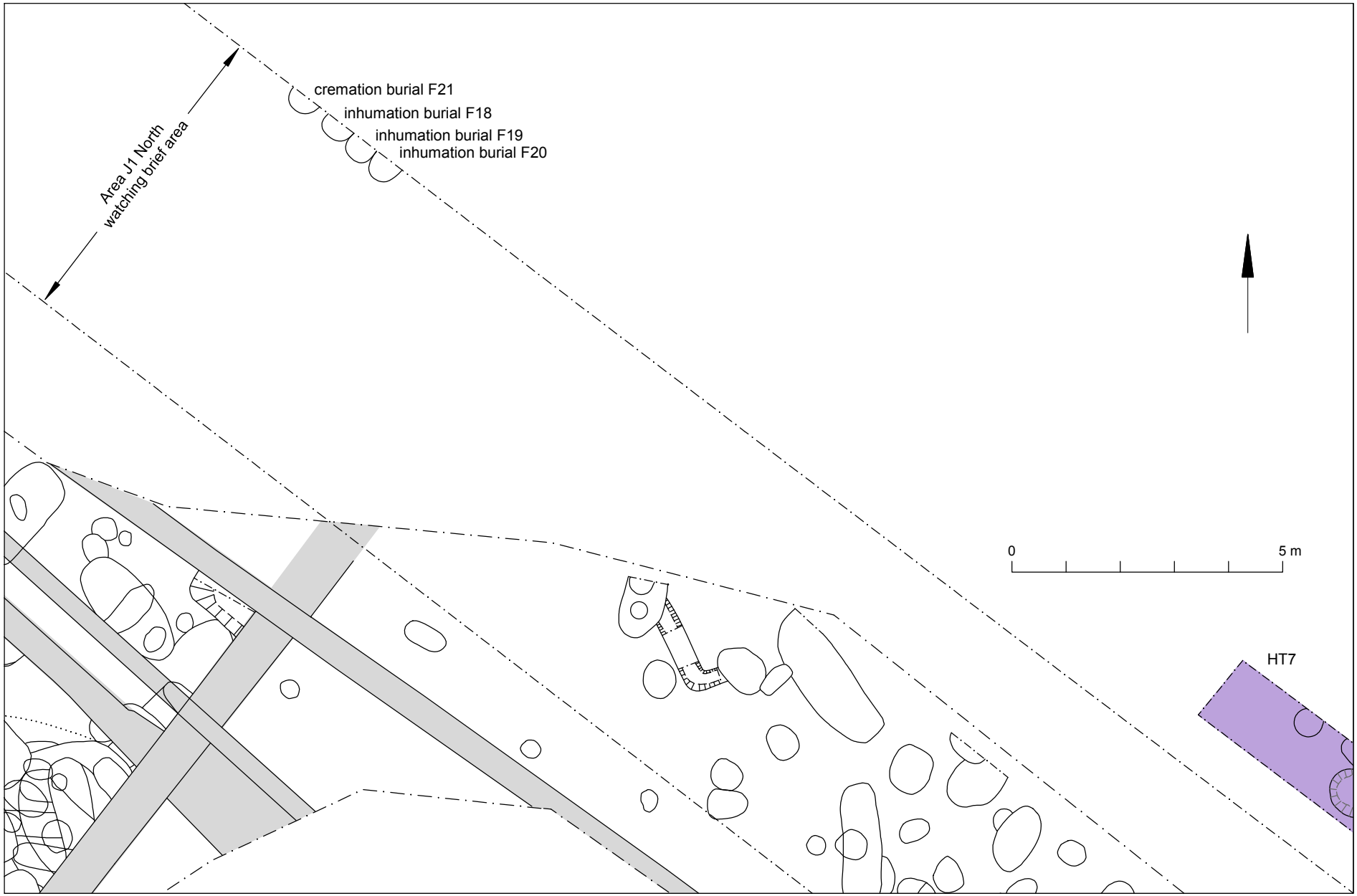

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Fig 4.4 Detail plan (inset to Fig 4.3).

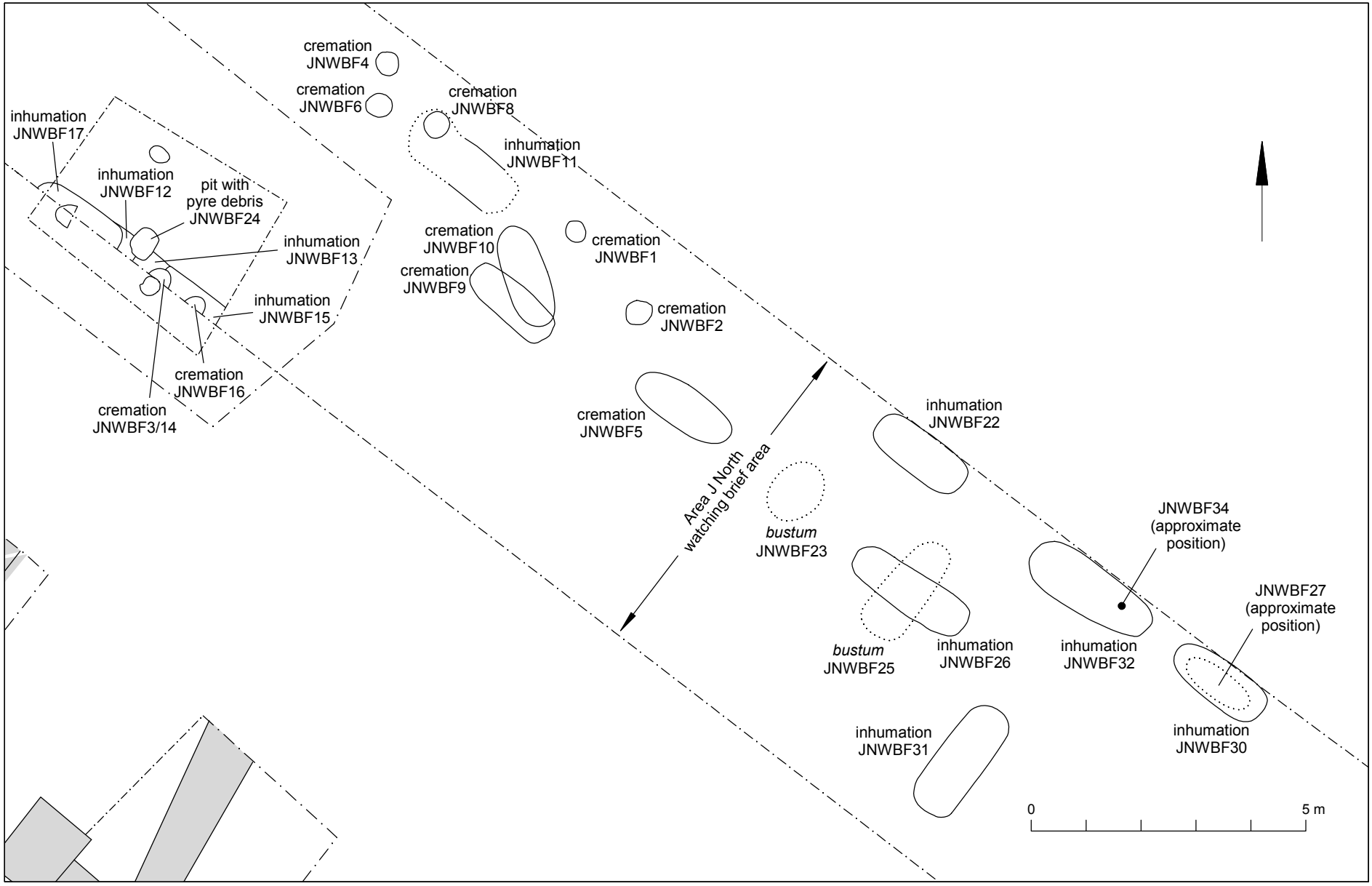

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Fig 4.5 Detail plan (inset to Fig 4.3).

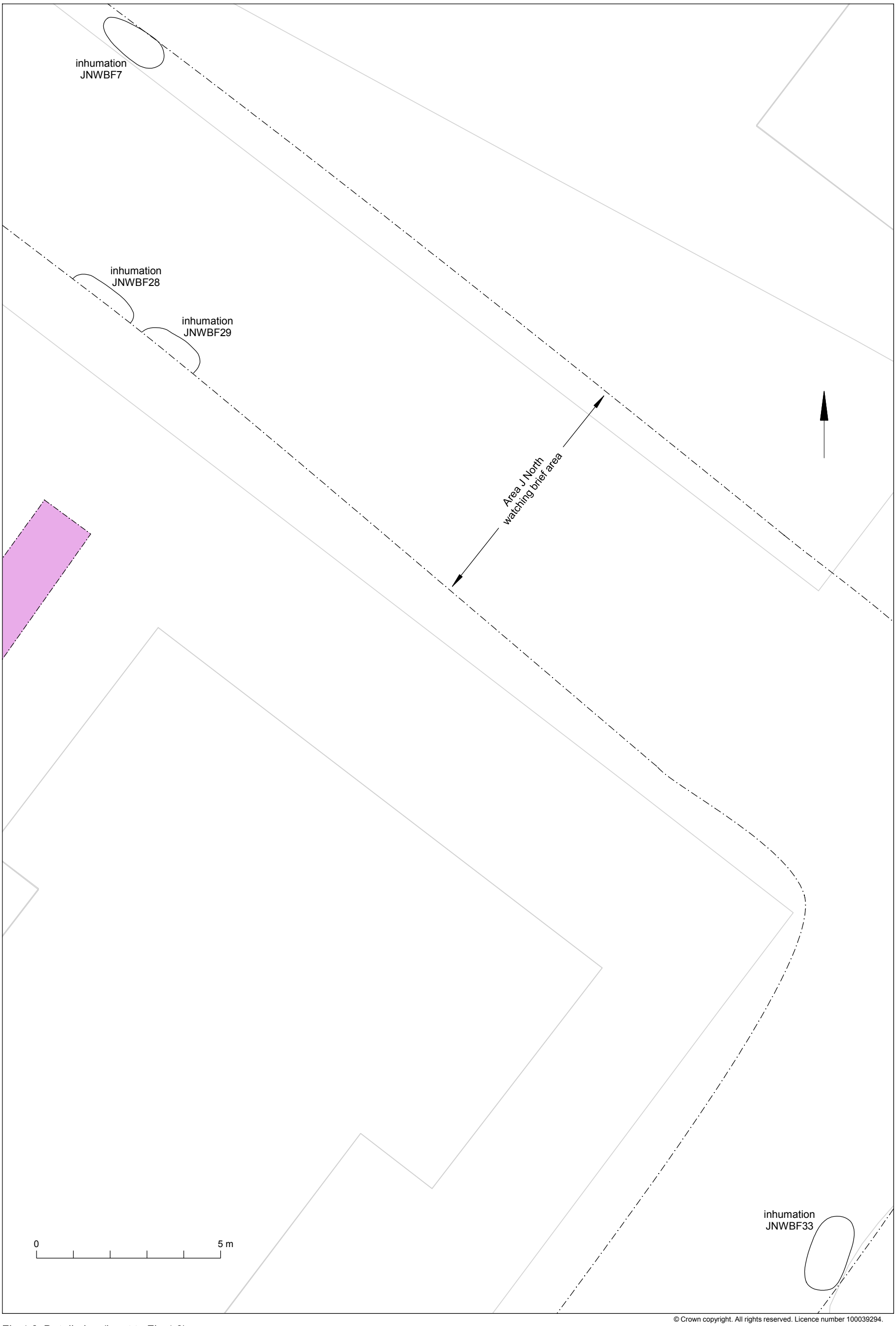

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Fig 4.6 Detail plan (inset to Fig 4.3).

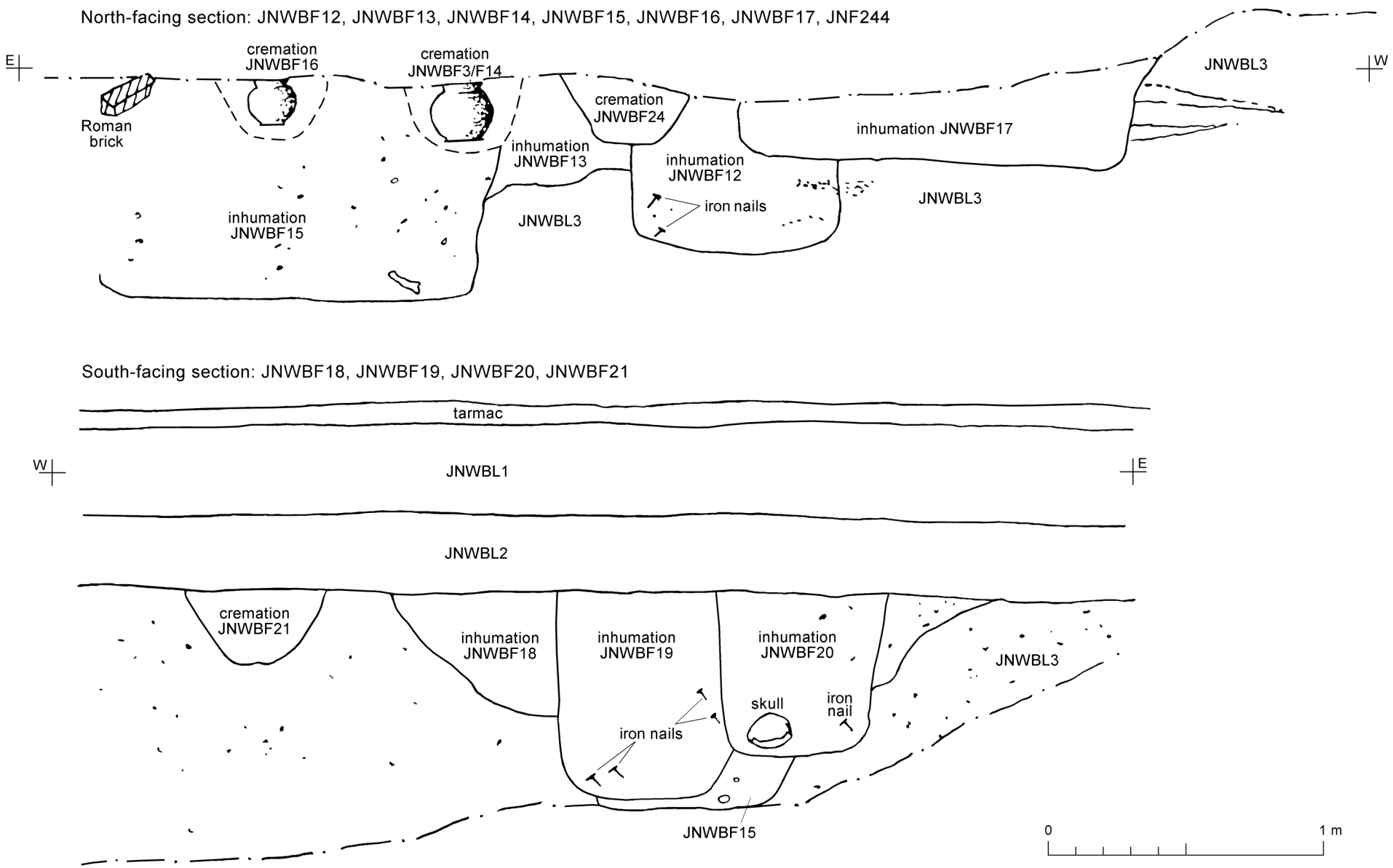

Fig 4.7 Sections.

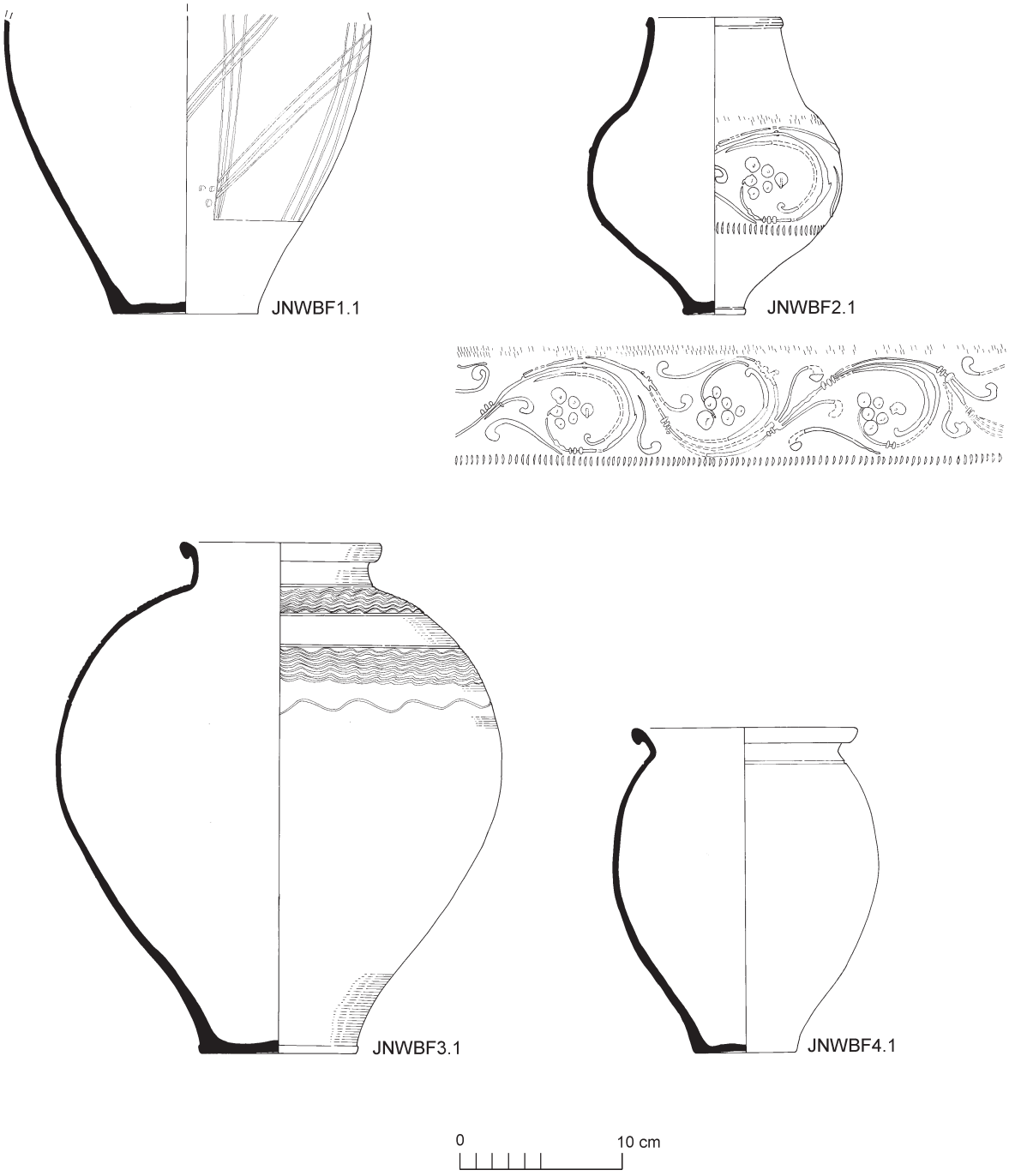

Fig 4.8 Roman pottery from burials.

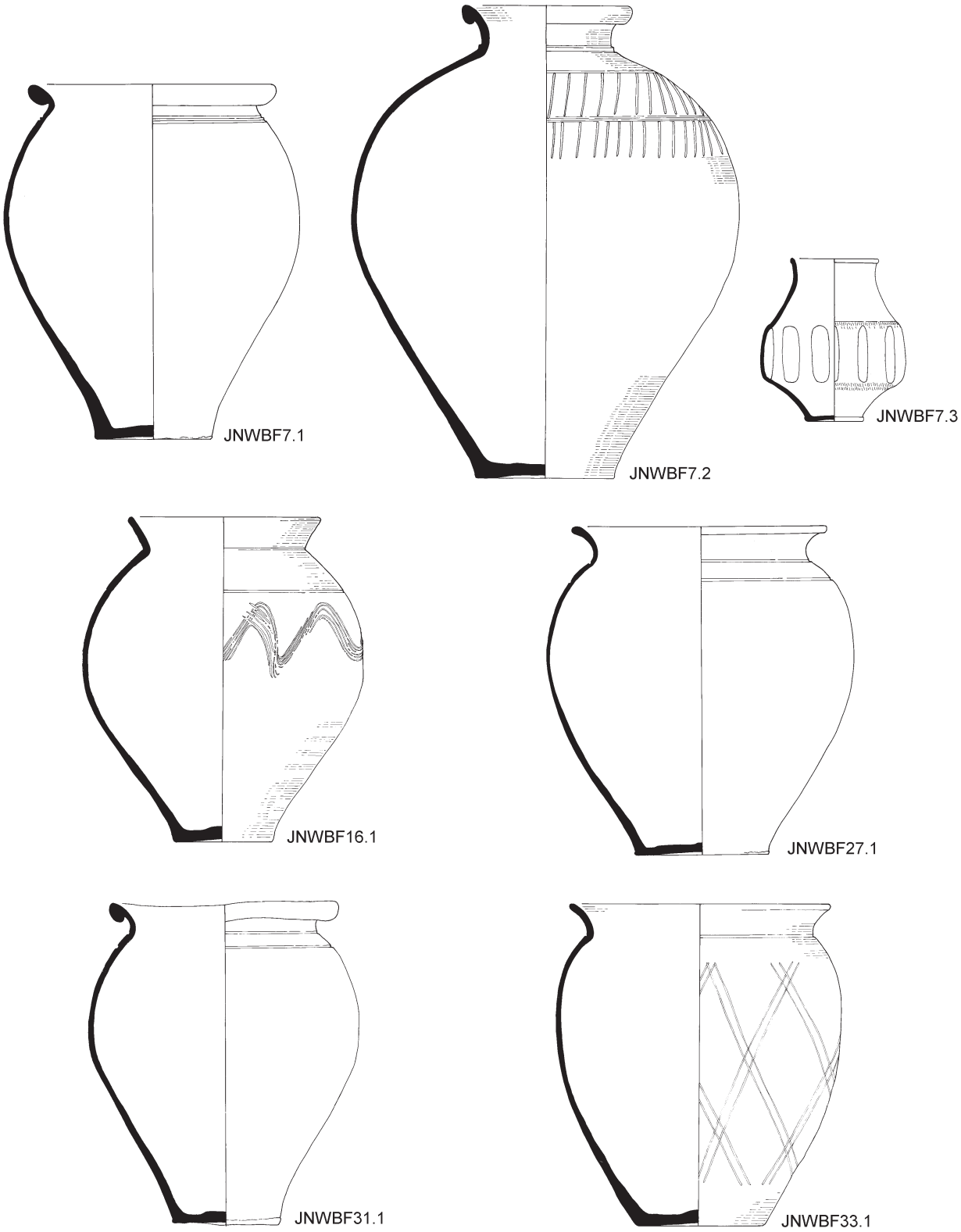

Fig 4.9 Roman pottery from burials.

5. C2 WATCHING BRIEF, April-October 2007

by Donald Shimmin
with contributions by Howard Brooks, Stephen Benfield, and Nina Crummy

NGR: TL 9975 2450
Museum accession code: COLEM 2007.69
CAT project code: 07/5g

Introduction and preliminaries

Summary

During a watching brief in Area C2 the robbed-out foundations of the inner and outer walls of the south *cavea* were uncovered together with a probable external buttress. Other excavated remains included parts of a Roman ring-ditch and a gully.

Introduction (Figs 5.1-5.2)

An archaeological watching brief was carried out on behalf of Taylor Wimpey during the digging of service trenches in Area C2. This formed part of the redevelopment of the Alienated Land of Colchester Garrison, and was undertaken by Colchester Archaeological Trust (CAT) intermittently between April and October 2007. The works were undertaken in accordance with a written scheme of investigation (RPS 2007).

Area C2 lies in the south-east angle of crossroads, and is bounded by Napier Road to the north and Circular Road East to the west. It is located to the east of the Arena leisure centre (formerly the NAAFI). Most of the work took place at the northern end of the site and was related to drainage works, notably for a car park. Trenches for water-mains were also observed along the southern, western and northern edges of the site.

The height of the modern ground level at the northern end of the site is approximately 34.45m above Ordance Datum.

Archaeological background

The previous archaeological investigation of Area C2 consisted of three evaluation trenches totalling 70m in length (CAT Report 271) and an area excavation totalling 1950m², all in 2004. The excavated area was dominated by a large late Roman cemetery of some 68 Roman burials and burial-related features. Some of the cremation burials were located inside ring-ditches.

A short west-east section of the Roman circus extended across the northern part of the site. This included a well-preserved 12.5m long stretch of the outer *cavea* wall with external buttresses. Other archaeological activity recorded from the site included the remains of an Early Bronze Age pit, a Roman droveway/track, a number of post-medieval pits and some modern/military features. Among the latter were a number of air-raid shelters and communication trenches (CAT Reports 319 & 467), foundations and service trenches associated with demolished military buildings, and pits.

A Roman tile kiln was found during the construction of the former NAAFI to the west of Area C2 in 1946 (Hull 1958, 249).

Further remains of the circus were found during watching briefs on drainage works immediately to the west and north-west of the site in 2005-6. These included part of the south *cavea* in Circular Road East (WBT1), including a north-south foundation which may have formed part of an entrance into the *cavea*. A short distance to the north, part of a probable monument base within the central barrier of the circus was uncovered beneath the crossroads (WBT3). A Roman lead coffin was found in Circular Road East approximately 35m to the south of the circus.

An area excavation took place in Napier Road immediately to the north of Area C2 in 2006 in advance of trenching for drainage works. The inner and outer foundations of the *cavea* were observed. The outer *cavea* wall survived intact to Roman ground level and included parts of two buttresses. A scatter of loose stones from the inner *cavea* wall lay on the arena surface. A layer of demolition debris, left over from the dismantling of the outer wall, sealed a patchy gravel surface around the outside of the circus.

Methods

The service trenches were initially excavated by a JCB, usually with a toothless ditching bucket, under archaeological supervision. The overburden was progressively stripped down to the uppermost surviving levels of archaeological significance. Where no archaeologically significant deposits were exposed, machine excavation continued until natural subsoil was reached. The archaeological features and deposits exposed in the trenches were then excavated by hand. Further details of the excavation and recording methods used can be found in the main analysis report and in the CAT document *Policies and procedures* (CAT 2006).

The work was carried out in several different phases during 2007. Initially a trench was dug for the diversion of a water-main along the southern and western edges of the site in April. An area was cleared for a large manhole and pipeline in the northern part of the site, to the north-east of the C2 excavation, at the end of May and the beginning of June. Trenches were dug in July and August for drains and manholes in a car parking area in the north-western part of the site. Concerns over the depth of the machine-stripping in this area, in relation to the remains of the circus, prompted some realignment of the service trenches as work progressed. Part of the area at the northern end of the site was re-exposed when a short length of trench was dug for a water-main in October.

These service works were conducted following the careful demolition of the two linked brick buildings formerly located over the southern *cavea* wall foundation of the circus in the north-west corner of Area C2. The demolition was monitored by RPS Planning to ensure that the underlying circus remains were not exposed or impacted (ie no ground disturbances below 300 mm were permitted).

Excavation results

Period 6 – Roman

Roman circus (Figs 5.2-5.3 & 5.6)

A short stretch of the south outer *cavea* wall foundation, aligned east-west, was uncovered in a service trench in the north-western part of the site. It had largely been robbed-out (C2F7) in the medieval period, although part of the Roman foundation (C2F9) survived *in situ* one or two courses deep. This stretch extended out from the east section of the service trench and was approximately 1m wide and 0.12m deep. It was constructed of greensand blocks with occasional pieces of Roman brick/tile in a pale brown mortar.

The possible remains of an external buttress were partially uncovered on the south side of the outer *cavea* wall. The ?buttress had been almost totally destroyed by a modern foundation and was also largely robbed-out (C2F7) in the medieval period. Some thin patches of pale brown mortar (C2F10) on the bottom and the western edge of the feature were all that survived *in situ*. The edges of the ?buttress were poorly defined but it measured approximately 1.4m long and at least 1.4m wide. This is in accordance with the dimensions of the well-preserved buttresses on the C2 area excavation (1.4m long x 1.9m wide). However the projected spacing of these buttresses on the basis of a 15pM module does not appear to accurately coincide with the position of C2F10.

A rubble spread (C2L3), 0.15-0.2m thick, consisting of fragments of greensand, mortar and brick/tile, extended for at least 3.5m to the south of the outer *cavea* wall. This was probably Roman demolition debris from the outer *cavea* wall, rather than medieval robbing debris. Similar layers have been found around the perimeter of the circus in Areas C1, J1 East, Napier Road and Circular Road North, as well as in the C2 area excavation.

The demolition debris sealed a thin Roman gravel spread (C2L4) approximately 30mm thick. Similar gravelled surfaces have been observed around the outside of the circus at other sites. The gravelled surface on the south side of the circus, for example at Areas C2 and J1 East, appeared to be less substantial than on the northern side, for example on Area C1.

The ditch pre-dating the construction of the *cavea* was probably located immediately to the south of the outer *cavea* wall. This took the form of a flat-bottomed feature (C2F13; Fig 5.6) 0.6m deep. It was cut by C2F9, C2F10 and C2F11, as well as by a modern foundation, but appeared to be approximately 2m wide.

The pre-*cavea* ditch was not recognised during the C2 area excavation. It is however probably identifiable in the 2004 site photographs as an unexcavated linear feature on a similar west-east alignment to, but slightly to the south of, the south outer *cavea* wall. Approximately 40m to the east of C2F13, a shallow flat-bottomed feature (C2F3; Fig 5.2) 0.23m deep was uncovered in 2007 during machining. This was possibly the truncated remains of the south edge of the pre-*cavea* ditch in the north-east corner of the C2 area excavation. This was close to where the outer *cavea* wall had been destroyed by a Second World War air-raid shelter, which had subsequently been robbed-out (CF2 in 2004 excavation; C2F4 in 2007 watching brief).

Probable traces of the inner *cavea* wall were found some 7m to the north-west of C2F9. As elsewhere the remains were very slight and also rather confusing. The most plausible feature was a shallow east-west trench (C2F5), 0.75m wide and 0.1m deep, which contained fragments of greensand, mortar and Roman brick/tile. This was only traced for 1.3m but was probably a medieval robber trench for the foundation of the inner *cavea* wall.

Immediately to the north of C2F5 was a spread of large greensand blocks (C2L1). This may have collapsed from the inner *cavea* wall onto the *arena* surface, in a similar way to that excavated in Napier Road and elsewhere. The greensand blocks appeared to extend into a

slight dip in the subsoil immediately to the north of C2F5. This was possibly where the *arena* surface had been worn away, perhaps by the action of chariots.

A shallow feature (C2F14/C2F15) was uncovered 1m to the north-west of C2F5 during two separate episodes of machine trenching. It extended east-west and was traced for about 3m. The feature was 1m wide and 0.15m deep, and the greyish-brown fill contained greensand fragments with some fragments of mortar, septaria and Roman brick/tile, as well as several pieces of peg-tile. It was possibly further evidence of collapsed debris in a slight dip in the *arena* surface similar to C2L1. Alternatively it could have been a robbed-out foundation slightly to the north of the anticipated position of the inner *cavea* wall. As such it could be associated with an east-west robber trench found 5m to the west during a watching brief in 2005 (WBF2 in WBT1).

Roman ring-ditch (Figs 5.3 & 5.5)

A gully (C2F8) was excavated 17m south-east of the outer *cavea* wall foundation (C2F7/C2F9). The gully was 0.6 - 0.9m wide and 0.2m deep, and was traced for 3.5m. It probably formed the north-eastern part of a ring-ditch, which lay slightly to the north and north-west of those excavated during the C2 area excavation. Finds from C2F8 included a hobnail and a small quantity of Roman pottery. The ring-ditch probably enclosed a late Roman cremation burial, which would have lain a couple of metres to the south-west of the excavated segment of C2F8. However in the part of the C2 area excavation nearest to C2F8 the burials had not survived within the ring-ditches. The ring-ditches may indicate Germanic as well perhaps as military influences.

Other probable Roman features (Figs 5.2-5.5)

A gully (C2F2; Figs 5.4-5.5) was traced for 2m at the northern end of the site, to the north-east of the C2 area excavation. It extended from south to north into the north section of the site. The south end of C2F2, which was cut by a robbed-out Second World War bunker (C2F4), was 0.6m wide and 0.25m deep. The gully widened-out to the north and by the north section was approximately 1.2m wide and 0.45m deep. The upper fill of C2F2 contained a quantity of large greensand blocks with occasional fragments of Roman brick/tile, mortar and flint.

The rubble was possibly part of a spread of material on the *arena* surface similar to that found nearby in Napier Road. It could have derived from the inner *cavea* wall, which lay approximately 2.5m to the south. The rubble spread perhaps survived well as a result of sinkage in the upper backfill of C2F2. This suggests that the gully was late Roman in date, although apart from the Roman brick/tile there were no datable finds from C2F2. It could therefore be post-Roman in date and the rubble be derived in some other way.

A foundation (C2F16; Fig 5.2) was uncovered in the bottom of a narrow trench dug for a water-main in the south-eastern part of Area C2. The upper surface of F16 was 0.45m below the modern ground level. It was aligned east-west, 0.48m wide, and was constructed of fragments of greensand in a pale brown mortar. It remained unexcavated but appeared to be the remains of a Roman foundation, possibly partially robbed.

The foundation was located approximately 2.5m north-east of a Roman mausoleum, between an evaluation trench (C2T1) and the C2 area excavation, both dug in 2004. It was probably a continuation of an east-west Roman foundation CF44 excavated in C2T1.

A ditch (C2F17; Fig 5.2) was briefly observed in the bottom of a trench dug by the contractors at the western side of the site. The ditch was 1m wide and was aligned south-west to north-east. A large fragment of greensand was observed in the fill. The ditch lay 2.5m north-west of the C2 area excavation and 1m below the modern ground level. It was only traced for 2m and remained undated. It appeared to be a linear feature, although it could possibly have been part of a Roman ring-ditch as there were several of these in the adjacent part of the C2 area excavation.

*Plate **5.**1 Gully C2F2 with rubble spread in the upper fill, viewed from the south.*

Period 7 – medieval (Figs 5.3 & 5.6)

The south outer *cavea* wall foundation (C2F9) and ?buttress (C2F10) had been robbed out (C2F7), as also had the inner *cavea* wall (C2F5) and a possible foundation (C2F14/C2F15) adjacent to C2F5. The robber trenches contained abundant fragments of mortar and greensand, with occasional fragments of Roman brick/tile. Differences in the fill of C2F7 (Fig 5.6) indicated that there may have been two phases of robbing, although of course the time-lapse between them may have been quite short. Apart from a few peg-tile fragments, no diagnostic dating evidence was recovered, although the evidence from Area J1 East suggests a late 12th- or early 13th-century date for the robbing.

A large pit or ditch (C2F11; Figs 5.3 & 5.6) was excavated immediately to the south of the outer *cavea* wall. It measured up to 2m across and 0.7m deep, and cut the robber trench

(C2F7) for the ?buttress (C2F10) as well as the Roman demolition debris (C2L3) and gravelled surface (C2L4) outside the circus. It contained peg-tile fragments and a sherd of medieval pottery, as well as fragments of greensand and mortar.

A rubble spread (C2F12; Fig 5.3) was uncovered over a small area immediately to the south of the south outer *cavea* wall foundation (C2F9) and to the west of the ?buttress (C2F10). It was up to 1m across but had been much disturbed by a modern foundation. It consisted of fragments of greensand and Roman brick/tile, presumably derived from the circus, and appeared to form a rough surface. It also appeared to seal robber trench fill C2F7 and so was probably post-Roman rather than late Roman demolition debris.

Period 8 – post-medieval (Figs 5.2-5.4)

A pit (C2F1; Fig 5.4) was uncovered during machine-stripping to the north-east of the Area C2 area excavation, 3.5m west of C2F2. It had a charcoal-rich fill, and measured 1m across and 0.2m deep. Traces of burning were observed on the edges of the pit. No finds were recovered, but charcoal-rich fill was observed higher up in the topsoil during machining, suggesting that C2F1 was probably post-medieval or modern in date.

A post-Roman pit (C2F6; Fig 5.3) cut the robber trench (C2F5) for the inner *cavea* wall in the north-western part of the site. It measured up to 1m across and 0.6m deep, and extended into the east section of the service trench. It had a dark lower fill 0.3m thick with several large greensand blocks, and a lighter upper fill. It contained peg-tile fragments, pieces of slate and a sherd of probable 18th-century glass.

Period 9 – modern/military (Fig 5.2)

The remains of a demolished Second World War air-raid shelter (C2F4; Air-raid shelter 2; CAT Report 319, 6; CAT Report 467, 6) was uncovered in the northern part of the site. It measured up to 11m north-south and cut the outer and inner wall foundations of the south *cavea*. Another bunker (Air-raid shelter 3), 20m to the south-east of Air-raid shelter 2, was recorded and demolished in April 2007 (CAT Report 467, 6-8). In the north-west corner of the site, several modern foundations, paths and service trenches associated with the garrison were uncovered. Much of the site was sealed by a layer of topsoil (C2L2) up to 0.6m thick.

The find reports and environmental analysis

The Roman pottery

by Stephen Benfield

Only a small quantity of Roman pottery, ie 529 g, was recovered from the Area C2 watching brief. The number of sherds for each fabric type, the pot form types and a total weight of pottery were recorded by finds number for each context. Where more than one date is quoted

for different fabrics or pot forms recorded under each find number an overall pottery spot date is given. This information is listed by context in the Roman pottery catalogue below.

The Roman pottery fabrics referred to in this report follow those used in *CAR* **10**. The fabrics are presented as two letter fabric codes and the full fabric name for each of these lettered codes is given in Table 5.1 below. Where possible the equivalent National Roman Fabric Reference Collection (NRFC) code is also given in Table 5.1 (Tomber & Dore 1998). The vessel forms, other than for samian and amphorae, were recorded using the Camulodunum (Cam) Roman pottery form type series (Hawkes & Hull 1947; Hull 1958). Samian vessels were catalogued, using Dragendorff (Dr) form numbers, or other common form type references following those used in Webster 1996.

Table 5 Roman pottery fabrics used in this report.

Fabric code	Fabric name	NRFC code
AA	amphoras, all excluding Dressel 20 and Brockley Hill/ Verulamium region amphoras	
BA	plain samian forms	
CG	Central Gaulish plain samian	LEZ SA 2
EG	East Gaulish plain samian	
GA	BB1: black-burnished ware, category 1	DOR BB1
GX	other coarse wares, principally locally-produced grey wares	
HZ	large storage jars and other vessels in heavily-tempered grey wares	

Discussion

The quantity of pottery is small and much is either residual in contexts of post-Roman date or is unstratified. In this respect, discussion is limited to the pottery from two Roman contexts which are of specific interest or significance. These are part of a Roman ring-ditch (C2F8) and demolition debris (C2L3) south of the south wall of the circus outer *cavea*.

The pottery recovered from the ring-ditch C2F8 includes Central Gaulish samian, Fabric BA(CG), dated 2nd century; and a Cam 268 jar, dated early/mid 2nd-late 3rd/early 4th century. Several Roman burials enclosed by small ring-ditches have previously been excavated on Area C2. The latest-dated pottery associated with these previously excavated ring-ditches and burials is of mid-late 3rd- or 4th-century date (*see* Area C2 report (Roman pottery) above).

The demolition debris C2L3, south of the south wall of the circus outer *cavea*, produced only one sherd. This is from the flat base of a dish or bowl in BB1: black-burnished ware, category 1, Fabric GA, and is dated early 2nd to 4th century.

Roman pottery catalogue

(2) C2F3. Fabric GX, 3 sherds, 8 g, Roman.

(3) C2F4. Fabric AA, handle sherd, probably from a Gaulish amphora, 117 g, 1st-early 3rd century, shoulder of handle and part of vertical side, upper surface broken away, lower end of vertical side asymmetrically rounded off.

(9) C2F5. Fabric GX, 1 sherd, 4 g, Roman.

(13) C2F7. Fabric GX, 1 sherd, 5 g, Roman.

(14) C2F7. 2 sherds, 39 g. Fabric GA, 1 sherd, broken in two, Cam 305A flanged bowl, dated - third quarter of 3rd century to end of the Roman period, abraded flange edge; Fabric GX, 1 sherd, Roman.
Pottery dated: late 3rd-4th century.

(19) C2F7. 2 sherds, 9 g. Fabric BA(EG), 1 sherd, early-mid 2nd to mid 3rd century; Fabric GX, 1 sherd, Roman.
Pottery dated: Roman, ?early-mid 2nd to mid 3rd century.

(10) C2F8 Sx 1. 2 sherds, 27 g. Fabric GX, 1 sherd, possibly from same jar with rilled shoulder , Cam 271, identified in C2F8 Sx 2 - (11), ?1st-2nd/3rd century; Fabric HZ, 1 sherd, 1st-2nd/3rd century.
Pottery dated: Roman, ?1st-2nd/3rd century.

*(11) C2F8 Sx 2. 8 sherds, 55 g. Fabric BA(CG), 1 sherd, 2nd century; Fabric GX, 6 sherds, Cam ?268 – early/mid 2nd-late 3rd/early 4th century, Cam 271, jar with a rilled shoulder, possible non-joining rim sherd from same pot, dated probably 1st-2nd/3rd century (CAR **10**, 479); Fabric HZ, 1 sherd, 1st-2nd/3rd century.*
Pottery dated: early/mid 2nd-late 3rd/early 4th century.

(16) C2F11. Fabric GX, 2 sherds, 66 g, Roman.

(21) C2F14. Fabric GX, 2 sherds, 10 g, Roman.

(17) C2L3. Fabric GA, 1 sherd from the base of a dish or bowl, 7 g, early 2nd to 4th century, pale soft mortar adhering to edges of breaks of sherd.

Unstratified

(6) u/s. Fabric GX, 1 sherd, 5 g, Roman.

(7) u/s. 11 sherds, 109 g. Fabric BA(EG), 1 sherd, early-mid 2nd to mid 3rd century; Fabric GA, 4 sherds, 3 joining, from a Cam 279C jar, early 3rd century (not before c AD 220?) to 4th century, form identification and dating based on obtuse burnished lattice on body; Fabric GX, 6 sherds, Cam 268 jar, early/mid 2nd-late 3rd/early 4th century.
Pottery dated: early 3rd century (not before c AD 220?) to 4th century.

(24) u/s. 2 sherds, 68 g. Fabric GX, 1 sherd, rim from a jar possibly of form Cam 268 – early/mid 2nd-late 3rd/early 4th century; Fabric HZ, 1 sherd, 1st-2nd/3rd century.
Pottery dated: Roman - early/mid 2nd-late 3rd/early 4th century.

The medieval and later pottery and glass

by Howard Brooks

A small group of medieval and later pottery (4 sherds, 67g) and post-medieval glass (2 fragments, 16g) was recovered from four site contexts (one of which was unstratified). The pottery fabrics have been classified according to fabric descriptions given in *CAR* **7**. Fabrics present were medieval sandy greyware (fabric 20), post-medieval red earthenware (Fabric 40, PMRE), and modern ironstone (Fabric 48d).

Medieval and later pottery catalogue

(16) C2F11. Medieval or post-medieval ditch. One rim sherd of Fabric 20 medieval sandy greyware (6g). Date: 13th century.

(24) u/s. Two base sherds of Fabric 40 post-medieval red earthenware (PMRE: 47g); group date: 17th-18th century. A single sherd of Fabric 48d modern ironstone, 14g.

Glass catalogue

(1) C2F2. Surface cleaning. Fragment of pale blue glass (4g) from a flat vessel such as a bottle. Probably 19th or 20th century.

(8) C2F6. Post-medieval pit. Fragment from the omphalos base of a green glass bottle, probably 18th century. 12g.

The iron nails

by Nina Crummy

None of these fragments can be closely dated, but the hobnail from C2F8 is probably Roman and the low degree of corrosion on the nail from C2F7 suggests that it is probably late post-medieval or modern.

(13) C2F7. Nail with damaged round flat head and curved shank. Length 101 mm.
(10) C2F8. a) Hobnail, length 15 mm. b) Shank fragment, length 25 mm.
(16) C2F11. Nail with round flat head. Length 45 mm.

The clay tobacco pipe

by Nina Crummy

Only one decorated bowl was recovered from an unstratified context. It has broad flutes running from the stem up to the rim, a form that dates in general from the late 18th century to the early-mid 19th century (*CAR* 5, 57).

(12). Unstratified. Bowl with thick flutes rising to the rim and extending around the curve of the foot and for a short distance along the stem. Height 32 mm, stem bore diameter 2 mm.

Archive deposition and acknowledgements

Archive deposition

The archive from the watching brief, including the site records, photographs and finds, will be permanently deposited with Colchester and Ipswich Museums under accession code COLEM 2007.69.

Acknowledgements

CAT is grateful to the developers, Taylor Wimpey, for commissioning and funding the watching brief, and to the personnel on site for their help. Rob Masefield of RPS Planning liased between CAT and the developers, and the project was monitored by Martin Winter, Colchester Borough Council Archaeology Officer.

Appendix 5.1: archival data

Animal bone

F/L no	Finds no	SX	Date/type	Total qty	Wt (g)	Species	Sp qty	Prox F	Dist F	Age	Bone	Butchery	zone	Max length	Bone frag type	Comments	Z1	Z2	Z3	Z4	Z5	Z6	Z7	Z8	Frac angle	Frac outline	Frac texture	Freshness	Side
F2	1		?late Roman gully	3	90.6	bos	3				humerus					modern break into three pieces							1	1					left
F4	3		robbed-out WW2 bunker	2	25.1	lrg mammal	2				rib	cut marks				modern break into two pieces							1						
F6	20		?post-med pit	3	8.4	bos	2				skull fragments					skull with small area of horncore													
					7.3	ovis	1			j	humerus								1	1	1								right
F7	19		medieval robber trench	1	8.5	ovis	1				radius								1	1	1								
F11	16		?medieval pit/ditch	8	15.3	equus	1				tibia									1									left
					0.1	sml mammal	1				rib					head (tiny)													
					0.6	sml/med mammal	3				unidentified			0-2	axial cancellous														
					0.3	sml/med mammal	1				unidentified			2-4	diaphysis										obtu/acu	helical	smooth	fresh	
					0.1	sml/med mammal	1				unidentified			2-4	diaphysis										mix	not helical	rough	not	
					0.2	sus	1				metacarpal IV																		
U/S	5		found by workmen	10	51.3	equus	5				incisors																		
					202.9	equus	5				molars																		
U/S	6		cleaning over F5 & F6		1	unidentified	2				unidentified			0-2	appendicular cancellous														
					15.3	bos	1				molar																		
U/S	7		cleaning over F7	3	7	ovis	1				scapula							1	1	1									left
					16.7	lrg mammal	1				tibia	chop marks, pos burnt area		6-8		almost certainly burnt				1									
					1.2	lrg bird	1				tibio-tarsus					domestic fowl or larger													

Brick/tile

[**T** = tegula **I** = imbrex **B** = brick **F** = flue **CB** = column brick **PEG** = peg-tile]
[**A** 5/10-20/25 **B** 25-30 **C** 30-40 **D** 40+ mm thick]

context	find number	tile type	quan-tity	thickness A B C D	area	total weight (bag or box) g	other comments
F2	1	B	2	D	100	657.9	
F2	4	B	2	D	225	1709.5	one with ✓ mark
F4	3	B	1	D	10	77.9	possibly modern
F6	8	PEG	2	A	10	15.7	
F6	20	PEG	1	A	20	47.7	
F7	13	PEG B	7 2	A D	60 40	345.9	one with mortar adhering
F7	14	B/T B/T	1 1	C A	22 40	229.8	post-Roman floor tile?
F7	15	B	1	D	60	593.2	mortar adhering
F8	10	T	1	A	17	87.9	
F8	11	T I B/T	1 1 3		12 20	193.1	
F11	16	B PEG	8 3	D A	255 60	1622.7	some with mortar adhering
F12	18	B	6	D	650	4104.7	mortar adhering
F14	22	PEG B	1 2	A D	88	507.1	
F15	23	PEG B	2 1	A D	15 50	364.6	
L3	17	B	2	D	650	4383.1	one with signature one with mortar adhering
U/S	6	PEG	2	A	10	23.2	
U/S	7	PEG	1	A	27	63.0	
U/S	24	PEG B T B B/T	1 2 2 1 3	A A B	8 210 22 18 25	1597.9	

Mortar and opus signinum

Feature Number	*Feature Type*	*Finds Number*	*Find Type*	*Quantity*	*Weight (g)*
C2F7	Medieval robber trench of outer *cavea* wall	13	op sig	1	86.2
C2F11	?Medieval ditch	16	op sig	5	164.3
			mortar	2	168.4
C2F14	?Medieval robber trench of inner *cavea* wall	22	op sig	1	58.6

Shell

Feature Number	*Feature Type*	*Finds Number*	*Find Type*	*Quantity*	*Weight (g)*
C2F7	Medieval robber trench of outer *cavea* wall	19	oyster	2	113.9
C2F11	?Medieval ditch	16	oyster	1	8.8

Stone

Feature Number	*Feature Type*	*Finds Number*	*Find Type*	*Quantity*	*Weight (g)*
C2F2	?Late Roman gully	4	greensand	1	1460.1

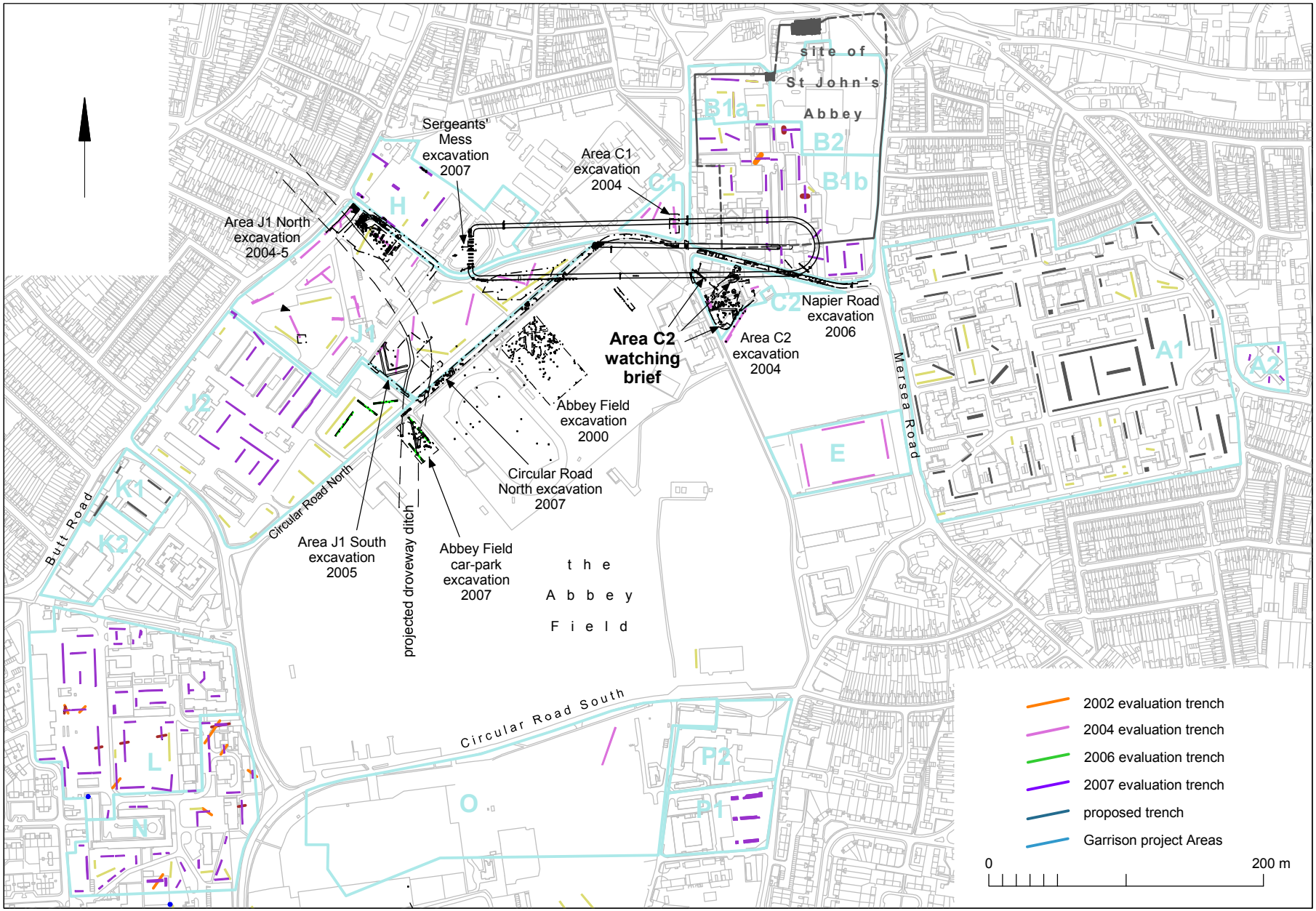

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Fig 5.1 Site location plan.

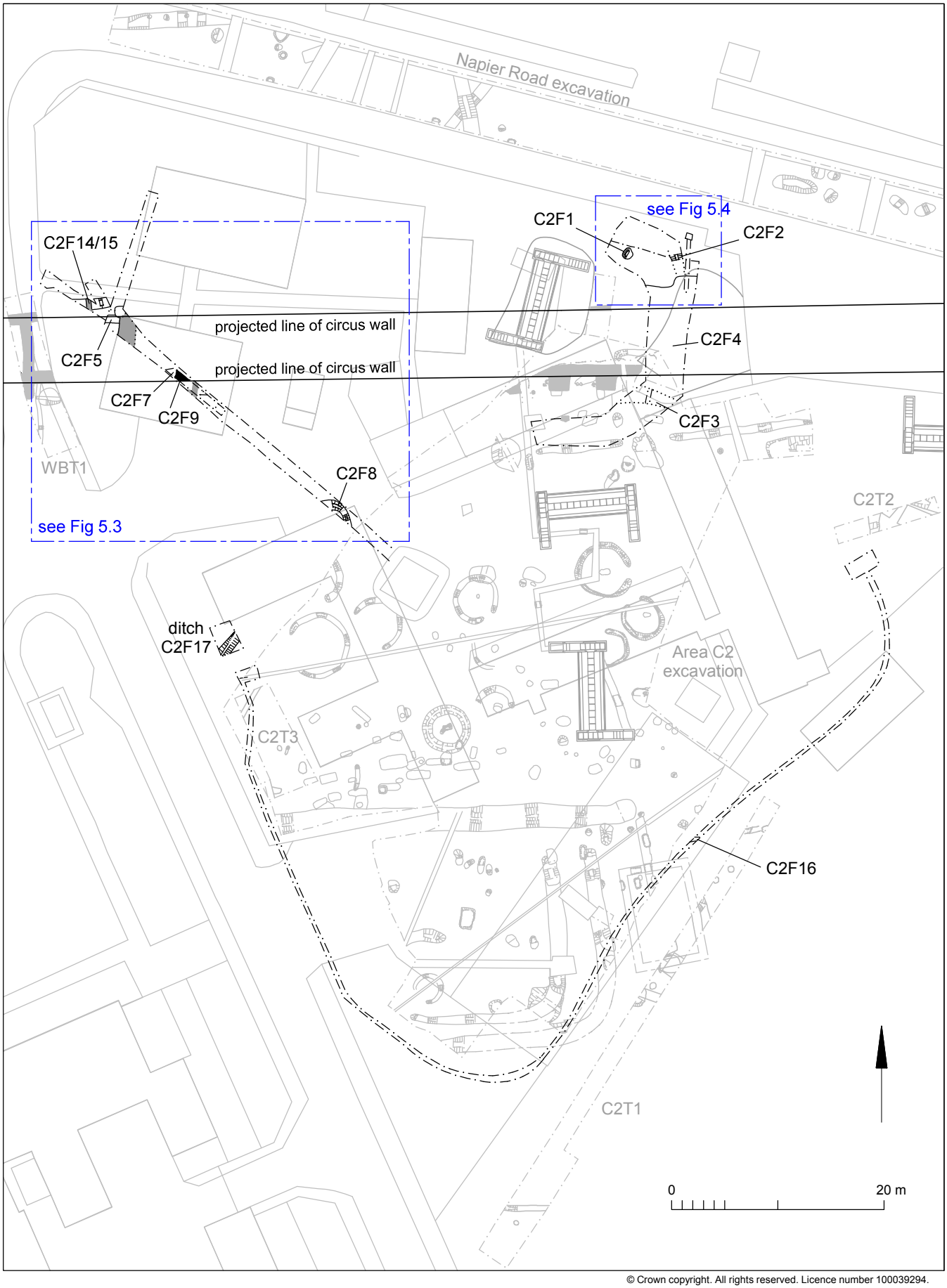

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Fig 5.2 Area C2 watching brief site plan, with C2 area excavation shown in grey.

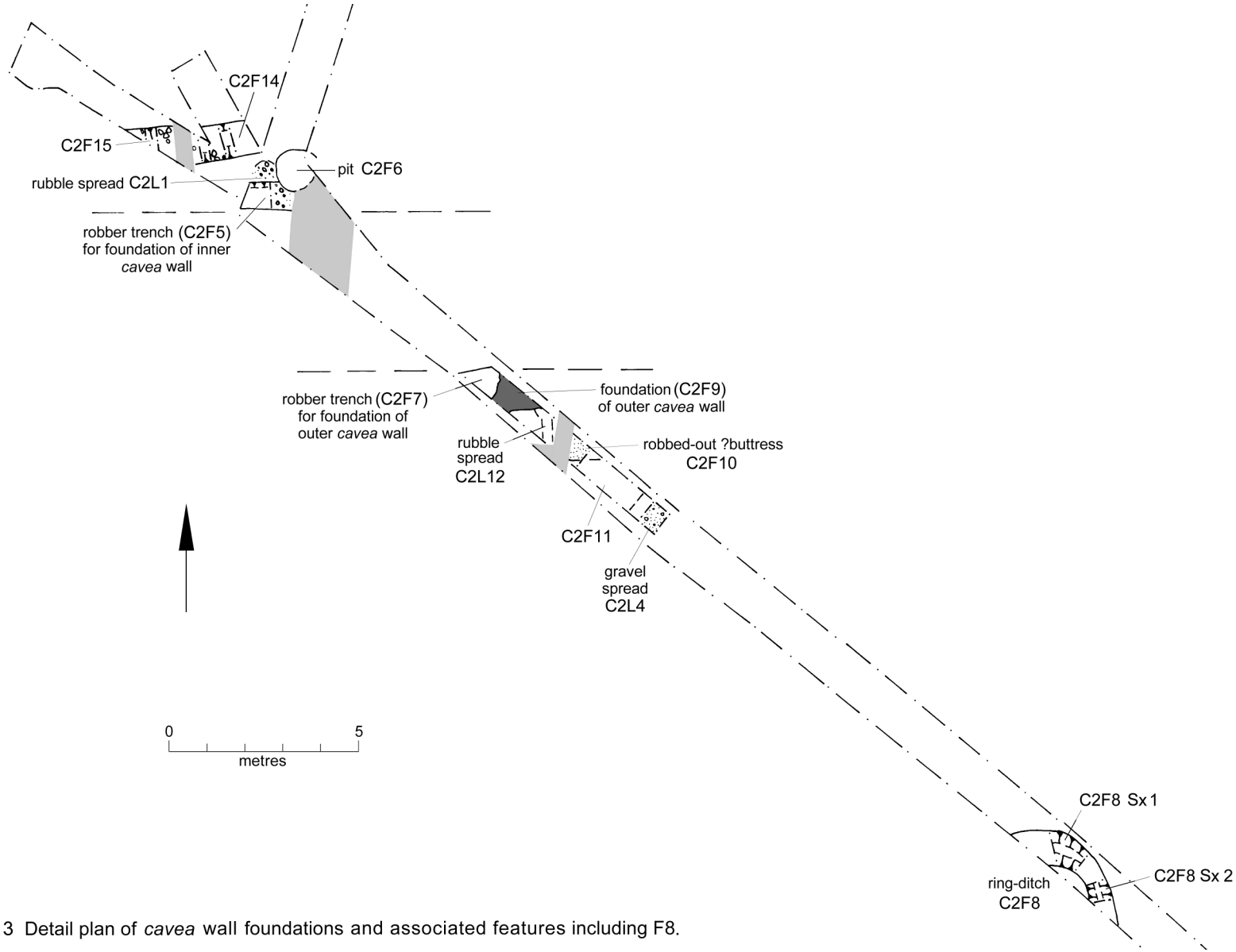

Fig 5.3 Detail plan of *cavea* wall foundations and associated features including F8.

Fig 5.4 Plan of C2F1 and C2F2, with inset.

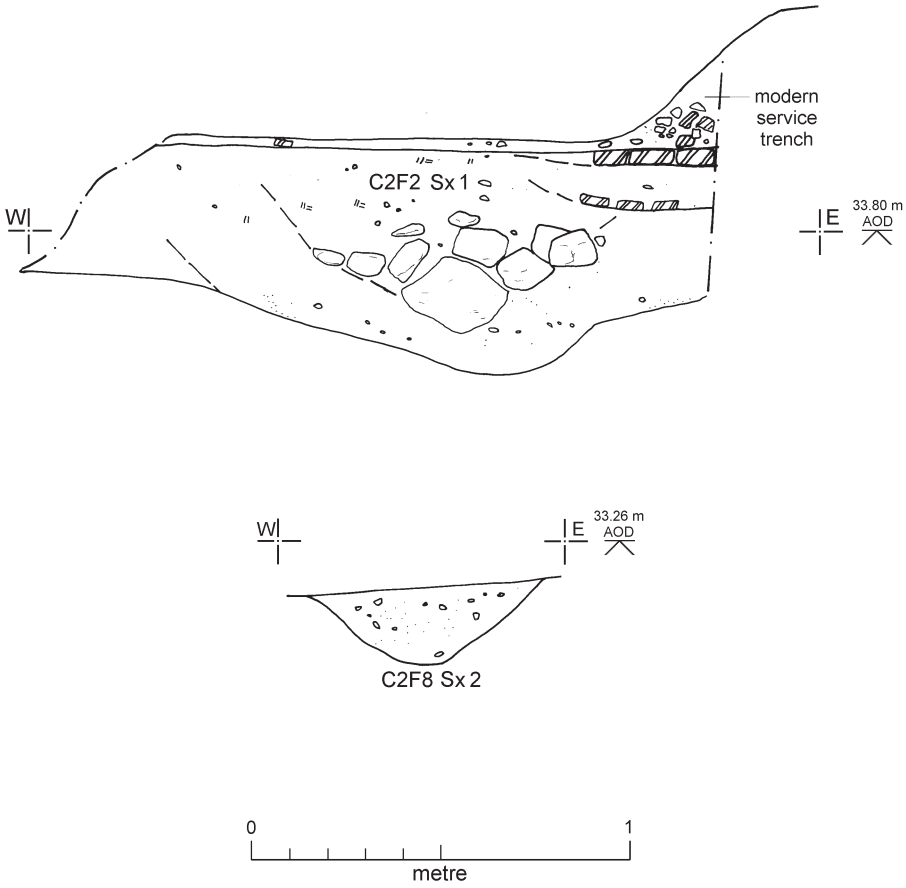

Fig 5.5 Non circus-related sections: F2, F8.

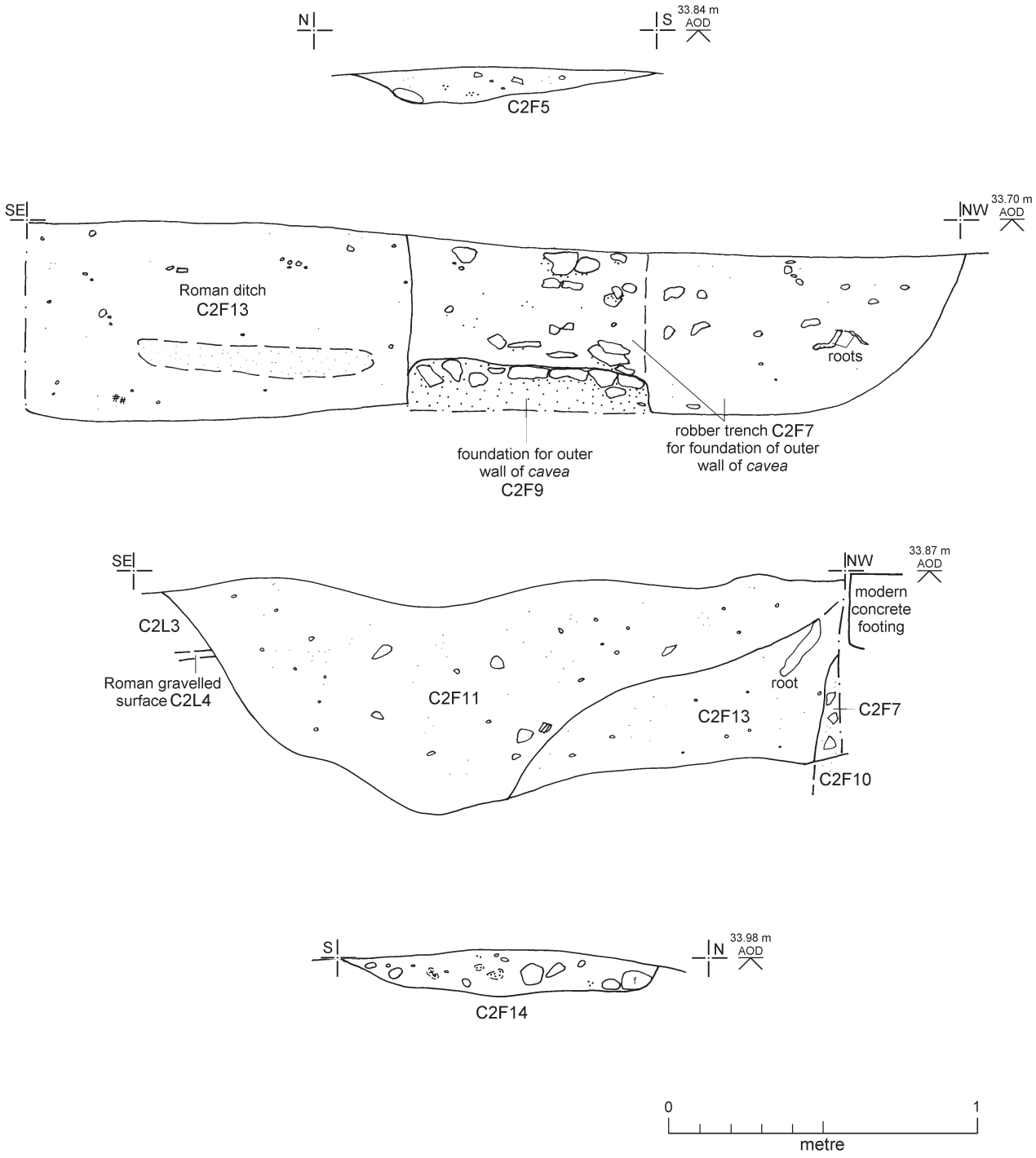

Fig 5.6 Circus-related sections: F5, F7/F9/F13, F7/F10/F11/F13, F14.

6. THE ROMAN CIRCUS

by Philip Crummy
with contributions by Stephen Benfield, Nina Crummy, Robert Masefield, and Adam Wightman

Introduction

Chariot racing was the oldest and most popular sport in the Roman world and was of Greek origin coming to Rome via the Etruscans. Circus games (*ludi circenses*) originally consisted of chariot racing and boxing. Athletics and wrestling were added in the 2nd century BC. The circus was the largest of all entertainment buildings in the Roman world and comprised an elongated oval track flanked by tiers of seating (*cavea*) with a low barrier (*spina* or *euripus*) running down the centre to prevent collisions. Turning posts (*metae*) were placed at either end of the central barrier, and it would seem that normally an obelisk (in some cases taken from Egypt) was erected in the centre. The open, non-curved end contained a row of starting gates (*carceres*). The Circus Maximus was the largest and most monumental of these structures, perhaps with sufficient space for 250,000 or more spectators.

The discovery in the 19th and 20th centuries of glass and pottery vessels decorated with scenes from chariot races (*CAR* **8**, 42-7; Jackson 2000, 96, fig 106) showed that some of the people of Roman Colchester knew about circuses and were interested in what happened in them. However, despite much archaeological work in the town over a long period, nothing structural had been found which hinted at the presence of such a building. All this changed late in 2004 when the remains of a Roman stone circus were identified during the archaeological excavations which preceded the redevelopment of Colchester Garrison. This was a significant discovery, because it is the first circus to be positively identified in Britain (Figs 6.1-6.3).

The circus lay about 400m south of the walled core of the Roman town (Fig 6.2). It had been laid out on an almost exact east-west alignment on the nearest piece of ground to the town centre which was flat and level enough to accommodate such a large building. The south *cavea* and the central barrier lay at 1.5 and 3 degrees to the north of true west respectively. These figures suggest that the circus had been set out by using true north like the legionary fortress and the colony which replaced it. The fortress was aligned within half a degree of true north. The base was converted into the Roman colony partly by extending the street grid eastwards on an alignment which was between two and four degrees of true north (*CAR* **3**, 3 & 8). The circus was separated from the walled part of the town by a shallow east-west valley where no intervening roads or other structures have been identified to suggest that the alignment of the circus was influenced indirectly by the alignment of the walled part of the town.

The circus: the history of its discovery and investigation

May 2000

The first recorded exposure of part of the circus was in 2000 when the remains of the foundation for the outer wall of the *cavea* were cut through in two places by workmen digging some trenches for an electricity cable. The work was archaeologically monitored and the foundation was recognised as being Roman at the time, but there was little to indicate the scale and nature of the building to which it belonged other than it appeared to be at least 35m in length. Carl Crossan described the remains in his report as follows. "*Three structural features were noted in 22cm-wide trenches dug by the contractor for floodlight cables in the region to the north-east of the excavation. F208, an east-west trench approximately 80cm wide, was filled with compacted mortar and appeared to bottom out at an overall depth of 60cm. Approximately 1.4m to the south of F208, a group of large mortared stones was partly exposed (F209). The feature continued beyond both sides of the contractor's trench and appeared to be on a similar east-west orientation to F208, although this is uncertain due to the restricted dimensions of the trench. At a spot approximately 35m to the east of F208, the cable trench revealed a second mortar-filled east-west trench (F210), approximately 80cm in width. F208 and F210 appear to be robber trenches, resulting either from the removal of two foundations on the same alignment or perhaps a single long stretch of wall foundation. The mortared stone F209 is assumed to be an undisturbed foundation, although too little was exposed to permit satisfactory interpretation of this feature*" (CAT Archive Report 138, 10-11).

With the benefit of the subsequent investigations, we can recognise F208 and F210 as being the remains of the robbed-out foundation for the outer *cavea* wall with F209 presumably being the south end of an unrobbed buttress. Similar examples were found at Area J East (eg JEF7 and JEF60) of lengths of the outer *cavea* wall foundation which had been completely removed except for parts of some of the buttresses.

June - July 2002

During the first phase of the evaluation of Area J1 (CAT Archive Report 206), two parallel robber trenches (JF605 and JF606) aligned east-west were exposed in Trench J6 (2002). The southern robber trench contained fragments of Roman brick, greensand, and mortar. It incorporated a branch at right angles to itself (JF608) which extended southwards into the side of the trench. These remains were recognised at the time as being part of a Roman building which was probably associated with the nearby robber trenches observed in the trenches dug on the Abbey Field in May 2000 (just described). The nature of the building was unclear, but the paucity of Roman domestic material in the area was taken to indicate that it had probably not been a normal dwelling. It was later to become apparent that the robber trenches were for the *cavea* wall foundations and that the right-angled branch corresponded to one of the buttresses along the outside of the building.

May 2004

Evaluation on Area C1 (Cat Report 271) in May 2004 resulted in the discovery of the remains of a robbed east-west wall foundation. There was insufficient dating evidence to identify the foundation as having been Roman, but it subsequently turned out to be part of the foundation of the outer wall of the north *cavea*.

July - September 2004

The evaluation on Area C1 was followed in July of the same year with an area excavation (CAT Archive Report 361). This time, not only were the remains of the outer wall foundation of the *cavea* (CF7) exposed more fully, but so too were the remains of the inner one (CF6). The investigation also revealed that the outer wall appeared to have been buttressed. A narrow metalled strip along the north side of the remains was taken to be part of an east-west road and the *cavea* foundations were interpreted as being parts of a small building which had fronted on to the south side of it.

Shortly afterwards, part of a substantial east-west foundation was uncovered on Area C2 (CAT Archive Report 361). The foundations in both places were made of greensand which, although a common enough building material in Colchester, was not as common as septaria. This and other similarities with the remains on Area C1 suggested that the foundations in both places were either part of the same building or parts of a group of buildings of similar design and presumably purpose. However, no satisfactory interpretation of the remains could be advanced particularly since the foundations on Sites C1 and C2 were so far apart (ie about 75m). A group of granaries or a precinct wall for a temple were considered as explanations but regarded as very unlikely. In due course, it was to be realised that these were parts of the outer wall foundations of the *cavea*.

August 2004

Only a little could be seen of the deposits immediately north of the foundation on Area C2, but it seemed as if these were quite different to those immediately south of the foundation (which we now know was outside the building). In fact it looked as if north of the foundation there was only an accumulation of soil which had no obvious break in it to correspond to the ground-level when the foundation was laid. The apparent homogeneity of this material gave the impression that there was an earth bank here which the foundation revetted and was indistinguishable from the soil which it sealed. To test this possibility, a narrow trench was cut by machine to the north of the foundation in one of the few places where this could be done. As a result, the absence was confirmed there of any layers which would show that the area on the north side of the foundation had been open and surfaced in some way when the foundation was laid. Instead a shallow east-west feature (CF247) was made evident by the presence in it of flecks and small lumps of mortar. This feature appeared to be ephemeral and inconsequential, but in retrospect it is clear that this was the remains of the inner *cavea* wall foundation and that the base of the soil which sealed it was either a post-Roman accumulation or (less likely) what survived of the remains of the base of the earth bank which formed the *cavea*.

September 2004

When work on Area C2 was finished, the focus of the investigations shifted about 300m to the west to Area J1 East. Here a second phase of evaluation was undertaken in September 2004 (CAT Archive Report 288) to raise the sample size of the area to the requisite three per cent. Consequently the remains of the foundations of both the inner and outer *cavea* walls were exposed in two of the trenches as well as an earlier ditch. The latter was considered at the time to be pre-Roman, but subsequent work was to show that it could have been part of the early development of the circus. Taking the results from all three area excavations, ie Sites C1, C2 and J1 East, it was appreciated that the building remains all shared a common and somewhat unexpected east-west alignment and that there must have been some underlying cause for this similarity such as the existence of the apparent east-west road on Area C1.

November 2004 - February 2005

The discovery of the Roman building remains on Area J1 East prompted a large area excavation there soon after the end of the evaluation. This much more substantial investigation showed that the remains of the two east-west foundations extended the full width of the site and continued in both directions beyond its limits. When these remains were plotted with the total station, it became

apparent that the southernmost foundation lined up perfectly with the foundation on Area C2 and that both foundations probably shared the same alignment as the foundations on Area C1. And so out of these revelations was born the hypothesis that these were the remains of a Roman circus.

As the first plan of the postulated circus shows (Fig 6.4), there was still a long way to go before its identification could be reasonably certain, and it was important to establish as soon as possible if these remains had indeed been part of a Roman circus. The impact of the discovery on the course of the development needed to be assessed and managed, the considerable public and press interest had to be satisfied, and there was the spectre for us archaeologists of an embarrassing *volte-face* should the supposed circus prove to be something else.

If, as presumed, the buttressed foundation on Area J1 East had been a continuation of the foundation on Area C2, then together they would have represented a wall at least 315m in length. Given that circuses were typically about 400-500m long, then there was a good chance that the foundation would have ended or turned northwards not far west of Area J1 East or not far east of Area C2. A simple and effective strategy seemed obvious: follow the foundation either eastwards or westwards until it changed direction. There was no scope for further work on Area C2, but fortunately Area J1 East offered the opportunity that was needed. Accordingly a narrow trench was dug westwards along the line of the presumed outer wall of the *cavea* in the hope of detecting a change in direction. Although there is no consistency in the alignment of circuses, they mostly had their starting gates to the west even when they had been set out in a direction close to north-south. In fact, there was a significant number of them which either broke this rule (Arles, Caesarea, Bostra, Alexandria, and Thessaloniki) or were north-south or very close to north-south in alignment (Vienne, Antioch, Gerasa, Cyrene, and Bovillae). Nevertheless, these were in the minority and the expectation was that the foundation west of Area J1 East would probably stop abruptly and take a right-angled bend as it swung round to meet the gates. In the event, the hoped for change of direction in the foundation materialised but it proved to be an unexpected gentle curve. The curve was so slight that it was taken to imply that the west end of the presumed circus must have been semicircular in shape and that the gates must therefore have been at the other end (ie the east end).

One problem which was solved about this time was achieved by the replotting of the part of the circus seen in 2000 on the Abbey Field when trenches were dug for floodlighting (*see* above). The discoveries on Area J1 East and C2 suggested that the robbed foundation noted in these trenches ought to have been for part of the foundation for the outer *cavea* wall yet, according to the original site records, these remains were too far south. All the work done on the Garrison sites has been recorded with a total station and the results mapped on to Ordnance Survey tiles. This method is considerably more accurate and reliable than earlier methods. Although the Abbey Field trenches were no longer visible, it was possible to fix the location of the robber trench more accurately by surveying the posts for the floodlights with the total station and then using the original records to plot the position of the robber trench in relation to those. This showed that the robber trench was indeed aligned with the southern foundation on Area J East.

January - August 2005

Following the initial tentative 'discovery' of the circus in November 2004, Dr Tim Dennis of the University of Essex undertook various geophysical surveys (resistivity, magnetometry, and ground-penetrating radar) and a microtopographical investigation. These were most effective south of the disused tennis courts on Circular Road North, where the *cavea* foundations were traced by resistivity over a distance of 67m, and in the garden of the Sergeants' Mess where faint and helpful indications were noted of the west end of the circus in both the resistivity and ground radar surveys. A little later, Tim Dennis noticed that the foundations which he had traced by resistivity south of the disused tennis courts also showed clearly as grassmarks (Fig 6.5) on the aerial photograph of the area on Google Earth.

February 2005

From February 2005 onwards, efforts to confirm that the building was a circus had to be carried out with very limited resources because key areas which needed to be examined were not places scheduled for investigative work as part of the Garrison redevelopment (at least not in the near future).

The first seven trenches were funded by Time Team (although dug by CAT). Two of them (TTT1-TTT2) were located in the garden of the Sergeants' Mess in positions where they could be expected to catch the western end of the circus assuming this to have been semicircular in shape. No traces were found of the building in either trench. As a follow-up, a third trench (TTT3) was dug to the south which was extended eastwards in the hope that eventually part of the western end of the circus would be reached. Nothing came to light and the investigation ended when the full extent of the permissible trenching was reached. A small trench (TTT4) was dug to expose the west end of the presumed *cavea* wall foundation extension of Area J1 East to define the curvature more closely so as to help predict where the foundation would pass in the garden of the Sergeants' Mess. However, it became apparent that the curve was tighter than expected, suggesting that the west end could not have been semi-circular shape, and therefore should instead have incorporated the starting gates.

Three other trenches were dug at this time in an attempt to find and fix the positions of the main elements of the circus, ie the north *cavea* (TTT5), the south *cavea* (TTT7), and the central barrier (TTT6). The trench dug to cross the presumed site of the west end of the north *cavea* (TTT5) was only partly successful in that part of a substantial greensand foundation was found which clearly belonged to the circus. The size of the foundation strongly suggested that it was part of the outer wall of the *cavea*, but it was two to three metres further south than expected, and consequently there was some doubt as to what the remains really represented. It was apparent that if the foundation really was part of the northern foundation of the *cavea*, then the circus must have tapered in width east to west by a few metres. The trench which targeted the south *cavea* produced less equivocal results and revealed remains (albeit somewhat tenuous in nature) of both the inner and outer foundations of the *cavea* in their expected positions. Least successful of all was the trench aimed to catch the south side of the central barrier. Nothing of significance was revealed here, but its position was based on the assumption that the west end of the circus was the semicircular end and that therefore the central barrier would lie close to the centre of the arena. Of course we now know that this was not the case, because the gates were at that end instead and the west end of the barrier was displaced northwards accordingly.

April - September 2005

All in all, these last seven trenches produced mixed results and the existence of the circus was still far from proved. More trenches were needed and fortunately funding for these was sought and obtained from various sources (*see* the acknowledgements below). The first step was to define the west end of the building and obtain some confirmation that the gates had indeed been situated here. To do this, the trench in the garden of the Sergeants' Mess which had been prematurely stopped (TTT3) was extended further eastwards as originally planned in the hope of finding some circus foundations. Fortunately two small patches of mortared greensand were discovered as a result. Despite the limited nature of the exposure, the fact that the stone which they were made of was all greensand as opposed to septaria was at least consistent with the remains being part of the circus. And given their position, the only convincing explanation for them was that they were part of the gates.

The next step was try and find the eastern end of the building. This meant digging some trenches in the grounds of the Army headquarters at Flagstaff House. Circuses vary in length from about 350m up to the giant Circus Maximus at about 650m with the average being about 450m. The southern leg of the precinct wall of St John's Abbey appeared to offer a clue as the length of the Colchester circus. The western half of the wall seemed to coincide with the presumed site of the eastern half of the central barrier. The wall was straight except near the centre where there was a very slight change of direction. It was noticed that if the circus had been of average length, then the far end of the central barrier would have been in the vicinity of where the wall changed direction. Perhaps then this spot corresponded to the east end of the barrier? One other fact lent some support to this idea. The change of direction could have happened because the barrier, at least in part, had been incorporated in the wall. Now as it happens, the abbey was founded by Eudo Dapifer, the Norman baron who built Colchester castle on top of the remains of the Temple of Claudius. Why he should have chosen to do this is unknown, but it was clearly a deliberate act perhaps done for political or propaganda purposes. Perhaps he did the same with the circus, this time incorporating parts of what had been another major structure in his new monastic foundation?

In May to June 2005, three trenches were excavated in search of the east end. One trench (FHT1) was dug in response to Tim Dennis' geophysical work (*see* below) but it proved blank. Another trench

(FHT2) was laid out on the assumption that the end of the barrier corresponded to the change in direction of the abbey wall. This trench was aligned on the point where the end of the barrier was likely to be so that the foundations of the *cavea* (were they to be found) would cross it at right angles. Although there were no *in situ* foundations, part of a wide trench was found which appeared to be the robbed remains of the outer foundation of the *cavea*. This interpretation was supported by the discovery of a Roman inhumation hard up against what would have been the outside of the building and a shallower possible robber trench about the correct distance north-westwards for the foundation of the inner *cavea* wall. A third trench (FHT3) was dug close to FHT2 in the hope of confirming the presence and curvature of the presumed line of the outer wall of the *cavea*. The results were not so clear as in FHT2 but part of trench was found which appeared to be a robber trench for a substantial foundation in the correct position. Although the results were limited, these two trenches were important because they seemed to confirm that the east end of the circus was semicircular in shape and that the building had indeed been a circus. They also enabled the length of the building to be measured.

A fourth trench was dug as part of this phase of work. It was dug hard up against a short stretch of abbey wall which still survives in the grounds of Flagstaff House. This length of wall is the most easterly part of the wall before it made its slight change in direction and therefore in theory at least could stand on the eastern end of the central barrier. All of the south face of the wall is exposed as is a small part of its north face. The mix of building materials making up the wall that shows that it is not Roman but medieval in date although it might possibly have been rebuilt or extensively repaired. The purpose of the trench was to see if the wall had Roman foundations hence providing some evidence to support the possibility that it had incorporated above-ground Roman remains in its earliest days. In the event, the foundation of the wall proved to be wholly medieval in origin with no evidence in the trench of any surviving Roman predecessor. The subsequent work at the west end of the barrier was to show that this absence might be meaningless since the Roman foundations there were shallower than the foundation of the medieval abbey wall.

In September 2005, one of the Time Team trenches (TTT6) was extended northwards to try and find the south side of the central barrier. This time our efforts were rewarded with a small patch of mortared greensand lumps which appeared to fit the bill. Again the remains were very patchy and the trench was very narrow (to minimise costs), but the discovery of what otherwise appeared to be circus foundations in the middle of what ought to have been the arena was a significant and helpful result.

May 2005 - January 2006

Meanwhile more opportunities to explore and map the presumed circus were provided by various drainage works for Taylor-Wimpey. The first of these projects involved the laying of a a storm-water drain in a north-south direction through the centre of the circus. Three trenches were excavated in advance archaeologically where the drain was to cross the presumed sites of the south *cavea* (WBT1), the central barrier (WBT3), and the north *cavea* (WBT4). Remains of the *cavea* foundations were found as expected first in WBT1 (May 2005) and then again later in WBT4 (January 2006). It had also been hoped that the foundation of the perimeter wall of the central barrier would be located in WBT3 (January 2006), but nothing was seen of it perhaps because its foundations had been too slight and shallow to survive. However, in the same trench, the remains of a partly-robbed substantial foundation provided evidence for the existence and position of the barrier since it appeared to be the remains of a substantial monument which had stood in the centre of it.

In August of 2006, the surface of Napier Road was removed along its entire length so that any archaeological remains there could be recorded in advance of the laying of two very large drainage pipes. The remains of the *cavea* foundations proved to be substantial and exceptionally well preserved, that of the outer wall being almost completely unrobbed. Of particular significance was the curving nature of the foundations. This left no doubt that we had indeed found a circus and it provided confirmation that, as suggested by the findings in FHT2 and FHT3 in the grounds of Flagstaff House, its eastern end was semicircular in shape. Taylor Wimpey employed a specialist team to tunnel under the remains in Napier Road so that the new pipes could be installed there without damaging the foundations.

At around the same time as the excavation in Napier Road (September 2006), a trench (WBT2) was dug along the north side of Circular Road North but, despite being cut through much of the arena, nothing of significance was found.

January - April 2007

In January of the next year, the eastern part of Circular Road North was stripped in readiness for a major new pipeline and so that it could be rebuilt to adoptable standards. This was an important step forward in terms of the circus since it enabled the site of the near turning post to be located and investigated. This in turn meant that the length of the central barrier could be established. It also confirmed that its western end had been displaced northwards and that therefore the gates were at the west end of the circus (not that this was in doubt by this stage). The investigation also provided information about various key features: the cones which would have stood on the turning post, water-features of some kind in the barrier, and the state of the arena surface in the immediate area. Rubble had collapsed from the turning post and sealed the surface as it existed at the end of the life of the circus. The arena proved to be in poor state apparently having been heavily eroded by the chariots as they performed their 180 degree turns around the end of the barrier.

While the investigations were progressing in Circular Road North, another research excavation took place in the gardens of the Sergeants' Mess and the former Army Education Centre courtesy of Taylor Wimpey, their new owners. The work was funded from various sources as listed (*see* acknowledgements below). The aim of the work was to fix the exact position of the gates and to recover the plan of two of the stalls so that the complete plan of the gates could be reconstructed on paper. Resources were very limited and much of the work was carried out by volunteers from the Friends of the Colchester Archaeological Trust. The work proved successful and two of the stalls were found as well as the foundation of the north wall of the magistrate's box.

As part of this investigation, the original Time Team trench (TTT5) in the garden of the Education Centre was extended southwards so as to uncover what appeared to be part of the foundation of the outer wall of the north *cavea*. This discovery seemed to confirm that, as originally suspected, the arena tapered east to west in width by about 2.5m.

July - September 2007

In July of this year, the second phase of the evaluation of the site of St John's Abbey was taking place (CAT Report 438). This investigation involved five trenches targeted on the circus. As was the case elsewhere, various constraints such as existing trees and buildings meant that they could not be sited in the best places possible. Three of them were positioned so to investigate the east end of the *cavea*. In the event, service trenches and various pits meant that nothing of the *cavea* foundations was found in two of them (T23 and T29), but a surviving fragment of outer *cavea* wall foundation in the third one (T28) provided further corroboration of the semicircular shape and position of the east end of the circus. The two remaining trenches were focused on the east end of the central barrier. Again service trenches rendered one of them unproductive archaeologically (T26), but the other one (T27) provided an apparent indication of the length of the central barrier, since it seemed to overlie the arena immediately beyond the far turning post. Here, although the evidence was rather problematic in some ways, some rubble from the turning post appeared to overly a heavily eroded arena surface, just as was found next to the near turning post early in the year in Circular Road North. Although nothing was seen of the turning post itself, the presence of the rubble in the trench suggests that the end of it must have been within a metre or so of the west side of the trench. This in turn suggested that the barrier had been about 238-9m long and that the supposed central feature in it, which was revealed in WBT3 early in 2005, was indeed very close to the its centre (maybe to within a metre).

September 2007

With the excavation of the two stalls in the garden of the Sergeants' Mess and the fixing of the exact position of the north *cavea* (as indicated in the garden of the Education Centre), it was possible to attempt to reconstruct a plan of the west end of the circus. Using the dimensions of the two excavated gates, it turned out that there would have been just enough space to fit in twelve gates with a central entrance-cum-magistrate's box about 8m in width. However, there were several problems with this reconstruction. The incoming arms of the *cavea* could not be kept at the same width along their lengths, and the angles of the outer stalls meant these stalls would have been slightly longer than the others. Moreover, the two small exposures of circus foundation in TTT3 could

not be rationalised satisfactorily in terms of the supposed layout of the gates. Basically, the reconstruction appeared to have some credibility, but the resulting plan was not very satisfactory in some of its detail. An alternative solution was that there were fewer than twelve gates since this would allow the incoming arms to be longer thereby solving width problem of the width of the *cavea* where it turned and the severe angle of the outermost gates. To test this possibility, permission was sought to return to the garden and investigate the site of the gates further. This time a trench was laid out over the site of the two northernmost gates as postulated in the twelve-gate reconstruction to find out if they really existed or if indeed the incoming arms of the *cavea* were longer than thought and the circus had only eight or maybe even ten gates instead.

In the event the remains of the foundation of the outer *cavea* wall were unmistakeable in the new trench and it was clear that the circus could only have had eight gates. Three small trenches were then dug in the south side of the garden to confirm this conclusion and collect enough information to allow a much more reliable reconstruction of the gates to be made. Although these trenches were small, they did provide the information needed to make a reliable new plan and they did make clear how those two original exposures of circus foundation in TTT2 fitted into it.

Thus by September, a complete ground plan of the circus had been recovered. This included the entire circuit of the *cavea*, the layout of the gates, and the position and extent of the central barrier. However, in terms simply of the overall plan of the building, some problems remain unsolved. The precise position of the far turning post still remained to be fixed conclusively, and there was still some lingering doubt that the arena really did taper in width east to west. Despite the extra work early in 2007 in the garden of the Education Centre, the limited scope of these investigations left some uncertainty about the nature of the remains uncovered there and how they related to the *cavea*.

The fieldwork by site

Here follows by site an account of the archaeological excavations at the Garrison site which relate to the Colchester circus.

Abbey Field north-west corner (May 2000)

Watching brief during the digging of a trench for an electricity cable on Abbey Field (CAT Report 138).

The outer wall foundation of the south *cavea* was noted in two places in a trench dug for an electricity cable to provide floodlighting for a football pitch on the Abbey Field. The foundation was recognised at the time as being Roman but nothing could be deduced about the building to which it belonged. The watching brief followed an area excavation to the south in March 2000 (Crossan 2001) for an all-weather sports pitch where 78 cremation burials and pyre-related features were found as well as part of a north-south ditched trackway or road.

Abbey Field north-west corner: TTT6-7 (February 2005)

Two of seven research trenches funded by Time Team (Fig 6.1).

TTT6. A 2m long trench was dug to the west of the disused tennis courts on the south side of Circular Road North in the hope of locating the central barrier. No foundations or robber trenches were found.
TTT7. A trench to the south of the disused tennis courts on the south side of Circular Road North was dug to confirm the presence and precise position of the indications of two foundations which were detected during an earlier geophysical survey. The foundations corresponded to the north and south walls of the southern *cavea*. The robber trench for the north foundation (TTF3) was 0.75m wide and 0.16m deep which conforms to the dimensions established elsewhere. It had been robbed out

completely. The southern robber trench (TTF2) was up to 1m, but its depth could not be determined. Although also robbed, part still survived in situ. Both robber trenches contained fragments of mortar and greensand.

Abbey Field north-west corner: TTT6ext (September 2005)

Hand-dug extension of TTT6 in the north-west corner of the Abbey Field. Research investigation undertaken and funded by CAT. (Figs 6.1 and 6.5)

No structural remains were found in the original TTT6. This had been sited to investigate the central barrier, but the trench was set out when it was thought that the gates of the circus were at the east end of the building. Since they were at the other end, the west end of the barrier would have been angled northwards with the result that TTT6 was too far south to reach it.

With the realisation that the gates were at the west end of the circus, it was decided to revisit TTT6 and continue it northwards by a further 6m in the hope of encountering the remains of the barrier. Unfortunately being surrounded by small trees, the area proved to be full of shallow roots which made interpretation difficult. Two small areas were found in the trench where there were concentrations of rubble. The first appeared to be no more than a small patch of rubble which had been badly affected by roots and did not seem to contain any mortar fragments to indicate a possible robber trench. The other (TT2) was more convincing. This contained fragments of mortar and greensand but nothing *in situ*. It was 0.4m wide and 0.1m deep and seemed to be part of an east-west robber trench. However according to our latest fix on the barrier, this presumed robber trench lies about 0.5m too far north of its expected position.

Abbey Field disused tennis court: TC (September 2007)

A single trench. Research investigation undertaken by CAT and funded by the corporate members of the Friends of CAT and CAT (Fig 6.1).

Investigations in Area J1 East and elsewhere suggested that the *cavea* may have been laid out in blocks 250 pM in length (*see* 'The design of the circus'). To test this theory, a trench 7m long was set out east-west along the centre of the south *cavea* 250 pM (73.9m) east of the *vomitorium* or gate found on Area J1 East. (at the junction of Blocks 3 and 4 on Fig 6.25). The trench was located on a disused tennis court on the north side of the Abbey Field. Nothing positive was revealed in the trench which could be interpreted as the remains of either a *vomitorium* or a north-south foundation or robber trench which might mark the end of a block. The base for the tennis court sealed a 400mm thick layer of topsoil which in turn sealed five irregular gullies. These features were ill-defined and relatively shallow, being only up to about 500mm deep. Nothing datable was found in them, and it would seem likely that they were of modern date. However, their north-south alignment suggests that a connection with the circus is possible since this matches the *cavea* and conflicts with surrounding modern boundaries on the Abbey Field including the tennis court itself.

The presumed *vomitorium* in Area J1 East could have instead been a small gate leading on to the arena such as the one in the equivalent position in the Circus Maximus. If true, then these gullies could still mark the end of a 250pM block even although it is not clear what the remains represent. Another place where the end of a block was marked by something other than north-south foundations or robber trenches was investigated during the 2006 excavation in Napier Road. Here a patch of gravel rather than anything structural seemed to corresponded to the theoretical end of a block.

Abbey Field north-west corner: 'Cable trench 2006'/ACT (October 2006)

A watching brief on the Abbey Field for Atkins Defence (CAT Report 393) (Fig 6.5)

The excavation of a trench for an electricity cable was closely monitored since it was to pass across the site of the south *cavea* and clip the west end of the central barrier. Although the trench was shallow (no more than 0.6m deep), parts of the circus were exposed in the bottom of it. The outer wall foundation of the *cavea* proved to be well preserved and unrobbed. The foundation was made of the usual mortared greensand rubble. It was at least 1.45m wide, indicating that this part of the foundation must have incorporated an external buttress. No evidence of the corresponding inner *cavea* foundation was seen. However, this foundation has consistently proved to be relatively shallow in all its earlier exposures, and remains of it are likely to have been removed a few years earlier

during the excavation of a trench for the original cable which the new one was to replace. The most interesting features identified during the investigation were two shallow trenches (F1 and F2) which contained fragments of greensand, mortar and Roman brick and roughly shared the same alignment as the foundation F3 of the outer wall of the *cavea*. F1 was about 0.8m wide and around 0.15m deep. F2 was about 0.65m wide. Its depth was not determined. None of the building materials in F1 and F2 appeared to have been *in situ* so that presumably both features are robber trenches associated with the northern and southern foundations of the central barrier. The position of F2 neatly fits the presumed location of the south wall of the central barrier. F1 is more problematic being about 0.7 m too far south of the expected position of the north wall of the barrier. It may be that the barrier is narrower than the investigation in Circular Road North (CRN 2007) indicated.

It is of note that the foundation F2 does not exactly align with the fragment of foundation recorded in the extension to the trench TTT6 which ought to be part of the foundation for the south wall of the central barrier. Instead it appears to be slightly too far south by about 0.5m. The discrepancy cannot easily be explained unless the wall of the central barrier was about 1m wide which seems rather wider than can be expected or (more likely) the barrier was narrower the turning posts at each end.

Areas C1 and C2 (May 2004)

An evaluation of Areas C1 and C2 for Taylor Woodrow (CAT Report 271) (Fig 6.1)

Part of both wall foundations of the north *cavea* were exposed on C1. The trenches on C2 were south of the remains of the circus.

Area C1 (July 2004)

The excavation of C1 for Taylor Woodrow (Chapter 1 above; CAT Report 361) (Fig 6.1)

Area C1 was dominated by two parallel robber trenches (CF6 and CF7) representing the remains of the north *cavea*. They were aligned east-west and 4.4m apart. The trenches were excavated over a distance of 12m, and both evidently continued in both directions beyond the edges of the site. They showed that the northern foundation had been the wider and deeper of the two and that it had been strengthened externally by buttresses of which two could be identified. The northern robber trench (CF7) was about 0.8m wide and 0.3m deep whereas the equivalent measurements for the southern one (CF6) were approximately 0.6m and 0.07m respectively. Both robber trenches had vertical sides and flat bases. Like the rest of the foundations, both buttresses had been robbed out completely. However they appeared to have been 6m apart and to have projected *c* 0.95m north of the north wall. One of the buttresses was 3.8m wide. The width of the other one could not be determined because only one side of it lay within the excavated area. The robber trenches contained lumps of broken mortar along with fragments of greensand and Roman brick. This material presumably derived from the walls and foundations and must represent debris not thought worth keeping by the stone robbers.

A gravelled area containing fragments of Roman tile lay on the immediate north side of the *cavea* and butted up against the northern wall. Its northern and western limits were not clearly defined but the gravelled area seems to have gradually petered out presumably because it has been destroyed or eroded in the post-Roman period. The gravelled area only survived in the eastern part of C1 and did not extend westwards much beyond the eastern side of the evaluation trench C1T4 or northwards 4.5m north of the north foundation of the *cavea*.

The gravelled area was of two distinct phases: 1) an early phase (CF91) which had become patchy; and 2) a second phase (CF78) laid above the first. Two parallel, east-west, shallow grooves (CF87 and CF93) cut the second phase of metalling. These grooves were 1.4m apart as if they represent wheel ruts caused by Roman carts which had run across the surface. The location of the metalled surface in relation to the northern wall leaves little doubt that the two were contemporary. More of the gravelled area was found in trench WBT4, 10m east of C1.

The gravelled area and the grooves were sealed by a layer of brown sandy loam rich in demolition debris in the form of fragments of crushed lumps of mortar (CL18). This deposit contained a small quantity of pottery sherds indicating a late 2nd- to late 3rd-century date for the group. (See 'Assessment of the ceramic dating evidence relating to the circus' below.)

Two other features on the site are also likely to be associated with the circus. They are a single post-hole (CF96) between the buttresses on the north wall and a second post-hole (CF88) sealed by the robber trench along the inner wall of the *cavea*. The former cut the gravelled area and was sealed

by the destruction debris CL18. Its position is equivalent to some post-holes found in Area C2 along the south side of the *cavea* where they appear to have been holes for scaffolding.

Three small pits of possible Roman date (CF2, CF4, CF95) lay to the north of the *cavea* and thus were outside the circus. Another two (CF19, CF67) lay within the area of the arena. The dating evidence for all five pits is limited so that, given the number of similar definite post-Roman features in the area, it is possible that some or all of these pits are also post-Roman. Similarly, a pit (CF12) and a small pit (CF14) lay between the foundations. There were no datable finds in the smaller pit, and the larger one only contained a single sherd of pottery no more closely datable than simply Roman. It is therefore possible that both features are post-Roman.

Area C2 (July-September 2004)

The excavation of C2 for Taylor Woodrow (Chapter 1 above; CAT Report 361) (Fig 6.1)

The remains of the south *cavea* crossed the northern edge of the Area C2 excavation. The foundation of the outer wall (CF148) was relatively well preserved whereas the inner foundation had been completed robbed out.

The southern foundation (CF148) had been much the more substantial of the two and, although partially robbed out (CF107), most of it survived *in situ*. It was constructed of courses of greensand with some flint and septaria all set in mortar. It was approximately 0.85m wide and 0.5m deep with vertical sides and a flat base. The foundation was traced for a distance of 12.5m. The shape of the foundation showed that the wall it supported had been strengthened by buttresses on its southern (outer) side as has proved to have been customary elsewhere. The foundations of the buttresses and the wall were built as one, and all were of the same depth. The buttresses projected 1.4m to the south of the southern wall, were located 2.4m apart, and measured approximately 1.9m in width. The remains of one of the buttresses survived to just above construction level where its face proved to have been formed of neatly-made greensand ashlar.

Various surfaces survived hard up against the south side of the circus. They consisted of two patches of greensand stone chippings (both numbered CF124), a small patch of a mortared surface (CF155), and a compacted metalled surface of gravel (CF159) sealed by demolition debris (CF142 & CL20). The layers of chippings were up to 0.10m deep and appeared to have been waste material left *in situ* by masons making ashlar to face the circus walls. They are the same type of chippings as those which characterise the fabric of the circus foundations and must have been laid when the walls were faced during the construction phase. The metalled surface CF159 lay at 33.64m AOD and is presumably the equivalent of the metalled surface identified on Area J1 East (*see* below). There was no direct stratigraphical relationship between the stone chippings which must presumably belong to the construction phase of the circus and the gravelled surface which presumably was later.

There were a few other features and finds from C2 which appear to have been associated with the circus. These included four stone-packed (greensand) post-holes (CF150-3) between the buttresses and two square stone footings (CF157-8). The footing CF157 consisted of greensand blocks and a flint nodule capped with white lime mortar, and was 0.8m long, 0.43m wide, and 0.3m deep. The footing CF158, comprising of placed but unmortared greensand blocks and two pieces of tile or brick, was 0.61m long, 0.32m wide and 0.35m deep. The post-holes averaged 0.16m in diameter and 0.36m in depth. The post-holes may have been for scaffolding erected for the construction of the building. However, they all cut the hard surfaces as if they were later and one of them (CF151) contained 487g of cremated human bone from an adult individual (over 20 years old) of indeterminate sex. It was not possible to establish if the bone lay in the post-pipe or the packing material around the post. The likelihood is that the deposit represents a burial. Finds from elsewhere include two pieces of column plaster which lay in a thin layer of demolition material spread over the southern wall. These fragments indicate that the circus incorporated columns or pilasters.

A small Roman ditch (CF258) lay parallel to the foundations and a metre north of the southern one (CF148). It was 0.46m wide and 0.19m deep, and had a terminal end which curved towards the southern foundation. Nothing datable was found in the feature, so its temporal relationship to the *cavea* cannot be determined. Being parallel to the *cavea*, the ditch has the appearance of being related to it, but being on the site of the *cavea*, the ditch seems more likely to pre- or post-date it. One possibility, given its alignment, is that it was contemporary with the 2nd-century ditch found beneath the outer *cavea* wall in Area J1 East.

Area C2 (August 2004)

Additional exploratory trench to the north of Area C2 (Fig 6.1)

A trench 2m wide was cut by machine immediately to the north of the *cavea* wall foundation on C2 to investigate whether or not the wall had a bank on its north side. This was felt to be a possibility because there did not appear to be any sign of floors on the north side of the wall. Instead of floors, there was light brown sandy clay loam and very slight traces of a narrow, robber trench subsequently recognised as the remains of the inner foundation of the *cavea*. The robber trench (CF247) was approximately 0.6m wide and 0.12m deep. It was uncovered over a distance of 2.0m and was 5.0m north of the buttressed foundation on C2.

Area J1 East (June-July 2002)

An evaluation of Area J1 East for RMPA Services and the Ministry of Defence (CAT Report 206) (Fig 6.1).

The inner and outer wall foundations of the south *cavea* were cut through in one place by one of the evaluation trenches which were dug in advance of the residential development of the Colchester Garrison. The evaluation trenches were machine-cut and positioned around the site to provide an initial 1.5% sample of the archaeological remains.

Area J1 East (September 2004)

An evaluation of Area J1 East for Taylor Woodrow to bring the sample size up to 3 per cent (CAT Report 288) (Fig 6.1).

This was a second phase of trenching to complete the evaluation of June-July 2002 to bring the sample size up to 3 per cent. The outer foundation of the *cavea* was again cut in two places but the inner foundation was not seen.

Area J1 East (November 2004 to February 2005)

The excavation of Area J1 East for Taylor Woodrow (CAT Report 361) (Fig 6.1).

The main feature of Area J1 East was the robbed remains of the two parallel foundations which supported the inner and outer walls of the south *cavea* of the circus. The foundations included the remains of a presumed *vomitorium* (entrance into the *cavea*) in the form of two short north-south robber trenches and a gravelled surface between the two. The south wall of the *cavea* incorporated a series of external buttresses set out on a different pattern to either side of the *vomitorium*. (The foundations had been uncovered in two of the evaluation trenches (J1T23 and J1T24) and in the evaluation trench J6 in 2002.

The southern foundation (JEF6) of the *cavea* had been the more substantial of the two. It was approximately 0.9m wide and 0.6m deep, and consisted of unworked lumps of greensand set in mortar. The foundation also included many chips of greensand which presumably were masons' waste left over from the manufacture of ashlar. The remains of the foundation were uncovered over a distance of 93m and continued beyond the east and west limits of the excavation area. Most of the foundation had been completely robbed so that only a total of about 31m (JEF6) survived to any degree, and of these parts, apart from one relatively-well preserved section, they had all had been heavily robbed so that only two or three courses were left in place.

A short section of *in situ* foundation at the extreme western edge of the site (JEF64) appeared to be slightly out of alignment with the rest of the foundation by about 240mm giving the impression that there had been a later phase of building or repair to the west end of the circus. The affected section was where it began to curve inwards towards the *carceres*. However, a second phase may be illusory if, as is quite possible, adjustments had been made as the groundworks progressed to achieve the correct degree of curvature and the foundation ended up slightly wider than was necessary or intended.

Twenty-one buttresses were found along the southern side of the southern foundation. Parts of some of the buttresses survived *in situ*, but most of them had been completely robbed out and were only apparent from the shape of the robber trenches.

The form and patterning of the buttresses was different on either side of the *vomitorium*. The buttresses to the east were longer and slightly more closely spaced than those to the west. The latter were of two shapes and they were laid out such that their eastern edges were evenly spaced but every third buttress was about four times the width of those in between. The base of the foundation of one of the better-preserved buttresses (JEF21) appeared to butt against the base of the foundation of the outer wall as if the buttress was a later addition. However, this relationship was not certain and, as far as could be judged from the rest of the surviving foundations, the buttresses and the south wall appeared to have built as one.

The two buttresses framing the entrance to the *vomitorium* were of the same type as those on its east side thus indicating that the *vomitorium* must have been built at the same time as the section of stand to the east and that the *vomitorium* and this part of the stand were all parts of the same structure.

The northern foundation (JEF13 & JE26) lay parallel to the southern foundation at a distance of approximately 4m. It was uncovered over a distance of 60m. The foundation had been almost completely robbed out so that all that survived was a small section (JEF48) across the front of the *vomitorium* measuring about 2m in length and a few blocks (JEF69) to the west. The existence of the foundation was made apparent during soil stripping by a scatter of greensand and mortar lumps in the base of the topsoil overlying what turned out to be its robber trench. The foundation was approximately 0.70m wide and was constructed of greensand set in mortar. It was not cut as deeply as the foundation of the southern wall, and there were no buttresses along its length. There is some uncertainty about the ground level when the circus was constructed and thus the depth of the foundation of the podium wall. However the evidence indicates that the foundation must have been no more than 100-150mm deep.

Six undated post-holes and post-pads were discovered along both sides of this foundation. They were in two clusters of three (ie post-pits JEF70-2 and post-pads JEF74-6). The clusters were similar to each other in plan and in their relationship to the northern foundation as if they did relate in some way to the podium wall.

The two cross-walls forming the sides of the *vomitorium* would have been 7m long. Their foundations had been completely robbed out. They were approximately 0.8m in width. They created an entranceway approximately 2m wide. The southern foundation was interrupted for the *vomitorium* whereas the podium wall passed across the end of it unbroken. The buttresses at the entrance were of the same kind as those to the east indicating that they had all probably been built at the same time. Some horizontal stratigraphy was evident inside the *vomitorium* where a thin layer of demolition debris (crushed mortar lumps in brown sandy loam) sealed the remains of a thin gravel floor (JEL7) 50 mm thick. A sherd of a BB2 bowl securely stratified in the floor itself showed that the building could not have been knocked down or abandoned and left to decay before the 3rd century.

Another surface, located to the immediate south of the southern wall and probably also associated with this structure, was an area of metalling (JEL14) underneath a layer of demolition debris (JEF35). The surface only survived in a very limited area but it seems likely that it represents all that survived of a trackway or hardstanding along the southern side of this part of the circus. Similar metalled areas were found to the north of the circus in Area C1 and to the south of it in Area C2. The metalled surface was sealed by a layer of brown sandy loam (topsoil) containing demolition debris in the form of lumps of crushed mortar and fragments of greensand (including ashlar) and Roman brick.

Two finds from the debris backfilling the robber trenches consisted of a painted piece of *opus signinum* wall plaster and a fragment of ?limestone with a purple on one surface (Plate 1.23). These finds are unlikely to have been derived from elsewhere given the lack of other structures in this area and therefore they indicate that the circus contained decorative elements.

Area J1 East presented an opportunity to examine the arena. The latter appeared to be featureless. Two sections were cut through the arena specifically to examine the soil profile there and to consider the nature of the arena surface when the building had been in use. Typically the soil profile consisted of 0.2-0.3m of topsoil (JEL1) over 0.25-0.4m of less humic soil (LEL5). The latter sealed natural sand and gravel. There was no evidence of any deliberately introduced surfacing materials. The likely ground level during the life of the circus was 34.1m AOD as indicated by the floor in the *vomitorium* and the gravel surface JEL14 along the south side of the building. If the surface of the arena was at the same level, then the lower part of the soil profile (ie the lowest 10-20mm) is likely to represent what survives of the arena floor. A few fragments of greensand at 34.1m AOD are consistent with this view if, as seems likely, they relate to the demolition of the circus. Thus the surface of the arena is likely to have been no more than the existing topsoil at the time. Conceivably it may have been dressed on occasions with sand, but the topsoil being sandy by nature makes it impossible to tell if this had been the case.

Between the buttresses east of the *vomitorium* were surviving spreads of demolition debris (JEL13 and JEL16) in the form of pale brown sandy clay loam mixed with fragments of crushed mortar and greensand. This material spread southwards at the east end of the site and extended into the south section. The base of this material corresponds well with the likely ground level of the circus as indicated by the floor of the *vomitorium* and the arena surface (both at 34.1m AOD).

A V-shaped ditch extended east-west across the full width of the site in almost the same position as the outer foundation of the *cavea*. The centre-line of the ditch was close to the centre-line of the *cavea* foundation although the correspondence was not exact. The *cavea* foundation was clearly later than the ditch since it cut the ditch backfill. The fill of the ditch was clean, light brown sandy loam (ie topsoil). It varied in depth from 0.45m to 0.76m (as measured from the assumed Roman ground level at 34.1m AOD) and in width from 0.74m to 1.09m. The ditch east of *the vomitorium* was slightly further south than the length left of it by on average about 250mm. Attempts were unsuccessful to determine if the course of the ditch at the west end of the site curved like the *cavea* foundation. Practically no finds, datable or otherwise, were recovered from the ditch apart from a small quantity of pottery which appeared to be early 2nd to early 3rd centuries.

Area J1 East extended westwards: TTT4 (February 2005)

Two of seven research trenches funded by Time Team (Fig 6.1).

TTT4. A trench was excavated by the side of Le Cateau Road to determine the exact location and curve of the west end of the outer foundation of the south *cavea* on Area J1 East. The curve proved to be tighter than expected, indicating that the west end was not semicircular in shape, but instead incorporated the gates. The foundation (TTF4) had largely been robbed out and incorporated one (TTF5) of the long buttresses which characterised the section of *cavea* west of the vomitorium on Area J1 East. The buttress was 3m wide (10 pM) and extended 1.00m (3 pM) from the main wall.

Circular Road East: WBT1 (May 2005)

Small area excavation in Circular Road East for Taylor Woodrow (Fig 6.1).

Taylor Woodrow needed to dig a substantial trench to lay a deep outflow storm drain along the length of Circular Road East. The line of the trench was excavated by CAT in advance of the work where it was to pass across the site of the south *cavea*. Here the foundations of the circus proved to have been almost entirely robbed out. The robber trenches indicated the positions of two parallel east-west Roman foundations (WBF2 and WBF4) and a north-south one (WHF3). The latter incorporated a buttress (WBF5). Both east-west robber trenches were uncovered for a distance of 3m. They must have continued in both directions beyond the limits of the trench. Two sections of foundation (WBF9 and WBF10) survived *in situ*. The larger southern foundation was approximately 1.2m wide and 0.30m deep, and the smaller northern one, located 4.7m to the north of the first foundation, was approximately 0.9m wide and 0.17m deep. The third foundation (as indicated by robber trench WBF3) was aligned north-south so that it was at right-angles to the two other foundations. This foundation had been 8m long. It was approximately 1m wide and 0.20m deep, and it extended 1.4m beyond the southern foundation so as to form the base of a 1.0m-wide buttress on the south side of the circus. Part of the foundation of the buttress survived *in situ*. The configuration of foundations is similar to those forming the *vomitorium* in Area J1 East except that the foundation continued unbroken along the south side of the *cavea* as if there was no entrance in this position.

Circular Road North: WBT2 (September 2005)

A watching brief for Taylor Woodrow (Fig 6.1).

A trench was dug along Circular Road North for a storm-water drain. It was closely monitored where it lay within the site of the arena. The trench was 0.7m deep and 0.8m wide. It reached natural at a depth of 0.63m. Nothing of archaeological significance was revealed.

Circular Road North (January-April 2007)

An excavation along the line of Circular Road North (Fig 6.1; Chapter 3)

The full width of the surface of northern part of Circular Road North was stripped down to natural. This revealed a number of key features, ie the western turning post, various pits inside the barrier including two large ones at the very end of the barrier, an iron collar which had been part of a pressurised Roman water-main evidently feeding the barrier, and part of the arena surface where it had been worn away through use.

Circular Road North: WB 07/11d (November 2007)

A watching brief during the digging of four pits for Taylor Woodrow (CAT Report 446).

Four pits (T1-T4) were excavated by a contractor to expose parts of two existing services. Part of the foundation of the outer wall of the *cavea* was cut by one of the trenches (T1), but the working conditions were too difficult and too little of it was exposed to provide any useful new information about the foundation other than its location.

Education Centre building: TTT5 (February 2005)

One of seven research trenches funded by Time Team (Fig 6.1, 6.6, 6.7).

TTT5. A trench 6.4m long was dug in the garden of the Army Education Centre to establish the exact position of the north *cavea*. It had been hoped that the foundations of the north and south walls of the *cavea* would be found in the trench, but, in the event, just one foundation was discovered and that lay in the middle of the trench rather than at one end. The foundation (TTF7) lay east-west. It was 1.0m wide. Its depth was not established. The remains of a buttress (TTF6) extended out 0.8m from its north side. The foundation and buttress appeared to be of one build, both being constructed of greensand set in mortar. The width of the buttress could not be determined because the buttress continued into the east section of the trench. The uppermost part of the buttress was about 0.15m higher than the top of the east-west foundation because the lowest course of the buttress wall survived *in situ*. Four fragments of faced greensand provided the face of this base course. The bottom of this course corresponded in level to the top of the east-west foundation and also the Roman ground-level when the circus was built.

To the north of the buttress was a pit (TTF8) which contained Roman pot and tile. To the south of the east-west foundation was a layer containing rubble (TTL6), including possible masons' waste.

The width of the east-west foundation and the presence of a buttress on its northern side indicate that this is part of the outer wall of the *cavea*. Being about 2.3m further south than expected, its position suggests that the circus tapered in width east to west by about this amount.

Education Centre building: ECBT1 and ECBT2 (February-March 2007)

Two small exploratory trenches. Research investigation undertaken by CAT and funded by the Essex Heritage Trust, the corporate members of the Friends of CAT and CAT (Figs 6.7, 6.8; Tables 6.1-6.2)

Two more trenches were dug in the garden of the Education Centre Building. One (ECBT1) was to expand the original 'Time Team' trench (TTT5) so as to check that the structural remains found during the original work really took the form of a east-west foundation with a buttress on the north side. It was important to confirm this point because of its implications for the width of the circus. The excavation of this trench also involved the re-excavation of the original trench TTT5 so that the remains found in both trenches could be assessed more easily. The other trench (ECBT2) was dug to the south of the first one in the hope of locating the foundation for the inner wall of the *cavea*.

The excavation of ECBT1 resulted in more of the east-west foundation being uncovered and confirmed that it had been around 1.1m in width. With the re-excavation of TTT5 this showed clearly that the remains were indeed part of the foundation for the north wall of the *cavea*.

Modern intrusions including a service trench (F5) reduced the amount of undisturbed deposits in the second trench (ECBT2) to a point that interpretation became tricky. However, what was clear was that the remains of an east-west foundation crossed the trench in a position which approximately

suited the foundation of the inner wall of the *cavea*. Moreover the width of the foundation (0.4m) was of the correct of magnitude for this foundation.
Possibly significantly though there were some aspects of these foundations which may indicate that this section of the *cavea* was not typical. The foundation of the inner *cavea* wall was made of mortared greensand as opposed to loose greensand chips which it seems to have been elsewhere where this foundation has been seen. Moreover the distance between the two foundations is less than normal. Typically this seems to fall in the range 4.2-4.3m if not more whereas here it was only 3.8m.

A large quantity of lage mammal bones (mainly horse and cattle) were found at the south end of ECBT1. The context of these finds in not clear nor is the date of their deposition. They appear to have been in a post-Roman pit.

Table 6.1 Context list and finds summary (Education Centre Building 2007: ECBT1-ECBT2).

F no	*Find no*	*Relationships*	*Context description*	*Roman pottery*	*Post-Roman pottery*	*Other finds and dates*	*Date of context date*
Trench 1							
F1			Foundation of buttress wall				2nd century
F2			Foundation of outer *cavea* wall				2nd century
F3		Perhaps part of TTTF5?	?Shallow pit				
L1			Topsoil				modern
L2	1		Base of topsoil	approx 75 sherds, grey and buff wares 2nd-3rd			?modern
L3	3		?Pit containing demolition material?			3 small lumps up to 5 cm thick of *opus signinum* (robber debris) 4 oyster shells (discarded) 4 large frags Rom brick Horse femur, humerus, radius, ulna (4) Lrg mammal rib, vertebrae, pelvis (11) Lrg mammal unidentified (3) Cow metacarpal (1)	post-Roman
Trench 2							
F4			Foundation of inner *cavea* wall				2nd century
F5			Drainage gully				modern
L4			Topsoil				modern
L5			Gravel layer				modern
L6			Base of topsoil				?modern
U/S	2						

Table 6.2 Animal bone catalogue (Education Centre building).

F/L No.	Finds No.	Date/ type	Total Qty	Wt (g)	Species	Sp. Qty	Prox F	Dist F	Ages	Bone	Butch-ery	zone	Max length	Bone frag type	Comments	Z1	Z2	Z3	Z4	Z5	Z6	Z7	Z8	Frac angle	Frac outline	Frac texture	Fresh-ness	side
T1 F10	52	Rom?	1	1.7	equus	1				canine					quite small pos not full adult													
T1 F12	54	Rom?	1	7.7	sml/med mammal	1				tibia								1	1					mix	not	rough	not	right
L2	25	modern	1	2.8	medium mammal	1				humerus														mix	not	rough	not	
L2	11	modern	1	10.9	large mammal	1				skull fragment					large thick no defining sutures													
L2	31	modern	1	0.9	sml/med mammal	1				unidentified			2-4	diaphysis										mix	not	rough	not	
L2	12	modern	2	4.7	sml/med mammal	2				scapula									1									
L2	5	modern	1	20.4	equus	1				molar																		
L2	6	modern	1	10.1	bos	1				molar																		
L3	19	modern	1	22.9	bos	1				molar																		
L5	42	Rom	1	5.1	ovis	1				molar																		
L3	39	modern	7	10.7	ovis	1				tibia					pos gnawing			1	1	1								
				46.1	large mammal	3				vertebrae (thoracic)																			
				12.9	large mammal	2				unidentified			4-6	diaphysis	humerus or femur (V. DIRTY!)									mix	not	rough	not	
				1.6	small mammal	1				unidentified			2-4	diaphysis										mix	not	rough	not	
L3	3	?	19	22.7	bos	1		F		metacarpal												1						
				80.3	large mammal	2				vertebrae (cervical)																			
				25.9	large mammal	1				vertebrae (lumbar)																			
				25.9	large mammal	7				rib					body, one with part of head													
				220.8	equus	1		F		femur					over 50% of bone			1	1	1	1	1	1				not	right
				285.8	equus	1		F		humerus					over 50% of bone				1	1	1	1	1				not	right
				3.2	equus	1				ulna							1	1	1								not	left
				65.2	equus	1	F			radius						1	1	1	1								not	left

				22.2	large mammal	1				unidentified				appendicular cancellous	prob humerus frag												not	
				20.6	large mammal	1				unidentified				appendicular cancellous	femur or humerus												not	
				1.2	large mammal	1				unidentified				diaphysis	long bone frag									mix	not	rough	not	
				26	large mammal	1				pelvis					most likely bos pos equus													right
F2 (L2)	3	post-Rom?	1	4.1	sml/med mammal	1				tibia					pos unfused but damaged			1	1									
F3 (L2)	4	post-Rom?	2	15.4	large mammal	1				rib					body													
				20.6	large mammal	1				unidentified			8-10	diaphysis	large long bone frag									obtuse	helical	smooth	fresh	
F4 (L2)	5	post-Rom?	1	1.8	sml/med mammal	1				rib					body													
F5 (L4)	6	top-soil	6	30.4	large mammal	2				rib					both body frags, one chopped													
				3.9	large mammal	2				unidentified			2-4	diaphysis	1 piece broken into 2									mix	not	rough	not	
				16.6	ovis	1	F		a	metacarpal						1	1	1	1									left
				6.4	ovis	1	F	U	j	metacarpal						1	1	1	1	1	1							right
F7 (L4)	8	top-soil	1	13.4	ovis	1				scapula						1	1	1	1									right

Flagstaff House: FHT1-T3 (May-June 2005)

Three hand-dug trenches (FHT1-T3) in the south side of Flagstaff House. Research investigation undertaken by CAT and funded by the corporate members of the Friends of CAT and CAT (Figs 6.9 & 6.11-6.13; Table 6.3; Plate 6.1).

Three trenches (FHT1-T3) were dug by hand in the south side of the grounds of Flagstaff House to determine the position of the east end of the circus (Figs 6.9-6.11). The results of the investigations were as follows:

FHT1. A trench was dug in one of the patches of lawn near the south boundary of Flagstaff House. It cut through only brown sandy loam, the base of which probably corresponded to the surface of the arena..

FHT2. A second trench was excavated through another patch of lawn along the south side of Flagstaff House. The main discoveries were robber trenches for the inner and outer foundations of the *cavea* (F11 & F13 resp). There were no foundations *in situ*. The robber trench for the outer wall was 0.8m wide showing that there had not been a buttress at this part of the circuit. Part of an adult inhumation (F19) was discovered which had been buried outside the circus hard up against outer wall and parallel to it. Only the femurs were exposed, the rest of the skeletal remains continuing into the sides of the trench. The body was aligned north-east to south-west (ie at a tangent to the semicircular end of the building) with the head to the north-east. It had been buried on its back without a coffin (Plate 6.1).

Two small spreads of rubble (F9-F10) were encountered at the base of the topsoil near the northern end of the trench. These were undatable but they may have been late 3rd or 4th century in date and similar to the patches of circus-derived debris found elsewhere on the arena surface. More rubble lay at the south end of the trench. This appeared to be the equivalent of the late 3rd century demolition debris found outside the footprint of the circus on the Napier Road site.

Plate 6.1 Excavation in the grounds of Flagstaff House in May-June 2005. FH2 viewed from south-east showing inhumation F19 and just behind it the robber trench F13 for the foundation of the outer cavea wall.

FHT3. This trench was dug close to FHT2 to confirm the curvature of the outer wall of this part of the circus as revealed in that trench. Only two features were found in the trench, F17/18 and F20. The latter was a small pit of uncertain date. The former contained many fragments of mortar and greensand showing that it was a robber trench. Its western edge was clearly defined and fitted neatly with the projected line of inside edge of the outer wall of the *cavea*. The base of the trench sloped gradually downwards to the east to reach a depth of at least 1.1m. Its full width could not be established since the trench continued beyond the limits of the excavation. However, it was at least 1.65m wide suggesting that this part of the wall included a buttress.

Flagstaff House: FH4 (June 2005)

Small hand-dug excavation at the base of a section of the precinct wall of St John's Abbey. Research investigation undertaken by CAT and funded by the corporate members of the Friends of CAT and CAT (Figs 6.9-6.10 & 6.14-6.15; Table 6.3)

A small pit was hand-dug at the base of the short section of the precinct wall of St John's Abbey which still survives in the grounds of Flagstaff House. The purpose of the trench was to determine if the medieval wall incorporated parts of the central barrier or any features which had originally stood in it.

The trench was dug deep enough so as to reach the natural and enable the foundation of the abbey wall to be exposed to its full depth. The foundation proved to include not only fragments of greensand (as in the circus) but [also] various kinds of other stone as well (unlike the circus). This mixture of building materials showed that, without doubt, the foundation and therefore the wall which stood upon it must have been wholly of medieval origin.

The upstanding section of abbey wall could be divided into two phases largely on the basis of the colour of the mortar and the presence or absence in it of peg-tile or brick. The lowest part of the wall appeared to be original and resembled the large stretch of precinct wall which was studied in 1972 when it was dated to *c* 1095-1133 (*CAR* **1**, 41-3; *CAR* **9**, 219-21). The upper part of the wall was quite different in character and included courses of peg-tile. The absence of brick here suggests that this was part of a refacing or rebuilding of the wall datable to the *c* 13th-15th centuries. No evidence of any Roman work could be found during the investigation.

A small pit cut (F36) into the natural at the base of the foundation. It extended downwards a further 0.4m or so and contained the remains of complete young pig aged between two and four months at death (*see* report and Table 6.4 below). Dating evidence was very slight. Stratigraphically the pit clearly pre-dated the abbey wall and therefore is no later than the 11th century. Apart from a single sherd of broad Roman date, there was nothing from the pit which enables it to be closely dated. However, given its position in relation to the circus, the feature is probably of Roman origin and had been dug so that the pig could be buried inside the central barrier. It is a matter of speculation as to why such an event should have occurred. The animal looks as if it had been buried complete, and there are no indications from the bones of any injuries which it might have sustained or of any post-mortem butchery. Presumably the animal was buried in the central barrier as some kind of a sacrificial or ritual offering.

Table 6.3 Context and finds list (Flagstaff House FHT1-T4).

F no	*L no*	*Finds no*	*Relationships*	*Context description*	*Roman pottery*	*Post-Roman pottery*	*Other finds and dates*	*Date of context*
Trench FHT1								
F1	L1	1		Topsoil layer			mod tile, peg tile , at least 2 frags Rom brick (all disc)	modern
F2	L2	2, 3,4		Subsoil layer	1 Roman sherd, uncertain	2 green glazed sherds 13th/14th plus 2 grey ?med sherds	?peg tile frag mod drain pipe frag (disc) 1 frag peg tile plus one ?Rom (both disc) 1 frag 18th-20th glass vessel 1 sml/med mammal tibia 1 lrg mammal rib 1 sml/med mammal rib 1 lrg mammal unidentified	modern/post-med?
F3	L3			Natural?				-
F4				Service trench				modern
F5				Service trench (gas)				modern
F6				Service trench				modern
Trench FHT2								
F7	L4	5, 6, 8, 9, 10		Modern topsoil			mod brick and peg tile (disc) clay pipe stem 1 sherd 17th/18th + Frags mod brick & peg tile (disc) 1 frag teg, 1 Roman brick, 3 frags greensand (al disc) flower pot frags (disc) 2 lrg mammal rib 2 lrg mammal unidentified 2 sheep metacarpal 1 sheep scapula	modern
F8				Subsoil				-
F9		17, 18, 25		Rubble/stone spread	1 amph sherd , 2 ?Rom grey ware sherds		2 frags Rom brick sq animal bone Fe implement with triangular shaped end	Roman
F10		7		Rubble/stone spread			3 greensand frags (disc)	modern?
F11		16		Shallow robber trench?				?14th-15th centuries
F12				Service trench	4 frags Rom flagon			modern
F13		11		Robber trench of circus foundation	1 flag frags: Rom		5 small frags Rom brick (no measurable dimensions)5 small frags greensand - all discarded 3 bone frags	?14th or15th century
F14		12, 15		Spread of building material?			2 lumps chalk, 2 frags Rom brick (disc) 1 pos red tessera a few mam tooth and bone frags 2 animal bone frags 6 frags Roman brick incl at least one pos teg	Late 3rd century
F15			Same as F16	Natural				-
F16			Same as F15	Natural forming floor of arena?				-
F19		30		Part of an inhumation			one femur	3rd or 4th century
F41	L10			Natural				-
	L5			Base of topsoil				-
	L6			Natural				-

Trench FHT3								
F17		14, 29	Probably same as F18	Robber trench of circus foundation	1 sherd ?Rom	1 sherd 11th-14th 4 sherds pos 11th/12th	1 animal bone 2 frags Rom brick, 1 frag greensand (disc), 1 / unused ?tessera made out of amphora sherd 1 glass vessel frag Rom or later?	Medieval
F18			Probably same as F17 but deeper	Robber trench of circus foundation				Medieval
F20				Animal burrow?				-
F24			Same L7 and L4	Modern topsoil layer				modern
F39	L08			Subsoil				-
F40	L09			Natural				-
	L7			Modern topsoil				modern
	L8	13		Base of topsoil	1 flag frag: Rom 2 ?Rom sherds		1 pos red tessera	-
Trench FHT4								
F25				Abbey wall (refacing of the standing section)				13th-16th centuries?
F26		31		Abbey wall standing section				12th century
F27				Grey brick wall against abbey wall				19th century/modern
F28				Red brick wall				19th century/ modern
F29			Contemporary with F27	Brick wall				modern
F30		20,23		Layer of topsoil			1 lump septaria (discarded) 1 *tegula* fragment and 1 peg-tile fragment (both disc) 1 large fragment peg-tile with mortar adhering (from wall) (disc)	modern?
F31				Foundation of wall F28				19th century/ modern
F32				foundation of F26 (medieval abbey wall)				12th century
F33				Natural				-
F34				Foundation for F28				modern
F35		19, 22	Same as F36?	Pit?	base sherd colour coat: 3rd;4th		2 frags teg, 1 pos 2 frags Roman brick 1 frag Rom brick	3rd or 4th century?
F36		21, 24	Same as F35?	Pit?	1 sherd Rom		small animal skeleton immature pig **ADAM**	3rd or 4th century?
F37				Service trench				modern
F38				Surface layer of tarmac and concrete				modern

Metalwork (Flagstaff House FHT2)
by Nina Crummy

(18) F9. Trench 2. Iron nail of Manning's Type 2 (Manning 1985, 135), with flat triangular head. Length 102 mm. Although far less common than the round or square-headed Type 1, this is the next most frequently found type. It may have been selected for use where it was important that as little metal as possible was visible on the surface of a wooden object or structure.

Pig burial F36
by Adam Wightman

This group of bones (see Table 6.4 below) represents the remains of a juvenile pig which appears to have been buried complete and intact. The animal was aged between 2-6 months when killed. No evidence of butchery is observable. Bone preservation is quite poor probably because the bone is juvenile. Only a small percentage of the entire skeleton was recovered during the excavation, but elements from both sides of the body are present (ie left and right femurs) suggesting that the complete skeleton was present. Bones from across the skeleton include the pelvis and hind legs, shoulders, and axial skeleton (vertebrae, ribs, cranium). The bones labelled 'med mammal' in the table are not assignable with confidence to the sus species, but are nevertheless almost certainly from the same animal. The MNI (minimum number of individuals) is 1.

Table 6.4 Pig burial in F36.

F/L no	Finds no	Date/type	Total Qty	Wt (g)	Species	Sp.Qty	Prox F	Dist F	Age	Bone	Butchery	Comments	Z1	Z2	Z3	Z4	Z5	Z6	Z7	Z8	side
F36 T4	21		47	10.6	sus	1				scapula		juvenile bone	1	1	1	1	1				left
				9.5	sus	1				scapula		juvenile bone	1	1		1	1				right
				0.5	med mammal	1				scapula		small frag, prob sus			1						
				17.8	sus	1	u	u		femur					1	1	1	1			left
				20.8	sus	1	u	u		femur					1	1	1	1			right
				17.2	sus	1	u	u		tibia					1	1	1	1			left
				5.7	sus	1				pelvis		juvenile bone					1	1			left
				5.9	sus	1				pelvis		juvenile bone					1	1			right
				3.2	sus	1				pelvis		juvenile bone	1	1							right
				11.4	sus	1				mandible		D4 in wear, M1 erupting									left
				6.9	sus	3				mandible		D4 in wear, M1 erupting									right
				3.4	med mammal	2				cranium											
				22	med mammal	14				rib		5 with partial heads									
				31.2	med mammal	18				vertebrae (mainly thoracic, some cervical, other small fragments)		those identifiable appear to be sus									

Flagstaff House: FH (September-October 2007)

A single trench. Research investigation undertaken by CAT and funded by the corporate members of the Friends of CAT and CAT (Figs 6.9-6.11 & 6.15).

Scope for investigating the far turning post was very limited because of existing buildings, trees, paths, roads and services. However, it proved possible to squeeze in a small trench in the footpath close to what at that time was considered a possible location for the east end of the barrier.

The trench was 1.9m long but its effective width was limited by a pipe on the north side of the trench and a foundation along the other. All that was found in the trench was a deep pit or ditch (F1). The feature was 1.2m deep. It had a roughly V-shaped profile and gently-sloping sides (Figs 6.11 & 6.15). Nothing was found in the fill of the feature so it remains undated. It resembles the ditch-like features found elsewhere within the barrier footprint during the investigation in Circular Road North.

Flagstaff House: BT23, BT26-BT29 (July-September 2007)

Five trenches dug as part of an evaluation of the Flagstaff House site for Taylor Woodrow (CAT Report 438) (Figs 6.9, 6.10, 6.27).

Three evaluation trenches (BT23, BT28 and BT29) were dug with limited success to determine the width, location and state of preservation of the *cavea* at the east end of the circus. Nothing was seen of the *cavea* in trench BT23. The site of the foundation of the outer wall could not be examined because it coincided with the position of a modern service run, and any remains of the inner wall foundation had been destroyed by a medieval pit (F68). Trench BT29 was just as unhelpful and showed that part of the remains of the east end of the circus has been removed during the excavation of a large 19th- or 20th-century quarry-pit (F25/F63). However, trench BT28 was more productive. The foundation of the outer wall was located in its expected position in the form of a robber trench (F62) and, further east, an area of gravel metalling (F57) appeared to correspond to the metalling found immediately outside the circus in Areas C1 and C2 and patchily in Area J1 East. The foundation was about 1.8 m wide suggesting that it included a buttress at this point in the circuit. Nothing was seen of the inner wall foundation in trench BT28 because of modern services.
In addition to these three trenches, two more were dug to explore the west end of the central barrier. Trench BT26 was sited so as to cross the full width of the central barrier in the hope of locating the barrier wall-foundations and thereby fix the width and position of the central barrier exactly. The other trench, BT27, was sited to help establish how far eastwards the barrier extended. Unfortunately, standing buildings, service runs and other constraints meant that they could not be located in the most effective positions.

The ground in which trench T26 was dug proved to have been extensively disturbed by modern services and nothing could be seen of the barrier foundations. All that was found was part of the foundation of the abbey precinct wall (F77) and an earlier ditch (F78), which it partly overlay. The position of the foundation corresponded to the site of the centre of the central barrier but its composition confirmed what was apparent in FHT4 further to the east that the structure was of medieval rather than Roman date.No finds were found in the ditch F78 so it remains undated although presumably it is Roman in origin. If so, it may have been similar to the ditches or slots (CRNF5 & CRNF14, Fig 3.13) under Circular Road North which had been inside the central barrier.

No sign of any *in situ* foundation of the central barrier was revealed in trench BT27 (Figs 6.9-6.10). However, most of the trench coincided with the site of the circus arena the remains of which proved to be largely undisturbed here. The trench revealed that over a distance of about 17m or so, the surface of the arena had been eroded to a depth of up to at least 1.1m. The eroded area gave the impression that the surface of the arena had been worn away by the chariots as they began to wheel around the turning post. In profile, the worn area had a flat bottom and gently sloping sides. It appeared to extend in a band east to west so as to be approximately parallel with the central barrier. Pieces of greensand and mortar rubble lay at the base of the slope on the north side as if they had tumbled from the central barrier after the circus had been abandoned. The hollowed area contained nothing to suggest it was post-Roman. The similarities with what was found on the site of the near turning post (*see* CRN 2007: Roman circus above) are hard to avoid. Here the surface of the arena had been eroded and the depression subsequently partly filled with greensand and brick which had fallen from the near turning post. The two profiles are slightly different though, the worn area at the near turning post being narrower and closer to the barrier than here at the far turning post and the amount of rubble appears to have been much more.

Although nothing was seen of the turning post itself, there are some contradictory clues as to its exact location. One is the fact that there was no sign of it at the very north end of BT27a. Compared with the near turning post, the area was archaeologically very quiet giving the impression that the near turning-post had not extended this far east. However, the perimeter wall of the central barrier appears to have had slight

foundations and it is conceivable therefore that the absence here of a foundation is merely a reflection of its shallow depth. On the other hand, there is no sign here of any erosion of the arena surface which would have been the case if the far turning post was a mirror image of the near one.

Geophysics: the Sergeants' Mess, the north-west corner of the Abbey Field, and in the vicinity of Flagstaff House (January-August 2005)

Geophysical surveys (resistivity, magnetometry, ground-penetrating radar and microtopology) were undertaken by Dr Tim Dennis of the University of Essex (Fig 6.16). These were most effective south of the disused tennis courts on Circular Road North where the *cavea* walls were clearly traced by resistivity over a distance of 67 m, and in the garden of the Sergeants' Mess where faint indications were noted of the west end of the circus in both resistivity and ground radar.

Napier Road and Flagstaff Road: WBT3 and WBT4 (January 2006)

Two small area excavations for Taylor Woodrow (Fig 6.1)

Two small areas were excavated in advance of the laying of the same storm drain as necessitated the excavation of WBT1 the previous year. One area (WBT3) was positioned where the trench for the drain was to pass through the site of the central barrier. The other (WBT4) was where the trench was to cut through the remains of the north *cavea*.

WBT3. No signs were noted in Area WBT1 of foundations for the central barrier. However, in the centre of the trench, in a position corresponding to the centre of the central barrier were the remains of a Roman foundation. Most of the foundation had been robbed out (WBF16) so that only about a quarter of it (WBF12) survived *in situ.* The robber trench indicated that the foundation had been about 3m long (north-south), 2.6m wide, and 0.48m deep. It was constructed of mortared greensand in exactly the same way as the *cavea* foundations seen elsewhere. A single post-hole (WBF17) against the east side of the foundation may also be associated with the structure because of its proximity to it. There was dating evidence for the robbing of the foundation except that it predated the construction of the road. Presumably it was early medieval as elsewhere.

WBT4. Two similar medieval robber trenches (WBF20 and WBF21) were found within WBT4. These two robber trenches had completely robbed out two east-west orientated Roman foundations (also numbered WBF20 and WBF21). Both robber trenches were uncovered over a distance of 1.5m and both were found to continue in both directions beyond the limits of the trench. They clearly were continuations of the two east-west foundations found earlier in Area C1. The larger northern wall (WBF21) was approximately 0.9m wide and 0.4m deep, and the smaller southern wall (WBF20), located 4.2m to the south of the first one, was approximately 0.6m wide and 0.09m deep. An irregularity (WBF28) in the north side of the northern robber trench (WBF21) measured 0.5 x 0.3m and continued into the west section. It may indicate there had been a buttress between WBT4 and Area C1 but too little of the robber trench could be uncovered to be certain.

Located to the north of the northern wall was a gravelled surface (WBF22) which is a continuation of the metalled area observed in Area C1 just outside the circus.

Napier Road (August-September 2006)

An area excavation for Taylor Woodrow along the length of Napier Road (Figs 6.1 & 6.9) (Chapter 2).

A well-preserved part of the circus was uncovered in Napier Road in advance of trenching for new services. The inner and outer foundations were as observed elsewhere except that the outer foundation survived intact to Roman ground level almost across the whole width of the street. A scatter of loose stones from the inner wall lay on the arena surface (of topsoil) and a layer of demolition debris left over from the deliberate dismantling of the outer wall sealed a patchy gravel surface which had existed around the outside of the circus. The base of the earth bank for the seats appeared to survive between the two foundations although it was not possible to distinguish it from the underlying pre-circus topsoil.

Sergeants' Mess: TTT1-3 (February 2005)

Two of seven research trenches funded by Time Team (Fig 6.1)

TTT1-TTT2. Two trenches were dug in the garden of the Sergeants' Mess in an attempt to locate the west end of the circus. Trench 1 was 5m long, 1m wide, and 0.6m deep. The equivalent measurements for Trench

2 are 3.5m, 1.0m, and 0.42m. All that was found was a north-south ditch (TTF1) which was 0.5m wide, 0.1m deep, and probably natural.
TTT3. A third trench dug in the garden of the Sergeants' Mess after no sign was seen of any gates in TTT1 and TTT2. The new trench was set out east to west so that excavation proceeded in an easterly direction. The trench had to be stopped once it was 1.6m long despite not having been found of the gates.

Sergeants' Mess: TTT3ext (March 2005)

Hand-dug extension of TTT3. Research investigation undertaken and funded by CAT (Figs 6.1 & 6.20).

Trench TTT3, which had been dug and backfilled a few months earlier, was extended in the hope of finding part of the west end of the circus. Two north-south features about 4m apart were consequently revealed in the trench (Fig 1.20). These appeared to be parts of robber trenches, but trees roots and the narrowness of the excavation trench made interpretation difficult and uncertain. The western trench (TTF9) was 0.8m wide and 0.10m deep. Part of a foundation (TTF9) survived *in situ* in the bottom of it. The eastern trench (TTF11) was also 0.8m wide but, at 0.22m, it was clearly deeper although trees roots made its dimensions difficult to determine with certainty. A few large lumps of greensand lay in the bottom of the eastern trench as if they might have been *in situ*. Both trenches contained fragments of mortar and greensand, and there were some septaria fragments in TTF9. A spread of what looked like robbing debris for 2-5m west of TTF11 contained some greensand chips and three sherds of Roman pot.

Sergeants' Mess: SM2007a (February-March 2007)

A small area excavation. Research investigation undertaken by CAT and funded by the Essex Heritage Trust, the corporate members of the Friends of CAT and CAT (Figs 6.6 & 6.17-6.18; Plate 6.2)

An L-shaped area excavated to explore the remains of the starting gates. It was sited in the northern part of the garden of the Sergeants' Mess in the hope of finding two of the starting gates. In the event, the sites of two complete examples were uncovered plus part of a third to the north plus the northern part of the gate to the south which split the range of starting gates into two equal parts and carried the magistrate's box above it. The uppermost archaeological remains proved to be only about 0.3m below ground-level which meant that they had been damaged whenever there was deep digging in the garden.

The aim of the investigation was to uncover enough of the gates to allow the reconstruction of the ground plan of the west end of the circus. Importantly, the work was to be undertaken with as little disturbance to the remains as possible. This meant that the investigations were restricted to uncovering whatever archaeological deposits or features proved to exist within the excavation area with no further investigative work that might cause damage or loss to them. Consequently, this was how the excavation was conducted although, as will be explained below, part of a significant layer was removed at the southern end of the site in the hope of obtaining dating evidence for the demolition of the gates.

The stalls were defined on the ground by three shallow east-west foundations (F5, F7, F8). These show that the stalls were separated from each other by a solid wall rather than pairs of piers as at Mérida, Lepcis Magna and elsewhere. The foundations were shallow and of very poor quality. They were probably built in much the same way as the foundation for the inner wall of the *cavea*. They were made of loose chips of greensand although, in some places, these appeared to have been bound together with small amounts of mortar. The use of greensand chips is a familiar feature of the circus foundations elsewhere having been noted already in various places such as sites C2 and J1E where they were recognised as waste material generated by the dressing of greensand stones to create ashlar to face up the walls of the circus. The occurrence of mortar in the foundations seemed rather haphazard. Perhaps, as with the chippings, the foundation trenches were useful places in which to dispose of unwanted fresh mortar mixes during the construction works.

The southernmost foundation (F8) was the best preserved of the three with some damage at the west end leaving it uncertain how far westwards it had extended. The central foundation (F5) had been damaged at the east end, leaving it difficult to be certain of its full extent. The western end was neatly squared off as if it was still intact although there was a small patch of mortared foundation which seemed to partly underlie it and extend further westwards as if it was the remains of an earlier foundation. The foundation had also been damaged by a service trench extending north-east to south-west. This had cut through the western half of the foundation and removed a small part of it. The northern foundation (F9) was poorly preserved, most of it having been destroyed by cultivation of the garden.

The intended widths of the foundations are hard to determine because of the damage which the foundations have sustained. However, it looks as if the northernmost and central foundations were meant to

have been the same width (ie about 1.1-1.2m) whereas the southernmost one was narrower (about 0.7-0.8m). This difference must reflect the fact that the first two foundations supported free-standing walls whereas the third one carried a wall which stood hard up against another one along its south side.

Three small blocks of greensand at the east end (north side) of foundation F5 appear to be remains of the lowest course of the wall which the foundation supported. These blocks indicate the ground level when the circus was constructed (**33.84m**) and show that the foundations could only have been about 0.25m deep.

The east-west foundation F2 carried the north wall of the central gate. It was quite different to the other foundations and was of better quality since it was to support a much greater load. The foundation was wider (1.0-1.3m) than the others and was made of greensand chips set wholly in solid mortar (unlike the others). It was not possible to determine its depth but it clearly was much deeper than the foundations for the stalls (Fig 6.18, Sx SM07a).

The passage through the central gate proved to have been metalled with a thin layer of gravel perhaps no more than a few centimetres thick. (It was left undisturbed so its depth could not be measured.) This was sealed by a 10cm-thick layer of demolition debris containing fragments of greensand, roof tile, and painted wall plaster. These deposits extended from the south edge of foundation F2 to the southern edge of the site and presumably cover the whole of the passage area through the gate.

Fragments of wall plaster and roof tile have not been found so far in association with the circus (apart possibly from the odd scrap). The plaster and tile here suggest that part of the gate was plastered and painted and included a tile roof. This can only imply (as would be expected) that there was a box for the magistrate and his officials directly about the passage through the gate and that this was a substantial structure.

One other area of metalling was found during the investigation. This was a small patch about 1m across lying in isolation in the extreme north-west corner of the trench, about 8m west of the gates. It is difficult to tell what it represents. It could be the remnants of metalling which surrounded the entire circus (as found in Areas J1E, C2, C1, and Napier Road) or it might be the remains of road leading to the starting gates. Alternatively, it may have been post-Roman although stratigraphically it looked Roman.

Plate 6.2 Excavation in the garden of the Sergeants' Mess in March 2007 showing the remains of two complete stalls and the norhern foundation (to the right) of the central gateway. Viewed from the west.

Almost everywhere over the site the topsoil lay directly on the natural. There were scatters of greensand fragments at the base of the topsoil but there were no other deposits other than the natural. Nor was there any sign of bases that might have supported Hermes. The scatters of rubble must have overlain the surface of the arena in its condition when the circus ceased to be used. The relationships of the rubble spreads to the foundations show that the arena surface had been eroded away by as much as 200-250mm.

The demolition debris provided important dating evidence for the end of the circus in the form of a coin (SF 9) minted in 270 and a sherd of 2nd- to 3rd-century pottery. The coin appeared to be lying on the top of the underlying metalled surface. The latter included part of the base of a 2nd century or later pot, a find which fits the presumed 2nd- to 3rd-century date for the use of the circus. There was also another coin from the site (SF 12). It was unstratified and dates to the [AD] 270s. The dating evidence is discussed more fully below under 'Dating evidence'.

Two finger-rings (one from the demolition debris on the site of the gate) and a fragment of armlet from the site may have derived from disturbed graves. Both finger-rings are adult-sized whereas the bracelet would have fitted a young child. The most obvious interpretation for these items is that they derived from graves. However, no burials have been found within the footprint of the circus and none have yet been discovered close to the west end of it. Moreover, it is difficult to conceive of a mechanism which would have resulted in these items moving from graves to where they were found. This is particularly the case with the ring in the demolition material. Given how few small finds have been found in the garden of the Sergeants' Mess, it may be significant that this group contains two finger-rings and that these were found in the vicinity of the starting gates and magistrate's box. Perhaps they were lost either during the life of the circus or even during the demolition works which followed.

Sergeants' Mess: SMT1-SMT4 (September-October 2007)

Four small area excavations. Research investigation undertaken by CAT and funded by the corporate members of the Friends of CAT and CAT.

A follow-up of SM2007a to determine if the circus had fewer than twelve gates (Figs 6.6, 6.19-6.22; Table 6.5).

With the excavation in the garden of the Sergeants' Mess in March 2007, it was possible to attempt a reconstruction of the west end of the circus. The spacing of the two gates meant that there was just enough room to fit in twelve gates between the west ends of the north and south *caveae* and still leave enough room for the central gate. However, the fit was a tight one and there were other problems. The reconstruction could not properly accommodate the two fragments of circus found in TTT3 in February of 2005, and the west ends of the *caveae* had to taper awkwardly if the northern and southern gates were to be the same length as the other gates. These difficulties indicated that the circus may not have had as many as twelve gates and meant that a return to the garden was desirable to find out if this was the case or not.

A trench measuring approximately 10 x 3m was laid out on the site of the two northernmost gates of the hypothetical twelve-gate scheme. If the circus had had fewer than twelve gates, then the west end of the *cavea* should be found to extend halfway across the trench if there had been ten gates or almost all the way across it if there had been only eight. In the event, the latter turned out to be the case (Fig 6.6).

The curve of the foundation of the outer *cavea* wall (F2) was very clear as a robber trench and there was no evidence or hint of any east-west foundation which might represent a foundation between two adjacent stalls. The curving outer *cavea* foundation terminated with a eastwards return (F14) which would have corresponded to the northern wall of the northernmost stall in an eight-gate scheme. A pipe-trench (F13) cutting diagonally across this robber trench made excavation difficult. However, it was established that this east-west foundation was deep (0.62m) and vertical-sided.

The only other feature of consequence was a small rectangular pit (F12). It was 0.36m deep with a flat base and near-vertical sides. The fill included a few fragments of septaria (unusual), greensand, Roman brick and roof tile. It also included some possible 14th- or 15th-century pottery sherds as if it related to medieval robbing of the remains although, in the absence of mortar fragments, the contents of the pit did not really resemble a typical robber trench.

The outer *cavea* wall was buttressed halfway along the exposed length, the buttress being no more than 1.0m wide according to the width of the robber trench. At the very end of the *cavea*, the robber trench swung westwards as if there had been another buttress there too. However, part of the robber trench for this possible buttress was sectioned (Fig 6.21, Sx SMT1B) and it became apparent that the northern side of the

trench sloped upwards at a 45 degree angle as if it was an overshoot of the robber trench for the east-west foundation which terminated the *cavea* (F13).

With the completion of the work in SMT1, three trenches were subsequently dug in the southern part of the garden to investigate the western end of the south *cavea* and determine if the arrangement of gates and *cavea* mirrored what had just been found to the north. A lack of resources meant that the investigation had to be as minimal as possible and highly targeted. Two trenches (SMT2 and SMT3) were laid out at either end of the presumed site of the foundation which would have separated the first two gates. The third one (SMT4) was designed to catch the west end of the *cavea* where it would have met the first of the gates in an eight-gate arrangement. In each case, the work was limited to little more than removing the topsoil (which was about 0.25-0.4m deep) and cleaning up what was below it.

The foundations lay where expected. The east-west foundation (F15/19) was similar to those uncovered to the north of the central gate. This would have separated the first two stall in the row. The foundation was made of chips of greensand which appeared to have been largely loose although, again, there was the odd piece of mortar as if some of the chips had been mortared. The foundation was also very shallow and unrobbed just like the others.

The foundation in SMT4 (F21) was the remains of the very north-west corner of the south *cavea*. It was so poorly preserved being affected by roots and cultivation that it was had to tell if the foundation had actually been robbed. Just like the equivalent spot in SMT1 in the northern half of the garden, there was a strong suggestion in plan that the *cavea* terminated with an external buttress although, on investigation by section, it seemed to be largely illusory.

As a final stage in the work, SMT2 was extended southwards in attempt to locate the other end of foundation F21 (the east-west termination of the south *cavea*). This provided an opportunity to re-examine the difficult remains originally found in the extension to TTT3 dug in March 2005. A spread of rubble and mortar fragments was found approximately where the foundation would have been but this area had so been so badly affected by roots that it was impossible to make much of it in terms of a meaningful plan.

None of these trenches produced any useful finds. However, the trenches were helpful in that they showed that the southern half of the west end of the circus was a mirror image of the northern half and that the circus had indeed been provided with only eight gates. They also clarified what had been found in the extension of the Time Team trench TTT3.

Table 6.5 Context and finds list (Sergeants' Mess SM2007a & SM2007b (SMT1-SMT4): 2006.34).

F/L no	*Find no*	*Context description*	*Roman pottery*	*Post-Roman pottery*	*Other finds and date*	*Date of context*
First phase (SM2007a: February 2007)						
F1		Gravelled surface or road				Roman?
F2		Foundation of magistrate's box				2nd century?
F3		Drainage gully				Modern
F4		Drainage gully				Modern
F5	2	Starting gate wall foundation			Fe nail. Roman.	2nd century?
F6		Pipe trench				Modern
F7		Starting gate foundation	1 grey ware Rom sherd			2nd century?
F8		Starting gate foundation				2nd century?
F9		Small pit				Modern
L1	3, 4, 49	Topsoil			SF 13. Lead-working waste. Post-med or modern.	Modern
L2	5, 6, 8, 10, 11, 14, 20, 23, 24, 25, 27, 28	Subsoil, full of cinder, clinker & asphalt probably remains of foundation for old tennis court. Thicker on	1, poss 2, sherds Rom 2 sherds Rom?	1 sherd 16th/17th 1 sherd 19th/20th	SF 4. Cu-al fitting. Modern. SF 7. Fe fitting. Late post-med or modern.	Modern

		the eastern side of the site seems to have disturbed some of the stone remains.	2 frags Rom		1 nail, 2 nail frags. 1 nail. 1 nail, 2 nail frags. 10 frags clay pipes, one dated 1660-80. 2 frags clay pipes. 2 frags of clay pipes. 5 frags clay pipe. Frag 19th/20th ?lemonade bottle 1 cow molar 1 horse molar 1 frag 19th bottle 1 humerus frag (sp?) 1 skull frag (sp?) 19th/20th glass bottle sherd	
L3	1, 9, 12, 13, 15, 16, 18, 19, 21, 22, 26, 29, 31, 32, 33, 34 35, 36, 37, 38, 39, 44	Subsoil covering whole site under L2. Same level as the Roman foundations, but, heavily disturbed in places by modern material. (Note ring with intaglio SF1 was from L3 but just outside F5.)	2 sherds Rom 8 sherds 2nd+ 1 sherd Rom 1 sherd Rom (44) 3rd-4th? 1 sherd Rom? 1 sherd 2nd+ 2 sherds 2nd+ 1 sherd Rom 1 rim sherd Rom? (30)	1 sherd 13th/14th 1 sherd 13th/14th 4 sherds 19th/20th	SF 12. Coin Tetricus I AD 270-3. SF 1. Complete cu-al finger ring with intaglio. *c* late 3rd-early 4th centuries. SF 10. Frag cu-al armlet. *c* very end 3rd or 4th century. 1 frag clay pipe. SF 3. Frag cu-al sheeting. Prob Rom or med. SF 2. Cu-al strip. Late post-med or modern. SF 5. Terminal. Victorian. SF 14. Lead nail. Post-med or modern. SF 11. Lead offcut. Modern. SF 15. Three lumps iron. Modern. 1 nail. 1 nail. 1 nail. 1 sherd 13th-14th 7 frags animal (part of young horse?) 1 frag mod glass 1 frag Rom brick 1 cow tooth 1long bone frag med-sm mam) 2 scapula frags (med mam) 1 sheep tibia 3 lrg mam thoracic vertebrae frags 2 lrg mam long bone 1 sml mam long bone flint flake blade	Modern
L4	7, 17, 45, 50	Demolition layer next to F2 (material from collapsed magistrate's box?)			SF 6. Plain cu-al finger ring. 1 frag bone object? (SF?) 7 frags painted wall plaster 5 frags painted wall plaster plus scraps	Late 3rd century?
L5	30, 41, 42, 48, 51	Demolition layer at the east end of F7	1 sherd 2nd/3rd		Fe nail. Roman. 1 sheep tooth	Late 3rd century?
L6	40, 47	Gravel surface (under L4)	Part of base of small pot 2nd+		SF9. Coin Claudius II AD 270 on surface.	2nd-3rd centuries
	43, 46	Unstratified	6 sherds Rom	1 sherd c 20th	1 nail. 1 preh sherd flint gritted	-

Second phase (SM2007b (SMT1-SMT4): September 2007)						
Trench SMT1						
F10	52	Cleaning over robber trench	2 sherds Rom incl 1 sherd white painted ware (late 3rd to 4th)	2 sherds 13th/14th	1 frags Rom brick 1 frag ?peg tile 1 frag thick black glass (mod) 1 horse canine	14th-15th centuries?
F11	53	Buttress foundation	1 sherd Rom			2nd century?
F12	54	Robber trench		1 sherd 13th-15th 1 sherd 13th-14th	1 sml/med mammal tibia 1 frag septaria 1 frag greensand ashlar 6 frags thick Rom brick 3 frags thinner Roman brick or tile 1 frag imbrex	14th-15th centuries?
F13		Pipe trench				Modern
F14		Starting gate foundation				2nd century?
Trench SMT2						
F15		Starting gate foundation				2nd century?
F16		Robber trench or rubble spread?				Uncertain
F17		Modern surface containing mod brick, glass, slate				Modern
L10		?				
F18		Original Time Team trench				Modern
Trenches SMT1 & SMT2						
L7		Topsoil				Modern
L8		Base of topsoil				-
L9		?Natural				-
Trench SMT3						
F20		Pit with bicycle pedal and 1942 bullet casing				Modern
Trench SMT4						
F21		Robber trench				Uncertain
F22		Original Time Team trench				Modern
F23		Outer *cavea* foundation and robber trench				2nd century?
	55	Unstratified	3, pos 4 sherds Rom incl sherd samian	c 3 sherds 13th-15th 1 sherd c 17th 11 sherds 19th/20th	1 poss large yellow tessera 4 frags glass vessels (2or 3), one pos 18th/19th?, another later, 3rd uncertain 2 or 3 frags peg-tile plus one or two Roman tegula frags	-

The coins (SM2007a)
by Nina Crummy

Both coins are late 3rd century *antoniniani*, issued within the 270s AD.

SF 9. (40) L6 or (more likely) L4. Probably from demolition material sealing gravelled road through the magistrate's box. Roman. Copper-alloy radiate *antoninianus*, Claudius II, commemorative issue, reverse eagle. *RIC* 266-7. Diameter 16.5 mm, weight 1.61 g. AD 270.
SF 12. (3). Unstratified but from topsoil L1. Copper-alloy radiate *antoninianus*, Tetricus I,

reverse barbarous, ?Pax Aug. Diameter 17.5 mm, weight 2.18 g. AD 270-3, but the barbarous reverse and a crack on the die used for the obverse, showing as a raised irregular line running from the edge of the flan through the crown and across the ear and jaw to end on the neck, point to this being an irregular issue that may post-date the reign of Tetricus by a few years.

The metalwork (SM2007a)
by Nina Crummy

Three dress accessories, some nails (Table 6.6), and piece of crumpled copper-alloy sheet are the only Roman objects from the site. One of the dress accessories, a finger-ring with an intaglio of Romano-British manufacture, dates to the late 3rd or early 4th century, and another is an armlet fragment of 4th century date. Both were residual in modern subsoil. The third piece, part of a plain finger-ring that cannot be closely dated within the Roman period, came from late Roman demolition L4. Two of the nails are stratified in Roman contexts, several of the others may also be Roman but were residual in modern subsoil.

None of the remaining objects are of any great antiquity.

Fig 6.28, 5 SF 1. (1) L3. Subsoil with patches of clinker and apshalt. Modern. Complete copper-alloy finger-ring with a raised octagonal bezel containing a blue glass intaglio. The bezel has elongated dished oval shoulders. The intaglio is of late Romano-British date and shows a crudely-styled human figure, comparable to similar rudimentary designs from the province, including examples from Colchester and Great Chesterford (*CAR 2*, 49, fig, 50, 1786; Henig 1978, 133, 255, cat. nos 539-43, 552). Diameter 22 mm, maximum width at shoulders 12 mm. The Colchester piece came from the backfill of an early medieval grave (F13) in the grounds of St John's Abbey and may have derived from a late 3rd to early 4th century Roman burial on the same site (*CAR* 9, Figs 5.3, 5.10). A date in the late 3rd century or early 4th century would be appropriate for the Sergeants' Mess finger-ring.
Fig 6.28, 6. SF 6. (7) L4. Demolition layer. Roman. Plain copper-alloy finger-ring fragment of oval section. Diameter 20 mm, thickness 2 mm, height 3 mm.
Fig 6.28, 7. SF 10. (37) L3. Subsoil with patches of clinker and apshalt. Modern. Bent, copper-alloy armlet fragment with a simple tapered terminal. The decoration consists of a worn wave-crest formed by notches on the edges, with ring-and-dot motif within each wave. Present maximum diameter 26 mm, thickness 1.5 mm, height 3 mm. The light bangle form of the armlet dates it to the 4th century, or perhaps the very late 3rd at the earliest. An armlet with similar decoration came from the fill of a Period 2 grave, dated to later than *c* AD 320/40, in the Butt Road cemetery at Colchester (*CAR* **2,** fig. 44, 1704; *CAR* **9**, 159).
SF 3. (13) L3. Subsoil with patches of clinker and apshalt. Modern. Crumpled copper-alloy sheeting. Length 36 mm, maximum width 10 mm. Probably Roman or medieval.
SF 13. (4) L1. Topsoil. Modern. Lead-working waste. Weight 50 g. Post-medieval or modern.
SF 4. (10) L2. Subsoil with patches of clinker and apshalt. Modern. Oval copper-alloy fitting. Length 22 mm. Modern.
SF 7. (23) L2. Subsoil with patches of clinker and apshalt. Modern. Short tongue-shaped iron fitting. Length 36 mm, maximum width 25 mm. Late post-medieval or modern.
SF 2. (9) L3. Subsoil with patches of clinker and apshalt. Modern. Curved copper-alloy strip, triangular in section. Length 42 mm, width 7 mm. Late post-medieval or modern.
SF 8. (18) L3. Subsoil. Modern. Copper-alloy oval-section ring fragment. Diameter 49 mm. Probably late post-medieval or modern.
SF 5. (21) L3. Subsoil with patches of clinker and apshalt. Modern. Curved decorative terminal. Length 34 mm, maximum width 10 mm. Victorian.
SF 14. (29) L3. Subsoil with patches of clinker and apshalt. Modern. Lead roofing nail with twisted shank. Length 36 mm. Post-medieval or modern.
SF 11. (35) L3. Subsoil with patches of clinker and apshalt. Modern. Narrow lead offcut strip. Length 28 mm.
SF 15. (33) L3. Subsoil with patches of clinker and apshalt. Modern. Three amorphous lumps of iron; at least one may be a nail head. Total weight 31 g.

Table 6.6 Iron nails from the Sergeants' Mess Front Garden. Nails are incomplete unless described otherwise.

Find	Feature/Layer	Context description and date	Description and length (mm)
2	F5	starting gate wall foundation; Roman	1 nail; 49
51	L5	demolition; Roman	1 nail; complete, 91
14	L2	subsoil with patches of clinker and apshalt; modern	1 nail; 69 2 shank fragments; 74, 66
24	L2	subsoil with patches of clinker and apshalt; modern	1 nail; 57
25	L2	subsoil with patches of clinker and apshalt; modern	1 nail, complete; 43 2 shank fragments; 55, 41

19	L3	subsoil with patches of clinker and apshalt; modern	1 nail; 58
22	L3	subsoil with patches of clinker and apshalt; modern	1 nail, complete; 77
30	L3	subsoil with patches of clinker and apshalt; modern	1 nail, complete; 76
43	-	unstratified	1 nail; 40

The clay tobacco pipes
by Nina Crummy

The assemblage consists of the plain stem fragments, apart from one bowl fragment that is probably from a Colchester Type 6, dated *c* 1660-80 (*CAR* ***5***, 49).

(14) L2. Subsoil with patches of clinker and apshalt. Modern. One bowl fragment and nine stem fragments. a) Fragment of a small bowl with rouletted rim; probably Colchester Type 6. Height 33 mm, incomplete. b) With small round foot, length 51 mm, bore blocked by iron pan. c) Length 46 mm, bore diameter 3 mm. d) Length 39 mm, bore 3 mm. e) Length 34 mm, bore diameter 2.5 mm. f) With damaged ?oval foot, length 34 mm, bore diameter 2 mm. g) Length 32 mm, bore diameter 3 mm. h) Length 32 mm, bore diameter 2 mm. i) Length 25 mm, bore diameter 2.5 mm. j) Length 28 mm, bore diameter 3 mm.
(25) L2. Subsoil with patches of clinker and apshalt. Modern. Two stem fragments. a) Length 47 mm, bore diameter 3 mm. b) Length 21 mm, bore diameter 3 mm.

(27) L2. Subsoil with patches of clinker and apshalt. Modern. Two stem fragments. a) Length 40 mm, bore diameter 2 mm. b) Length 28 mm, bore diameter 3 mm.
(28) L2. Subsoil with patches of clinker and apshalt. Modern. Five stem bore fragments. a) Length 48 mm, stem bore diameter 3 mm. b) Length 33 mm, stem bore diameter 2 mm. c) Length 30 mm, stem bore diameter 2.5 mm. d) Length 21 mm, stem bore diameter 2 mm. e) Length 19 mm, stem bore diameter 3 mm.
(36) L3. Subsoil with patches of clinker and apshalt. Modern. One stem fragment, length 24 mm, bore diameter 2 mm.

General description of the circus and its parts

The circus (Fig 6.1) at Colchester was *c* 450m long and 71.1-74.2m wide (excluding buttresses). It compares well with circuses known elsewhere, being quite long (at the upper end of the normal range), but narrow. It was located about 400m south of the walled town on effectively the nearest piece of flat land to the town centre. The building is poorly preserved. Almost all that survives of its walls are foundations, and most of these were robbed out probably in the early medieval period. During the excavations, floors and other horizontally-bedded layers, which might have provided stratified material, proved to be rare. The foundations were built almost entirely of greensand from Kent. They were made of rubble set in mortar. A characteristic feature of the foundations was the inclusion in them of many stone chippings, which must have been masons' waste produced as lumps of stone were dressed to make ashlar blocks for the wall faces.

Essentially a Roman circus consisted of four elements: the seating area (*cavea*), the starting gates (*carceres*), the arena, and the central barrier (central barrier or *euripus*) which was located in the arena. Each of these elements in the Colchester circus will be described in turn along with evidence for the gravelled area which surrounded the building. The dating evidence for the Colchester circus will be reviewed as well as aspects of its physical appearance. Evidence for a possible earlier precursor to the stone circus will also be considered as well as the alignment of the building.

The *cavea*

Physical remains

The remains of the circus mainly took the form of two parallel, east-west orientated foundations which were made of lumps and chips of greensand and which had been partly robbed out in the 12th or early 13th centuries. The foundations supported outer and inner walls of the seating area known as the *cavea*. The latter would have consisted of tiers of raised wooden benches surrounding three sides of the arena. The distance between the two foundations forming the *cavea* can be used to estimate the likely capacity of the building (*see* 'Capacity of the circus' below).

The width of the *cavea* varied in width from place to place between 5.8 and 6.1m as measured from the outer edges of the foundations of the inner and outer walls. The foundations of the outer and inner walls of the *cavea* were 0.8-1.1m and 0.6-0.9m in width respectively. The outer wall was strengthened by buttresses along the outside. They were designed to counteract the outward thrust of the weight of the earth bank forming the *cavea* and the spectators seated on it. Part of the lowest course of the outer wall proper survived *in situ* in only one place (the middle buttress on Area C2) where a row of small ashlar blocks formed part of the base of one of its faces. A small section of *in situ* foundation at the far western edge of Area J1 East was slightly out of alignment with the rest of the wall and may represent a later phase of building or a phase of rebuilding/repair. The *cavea* seems to have been built in different sections, each with its own distinctive pattern of buttresses (*see* further below). A passage of some kind existed where one section joined another on Area J1 East. This was either a *vomitorium* or a small entrance on to the arena. If it had been a *vomitorium*, another may have existed on WBT1 unless the north-south robber trench there was part of a *tribunal* (judges' box). One stretch of *cavea* (starting on the east side of WBT1 and continuing at least as far as the east side of C2) appears to have been slightly wider at around 6.6-6.7m. This difference probably indicates different phases in the construction of the *cavea* (*see* further below).

The remains of the passage on Area J1 East consisted of two robbed-out, north-south foundations crossing the width of the *cavea*. The passage itself was 7m long and 1.6m wide. It had a gravelled floor. The remains of another cross-wall was found during the excavation in Circular Road East in the form of a robbed-out, north-south Roman foundation. The latter was approximately 220m east of the *vomitorium* on Area J1 East. The cross wall in Circular Road East may have been one side of a second *vomitorium*. However, if this was the case, then this *vomitorium* must have been different in plan to the first one because the foundation of the outer *cavea* wall passed unbroken in front of it. Another possibility is that the cross wall was part of the *tribunal* if, as is possible, this part of the circus overlooked the finishing line.

Various post-holes were found in places close to the walls of the *cavea* in Areas C1, C2, and J1 East. It is possible that these post-holes relate to scaffolding erected during the construction of the walls.

Reconstruction of the above ground structure

The ground-level in the Roman period was around 0.35m below the level today. Fragments of brick in the demolition debris indicate that the greensand ashlar walls of the building would have had brick bonding courses presumably laid in the style of the town wall where typically four courses of brick alternate with four courses of faced stone (Crummy 2003).

The inner *cavea* foundation was surprisingly shallow - too shallow, it might be thought, to support an inner *cavea* wall of normal height (ie in the case of Lepcis Magna *c* 2.2-2.3 m; Humphrey 1986, 32). If we have fixed the original ground-level correctly, then the foundations for the wall could only have been a mere 150 mm or so deep, so shallow that we need to wonder if they could have supported an inner *cavea* wall of normal height (Fig 6.23).

Assuming seats of about 0.33m in height as at Lepcis (Humphrey 1986, 33), the outer *cavea* wall would be at least 5.0-5.3m high depending on whether or not the base of the inner tier of seats was level with the top of the inner *cavea* wall. Humphrey has it level in some circuses, but the London amphitheatre has it lower - and if the arena floor was on the same level as ground level outside the building.

The *caveae* of continental examples very often incorporate stone substructures. They do not generally include parallel walls as at Colchester unless, as in the grander, more complicated ones, they incorporated a colonnaded gallery. Continental circuses mainly have a single *cavea* wall (the inner one) with a series of short walls radiating outwards from it to form vaulted bays with roofs tapering downwards to support or form the tiers of seats above. The outer ends of the radiating walls usually terminate in pilasters. The absence of a stone substructure under the seats at Colchester circus indicates that its *cavea* was made of earth. This would conform to a practice characteristic of Britain and evident in its amphitheatres (eg Silchester: Fulford 1989) and in at least two of its known theatres (ie Gosbecks: Dunnett 1971 and Verulamium: Wacher 1975,

210-11; Niblett 2001, 12-14, 78, 110-11). This method of construction is not confined to Britain. There are some theatres in Gaul of the same type, and Humphrey indicates more modest circuses incorporate an earth embankment for the seating (eg circuses in Portugal and Spain at Luz and Zafra respectively). (The theatres at Gosbecks and Verulamium also incorporate external buttresses and entrances through their auditoria.) However, the depth of the foundation of the inner *cavea* wall at Colchester does present us a with a problem of interpretation because an earth bank here opens up the possibility that the wall could have rolled over on to the surface of the arena. Perhaps, embedded in the earth bank was a framework of timbers which not only provided support for the tiers of seats, but which crucially tied the two walls together and kept the inner *cavea* wall upright.

In the assessment stage report (CAT Report 361), Robert Masefield provided the following commentary. '*The exterior wall was likely to be c 5m high based on continental examples and the likely spacing and height of the seating tiers. It is not clear whether the buttresses would have been simple vertical arrangements or would have been connected by arches to form a repeating pattern of arcades. The latter is typical of the external appearance of standing continental amphitheatres. The long section of wall foundations exposed within Area J1 East provided the best opportunity to examine patterns of construction and indicated two distinct patterns with the entrance structure the point of change. The buttresses to the east of the entrance all extended further out from the outer wall (c 1.6m) than buttresses to the west (c 1m). If arches linked these elongated buttresses, it is possible that they formed recessed arcades similar to those at the Spanish example at Toledo. It is perhaps unlikely that the arches supported an additional tier of seating or a gallery along the back of the seating in this section, as the arrangement could not have continued into the section to the west of the entrance*.' Another view (PC's) ~~In our opinion,~~is that buttresses along the exterior of the circus, irrespective of variations in length, were there simply to strengthen the wall and stop it toppling outwards. Arches over the tops linking them together are unlikely because they would have affected the centre of gravity of the wall and increased the chances of this happening.

A few finds from the demolition debris of the circus provide meagre clues about the finish and ornamentation of the building and suggest that red and white painted plaster is likely to have been far more evident than carved stone. Plaster fragments from the outer face of the one of the cones at the near turning post (CRN 2007) were painted a bright orangey-red. Their diameter (c 400-50mm) suggests that they derived from near the top of one of the cones. Large fragments of plaster from the same area appear to have been painted a darker red and then repainted white. Their shape suggests that they derived from something like a plaster-lined tank rather than a column or cone. These pieces are very similar in appearance to a large fragment of column plaster from Area C2 (Fig 1.5). The curvature of these pieces suggests that they had come from a column with a diameter of around 400mm which is relatively modest given the size of the building. It is difficult to see where such a column could have existed in this part of the circus. Perhaps the plaster derived from an engaged column which had framed a nearby opening in the *cavea*. The only good evidence for carved stone in the building is the single fragment of ?limestone veneer or moulding found in Area J1 East (Plate 1.23).

There is the question of whether it is appropriate to describe Colchester's circus as 'monumental' as applied for example to Lepcis Magna (Humphrey 1986, 25). If, by monumental, it is meant that the building was constructed wholly or largely in stone, then the Colchester circus can be quite properly described that way although much of the intricately-detailed parts of the building may have been made of painted plaster. 'Monumental' or not, the indications are so far that the Colchester circus was a relatively plain and business-like building which was equipped with all that was needed to host games in the proper manner but in modest surroundings.

Buttress patterns and sections of cavea

At least three, possibly four, different patterns of buttresses are apparent in the outer wall foundation of the *cavea* (Fig 6.24), each of which appears to relate to a different section of the structure. There were two on Area J1 East. The western group was composed of two different types of buttresses, one probably 10 *pedes Monetales* wide and the other 2.5 *pM* wide. (One pM is taken to equal 0.2956m.) Although the pattern was relatively complicated, with one long buttress alternating with two short ones, there was an underlying module of 16 *pM*. The eastern group was simpler. All the buttresses were the same width and length (probably 2.5 x 5 *pM*). They were spaced on the basis of a 15 *pM* module. The dimensions of the buttresses can only be approximately expressed in terms of *pM*. The same is not true of the underlying module, because the recurrent elements of the pattern can be measured and checked over a long enough distance to be confident that this is what the Roman architect or architects intended.

Not enough of the buttressed foundation was uncovered on Area C2 to be certain about the intended pattern, although a 15 *pM* module seems likely. However, the buttresses on Area C2 were certainly wider and closer together than those on Area J1 East, making it clear that they represent a third pattern.

The outer *cavea* wall on Area C1 is problematic. The buttresses are different again to those on Areas J and C2 and thus may well represent a fourth variation. However, the foundation was poorly preserved and it

may be that, were it possible to uncover more of the foundation, the pattern might turn out to be different to how it appears at present.

The variations in the pattern of buttresses are significant because each presumably belongs to a different section in the *cavea*. From these variations, it is possible to speculate that the *cavea* had been constructed as 13 different blocks, each 250 *pedes Monetales* (pM) in length (Fig 6.25). The passage on Area J1 East fits this pattern neatly. The size and shape of the two buttresses at its southern end match those buttresses immediately to the east, indicating that the passage and the block to the east were built as one. The distance between the west side of the passage and WBT1 is 747 *pM* which suggests that, between the two places, there were three sections, each 250 *pM* in length. (Similar subdivisions in the *cavea* can be observed in the circus at Mérida (each 125 pM long) and Toledo (around 135 pM in length), both of which may have been constructed a little earlier than Colchester. (It is believed that the construction of the stone circus at Mérida started *c* AD 20-40 and was completed *c* AD 50-60 (Basarrate 2000, 45). Toledo is dated *c* AD 50-80 (Sánchez-Palencia & Sainz Pascual 2001, 110).)

Such a modular construction of *caveae* reminds us of the two local magnates in Luz who each paid for the construction of 100 foot lengths of their local circus (Humphrey 1986, 380). At Lyon too, the inscription which records a gift of 500 seats by a local worthy might also relate to the building of a discrete section rather than simply the seats themselves as is thought (*ibid*, 398).

A trench was dug at Site TC 2007, 500 pM east of the passage on Area J1 East, to see if foundations for a similar cross passage or cross wall could be found there. No evidence for any foundation was found. This was unexpected. The 250 pM fit is so good that it is hard to accept that it is coincidental. Perhaps the passage in Area J1 East was not a *vomitorium*, but was a small gate instead such as exists in approximately the same position in the Circus Maximus and the Circus of Maxentius, and the *vomitoria* have as yet to be found at Colchester. This could mean that, although the *cavea* has an underlying module of 250pM, parts of it were set out in multiples of more than one unit.

The early ditch predating the cavea foundations

An interesting feature of the circus remains is an early ditch which seems to have been intimately related to the circus in a way which is as yet unclear. On Area JE, it was V-shaped in profile, around 0.85m deep, and 1.55m wide. Its centre line roughly corresponded to the centre of the foundation of the outer *cavea* wall which it was also cut by. Further to the east, on sites C2 2007 and NR 2007, the ditch was flat-bottomed, its width and depth being at least 1.1-1.5m and 0.65m respectively. On NR 2007, the ditch lay along the inner edge of the foundation of the outer *cavea* wall, quite clearly mirroring the start of the curve of the east end of the circus. The ditch does not seem to have existed round the entire circuit because it appears to have been absent in some parts of it, ie on C1, WBT1, WBT4, SM 2007a, and SM 2007 (although there is always a small possibility that it was missed on some of the early sites C1, WBT4 and WBT1) (Fig 6.25). The curved part of the ditch observed on NR 2007 shows that the feature was not simply an earlier boundary ditch demarcating the southern side of the plot of land on which the circus had been built.

The purpose of a ditch in this position is not apparent. The fact that the ditch did not extend around the complete circuit seems to rule out the possibility that it had been part of an early circus predating the stone one, and its profiles, both V-shaped and flat-bottomed, combined with the absence of evidence for post-pipes in its fill, make it hard to see the ditch as a construction trench for a timber wall to support some kind of early timber seating. The best explanation for the feature which can be put forward at present is that the ditch was dug along the back edge of the *cavea* only in those places where the stone sections of *cavea* had not been built during the initial construction phase of the circus. Thus the ditch may simply have demarcated the rear of the stand which, where there was no stone *cavea*, was simply an unbanked strip of land alongside the track for seated or standing spectators. Of course, right from the outset a substantial wall would have been needed along the edge of the arena to protect the spectators, in which case the podium wall may have been constructed around the entire circuit as a starting point in the making of the stone building. This might explain the physical differences between the foundations of the podium wall and the outer *cavea* wall.

The starting gates

A plan of the west end of the circus can now be postulated on the basis of the limited excavations where the complete remains of two of the starting gates plus parts of some of the others have been uncovered, as well as the base of the north side of the western entrance into the arena which split the gates into two equal groups (SM 2007, Fig 6.26). The remains were in the form of a series of parallel foundations made of greensand set in mortar or left as loose chippings. The foundations had been shallow so that their remains were patchy, making reconstruction of the ground plan rather problematic. However, the gates appear to

have been 11 pM wide internally and *c* 19 pM long, each sharing a common wall (as opposed to piers), 3 pM (0.9m) wide, with its neighbour. The locations and size of the stalls can be reconstructed to give eight in all, plus the entrance between starting gates numbers four and five (as numbered from the south side of the circus). We completely uncovered stalls five and six. As a group, the starting gates and the entrance were much narrower than the arena which is why, just as in the circus at Mérida, the ends of the *cavea* curved inwards to meet them.

The foundation belonging to the north side of the entrance lay next to the southern foundation of gate five. If the reconstruction as proposed in Figure 6.26 is correct, then the entrance and the passage through were 21 pM and 15 pM in width respectively. The surface of the passage through was gravelled. It was sealed by a thin layer of destruction debris which appears to be the remains of the magistrate's box which would have been overhead. The debris included fragments of painted wall plaster and roof tile, showing that the box had been well appointed with decorated internal walls and a tiled roof. The greater load which the foundation for the entrance was to carry was reflected in its significantly greater depth.

The circus at Colchester is the first to be excavated where the number of gates has been found to be eight. The representations of starting gates in mosaics, reliefs and lamps generally show fewer than twelve gates, but the numbers depicted are merely a product of artistic licence (Humphrey 1986, 150-51). Nevertheless, although Colchester's circus was of normal length, it was unusually narrow, thus confirming what has previously been suspected (for example Humphrey 1986, 514), namely that narrow circuses may have had fewer than twelve gates. One other circus is known to have had fewer than the customary twelve gates, ie Gerasa (Humphrey 1986, 495-504)

The arena and the racing surface

The arena measures 62.4m wide at the east end, apparantly tapering to 59.5m or so at the west. Being a sandy loam, the existing soil is free-draining and probably would have been adequate as a surface for the track, provided there was not any prolonged periods of heavy rain immediately before or during race days.

The surface of the arena was not flat and its constant use led to the development of troughs and ruts in it especially around the turning posts (as seen in CRN 2007 and BT27). The erosion of the surface was so severe that eventually a great trough seemed to have developed around the entire central barrier (Figs 6.9 & 6.27). The shape of this trough reflects the positions and ultimately the tactics of the charioteers during their races. It practically filled the whole width of the track on either side of the barrier because this was where the charioteers would try to overtake each other. On the other hand, the area of erosion around the turning posts was at its greatest close to the posts showing that the charioteers preferred to hug the posts as closely as possible when performing their 180 degree turns rather than attempt to overtake their competitors. The charioteers must have had some difficulties negotiating some of these deformations, but the races would have been more exciting to watch as a result. The erosion of the arena surface seems to have been so severe that we must wonder if the circus was used for practice as well as racing, since the latter use would have been a relatively infrequent and short-lived occurrences.

In general the surviving surface of the arena was not discernible in section because the soil floor of the arena shades imperceptibly into the soil which now seals its remains. However, the level of the arena surface is made apparent by the spread of rubble which lies scattered along the outer and inner edges of the arena where it has fallen from the podium wall and the perimeter wall of the central barrier. This level corresponds closely to the level of the floor of the passage on Area J1 East and the gravel surface immediately outside the circus on the same site both of which were at 34.1m AOD. The arenas in British amphitheatres were lower than the surrounding area but this does not appear to have been the case with the circus at Colchester apart from where it had been worn away. These same spreads confirm that the arena was simply a dirt track without any protective surfacing although thin spreads of gravel next to the near turning post suggest that there may have been some attempts at localised reinforcement of the surface where it was being subjected to severe erosion during use.

The central barrier, turning posts and central monument

In its most typical form, the central barrier would have consisted of a pair of walls between about 4 to 7 m apart constructed between two turning posts (*metae*). A series of monuments of various kinds would have been erected along its length including lap counters in the form of dolphins or/and eggs and a centrally-placed obelisk. The central barrier in the Colchester circus is as yet poorly understood because its remains are not well preserved and the opportunities for its investigation have been limited. The near turning post (ie the post nearest the starting gates) has been largely excavated (CRN 2007) and the location of the far turning post tentatively fixed to within a metre or so (BT27 and FH) thereby showing its length to have been

very close to 237m. Fortuitously the remains was found in WBT3 of what was the foundation for a monument which had stood in the centre of the barrier. This was in the form of a large foundation 0.48m deep and constructed of greensand stone chips set into mortar. Although largely robbed, it is clear from the robber trench that the foundation had originally measured 3m by 2.6m in area. The original depth of the foundation is difficult to estimate with certainty because the upper part of it had been stripped off presumably when the road was built. But the gravelled surfaces on C1, C2 and Napier Road (*see* below) which existed immediately outside the circus provide some indication of the ground level in the Roman period (about 34.1m AOD) and thus an original depth of the foundation of about 1.05m.

The foundation clearly supported an important monument, and the fixing of the sites of the far and near turning posts showed that this must have stood in the centre of the barrier (or at least within a metre of it). Most circuses seem to have had an obelisk in this position and therefore it seems likely that the circus at Colchester was no different. Obelisks ranged from 15 to 30m or so in height making it difficult to imagine even a small obelisk standing on what appears to have been a relatively shallow foundation at Colchester. However, it is possible that this monument was one of a set of monuments. The Lepcis Magna circus had three placed close to one another. The central one is thought to have been a granite column and the other two the bases of plinths for sculptures (Humphrey 1986, 36-47). Perhaps the foundation at Colchester supported a secondary monument such as a statue base. Such statues included Cybele and her lions, who was frequently associated with circuses as Mother of the Gods and guardian of cities and nations and the wild aspects of nature. The fact that this footing did not link to adjacent footings on the east and west side and that no evidence was found for central barrier walls encasing the monument (to the north and south of it) may imply that the monument was free-standing. Therefore the central barrier was apparently broken into at least two parts, one to either side of the central monument. Such an arrangement is paralleled at the circus at Mérida in Spain, where the obelisk was a stand-alone structure at the centre of the central barrier.

It might be significant that the plinth was located under the modern crossroads of Flagstaff/Circular Road East with Napier Road/Circular Road North. There can be no connection with the roads themselves since they are 19th century in origin. The critical factor is the fact that the alignment and position of the site of the eastern half of the central barrier roughly corresponds to the site of the south part of the precinct wall of St John's Abbey. This leads us to consider if this part of the central barrier had been incorporated in the abbey wall, since the person who founded the abbey (Eudo Dapifer) is known to have incorporated the podium of the Temple of Claudius in the castle which he built (*CAR* **1**, 47-8). However, all this is uncertain since the correspondence in the alignments of barrier and wall is only approximate, and the investigation at FHT4 was unsuccessful in showing any relationship between the two (*see* History of the investigations above).

Gravelled area around the perimeter of the circus

The gravelled area on the north side of the *cavea* on Area C1 had the appearance of a street aligned east-west except it was probably too narrow to have been a proper street. The thin patch of gravel on Area J1 East and the more substantial surfaces abutting the southern side of the *cavea* on Area C2 are all likely to be the equivalent of the gravelled area on Area C1. All three areas probably represent the remains of a metalled working zone which extended around the full circuit of the circus to facilitate the movement of materials during the construction phase of the building. The destruction debris on Areas J1 and C1 directly overlay these surfaces indicating that they must have remained exposed and thus presumably in use for the life of the building. The best preserved area was on Area C1 where the layer of destruction debris which sealed it showed that it survived to its full thickness. Given that this was less than 100 mm, this shows that it was hardly ever repaired or resurfaced and thus probably saw little if any heavy use once the construction phase had passed. The surfaces survived quite well on Area C2, but on Area J1 East they were largely non-existent, only surviving in a few areas as thin patches of gravel. It is hard to say if the surface of the working zone had been of a consistent quality all the way round the circus or if the differences in its condition such as are apparent when all three sites are compared simply reflect different degrees of post-Roman erosion and destruction.

Circus-related finds: overview

by Nina Crummy

Objects from contexts associated both directly and less directly with the circus are scattered throughout this report. For such a large structure they are surprisingly few in number, testament to the damage the building suffered since it went out of use but also a reflection of the need to keep the arena clear of debris that could damage the horses' hooves during a race. Despite the small size of the circus assemblage, an examination of the material by function reveals broad trends in deposition that can be related back to the construction and use of the building, and to its quarrying for building stone in the medieval period (Table 6.7). The functional categories used are those defined in *CAR* 2 and *CAR* 5; those relevant here are Category 1, dress; Category 4, household; Category 5, recreation; Category 7, literacy; Category 8, transport; Category 9, construction; Category 10, tools; Category 11, fittings; Category 15, metal-working; and Category 18, miscellaneous. In Table 6.7 Category 11 has been divided into two parts, a, general fittings, and b, nails. Hobnails and nails are not counted individually, but by find number. This prevents associated groups deriving from a single structure, shoe or pair of shoes from distorting the overall totals. Coins are dealt with elsewhere in this report (*see* Dating evidence immediately below*).* The finds are listed by site as well as function, in order to determine trends in deposition along the length of the building. Only items from circus or circus-related contexts are listed. A very large proportion of the finds come from the robber trenches, so that objects from these contexts that cannot be dated to a specific period, such as fittings, small pieces of metal scrap and metal-working debris, may be medieval rather than Roman.

Table 6.7. Breakdown of the circus small finds assemblage by function. Descriptions of the functional categories are given in the text.

Sites	1	4	5	7	8	9	10	11a	11b nails	15	18
Napier Rd	1	-	-	-	1	1	-	1	5	1	
CRN	4	1	1	-	-	1	-	-	13	1	1
C1/C2	2	1	1	-	-	-	-	1	14	-	3
JE/WB	17	3	1	1	1	4	1	-	51	2	10
SM	3	-	-	-	-	-	-	-	-	-	1
J1 N	-	-		-	1	-	-	-	-	-	-
	27	5	3	1	3	6	1	2	83	5	15

In the majority of Roman site assemblages Categories 1, 9, 11 and 18 are the best represented, and this pattern is maintained here. Any characteristics that might help to define the nature of land-use and occupation are generally to be found among the other categories. It is nevertheless pertinent to look more closely here at the first three of these categories.

In Category 1 hobnails account for all but two of the dress accessories – a high proportion. They include several substantial groups from individual find numbers, particularly one of 70 from a metalled surface on C2, and groups of ten and sixteen from robbing debris JEL2 and JEF5. Such groups would generally be assumed to come from a single discarded sole or pair of soles, in the same way that individual hobnails usually represent random damage and casual loss, but the concentration in the C2 metalled surface is unusual and they were probably deliberately incorporated into the gravel. There are examples of debris from smithies and other workshops being dumped some distance away, in some cases used as make-up for yard surfaces, and such may be the case here (Rees *et al* 2008, 179). On JE there was a concentrated scatter of hobnails between buttresses JEF24 to JEF30, which may also point to a dump of material in this area. A major source of hobnails around the circus would have been casual loss from the footwear of the circus crowds, and, viewed in the perspective of the periodic but very intensive footfall into and around the building over some two centuries, the number recovered can be seen as surprisingly low. It is also pertinent to note the small quantity of human bone in JEF5 and JEL2, which suggests that the construction of the circus may have disturbed earlier burials or pyre-sites, feature-types that were a source of residual bone and hobnails on area JN, although the absence of any surviving burials militates against this. Of course, a combination of all these explanations may lie behind the deposits.

Table 6.7 allows some further conclusions to be drawn pertinent to the management of the circus and to the recovery of so many hobnails. First, there are real paucities of other dress accessories and of household debris (Category 4). The latter is represented only by five small abraded fragments of lava quernstones which may have been recycled as building material or as hard core, a Roman practice that occurs elsewhere (Crummy 2006c, 24). The other dress accessories consist of a bone hairpin (C2), three finger-rings (CRN/SM) and an armlet fragment (SM). Some of these items date to the 4th century and some at the earliest to the late 3rd century; even those that cannot be closely dated need not be earlier than the 4th century. All may well post-date the use of the circus, if the proposed date of its abandonment is correct. In addition, two of the objects from the Sergeants' Mess were residual in modern subsoil and have no real stratigraphic connection to the circus. Second, there are no toilet instruments, no textile equipment, no weighing or measuring instruments, no agricultural tools, no military equipment and no figurines or other religious items (Categories 2-3, 6, 12-14). There is only one tool, a chisel that is almost certainly medieval and was lost or discarded during the robbing of the walls (Category 10). The low number or even absence of rubbish pits and make-up, dump, occupation and midden layers on the excavated sites no doubt largely accounts for much of this lack of material, matched by the poor preservation of some of the ground surfaces. The area was in effect very clean, and it may be that programmes of litter clearance outside the circus after performances may have matched the careful maintenance of the arena surface.

Against this background the JE hobnails may represent the 'working' zone of the circus, with the horses corralled or stabled close to the starting-gates and with areas for faction staff nearby. As a non-public zone it may thus have been less rigorously cleaned, but it would also not have generated losses of jewellery and similar personal items. It may be no coincidence that a fragment of iron-working slag and part of a smith's blank, a billet of bloomery iron used by blacksmiths who did not smelt their own metal, came from robber trench JEF5 (Category 15). Blanks were an essential stage in the iron-working process, and would no doubt have been part of the stock of equipment carried around by each faction's smith so that maintenance and repairs could be carried out on the spot as required. Iron-working slag was also found at Napier Road and Circular Road North. The fragment from Napier Road is tiny and of little significance, but the Circular Road North piece weighs 3.2 kg and is unusually large. It may also represent the technological aspect of circus performances, but as it derives from robbing debris CRNL12 there is some chance that it may be medieval.

Categories 9, construction, and 11a-b, fittings, essentially cover items associated with the circus building, and any associated buildings. The number of nails (Category 11b) is thus not particularly high, given how many must have been used in the construction of the wooden seating and barriers, and that during each games temporary booths for food-sellers and other vendors would have been set up in the area, and that temporary shelters for faction staff were probably also erected. The large Type 2 nail from C2 would have been used on a substantial timber structure and there is little reason to doubt that it came from the circus itself. The only other iron fitting is a split-spike loop from Napier Road, which could have been used in a variety of ways, including as part of a door or gate hinge. The fitting shown in Table 6.7from C1/C2 is a decorative copper-alloy stud that could also have been used in a variety of ways, such as on structural woodwork in the circus, or on a vehicle, or on a portable item such as a chest. The objects from Category 9 are few in number. They consist of a piece of limestone veneer from JE, a junction collar from a wooden water-pipe on Circular Road North, a fragment of sheet lead from post-Roman rubble spread at Napier Road and three fragments of lead-working debris from JE. The veneer comes from a robber trench for the outer wall of the circus and hints at how striking the building's appearance would have been in its original state. The pipe collar and lead fragments can all be associated with the essential water-supply to the building, and to them can be added a lead drain-cock from a pit on the funerary area of C2, which is not shown in Table 6.7. On performance days many gallons of water would have been needed outside the circus for both horses and faction staff, and it was probably stored in lead tanks or wooden barrels. Water would also have been needed for any basins and water features in the central barrier. That so little remains of the leadwork necessary for the water supply can be attributed to royal control of the metal in the medieval period, and the ease with which Roman lead could be recycled (Brooks *et al* 2004, 136-8).

Objects from Categories 5 (Recreation) and 7 (Literacy) in Table 6.7 hint at the secondary activities associated with the circus. Those in Category 5 are all counters, one of glass (C2) and two of pottery (CRN/WB). All three were probably used by spectators for playing board games between races, with the grids for playing probably scratched into the surface of the wooden seating. Such an interpretation of the counters from the Colchester circus is suggested by grids found scratched into the stone seats of the stadium at Aphrodisias (Schädler 2007, 172). An alternative possibility is one or more of the counters was used for reckoning, which might relate them to the Category 7 find, a stylus from JE. This may have been used to record wins, losses or even deaths by a clerk or overseer of one of the racing factions, or by gamblers taking or placing bets on the races.

That only three items are shown in Table 6.7 under Category 8, Transport, might be considered unusual for a circus site, but at least three factors allow this figure to be seen as high rather than low. First, harness fittings are comparatively rare as site finds in Colchester, making the recovery of these three a striking feature of the circus assemblage. Second, the need already noted above to keep the arena clear of damaging debris, and third, the necessity of keeping the chariot and harness as light as possible to reduce

the weight that the horses would need to pull. The vehicles were as far as possible constructed of wood, hide and possibly basketwork. Estimates place the weight of racing chariots at about 25-30 kg, so that, when the weight of the charioteer was added in, each of four horses might only be pulling the equivalent of 20-25 kg (Köhne & Ewigleben 2000, 92). Metal fittings were deliberately limited and therefore suffered limited loss. It is thus striking that all three objects in the Category 8 are light and decorative harness fittings rather than heavy iron vehicle fittings such as nave rings and hubs, pole-bindings, or linch pins. In effect the assemblage emphasises the lightness of the vehicles and the harness. Two of the three fittings come from Napier Road and JE, the third was residual in a grave on area J1 North. All have close parallels on military sites, but this does not mean that they were necessarily military fittings. The same fittings were used on military and civilian horse harness, and it is usually the archaeological context that decides the interpretation; the fittings used on the harness of racing horses add a third dimension.

Although no items associated solely with religion have been recovered from the circus, religious thought and superstitions permeated daily life across the Empire and are evident on artefacts that have a wide variety of functions but incorporate apotropaic images used to guard the user from misfortune and evil. For example, protective symbols such as the lunula, the phallus and the *mano fica* appear in a wide range of contexts, as amulets for the young, on jewellery for adults, as decoration on military equipment, on the heads of linch pins, and on both cavalry and civilian horse harness. Noise was also considered to be effective in warding off evil, and the jangles and bells used on horse harness, often combined with a lunula, phallus, *mano fica* or some combination of these images, would have been regarded as particularly effective (Crummy 2010, 51-4, giving further references; Nicolay 2007, 226-36). All three harness pendants from the circus fall into the noise-making group of protective devices, and that from Napier Road is doubly protective as it is in the form of the apotropaic lunula. The pervasive use of the lunula on objects associated with both males and females, children and adults, soldiers and civilians means that there is no reason to infer from the Napier Road pendant that a cult of a sky deity was established in or near the circus, only that the harness-makers, faction owners and charioteers tapped into the wider imagery of protection used by the population as a whole.

In the same way that only generic religious ideas are represented on the circus site itself, the same is true for the grave goods from the burials in the area, all of which represent generic funerary practice and not one of which provides an unequivocal link to the circus. It is, however, worth highlighting here two items from the Garrison burials which superficially appear to have such a link, in order to set them in their wider religious and iconographic context. First, a miniature candelabrum from the amphora burial of a child on J1 South, is tantalisingly suggestive of a connection to the circus as its stand has feet in the form of horse hooves. The horse was the companion of at least two deities with chthonic aspects, the Celtic rider god and the horse goddess Epona, and the stand's design was undoubtedly driven by religious rather than racing considerations. A similar stand from Friedburg in Germany had no association with a circus but may also have been a grave deposit. Deaths would certainly have occurred within the Colchester arena and the dead would probably have been buried in the nearby cemetery areas, but, if there was a link between the child buried on J1 South and the Colchester circus, it cannot be assumed from the candelabrum. Second, CF213, a probable adult cremation dated to later than *c.* AD 140, contained an almost blank Augustan *as* that may have been used as a solar wheel symbol in the same way as were simple metal rings, disc brooches and wheel-models, a practice evident at temples and shrines in Gaul and Britain and seen in Colchester in association with Temple 10 outside the Balkerne Gate (Bayley & Woodward 1993; Pommeret 2001, figs 7-8; Feugère 2002; Crummy 2006b, 64-5). Sky-gods were an important element in Romano-British religion, often appearing as conflations of classical and indigenous deities such as Sulis Minerva at Bath or the Celtic rider god who is linked to both Mars and Jupiter. (Cunliffe 1988; Thevenot 1968, 47-50; Ferris 1985; Johns 1990; 1996; Green 1997a, 39-71). Images of the rider god appear in late Roman infant burials, where they were used as representations of the god as a male chthonic guardian just as lunulae and other images of Artemis-Diana/Selene/Luna, sometimes in the same graves, represented female chthonic guardians, a practice evident at Butt Road and in Garrison burial CF166, all post-dating the circus (Crummy 2010, 51, 60, 63-4, 77-9). If the coin in CF213 had indeed been placed in the burial as a solar symbol, which is far from certain, then it surely references this very widespread belief in a beneficent solar deity. Moreover, the absence from the Garrison burials of a stratigraphically close group of graves containing distinctive funerary goods provides a strong indication that if there were a burial club for charioteers at Colchester then its plot did not lie within the excavated area.

Dating evidence (Tables 6.8-6.11)

Dating evidence for the circus is still limited and imprecise. As far as can be judged, construction of the building probably did not start before *c* AD 125 if not up to a few decades later, and may have continued over a period of years as implied by the variations in the design of the buttresses. The date is especially problematic and relies largely on the use of greensand which, in Colchester, seems to have been a later introduction, presumably linked to a decline in the availability of septaria sometime after the construction of the town wall *c* AD 65-80 (Crummy 2003, 50-2). A base sherd of a BB2 bowl datable to *c* AD 110/120-300 was securely stratified in the gravel floor of the *vomitorium* on Area J1 East. The gravel floor could of course have been replaced during the life of the circus. However, if primary, then it would provide further evidence of a 2nd-century date for the construction of the circus. A single sherd from the gravelled surface on Area J1 East outside the circus is of the early 2nd to mid/late 3rd centuries (Table 6.8) provides some further support for the a 2nd-century date for the construction of the circus. So too does the east-west ditch on Area J1 East and Napuer Road (JEF23/NPF43) which predates the foundations of the outer wall of the *cavea.* Pottery from its fill provides a *terminus ante quem* for the construction of the circus of *c* 125 or later (Table 6.9). Other useful pieces of diagnostic stratified finds are almost absent because there are no deposits other than the stone foundations themselves which can be regarded as definitely primary. However, although the number of Roman finds from the circus site is very low, it is still probably significant that 1st-century material is absent from the site generally.

Dating the end of the circus is difficult too. Its ultimate fate is indicated by two separate and distinct types of deposits. The layer of demolition debris which lies immediately outside most parts of the circus show that the outer wall had been systematically taken down and the materials salvaged for reuse elsewhere. The scatters of rubble (nearly all lumps of greensand) on the arena surface show that the podium wall and the central barrier were not subjected to the same treatment but were left alone to decay and gradually disintegrate over time, presumably because they did not offer such fruitful sources of reusable building materials. There is some help from stratified pottery with the date of these events, but it is limited. The demolition debris from the dismantling of the outer *cavea* wall (Table 6.10) contains a small quantity of late 3rd- to 4th-century pottery and, although this cannot be dated closely, the absence of specifically 4th-century material suggests a late 3rd/early 4th century date (see following discussion of the pottery evidence). Fortunately the coins are more helpful. A total of 11 of them have been found so far from the footprint of the circus. The dates are as follows: 117-38, 139-41, 253-68, 260-8 (x2), 270, 270-3 (2), 270-90, 320-80, 364-74. One was stratified in demolition debris at the west end of the circus (AD 270-3: CRN 2007, F5; AD 270: SM 2007, L6). The rest were either unstratified or were from post-Roman contexts. Although the number is small, the predominance in the group of late 3rd-century coins coupled with the near absence of later ones suggests that there had not been much activity in the vicinity of the circus after *c* AD 275/300. More significant still is the number of barbarous radiates (*c* 270-90) in comparison to the number of Gallic ones (265-75). In town-centre sites, these are usually found in roughly equal numbers, eg at Lion Walk, Balkerne Lane, Middleborough, and Culver Street (Davies 1992, 290-94, 308; Crummy 1987, 6-9), but here there are six Gallic radiates to only one barbarous one, suggesting that the demolition of the circus started around the mid to late 270s. A similar pattern was noted at Balkerne Lane in dumped soil associated with the widening of the town ditch. Here a small group of coins dating from the mid 1st century terminated with four Gallic radiates. It was suggested at the time that the absence of barbarous radiates pointed to the widening of the ditch in the 270s, a date which turns out to be the same as the likely end of the circus (*CAR* **3**, 140-41).

Thus it would seem that the circus belonged exclusively to the 2nd and 3rd centuries and perhaps lasted for no more than about 150 years. But caution is needed because there is little if any evidence for activities or burials of 1st or 4th/early 5th century date within its footprint. These absences could be taken to suggest that the stone circus not only survived into the 4th century and perhaps a little beyond, but that we should look for a 1st-century predecessor either in timber or as simply an open space used for racing. The absence of late burials is particularly striking especially considering how close late burials have been found to the east end of the building. Nevertheless, the cohesion in terms of date of the admittedly small group of coins from the circus appears to provide a more positive indication of its terminal date than does the simple absence of later Roman features from its footprint. The existence of an earlier timber circus is more difficult to discount especially in the light of the ditch which preceded the south *cavea.* However, the landscape in the 1st century was open, and areas of woodland or pasture in this part of town must have been quite likely.

As regards the fate of the remains of the circus in the post-Roman period, the robber trenches in Area J1 East for the foundation of the outer wall of the *cavea* contained a substantial amount of pottery showing that they had been robbed in the medieval period (Table 6.11). Determination of a more precise date (or even dates) for the robbing presents problems. However, the bulk of the material from the trenches dates to around the 12th century and points to a date for the robbing probably late in the 12th century. Sherds from the middle or lower fills are all consistently of this period but there is some later material from the upper fills.

Circumstances surrounding the excavation of the upper parts of the robber trenches were such that later features could not be confidently identified. This probably explains why there appears to be some intrusive sherds from what was recorded as the upper fills of the robber trenches.

Table 6.8 Summary of the dating evidence from the gravelled surface around the perimeter of the circus

context	find no	Fabric *CAR* **10**	form	sherd quantity	weight (g)	comments	context type	date
Area C1								
CF78	175	GX	--	1	2	--	gravelled surface	Roman
Area C2								
CF124	268	GX	Cam 268 jar	1	5	--	surface of stone chips	early/mid 2nd-late 3rd/early 4th century
CF124	434	GX	--	2	43	--	surface of stone chips	Roman
CL22	43	GX	--	SQ (10)	24	body sherds from two or more pots	Roman occupation below CF124	Roman
Area J1 East								
JEL7	378	GB	--	1	13	--	gravelled surface	early-mid 2nd to mid-late 3rd century

Table 6.9 Summary of the dating evidence from the ditch on the line of the outer wall of the cavea (JEF23/NPF43).

Context	Find no	Fabric *CAR* 10	Form	Sherd quantity	Weight (g)	Context type	Date
Area J1E JEF23	180	DJ	Cam 156	9	40	uppermost backfill of ditch	Hadrianic-early 3rd century
Area J1E JEF23	181	GX	--	14	13	uppermost backfill of ditch	Roman
Area J1E JEF23	380	DJ GX	--	17	30	fill of ditch	Roman ?1st-2nd century/3rd century
Area J1E JEF23	387	GX	--	10	62	lower fill of ditch	Roman
Napier Road NPF43	38	BA(SG)		1	2	middle fill of ditch	mid-late 1st century
Napier Road NPF43 Sx 3	41	BA(EG)	Dr 18/31 or 31	1	28	middle fill of ditch	early-mid 2nd to ?mid 3rd century

Table 6.10 Summary of the dating evidence from the debris associated with the demolition of the outer wall of the cavea.

context	find no	fill location	Fabric *CAR* 10	form	sherd quantity	weight (g)	context type	comments	date
Area C1									
CL18	146	lower fill	CZ? GX	Cam 407?	SQ (14)	55	Roman demolition debris	--	early-mid 2nd century+, possibly early-mid 3rd to mid-late 3rd century
CL18	148	lower fill	AA GB GX	Cam 37	SQ (16)	139	--	--	early 2nd to mid-late 3rd century
CL18	151	--	BA(CG) GB GX	Dr 27 Cam 37	5	43	--	--	early-mid 2nd to mid-late 3rd century
CL18	156	--	BA(EG)	Dr 31	1	7	--	--	mid-late 2nd to early 3rd century
CL18	156	--	GX?	--	1	9	--	--	?Roman
CL18	157	lower fill	DJ GX KX	--	SQ (9)	27	--	--	early 2nd to mid-late 3rd century
CL18	160	--	AA AJ CZ DJ GX KX TZ	Cam 37	SQ (17)	619	--	Fabric TZ- wall-sided mortarium form is similar to Cam 501	mid 2nd to mid to late 3rd century
CL18	166	upper fill	GX TZ		SQ (8)	101	--	--	Roman
CL18	167	lower fill	GA GX	Cam 279?	2	7	--	--	early 2nd century-4th century
Area C2									

context	find no	fill location	Fabric *CAR* 10	form	sherd quantity	weight (g)	context type	comments	date
CL20	267	--	AJ BA(CG) CZ EA EZ GX	Dr 31 Cam 268	SQ (29)	329	Roman demolition debris	--	early-mid 3rd to 4th century
CL20	276	--	EA GX	Cam 268	SQ (11)	41	Roman demolition debris	--	early-mid 3rd to 4th century
CL21	299	--	AA AJ BA(CG) BA(EG) AJ CZ DJ EA GB GX TE TZ	Dr 31 Cam 155 Cam 268 Cam 391 Cam 405/406 Cam 497	Q (197)	2014	Roman occupation stratified between CL20 and CF142	--	mid 3rd-mid/late 4th century
CL21	397	--	BA(CG) EZ(LRW) GA GX	Dr 31 Cam 279?	Q (22)	78	Roman occupation stratified between CL20 and CF142	--	mid 2nd-4th century
CL21	299	--	--	glass flask or jug	1	--	Roman occupation stratified between CL20 and CF142	blue/green, cylindrical neck fragment	*c* 1st-3rd century, probably residual
CL21	299	--	--	glass cup or beaker	1	--	Roman occupation stratified between CL20 and CF142	light greenish, bubbly, out-turned rim	mid 4th-early 5th century
CF142	396	--	GX	--	1	41	Roman demolition debris	--	Roman
Area J1 East									
JEL4	118	--	--	--	1	12	Roman demolition debris	Curious piece. Roman grey fairly fine fabric with darker grey ?grog inclusions, but with medieval type applied cordons, merging on this sherd. Fabric happier as Roman.	Roman (medieval Fabric 20 prob *c* 13-14C) (presumably intrusive from the medieval robbing of the *cavea* foundations)

Table 6.11 Summary of the dating evidence from the robber trenches of the outer foundation of the cavea (including spreads of robbing debris along the southern edge of the robber trenches).

Finds No	Context	Comments	Qt	Wt (g)	Date Range
Area J1 East					
11	Robber trench JEF5 fill	Early medieval sandy ware (13) with incised decoration on surface, as on products from the Middleborough kiln (*CAR* **3**, 186-89), 16g	1	16	11th-12th
46	JEF5 upper fill	Medieval sandy grey ware (20), 4g	1	4	12th-13th
54	JEF5 lower fill	Early Colchester-type ware handle fragment (21a), 9g;	1	9	13th-14th
55	JEF5 upper fill	Early medieval sandy ware (13), everted thickened rim, no precise match in *CAR* **7**, fig 27, but generally in Types A and B, so late 11th – 12th, 8g	1	8	late 11th-12th
64	JEF5 surface cleaning	Early medieval sandy ware (13), 3 sherds 18g, one with combed decoration as on products from the Middleborough kiln output.	3	18	11th-12th
78	JEF5 upper fill	Early medieval sandy ware (13) with incised decoration on surface, as in products of the Middleborough kiln, 11g	1	11	11th-12th
79	JEF5 middle fill	Early medieval sandy ware (13) with wavy incised decoration on surface, as in products of the Middleborough kiln, 4g	1	4	11th-12th
86	JEF5 upper fill	Early medieval sandy ware, shell-dusted (13s), 3g; Medieval sandy grey ware (20), 2g	2	5	12th
104	JEF5 upper fill	Early medieval sandy ware (13) rim. Flat-topped type, as *CAR* **7,** fig 27, type B2 – 12th century, 5g	1	5	12th
106	JEF5 upper fill	Early medieval sandy ware (13), 9 sherds including 1 upright rim, 44g; Early medieval sandy ware, shell-dusted (13s), 2g	10	46	11th-12th
111	JEF5 fill	Early medieval sandy ware (13), 1g	1	1	11th-12th
113	JEF5 upper fill	Early medieval sandy ware (13), 1g; PMRE (40), 9g, 17th-18th century,	2	10	11th-12th

Finds No	Context	Comments probably intrusive	Qt	Wt (g)	Date Range
117	JEF5 lower fill	Early medieval sandy ware (13), 11g	1	11	late 11th-12th
146	JEF5 upper fill	Medieval sandy grey ware (20) 3g, or Early medieval sandy ware (13), 2 sherds 16g	2	19	11th-14th
148	JEF5 upper fill	Early medieval sandy ware (13), 4 sherds 32g; Border ware (42) 6g, mid-C16th-C17th, probably intrusive	5	38	11th-12th
155	JEF5 middle fill	Early medieval sandy ware (13), 3 sherds 15g, including a flat-topped rim *CAR* **7,** fig 27 type B2 (12th-early 13th) ; Early medieval sandy ware shell-dusted (13s), 2g	4	17	12th-early 13th
168	JEF5 upper fill	Early medieval sandy ware (13), 10 sherds 35g, including a flat-topped rim *CAR* **7,** fig 27 type B2	10	35	12th-early 13th
172	JEF5 middle fill	Early medieval sandy ware (13), base/wall sherd, 14g	1	14	late 11th-12th
208	JEF5 upper fill	Early medieval sandy ware (13) rim. Plain, thickened, everted. Nearest type is *CAR* **7,** fig 27, type B1b – late 11th-12th century, 4g	1	4	late 11th-12th
217	JEF5 upper fill	Medieval sandy grey ware (20), 15g	1	15	13th-14th
219	JEF5 upper fill	Early medieval sandy ware (13), 2 sherds, 7g	2	7	11th-12th
222	JEF5 upper fill	Early medieval sandy ware (13), 4g, shell-dusted (13s), 3g; scalloped rimsherd, no close parallel in *CAR* **7**, 15g.	3	22	11th-12th
228	JEF5 lower fill	Early medieval sandy ware (13), 2g; Medieval sandy grey ware (20) base/wall sherd, 18g	2	20	12th
232	JEF5 upper fill	Early medieval sandy ware (13), 5g	1	5	11th-12th
248	JEF5 fill	Early medieval sandy ware (13), 14g	1	14	11th-12th
251	JEF5 upper fill	Medieval sandy grey ware (20), 16g	1	16	late 12th- late 13th-14th
264	JEF5 upper fill	Early medieval sandy ware (13), 2 sherds 34g, one has incised surface decoration as on products from the Middleborough kiln.	2	34	11th-12th
267	JEF5 upper fill	Early medieval sandy ware (13) rim. Flat-topped type, as *CAR* **7,** fig 27, type B2 – 12th century, 8g	1	8	12th
273	JEF5 upper fill	Early medieval sandy ware (13), 9g	1	9	11th-12th
298	JEF5 fill	Early medieval sandy ware, shell-dusted (13s), scalloped rimsherd, no close parallel in *CAR* **7**, 24g.	1	24	11th-12th
301	JEF5 upper fill	(Slightly overfired?) early Colchester-type ware (21a), 3g; green glazed and internally white-slipped sherd with stamp, 7g. There are no stamps on fabric 21a published in *CAR* **7**, but a few are illustrated on Hedingham stamped strip jugs which are a fairly close parallel to the Garrison example (*CAR* **7**, fig 50, 19-22). These Hedingham ware jugs are commonest in the mid 13th century (*CAR* **7**, Fig 52). Illustrated here as Fig 1.72, nos 2 & 3).	2	10	mid 13th?
307	JEF5 upper fill	Rather grey interior, but probably Early medieval sandy ware (13), 5g	1	5	late 11th-12th
314	JEF5 upper fill	Sandy orange (21) or Colchester-type ware (21a), 11g	1	11	13th-16th
316	JEF5 upper fill	Medieval sandy grey ware (20), or Early medieval sandy ware (13), 9g	1	9	11th-14th
318	JEF5 upper fill	Medieval sherd with stabbed, applied cordon. Good quality fabric 20, 6g.	1	6	medieval
334	JEF5 upper fill	Colchester-type ware (21a), 25g	1	25	15th-16th
344	JEF5 upper fill	Early medieval sandy ware (13), 5 sherds 32g	5	32	late 11th-12th
353	JEF5 upper fill	Later Colchester-type ware (21a), 13g	1	13	15th-16th
365	JEF5 upper fill	Early medieval sandy ware (13) rim. Plain everted type, as *CAR* **7** fig 27, type A1a – mid to late 11th century, 9g	1	9	mid 11th to 12th century
377	JEF5 fill	Beautiful sgraffito Colchester-type ware (21a), 8g (Fig 1.72)**.** Decoration looks like part of tree, with upright trunk and four branches hanging down.	1	8	14th-15th
16	Robber trench JEF12 surface cleaning	Early medieval sandy ware (13), 3 sherds 12g	3	12	late 11th-12th
28	JEF12 fill	Early medieval sandy shell-dusted ware with scalloped rim (13s), 29g; Early medieval sandy ware (13), 2 sherds, 12g	3	41	11th-12th
85	JEF12 upper fill	Early medieval sandy ware (13), 3 sherds, 16g	3	16	11th-12th
17	Robber trench JEF13 surface cleaning	Early medieval sandy ware (13), 2 sherds, 9g:	2	9	11th-12th
33	JEF13 upper fill	Colchester-type ware (21a), 2g	1	2	15th-16th
44	JEF13 fill	Early medieval sandy ware (13), 2g.	1	2	12th
26	Robber trench JEF14 surface cleaning	Early medieval sandy ware (13), flat-topped rim *CAR* **7** fig 27, type B2, 11g; Early medieval sandy ware shell-dusted (13s), 6g	2	17	12th-early 13th
99	JEF14 upper fill	Medieval sandy grey ware (20), 7g; Early medieval sandy ware (13), 5g	2	12	11th-14th
103	JEF14 lower fill	Early medieval sandy ware (13) with incised decoration on surface, 3g	1	3	11th-12th
123	JEF14 upper fill	Early medieval sandy ware (13), 4 sherds, 30g	4	30	11th-12th
224	Spread of robbing debris JEL2	Early medieval sandy ware (13), Middleborough kiln product with combed wavy-line decoration – see *CAR* **7** fig 37.99, 7g	1	7	late 11th-12th
243	JEL2	Rather pale sherds, probably Medieval sandy grey ware (20), 12g; flat-topped rim in PMRE (40) with tiny bit of decayed glaze, 10g, C17th-C18th, probably intrusive	2	22	11th-14th
276	JEL2	Early medieval sandy ware (13), 2 sherds, 11g	2	11	11th-12th
282	JEL2	Early medieval sandy shell-dusted ware scalloped rim (13s), 9g; Early medieval sandy ware (13), two sherds, 20g	3	29	11th-12th
376	JEL2	Early medieval sandy ware (13) thickened, flat-topped rim as *CAR* **7** fig 27,	1	11	12th –early

Finds No	Context	Comments type B2, 12th –early 13th century, 11g	Qt	Wt (g)	Date Range 13th
136	Spread of robbing debris JEL8	Early medieval sandy ware (13), 3g; Colchester-type ware (21a), 4g	2	7	15th-16th
356	JEL8	Medieval sandy grey ware (20), 2g	1	2	late 12th?, usually late 13th-14th
167	Spread of robbing debris JEL9	Early medieval sandy ware (13), 3g; Medieval sandy grey ware (20), rim, 7g	2	10	late 11th-12th, or 13th-14th+??
305	JEL9	Early medieval sandy ware (13), 4g	1	4	11th-12th
Time Team Trenches					
5	Robber trench TTF12	Base of large storage jar in Early medieval sandy ware (13), 56g; PMRE (40), 10g, C17th-C18th, probably intrusive	2	66	11th-12th

Assessment of the ceramic dating evidence relating to the circus

by Stephen Benfield

Pottery from the gravelled surface around the perimeter of the circus

The pottery consists of fifteen sherds weighing a total of 87 g (Table 6.8). The average sherd weight is 5.8 g. Almost all of the sherds are in coarse grey ware fabrics of probable local production (Fabric GX) and cannot be closely dated. However, one sherd can be identified as from a Cam 268 jar which is current during the period of the early/mid 2nd century-late 3rd/early 4th century. There is also one sherd of black-burnished ware category 2 (BB2) (Fabric GB), a fabric type which is current from the early-mid 2nd century until the mid-late 3rd century.

While the pottery dating is limited, it suggest that the gravel surface dates from the period of the early-mid 2nd century or later.

Pottery from the ditch on the line of the outer wall of the cavea

The pottery recovered from the ditch consists of fifty-two sherds weighing of total of 175 g (Table 6.9). The average sherd weight is 3.4 g. The majority of this small assemblage is made up of sherds of coarse grey wares (Fabric GX) and coarse oxidised wares (Fabric DJ). While the grey ware sherds cannot be closely dated, the coarse oxidised sherds are likely to date to the period of the mid 1st-2nd/3rd century. There is also one sherd of South Gaulish samian (Fabric BASG) of 1st century date and one sherd of East Gaulish samian (Fabric BAEG). In terms of dating, the most significant pieces are sherds from a cupped ring-necked flagon of form Cam 156 (Fabric DJ) from the upper fill of this ditch on J1 and the East Gaulish samian sherd which was recovered from the mid fill of this ditch on C2. The cupped ring-necked flagon form (Cam 156) is current from the Hadrianic period until the early 3rd century. The East Gaulish samian sherd is a rim from a plate/bowl or bowl which just extends to the change of angle between the wall and the base. The form of the vessel is hard to distinguish between that of Dr 18/31 (plate/bowl) which is current in the first half of the 2nd century or Dr 31 (bowl) which appears in the mid 2nd century and remained in production until the mid 3rd century. While the shape of the vessel wall is slightly convex. the internal change in angle between the wall and base is clearly defined, but not sharp. The wall itself is not particularly deep or thickened. Also, the rim is undercut and not rounded into a full semi-circular bead as is common on form Dr 31. As an East Gaulish product, the sherd is unlikely to predate the period of the early-mid 2nd century (*c* AD 120) while the indications from its shape, relating to the form, suggest it is not a late variant of this vessel type and an early/mid-late 2nd century dating is probably appropriate.

The most closely dated of the pottery suggests that the ditch was still an open feature until at least the early-mid 2nd century. The most closely dated sherds are probably of Hadrianic-Antonine date and none of the pottery need date later than the early-mid 3rd century.

Pottery from the debris associated with the demolition of the outer wall of the cavea

In total 333 sherds of Roman pottery with a combined weight of 3510 g and one sherd of medieval pottery (12 g) were recovered from the debris associated with the demolition of the *cavea* outer wall (Table 6.10). The average sherd weight is 10.5 g.

The range of Roman fabric types includes amphorae and samian imports, regional and locally produced fine wares, mortaria and other coarse wares of regional and local production. Potentially the earliest dated vessel is a ring-necked flagon of form Cam 155 (dated Claudio-Neronian-early Antonine). However, most of the more closely datable fabrics and form types can be dated to the period of the 2nd-3rd century. These include cups (Dr 27) and bowls (Dr 31) in Central and East Gaulish samian, beakers (Cam 391 & Cam 407) in local colour coated wares and dishes (Cam 37) in Black-burnished ware category 2 (BB2) (Fabric GB) that are probably of local production. There are also sherds from local coarse ware jars of form Cam 268 which are current from the early/mid 2nd century to the late 3rd/early 4th century and sherds of Black-burnished ware category 1 (BB1) (Fabric GA), probably from jars of form Cam 279, which could date as late as the fourth century. The most significant sherds in terms of dating the Roman assemblage are colour-coated ware from the Nene Valley potteries (Fabric EA) which were recovered from CL20 (267, 276). Nene valley colour coat wares appears in small quantities at Colchester from the second quarter of the 3rd century but is most common in the period of the late 3rd-4th century.

In terms of dating the Roman assemblage, while the latest closely dated Roman pottery probably dates to the late 3rd century or after, it is notable that this is only a small proportion of the assemblage. Also, there are no sherds from vessels in fabrics which can be certainly dated to the 4th century or late 4th century such as Hadham oxidised wares (Fabric CH), late Shell-tempered wares (Fabric HD) or Oxford red colour-coated wares (Fabric MP). As such a late 3rd-early 4th century date might be appropriate for the Roman assemblage as a whole.

The single sherd of medieval coarse ware (Fabric 20), which exhibits part of a decorative ‘thumb strip’, probably dates to the period of the 13th-14th century (JEL4 (118)). Presumably it is intrusive and derives from the medieval robber trenches for the *cavea* foundations.

General discussion

Building the circus

The greensand used in the construction of the circus walls has been sourced to Kent (*see* 'A photomicrographic analysis of a sample of greensand from the circus' by Kevin Hayward in Chapter 1), and its quarrying there and subsequent transportation was a huge undertaking. The raw material was transported as rough stone blocks since there is much evidence for stone masons’ work at the construction site (chippings during ashlar production). Following quarrying, the greensand (Kentish ragstone) was transported by cart or river barge to the Kentish coast from where it would almost certainly have been shipped along the coast and into the estuary of the river Colne as far as was navigable possibly to the port at Fingringhoe. From there the stone was probably loaded onto barges and unloaded at a jetty at Colchester. The stone would then have been transported by cart to the building site where it was shaped and used in the construction.

The Roman brick and tile used in the construction (for example brick courses within the walls and the roofing of certain elements such as the judges' box and the tribunal) would have been produced in Colchester from the local clay. Gravel (for metalled areas) and sand (for mortar) would have been obtained locally either on a piecemeal basis from small pits maybe even such as some found even near the circus (eg J1 East and possibly Area C2) or more likely from major quarry sites such as seem to have existed at Birch (CAT Report 289, 10) and presumably elsewhere near the town. The large quantity of timber needed for the seating may also have been acquired from the local area although, given the earlier demands on wood (the building of the fortress, the town, and the rebuilding of the town after the Boudican revolt), local supplies are likely to have been severely depleted. Finally, as is generally the case, the large numbers nails (for the seating) and other fittings (such as for the starting gates) would probably have been made locally from iron smelted elsewhere.

The design of the circus

The following is a brief outline of a study which it is hoped will be continued at a future date and separately published elsewhere if the results warrant it. To deal with this subject properly, it is necessary to examine the ground plans of other circuses, and this would take the study beyond the scope of this report. As will be explained, there are also some problems with some of the ideas expressed here so that more work is necessary to explore them further.

The two premises which drive forward this investigation are that there must have been principles or traditions which dictated how circuses were designed and that these must have been expressable at least to some degree as dimensions in round numbers. Unlike most other circuses, the Colchester example makes a good subject for such an investigation. The reasons for this assertion are as follows:

a) the complete plan of the building is available (in basic outline at least),

b) the plan has been assembled as one operation (as opposed to having to be stitched together from different phases of work done to different standards)

c) the plan is highly accurate and reliable being mapped with modern survey equipment and software.

The fundamental starting point in any design may have been in setting the length of the race. There do not appear to be any indications in the written records that circuses were designed to accommodate races of a specific length, but this does not mean that this was not the case. The length of a race was made up of the distance between the starting gates and the near post plus the distance travelled to complete seven laps around the central barrier. Clearly the position of the finishing line is a crucial consideration here as is also how the length of a lap was calculated since each chariot would have travelled a slightly different distance according to how closely they hugged the central barrier. If each circus was indeed designed as a race track for a specific length of race, then we can speculate that that length is likely to have been a round figure. For Colchester, the length would appear to have been 2.5 Roman miles. (The justification for this claim will be in explored in the future work mentioned ealier.) The architect, briefed to design his circus to accommodate races of a specific length, would then use or devise a formula whereby the distances already mentioned (distance to the near post or possibly the finishing line plus the distance travelled during the seven laps) produced the desired total length of race. An important consideration at this stage in the design process is likely to have been how much space to allow between the starting gates and the near turning post since this fine tuning must have affected the course of the race and its entertainment value (Humphrey 1986, 21). At Colchester and some other circuses, this seems to have been relatively long (more than half the length of the central barrier) whereas at some circuses (eg Mérida and the Circus of Maxentius), this distance was significantly less and equalled half the length of the central barrier.

The width of the arena was made up of the width of the central barrier plus the width of the track on each side of it. The full width of the arena at Colchester is difficult to determine accurately because of interpretive problems in fixing the precise position of the north *cavea*. However, if we simply work with the southern half of the circus (which is the most accurately plotted), then it would seem that the width of the track might have been specified as a specific number of feet per chariot which was increased at the near turning post to reduce the crush during the initial rush to the central barrier.

Figure 6.9 shows the superimposition of a circle on the plan of the east end of the circus. The precise centre of the circle cannot be fixed because the exact position of the north *cavea* is not known. There is therefore a small element of doubt (perhaps up to 0.5m) as to where the centre of the circle should be located. If we assume that the central barrier was 20pM across (as indicated at the near turning post), then, according to the circle, the arena would have been 94-98pM wide. Conceivably the intention could have been to make the track 100 pM wide at this point. Perhaps more likely the idea was that it should be 96pM across (a better fit) which would the equivalent of 12pM per chariot. The circle shown on Figure 6.9 has been constructed on the basis of the latter.

If this was true, then we would expect to find a similar situation at the other end of the barrier. However, this does not appear to have been the case. The distance here between the central barrier and the *cavea* to the south is 33.8m which is equivalent to 114.34pM. Dividing this figure by eight produces a figure of 14.3pM which unfortunately is not a round number of Roman feet or even half feet. This does not suggest that the width of the track here was specified to be so many feet per chariot unless it was 14.25pM (which of course is conceivable). However, the alternative solution, ie that it was specified as a round figure seems unequally unconvincing since this measurement is not obviously close to one unless it was 115pM. The problem here may simply be that the circus was not laid out accurately enough to tell precisely what the architect specified and that the analysis of other circuses will be needed to clarify the matter (if this can be done at all).

The excavations in the garden of the Sergeants' Mess have allowed the ground plan of the starting gates to be broken down into its likely consituent parts where the architect has designed their layout in terms of whole Roman feet. Figure 6.26 shows the architect's likely plan superimposed on the plan of the excavated remains. As can be seen, the fit is not perfect but it is still nevertheless a good one. Here it would appear that each chariot was given a space 11pM wide in its stall.

The other factors which would also have affected the overall dimensions of the circus was the widths of the *cavea*, starting gates, and the arena beyond the far turning post. This last consideration is problematic at Colchester because the exact position of the far turning is yet to be established. However, as already been mentioned, it would seem that the overall width and length of a circus were not dimensions which were determined at the outset of the planning process but they would instead be an end result of it.

Another area in which the hand of an architect is apparent is revealed by the sizes and spacing of the buttresses along the outside of the outer wall of the *cavea*. On Area J1 East, the buttresses are spaced at 16pM intervals east of the ?*vomitorium* or gate whereas east of it the spacing is at 15pM. Although the difference between 15 and 16pM may seem slight, the levels of fit either side of the ?*vomitorium*/gate are very good and show that this difference is real and meaningful.

Interestingly on the basis of the results of the excavations in the garden of the Sergeants' Mess, the buttresses can be reconstructed all the way round to the starting gates (Fig 6.26). The repeating 16-foot pattern had been noticed before the latest investigations in the garden led to the fixing of the west end of the south *cavea*. Further confirmation that the latter was correctly located was provided by the fact that its position fits the repeating pattern exactly. There may have been a variation though in the pattern of wide and narrow buttresses if the buttress pattern north of the gates mirrored that of the south since the evidence from SMT1 is that the buttress just before the end of the *cavea* was a narrow one, not the wide one which the pattern of buttresses on Area J1 East would suggest it should have been. However, the buttress pattern either side of the gates could have been different in which case it could have been a wide one (ie 10 pM across). The reconstruction on Figure 6.26 assumes that there were no buttresses at the very ends of the north and south *caveae* and that, as suggested above in account of the Sergeants' Mess SMT1-SMT4 investigations, what appeared to be robber trenches for buttresses in these positions were merely overshoots for the robbing of the main east-west foundations forming the terminals of the *caveae*.

Paying for the circus: its beginning and end

An important issue to consider is how the construction and running costs of the circus were met, especially since this might have a bearing on why the circus closed when it apparently did. We have already seen (*see* 'Buttress patterns and sections of *cavea'* above; Fig 6.24) how the idiosyncratic differences in the pattern of buttresses along the outside of the circus suggest that the *cavea* had been raised a block or so at a time as a series of discrete episodes. Arguably the most obvious conclusion to draw from this is that the construction of the circus was a piecemeal affair in which the various components making up the building were funded by wealthy local citizens either as benefactions or consequences of public offices which they held. It might be tempting to link the construction of the circus with Hadrian's visit to Britain especially since the dating evidence for the circus is compatible with such a conclusion. However, had this been the case, the circus would have been built to a consistent design around its whole circuit which is plainly not the case.

The likely end date for the circus, ie that it was late 3rd rather than 4th century or later (*see* 'Dating evidence' above), supports the idea that the circus was funded by the wealthier citizens of the town. There is good evidence of a decline in the built-up areas in Colchester starting around *c* 275, especially extramurally, where the widening of the town ditch and the blocking of the Balkerne Gate are likely to have been related in some way to this process (*CAR* **3**, 111-15). The decline seems to have affected the largest of the houses in the town, many of which appear to have been demolished without replacement around the end of the 3rd century (*CAR* **6,** 1992, 18-19). The drop in the numbers of large houses in Colchester in the late 3rd and 4th centuries can be equated with a decline in either the fortunes or the numbers of this class of citizens, a

decline which offers an explanation for the demolition of the circus at this time because it was these very citizens whose wealth underpinned the running of the circus.

As John Humphrey (1986, 579-81) has observed, the construction or refurbishment of 4th-century circuses across the empire generally appears in most cases to have been the result of initiatives at high governmental level, because the circuses concerned were either attached to imperial palaces or were sited in provincial or diocesan capitals. Viewed against this background, the failure of the circus at Colchester to survive into the 4th century (if indeed this is what happened) should come as no surprise.

More to the point though is that the closure of the circus in Colchester and the decline in town house building by the town's wealthiest citizens mirrors trends in other places in mid to late 3rd-century Britain. Here, the construction of public buildings appears to have almost stopped and the maintenance and repair of existing ones became much less assured (Faulkner 2000, 121; Millett 1990, 137). Neil Faulkner (2000, 121) and Martin Millett (1990, 137) have argued that the decline in the construction of public buildings and large town houses was a consequence of serious inflation and onerous financial burdens placed on the urban ruling class during this time. For Colchester, it is certainly hard to avoid the conclusion that, by *c* 275, the town's most prominent citizens were no longer collectively wealthy enough or perhaps even numerous enough to support such an expensive means of mass public entertainment as had been provided in its circus.

Capacity of the circus

The distance between the two foundations on C1 was 4.3m and at J1 East it was 4.4m. Allowing for the fact that the wall would have been narrower than the foundation, this implies a distance between the inner and outer *cavea* walls of around 4.5m. This is narrow compared with other circuses, but there are parallels, and indeed this is not the narrowest. The distance between the walls indicates eight tiers of seats assuming each was 0.5m wide as suggested by John Humphrey (1986, 33). Estimating the capacity of the building is problematic since it depends on whether each tier was used for seating or every alternate one. A full circus would mean that the spectators would have had considerable difficulty leaving their seats without everybody sitting on the same tier between them and their nearest exit doing the same thing. Neverthelss Ovid indicated that every tier was probably occupied since he complained in his famous poem *Ars Amatoria* (ii) about the knees of a man pressing into the back of his female companion. Assuming Humphrey's figure of five spectators for each 2.0-2.3m of seating (Humphrey 1986, 31), the capacity would be about 8,000 if every other tier was used or about 15,000 people if we follow Ovid and assume that all the tiers could be occupied at the same time. (Figure 6.23 shows spectators occupying every other tier.)

The end of the Roman circus

The dating evidence (which is reviewed above) points to the demolition of the circus if not in the 270s then in the late 3rd century or early 4th centuries. Rubble on the arena surface on the Napier Road and JE sites provides stark evidence for the dismantlement of its walls and other structures at this time as does a layer of demolition debris overlying the thin metalled areas along the outside south cavea on the same two sites. This latter material only existed south of the outer cavea foundation suggesting that the earth banking which the two walls of the cavea retained was left standing as the walls themselves were 'peeled' away from the its inner and outer sides. Perhaps the banking survived as an earthwork for years to come.

At first sight, it may seem surprising that the circus should have not survived longer than this. Certainly, we might have reasonably expected it to have remained standing, if not in use, until the end of the Roman town in the 5th century. But the date - the late 3rd or early 4th century - has a very familiar ring in Colchester and tells its story. This is the period for which elsewhere in the town there is much evidence for large scale contraction and change. Excavations at Culver Street, Lion Walk and Balkerne Lane in particular have shown that the suburbs of the town atrophied during this time to practically zero as the defences were remodelled and strenghtened. The burial grounds reflected these changes and crept closer to the walled part of the town. The distribution of inhumations (which are generally 3rd and later) as opposed to cremations (generally earlier) shows this change very clearly, a change incidentally which can be seen in the northern Garrison sites described in this report.

The circus in the landscape

Something like 400 horses would have been needed per race day if on that day no horse was raced more than once and there were twelve races each featuring a full complement of *quadrigae* as opposed to *bigae*. Even allowing for various mitigating factors such as have been mentioned, it is clear that the number of horses needed for the races is likely to have been substantial. To supply the races with so many animals, there must have been stud farms within easy travelling distance of Colchester to breed and train them, and there would have been stabling or some other kinds of temporary holding facilities in the Colchester area for use during the lead up and aftermath of the event itself. No evidence has been found so far to indicate the presence of facilites such as these within the Garrison site or anywhere else in Colchester. The land immediately south of the circus has been shown to have been open farmland in the Roman period characterised by fields and droveways and scattered farmsteads consistent with the rearing of stock (CAT Report 292). Plainly large numbers of horses could have been bred immediately to the south of the circus but there is no evidence to indicate this was the case. In fact, there is no evidence either way and we are left only to speculate as follows.

The charioteers arrived at the circus as part of the *pompa* which marked the start of each set of games. The *pompa* would not have started at the circus - it would have travelled to it. Thus the chariots arrived at the circus all kitted out and ready to race. This shows that the circus did not act as the primary place of assembly. This was either somewhere else or perhaps, more likely, each of the factions made their own arrangements and arrived ready to go at the place of departure. As has already been suggested, it is likely that the *pompa* started off at the Temple of Claudius which was some distance away from the circus. Of course, once having arrived at the circus, provisions would need to be made to hold and manage large numbers of horses until it was their turn to race. These facilities may have taken the form of little more than a large nearby field or two.

Rearing and racing horses must have been a hobby for the wealthy landowner with land and cash to spare. These individuals are likely to have lived on substantial villa estates and held public office in the town. They presumably supported or perhaps even underpinned one of the factions with their animals and charioteers. It is not known how far stud farms could have been situated from the circuses they served. At Mérida, mosaics showing branded horses in circuses point to the presence of at least one stud farm within a few miles of the town (Humphrey 1986, 376). In a similar vein at Colchester, it is not hard to imagine these self-indulgent racing fans living on large villa estates up to a day's journey from the town.

It is tempting to seek to associate some of the burials near the circus with the building itself but this is unlikely to have been the case, just as it is with the nearby farmland and the question of stud farms. The burial grounds around the circus would have been made up of plots of land privately owned by groups of people - presumably overwhelmingly families - as places in which to bury their dead. There is no evidence that circuses had their own burial grounds. Indeed why should they have had any of their own burial places when the races were organised by different and independent factions who presumably were based well away from the circus? The circus was merely a shell used by different and independent parties living and working elsewhere. The current picture of the circus then is one of a huge building sitting in a landscape on which it had otherwise only a limited impact. However, this view is speculative. Hard evidence could tell a quite different story.

Possible relationship with St John's Abbey

There are some apparently interesting spatial relationships between the east end of the circus and the precinct wall of St John’s Abbey (Fig 6.30), relationships which raise the question of possible continuity between the two. Much of the southern leg of the precinct wall lay close to the site of the central barrier suggesting that perhaps some of barrier survived long enough to be incorporated in the precinct wall. Also the central feature in the barrier lies close to the south-west corner of the precinct as if this was more than just a coincidence.

The abbey was founded by Eudo Diapifer in 1095. An archaeological investigation in 1971 indicated that the precinct wall was early and therefore was likely to be the work of the same man (*CAR* **1**, 26-30). The incorporation of Roman ruins in the precinct wall would not have been out of character for Eudo because he had done this sort of thing before. He built Colchester Castle around the base of the Temple of Claudius (thought at the time to be the palace of King Coel, founder of Colchester) and he appears to have retained and modified part of the Roman theatre when he 'restored' St Helen's Chapel (Helen being thought to be daughter of Coel; *CAR* **1**, 26-7; Stephenson 1981). These acts by Eudo can be seen as political statements

of power and authority or merely judicious reuse of redundant ruined buildings. Either way, it is conceivable that Eudo did the same with the circus and incorporated part of the central barrier wall into the precinct wall of his new abbey. However, the evidence as it stands for such a possibility is thin and quite possibly the correspondences between the locations of the precinct wall and the barrier of the circus and are coincidental. However, let us review the evidence.

Little of the precinct wall still stands within the footprint of the circus (Figs 6.10 & 6.30). However, its course can be plotted approximately from 19th-century maps helped with the discovery of what might have been a robber trench for the foundation of the wall at the very west end of the Napier Road excavation (Chapter 2, NRF1, Fig 2.3). As the result shows (Fig 6.30), there is indeed some correspondence between the positions of the central barrier and the southern leg of the Abbey precinct wall but the difference between the two appears to be too great to suggest survival from one to the other.

If there is any continuity between wall and circus, it is likely to have been focussed around the far turning post and perhaps the place where the precinct wall reached the site of the eastern end of the circus. Perhaps significantly, this stands close to where the east end of the central barrier is likely to have stood. Another feature which may be significant in this respect is the slight change in alignment in the precinct wall in the vicinity of the stump. Although the exact spot where the change occurred cannot be plotted exactly, it is clear that it must have been close to the site of the far turning post. Could the central barrier have still been standing when the precinct wall was built?

To test this hypothesis, a small trench (FHT4) was dug at the base of the standing stump of abbey wall to see if its foundation was greensand and thus could be Roman in origin (Figs 6.10 & 6.14). The foundation was successfully uncovered, and found conclusively to be medieval in date. The results from the digging of FHT4 then indicate that the precinct wall did not incorporate part of the central barrier wall. However, they say nothing about the far turning post since the position of the latter is still not certain (fig 6.9). It may be that the slight kink in the precinct wall coincides with the site of the post as if the post had been incorporated in it. There is, however, another explanation for the kink since it may point to the site of a large gate which evidently stood somewhere in this area. The gate is shown on the 1648 Siege Map of Colchester.

A final but important point to take into account is that as far as can be gauged, the circus was demolished to foundation level in the 270s or so and much of the stone and brick was removed for reuse elsewhere (see Dating evidence above). It would be surprising, therefore, if the far turning post or any other parts of the circus had been left standing but, of course, not impossible.

The Colchester circus in comparison with other circuses

Although all circuses were made up of only a few basic elements, ie arena, central barrier, *cavea*, and *carceres*, no two circuses were identical in plan or indeed size. The remains of over 40 have been recorded to varying degrees of reliability (Humphrey 1986; Basarrate & Sanchez Palencia 2001). Only about half of these have been investigated sufficiently to produce an overall plan although even in most of these cases uncertainty remains about key parts of them. Circuses with fairly complete plans are: Antinoopolis, Antioch, Bovillae, Carthage, Caesarea, Colchester, Gerasa, Lepcis Magna, Mérida, Mirobriga, Sagunto, Toledo, Trier, Tyre, Valencia, and Vienne, plus the Circus of Maxentius and the Circus Maximus in Rome.

Circuses ranged in length from the tiny example at Gerasa at *c* 265m to the exceptionally large buildings in Rome at *c* 580m (ie the Circus Maximus and possibly the Vatican Circus and the circus near the Sessorian Palace). At *c* 450 m, the Colchester circus was typical in length of provincial examples. In general, circuses can be placed into three distinct groups in terms of length (Table 6.12), ie over 500 m, between 400 and 500 m, and under 400m. Those over 500m long were limited in number and dominated by the large circuses which were in or very near Rome. Those under 400m were equally small in number and form a small group of mainly Spanish circuses whose lengths (apart from Gerasa) cluster around the 340-60m mark. The remaining circuses fall within the 420-85m range. Most of these were between 440 and 460m long which is where, at *c* 450m, Colchester belongs (Table 6.12).

Table 6.12 Lengths of circuses.

Circus	**Length**
Circuses up to c 350m in length	
Gerasa	269m
Tarragona	*c* 340m
Bovillae	*c* 343m

Circus	**Length**
Valencia	350m
Sagunto	354m
Cyrene	357m
Mirobriga	359m
Circuses between 420m and 485m in length	
Toledo	*c* 423m
Antinoopolis	?*c* 440m
Bostra	*c* 440m
Mérida	*c* 442m
Alexandria	?*c* 450m
Caesarea Maritima	?*c* 450m
Colchester	*c* 450m
Trier	*c* 455m
Vienne	455m
Aquileia	*c* 456m
Lepcis Magna	*c* 460m
Carthage	?*c* 466m
Chercel	*c* 470-80m or more
Sétif	*c* 450-500m
Tyre	?*c* 480m
Milan	?*c* 484m
Large circuses over 500m in length	
Antioch	*c* 510m
El Djem	516m
Rome: Circus of Maxentius	520m
Rome: Circus Maximus	*c* 580m
Rome: circus near the Sessorian Palace	*c* 580m
Rome: Vatican Circus	*c* 580m

The length of a circus was determined largely by the length of the central barrier and the distance between the starting gates and the near *meta* (turning post). An as yet unpublished study by the author (PC) of the plans of circuses indicates that there were at least two basic types which are distinguishable from each other on the basis of the ratio between the length of the central barrier and the distance between the *carceres* and the centre of the central barrier. It is not possible to classify most circuses on this basis, because their plans are too incomplete. However, as far as can be judged, it appears that for most circuses the length of the central barrier was equal (or at least very nearly equal) to the distance between the *carceres* and the centre of the central barrier. As far as can be judged, the equivalent ratio at Colchester was 5:6 rather than 1:1 and the distances concerned were, it would seem, 1.25 and 1.5 *stadii* respectively. (One *stadium* was 625 *pedes Monetales* (187m) long or one eigth of a Roman mile.) Interestingly not only was the ratio the same at Lepcis Magna but so too were the distances concerned. However, Lepcis was longer than Colchester largely because of the much greater distance there between the far *meta* and the centre of the semicircular end. At Lepcis this distance was 60m which, by normal standards, was unusually large. The equivalent distance at Colchester was between 41 and 43m.

The *cavea* at Colchester is characterised by a sturdy, buttressed rear wall combined with a narrower inner wall on a relatively slight foundation. It did not incorporate any substructures as in many continental circuses, eg Toledo and Tyre. Instead, the seating was supported on an earth bank just as in British amphitheatres (eg, Silchester, London) and a few British theatres (Gosbecks and Verulamium) and Gaul. No doubt, it is no accident that the Gosbecks theatre at Colchester has much in common with the Colchester circus, ie

external buttresses, substantial outer *cavea* wall, a slight inner *cavea* wall, and an earth bank for the seating (Dunnett 1971; *CAR* **10**, 101-3).

The *cavea* widths varied considerably from circus to circus presumably according to the likely numbers of spectators and the length of the building. The *cavea* at Colchester measured externally between 5.8 and 6.1m across (excluding buttresses). This is relatively narrow (Table 6.13) which must reflect the modest capacity of the building. However, its *cavea* was not quite as narrow as the *caveae* in the small circuses such as Sagunto (5.3m) and Valencia (5.25m) in Spain.

The Colchester circus was also relatively narrow as a whole (71.4?-74.2 m; Table 6.14). This again compares with the narrowest circuses known such as Sagunto (73.4m) and Cyrene (74m). Indeed, if the apparent western taper of the Colchester circus proves to have been real, then the overall width of the building will turn out to have been narrower than any other circus known albeit by the smallest of margins. However, a critical factor in determining how many chariots could race at any one time in a circus is the width of the arena, especially the end terminating with the *carceres*. Like the *cavea* and the overall width of the building, the arena at Colchester was at the very narrow end of the scale (Table 6.15) and at 59.5(?)-62.4m compares with Bovillae (60m) and Sagunto (63.5m).

The exact width of the central barrier at Colchester is as yet uncertain. It appears to have been around 6m on the basis of limited and rather inconclusive evidence in the extension of TTT6 and the cable trench dug in October 2006 (*see* above). If this is correct, it would place it among the narrowest known central barriers (Table 6.15) which is not surprising considering the overall narrowness of the building. The turning posts may have been slightly wider than the width of the barrier as hinted at by TTT6 and 'Cable trench 2006' (Fig 6.5).

The circus at Colchester is the first to be excavated where the number of gates has been found to be eight (Fig 6.26). The representations of starting gates in mosaics, reliefs and lamps generally show fewer than twelve gates, but the numbers depicted are merely a product of artistic licence (Humphrey 1986, 150-51). Nevertheless, although Colchester's circus was of normal length, the narrowness of the building seems to provide some support for what has previously been suspected (for example Humphrey 1986, 514), namely that narrow circuses may have had fewer than twelve gates.

Table 6.13 The widths of circus caveae.

Circus	**Width**
Sétif	5m
Valencia	5.25m
Sagunto	5.3m
Chercel	5-6m
Colchester	5.8-6.1m
Toledo	*c* 7m
Circus of Maxentius	*c* 7m
Vienne	8.5m
Arles	8.65m
Antinoopolis	9.25m
Milan	*c* 9-11m
Mérida	*c* 9-12m
Aquileia	*c* 12m
Caesarea Maritima	12m
Gerasa	13m
Tyre	15m
Bostra	18.5m
Alexandria	23m
Antioch	27m

Table 6.14 Overall widths of circuses.

Circus	Overall widths
Sagunto	73.4m
Colchester	71.4(?)-74.2m (may vary: width excludes buttresses)
Cyrene	74m
Gerasa	76m
Sétif	77m
Antinoopolis	77m
Milan	*c* 78m
Tyre	*c* 86-92m (varies)
Caesarea Maritima	*c* 90m
Maxentius	92m at widest
Lepcis Magna	94m
Mirobriga	97m
Toledo	*c* 100m
Arles	100.5m
Tarragona	110-116m
Vienne	118.4m
Mérida	*c* 119m
Bostra	120-134m (varies)
Circus Maximus	*c* 140m

Table 6.15 The widths of arenas and central barriers.

Circus	Width of the arena	Width of the central barrier
Gerasa	51.3m (10 stalls)	-
Gortyn	51.5-68m (varies)	-
Cyrene	58.4m or less	?6m
Antinoopolis	58.5m	6.2m
Colchester	59.5(?)-62.4m (may vary)	-
Bovillae	60m	-
Sagunto	63.5m	-
Alexandria	65m	7m
Sétif	*c* 67m	8.5m
Milan	67-8m (varies)	-
Tarragona	68-80m	-
Lepcis Magna	70m	6.2m
Antioch	70-75m	8.3m
Sirmium	*c* 71m	-
Tyre	*c* 71-77m (varies)	5.1m
Thessaloniki	*c* 73-74m	-

Circus	Width of the arena	Width of the central barrier
Maxentius	75-79m (varies)	6-7m
Carthage	77-78m	-
Circus Maximus	? *c* 79m	?7-8m
Arles	84m	5.95m
Toledo	*c* 86m (max)	-
Mérida	96m	-
Bostra	97- 83m (varies)	-
Vienne	101.4m	6.2m
circus near the Sessorian Palace	115-125m	-
Caesarea Maritima	-	7.4m

A comparison with the circuses at Toledo and Mérida in Spain and the amphitheatre in London

by Robert Masefield

Toledo and Mérida

The Spanish circus of Toledo is located near the River Tagus north of the Roman town and has been extensively excavated (Humphrey 1986, 250-60). It is well preserved with most of one side and the entire semi-circular end well preserved. Like Colchester the starting gates were located at the western end, although this circus was orientated north-east/south-west rather than east-west. The length at *c* 423m is very similar to the Colchester example but was considerably wider with a maximum width of 100m indicated in the 1920's. The arena width is now known to have been *c* 86m at the semi-circular end but, as at Colchester, it tapers towards the starting gates, to *c* 82-83m. Another similarity to the Colchester circus is the rather different treatment of the *cavea* in different sections. Like most stone circuses the *cavea* comprised stone vaults for seating, rather than the earthen or wooden (or indeed a combination of the two) at Colchester. These vaults were 2.95m high against the back (outer *cavea*) wall. However, like Colchester external buttresses ('piers') extended out from the back wall and have been interpreted as supporting a series of arches/arcades (Humphrey 1986, fig 160). Such an external treatment is also a possibility at Colchester in my view. Some of the additions to the outer *cavea* wall supported external staircases running parallel against the wall. Although elongated buttresses were also found at Colchester, for example to the west of the entrance in Area J1 East, it is unlikely that they could have supported such staircases given their comparatively short lengths. The capacity of Toledo and Colchester are likely to have been similar with *c* 13,000 estimated for Toledo. The Toledo *cavea* was wider at 7m wide.

The circus at Mérida is the most fully excavated in Spain with 1920s' excavations exposing much of the starting gates, *spina* and parts of the *cavea* and monumental arch (Fig 6.31; Humphrey 1986). The latter element at Colchester has not yet been exposed but should lie within the grounds of Flagstaff House at the eastern end of the structure. There are two significant parallels with Colchester. Firstly, Colchester and Mérida (unusually) share curving walls at both ends of the circus with the starting gates end curving sharply. Secondly, the obelisk/monument at the centre of the *spina* at both is not attached to the *spina* walls but rather stands in isolation on the line of the spina which continues either side of it. Interestingly, as at Colchester, the circus was located 400m from the Roman town (this time to the east) and was similarly (virtually) east-west orientated with the starting gates at the west end and the semi-circular end at the east end. Like Colchester this circus was surrounded by the town's (early Roman) cemeteries. The arena was 404m in length, again similar to the Colchester example and was 96m wide, notably wider than at Colchester. Much of this structure was concrete and rubble built, although cut stone was used for the outer *cavea* wall. The inner *cavea* (podium) wall stood to a height of 1.4m which provides a useful indication for Colchester's robbed example.

As at Toledo the 6.1m wide *cavea* included cross walls creating vaults. These cross walls were grouped in sets of nine, each 36m long and, as with the exterior buttresses at Colchester, the pattern changes. This was

possibly due to funding of different sections by different wealthy patrons. This ancient form of sponsorship is attested at Luz in Portugal and perhaps (*see* above under The *cavea*). There was a 0.8m wide corridor along the back of the seating at Mérida and something similar would be expected for the poorly preserved Colchester example. The exterior of the outer *cavea* wall at the western end, but not eastern end, included a series of regularly spaced buttresses each 0.95m deep. These provide another parallel with Colchester.

London amphitheatre

There are certain echoes between the circus at Colchester and the long sought Roman amphitheatre in London found in 1998 in Guildhall (Bateman 2000). Nick Bateman has proposed an early 2nd-century date for the replacement of parts of the wooden superstructure at the Guildhall (including the entranceway and inner *cavea* walls) and considers that its construction may have been associated with visits by the emperor Hadrian. A possible later 1st-century date for a simple version of the circus at Colchester followed by a 2nd century date for the stone building would indicate a very similar time line to the construction periods of London's amphitheatre, with its monumentalisation in stone following a 1st century wooden version. A tile found at the London site was stamped PPBRLON, which Bateman (*op cit*, 28) states stands for the Procurator of the Province of Britannia at London. He states, '*Tiles with such stamps are commonly found near large public buildings. This may indicate official sponsorship of the amphitheatre's construction*.' However, no stamped tiles have been recovered from the Colchester site and there is no direct evidence for state sponsorship.

Notably both structures were constructed from Kentish Ragstone (greensand) and therefore may have shared a quarry site or area in use in the 2nd century. The wall structure at Colchester appears to differ in some respects, although it is difficult to know how similar the walls of the two structures were above ground, since the 1.5m high surviving arena facing walls at Guildhall are in stark contrast to the largely robbed Colchester circus walls. At Guildhall the wall base comprised two courses of red tile, rough stonework above with walls up to 1.2m thick. There were 3 to 5 courses of roughly squared but well laid Kentish ragstone (greensand) between double layers of tile (*op cit* , 24). The thickness of the Colchester walls is similar and we can expect standing walls to have had a similar ratio of tile to stone courses. Bateman's comment that the amphitheatre was a product of a dynamic tension with '*trade creating wealth; wealth demanding display; and 'public' appropriation of the 'private' monument which resulted*' (*op cit*, 7) can of course be said to be equally true of the Colchester circus – a building on an even larger scale.

The London amphitheatre was originally built in wood in or shortly after AD 70 (many timber beams, post and planks survived and provided felling dates for dendrochronology by Ian Tyres). Although only the eastern end was found, it was possible to calculate that the building was 85m with a 60m wide arena at its widest point. It was also calculated that the *cavea*, which was considered to have comprised wooden benches on a timber-frame, probably had between 10 and 15 tiers (*op cit*, 20). This seating could have held a capacity of about 6,000 spectators according to Bateman (*op cit*, 25). There was a significant variation from the Colchester circus in the construction of the arena. At Colchester there was minimal, if any, ground reduction within the arena, whereas the natural ground level was reduced by almost 2m at Guildhall.

Arena: As with the better preserved walls (of the 2nd-century amphitheatre), surviving wooden elements included drains and ground-fast structural elements, the arena surfacing was also well preserved due to the fact that it was sealed by latest Roman and later deposits. The surfacing consisted of rammed gravel mixed with a hard pink mortar above which sand was spread. Bateman states that the entire thickness was only about a hands width (*op cit*, 29). There does not seem to have been a similar surface treatment at Colchester unless it was lost to ploughing. Certainly a soft bed would have reduced impacts from falls whilst the underlying layer could have prevented rutting and hooves sinking and provided purchase. On balance (as stated above), it is perhaps more likely that rammed earth was used.

Another potential parallel is the partial surviving presence of a thick layer of pinkish mortar used to face the arena wall at the Guildhall amphitheatre (*op cit*, 28). This is common to other British amphitheatres (Chichester, Chester Caerleon) and indicates that arena walls were usually plastered. *Opus signinum* mortar from Colchester, within demolition deposits and robbed wall foundations indicates that at least some walls at Colchester were similarly treated, with the probability that these were the arena facing walls or *spina* walls.

Abandonment of Guildhall amphitheatre: Bateman indicates abandonment of the Guildhall amphitheatre some time in the 4th century when a layer of silt containing pottery of this date accumulated over the arena (again a dating mechanism not available at Colchester). Pottery of AD 300-400 was also recovered from demolition deposits from the collapse of the walls. A coin from robbing of masonry at the London amphitheatre dates to AD 367 and so robbing did not begin before that date (*op cit*, 41). This is common to Roman London generally with robbing mainly in the late 4th century in response to the Empire wide collapse of Roman authority.

The imperial cult and the circus's religious context

Circuses were mass entertainment buildings strongly bedded in religion and mythology. Gods particularly associated with circuses were chariot-driving deities, Sol Invictus (the sun god) and his sister Luna (the moon goddess). Images of the gods would have been brought to the circus in the *pompa* and placed in the *pulvinar* before the games began, and statues and shrines to various deites such as the Mother Goddess, Cybele, who is sometimes depicted in a chariot or cart drawn by lions, would have adorned the central barriers.

The circus and what took place in it was effectively an analogy with the cosmos and gods which populated it. The chariot teams were the sun god and the moon goddess revolving around the sky, the four competing factions were the seasons of the year, the seven laps round the arena equated to the number of days in the week, and the programme of 24 races mirrored the hours in the day. Obelisks were important cosmic symbols since each was meant to represent a sunbeam. Many of the obelisks were taken from Eygptian temples dedicated to the Egytian sun god Ra.

Little of any of this can yet be recogised in the Colchester circus. No evidence has been seen of the *pluvinar* at Colchester unless the slight misalignment of the foundations in ECBT2 are to explained in terms of such a structure rather than a tapering of the arena east to west. Nor has there been much sign of statuary or altars apart from the foundation in the centre of the central barrier which we think supported a column or small obelisk.

The circus seems likely to have been linked in with the practices of the Imperial Cult given that Colchester was a colony which had a temple dedicated to an emperor (Tacitus, *Annals*, xiv, 31; Seneca, *Apocolocyntosis*, viii, 3; Fishwick 2004, 135-48). Although not part of a monumental complex containing the Temple of Claudius (Hull 1958, 160-69; Crummy 1980, 243-50) as, say, at Tarragona (de Arbulo & Mar 2001), the configuration of streets was such that a suitably direct processional route could have existed between the two (Crummy 2006, fig 1) along which the procession (*pompa*) would have passed at the start of the circus games. Such a route would have meant that the procession left the precinct of the temple of Claudius (also the presumed forum of the town) by passing through the monumental arch in the centre of the south side of the precinct. From there, it would have headed to the south gate either by passing straight across Insula 30 if (as we now suspect) it was really split east to west into two separate insula or by turning immediately left and then right so as to pass down the east side of the insula. Once through the south gate, it would have continued southwards to enter the arena of the circus via the monumental gate in the centre of the semi-circular end of the building.

On the basis of such a connection with the Temple of Claudius, it might be thought the circus would date from the Claudian period. However, despite the limited dating evidence, the building would appear to have been built much later, and no good evidence has been found as yet for a 1st-century timber predecessor. The ditch which follows the line of the outer *cavea* wall appears to have been too late in date for such a possibility. The only support for a possibility is the general absence of any clear 1st-century activity or burials within the footprint of the circus.

Sun cult

Note by Robert Masefield

Circuses also appear to have been associated with religious symbolism relating to the sun and moon. In Roman mythology the sun god Apollo (Sol) was the twin sister of Diana (Luna), the moon goddess. Apollo and Diana were linked with chariot racing via their perceived role of pulling the sun and the moon respectively across the sky on their chariots, thus maintaining the perpetual daily cycle. Apollo was also the god of sport. In addition the use of obelisks in circuses was due to their association with the Egyptian sun god and was in particular linked with the Imperial Cult, as a wish to link the image of past Emperors with the sun god. Although no temple of the sun and moon yet identified at Colchester their presence is suggested for other circuses (see Humphrey 1986, 91-95). It is possible that such a temple existed somewhere along the seating at Colchester. The location of the temple at the Circus Maximus was potentially at the finishing box (*op cit*, 121, fig 54). The east-west alignment of the circus at Colchester is probably simply a reflection of the general alignment of the landscape based on the town, but was also accidentally or otherwise (symbolically) aligned with the rising and setting of the sun.

Circuses in Britain

Colchester was one of the most 'Roman' of Roman towns in Britain, so to find a circus here seems very appropriate. It was the first of only three military colonies to be founded in the province, and consequently had a relatively higher number of immigrant inhabitants than many towns in the country, at least in its early days. It was home to the huge Temple of Claudius and the cult of emperor worship, and by the 2nd century, included many large town houses testifying to the prosperity of many of its inhabitants.

Chances are that the circus at Colchester will not be the only one to be found in the country. As it happens, a site for a circus in London has already been suggested. in the 1980s, Nick Fuentes (1986, 145-7) argued that the remains of two parallel walls in the south-west part of the walled city were parts of just such a building. John Humphrey about the same time agreed that this was a possibility (1986, 431-2). The walls in question were seen and recorded with varying degrees of reliability in a number of different places over a period of over 100 years. In the early 1990s, the evidence was carefully reviewed by Tim Williams who felt that the case for a circus was unconvincing. While not ruling out the possibility, he favoured the idea that the walls were probably part of a precinct boundary for a monumental adminstrative centre built by Allectus, emperor and successor to Carausius in the breakaway province of Britain. Many years ago, John Humphreys noted that circuses built in the 3rd and 4th centuries differed from earlier ones in that they were mainly located inside the walled circuits of their parent towns and, most importantly, they were integral parts of the official residences of emperors. These two conditions would certainly fit the putative circus in London where the pair of parallel walls can be seen as having formed parts of the south stand and eastern semicircular end of a circus up to about 400 m long standing next to an imperial palace. But this would only work if we make the questionable assumption that the shape of eastern end was wrongly recorded when it was seen in 1906.

Elsewhere in Britain, the three circus-related mosaics mentioned earlier may point to circuses in the parts of the country in which they were found. The mosaic from the Roman villa at Rudston in Yorkshire shows a victorious charioteer in his *quadriga*. Given that the villa was only about 35 miles from York, maybe the pavement was the pride and joy of a stud farmer who supplied horses for a circus in that Roman city? The mosaic from the villa at Horkstow shows a race in progress in what appears to be a rather basic circus. Horkstow lay close to Dere Street, midway between York and Lincoln which were both about 40 miles away. Perhaps the mosaic illustrates a wooden circus which existed in one of those two cities, of which York seems the likelier. The other circus-related mosaic was found at a place called Colerne in Wiltshire which is only about 6 miles from the Roman city of Bath. On the face of it, Bath may not seem a likely candidate for a circus in Britain. Bath was called Aquae Sulis (the waters of Sulis). Sulis was a native goddess whose name meant either solar or eye. If she was a sun goddess, then but there may be an explanation because circuses were primarily linked with the sun god Sol and the moon goddess Luna.

These interpretations seem rather neat and plausible: circuses at Colchester and Bath linked with major temples, Colchester with the Temple of Claudius and the Imperial Cult and Bath with the Temple of Sulis Minerva, and circuses at London and York (the latter the provincial capital and headquarters of Septimus Severus) integral with official imperial residences. However, it is uncertain to what extent there was a useful relationship between the locations of circuses and the distribution of circus mosaics. Some of these mosaics seem to have been linked to stud farms and others with wealthy individuals who may have been associated in some way with a set of games (Humphrey 1986, 238, 241, 376). However, chariot racing was enormously popular throughout the Roman world, and its popularity would presumably have meant that mosaics with circus-related images could have adorned the villas and town houses of anybody wealthy and interested enough to commission such works of art.

The presence in the town of a large number of so-called 'circus cups' show that the townsfolk were familiar with circuses and what went on in them. These mid 1st-century, mould-blown vessels were decorated with scenes from a circus and show charioteers in *quadrigae* in front of a central barrier of a circus (*CAR* **8**, 42-50). However, it is questionable as to what extent these objects can be taken to reflect the presence of a such a building in Colchester since they were imports from mainland Europe and they seem to show not the Colchester circus but the Circus Maximus in Rome.

General background information

For discussions about the charioteers and their chariots and races at the Circus Maximus and elsewhere, *see* brief articles by Nina Crummy in *The Colchester Archaeologist*, **18** (2005), 11-15 (http://cat.essex.ac.uk).

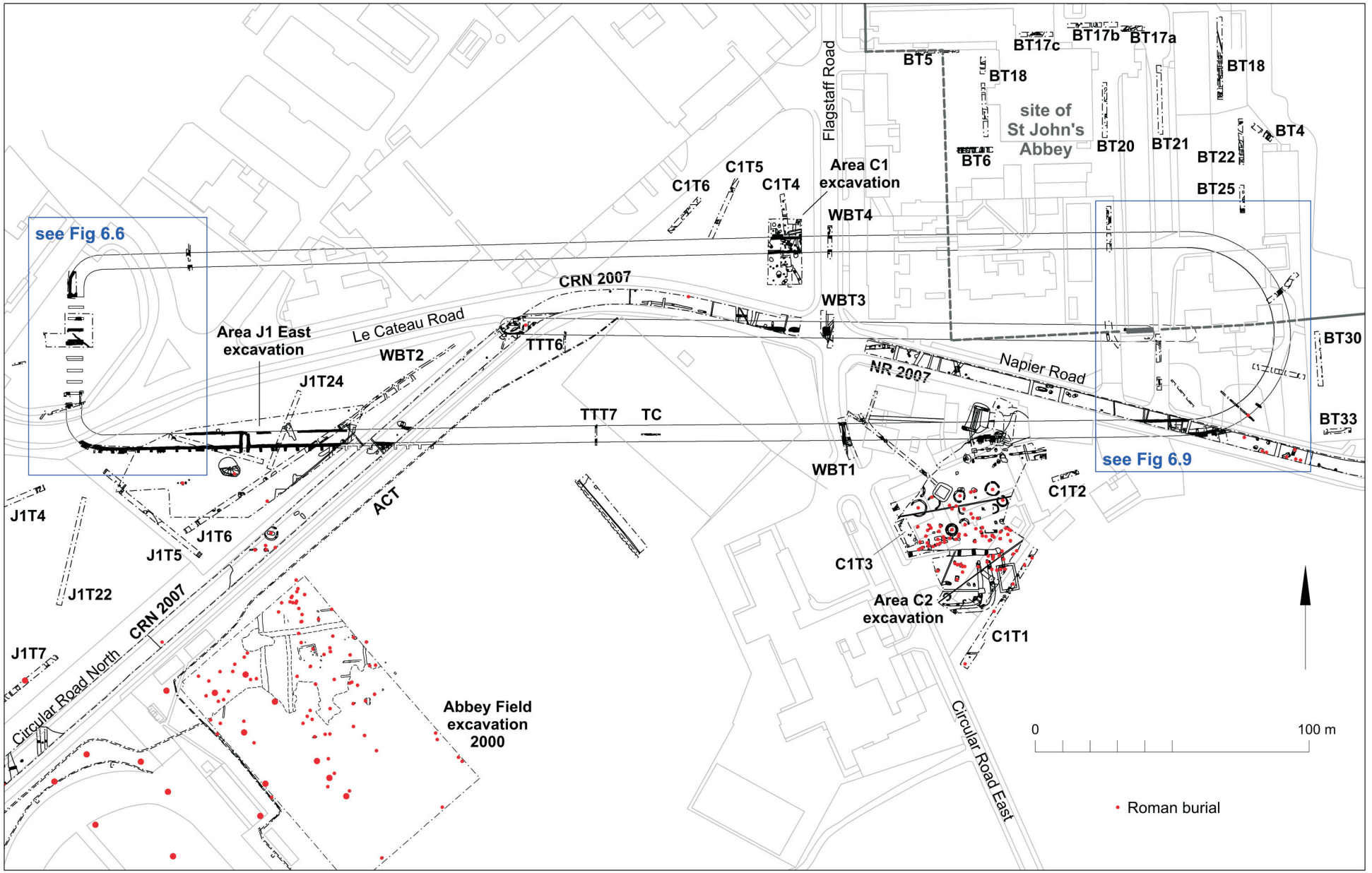

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Fig 6.1 General plan of the circus at Colchester.

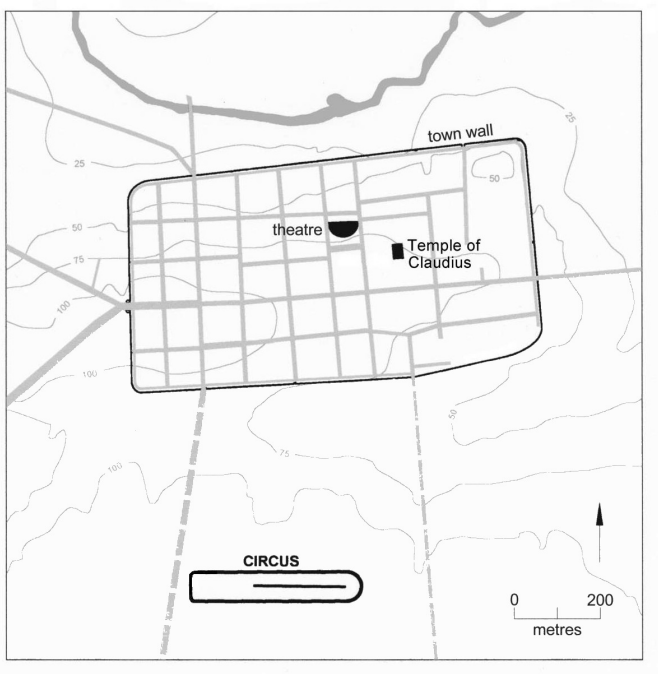

Fig 6.2 Roman town and circus plan.

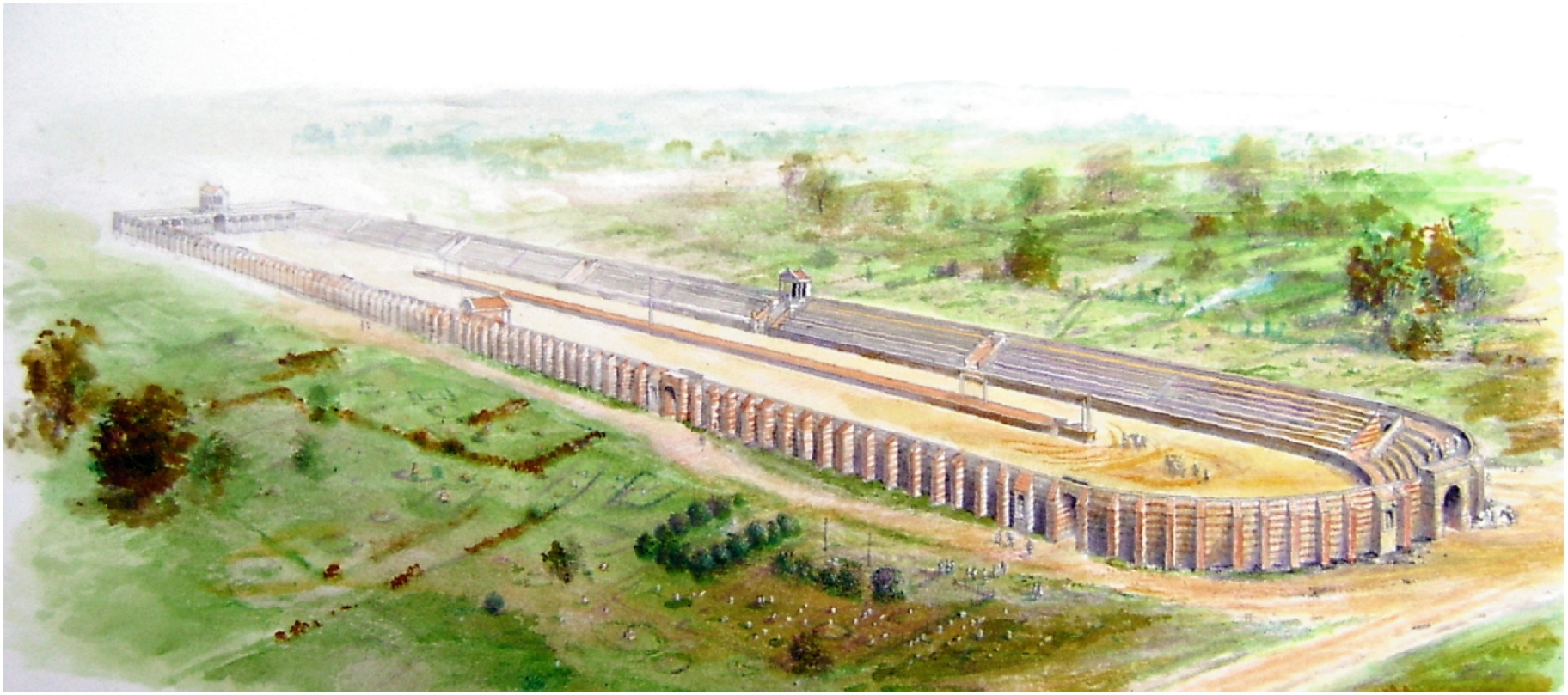

Fig 6.3 Artist's reconstruction of the Colchester circus (Peter Froste).

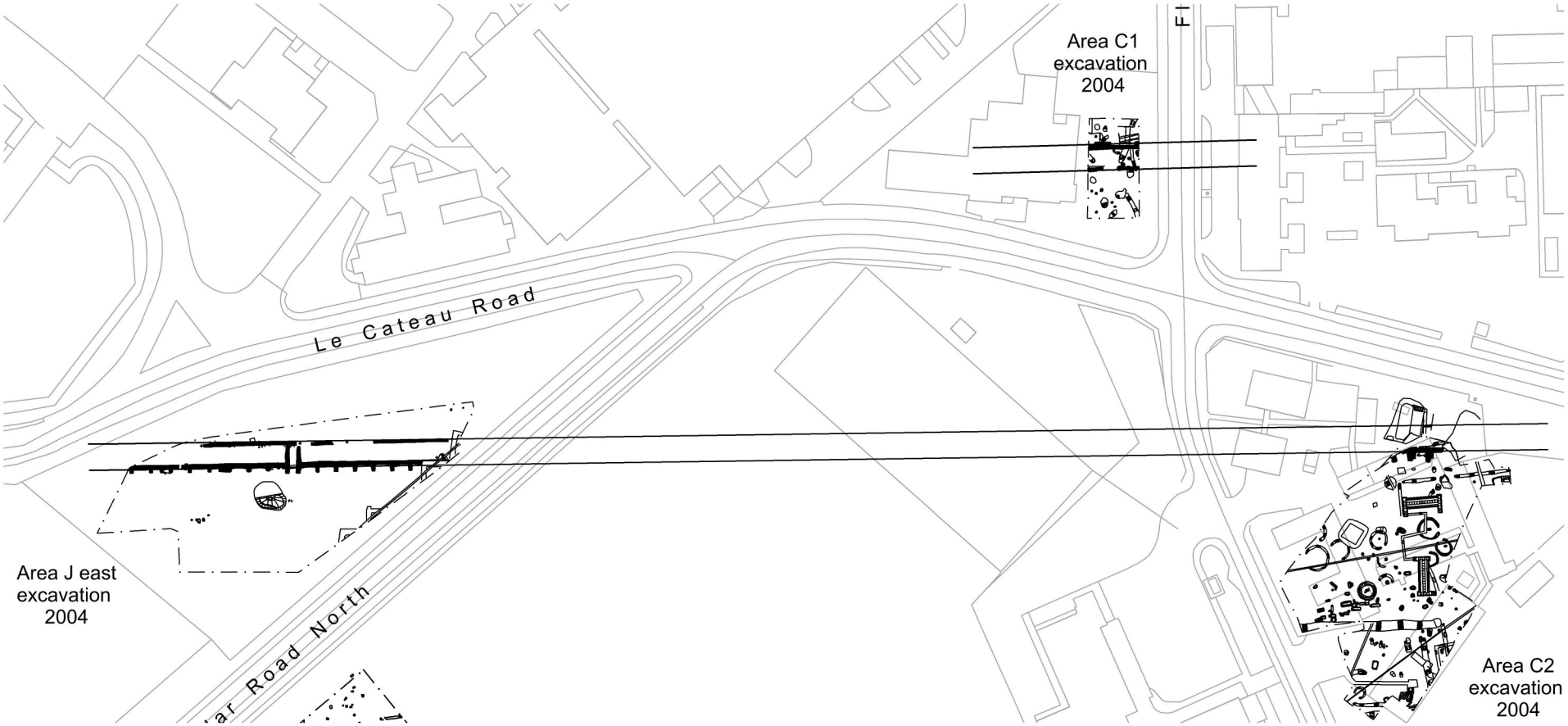

Fig 6.4 First tentative plan of the circus as conjectured late in 2004.

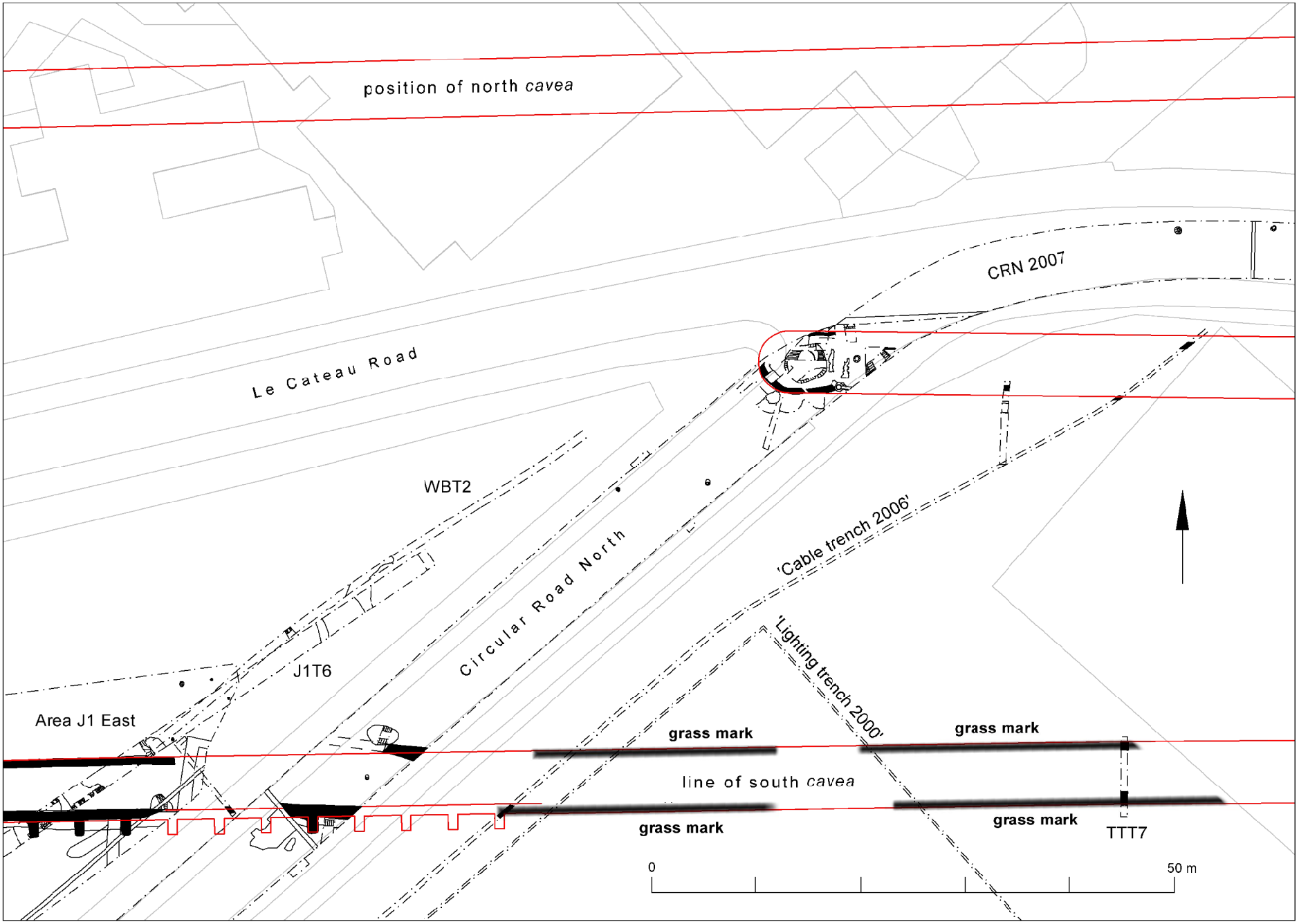

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Fig 6.5 Grass marks showing the position of part of the south side of the *cavea* just east of Area J1 East.

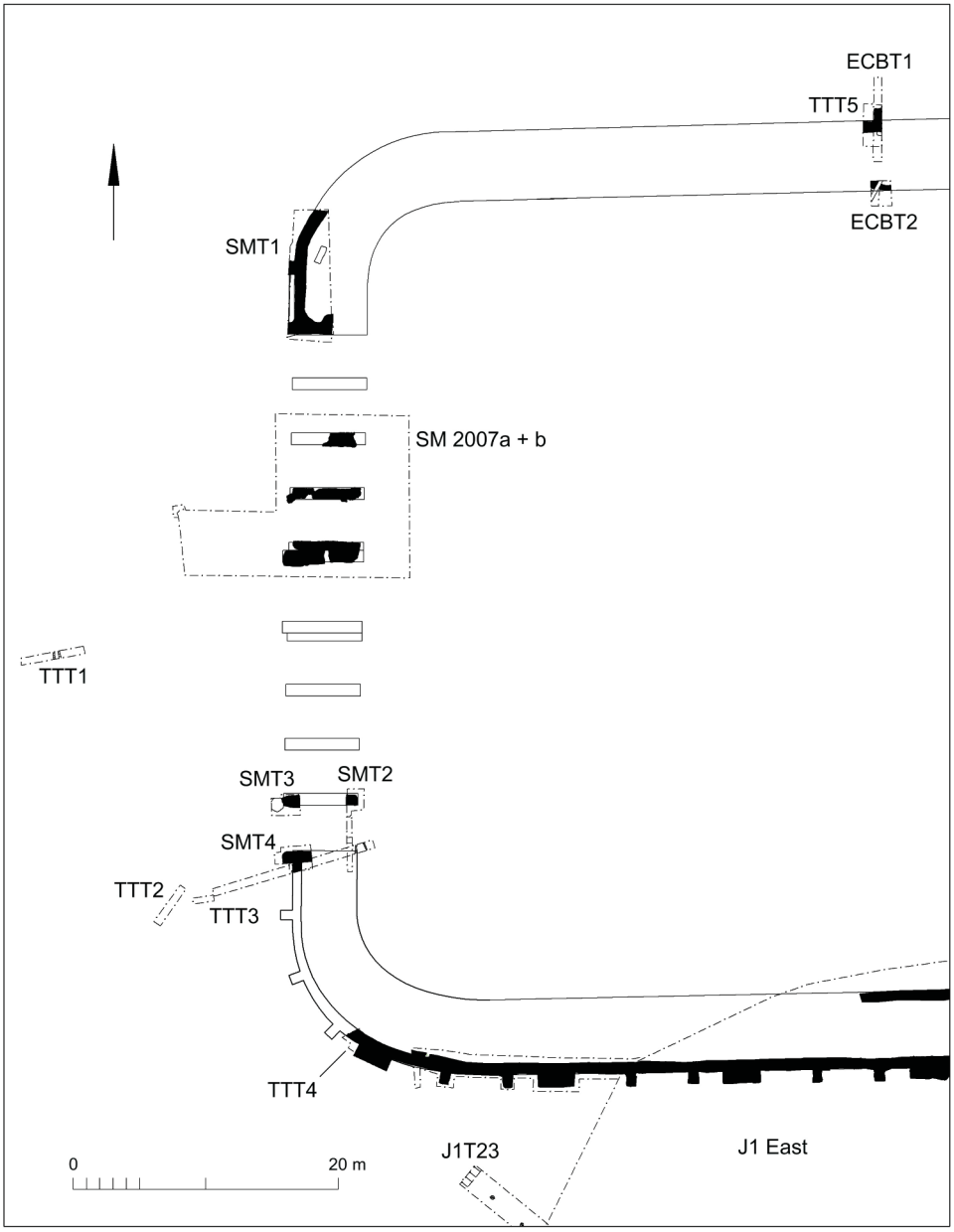

Fig 6.6 Detail plan of the west end of the circus.

Fig 6.7 Garden of the former Education Centre building (ECBT1 and ECBT2): plan.

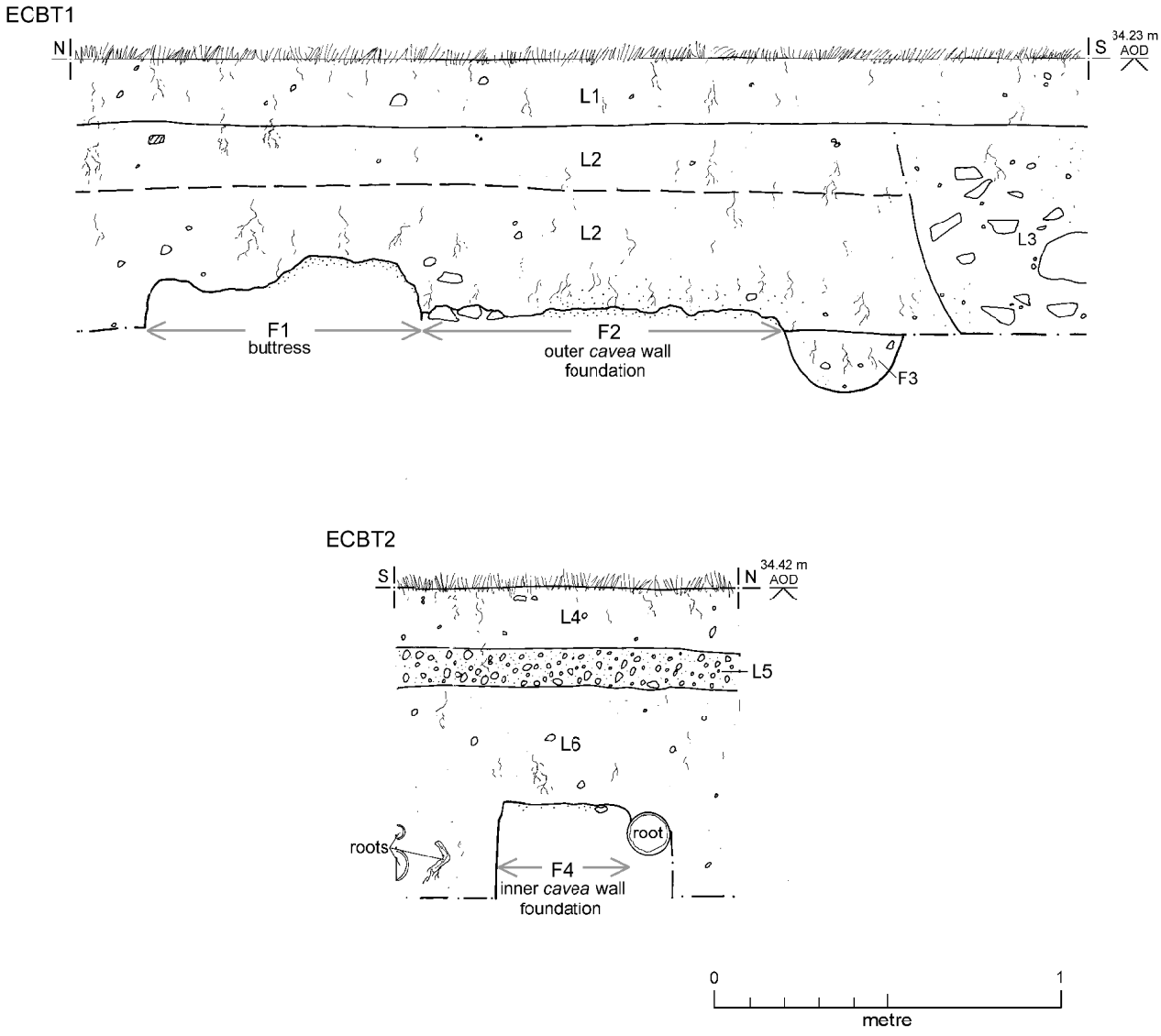

Fig 6.8 Garden of the former Education Centre building (ECBT1 and ECBT2): sections.

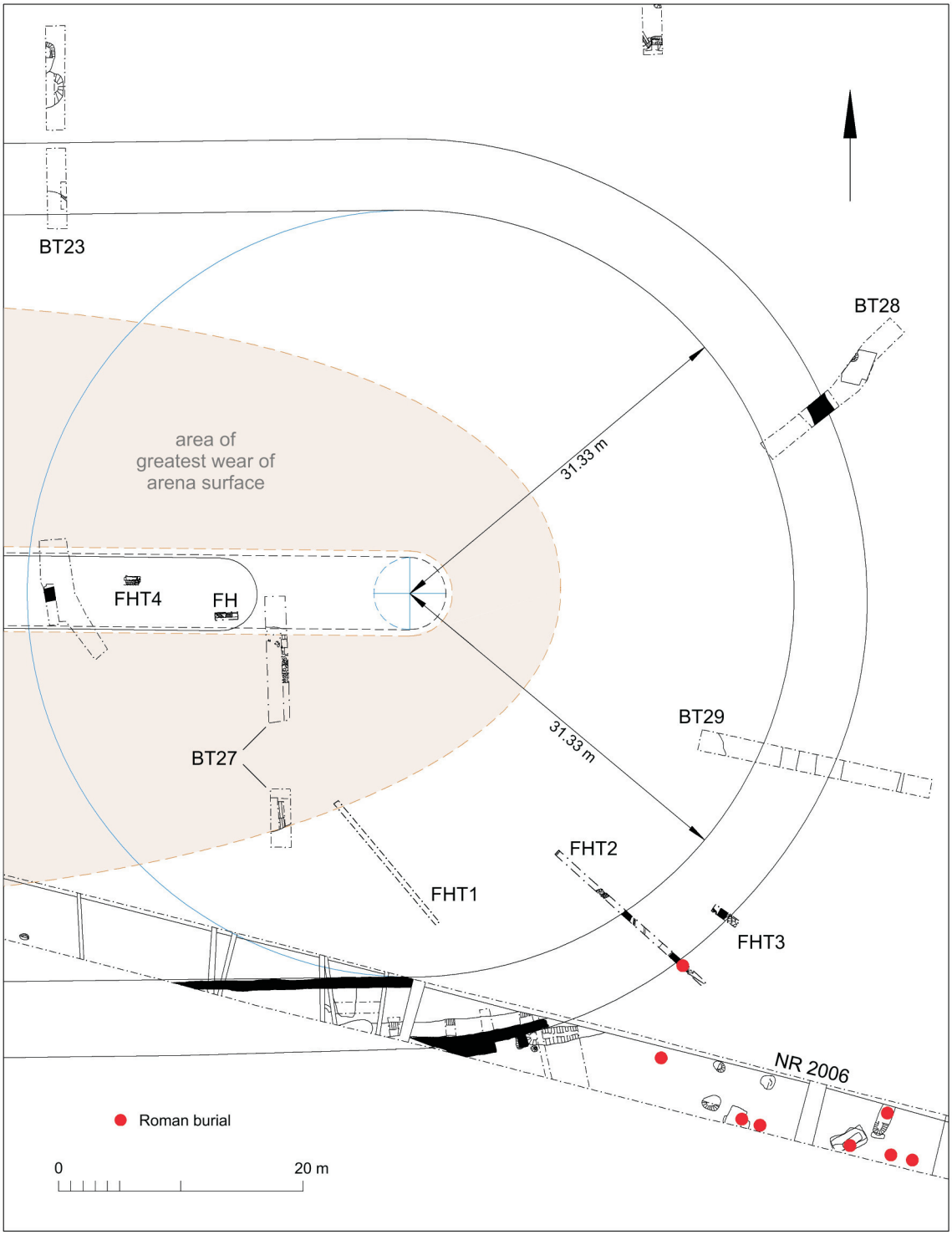

Fig 6.9 Detail plan of the east end of the circus.

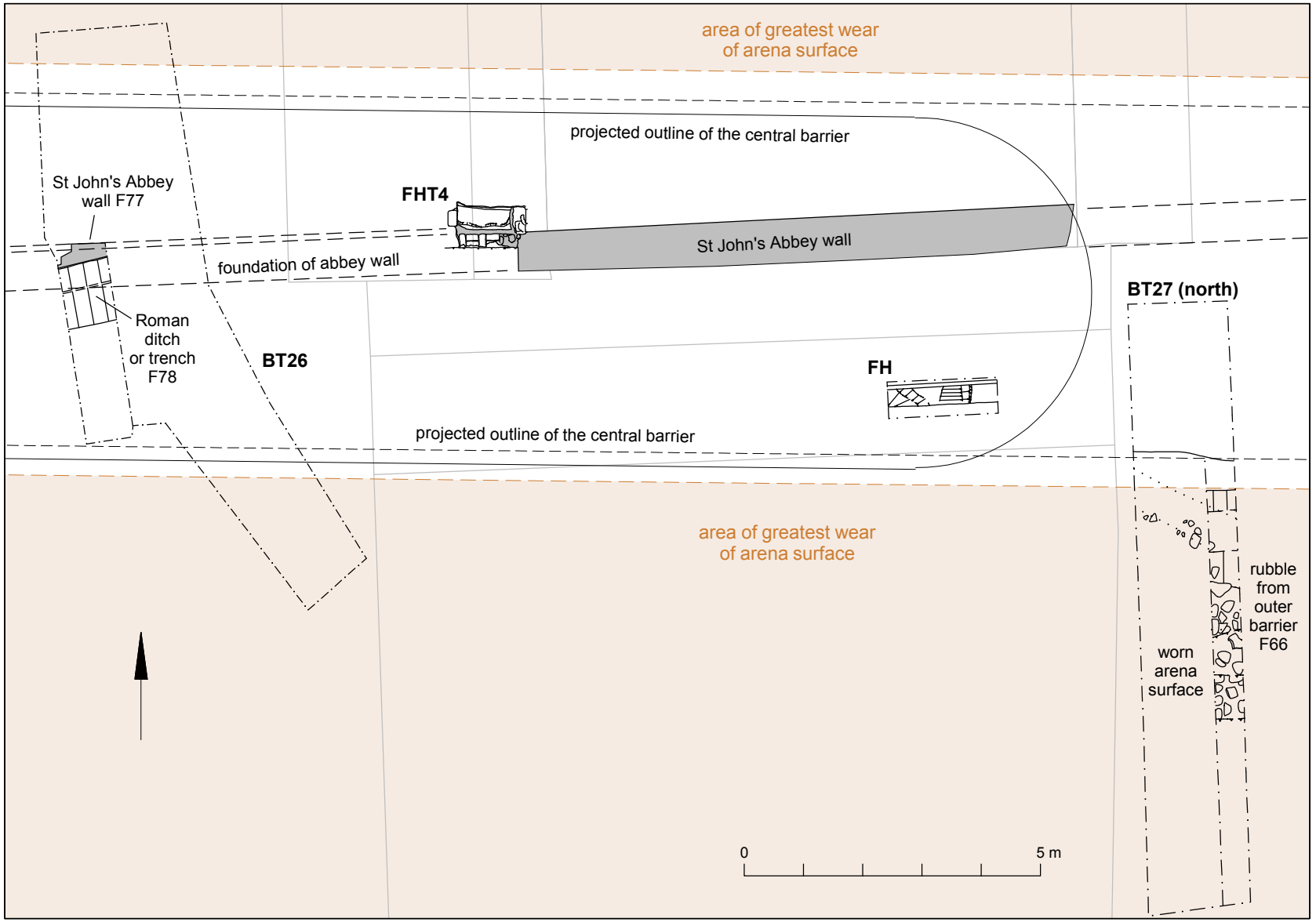

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Fig 6.10 Flagstaff House: plan of east end of the central barrier.

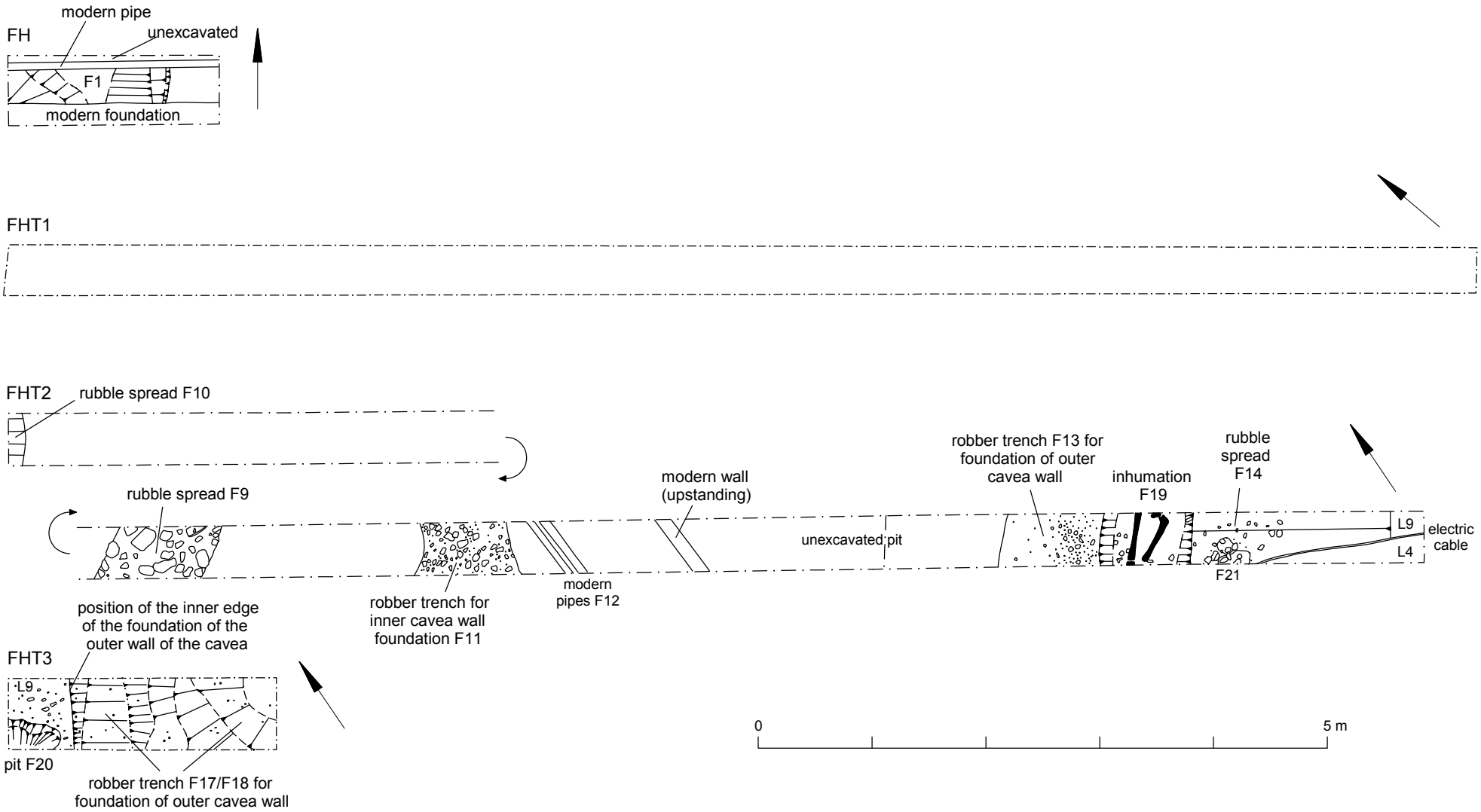

Fig 6.11 Flagstaff House trenches FH and FHT1-FHT3: plans.

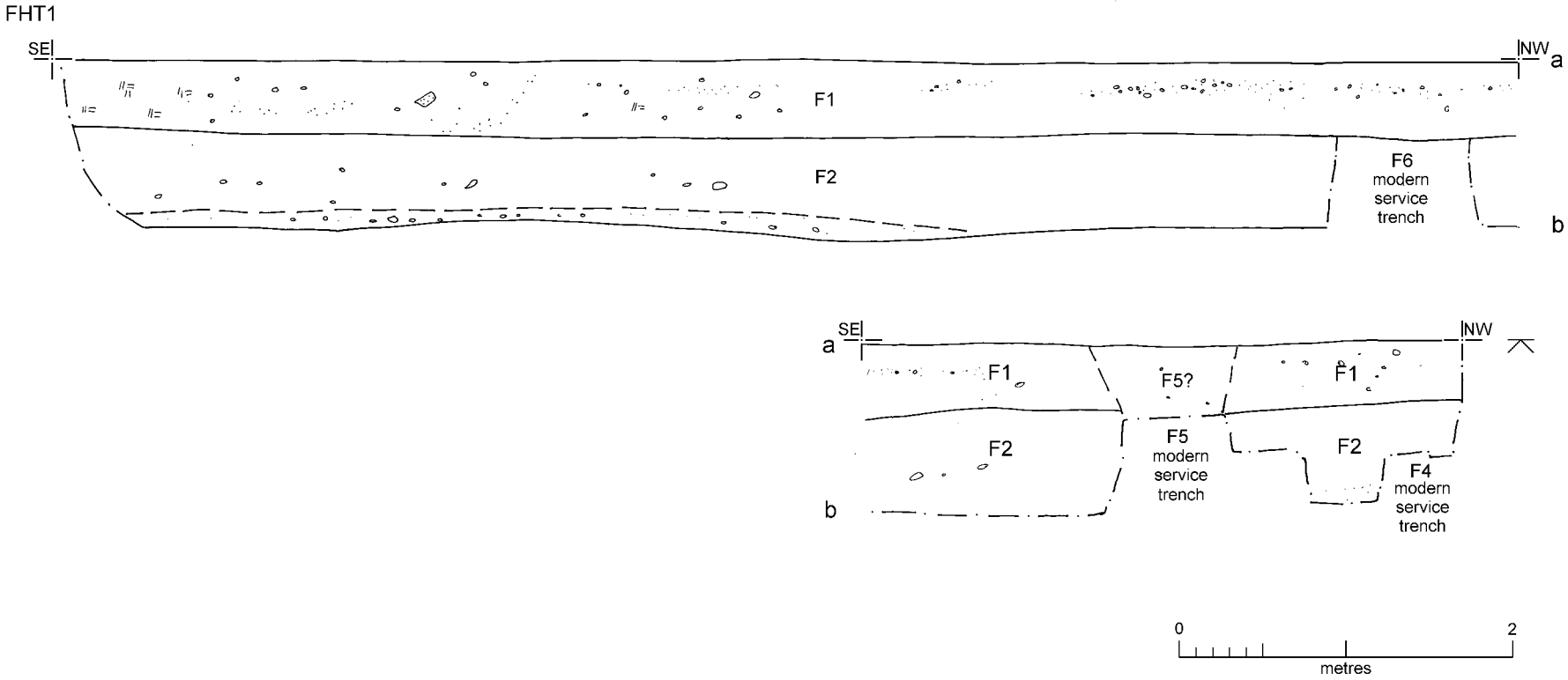

Fig 6.12 Flagstaff House FHT1: section.

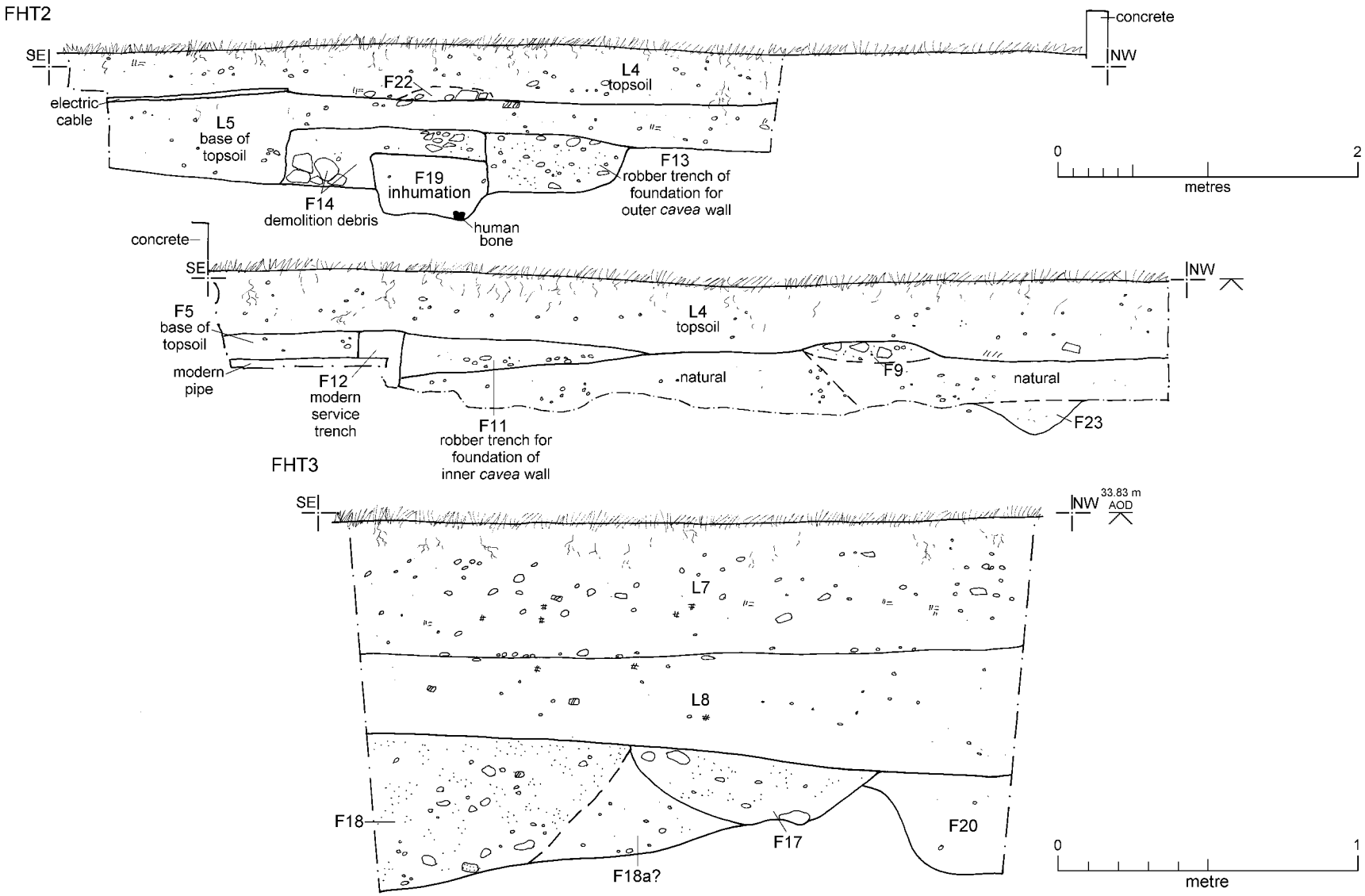

Fig 6.13 Flagstaff House excavation, FHT2 and FHT3: sections.

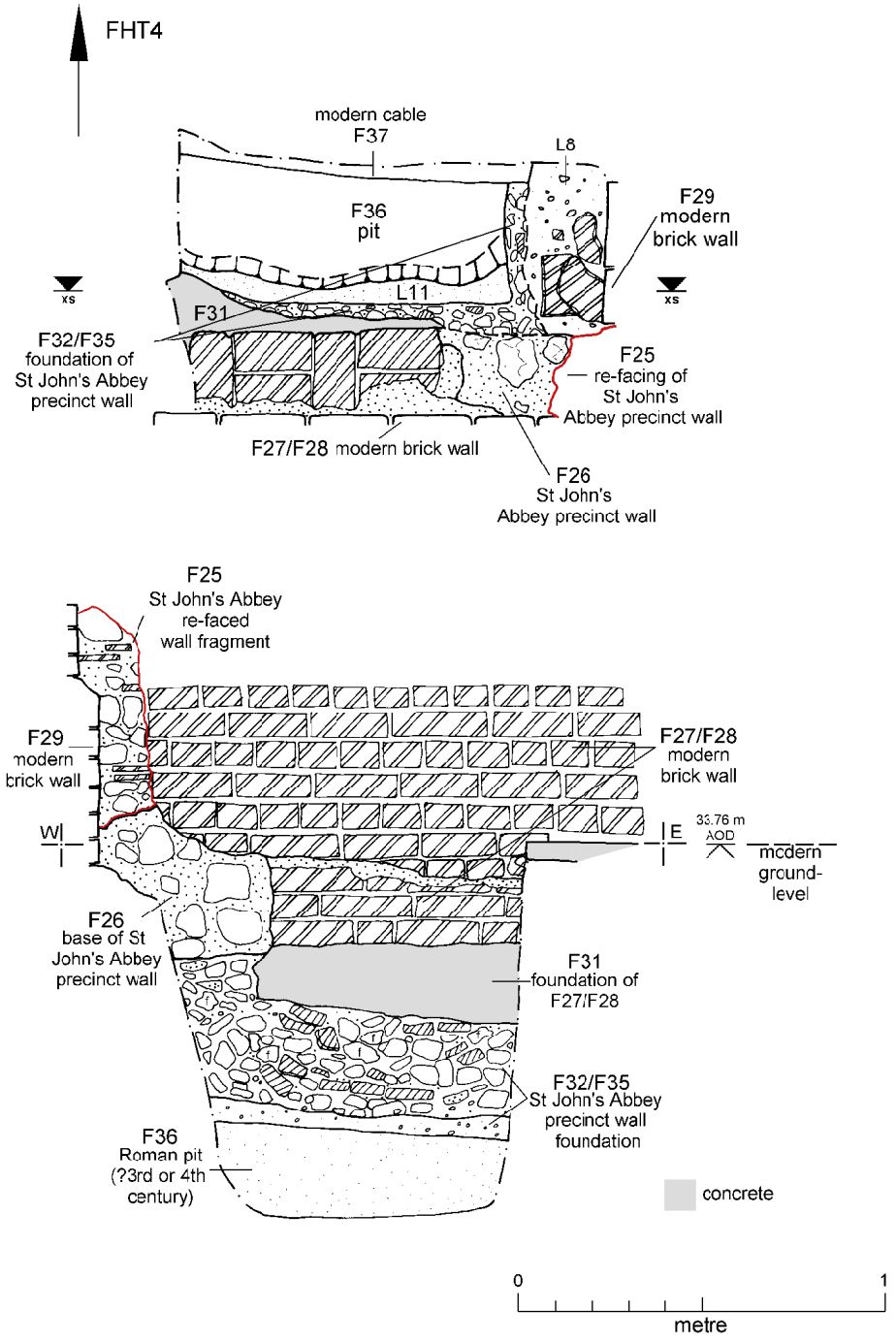

Fig 6.14 Flagstaff House (FHT4): plan and section.

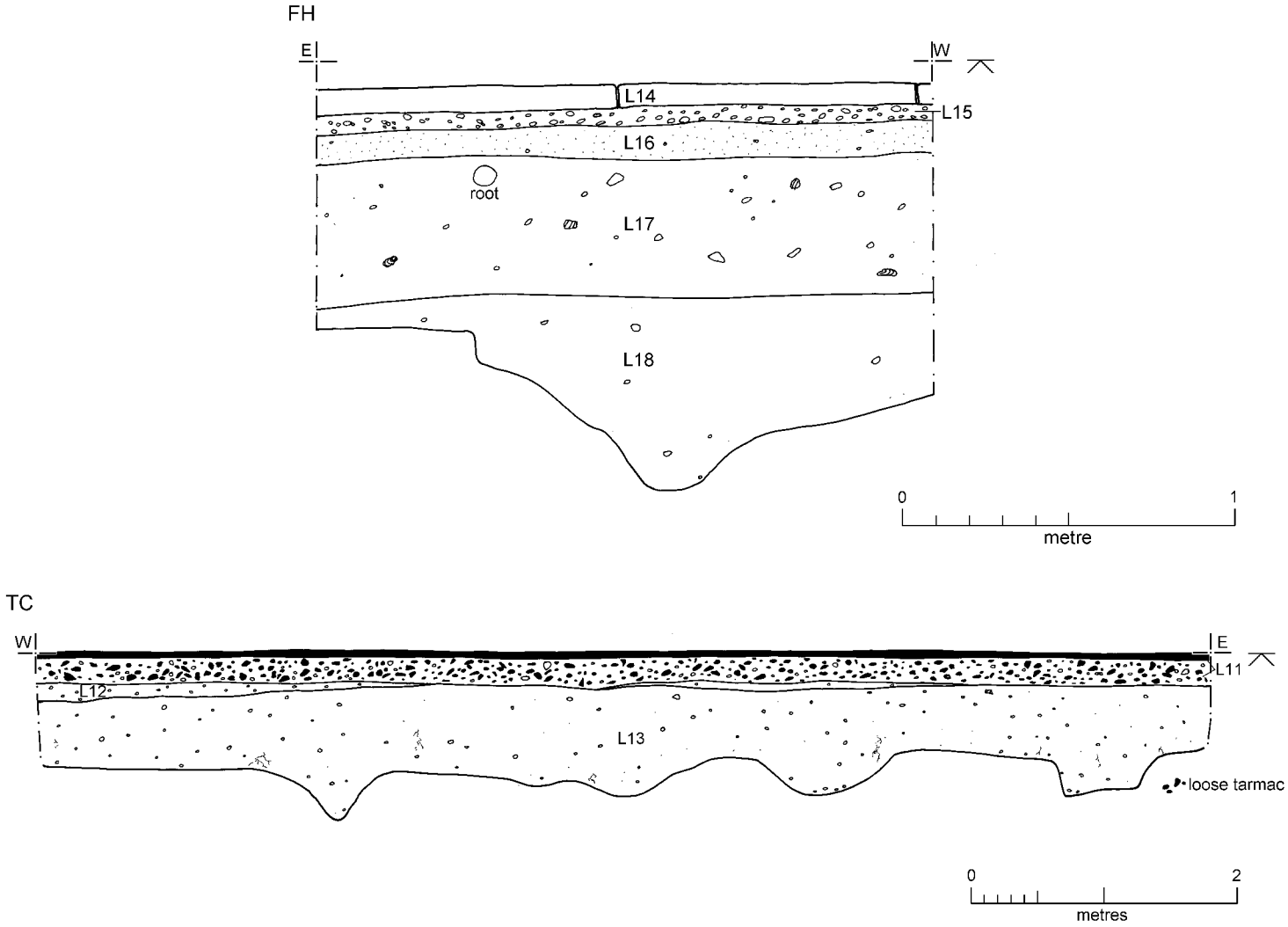

Fig 6.15 Flagstaff House (FHT4) and the Arena tennis court (TC): sections.

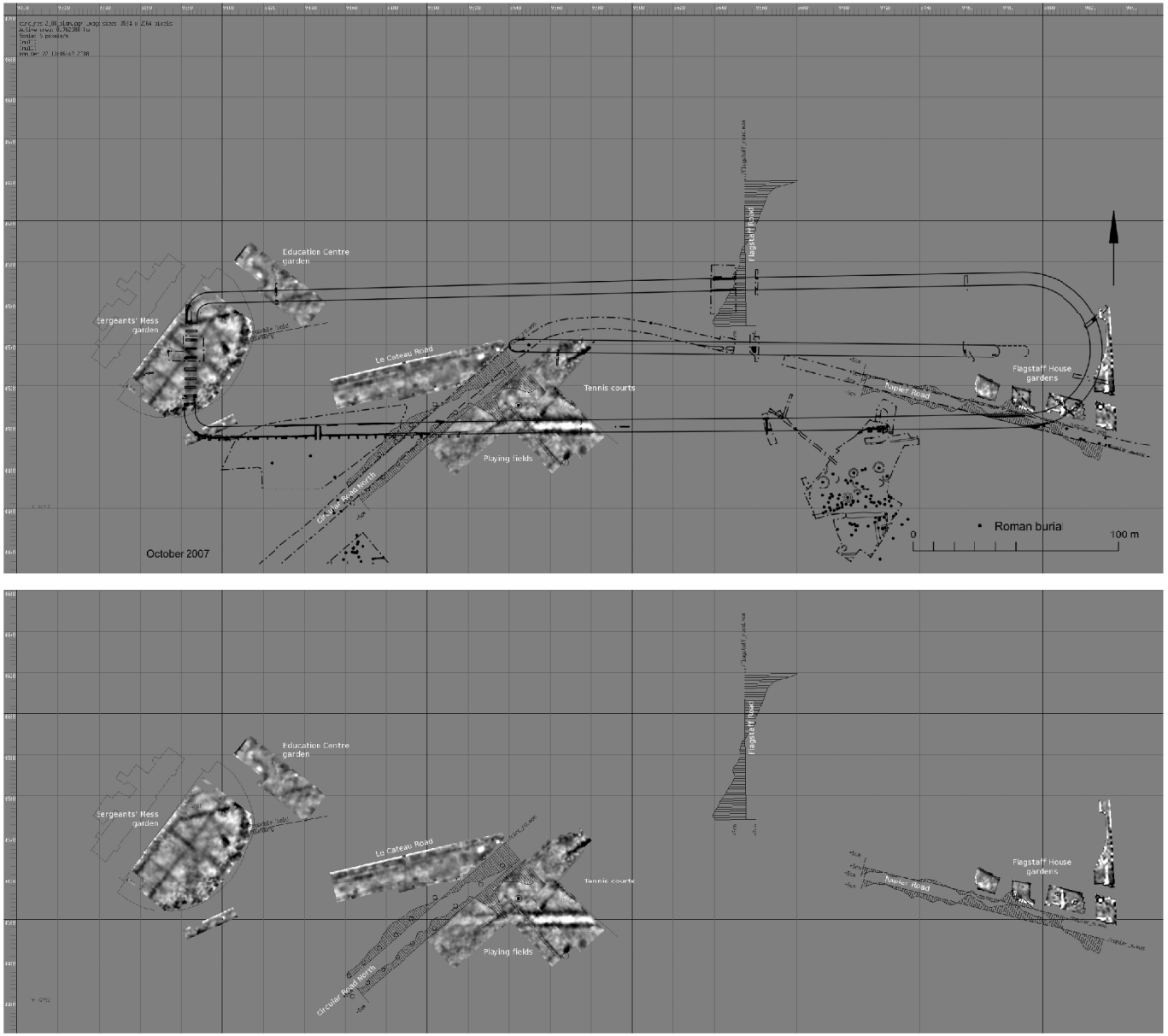

Fig 6.16 Geophysical surveys by Dr Tim Dennis.

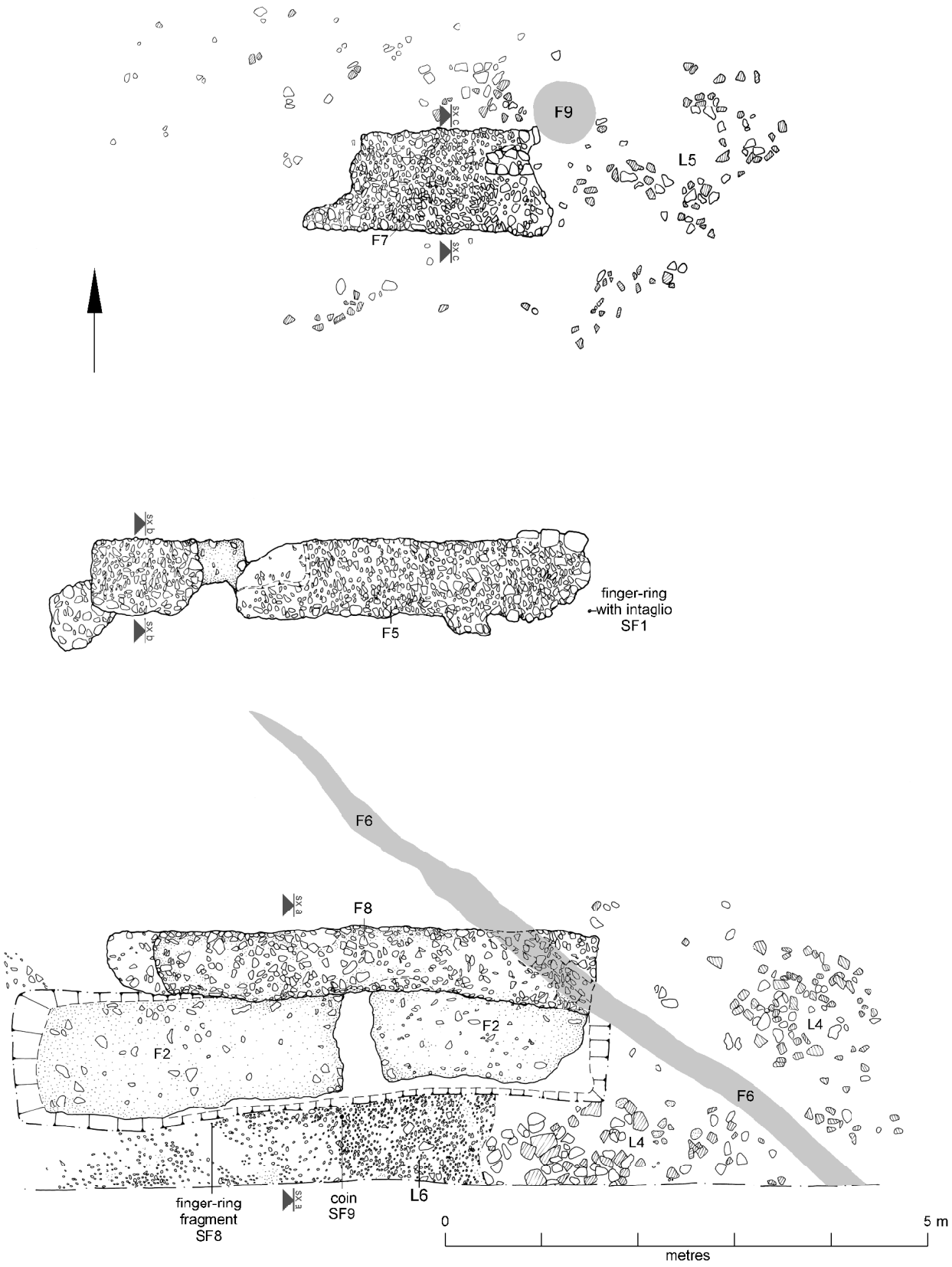

Fig 6.17 Garden of the Sergeants' Mess (SM2007a and SM2007b): plan.

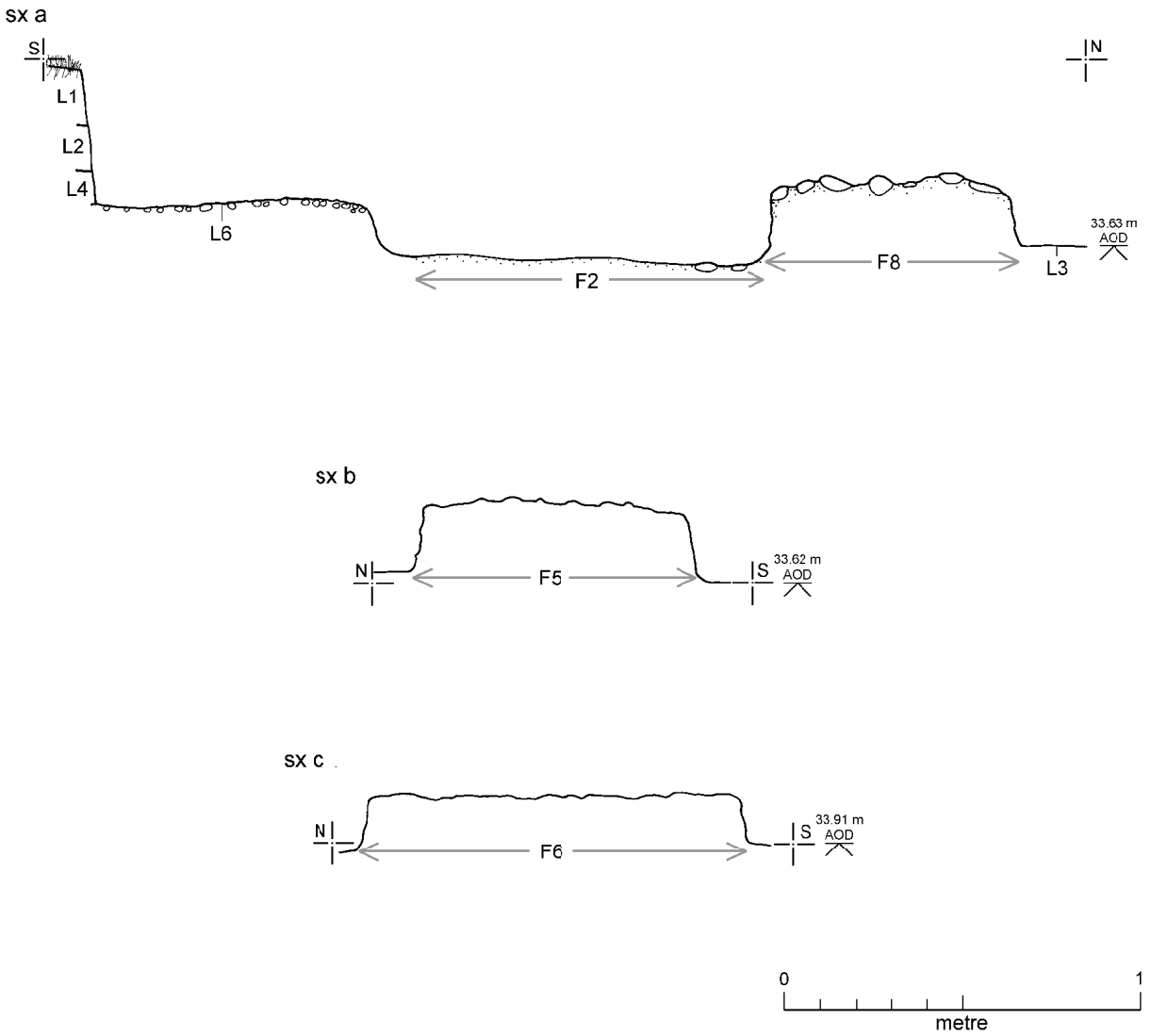

Fig 6.18 Garden of the Sergeants' Mess (SM2007a and SM2007b): sections.

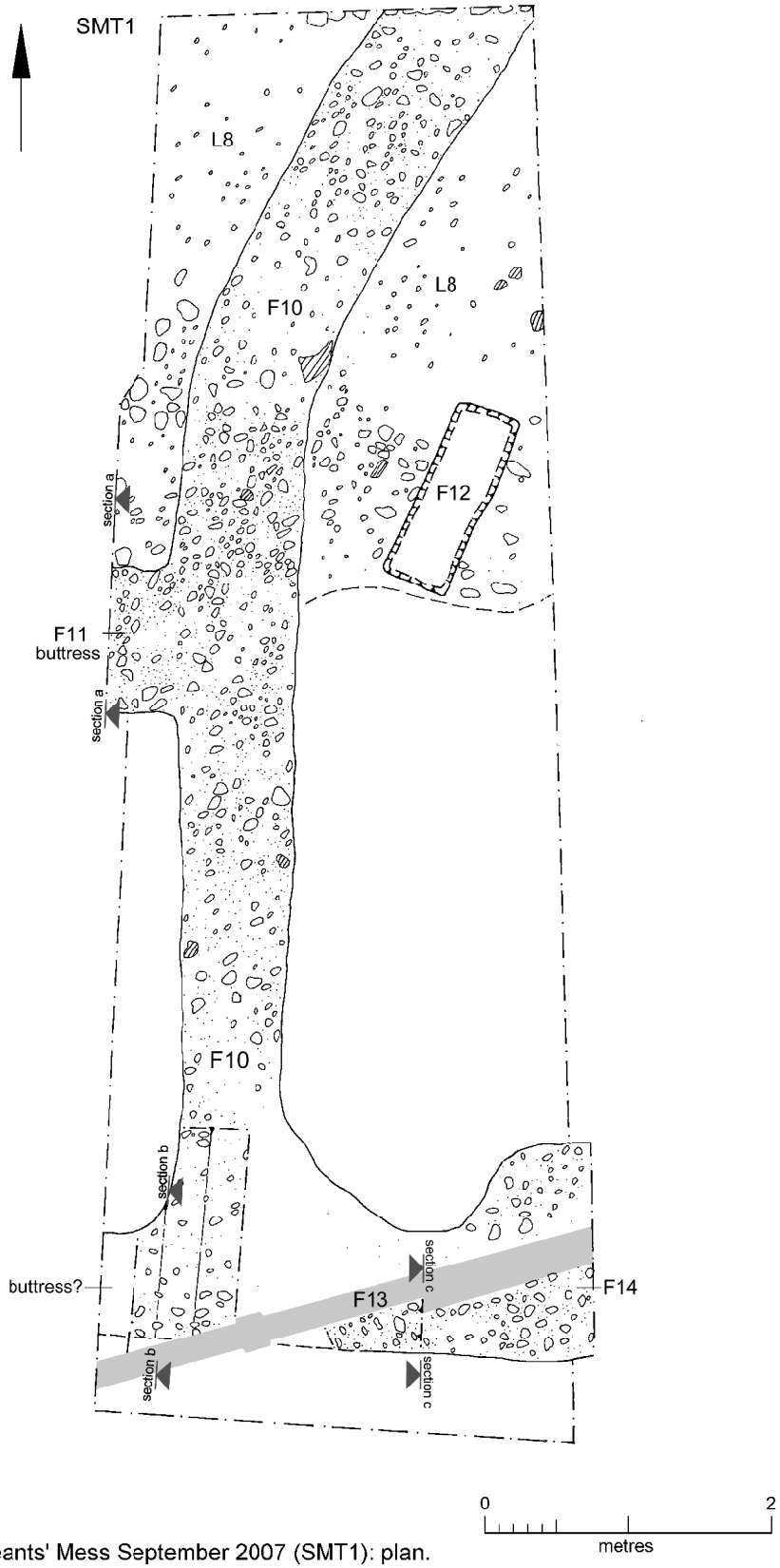

Fig 6.19 Garden of the Sergeants' Mess September 2007 (SMT1): plan.

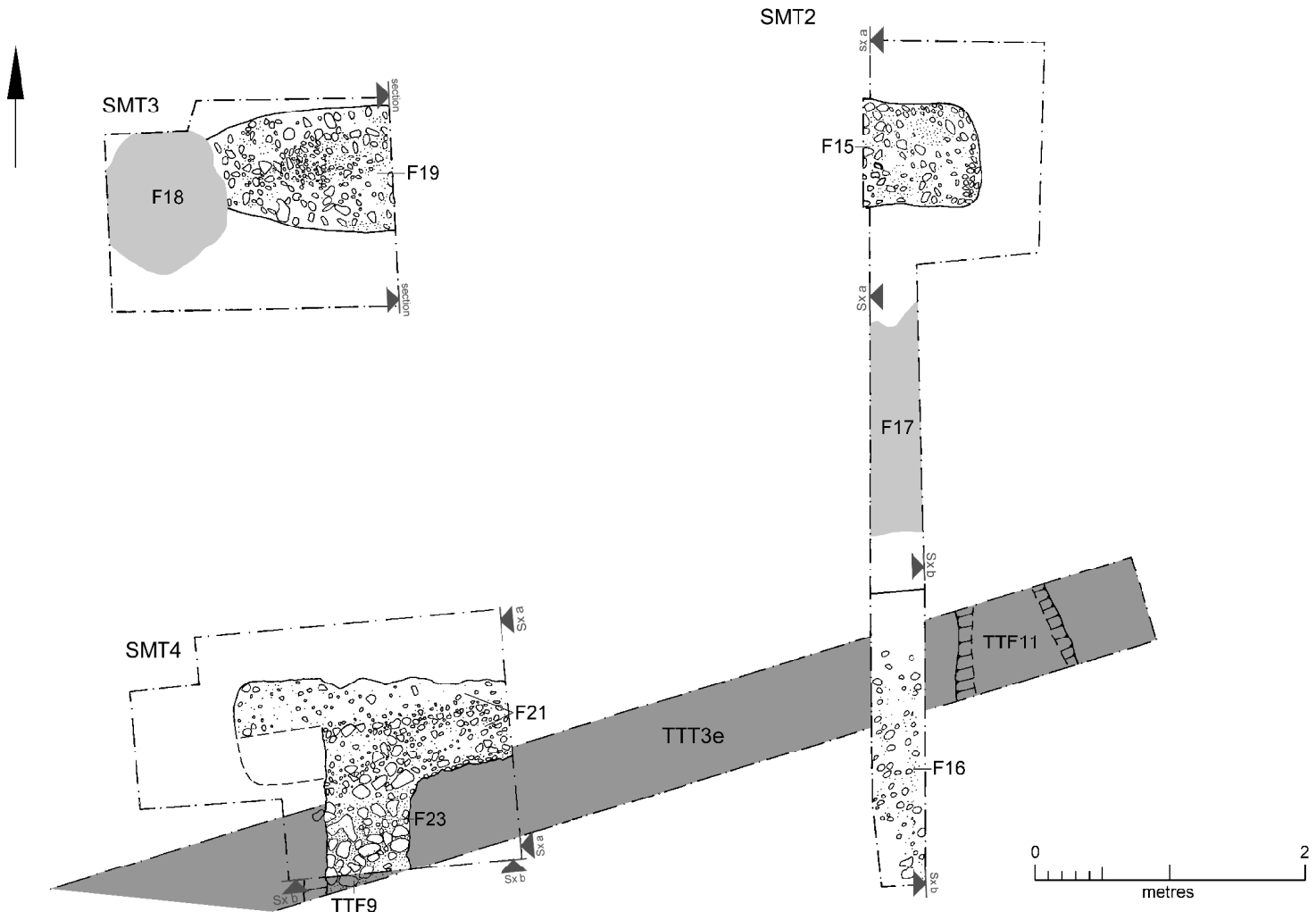

Fig 6.20 Garden of the Sergeants' Mess September 2007 (SMT2-SMT4): plan.

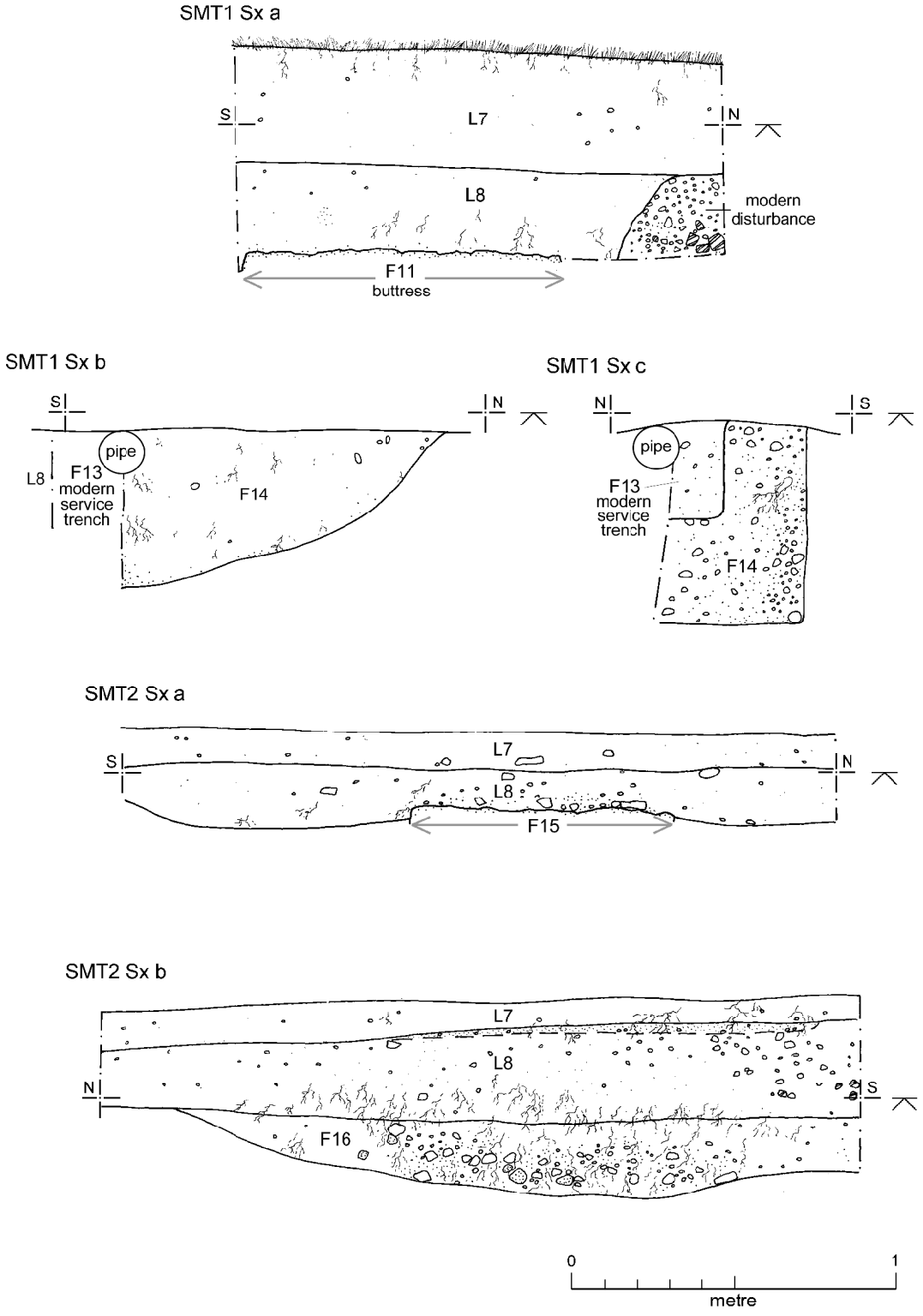

Fig 6.21 Garden of the Sergeants' Mess September 2007 (SMT1-SMT2): sections.

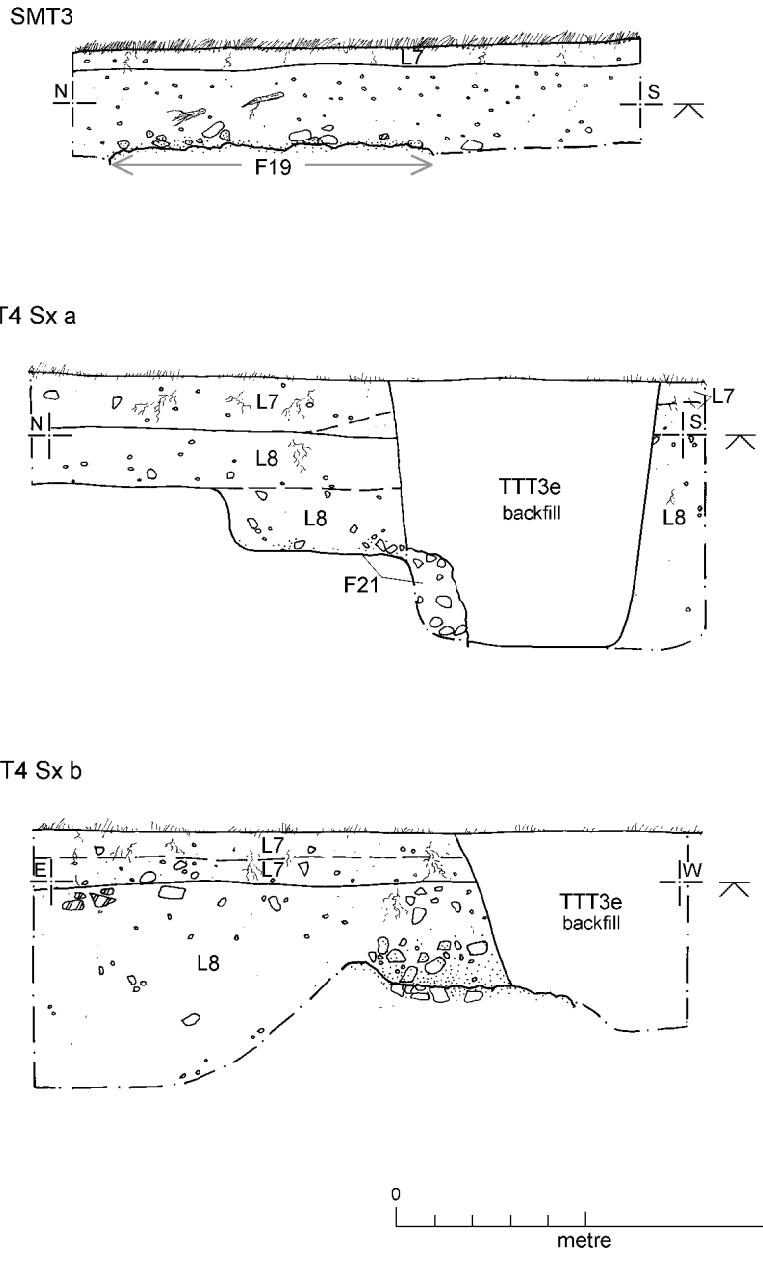

Fig 6.22 Garden of the Sergeants' Mess September 2007 (SMT3-SMT4): sections.

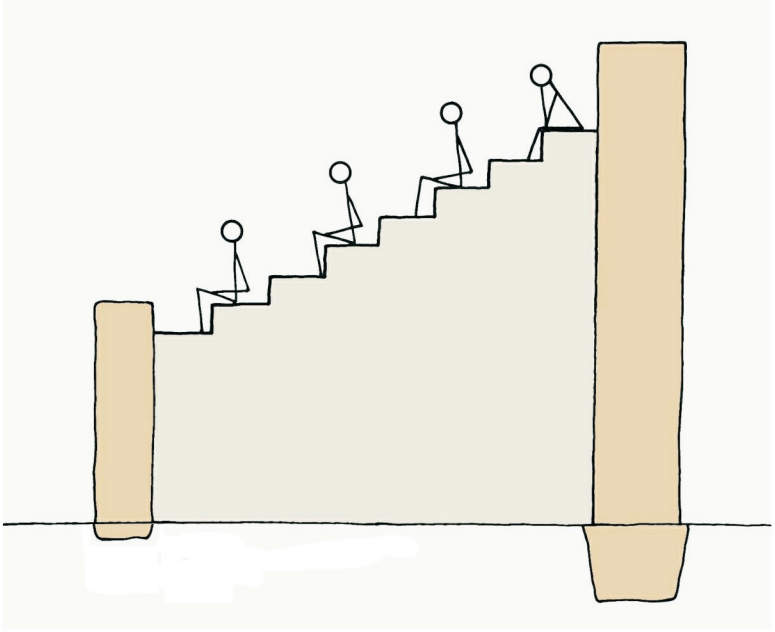

Fig 6.23 Simplified conjectural profile across the cavea.

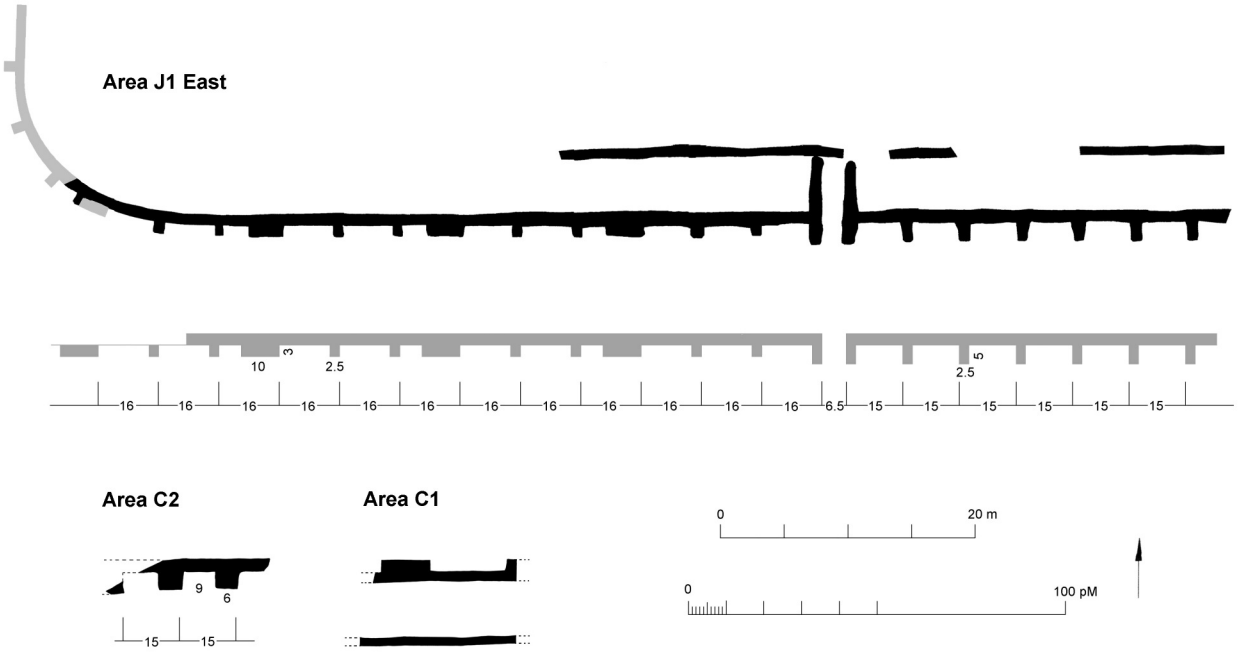

Fig 6.24 The pattern of buttresses as indicators of phasing.

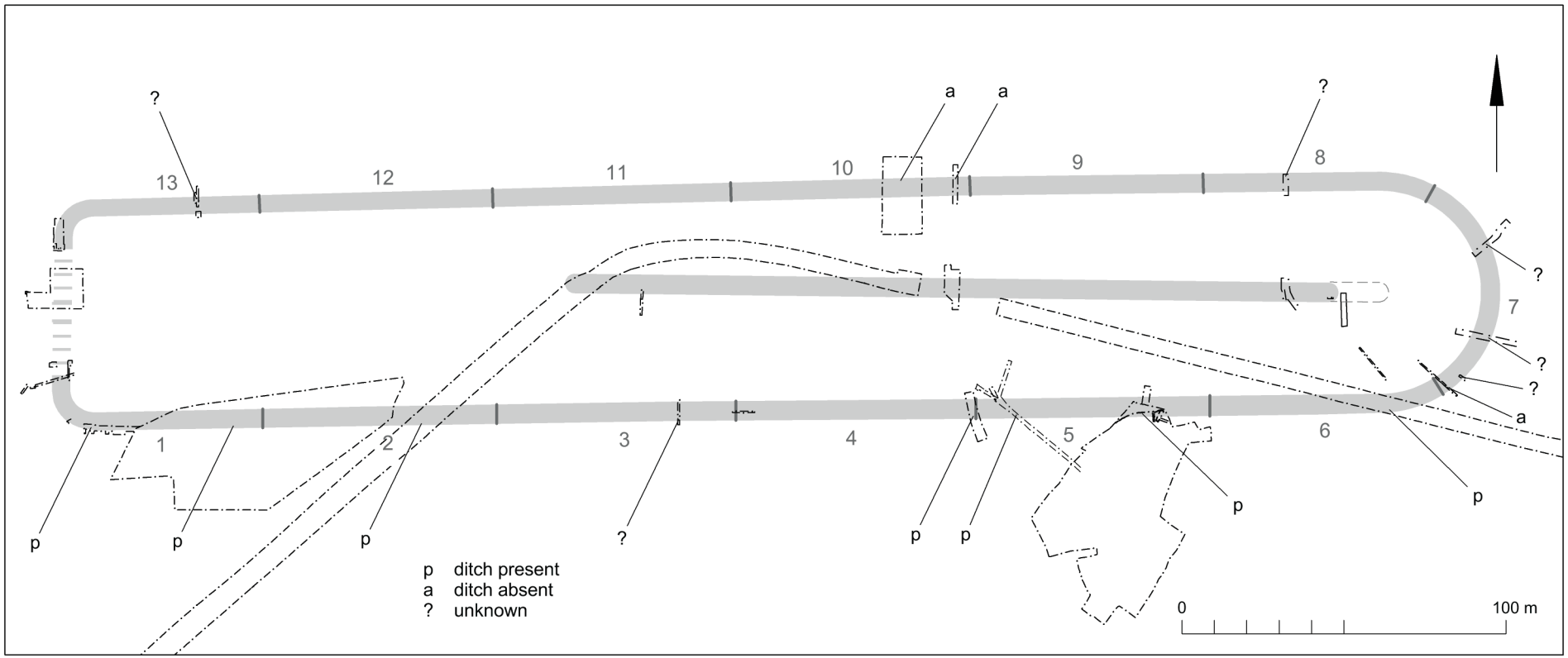

Fig 6.25 Plan showing the extent of the early ditch and the possible thirteen blocks making up the cavea.

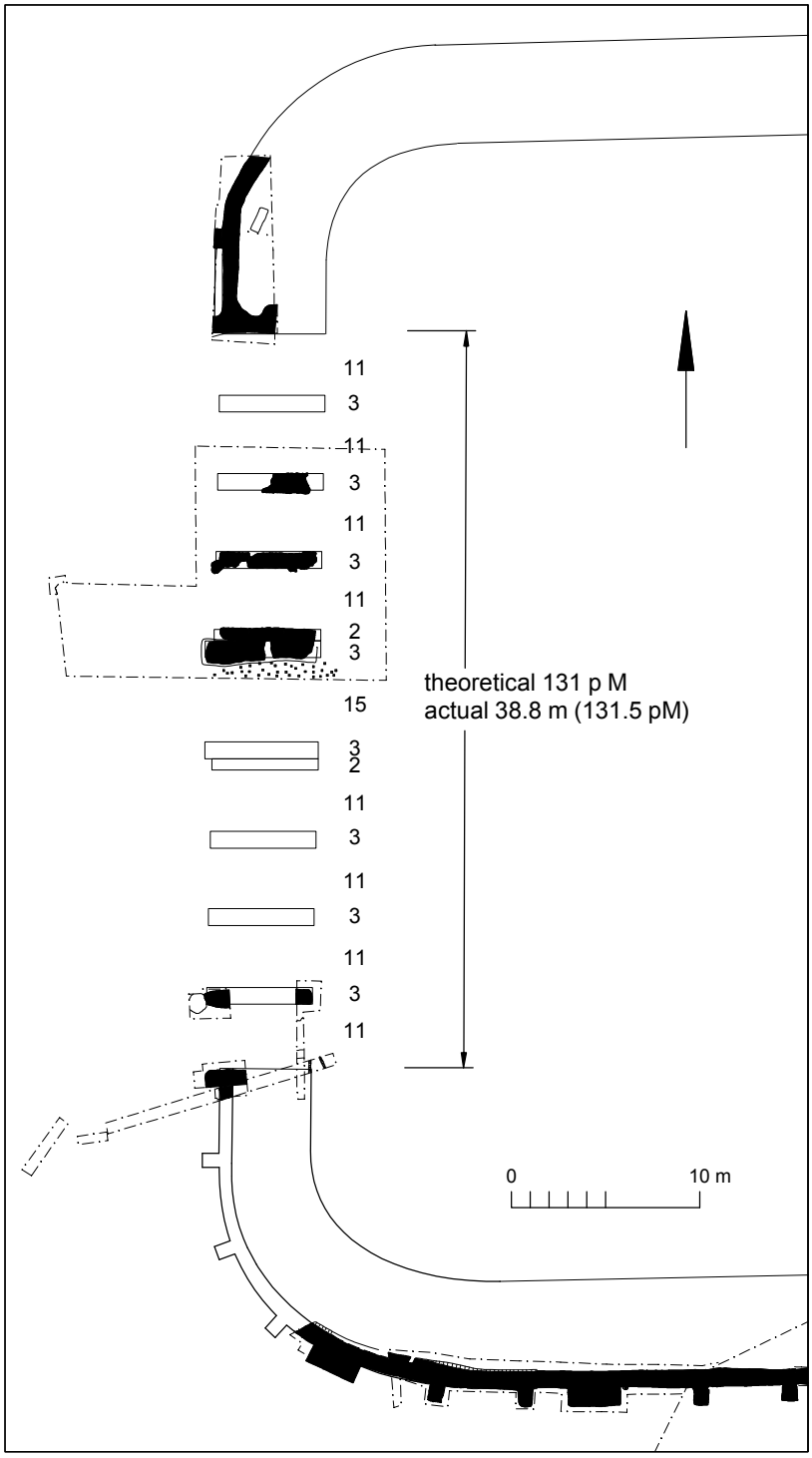

Fig 6.26 Conjectural reconstruction of the west end of the circus rationalised in terms of *pedes Monetales.*

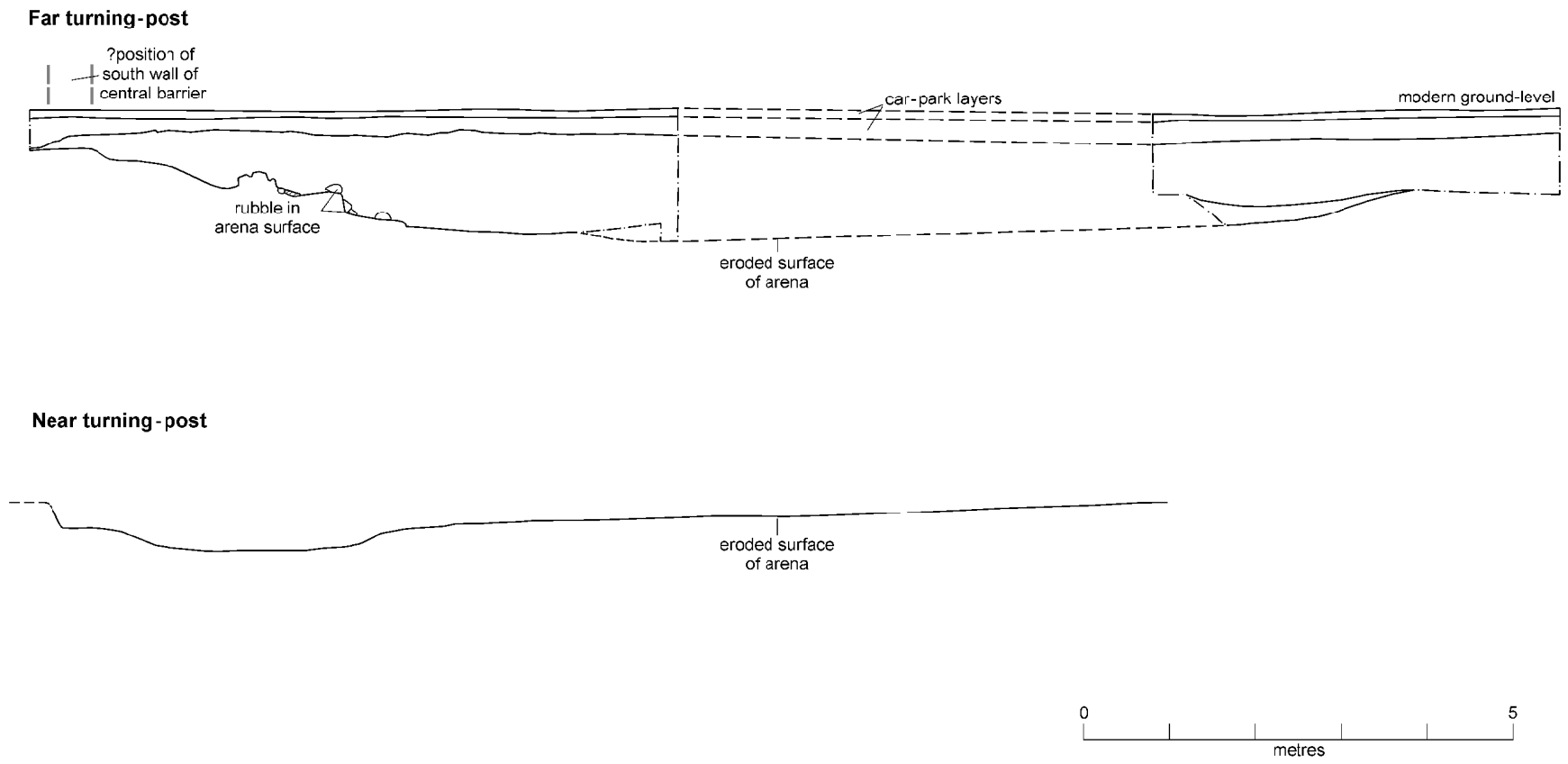

Fig 6.27 Profiles of the arena surface by the far and near turning-posts (above and below resp.).

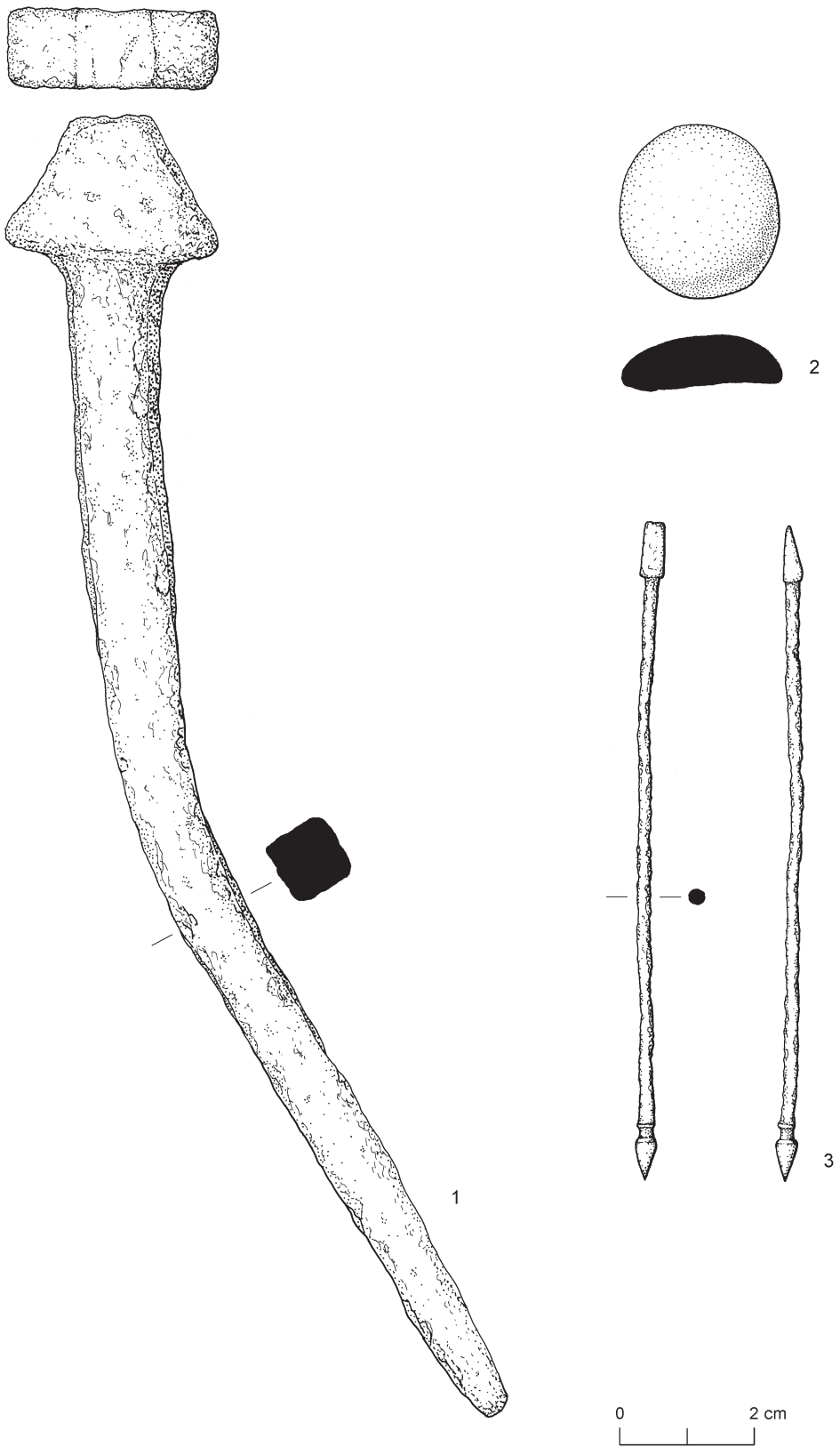

Fig 6.28 Small finds from the circus (1). 1...Manning Type 2 iron nail (Area C1, SF 30); 2... green glass counter (Area C2, SF 78); 3... iron stylus (Area JE, SF 457).

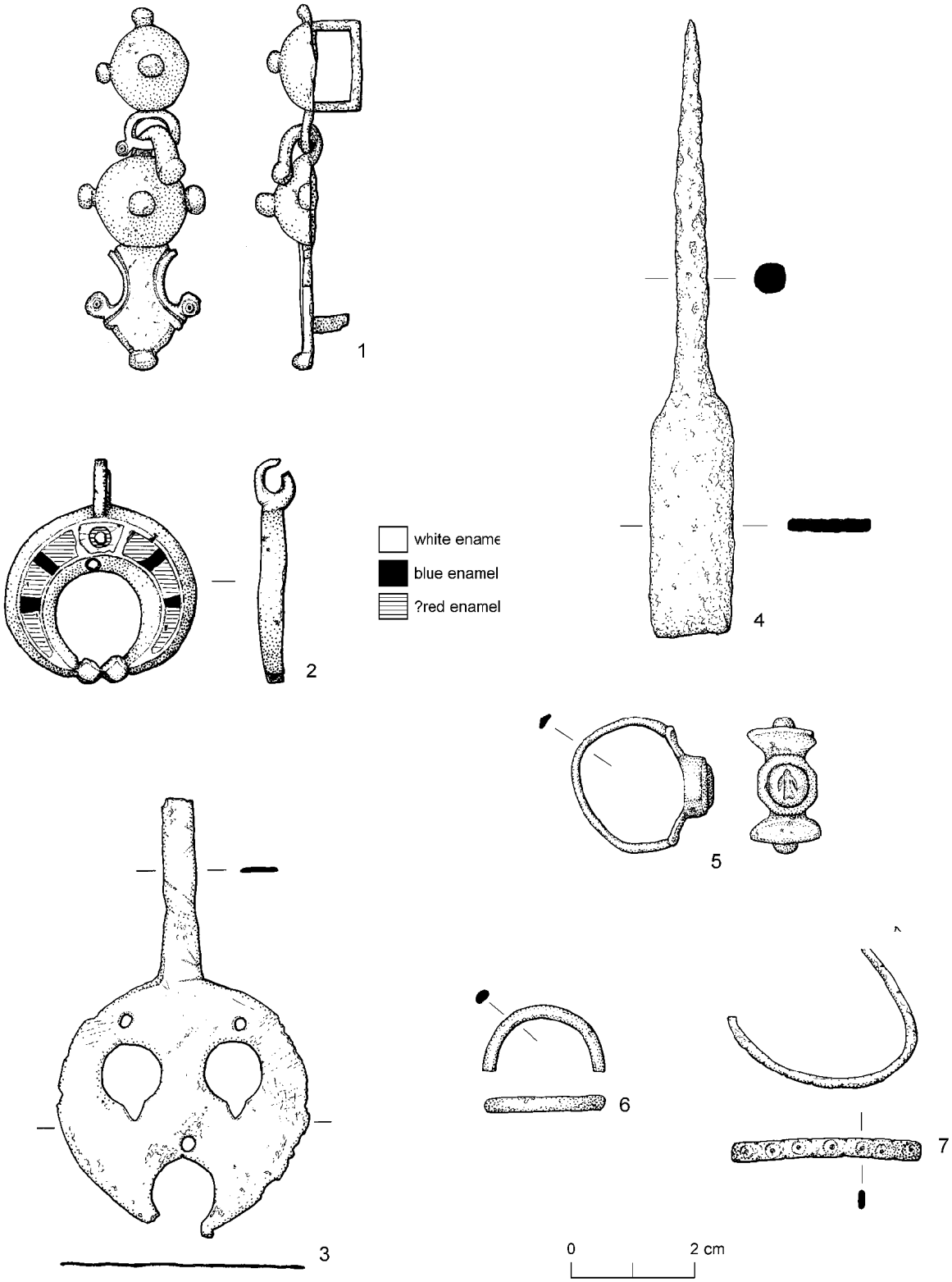

Fig 6.29 Small finds from the circus (1). 1... horse harness (Area JE, SF 261); 2... horse harness (NR, SF 1); 3... horse pendant (Area JN, SF 354); 4... iron chisel (Area JE, SF 439); 5... copper-aloy ring (SM2007a, SF 1); 6... copper-alloy ring (SM2007a; SF 6); 7... copper-alloy armlet (SM2007a, SF 10).

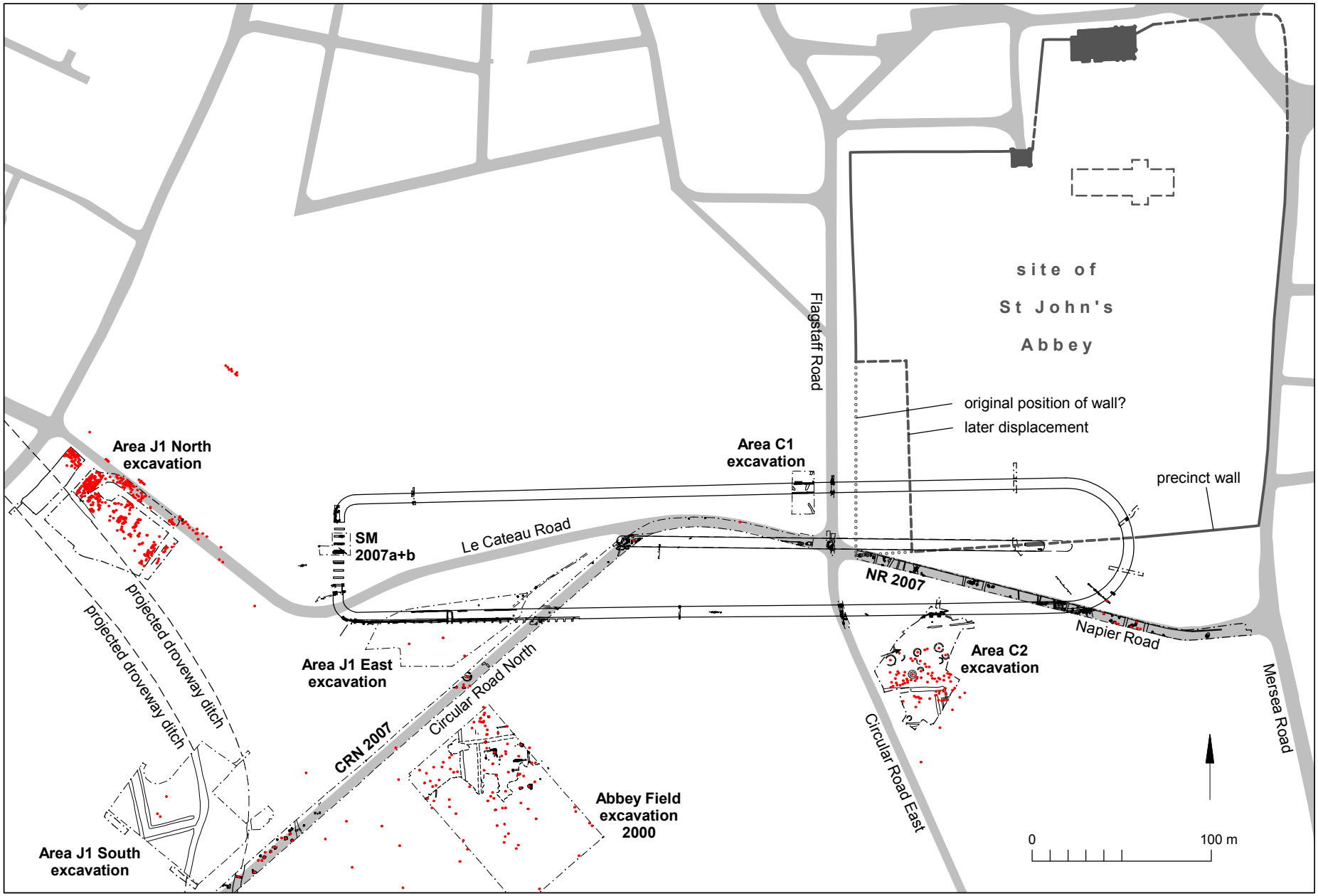

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Fig 6.30 Relationship of the circus to St John's Abbey precinct.

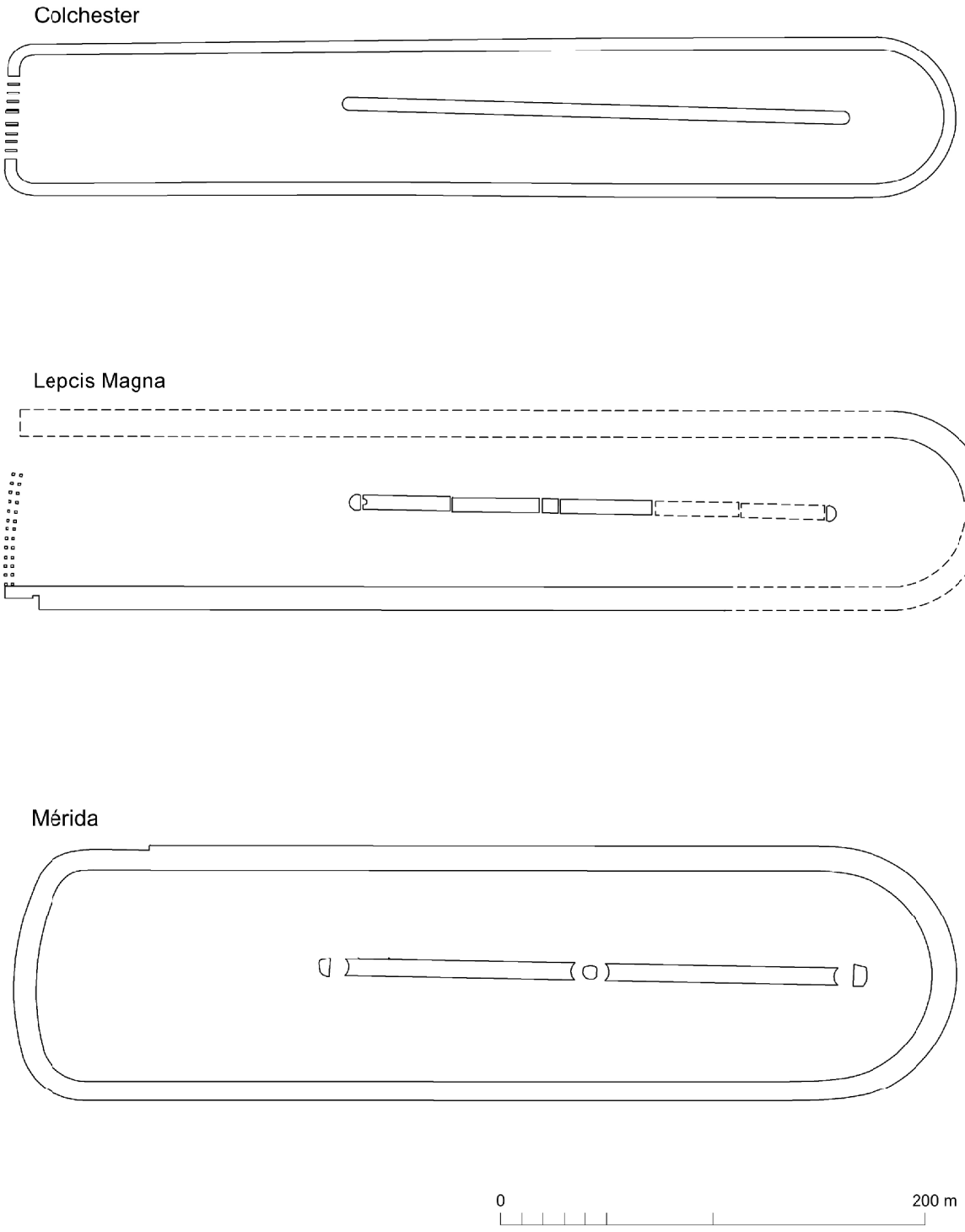

Fig 6.31 Plan of Colchester circus compared with those of Lepcis Magna and Mérida.

Bibliography and glossary

Glossary

AOD	above Ordnance Survey datum point based on mean sea level at Newlyn, Cornwall
arena	race track of a Roman circus
Boudican	dating to the time of the native uprising led by Boudica in AD 61
Bronze Age	2500 BC to *c* 700 BC
bustum	a type of Roman cremation burial where the pyre was located over the burial pit
carceres	starting gates of Roman circus
CAT	Colchester Archaeological Trust
cavea	seating area of Roman circus
CBC	Colchester Borough Council
CBCAO	Colchester Borough Council Archaeology Officer
central barrier	central barrier of Roman circus
circus	an arena in which chariot racing was held
context	specific location on an archaeological site, especially one where finds are made
cover loam	a natural, wind-blown deposit, probably formed towards the end of the last Ice Age
DBA	Desk-Based Assessment
DoE	Department of the Environment
dyke	LIA or Roman defensive earthwork, with ditch on outer side of bank
EOD	Explosive Ordnance Disposal, part of the Ministry of Defence
euripus	central barrier of a Roman circus, incorporating water-related features such as fountains
feature	an identifiable context, such as a pit, a wall or a post-hole
greensand	a form of sandstone, also known as Kentish Ragstone, imported from south of the Thames
hypocaust	Roman under-floor heating system
IFA	Institute of Field Archaeologists
imbrex	curved Roman roof tile
intrusive	a late find in an earlier context (e.g a modern coin in a medieval feature)
Iron Age	*c* 700 BC to AD 43
medieval	period from AD 1066 to *c* AD 1500
Mesolithic	the Middle Stone Age, ie *c* 8000 BC to *c* 4000 BC
meta(e)	turning post(s) at either end of the central barrier of a Roman circus
modern	period from *c* 1850 onwards to the present day
natural	geological deposit undisturbed by human activity
Neolithic	the New Stone Age, ie the period of the first farmers *c* 4000 BC to *c* 2500 BC
NGR	national grid reference
opus signinum	Roman ‘concrete’ with a pinkish appearance due to the addition of brick/tile fragments
Palaeolithic	the Old Stone Age, the period of the last Ice Age, ie before *c* 8000 BC
pM	Roman feet (pedes Monetales)
post-medieval	period from *c* 1500 to *c* 1850
prehistoric	in Britain, before the Roman period, ie the years BC
residual	an early find in a late context (e.g a Roman coin in a Victorian pit)
Roman	the period from AD 43 to *c* AD 410
Romano- British	of the Roman period but displaying native British influences
SAM	Scheduled Ancient Monumental
Saxon	Anglo-Saxon, ie post-Roman AD 410 to *c* AD 1066
septaria	calcareous, clay concretions found on the Essex and Suffolk coast
septaria	calcareous, clay concretions found on the Essex and Suffolk coast

SMR	Sites and Monuments Record, maintained by Essex County Council and also known as the 'Essex Historic Environment Record'
spina	central barrier of a Roman circus
tegula	flanged Roman roof tile
tesserae	small ceramic cubes used to make Roman tessellated and mosaic floors
U/S	unstratified, ie deriving from a well-established archaeological context
UAD	Urban Archaeological Database, maintained by Colchester Museums
vomitorium	entrance/exit for the spectators in a Roman circus

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